

EA12-005

NISSAN

2/18/2013

Attachment C

R51 FMVSS Test Report

**Nissan Technical Center, North America
2008 Nissan Pathfinder Vehicle Number 8WP122
into a Flat Frontal Barrier
TRC Inc. Test Number: 070216-1**

**Prepared by:
Transportation Research Center Inc.
10820 State Route 347
P. O. Box B-67
East Liberty, OH 43319**

**February - March 2007
Final Report**

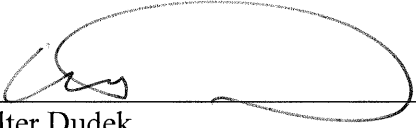
**Prepared for:
Nissan Technical Center, North America
39001 Sunrise Drive
Farmington Hills, MI 48331**

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Test Performed By: William Millis, Engineering Technician

Report Approved By:



Walter Dudek
Project Manager

Date 3/8/2007

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Section 1.0

Purpose and Test Procedure

Purpose

This 56.3 km/h (target speed) flat frontal barrier impact test was conducted for Nissan Technical Center, North America by Transportation Research Center Inc. (TRC Inc.). The purpose of this test was to determine the vehicle and occupant response of the subject vehicle, a 2008 Nissan Pathfinder Vehicle Number 8WP122 in the 56.3 km/h (target speed) flat frontal barrier impact mode.

Test Procedure

This test was conducted per Nissan Technical Center, North America's instructions. Data was obtained relative to FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219 (partial), "Windshield Intrusion" and FMVSS 301 "Fuel System Integrity".

The test vehicle was instrumented with sixteen (16) accelerometers to measure longitudinal axis accelerations; two (2) accelerometers to measure lateral axis accelerations; six (6) accelerometers to measure vertical axis accelerations; four (4) seat belt load cells; and six (6) inductive pickups. The vehicle's specified impact velocity range was 55.5 to 57.1 km/h. The vehicle impacted a flat frontal barrier.

The test vehicle contained two (2) Part 572E adult male anthropomorphic test devices (dummies). The dummies were positioned in the left front and right front outboard designated seating positions to match previous dummy position measurements established by positioning those dummies according to the dummy placement procedure specified in NHTSA's Laboratory Test Procedure TP-208-13.

The driver and right front passenger dummies were instrumented with head, chest, and pelvis accelerometers to measure longitudinal, lateral, and vertical accelerations; a chest displacement potentiometer to measure chest deflection; 6-axis neck load cells to measure neck forces and moments; and left and right femur load cells to measure axial femur forces.

The 70 data channels were digitally sampled and recorded at 20,000 samples per second and processed per the NHTSA Laboratory Test Procedure.

The crash event was recorded by one (1) real-time panning motion picture camera and twelve (12) high-speed motion picture cameras.

The vehicle and occupant data are summarized in Section 2.0. The FMVSS 208, 212, 219 (partial), and 301 data are presented in Section 3.0. The vehicle, occupant, and camera measurements are presented in Section 4.0. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the dummy certification data. Appendix D contains miscellaneous test information.

Section 2.0

Frontal Barrier Impact Test Summary

Test Results Summary

This 56.3 km/h (target speed) flat frontal barrier impact test was conducted by TRC Inc. on February 16, 2007.

The test vehicle, a 2008 Nissan Pathfinder vehicle number 8WP122, was equipped with an 8-cylinder longitudinally-placed engine, automatic transmission, power steering, and power brakes. The vehicle's test weight was 2644.0 kg. The vehicle's impact speed was 56.5 km/h.

The driver's 36 ms Head Injury Criteria (HIC) was 594. The driver's 15 ms Head Injury Criteria (HIC) was 399. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 48.3 g. The driver's maximum chest deflection was 39 mm. The driver's left and right femur maximum axial compression forces were 5641 N and 2590 N, respectively. The driver's neck injury criteria (NIJ) were: tension-extension 0.45, tension-flexion 0.34, compression-extension 0.16 and compression-flexion 0.21.

The right front passenger's 36 ms HIC was 567. The right front passenger's 15 ms HIC was 409. The right front passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 44.6 g. The right front passenger's maximum chest deflection was 36 mm. The right front passenger's left and right femur maximum axial compression forces were 3927 N and 2612 N, respectively. The right front passenger's NIJ were: tension-extension 0.64, tension-flexion 0.07, compression-extension 0.10 and compression-flexion 0.08.

Data Acquisition Explanations

The vehicle's left frame ECON X-axis acceleration data channel, 10FRAMLEECONACXA, exceeded full scale at approximately 18 milliseconds and recorded no useful data after that.

The vehicle's right frame ECON X-axis acceleration data channel, 10FRAMRIECONACXA, exceeded full scale at approximately 28 milliseconds and recorded no useful data after that.

The vehicle's right mid frame at H-Point X-axis acceleration data channel, 10FRAMRIMIHPACXA, failed to return to zero post-test.

The vehicle's CZC sensor primary X-axis acceleration data channel, 10SENS000000ACXA, exceeded full scale at approximately 27 milliseconds and recorded no useful data after that.

The vehicle's CZC sensor redundant X-axis acceleration data channel, 10SENSRD0000ACXA, exceeded full scale at approximately 31 milliseconds and recorded no useful data after that.

The vehicle's left lap belt OUTB tension seat belt load cell, 10BELTLELP00FO0A, recorded questionable data throughout the test.

Table 1 Crash Test Summary

Test type:	Flat Frontal Barrier	
Test date:	02/16/07	
Test time:	11:38	
Ambient temperature at impact area:	21° C	
Temperature in occupant compartment:	22° C	
Vehicle:	2008 Nissan Pathfinder	
Vehicle number:	8WP122	
Vehicle test weight:	2644 kg	
Impact angle: ¹	0°	
Impact velocity: ²	Primary = 56.5 km/h Secondary = 56.5 km/h	
Average rebound:	592 mm	
Dummies:	<u>Driver #591</u>	<u>Passenger #617</u>
Type:	Hybrid III 50th	Hybrid III 50th
Location:	Left front	Right front
Restraint:	Seat belt, airbag	Seat belt, airbag
Number of data channels:	18	18
Number of cameras:		
High-speed:	12	
Real-time:	1	

¹ With respect to tow track centerline.

² Speed trap measurement (± .08 km/h accuracy)

Table 2 Test Vehicle Information

Vehicle manufacturer: Nissan Motor Company, Ltd.
 Make/model: Nissan/Pathfinder
 VIN: 5N1BR18B98 [REDACTED]
 Model year: 2008
 Body style: MPV
 Color: Black
 Engine data:
 Type: V
 Cylinders: 8
 Displacement: 5.6 liters
 Transmission data: 5 Speed, ___ Manual, X Automatic,
 ___ FWD, ___ RWD, X 4WD
 Date vehicle received: 2/15/2007
 Odometer reading: 42 miles
 Dealer's name and address: Vehicle provided by NTCNA

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	Driver only	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	Yes
Other	None		

Certification data from vehicle's label:

Vehicle manufactured by: Nissan Motor Company, Ltd.
 Date of manufacture: 11/06
 VIN: 5N1BR18B98 [REDACTED]
 GVWR: 6499 lbs
 GAWR: Front: 3071 lbs
 Rear: 3699 lbs

Table 2 Test Vehicle Information, Continued

Tires on vehicle (mfr., line, size): Goodrich, Long Trail, P265/60R18
Tire pressure with maximum capacity vehicle load: Front: 240 kPa
Rear: 240 kPa
Spare tire (mfr., line, size): Goodrich, Long Trail, 265/60R18
Type of seats: Front: Bucket
Rear: Split bench
Type of front seat backs: Power adjustable

Location of "Recommended Tire Pressure" label:

Left B-pillar

Data from vehicle's "Recommended Tire Pressure" label:

Recommended tire size: P265/60R18
Recommended cold tire pressure: Front: 35 psi
Rear: 35 psi
Seating capacity:
Front: 2
Rear: 2
Total: 7
Vehicle capacity weight: N/A

As Tested Tire Pressures:

LF 241 kPa; RF 241 kPa; LR 241 kPa; RR 241 kPa

Test vehicle attitude:

Pre-test attitude: LF 869 mm; RF 871 mm; LR 857 mm; RR 848 mm
Post-test attitude: LF 870 mm; RF 849 mm; LR 871 mm; RR 862 mm

Table 2 Test Vehicle Information, Continued

Target test weight:¹

Front	1284.0 kg
Rear	1360.0 kg
Total	2644.0 kg

Weight of test vehicle with required dummies & cargo weight:

Right front	637.2 kg	Right rear	678.8 kg
Left front	647.0 kg	Left rear	681.0 kg
Total front weight	1284.2 kg	(48.6% of total vehicle weight)	
Total rear weight	1359.8 kg	(51.4% of total vehicle weight)	
Total test weight	2644.0 kg		

Weight of ballast secured in vehicle: 40.8 kg of shot in the engine, 118.8 kg of plate behind the second row seats

Weight and location of vehicle instrumentation: 54.7 kg in rear cargo area

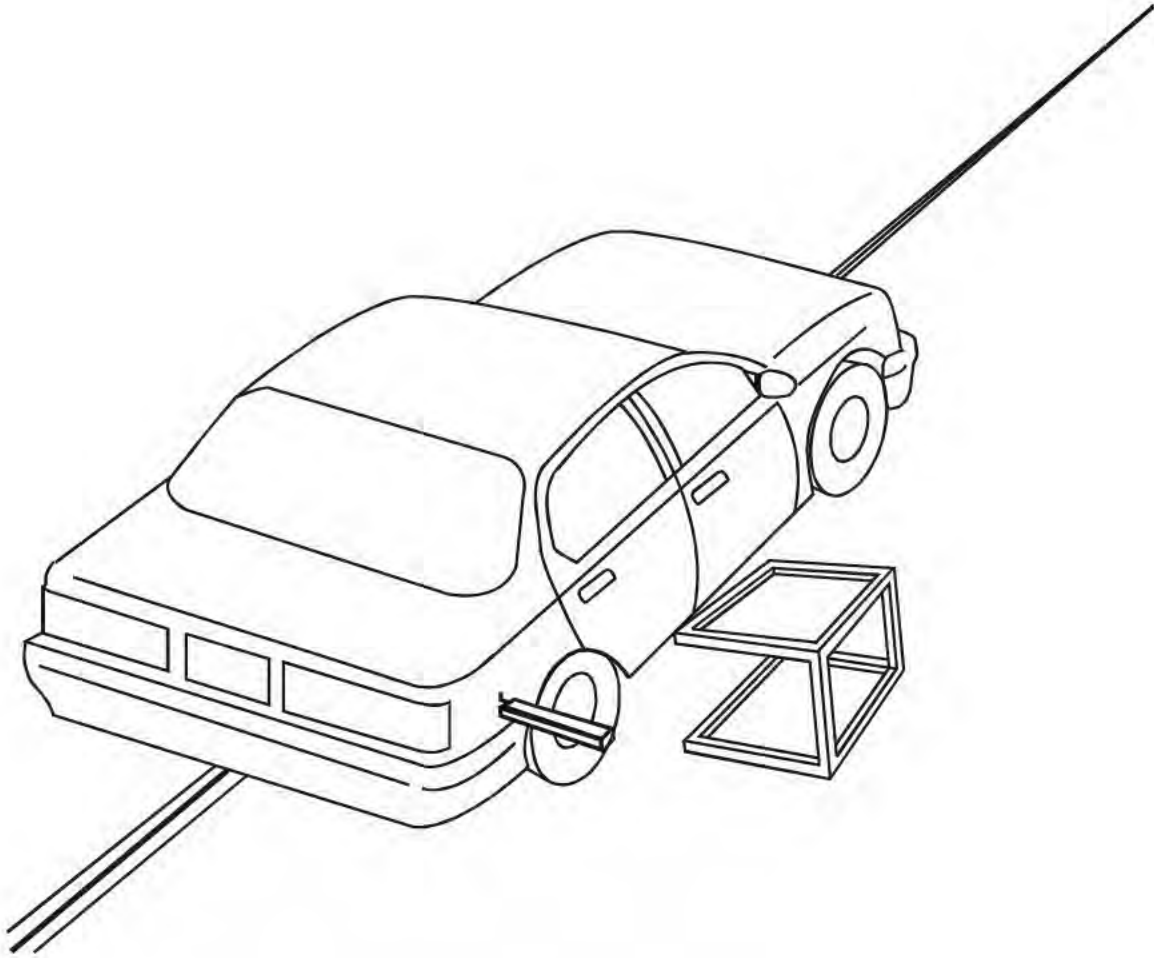
Components removed to meet target test weight: None

¹ The target weight for this test was provided by Nissan Technical Center, North America.

Table 3 Post-Impact Data

Test number:	070216-1
Date of test:	02/16/07
Time of test:	11:38
Type of test:	Flat Frontal Barrier
Impact angle:	0°
Ambient temperature at impact area:	21° C
Temperature in occupant compartment:	22° C
Impact velocity:	
Primary:	56.5 km/h
Secondary:	56.5 km/h (Specified range = 55.5 to 57.1 km/h)
Distance from vehicle to barrier:	
Entering trap:	660 mm
Exiting trap:	50 mm
<u>Test vehicle rebound from flat barrier:</u>	
Distance from test vehicle to barrier:	L 535 mm; C 640 mm; R 600 mm
Average rebound:	592 mm

Figure 1 Impact Velocity Measurement System



The vane clears the final emitter/receiver pair 50 millimeters before impact.

The emitter/receiver pairs have a spacing of 610-millimeters.

Figure 2 Vehicle Accelerometer Placement

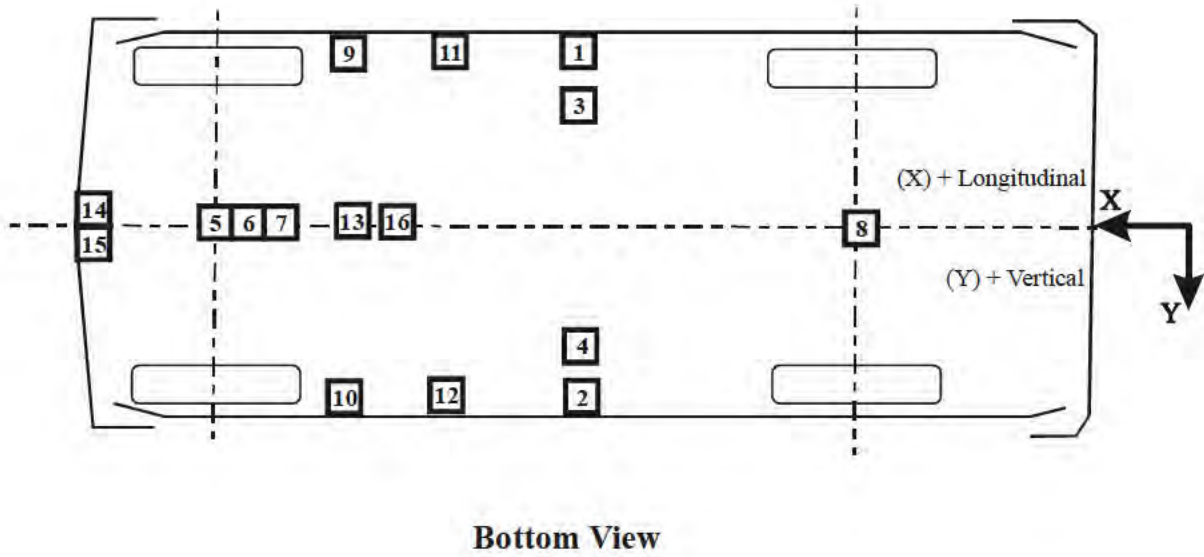
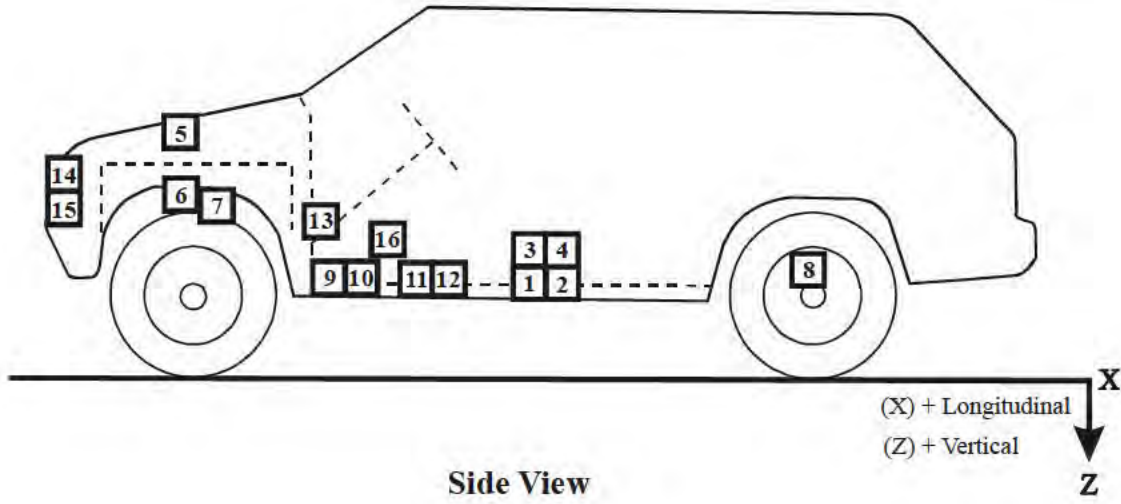


Table 4 Vehicle Accelerometer Locations and Data Summary

Accel. No.	Location		Positive Direction		Negative Direction	
			Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	Left Frame ECON ¹	X	----	----	----	----
2	Right Frame ECON ¹	X	----	----	----	----
3	Vehicle Body Sill Left	X	3.2	126.6	51.1	48.0
		Z	17.9	45.0	22.1	60.3
4	Vehicle Body Sill Right	X	19.5	20.1	57.6	45.8
		Z	16.0	45.3	21.4	60.2
5	Engine Bottom	X	18.9	49.6	121.6	36.3
6	Engine Top	X	12.1	51.0	106.8	34.3
7	Transmission Bottom	X	11.9	49.8	112.1	36.2
8	Rear Differential	X	108.1	46.5	165.0	39.5
9	Left Front Frame	X	35.1	17.9	68.4	8.5
10	Right Front Frame	X	37.5	17.9	100.0	41.7
11	Left Mid Frame at H-Point	X	20.1	18.9	75.3	8.7
		Z	56.3	38.1	39.4	59.1
12	Right Mid Frame at H-Point ¹	X	34.6	18.2	98.5	42.7
		Z	72.7	44.7	31.6	58.9
13	ACU Sensor	X	3.3	129.5	50.8	47.4
		Y	11.7	54.8	11.9	59.5
		Z	28.1	62.1	16.3	82.5
		R	51.0	47.5		
14	CZC Sensor Primary ¹	X	----	----	----	----
15	CZC Sensor Redundant ¹	X	----	----	----	----
16	Tunnel/Floorpan	X	2.8	139.8	63.5	47.8
		Y	11.7	40.8	6.4	61.5
		Z	11.5	57.9	16.9	63.4
		R	63.7	47.8		

*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Down)

¹ See Data Acquisition Explanations.

Section 3.0

Summary of FMVSS 208, 212, 219 (partial), and 301 Data

Table 5 Dummy Data Summary

Driver: S/N 591

Location		Positive Direction		Negative Direction	
		Max. (g)	Time (ms)	Max. (g)	Time (ms)
Head Acceleration	X	10.4	215.9	60.0	77.6
	Y	4.6	27.4	17.0	86.2
	Z	33.4	64.0	6.0	99.8
	R	62.7	77.6		
Neck Force	X	554.1	80.1	556.7	122.6
	Y	232.4	64.7	229.8	110.8
	Z	2473.4	63.8	221.4	100.1
Neck Moment	X	8.8	152.3	30.9	80.3
	Y	51.2	134.4	19.8	265.4
	Z	19.6	96.1	12.0	146.8
Chest Acceleration	X	3.4	148.8	49.0	58.7
	Y	3.8	100.9	5.5	54.5
	Z	15.1	56.0	12.7	99.6
	R	50.8	58.7		
Chest Deflection	X	0.0	10.7	39.4	77.0
Pelvis Acceleration	X	5.0	104.4	73.9	51.3
	Y	7.1	72.7	16.9	45.3
	Z	8.1	46.4	20.6	71.1
	R	74.5	51.2		
Left Femur Force	Z	379.6	36.3	5640.6	50.7
Right Femur Force	Z	857.6	67.2	2590.4	45.4

Table 5 Dummy Data Summary, Continued

Passenger: S/N 617

Location		Positive Direction		Negative Direction	
		Max. (g)	Time (ms)	Max. (g)	Time (ms)
Head Acceleration	X	7.2	254.0	64.6	79.2
	Y	5.3	30.1	5.4	79.5
	Z	29.2	62.7	8.6	100.3
	R	65.2	79.2		
Neck Force	X	272.6	254.5	973.4	79.1
	Y	123.2	74.9	188.0	124.5
	Z	1546.5	66.7	399.1	255.7
Neck Moment	X	13.4	83.7	10.8	159.3
	Y	19.0	158.6	81.0	78.9
	Z	13.5	105.9	8.2	163.3
Chest Acceleration	X	2.7	282.0	45.4	67.1
	Y	5.9	74.6	5.2	94.3
	Z	11.5	58.8	11.7	112.4
	R	45.7	67.0		
Chest Deflection	X	0.0	-2.0	35.6	76.0
Pelvis Acceleration	X	2.9	91.9	72.2	53.1
	Y	6.5	53.1	7.3	84.3
	Z	3.8	44.5	19.8	75.9
	R	73.2	53.1		
Left Femur Force	Z	232.3	33.9	3927.2	53.1
Right Femur Force	Z	341.8	32.1	2612.3	56.5

Table 6 Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver #591</u>	<u>Passenger #617</u>
Head	Airbag, head restraint	Airbag, head restraint
Chest	Airbag	Airbag
Abdomen	None	None
Left knee	Knee bolster	Glove box
Right knee	Knee bolster	Glove box

Door opening:

	<u>Left</u>	<u>Right</u>
Front	Easy	Easy
Rear	Easy	Easy

Seat movement:

	<u>Seat back failure</u>	<u>Seat shift</u>
Front	None	None
Rear	N/A	N/A

Glazing damage:

Windshield broken

Other notable impact effects:

The doors locked during the test

Figure 3 FMVSS 212 Test Data

Details of windshield mounting such as retention method, trim type, etc.:

Adhesive, plastic trim

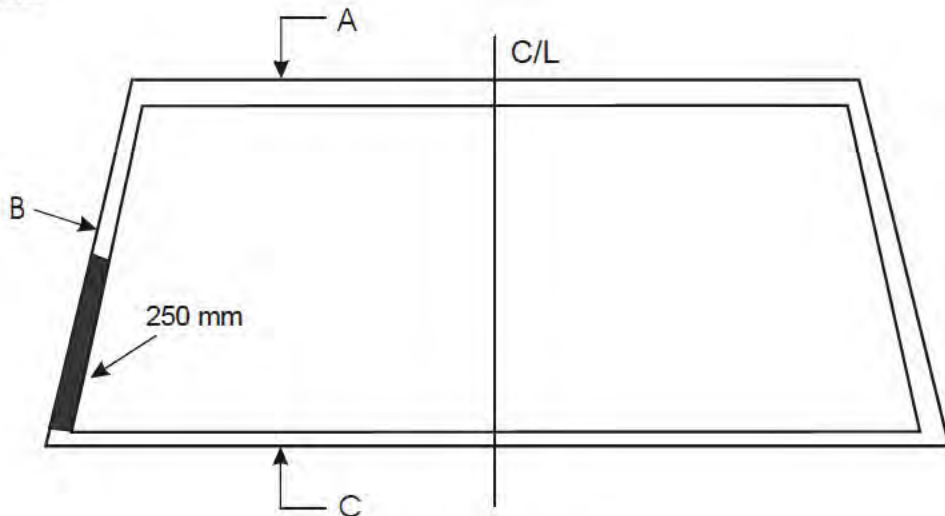
FMVSS 212 requirements: The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

Windshield periphery measurements:

	<u>Pre-test</u>	<u>Post-test</u>	<u>Percent retention</u>
Right side	2163 mm	1913 mm	88.4 %
Left side	2163 mm	2163 mm	100.0 %
Total	4326 mm	4076 mm	94.2 %

Pre-test windshield mounting material temperature: N/A

- A = 15 mm
- B = 15 mm
- C = N/A mm



Front view of windshield¹

Loss of windshield retention lengths: 250 mm along lower right side

¹ Loss of retention, if any, indicated on windshield diagram.

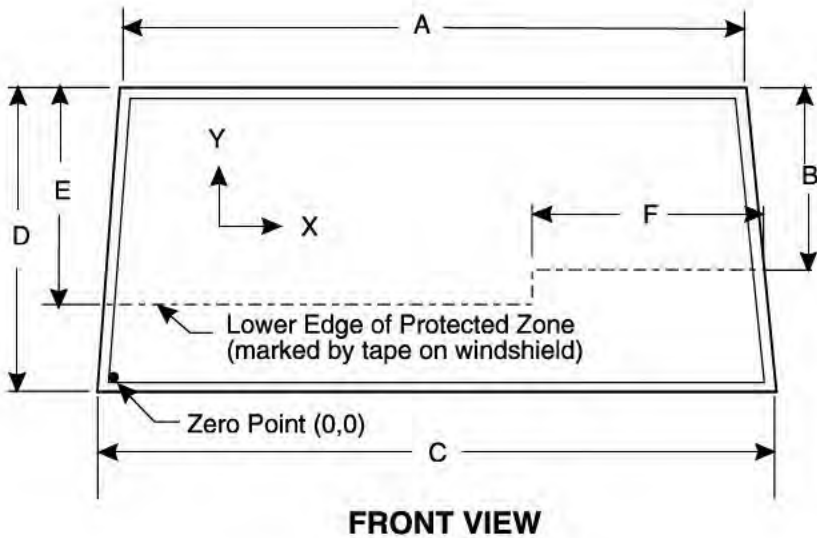
Figure 4 FMVSS 219 Test Data

Protected zone lower edge requirement:

The lower edge of the protected zone is determined by placing a 165-millimeter diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 13 millimeters from the locus line. The **lower edge of the protected zone** is the longitudinal projection onto the outer surface of the windshield of this line.

Windshield measurements:

- A = 1215 mm
- B = 505 mm
- C = 1550 mm
- D = 780 mm
- E = 470 mm
- F = 495 mm



Method of adhering protected zone template to windshield:

No template used

Areas of windshield template penetration greater than 6 mm:

N/A

Coordinates

	X	Y
1.		
2.		
3.		

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield:

N/A

- 1.
- 2.
- 3.

Table 7 Fuel System Data

Vehicle year/make/ model/body style:	2008/Nissan/Pathfinder/MPV
Vehicle number:	8WP122
Usable capacity:	80.0 liters (furnished by Nissan Technical Center, NA)
Requested test volume:	76 liters (95% of usable) (furnished by NTCNA)
Actual test volume:	75.7 liters
Test fluid type:	Stoddard
Specific gravity:	0.764
Kinematic viscosity:	0.99 centistoke
Test fluid color:	Purple
Did electric fuel pump operate with ignition switch "on" and the engine not operating?	Yes
Details of fuel system:	The fuel tank is located in front of the rear axle between the left frame rail and the prop shaft. The fuel filler neck enters the fuel tank at the left rear corner of the tank. The fuel cap is located in left quarter panel. The fuel lines run along the topside of the left frame rail.

Table 8 FMVSS 301 Post-Impact Test Data

Test date: 02/16/07

Vehicle: 2008 Nissan Pathfinder Vehicle Number 8WP122

Test requirements:

Test vehicle fuel tank filled to 95% of manufacturer's usable capacity and with electric fuel pump operating (if it will operate without engine operation). Part 572 test dummies located at each front designated seating position.

Test vehicle impact type:

Frontal (56.3 km/h)

Oblique (48 km/h) with barrier face first contacting (driver/pass.) side

Rear moving barrier (48 km/h)

Lateral moving barrier (62 km/h)

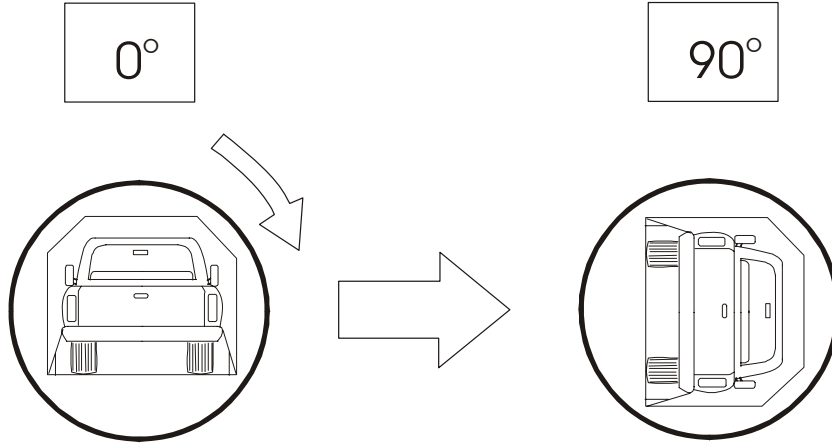
Fuel system fluid spillage measurements:

	<u>Test Results</u>	<u>Maximum Allowable</u>
1. From impact until vehicle motion ceases	0.0 g	28 g
2. 5-minute period after vehicle motion ceases	0.0 g	142 g
3. Next 25 minutes after 5-minute period	0.0 g	28 g/minute

Fuel system fluid spillage location(s): None

Figure 5 FMVSS 301 Test Data

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90° = 2 minutes, 0 seconds
 FMVSS 301 position hold time = 5 minutes, 0 seconds
 Total = 7 minutes, 0 seconds
 Next whole minute interval = 7 minutes

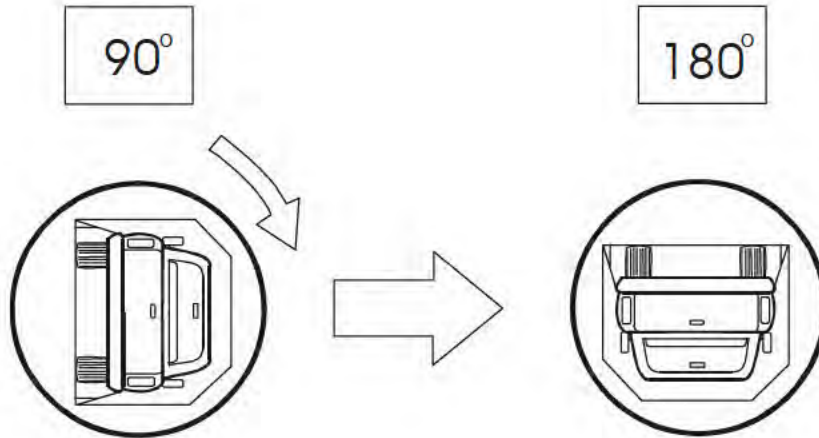
Fuel system fluid spillage measurements:

	Test Results	Maximum Allowable
<u>0° to 90° rotation (fuel filler cap down)</u>		
1. First five minutes from onset of rotation	0.0 g	142 g
2. Sixth minute from onset of rotation	0.0 g	28 g
3. Seventh minute from onset of rotation	0.0 g	28 g

Fuel system fluid spillage location(s): None

Figure 5 FMVSS 301 Test Data, Continued

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90° = 2 minutes, 0 seconds
 FMVSS 301 position hold time = 5 minutes, 0 seconds
 Total = 7 minutes, 0 seconds
 Next whole minute interval = 14 minutes

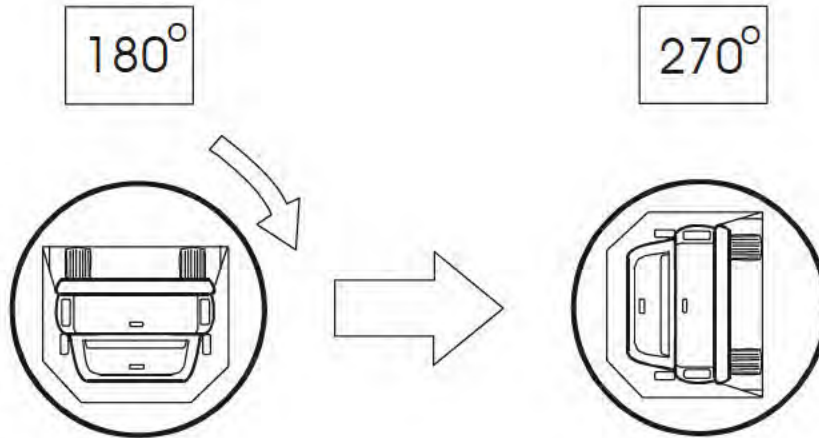
Fuel system fluid spillage measurements:

<u>90° to 180° rotation</u>	<u>Test Results</u>	<u>Maximum Allowable</u>
1. First five minutes from onset of rotation	0.0 g	142 g
2. Sixth minute from onset of rotation	0.0 g	28 g
3. Seventh minute from onset of rotation	0.0 g	28 g

Fuel system fluid spillage location(s): None

Figure 5 FMVSS 301 Test Data, Continued

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90° = 2 minutes, 0 seconds
 FMVSS 301 position hold time = 5 minutes, 0 seconds
 Total = 7 minutes, 0 seconds
 Next whole minute interval = 21 minutes

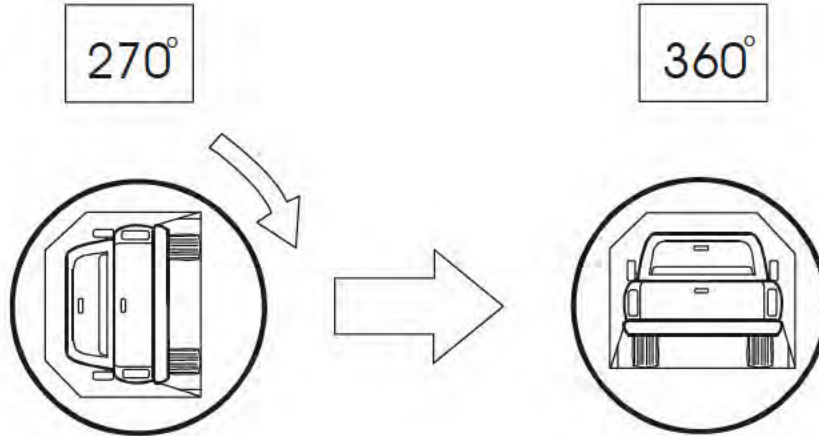
Fuel system fluid spillage measurements:

<u>180 to 270° rotation</u>	<u>Test Results</u>	<u>Maximum Allowable</u>
1. First five minutes from onset of rotation	0.0 g	142 g
2. Sixth minute from onset of rotation	0.0 g	28 g
3. Seventh minute from onset of rotation	0.0 g	28 g

Fuel system fluid spillage location(s): None

Figure 5 FMVSS 301 Test Data, Continued

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90° = 2 minutes, 0 seconds
 FMVSS 301 position hold time = 5 minutes, 0 seconds
 Total = 7 minutes, 0 seconds
 Next whole minute interval = 28 minutes

Fuel system fluid spillage measurements:

<u>270° to 360° rotation</u>	<u>Test Results</u>	<u>Maximum Allowable</u>
1. First five minutes from onset of rotation	0.0 g	142 g
2. Sixth minute from onset of rotation	0.0 g	28 g
3. Seventh minute from onset of rotation	0.0 g	28 g

Fuel system fluid spillage location(s): None

Section 4.0

Vehicle, Occupant, and Camera Measurements

Table 9 FARO Measurement Data for Front Seat Occupants

Seating Position	Measurement Description	X	Y	Z
Driver	Head CG	1554.8	-468.1	1013.9
	H-point	1412.0	-657.5	354.5
	OB Knee	1031.6	-560.5	460.2
Passenger	Head CG	1544.9	467.1	1002.1
	H-point	1404.1	661.4	358.5
	OB Knee	1014.4	523.9	455.7

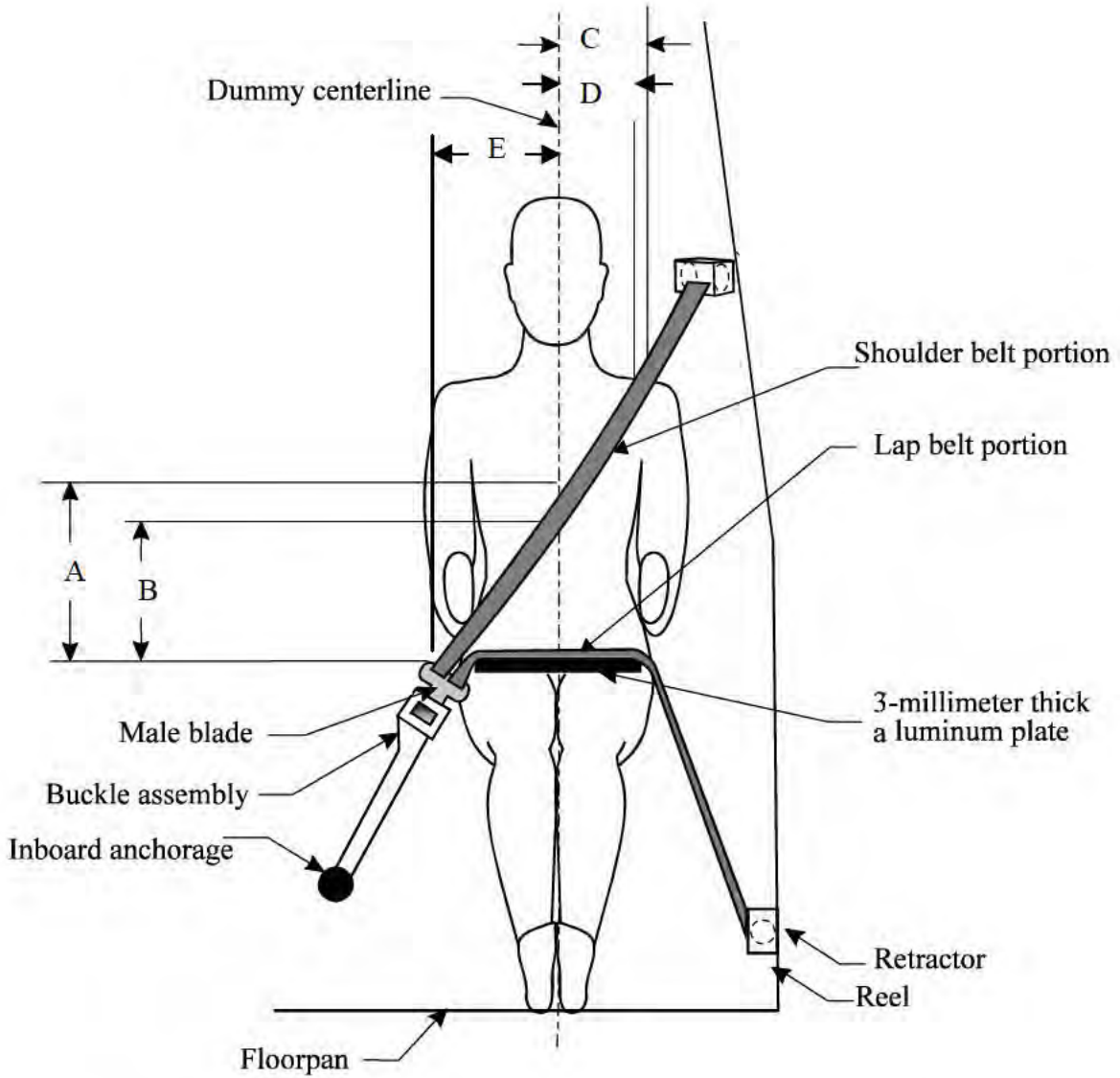
Table 10 Dummy Measurement Data for Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #591)	Passenger (Serial #617)
WA	Windshield angle	33.1°	33.1°
SWA	Steering wheel angle	68.2°	N/A
SCA	Steering column angle	30.7°	N/A
SA	Seat back angle	11.4°	10.4°
HZ	Head to roof	175 mm	192 mm
HH	Head to header	369 mm	376 mm
HW	Head to windshield	609 mm	639 mm
HR	Head to side header	204 mm	225 mm
NR	Nose to rim	398 mm	N/A
NA	Nose to rim angle	12.9°	N/A
CD	Chest to dash	539 mm	526 mm
CS	Steering wheel to chest	285 mm	N/A
RA	Rim to abdomen	196 mm	N/A
KDL	Left knee to dash	140 mm	135 mm
KDR	Right knee to dash	139 mm	134 mm
KDA	Outboard knee to dash angle	16.8°	10.9°
PA	Pelvic angle	24.0°	21.4°
TA	Tibia angle	51.3°	50.3°
KK	Knee to knee	265 mm	270 mm
ST	Striker to head	609 mm	600 mm
	Striker to head angle ¹	-83.1°	-75.1°
SK	Striker to knee	608 mm	630 mm
	Striker to knee angle ¹	-6.2°	0.3°
SH	Striker to H-point	246 mm	245 mm
	Striker to H-point angle ¹	6.9°	21.5°
SHY	Striker to H-point (Y dir.)	226 mm	195 mm
HS	Head to side window	251 mm	258 mm
HD	H-point to door	170 mm	151 mm
AD	Arm to door	116 mm	113 mm

The seat back angle (SA°) is measured relative to vertical; all other angles are measured relative to horizontal.

¹ A negative angle indicates that the measurement point was located above the striker.

Figure 6 Seat Belt Positioning Data



	Driver Dummy	Passenger Dummy
A - Top surface of aluminum plate to belt upper edge	359 mm	346 mm
B - Top surface of aluminum plate to belt lower edge	282 mm	262 mm
C - Dummy centerline to outer edge of belt at chest flesh top	139 mm	132 mm
D - Dummy centerline to inner edge of belt at chest flesh top	75 mm	76 mm
E - Dummy centerline to intersection of upper torso belt and lap belt	240 mm	271 mm

Figure 7 Camera Positions

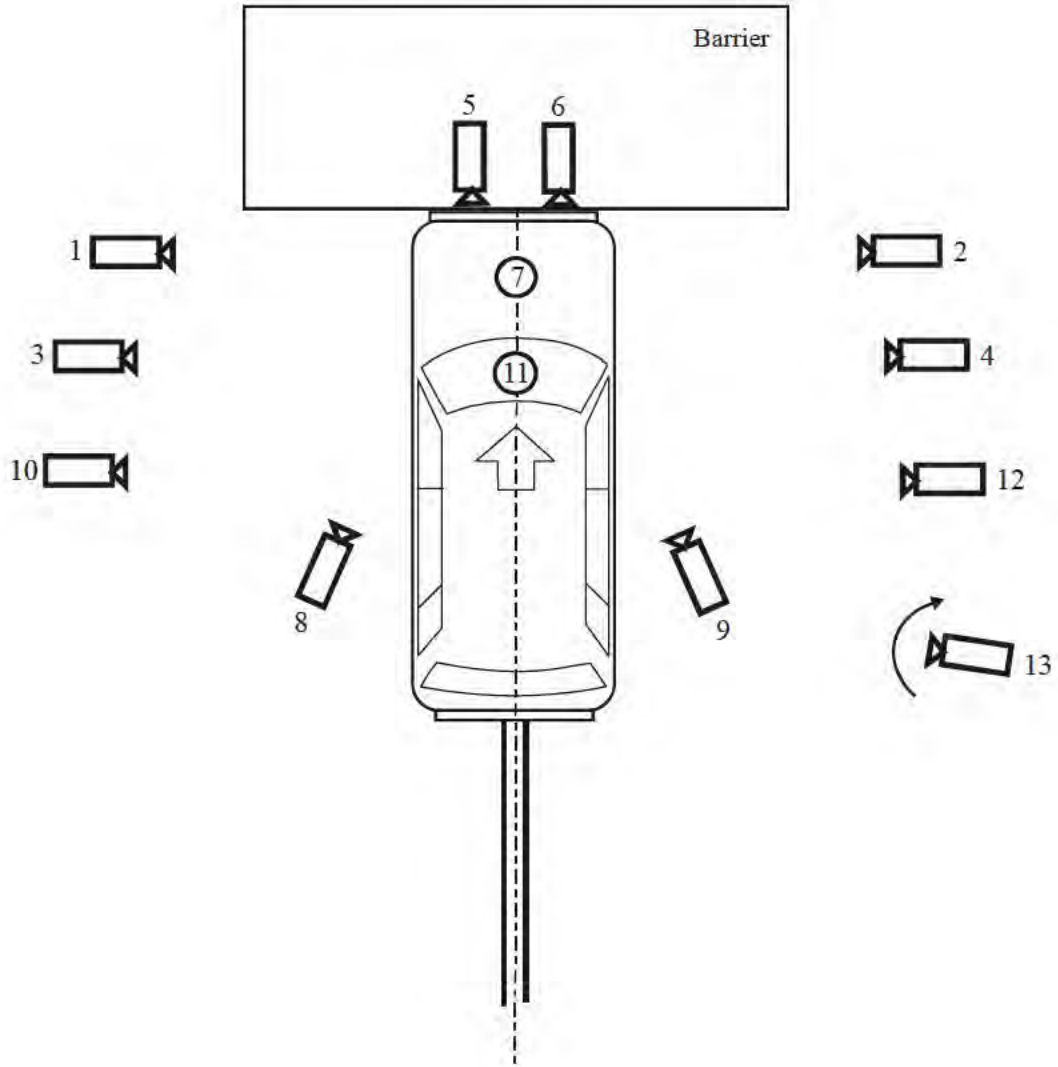


Table 11 Camera Information

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of camera data
1	Left barrier to B-pillar	Redlake-LE	25	1000	Vehicle crush
2	Right barrier to B-pillar	Redlake-LE	25	1000	Vehicle crush
3	Left A-pillar to B-pillar	Redlake-LE	50	1000	Dummy kinematics
4	Right A-pillar to B-pillar	Redlake-LE	50	1000	Dummy kinematics
5	Barrier driver	Redlake-LE	12.5	1000	Airbag deployment
6	Barrier passenger	Redlake-LE	12.5	1000	Airbag deployment
7	Pit front	Redlake-LE	25	1000	Vehicle crush
8	Left angle	Redlake-LE	25	1000	Dummy kinematics
9	Right angle	Redlake-LE	25	1000	Dummy kinematics
10	Left wide	Redlake-LE	12.5	1000	Vehicle crush
11	Overhead front	Redlake-LE	12.5	1000	Vehicle crush
12	Right wide	Redlake-LE	12.5	1000	Vehicle crush
13	Panning	Canon	Zoom	30	Vehicle dynamics

Appendix A

Photographs



Figure A-1 Pre-Test Overall Left Side View



Figure A-2 Post-Test Overall Left Side View



Figure A-3 Pre-Test Overall Right Side View



Figure A-4 Post-Test Overall Right Side View



Figure A-5 Pre-Test Front View



Figure A-6 Post-Test Front View



Figure A-7 Pre-Test Rear View



Figure A-8 Post-Test Rear View



Figure A-9 Pre-Test Plan View

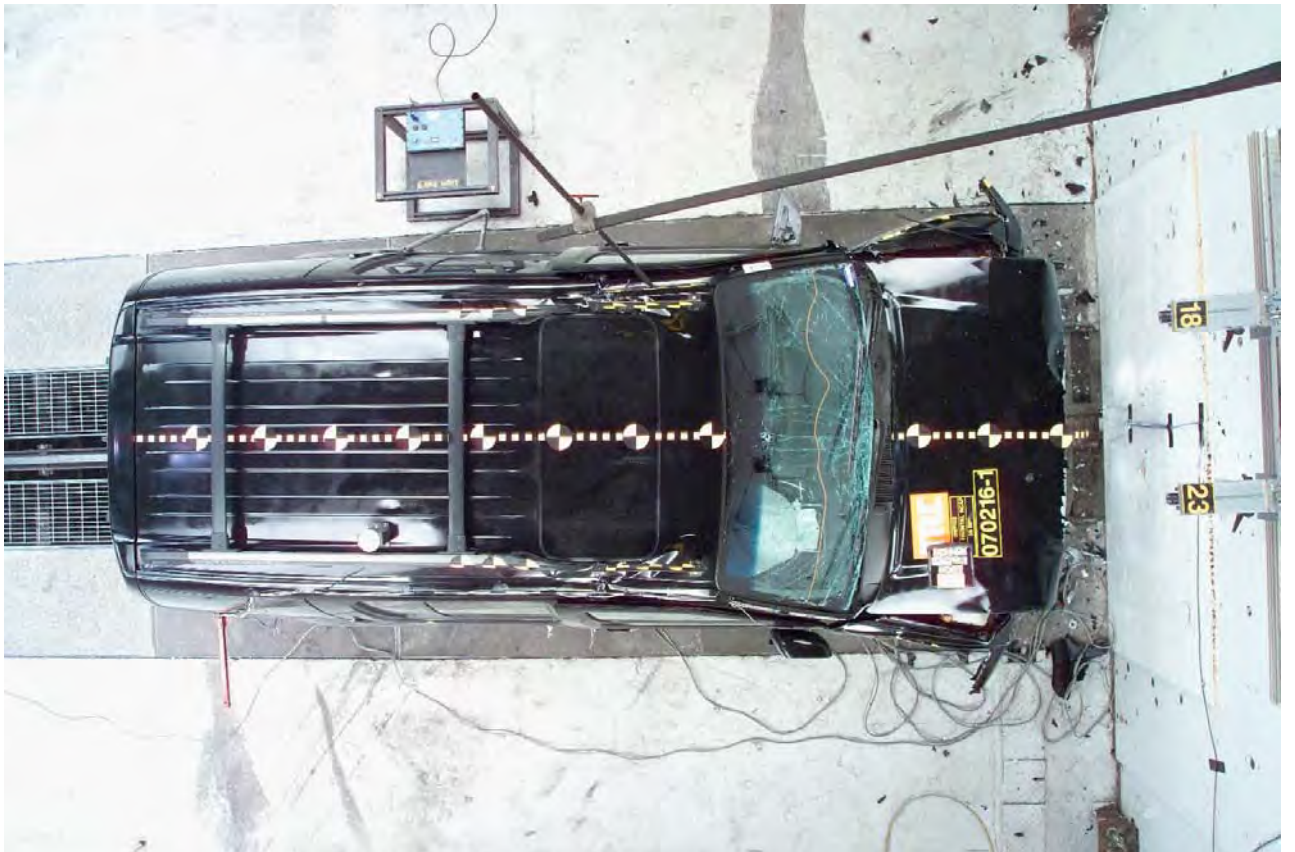


Figure A-10 Post-Test Plan View



Figure A-11 Pre-Test Left Oblique Overall View



Figure A-12 Post-Test Left Oblique Overall View



Figure A-13 Pre-Test Right Oblique Overall View



Figure A-14 Post-Test Right Oblique Overall View

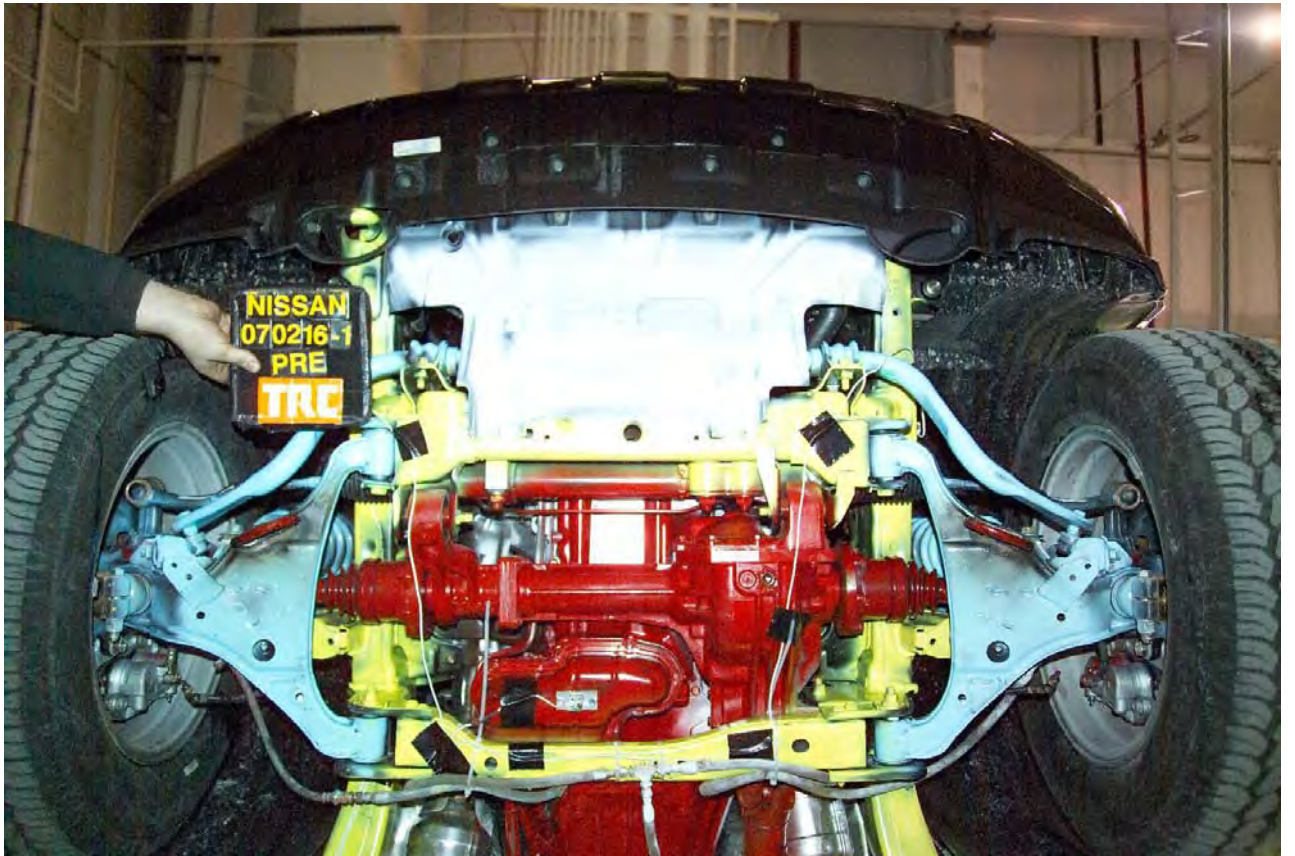


Figure A-15 Pre-Test Under Floor - Front (View 1)



Figure A-16 Post-Test Under Floor - Front (View 1)

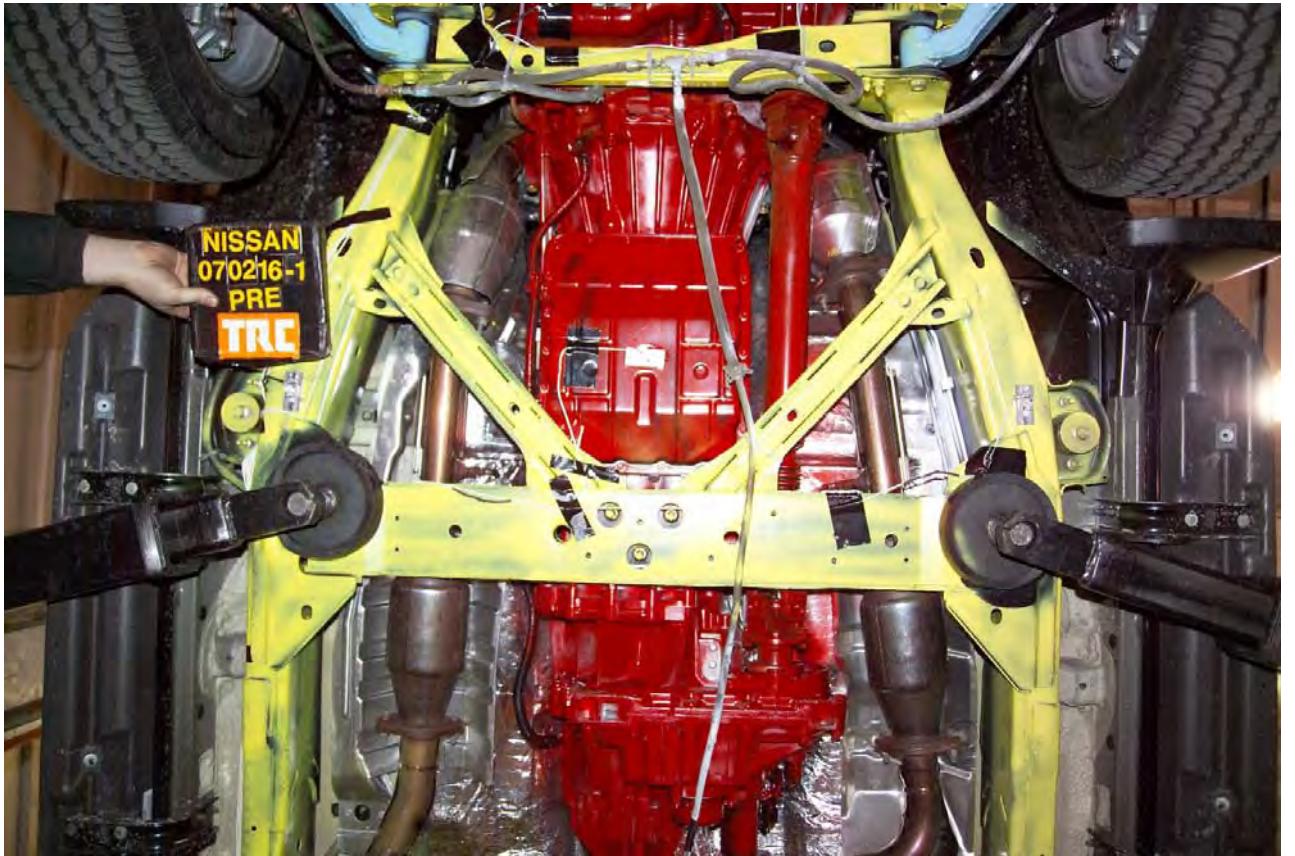


Figure A-17 Pre-Test Under Floor - Front Center (View 2)



Figure A-18 Post-Test Under Floor - Front Center (View 2)



Figure A-19 Pre-Test Under Floor - Center (View 3)



Figure A-20 Post-Test Under Floor - Center (View 3)

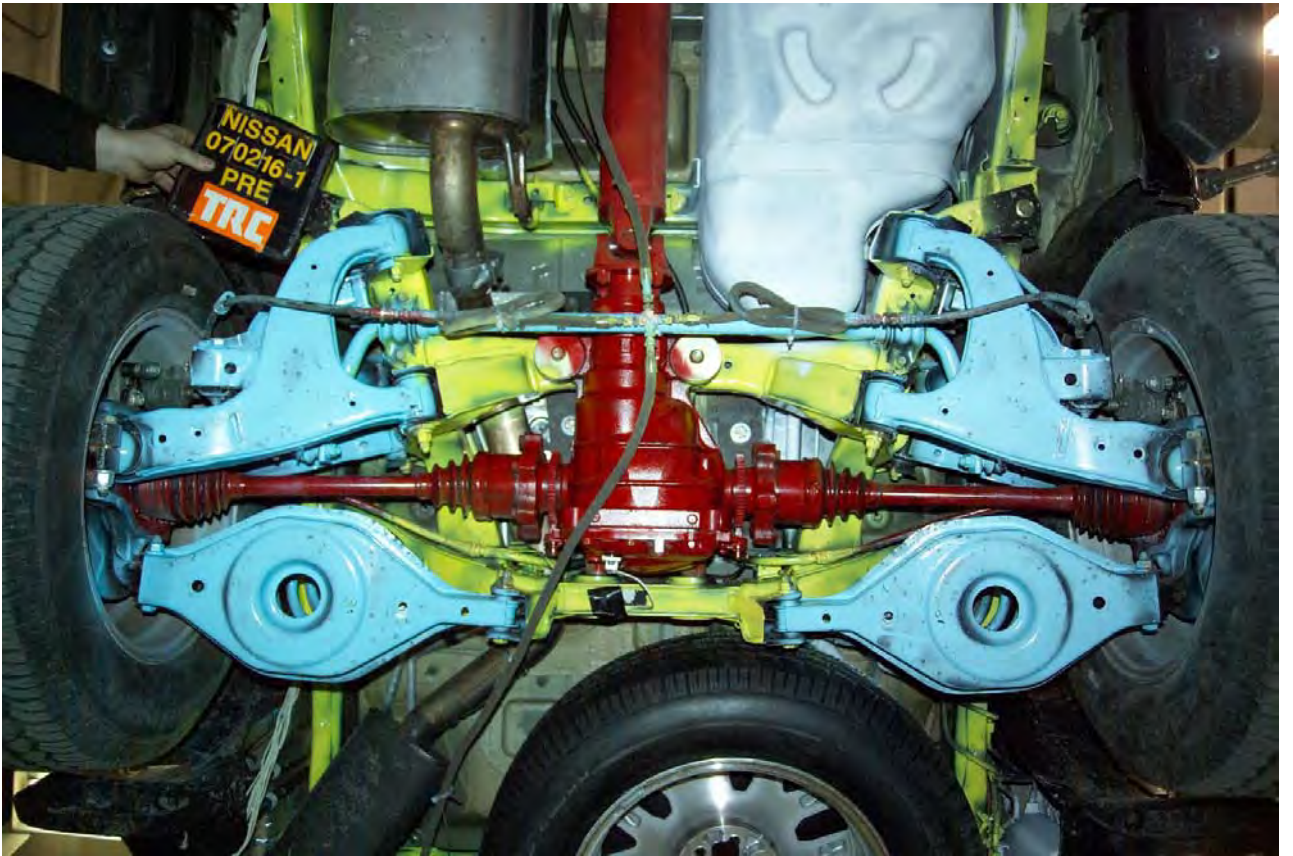


Figure A-21 Pre-Test Under Floor - Rear Center (View 4)

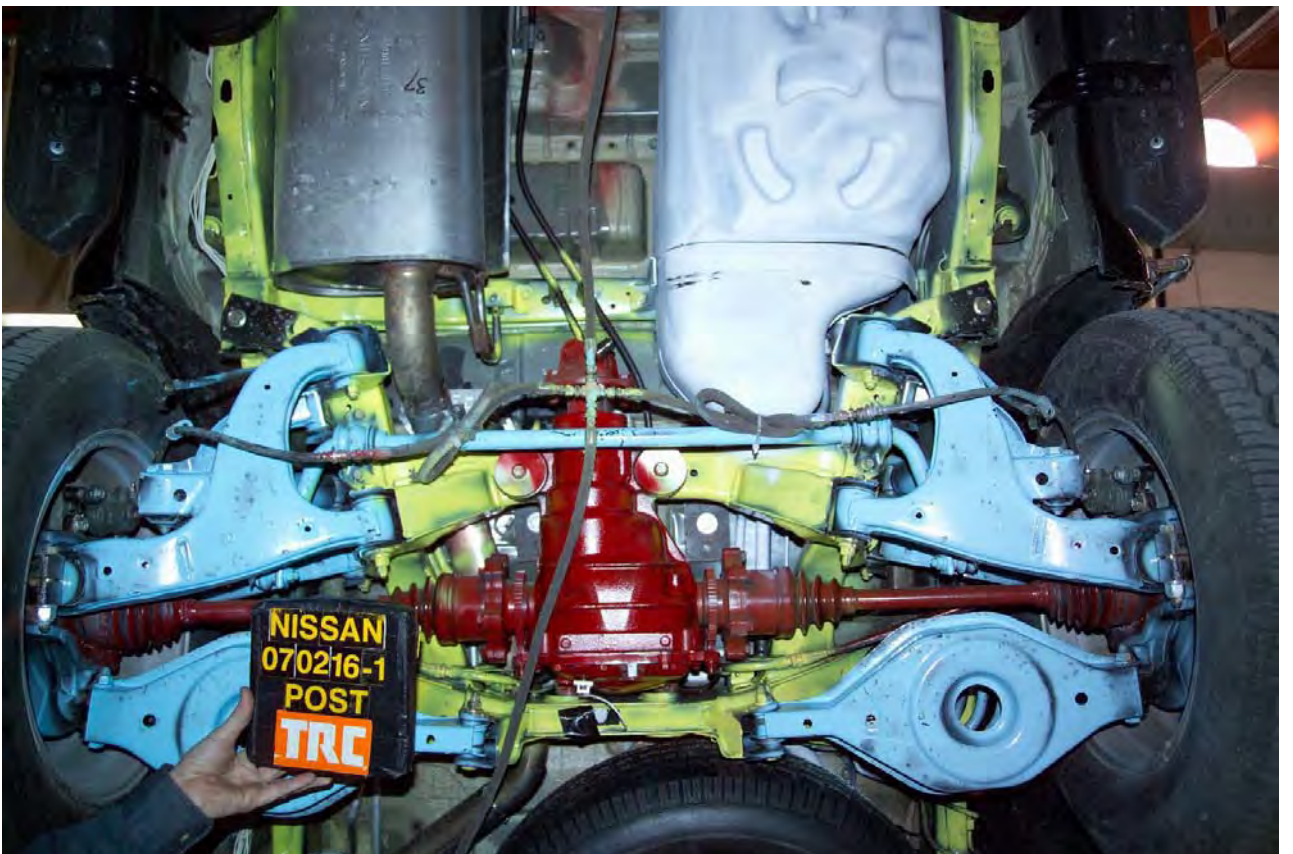


Figure A-22 Post-Test Under Floor - Rear Center (View 4)



Figure A-23 Pre-Test Under Floor - Rear (View 5)



Figure A-24 Post-Test Under Floor - Rear (View 5)



Figure A-25 Pre-Test Driver and Passenger Dummies Front View



Figure A-26 Post-Test Driver and Passenger Dummies Front View



Figure A-27 Pre-Test Driver Dummy Close-up Side View



Figure A-28 Post-Test Driver Dummy Close-up Side View



Figure A-29 Pre-Test Driver Dummy Overall Side View



Figure A-30 Post-Test Driver Dummy Overall Side View



Figure A-31 Pre-Test Driver Dummy Overall Oblique View



Figure A-32 Post-Test Driver Dummy Overall Oblique View



Figure A-33 Pre-Test Passenger Dummy Close-up Side View



Figure A-34 Post-Test Passenger Dummy Close-up Side View



Figure A-35 Pre-Test Passenger Dummy Overall Side View



Figure A-36 Post-Test Passenger Dummy Overall Side View



Figure A-37 Pre-Test Passenger Dummy Overall Oblique View



Figure A-38 Post-Test Passenger Dummy Overall Oblique View



Figure A-39 Post-Test Driver Airbag View



Figure A-40 Post-Test Driver Knee Bolster View



Figure A-41 Post-Test Driver Floor Deformation View



Figure A-42 Post-Test Driver Rebound Chalk Mark View



Figure A-43 Post-Test Passenger Airbag View



Figure A-44 Post-Test Passenger Knee Bolster View



Figure A-45 Post-Test Passenger Floor Deformation View



Figure A-46 Post-Test Passenger Rebound Chalk Mark View



Figure A-47 Post-Test Driver Dummy Overall View



Figure A-48 Post-Test Passenger Dummy Overall View



Figure A-49 Pre-Test Ballast Weight View



Figure A-50 Pre-Test Vehicle Instrumentation View



Figure A-51 Pre-Test Windshield Left Oblique View



Figure A-52 Post-Test Windshield Left Oblique View (with Hood)



Figure A-53 Post-Test Windshield Left Oblique View (Hood Removed)

Intentionally Left Blank



Figure A-54 Pre-Test Windshield Right Oblique View



Figure A-55 Post-Test Windshield Right Oblique View (with Hood)

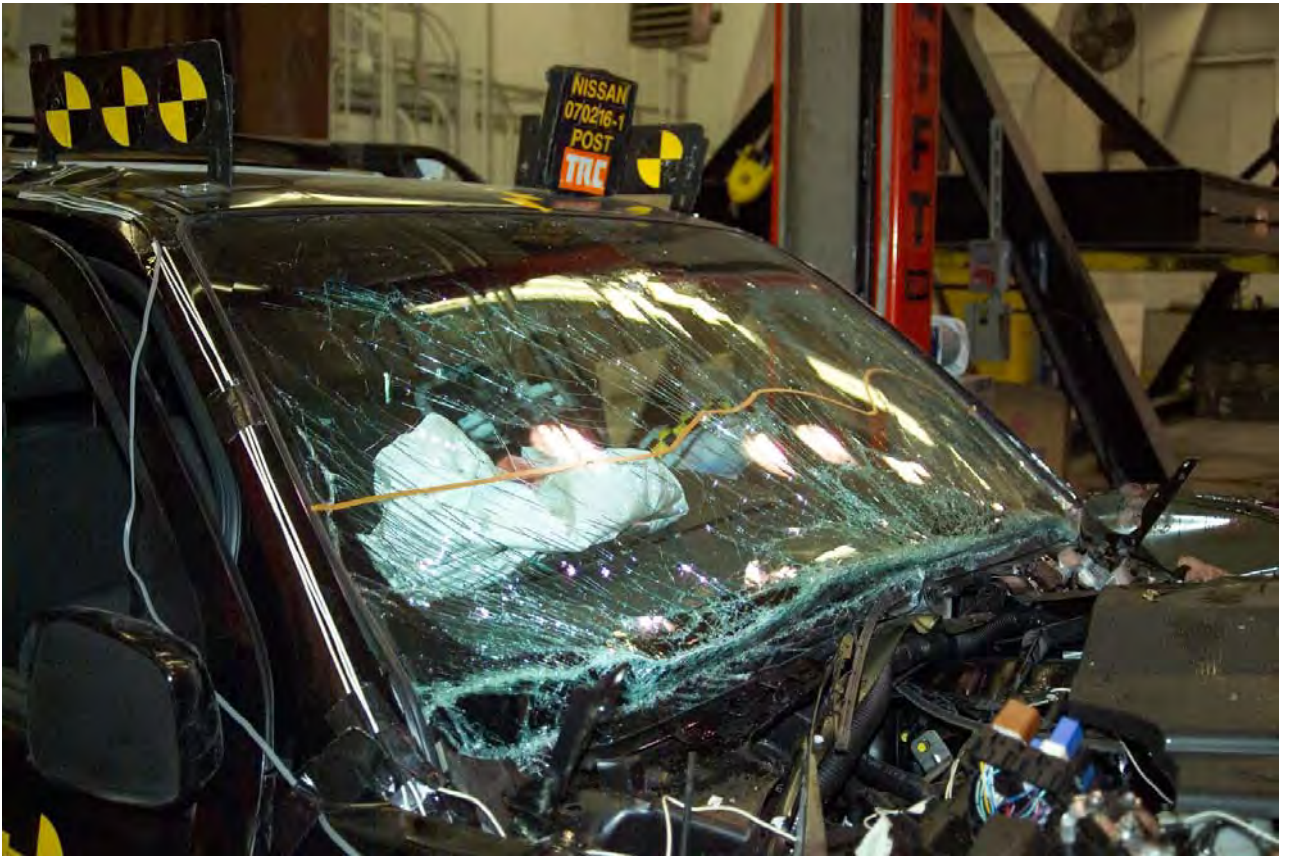


Figure A-56 Post-Test Windshield Right Oblique View (Hood Removed)

Intentionally Left Blank



Figure A-57 Pre-Test Windshield Front View



Figure A-58 Post-Test Windshield Front View (with Hood)



Figure A-59 Post-Test Windshield Front View (Hood Removed)

Intentionally Left Blank



Figure A-60 Pre-Test Engine Compartment Plan View



Figure A-61 Post-Test Engine Compartment Plan View (Hood Removed)

Photograph Not Available

Figure A-62 Pre-Test Under Floor Fuel Filter

Photograph Not Available

Figure A-63 Post-Test Under Floor Fuel Filter



Figure A-64 Pre-Test Overall Fuel Tank View



Figure A-65 Post-Test Overall Fuel Tank View



Figure A-66 Pre-Test Fuel Filler Hose View



Figure A-67 Post-Test Fuel Filler Hose View



Figure A-68 Pre-Test Fuel Filler Cap View



Figure A-69 Post-Test Fuel Filler Cap View



Figure A-70 Vehicle on Rollover Fixture - 0°



Figure A-71 Vehicle on Rollover Fixture - 90°



Figure A-72 Vehicle on Rollover Fixture - 180°

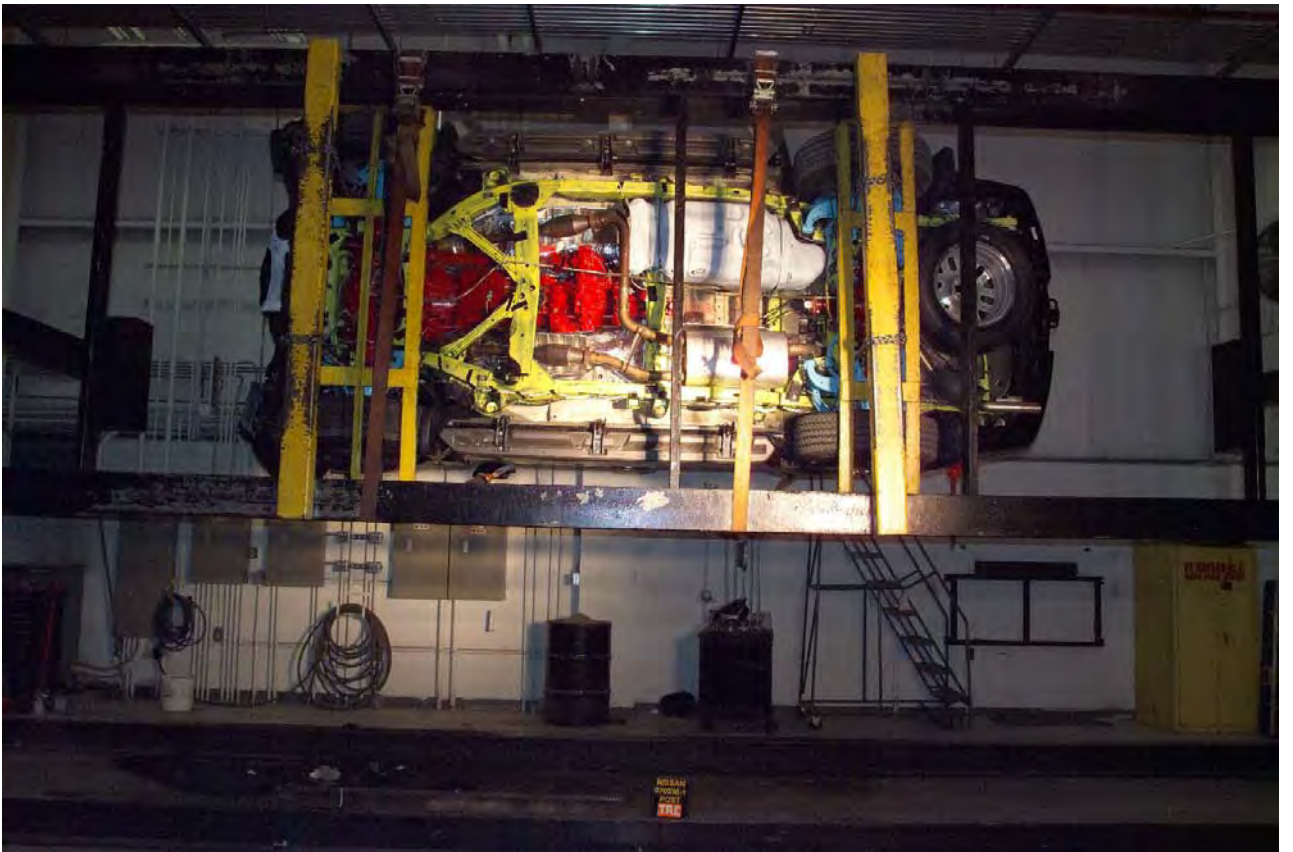


Figure A-73 Vehicle on Rollover Fixture - 270°

Appendix B

Data Plots



35 mph Flat Frontal Barrier

Driver Head X-Axis Acceleration

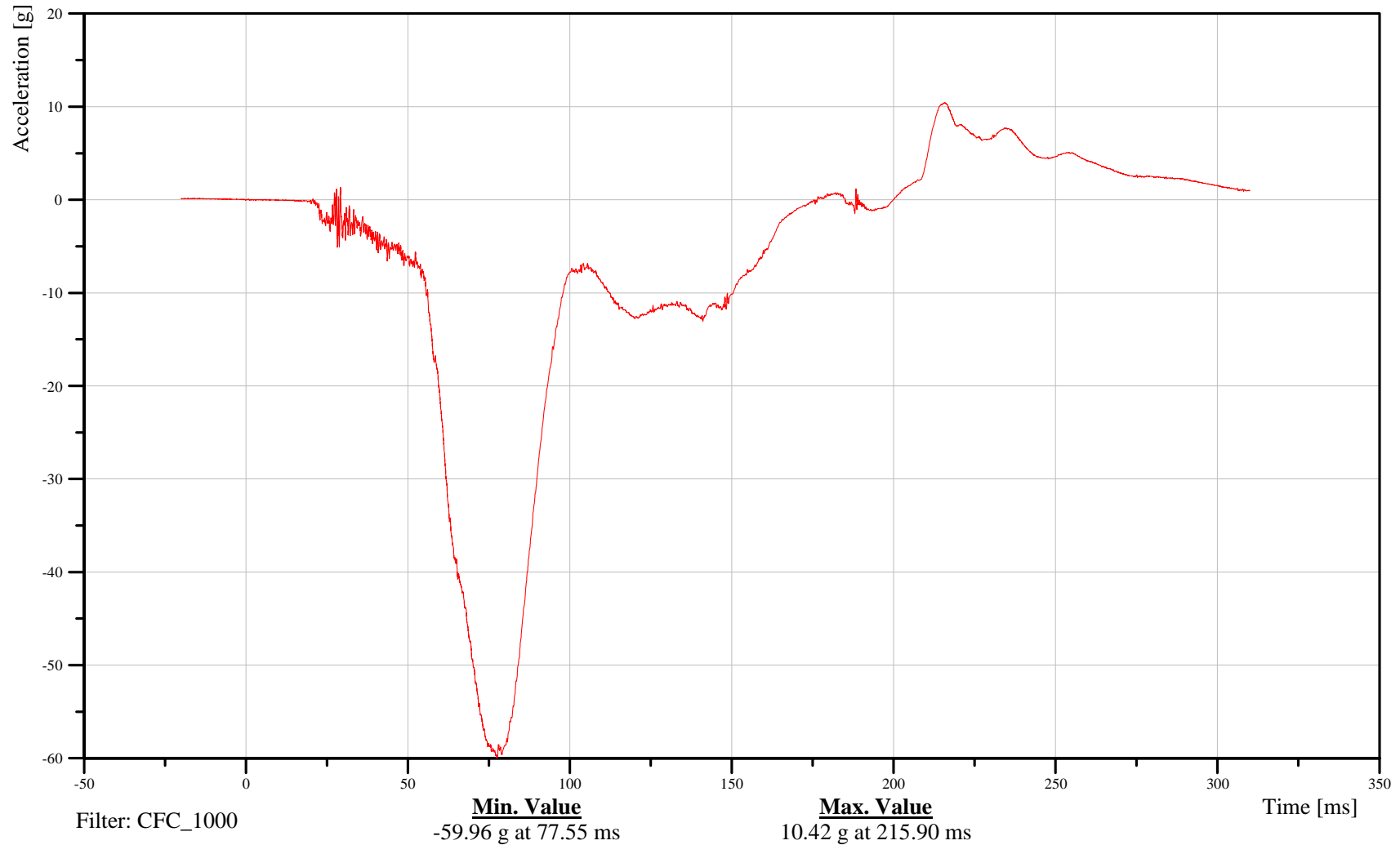
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

11HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Head Y-Axis Acceleration

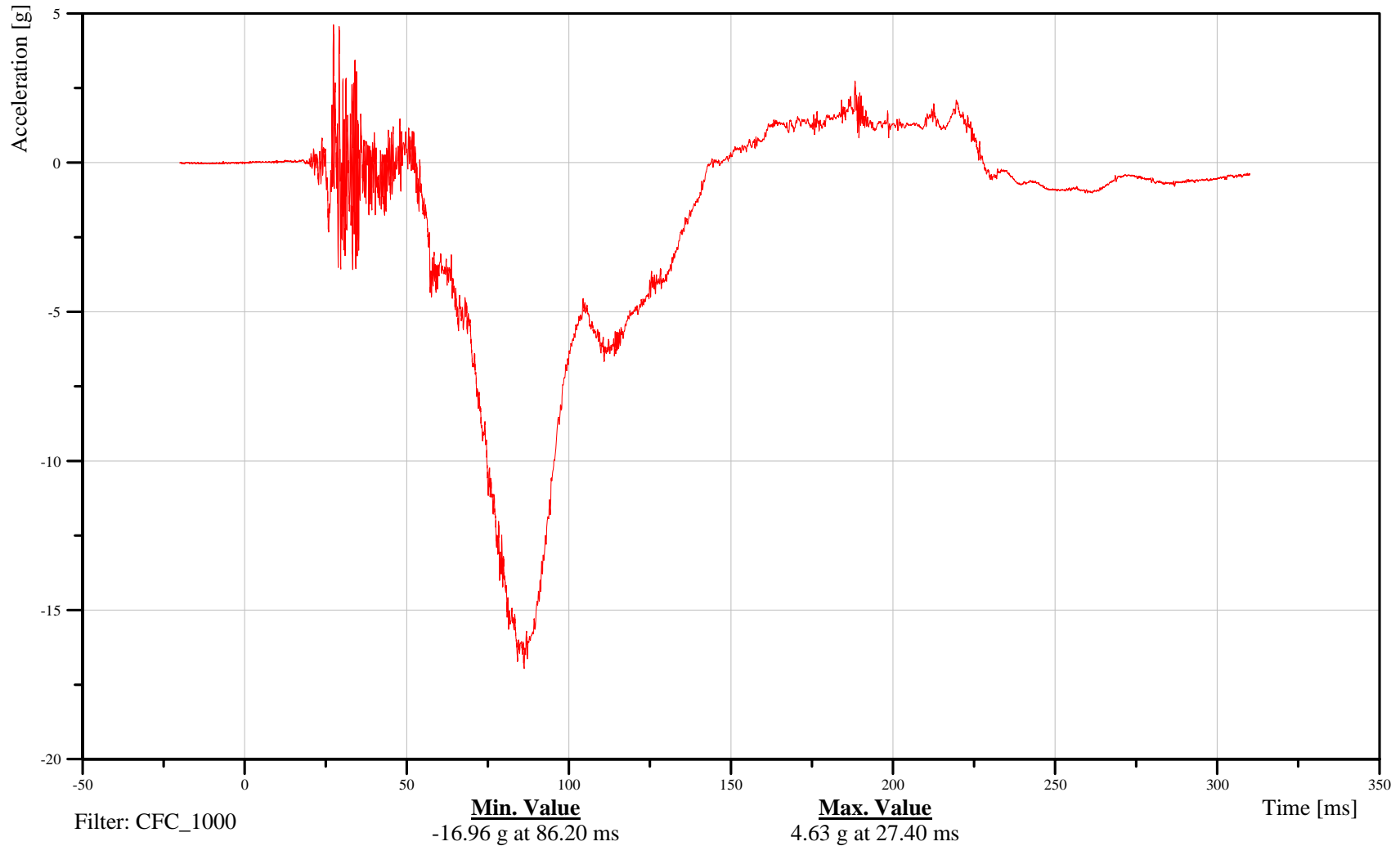
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Time: 12:17

Customer: NTCNA

11HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Head Z-Axis Acceleration

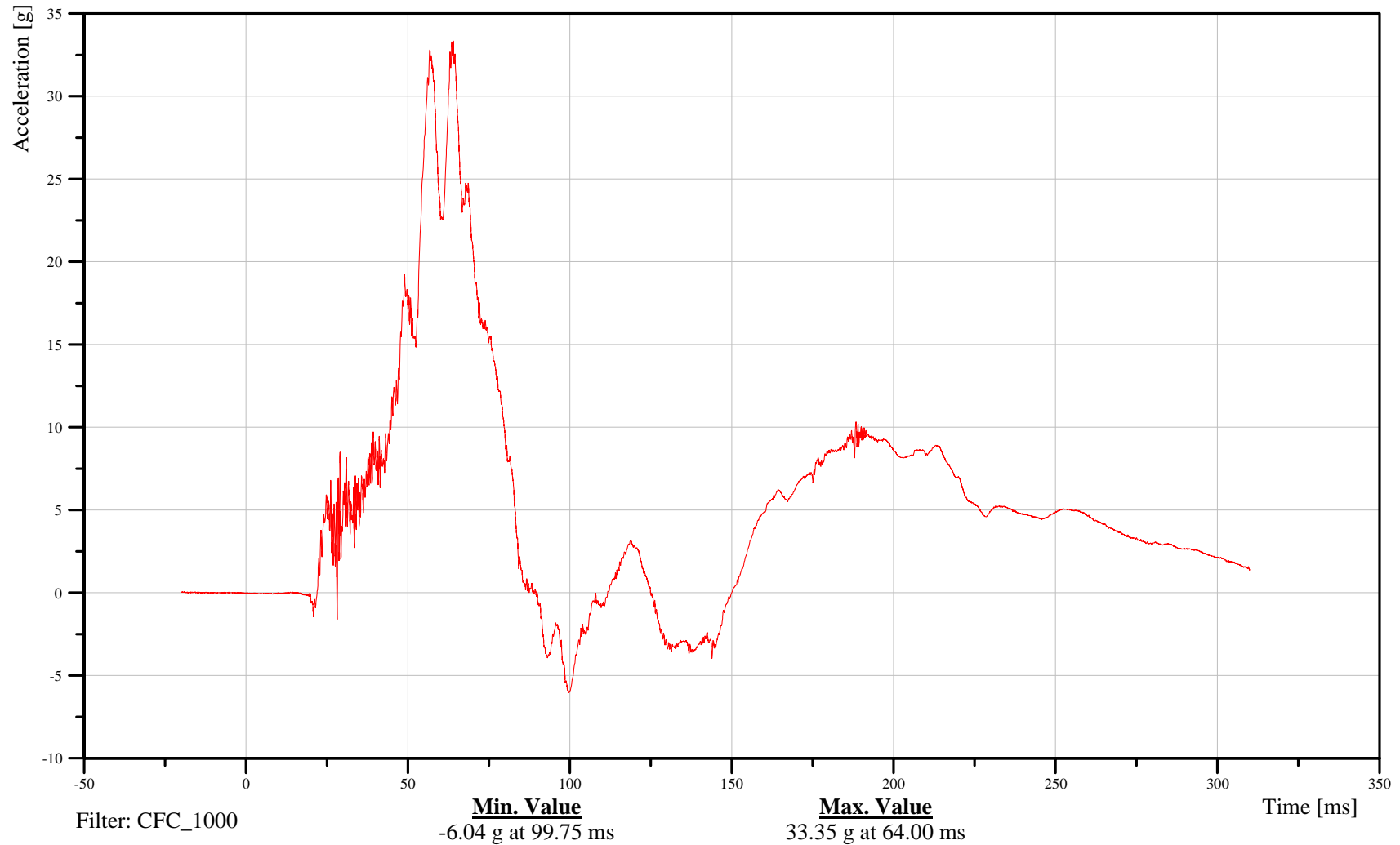
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

11HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Head Resultant Acceleration

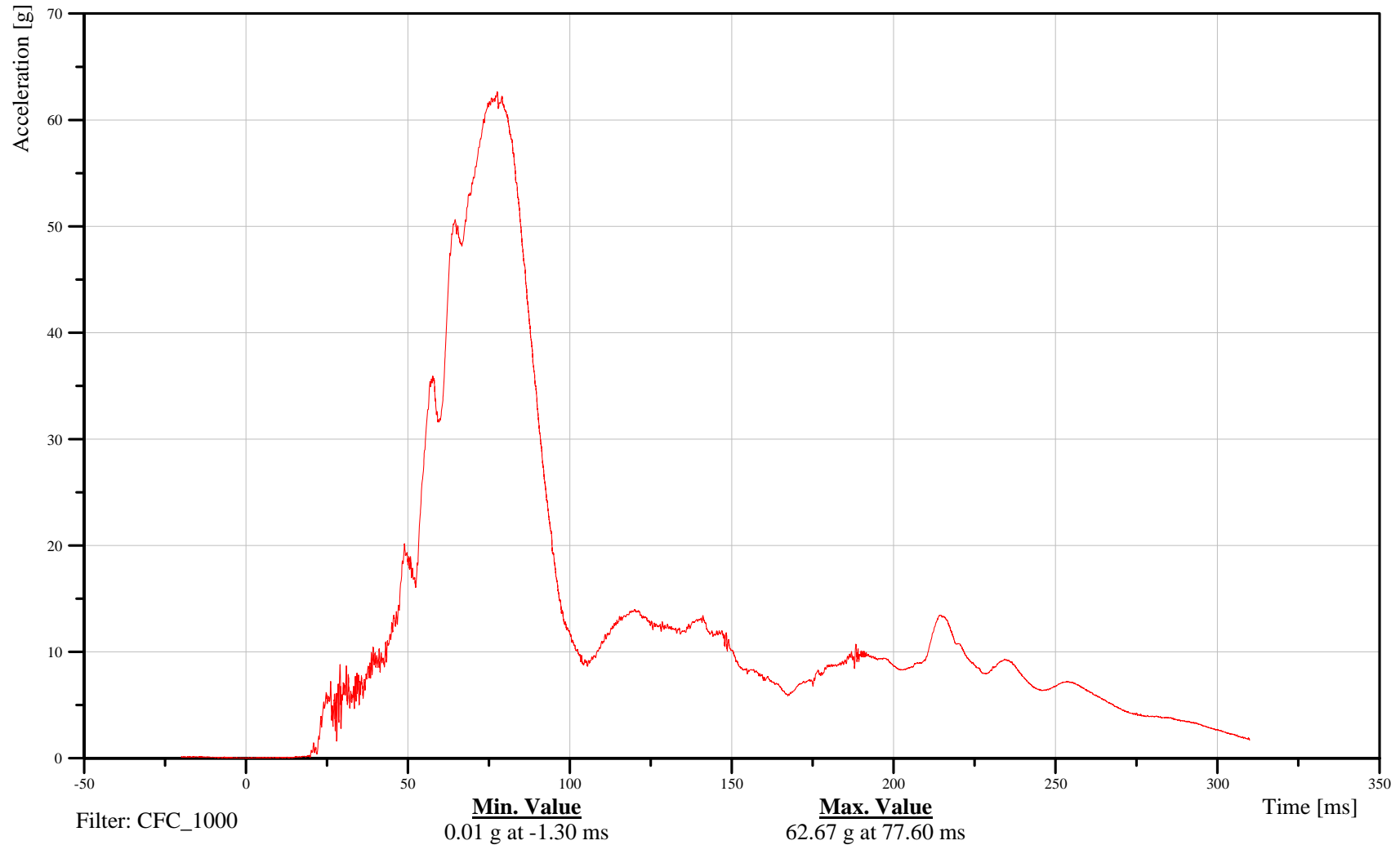
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

11HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Neck X-Axis Force

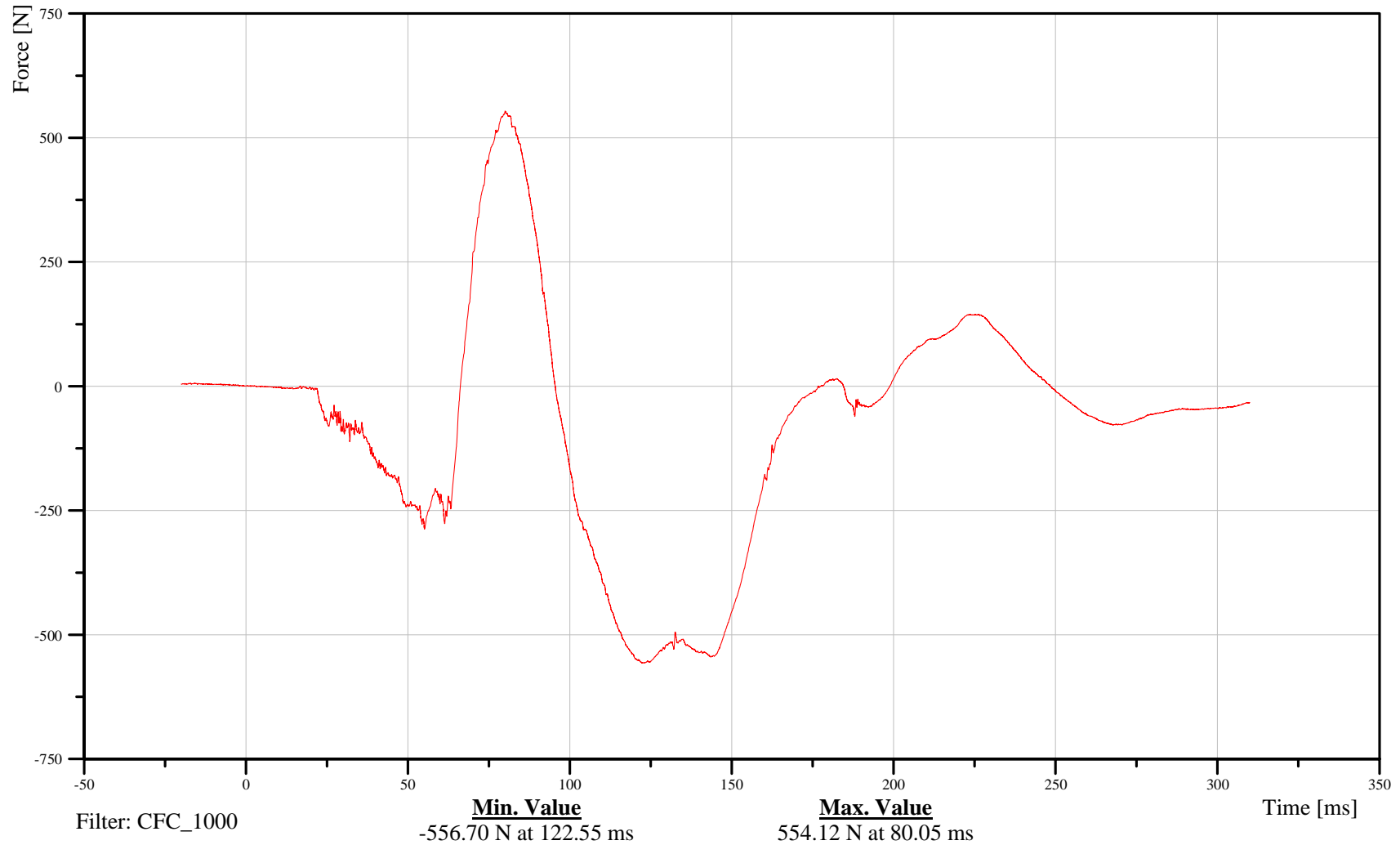
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Time: 12:17

Customer: NTCNA

11NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Neck Y-Axis Force

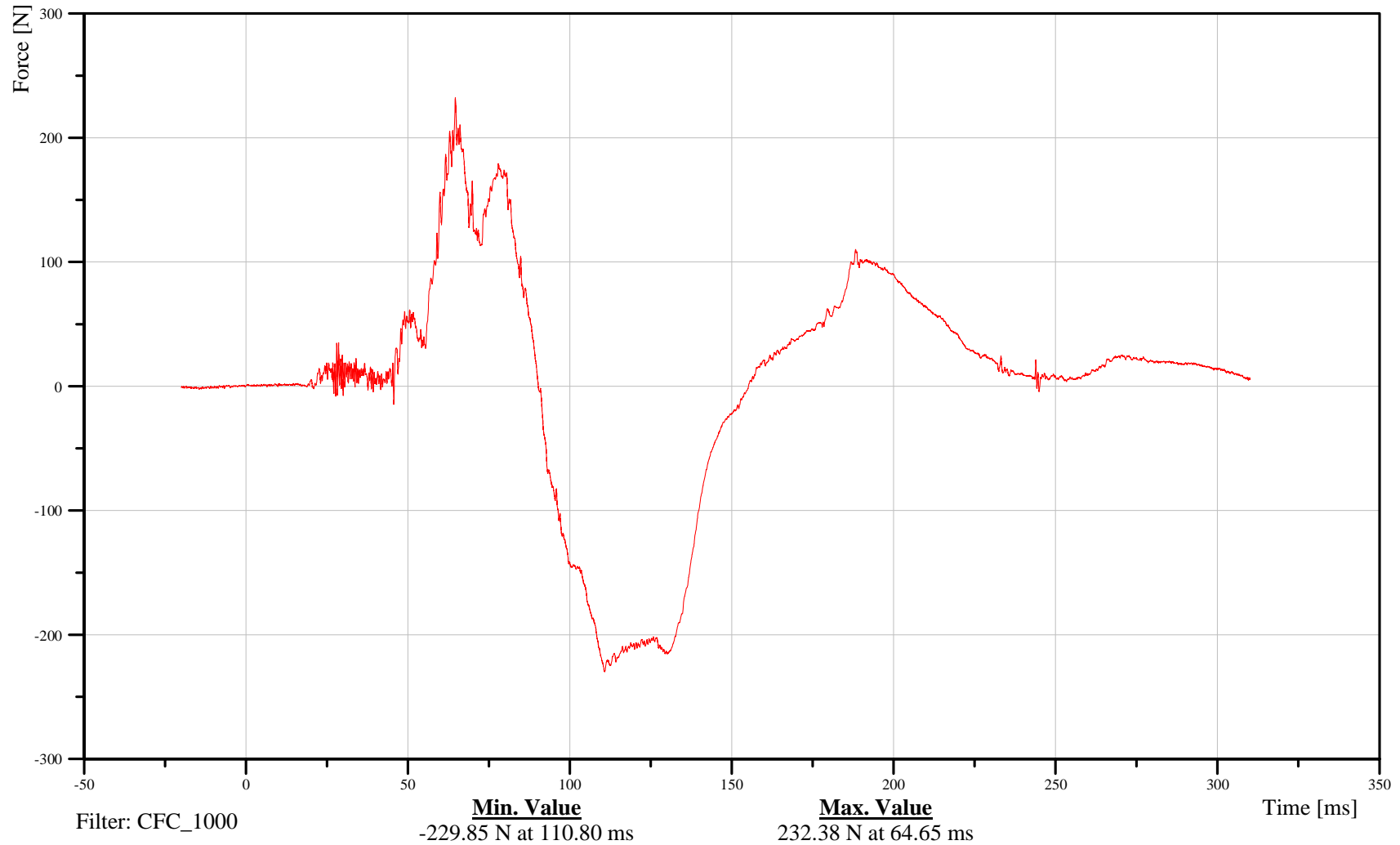
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Time: 12:17

Customer: NTCNA

11NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Neck Z-Axis Force

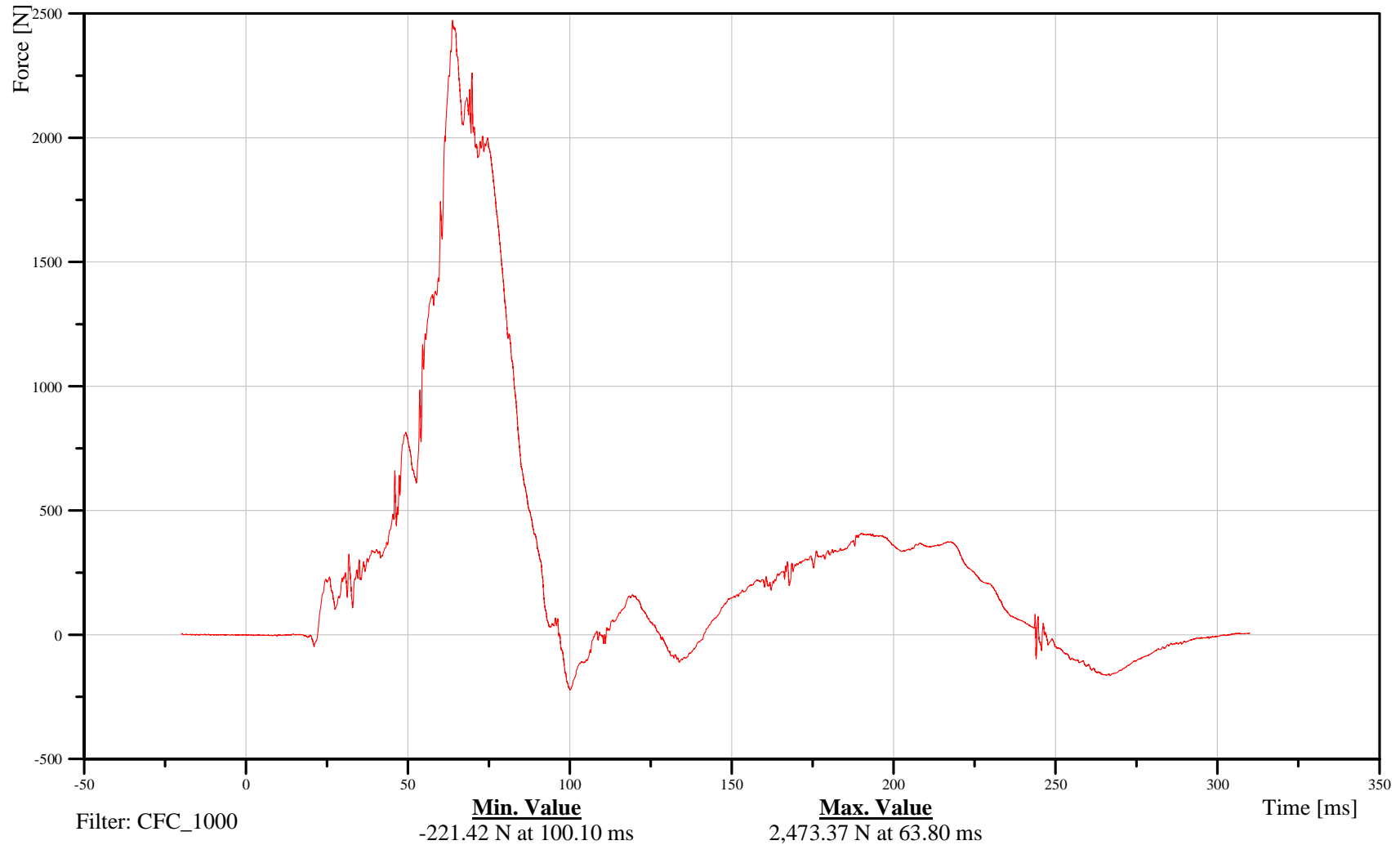
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Time: 12:17

Customer: NTCNA

11NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Neck Moment About X Axis

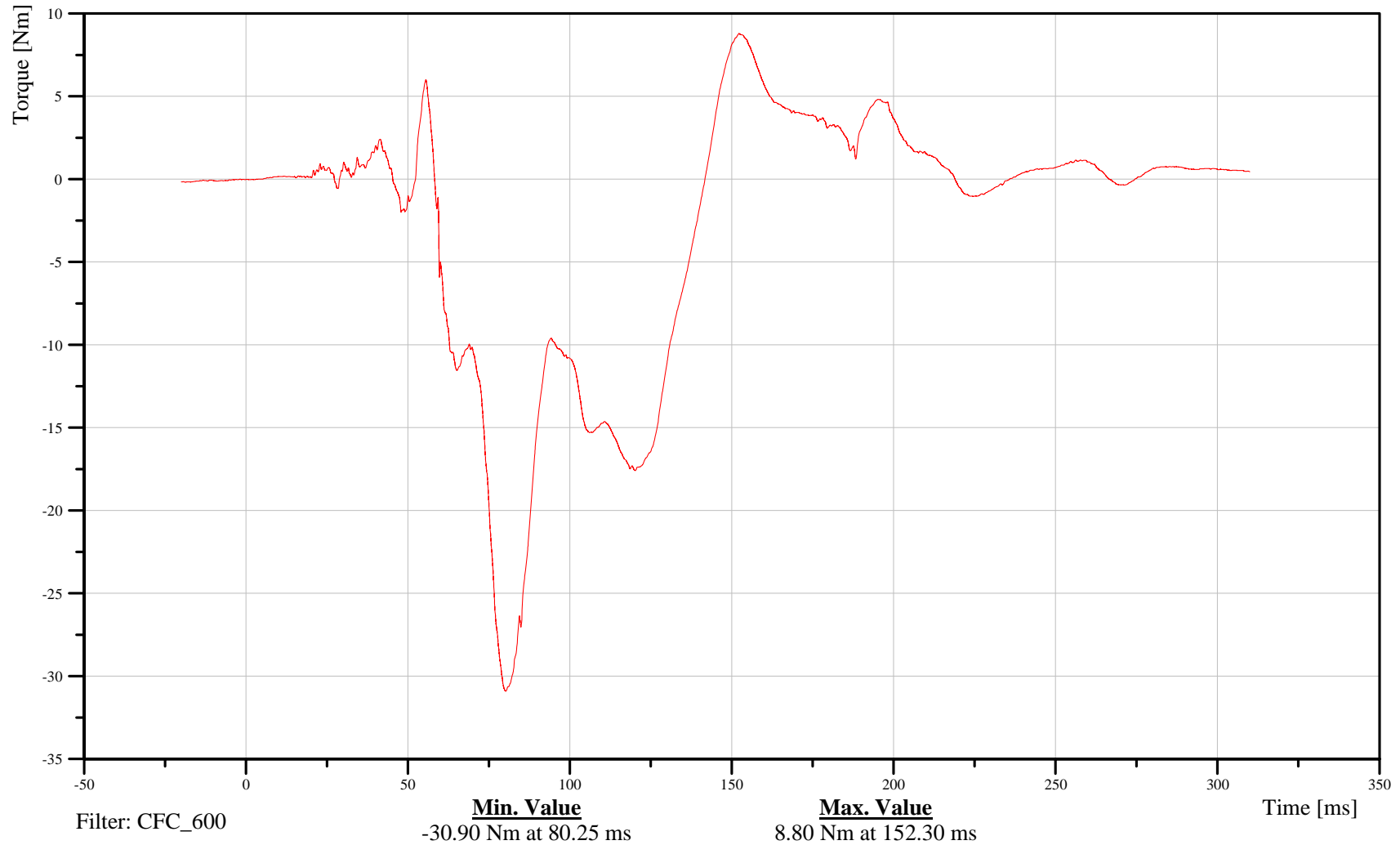
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Time: 12:17

Customer: NTCNA

11NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Neck Moment About Y Axis

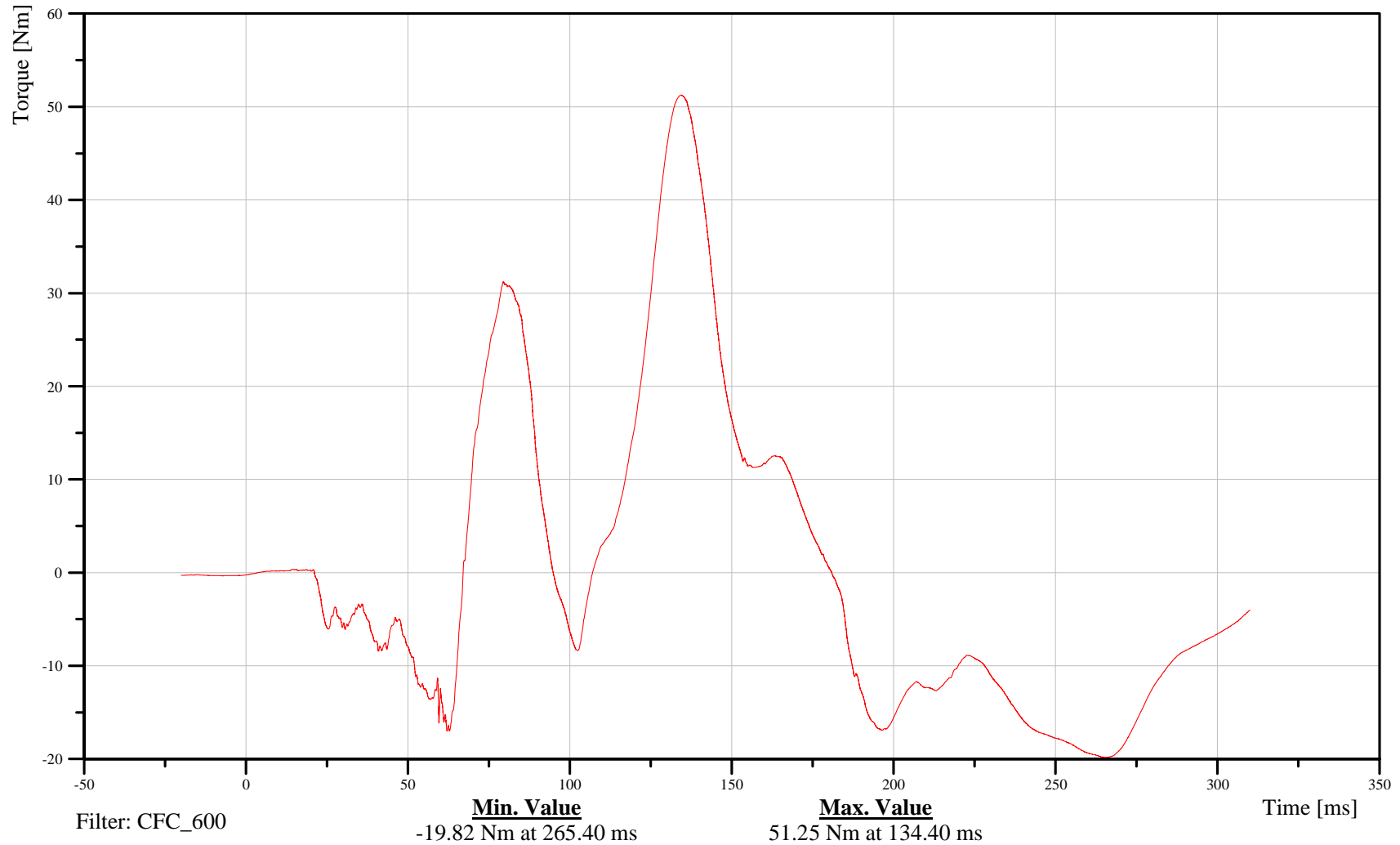
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Time: 12:17

Customer: NTCNA

11NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Neck Moment About Z Axis

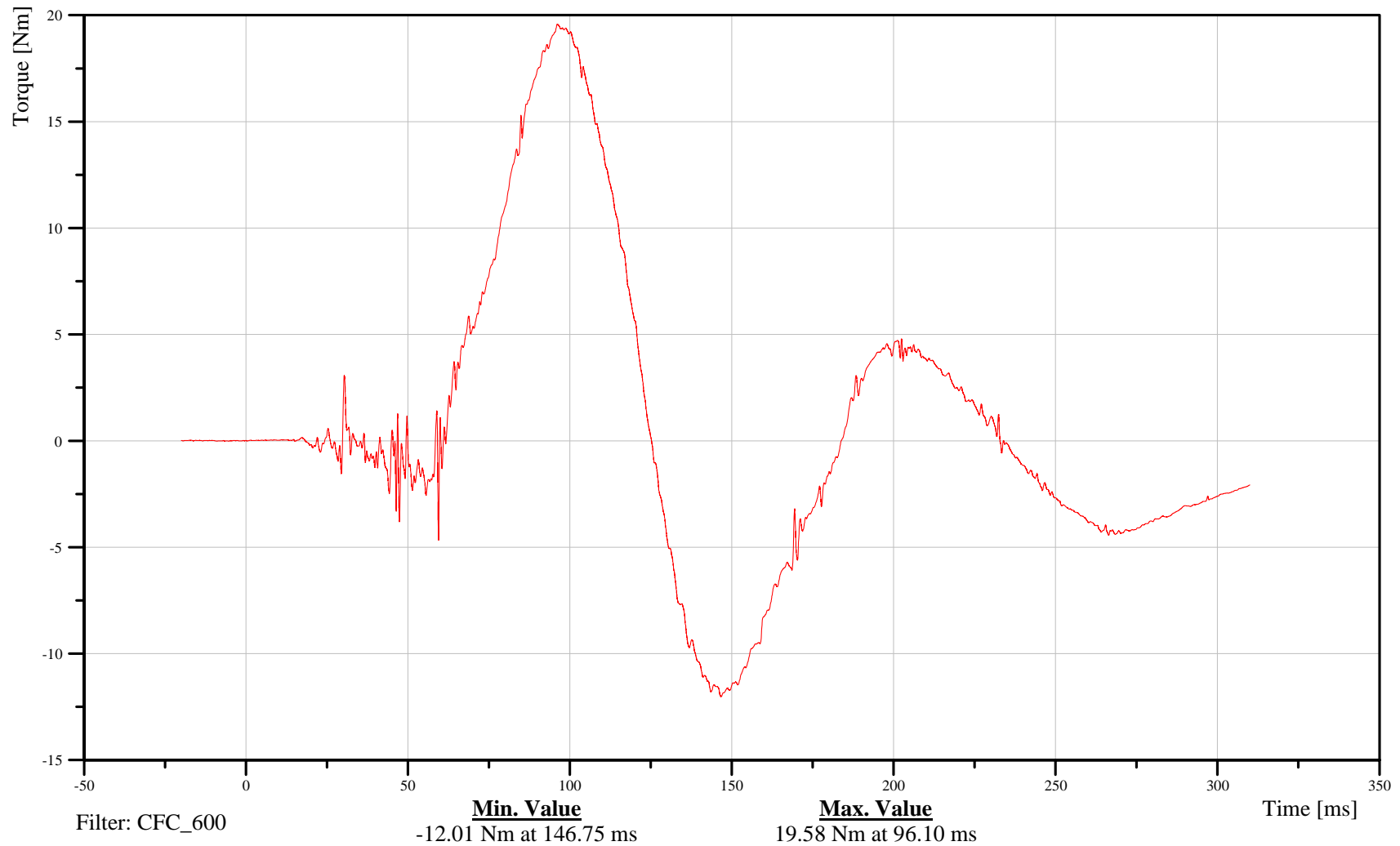
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Time: 12:17

Customer: NTCNA

11NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Chest X-Axis Acceleration

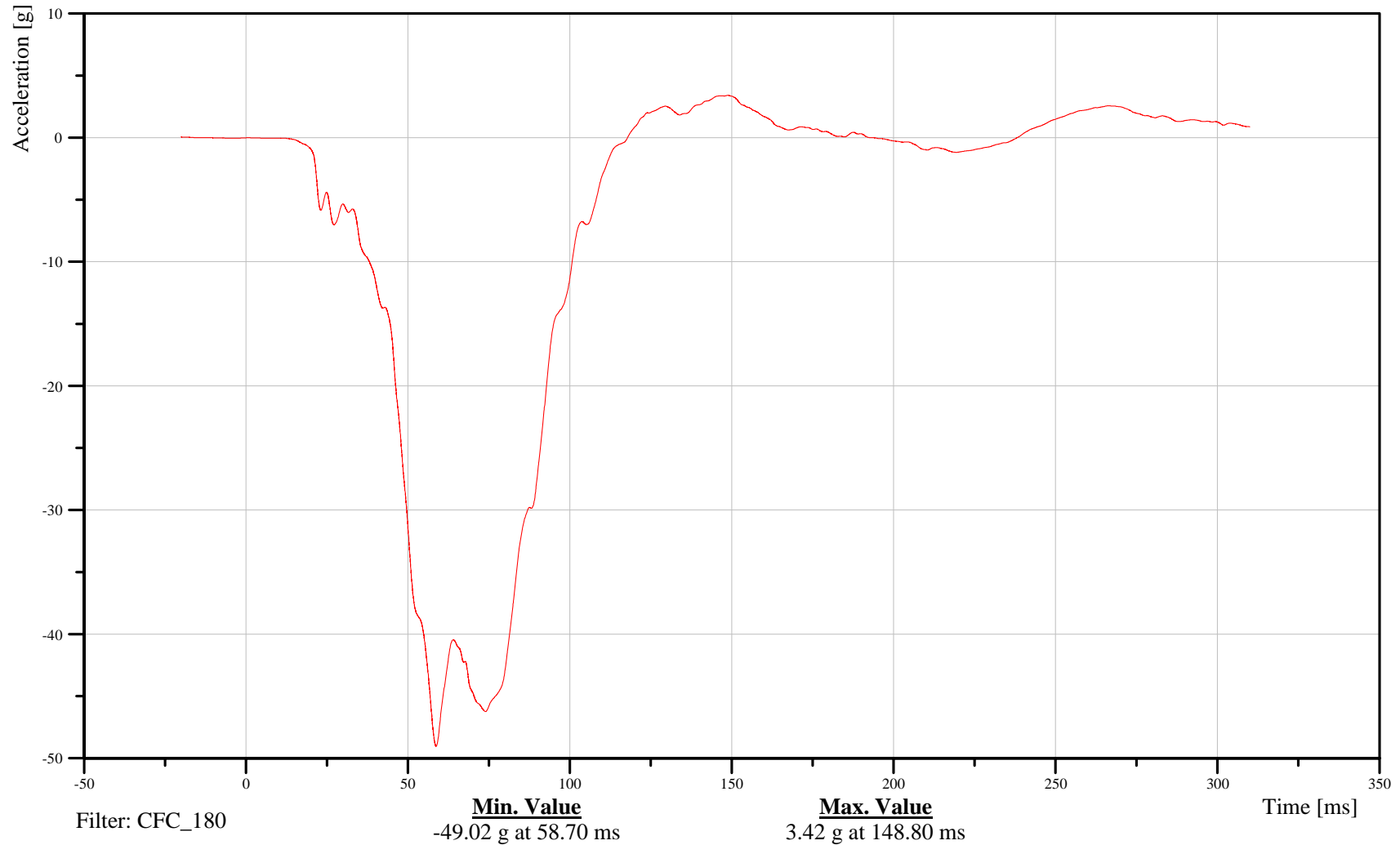
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Time: 12:17

Customer: NTCNA

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Chest Y-Axis Acceleration

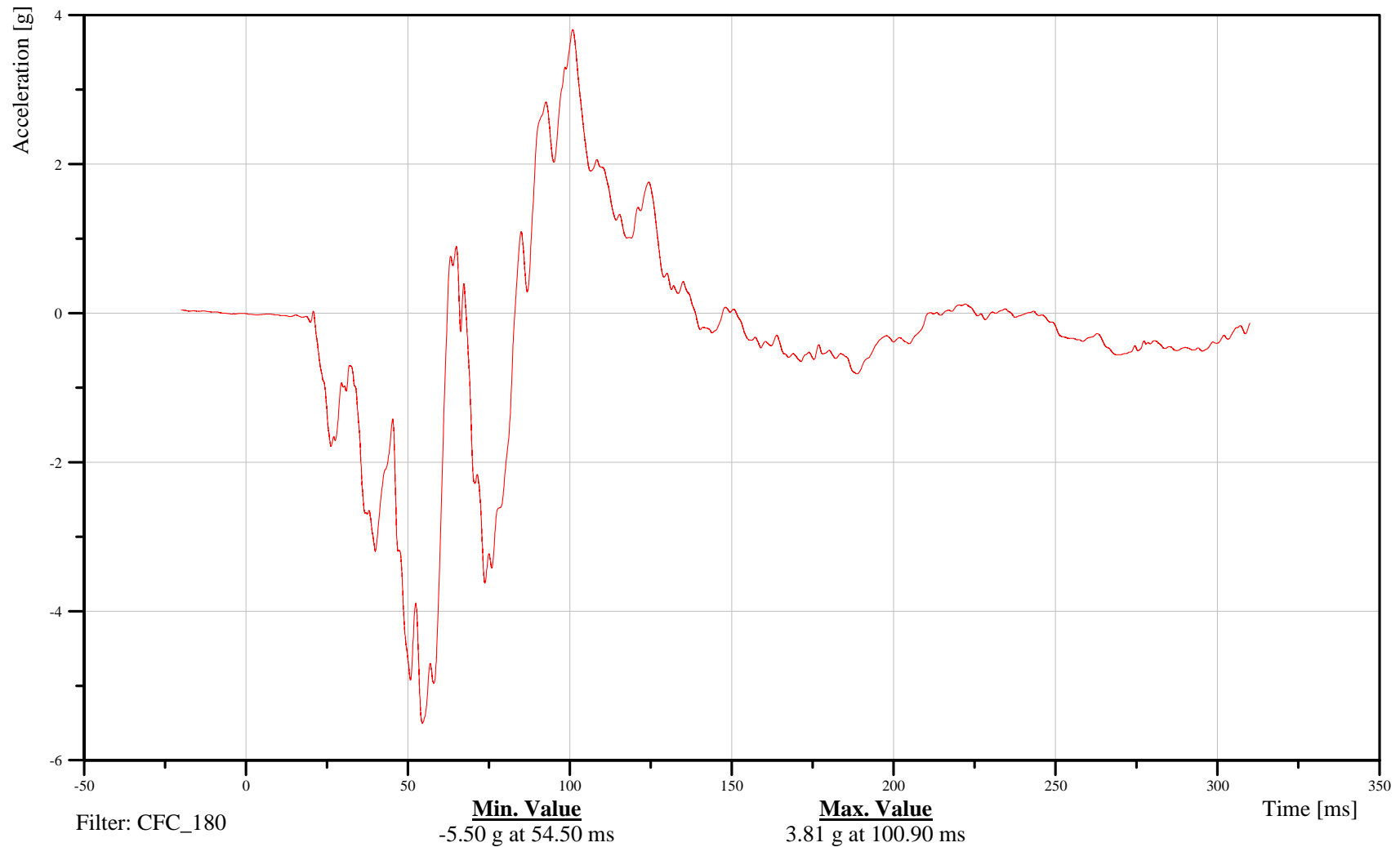
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Time: 12:17

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Chest Z-Axis Acceleration

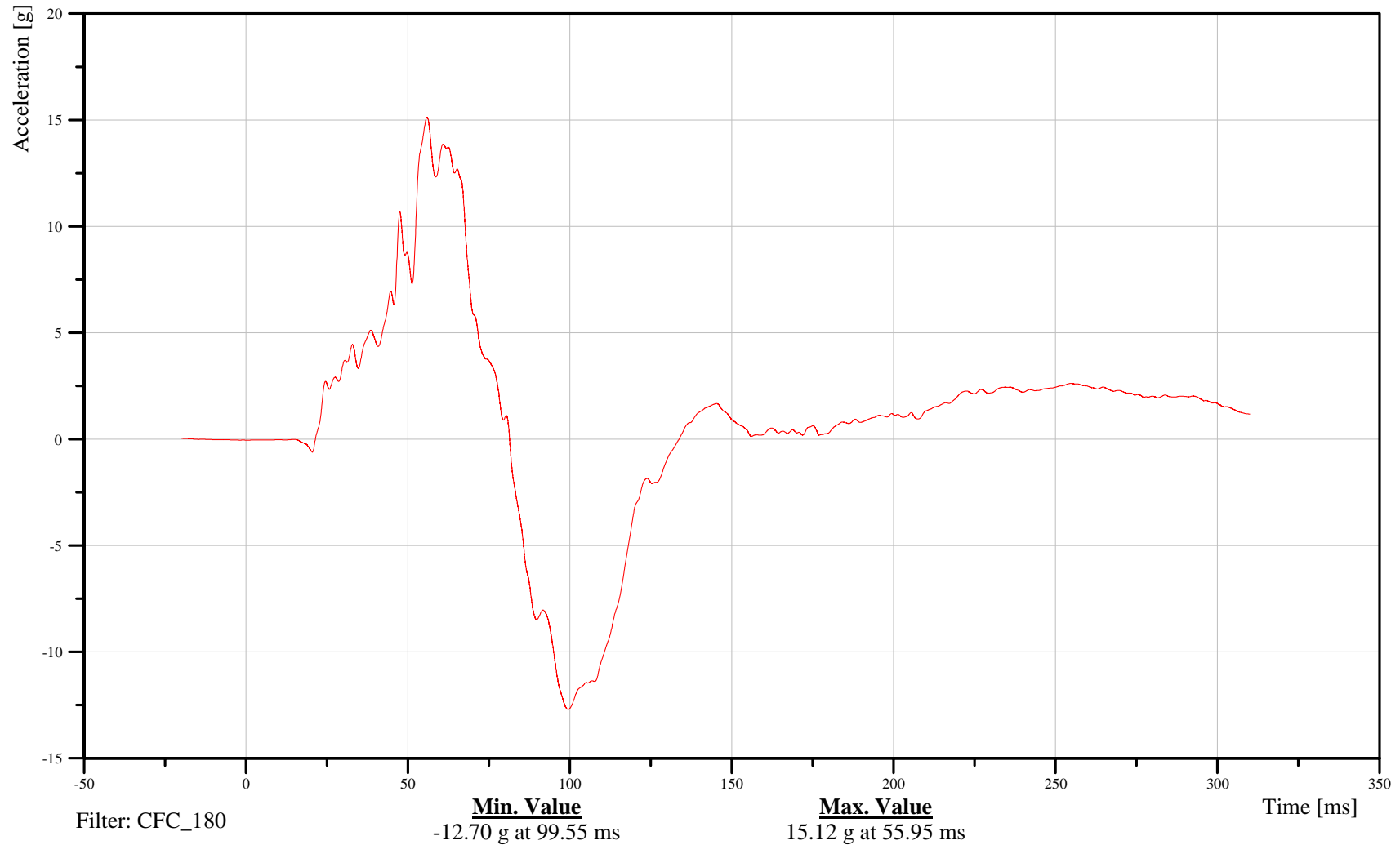
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Time: 12:17

Customer: NTCNA

11CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Chest Resultant Acceleration

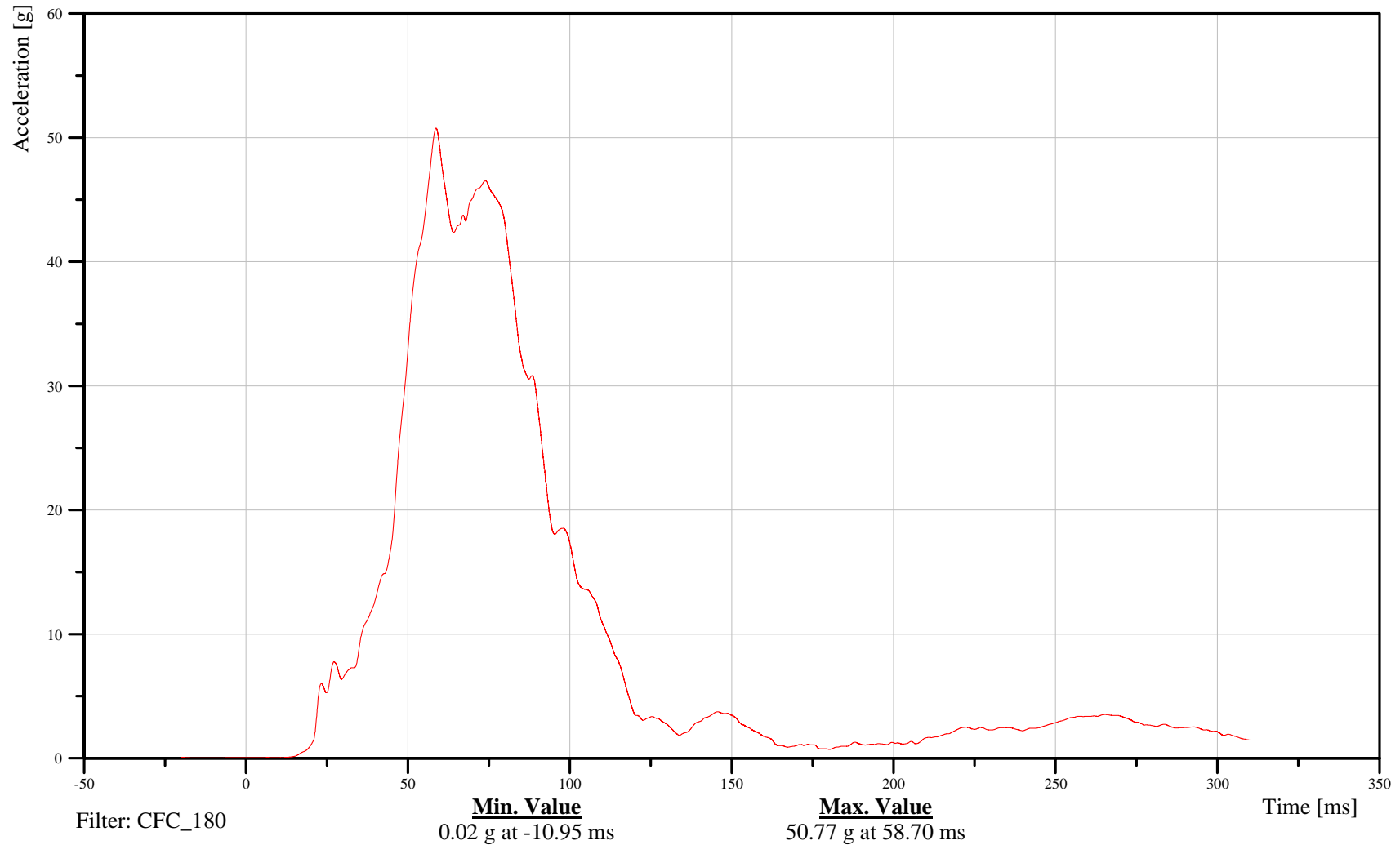
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Time: 12:17

Customer: NTCNA

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Chest X-Axis Deflection

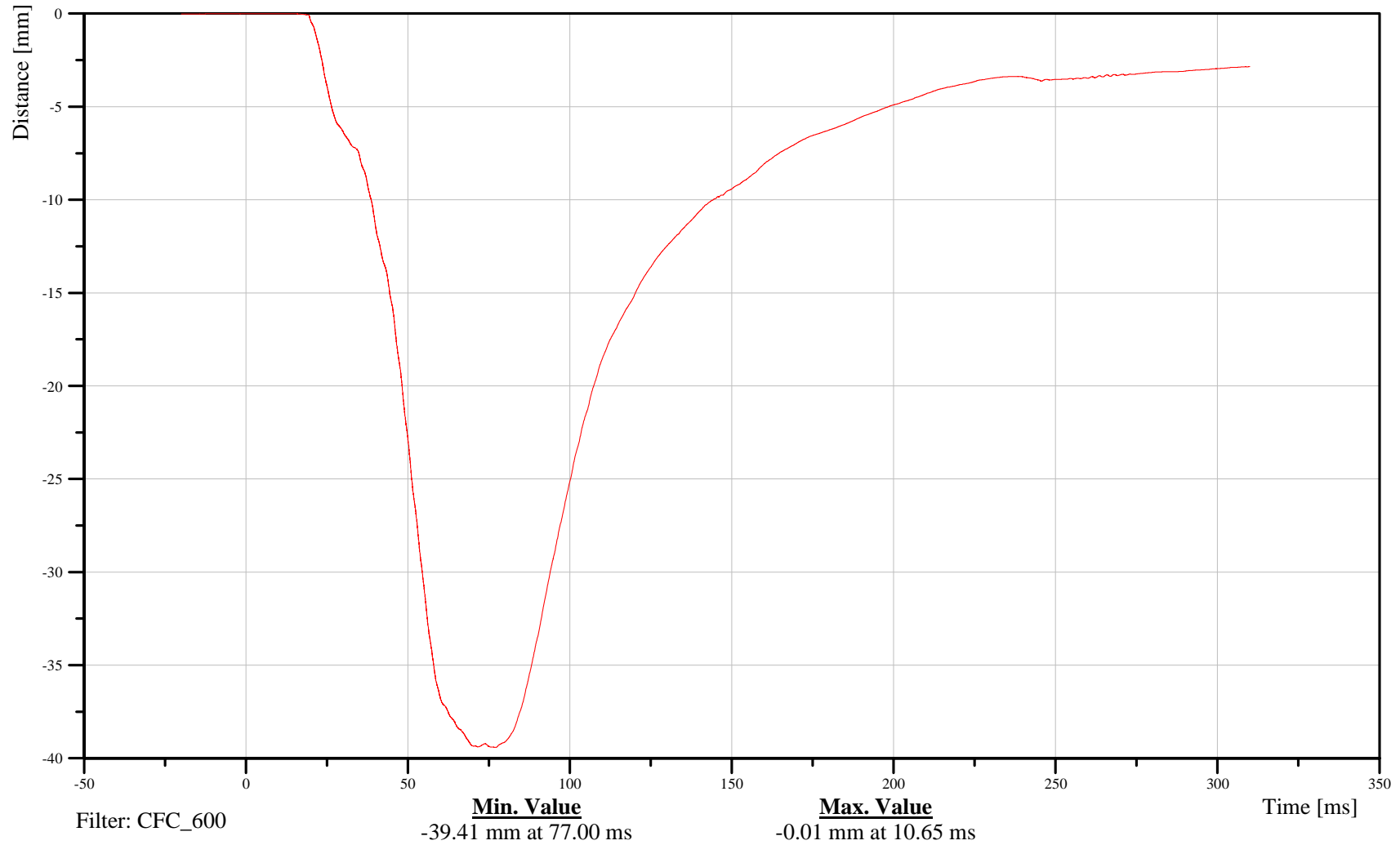
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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Pelvis X-Axis Acceleration

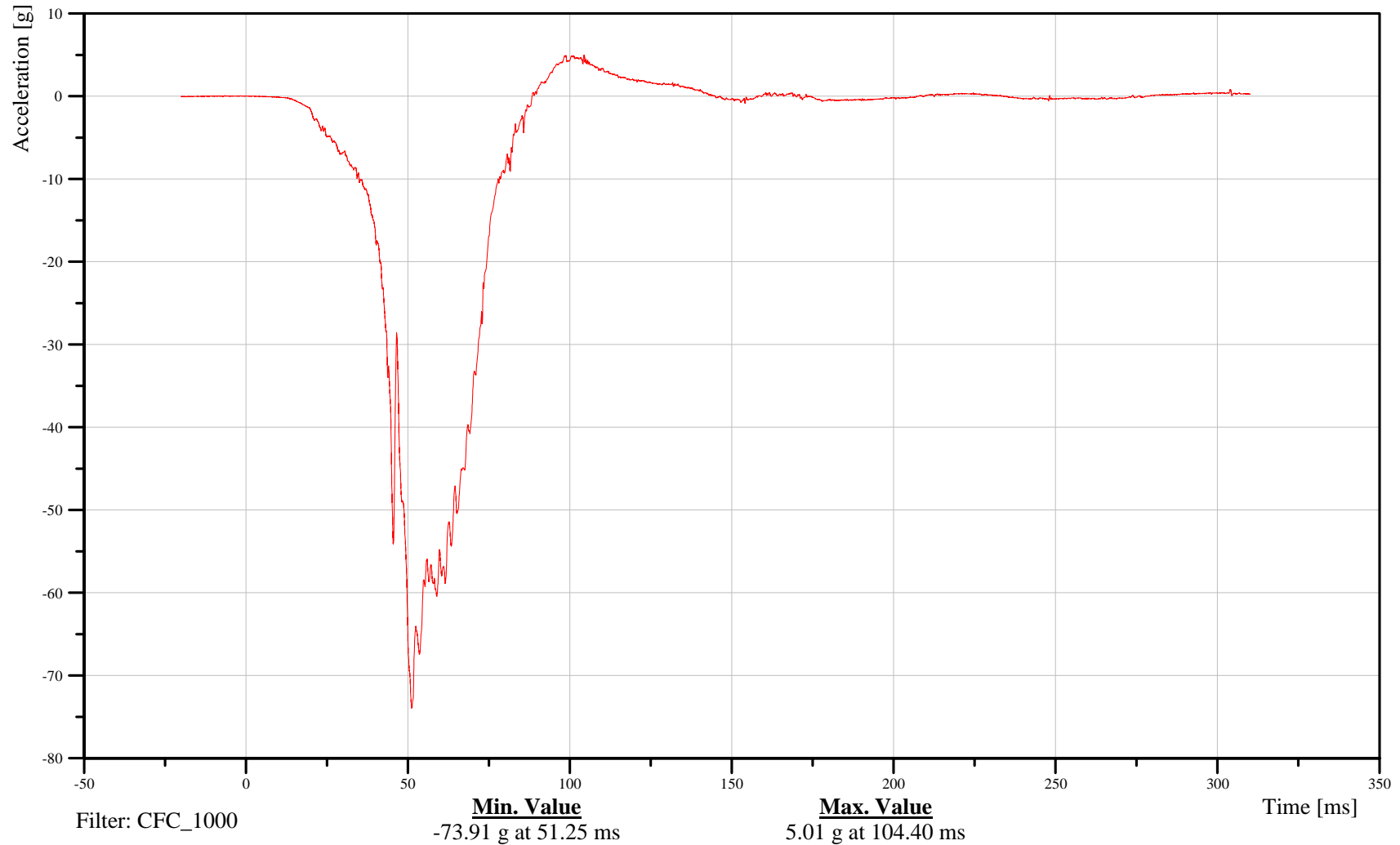
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11PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Pelvis Y-Axis Acceleration

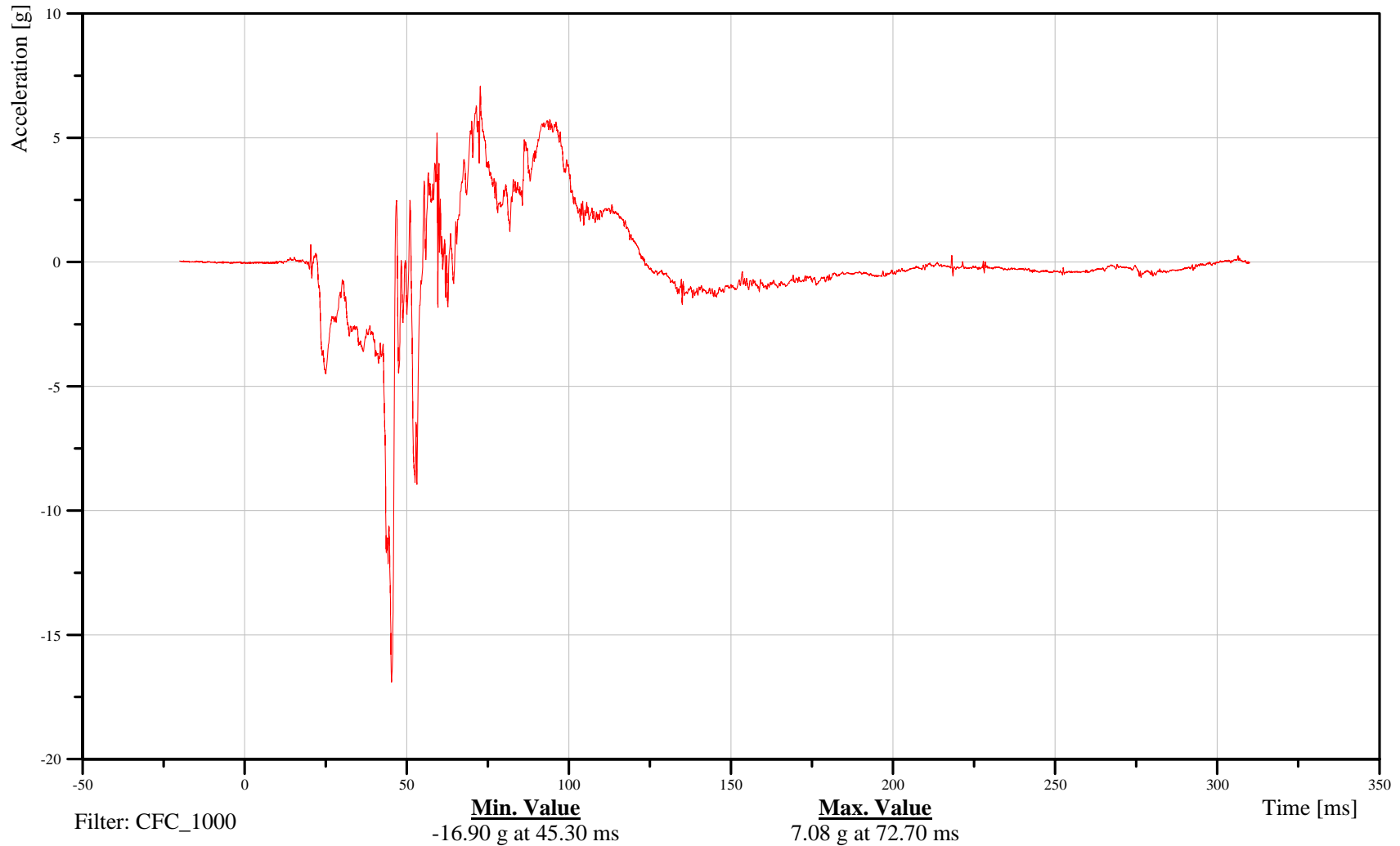
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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Pelvis Z-Axis Acceleration

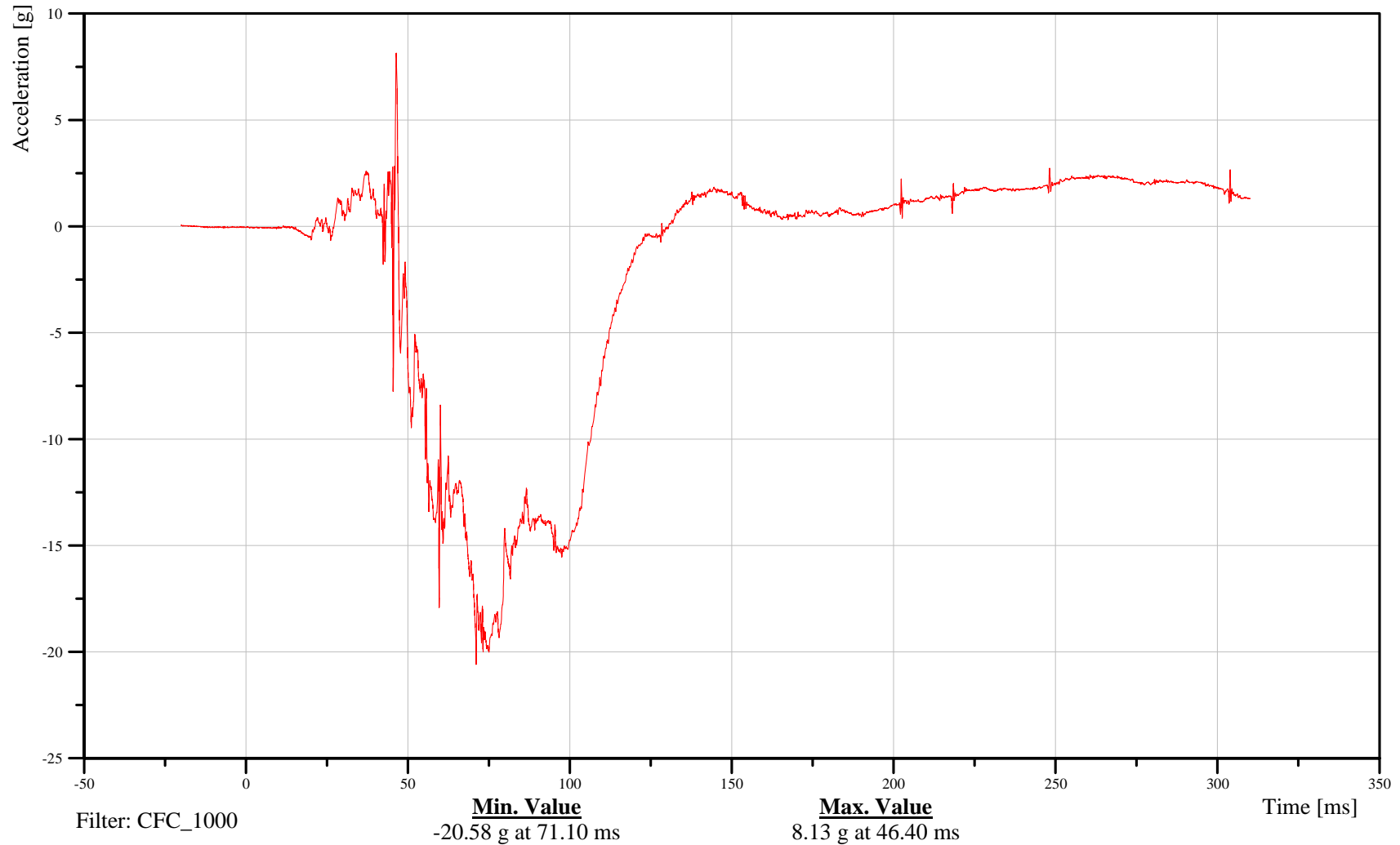
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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Pelvis Resultant Acceleration

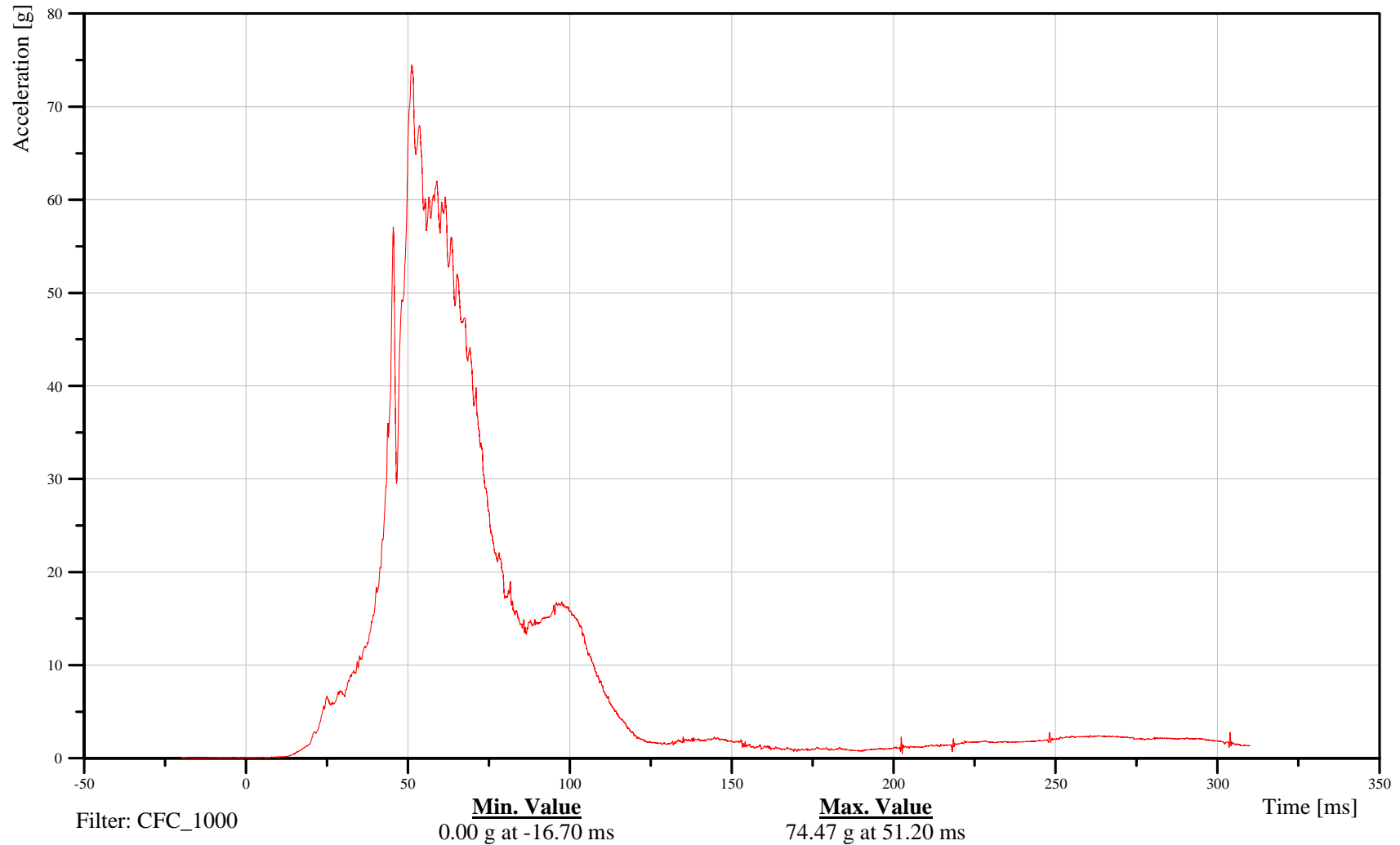
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Time: 12:17

Customer: NTCNA

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Left Femur Z-Axis Force

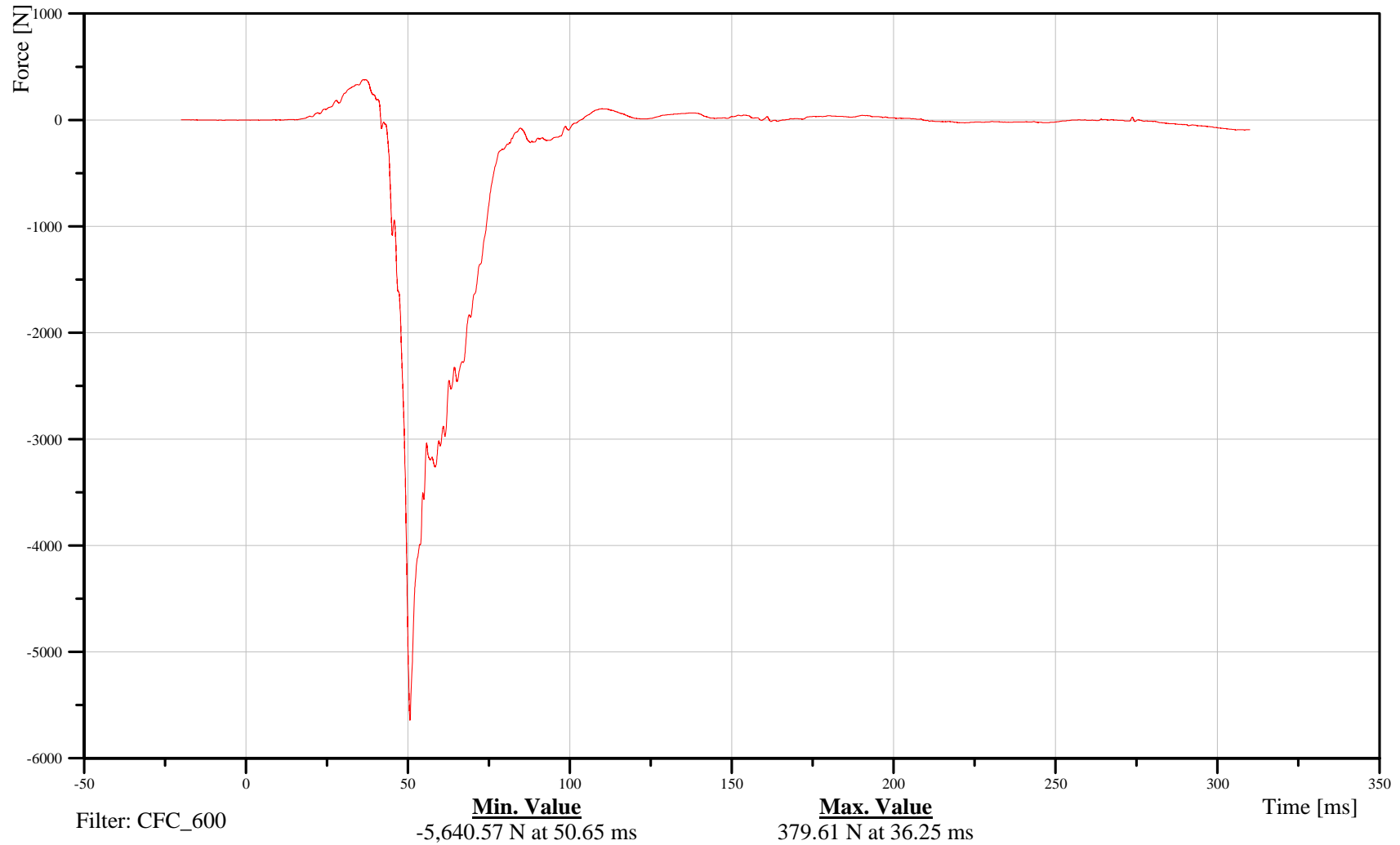
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Time: 12:17

Customer: NTCNA

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Right Femur Z-Axis Force

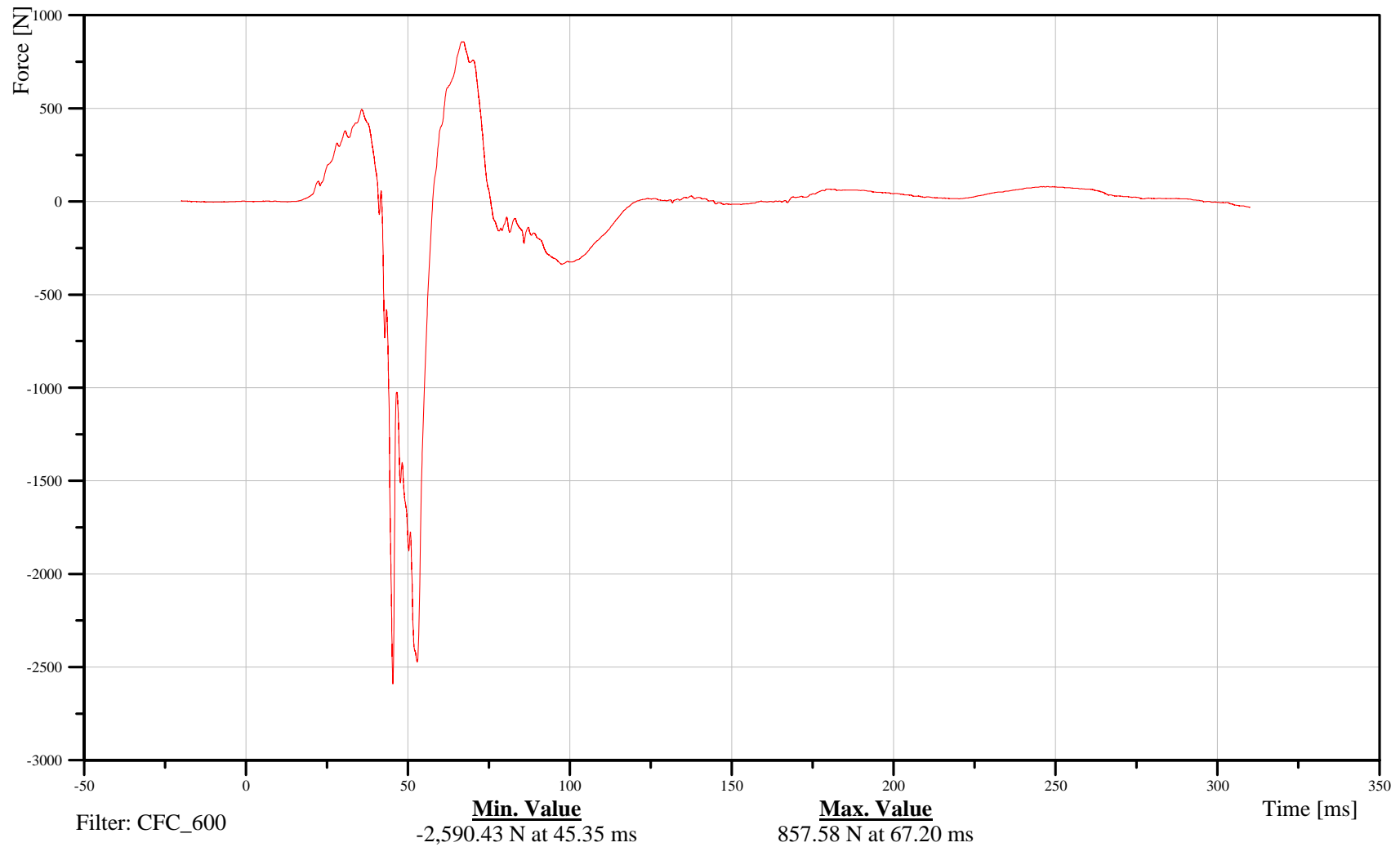
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Time: 12:17

Customer: NTCNA

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Head X-Axis Acceleration

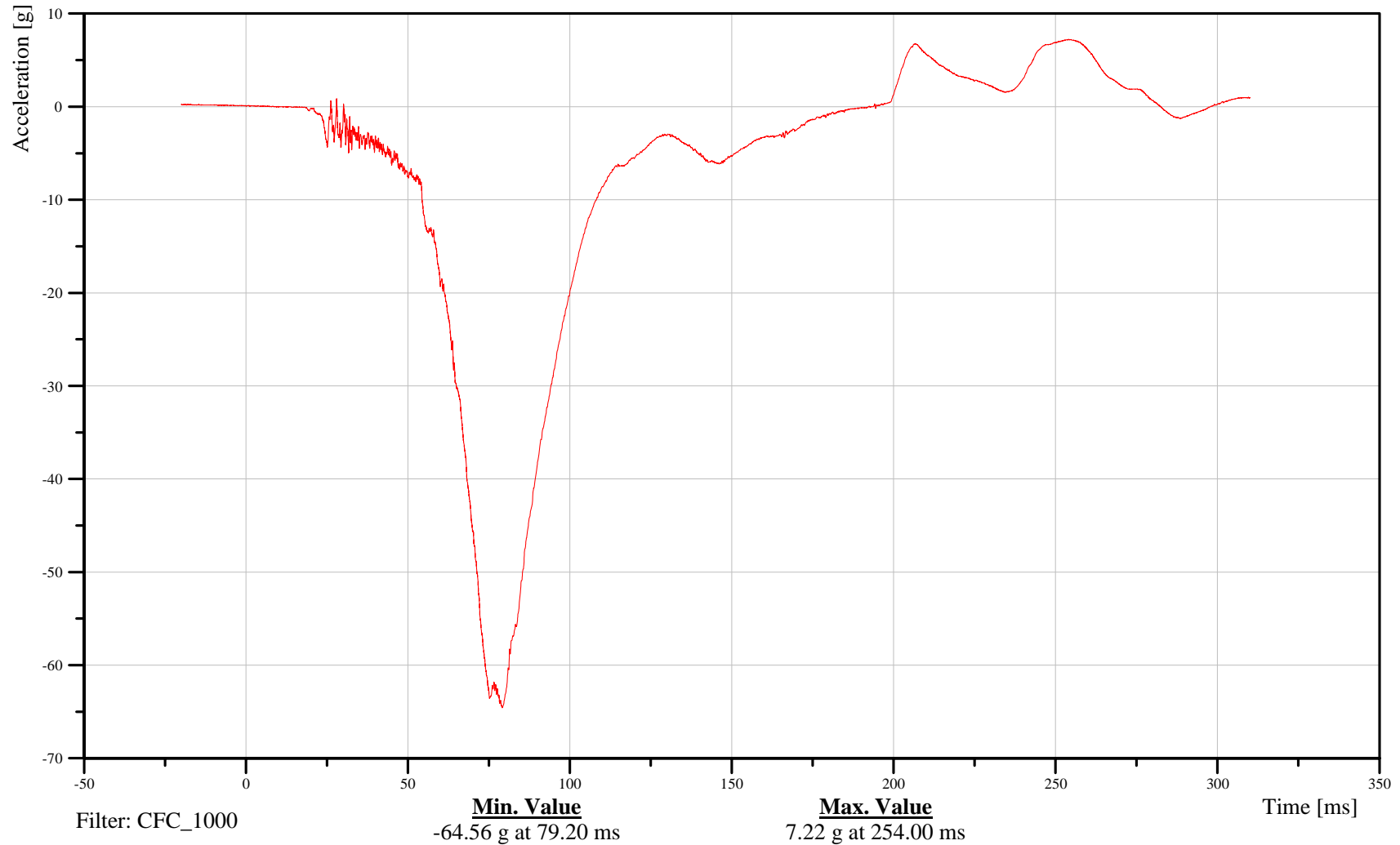
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Time: 12:17

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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Head Y-Axis Acceleration

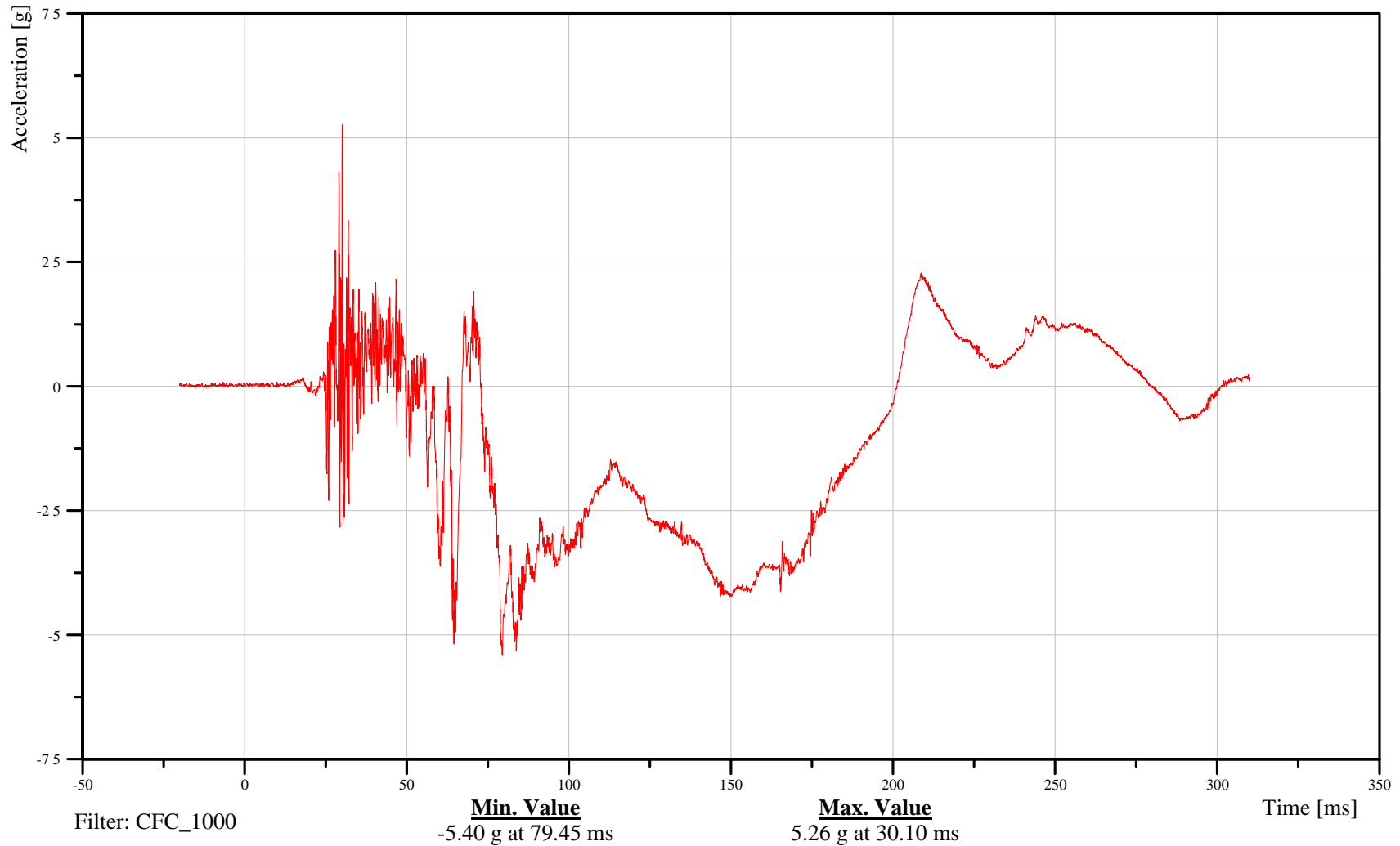
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TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Head Z-Axis Acceleration

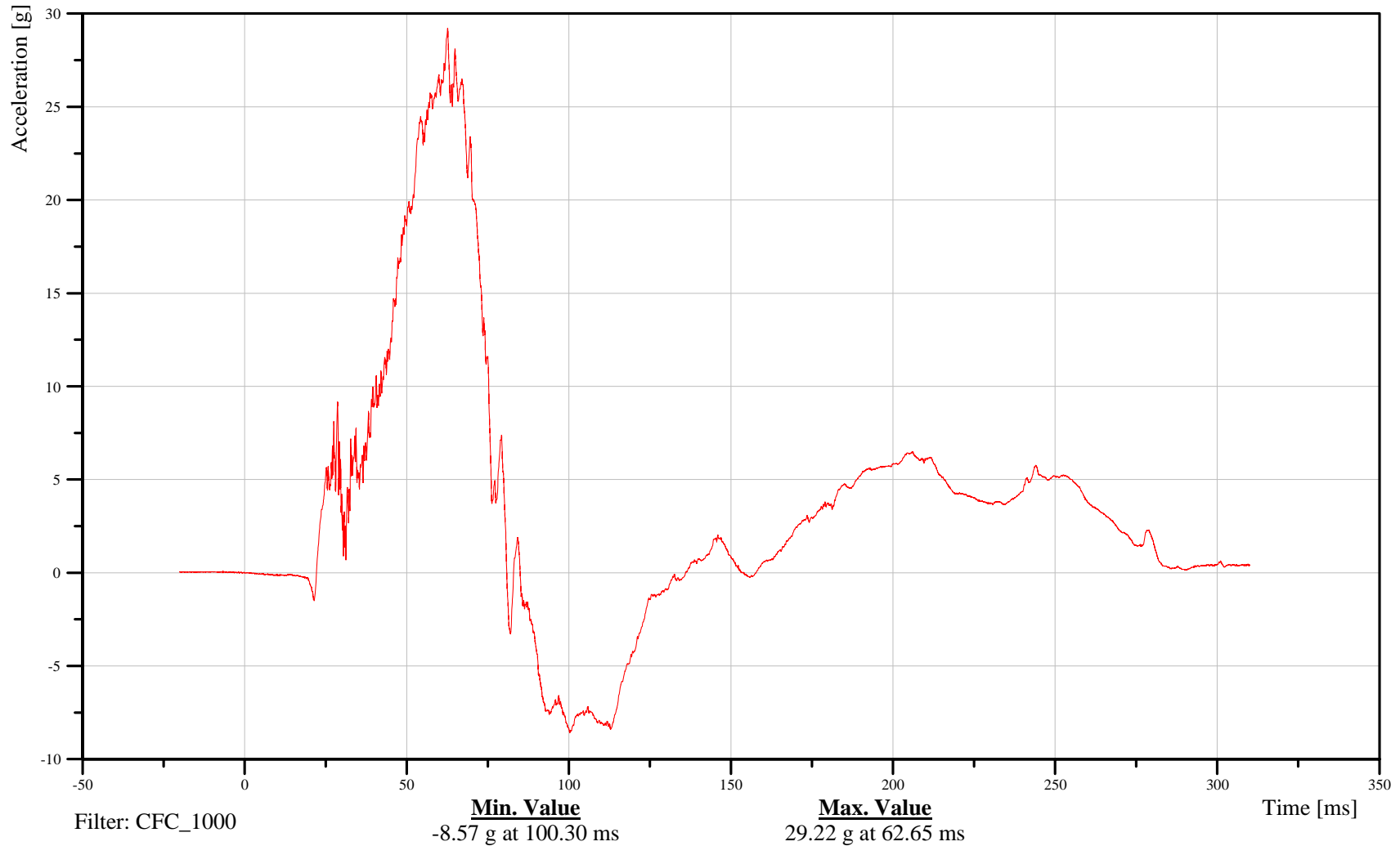
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Time: 12:17

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13HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Head Resultant Acceleration

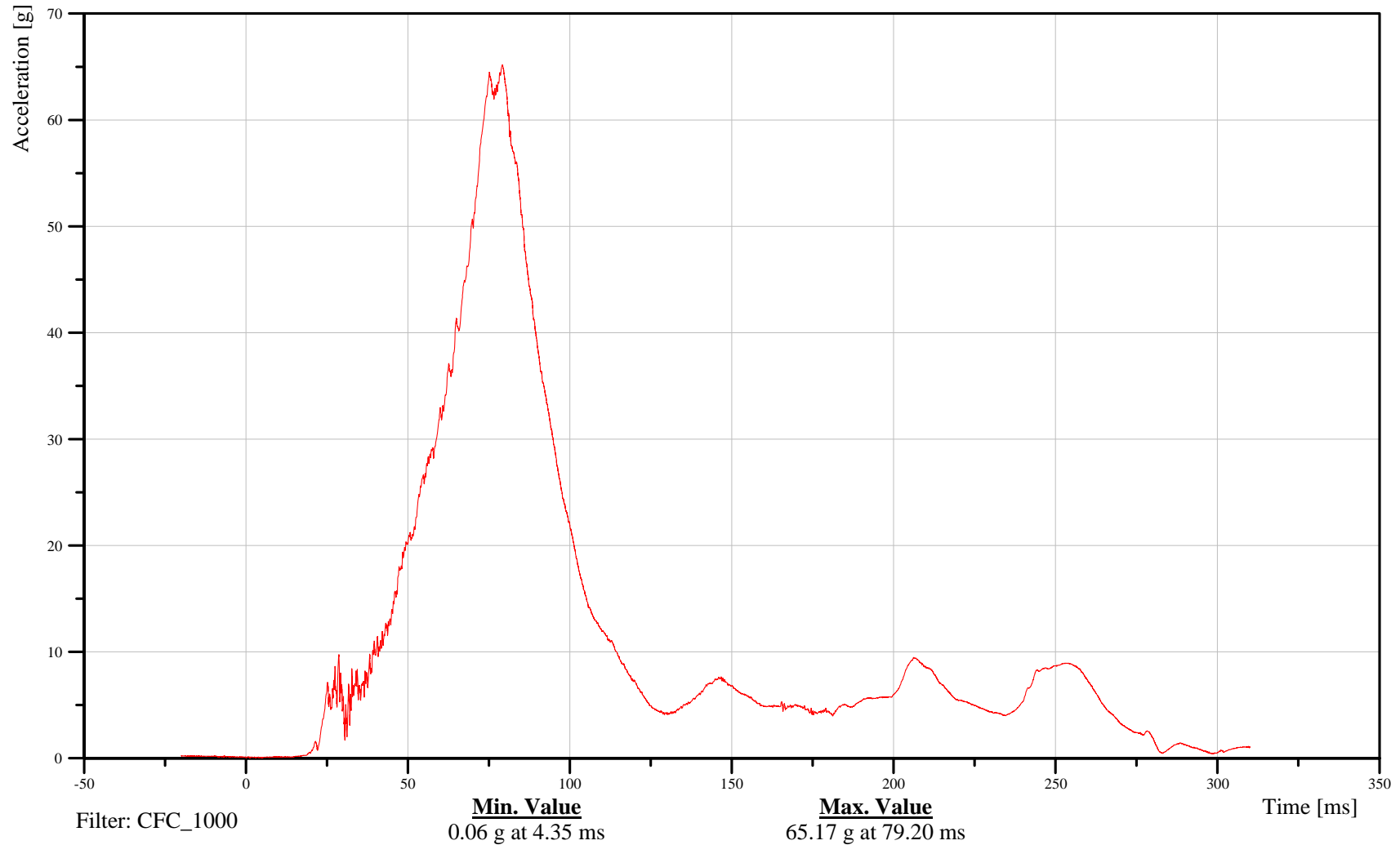
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Time: 12:17

Customer: NTCNA

13HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Passenger Neck X-Axis Force

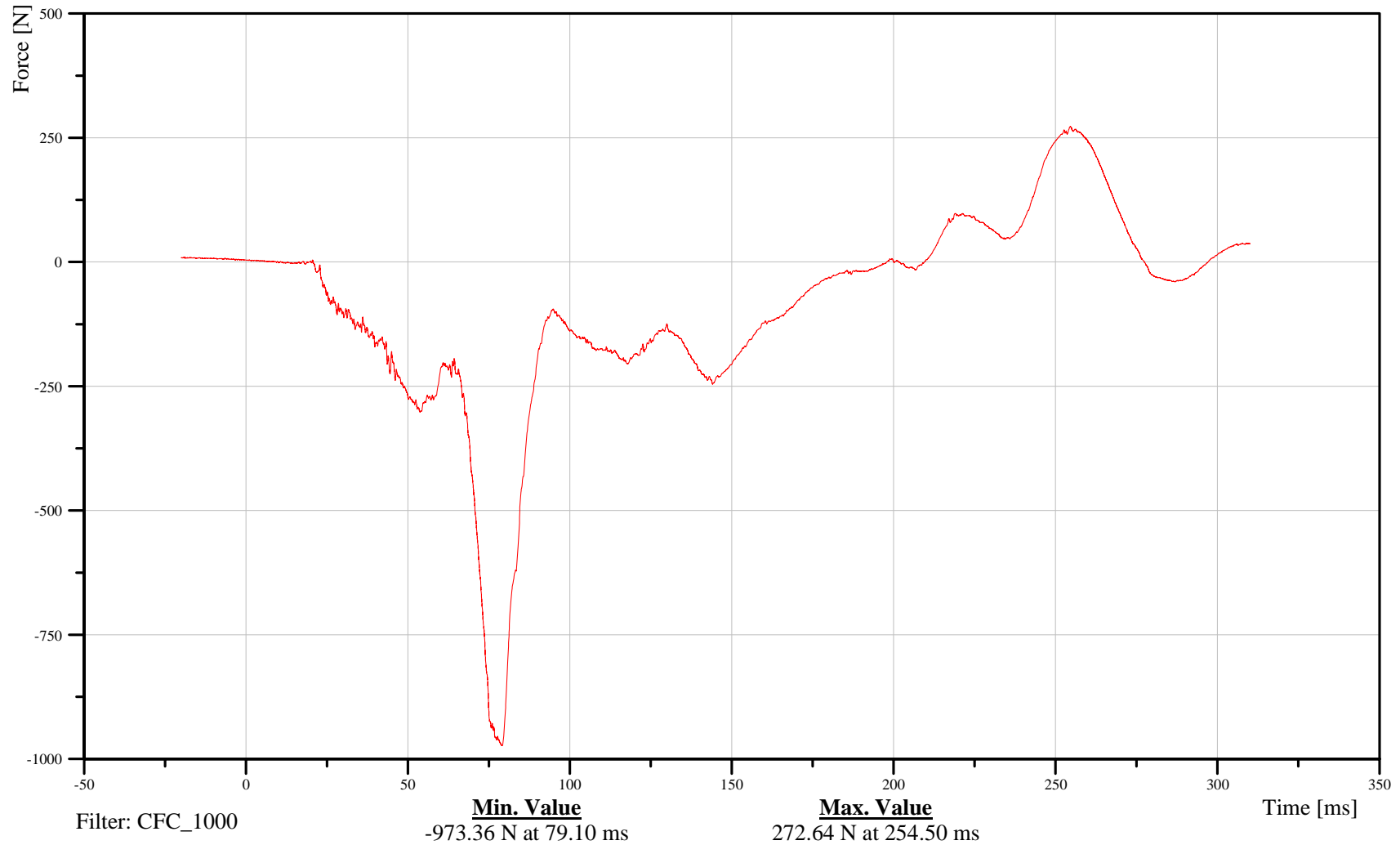
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Passenger Neck Y-Axis Force

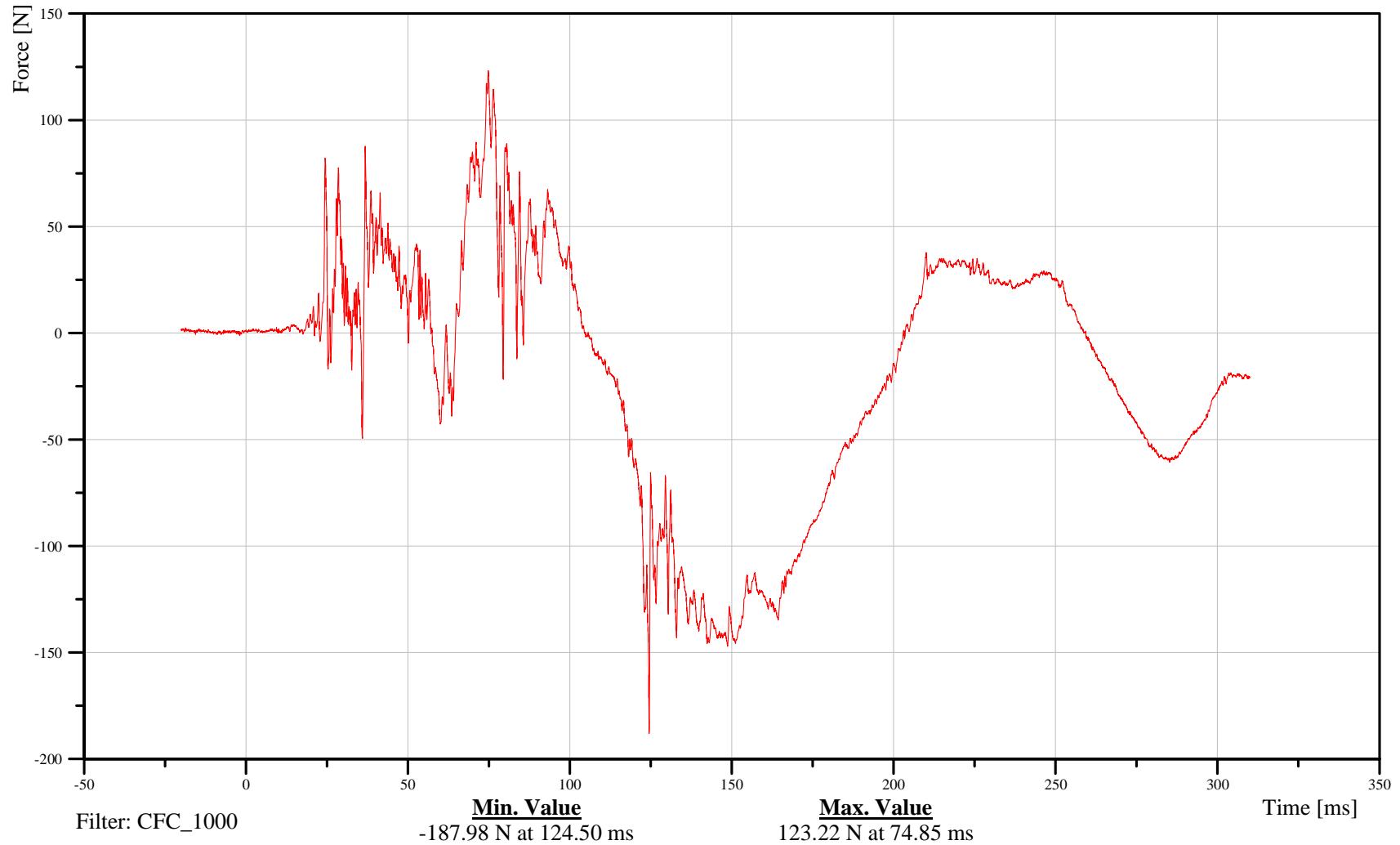
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Passenger Neck Z-Axis Force

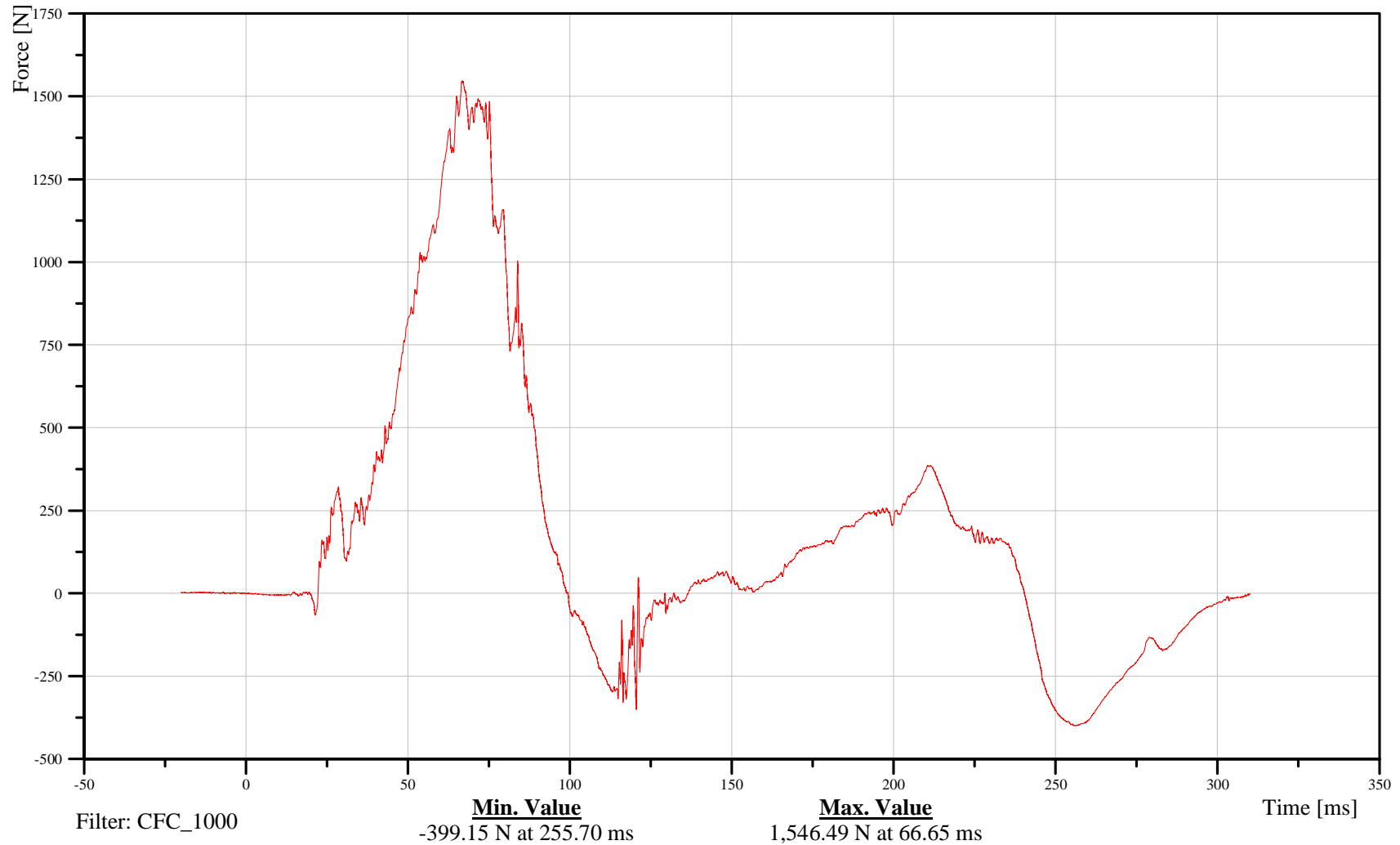
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Passenger Neck Moment About X Axis

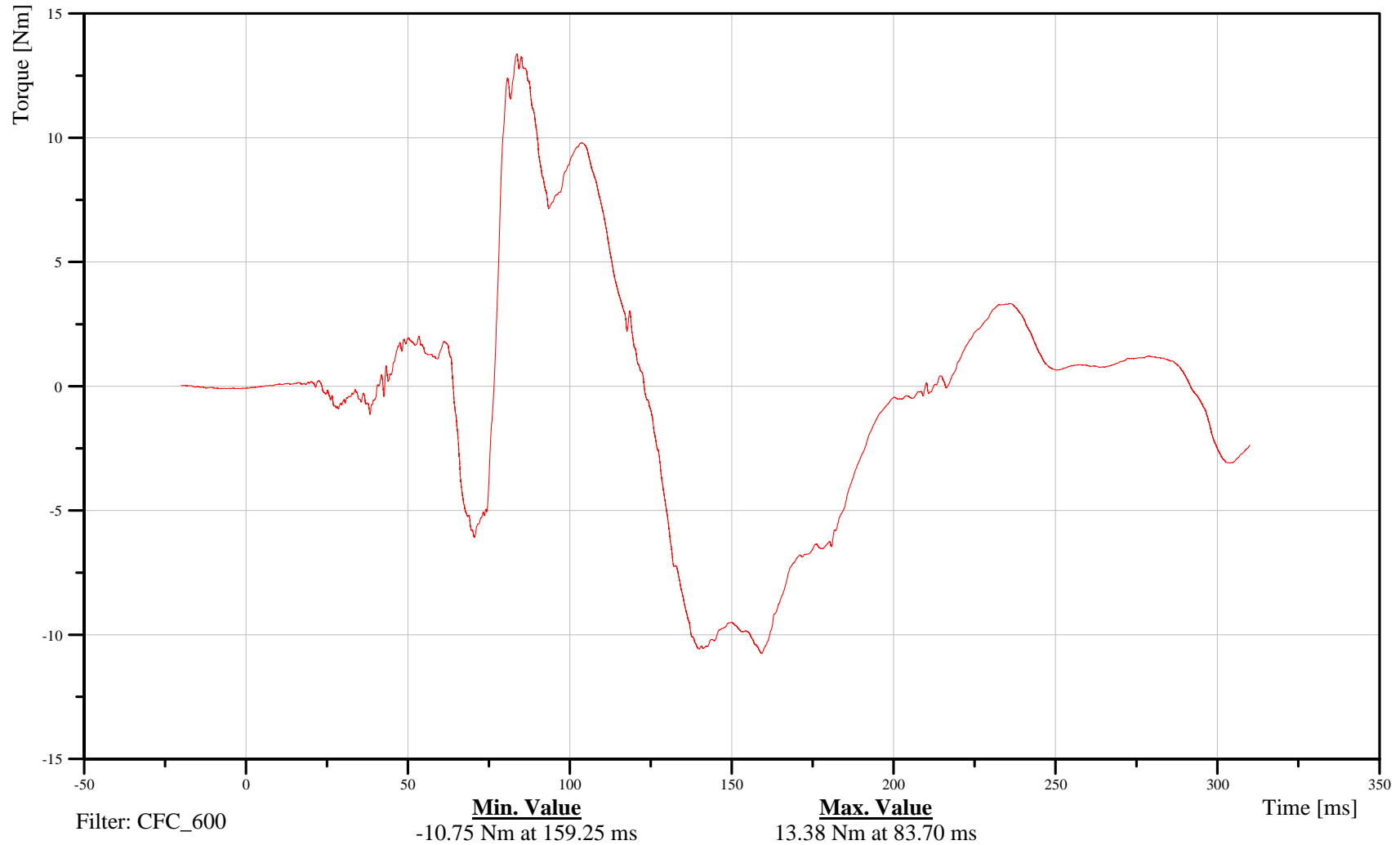
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Passenger Neck Moment About Y Axis

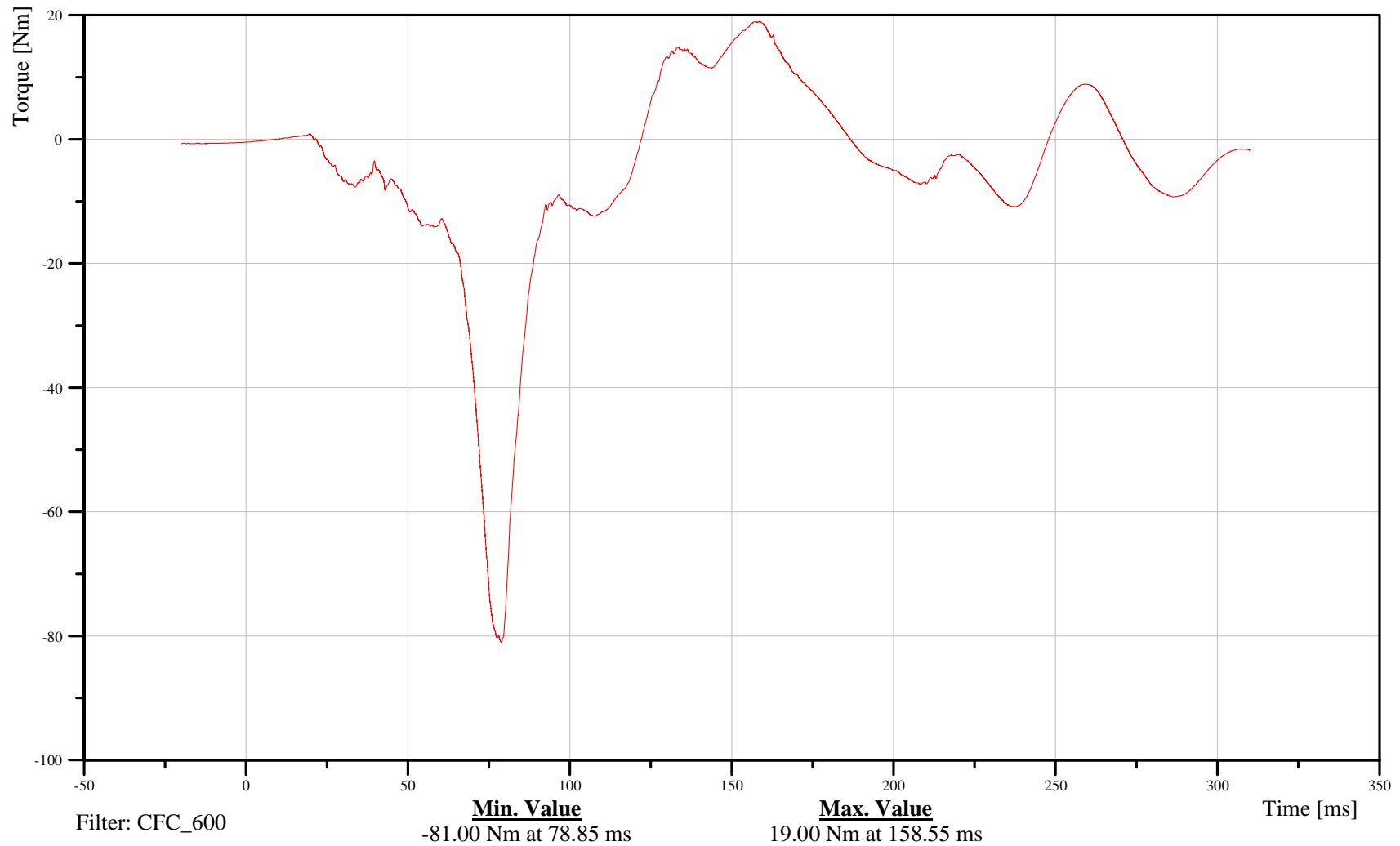
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier
Passenger Neck Moment About Z Axis

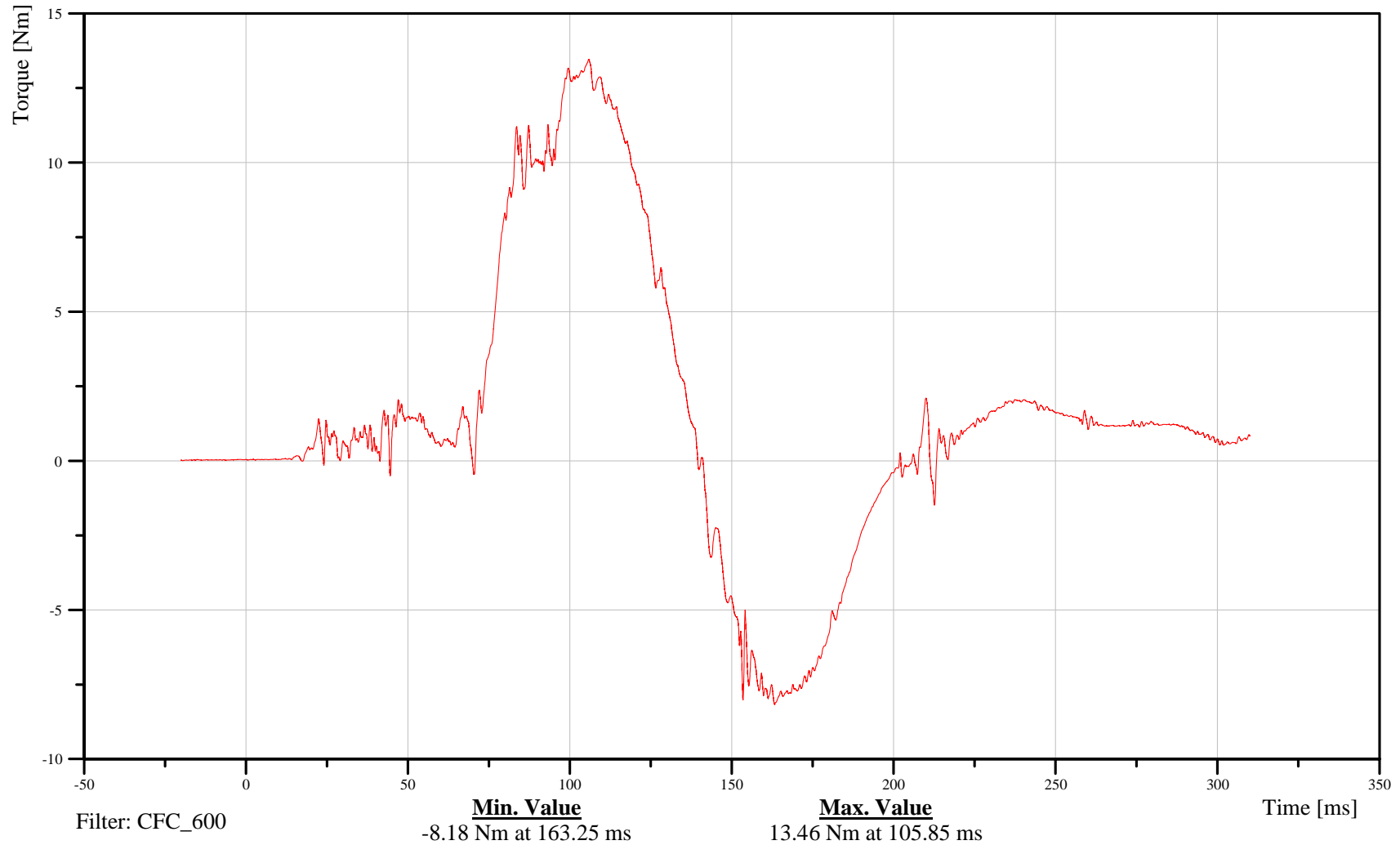
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





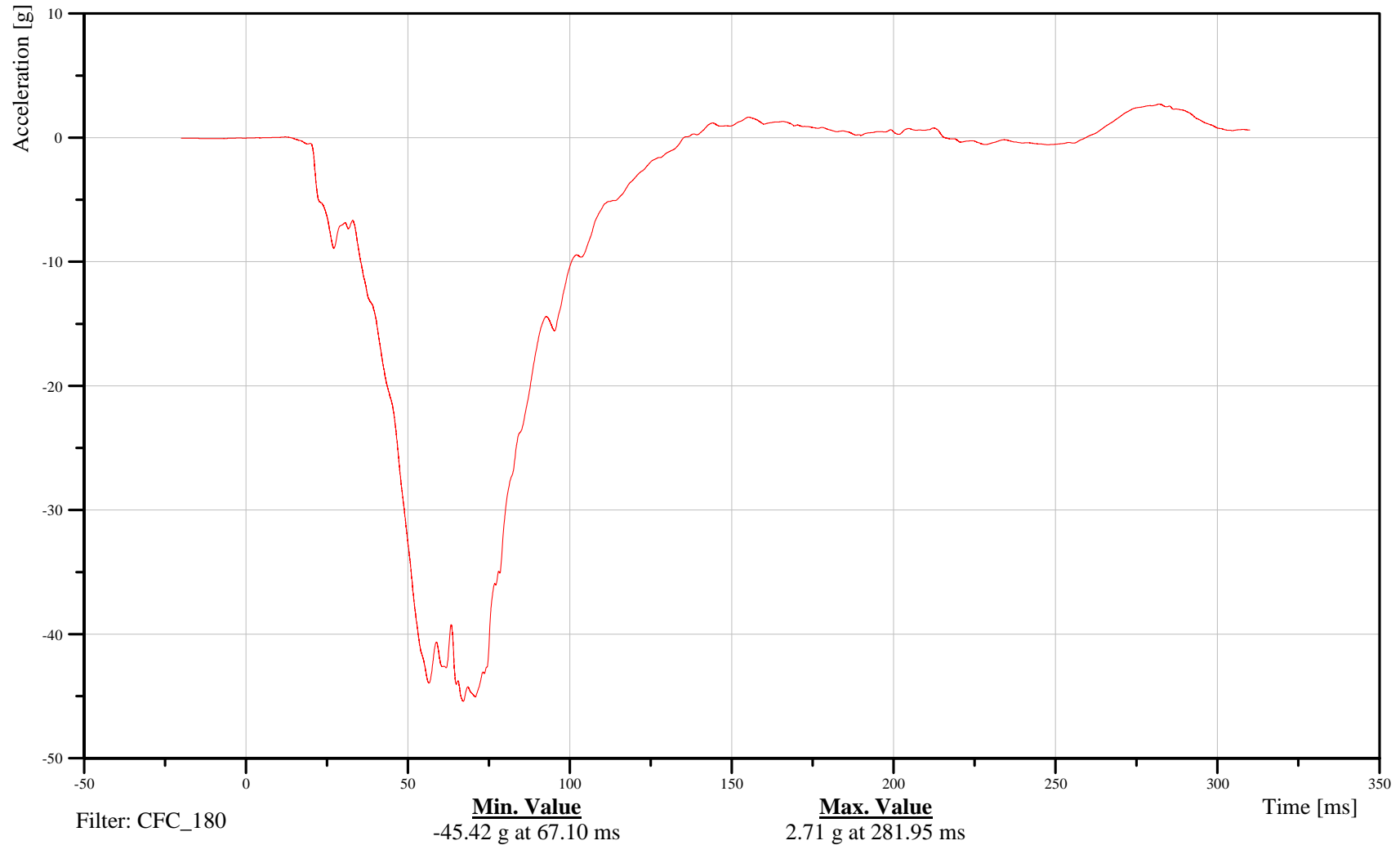
35 mph Flat Frontal Barrier Passenger Chest X-Axis Acceleration

Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF
Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Chest Y-Axis Acceleration

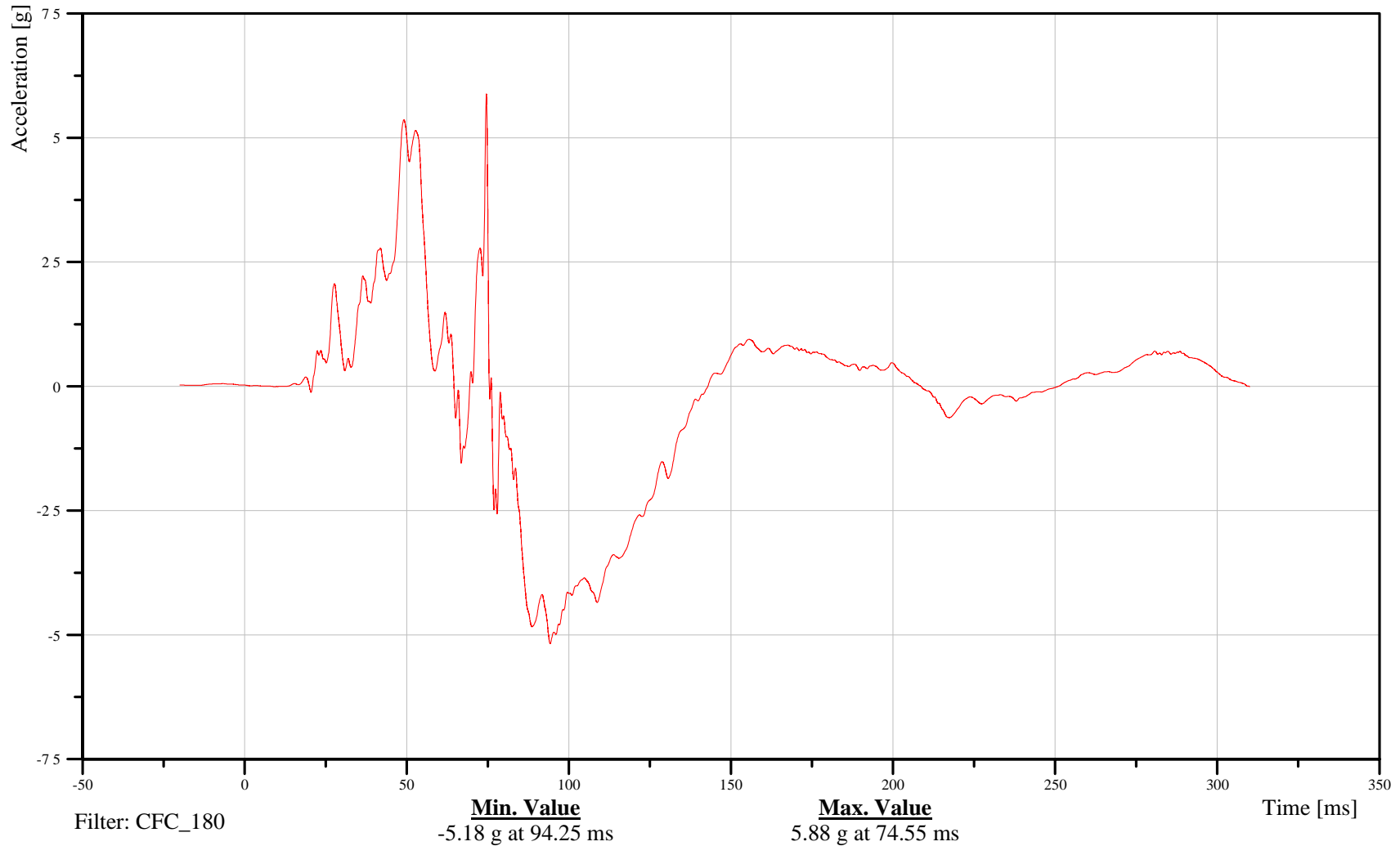
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 070216-1





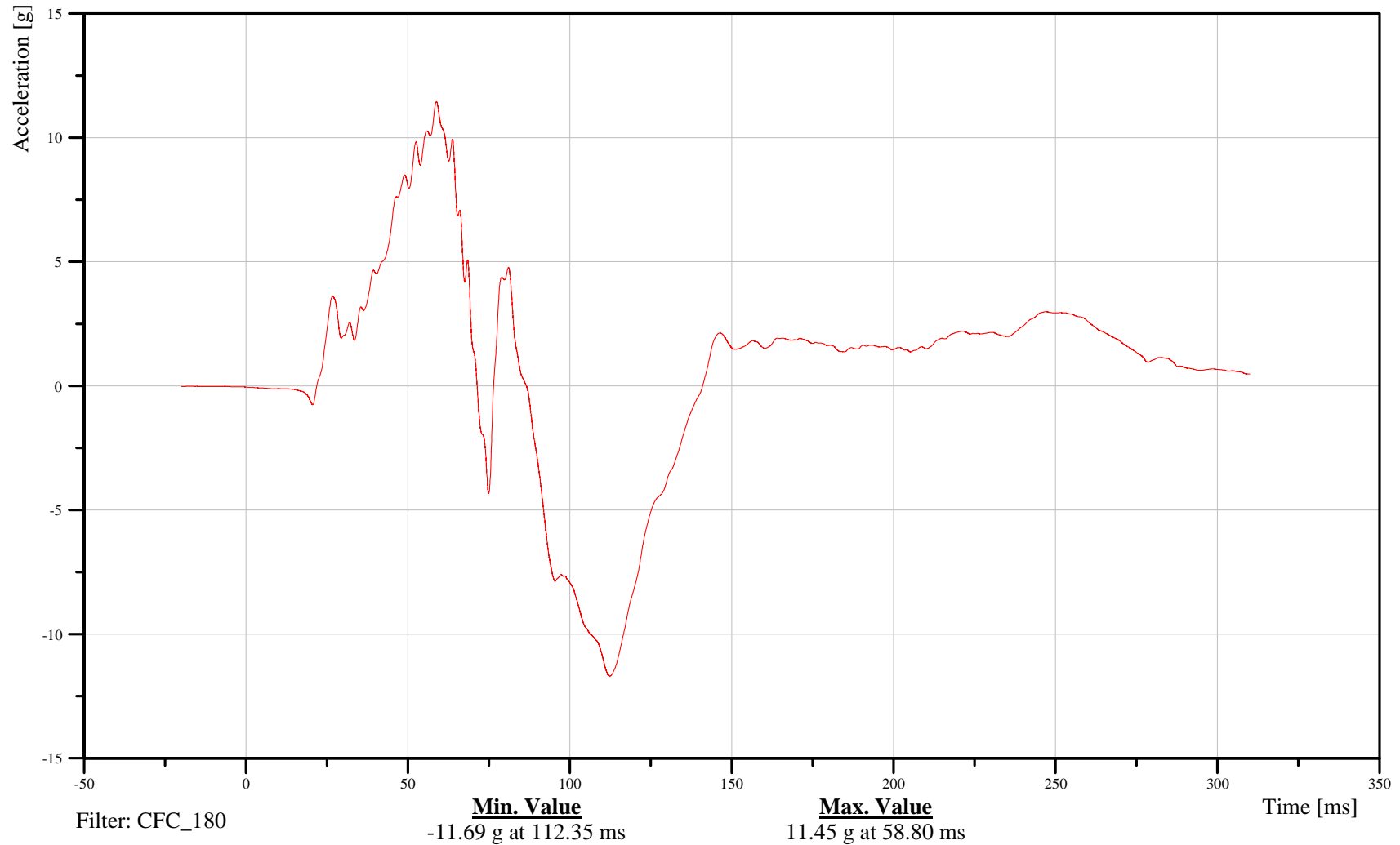
35 mph Flat Frontal Barrier Passenger Chest Z-Axis Acceleration

Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF
Test Number: 070216-1





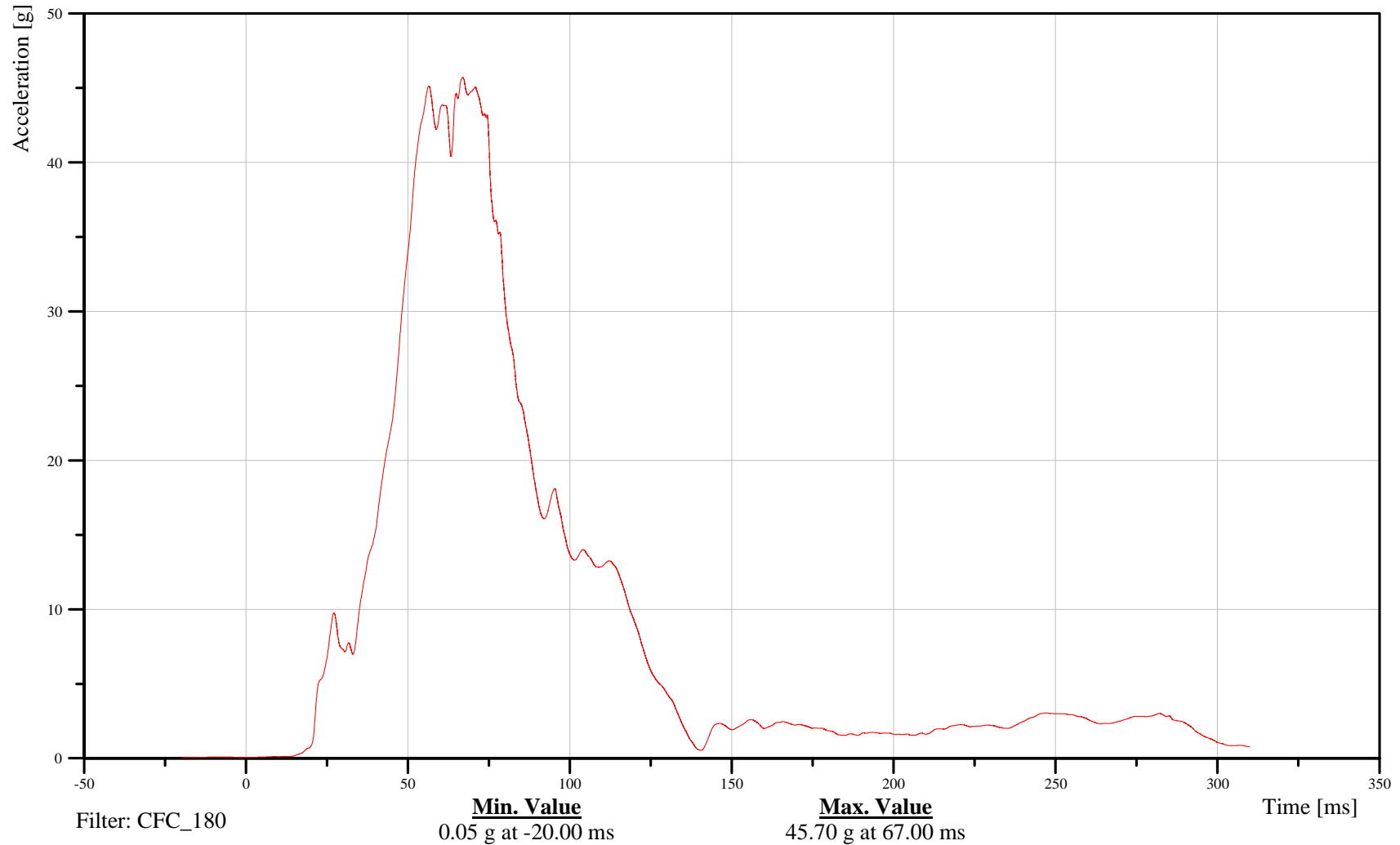
35 mph Flat Frontal Barrier Passenger Chest Resultant Acceleration

Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF
Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Chest X-Axis Deflection

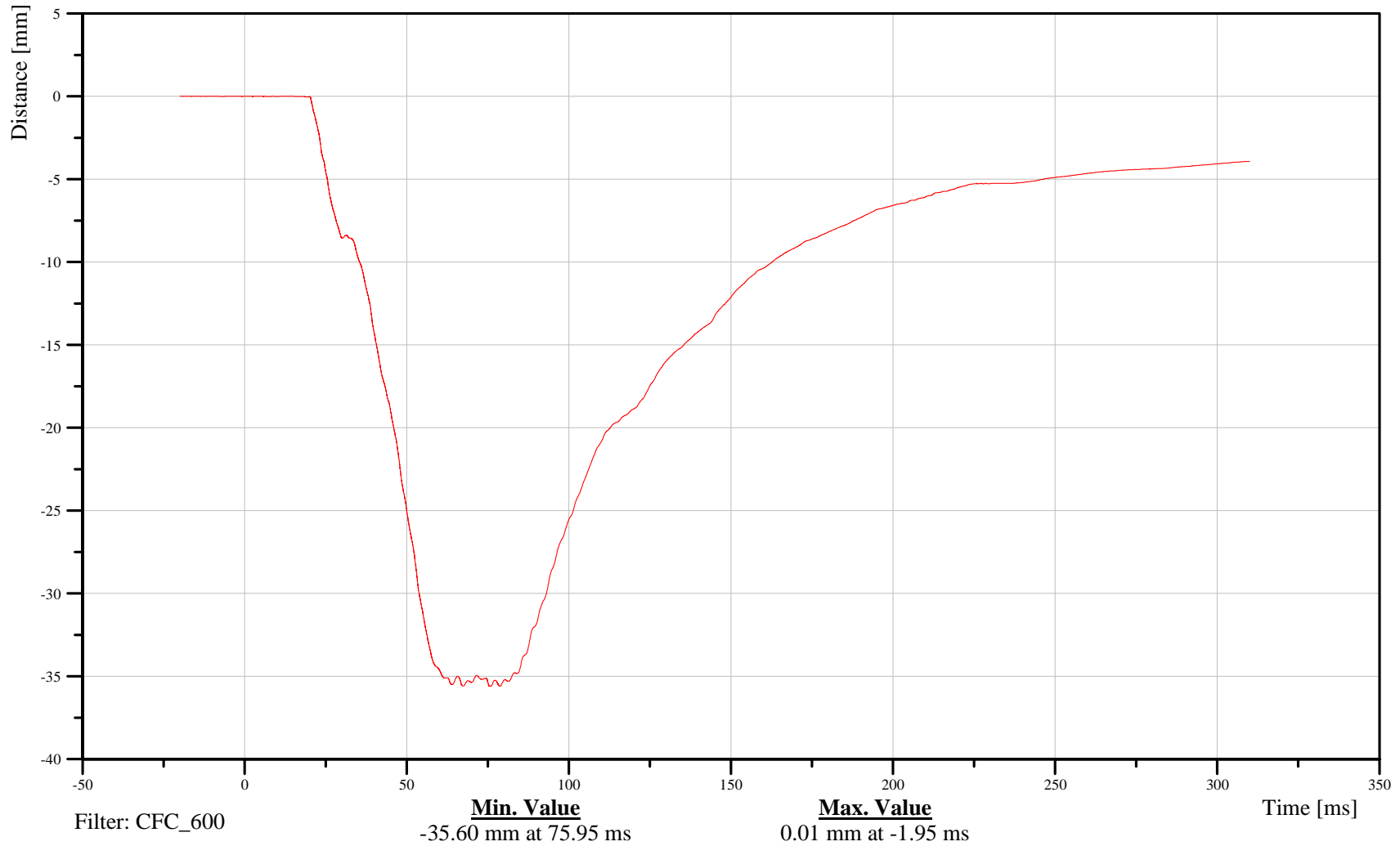
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Passenger Pelvis X-Axis Acceleration

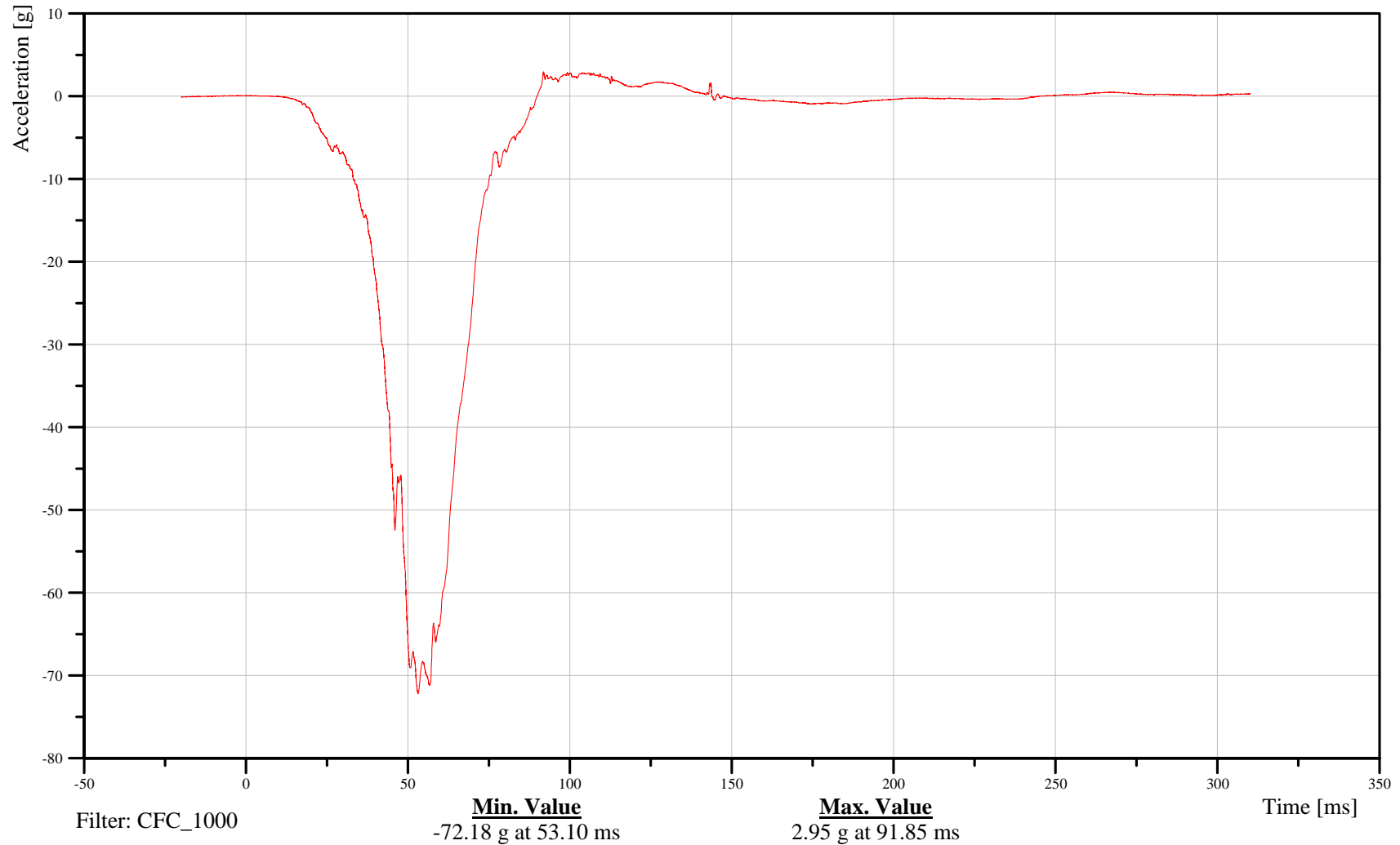
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Pelvis Y-Axis Acceleration

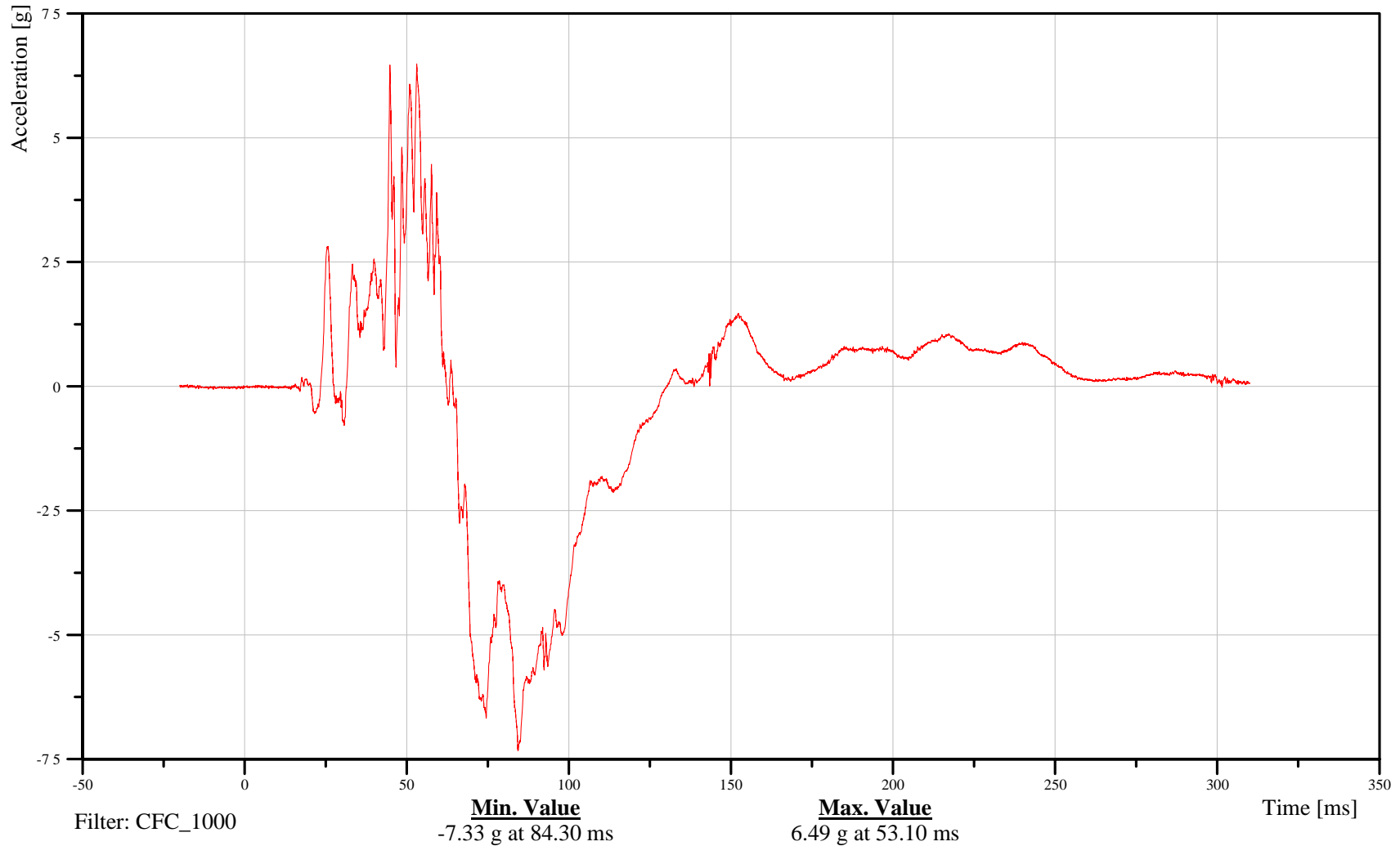
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13PELVCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Pelvis Z-Axis Acceleration

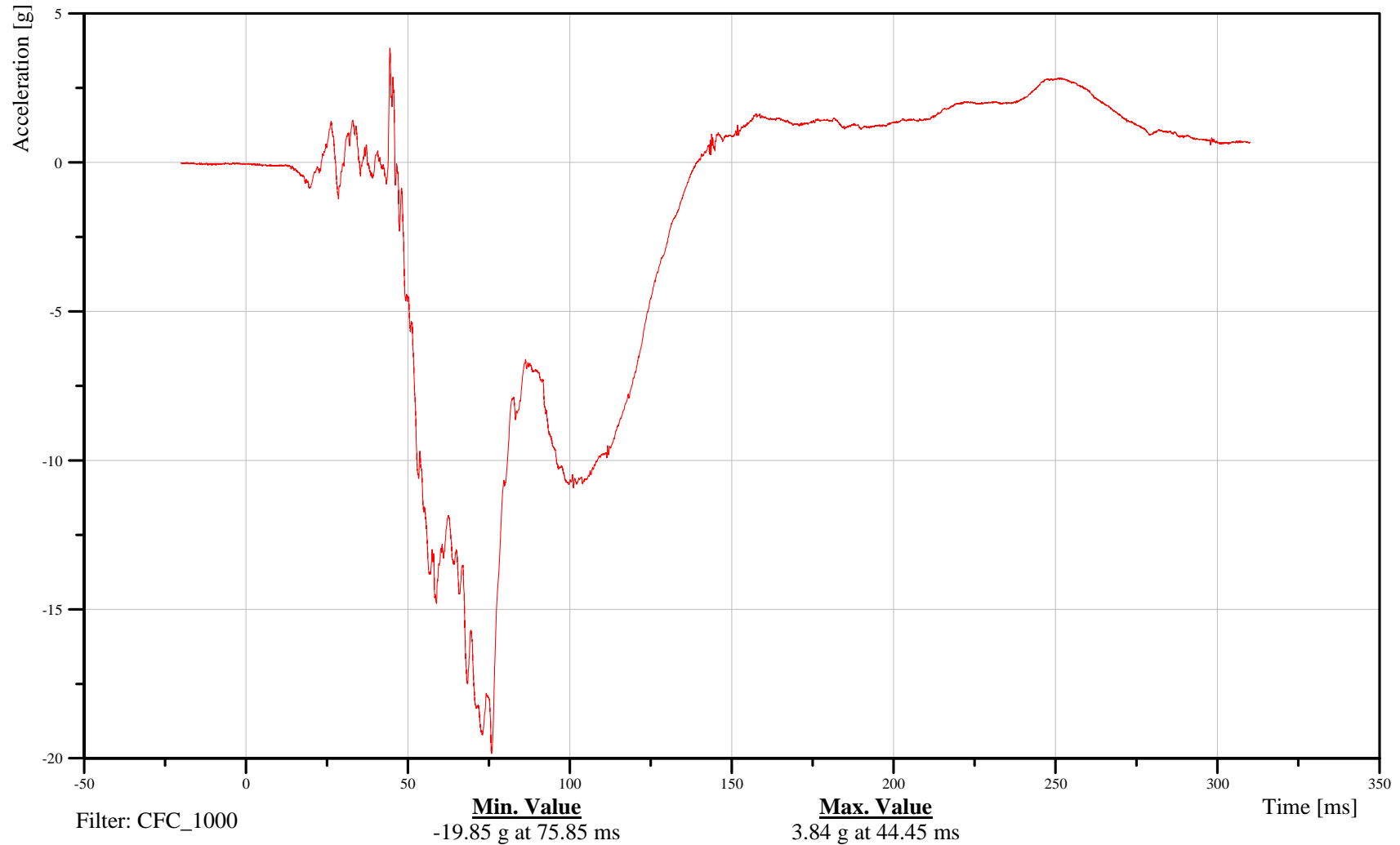
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13PELVCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Pelvis Resultant Acceleration

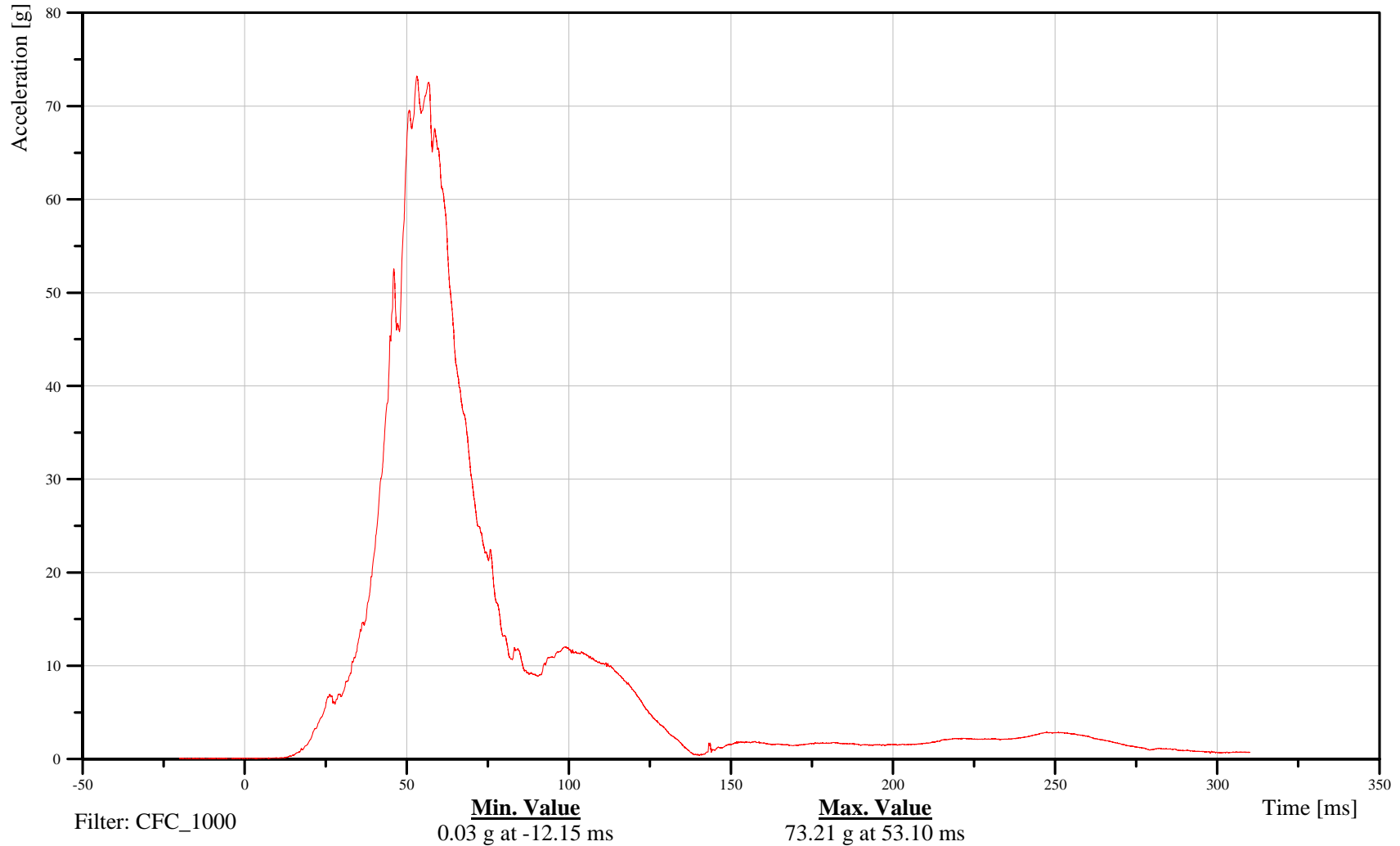
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13PELVCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Left Femur Z-Axis Force

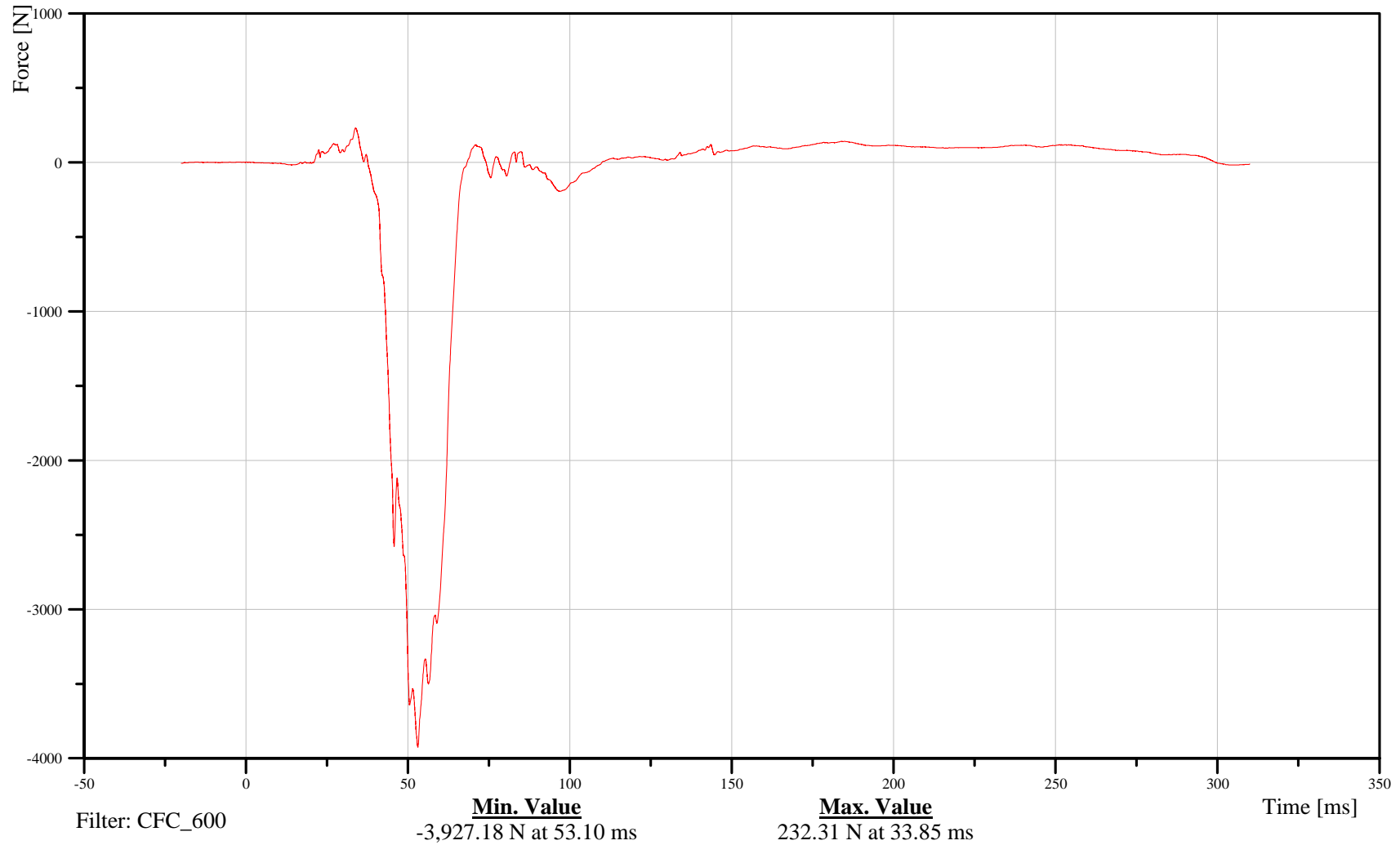
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Passenger Right Femur Z-Axis Force

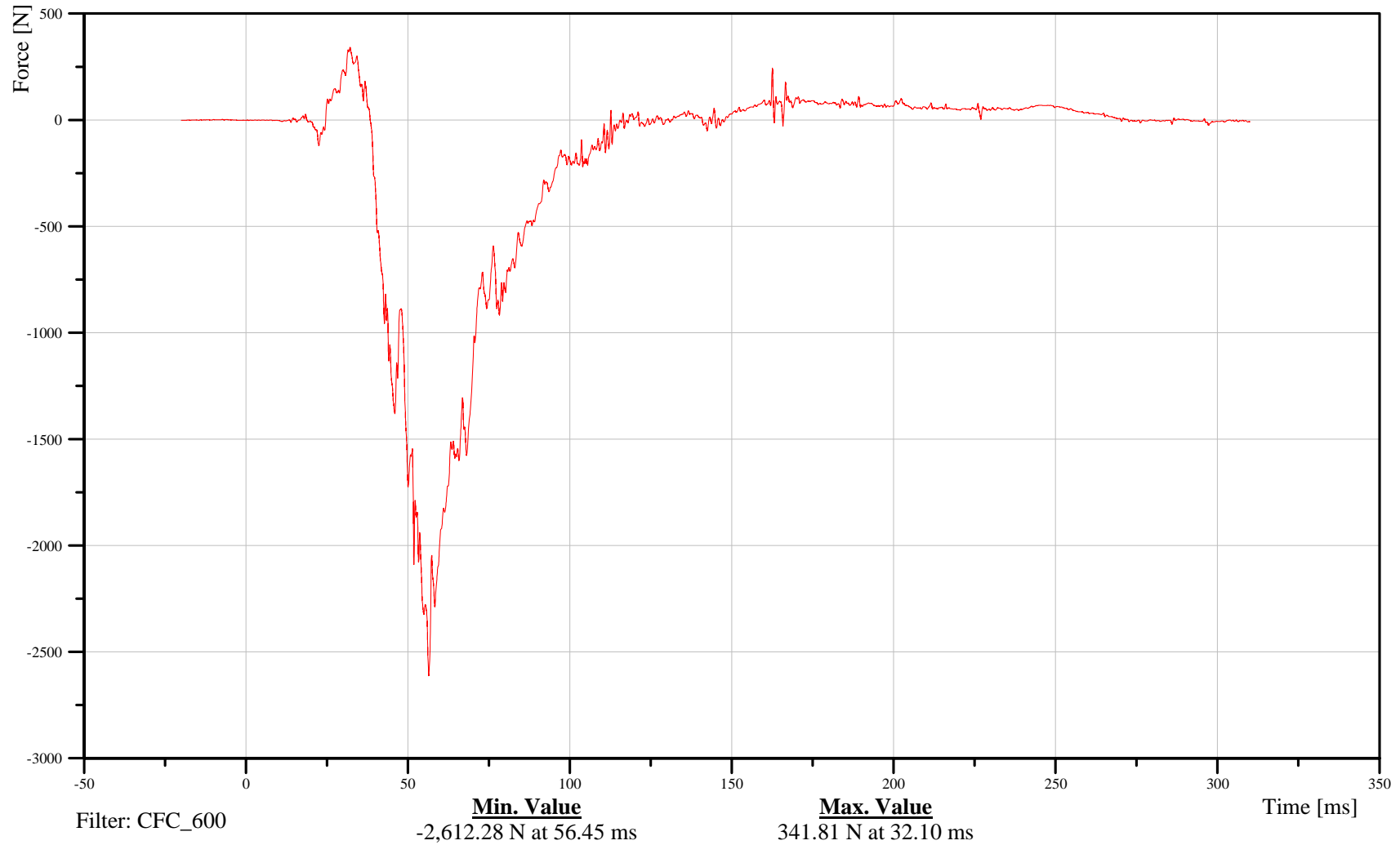
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Left Frame ECON X-Axis Acceleration

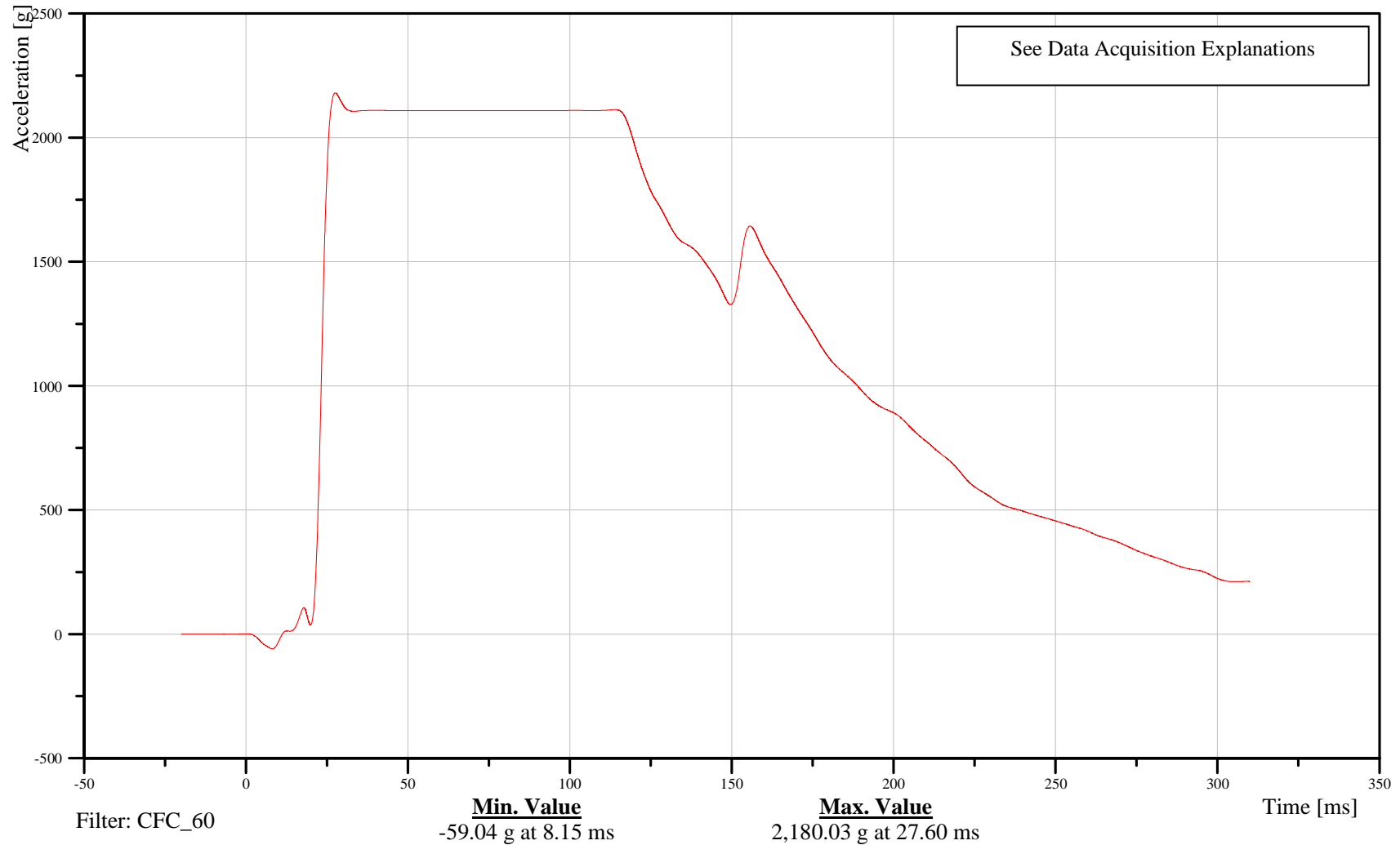
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMLEECONACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Right Frame ECON X-Axis Acceleration

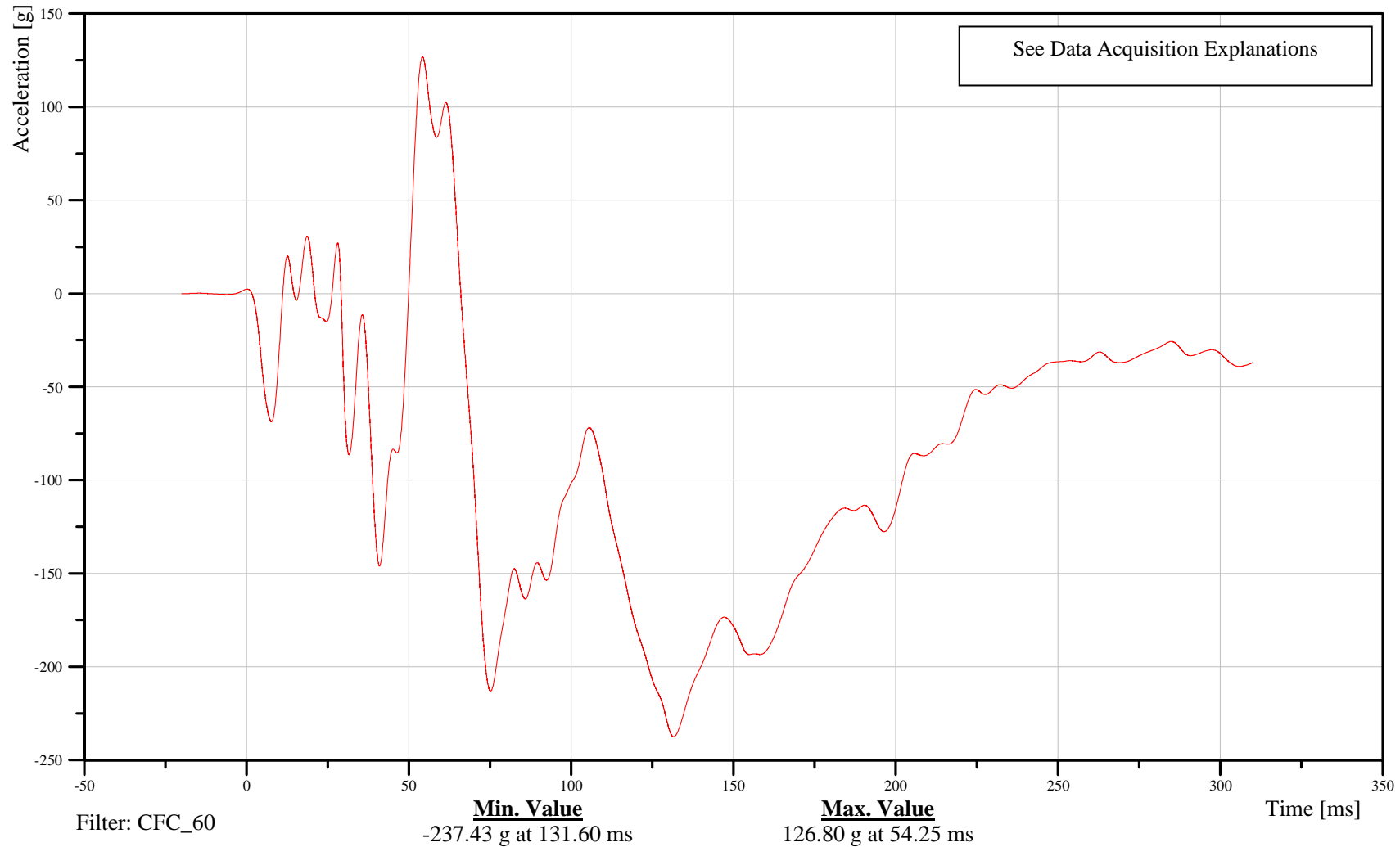
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMRIECONACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Vehicle Body Sill LH X-Axis Acceleration

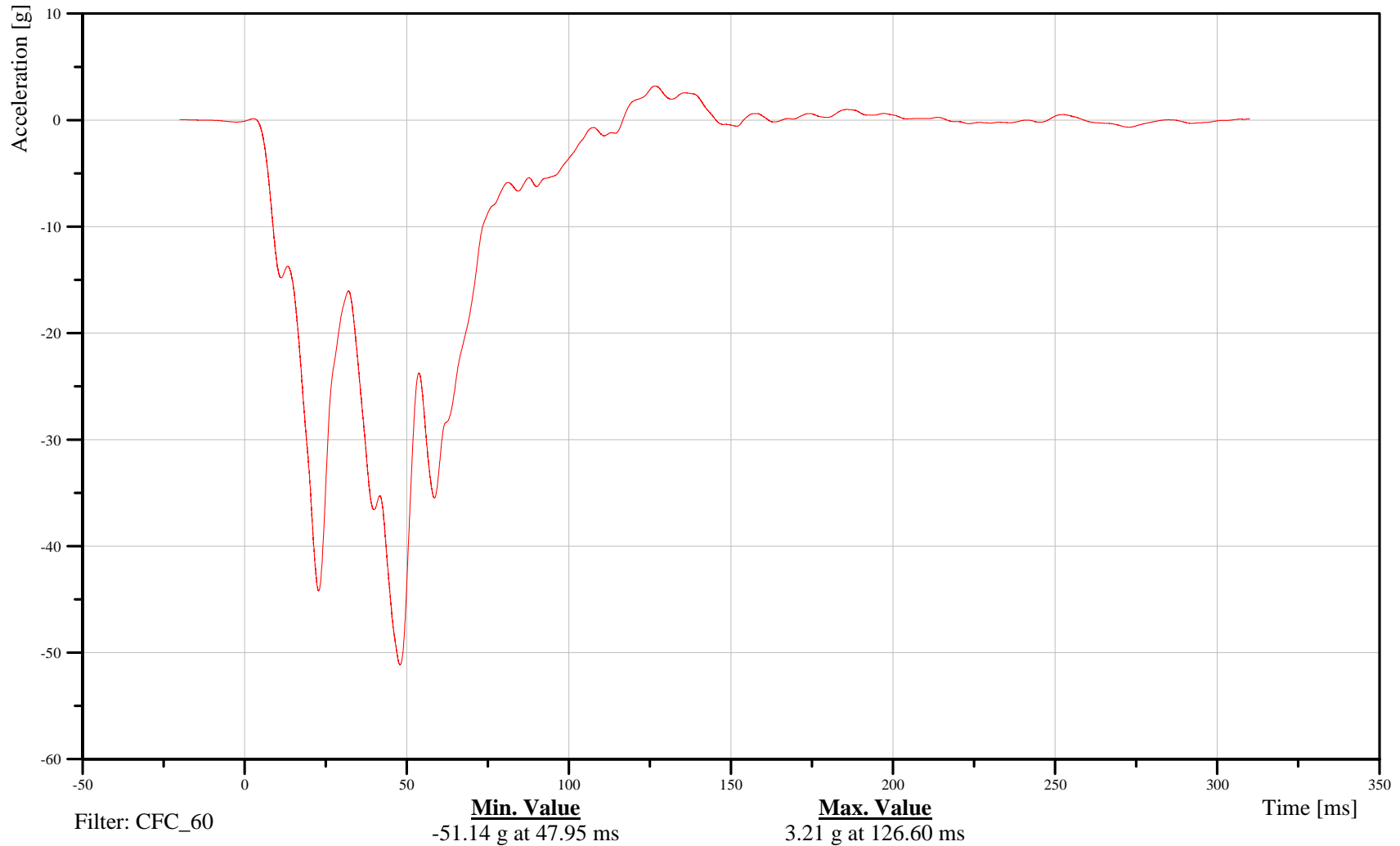
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10SILLE0000ACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Vehicle Body Sill LH Z-Axis Acceleration

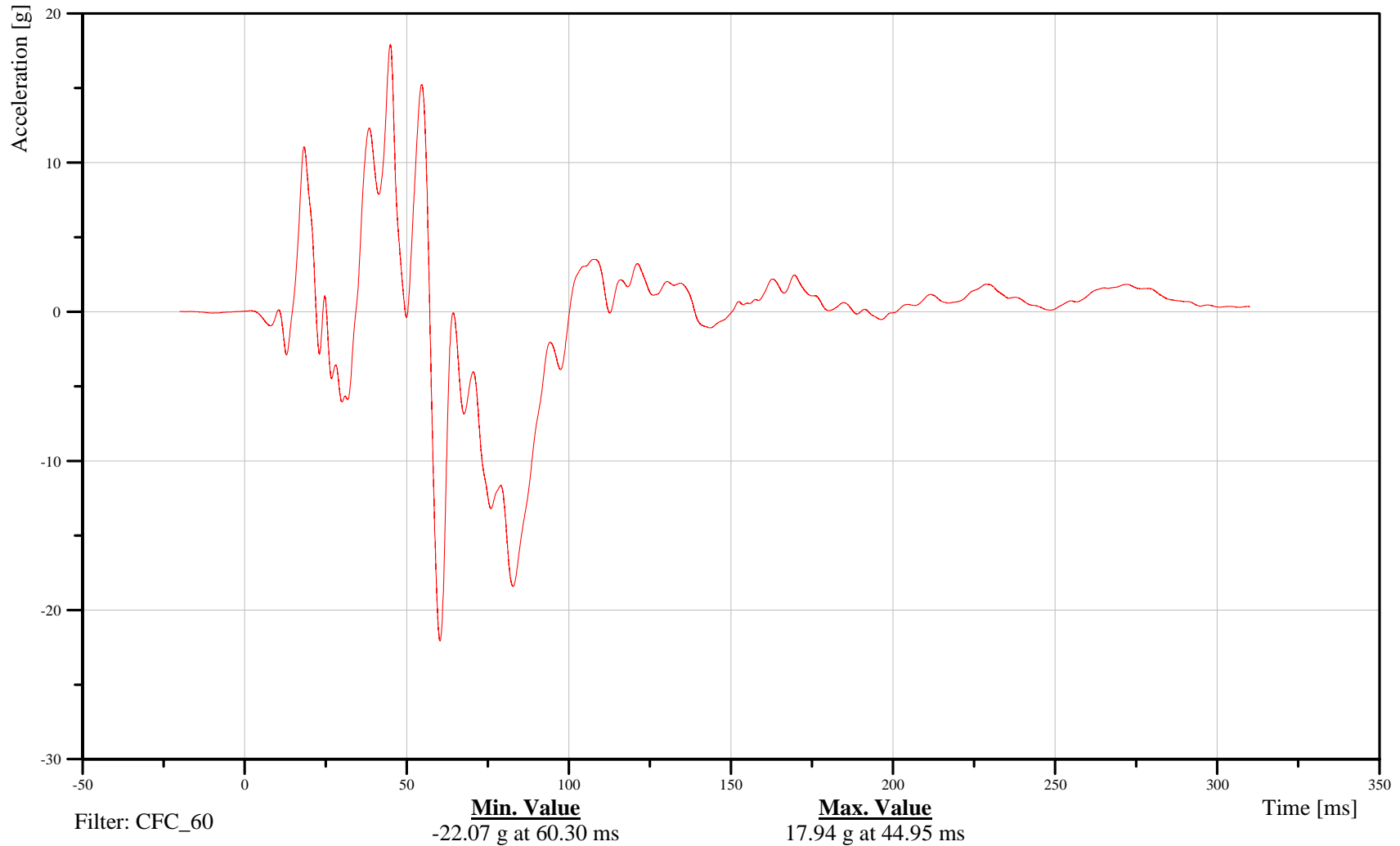
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10SILLE0000ACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Vehicle Body Sill RH X-Axis Acceleration

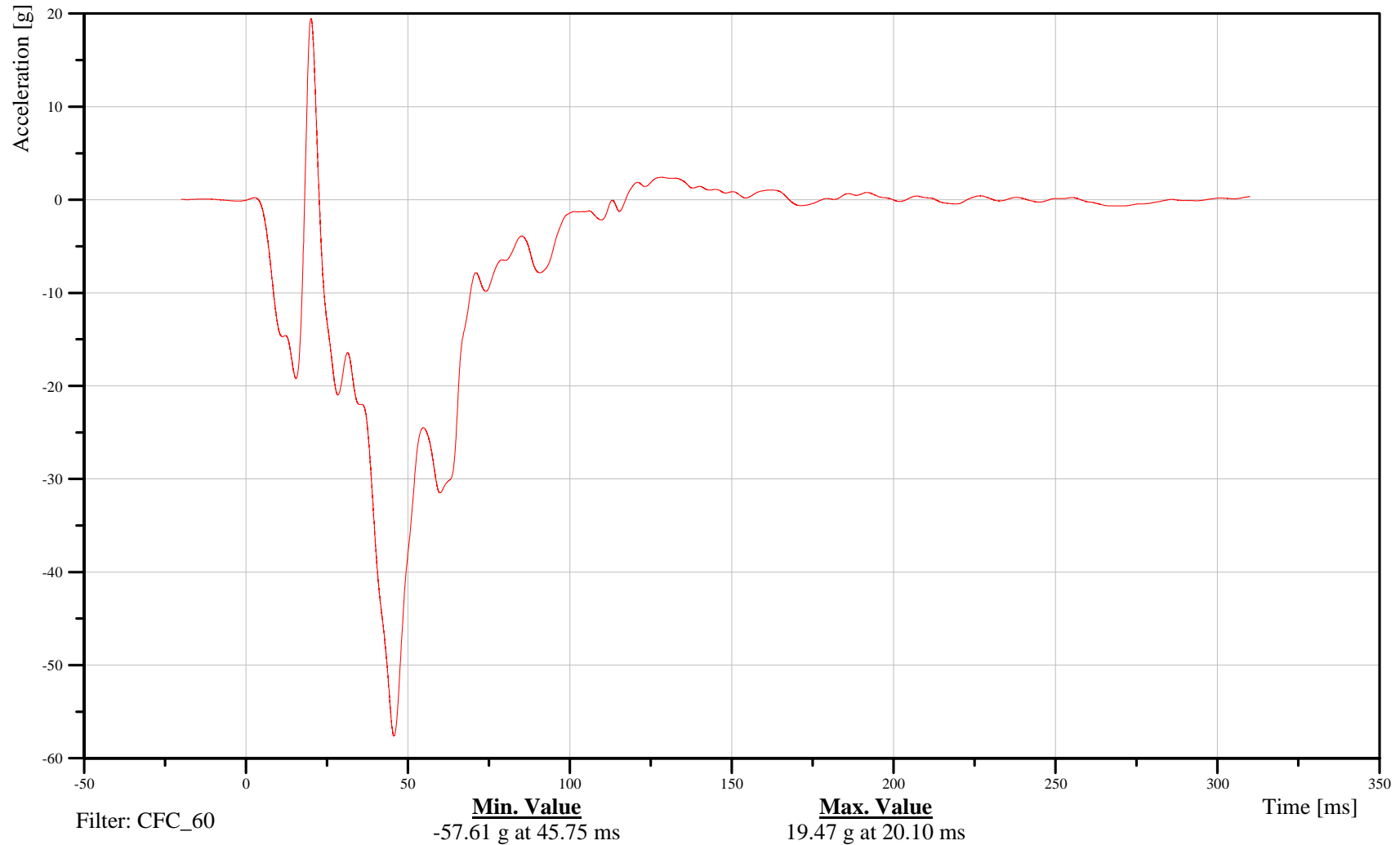
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10SILLRI0000ACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Vehicle Body Sill RH Z-Axis Acceleration

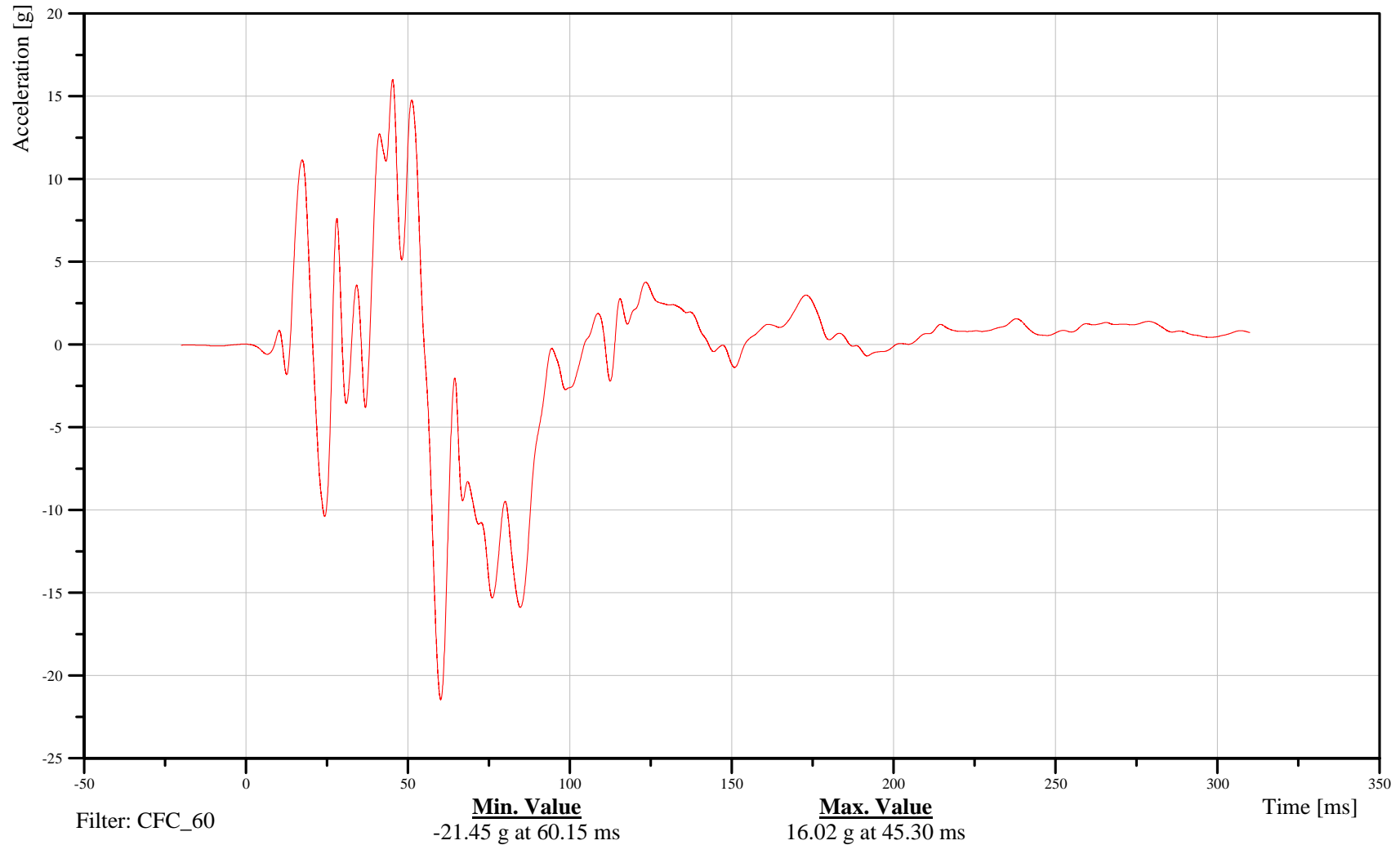
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10SILLRI0000ACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Engine Bottom X-Axis Acceleration

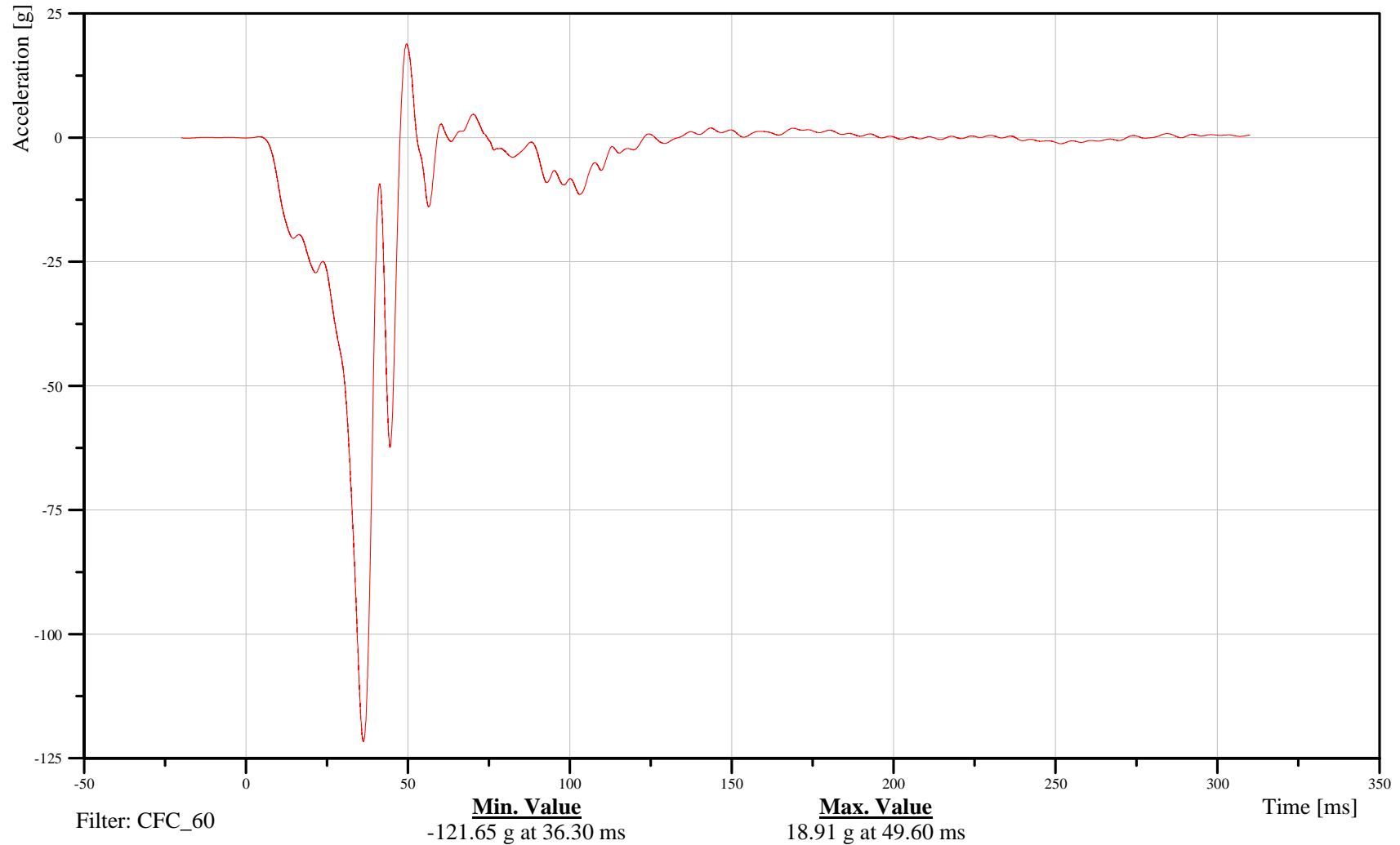
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10ENGNB00000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Engine Top X-Axis Acceleration

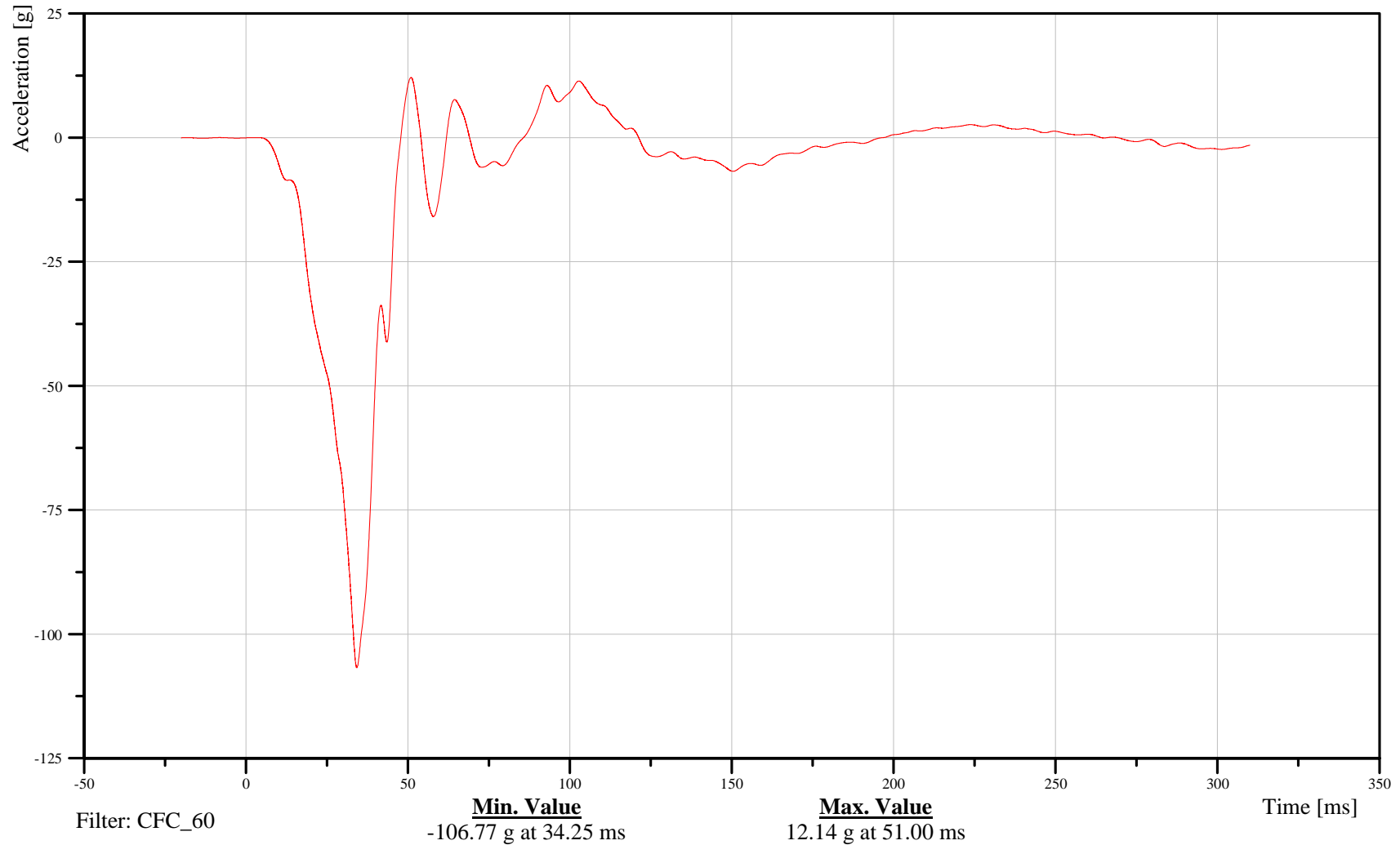
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Transmission Bottom X-Axis Acceleration

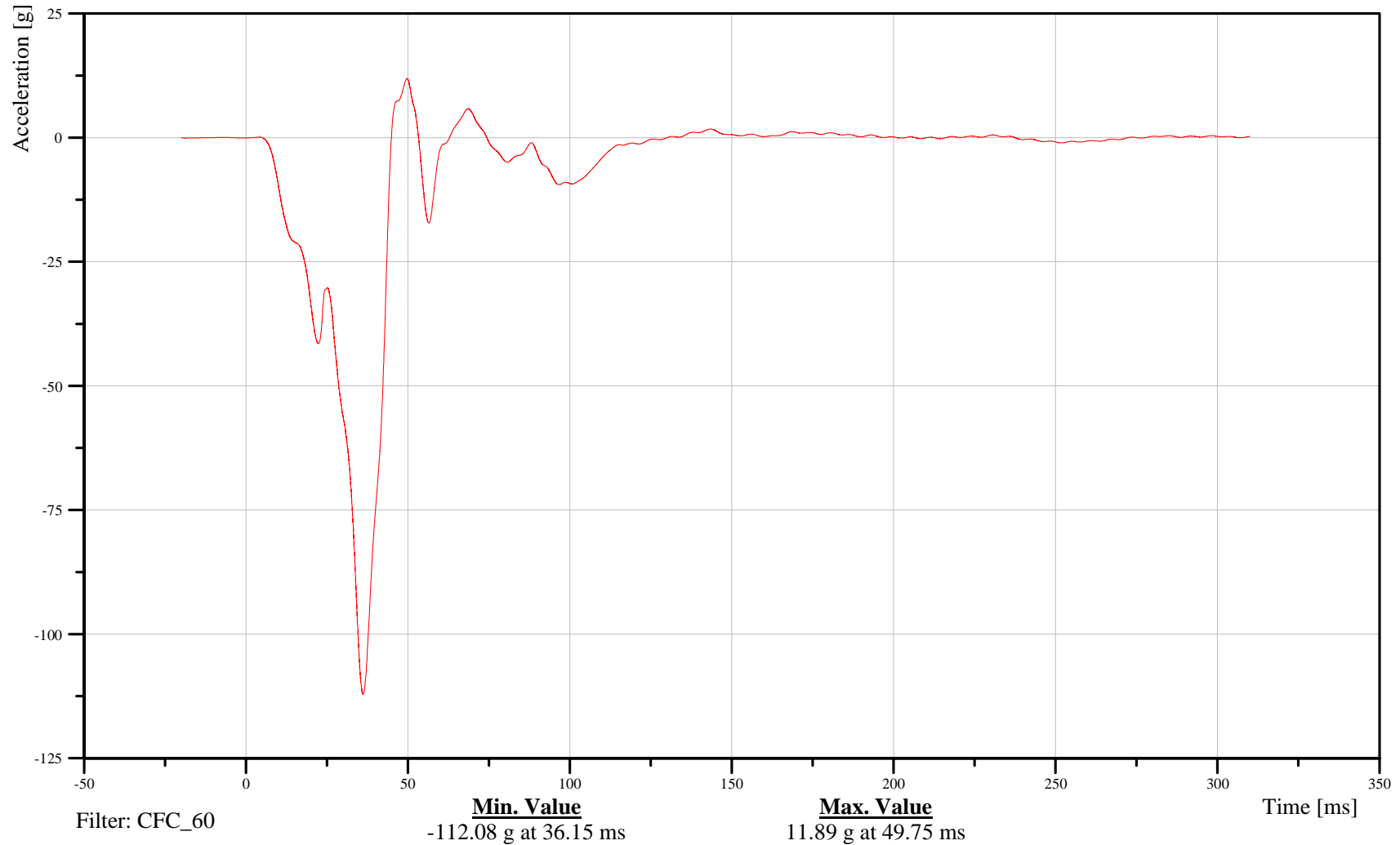
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10TRANBO0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Rear Differential X-Axis Acceleration

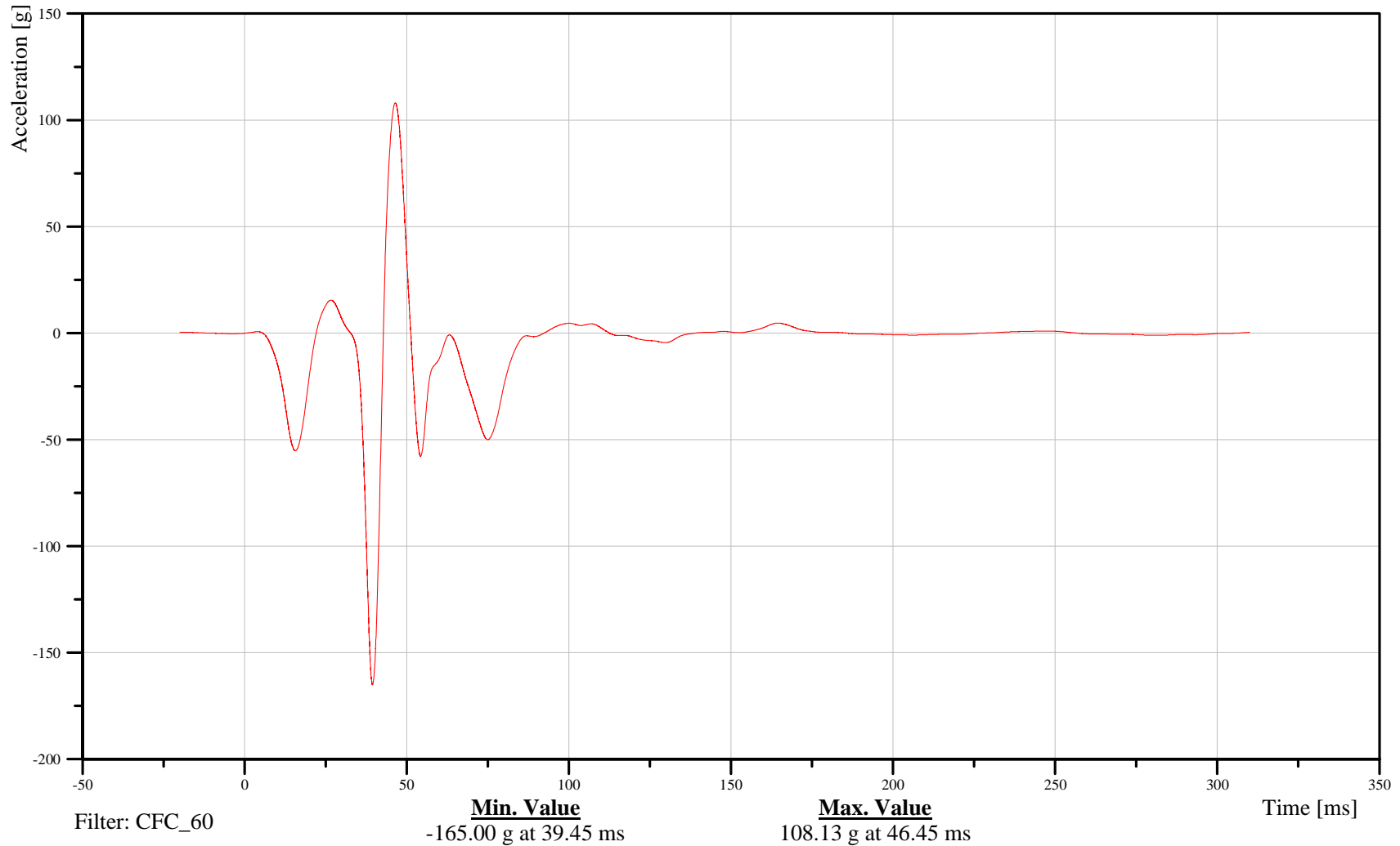
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10VEHC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Left Front Frame X-Axis Acceleration

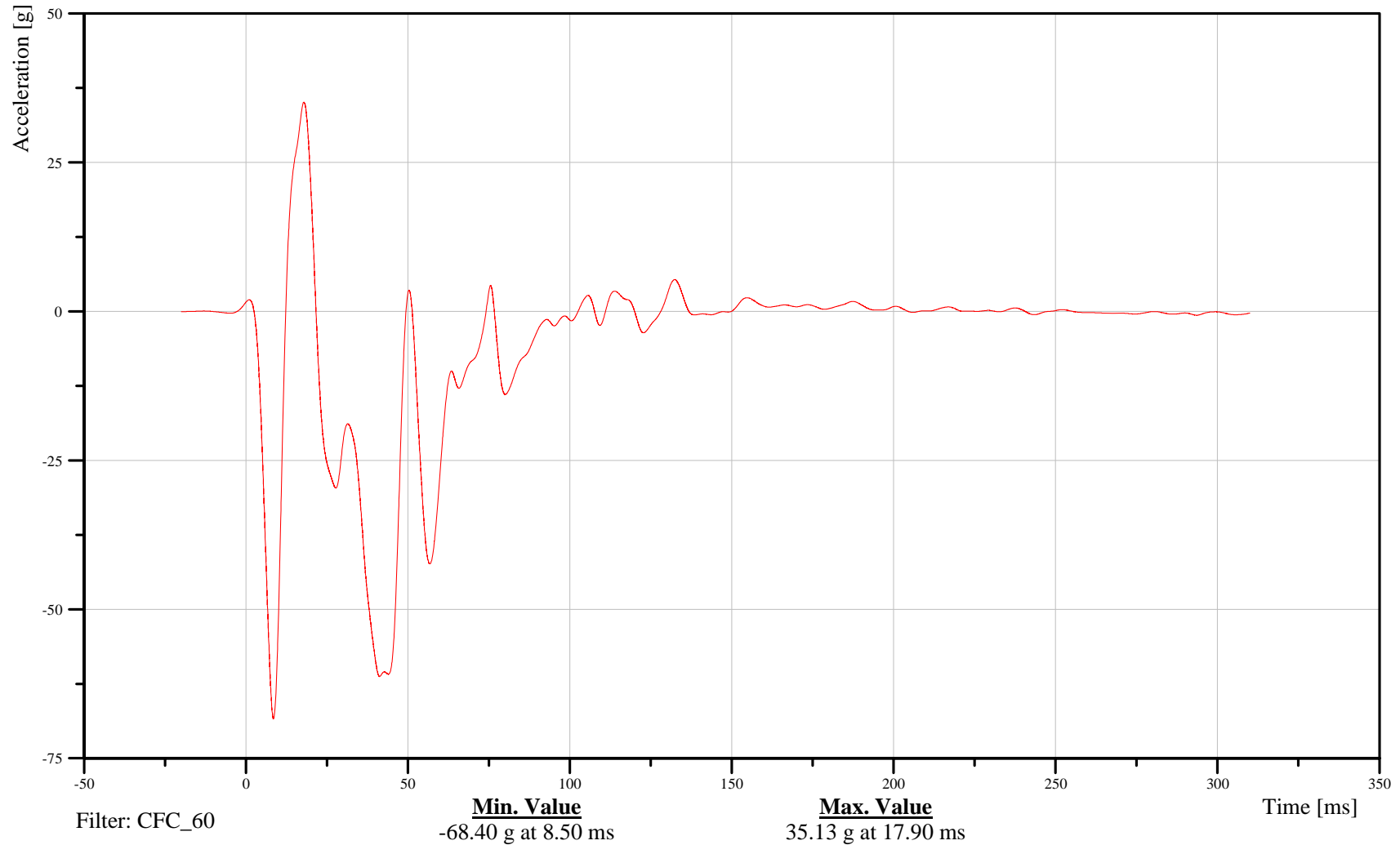
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMLEFR00ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Right Front Frame X-Axis Acceleration

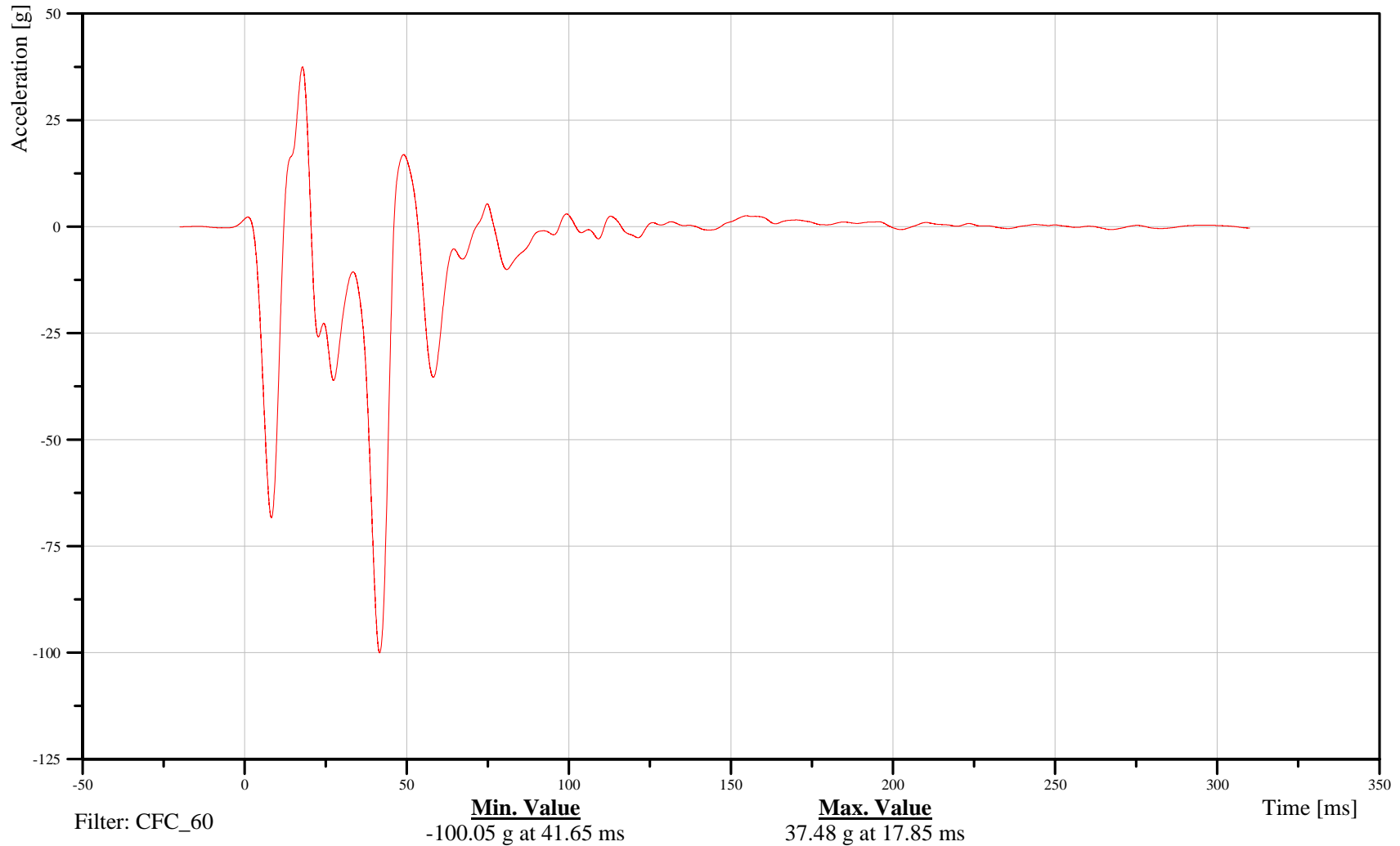
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMRIFR00ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Left Mid Frame at H-Point X-Axis Acceleration

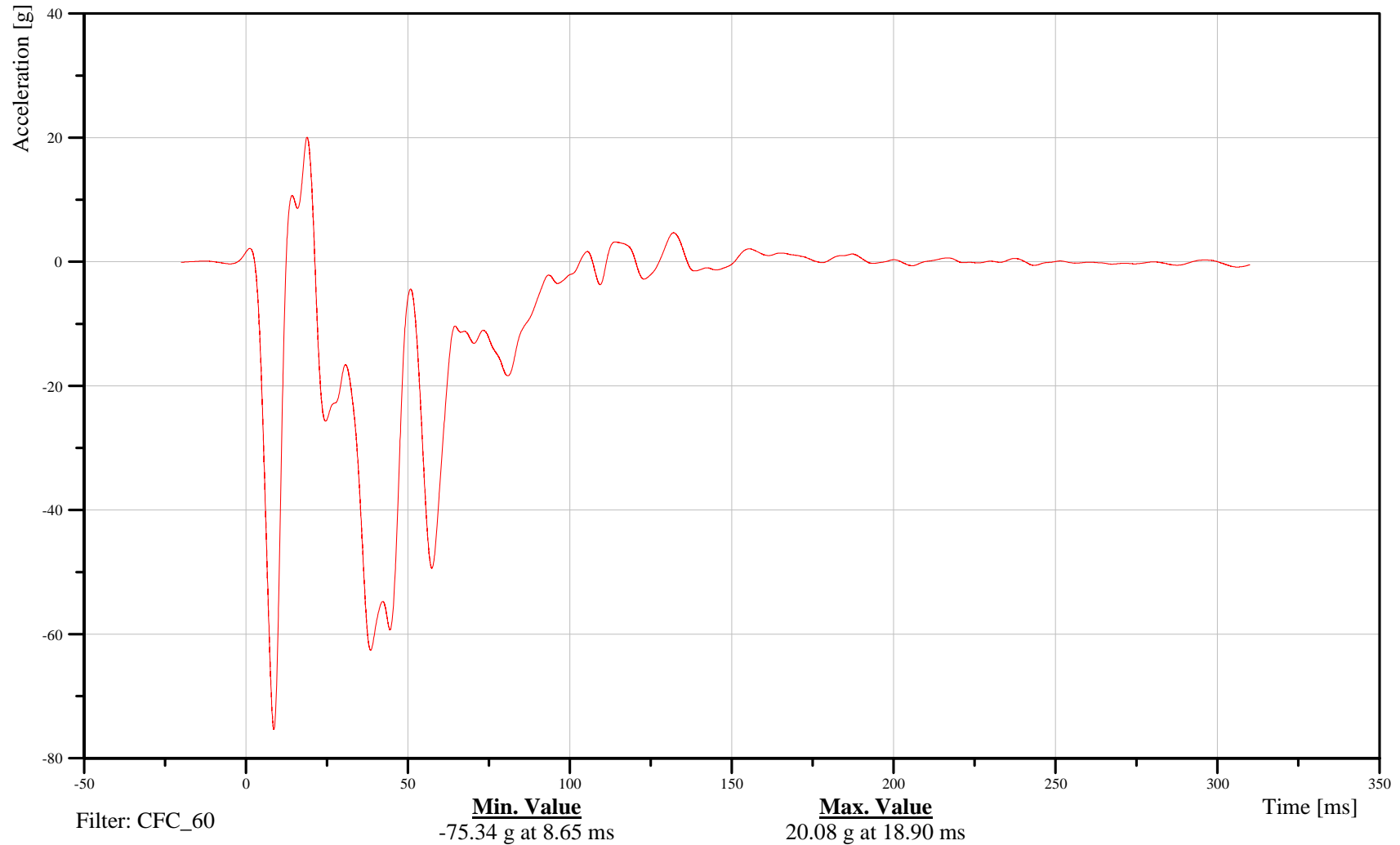
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMLEMIHPACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Left Mid Frame at H-Point Z-Axis Acceleration

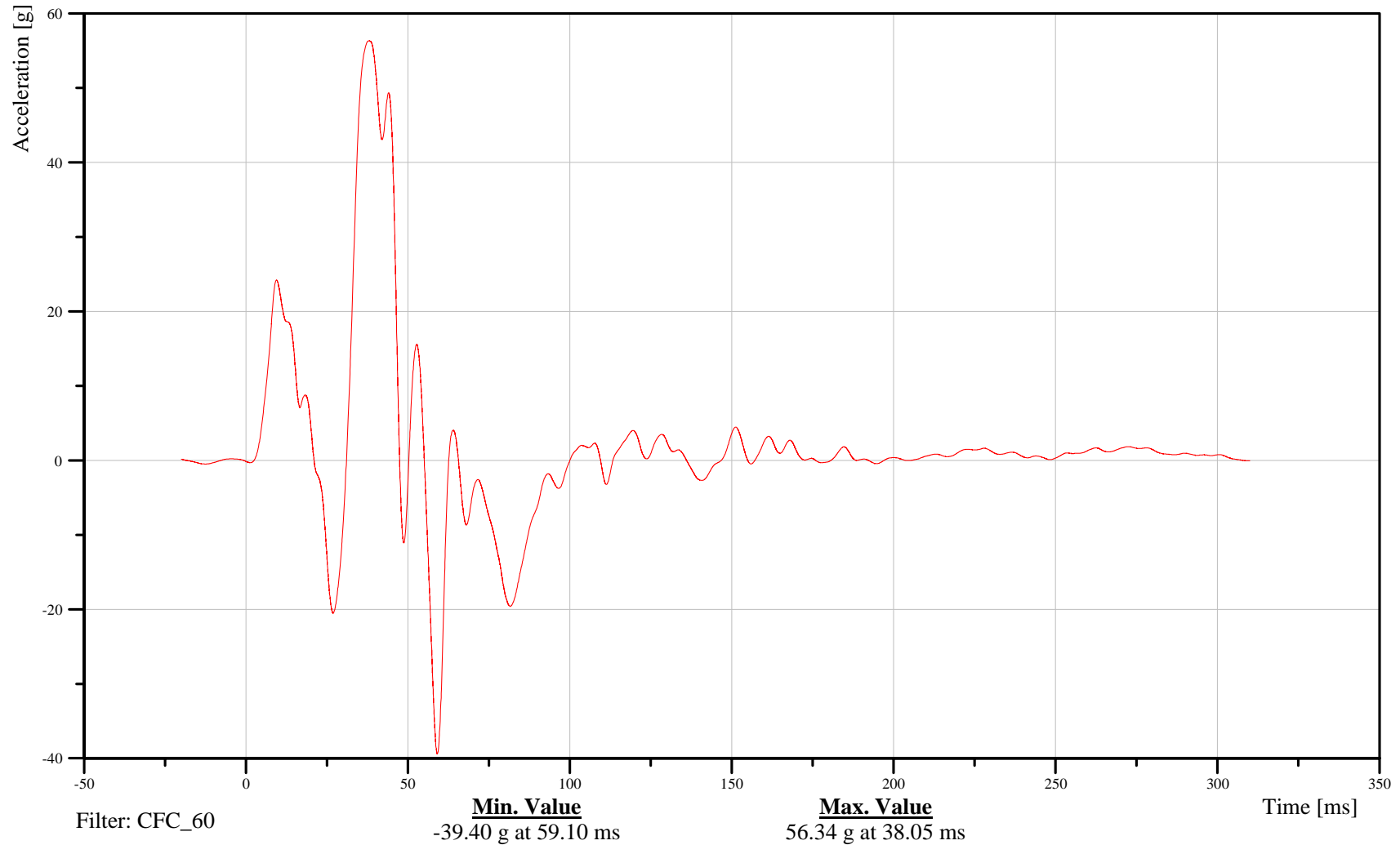
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMLEMIHPACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Date: 02/16/2007
Time: 12:17

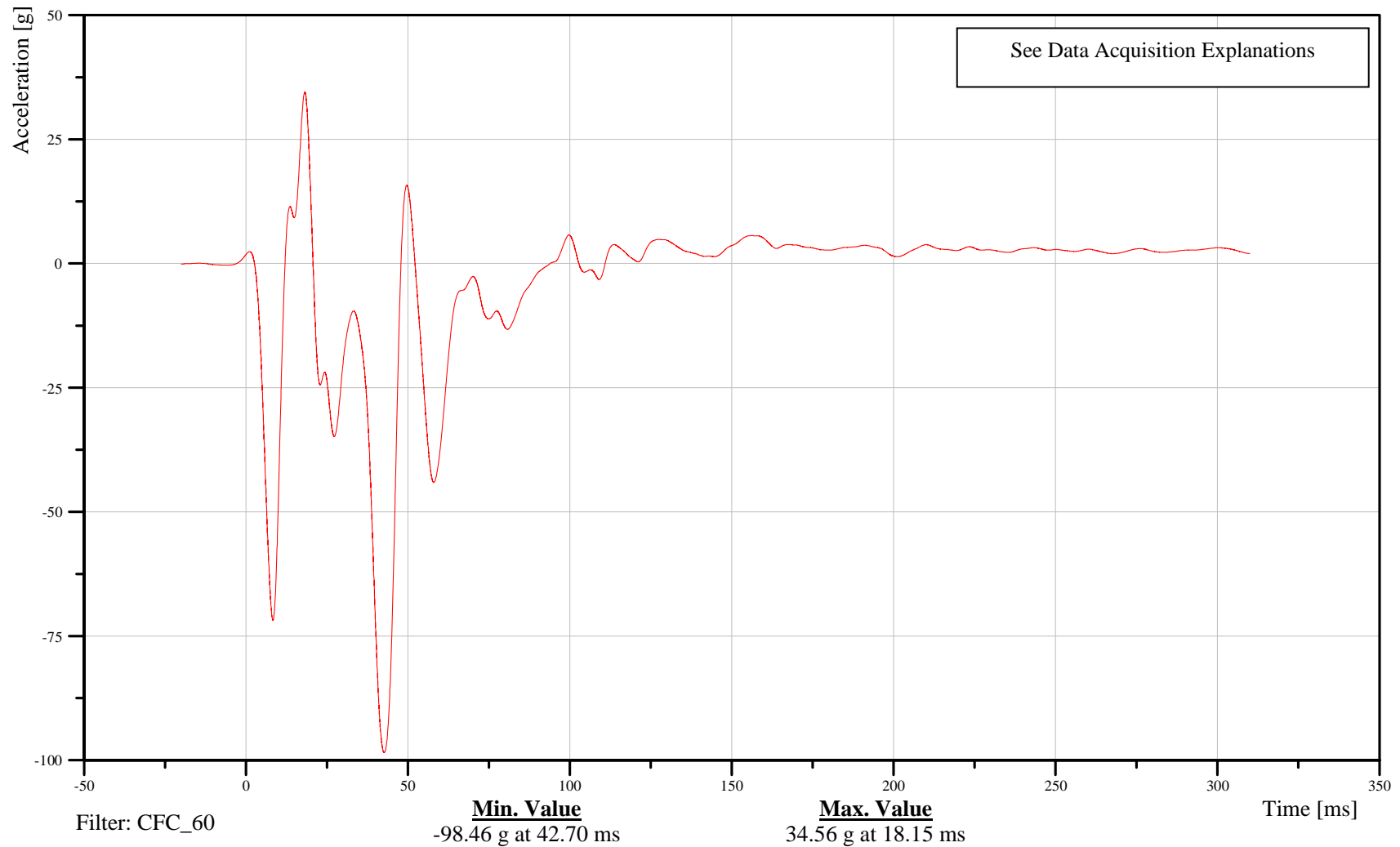
Right Mid Frame at H-Point X-Axis Acceleration

Customer: NTCNA

10FRAMRIMIHPACXA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Right Mid Frame at H-Point Z-Axis Acceleration

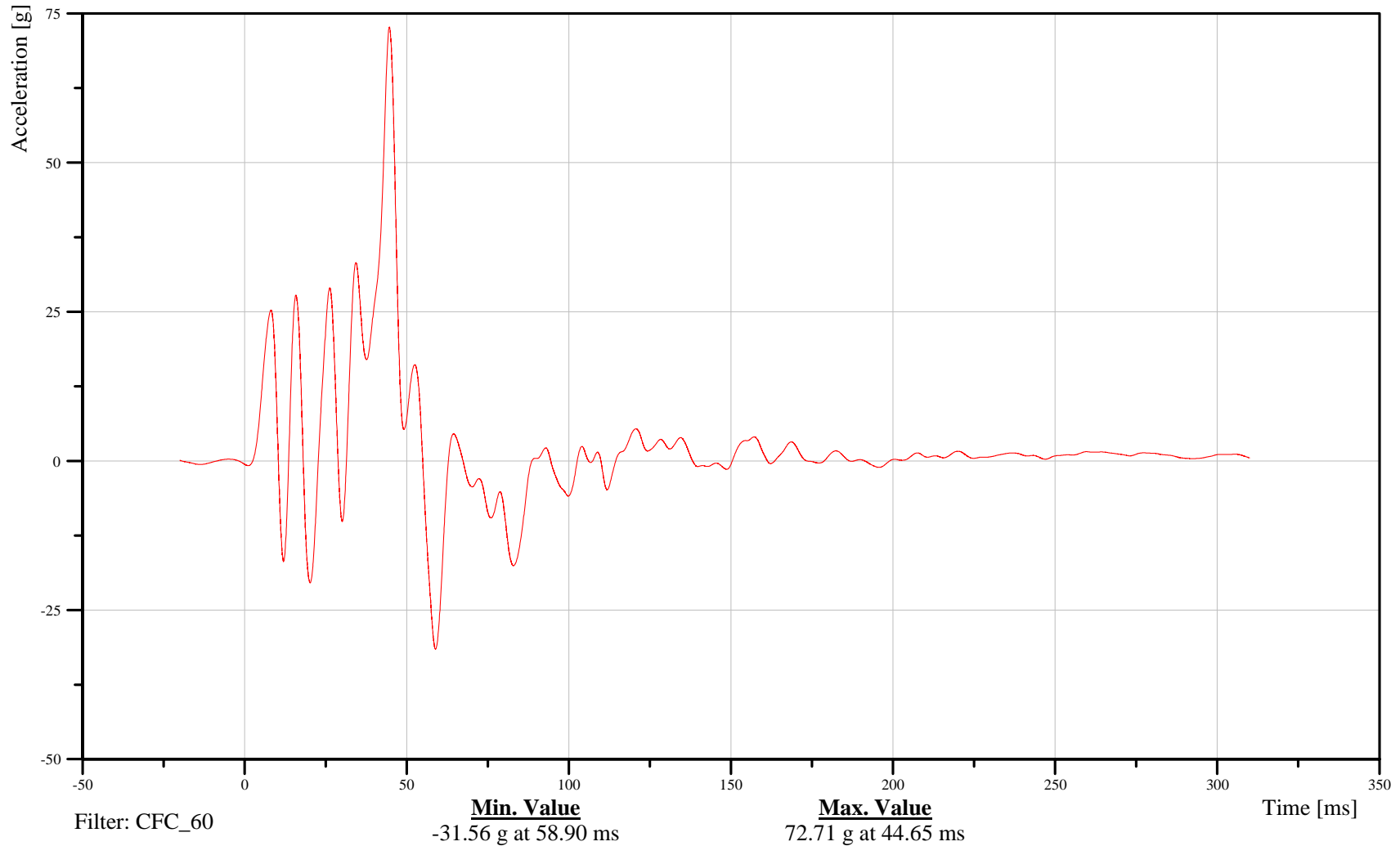
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10FRAMRIMIHPACZA

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

ACU Sensor X-Axis Acceleration

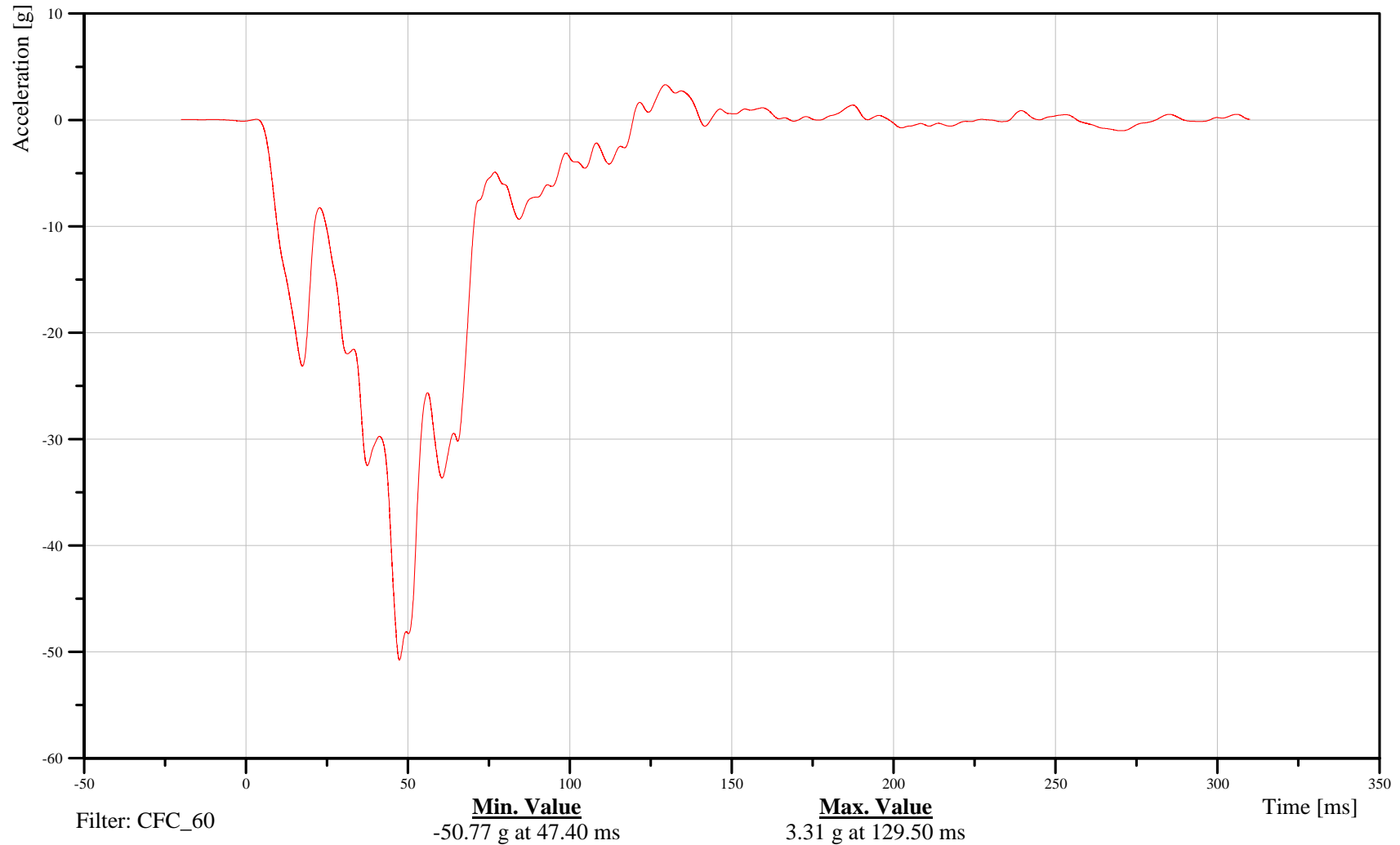
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10ABSE000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

ACU Sensor Y-Axis Acceleration

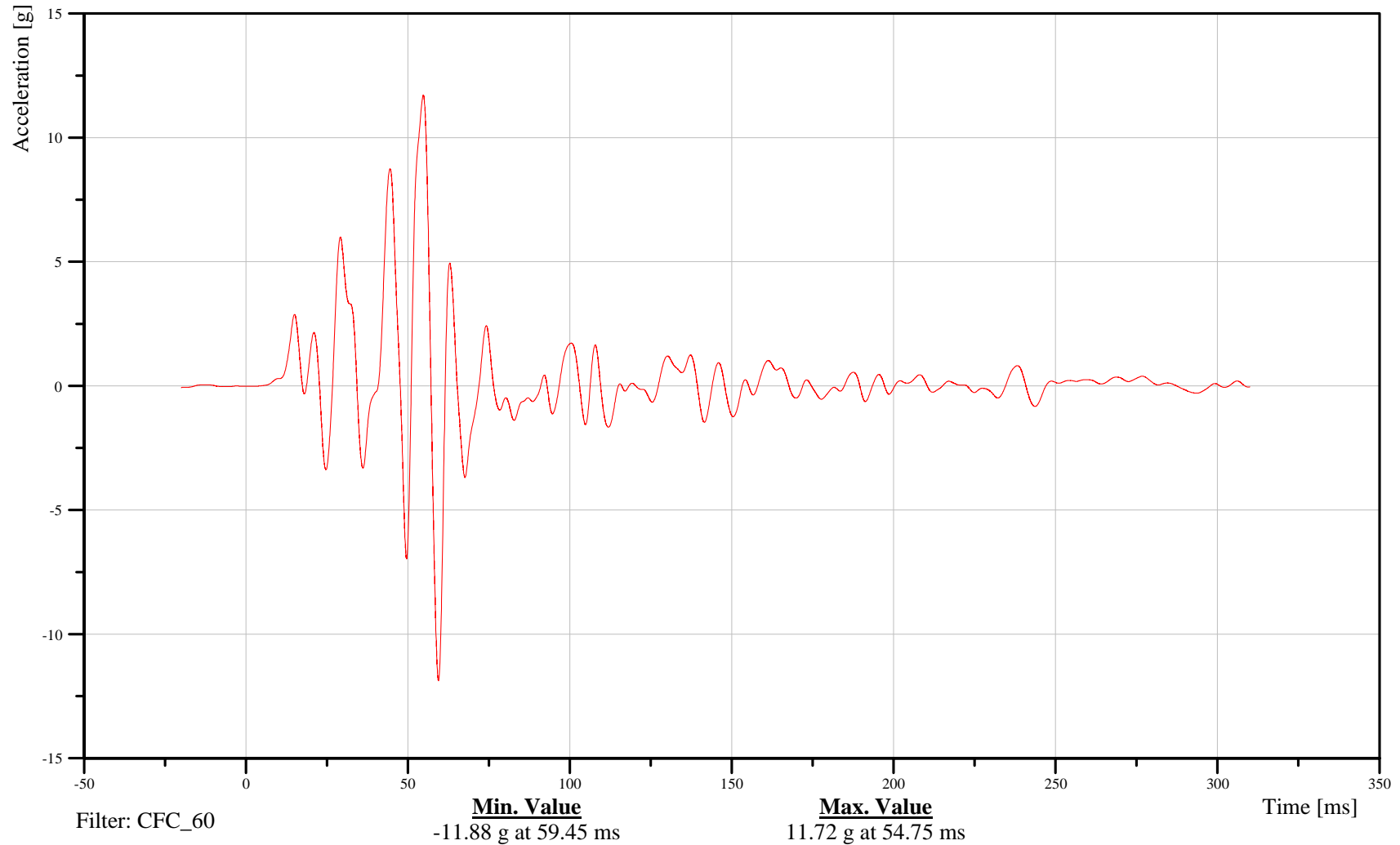
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10ABSE000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

ACU Sensor Z-Axis Acceleration

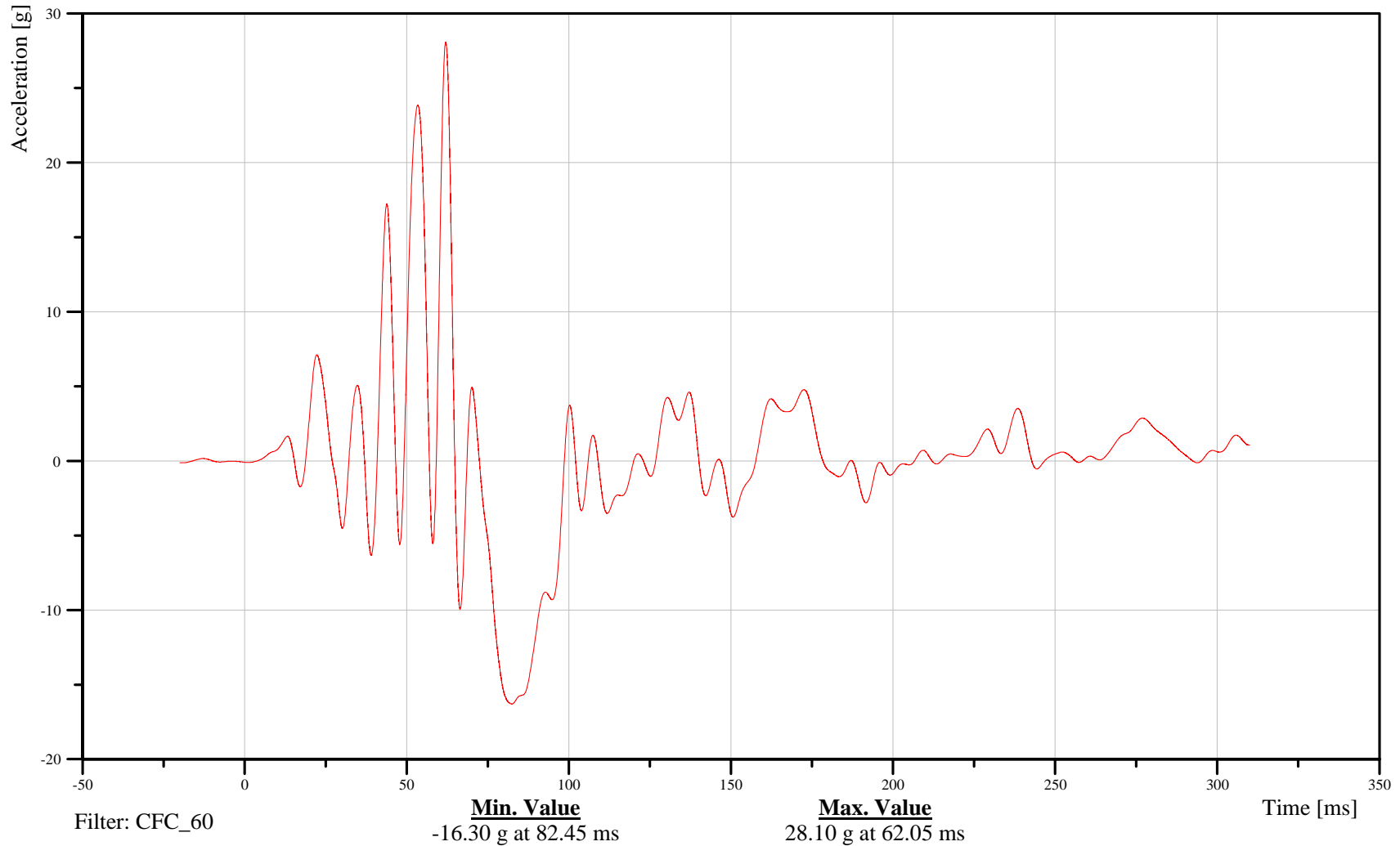
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10ABSE000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

ACU Sensor Resultant Acceleration

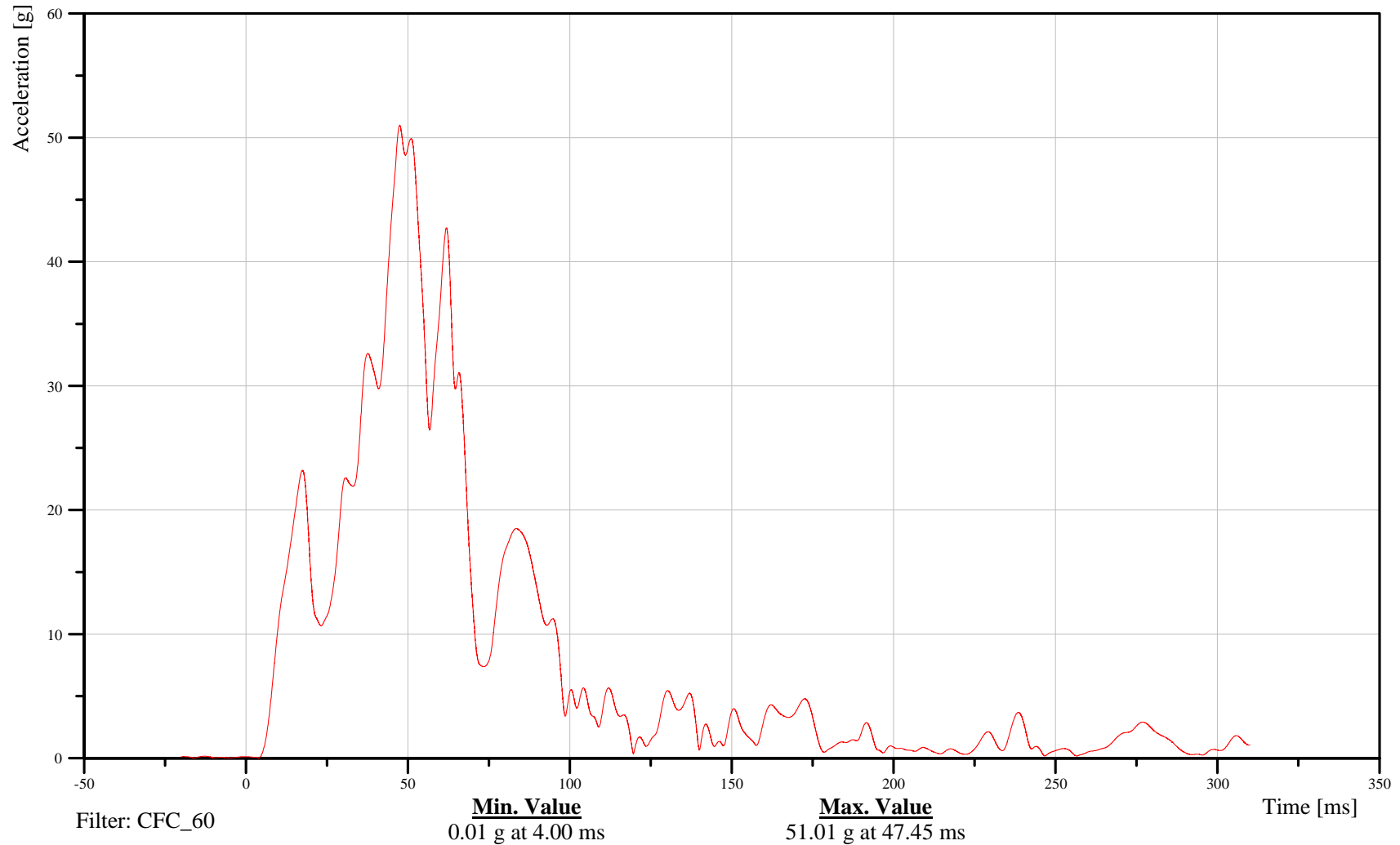
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10ABSE000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

CZC Sensor Primary X-Axis Acceleration

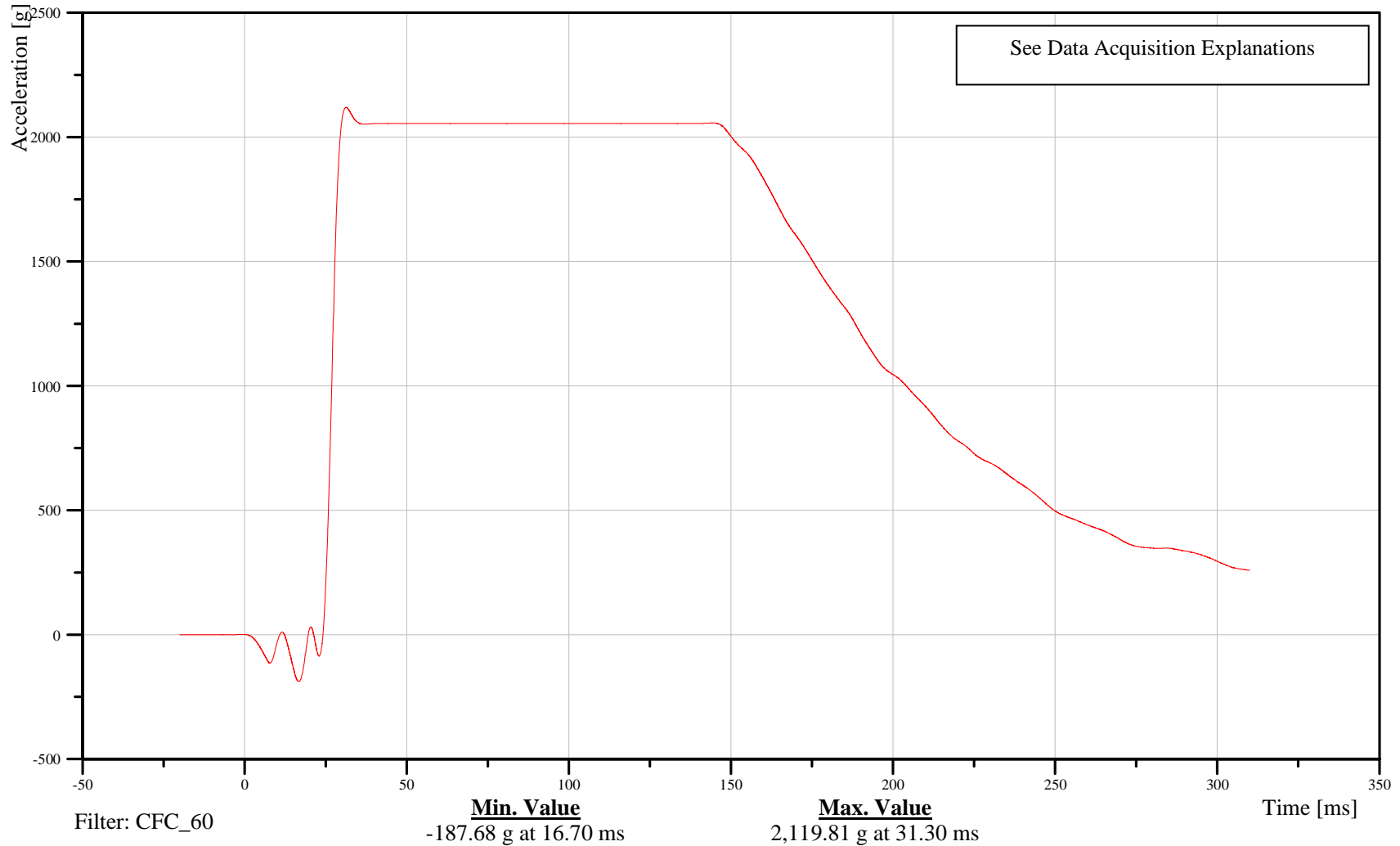
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10SENS000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

CZC Sensor Redundant X-Axis Acceleration

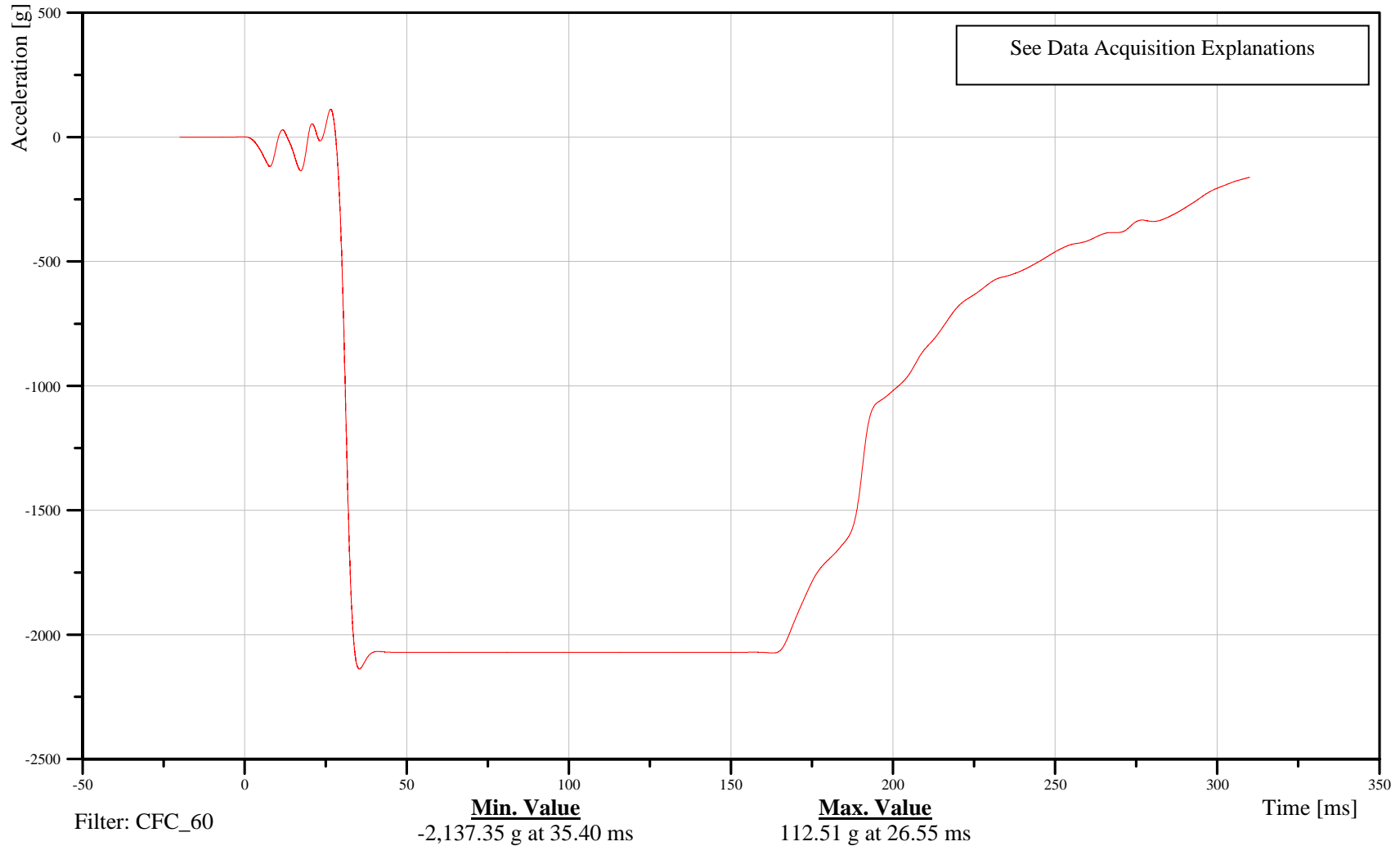
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10SENSRD0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Tunnel / Floorpan X-Axis Acceleration

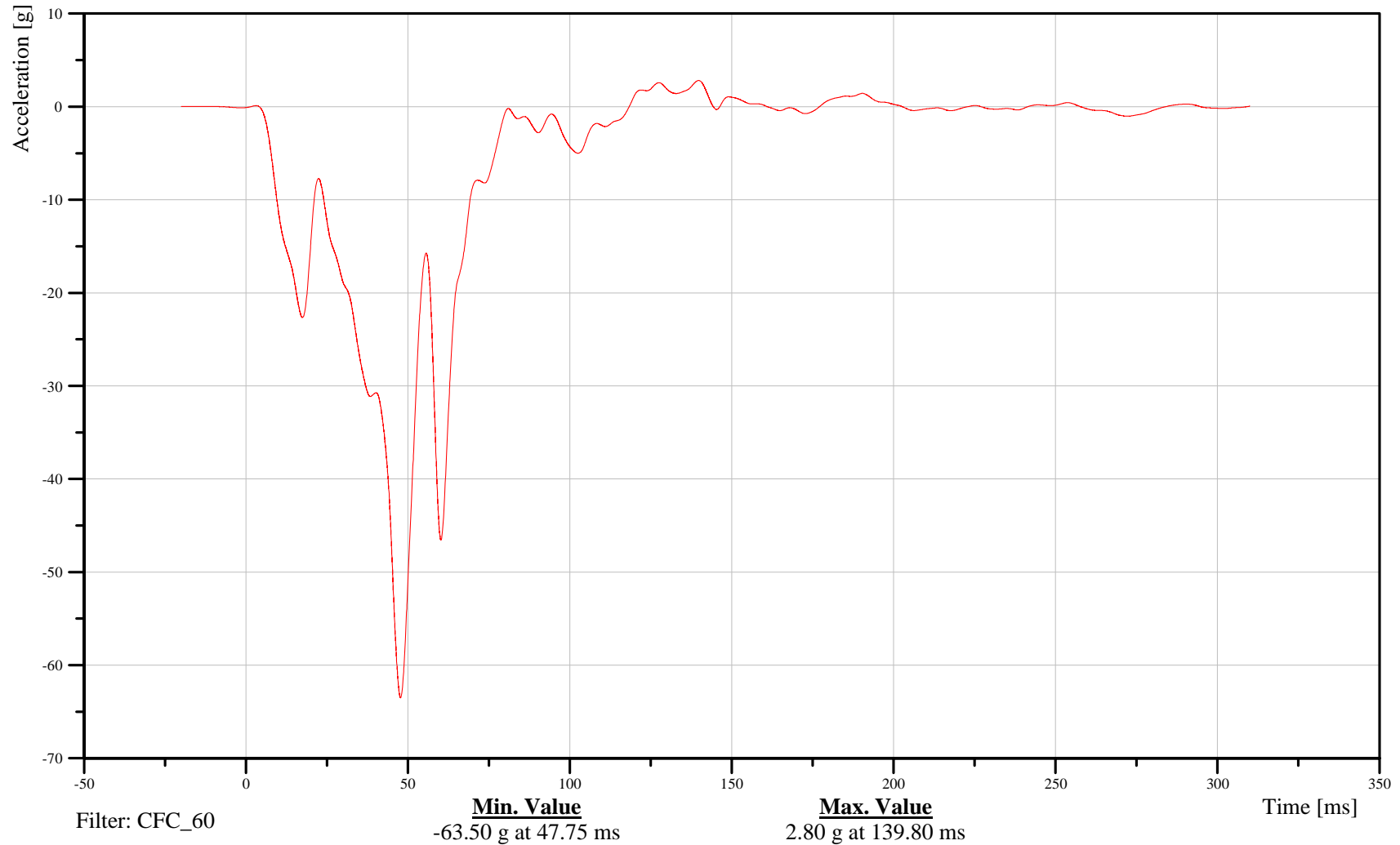
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10TUNN000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Tunnel / Floorpan Y-Axis Acceleration

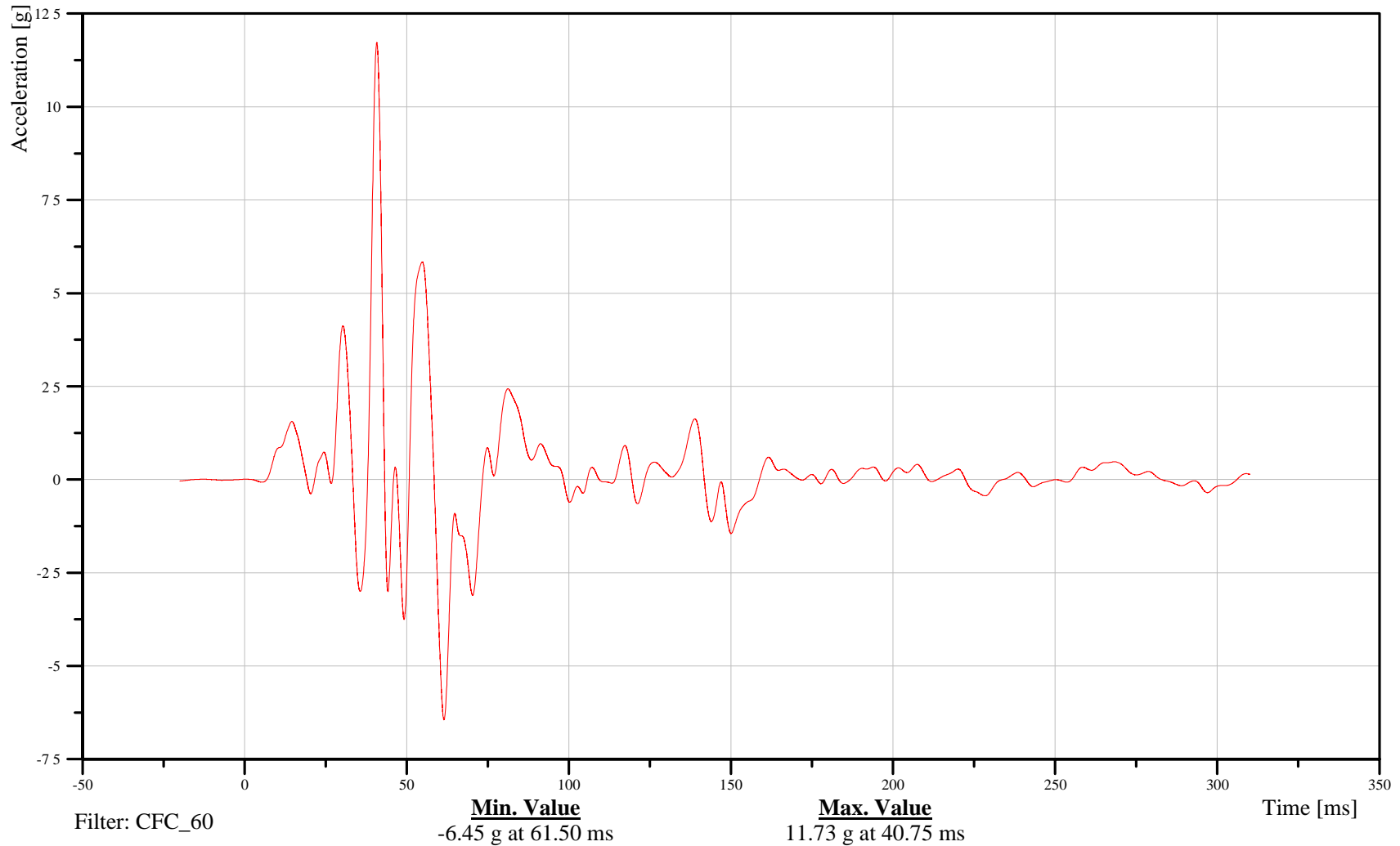
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10TUNN000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Tunnel / Floorpan Z-Axis Acceleration

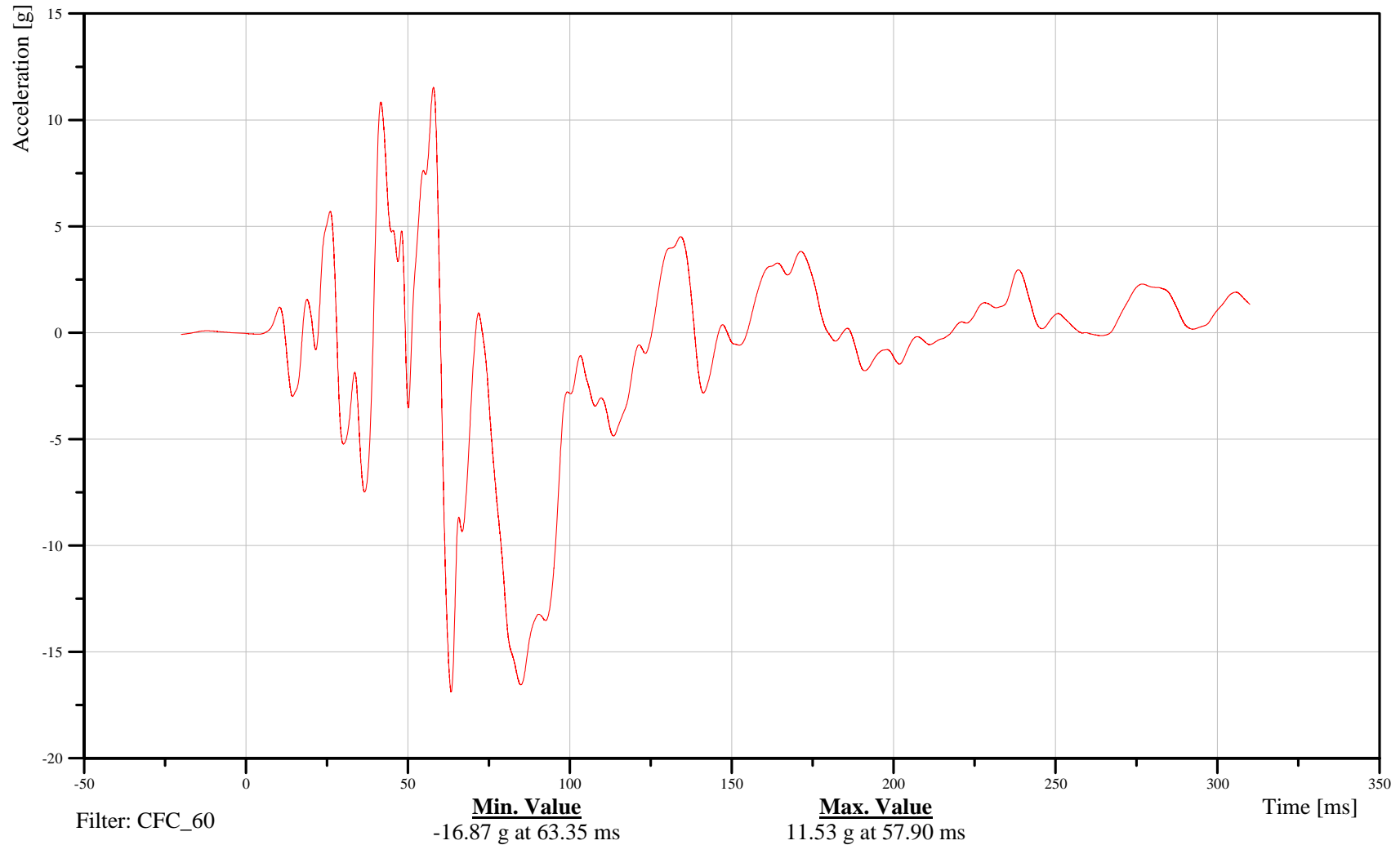
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10TUNN000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Tunnel / Floorpan Resultant Acceleration

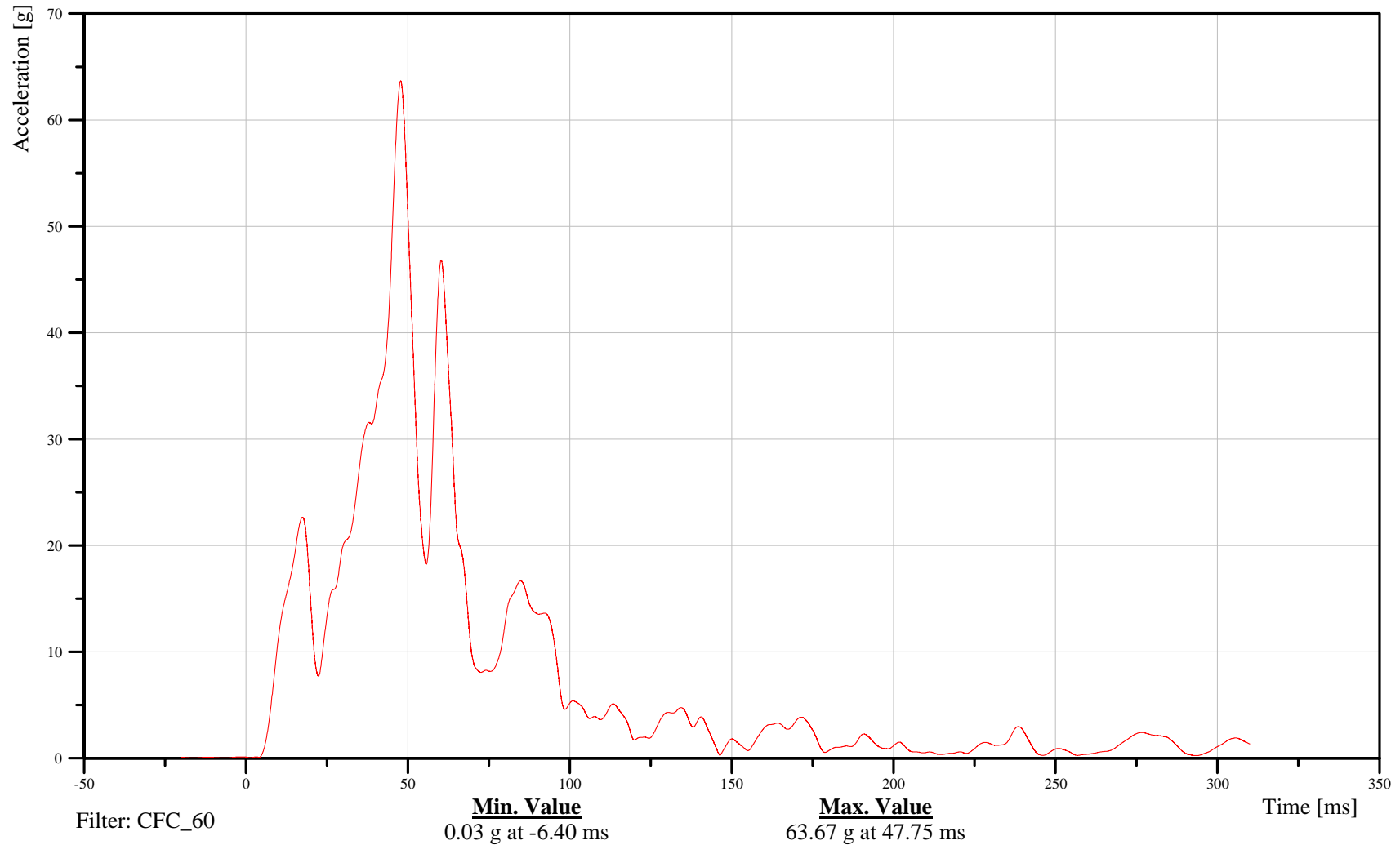
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10TUNN000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Left Lap Belt Outboard Tension

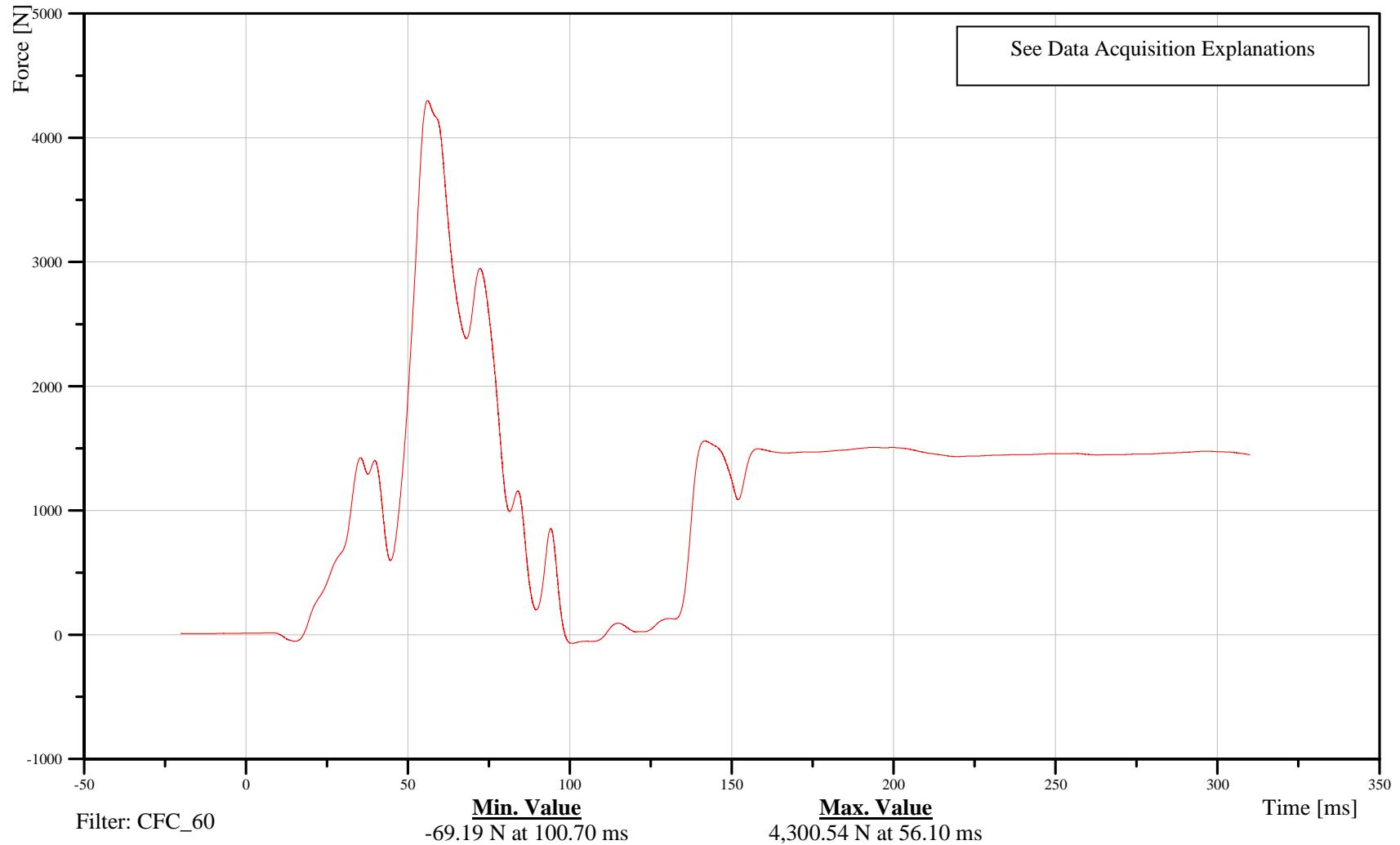
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10BELTLELP00FO0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Left Shoulder Belt Tension

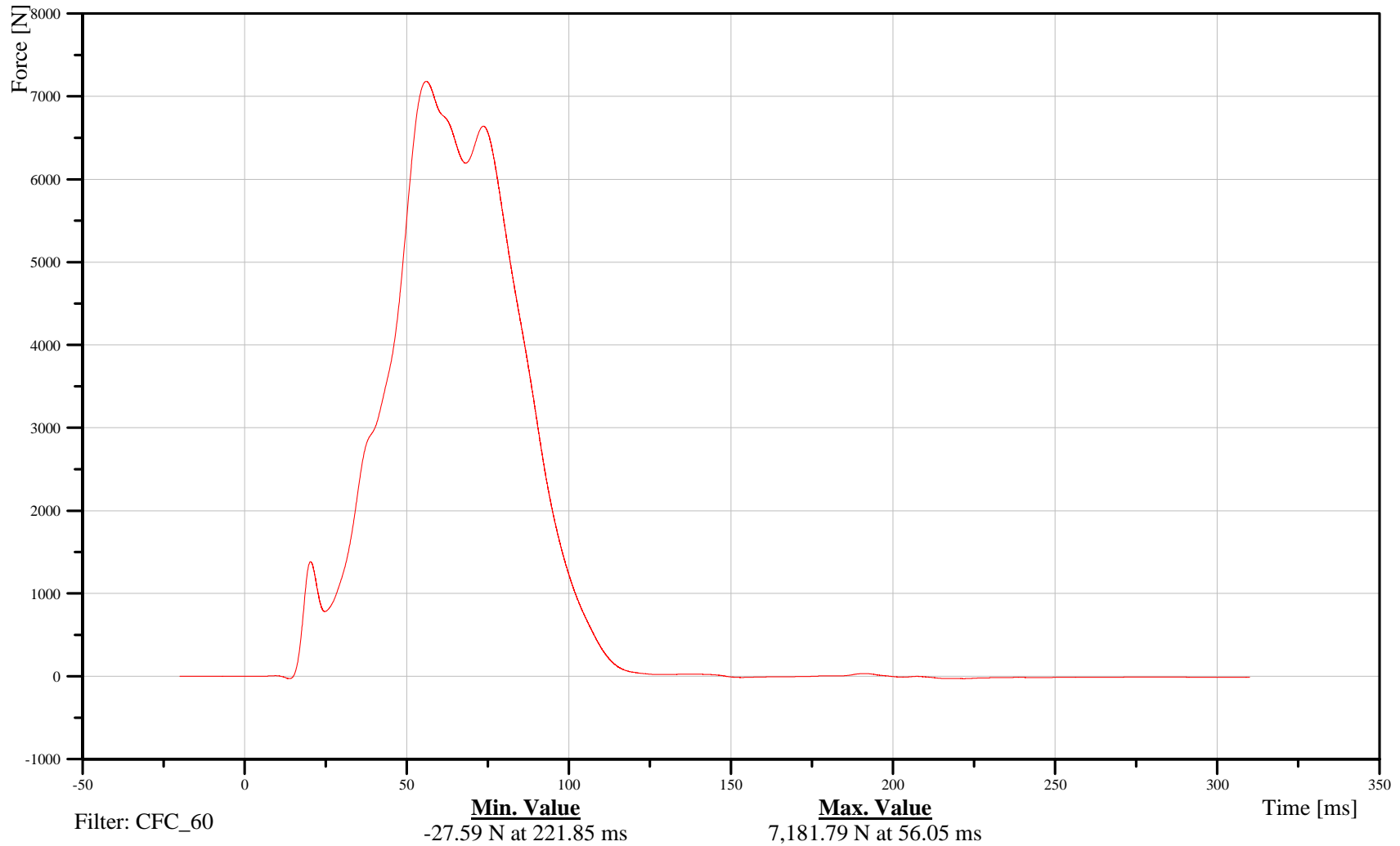
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10BELTLESH00FO0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Right Lap Belt Outboard Tension

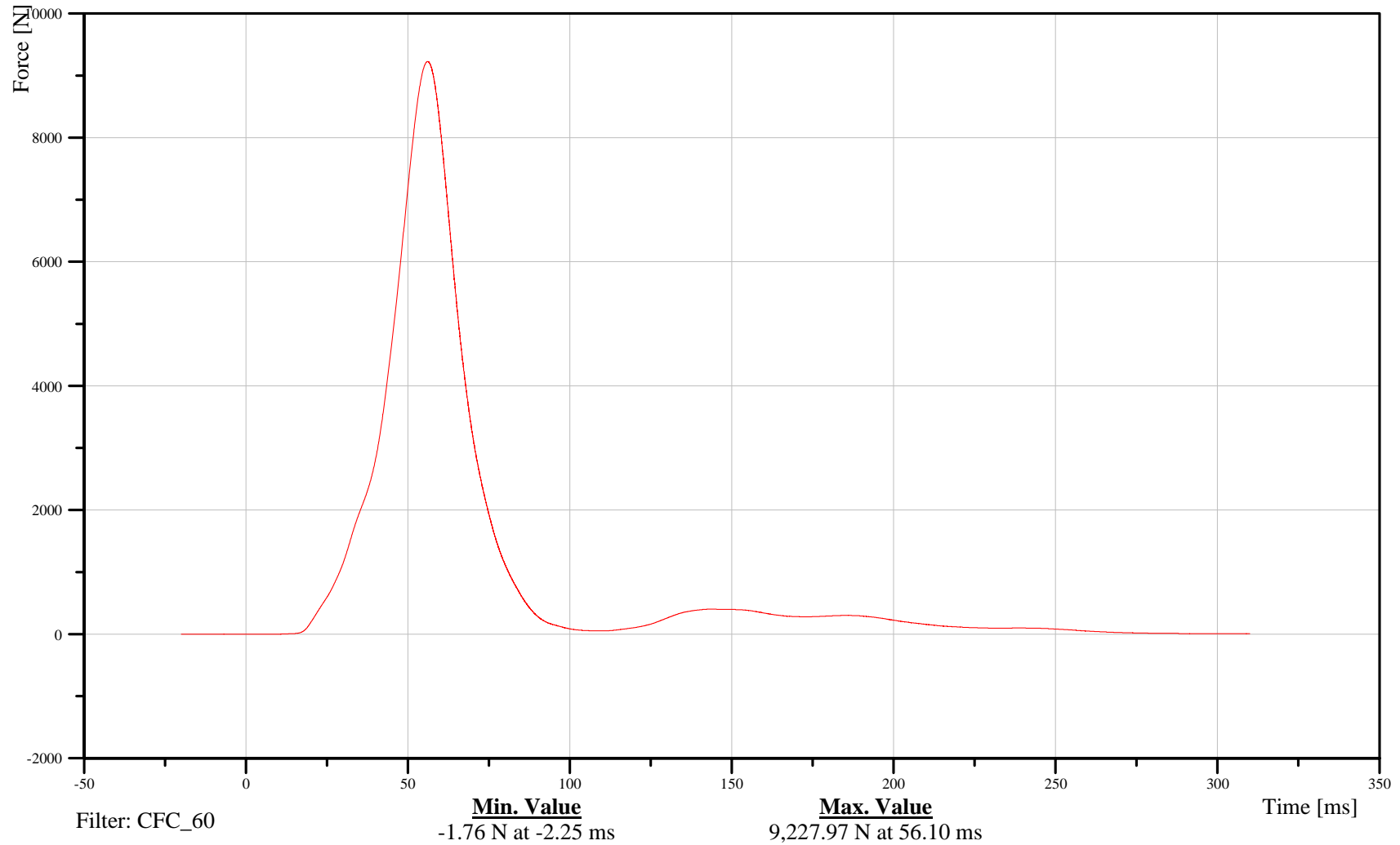
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10BELTRILP00FO0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Right Shoulder Belt Tension

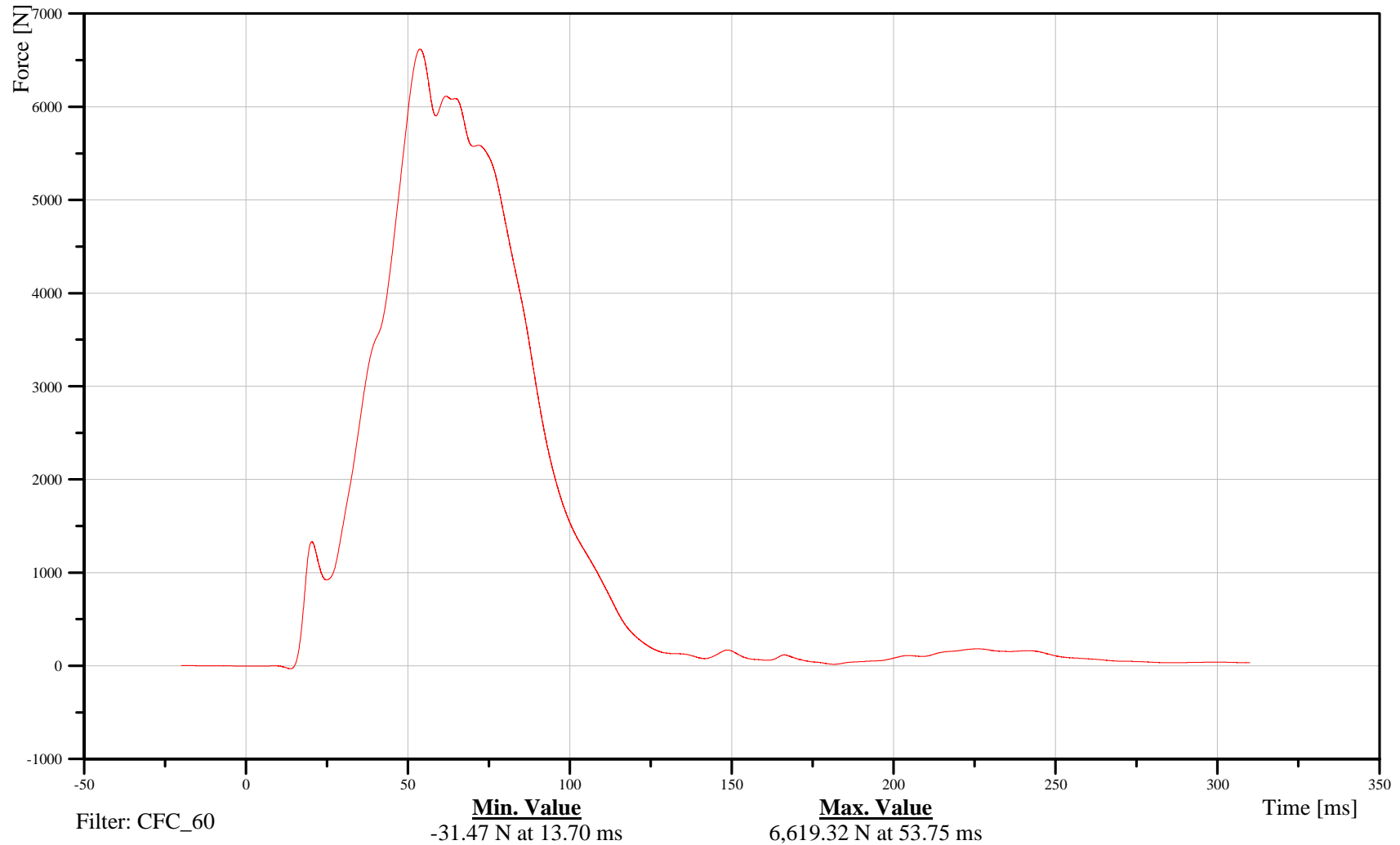
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

10BELTRISH00FO0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Front Airbag 1 Inductor

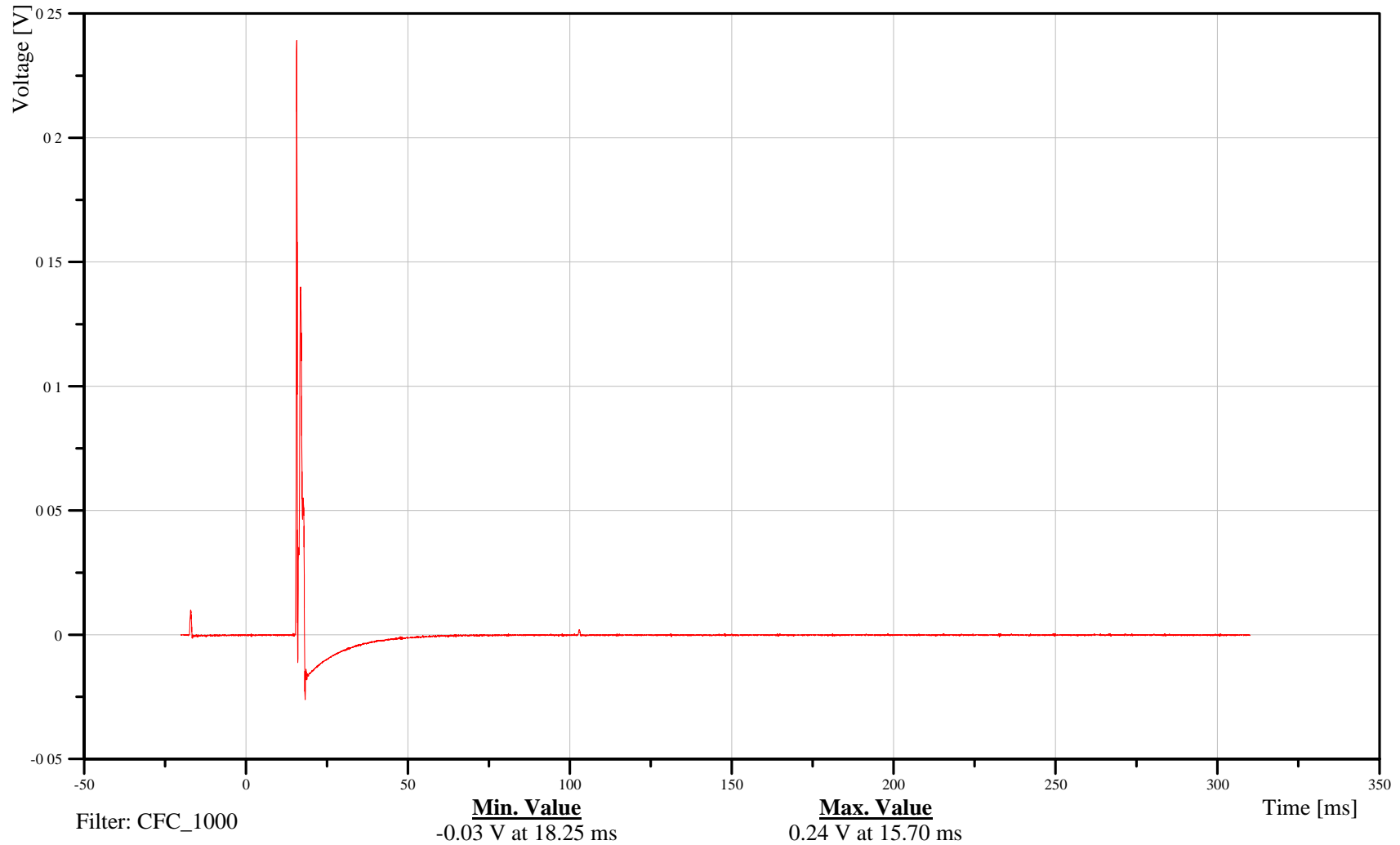
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

11AIRBFR0100EV0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier

Driver Front Airbag 2 Inductor

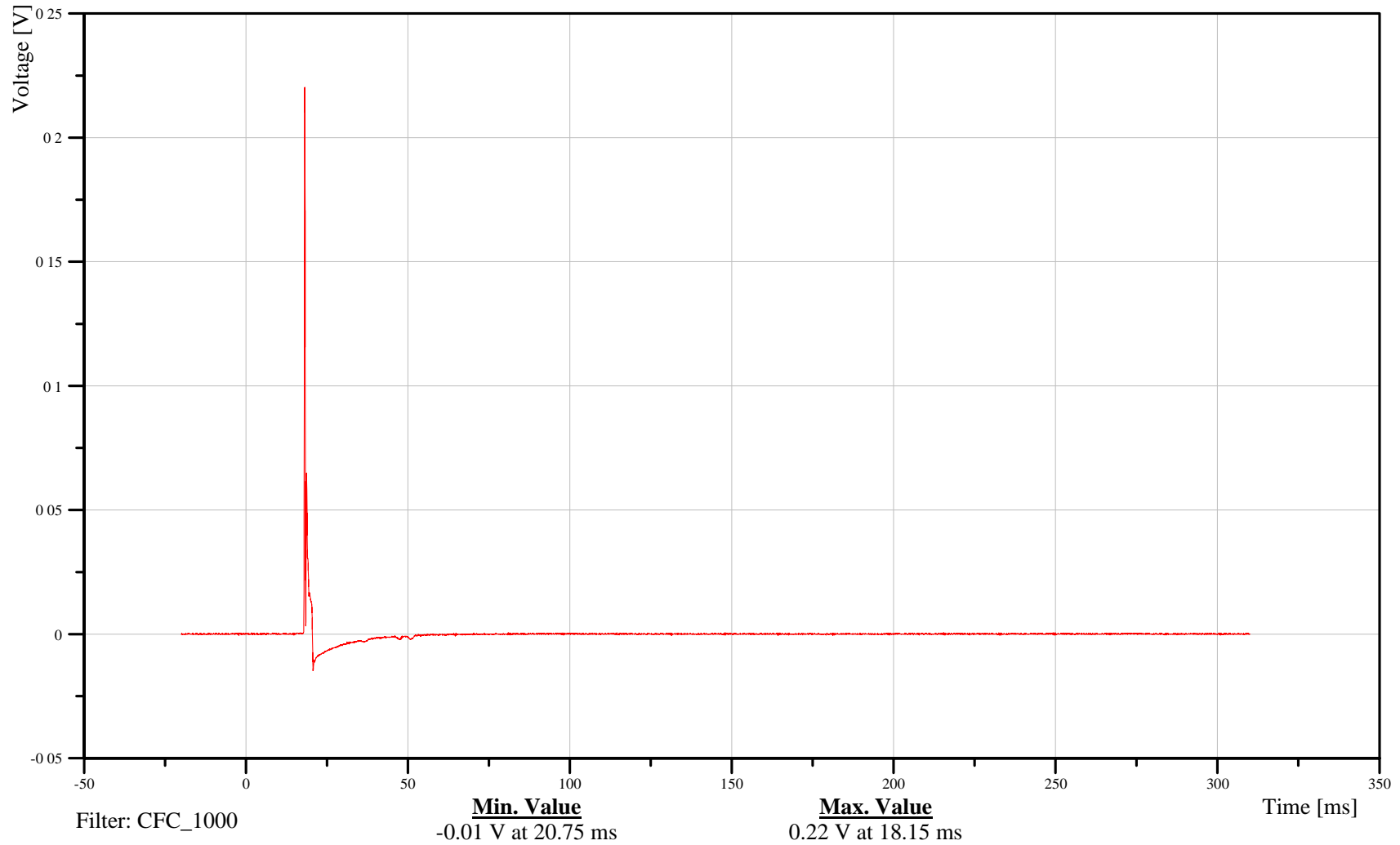
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

11AIRBFR0200EV0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier Driver Outer Belt Pretensioner Inductor

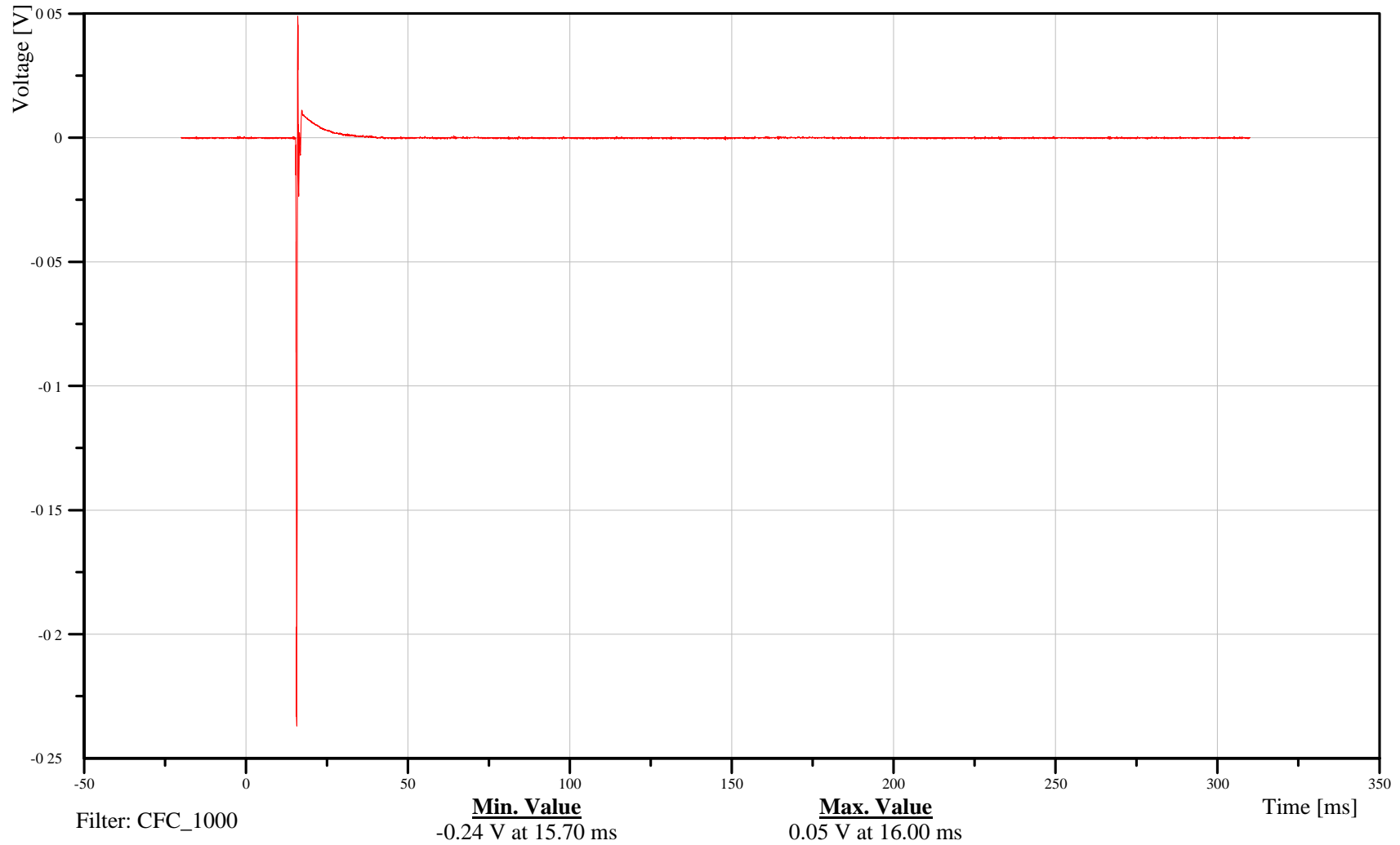
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

11PRET0000B6EV0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier
Passenger Front Airbag 1 Inductor

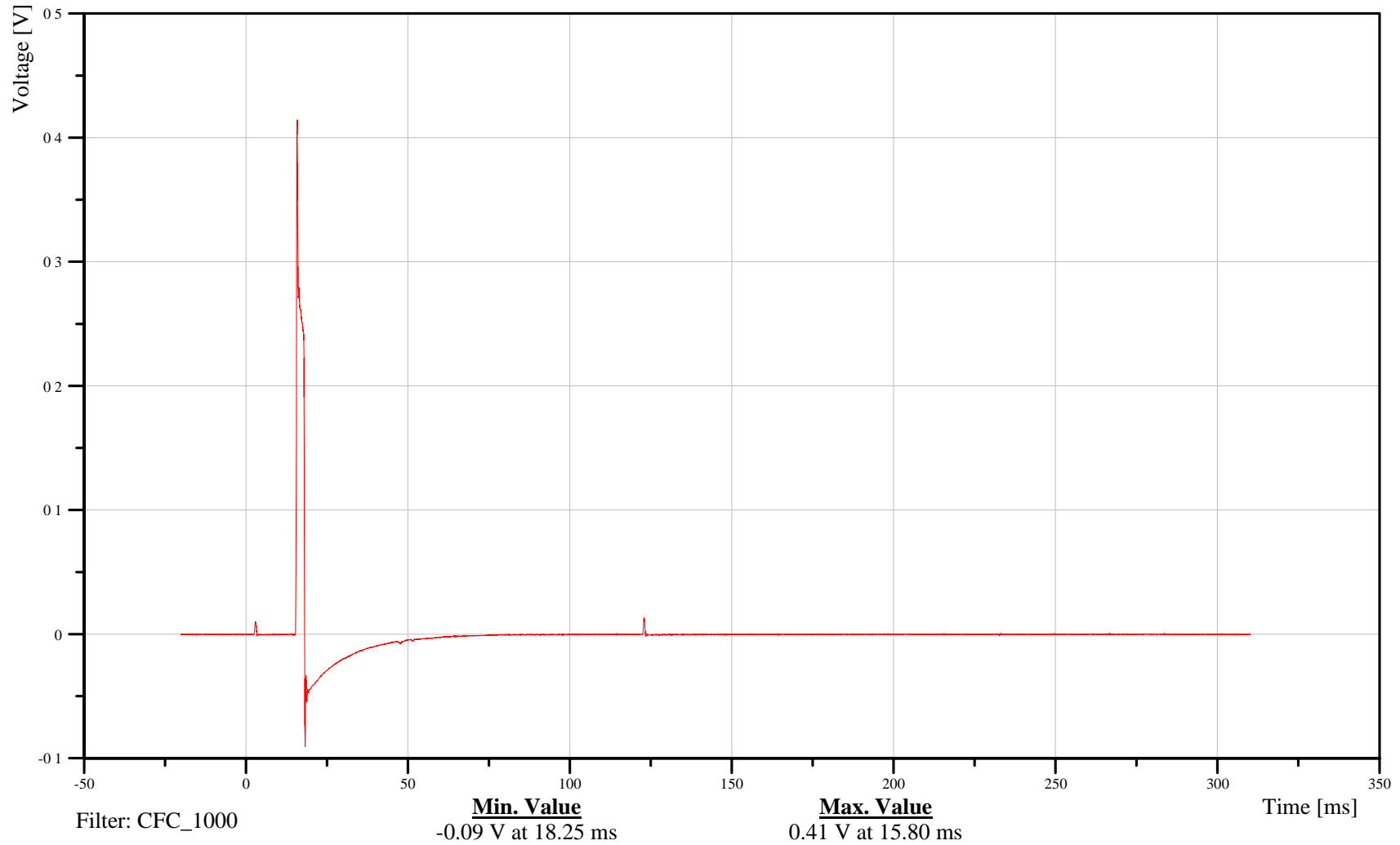
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13AIRBFR0100EV0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier
Passenger Front Airbag 2 Inductor

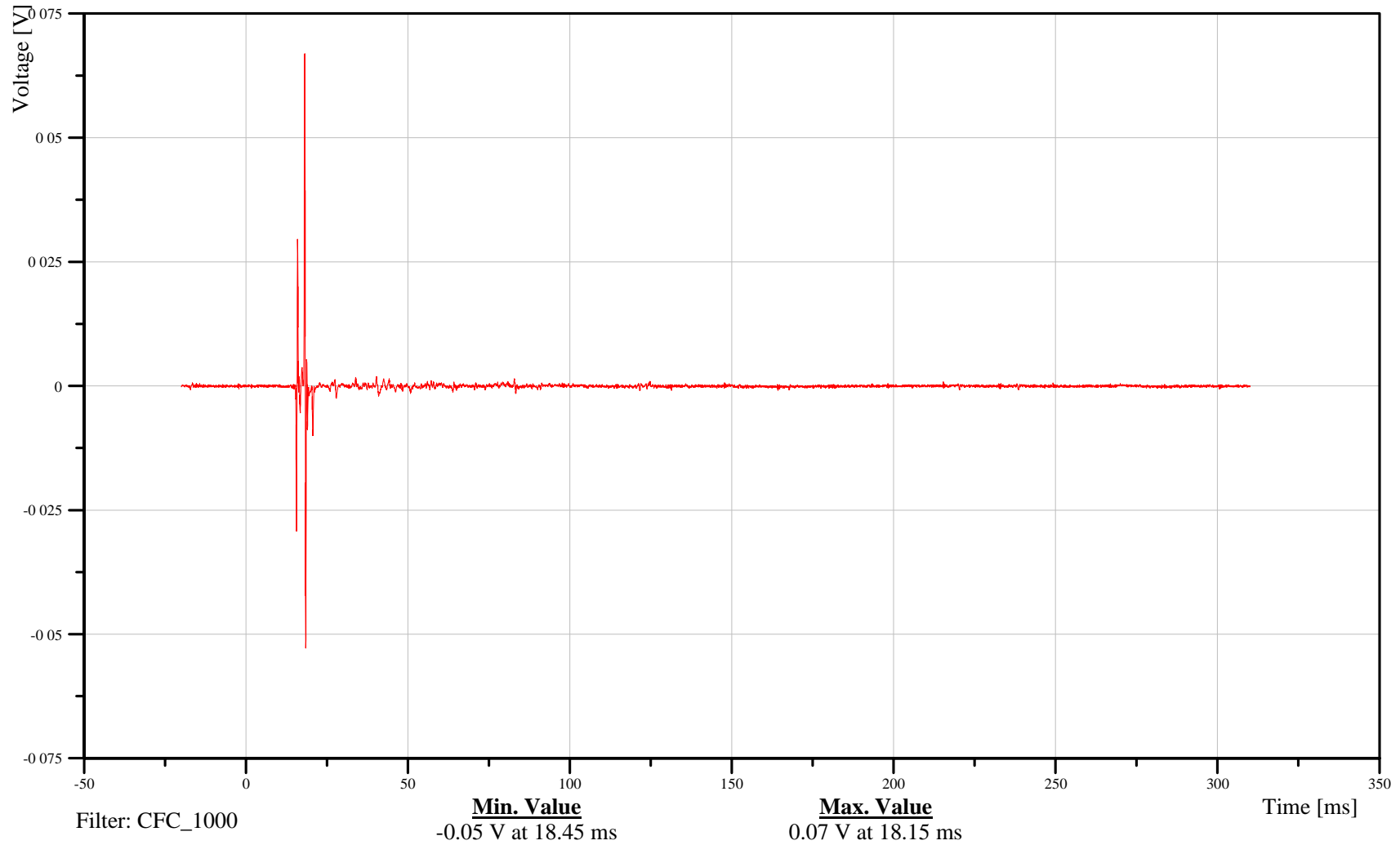
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13AIRBFR0200EV0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1





35 mph Flat Frontal Barrier
Passenger Outer Belt Pretensioner Inductor

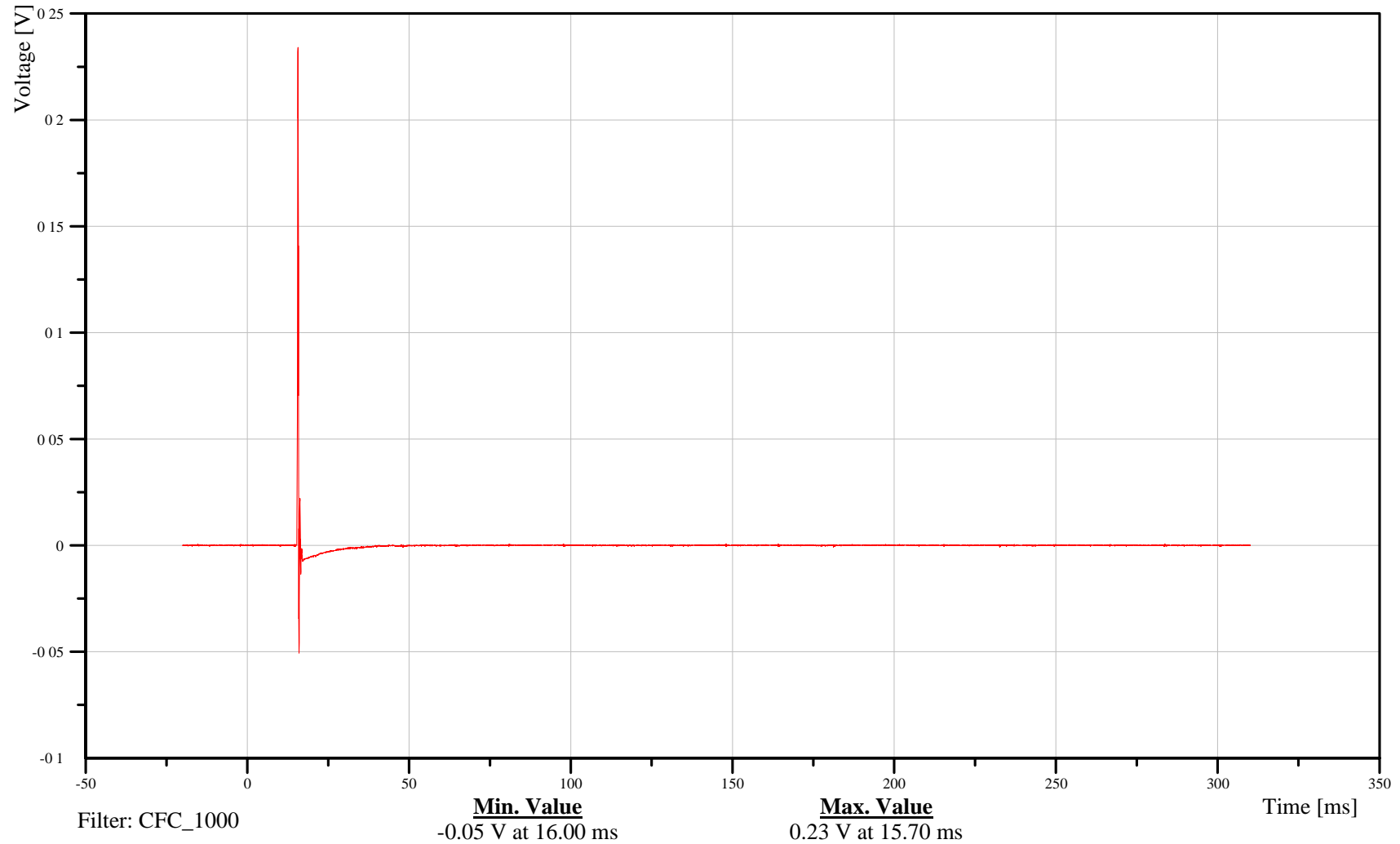
Date: 02/16/2007
Time: 12:17

Customer: NTCNA

13PRET0000B6EV0A

TRC Inc. Test Lab: CTF

Test Number: 070216-1



Appendix C

Dummy Certification Data

Pre-Test Calibration

Driver Dummy S/N: 591

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 591
Calibration No. 143

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	880	Yes
B	Shoulder Pivot Height	505.5 - 520.7	515	Yes
C	H-Point Height	83.8 - 88.9	88	Yes
D	H-Point From Seatback	134.6 - 139.7	138	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	91	Yes
F	Thigh Clearance	139.7 - 154.9	150	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	294	Yes
H	Skull Cap To Backline	40.6 - 45.7	41	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	340	Yes
J	Elbow Rest Height	190.5 - 210.8	195	Yes
K	Buttock Knee Length	579.1 - 604.5	596	Yes
L	Popliteal Height	429.3 - 454.7	448	Yes
M	Knee Pivot Height	485.1 - 500.4	497	Yes
N	Buttock Popliteal Length	452.1 - 477.5	472	Yes
O	Chest Depth	213.4 - 228.6	220	Yes
P	Foot Length	251.5 - 266.7	260	Yes
V	Shoulder Breadth	421.6 - 436.9	423	Yes
W	Foot Breadth	91.4 - 106.7	101	Yes
Y	Chest Circumference	970.3 - 1000.8	975	Yes
Z	Waist Circumference	835.7 - 866.1	858	Yes
AA	Location For Chest Circumference	429.3 - 434.3	430	Yes
BB	Location For Waist Circumference	226.1 - 231.1	230	Yes

Comments:

Technician

Approved

Charles Hall

Ron Stovus



Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 591 Certification No. 143-1

Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	264.2 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-7.5 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Charles Bell

Approved

Ron Stoner

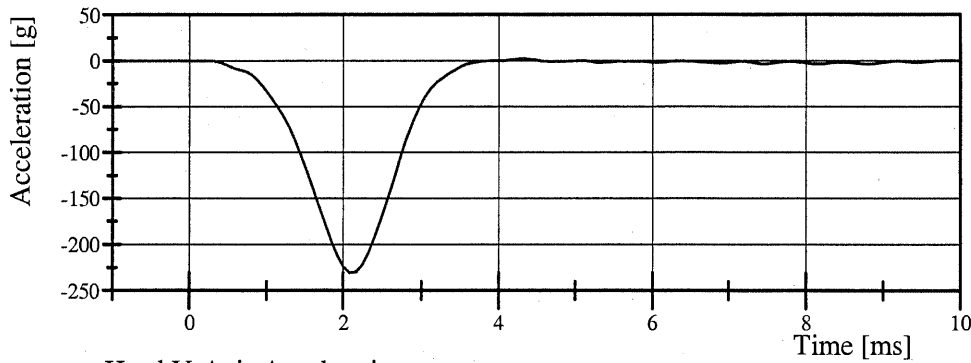
Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 591 Certification No. 143-1

Test Date: 1/25/2007

Head X-Axis Acceleration

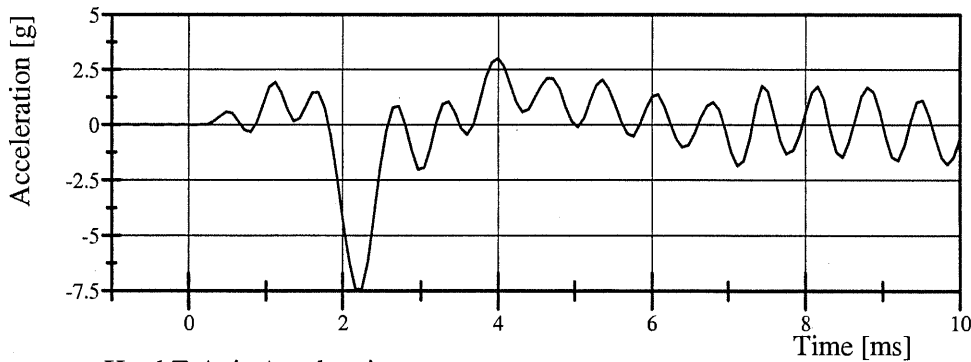


Filter Class: CFC_1000

Max: 2.3 g at 4.3 ms

Min: -230.4 g at 2.1 ms

Head Y-Axis Acceleration

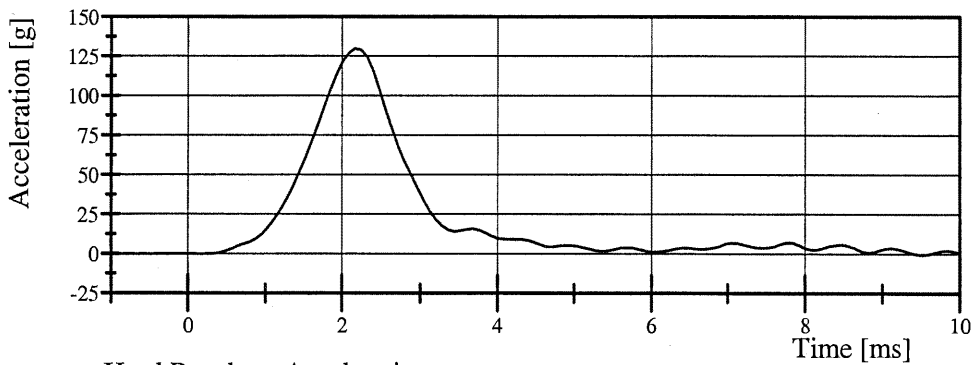


Filter Class: CFC_1000

Max: 3.0 g at 4.0 ms

Min: -7.5 g at 2.2 ms

Head Z-Axis Acceleration

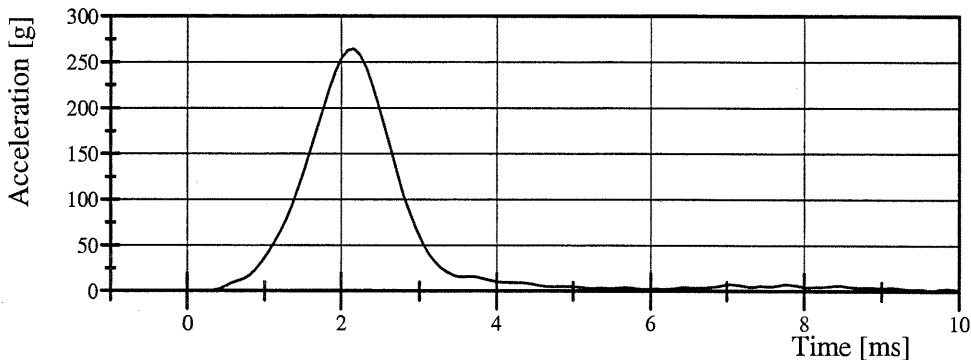


Filter Class: CFC_1000

Max: 129.8 g at 2.2 ms

Min: -0.5 g at 9.5 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 264.2 g at 2.2 ms

Min: 0.0 g at -0.3 ms

Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 591 Certification No. 143-1

Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.940 m/s	Yes
Pendulum Acceleration Decay			
Crossing -5g	34 - 42 ms	39.3 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-22.80 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-21.99 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-15.16 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-15.16 g	Yes
Total Head D-Plane Rotation			
Peak	(-64) - (-78) °	-65.2 °	Yes
Time of Peak	57 - 64 ms	58.6 ms	Yes
Total Head D-Plane Rotation			
Decay to 0°	113 - 128 ms	116.2 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	88 - 108 N·m	98.1 N·m	Yes
Time of Peak	47 - 58 ms	50.9 ms	Yes
Total Neck Occipital Condyles Moment			
Decay to 0 N·m	97 - 107 ms	103.1 ms	Yes

Test meets specifications.

Comments:

Technician



Approved

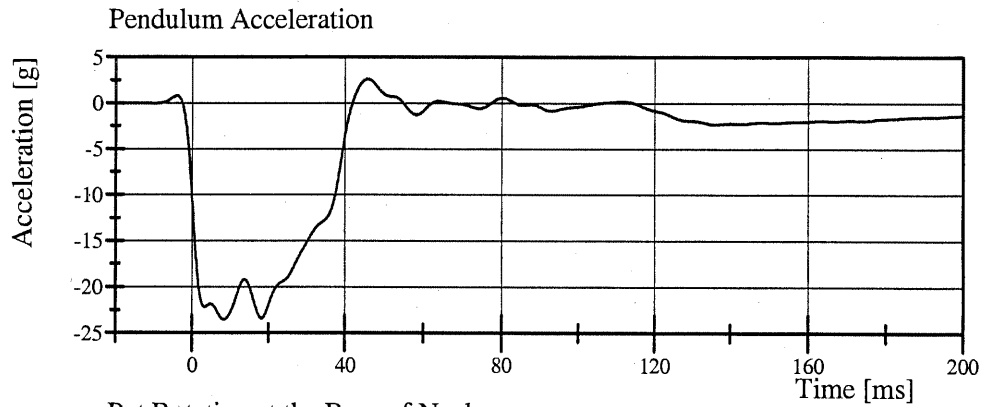


Transportation Research Center Inc.

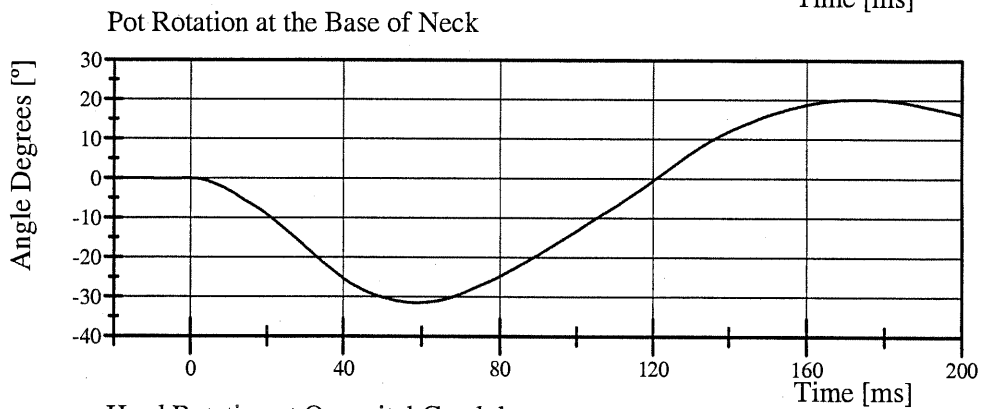
Neck Flexion

HIII 50th Serial No. 591 Certification No. 143-1

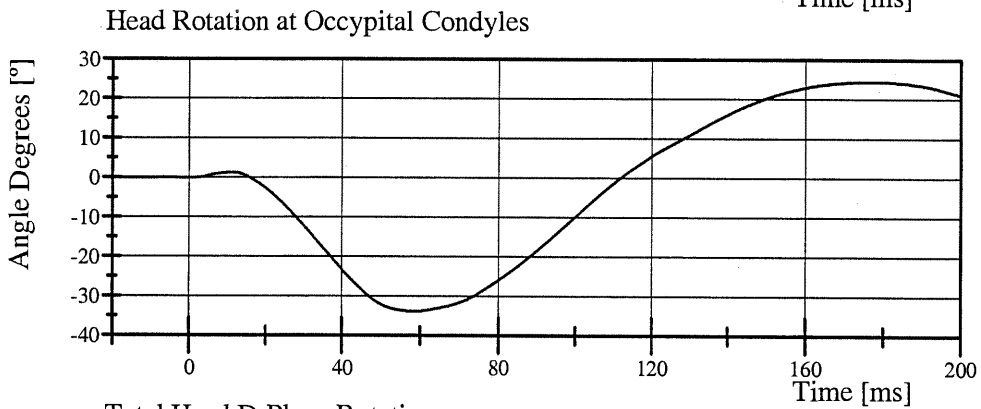
Test Date: 1/25/2007



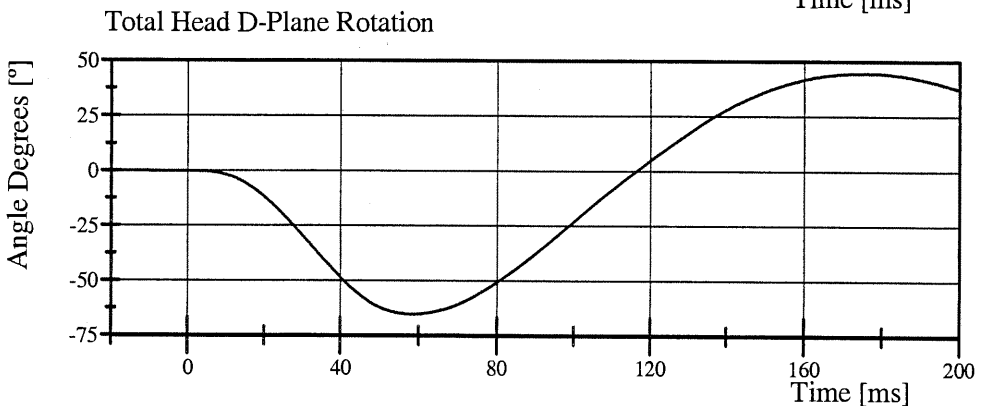
Filter Class: CFC_60
Max: 2.6 g at 45.7 ms
Min: -23.5 g at 8.4 ms



Filter Class: CFC_60
Max: 20.2 ° at 174.7 ms
Min: -31.4 ° at 58.6 ms



Filter Class: CFC_60
Max: 24.5 ° at 177.5 ms
Min: -33.8 ° at 58.5 ms



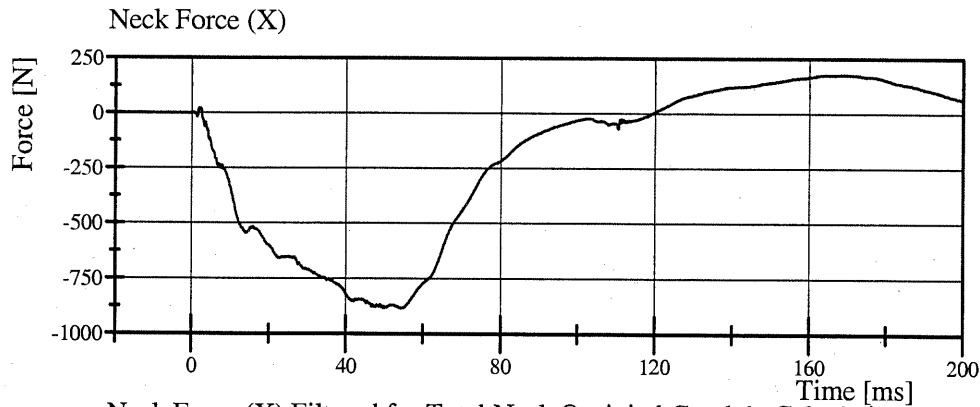
Filter Class: CFC_60
Max: 44.6 ° at 175.8 ms
Min: -65.2 ° at 58.6 ms

Transportation Research Center Inc.

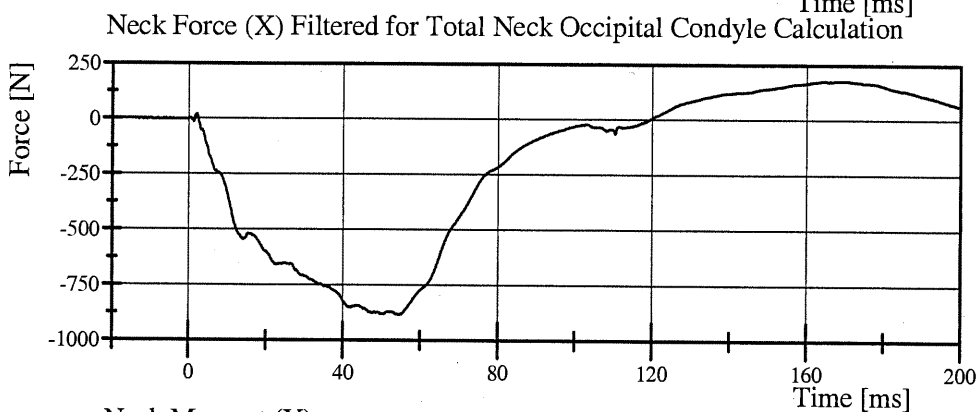
Neck Flexion

HIII 50th Serial No. 591 Certification No. 143-1

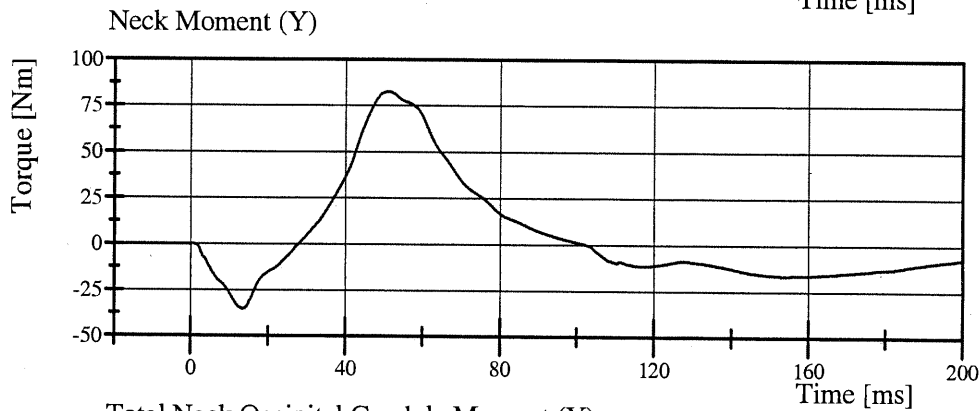
Test Date: 1/25/2007



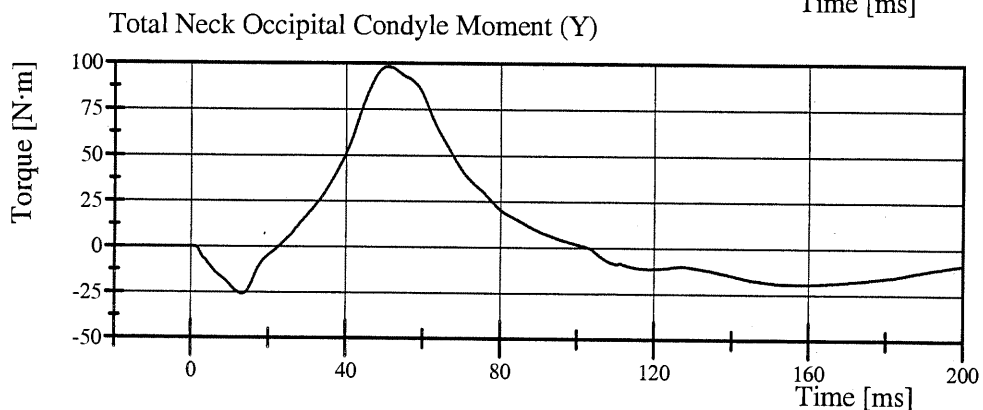
Filter Class: CFC_1000
Max: 179.1 N at 169.0 ms
Min: -883.6 N at 54.3 ms



Filter Class: CFC_600
Max: 178.6 N at 169.0 ms
Min: -883.4 N at 54.3 ms



Filter Class: CFC_600
Max: 82.6 Nm at 51.1 ms
Min: -35.1 Nm at 13.6 ms



Filter Class: CFC_600
Max: 98.1 N·m at 50.9 ms
Min: -25.6 N·m at 13.3 ms

Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 591 Certification No. 143-3

Test Date: 1/26/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	23 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.972 m/s	Yes
Pendulum Acceleration Decay			
Crossing 5g	38 - 46 ms	42.0 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	17.80 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	15.38 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	13.90 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	14.22 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	86.5 °	Yes
Time of Peak	72 - 82 ms	75.4 ms	Yes
Total Head D-Plane Rotation			
Decay to 0°	147 - 174 ms	155.6 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-53) - (-80) N·m	-65.8 N·m	Yes
Time of Peak	65 - 79 ms	70.3 ms	Yes
Total Neck Occipital Condyles Moment			
Decay to 0 N·m	120 - 148 ms	137.6 ms	Yes

Test meets specifications.

Comments:

Technician

Charles Hall

Approved

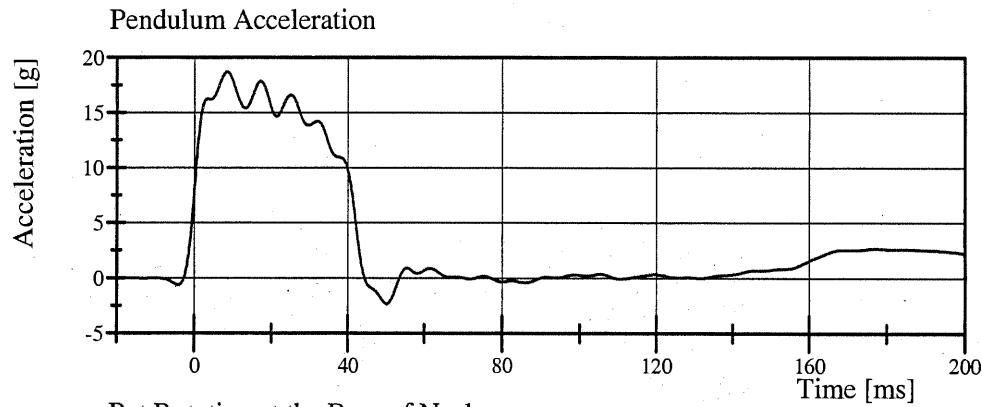
Ron Stoner

Transportation Research Center Inc.

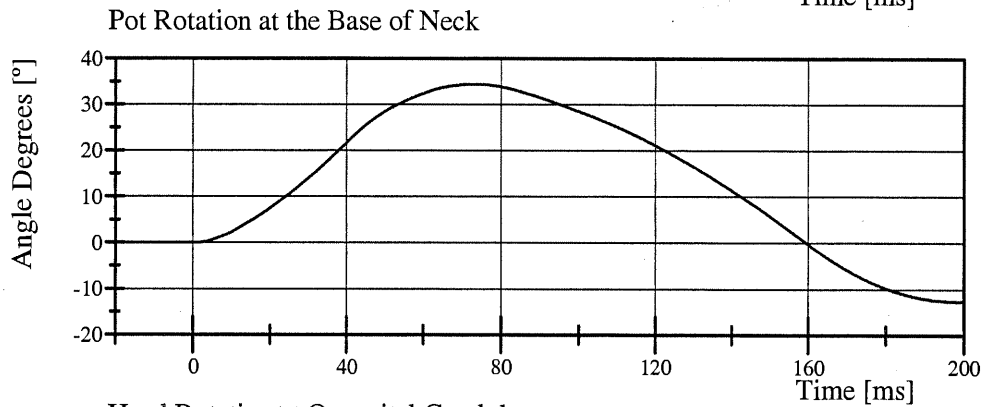
Neck Extension

HIII 50th Serial No. 591 Certification No. 143-3

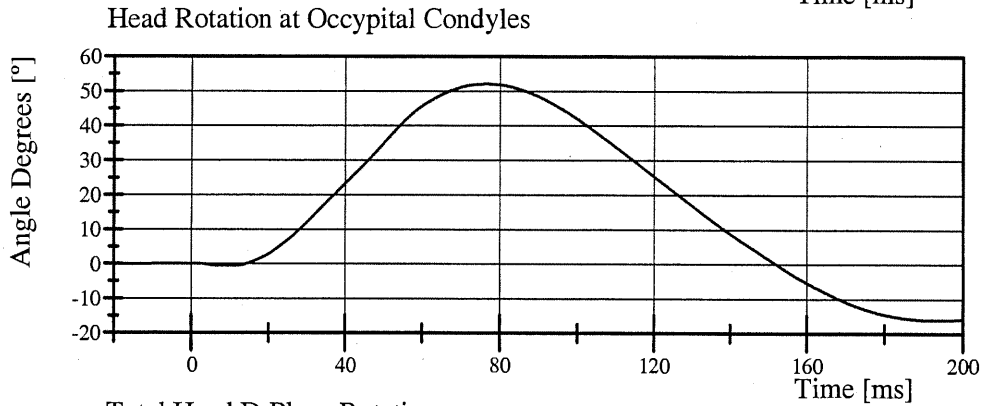
Test Date: 1/26/2007



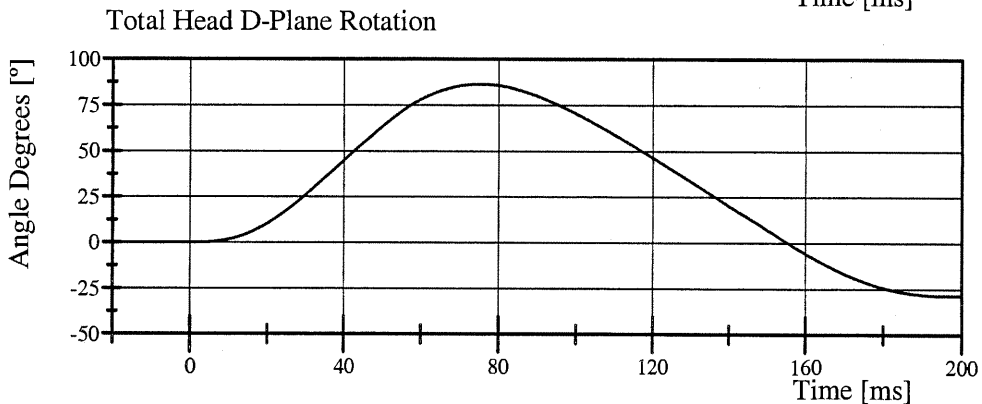
Filter Class: CFC_60
Max: 18.7 g at 8.4 ms
Min: -2.3 g at 50.2 ms



Filter Class: CFC_60
Max: 34.4 ° at 73.0 ms
Min: -12.6 ° at 198.6 ms



Filter Class: CFC_60
Max: 52.1 ° at 76.5 ms
Min: -16.0 ° at 193.8 ms



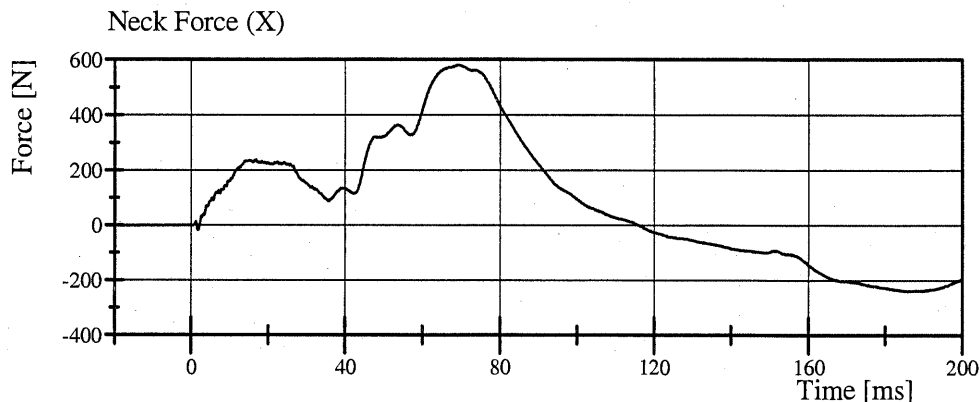
Filter Class: CFC_60
Max: 86.5 ° at 75.4 ms
Min: -28.5 ° at 196.5 ms

Transportation Research Center Inc.

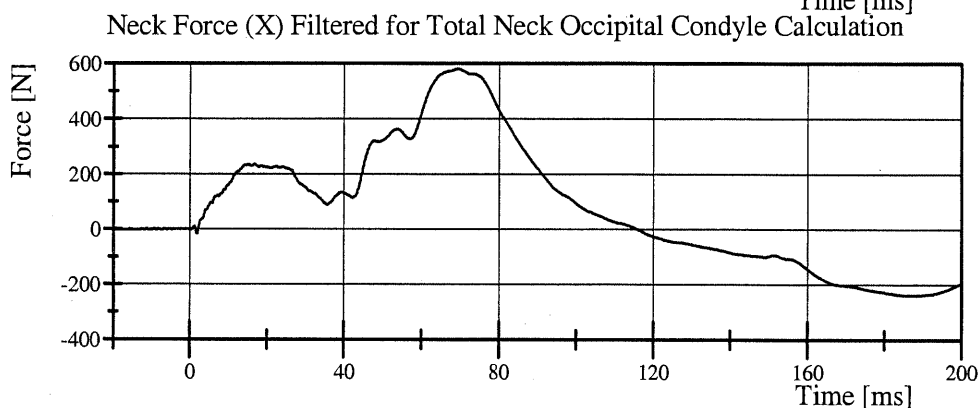
Neck Extension

HIII 50th Serial No. 591 Certification No. 143-3

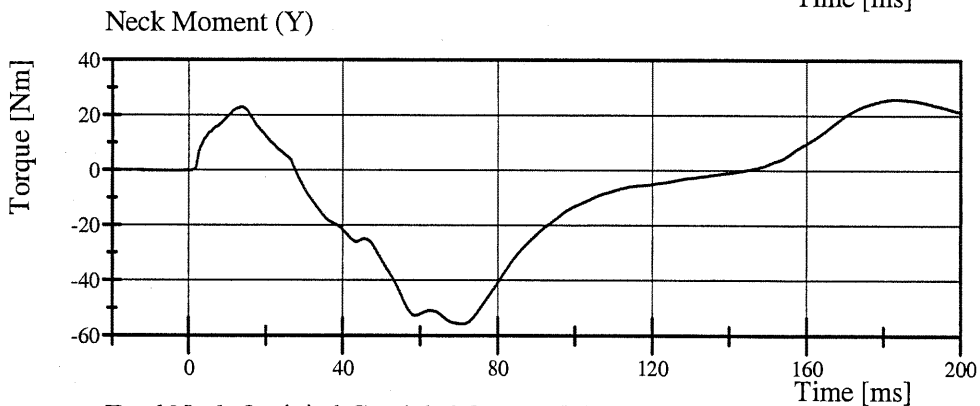
Test Date: 1/26/2007



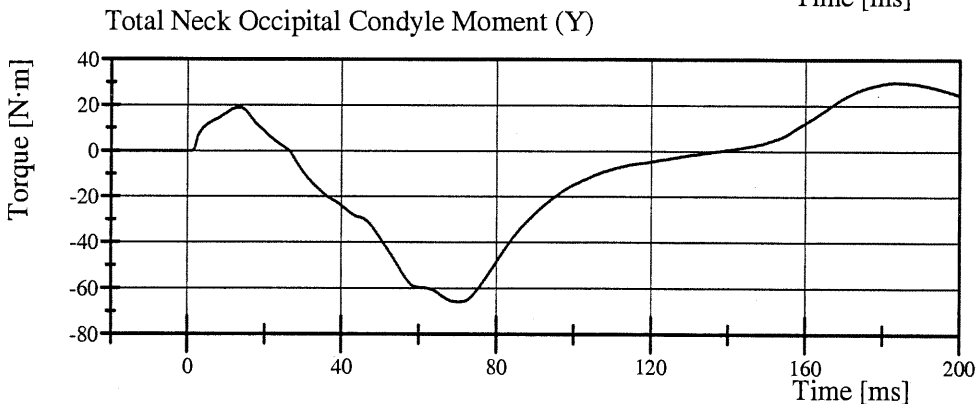
Filter Class: CFC_1000
Max: 581.2 N at 69.1 ms
Min: -238.8 N at 186.0 ms



Filter Class: CFC_600
Max: 580.9 N at 69.3 ms
Min: -238.4 N at 186.0 ms



Filter Class: CFC_600
Max: 26.0 Nm at 182.8 ms
Min: -55.7 Nm at 70.5 ms



Filter Class: CFC_600
Max: 30.1 N·m at 182.9 ms
Min: -65.8 N·m at 70.3 ms

Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 591 Certification No. 143-1

Test Date: 1/26/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.607 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,723.8 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-66.61 mm	Yes
Internal Hysteresis	65 - 85 %	72.2 %	Yes

Test meets specifications.

Comments:

Technician



Approved



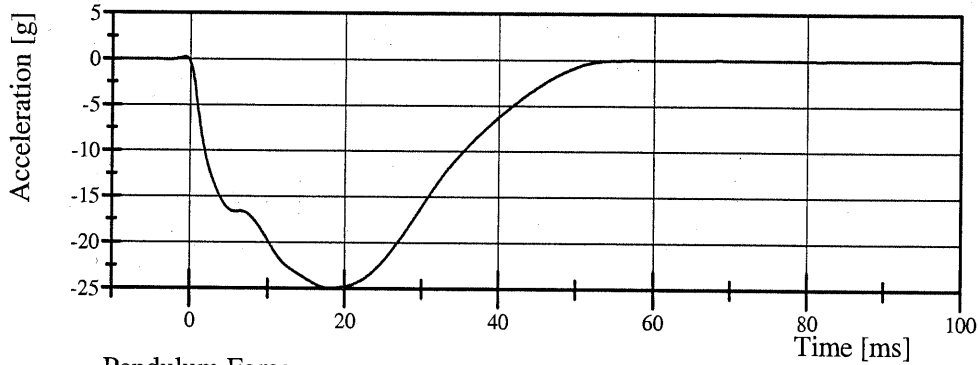
Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 591 Certification No. 143-1

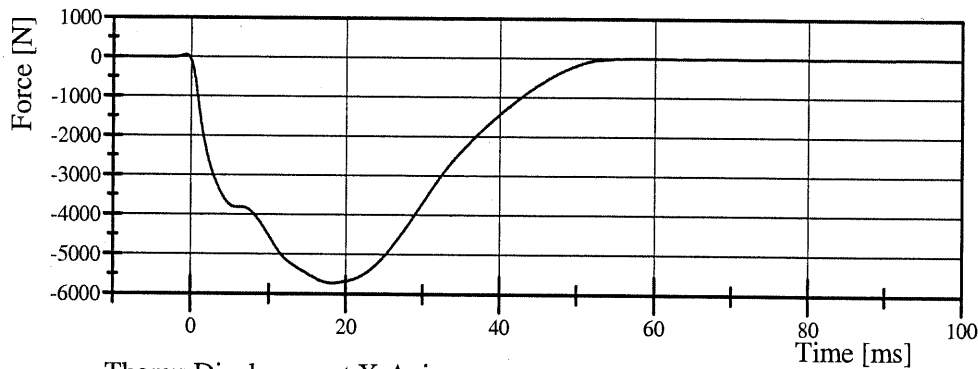
Test Date: 1/26/2007

Pendulum Acceleration



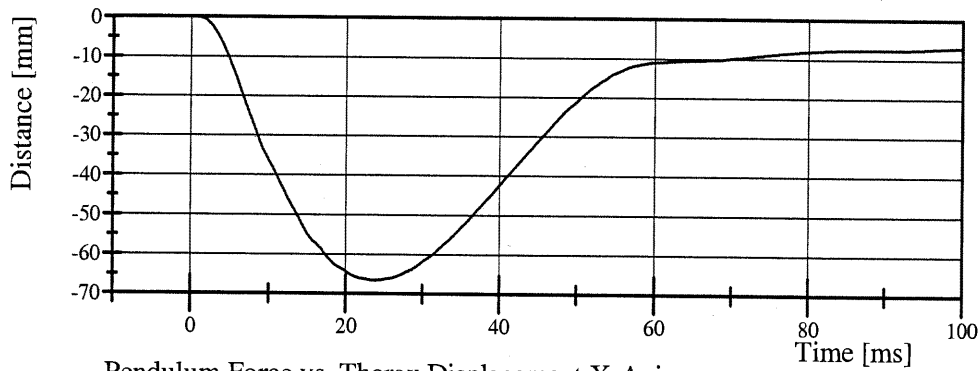
Filter Class: CFC_180
Max: 0.2 g at -0.6 ms
Min: -25.0 g at 18.2 ms

Pendulum Force



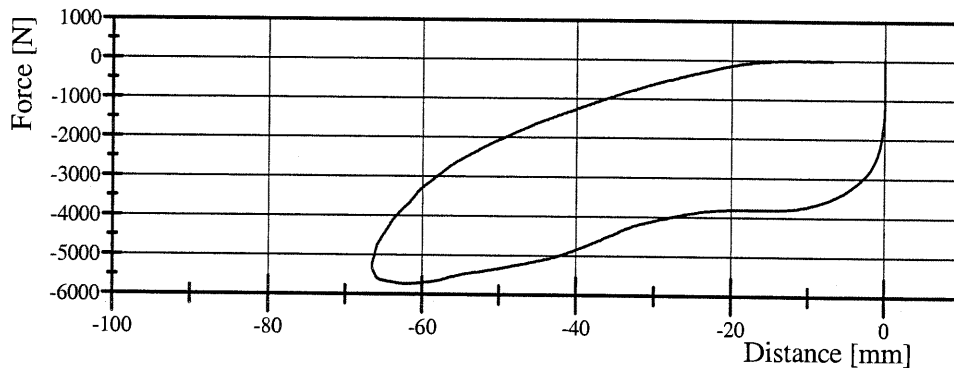
Filter Class: CFC_180
Max: 50.4 N at -0.6 ms
Min: -5,723.8 N at 18.2 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -7.4 ms
Min: -66.6 mm at 23.8 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 50.4 N at -0.0 mm
Min: -5,723.8 N at -62.1 mm

Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

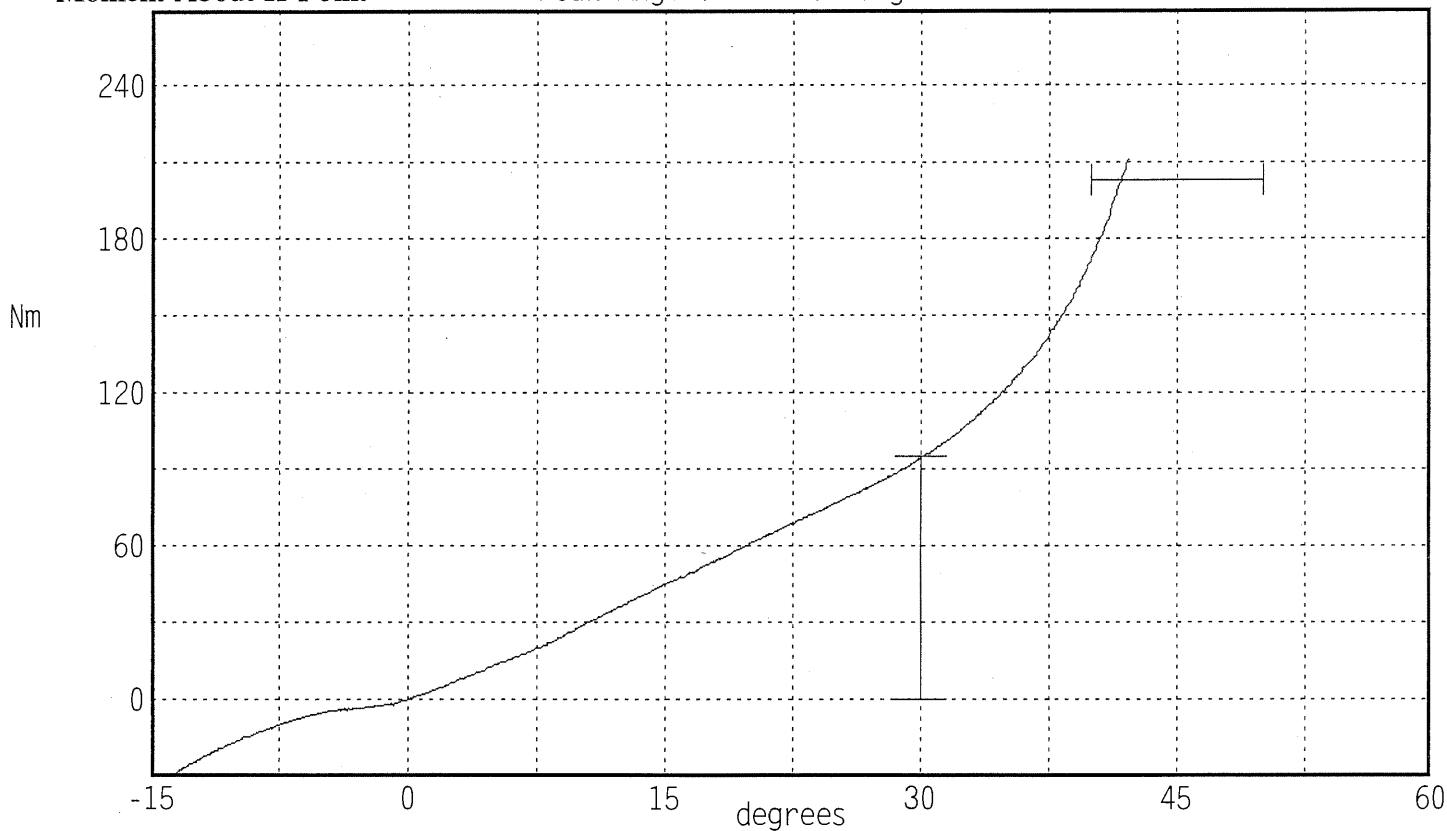
Serial Number: 591L
Test Number: 591C143

Date: 01/25/2007
Time: 14:17

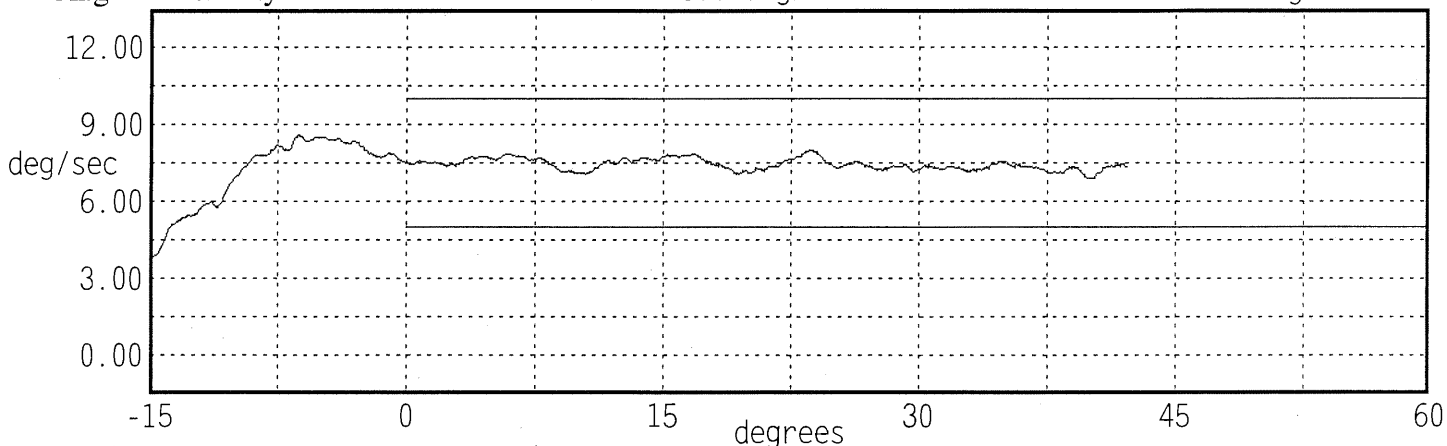
Comments:

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.1 °C	Pass
Humidity	10 - 70	24 %	Pass
Moment at 30 deg	<= 94.9	94.8 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	41.8 deg	Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec	Pass

Moment About H-Point
Peak Moment: 210.8 Nm at 42.1 deg
Peak Angle: 42.1 deg at 210.8 Nm



Angular Velocity Max: 8.0 deg/sec Min: 6.9 deg/sec



Applied Safety Technologies Corp.

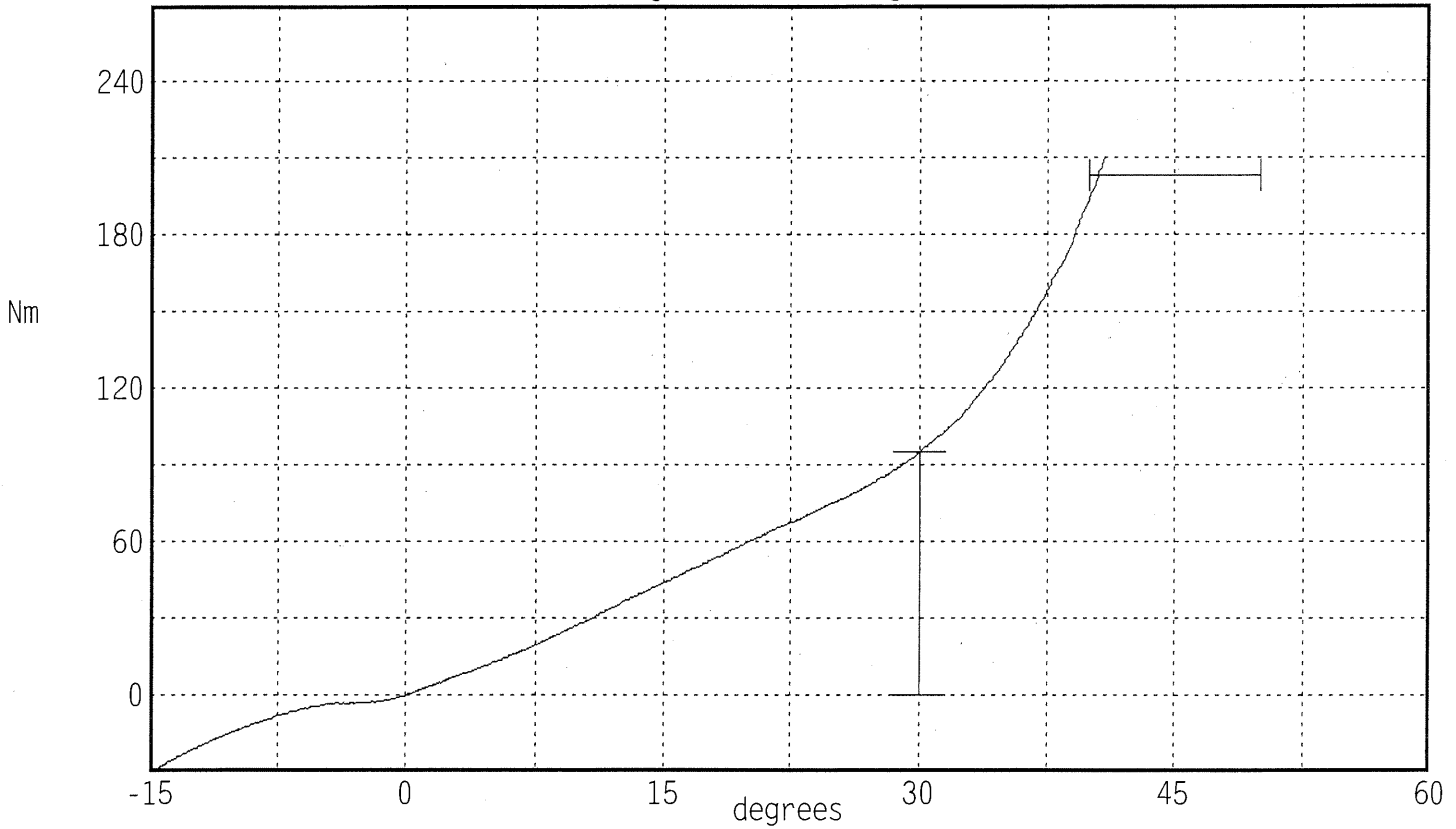
Hybrid III Hip Range of Motion

Serial Number: 591R
Test Number: 591C143
Comments:

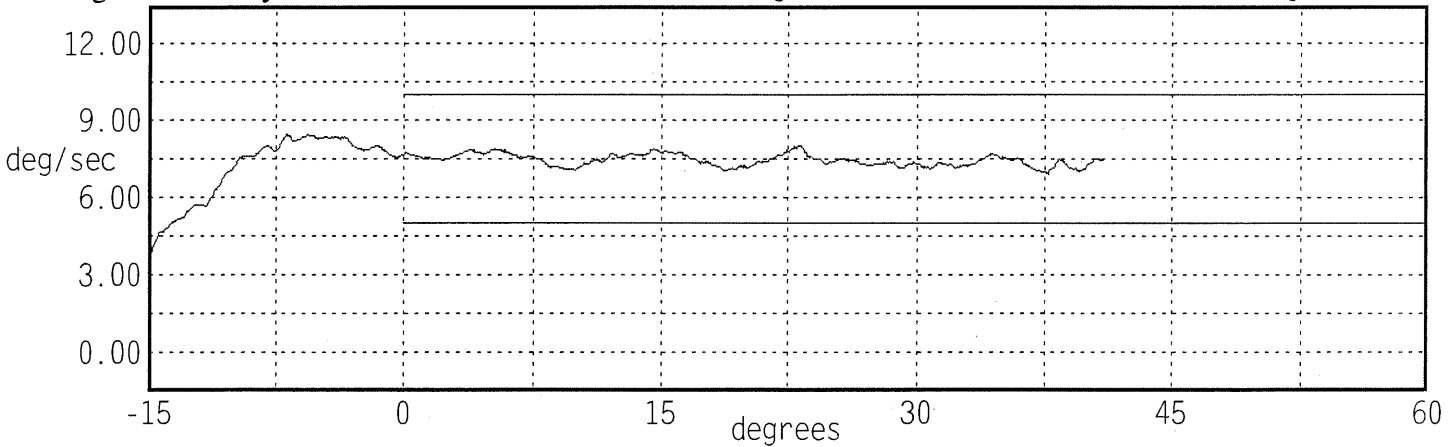
Date: 01/25/2007
Time: 14:27

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	20.9 °C	Pass
Humidity	10 - 70	24 %	Pass
Moment at 30 deg	<= 94.9	94.8 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	40.5 deg	Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec	Pass

Moment About H-Point
Peak Moment: 210.2 Nm at 40.9 deg
Peak Angle: 40.9 deg at 210.2 Nm



Angular Velocity Max: 8.0 deg/sec Min: 7.0 deg/sec



Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. 591 Certification No. 143-1

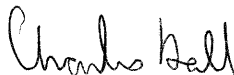
Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.092 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,379.10 N	Yes

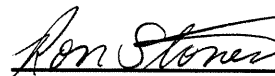
Test meets specifications.

Comments:

Technician



Approved



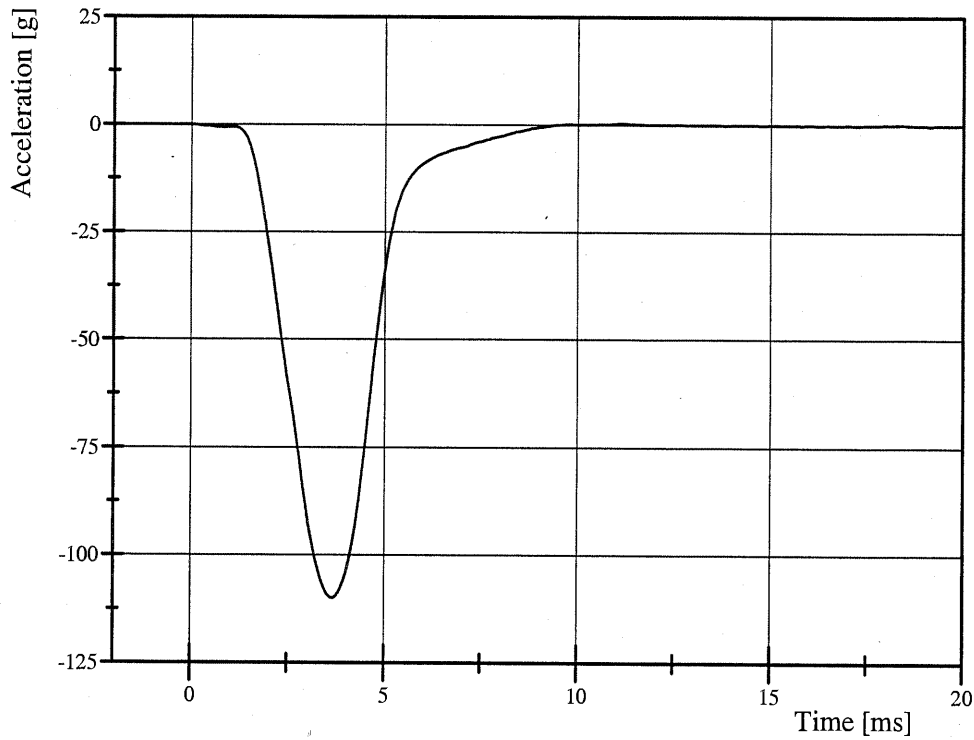
Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. 591 Certification No. 143-1

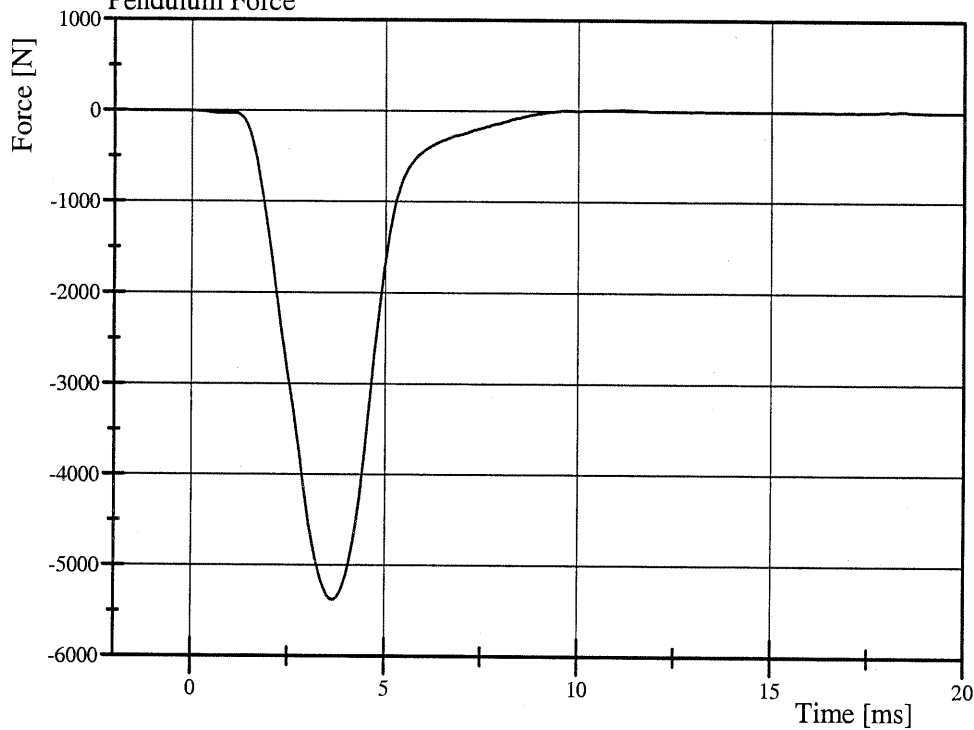
Test Date: 1/25/2007

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.4 g at 11.2 ms
Min: -109.9 g at 3.7 ms

Pendulum Force



Filter Class: CFC_600
Max: 17.9 N at 11.2 ms
Min: -5,379.1 N at 3.7 ms

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 591 Certification No. 143-1
Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.090 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,697.81 N	Yes

Test meets specifications.

Comments:

Technician

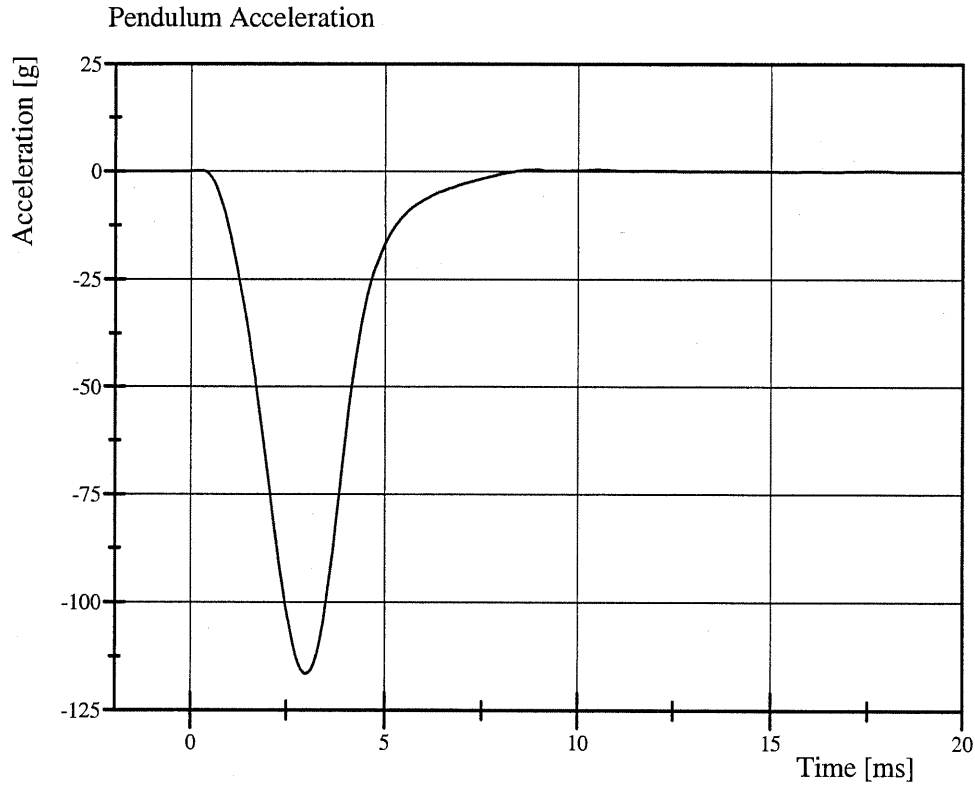
Charles Hall

Approved

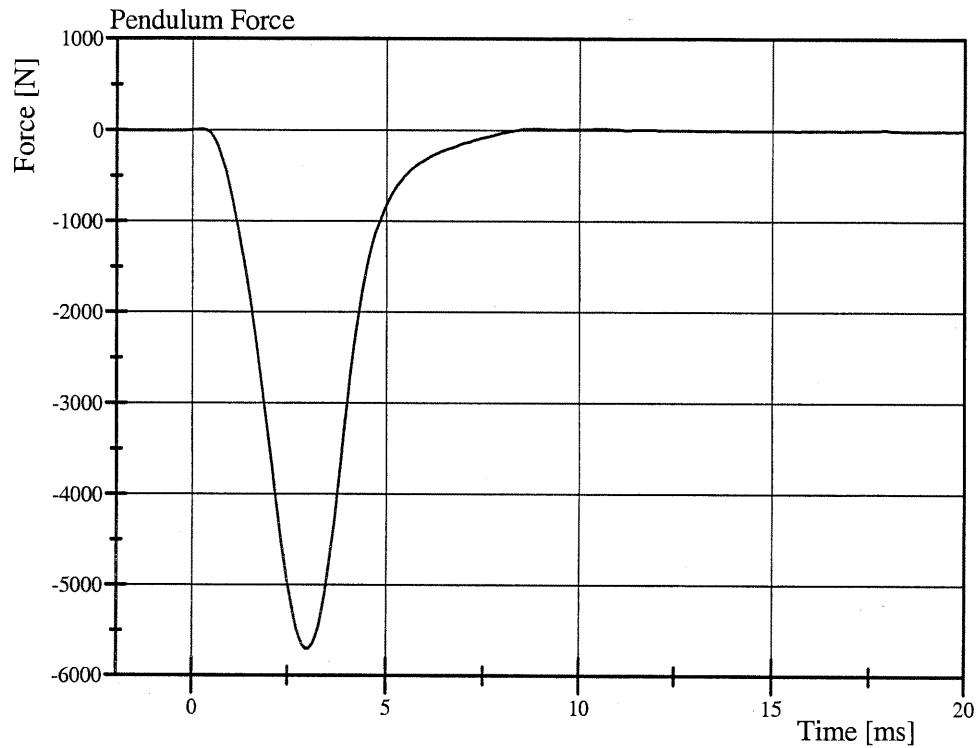
Ron Stone

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 591 Certification No. 143-1
Test Date: 1/25/2007



Filter Class: CFC_600
Max: 0.4 g at 8.9 ms
Min: -116.4 g at 3.0 ms



Filter Class: CFC_600
Max: 20.3 N at 8.9 ms
Min: -5,697.8 N at 3.0 ms

Pre-Test Calibration

Passenger Dummy S/N: 617

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 617
Calibration No. 132

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	880	Yes
B	Shoulder Pivot Height	505.5 - 520.7	518	Yes
C	H-Point Height	83.8 - 88.9	87	Yes
D	H-Point From Seatback	134.6 - 139.7	138	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	93	Yes
F	Thigh Clearance	139.7 - 154.9	151	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	290	Yes
H	Skull Cap To Backline	40.6 - 45.7	45	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	335	Yes
J	Elbow Rest Height	190.5 - 210.8	210	Yes
K	Buttock Knee Length	579.1 - 604.5	600	Yes
L	Popliteal Height	429.3 - 454.7	438	Yes
M	Knee Pivot Height	485.1 - 500.4	490	Yes
N	Buttock Popliteal Length	452.1 - 477.5	470	Yes
O	Chest Depth	213.4 - 228.6	218	Yes
P	Foot Length	251.5 - 266.7	260	Yes
V	Shoulder Breadth	421.6 - 436.9	424	Yes
W	Foot Breadth	91.4 - 106.7	95	Yes
Y	Chest Circumference	970.3 - 1000.8	990	Yes
Z	Waist Circumference	835.7 - 866.1	854	Yes
AA	Location For Chest Circumference	429.3 - 434.3	430	Yes
BB	Location For Waist Circumference	226.1 - 231.1	230	Yes

Comment:

Technician

Approved







Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 617 Certification No. 132-4

Test Date: 1/26/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	22 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	271.2 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-3.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Renee Barawid

Approved

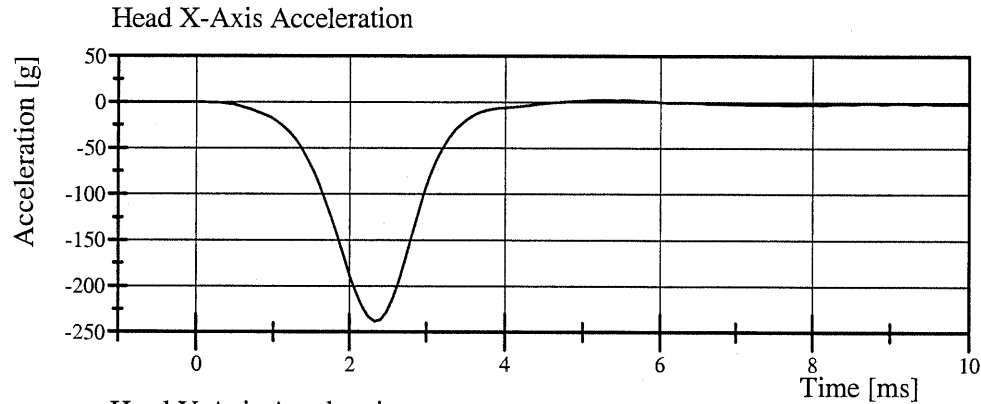
Ken Stoner

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 617 Certification No. 132-4

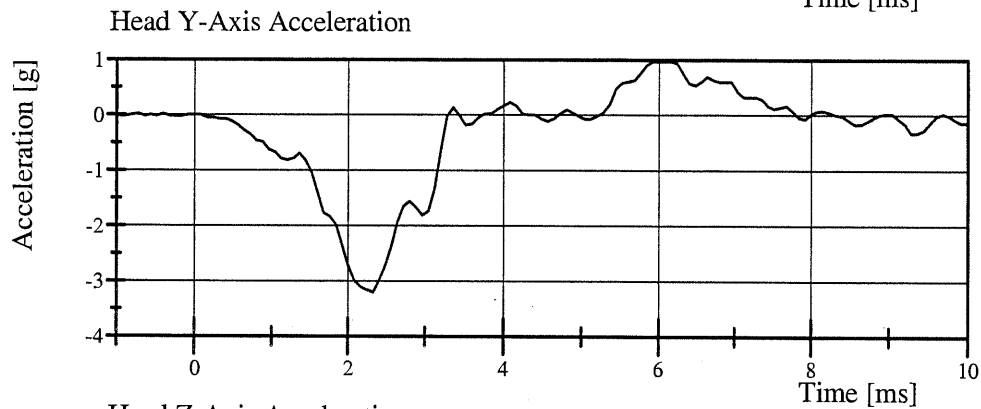
Test Date: 1/26/2007



Filter Class: CFC_1000

Max: 2.2 g at 5.2 ms

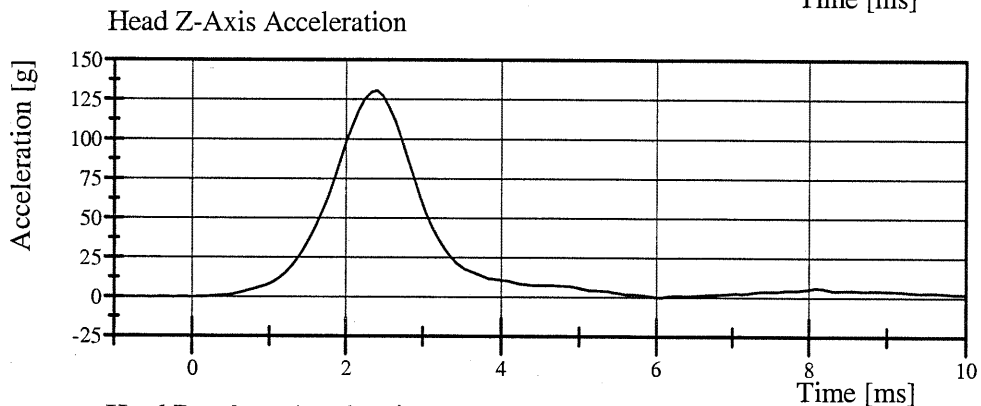
Min: -238.1 g at 2.3 ms



Filter Class: CFC_1000

Max: 1.0 g at 5.9 ms

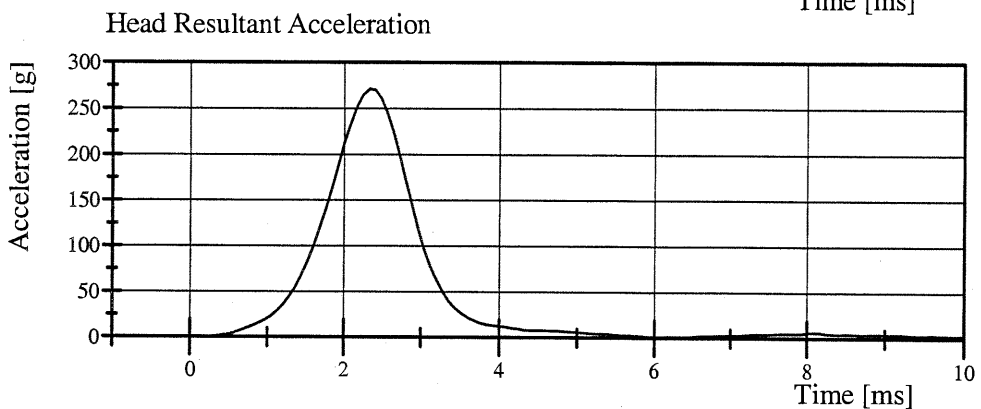
Min: -3.2 g at 2.3 ms



Filter Class: CFC_1000

Max: 130.6 g at 2.4 ms

Min: -0.0 g at -0.7 ms



Filter Class: CFC_1000

Max: 271.2 g at 2.3 ms

Min: 0.0 g at -0.8 ms

Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 617 Certification No. 132-2

Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	25 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.942 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	35.4 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-25.62 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-22.26 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-17.90 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-17.90 g	Yes
Total Head D-Plane Rotation Peak	(-64) - (-78) °	-70.8 °	Yes
Time of Peak	57 - 64 ms	59.0 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	119.0 ms	Yes
Total Neck Occipital Condyles Moment Peak	88 - 108 N·m	94.0 N·m	Yes
Time of Peak	47 - 58 ms	48.3 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	98.6 ms	Yes

Test meets specifications.

Comments:

Technician

Robert Barwood

Approved

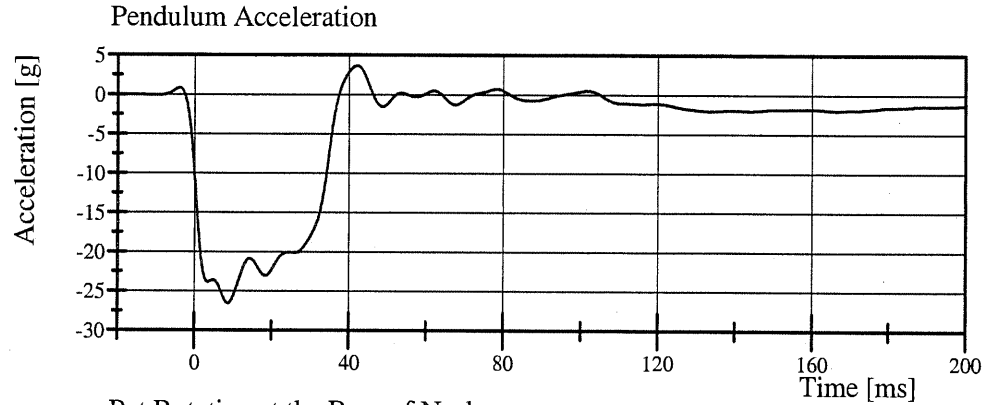
Ron Stone

Transportation Research Center Inc.

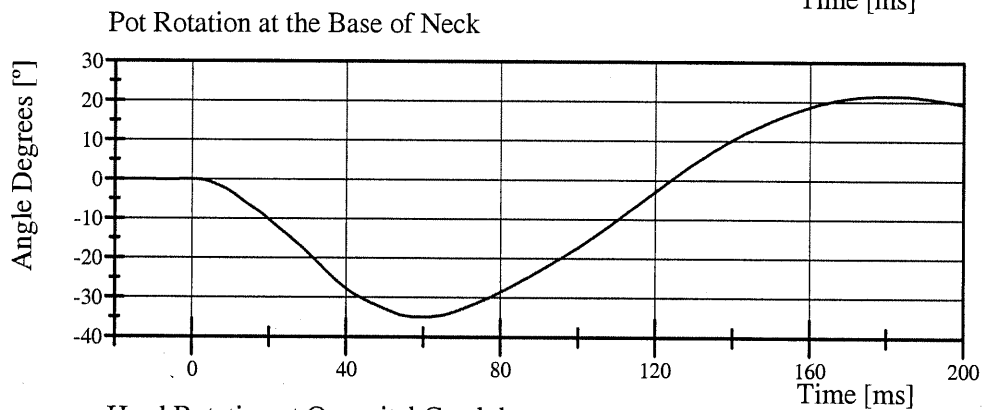
Neck Flexion

HIII 50th Serial No. 617 Certification No. 132-2

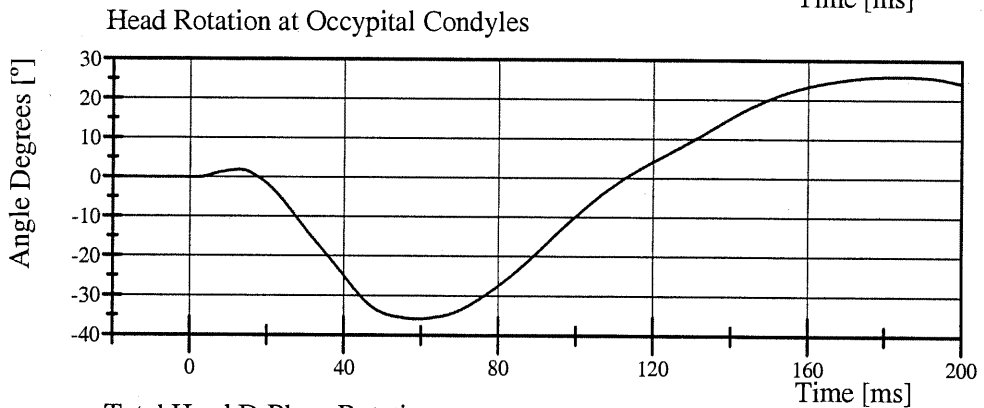
Test Date: 1/25/2007



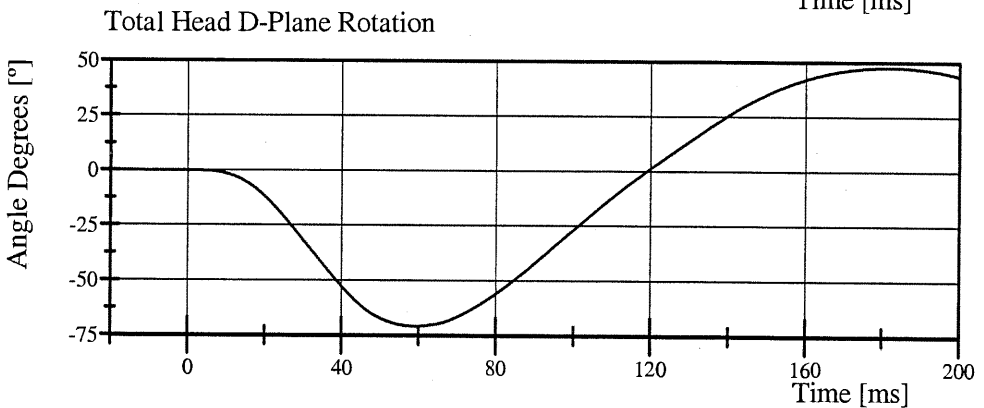
Filter Class: CFC_60
Max: 3.7 g at 42.0 ms
Min: -26.5 g at 8.6 ms



Filter Class: CFC_60
Max: 21.6 ° at 180.2 ms
Min: -34.9 ° at 59.2 ms



Filter Class: CFC_60
Max: 26.1 ° at 183.5 ms
Min: -35.9 ° at 59.0 ms



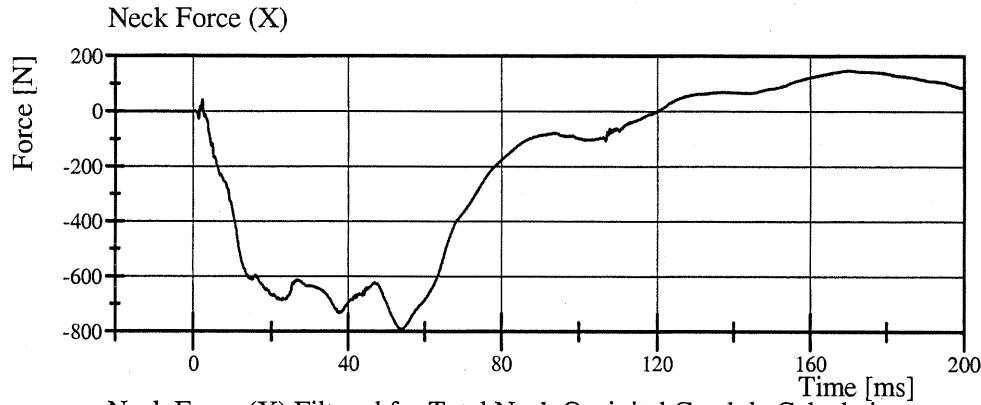
Filter Class: CFC_60
Max: 47.6 ° at 181.6 ms
Min: -70.8 ° at 59.0 ms

Transportation Research Center Inc.

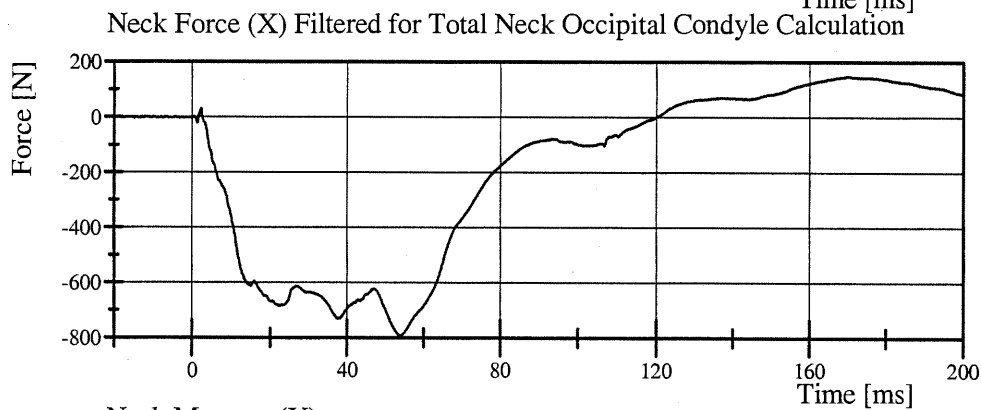
Neck Flexion

HIII 50th Serial No. 617 Certification No. 132-2

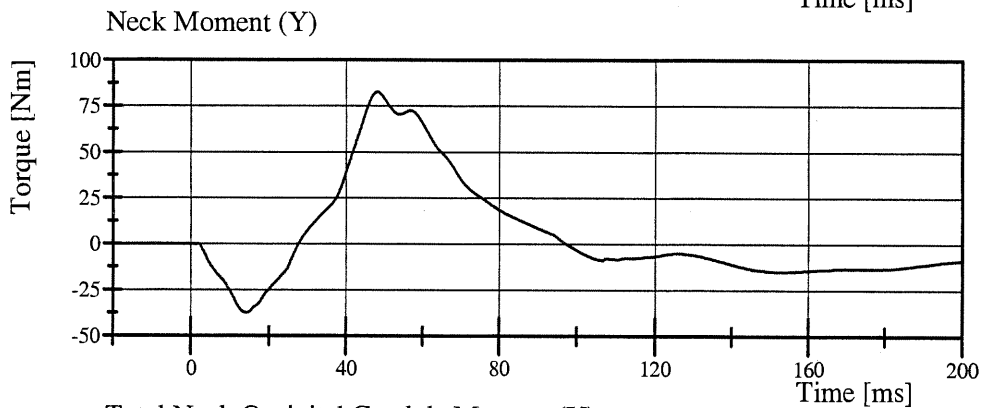
Test Date: 1/25/2007



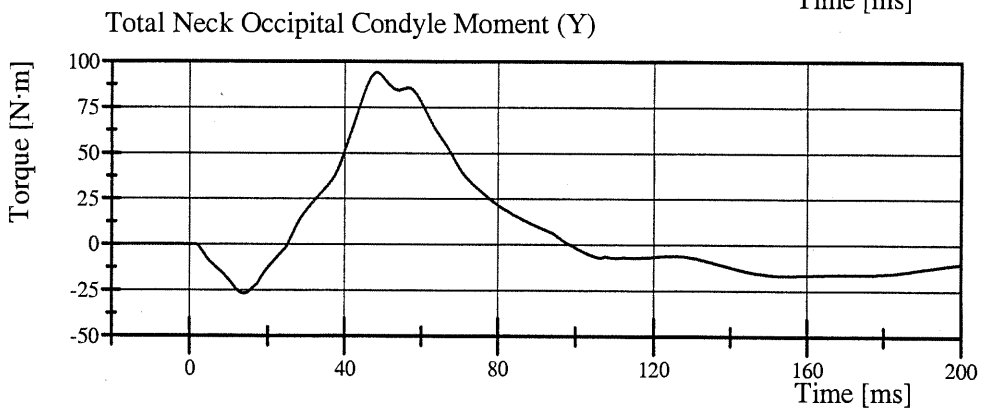
Filter Class: CFC_1000
Max: 148.2 N at 170.2 ms
Min: -792.0 N at 53.8 ms



Filter Class: CFC_600
Max: 147.9 N at 170.3 ms
Min: -791.4 N at 53.8 ms



Filter Class: CFC_600
Max: 82.7 Nm at 48.1 ms
Min: -37.4 Nm at 14.2 ms



Filter Class: CFC_600
Max: 94.0 N·m at 48.3 ms
Min: -26.8 N·m at 13.9 ms

Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 617 Certification No. 132-1

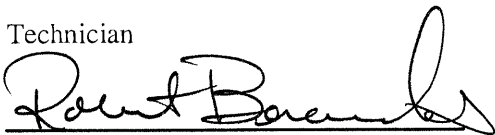
Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.997 m/s	Yes
Pendulum Acceleration Decay Crossing 5g	38 - 46 ms	40.6 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	19.30 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	16.83 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	14.48 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	14.48 g	Yes
Total Head D-Plane Rotation Peak	81 - 106 °	92.8 °	Yes
Time of Peak	72 - 82 ms	75.9 ms	Yes
Total Head D-Plane Rotation Decay to 0°	147 - 174 ms	157.8 ms	Yes
Total Neck Occipital Condyles Moment Peak	(-53) - (-80) N·m	-65.4 N·m	Yes
Time of Peak	65 - 79 ms	71.4 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	120 - 148 ms	139.0 ms	Yes

Test meets specifications.

Comments:

Technician



Approved

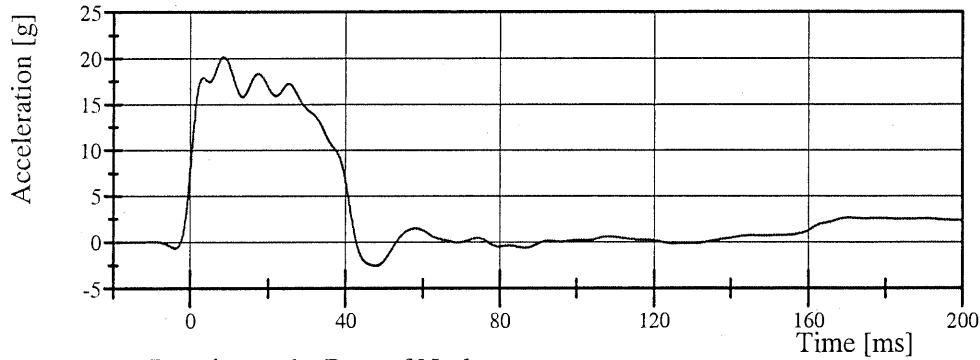
Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 617 Certification No. 132-1

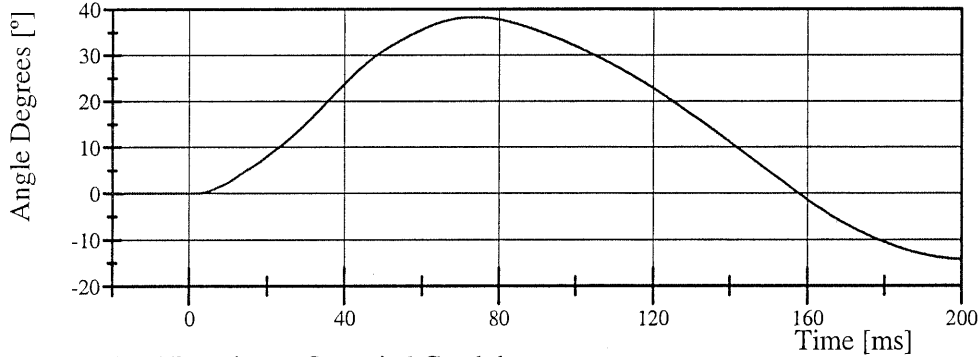
Test Date: 1/25/2007

Pendulum Acceleration



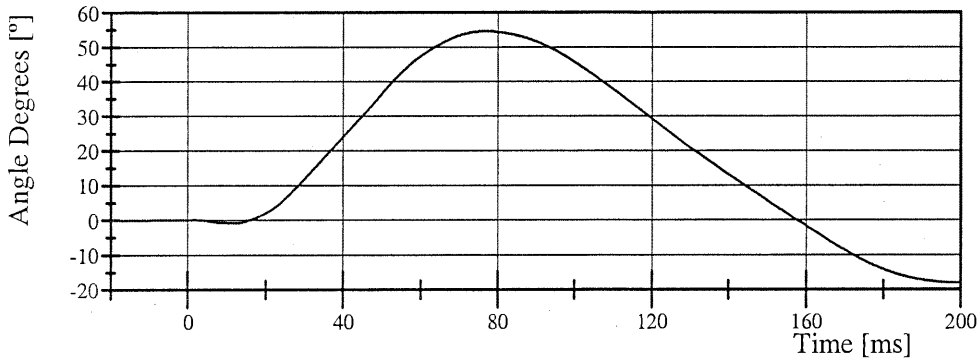
Filter Class: CFC_60
Max: 20.2 g at 8.6 ms
Min: -2.5 g at 47.7 ms

Pot Rotation at the Base of Neck



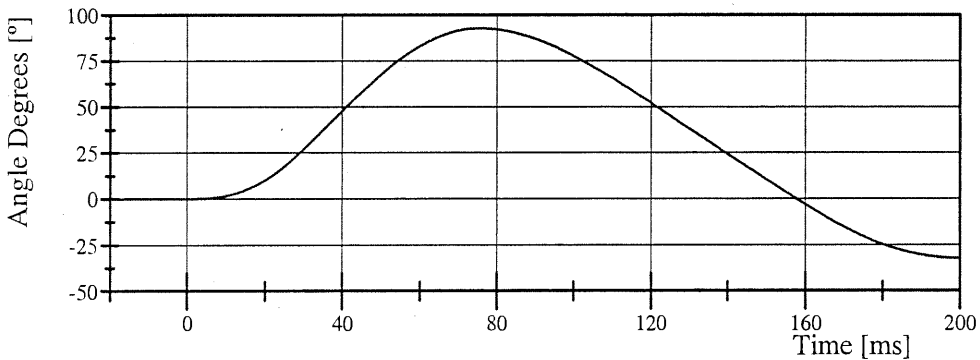
Filter Class: CFC_60
Max: 38.3 ° at 73.7 ms
Min: -14.3 ° at 200.0 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 54.6 ° at 77.0 ms
Min: -18.0 ° at 200.0 ms

Total Head D-Plane Rotation



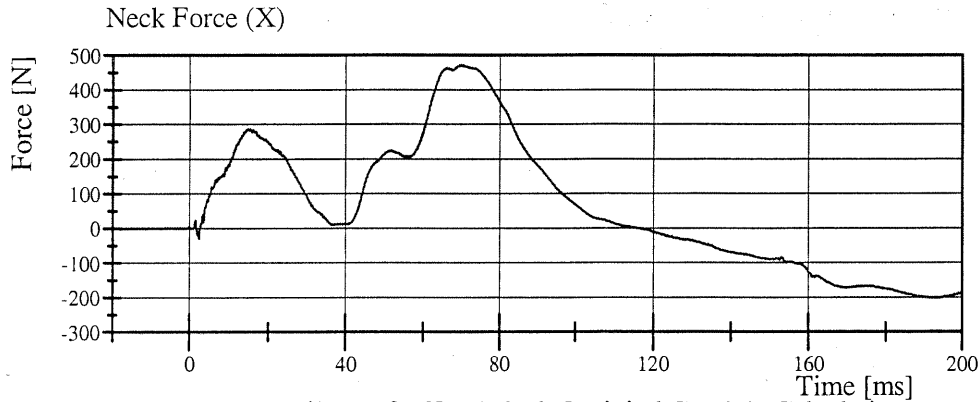
Filter Class: CFC_60
Max: 92.8 ° at 75.9 ms
Min: -32.3 ° at 200.0 ms

Transportation Research Center Inc.

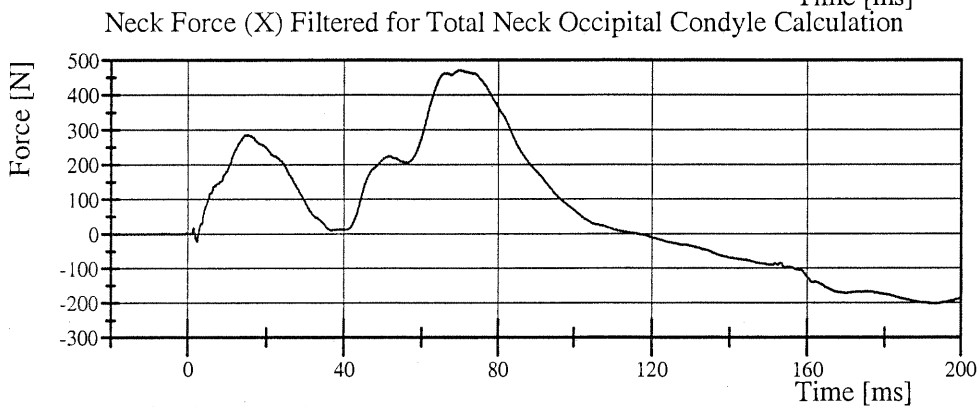
Neck Extension

HIII 50th Serial No. 617 Certification No. 132-1

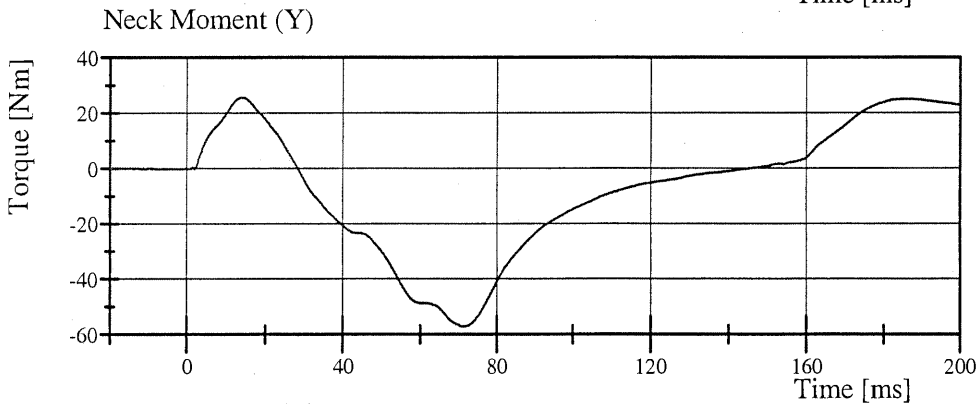
Test Date: 1/25/2007



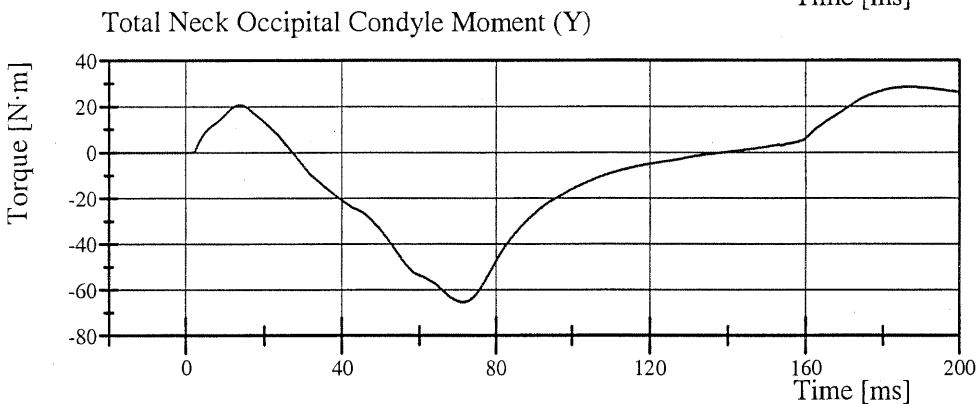
Filter Class: CFC_1000
Max: 472.2 N at 70.0 ms
Min: -201.5 N at 192.6 ms



Filter Class: CFC_600
Max: 471.1 N at 70.0 ms
Min: -201.3 N at 193.0 ms



Filter Class: CFC_600
Max: 25.7 Nm at 14.2 ms
Min: -57.1 Nm at 71.5 ms



Filter Class: CFC_600
Max: 28.4 N·m at 187.4 ms
Min: -65.4 N·m at 71.4 ms

Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 617 Certification No. 132-3

Test Date: 1/26/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	23 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.600 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,778.1 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-67.77 mm	Yes
Internal Hysteresis	65 - 85 %	73.5 %	Yes

Test meets specifications.

Comments:

Technician

Robert Beravich

Approved

Ken Storer

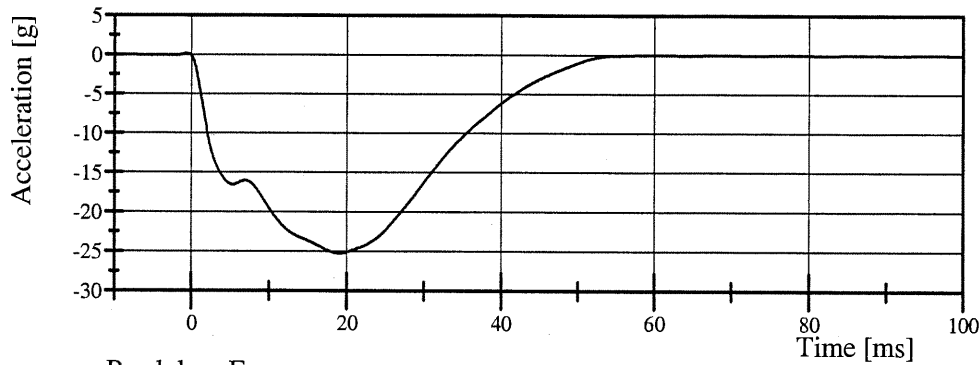
Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 617 Certification No. 132-3

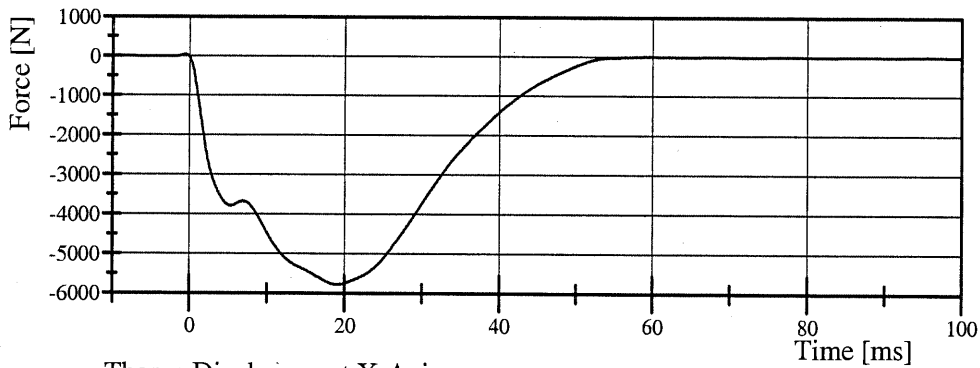
Test Date: 1/26/2007

Pendulum Acceleration



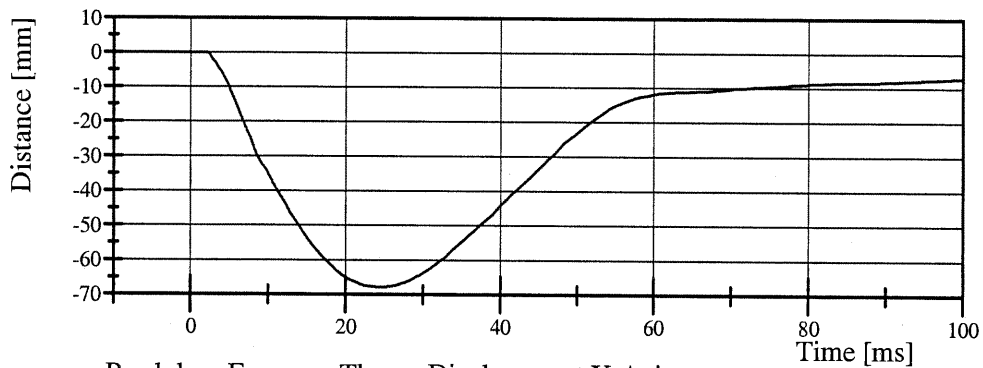
Filter Class: CFC_180
Max: 0.2 g at -0.6 ms
Min: -25.2 g at 19.0 ms

Pendulum Force



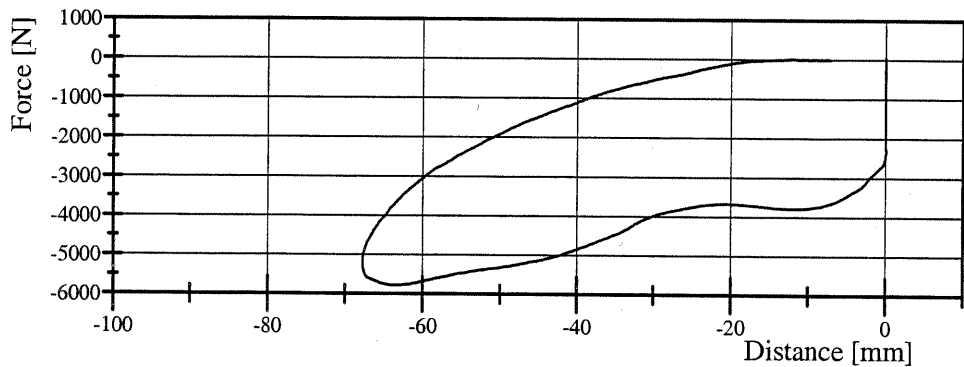
Filter Class: CFC_180
Max: 41.4 N at -0.6 ms
Min: -5,778.1 N at 19.0 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at 2.1 ms
Min: -67.8 mm at 24.6 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 41.4 N at -0.0 mm
Min: -5,778.1 N at -63.5 mm

Applied Safety Technologies Corp.

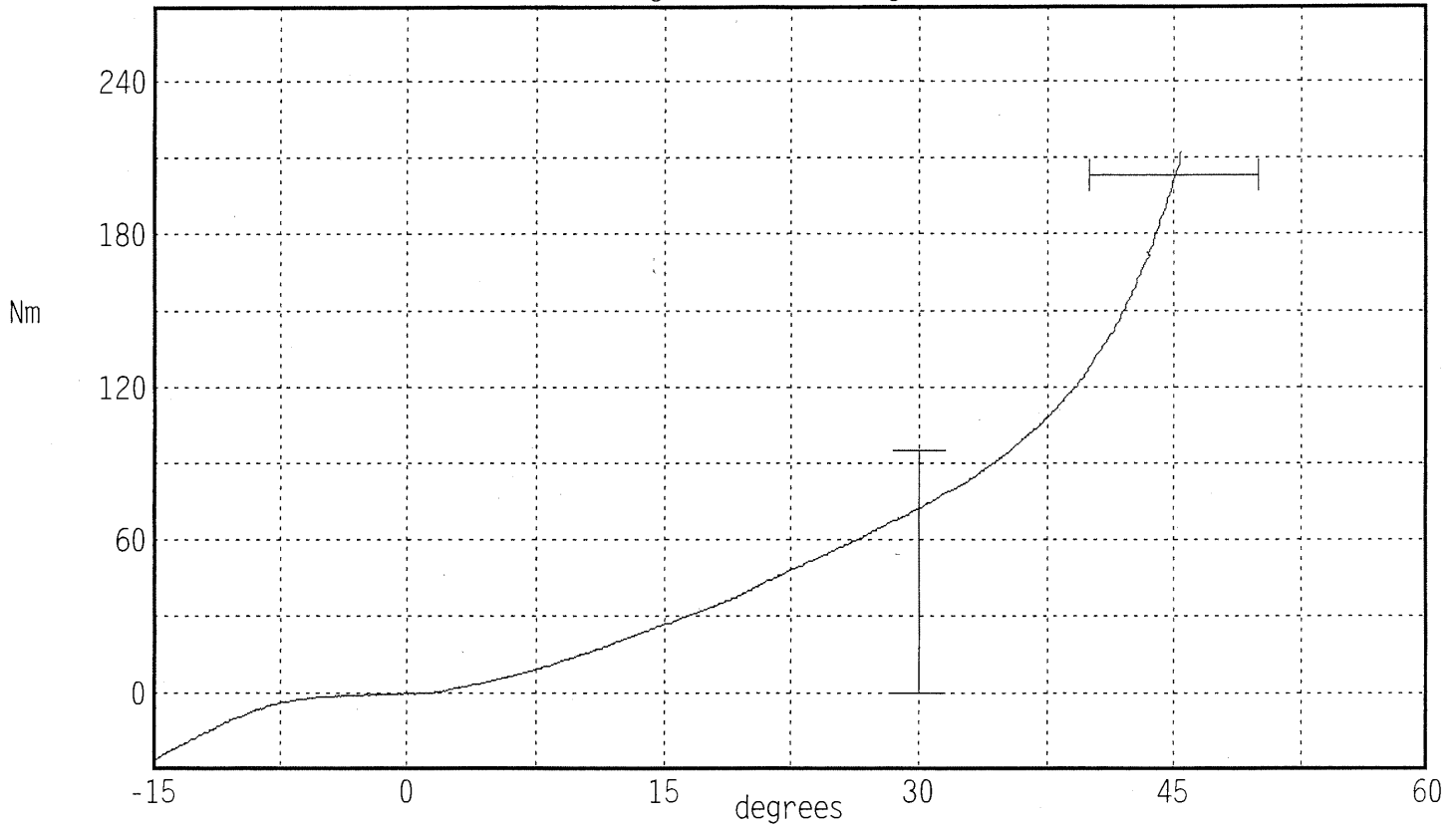
Hybrid III Hip Range of Motion

Serial Number: 617L
Test Number: 617C132
Comments:

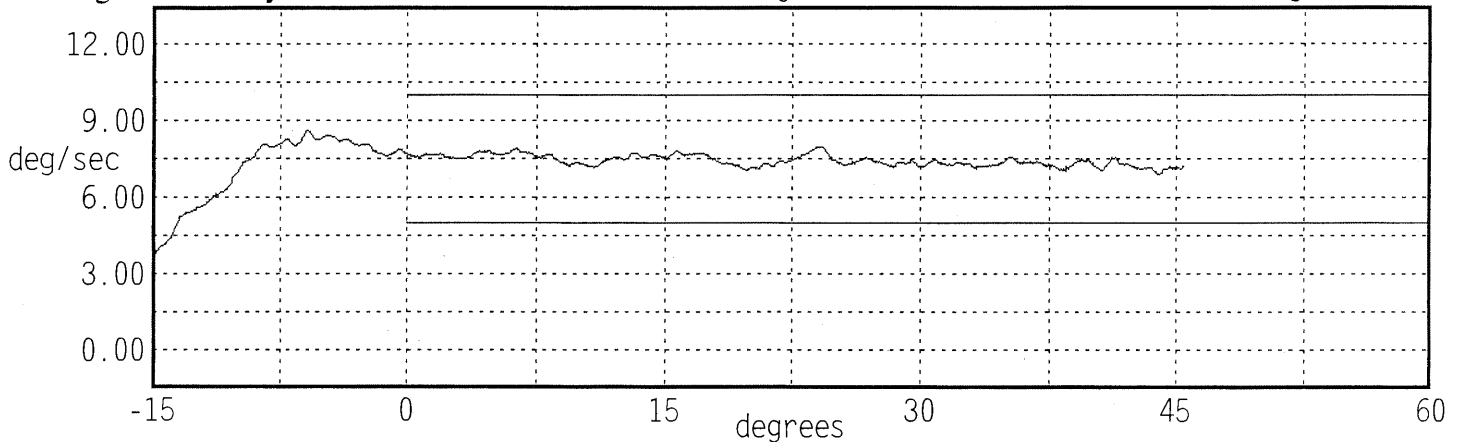
Date: 01/25/2007
Time: 09:11

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.1 °C Pass
Humidity	10 - 70	25 % Pass
Moment at 30 deg	<= 94.9	72.3 Nm Pass
Angle at 203 Nm	40.0 - 50.0	45.1 deg Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec Pass

Moment About H-Point
Peak Moment: 211.8 Nm at 45.5 deg
Peak Angle: 45.5 deg at 211.8 Nm



Angular Velocity Max: 8.0 deg/sec Min: 6.9 deg/sec



Applied Safety Technologies Corp.

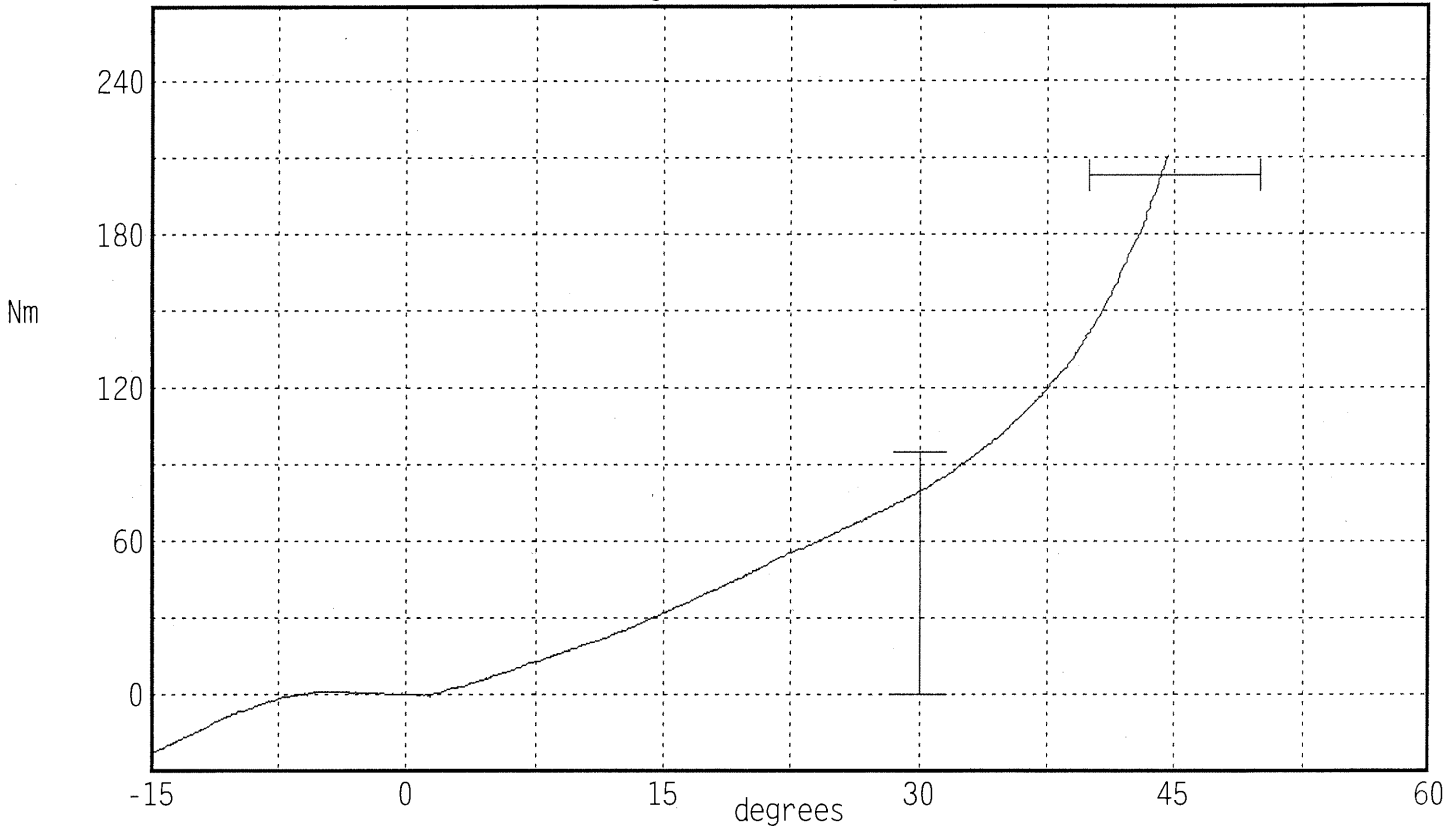
Hybrid III Hip Range of Motion

Serial Number: 617R
Test Number: 617C132
Comments:

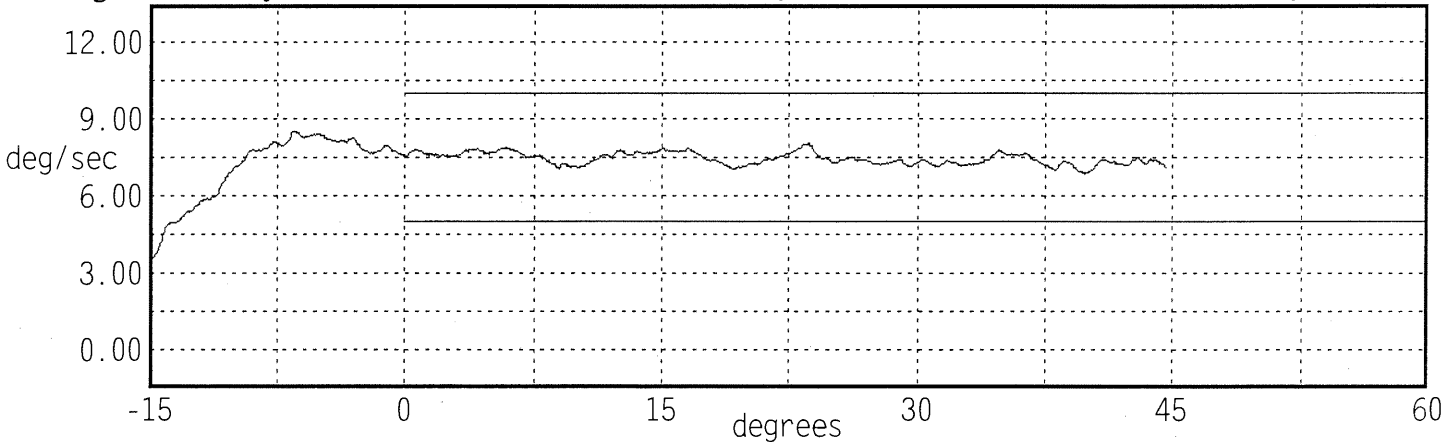
Date: 01/25/2007
Time: 09:18

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.1 °C	Pass
Humidity	10 - 70	26 %	Pass
Moment at 30 deg	<= 94.9	79.7 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	44.3 deg	Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec	Pass

Moment About H-Point
Peak Moment: 210.4 Nm at 44.6 deg
Peak Angle: 44.6 deg at 210.4 Nm



Angular Velocity Max: 8.1 deg/sec Min: 6.9 deg/sec



Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 617 Certification No. 132-1
Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	25 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.086 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,659.88 N	Yes

Test meets specifications.

Comments:

Technician

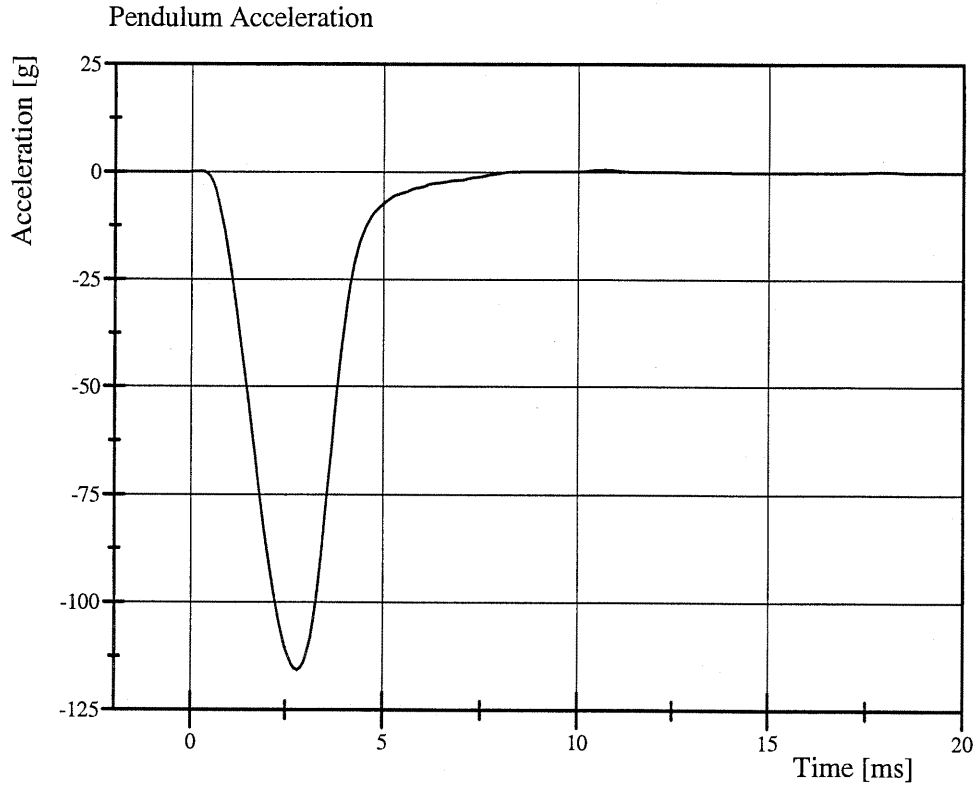
Robert Barawda

Approved

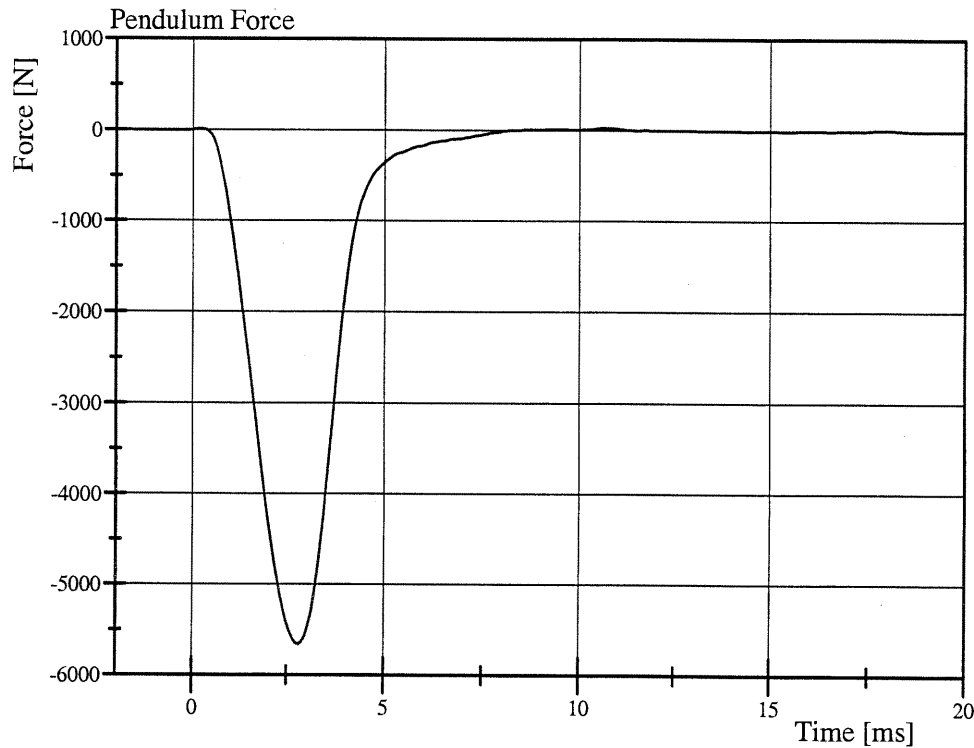
Lon Stoner

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 617 Certification No. 132-1
Test Date: 1/25/2007



Filter Class: CFC_600
Max: 0.6 g at 10.7 ms
Min: -115.7 g at 2.8 ms



Filter Class: CFC_600
Max: 28.7 N at 10.7 ms
Min: -5,659.9 N at 2.8 ms

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 617 Certification No. 132-1
Test Date: 1/25/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	25 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.088 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,531.29 N	Yes

Test meets specifications.

Comments:

Technician

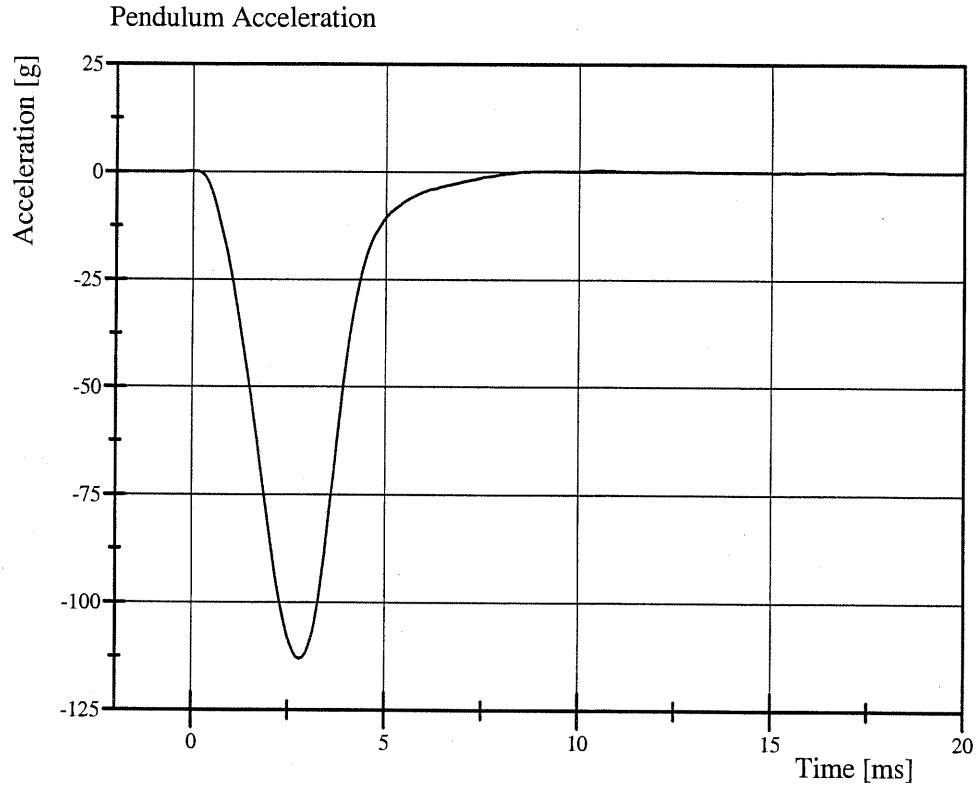
Rolant Berawidi

Approved

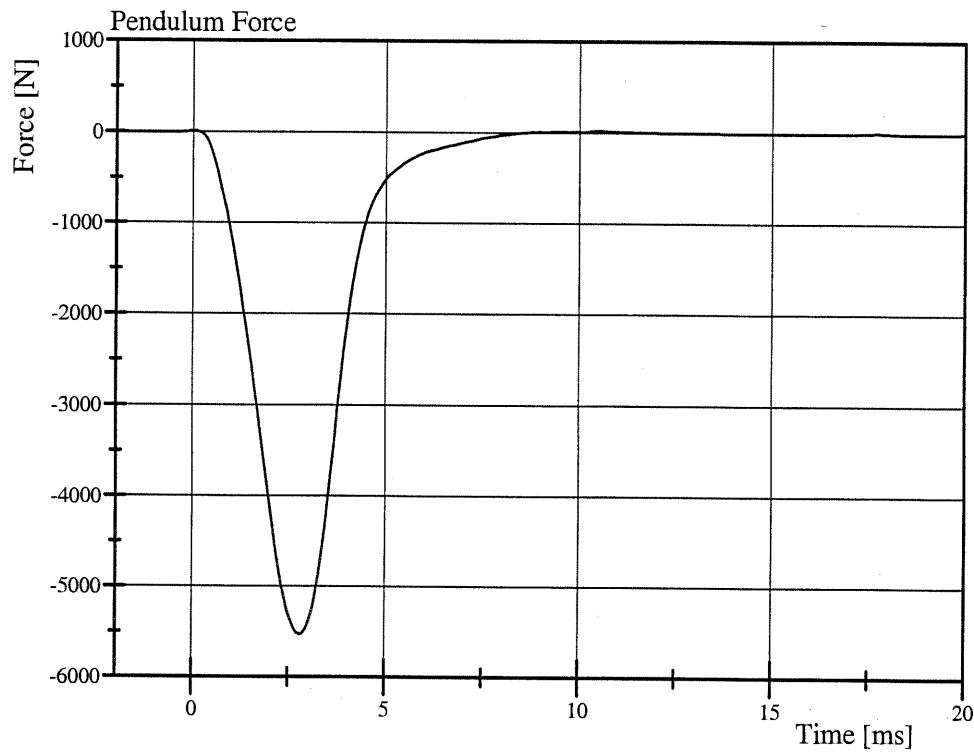
Ron Stone

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 617 Certification No. 132-1
Test Date: 1/25/2007



Filter Class: CFC_600
Max: 0.5 g at 10.5 ms
Min: -113.0 g at 2.8 ms



Filter Class: CFC_600
Max: 23.7 N at 10.5 ms
Min: -5,531.3 N at 2.8 ms

Appendix D

Miscellaneous Test Information

Filtering Data

SAE J211 MAR95

Vehicle:

Acceleration Class 60

Velocity (Integrated) Class 180

Displacement (Integrated) Class 180

Occupant:

Head Accelerometer Class 1000

Neck Force Class 1000

Neck Moment Class 600

Chest Accelerometer Class 180

Chest Potentiometer Class 600

Pelvis Acceleration Class 1000

Femur Load Class 600

Channel Report Test Number 070216-1

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	DAS		Assembly
						Flip	Positive Polarity	
1	Trig D1	10ZERO00000VO0A	EVENT		1 Logic	+	Bipolar	
2	P33846	11HEADCG00H3ACXA	Head Accel X	400	g	-	Rearward	1-591 HIII 50th FTSS.001
3	P33909	11HEADCG00H3ACYA	Head Accel Y	400	g	-	Leftward	1-591 HIII 50th FTSS.002
4	p47387	11HEADCG00H3ACZA	Head Accel Z	400	g	-	Upward	1-591 HIII 50th FTSS.003
5	1716-0424-FX	11NECKUP00H3FOXA	Neck Force X	8896.4	N	-	Head forward, chest rearward	1-591 HIII 50th FTSS.007
6	1716-0424-FY	11NECKUP00H3FOYA	Neck Force Y	8896.4	N	+	Head leftward, chest rightward	1-591 HIII 50th FTSS.008
7	1716-0424-FZ	11NECKUP00H3FOZA	Neck Force Z	13344.6	N	+	Head upward, chest downward	1-591 HIII 50th FTSS.009
8	1716-0424-MX	11NECKUP00H3MOXA	Neck Moment X	282.5	Nm	-	Right ear toward right shoulder	1-591 HIII 50th FTSS.010
9	1716-0424-MY	11NECKUP00H3MOYA	Neck Moment Y	282.5	Nm	+	Chin toward sternum	1-591 HIII 50th FTSS.011
10	1716-0424-MZ	11NECKUP00H3MOZA	Neck Moment Z	282.5	Nm	+	Chin toward left shoulder	1-591 HIII 50th FTSS.012
11	P34046	11CHSTCG00H3ACXA	Chest Accel X	400	g	+	Forward	1-591 HIII 50th FTSS.013
12	P33880	11CHSTCG00H3ACYA	Chest Accel Y	400	g	-	Leftward	1-591 HIII 50th FTSS.014
13	P34045	11CHSTCG00H3ACZA	Chest Accel Z	400	g	-	Upward	1-591 HIII 50th FTSS.015
14	CP84413	11CHST0000H3DSXA	Chest Deflection X	100	mm	+	Forward	1-591 HIII 50th FTSS.019
15	C14555	11PELVCG00H3ACXA	Pelvis Accel X	400	g	-	Rearward	1-591 HIII 50th FTSS.020
16	A35K	11PELVCG00H3ACYA	Pelvis Accel Y	400	g	-	Leftward	1-591 HIII 50th FTSS.021
17	A81G	11PELVCG00H3ACZA	Pelvis Accel Z	400	g	-	Upward	1-591 HIII 50th FTSS.022
18	2121-0171	11FEMRLL00H3FOZA	Left Femur Force Z	13344.6	N	+	Knee forward, pelvis rearward	1-591 HIII 50th FTSS.023
19	2121A-0167	11FEMRRL00H3FOZA	Right Femur Force Z	13344	N	+	Knee forward, pelvis rearward	1-591 HIII 50th FTSS.024
20	P33862	13HEADCG00H3ACXA	Head Accel X	400	g	-	Rearward	3-617 HIII 50th FTSS.001
21	P49313	13HEADCG00H3ACYA	Head Accel Y	400	g	-	Leftward	3-617 HIII 50th FTSS.002
22	P34298	13HEADCG00H3ACZA	Head Accel Z	400	g	-	Upward	3-617 HIII 50th FTSS.003
23	1716A-1818-FX	13NECKUP00H3FOXA	Neck Force X	8896.4	N	-	Head forward, chest rearward	3-617 HIII 50th FTSS.007
24	1716A-1818-FY	13NECKUP00H3FOYA	Neck Force Y	8896	N	+	Head leftward, chest rightward	3-617 HIII 50th FTSS.008
25	1716A-1818-FZ	13NECKUP00H3FOZA	Neck Force Z	13344	N	+	Head upward, chest downward	3-617 HIII 50th FTSS.009
26	1716A-1818-MX	13NECKUP00H3MOXA	Neck Moment X	282	Nm	-	Right ear toward right shoulder	3-617 HIII 50th FTSS.010
27	1716A-1818-MY	13NECKUP00H3MOYA	Neck Moment Y	282	Nm	+	Chin toward sternum	3-617 HIII 50th FTSS.011

Channel Report Test Number 070216-1

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	DAS		Assembly
						Flip	Positive Polarity	
28	1716A-1818-MZ	13NECKUP00H3MOZA	Neck Moment Z	282	Nm	+	Chin toward left shoulder	3-617 HIII 50th FTSS.012
29	P32449	13CHSTCG00H3ACXA	Chest Accel X	400	g	+	Forward	3-617 HIII 50th FTSS.013
30	P34205	13CHSTCG00H3ACYA	Chest Accel Y	400	g	-	Leftward	3-617 HIII 50th FTSS.014
31	P34103	13CHSTCG00H3ACZA	Chest Accel Z	400	g	-	Upward	3-617 HIII 50th FTSS.015
32	14CB1-2897-329	13CHST0000H3DSXA	Chest Deflection X	100	mm	+	Forward	3-617 HIII 50th FTSS.019
33	ACTT4	13PELVCG00H3ACXA	Pelvis Accel X	400	g	-	Rearward	3-617 HIII 50th FTSS.020
34	ACTWO	13PELVCG00H3ACYA	Pelvis Accel Y	400	g	-	Leftward	3-617 HIII 50th FTSS.021
35	ACTR4	13PELVCG00H3ACZA	Pelvis Accel Z	400	g	-	Upward	3-617 HIII 50th FTSS.022
36	2430-889-FZ	13FEMRLL00H3FOZA	Left Femur Force Z	13344	N	+	Knee forward, pelvis rearward	3-617 HIII 50th FTSS.023
37	2430-930-FZ	13FEMRRL00H3FOZA	Right Femur Force Z 520	13344	N	+	Knee forward, pelvis rearward	3-617 HIII 50th FTSS.024
38	p54483	10FRAMLEECONACXA	Left Frame ECON X-Axis Acceleration	2000	g	-	Rearward	
39	p54488	10FRAMRIECONACXA	Right Frame ECON X-Axis Acceleration	2000	g	+	Forward	
40	P54333	10SILLLE0000ACXA	Vehicle Body Sill LH X-Axis Acceleration	2000	g	+	Forward	
41	P46926	10SILLLE0000ACZA	Vehicle Body Sill LH Z-Axis Acceleration	2000	g	-	Upward	
42	P49931	10SILLRI0000ACXA	Vehicle Body Sill RH X-Axis Acceleration	2000	g	-	Rearward	
43	p46202	10SILLRI0000ACZA	Vehicle Body Sill RH Z-Axis Acceleration	2000	g	-	Upward	
44	P46012	10ENGNBO0000ACXA	Engine Bottom X-Axis Acceleration	2000	g	-	Rearward	
45	P45689	10ENGNTPO000ACXA	Engine Top X-Axis Acceleration	2000	g	+	Forward	
46	P54117	10TRANBO0000ACXA	Transmission Bottom X-Axis Acceleration	2000	g	+	Forward	
47	p54288	10VEHC000000ACXA	Rear Differential X-Axis Acceleration	2000	g	-	Rearward	
48	P49877	10FRAMLEFR00ACXA	Left Front Frame X Acceleration	2000	g	+	Forward	
49	P49673	10FRAMRIFR00ACXA	Right Front Frame X Acceleration	2000	g	+	Forward	
50	P50915	10FRAMLEMIHPACXA	Left Mid Frame at H-Point X Acceleration	2000	g	+	Forward	
51	P46999	10FRAMLEMIHPACZA	Left Mid Frame at H-Point Z Acceleration	2000	g	-	Upward	
52	P50876	10FRAMRIMIHPACXA	Right Mid Frame at H-Point X Acceleration	2000	g	+	Forward	
53	P49961	10FRAMRIMIHPACZA	Right Mid Frame at H-Point Z Acceleration	2000	g	-	Upward	
54	P50395	10ABSE000000ACXA	ACU Sensor X-Axis Acceleration	2000	g	+	Forward	
55	P50827	10ABSE000000ACYA	ACU Sensor Y-Axis Acceleration	2000	g	-	Leftward	
56	P46965	10ABSE000000ACZA	ACU Sensor Z-Axis Acceleration	2000	g	-	Upward	
57	P46338	10SENS000000ACXA	CZC Sensor Primary X-Axis Acceleration	2000	g	+	Forward	
58	P50650	10SENSRD0000ACXA	CZC Sensor Redundant X-Axis Acceleration	2000	g	-	Rearward	
59	P46613	10TUNN000000ACXA	Tunnel / Floorpan X-Axis Acceleration	2000	g	+	Forward	
60	p47391	10TUNN000000ACYA	Tunnel / Floorpan Y-Axis Acceleration	2000	g	+	Rightward	
61	p46801	10TUNN000000ACZA	Tunnel / Floorpan Z-Axis Acceleration	2000	g	-	Upward	
62	3419-835	10BELTLELP00FO0A	LT LAP BELT OUTB TENS	13344	N	+	Tension	
63	3419T-1136019	10BELTLESH00FO0A	LT SHD BELT TENS	13344	N	+	Tension	
64	3419-832	10BELTRILP00FO0A	RT LAP BELT OUTB TENS	13344	N	+	Tension	
65	3419T-1136020	10BELTRISH00FO0A	RT SHD BELT TENS	13344	N	+	Tension	

Channel Report Test Number 070216-1

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	DAS		Assembly
						Flip	Positive Polarity	
66	ABFire1	11AIRBFR0100EV0A	DRIV. FRONT AIRBAG1 IND (IP 2)		5 V	+	Bipolar	
67	ABFire2	11AIRBFR0200EV0A	DRIV. FRONT AIRBAG2 IND (IP 25)		5 V	+	Bipolar	
68	ABFire3	11PRET0000B6EV0A	DRIV. OUTER BELT PRETENSIONER IND (IP 32)		5 V	+	Bipolar	
69	ABFire4	13AIRBFR0100EV0A	PASS. FRONT AIRBAG1 IND (IP 41)		5 V	+	Bipolar	
70	ABFire5	13AIRBFR0200EV0A	PASS. FRONT AIRBAG2 IND (IP 43)		5 V	+	Bipolar	
71	ABFire6	13PRET0000B6EV0A	PASS. OUTER BELT PRETENSIONER IND (IP 50)		5 V	+	Bipolar	
72	ABFire7	11AIRBFR01RDEV0A	DRIV. FRONT AIRBAG1 IND RED (IP 51)		5 V	+	Bipolar	
73	ABFire8	11AIRBFR02RDEV0A	DRIV. FRONT AIRBAG2 IND RED (IP 52)		5 V	+	Bipolar	
74	ABFire9	11PRET00RDB6EV0A	DRIV. OUTER BELT PRETENSIONER IND RED (IP 53)		5 V	+	Bipolar	
75	ABFire10	13AIRBFR01RDEV0A	PASS. FRONT AIRBAG1 IND RED (IP 54)		5 V	+	Bipolar	
76	ABFire11	13AIRBFR02RDEV0A	PASS. FRONT AIRBAG2 IND RED (IP 55)		5 V	+	Bipolar	
77	ABFire12	13PRET00RDB6EV0A	PASS. OUTER BELT PRETENSIONER IND RED (IP 62)		5 V	+	Bipolar	

Command File Test Number 070216-1

Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
1	11HEADCG00H3ACXA	Driver Head X-Axis Acceleration	1000	+	yes	400
2	11HEADCG00H3ACYA	Driver Head Y-Axis Acceleration	1000	+	yes	400
3	11HEADCG00H3ACZA	Driver Head Z-Axis Acceleration	1000	+	yes	400
3A	11HEADCG00H3ACRA	Driver Head Resultant Acceleration	1000			
4	11NECKUP00H3FOXA	Driver Neck X-Axis Force	1000	+	yes	8896.4
5	11NECKUP00H3FOYA	Driver Neck Y-Axis Force	1000	+	yes	8896.4
6	11NECKUP00H3FOZA	Driver Neck Z-Axis Force	1000	+	yes	13344.6
7	11NECKUP00H3MOXA	Driver Neck Moment About X Axis	600	+	yes	282.5
8	11NECKUP00H3MOYA	Driver Neck Moment About Y Axis	600	+	yes	282.5
9	11NECKUP00H3MOZA	Driver Neck Moment About Z Axis	600	+	yes	282.5
10	11CHSTCG00H3ACXA	Driver Chest X-Axis Acceleration	180	+	yes	400
11	11CHSTCG00H3ACYA	Driver Chest Y-Axis Acceleration	180	+	yes	400
12	11CHSTCG00H3ACZA	Driver Chest Z-Axis Acceleration	180	+	yes	400
12A	11CHSTCG00H3ACRA	Driver Chest Resultant Acceleration	180			
13	11CHST0000H3DSXA	Driver Chest X-Axis Deflection	600	+	yes	100
14	11PELVCG00H3ACXA	Driver Pelvis X-Axis Acceleration	1000	+	yes	400
15	11PELVCG00H3ACYA	Driver Pelvis Y-Axis Acceleration	1000	+	yes	400
16	11PELVCG00H3ACZA	Driver Pelvis Z-Axis Acceleration	1000	+	yes	400
16A	11PELVCG00H3ACRA	Driver Pelvis Resultant Acceleration	1000			
17	11FEMRLL00H3FOZA	Driver Left Femur Z-Axis Force	600	+	yes	13344.6
18	11FEMRRL00H3FOZA	Driver Right Femur Z-Axis Force	600	+	yes	13344
19	13HEADCG00H3ACXA	Passenger Head X-Axis Acceleration	1000	+	yes	400
20	13HEADCG00H3ACYA	Passenger Head Y-Axis Acceleration	1000	+	yes	400
21	13HEADCG00H3ACZA	Passenger Head Z-Axis Acceleration	1000	+	yes	400
21A	13HEADCG00H3ACRA	Passenger Head Resultant Acceleration	1000			
22	13NECKUP00H3FOXA	Passenger Neck X-Axis Force	1000	+	yes	8896.4
23	13NECKUP00H3FOYA	Passenger Neck Y-Axis Force	1000	+	yes	8896
24	13NECKUP00H3FOZA	Passenger Neck Z-Axis Force	1000	+	yes	13344
25	13NECKUP00H3MOXA	Passenger Neck Moment About X Axis	600	+	yes	282
26	13NECKUP00H3MOYA	Passenger Neck Moment About Y Axis	600	+	yes	282
27	13NECKUP00H3MOZA	Passenger Neck Moment About Z Axis	600	+	yes	282
28	13CHSTCG00H3ACXA	Passenger Chest X-Axis Acceleration	180	+	yes	400
29	13CHSTCG00H3ACYA	Passenger Chest Y-Axis Acceleration	180	+	yes	400
30	13CHSTCG00H3ACZA	Passenger Chest Z-Axis Acceleration	180	+	yes	400
30A	13CHSTCG00H3ACRA	Passenger Chest Resultant Acceleration	180			
31	13CHST0000H3DSXA	Passenger Chest X-Axis Deflection	600	+	yes	100
32	13PELVCG00H3ACXA	Passenger Pelvis X-Axis Acceleration	1000	+	yes	400

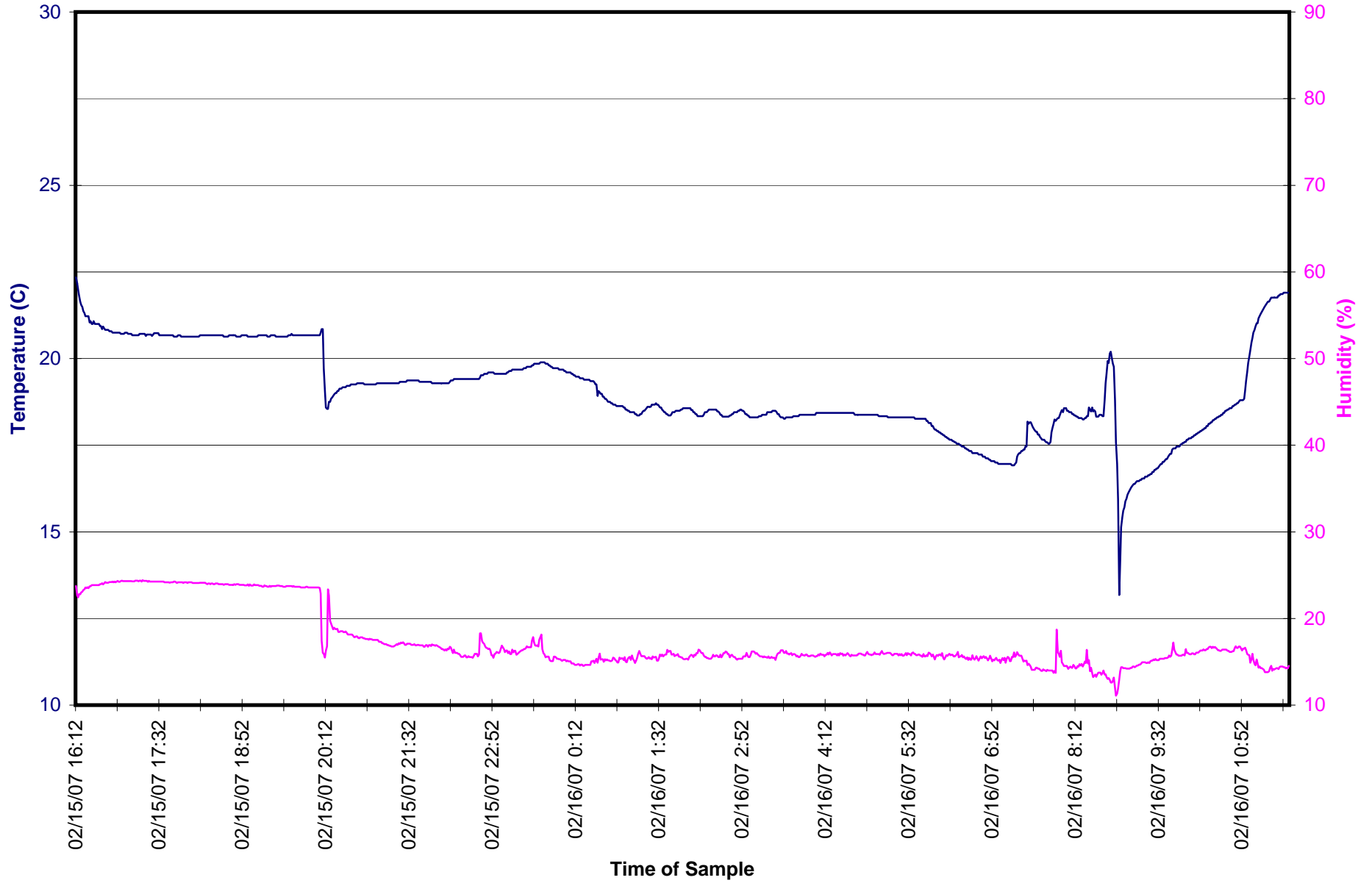
Command File Test Number 070216-1

Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
33	13PELVCG00H3ACYA	Passenger Pelvis Y-Axis Acceleration	1000	+	yes	400
34	13PELVCG00H3ACZA	Passenger Pelvis Z-Axis Acceleration	1000	+	yes	400
34A	13PELVCG00H3ACRA	Passenger Pelvis Resultant Acceleration	1000			
35	13FEMRLL00H3FOZA	Passenger Left Femur Z-Axis Force	600	+	yes	13344
36	13FEMRRL00H3FOZA	Passenger Right Femur Z-Axis Force	600	+	yes	13344
37	10FRAMLEECONACXA	Left Frame ECON X-Axis Acceleration	60	+	yes	2000
38	10FRAMRIECONACXA	Right Frame ECON X-Axis Acceleration	60	+	yes	2000
39	10SILLLE0000ACXA	Vehicle Body Sill LH X-Axis Acceleration	60	+	yes	2000
40	10SILLLE0000ACZA	Vehicle Body Sill LH Z-Axis Acceleration	60	+	yes	2000
41	10SILLRI0000ACXA	Vehicle Body Sill RH X-Axis Acceleration	60	+	yes	2000
42	10SILLRI0000ACZA	Vehicle Body Sill RH Z-Axis Acceleration	60	+	yes	2000
43	10ENGNBO0000ACXA	Engine Bottom X-Axis Acceleration	60	+	yes	2000
44	10ENGNTPO000ACXA	Engine Top X-Axis Acceleration	60	+	yes	2000
45	10TRANBO0000ACXA	Transmission Bottom X-Axis Acceleration	60	+	yes	2000
46	10VEHC000000ACXA	Rear Differential X-Axis Acceleration	60	+	yes	2000
47	10FRAMLEFR00ACXA	Left Front Frame X-Axis Acceleration	60	+	yes	2000
48	10FRAMRIFR00ACXA	Right Front Frame X-Axis Acceleration	60	+	yes	2000
49	10FRAMLEMIHPACXA	Left Mid Frame at H-Point X-Axis Acceleration	60	+	yes	2000
50	10FRAMLEMIHPACZA	Left Mid Frame at H-Point Z-Axis Acceleration	60	+	yes	2000
51	10FRAMRIMIHPACXA	Right Mid Frame at H-Point X-Axis Acceleration	60	+	yes	2000
52	10FRAMRIMIHPACZA	Right Mid Frame at H-Point Z-Axis Acceleration	60	+	yes	2000
53	10ABSE000000ACXA	ACU Sensor X-Axis Acceleration	60	+	yes	2000
54	10ABSE000000ACYA	ACU Sensor Y-Axis Acceleration	60	+	yes	2000
55	10ABSE000000ACZA	ACU Sensor Z-Axis Acceleration	60	+	yes	2000
55A	10ABSE000000ACRA	ACU Sensor Resultant Acceleration	60			
56	10SENS000000ACXA	CZC Sensor Primary X-Axis Acceleration	60	+	yes	2000
57	10SENSRD0000ACXA	CZC Sensor Redundant X-Axis Acceleration	60	+	yes	2000
58	10TUNN000000ACXA	Tunnel / Floorpan X-Axis Acceleration	60	+	yes	2000
59	10TUNN000000ACYA	Tunnel / Floorpan Y-Axis Acceleration	60	+	yes	2000
60	10TUNN000000ACZA	Tunnel / Floorpan Z-Axis Acceleration	60	+	yes	2000
60A	10TUNN000000ACRA	Tunnel / Floorpan Resultant Acceleration	60			
61	10BELTLELP00FO0A	Left Lap Belt Outboard Tension	60	+	yes	13344
62	10BELTLESH00FO0A	Left Shoulder Belt Tension	60	+	yes	13344
63	10BELTRILP00FO0A	Right Lap Belt Outboard Tension	60	+	yes	13344
64	10BELTRISH00FO0A	Right Shoulder Belt Tension	60	+	yes	13344
65	11AIRBFR0100EV0A	Driver Front Airbag 1 Inductor	1000	+	no	5
66	11AIRBFR0200EV0A	Driver Front Airbag 2 Inductor	1000	+	no	5

Command File Test Number 070216-1

Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
67	11PRET0000B6EV0A	Driver Outer Belt Pretensioner Inductor	1000	+	no	5
68	13AIRBFR0100EV0A	Passenger Front Airbag 1 Inductor	1000	+	no	5
69	13AIRBFR0200EV0A	Passenger Front Airbag 2 Inductor	1000	+	no	5
70	13PRET0000B6EV0A	Passenger Outer Belt Pretensioner Inductor	1000	+	no	5

35 mph Flat Frontal Barrier / 070216-1



FINAL REPORT OF: B1040195
38.5 MPH LEFT SIDE IMPACT TEST
ON A 2004 P61B VEHICLE



Autoliv

PREPARED FOR:
NISSAN TECHNICAL CENTER NORTH AMERICA, INC.
39001 SUNRISE DRIVE
FARMINGTON HILLS, MI 48331

PREPARED BY:
AUTOLIV NORTH AMERICA, INC.
1320 PACIFIC DRIVE
AUBURN HILLS, MI 48326

ABSTRACT

Objective:

A 38.5 mph left side impact test was conducted on a 2004 Nissan P61B vehicle. The primary objective was to evaluate the occupant protection performance under the SINCAP test condition.

Scope:

One 2004 Nissan P61B vehicle was tested under left side impact test condition in accordance with the specification of SINCAP. The test speed at impact should be 38.5 mph $\pm 0.5/-0.0$ mph as requested by the customer.

Conclusion:

The test was conducted in accordance with the specifications of SINCAP. The actual final speed at impact was 38.5 mph.

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Report Prepared By:

Rashad Ahmad
Test Engineer

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SECTION 1.0 PURPOSE AND TEST PROCEDURE

Purpose

A 38.5 mph left side impact test was conducted on a 2004 Nissan P61B vehicle. The primary objective was to evaluate the occupant performance protection under the SINCAP test condition. Also, the fuel system was monitored under the specifications of FMVSS 301.

Test Procedure

The test was conducted on the subject P61B vehicle (Vehicle #: 5WT117) in accordance with the specification of the SINCAP test procedure. The vehicle's total test weight was 2279.5 kg. Two Side Impact Dummies (SIDs) with hybrid III head and necks were used and placed in the front left and second row left seating positions. The dummies were instrumented with head, upper and lower rib, lower spine, and pelvis accelerometers, as well as chest deflection potentiometers.

The vehicle was instrumented with 35 sensors installed to record vehicle accelerations, restraint system fire times, and dummy contact times. The left front and rear windows were set in the full up position. The left front seat back was set to 12.9 degrees from vertical as measured at the headrest posts. The left front seat tracks were set at mid position. The left front headrest was set in the uppermost position. The dummies were belted for the test. The left front adjustable turning loop was placed in the uppermost position. The front and rear tire pressures were set at 35 psi. The fuel system was filled with 76 L for the test.

The test vehicle was impacted with a Moving Deformable Barrier (MDB) meeting the guidelines specified in FMVSS 214. The longitudinal centerline of the test vehicle was perpendicular to the longitudinal centerline of the MDB. A vertical impact reference line was marked 940 mm forward of the center of the wheelbase. The right edge of the MDB was aligned with the vertical impact reference line. A target was placed on the vehicle and a pointer was mounted on the MDB to mark the impact location with respect to the target. The right edge of the MDB impacted the vehicle 2 mm forward of the impact reference line.

Time zero was recorded when the moving deformable barrier first contacted the vehicle. The vehicle's restraint systems were deployed by the vehicle's airbag control unit.

FMVSS 301 Test Procedure

The vehicle's fuel system was monitored for the 30 minute time period immediately following the side impact. After 30 minutes the vehicle was mounted on a rotisserie. The vehicle was rotated a total of 360 degrees about its longitudinal axis. The 360 degrees rotation was divided into 90 degrees increments. The vehicle was rotated to each 90 degrees increment in two minutes and maintained at each 90 degrees increment for five minutes. The fuel system was monitored during the entire 360 degrees rotation.

SECTION 2.0 SUMMARY OF TEST DATA

Test Data Summary

A 2004 Nissan P61B vehicle was impacted under the left side SINCAP test condition at 38.5 mph on June 6, 2004.

For the occupant in the left front seating position, the HIC36 was 111, the TTI(d) was 19 g's, and pelvis injury criterion was 25.8 g's.

For the occupant in the left rear seating position, the HIC36 was 507, the TTI(d) was 20 g's, and pelvis injury criterion was 21.2 g's.

There was no fuel leakage during the event, during the 30 minutes immediately following the crash, or during any part of the post-test static rollover. Fuel system data can be found in Section 6.0 of this report.

TABLE 1
DATA CHANNEL SUMMARY

Channel Name	Max value	Max time (ms)	Min value	Min. time (ms)
11HEAD0000SHACXA	0.8 g	203.1	-16.3 g	106.3
11HEAD0000SHACYA	51.6 g	106.5	-4.9 g	47.9
11HEAD0000SHACZA	23.6 g	76.7	-1.2 g	35.3
11CHST0000SHDSYB	24.9 mm	150.5	-3.4 mm	74.8
11SPIN1200SHACYC	19.1 g	51.7	-2.8 g	73.5
11RIBSLEUPSHACYA	51.6 g	74	-10.4 g	74.6
11RIBSLELOSHACYA	45.9 g	74.1	-21.0 g	74.6
11PELV0000SHACXA	8.4 g	45.7	-9.4 g	47.1
11PELV0000SHACYA	27.8 g	45.7	-10.5 g	71.9
11PELV0000SHACZA	6.4 g	46.5	-3.6 g	106.8
14HEAD0000SHACXA	8.3 g	78.6	-40.9 g	68.1
14HEAD0000SHACYA	133.2 g	68.1	-9.2 g	78
14HEAD0000SHACZA	33.5 g	68.3	-12.6 g	81.8
14CHST0000SHDSYB	34.9 mm	171.6	-0.0 mm	28.4
14SPIN1200SHACYC	23.8 g	51.7	-24.3 g	77.4
14RIBSLEUPSHACYA	22.7 g	84.9	-3.8 g	81.6
14RIBSLELOSHACYA	17.3 g	56.2	-6.1 g	79
14PELV0000SHACXA	5.6 g	28.9	-11.7 g	78.4
14PELV0000SHACYA	22.2 g	46.6	-16.4 g	82.6
14PELV0000SHACZA	12.6 g	63.2	-15.0 g	80.7
10DOORLEFRCHACYD	60.2 g	18.6	-46.0 g	26
10DOORLEFRSPACYD	83.6 g	11.6	-38.3 g	14.8
10DOORLEFRPEACYD	118.7 g	7.8	-91.0 g	14.8
10DOORLEFRCEACYD	95.8 g	16.6	-67.5 g	27
10DOORLERECHACYD	90.8 g	14.7	-69.9 g	9.3
10DOORLERESPACYD	64.0 g	12.3	-49.5 g	29
10DOORLEREPEACYD	100.2 g	13.2	-49.7 g	28.4
10DOORLERECEACYD	83.5 g	13.1	-56.7 g	35.6
10SILLLEFR00ACYD	61.5 g	11.8	-38.6 g	5.8
10SILLLERE00ACYD	82.4 g	11.5	-2095.6 g	20.2
10SILLRIFR00ACYD	46.8 g	7.4	-3.3 g	62.1
10SILLRIRE00ACYD	54.7 g	7.3	-4.9 g	19.9
10BPILLEUP00ACYD	90.6 g	10.9	-45.3 g	16.5
10BPILLEMI00ACYD	71.3 g	5.2	-29.5 g	19.2
10BPILLELO00ACYD	125.2 g	6.1	-18.3 g	27.8
10BPILLERO00ACYD	68.2 g	12.5	-30.4 g	5.4
10TUNN000000ACYD	36.3 g	6.8	-5.2 g	58.5
10ABSE000000ACXD	16.5 g	10.7	-20.4 g	6.8
10ABSE000000ACYD	59.0 g	6.4	-5.9 g	58.4
10SENSLE0000ACYD	225.0 g	5.3	-72.6 g	11.2
10DOHALEFR00ACYD	88.9 g	16.5	-34.1 g	4.6
10SENSRI0000ACYD	43.4 g	7.5	-3.8 g	62.7
10DOHARIFR00ACYD	24.2 g	21.3	-8.9 g	97.4
MOMBARCG0000ACXD	0.2 g	232.5	-21.6 g	27.8
MOMBARCG0000ACYD	1.1 g	-4	-9.0 g	47.2
MOMBARCG0000ACZD	17.5 g	13.9	-15.6 g	18.2

Channel Name	Max value	Max time (ms)	Min value	Min. time (ms)
MOMBARCG0000ACRD	25.5 g	18.2	0.1 g	279.1
MOMBARMIFR00ACXD	0.2 g	-2.4	-22.6 g	36
MOMBARMIFR00ACYD	12.4 g	54.9	-20.1 g	39.4
MOMBARMIFR00ACZD	3.3 g	115.7	-6.4 g	8
MOMBARREMI00ACYD	5.3 g	45	-3.4 g	63.9
MOMBARLEFR00ACXD	0.0 g	275.7	-26.3 g	35.3
MOMBARLEMI00ACXD	0.9 g	275.5	-25.7 g	36.5
MOMBARRIFR00ACXD	0.2 g	-5.4	-19.7 g	16.3
MOMBARRIMI00ACXD	0.2 g	250	-19.2 g	17

SECTION 3.0
GENERAL TEST AND VEHICLE DATA

TABLE 2
GENERAL TEST AND VEHICLE DATA

Test Information:

Test Number:	B1040195
Date Of Test:	06/18/04
Test Impact Velocity:	38.5 mph

Vehicle Information:

Vehicle manufactured by:	Nissan
VIN:	5N1ED28T95C [REDACTED]
Requested cold pressure:	35 psi

Target test weight:

Front:	1072.0 kg
Rear:	1208.0 kg
Total:	2280.0 kg

Actual test weight:

Total front weight:	1081.5 kg
Total rear weight:	1198.0 kg
Total test weight:	2279.5 kg
Ballast added to achieve target weight: 11.3 kg steel shot added to engine. Items removed: none Instrumentation and brake machine: 74.2 kg mounted in trunk.	

Dummy Information:

Seating position:	Left front	Left rear
Type:	SIDH3	SIDH3
Serial number:	997	325
Instrumentation:	No	No

Left front seating position:

Seat back angle:	11.4 degrees measured at headrest post
Seat track position:	mid
Seat height:	not adjustable
Head rest position:	full up
Belt D-ring position:	full up

Left rear seating position:

Seat back angle:	not adjustable
Seat track position:	not adjustable
Seat height:	not adjustable
Head rest position:	full up
Belt D-ring position:	not adjustable

SECTION 4.0
SENSOR CALIBRATION DATA

TABLE 3
SENSOR CALIBRATION

Channel Name	Sensor Serial Number	Last Calibration Date
10ABSE000000ACXD	B35139	1/12/2004
10ABSE000000ACYD	B35199	1/12/2004
10TUNN000000ACYD	B35904	1/12/2004
10SENSE000000ACYD	B34783	2/9/2004
10SENSRI000000ACYD	B24337	2/10/2004
10SILLLEFR00ACYD	B36474	1/12/2004
10SILLRIFR00ACYD	B33310	4/13/2004
10SILLLERE00ACYD	B35554	8/20/2003
10SILLRIRE00ACYD	B37066	2/9/2004
10BPILLEUP00ACYD	B33236	4/13/2004
10BPILLEMI00ACYD	B32209	2/19/2004
10BPILLELO00ACYD	B32228	3/1/2004
10BPILLERO00ACYD	B24127	3/18/2004
10DOORLEFRCHACYD	B24107	4/5/2004
10DOORLEFRSPACYD	B19706	4/5/2004
10DOORLEFRPEACYD	B13228	4/5/2004
10DOORLEFRCEACYD	B15206	3/18/2004
10DOORLERECHACYD	B11069	9/26/2003
10DOORLERESPACYD	B35986	2/9/2004
10DOORLEREPEACYD	B18945	2/10/2004
10DOORLERECEACYD	A11282	2/10/2004
10DOHALEFR00ACYD	B12428	2/10/2004
10DOHARIFR00ACYD	B22524	3/18/2004
11HEAD0000SHACXA	P33317	3/8/2004
11HEAD0000SHACYA	P32763	3/8/2004
11HEAD0000SHACZA	P33238	3/8/2004
11SPIN1200SHACYC	P28716	8/26/2003
11PELV0000SHACXA	P32965	2/16/2004
11PELV0000SHACZA	P32943	2/16/2004
11CHSTLE00SHDSYB	RDSI761	6/10/2004
11RIBSLEUPSHACYA	P31621	1/5/2004
11RIBSLELOSHACYA	P33234	4/26/2004
14HEAD0000SHACXA	P28559	7/9/2003
14HEAD0000SHACYA	P28579	7/9/2003
14HEAD0000SHACZA	P28673	7/9/2003
14SPIN1200SHACYC	P28674	7/9/2003
14PELV0000SHACXA	P28518	7/7/2003
14PELV0000SHACYA	P19865	7/10/2003
14PELV0000SHACZA	P28517	7/7/2003
14CHSTLE00SHDSYB	RDSI297	4/8/2004

Channel Name	Sensor Serial Number	Last Calibration Date
14RIBSLEUPSHACYA	P28657	7/9/2003
14RIBSLELOSHACYA	P28575	7/9/2003
11PELV0000SHACYA	P32942	2/16/2004
M0MBARCG0000ACXD	97D10-F25	4/13/2004
M0MBARCG0000ACYD	95I17-X14	9/29/2003
M0MBARCG0000ACZD	96E06-G04	4/14/2004
M0MBARLEFR00ACXD	96E06-J12	4/13/2004
M0MBARMIFR00ACXD	95H20-A20	4/13/2004
M0MBARMIFR00ACYD	95J15-A20	4/13/2004
M0MBARMIFR00ACZD	96E06-J06	4/13/2004
M0MBARRIFR00ACXD	95H21-E01	4/13/2004
M0MBARLEMI00ACXD	96D25-E12	4/13/2004
M0MBARRIMI00ACXD	96E03-F18	4/13/2004
M0MBARREMI00ACYD	B35553	8/20/2003

TABLE 4
DUMMY POSITIONING DATA

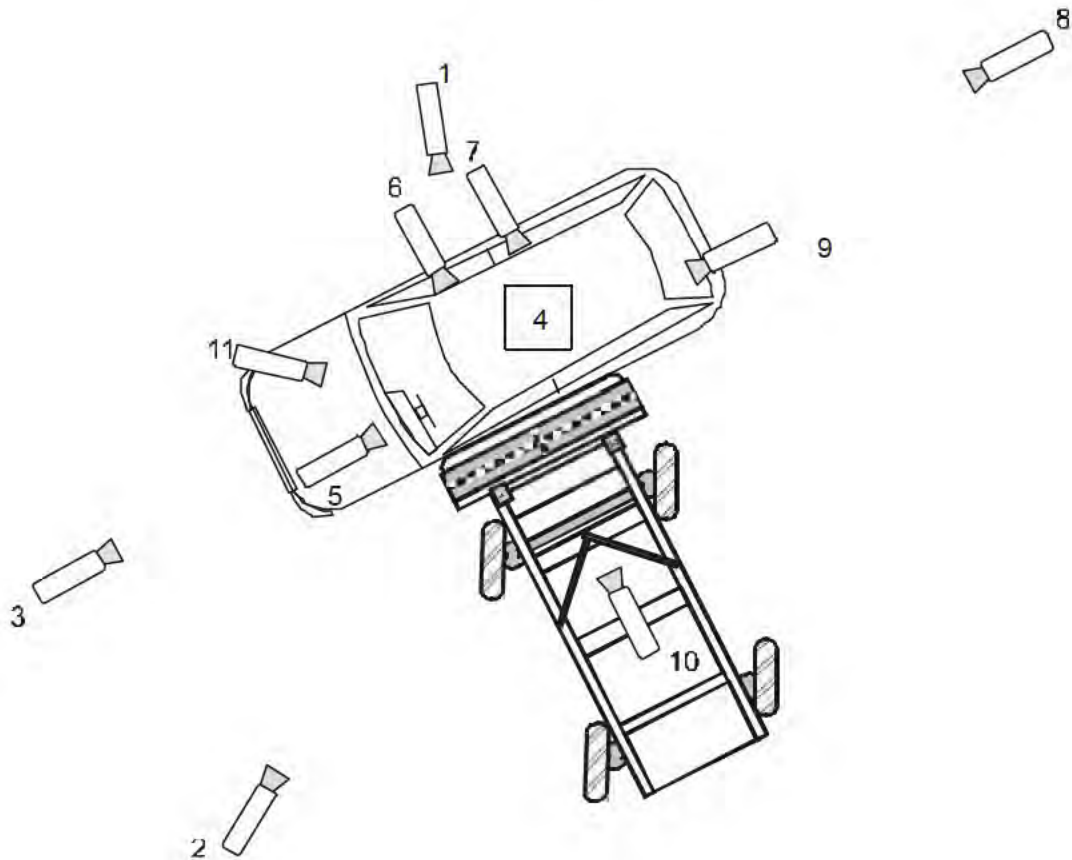
Dummy Measurement	Left Front Seat	Left Rear Seat
Head X*	252 mm	1155 mm
Head Y**	285 mm	275 mm
Head Z*	1015 mm	1050 mm
H-Point X*	120 mm	1039 mm
H-Point Y**	175 mm	183 mm
H-Point Z*	345 mm	372 mm
Outboard Knee X*	-251 mm	670 mm
Outboard Knee Y**	198 mm	216 mm
Outboard Knee Z*	445 mm	523 mm
Knee Spacing	300 mm	270 mm
Tip of Nose to Seatback	---	570 mm
Nose to Upper Rim	---	
Head to Side Header	---	256 mm
H-Point to Door	171 mm	185 mm
Arm to Door	---	---
Pelvic Angle	24.4 degrees	24.2 degrees

* Measurements are made from the body gauge hole.

** Measurements are made from the sill pinch flange.

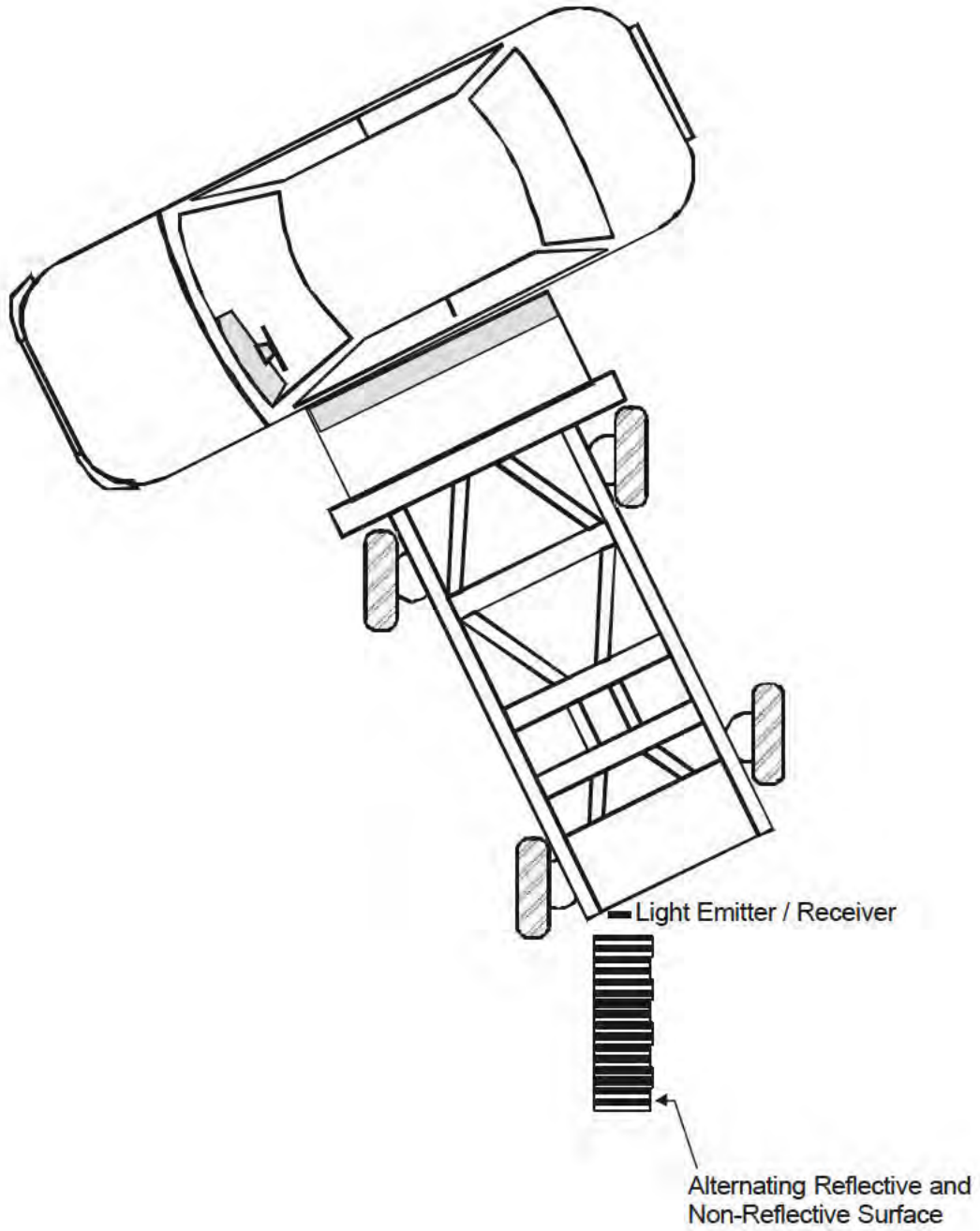
SECTION 5.0
PHOTOGRAPHIC COVERAGE AND SPEED TRAP SETUP

FIGURE 1
CAMERA LOCATIONS



#	View
1	RH side door handle
2	Front oblique view of vehicle (real time)
3	Front view of vehicle (video)
4	Overhead view – overall
5	Front view of front passenger (onboard)
6	Profile view of front passenger (onboard)
7	Profile view of rear passenger (onboard)
8	Rear view of vehicle
9	Rear view of rear passenger (onboard)
10	Right side profile view of vehicle (MDB mount, video)
11	Front oblique view of front passenger (onboard)

FIGURE 2
SPEED TRAP SETUP



SECTION 6.0
FUEL SYSTEM DATA

TABLE 5
FUEL SYSTEM DATA

Make/model:	2005 Nissan P61B vehicle
Fuel system capacity:	80.0 L
Usable capacity:	80.0 L
Test volume range:	76.0 L (95% of usable capacity)
Test fluid type:	Stoddard solvent
Specific gravity:	0.77-0.8
Kinematic viscosity:	1.36 centistoke @ 20 Degree C
Test fluid color:	Purple

TABLE 6
FLUID SYSTEM COLLECTION DATA

Test Date	6/18/04	Project	2005 Nissan P61B
Test Number	B1040195	Test Personnel	Rashad Ahmad

TIME AFTER CRASH MOTION CEASES:

INTERVAL	Oz.	INTERVAL	Oz.
1 st 5 minutes	0	18 th minute	0
6 th minute	0	19 th minute	0
7 th minute	0	20 th minute	0
8 th minute	0	21 st minute	0
9 th minute	0	22 nd minute	0
10 th minute	0	23 rd minute	0
11 th minute	0	24 th minute	0
12 th minute	0	25 th minute	0
13 th minute	0	26 th minute	0
14 th minute	0	27 th minute	0
15 th minute	0	28 th minute	0
16 th minute	0	29 th minute	0
17 th minute	0	30 th minute	0

ROLLOVER START TIME: 2:05 p.m.

		Oz.
90° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
180° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
270° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
360° Rill Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0

ROLLOVER FINISH TIME: 2:35 p.m.

APPENDIX A
TEST DATA PLOTS



Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACXA

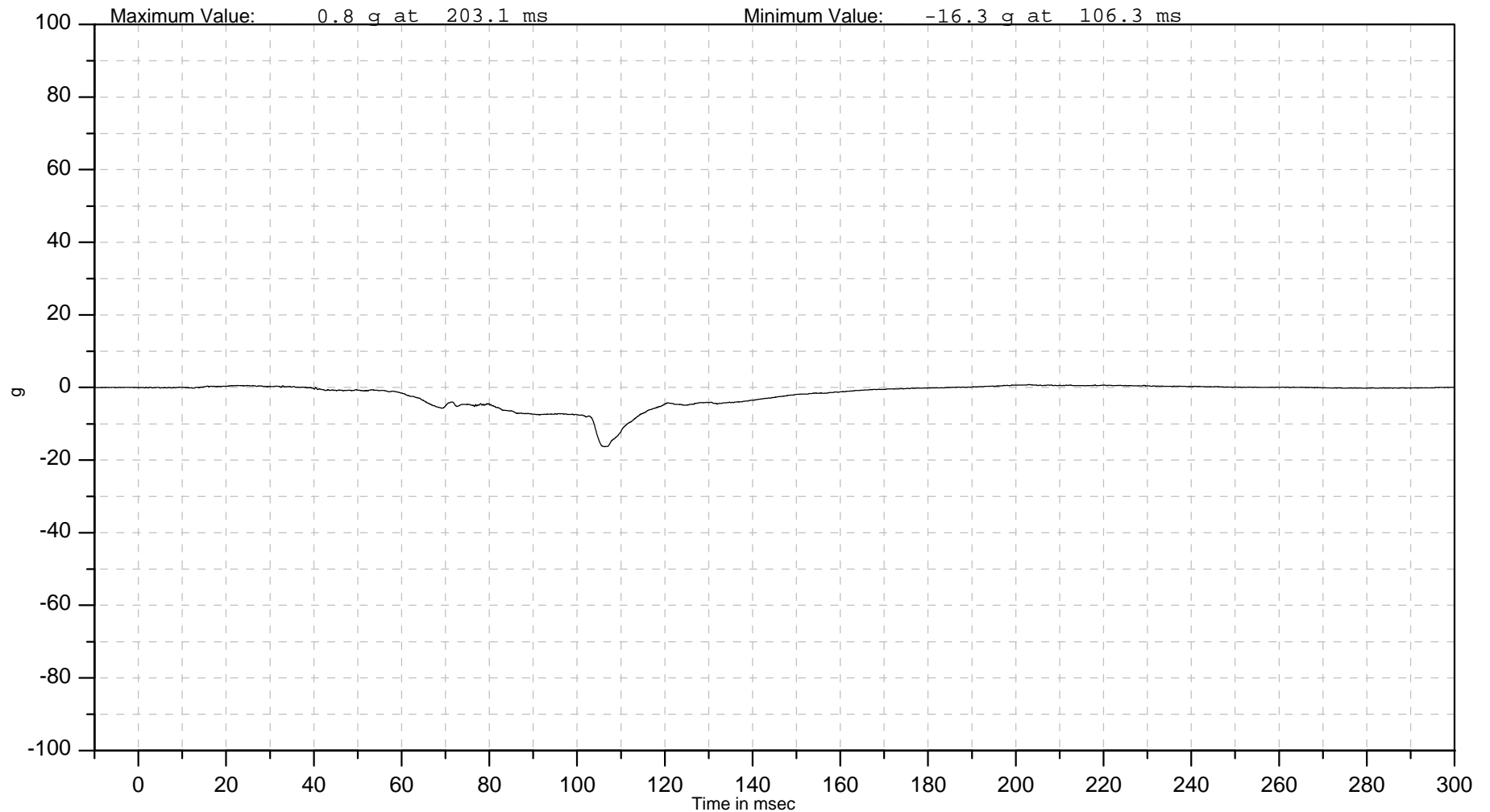
ISO Channel
11HEAD0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head X Acceleration





Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACYA

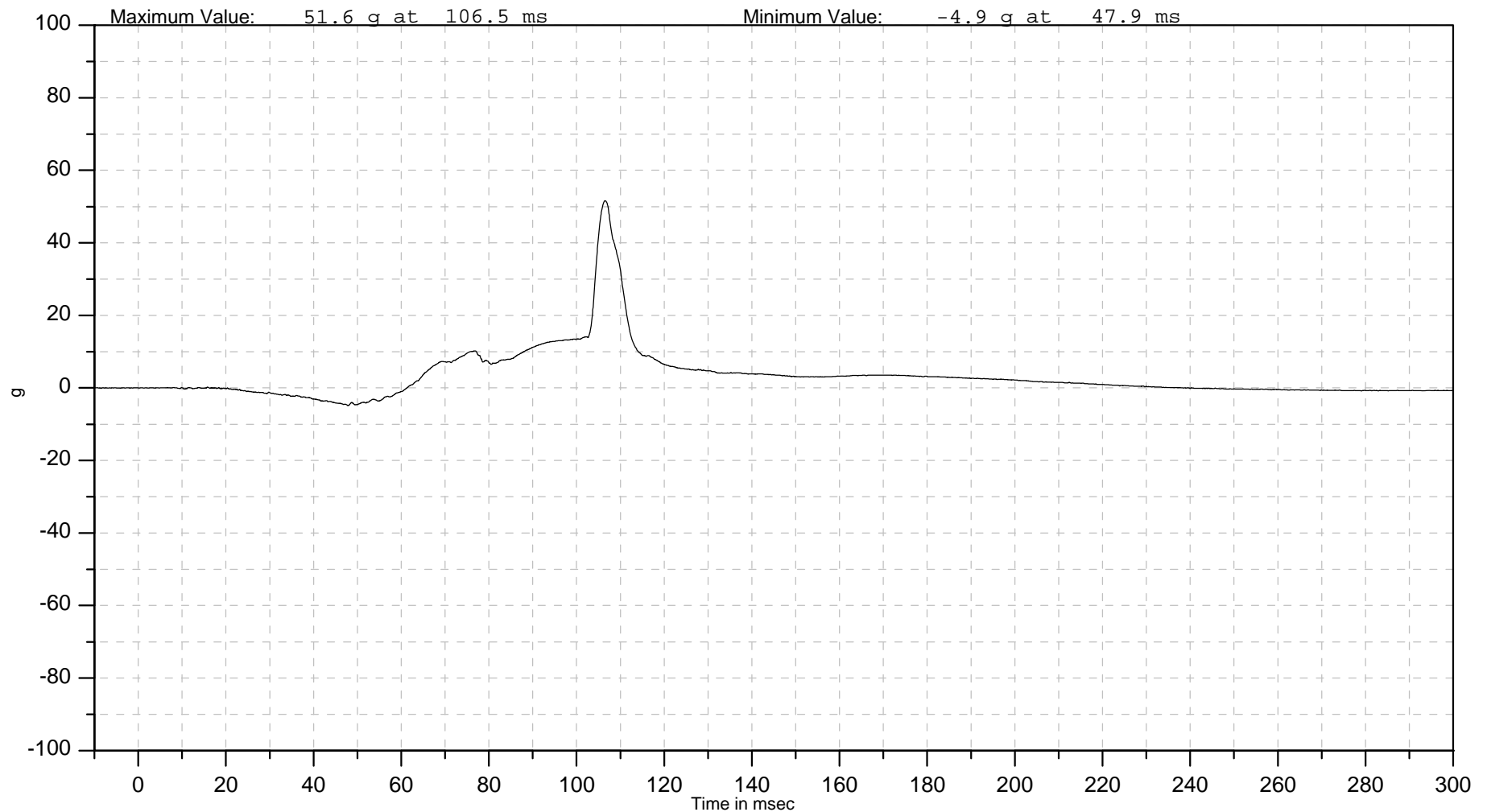
ISO Channel
11HEAD0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACZA

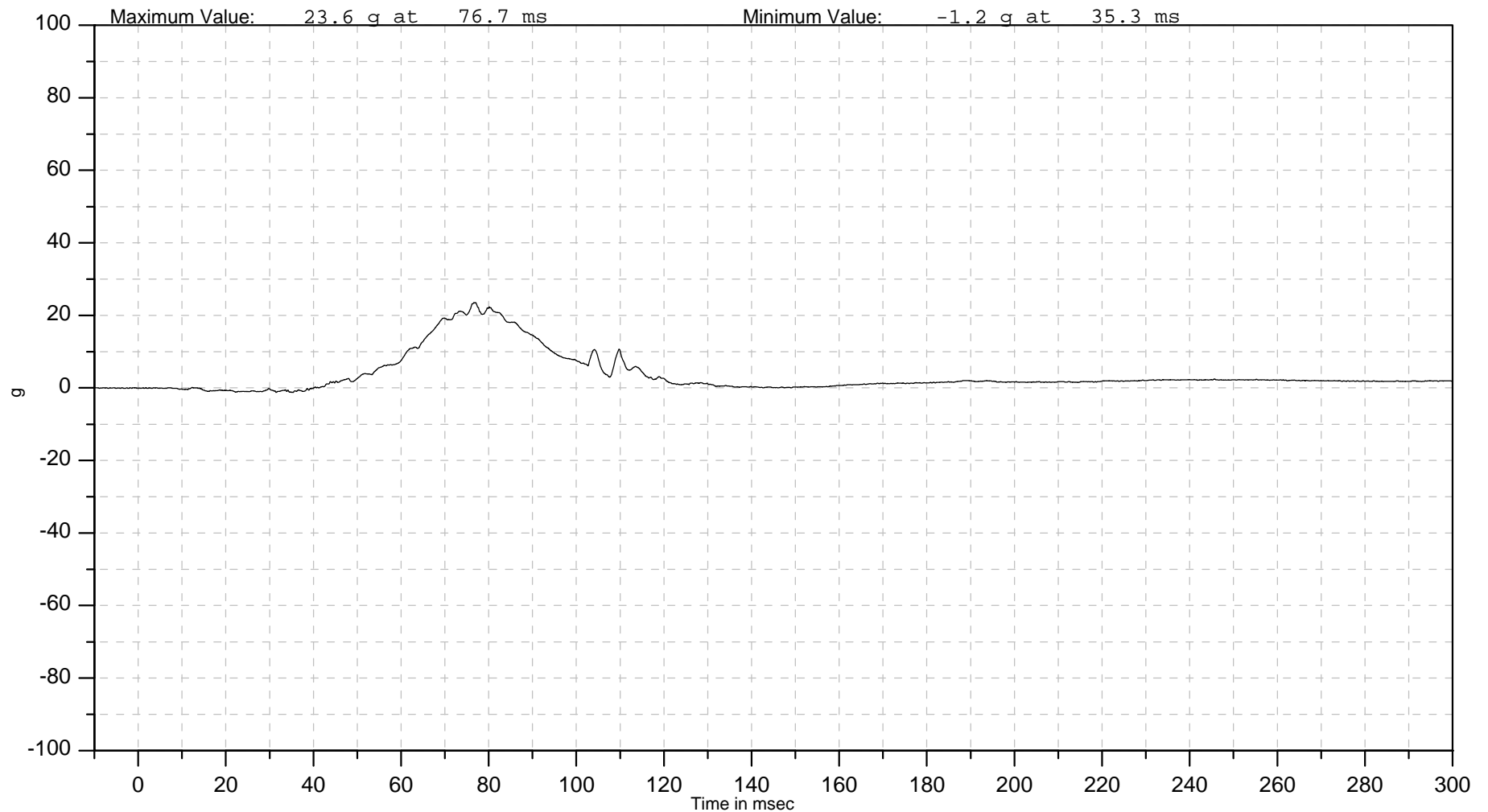
ISO Channel
11HEAD0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACRA

ISO Channel
11HEAD0000SHACRA

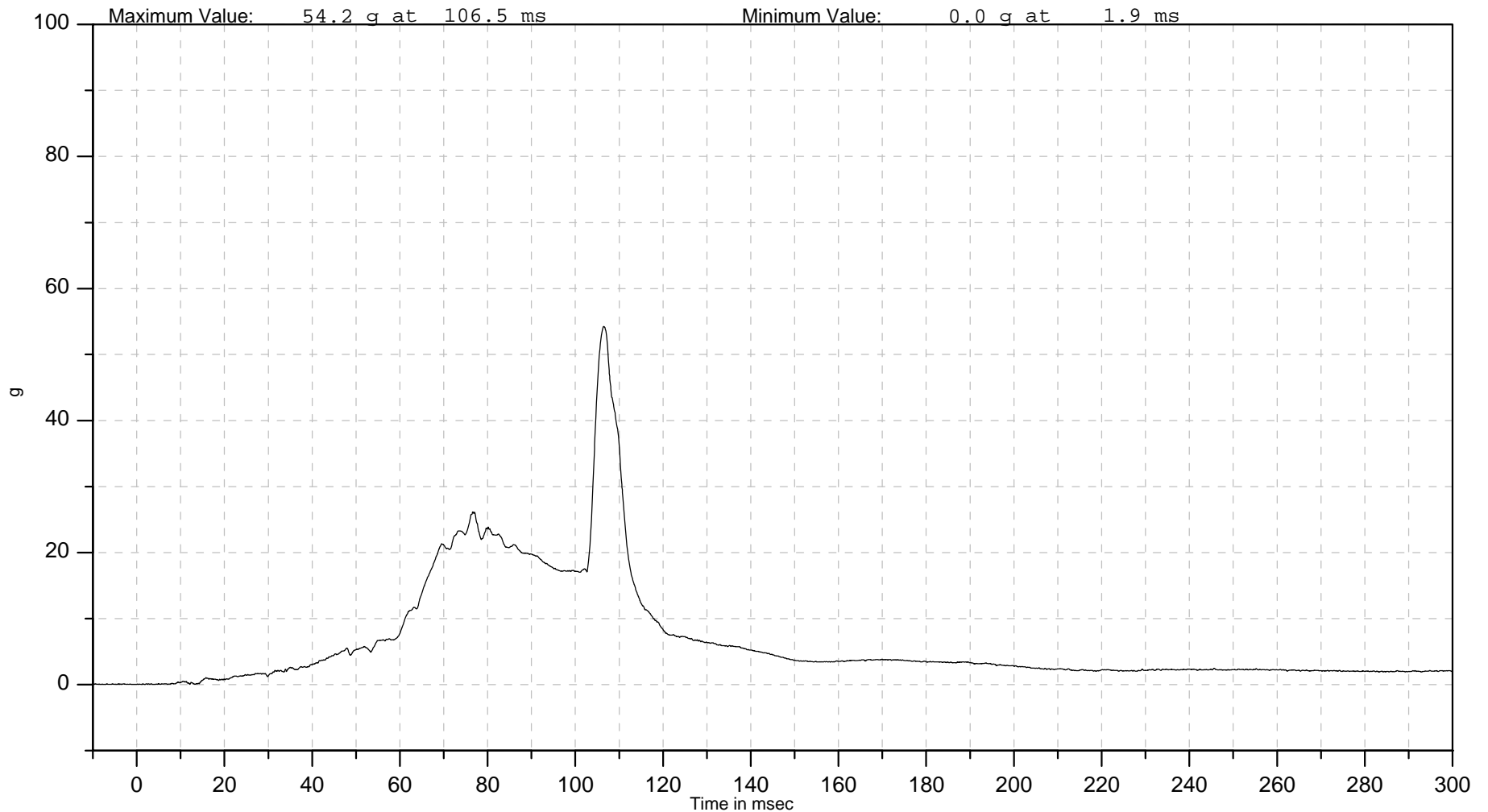
Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head Resultant Acceleration

HIC36: 111 from 75.4 to 111.4 msec (36.0 msec interval)
HIC15: 88 from 103.7 to 111.2 msec (7.5 msec interval)





Autoliv North America (NTC)

Autoliv Channel
11CHST0000SHDSYB

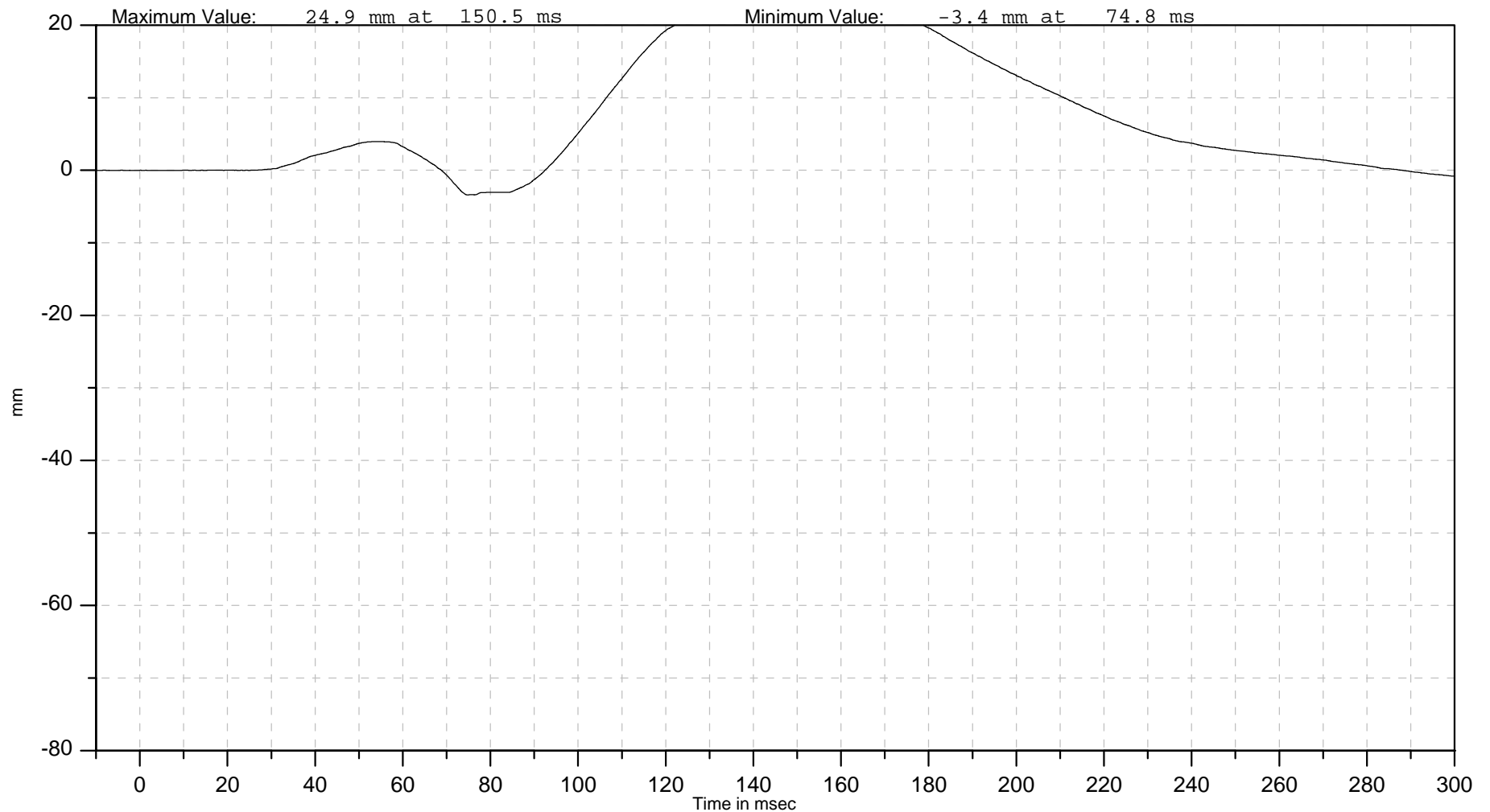
ISO Channel
11CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Driver Chest Y Displacement





Autoliv North America (NTC)

Autoliv Channel
11CHST0000SHDSYB

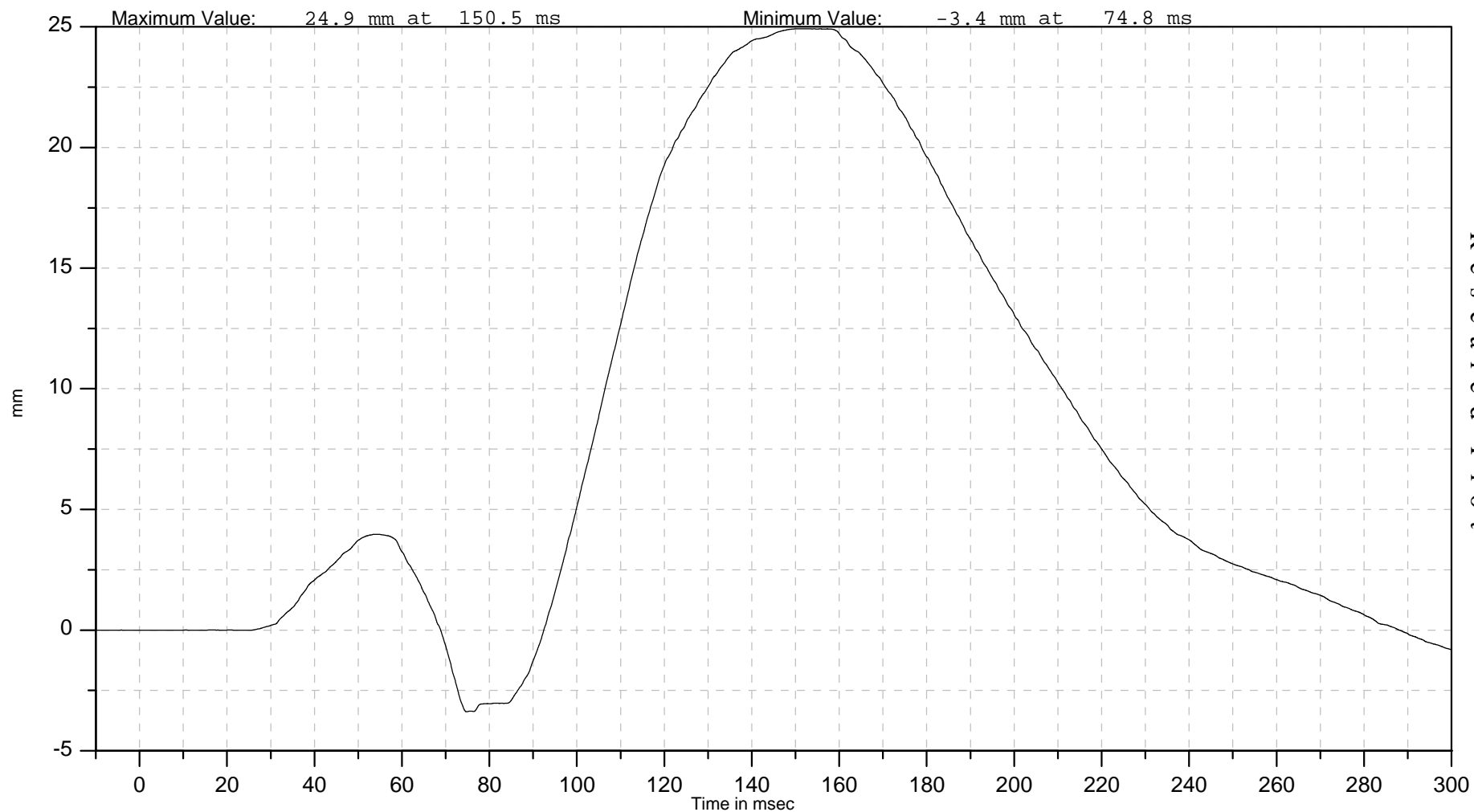
ISO Channel
11CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Driver Chest Y Displacement



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
11SPIN1200SHACYC

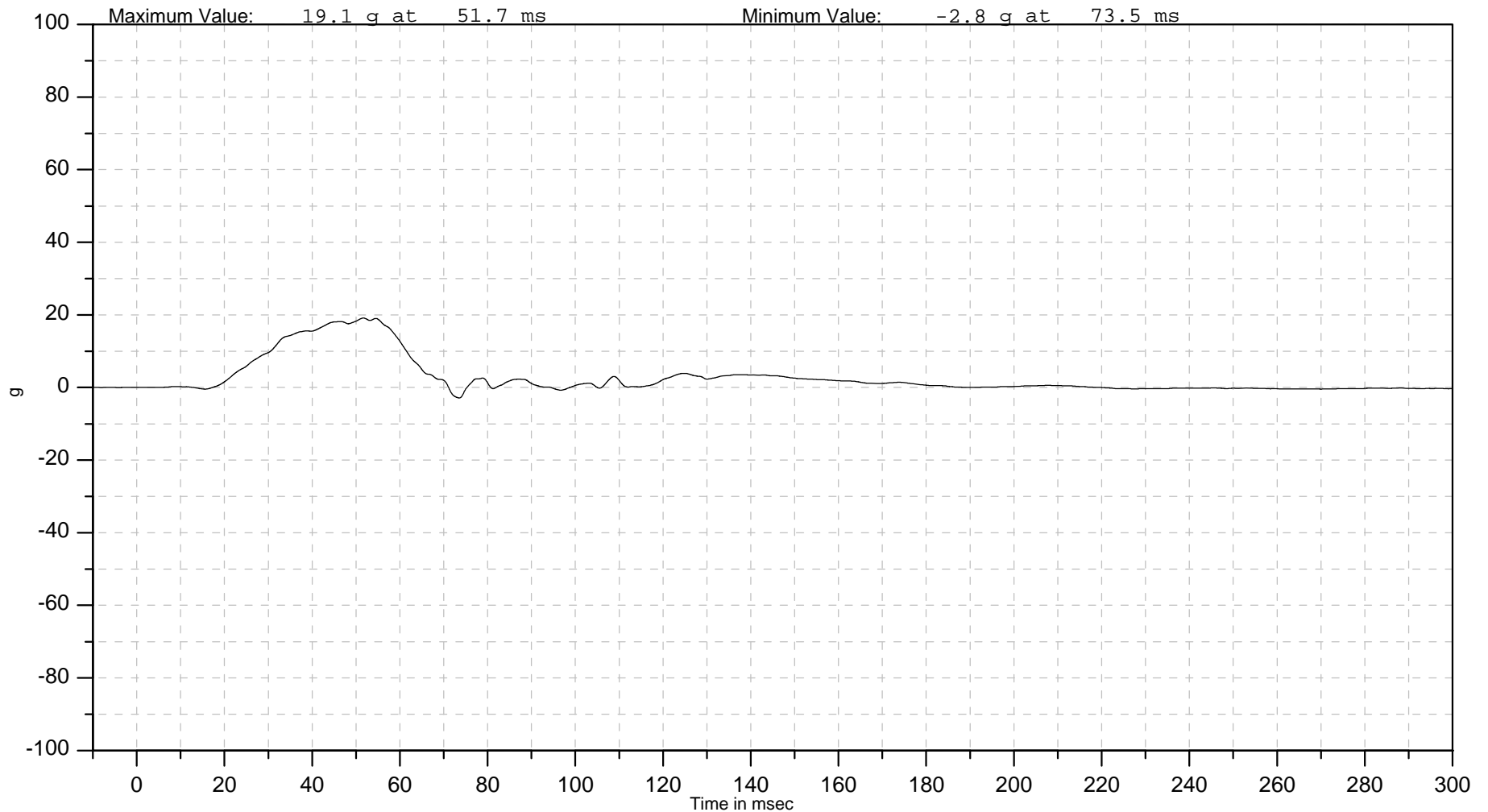
ISO Channel
11SPIN1200SHACYC

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 180
Sign Convention: SAE J211

Driver T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11SPIN1200SHACY1

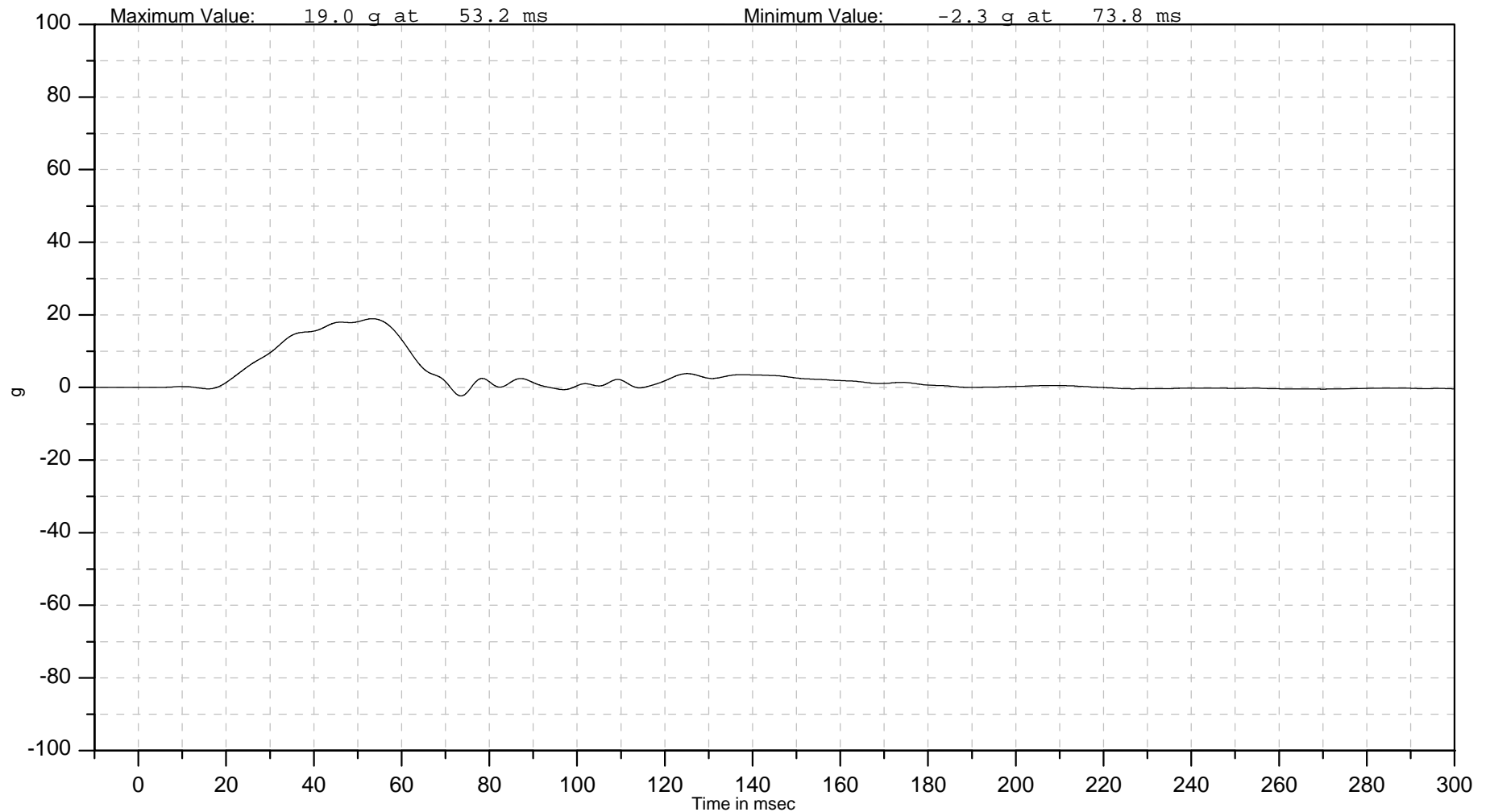
ISO Channel
11SPIN1200SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11SHLDLE00SHEV00

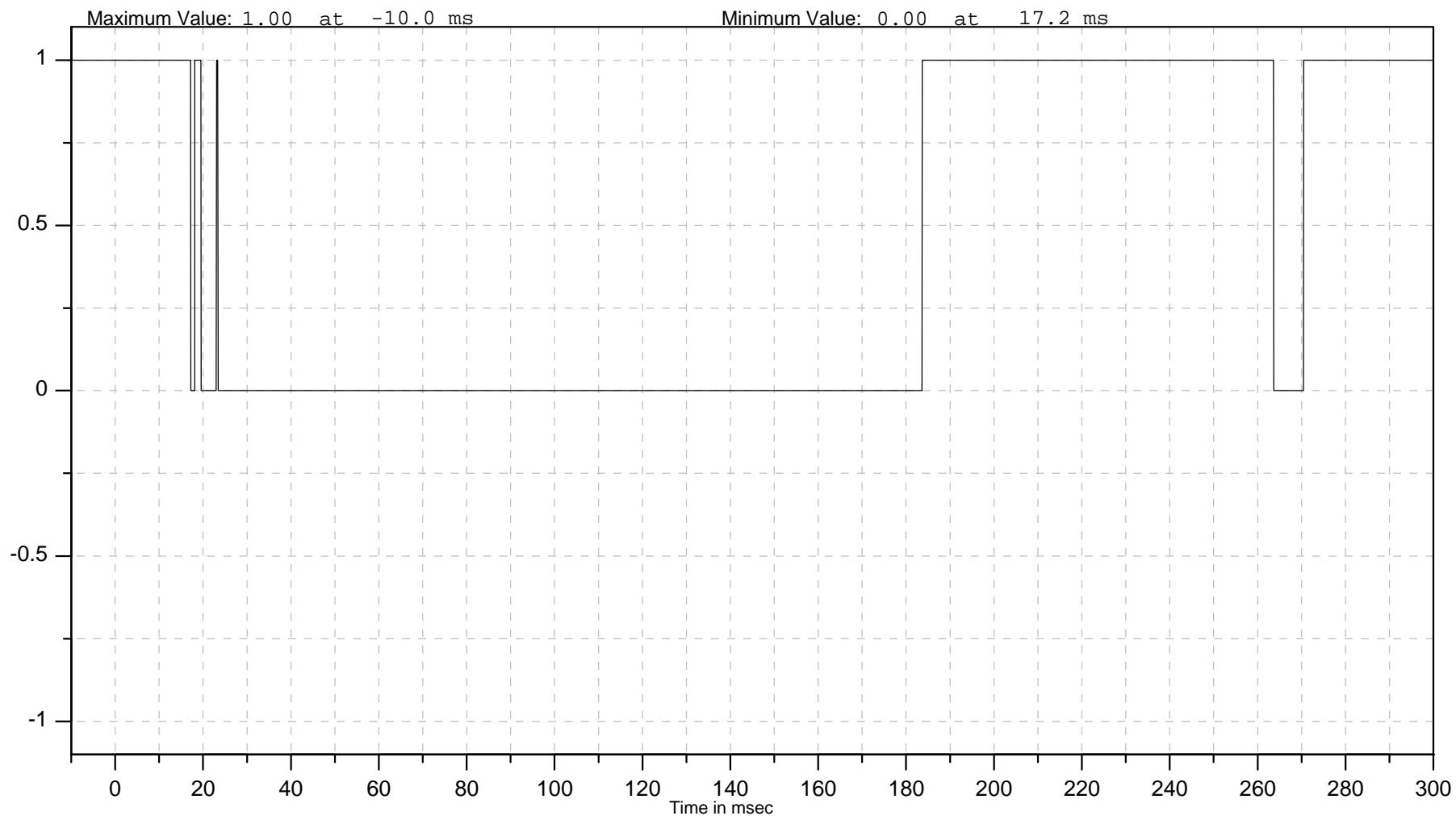
ISO Channel
11SHLDLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Driver Left Shoulder Event SidH3





Autoliv North America (NTC)

Autoliv Channel
11RIBSLEUPSHACYA

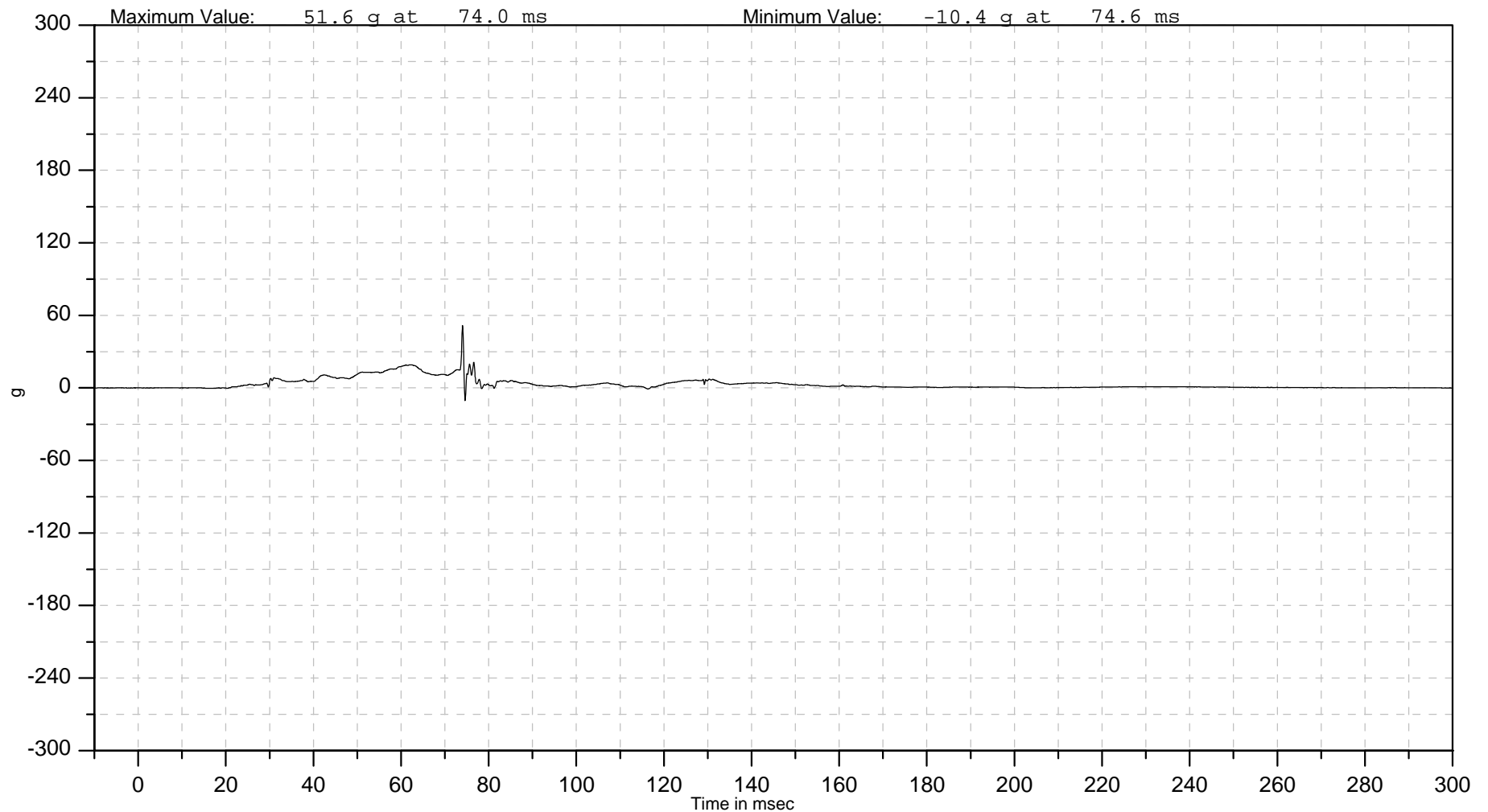
ISO Channel
11RIBSLEUPSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11RIBSLEUPSHACY1

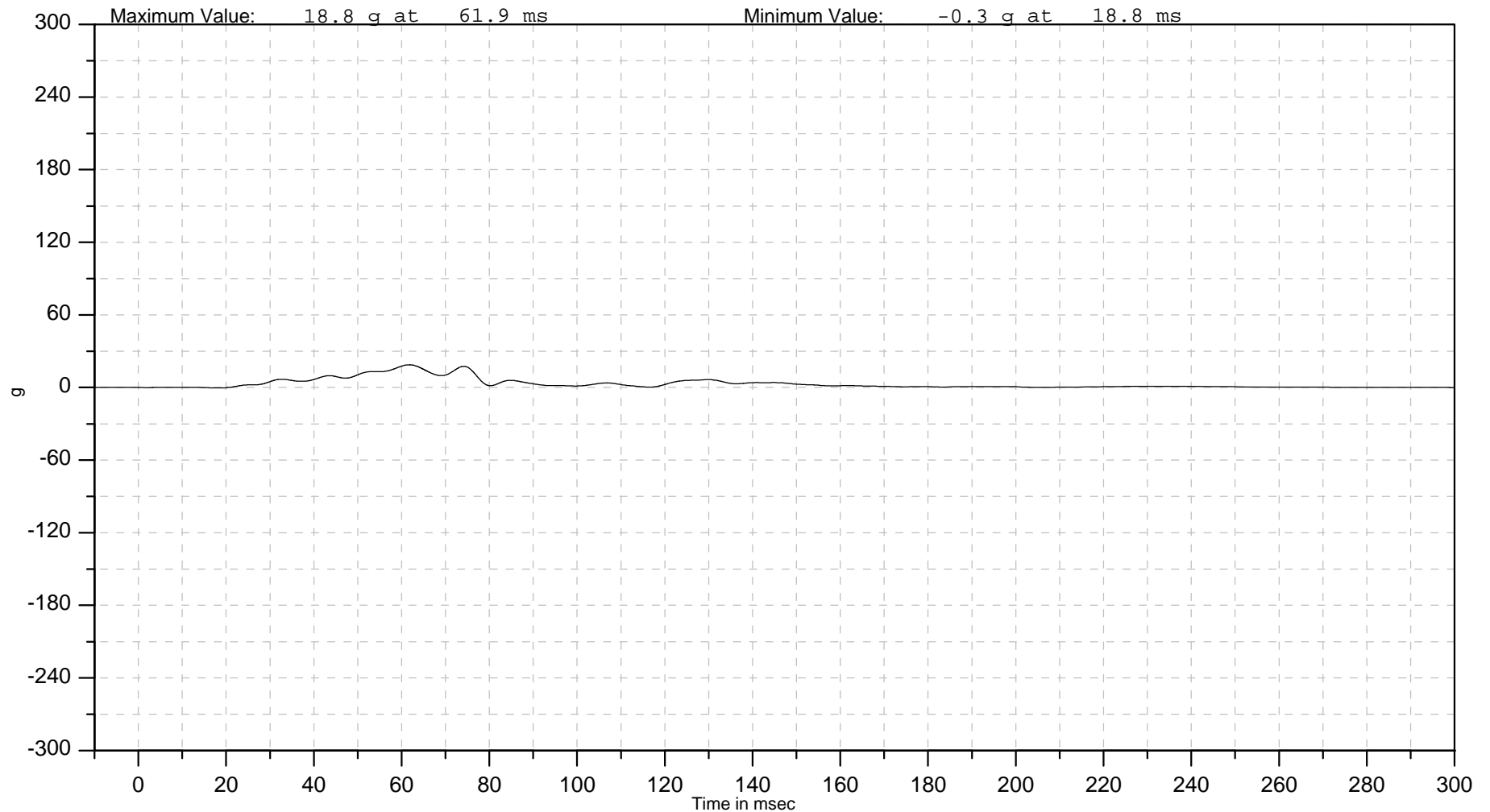
ISO Channel
11RIBSLEUPSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11RIBSLELOSHACYA

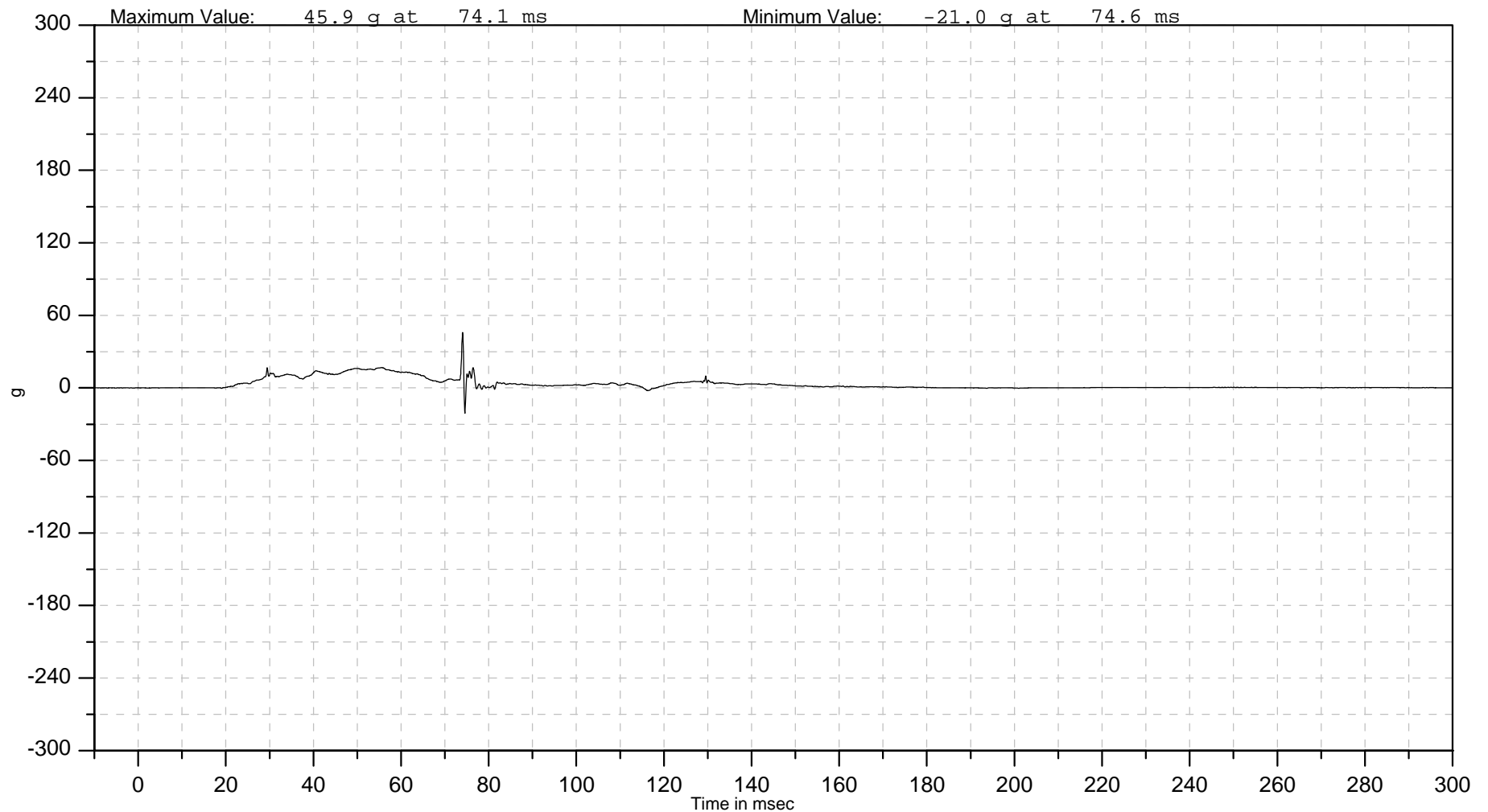
ISO Channel
11RIBSLELOSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Left Lower Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11RIBSLELOSHACY1

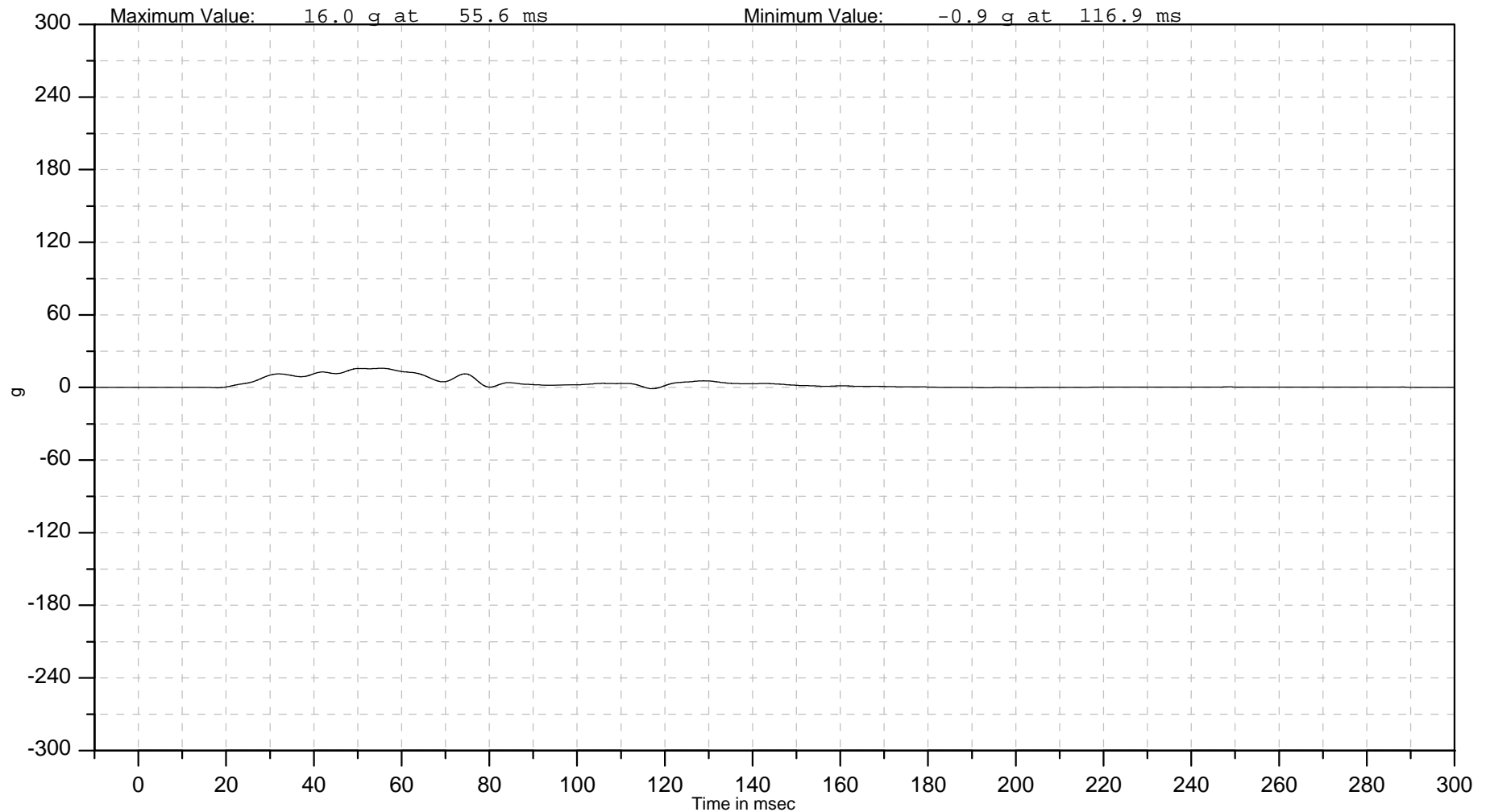
ISO Channel
11RIBSLELOSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Left Lower Rib Y Acceleration





Autoliv North America (ATC)

Autoliv Channel

ISO Channel

Test Number: B1040195

Test Date: 18-Jun-2004

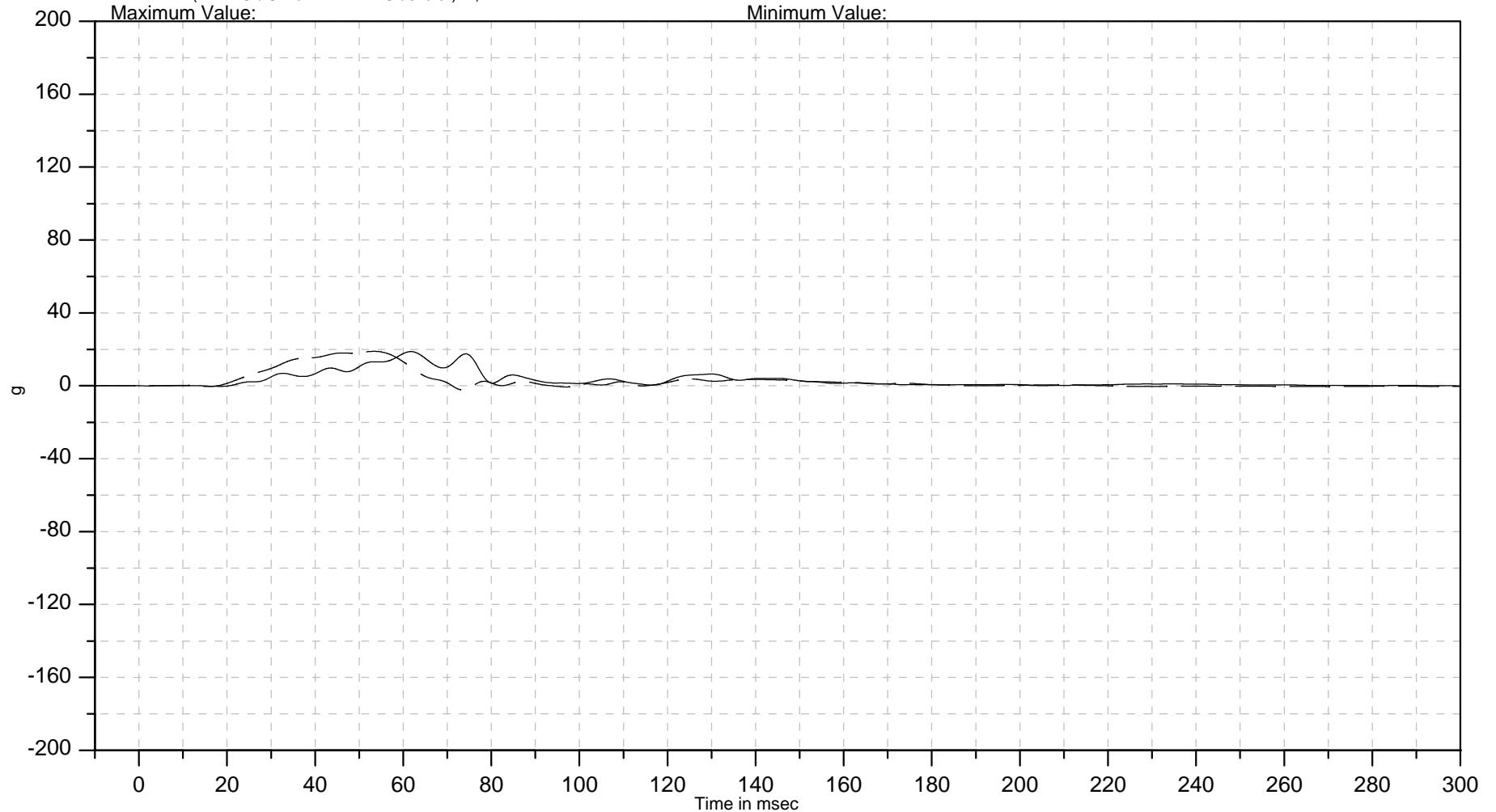
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Left Side TTI Calculation

Max Rib Y Acceleration = 18.816 g in Channel 11 (11RIBSLEUPSHACY1)
Max Spine T12 Y Acceleration = 18.966 g in Channel 8 (11SPIN1200SHACY1)
TTI = (18.816 + 18.966) / 2 = 19





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACXA

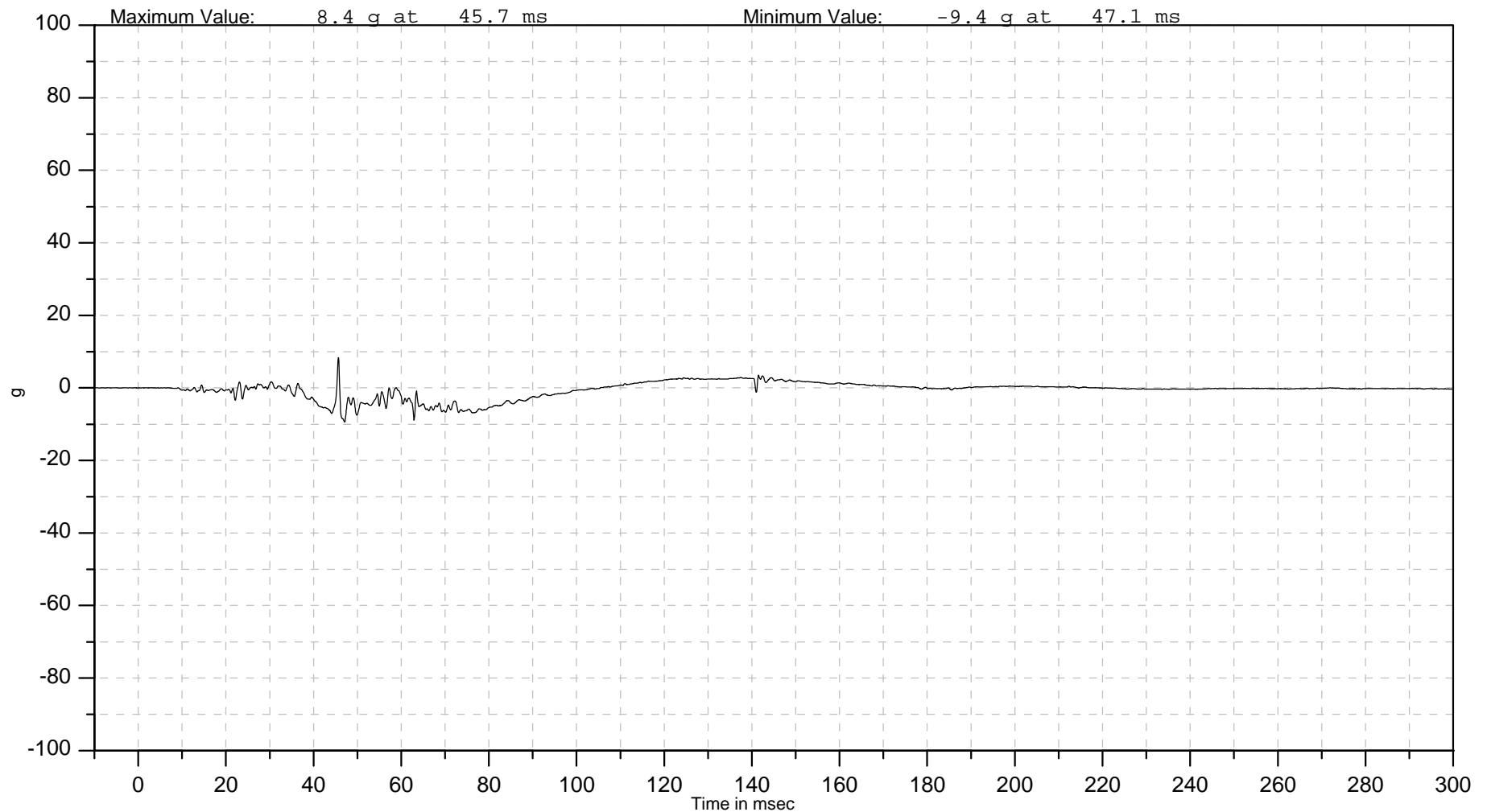
ISO Channel
11PELV0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis X Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACYA

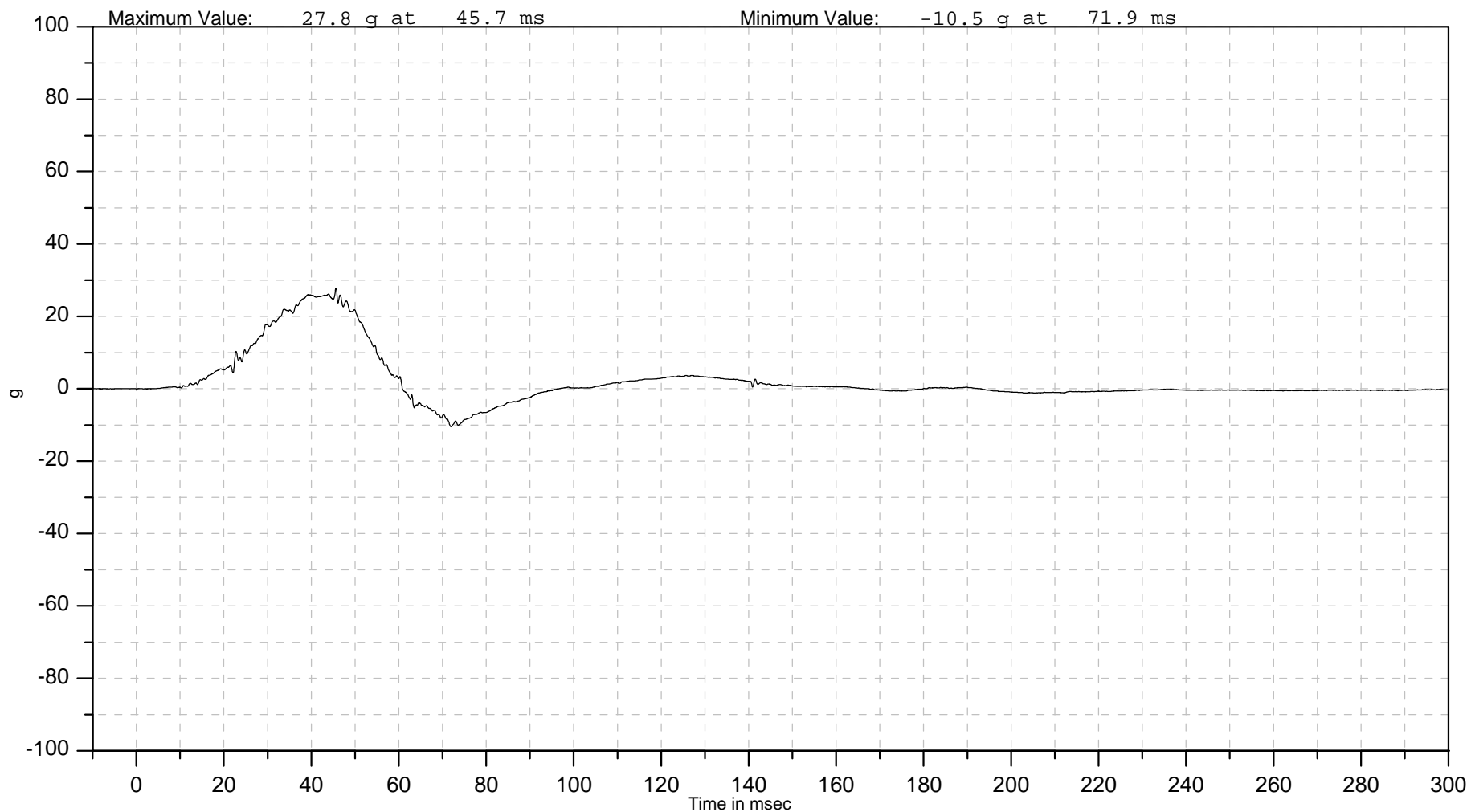
ISO Channel
11PELV0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACY1

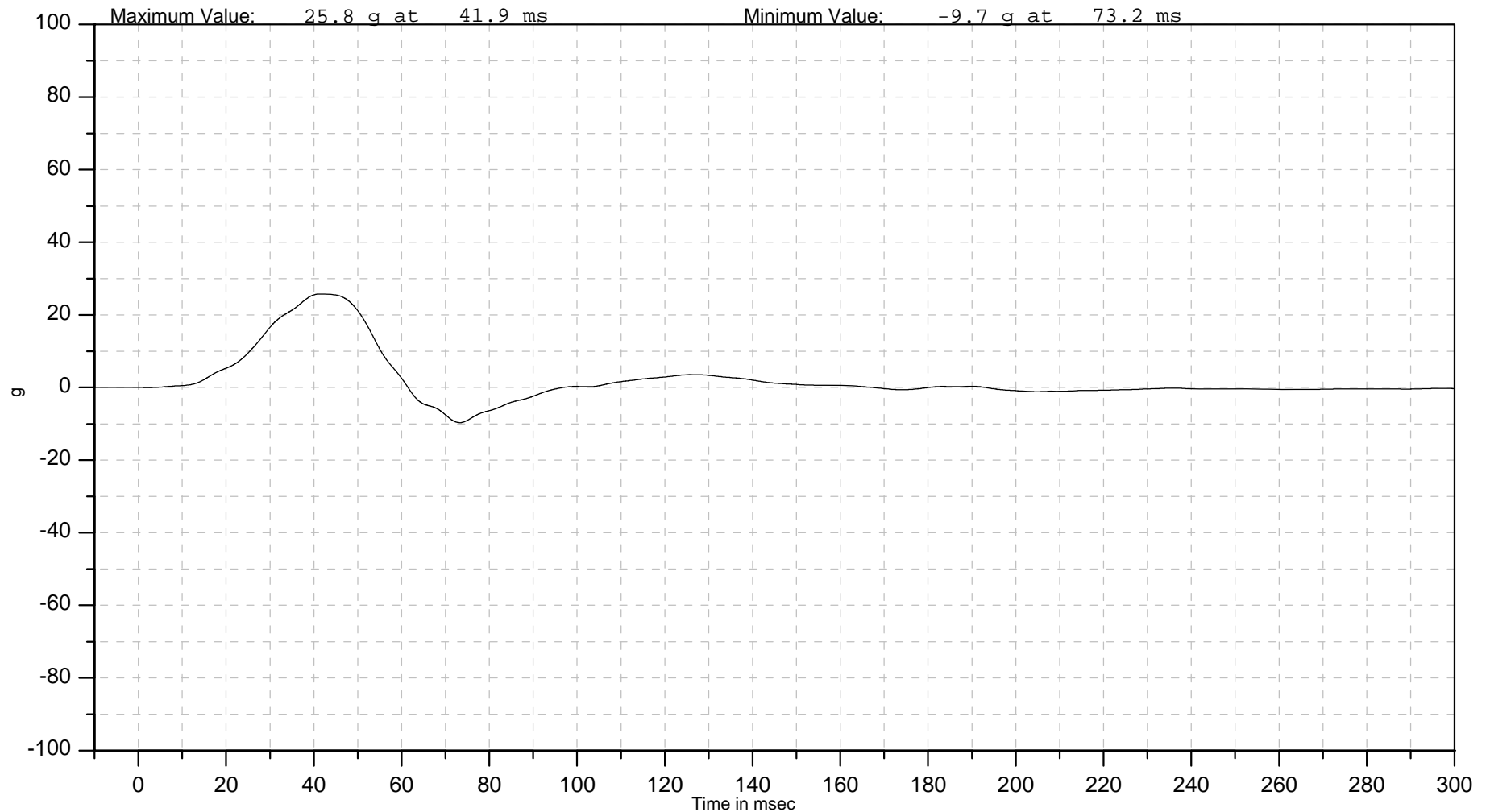
ISO Channel
11PELV0000SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACZA

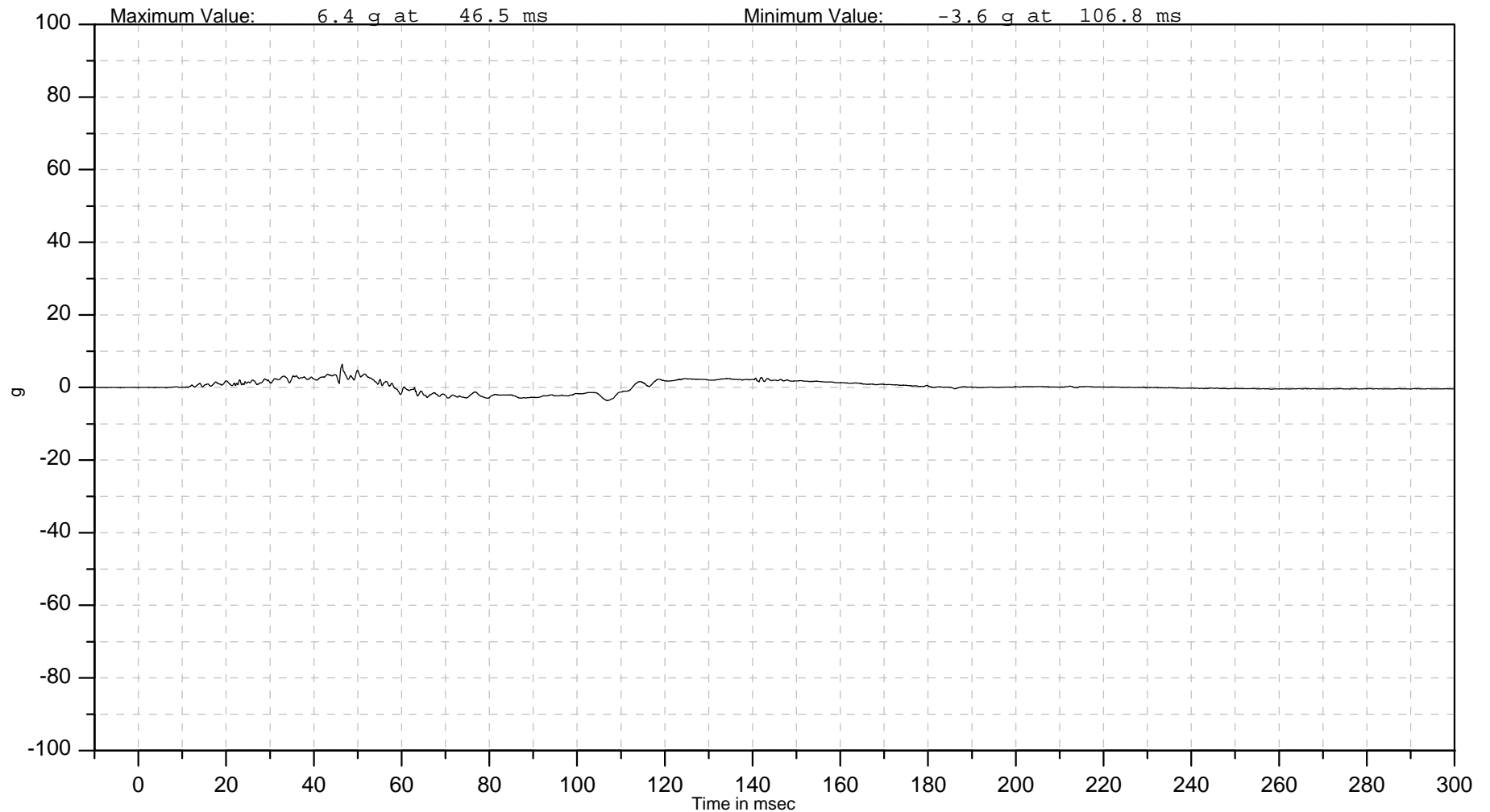
ISO Channel
11PELV0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACRA

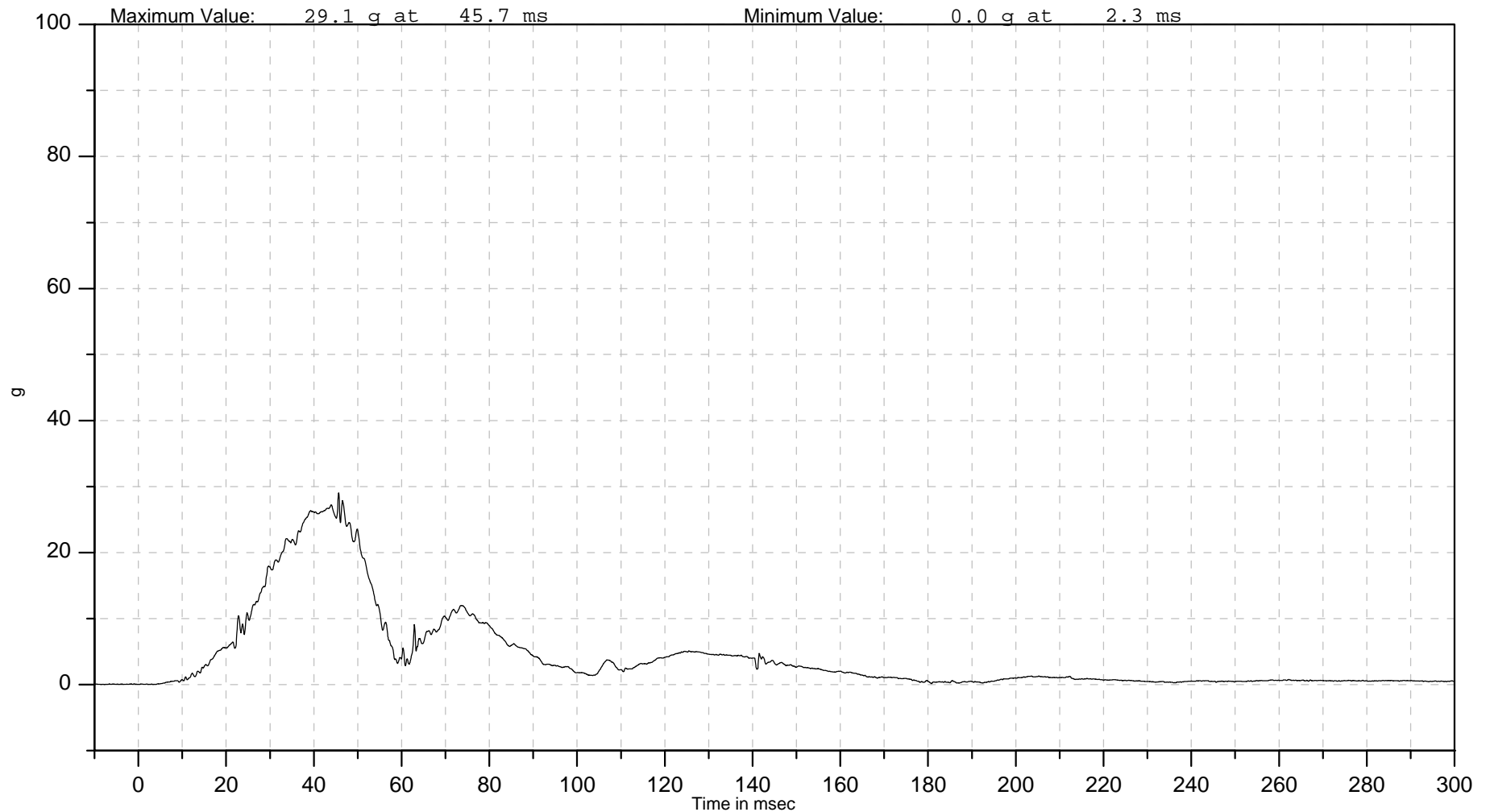
ISO Channel
11PELV0000SHACRA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis Resultant Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELVLE00SHEV00

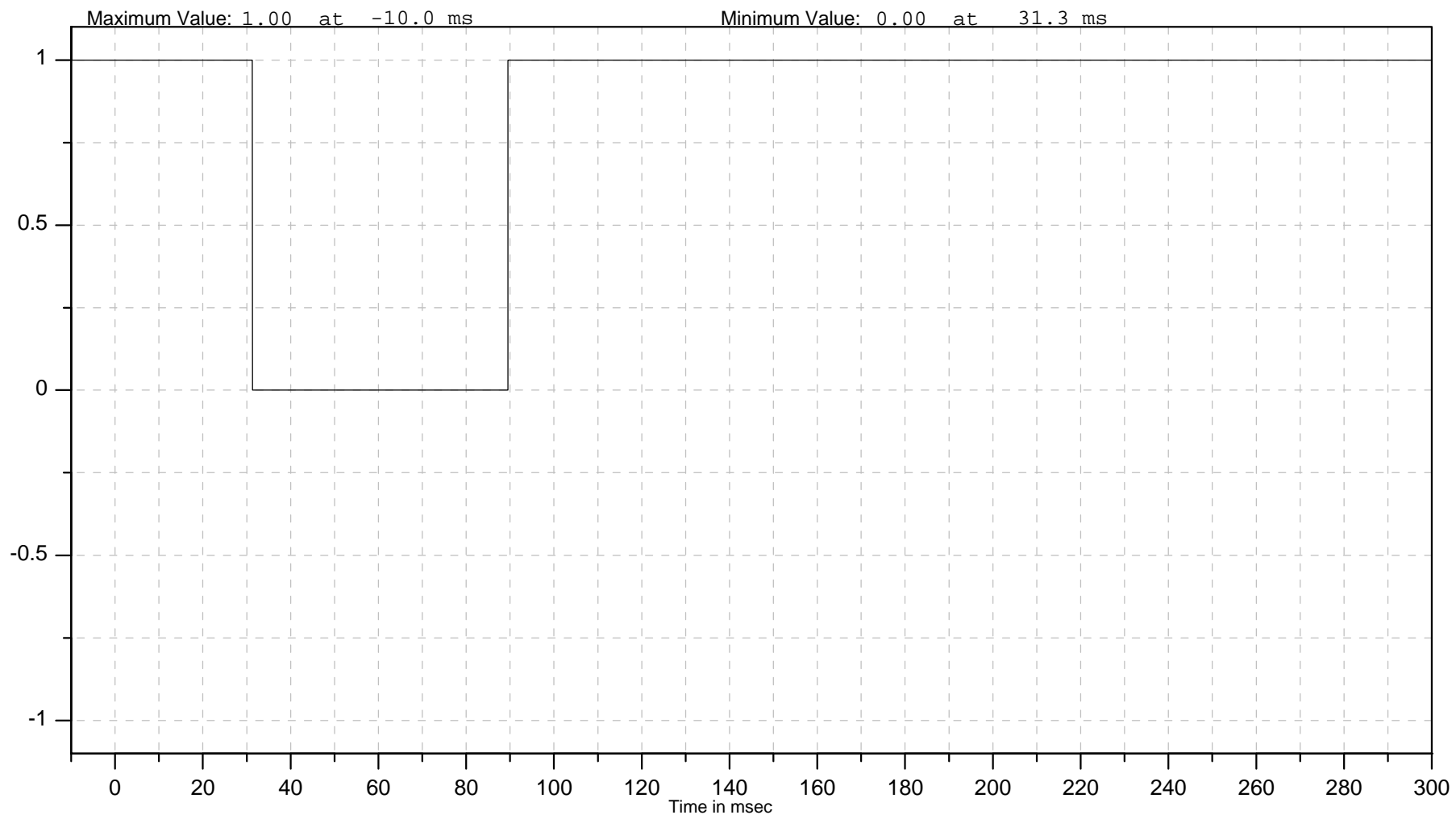
ISO Channel
11PELVLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Driver Left Pelvis Event SidH3





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACXA

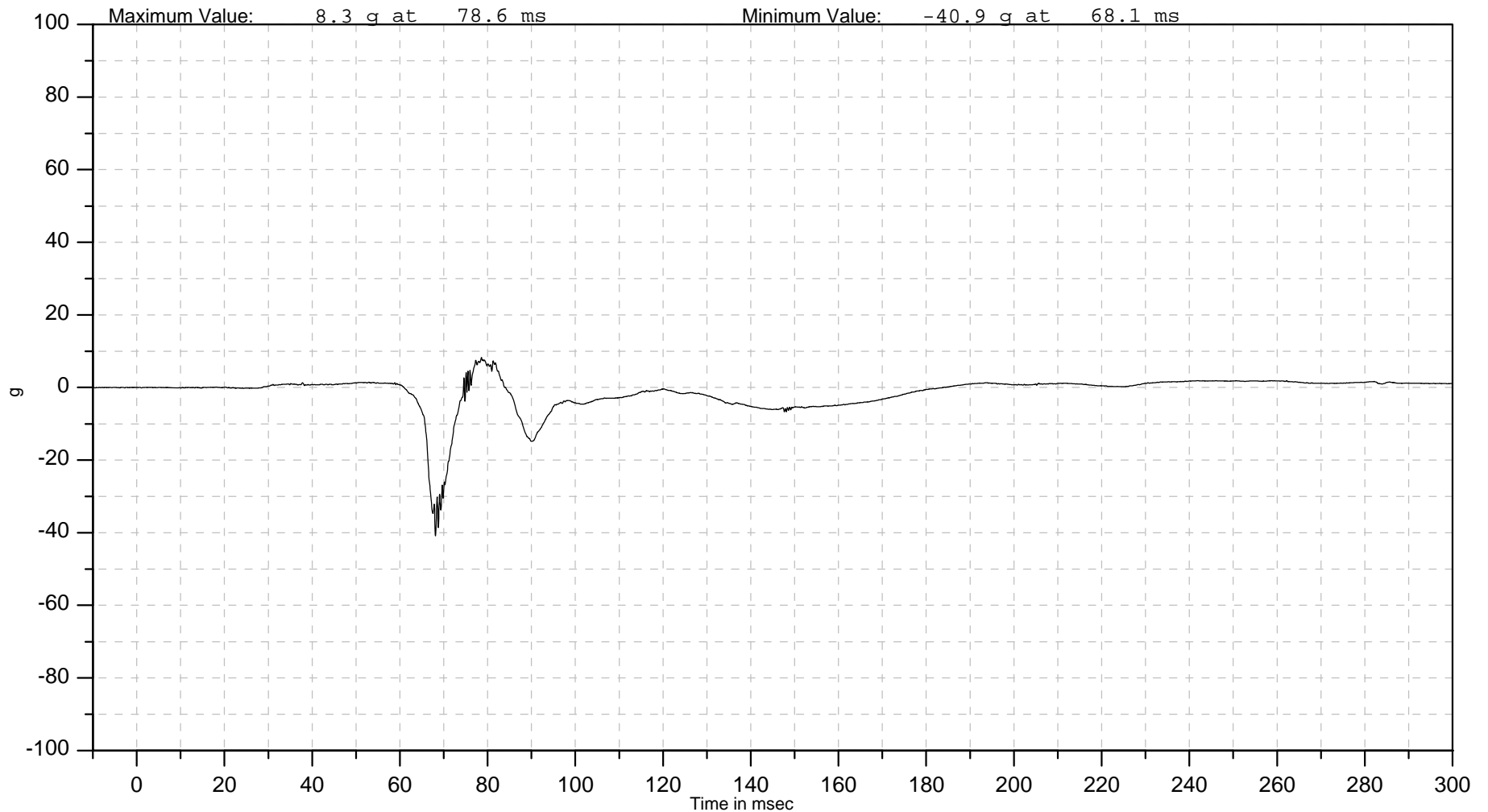
ISO Channel
14HEAD0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head X Acceleration





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACYA

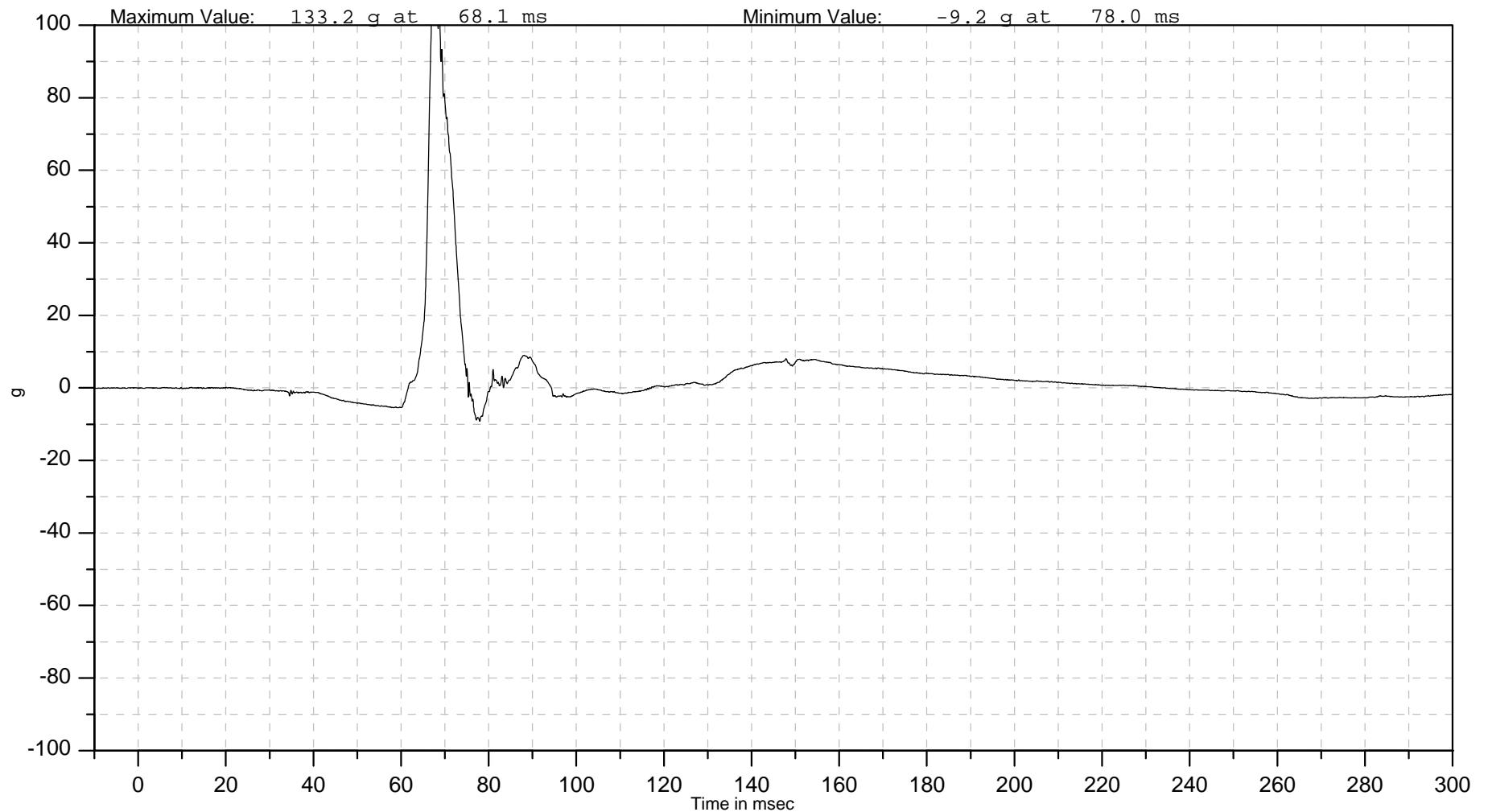
ISO Channel
14HEAD0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACYA

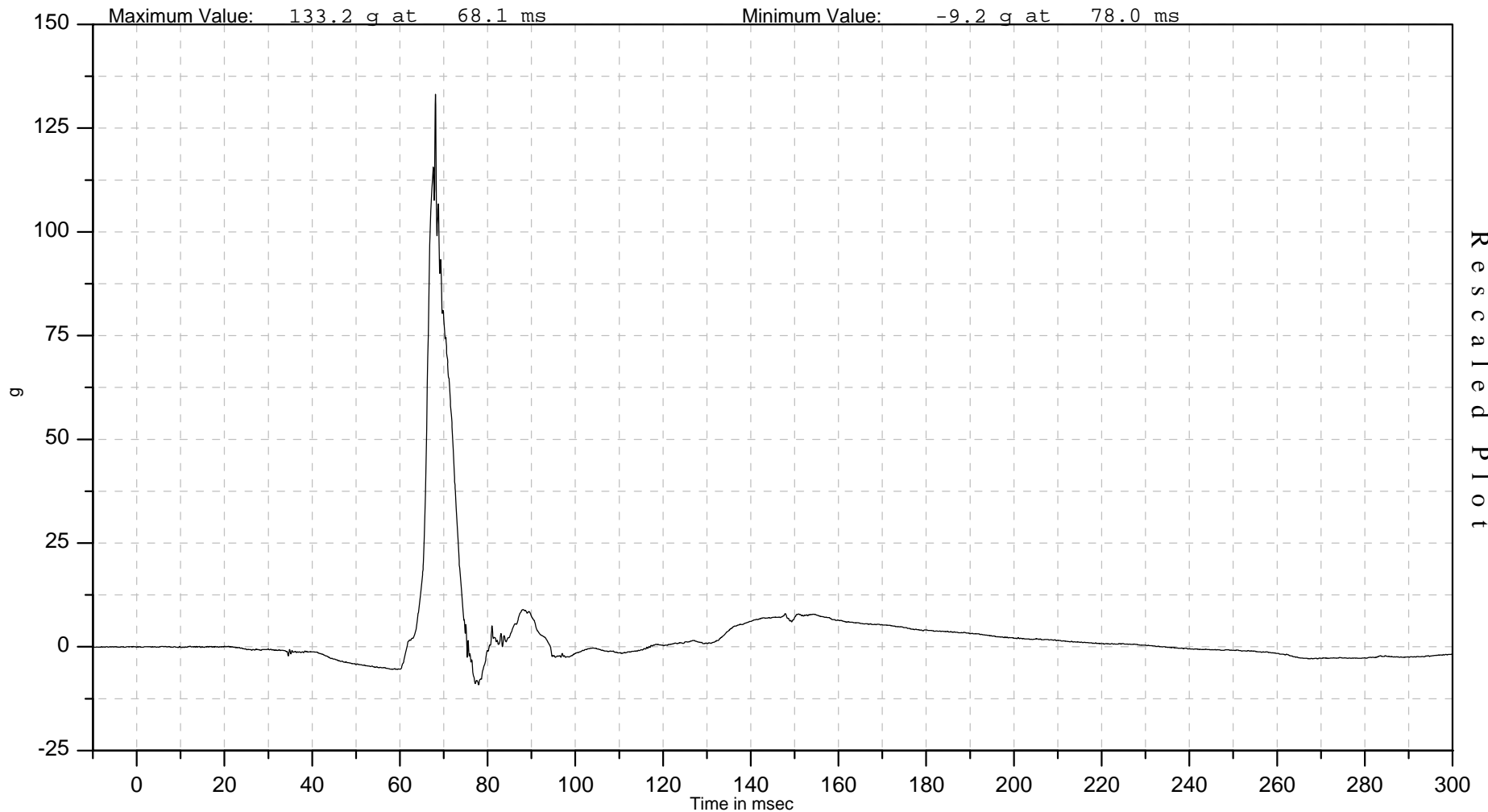
ISO Channel
14HEAD0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Y Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACZA

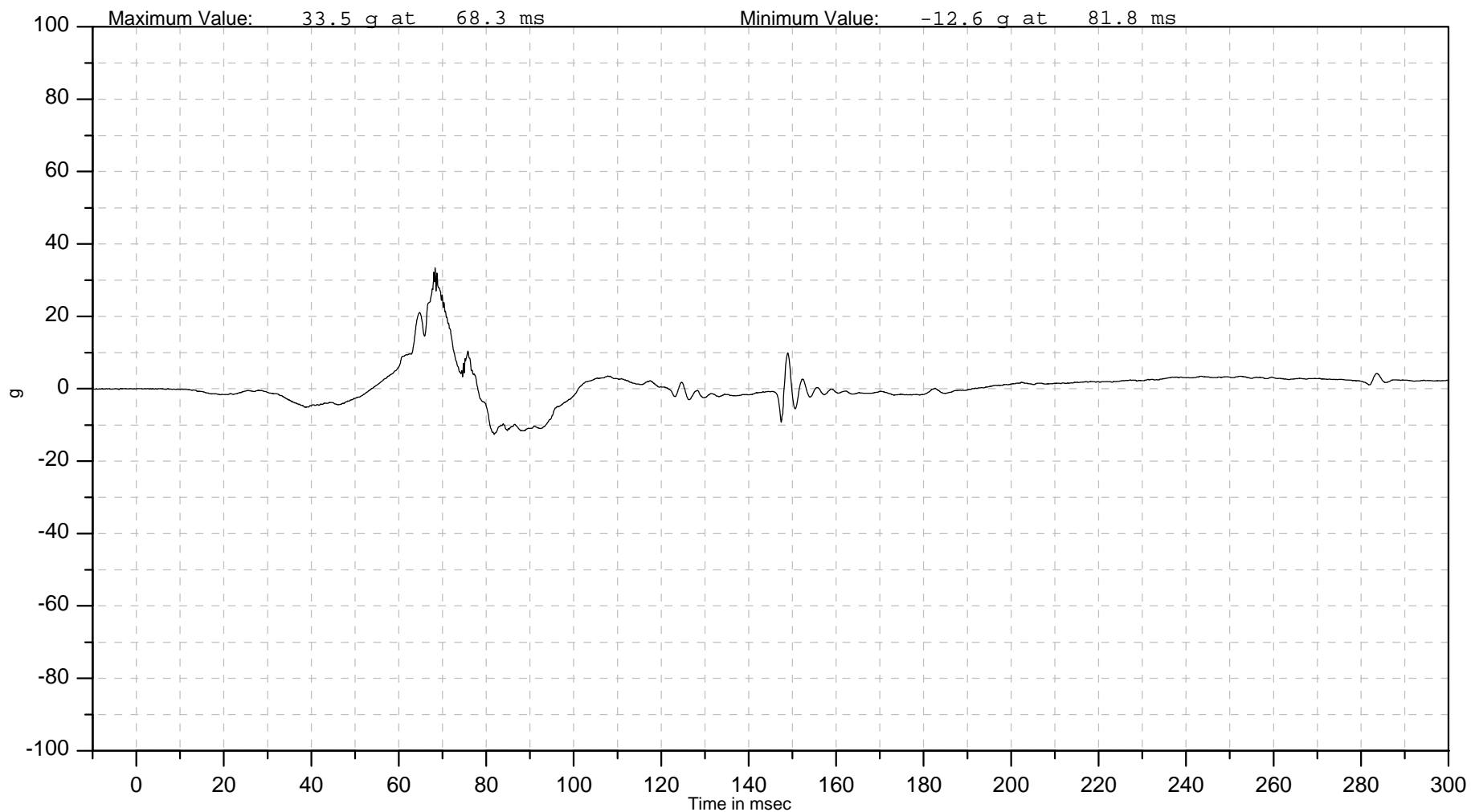
ISO Channel
14HEAD0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACRA

ISO Channel
14HEAD0000SHACRA

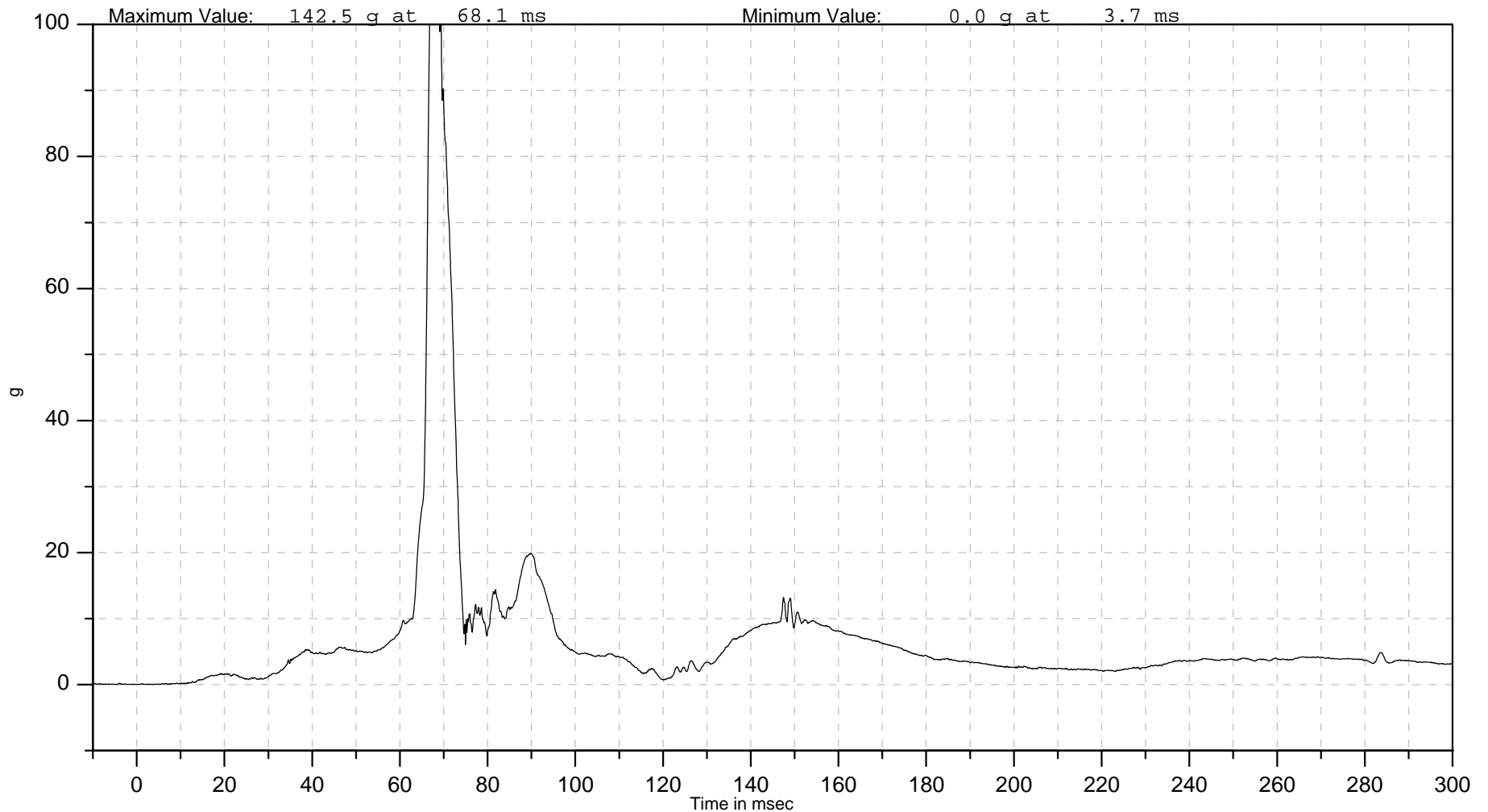
Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Resultant Acceleration

HIC36: 507 from 66.1 to 71.9 msec (5.8 msec interval)
HIC15: 507 from 66.1 to 71.9 msec (5.8 msec interval)





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACRA

ISO Channel
14HEAD0000SHACRA

Test Number: B1040195

Test Date: 18-Jun-2004

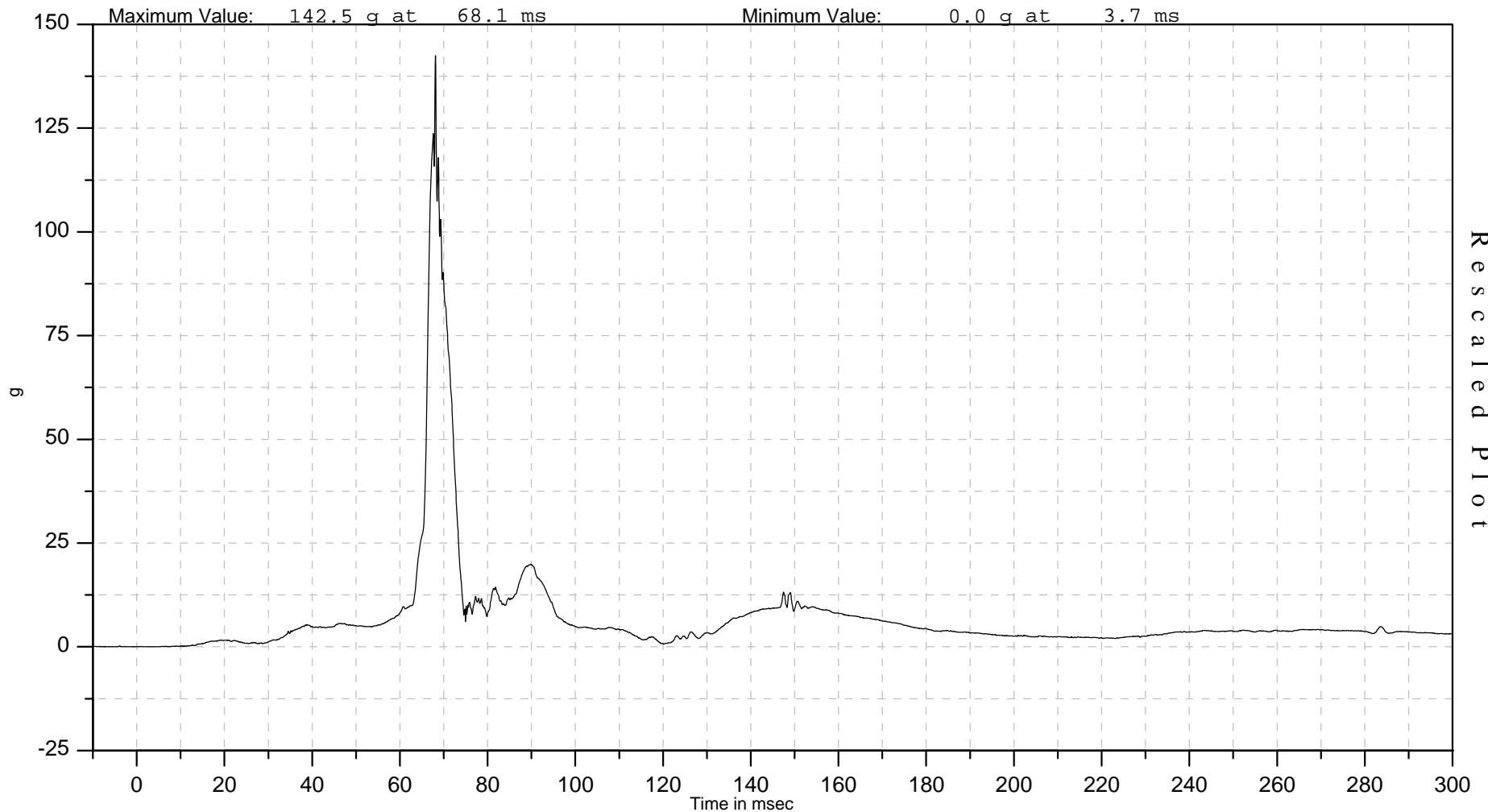
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Resultant Acceleration

HIC36: 507 from 66.1 to 71.9 msec (5.8 msec interval)
HIC15: 507 from 66.1 to 71.9 msec (5.8 msec interval)





Autoliv North America (NTC)

Autoliv Channel
14CHST0000SHDSYB

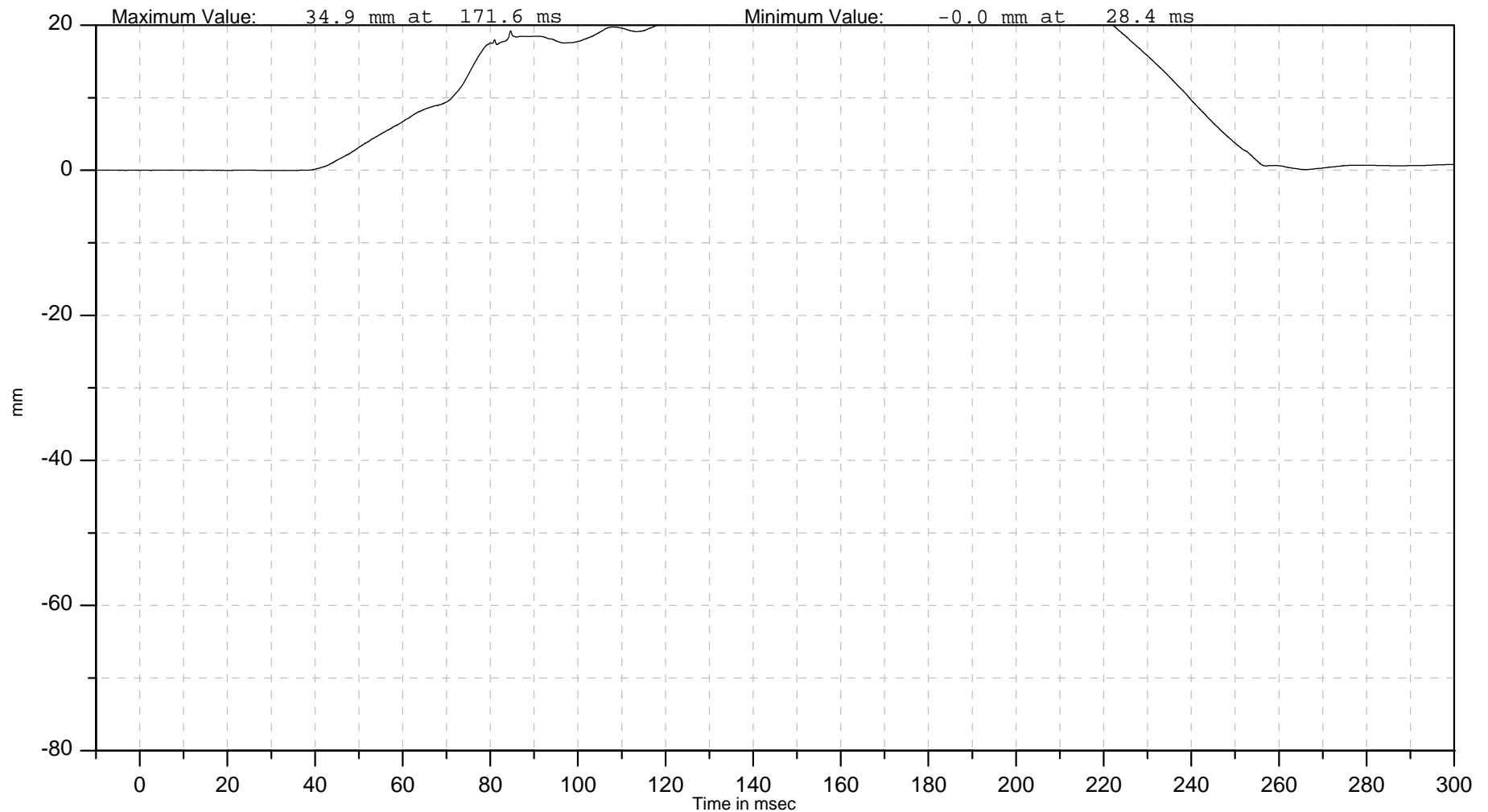
ISO Channel
14CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Left 2nd Row Pass Chest Y Displacement





Autoliv North America (NTC)

Autoliv Channel
14CHST0000SHDSYB

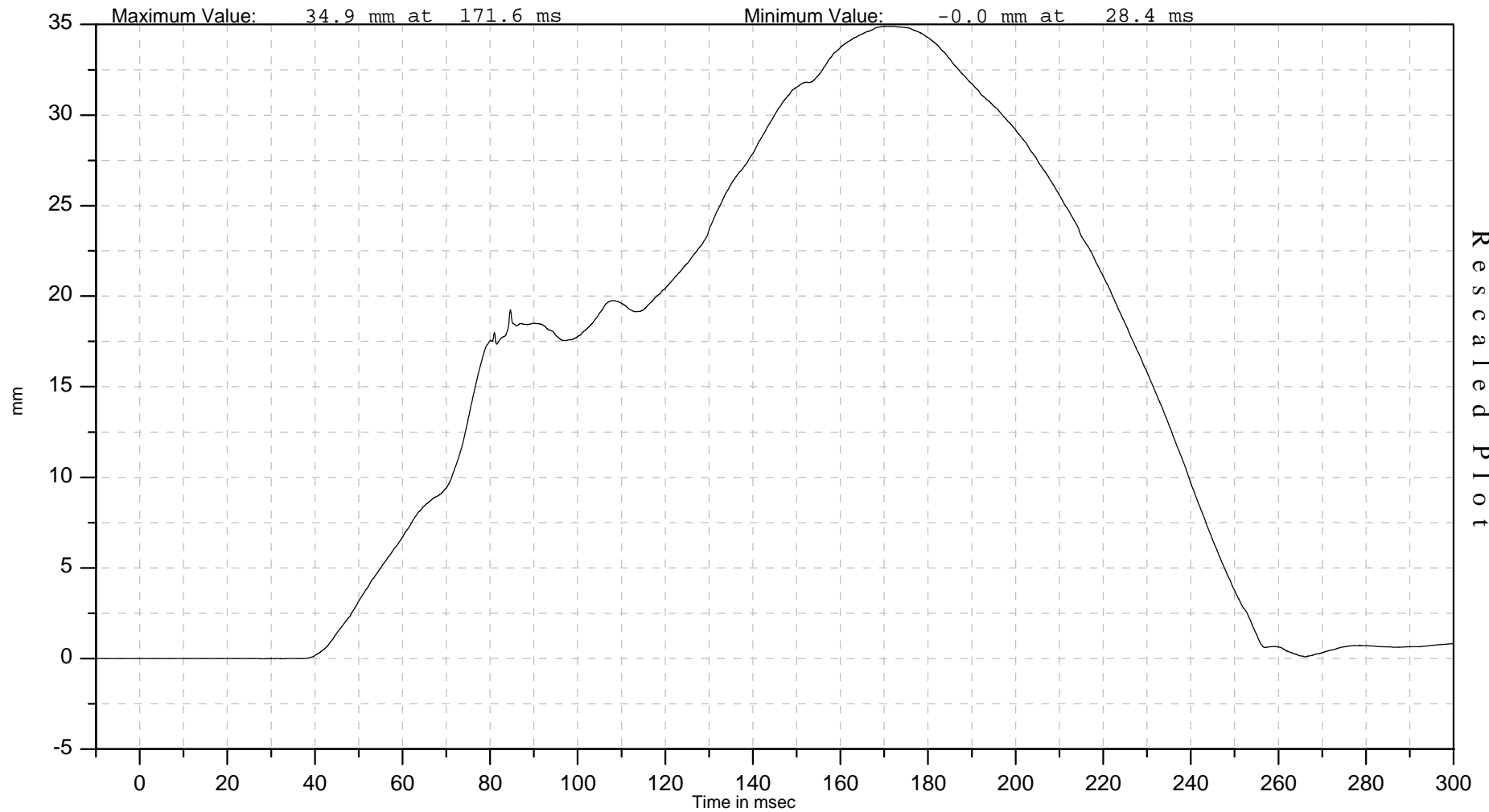
ISO Channel
14CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Left 2nd Row Pass Chest Y Displacement



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
14SPIN1200SHACYC

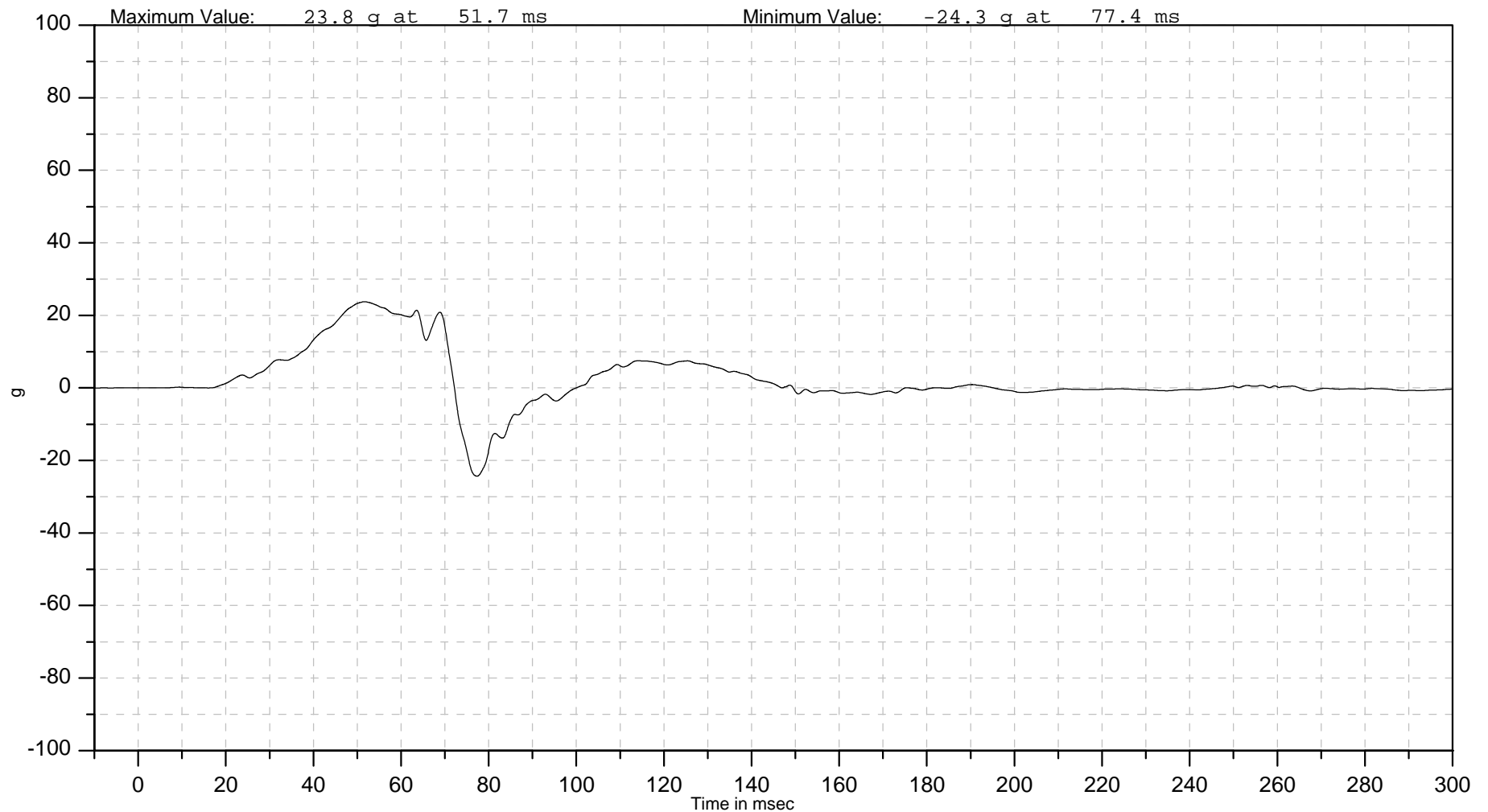
ISO Channel
14SPIN1200SHACYC

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 180
Sign Convention: SAE J211

Left 2nd Row Pass T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14SPIN1200SHACY1

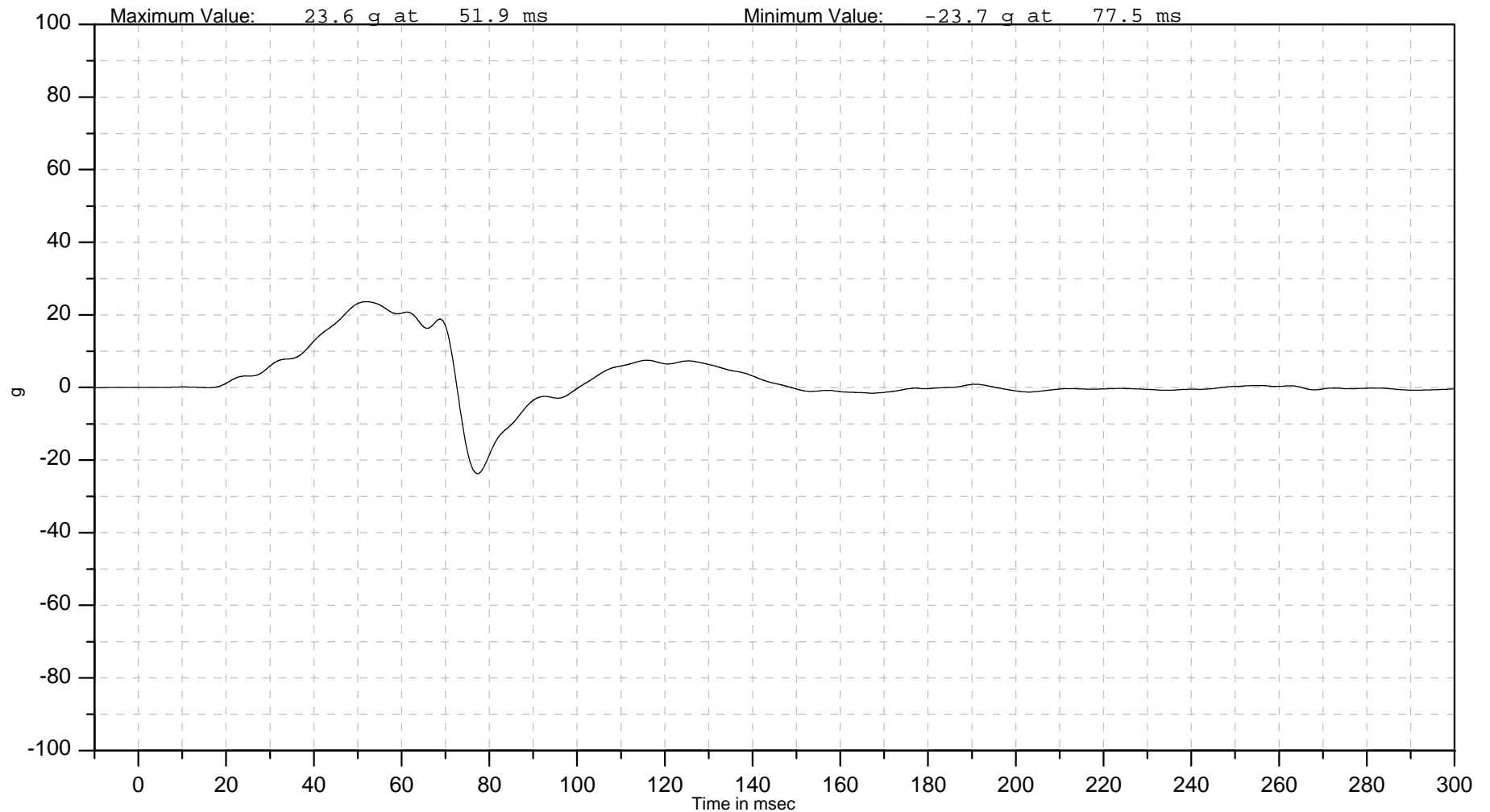
ISO Channel
14SPIN1200SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14SHLDLE00SHEV00

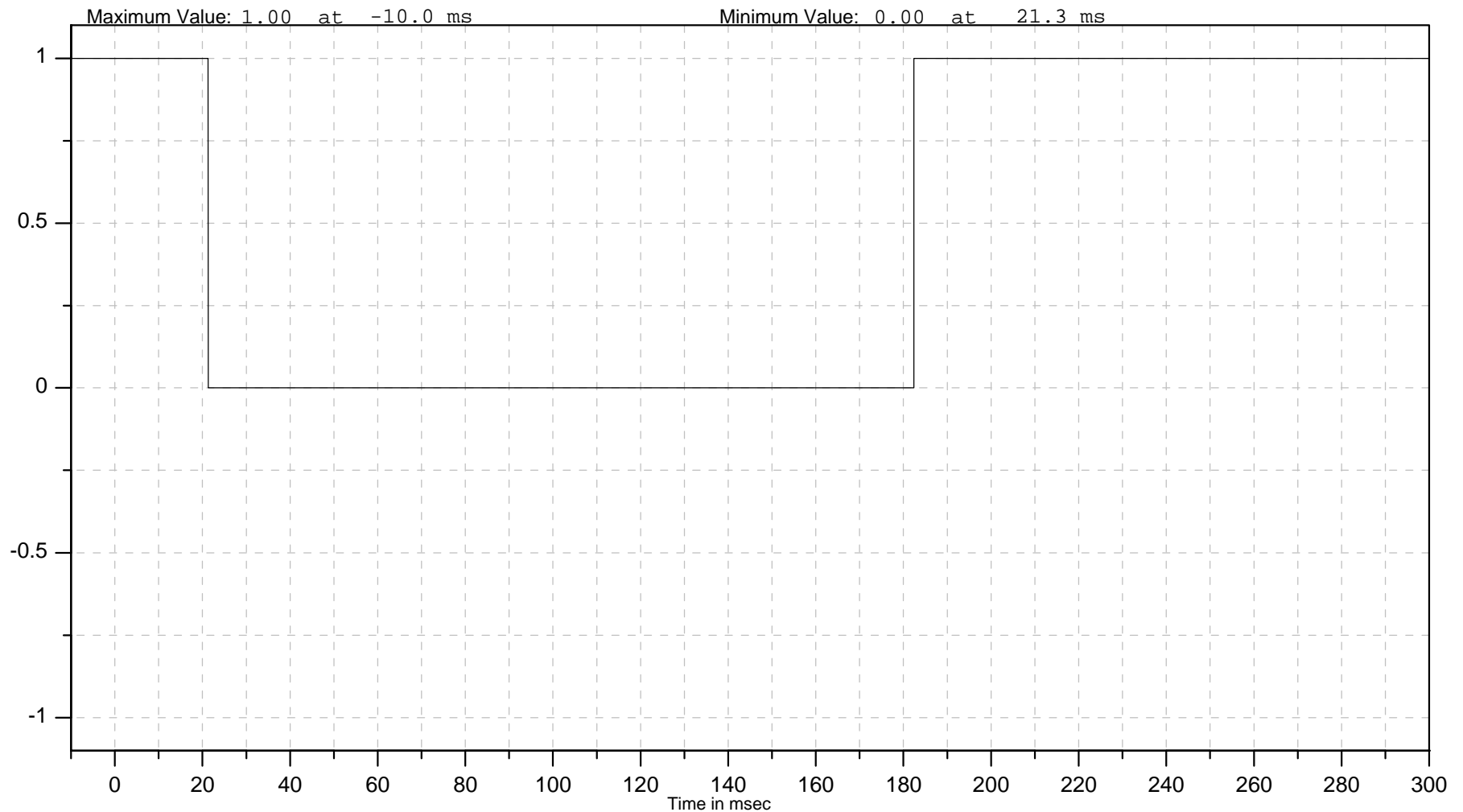
ISO Channel
14SHLDLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Left 2nd Row Pass Left Shoulder Event SidH3





Autoliv North America (NTC)

Autoliv Channel
14RIBSLEUPSHACYA

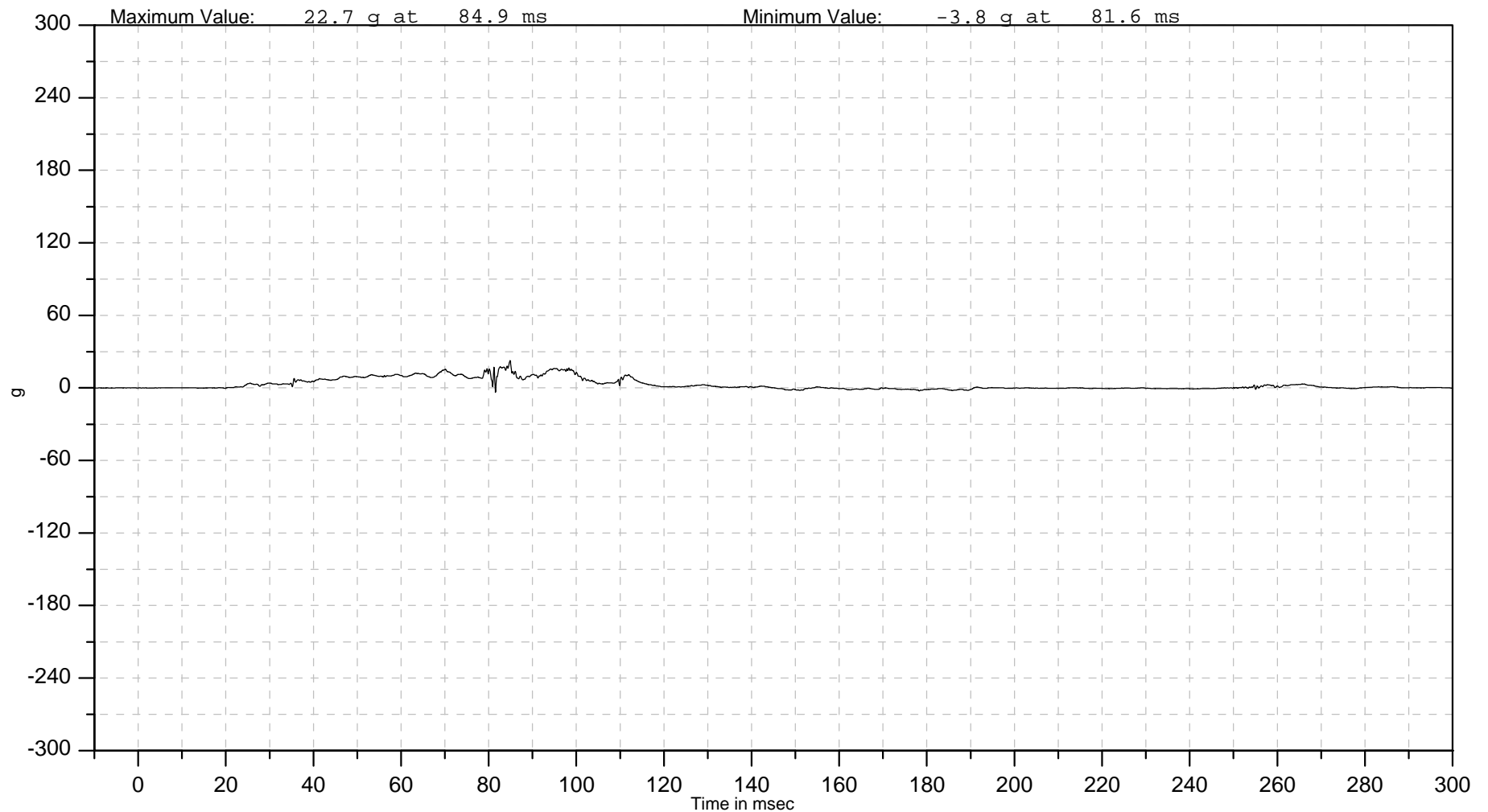
ISO Channel
14RIBSLEUPSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14RIBSLEUPSHACY1

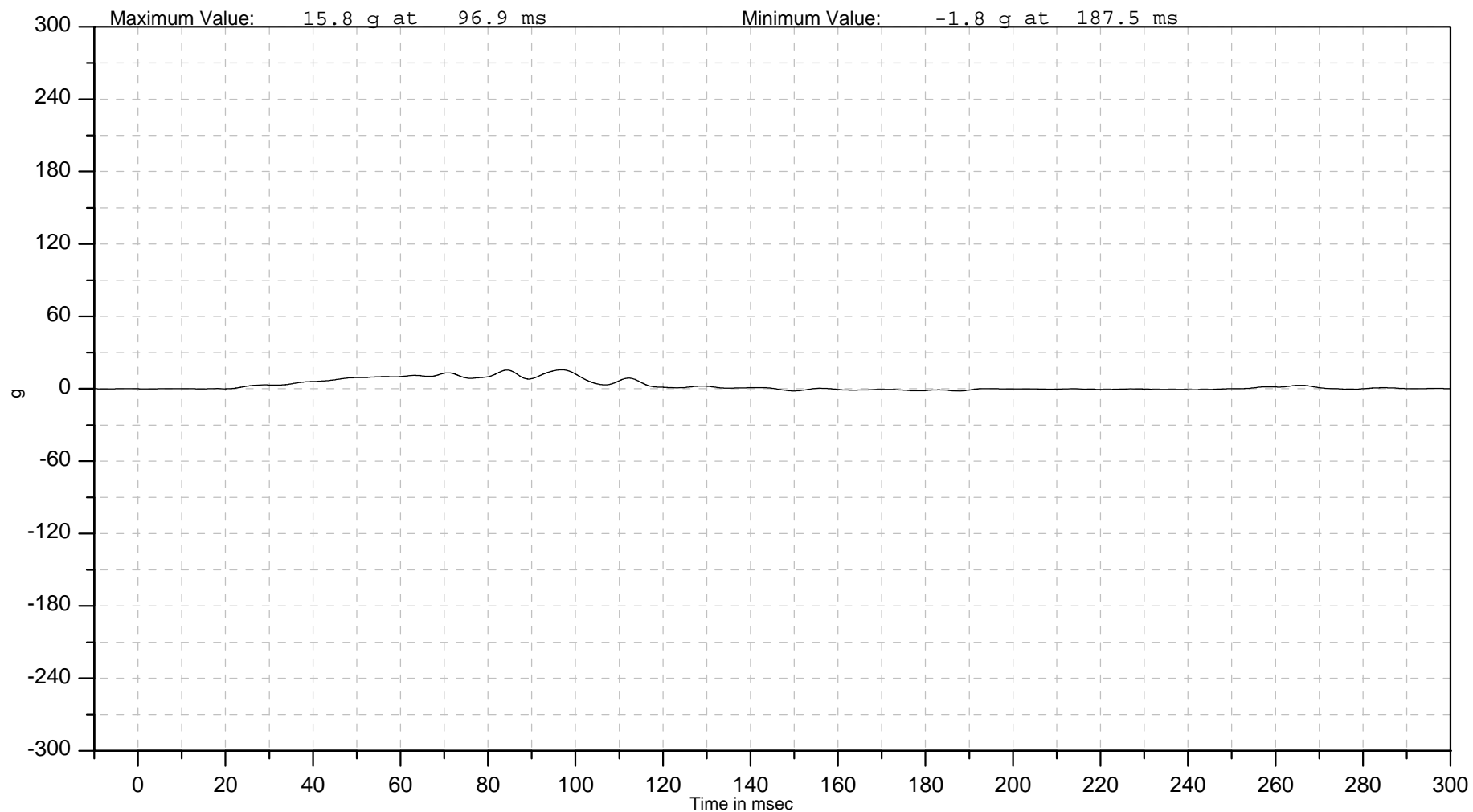
ISO Channel
14RIBSLEUPSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14RIBSLELOSHACYA

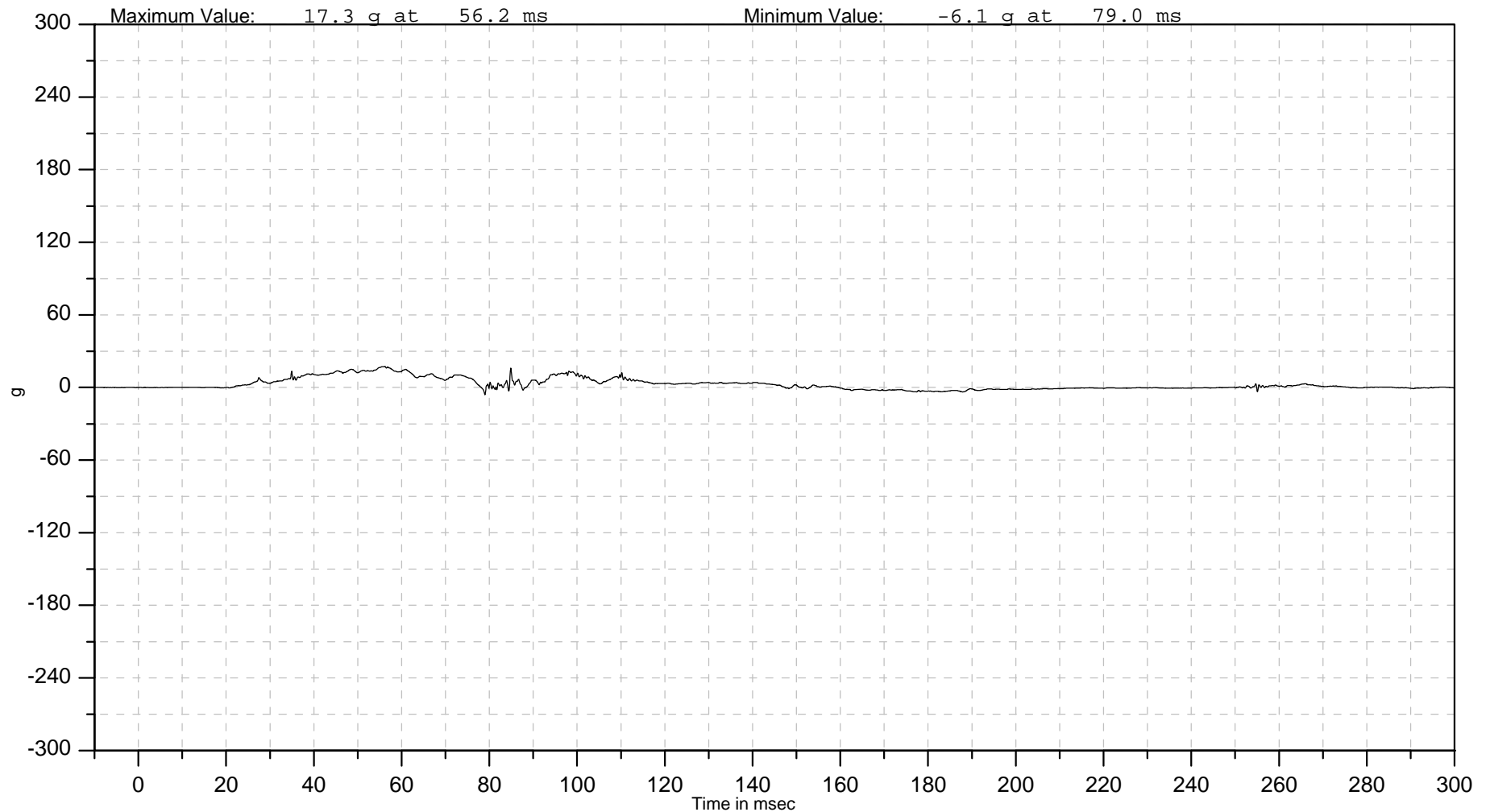
ISO Channel
14RIBSLELOSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Left Lower Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14RIBSLELOSHACY1

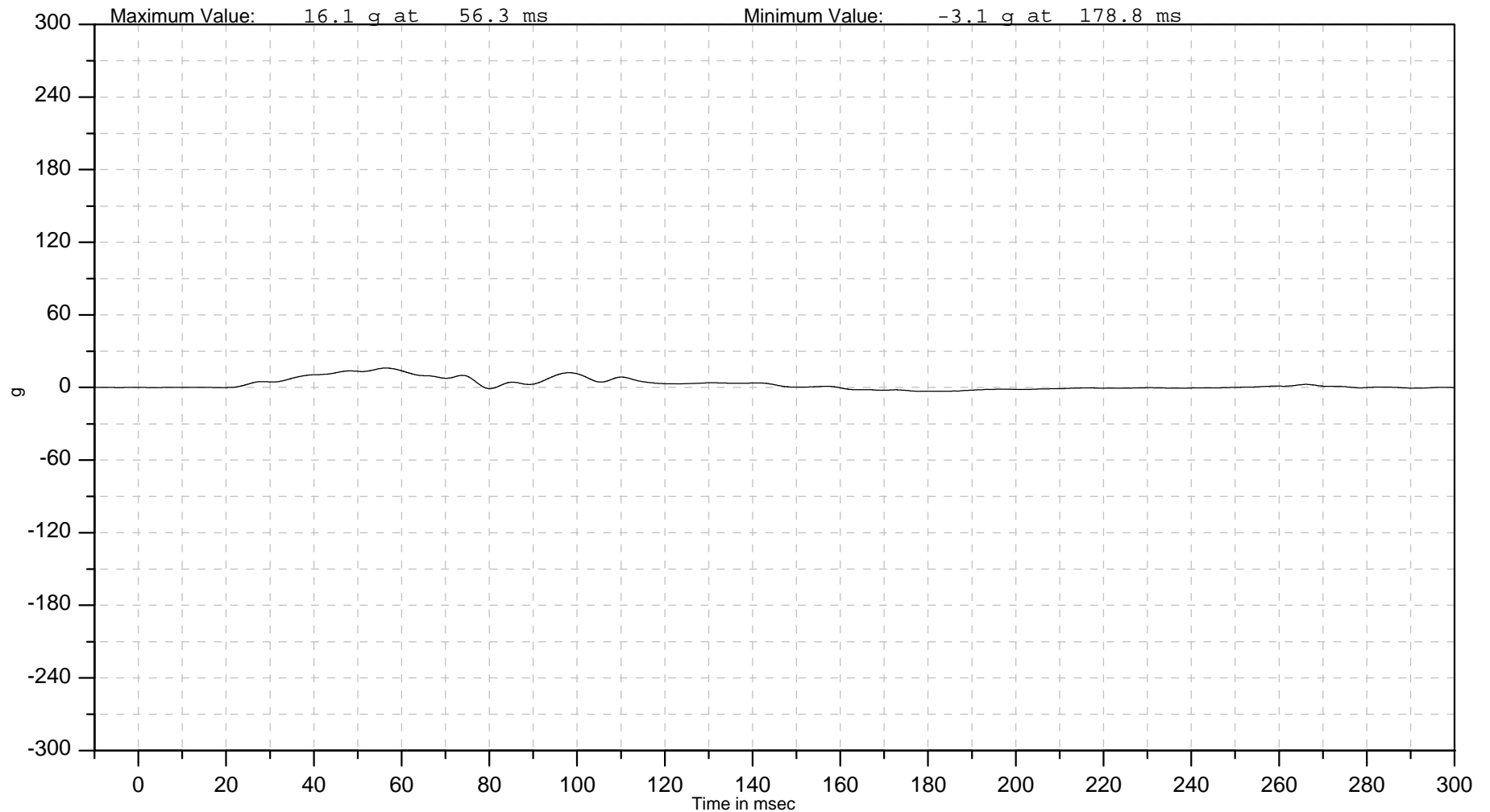
ISO Channel
14RIBSLELOSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass Left Lower Rib Y Acceleration





Autoliv North America (ATC)

Autoliv Channel

ISO Channel

Test Number: B1040195

Test Date: 18-Jun-2004

Test Description: Nissan P61B LH SINCAP

Dummy Type

SIDH3

Filter:

FIR 100

Sign Convention:

SAE J211

Left 2nd Row Passenger Left Side TTI Calculation

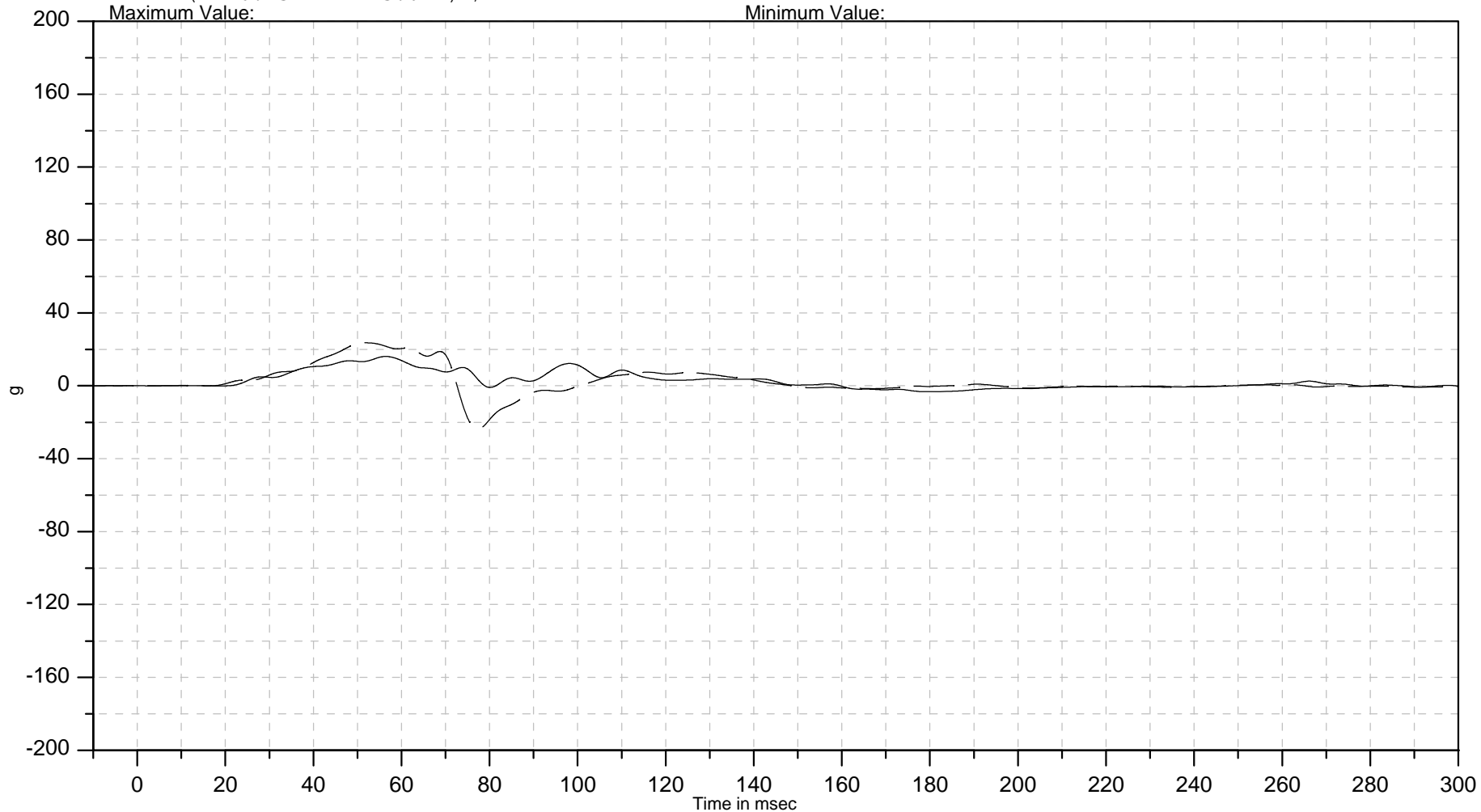
Max Rib Y Acceleration = 16.131 g in Channel 31 (14RIBSLELOSHACY1)

Max Spine T12 Y Acceleration = 23.647 g in Channel 26 (14SPIN1200SHACY1)

TTI = (16.131 + 23.647) / 2 = 20

Maximum Value:

Minimum Value:





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACXA

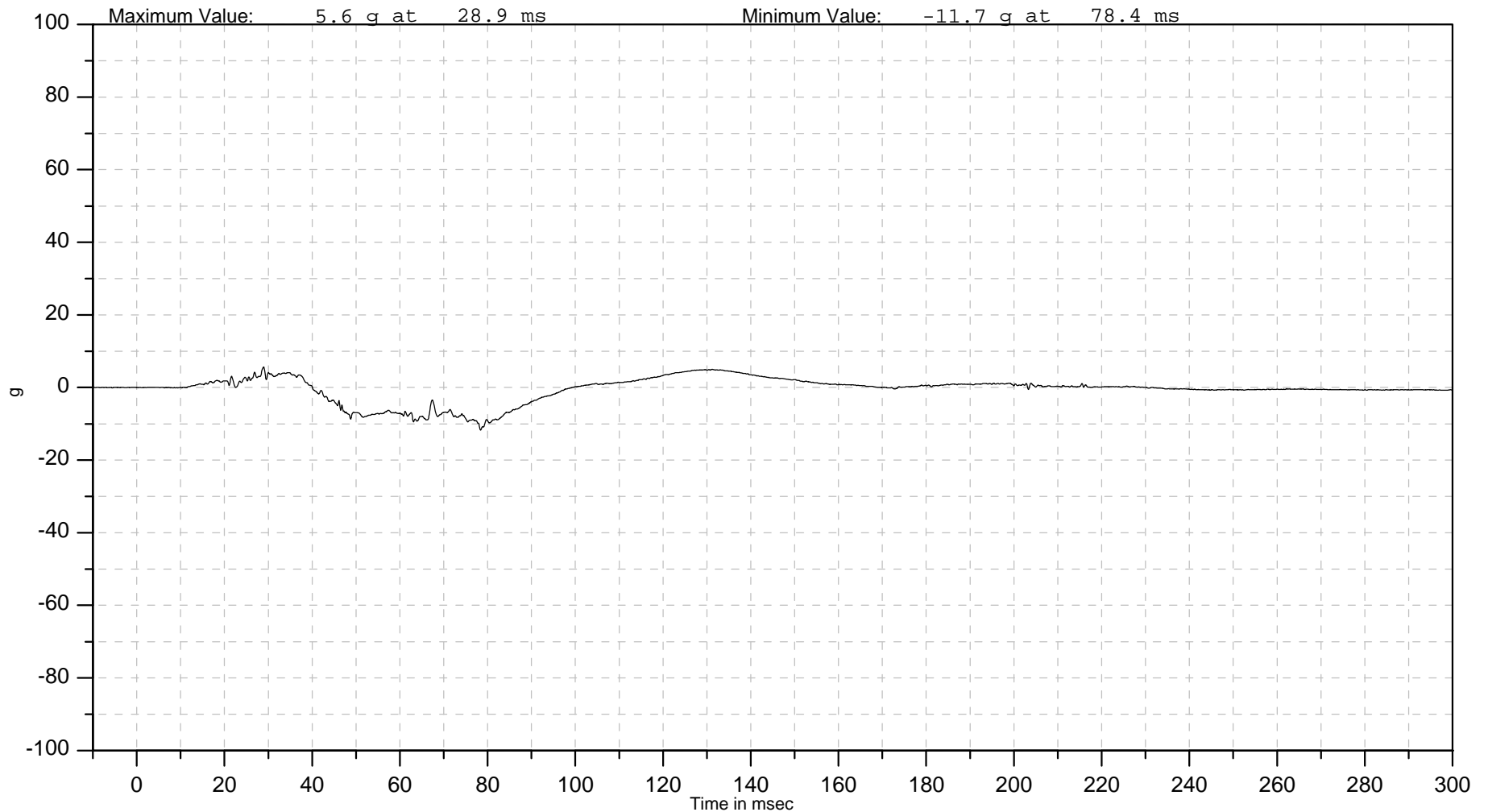
ISO Channel
14PELV0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis X Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACYA

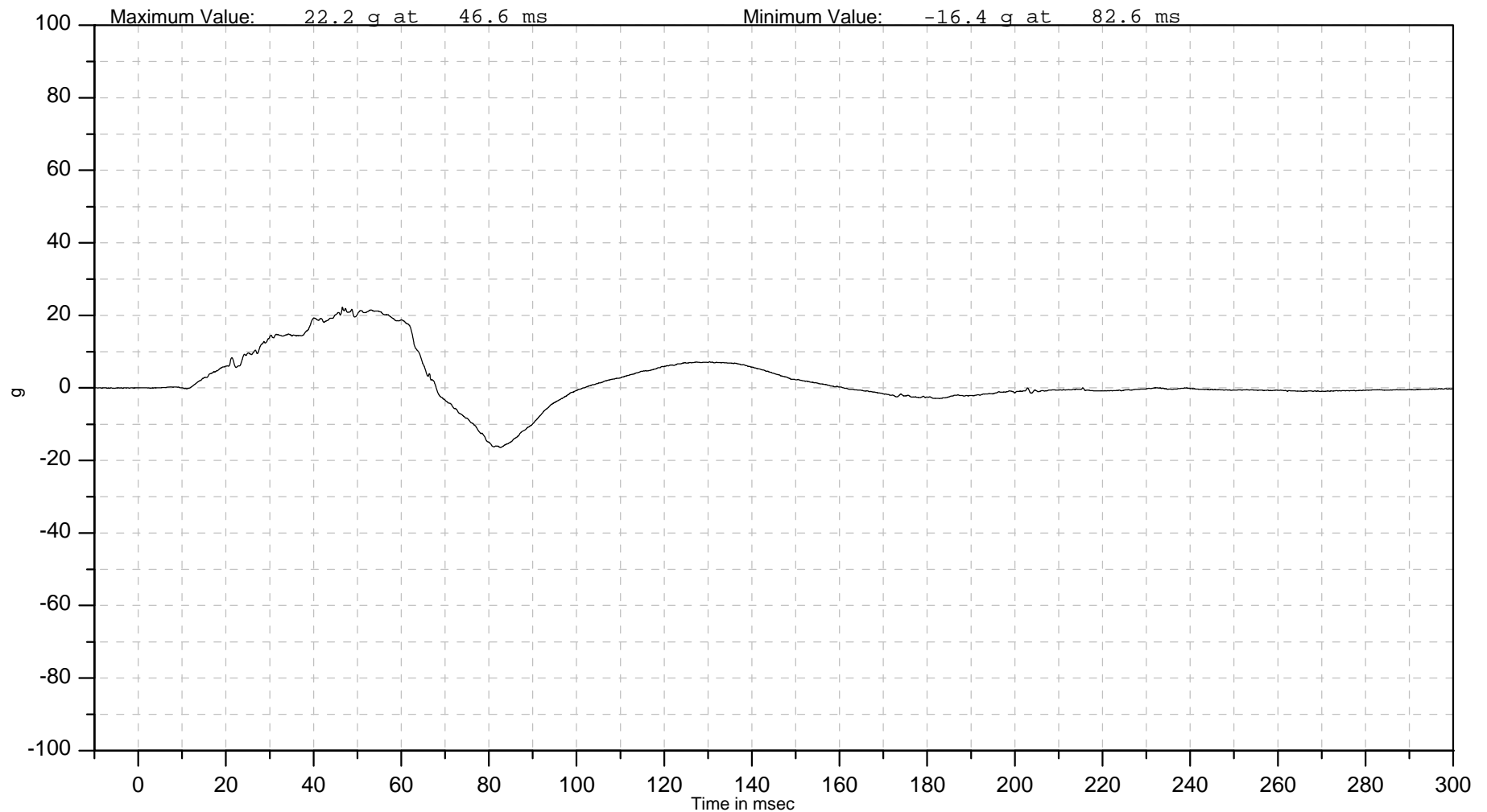
ISO Channel
14PELV0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACY1

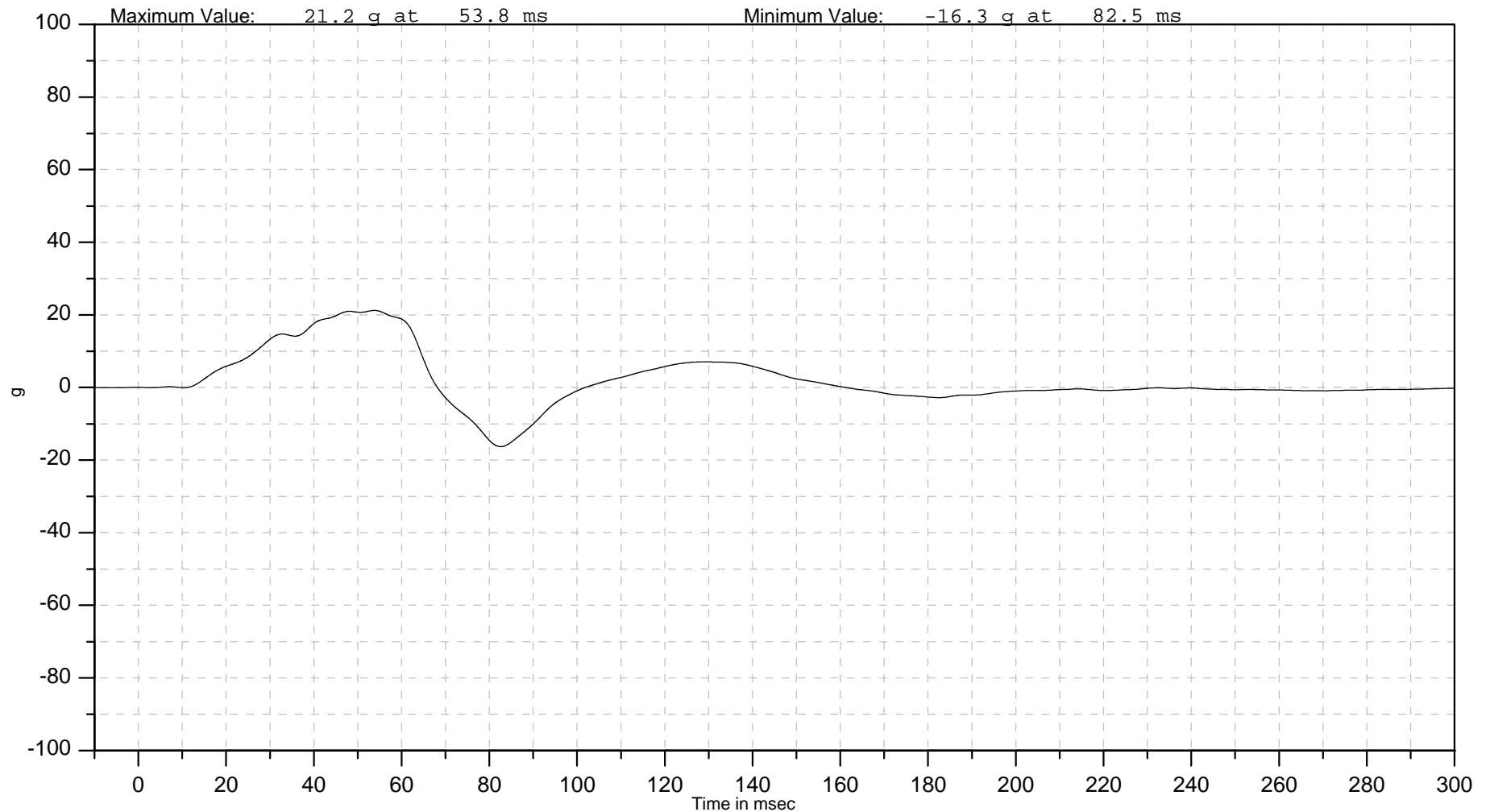
ISO Channel
14PELV0000SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACZA

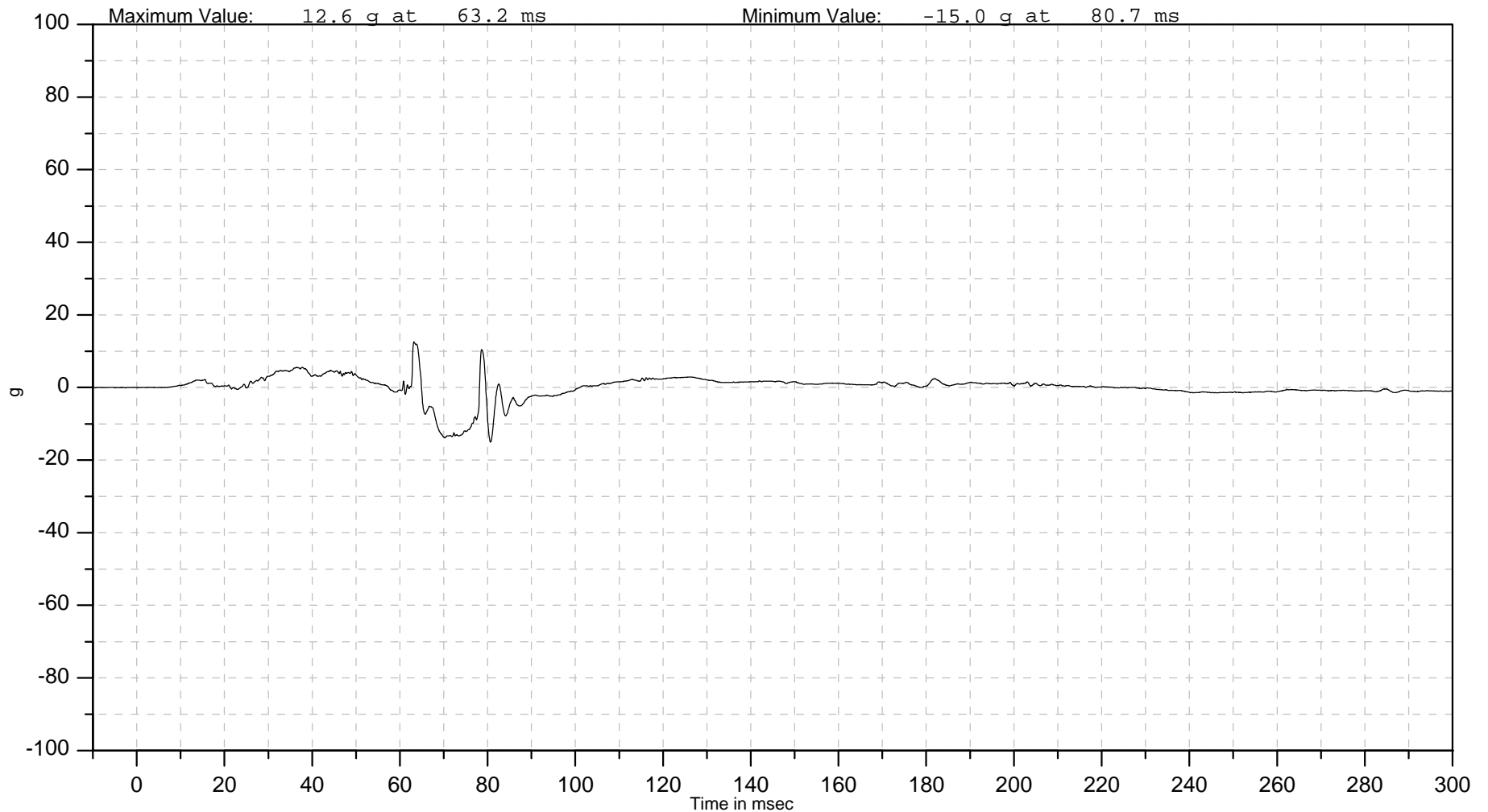
ISO Channel
14PELV0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACRA

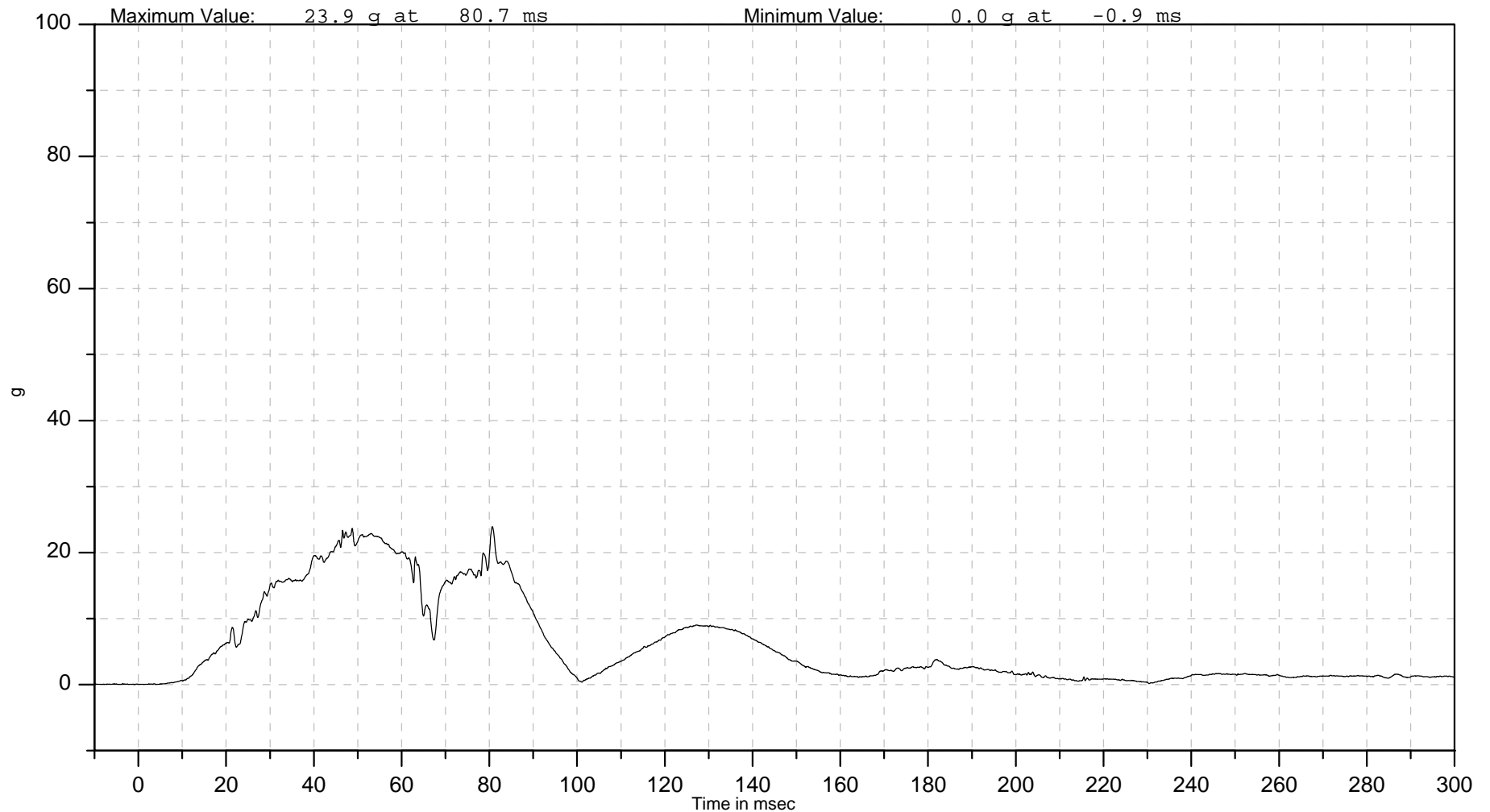
ISO Channel
14PELV0000SHACRA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Resultant Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELVLE00SHEV00

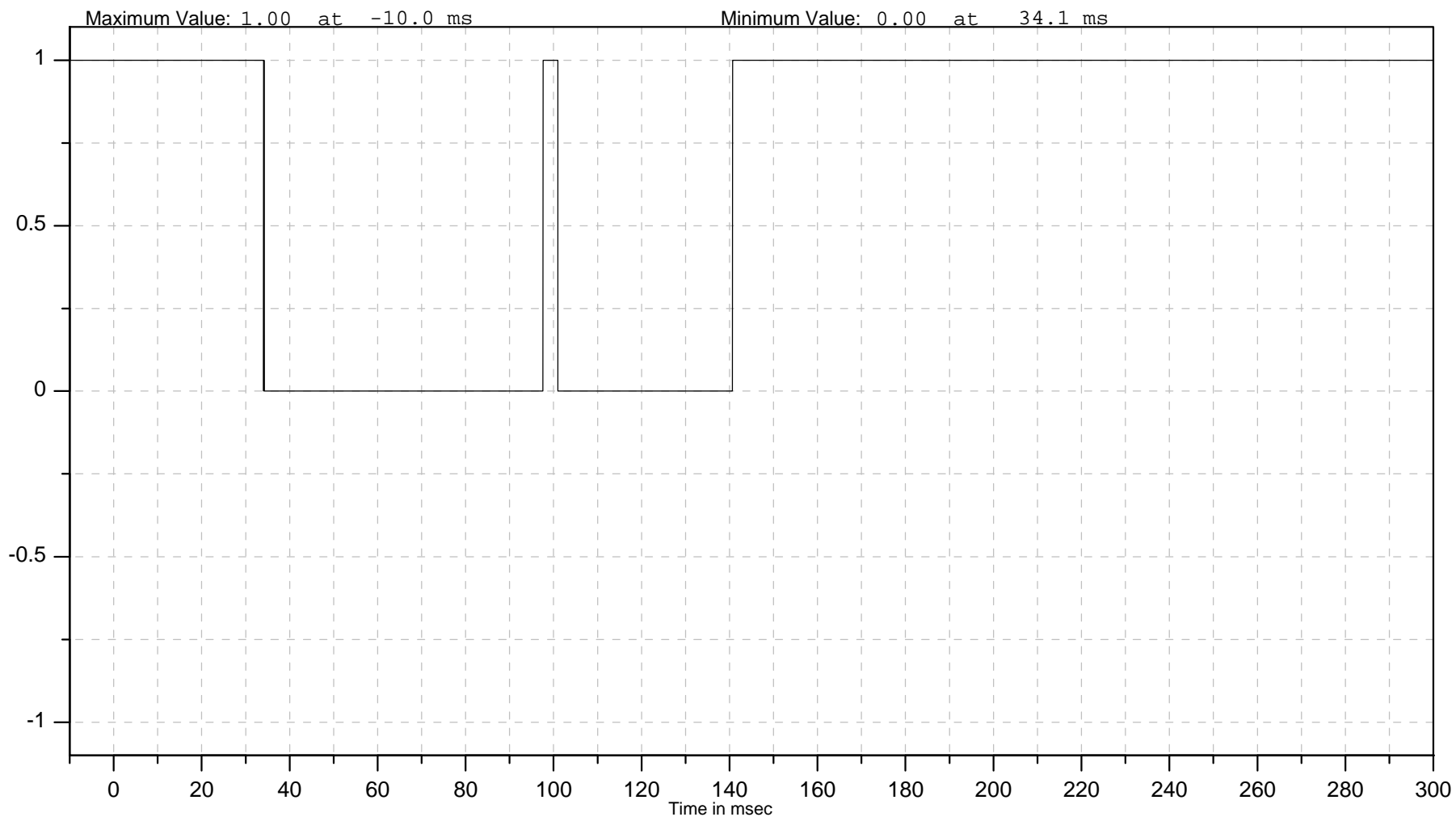
ISO Channel
14PELVLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Left 2nd Row Pass Left Pelvis Event SidH3





Autoliv North America (NTC)

Autoliv Channel
10CART000001EV00

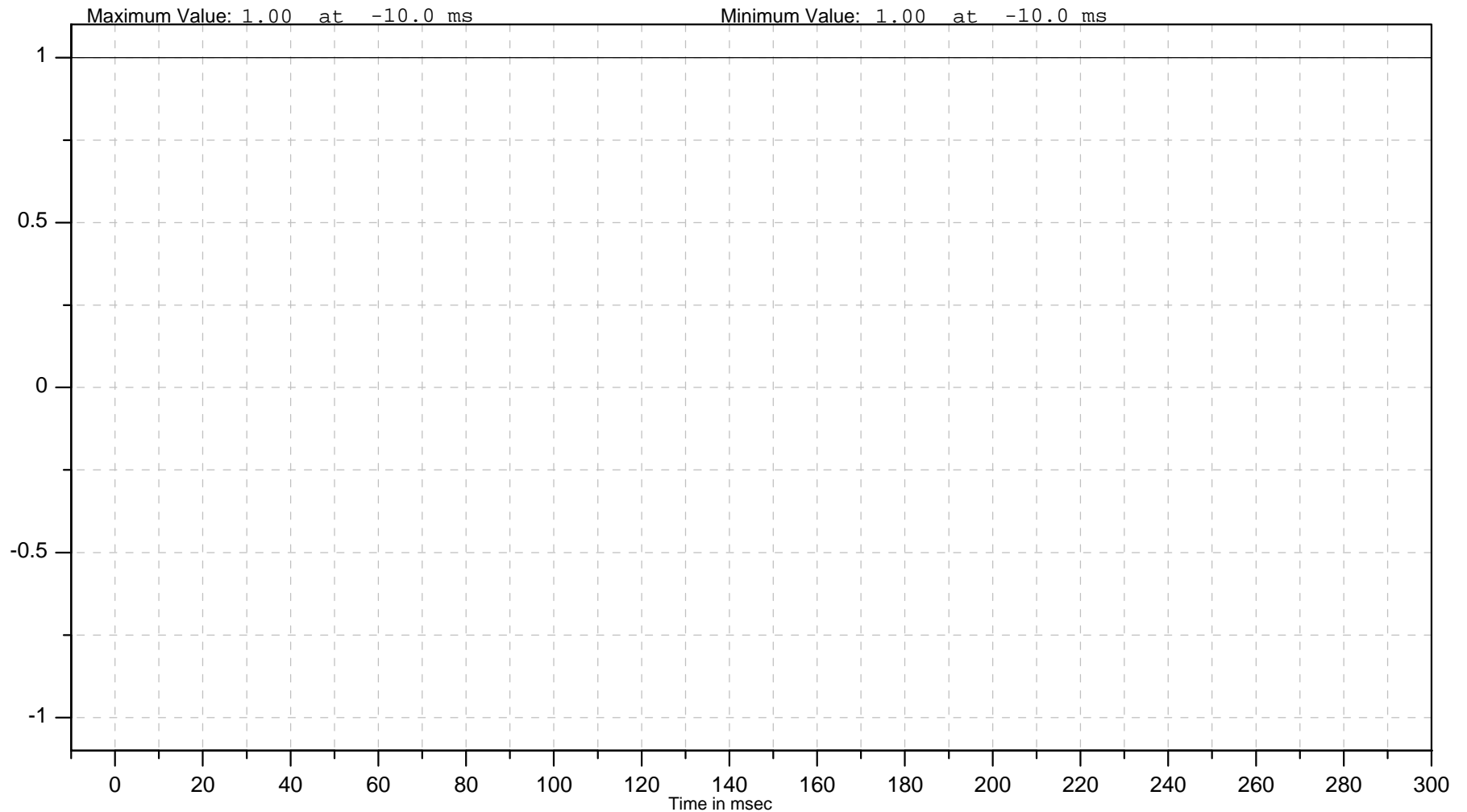
ISO Channel
10CART000001EV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 1





Autoliv North America (NTC)

Autoliv Channel
10CART000002EV00

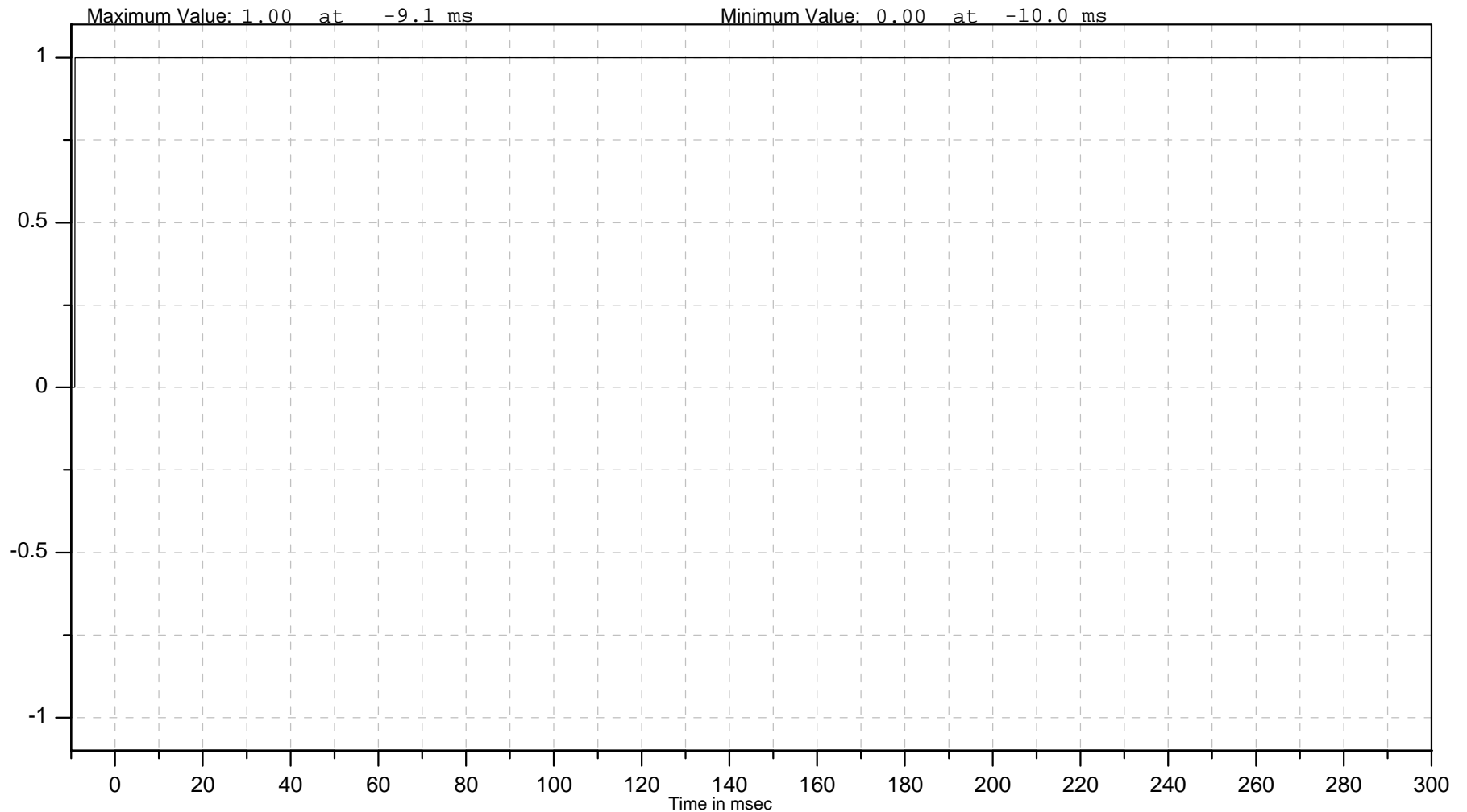
ISO Channel
10CART000002EV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 2





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRCHACYD

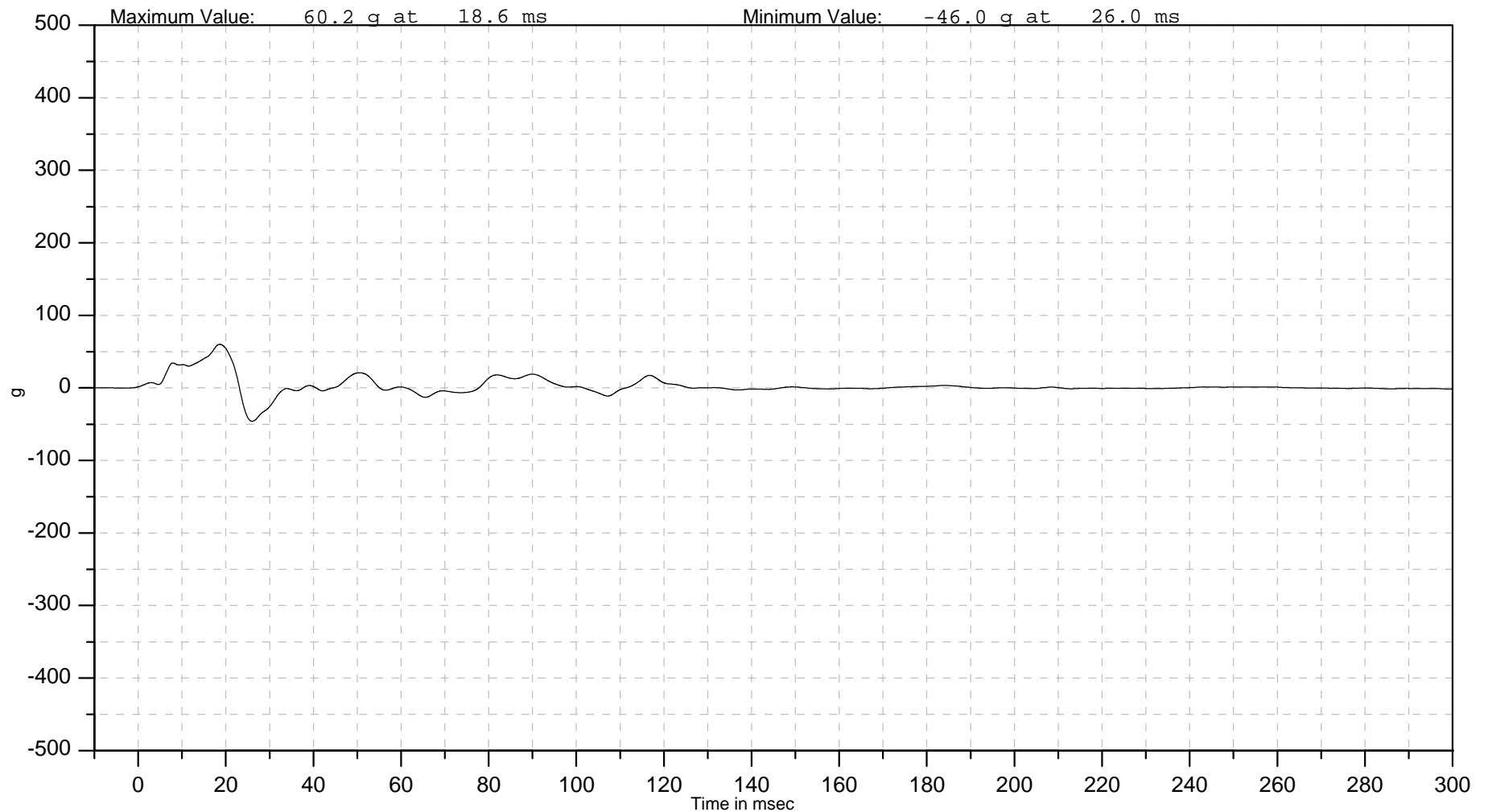
ISO Channel
10DOORLEFRCHACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Chest Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRSPACYD

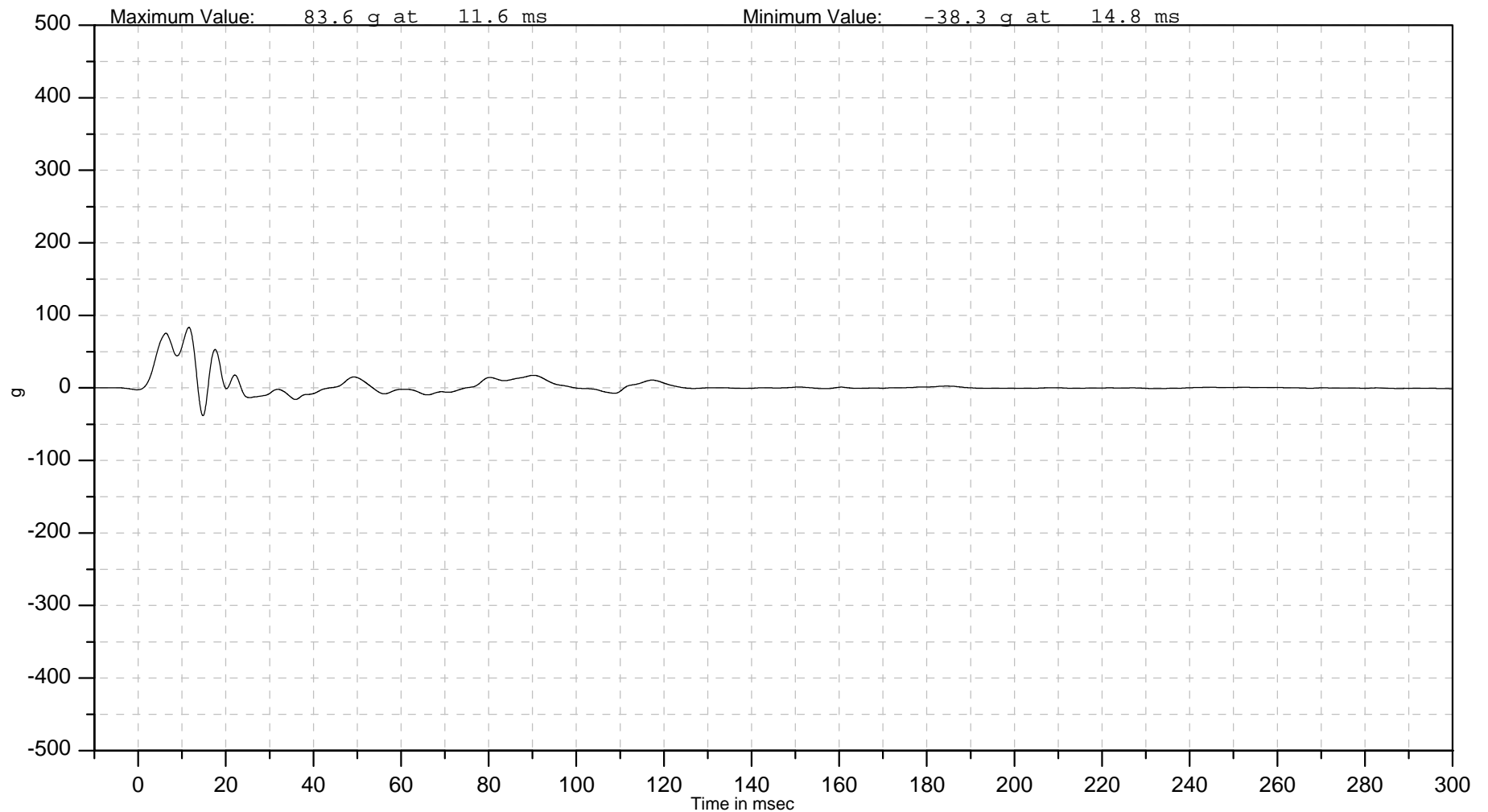
ISO Channel
10DOORLEFRSPACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRPEACYD

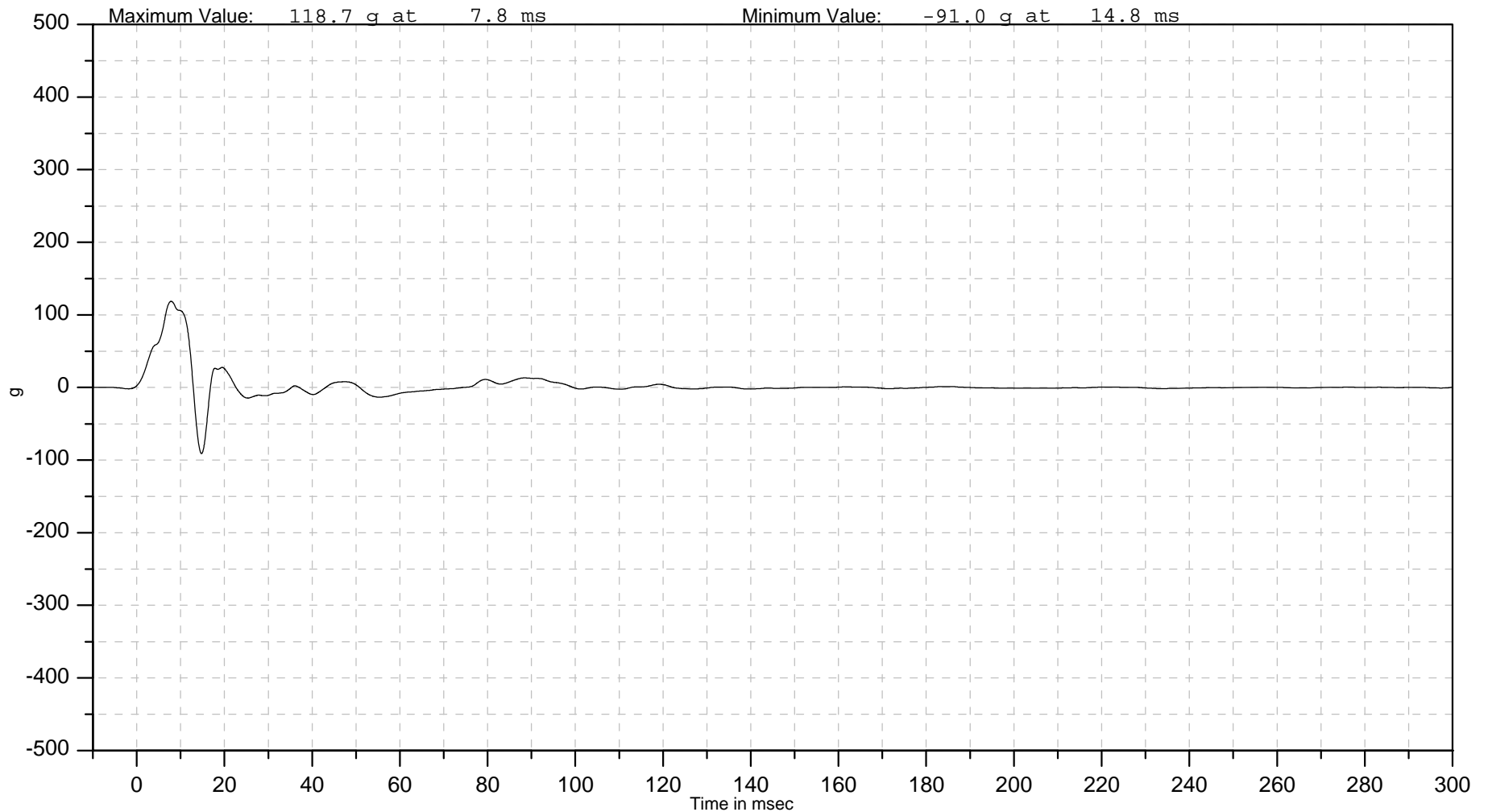
ISO Channel
10DOORLEFRPEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Pedestrian

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRCEACYD

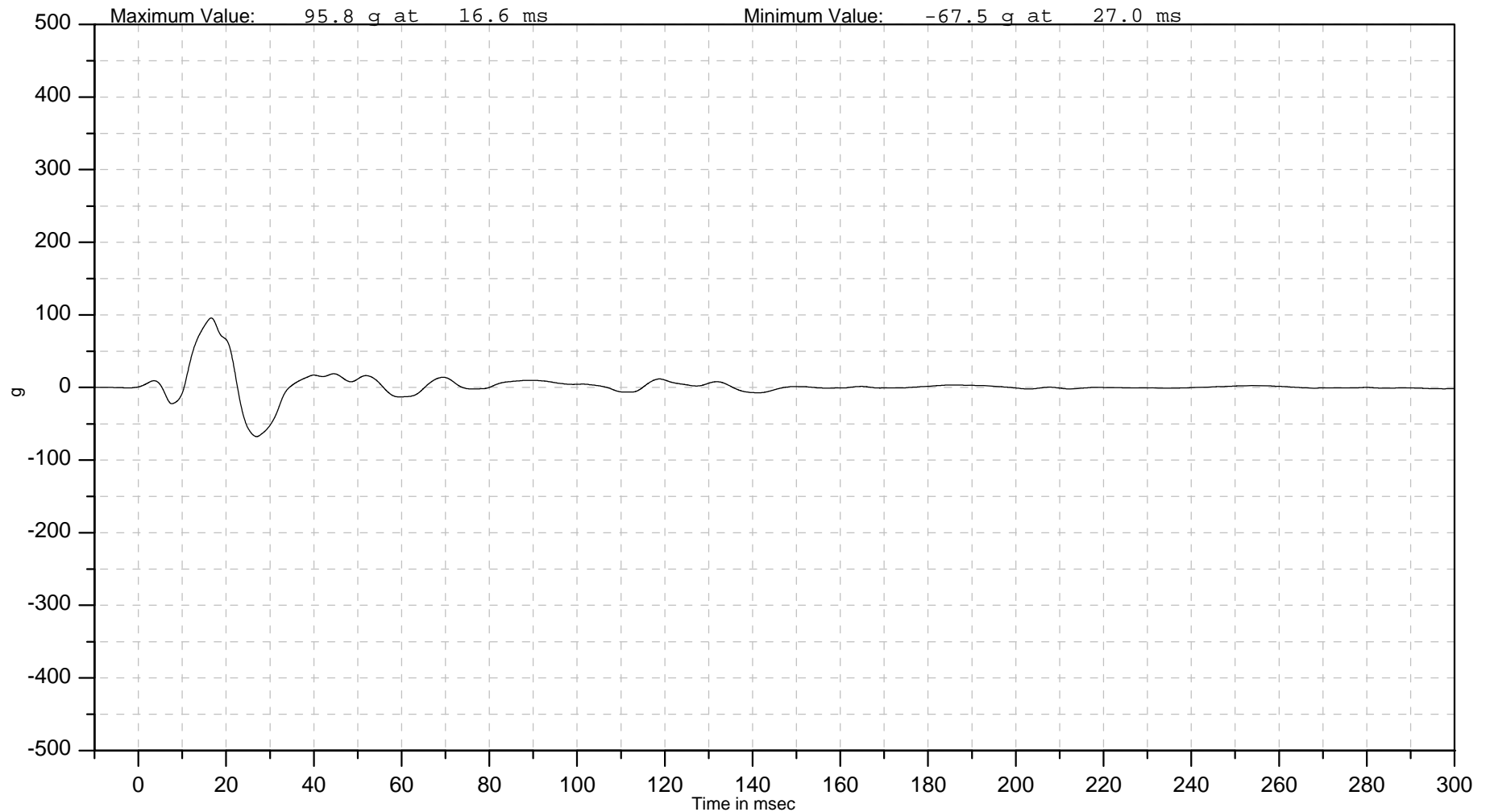
ISO Channel
10DOORLEFRCEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Center Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLERECHACYD

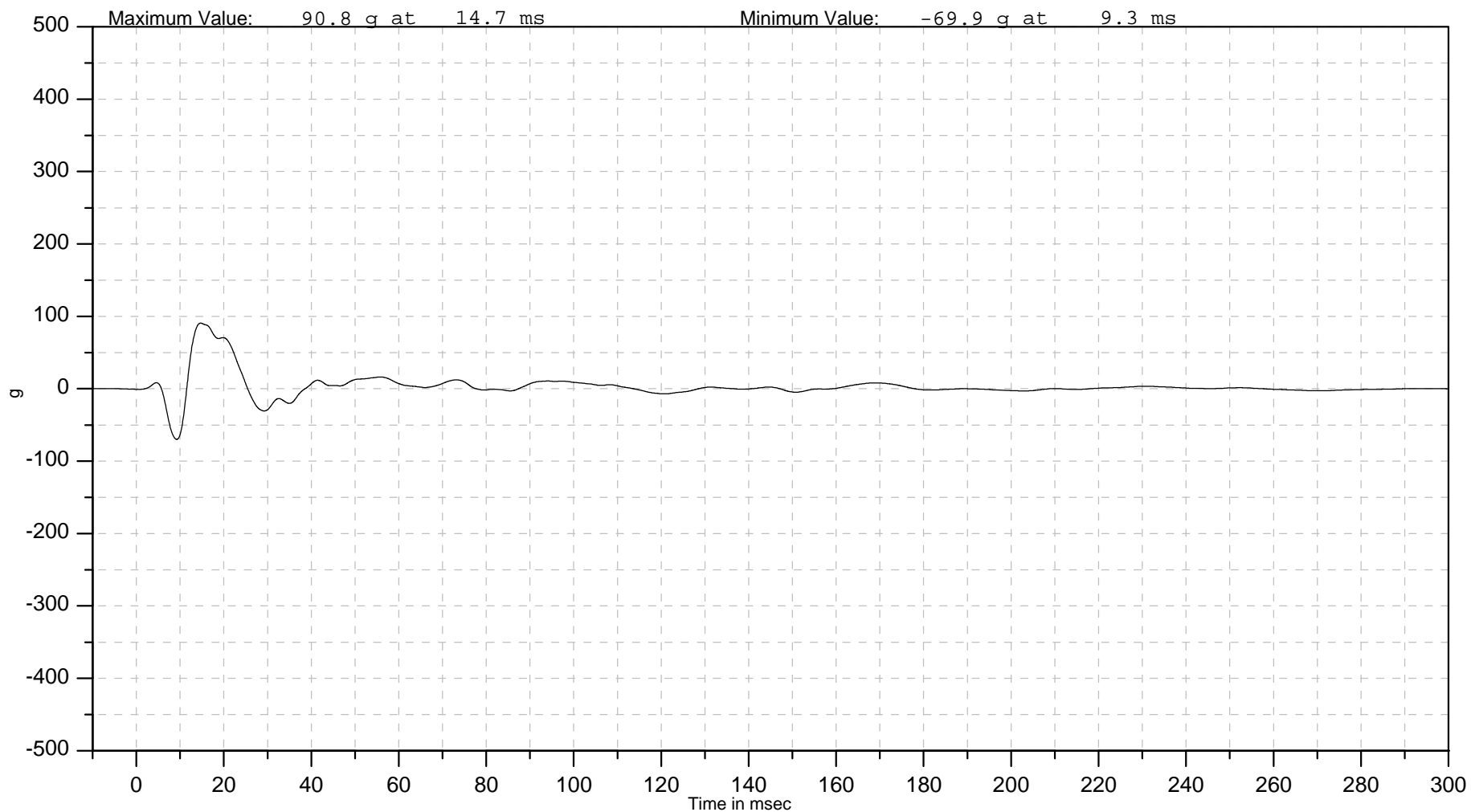
ISO Channel
10DOORLERECHACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Chest Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLERESPACYD

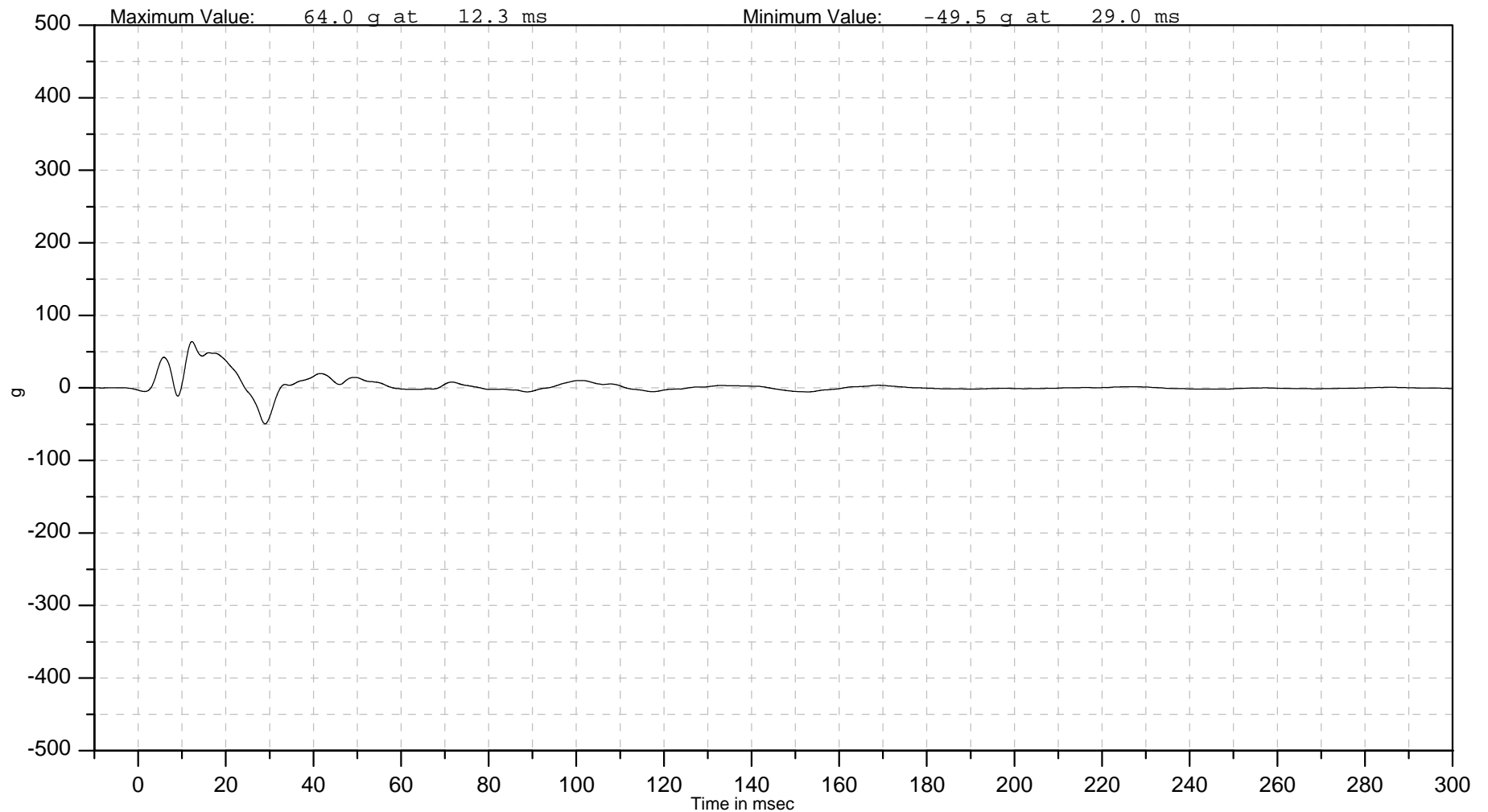
ISO Channel
10DOORLERESPACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEREPEACYD

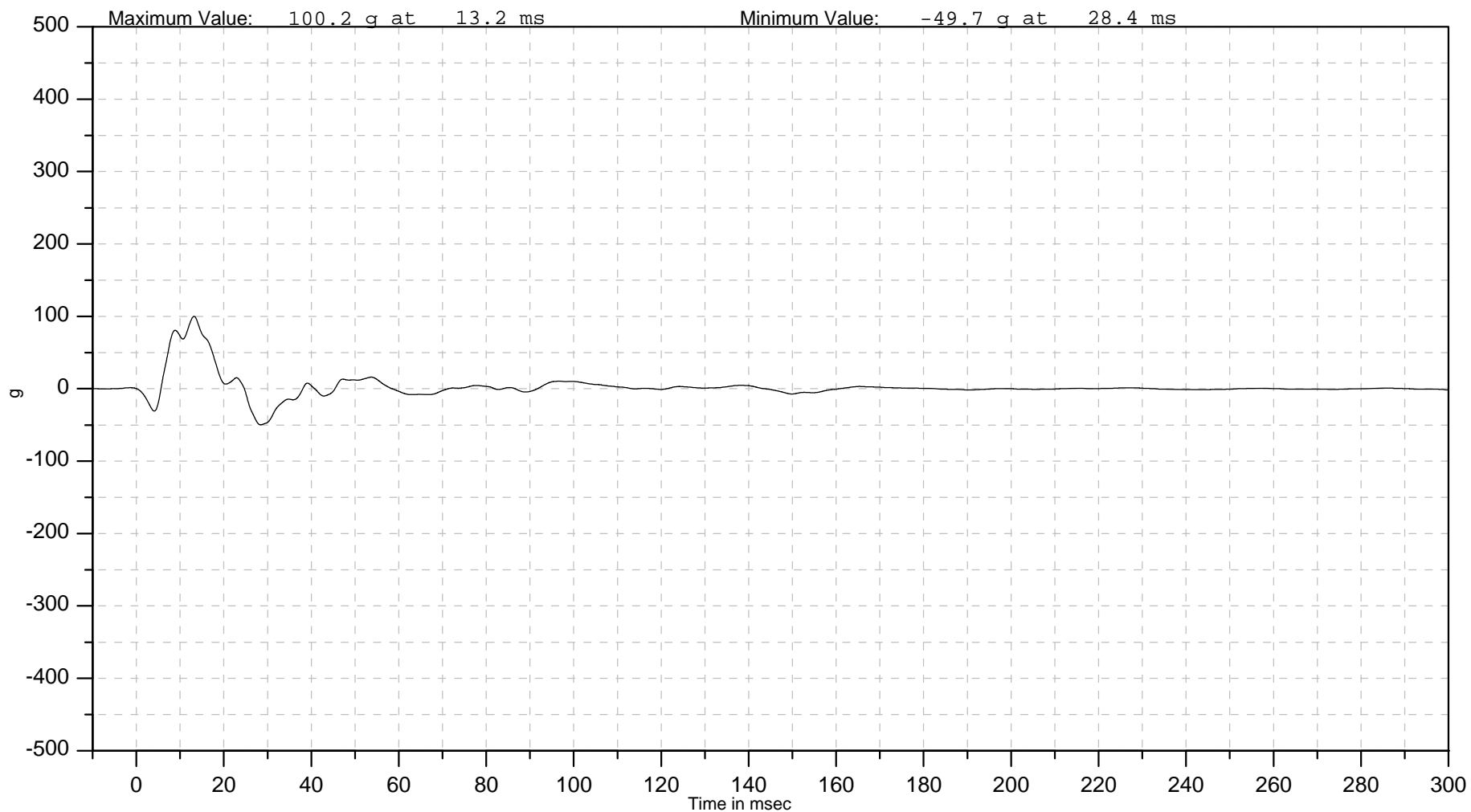
ISO Channel
10DOORLEREPEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Pedestrian

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLERECEACYD

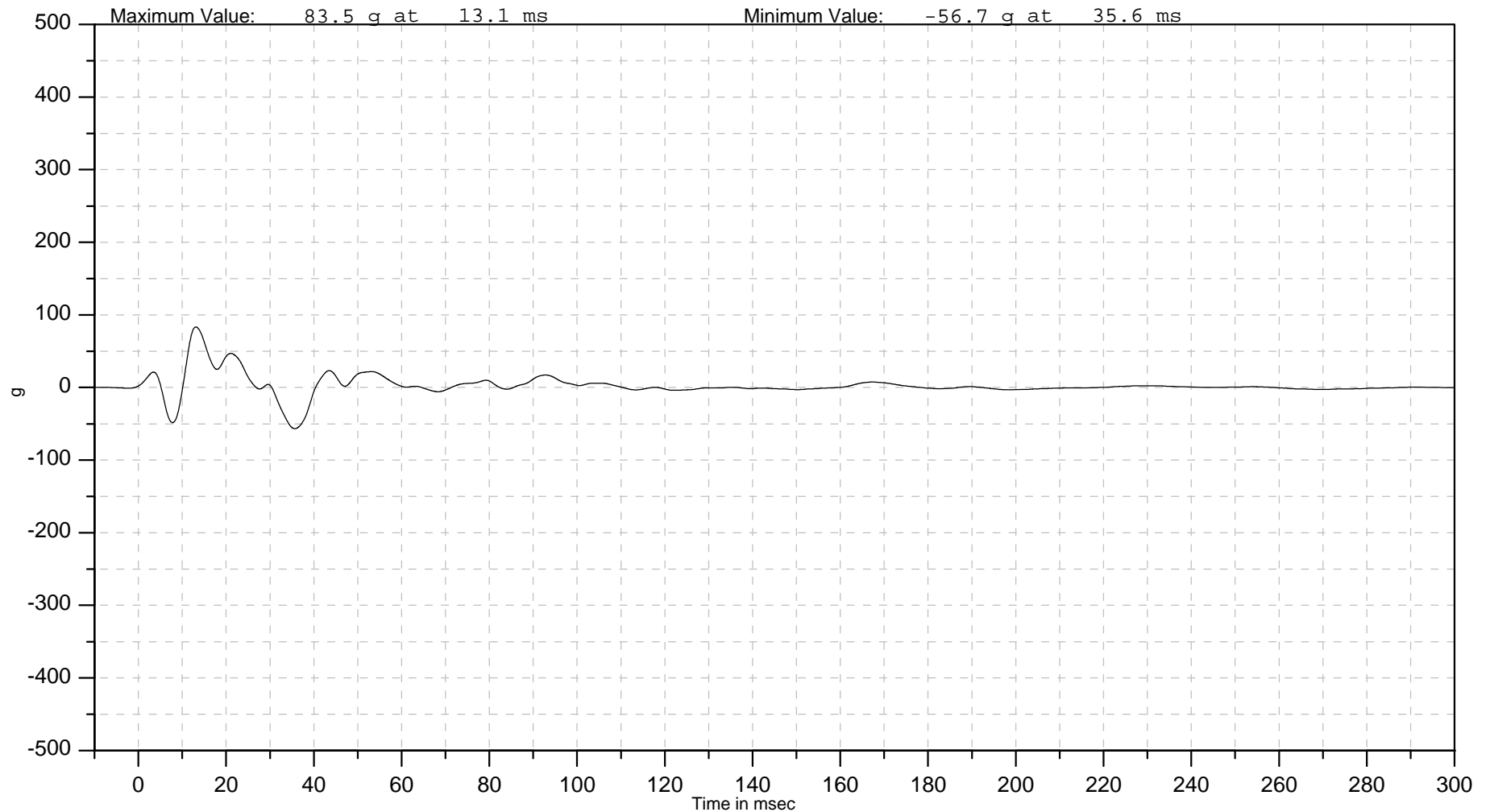
ISO Channel
10DOORLERECEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Center Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLEFR00ACYD

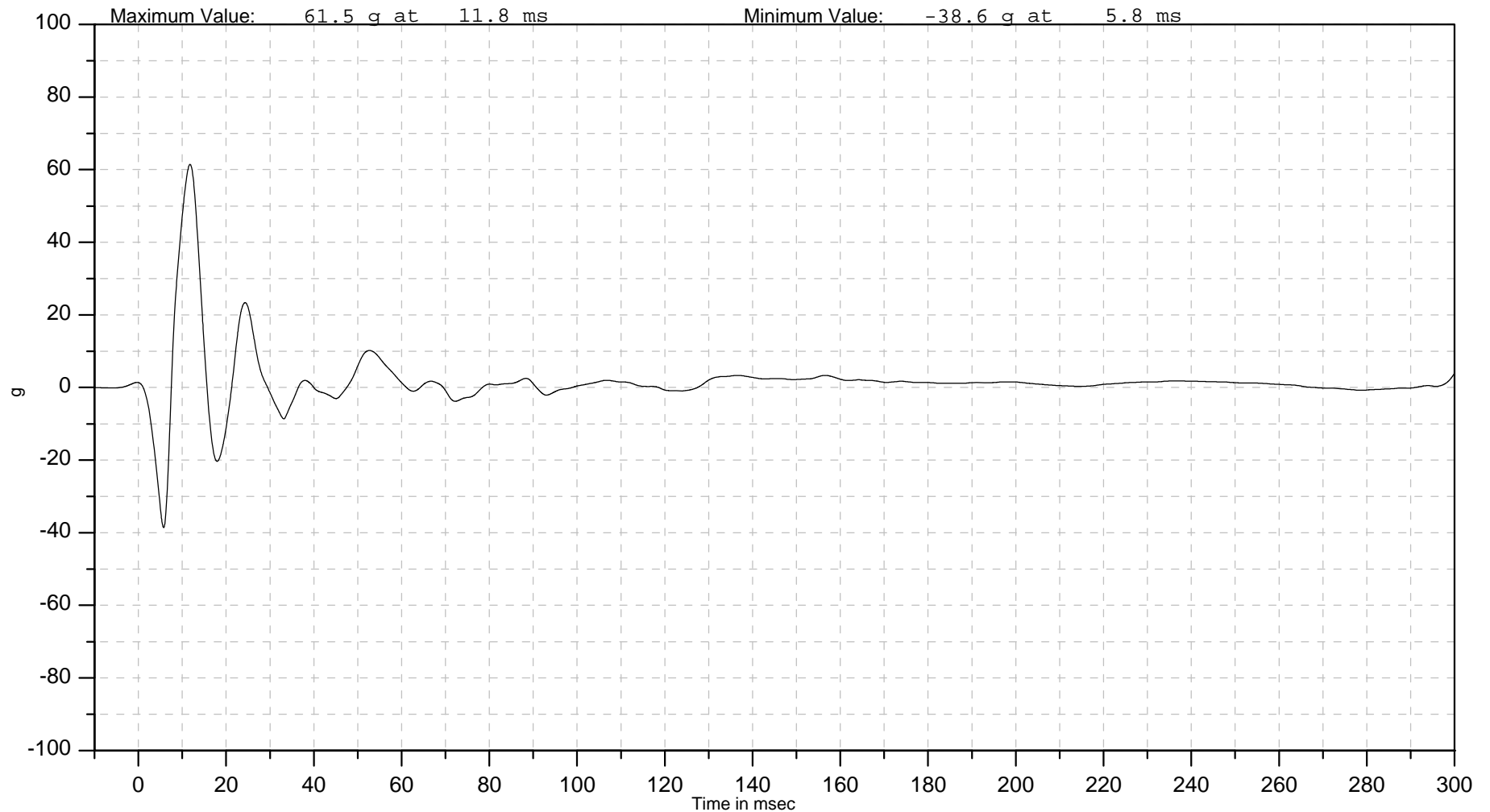
ISO Channel
10SILLLEFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLERE00ACYD

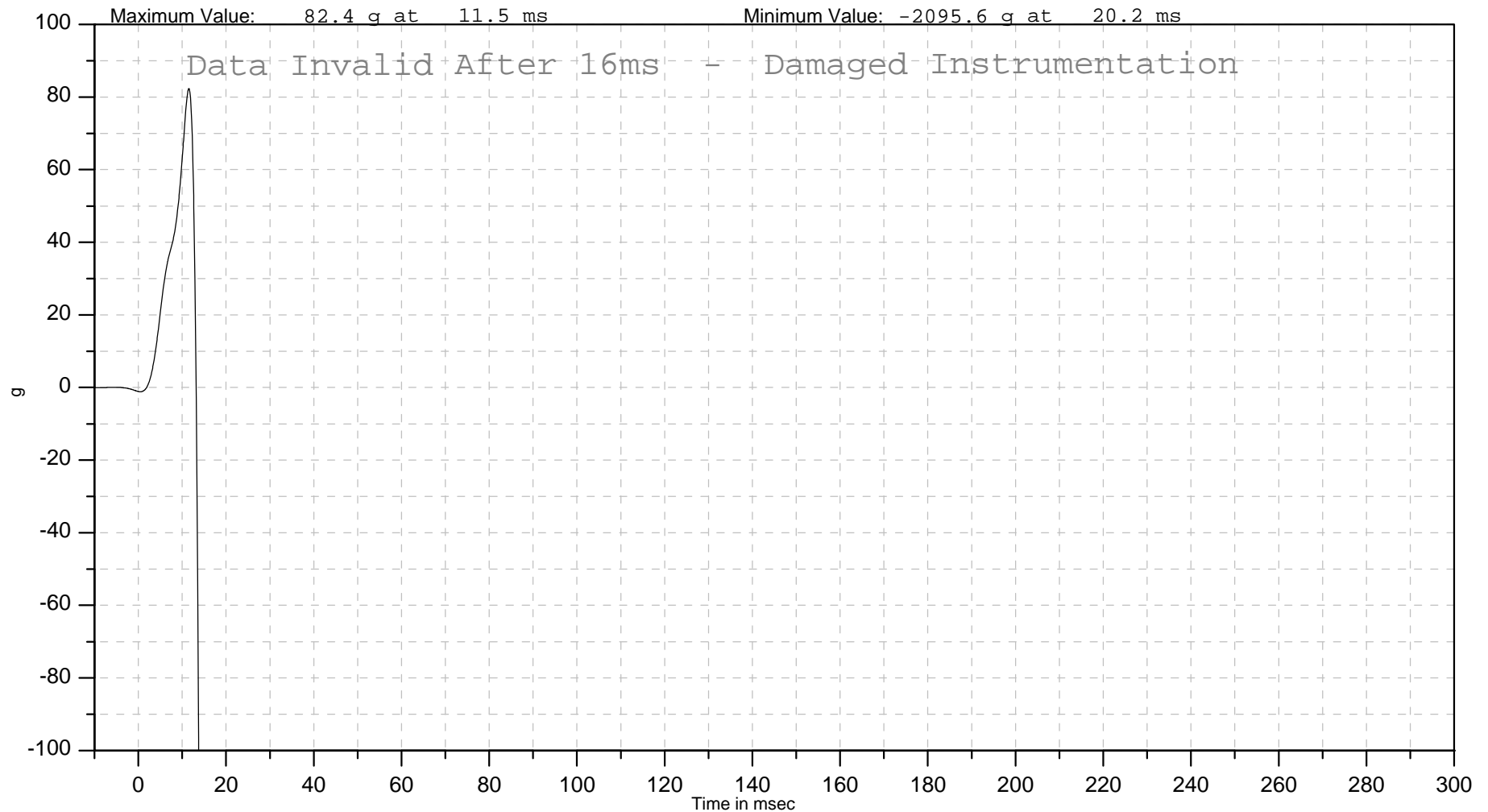
ISO Channel
10SILLLERE00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLERE00ACYD

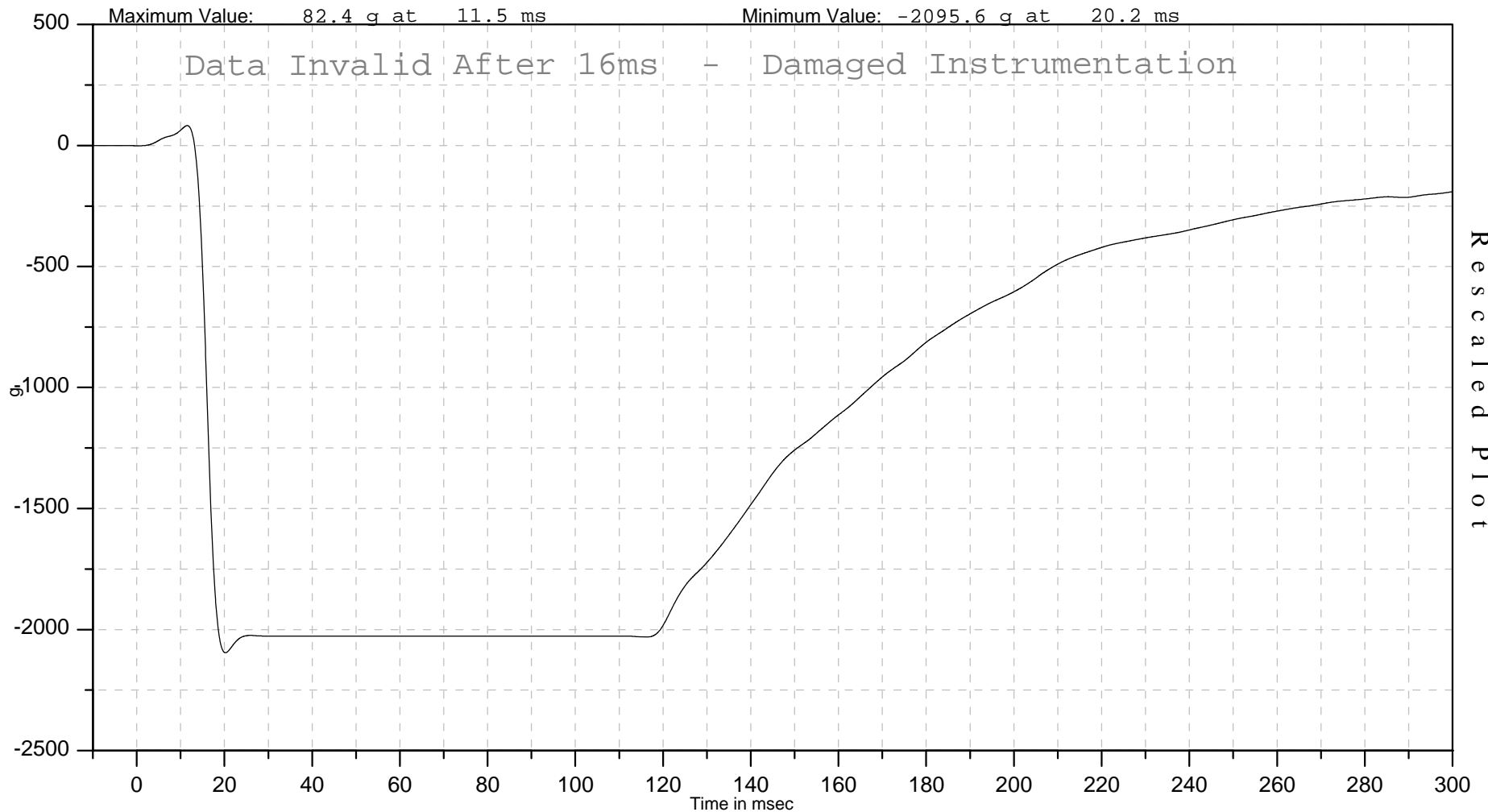
ISO Channel
10SILLLERE00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRIFR00ACYD

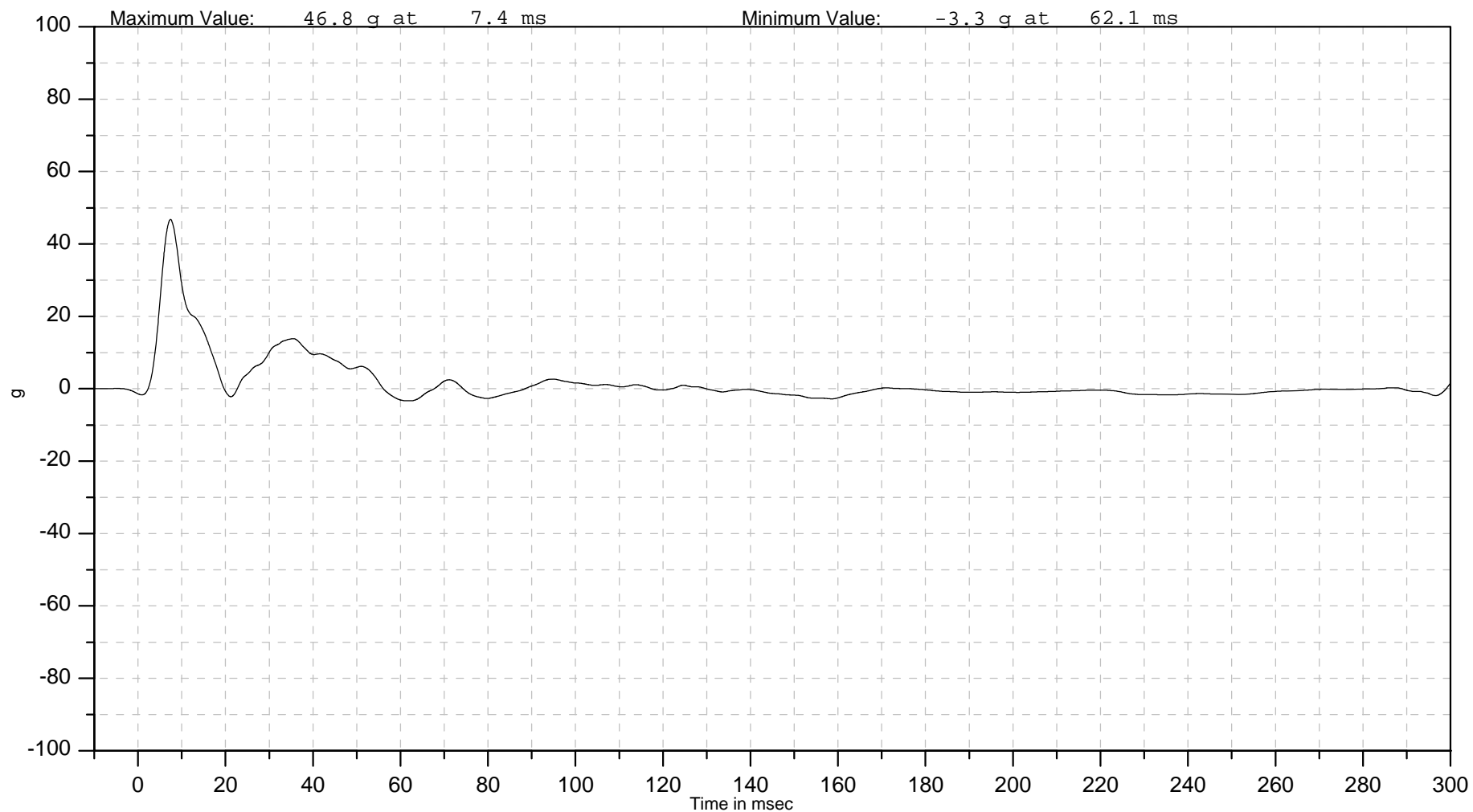
ISO Channel
10SILLRIFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRIRE00ACYD

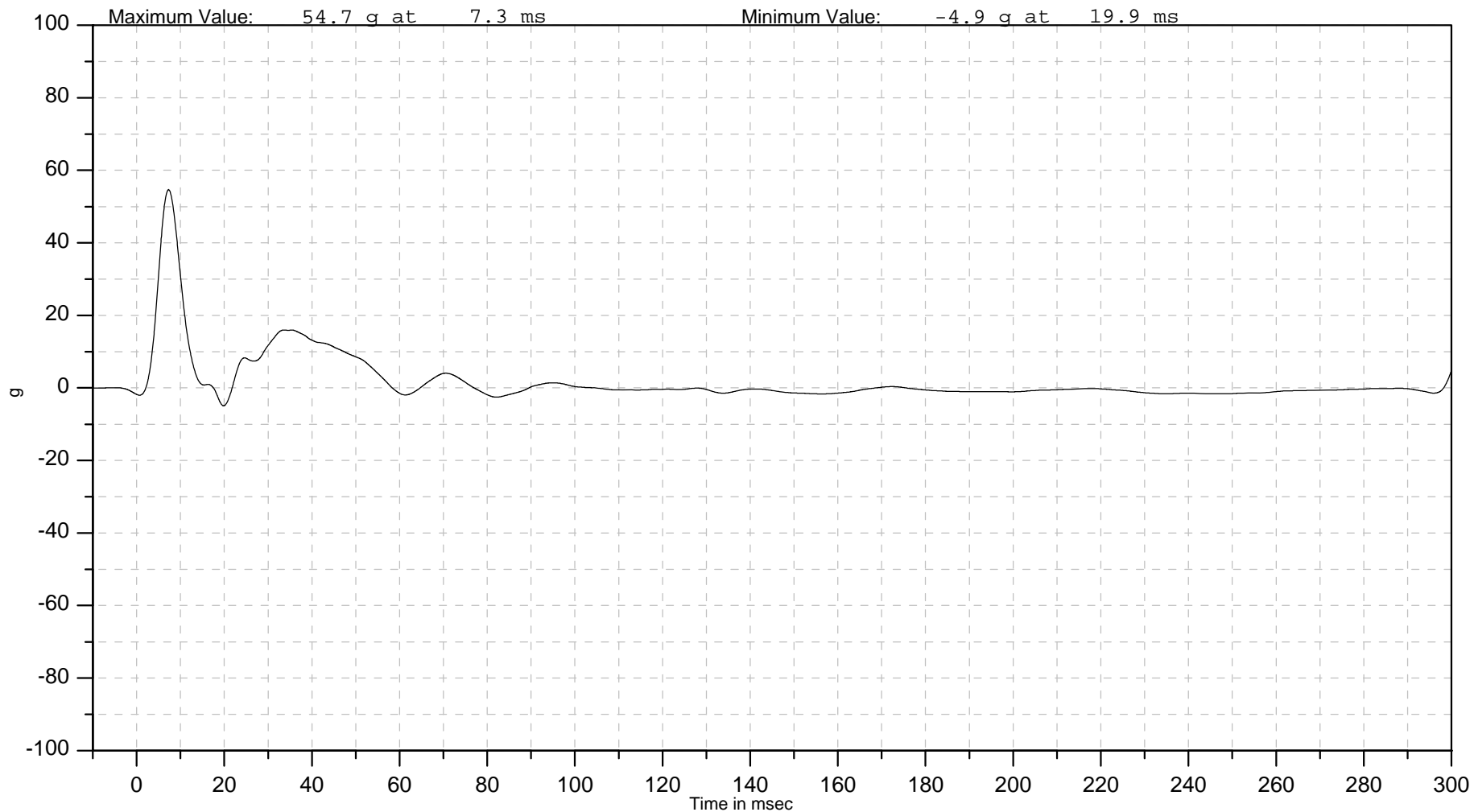
ISO Channel
10SILLRIRE00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Rear Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLEUP00ACYD

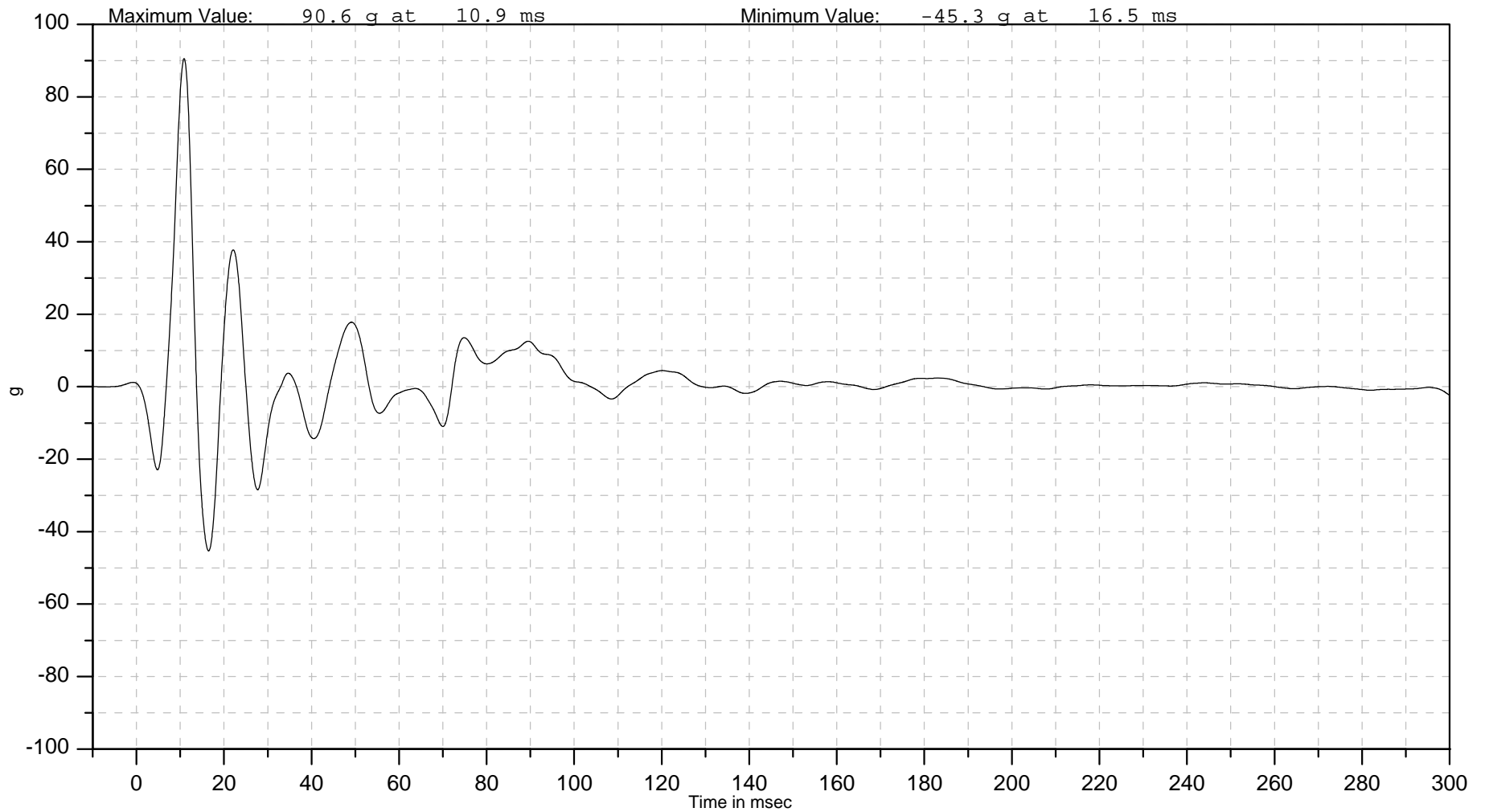
ISO Channel
10BPILLEUP00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Upper B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLEMI00ACYD

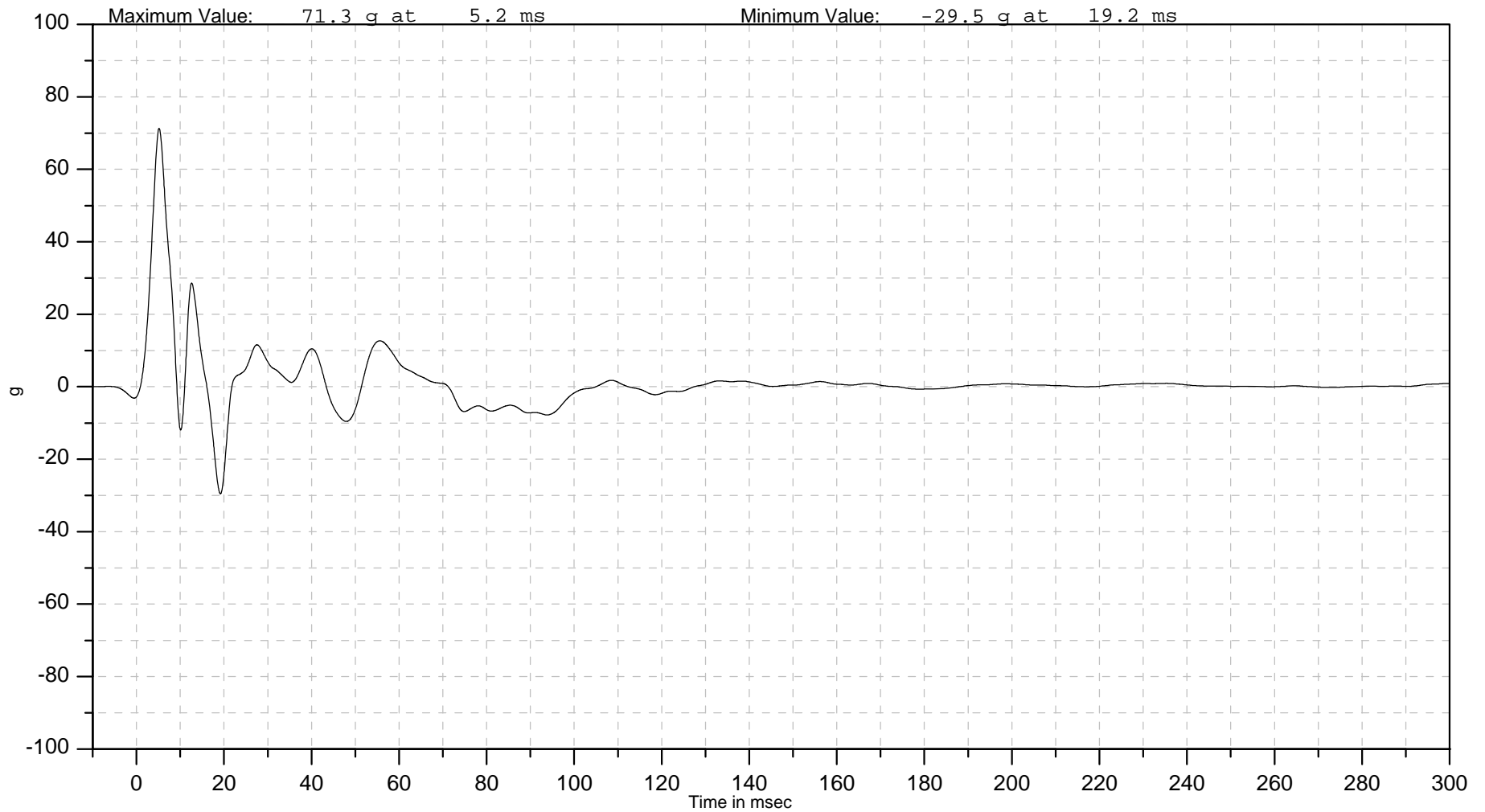
ISO Channel
10BPILLEMI00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Middle B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLELO00ACYD

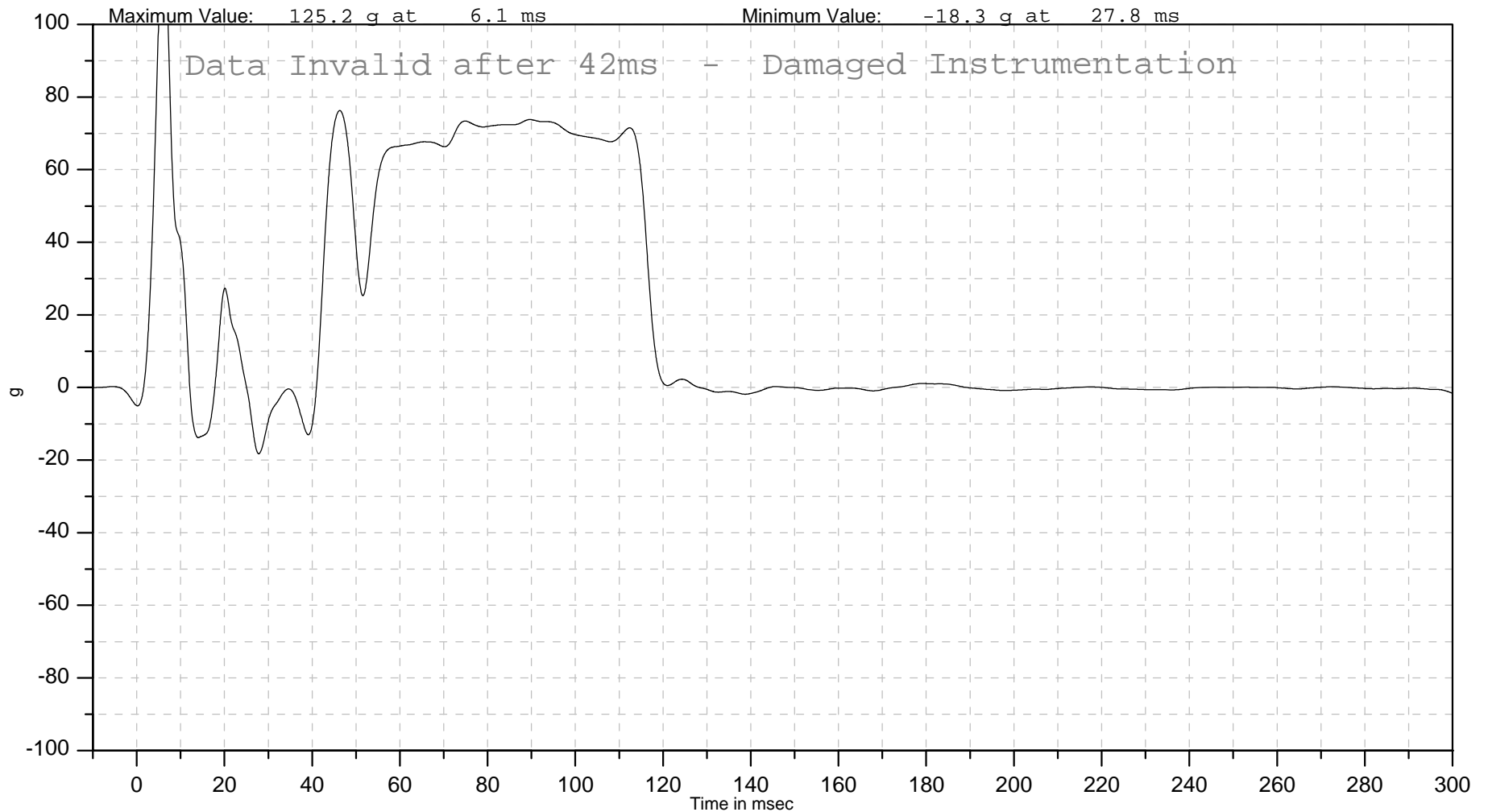
ISO Channel
10BPILLELO00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Lower B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLELO00ACYD

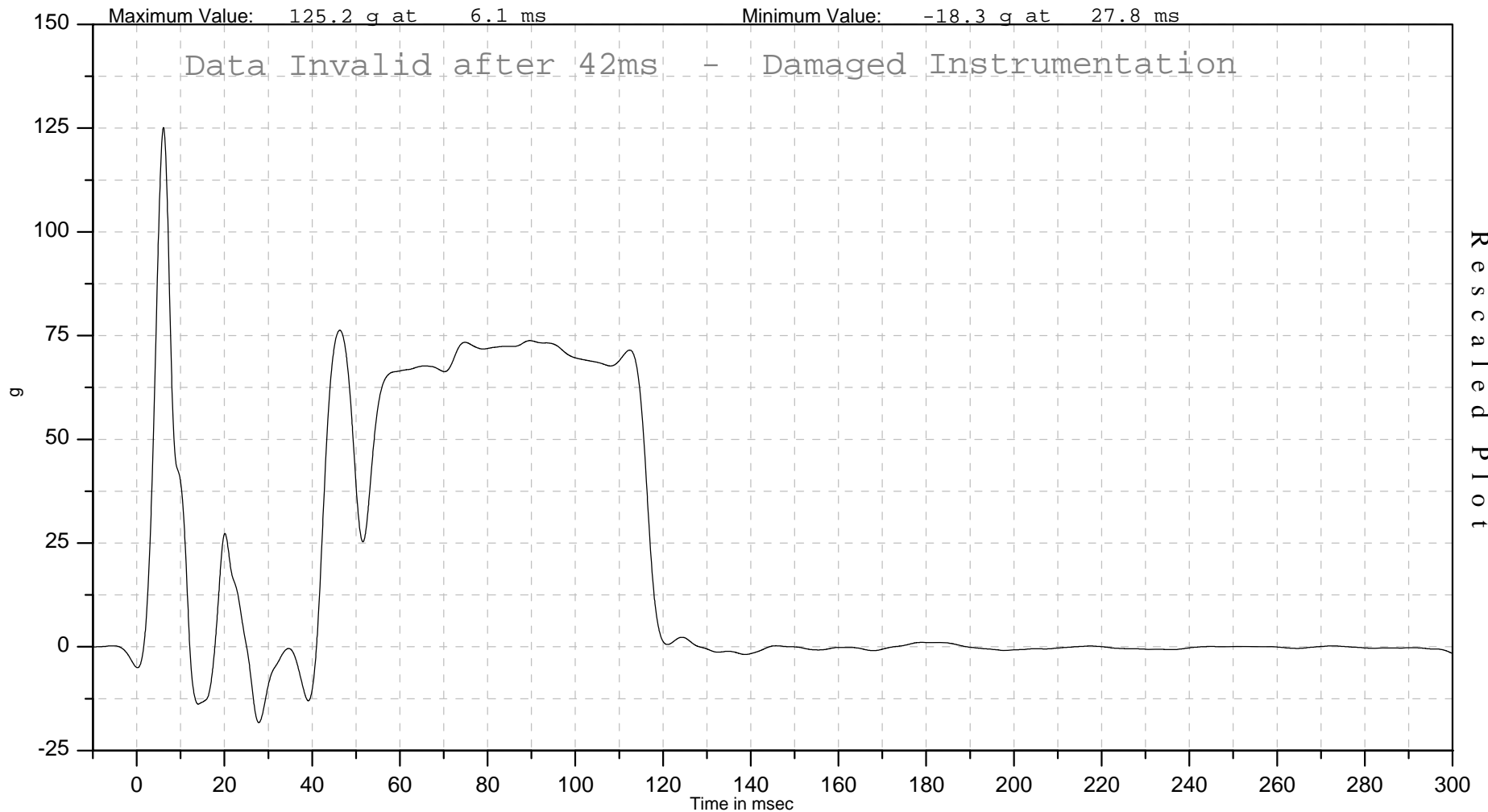
ISO Channel
10BPILLELO00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Lower B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLERO00ACYD

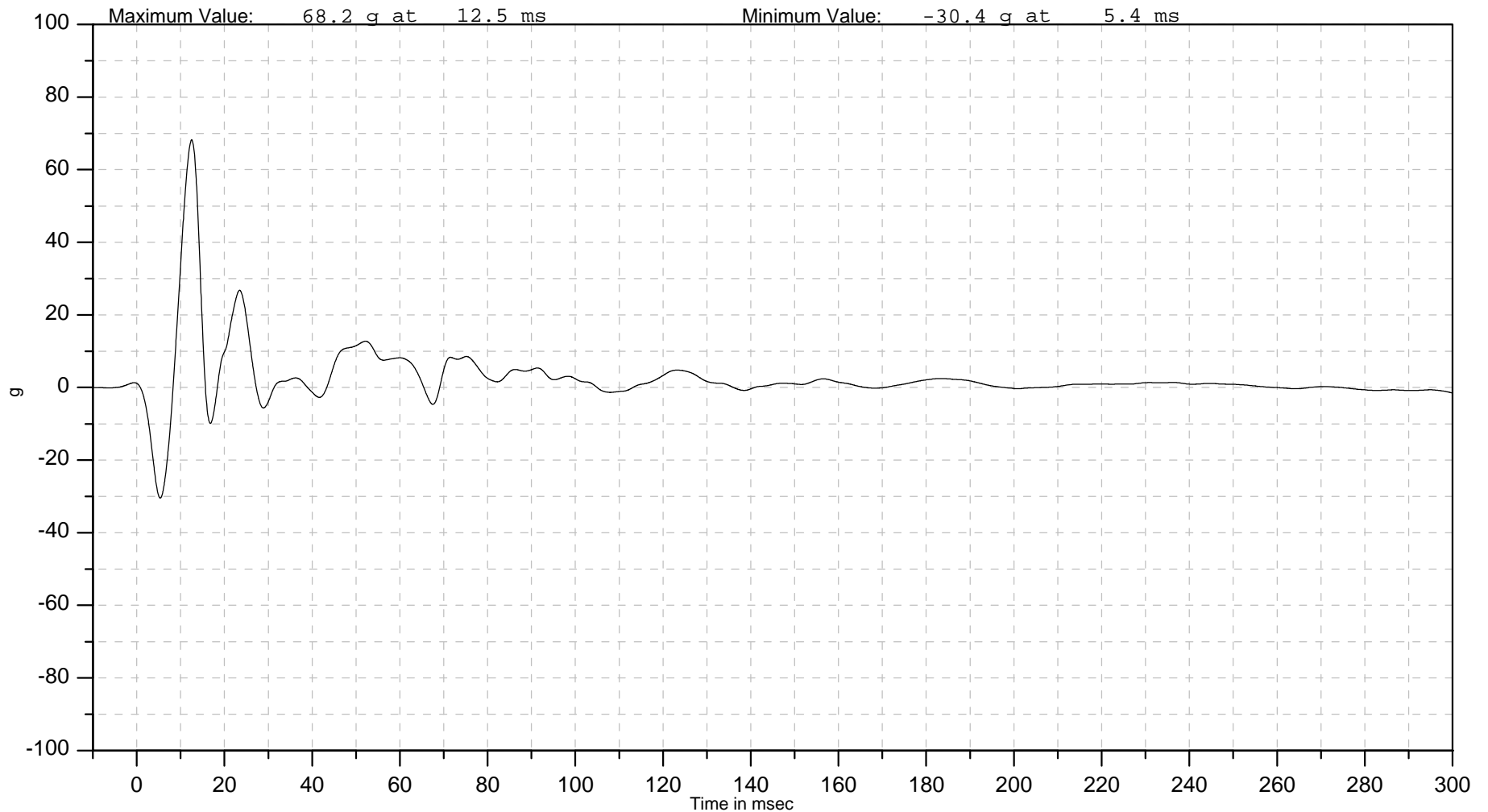
ISO Channel
10BPILLERO00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10TUNN000000ACYD

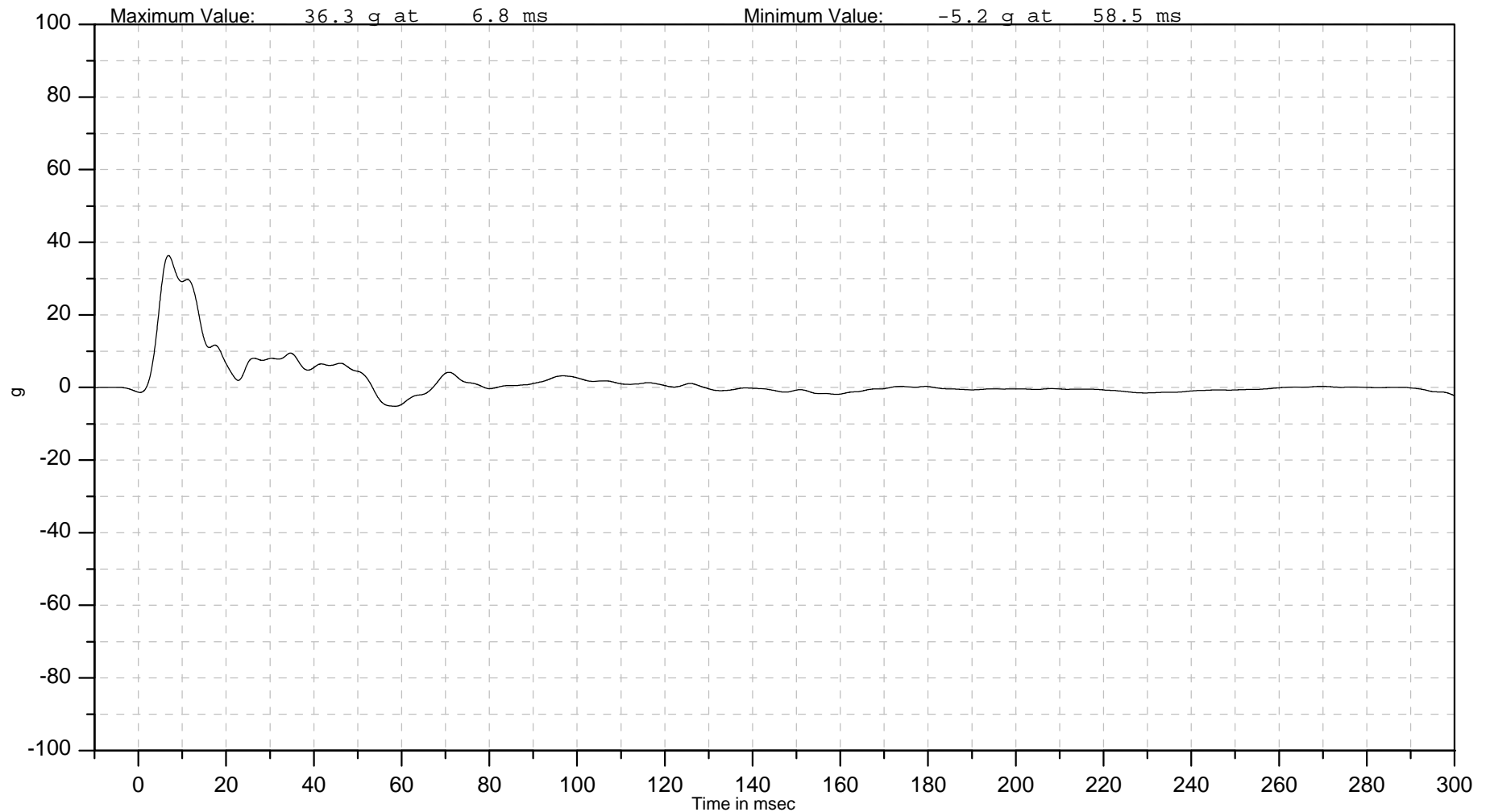
ISO Channel
10TUNN000000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Tunnel Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

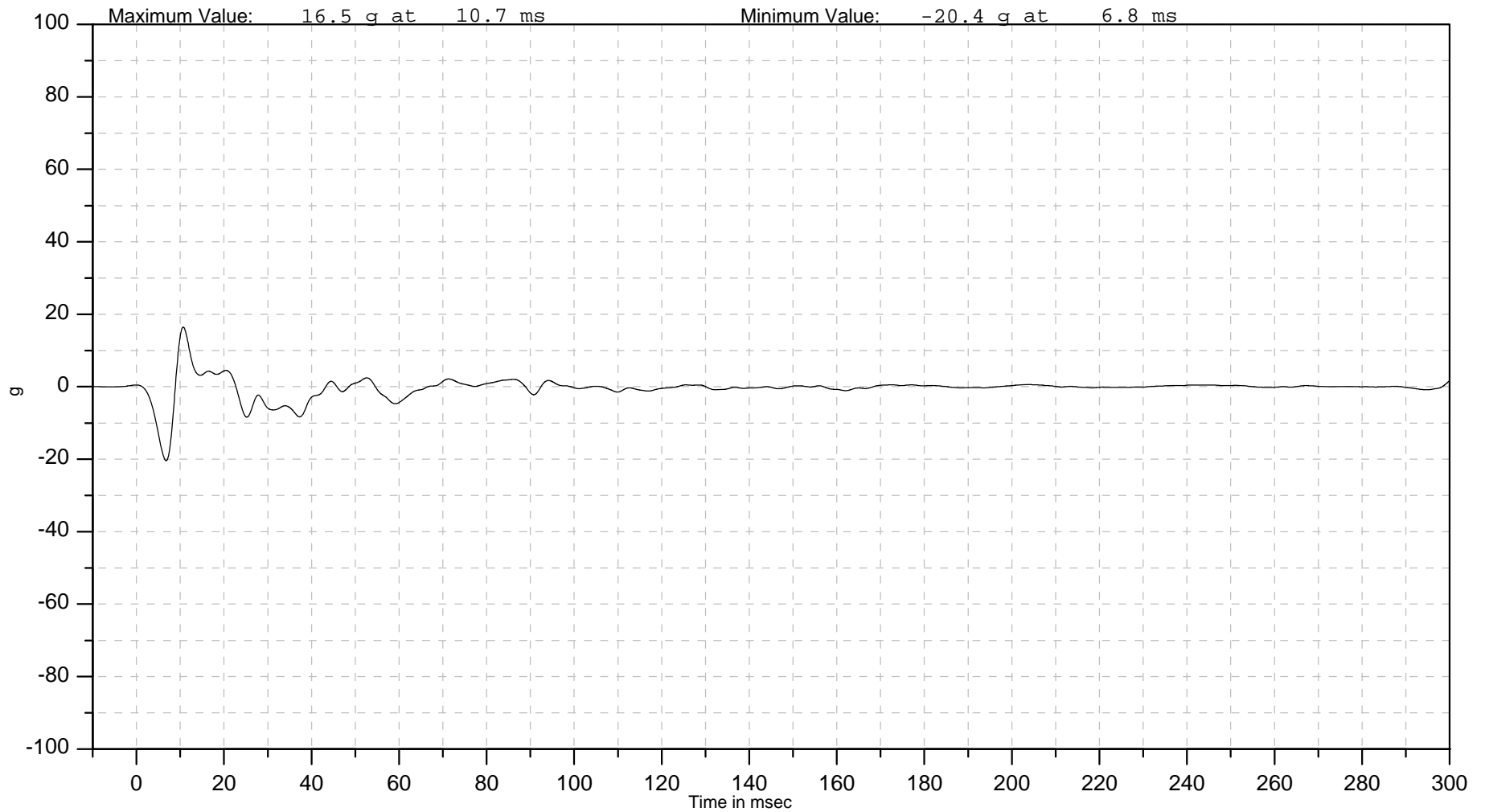
ISO Channel
10ABSE000000ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

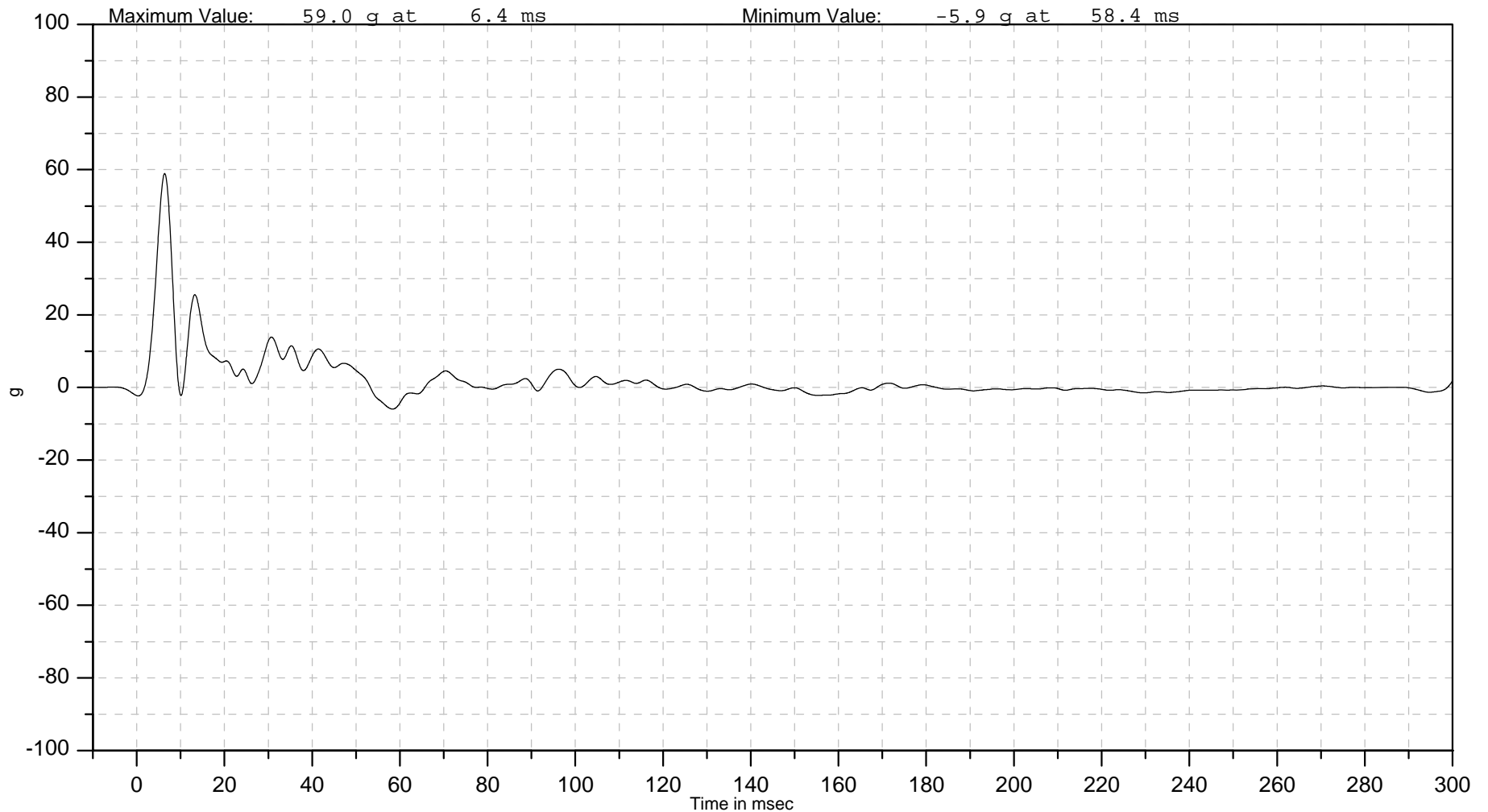
ISO Channel
10ABSE000000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSLE0000ACYD

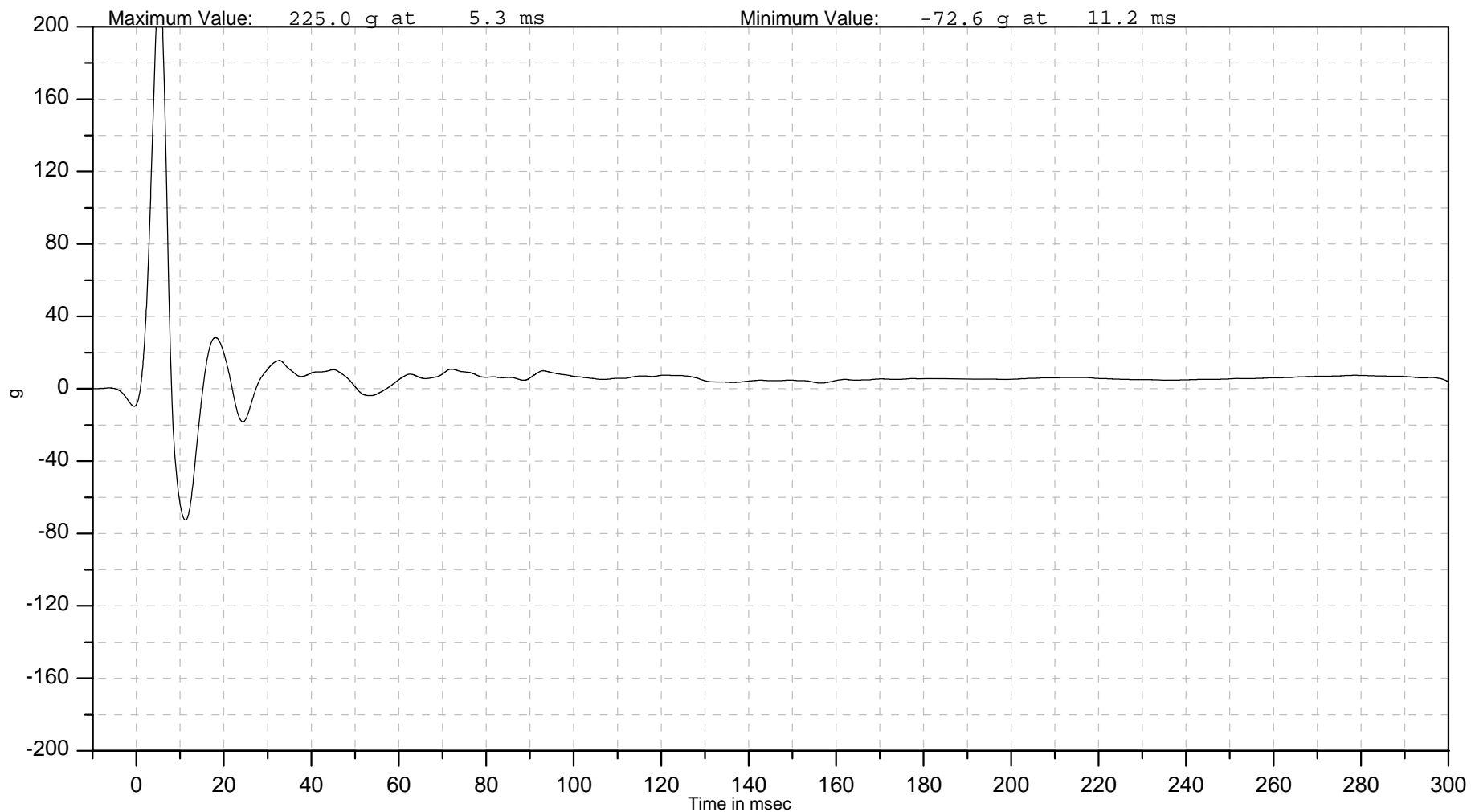
ISO Channel
10SENSLE0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSLE0000ACYD

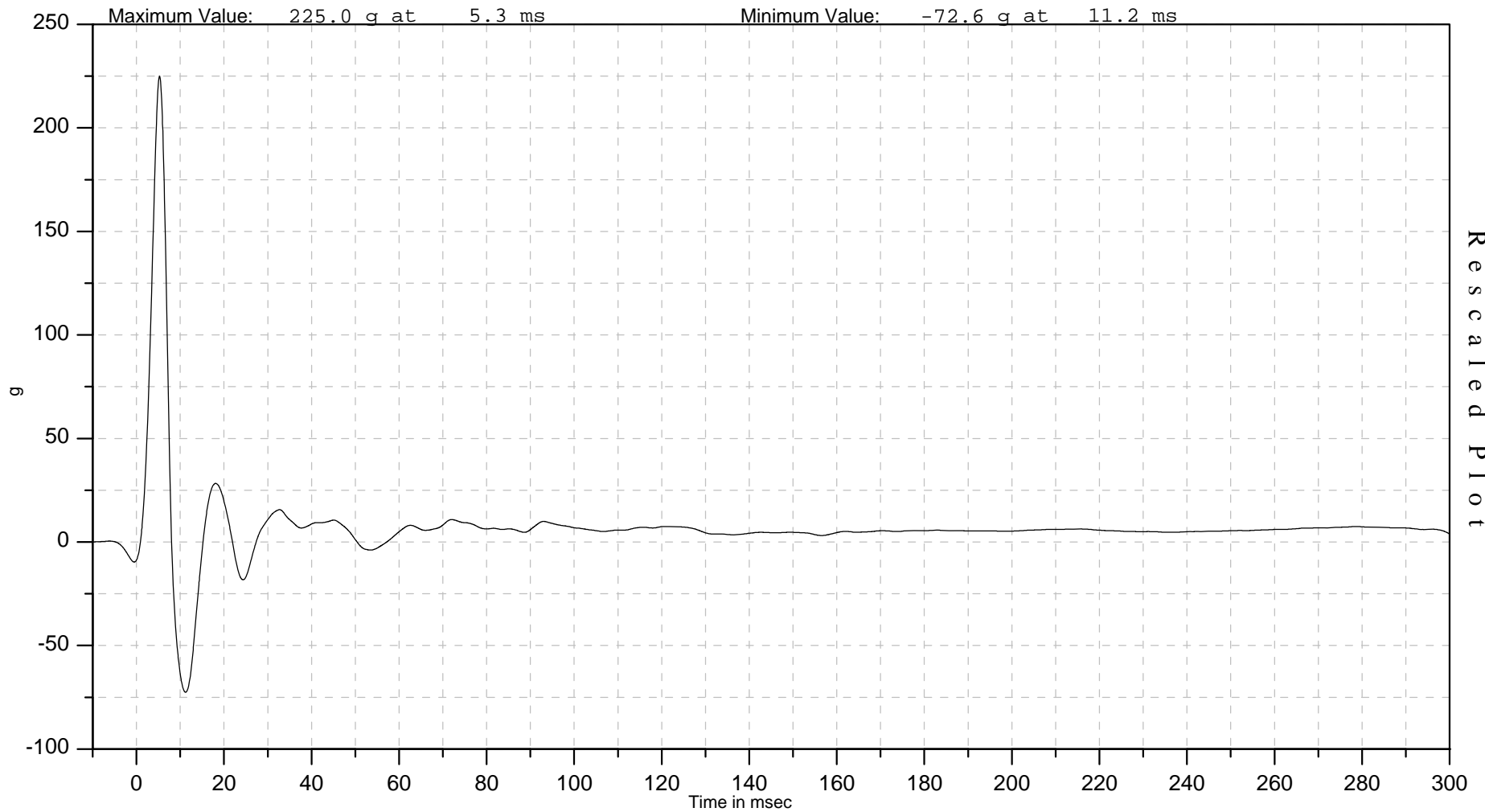
ISO Channel
10SENSLE0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sensor Y Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
10DOHALEFR00ACYD

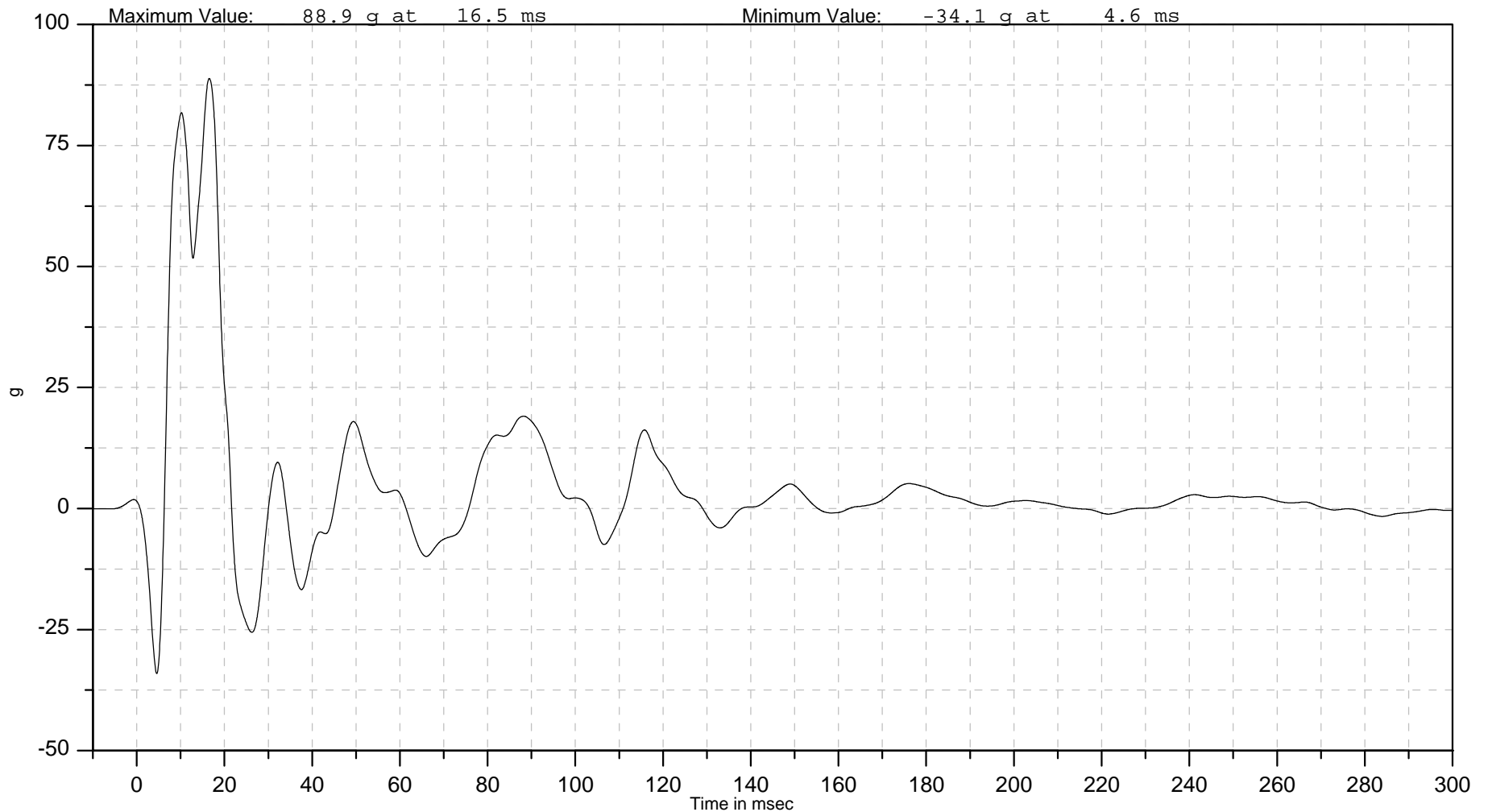
ISO Channel
10DOHALEFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Handle Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSRI0000ACYD

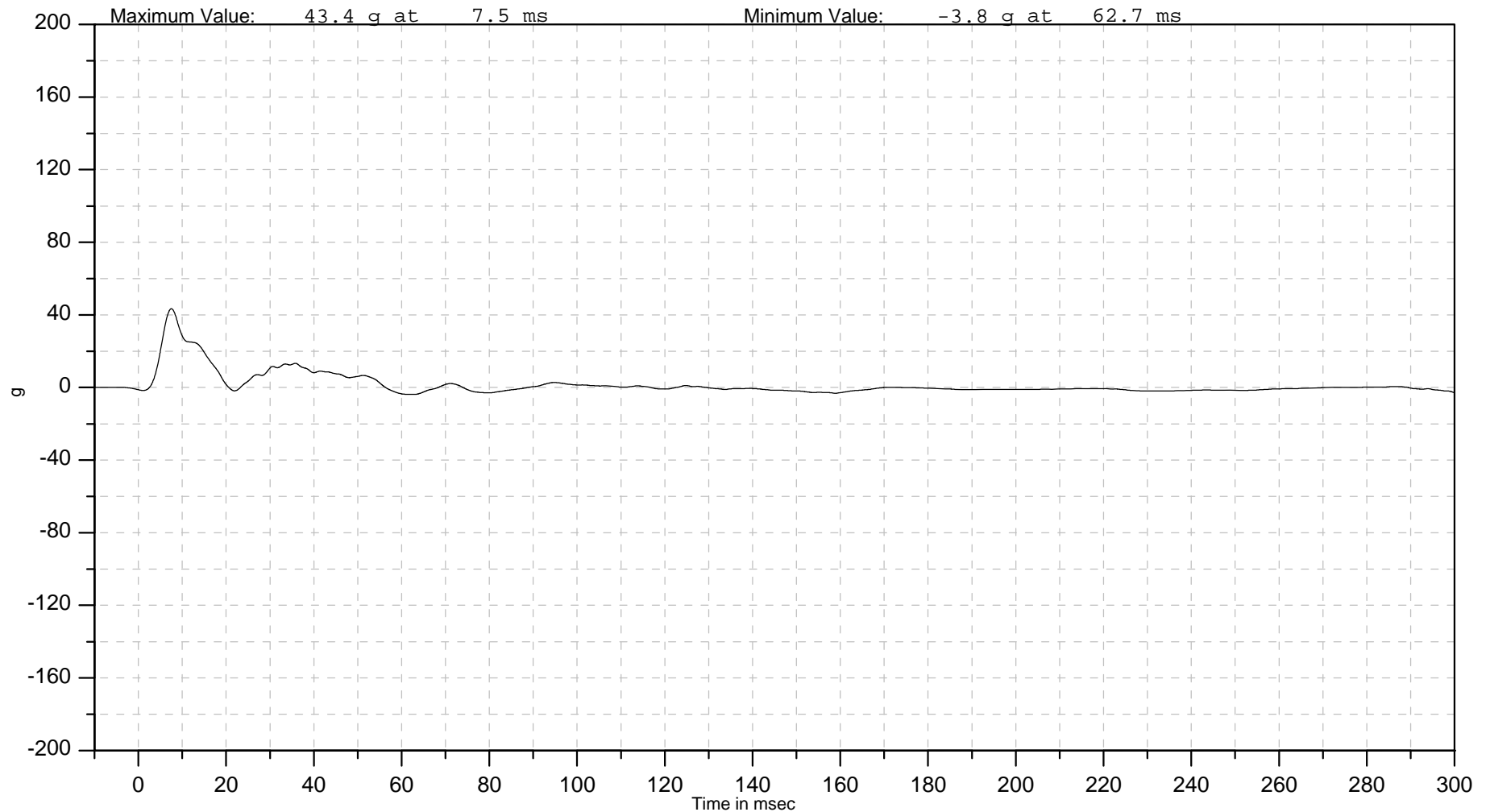
ISO Channel
10SENSRI0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOHARIFR00ACYD

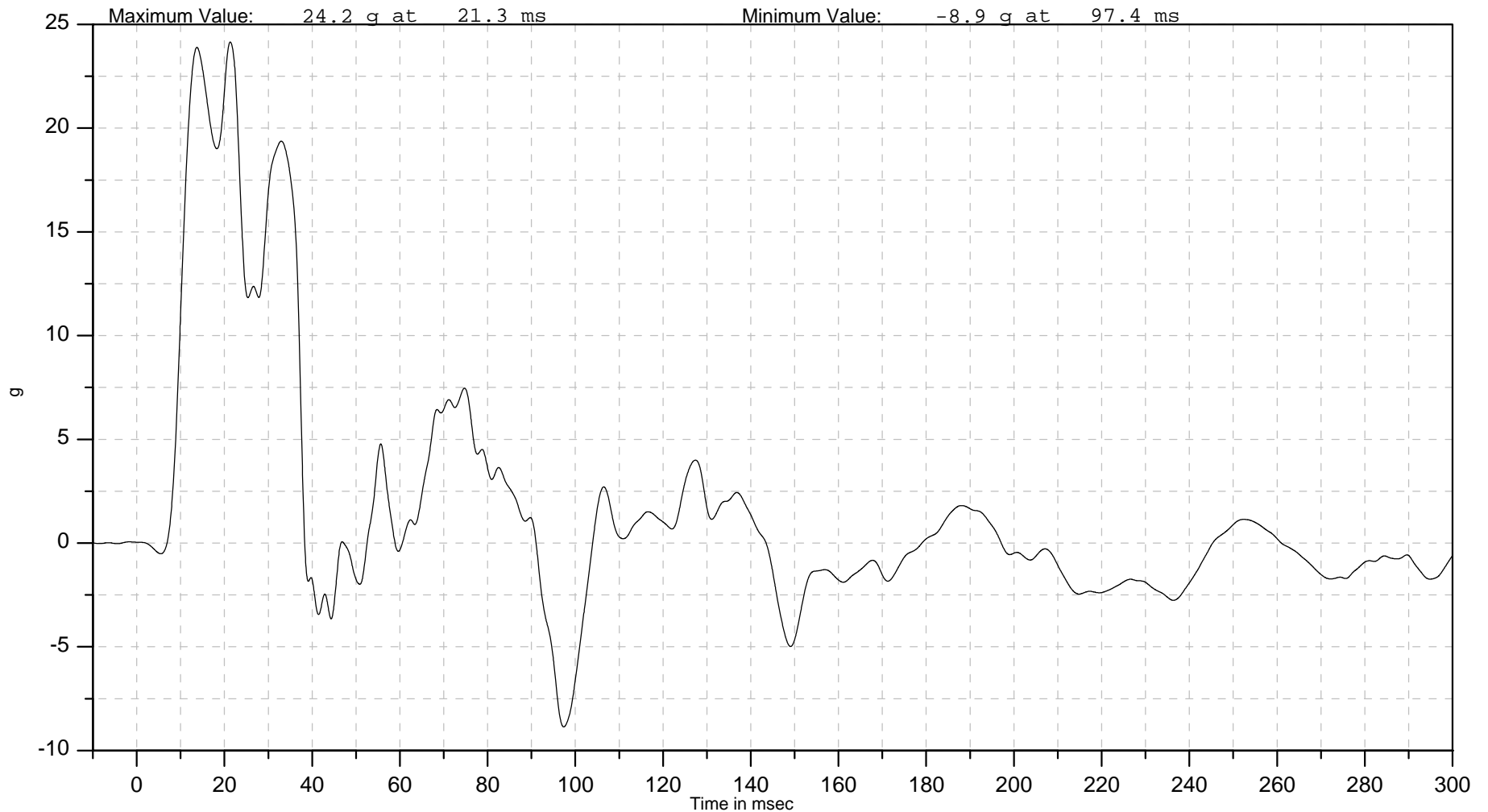
ISO Channel
10DOHARIFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Y Acceleration





Autoliv North America (NTC)

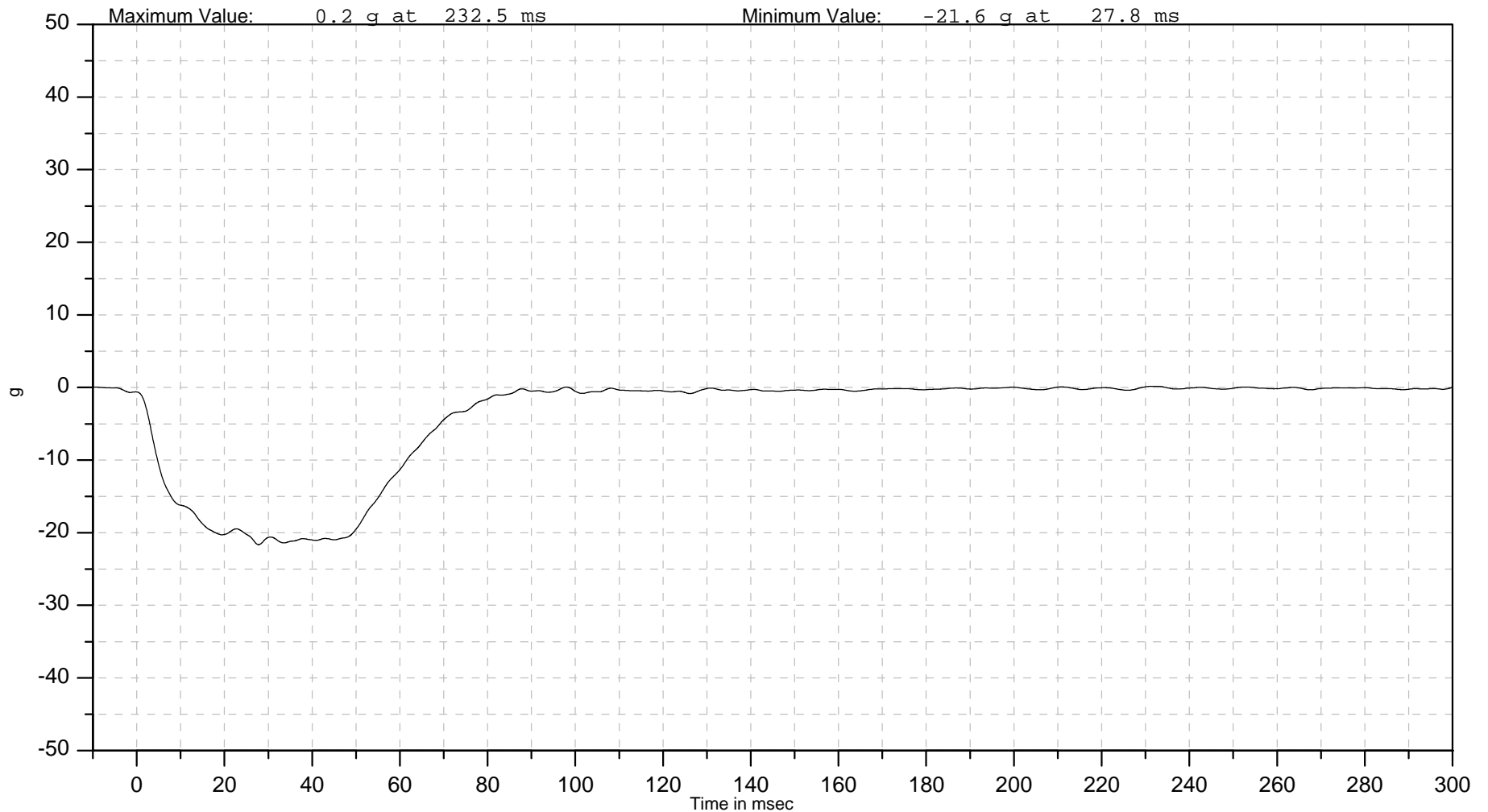
Autoliv Channel
M0MBARCG0000ACXD

ISO Channel
M0MBARCG0000ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier X Acceleration





Autoliv North America (NTC)

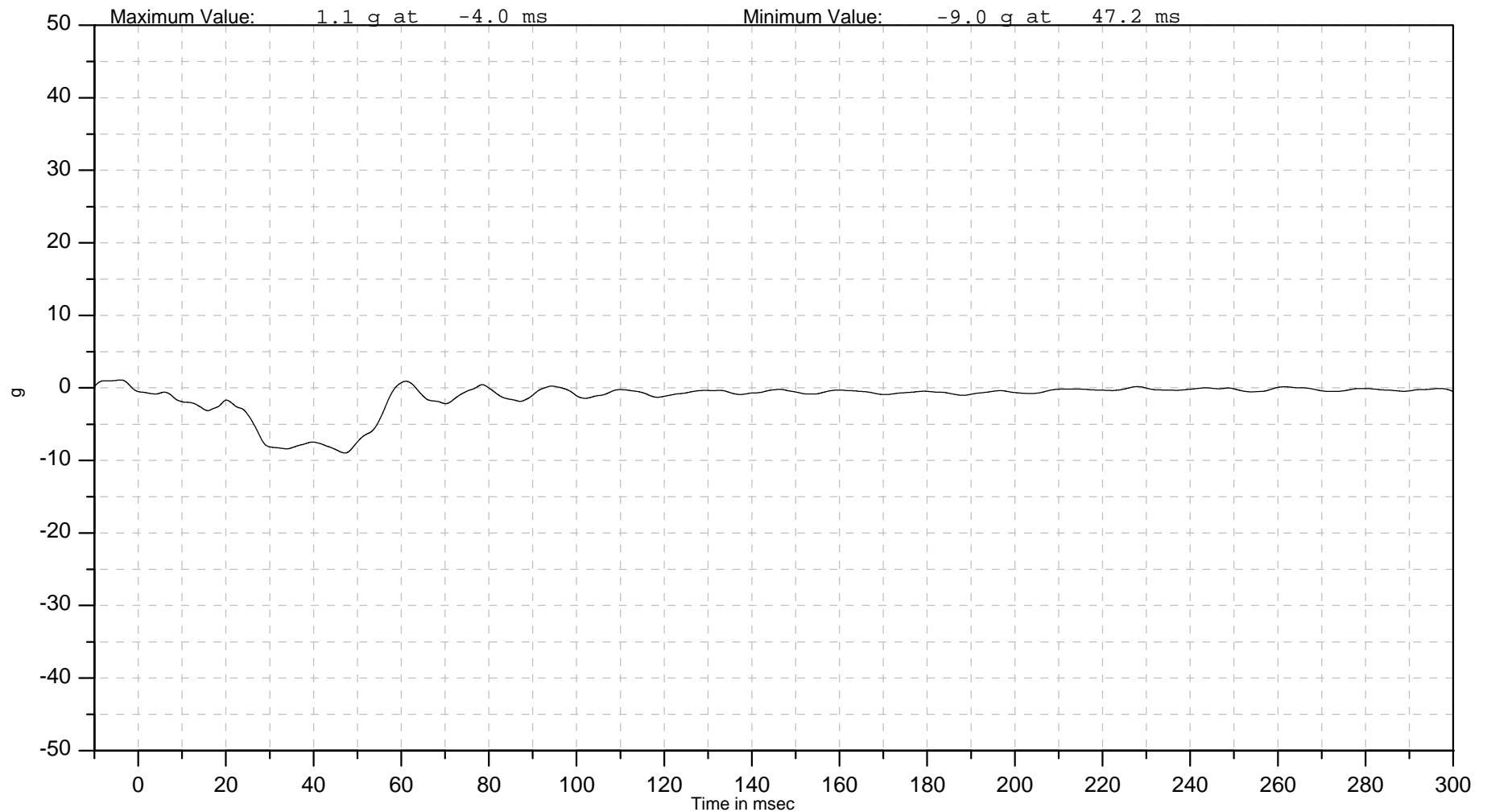
Autoliv Channel
M0MBARCG0000ACYD

ISO Channel
M0MBARCG0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBCARCG0000ACZD

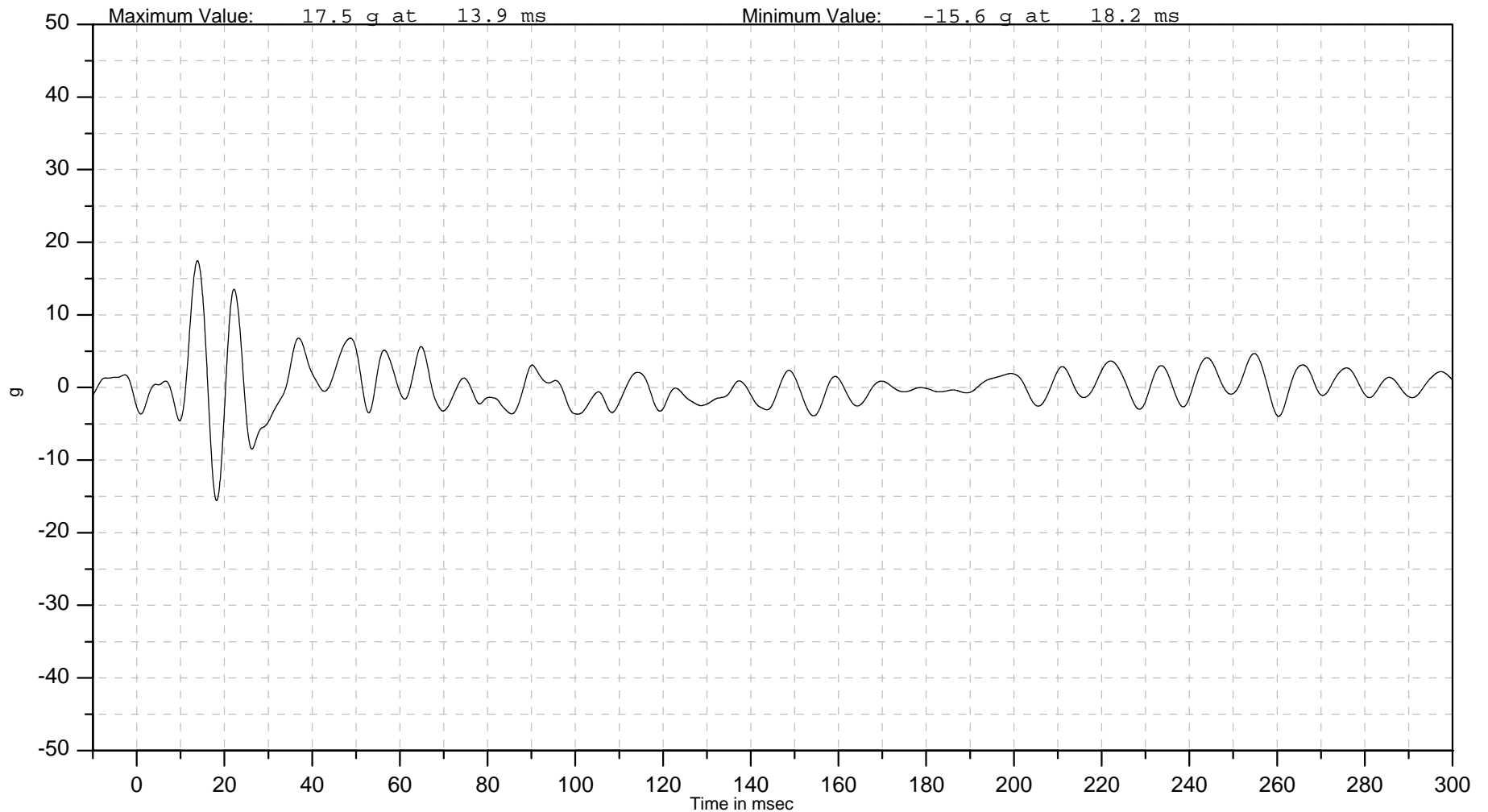
ISO Channel
M0MBCARCG0000ACZD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Z Acceleration





Autoliv North America (NTC)

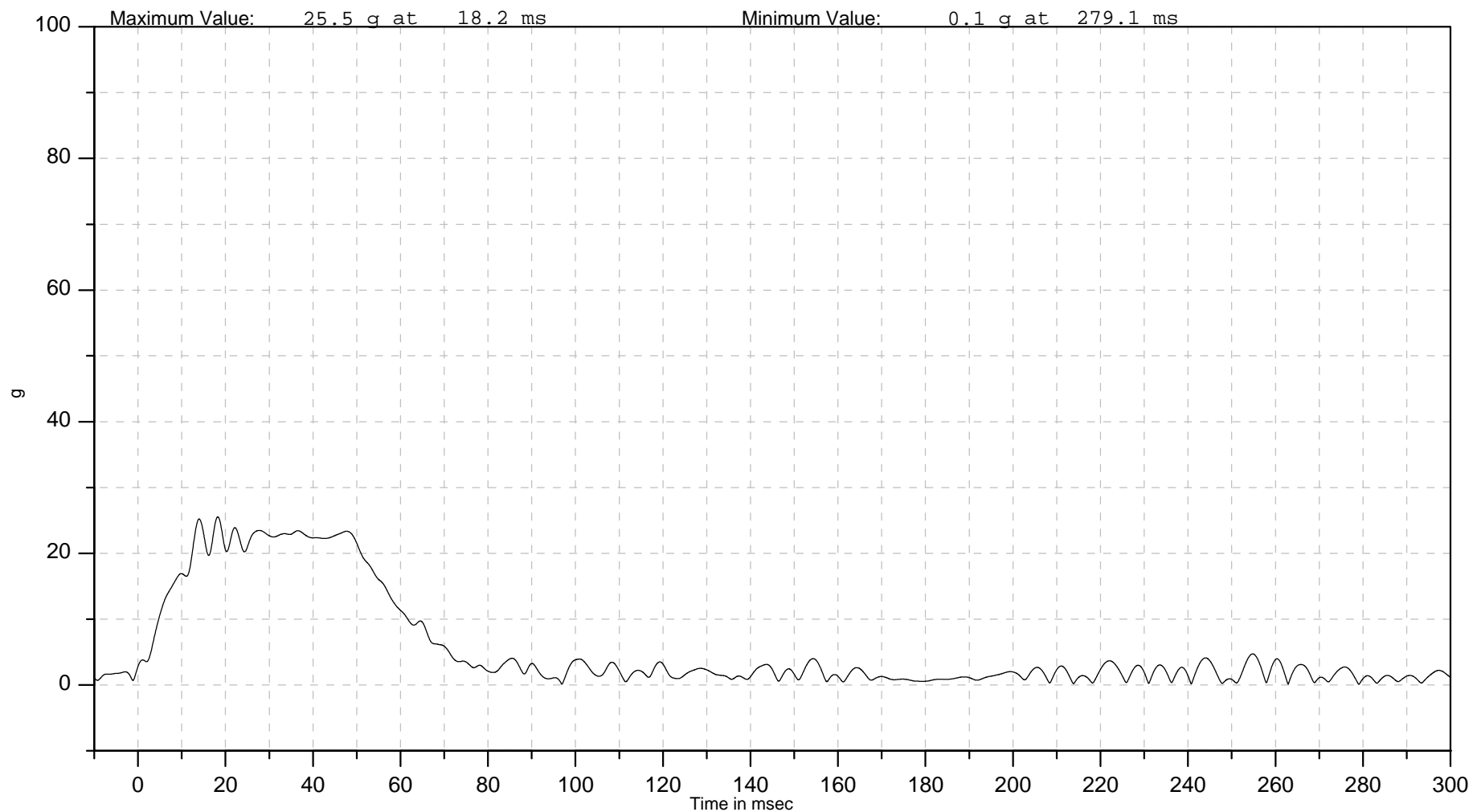
Autoliv Channel
M0MBCARCG0000ACRD

ISO Channel
M0MBCARCG0000ACRD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Resultant Acceleration





Autoliv North America (NTC)

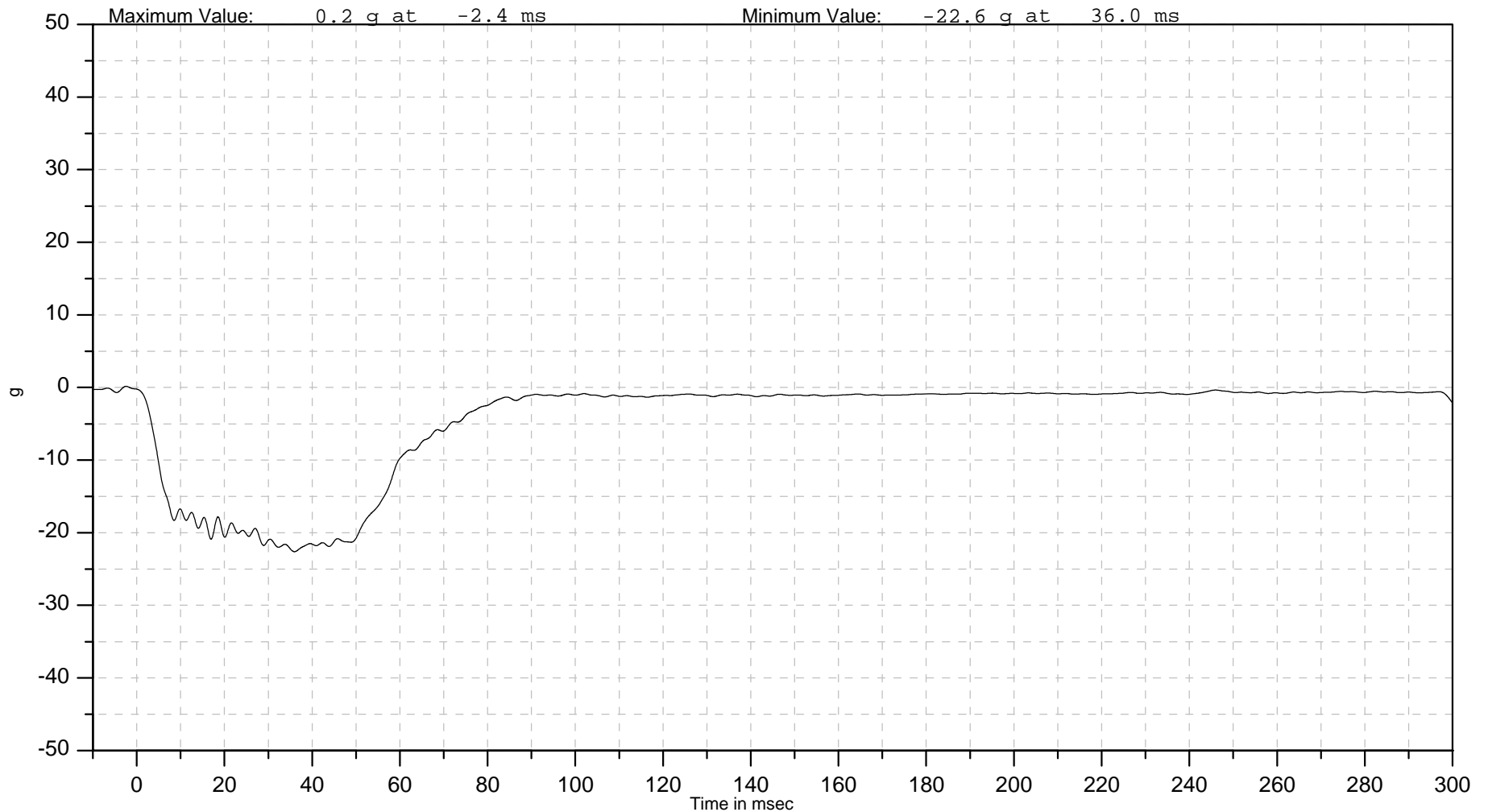
Autoliv Channel
M0MBARMIFR00ACXD

ISO Channel
M0MBARMIFR00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARMIFR00ACYD

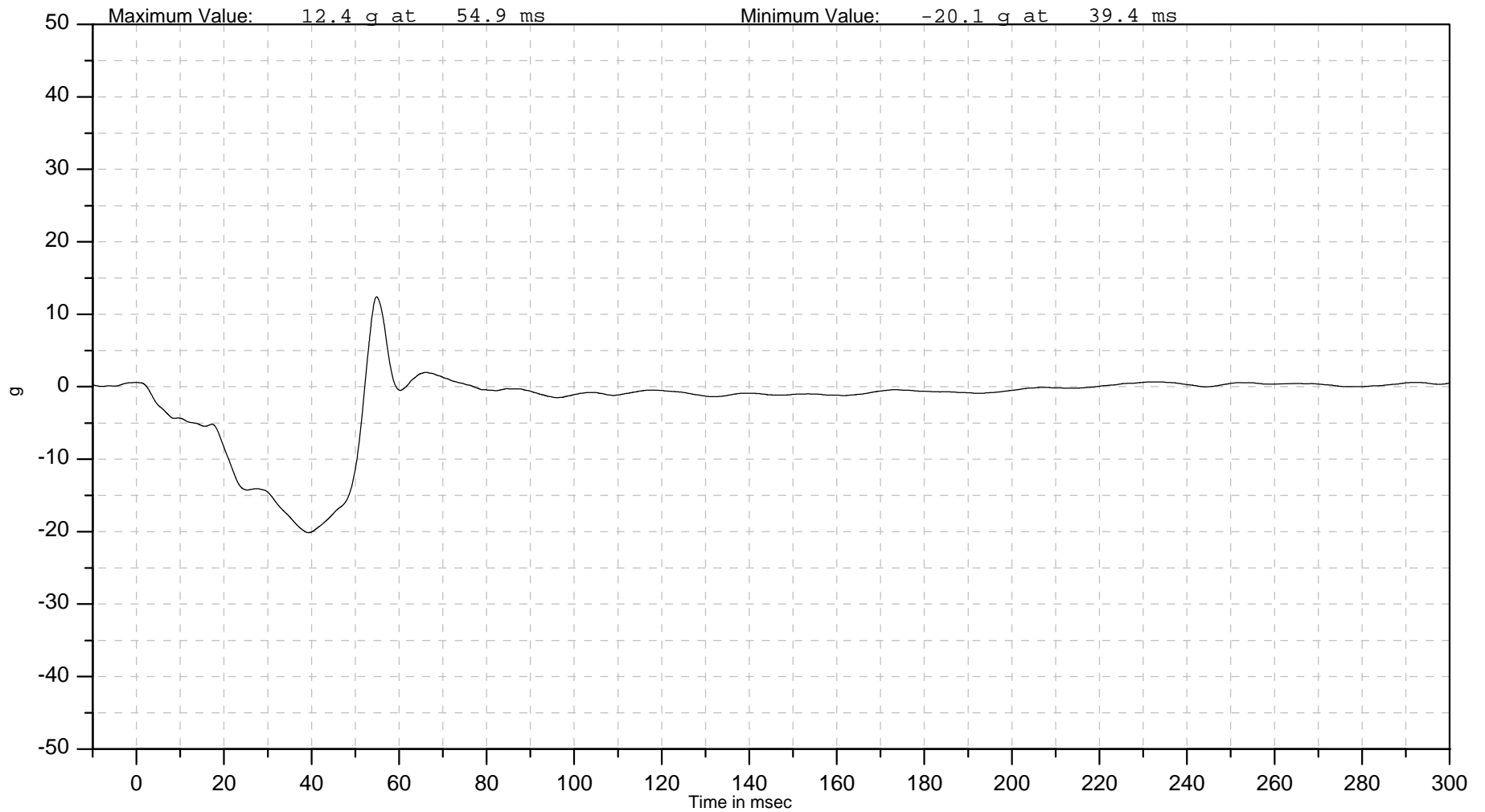
ISO Channel
M0MBARMIFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Y Acceleration





Autoliv North America (NTC)

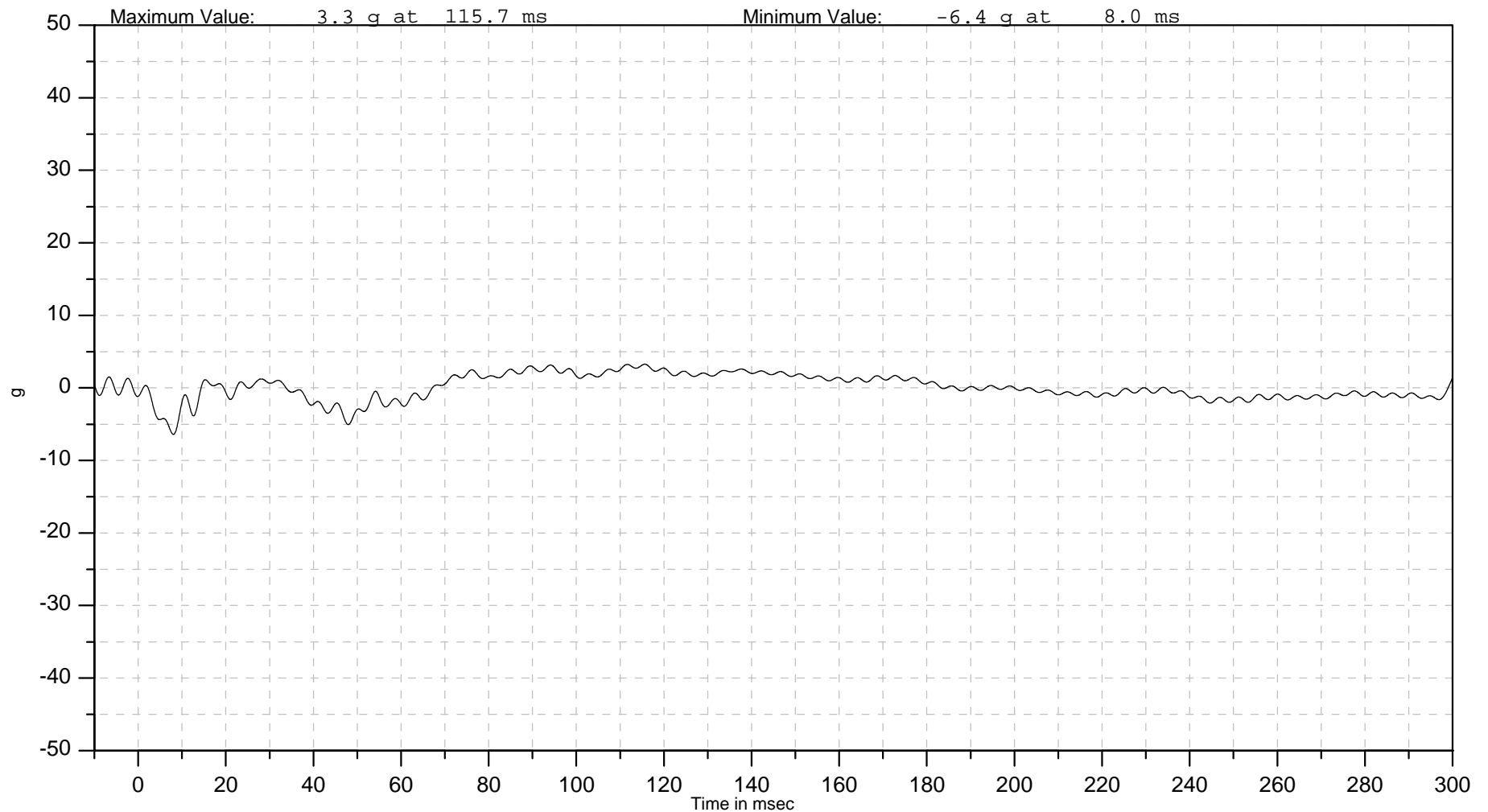
Autoliv Channel
M0MBARMIFR00ACZD

ISO Channel
M0MBARMIFR00ACZD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARREMI00ACYD

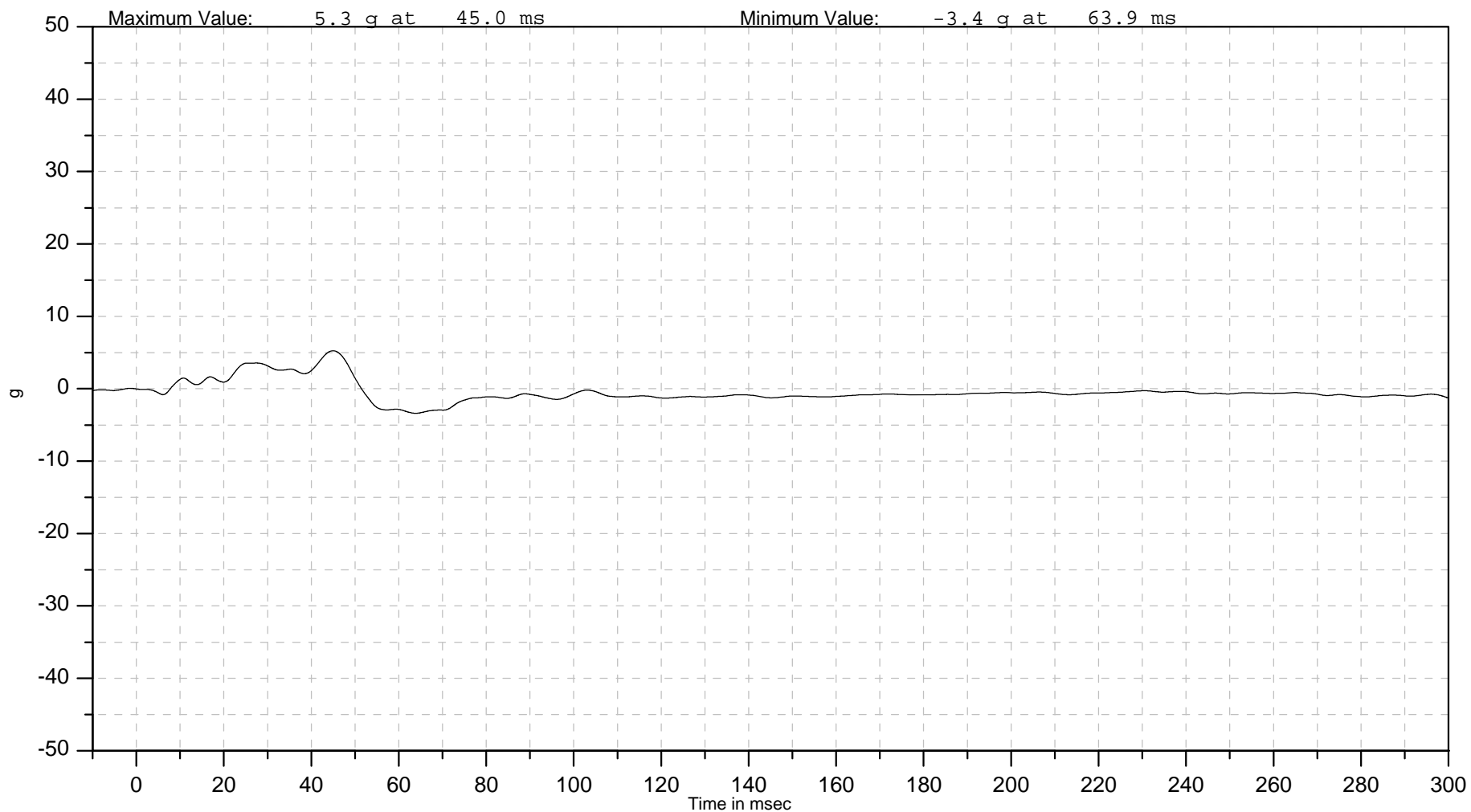
ISO Channel
M0MBARREMI00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Rear Middle Mobile Barrier Y Acceleration





Autoliv North America (NTC)

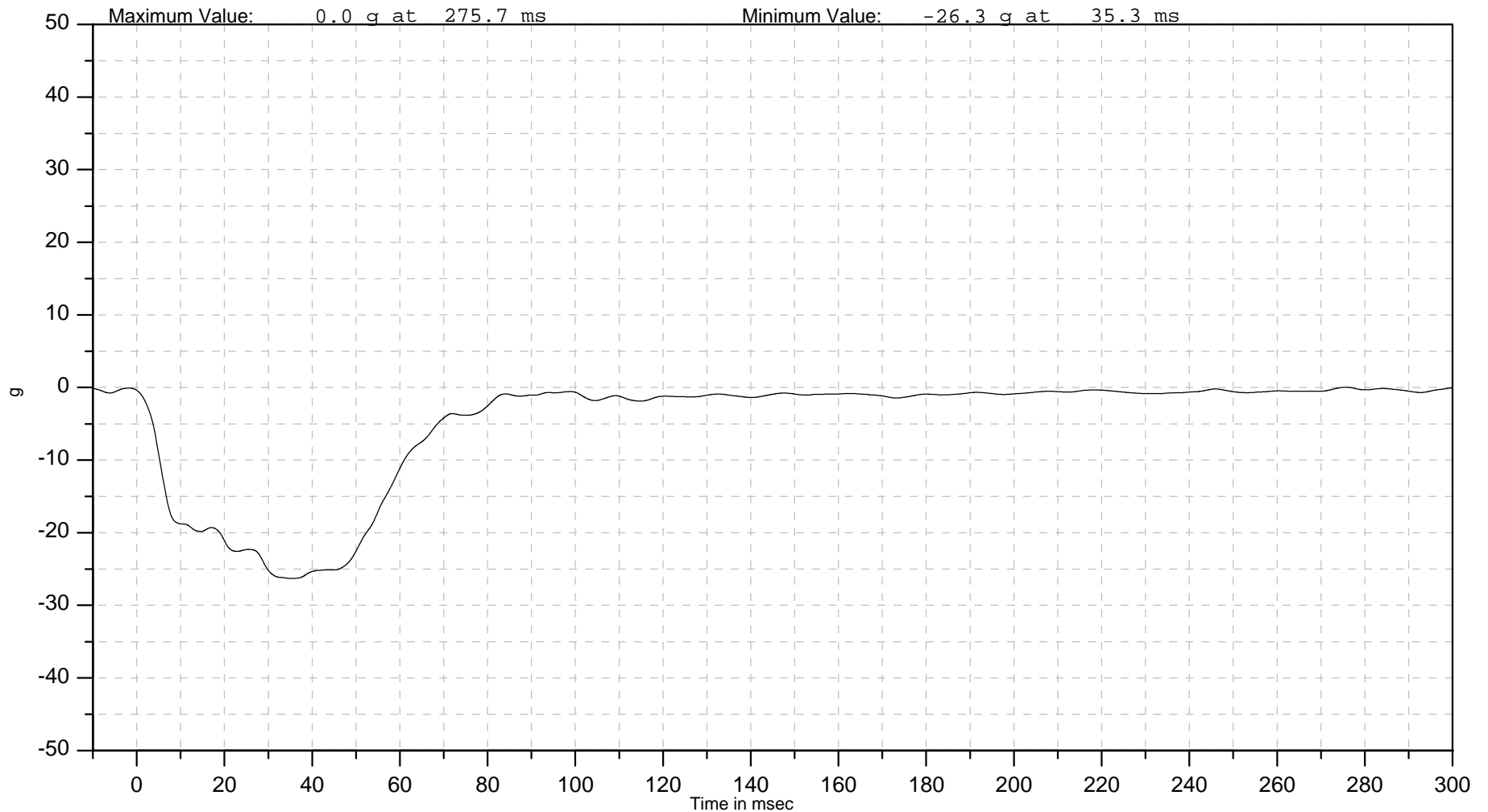
Autoliv Channel
M0MBARLEFR00ACXD

ISO Channel
M0MBARLEFR00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

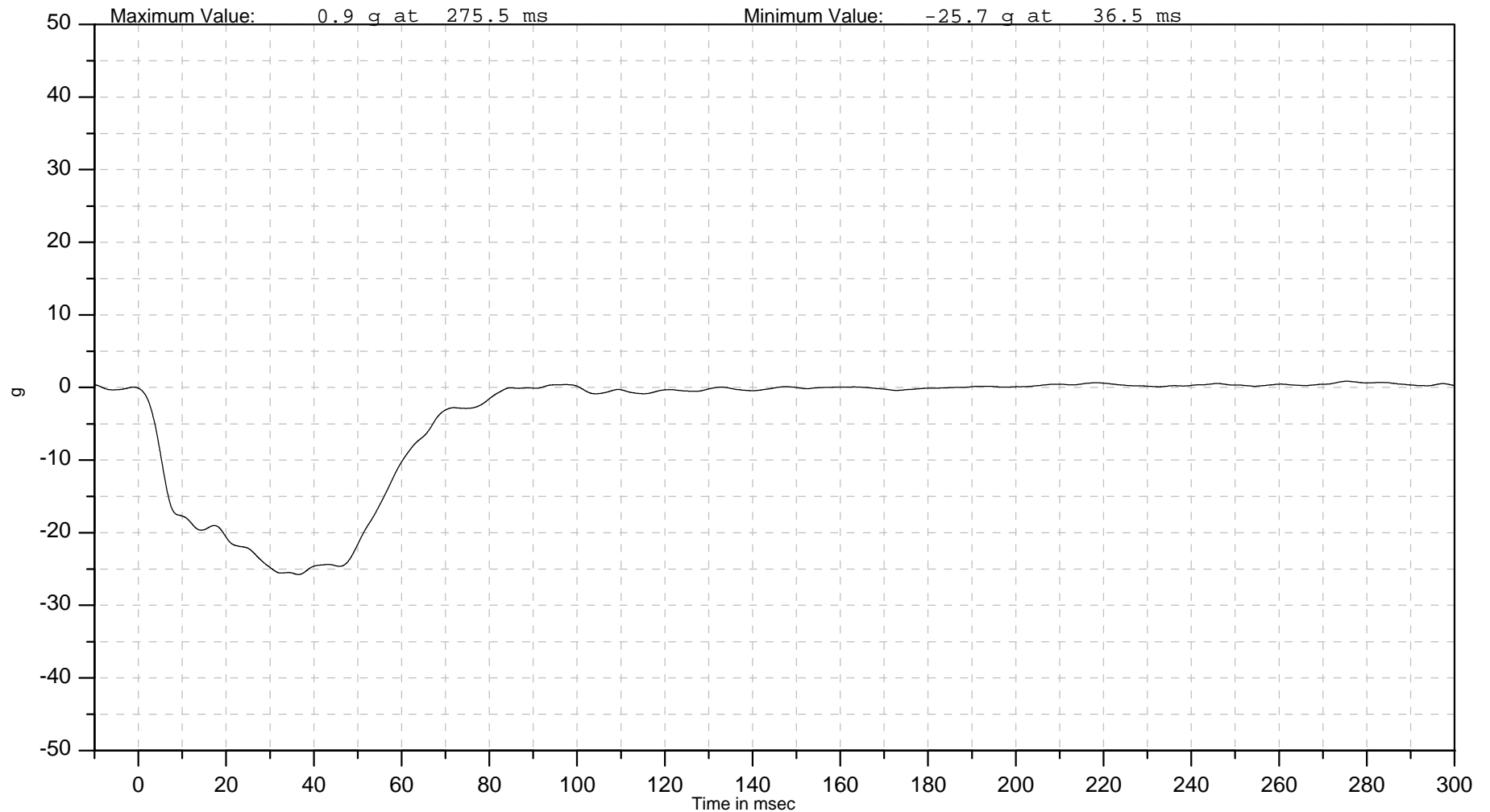
Autoliv Channel
M0MBARLEMI00ACXD

ISO Channel
M0MBARLEMI00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Middle Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARRIFR00ACXD

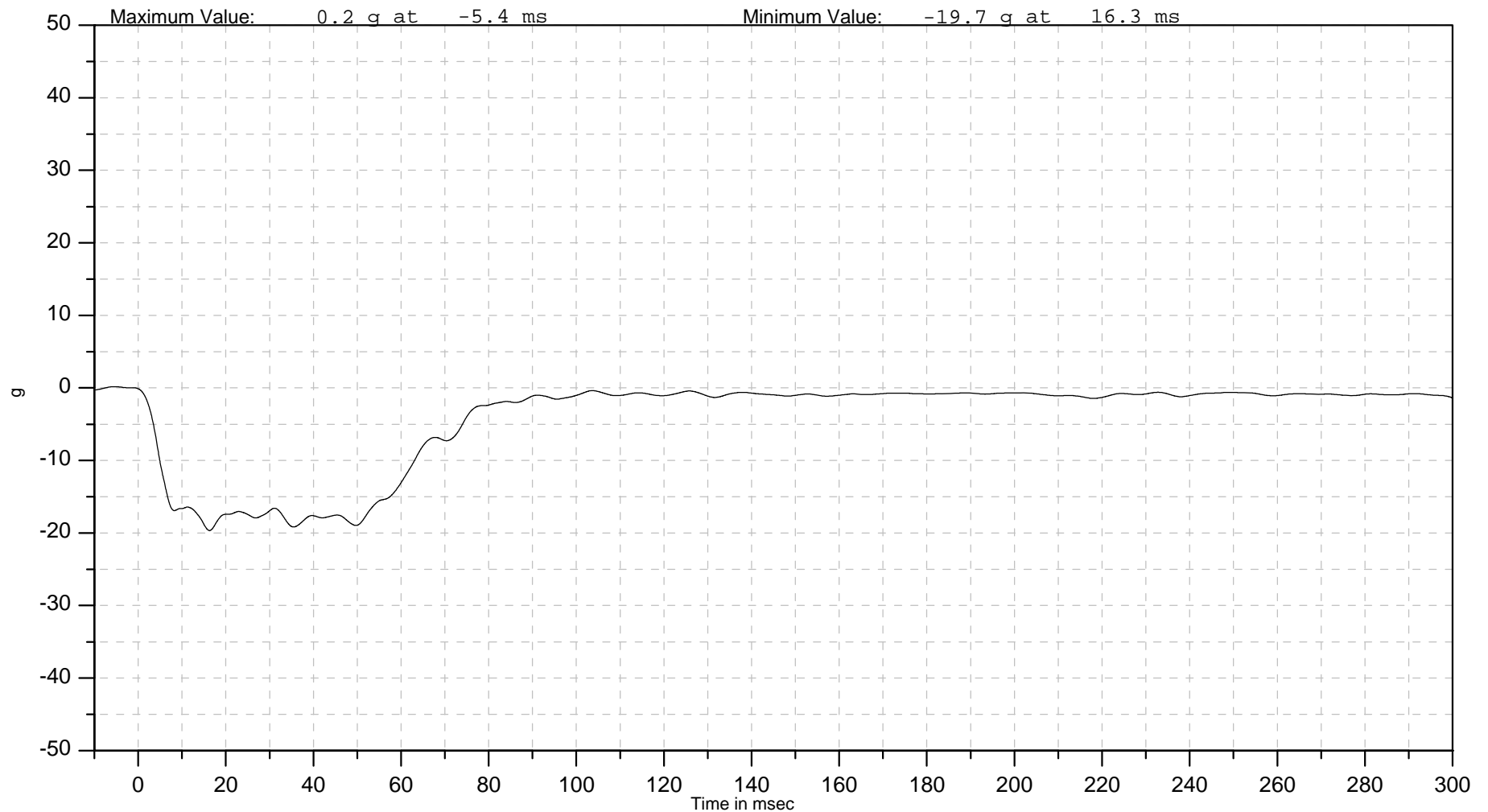
ISO Channel
M0MBARRIFR00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Mobile Barrier X Acceleration





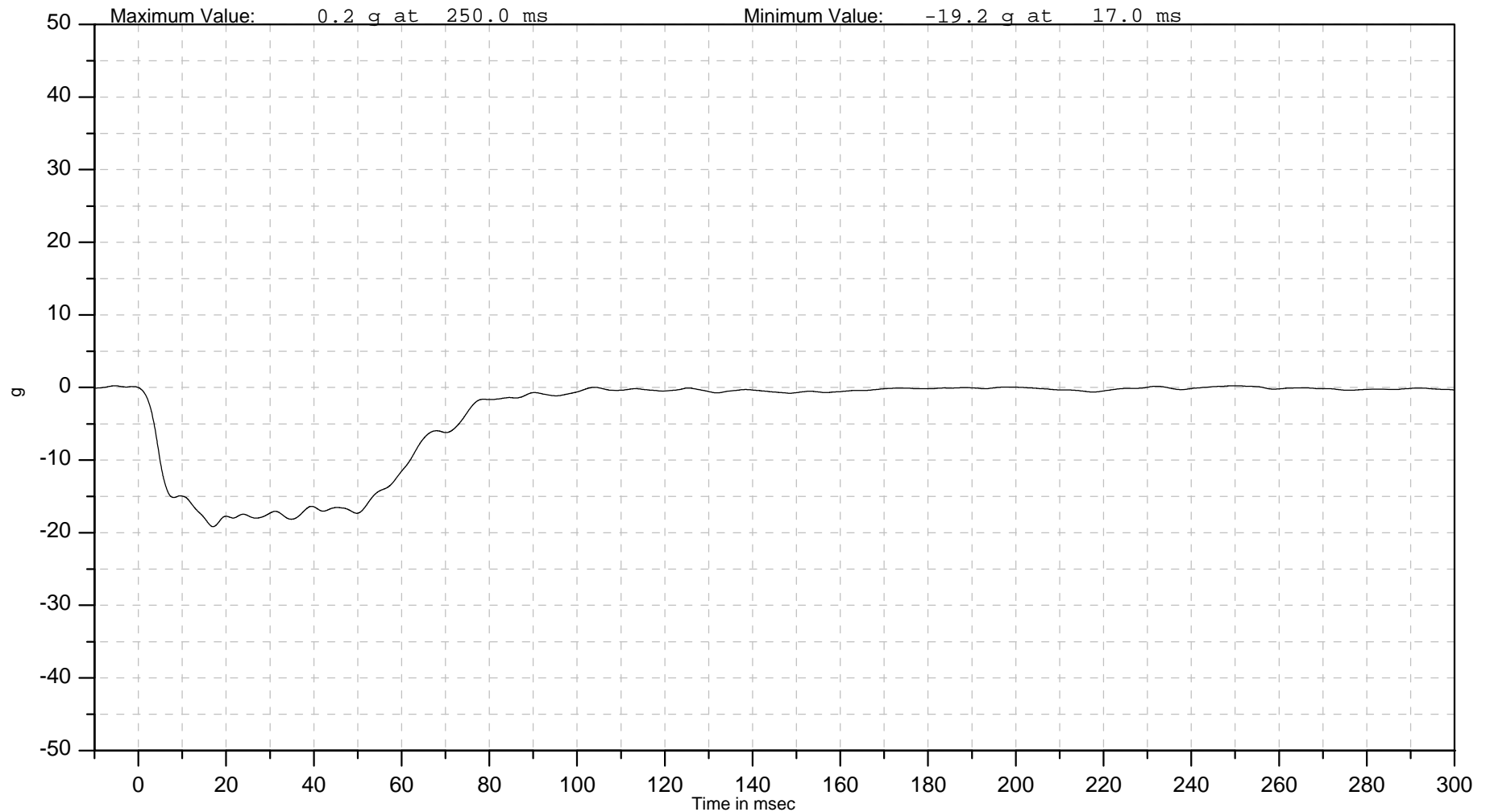
Autoliv North America (NTC)

Autoliv Channel
M0MBARRIMI00ACXD

ISO Channel
M0MBARRIMI00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type	Filter:	CFC 60
Non dummy channel	Sign Convention:	SAE J211
Right Middle Mobile Barrier X Acceleration		





Autoliv North America (NTC)

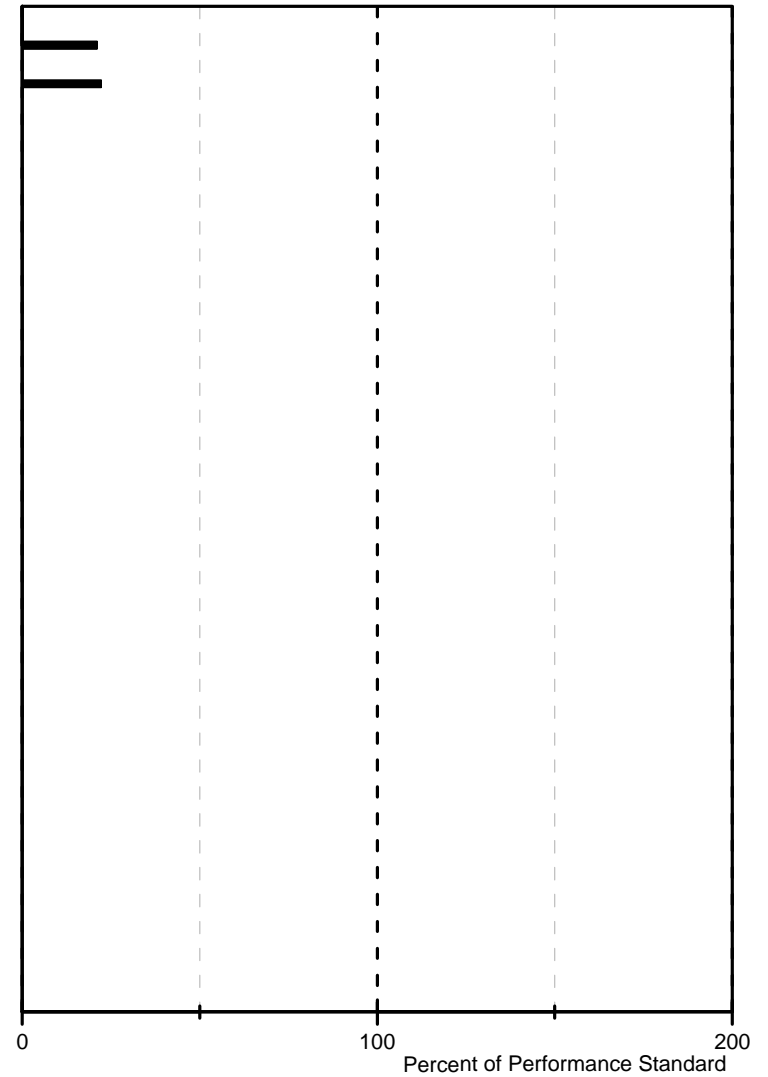
Test Number: B1040195

Test Date: 18-Jun-2004

Test Description: Nissan P61B LH SINCAP

Injury Performance

Injury Parameter	Performance Standard		Test Result
Driver TTI	90.0	(1)	19.0
Left 2nd Row Passenger TTI	90.0	(1)	20.0



(1) FMVSS 208 Performance Standard
(2) Side Airbag Out-of-Position TWG Injury Reference Value
(3) Side Airbag Out-of-Position TWG Injury Research Value

APPENDIX B
TEST PHOTOGRAPHS









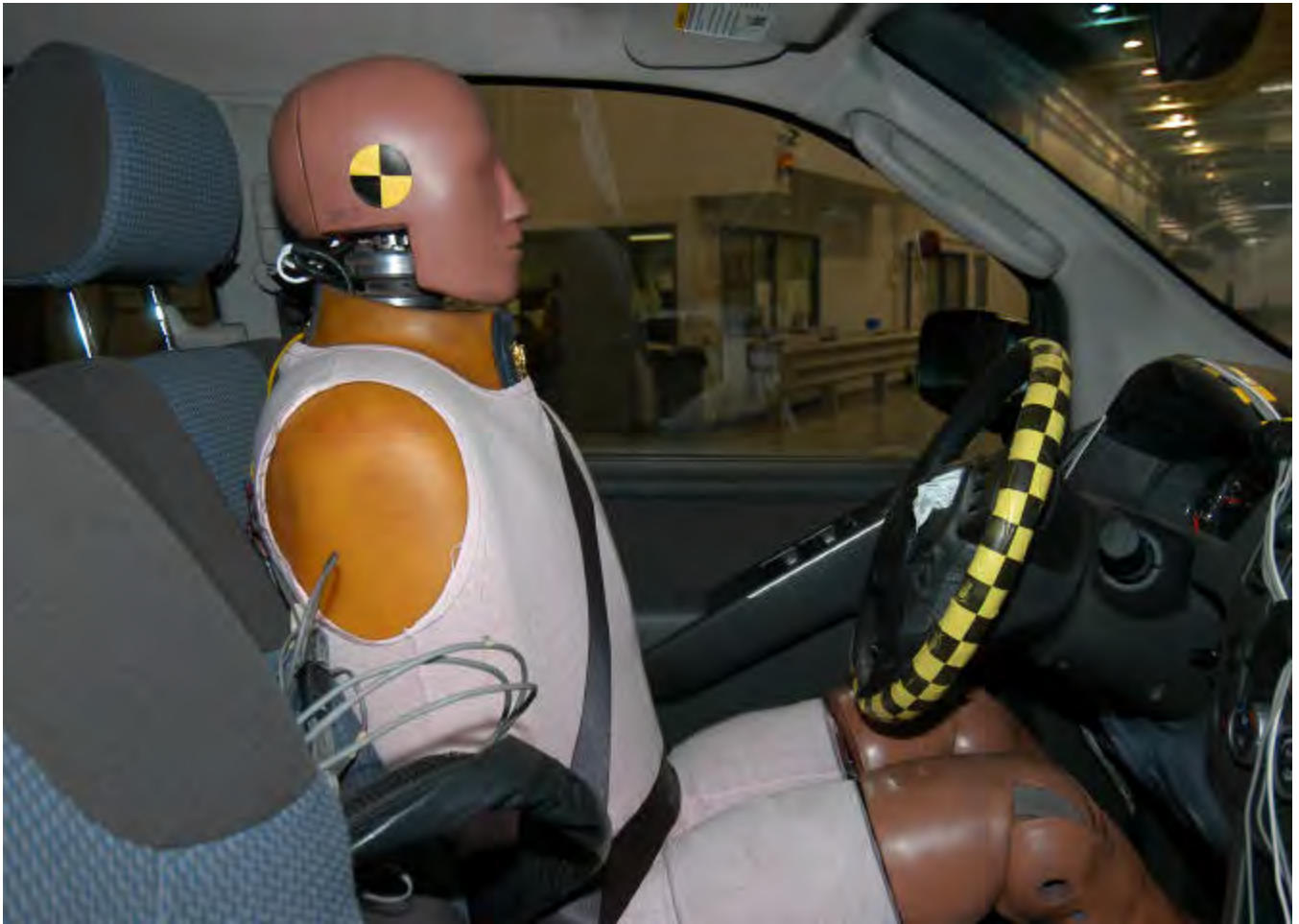




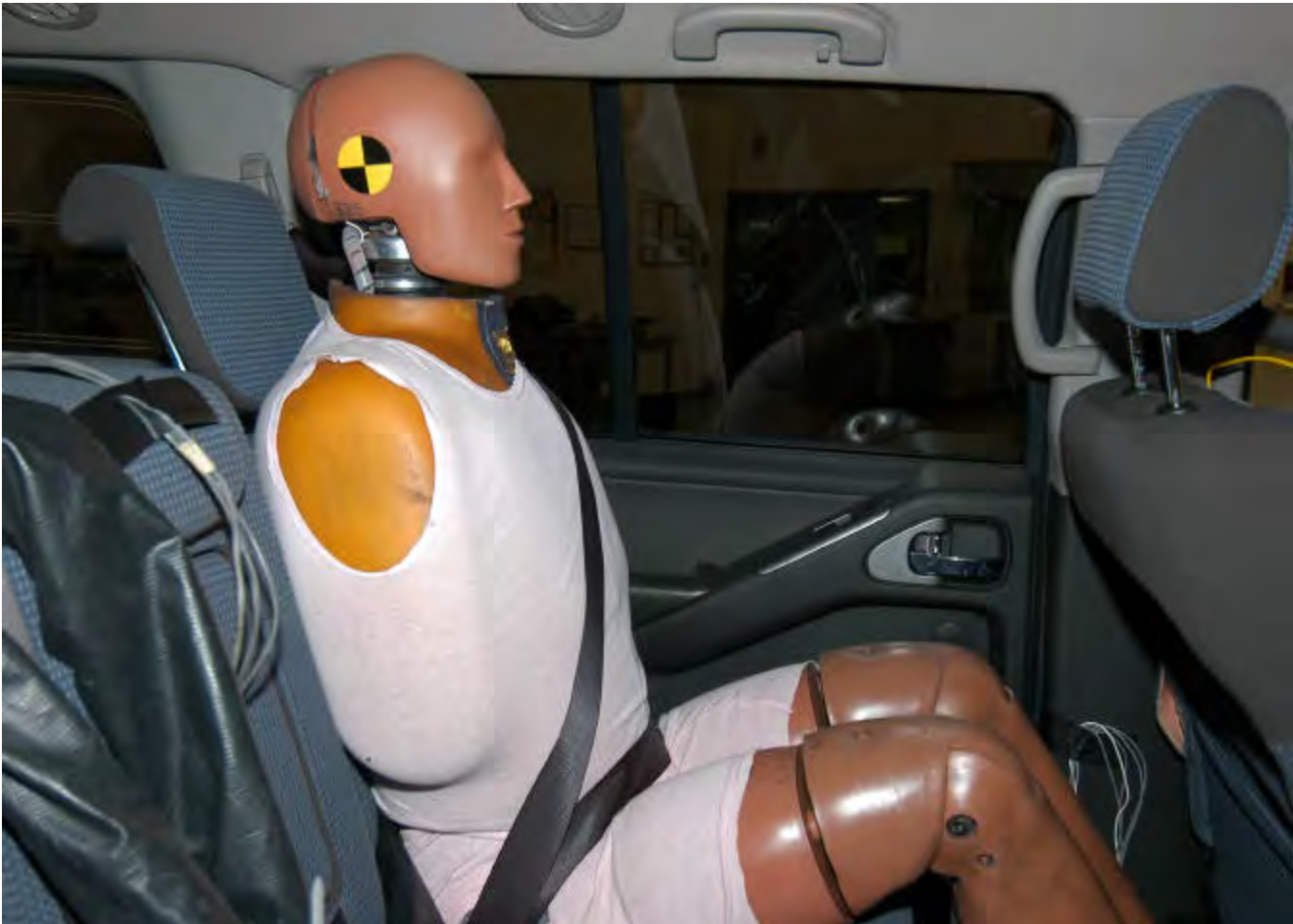




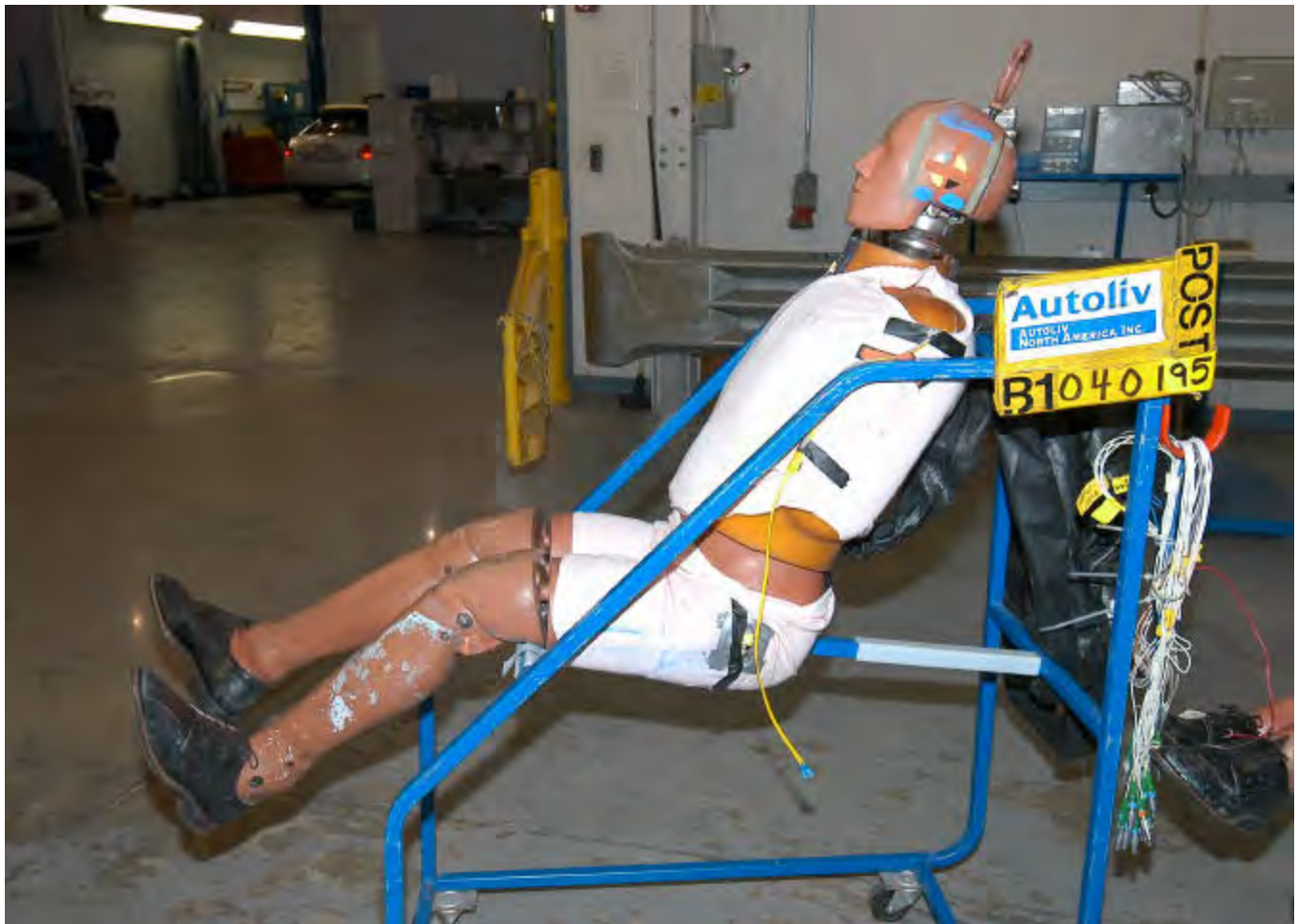














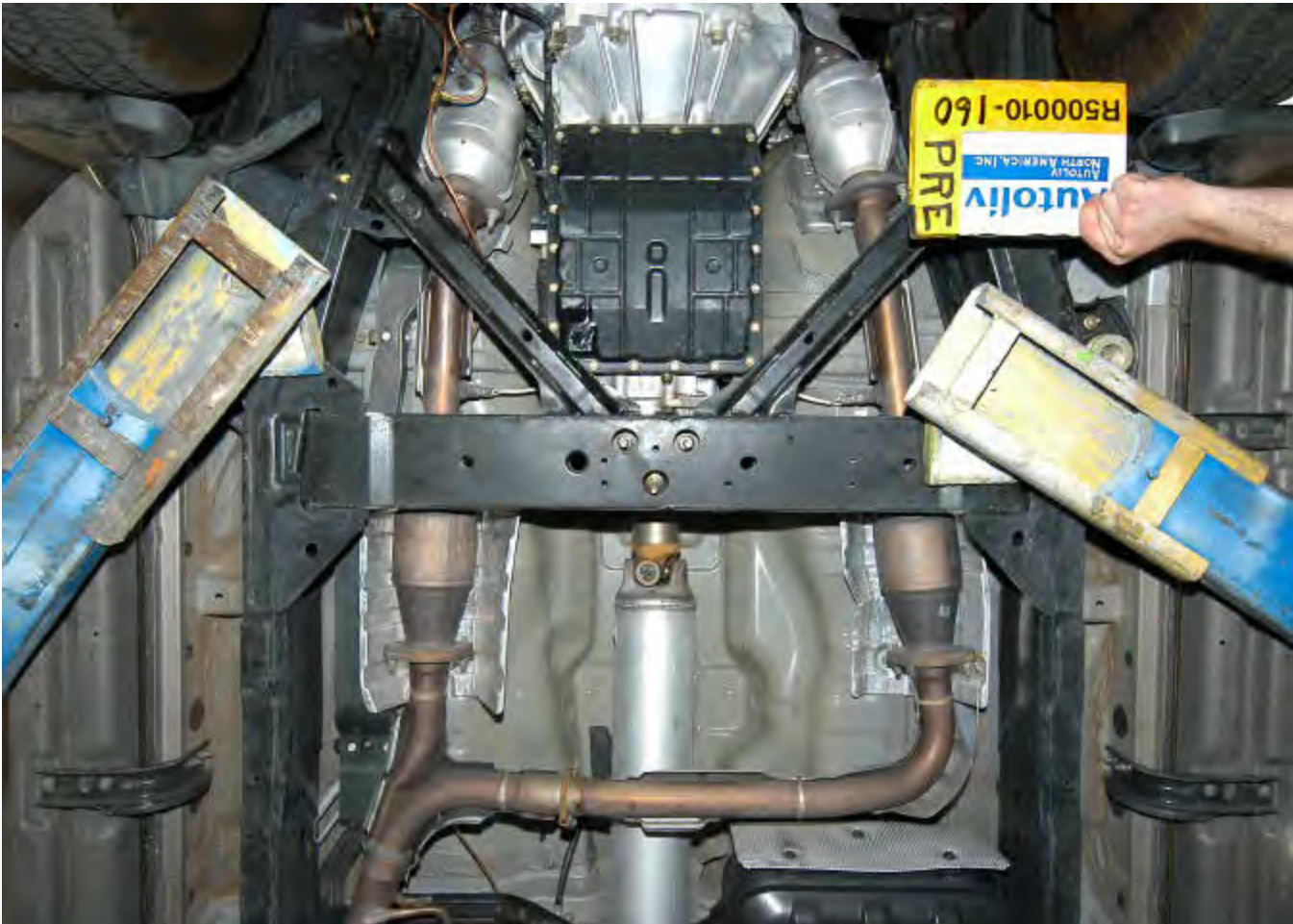


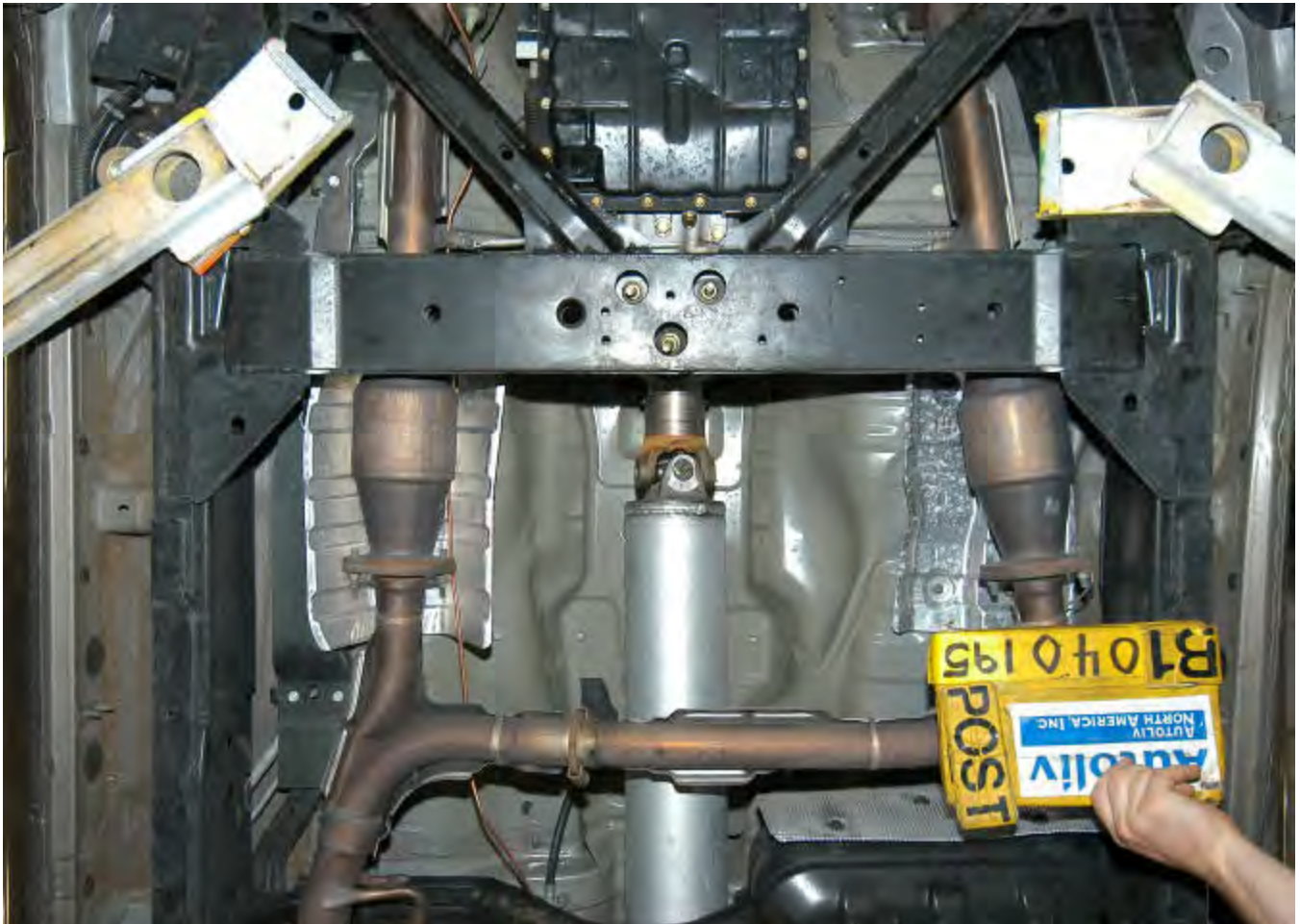






























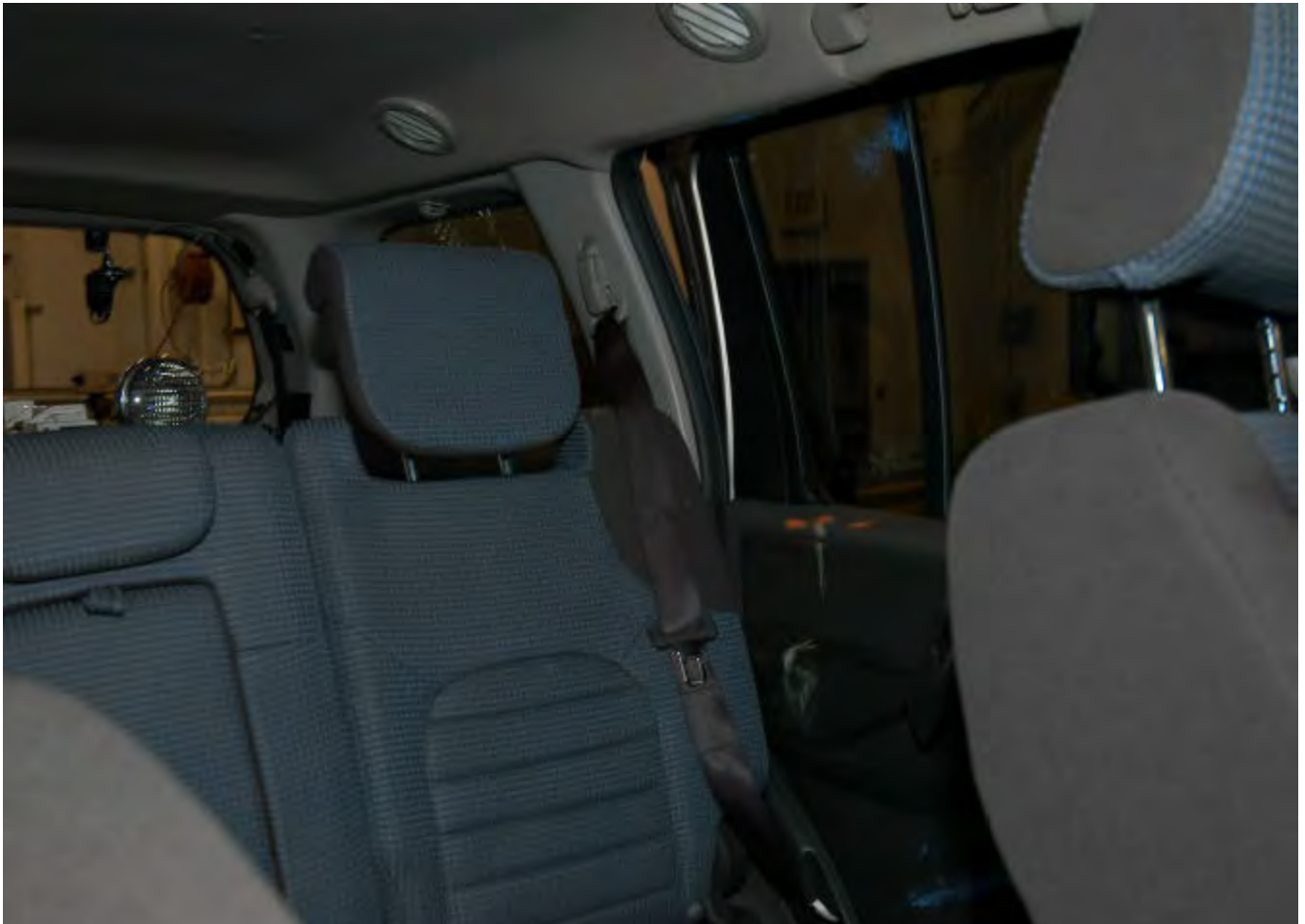
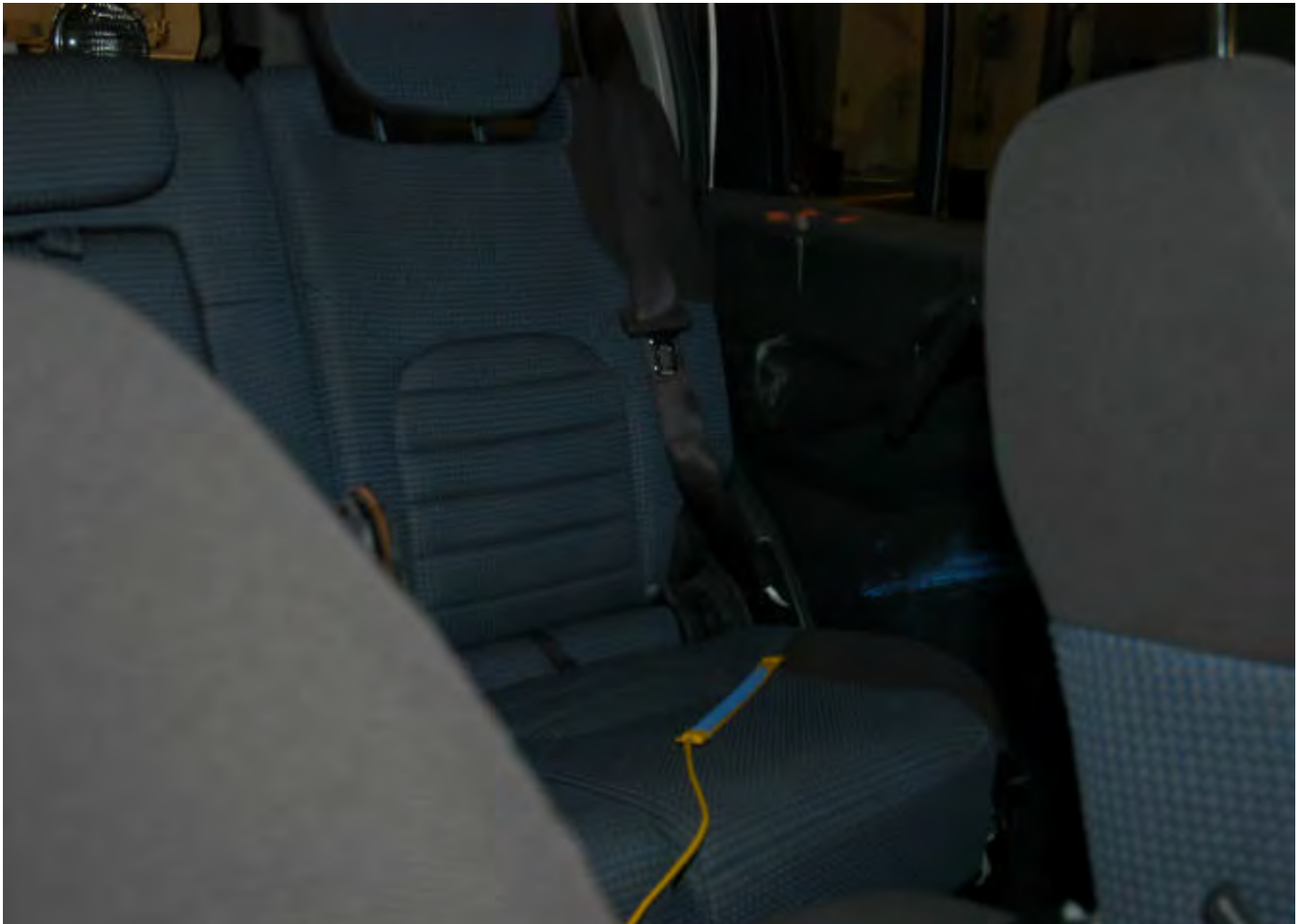




















Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACXA

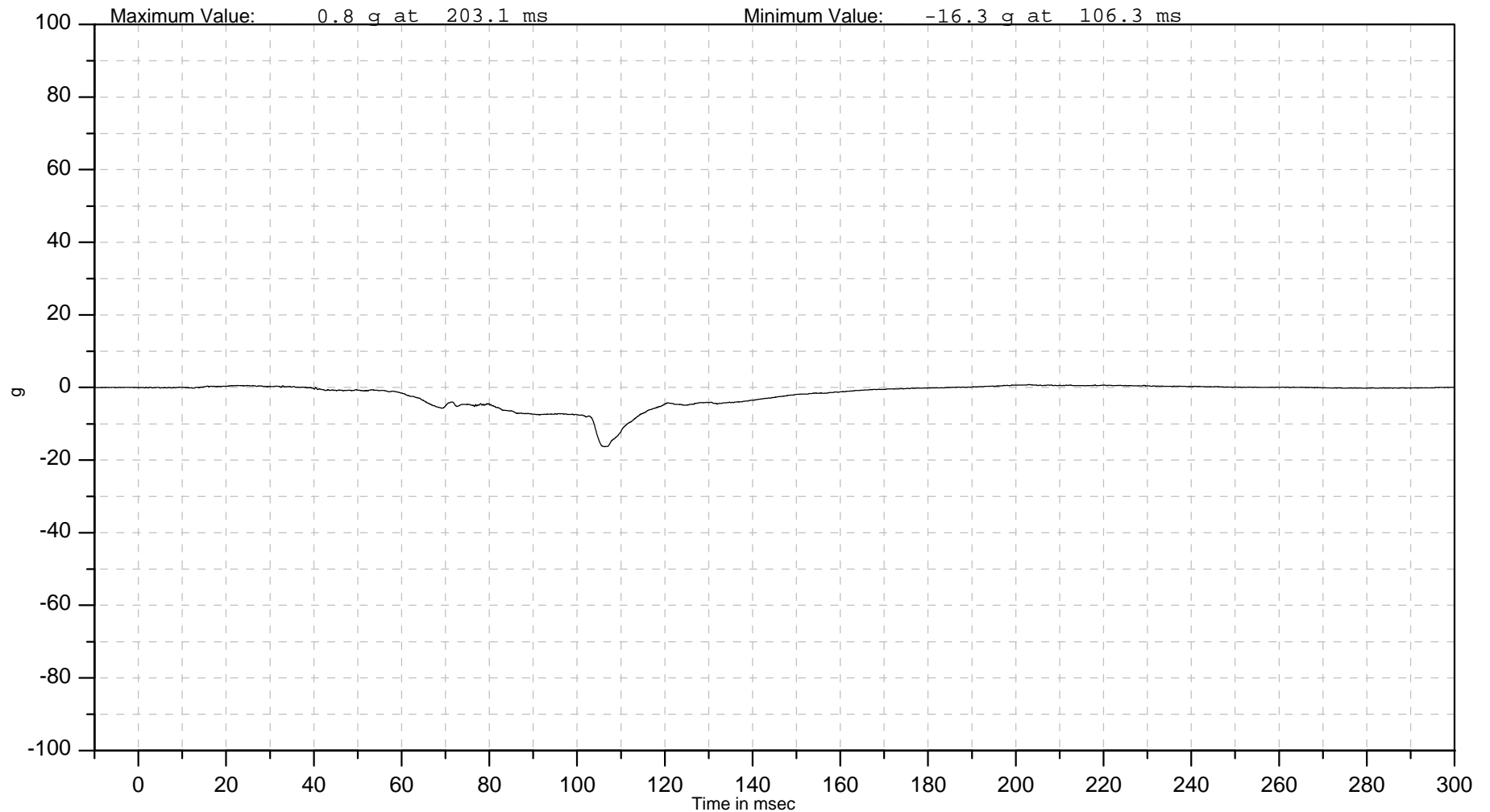
ISO Channel
11HEAD0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head X Acceleration





Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACYA

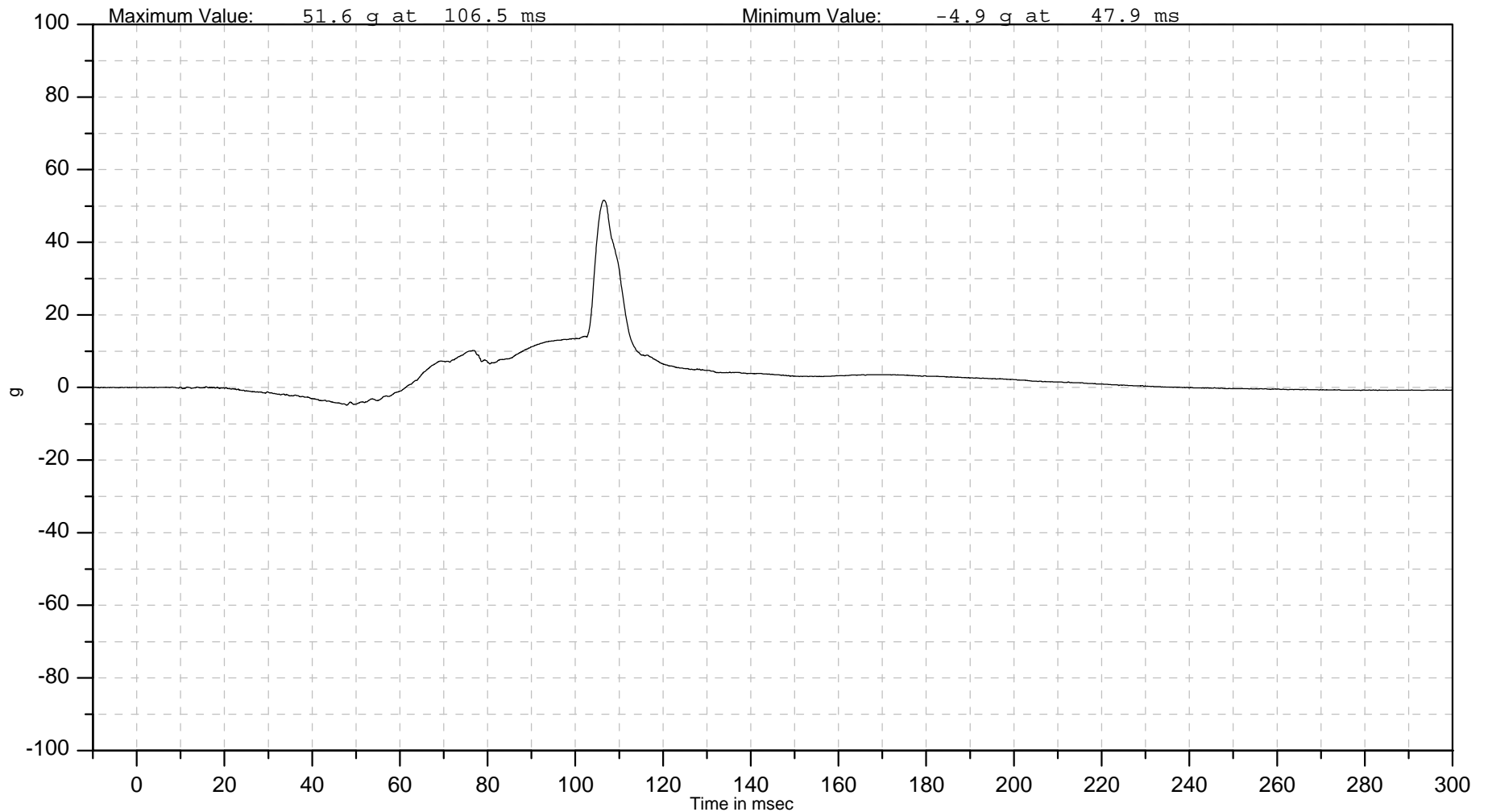
ISO Channel
11HEAD0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACZA

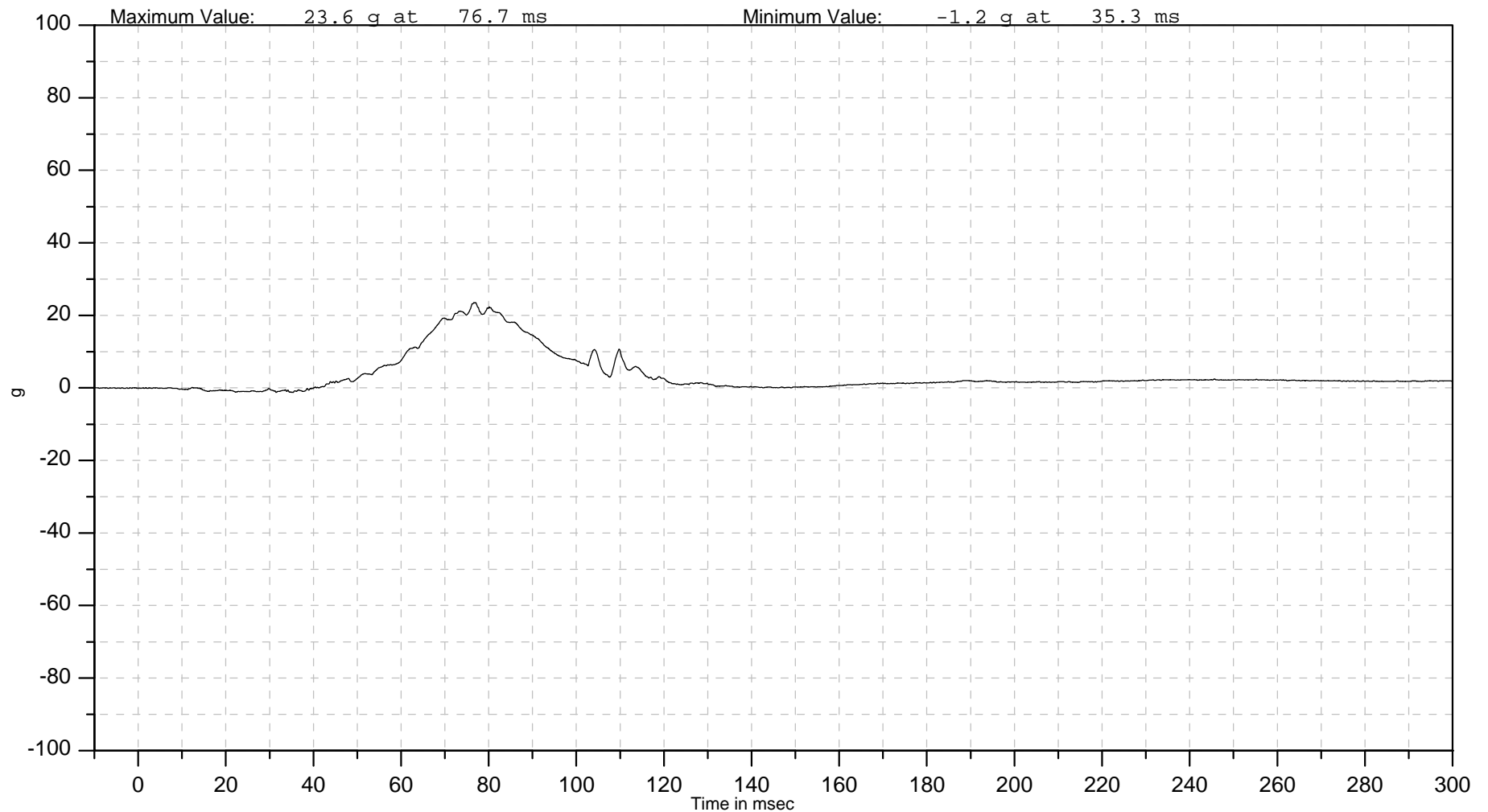
ISO Channel
11HEAD0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
11HEAD0000SHACRA

ISO Channel
11HEAD0000SHACRA

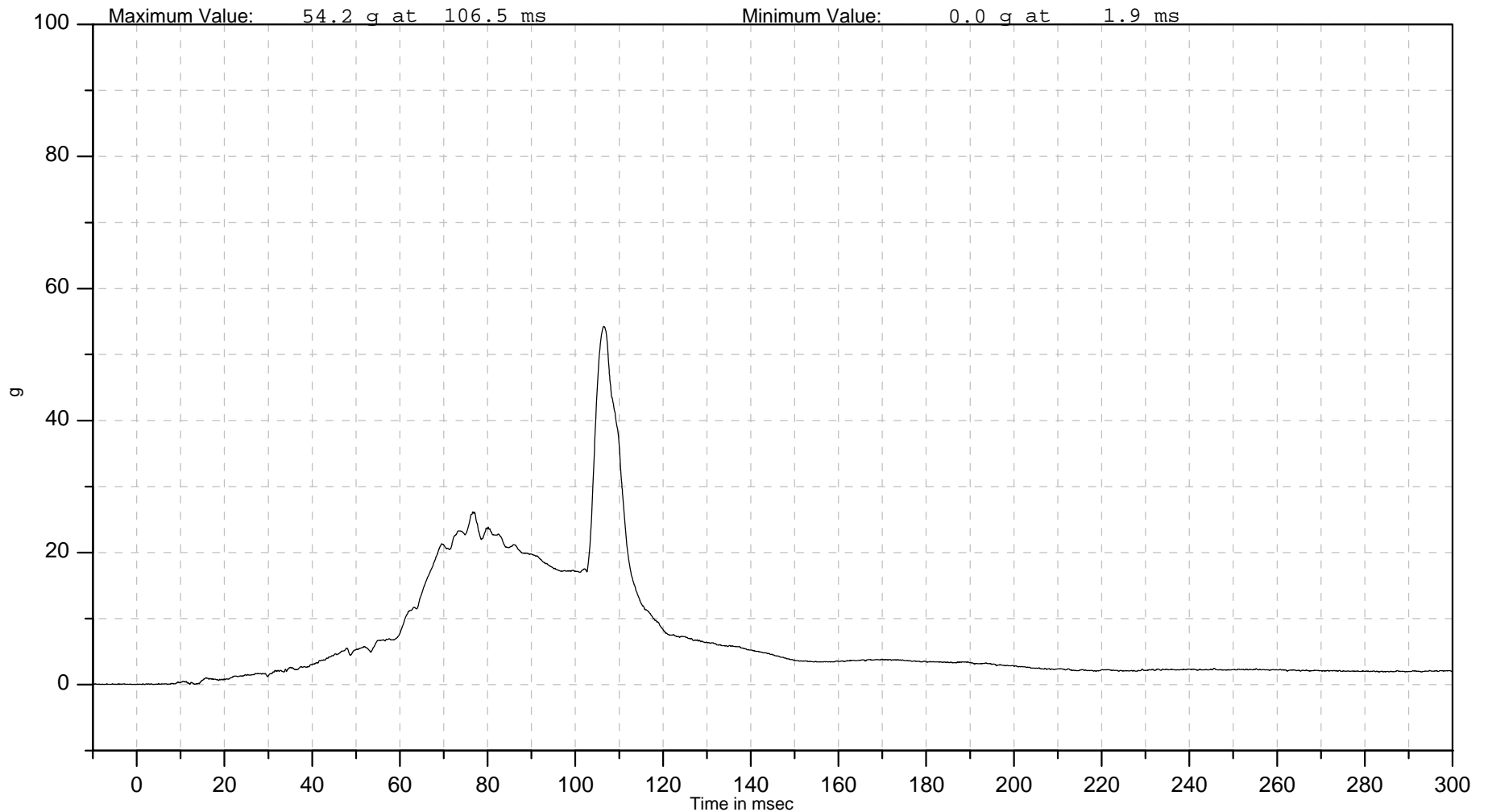
Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Head Resultant Acceleration

HIC36: 111 from 75.4 to 111.4 msec (36.0 msec interval)
HIC15: 88 from 103.7 to 111.2 msec (7.5 msec interval)





Autoliv North America (NTC)

Autoliv Channel
11CHST0000SHDSYB

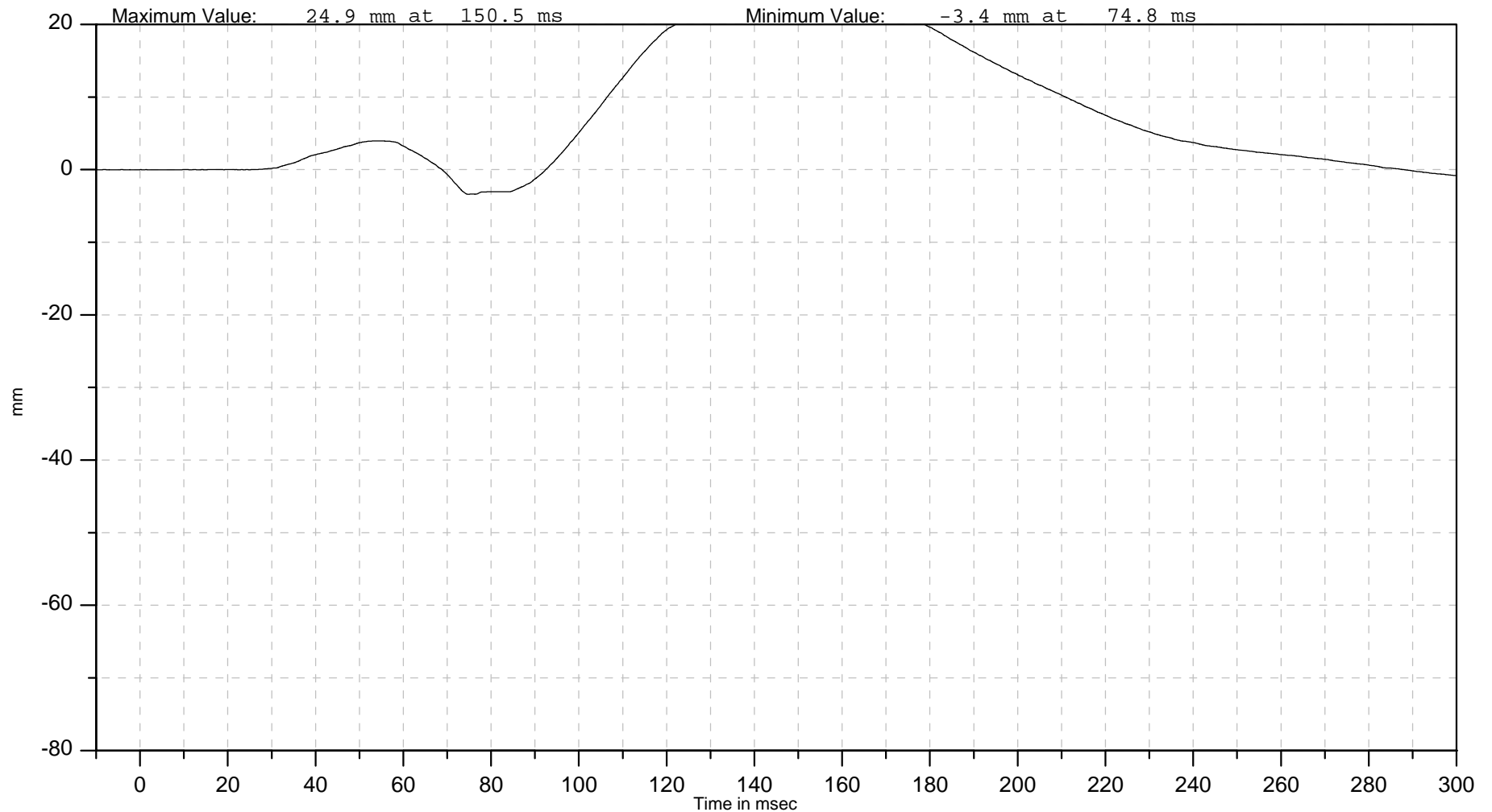
ISO Channel
11CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Driver Chest Y Displacement





Autoliv North America (NTC)

Autoliv Channel
11CHST0000SHDSYB

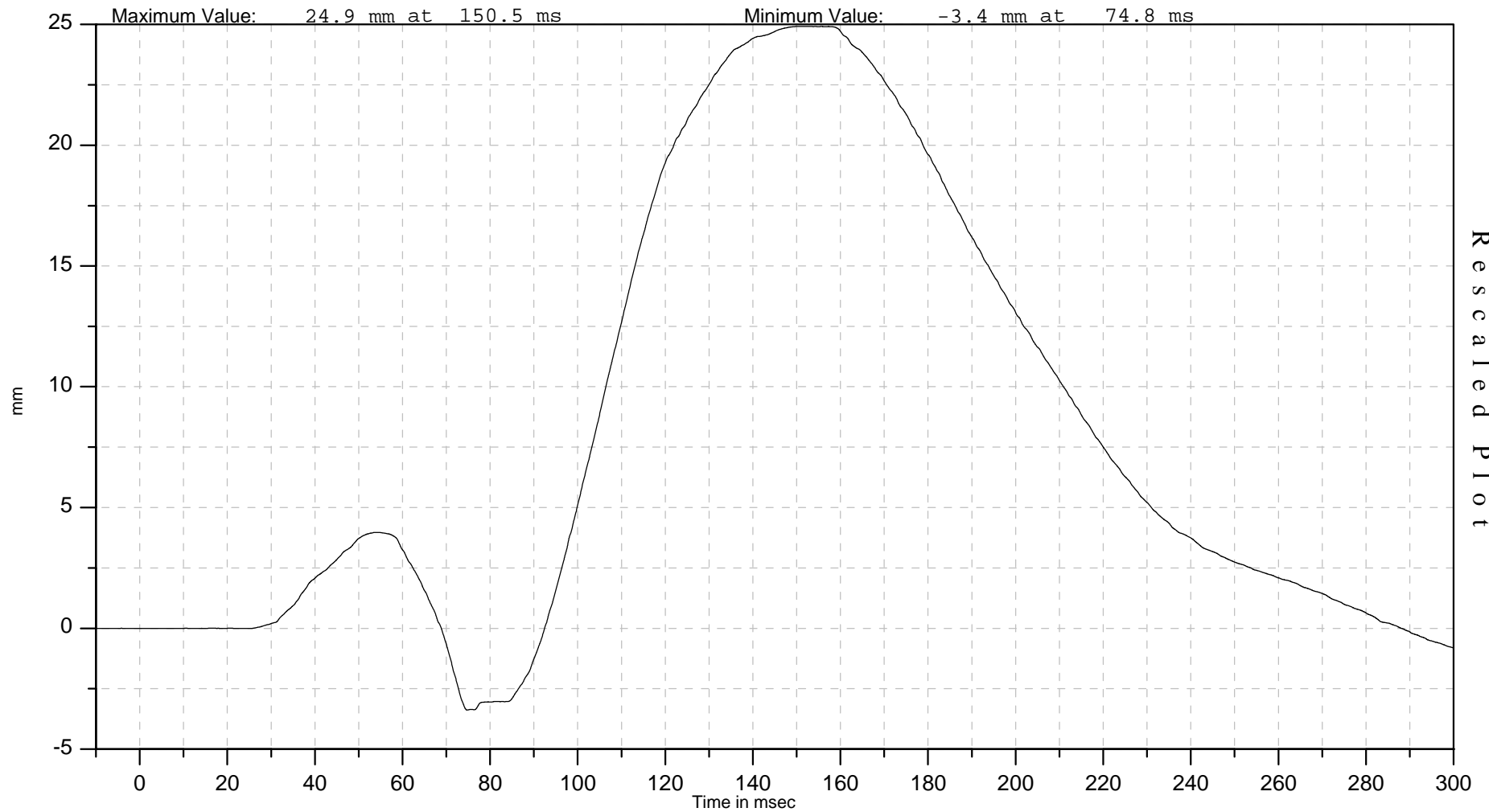
ISO Channel
11CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Driver Chest Y Displacement



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
11SPIN1200SHACYC

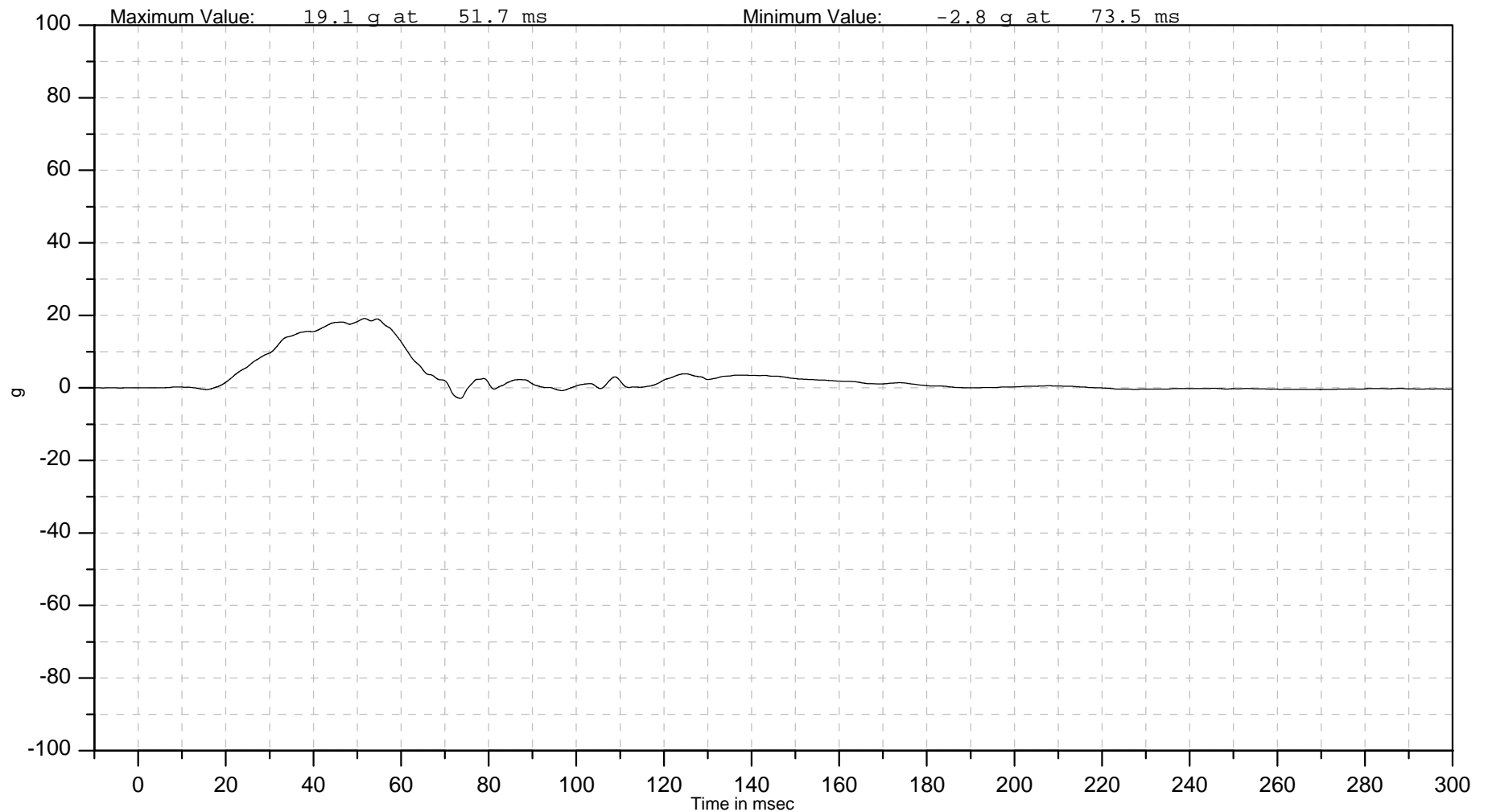
ISO Channel
11SPIN1200SHACYC

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 180
Sign Convention: SAE J211

Driver T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11SPIN1200SHACY1

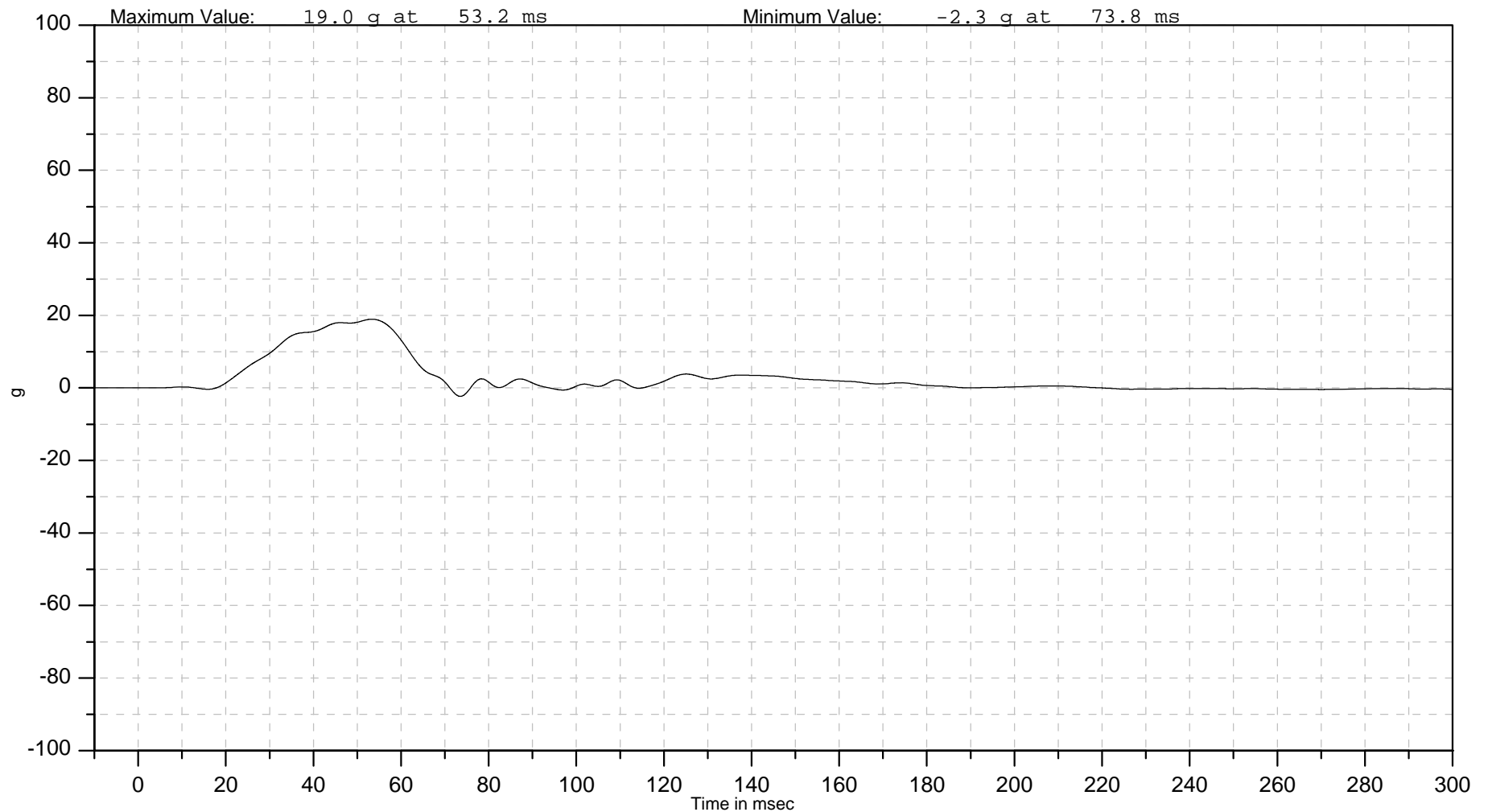
ISO Channel
11SPIN1200SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11SHLDLE00SHEV00

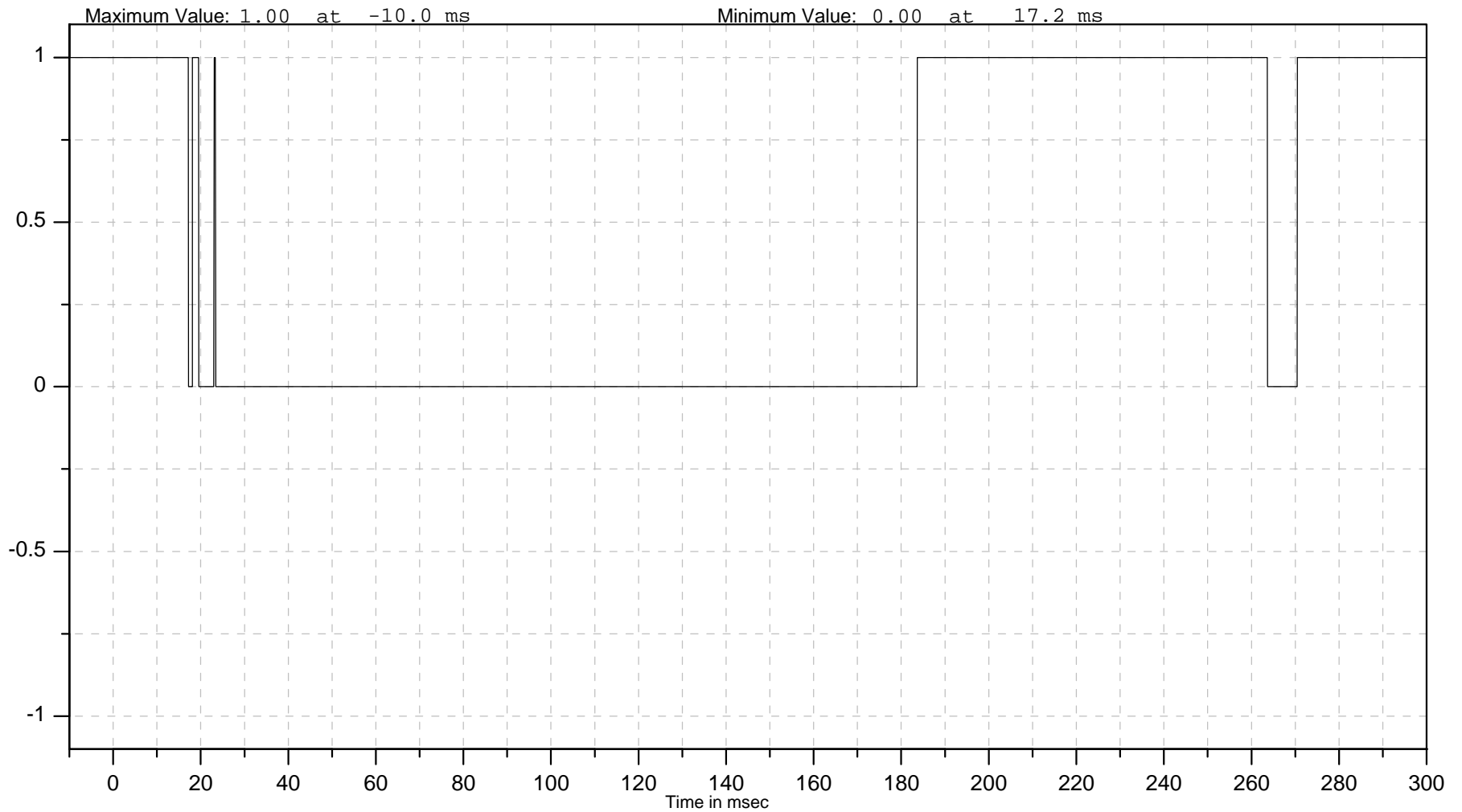
ISO Channel
11SHLDLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Driver Left Shoulder Event SidH3





Autoliv North America (NTC)

Autoliv Channel
11RIBSLEUPSHACYA

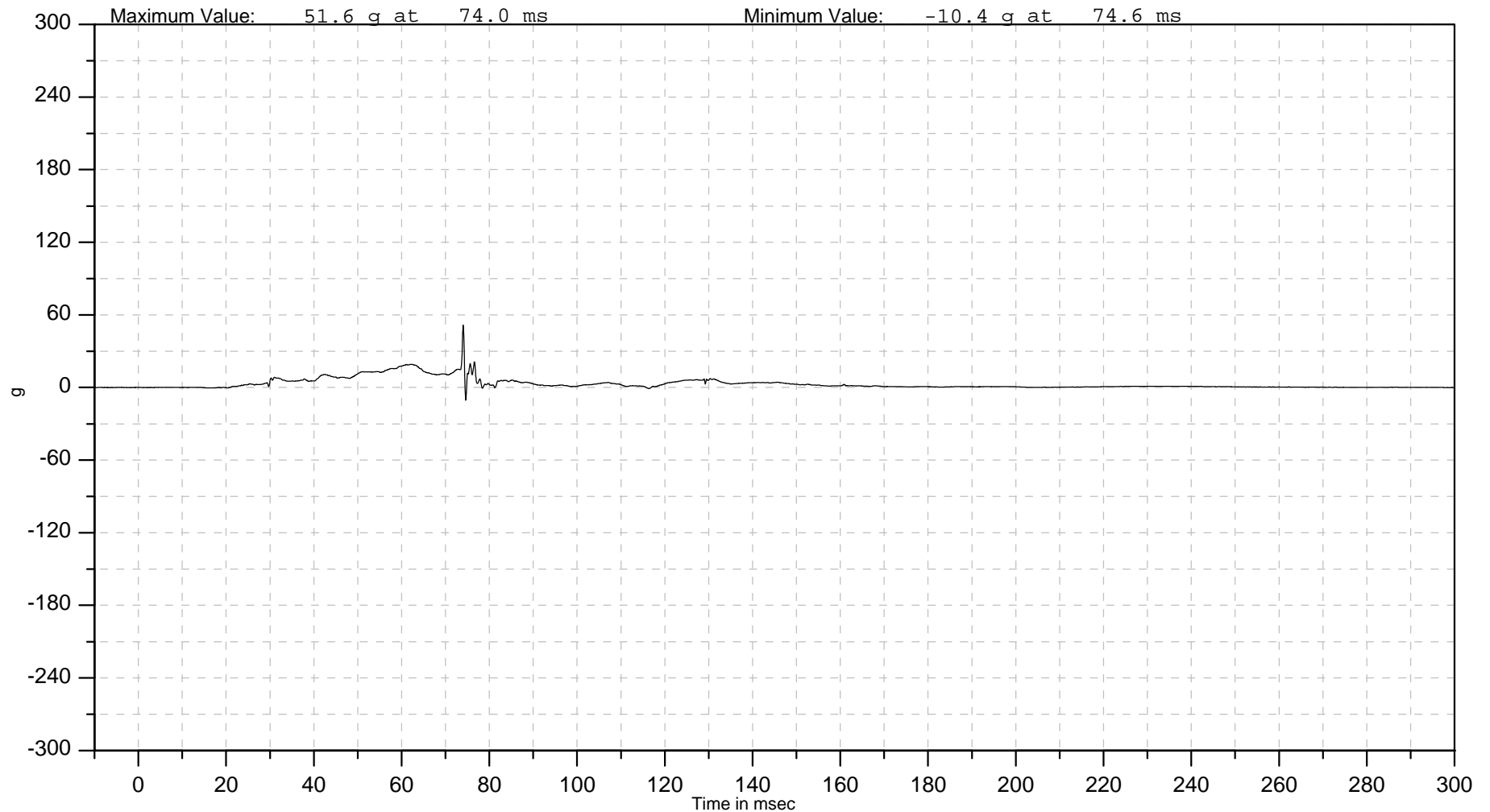
ISO Channel
11RIBSLEUPSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11RIBSLEUPSHACY1

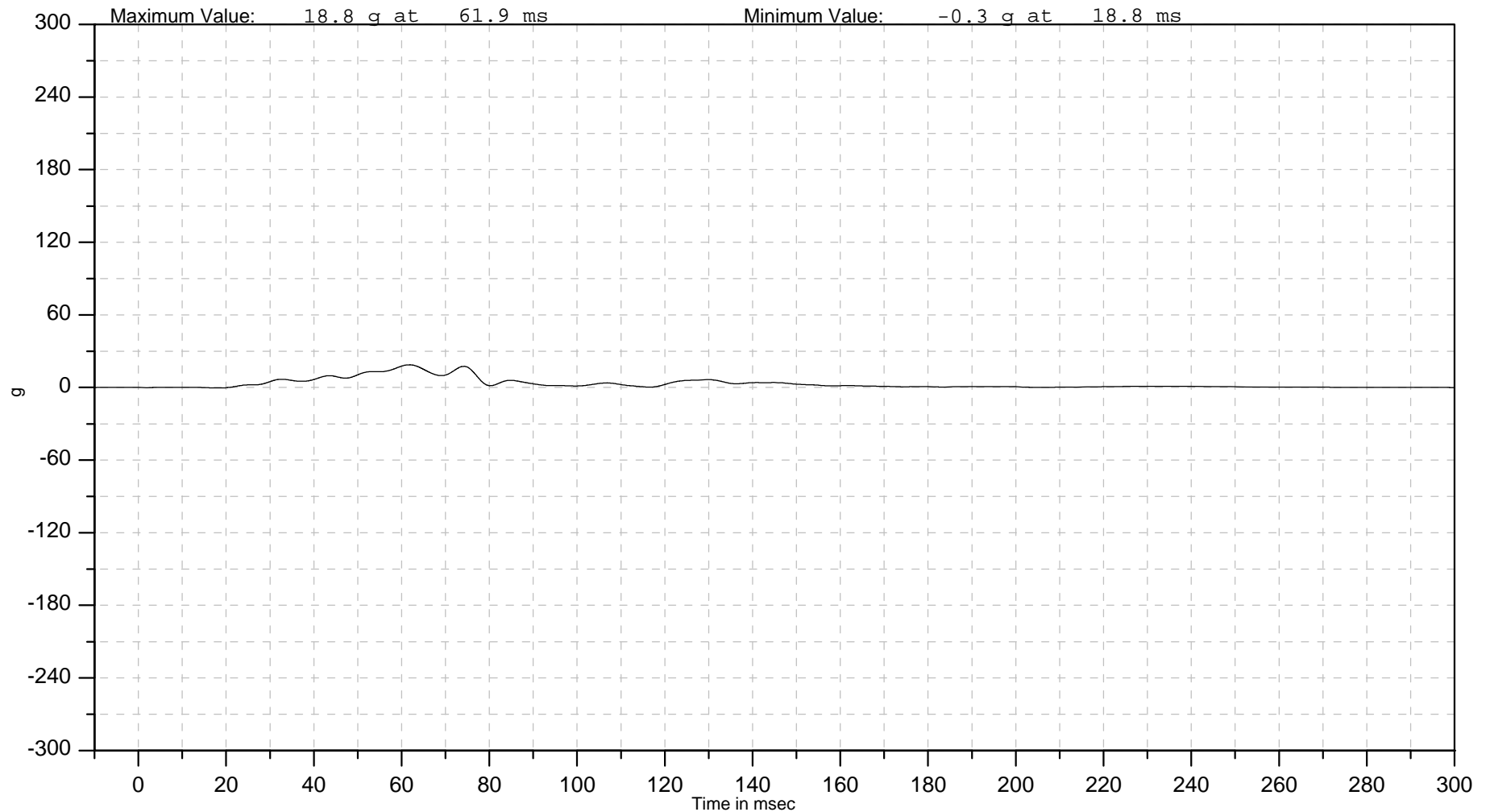
ISO Channel
11RIBSLEUPSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11RIBSLELOSHACYA

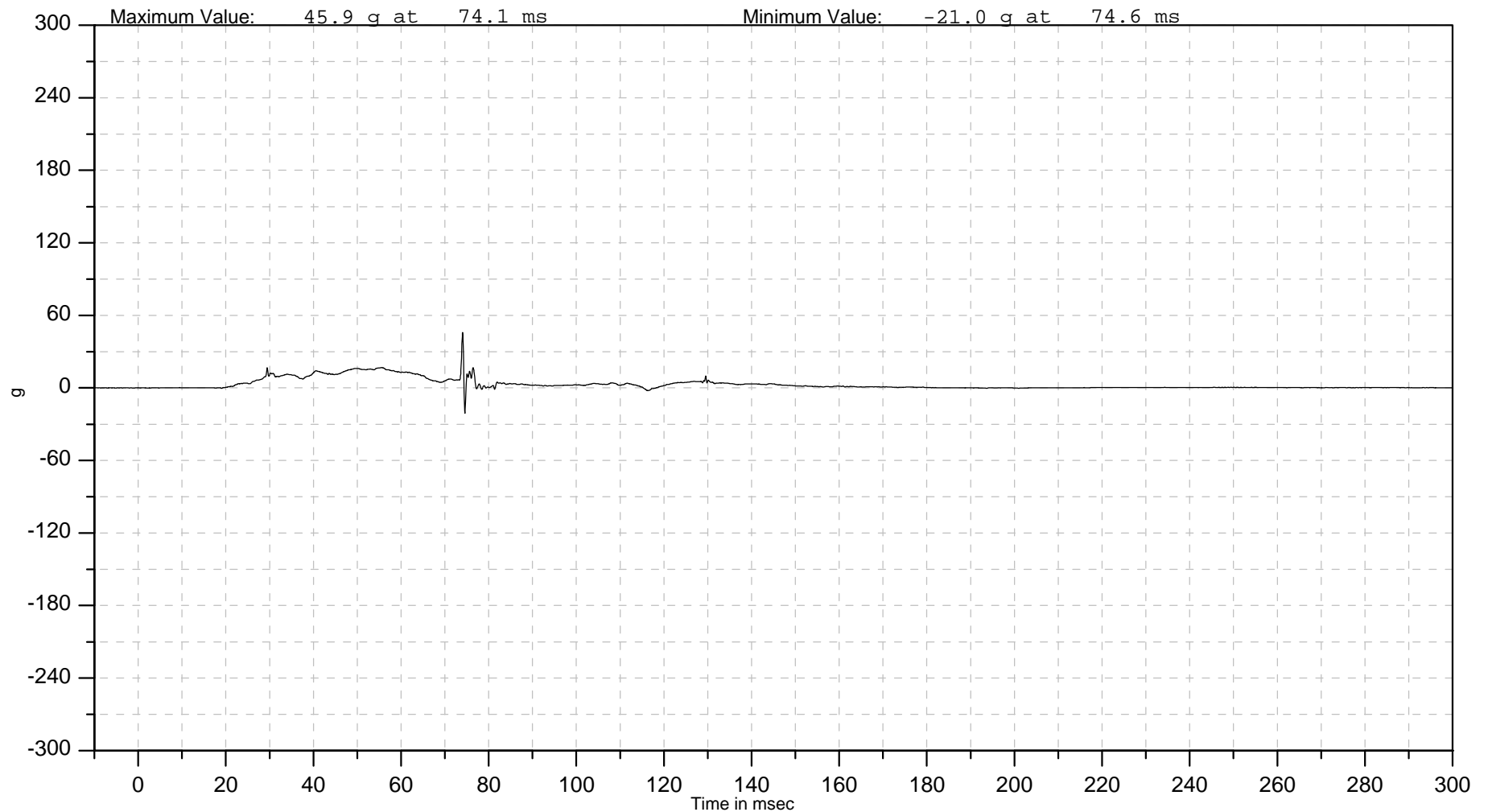
ISO Channel
11RIBSLELOSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Left Lower Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11RIBSLELOSHACY1

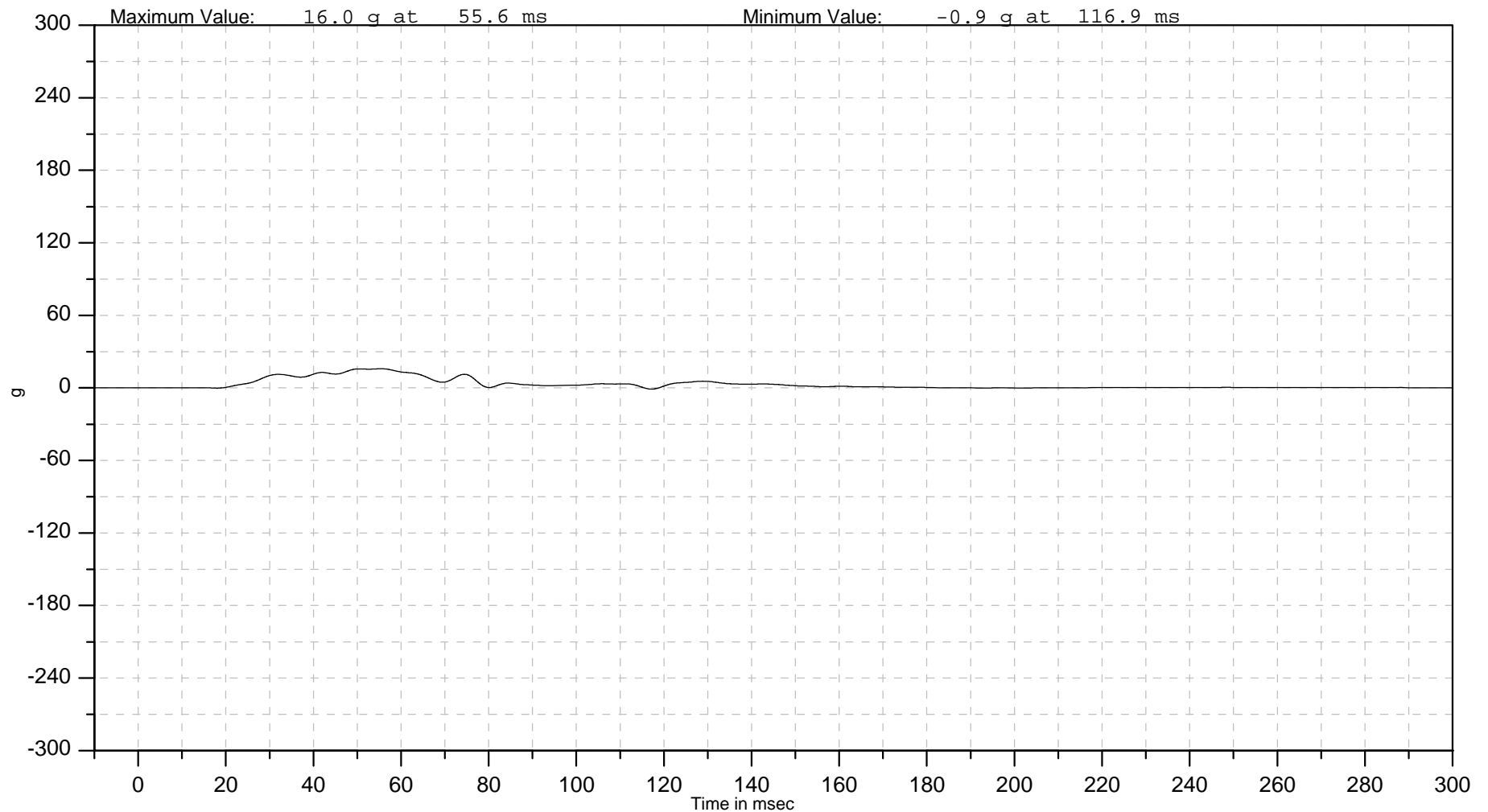
ISO Channel
11RIBSLELOSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Left Lower Rib Y Acceleration





Autoliv North America (ATC)

Autoliv Channel

ISO Channel

Test Number: B1040195

Test Date: 18-Jun-2004

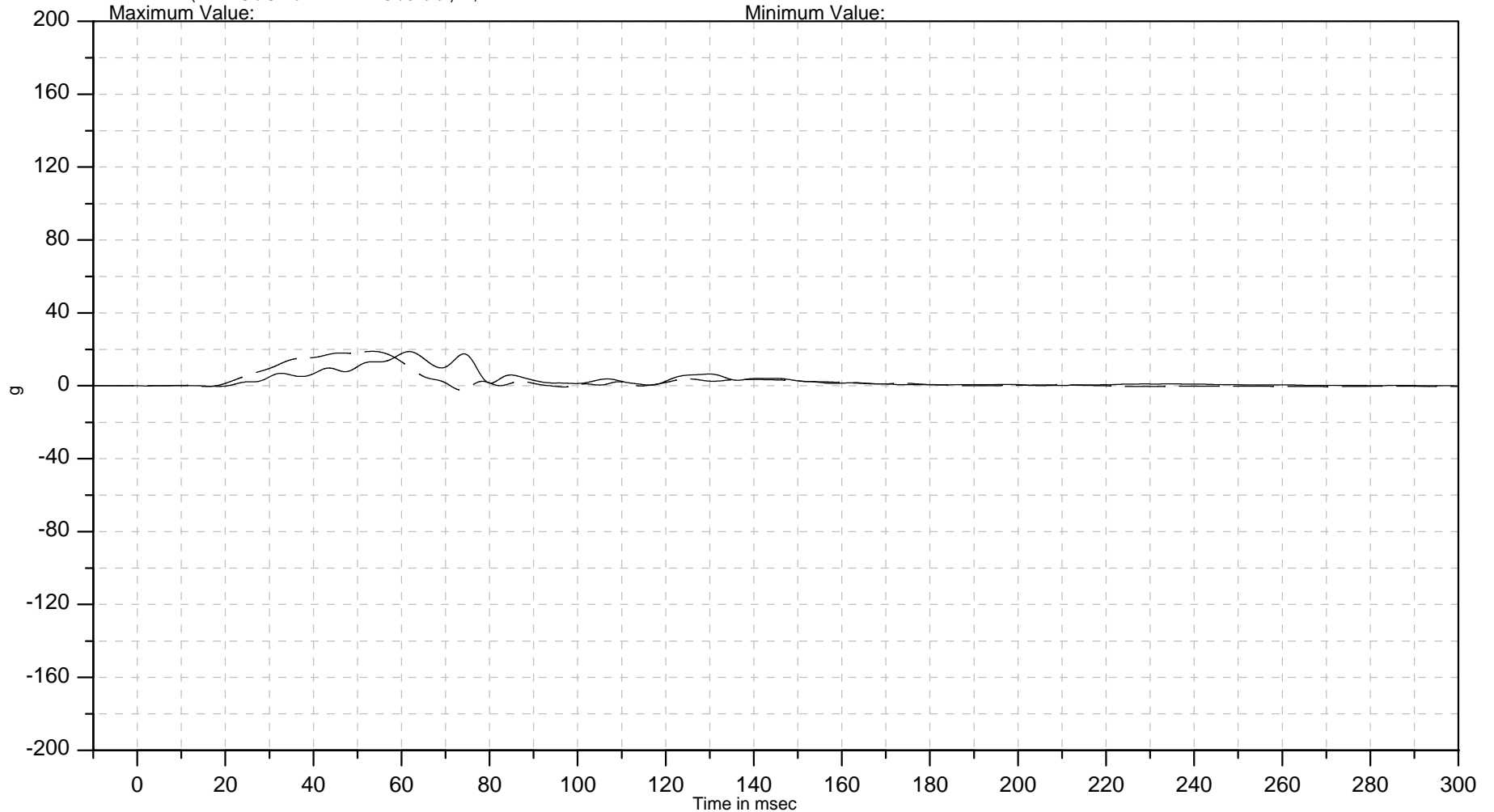
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Left Side TTI Calculation

Max Rib Y Acceleration = 18.816 g in Channel 11 (11RIBSLEUPSHACY1)
Max Spine T12 Y Acceleration = 18.966 g in Channel 8 (11SPIN1200SHACY1)
TTI = (18.816 + 18.966) / 2 = 19





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACXA

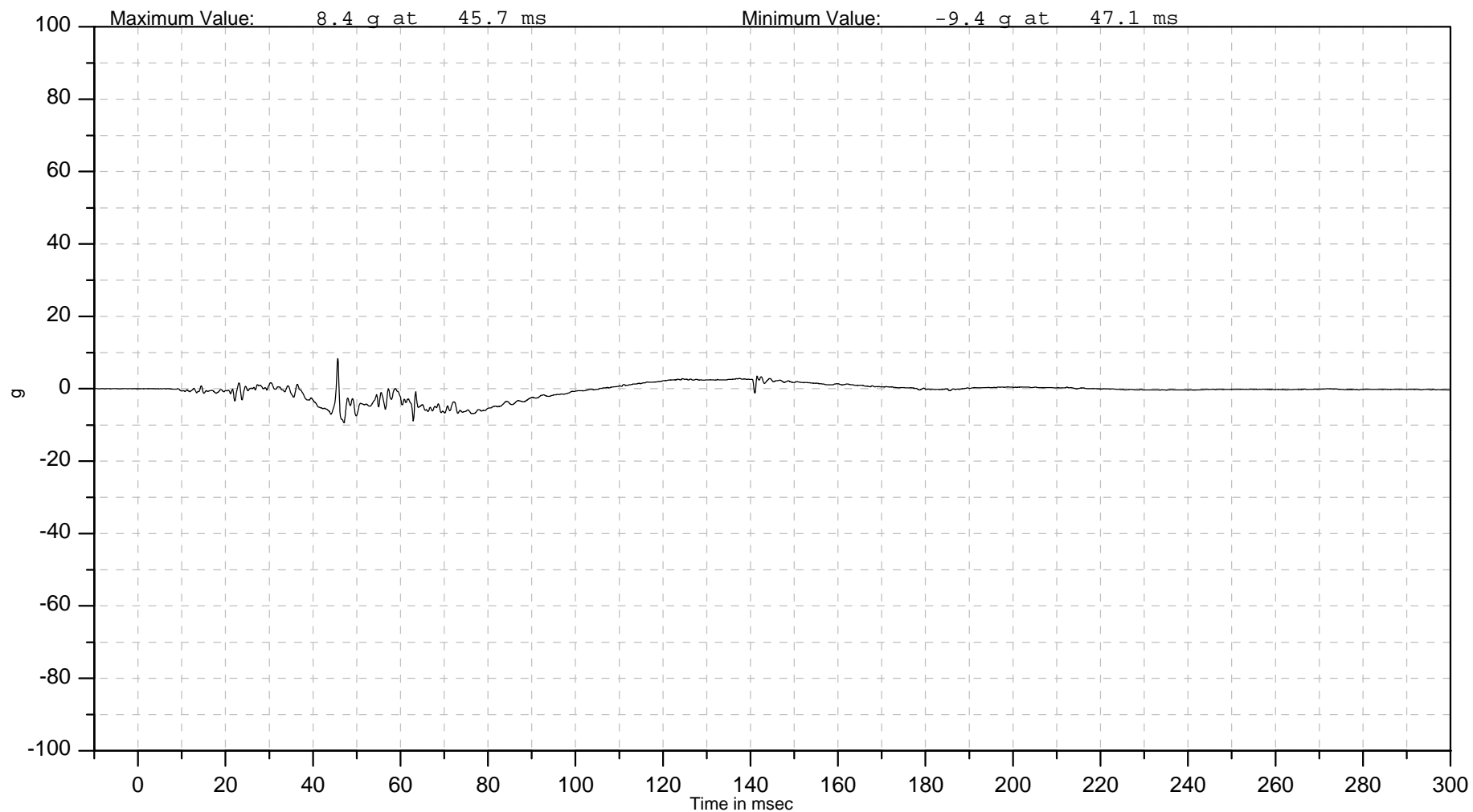
ISO Channel
11PELV0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis X Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACYA

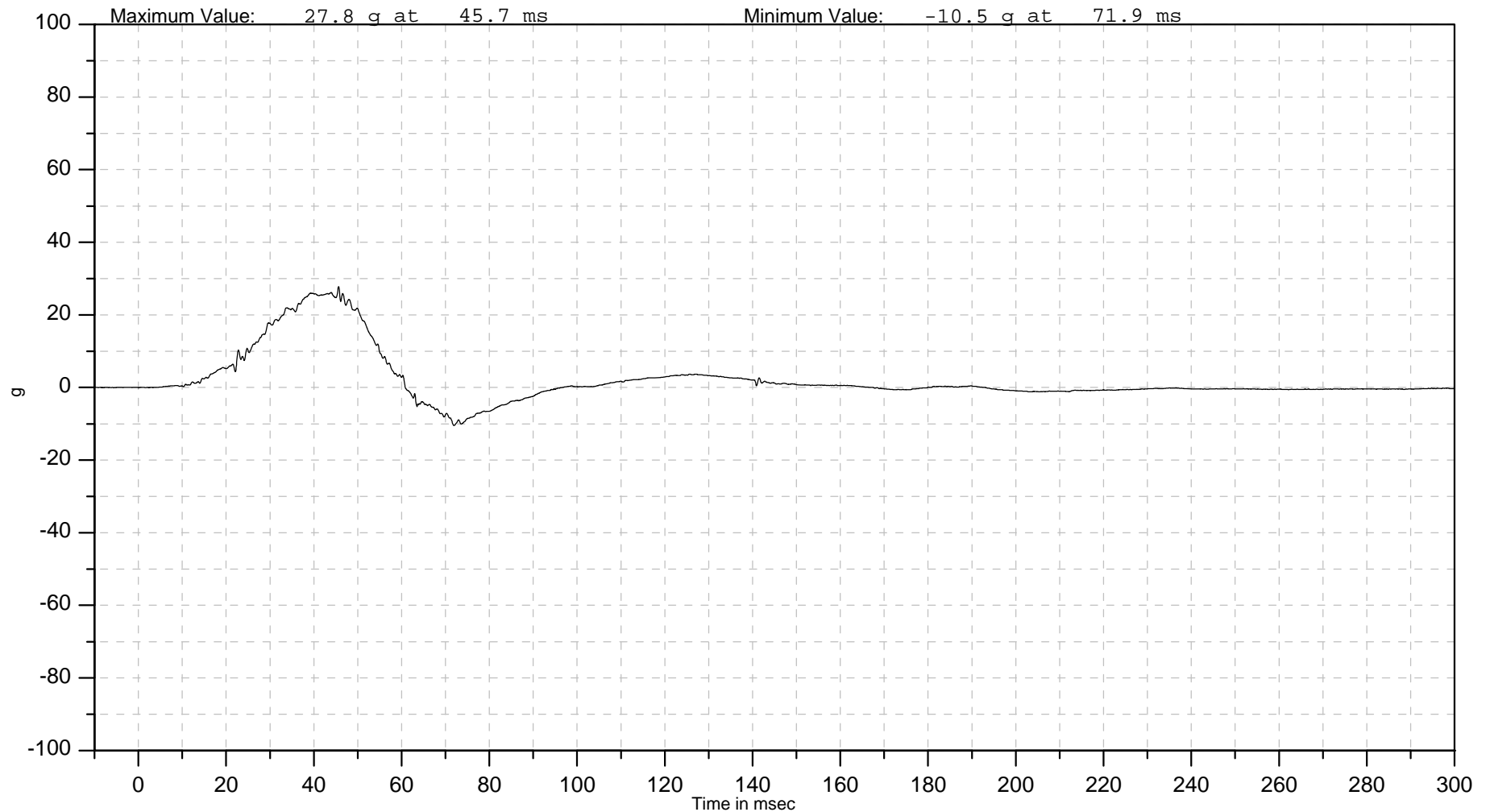
ISO Channel
11PELV0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACY1

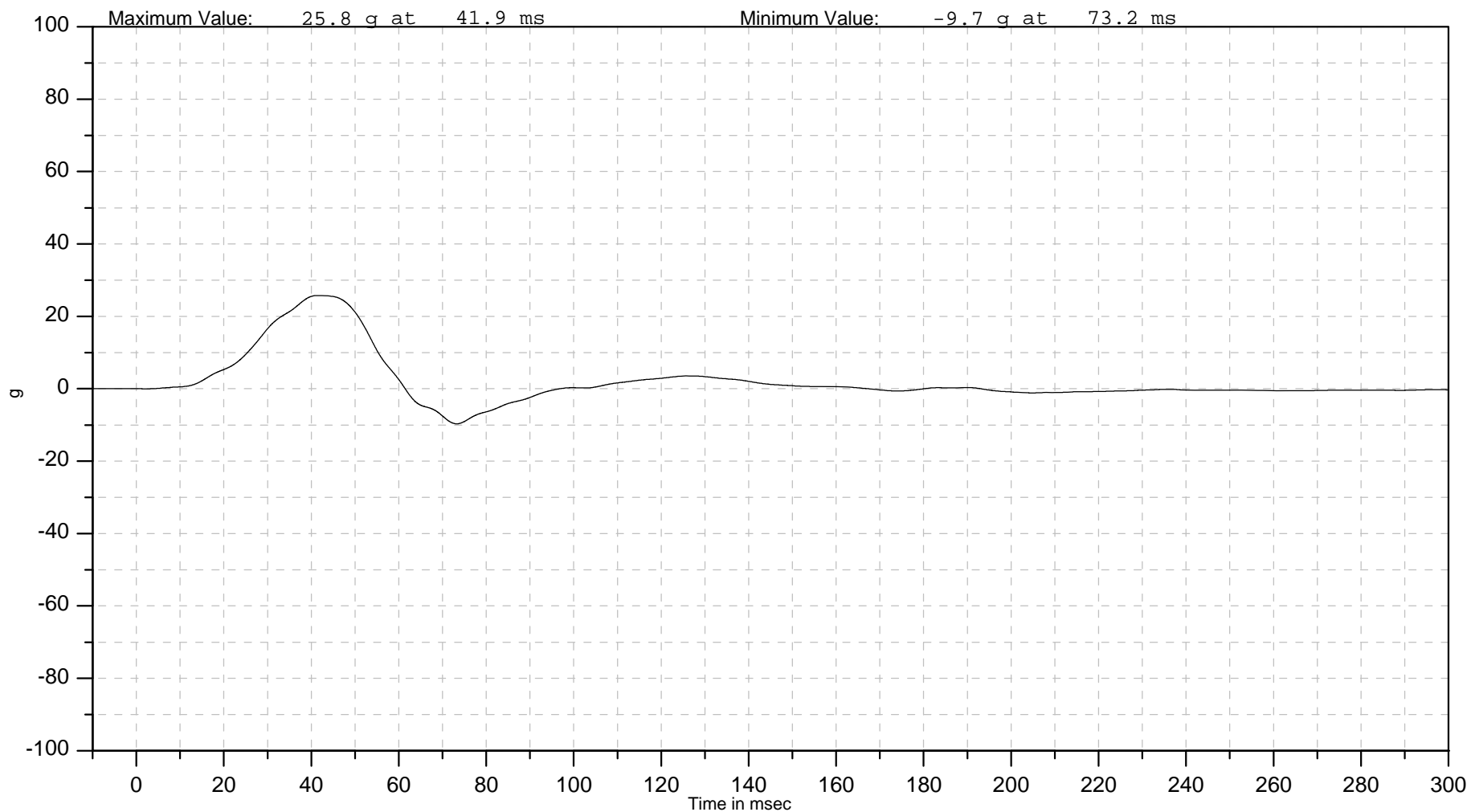
ISO Channel
11PELV0000SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Driver Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACZA

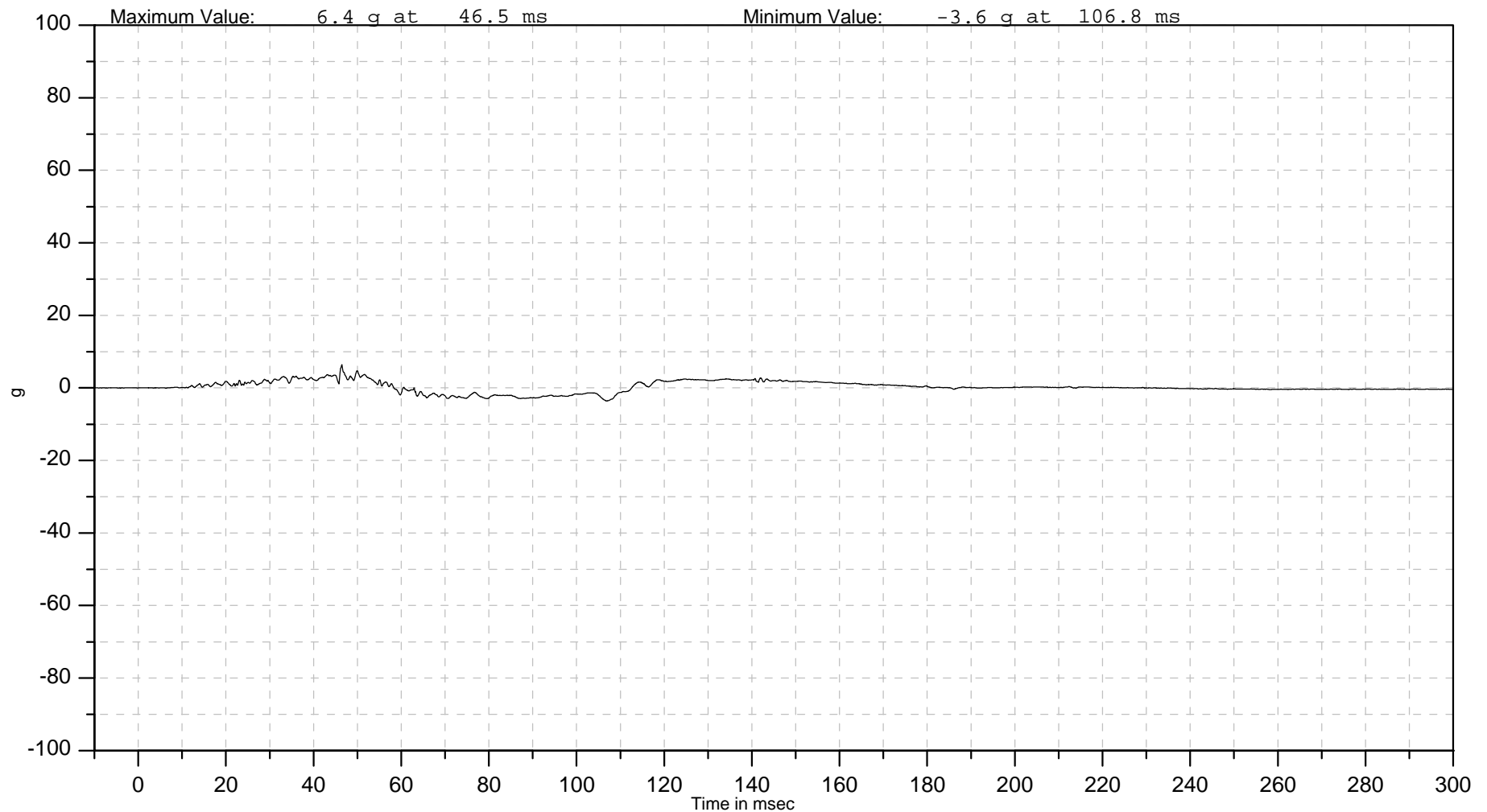
ISO Channel
11PELV0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELV0000SHACRA

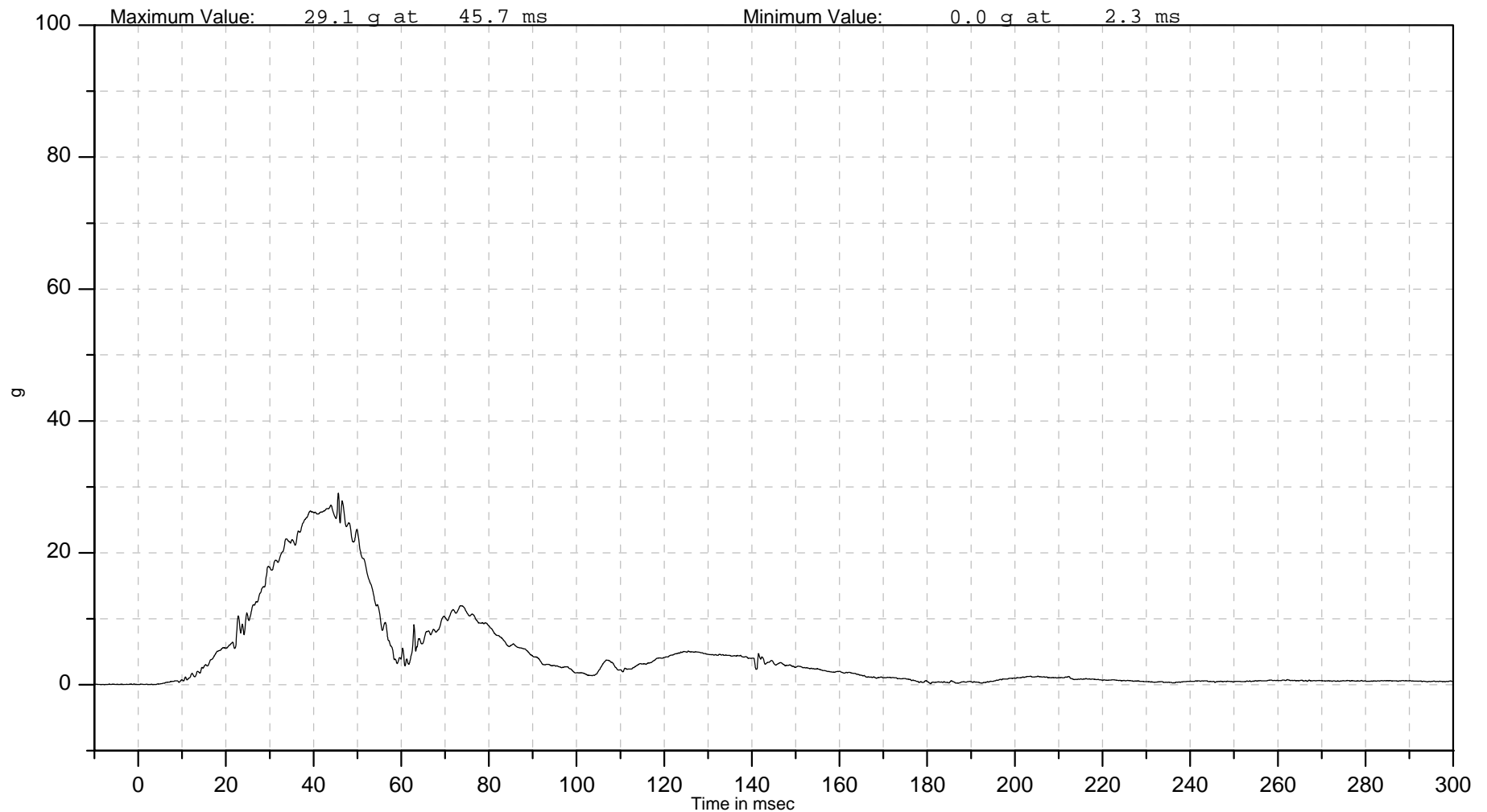
ISO Channel
11PELV0000SHACRA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Driver Pelvis Resultant Acceleration





Autoliv North America (NTC)

Autoliv Channel
11PELVLE00SHEV00

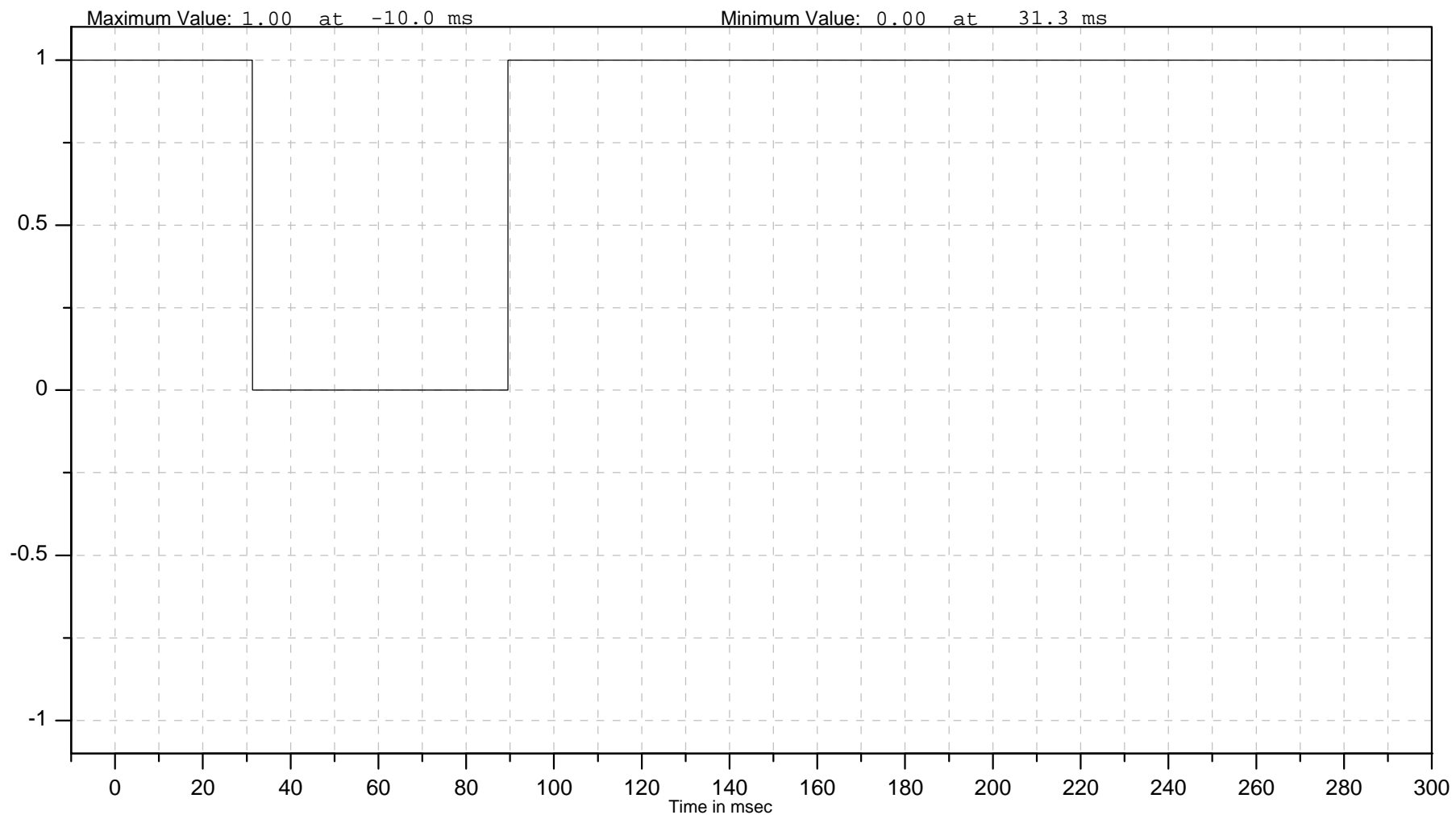
ISO Channel
11PELVLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Driver Left Pelvis Event SidH3





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACXA

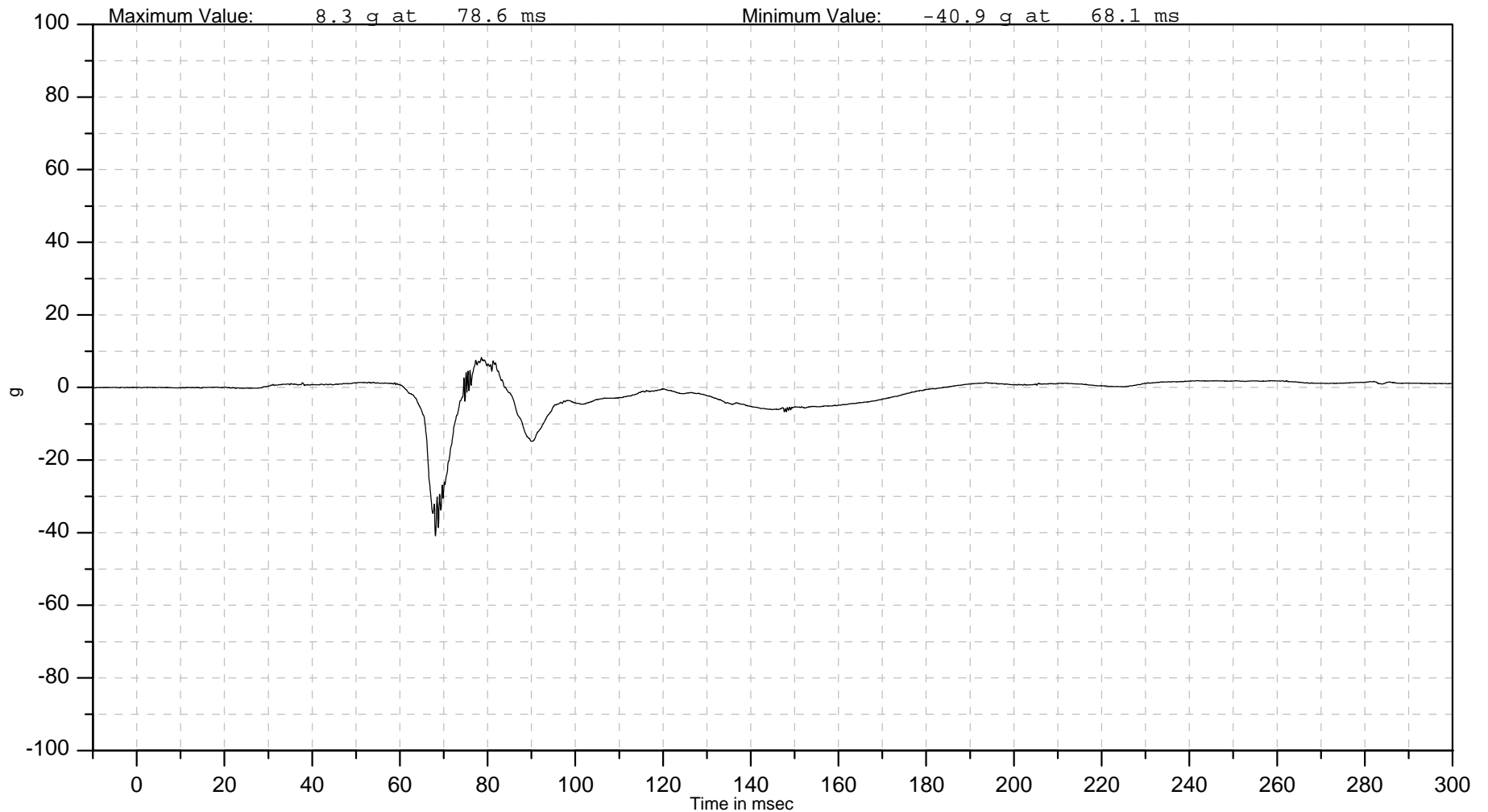
ISO Channel
14HEAD0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head X Acceleration





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACYA

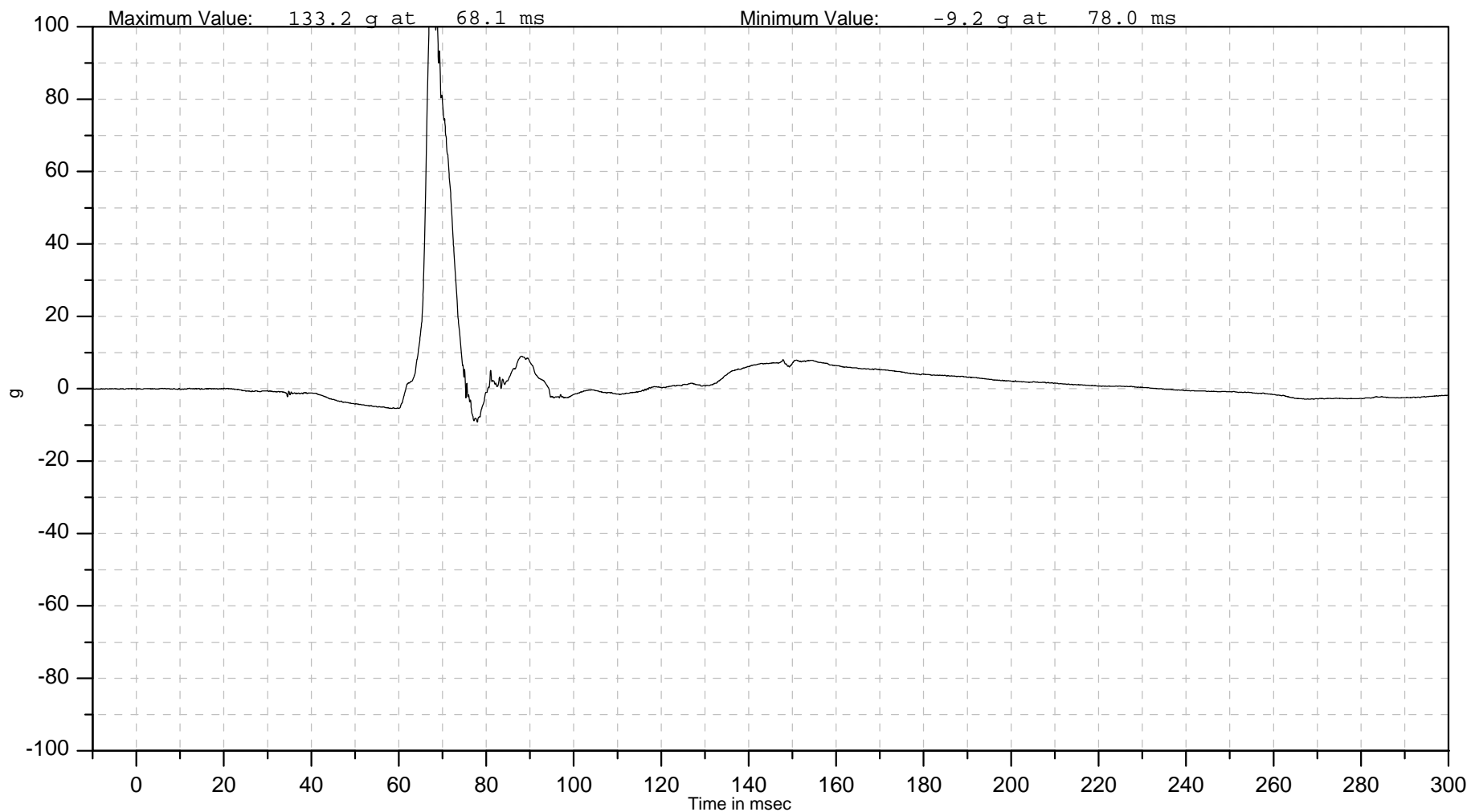
ISO Channel
14HEAD0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACYA

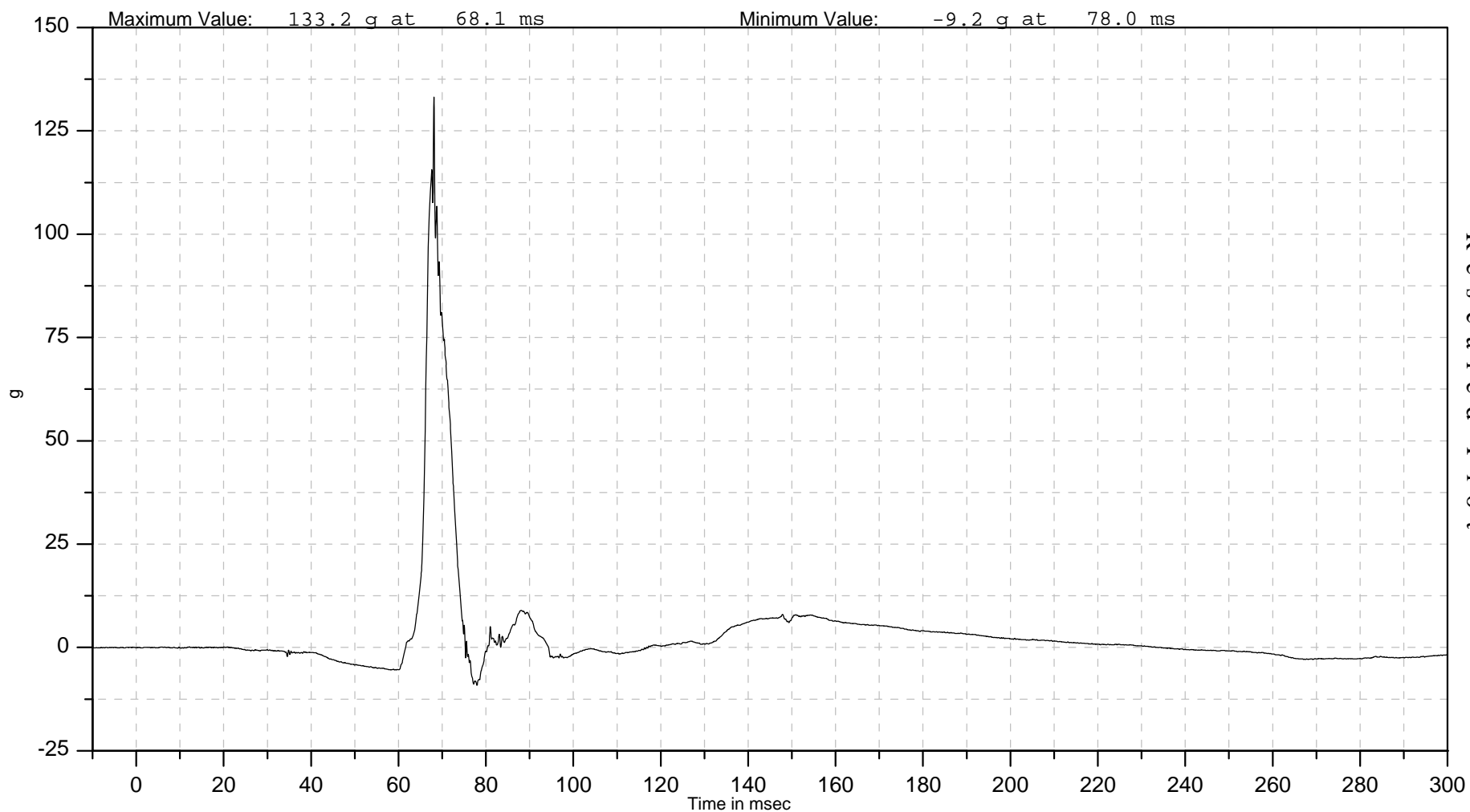
ISO Channel
14HEAD0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Y Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACZA

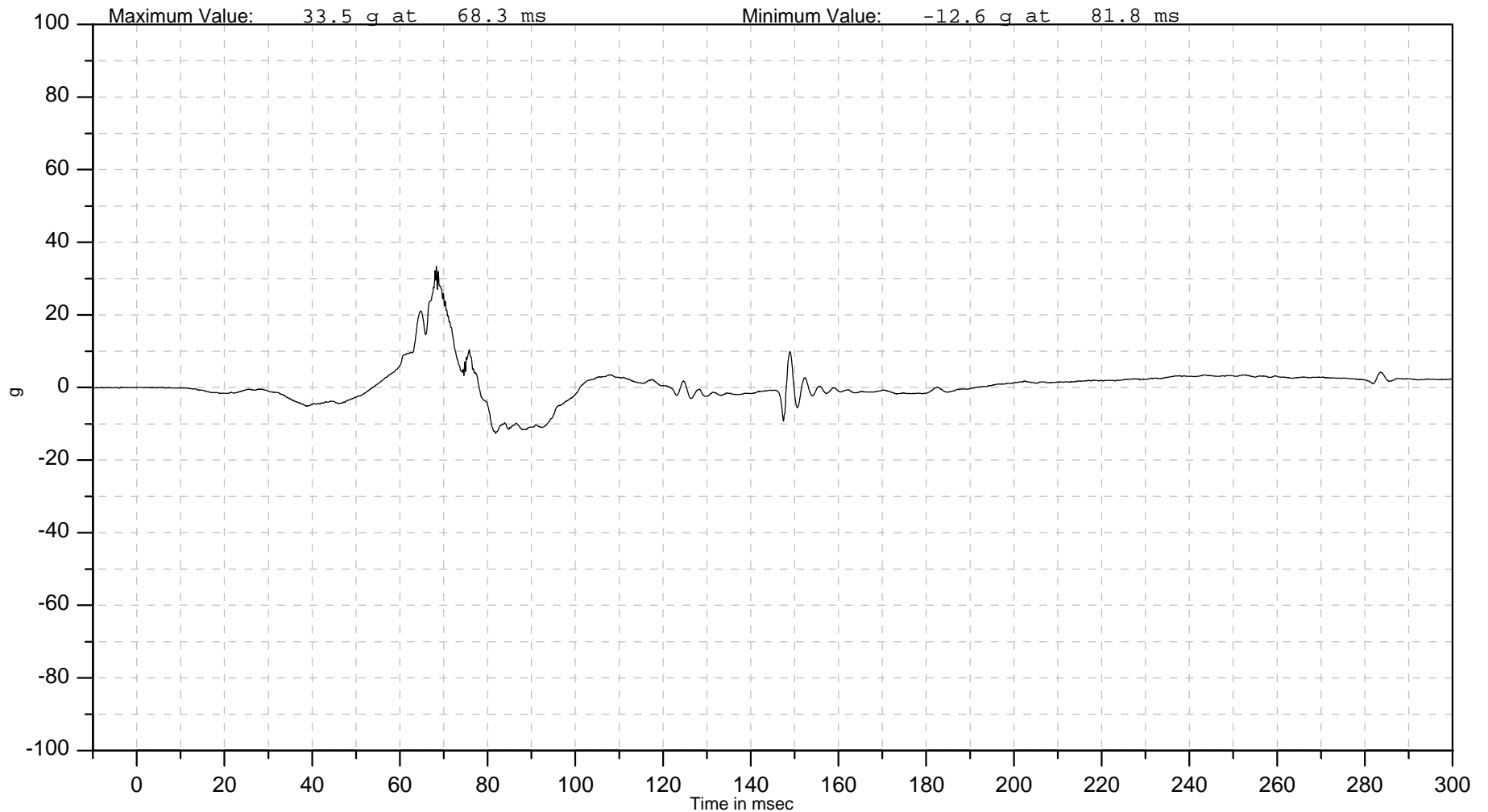
ISO Channel
14HEAD0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACRA

ISO Channel
14HEAD0000SHACRA

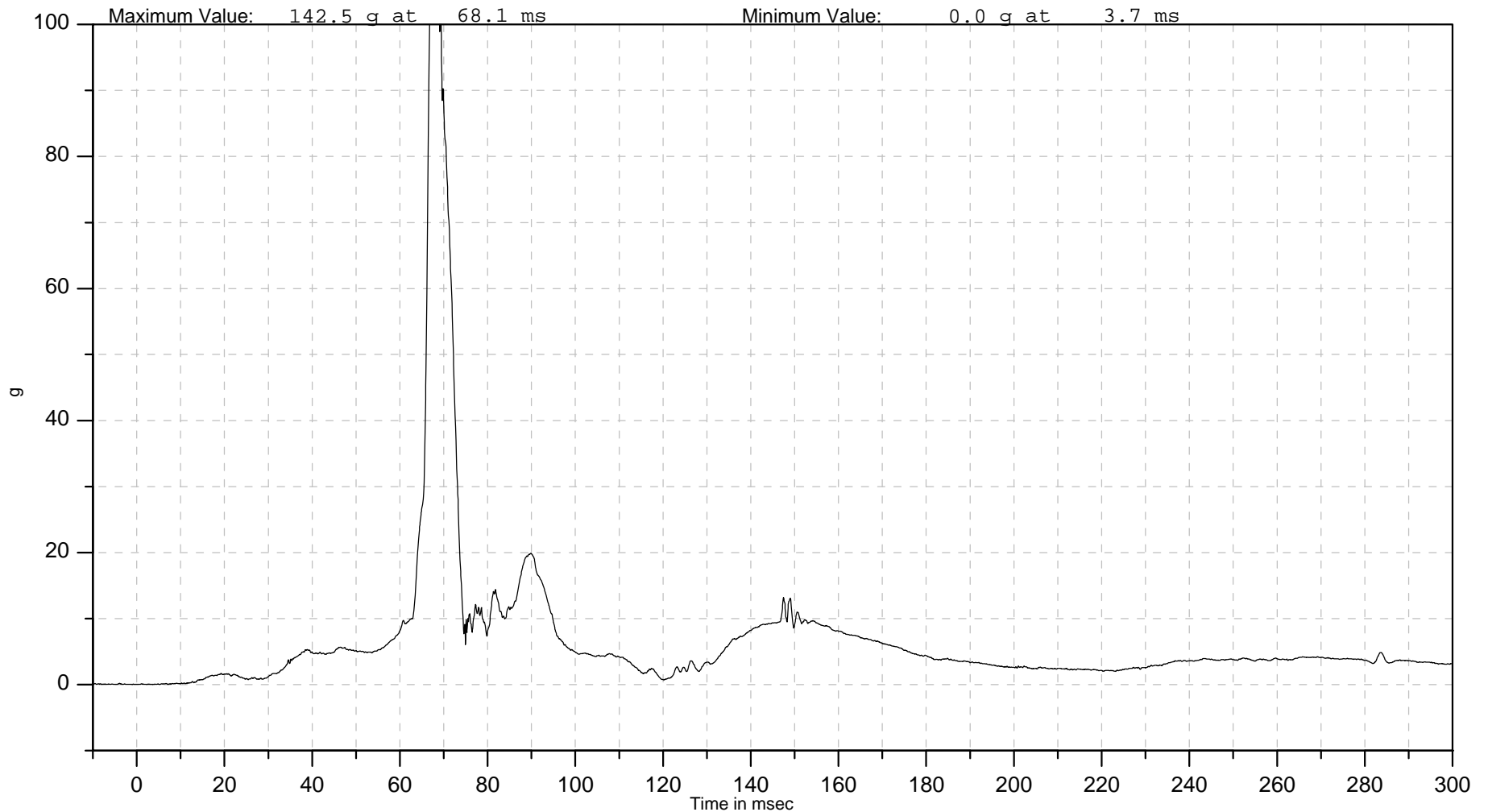
Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Resultant Acceleration

HIC36: 507 from 66.1 to 71.9 msec (5.8 msec interval)
HIC15: 507 from 66.1 to 71.9 msec (5.8 msec interval)





Autoliv North America (NTC)

Autoliv Channel
14HEAD0000SHACRA

ISO Channel
14HEAD0000SHACRA

Test Number: B1040195

Test Date: 18-Jun-2004

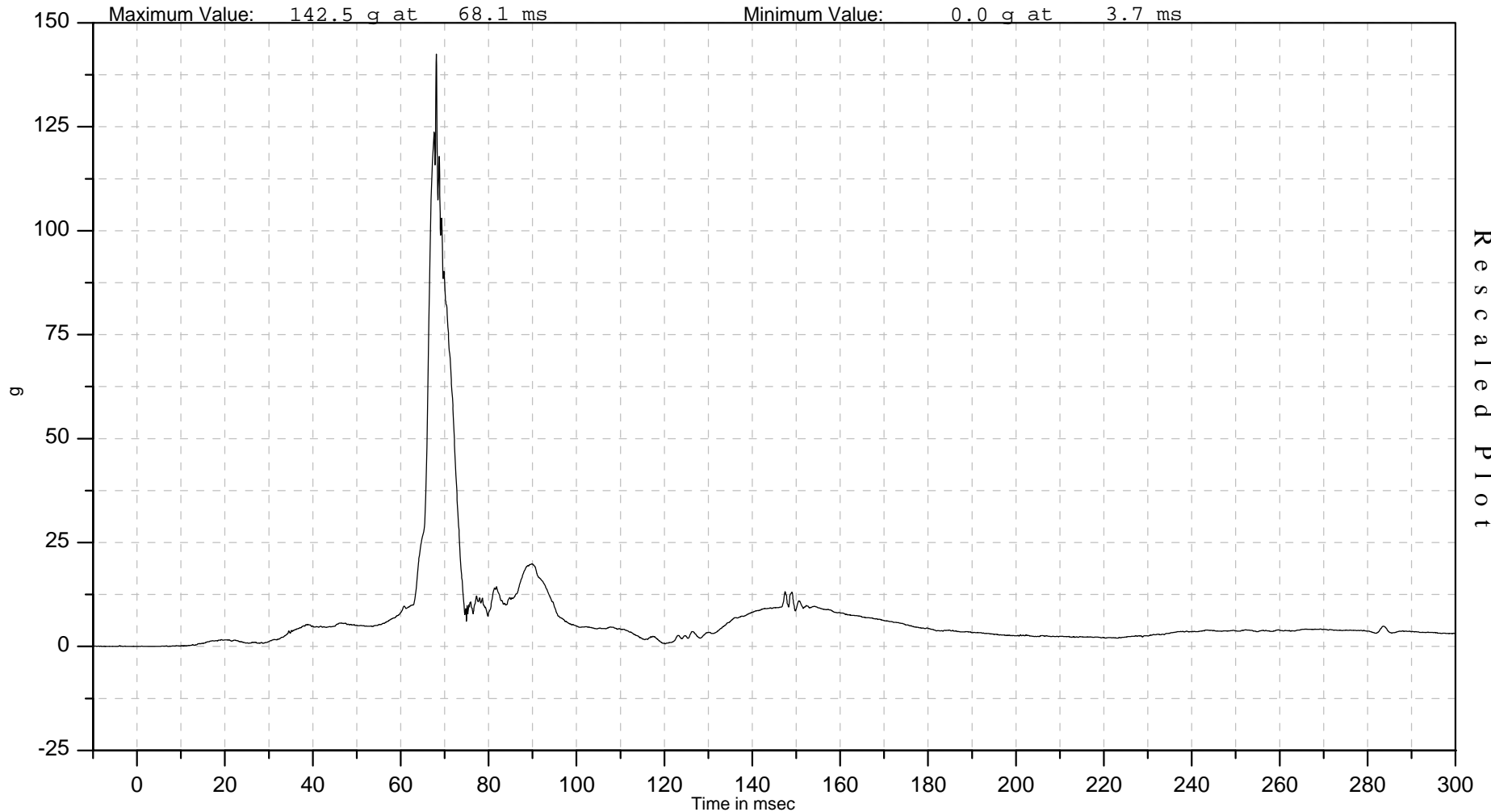
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Head Resultant Acceleration

HIC36: 507 from 66.1 to 71.9 msec (5.8 msec interval)
HIC15: 507 from 66.1 to 71.9 msec (5.8 msec interval)





Autoliv North America (NTC)

Autoliv Channel
14CHST0000SHDSYB

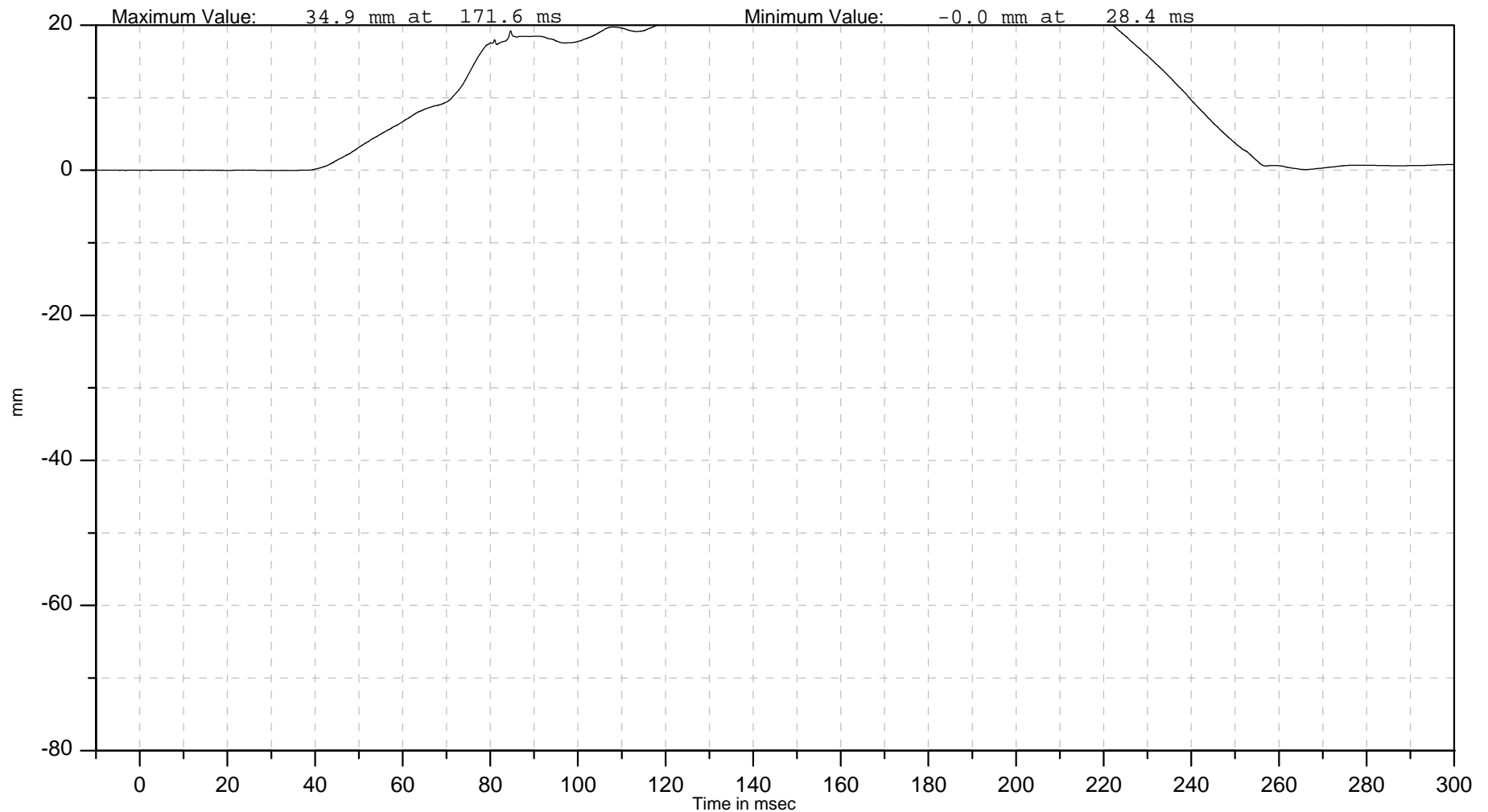
ISO Channel
14CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Left 2nd Row Pass Chest Y Displacement





Autoliv North America (NTC)

Autoliv Channel
14CHST0000SHDSYB

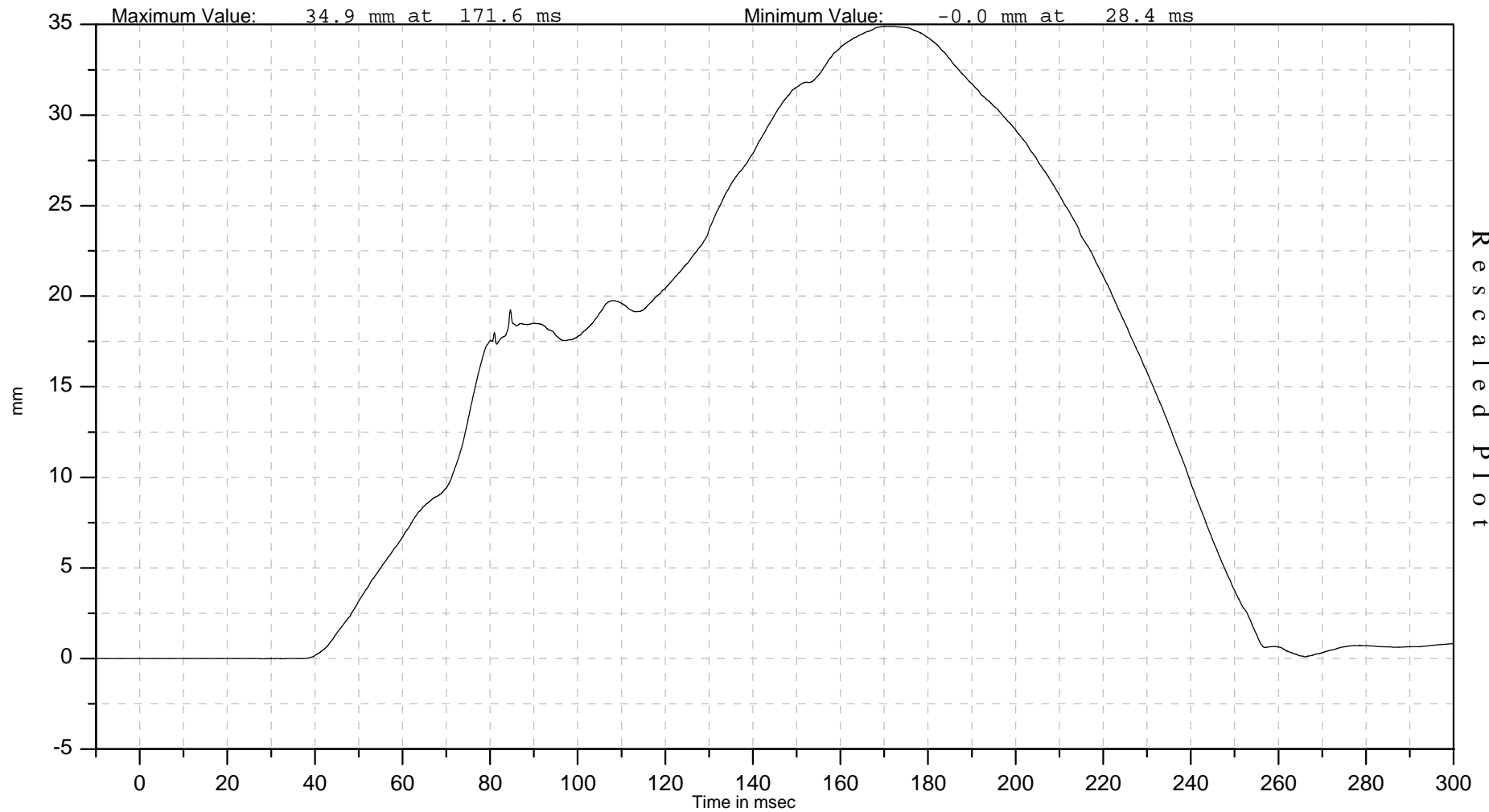
ISO Channel
14CHST0000SHDSYB

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 600
Sign Convention: SAE J211

Left 2nd Row Pass Chest Y Displacement



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
14SPIN1200SHACYC

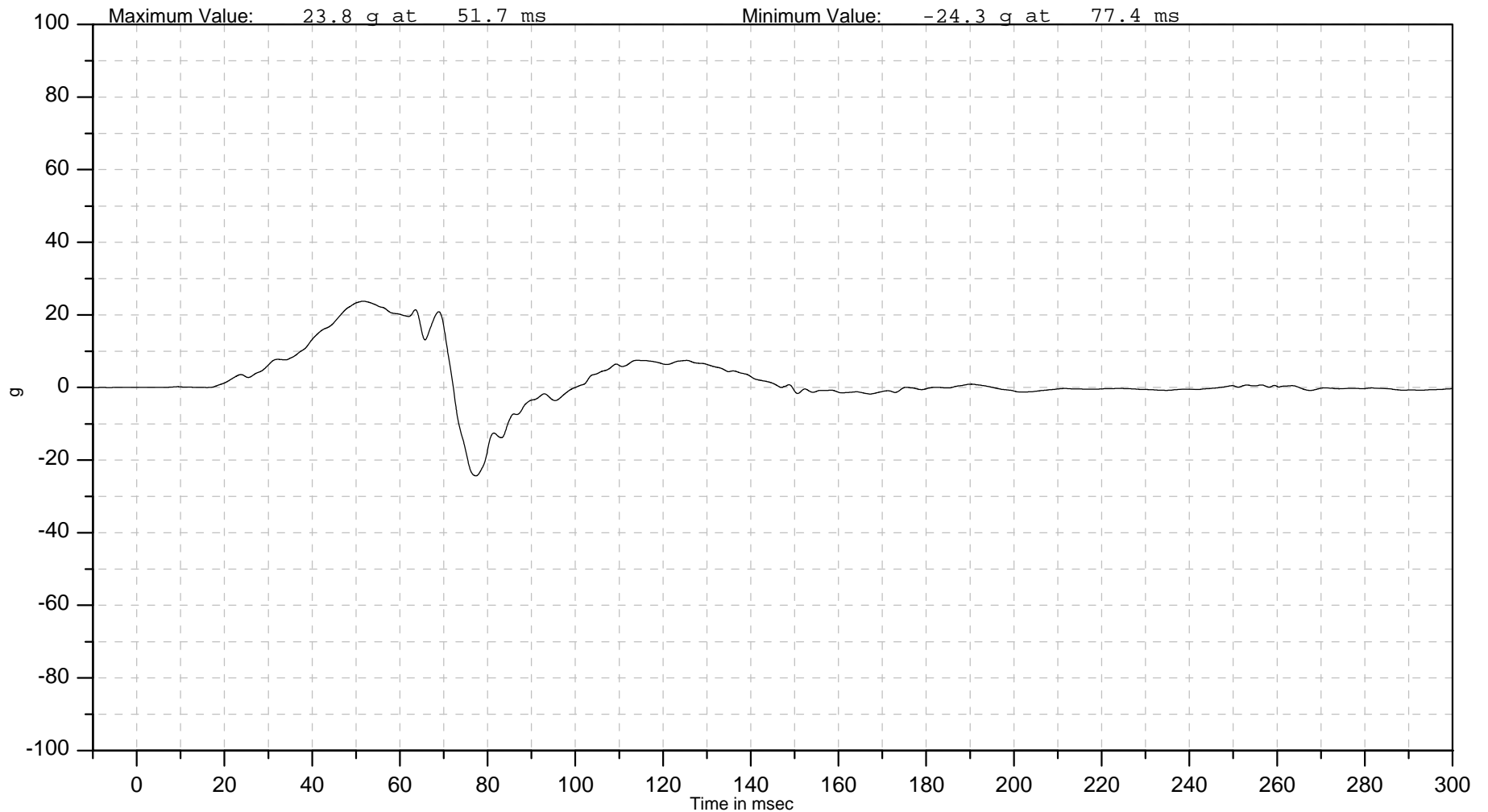
ISO Channel
14SPIN1200SHACYC

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 180
Sign Convention: SAE J211

Left 2nd Row Pass T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14SPIN1200SHACY1

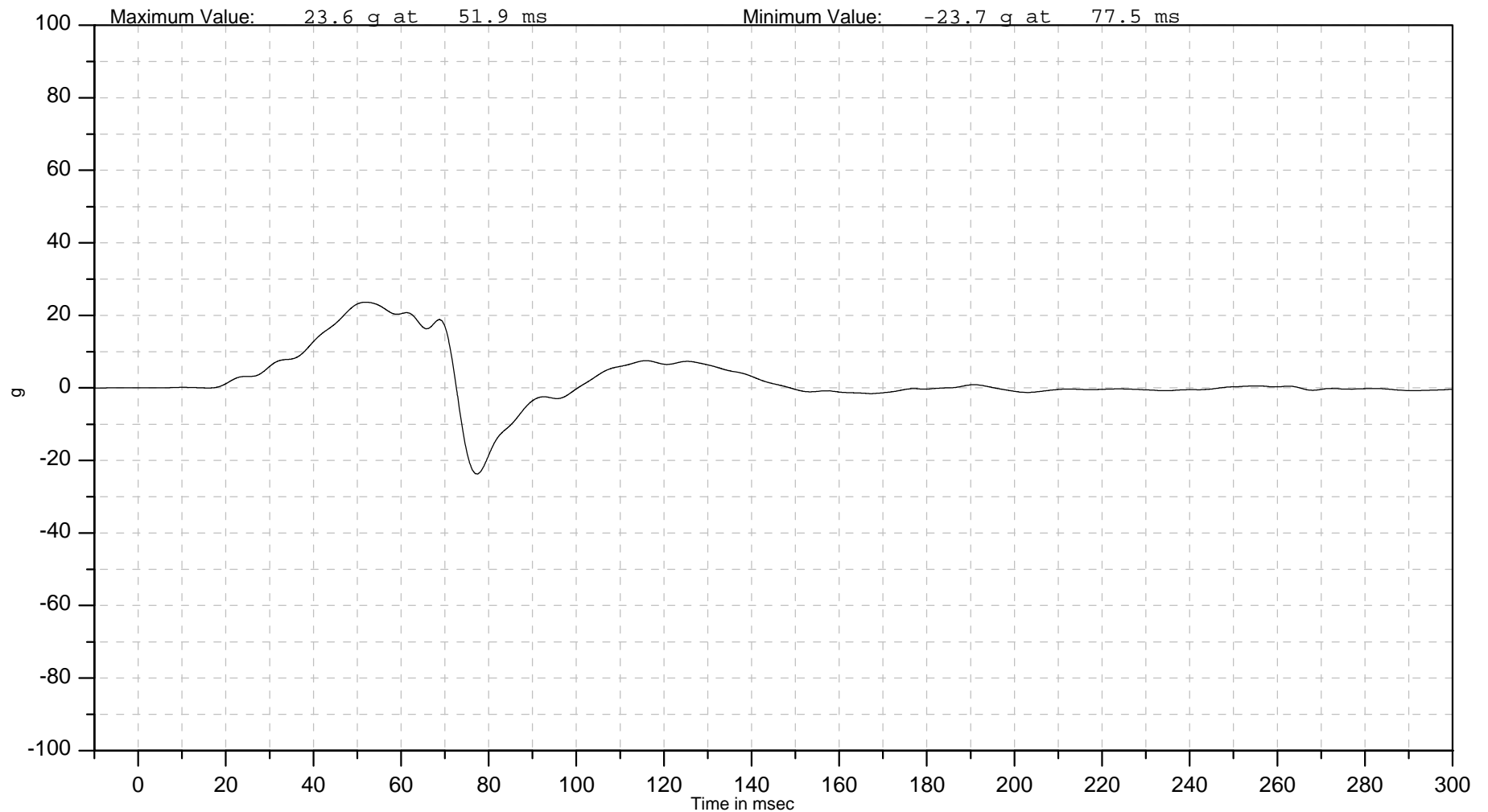
ISO Channel
14SPIN1200SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass T12 Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14SHLDLE00SHEV00

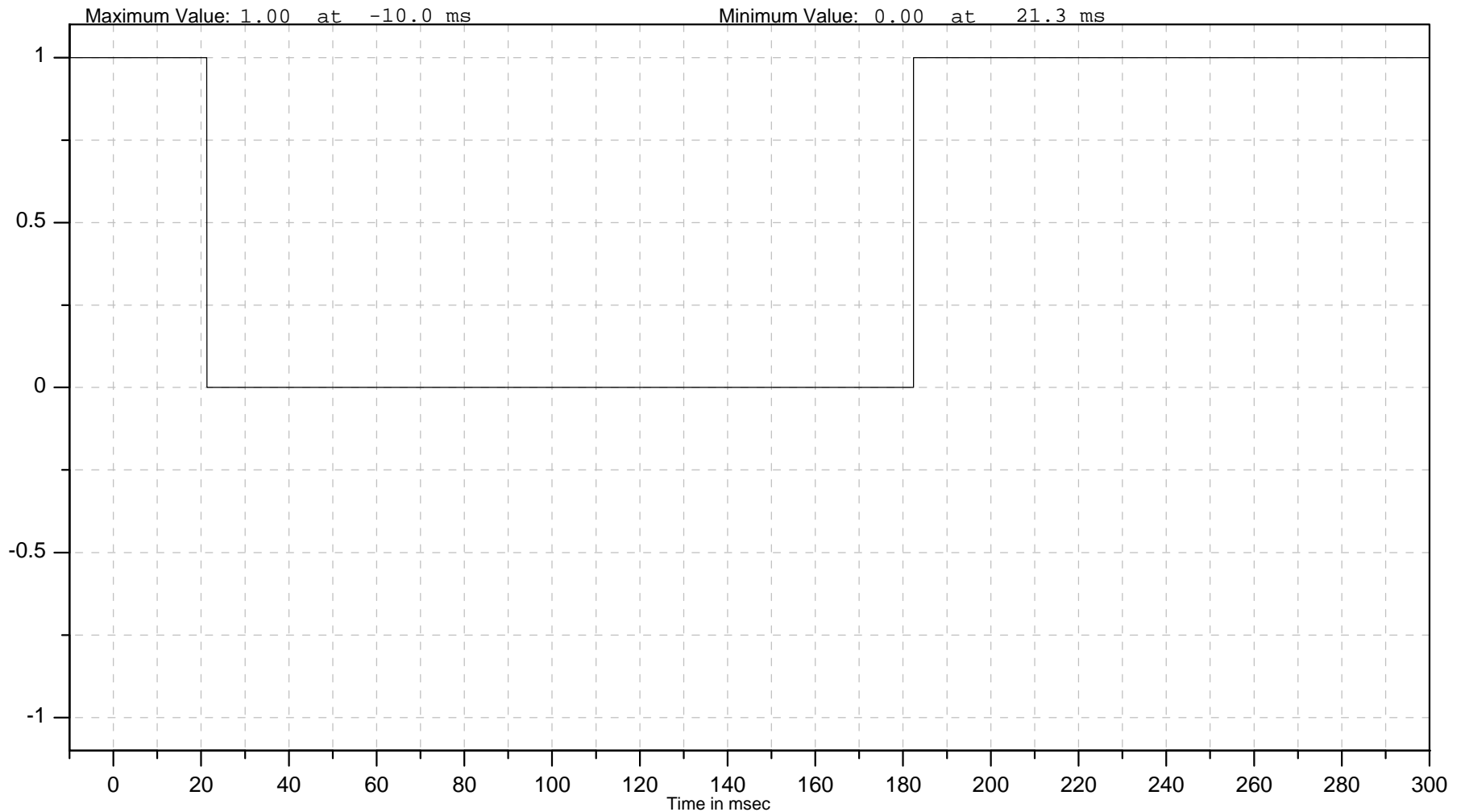
ISO Channel
14SHLDLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Left 2nd Row Pass Left Shoulder Event SidH3





Autoliv North America (NTC)

Autoliv Channel
14RIBSLEUPSHACYA

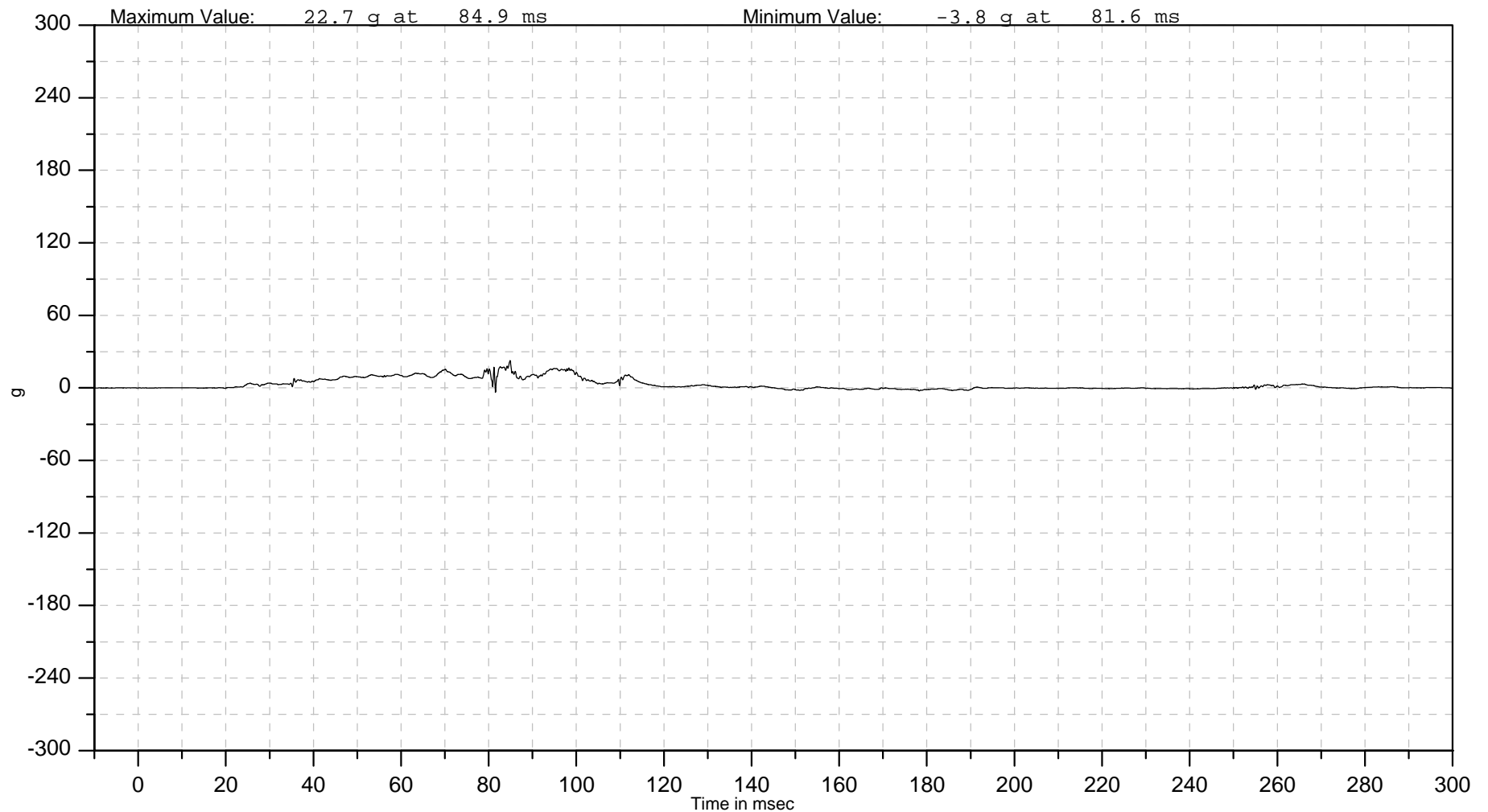
ISO Channel
14RIBSLEUPSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14RIBSLEUPSHACY1

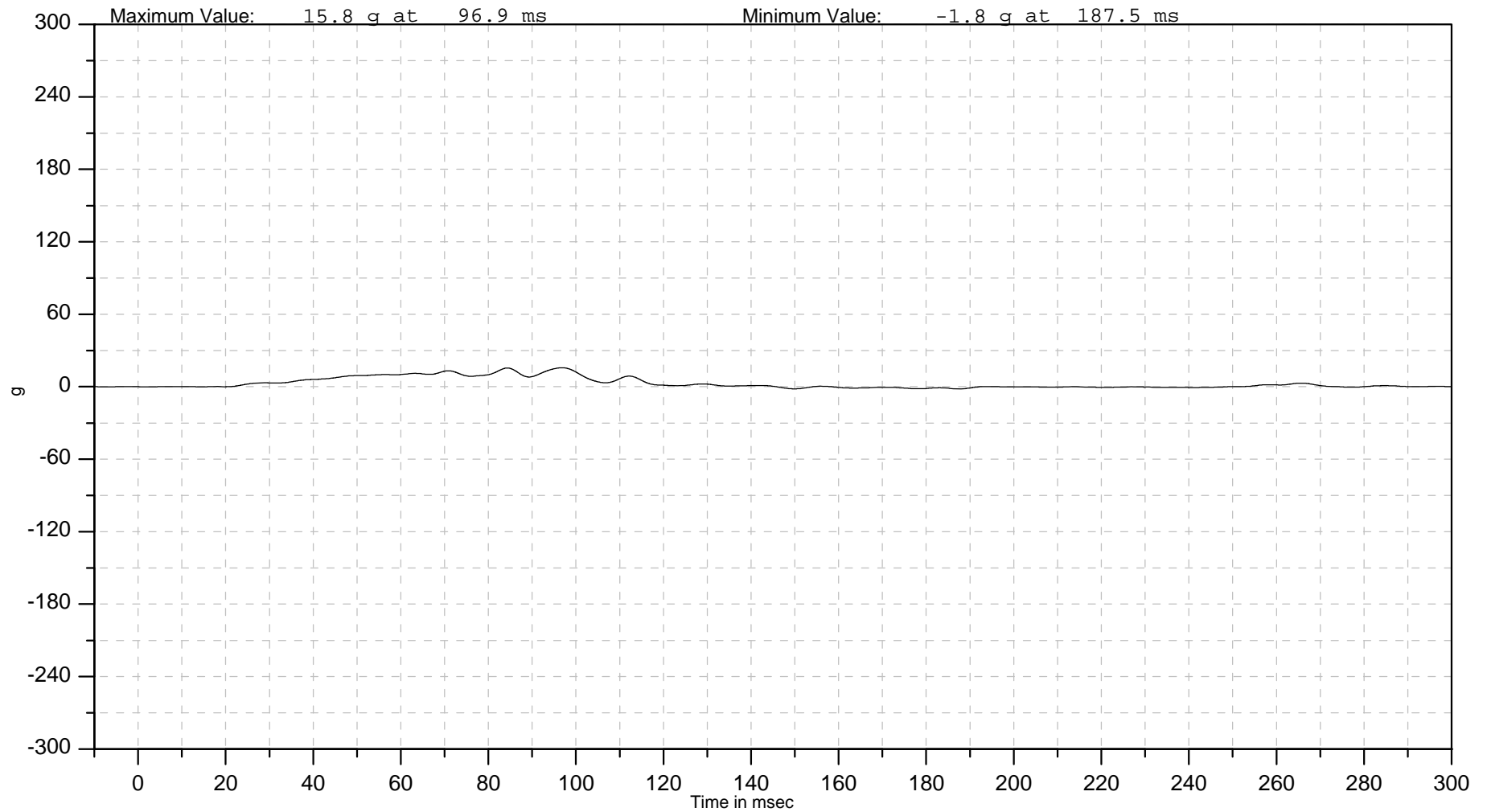
ISO Channel
14RIBSLEUPSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass Left Upper Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14RIBSLELOSHACYA

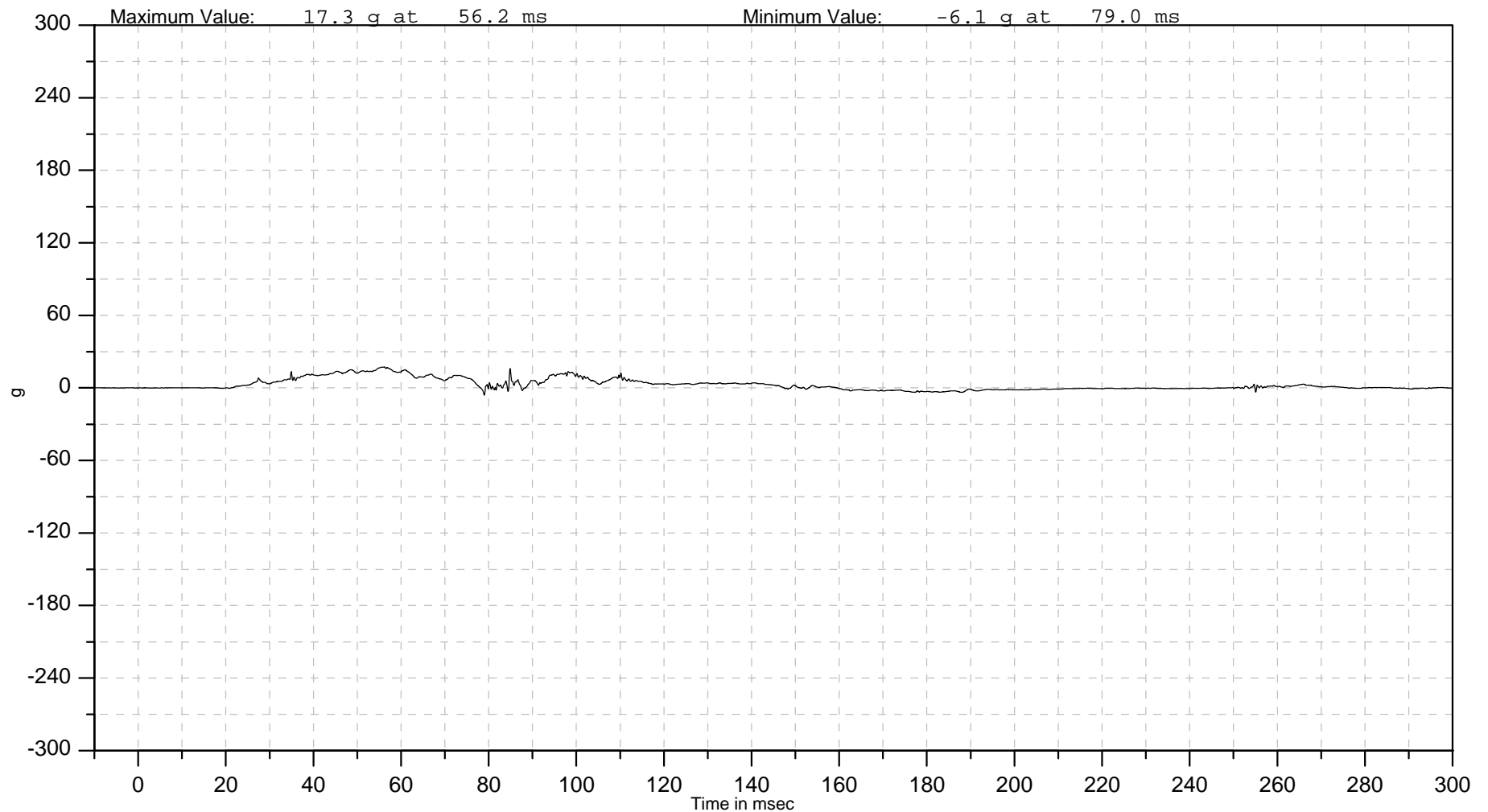
ISO Channel
14RIBSLELOSHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Left Lower Rib Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14RIBSLELOSHACY1

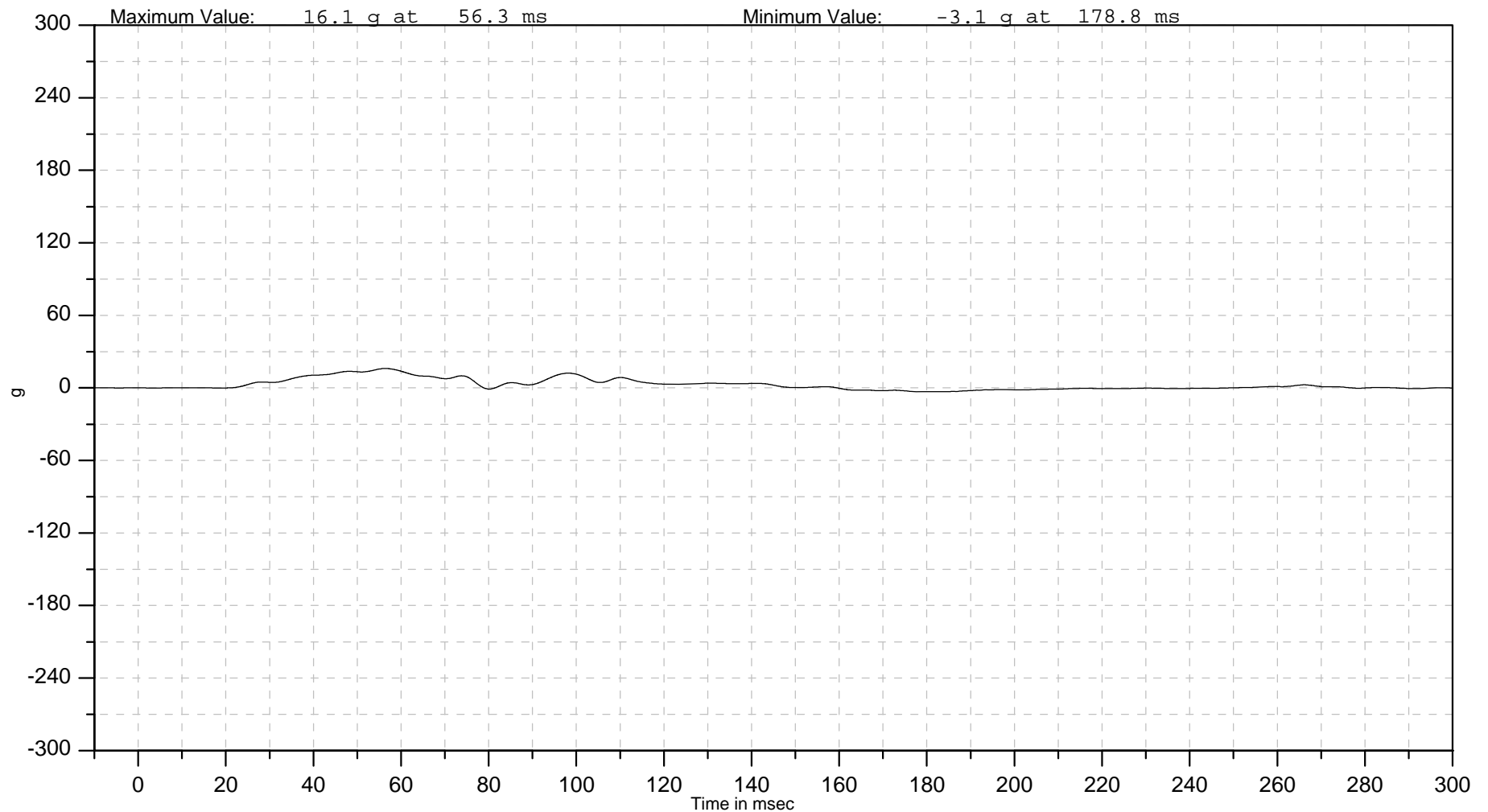
ISO Channel
14RIBSLELOSHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass Left Lower Rib Y Acceleration





Autoliv North America (ATC)

Autoliv Channel

ISO Channel

Test Number: B1040195

Test Date: 18-Jun-2004

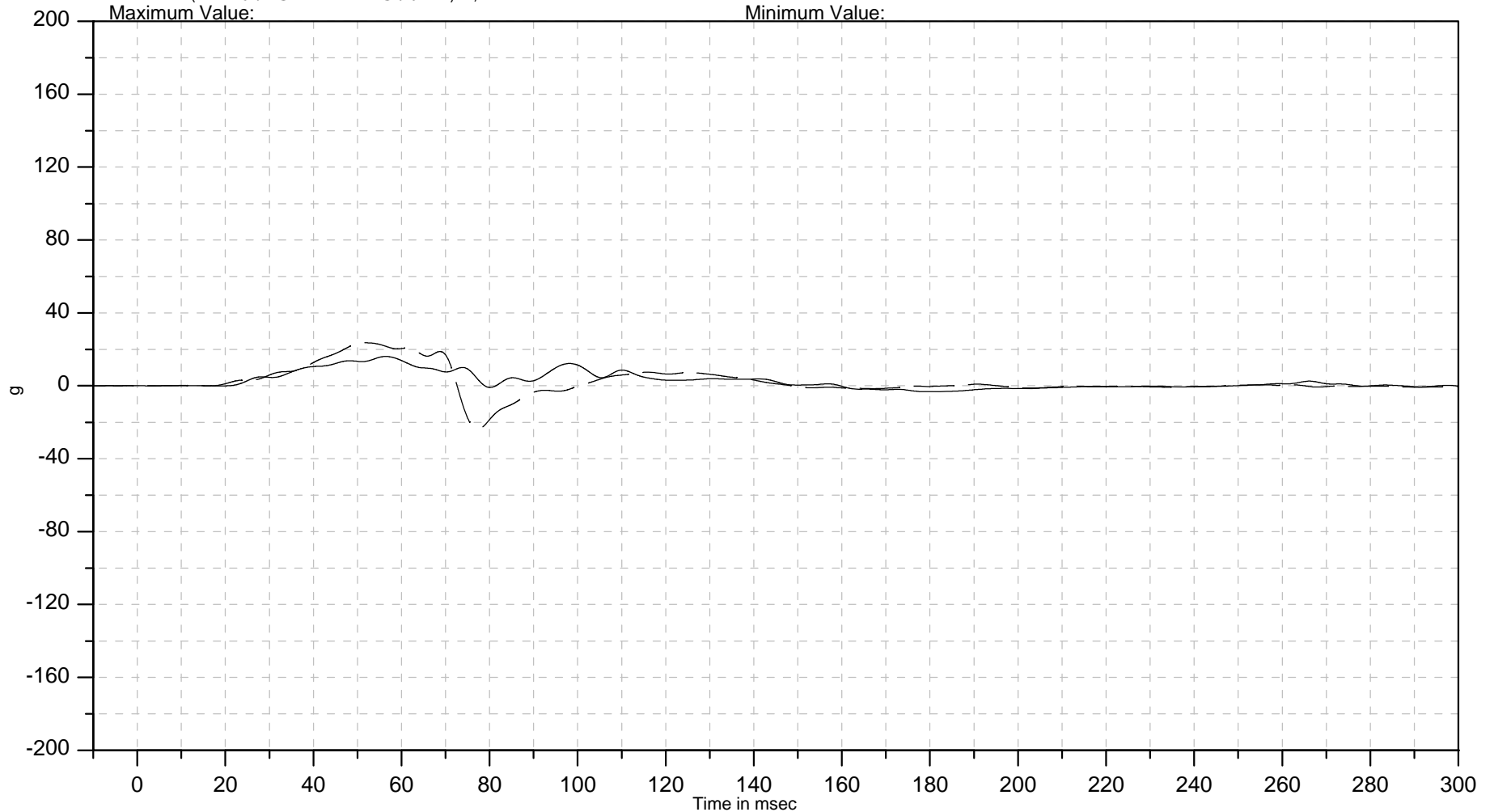
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Passenger Left Side TTI Calculation

Max Rib Y Acceleration = 16.131 g in Channel 31 (14RIBSLELOSHACY1)
Max Spine T12 Y Acceleration = 23.647 g in Channel 26 (14SPIN1200SHACY1)
TTI = (16.131 + 23.647) / 2 = 20





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACXA

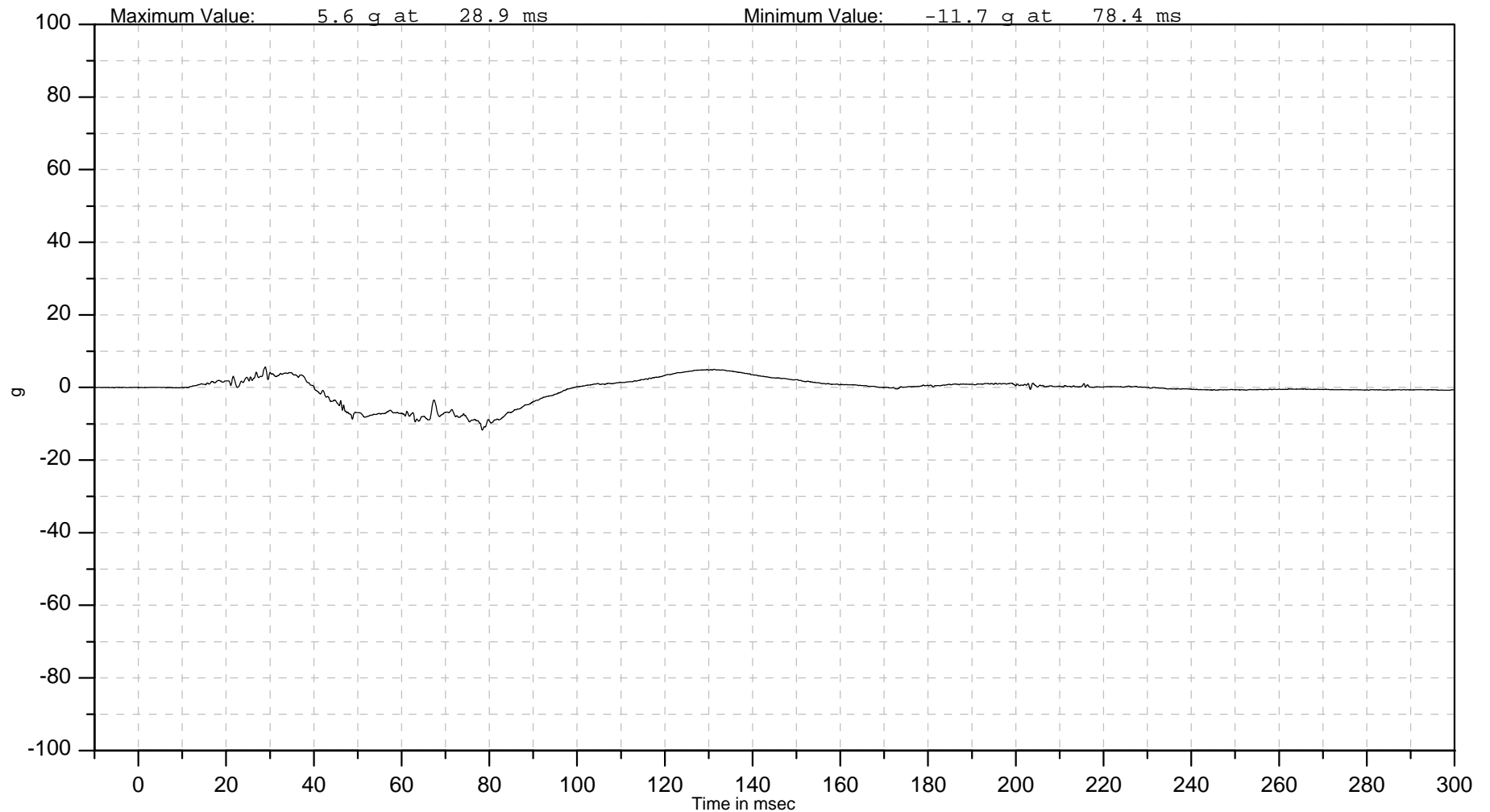
ISO Channel
14PELV0000SHACXA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis X Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACYA

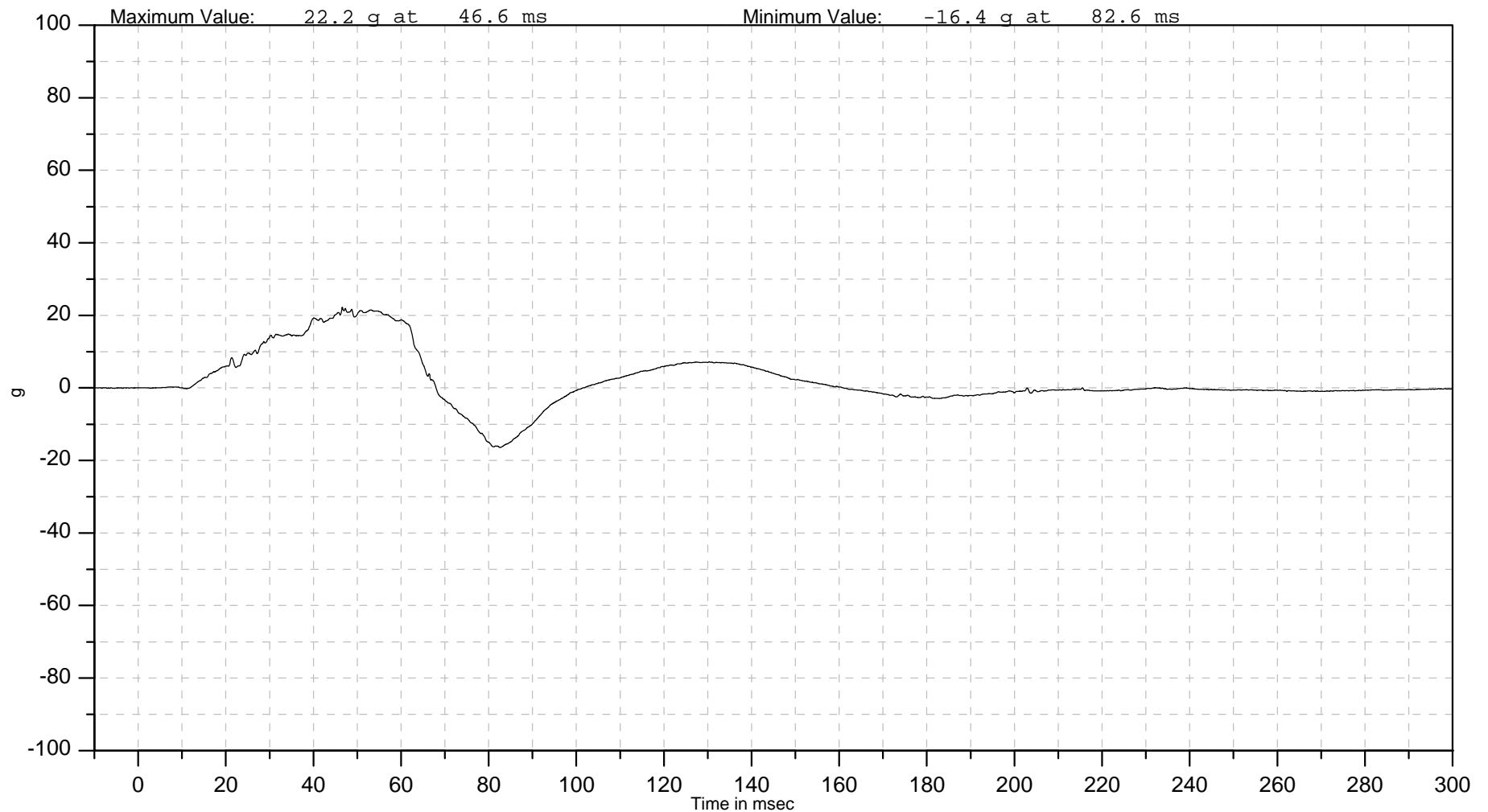
ISO Channel
14PELV0000SHACYA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACY1

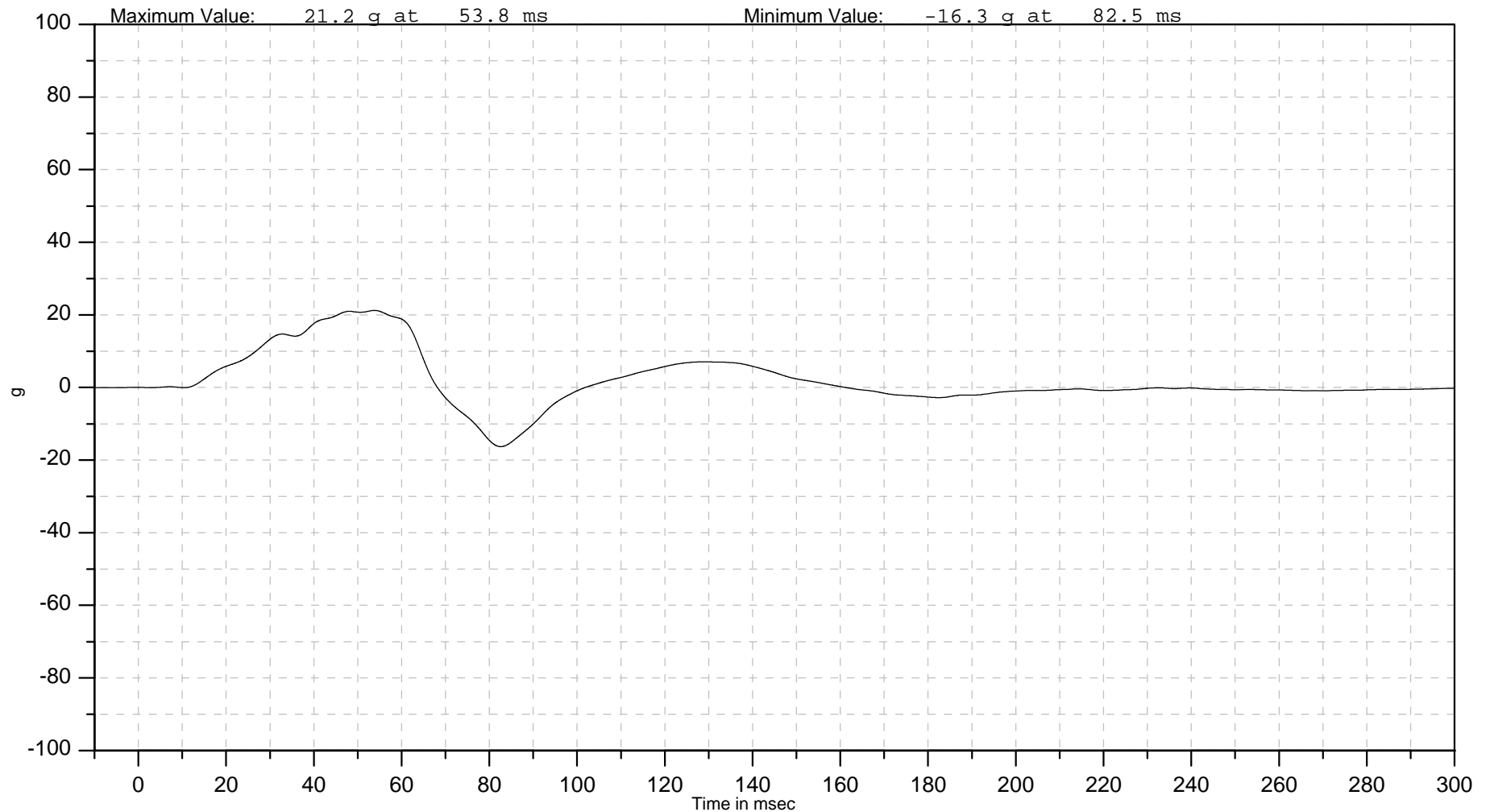
ISO Channel
14PELV0000SHACY1

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: FIR 100
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACZA

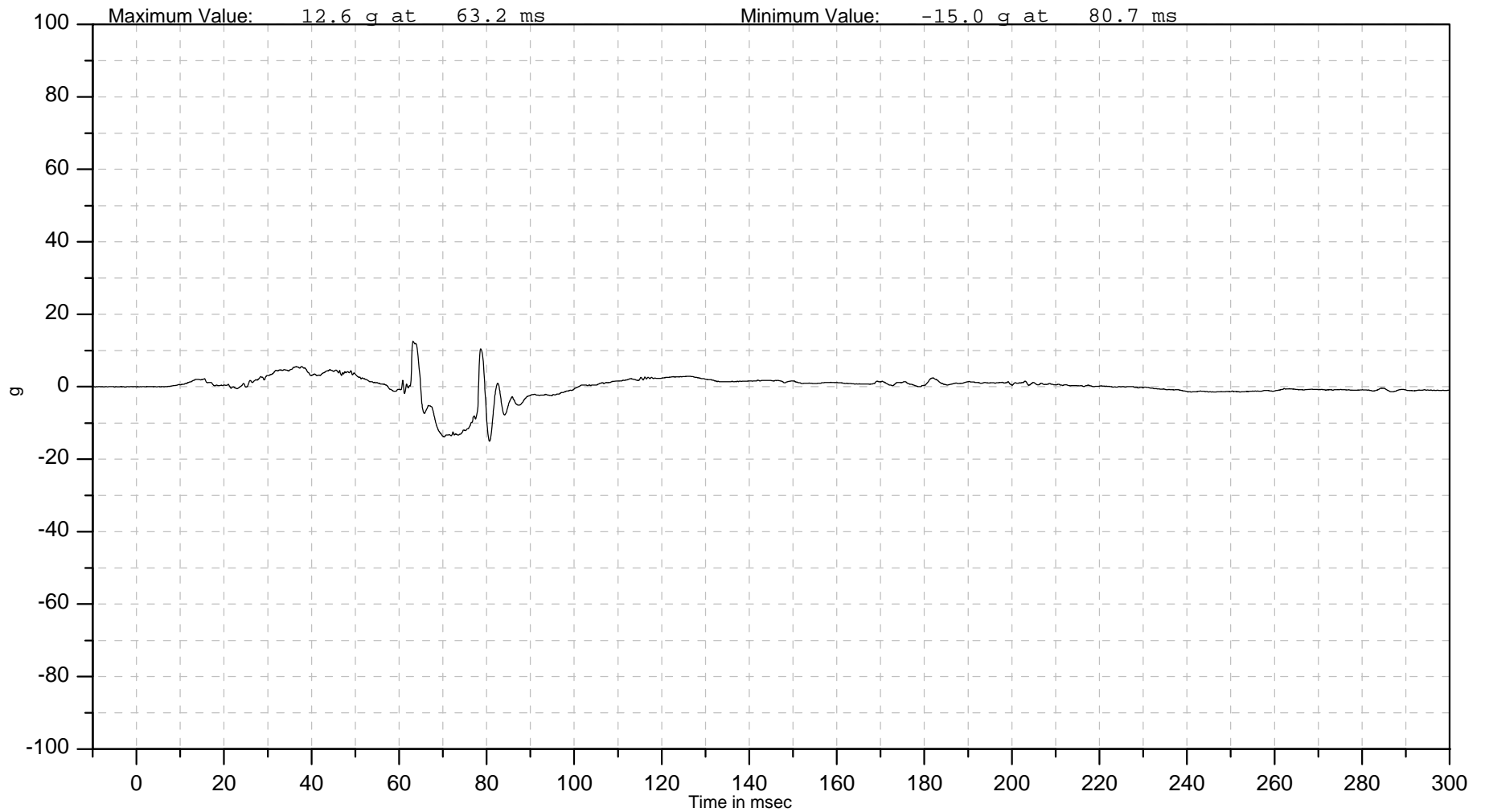
ISO Channel
14PELV0000SHACZA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELV0000SHACRA

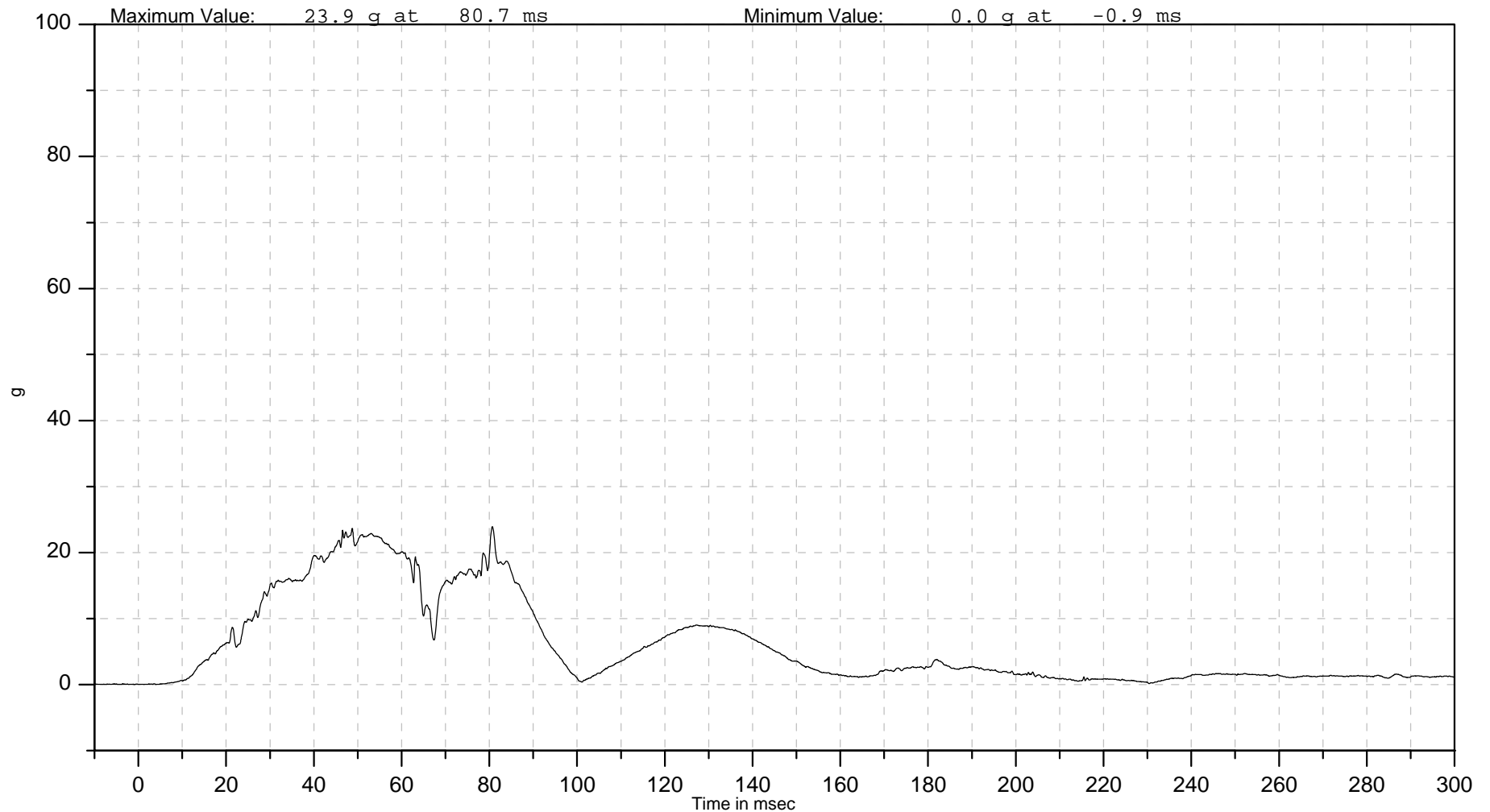
ISO Channel
14PELV0000SHACRA

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: CFC 1000
Sign Convention: SAE J211

Left 2nd Row Pass Pelvis Resultant Acceleration





Autoliv North America (NTC)

Autoliv Channel
14PELVLE00SHEV00

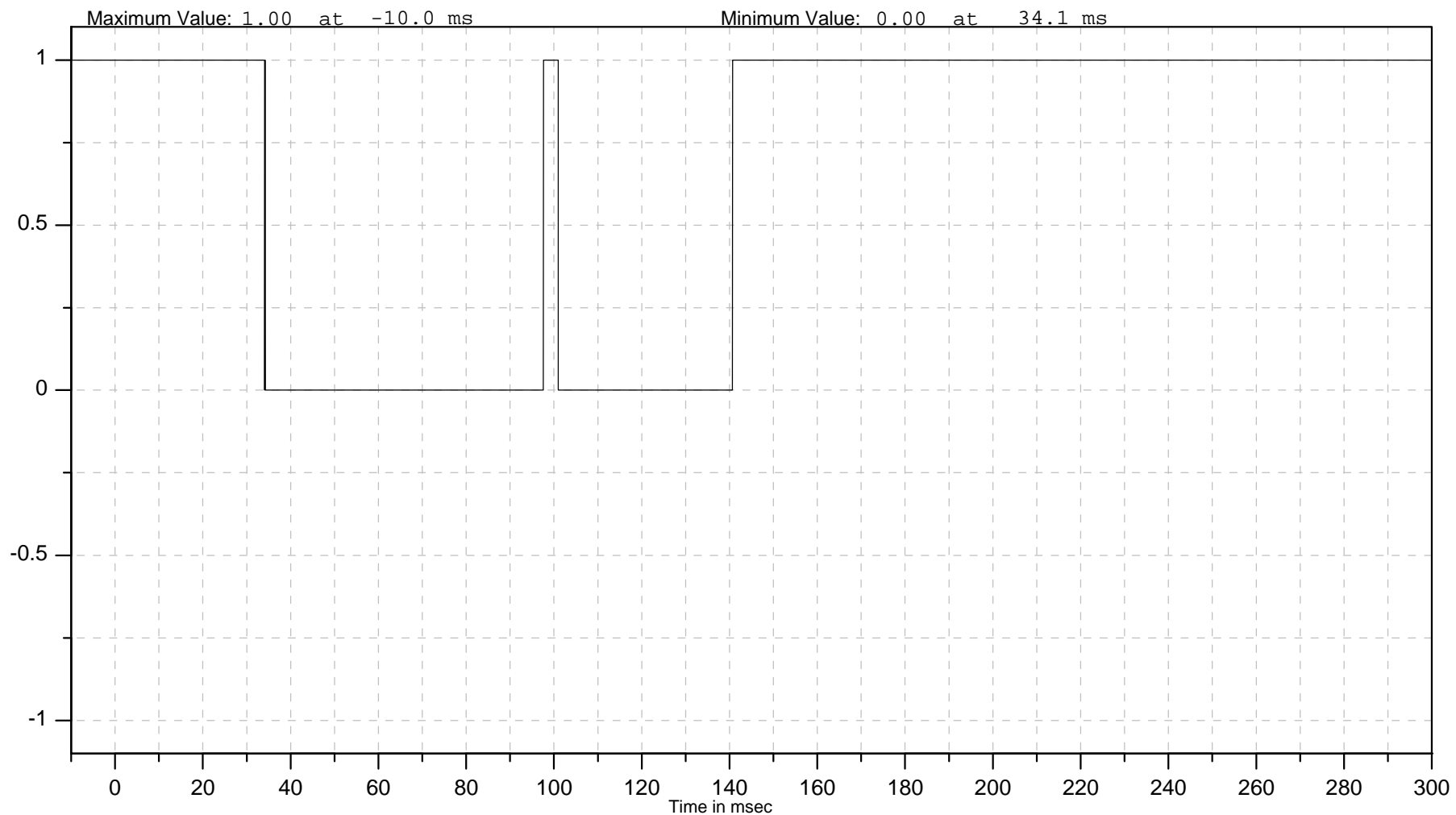
ISO Channel
14PELVLE00SHEV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
SIDH3

Filter: Unfiltered
Sign Convention: SAE J211

Left 2nd Row Pass Left Pelvis Event SidH3





Autoliv North America (NTC)

Autoliv Channel
10CART000001EV00

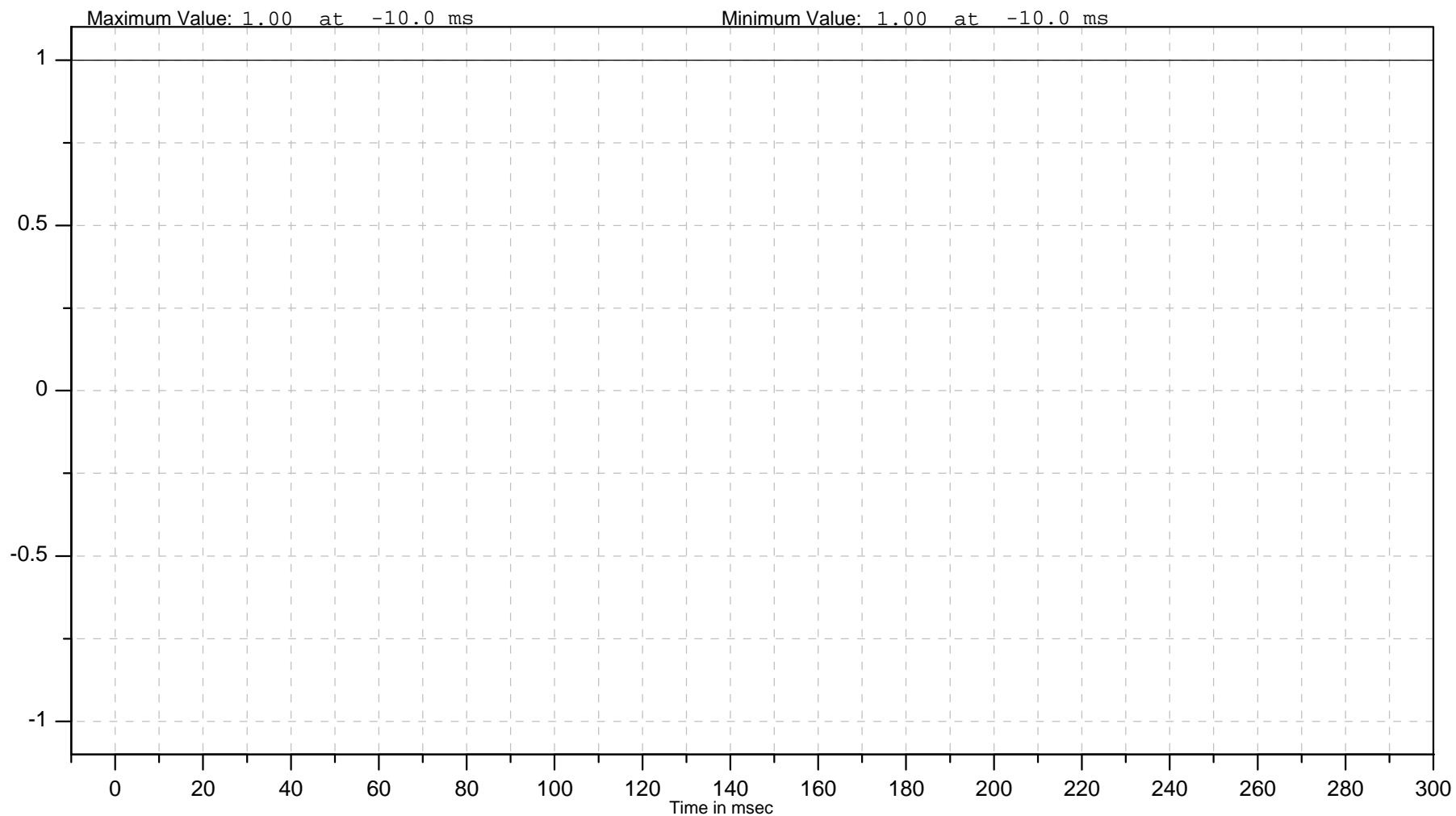
ISO Channel
10CART000001EV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 1





Autoliv North America (NTC)

Autoliv Channel
10CART000002EV00

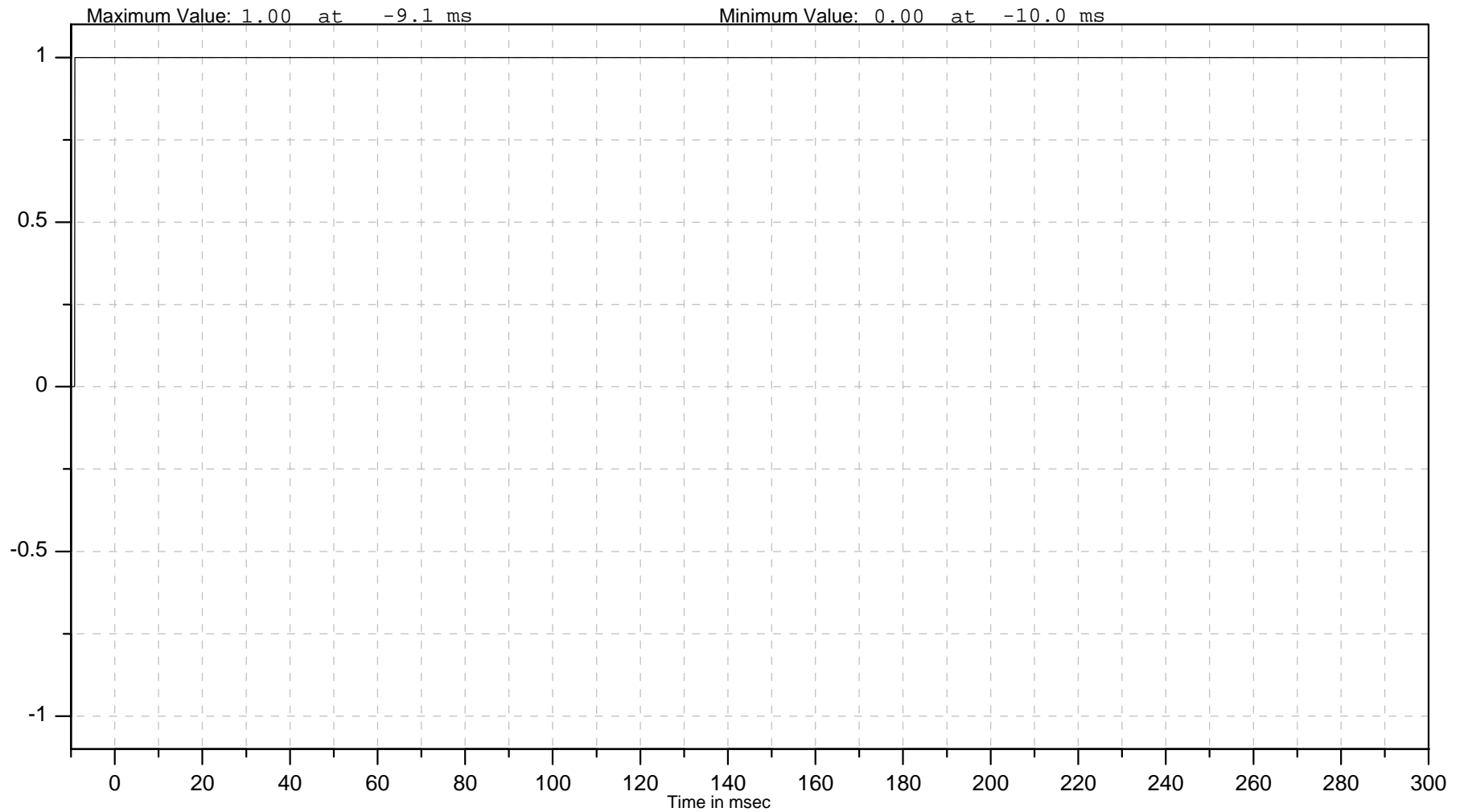
ISO Channel
10CART000002EV00

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 2





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRCHACYD

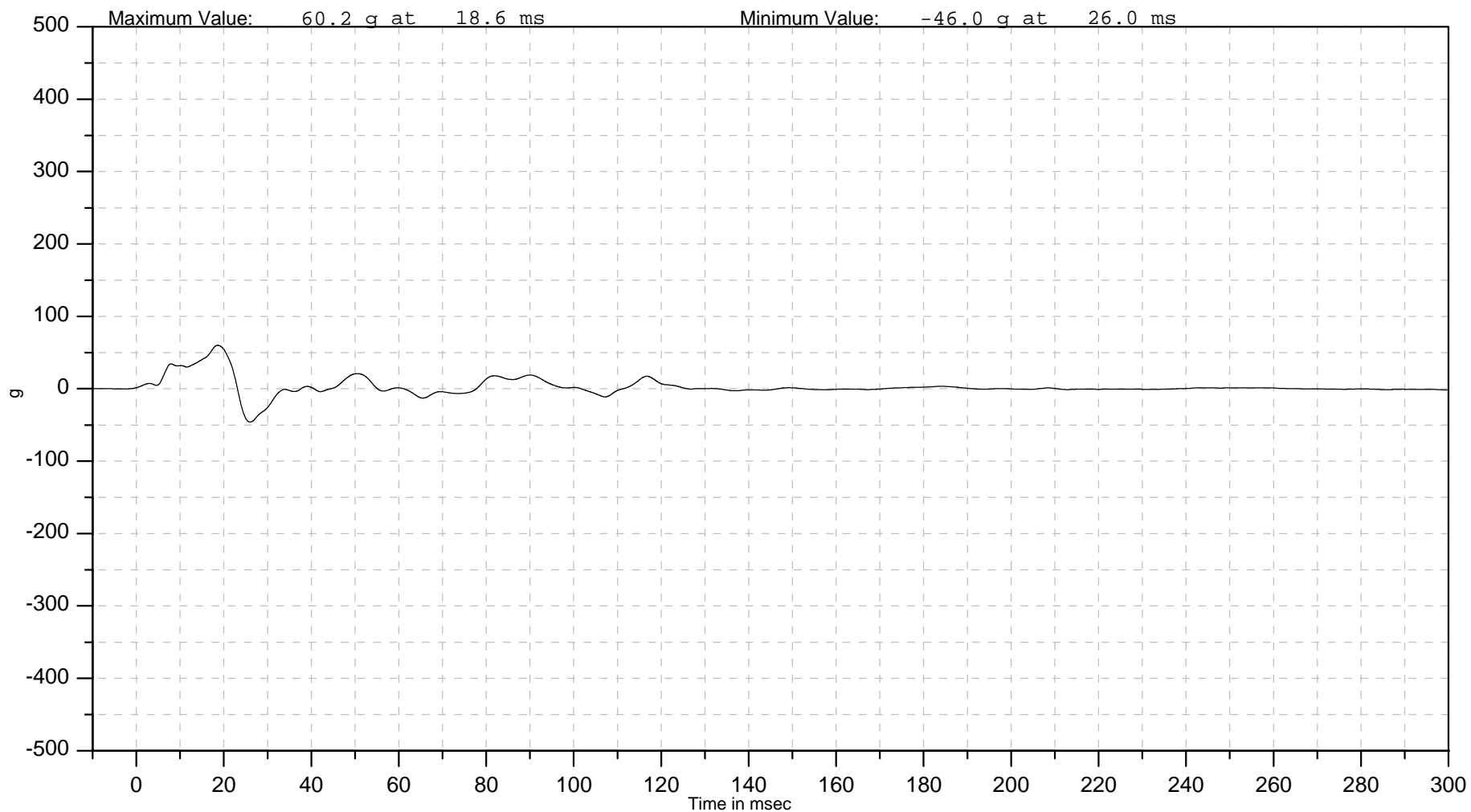
ISO Channel
10DOORLEFRCHACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Chest Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRSPACYD

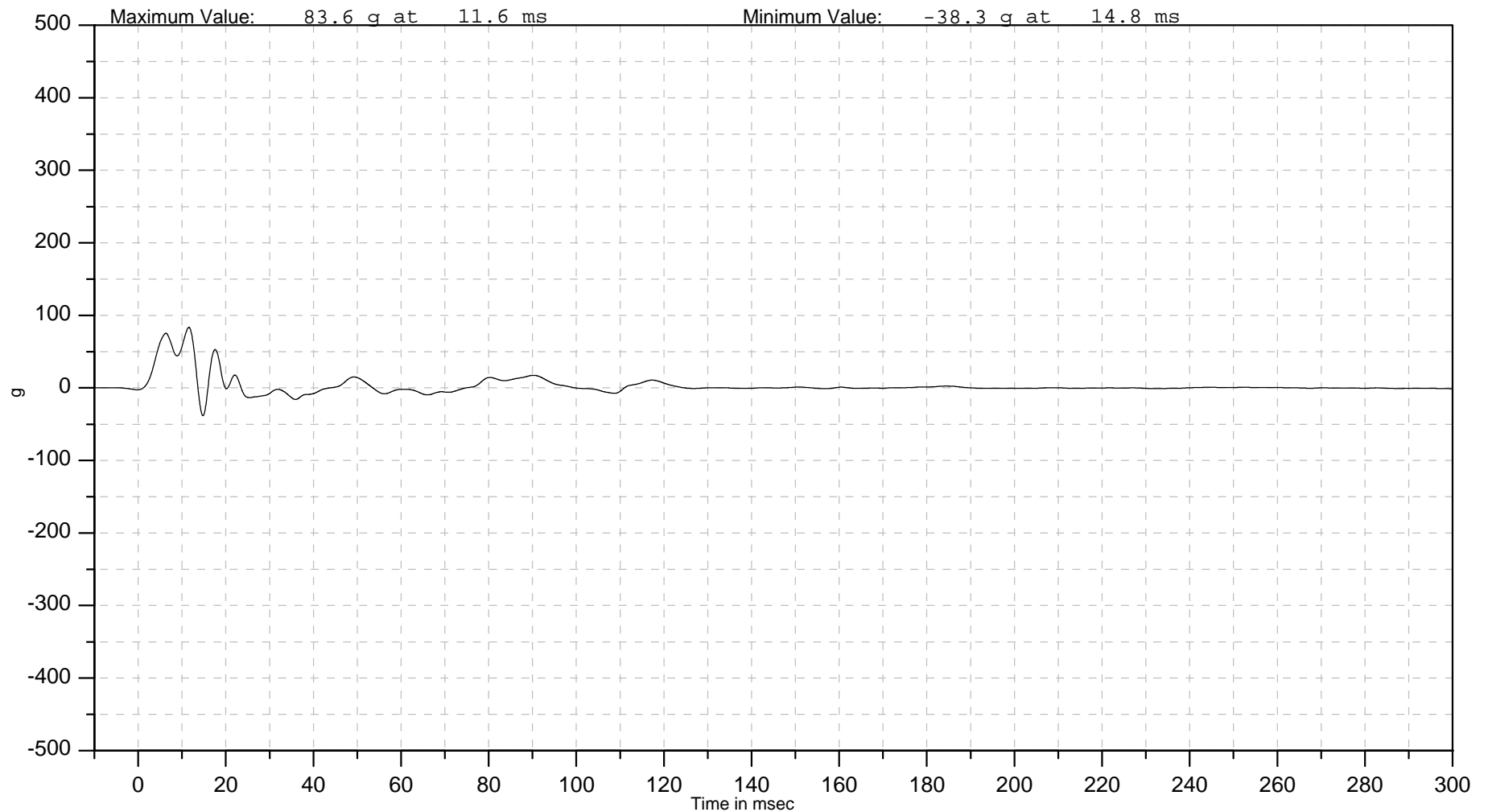
ISO Channel
10DOORLEFRSPACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRPEACYD

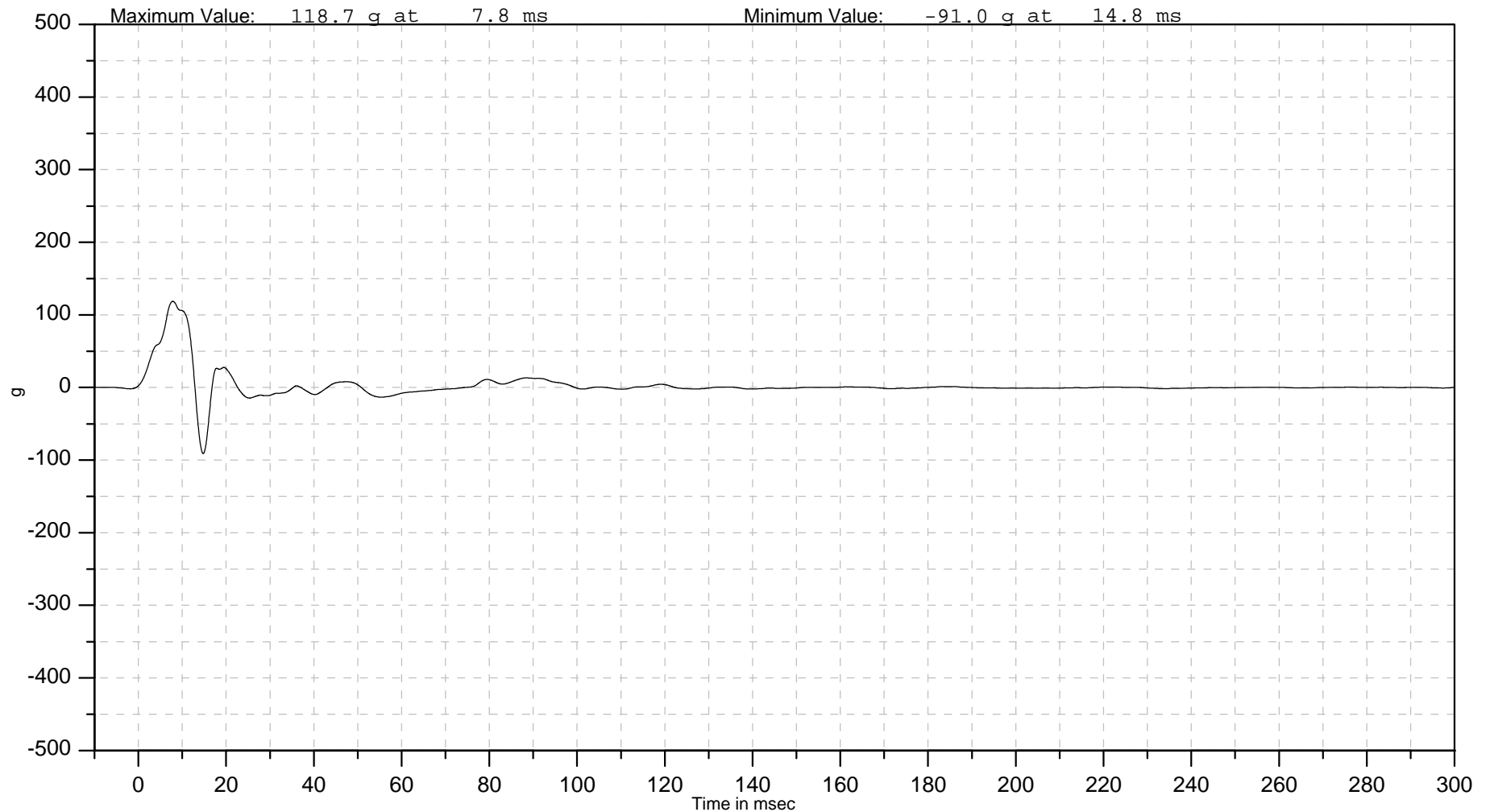
ISO Channel
10DOORLEFRPEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Pedestrian

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEFRCEACYD

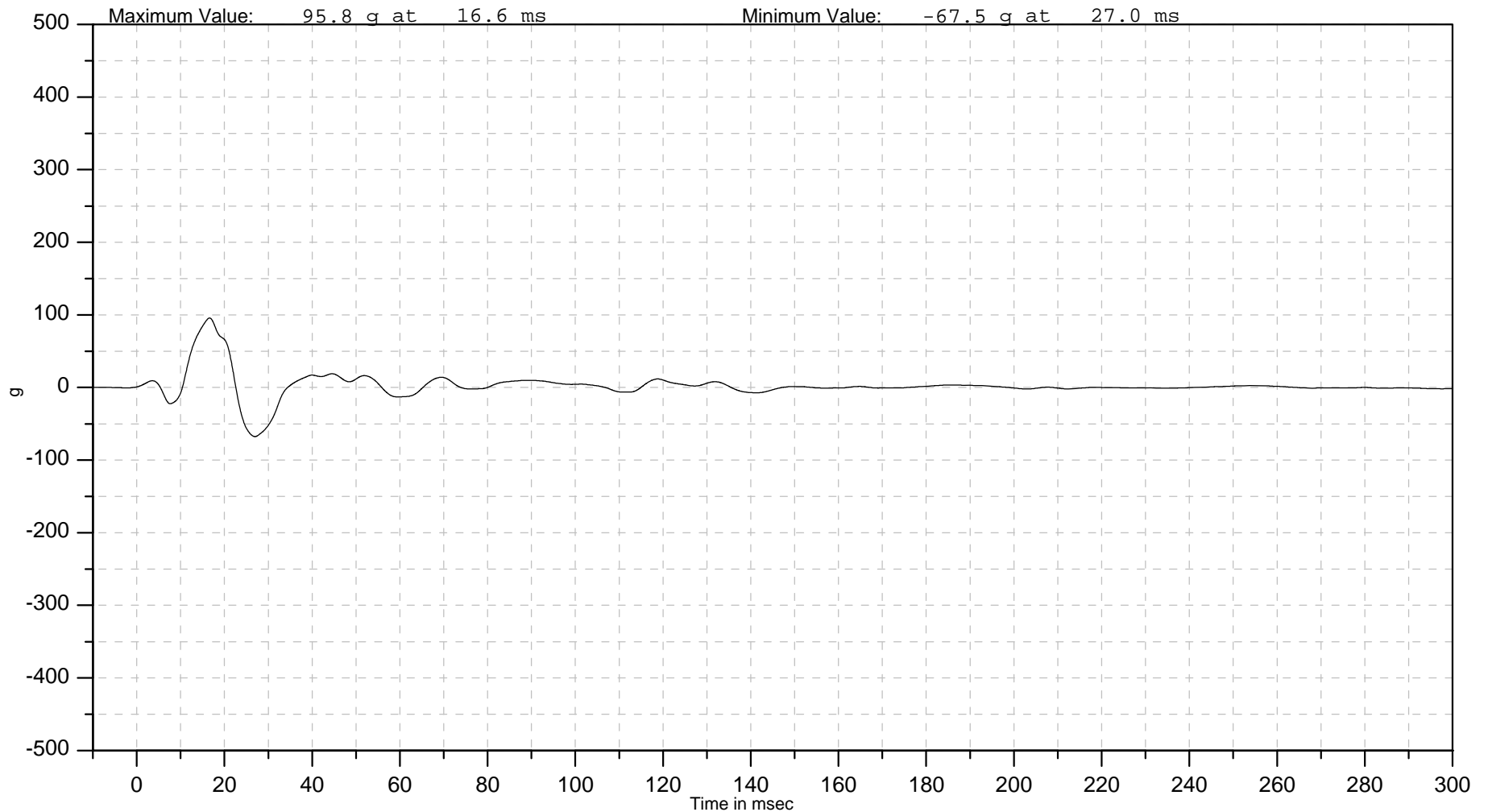
ISO Channel
10DOORLEFRCEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Center Y Acceleration





Autoliv North America (NTC)

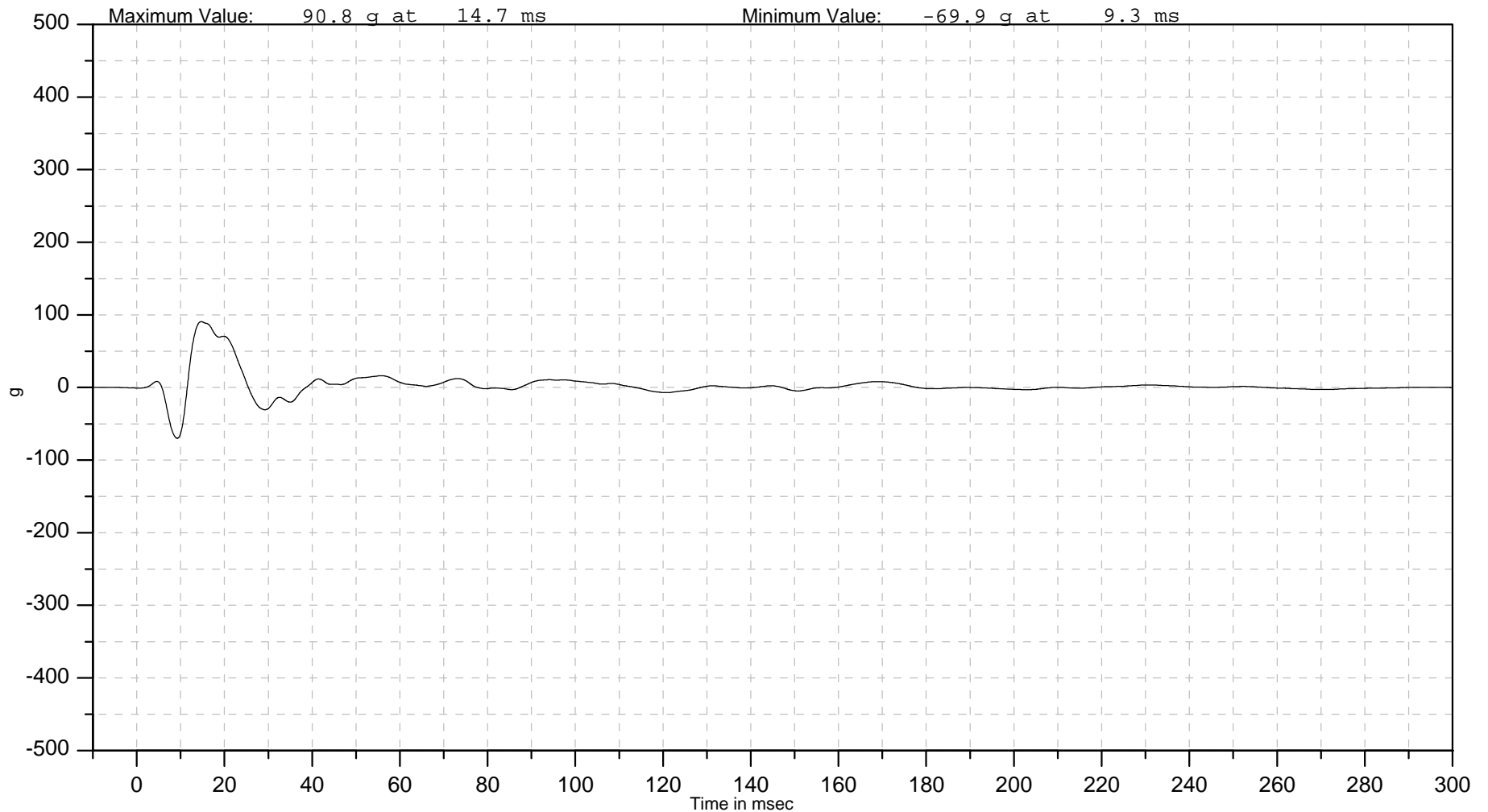
Autoliv Channel
10DOORLERECHACYD

ISO Channel
10DOORLERECHACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Chest Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLERESPACD

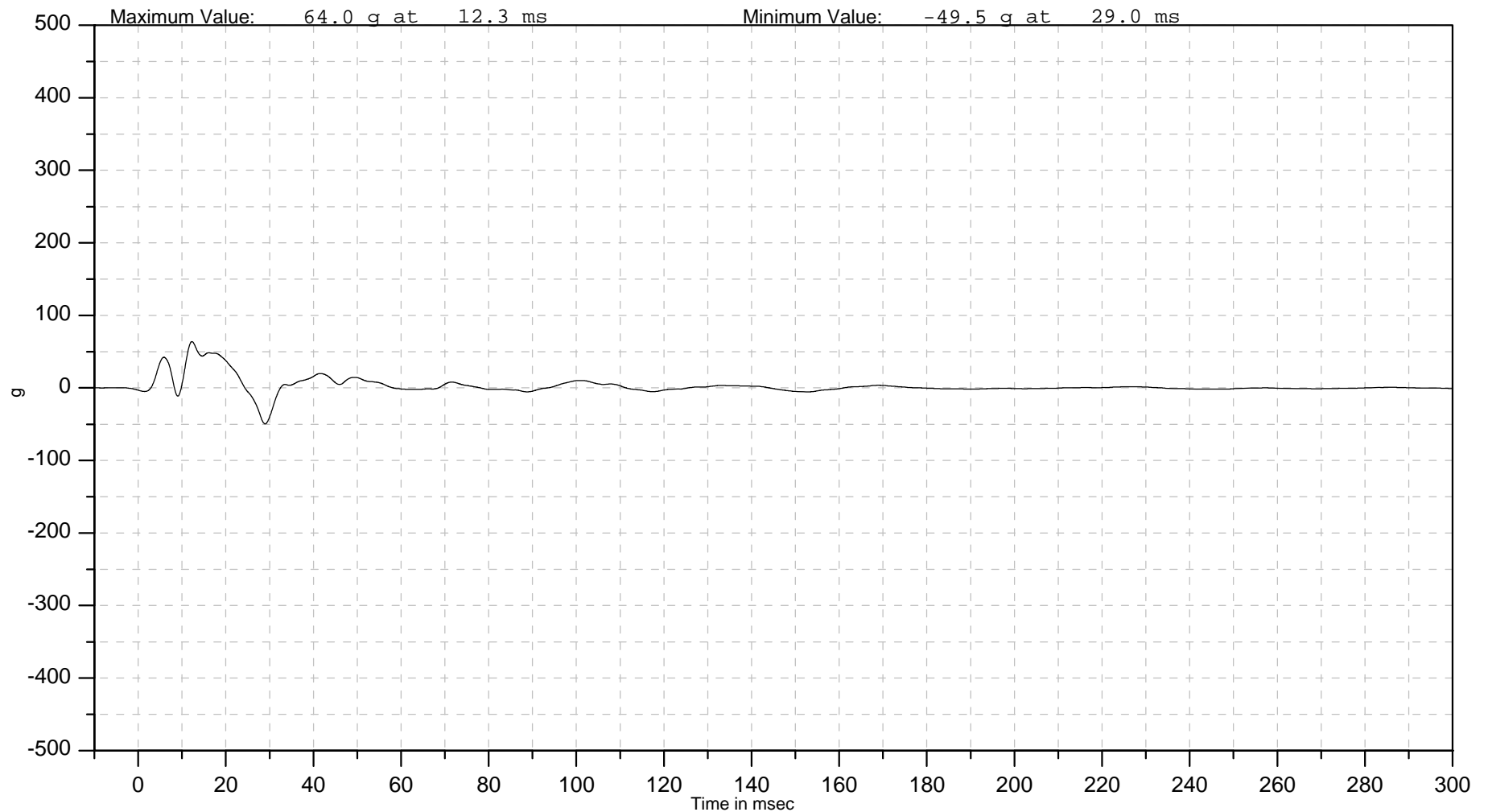
ISO Channel
10DOORLERESPACD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Spine Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLEREPEACYD

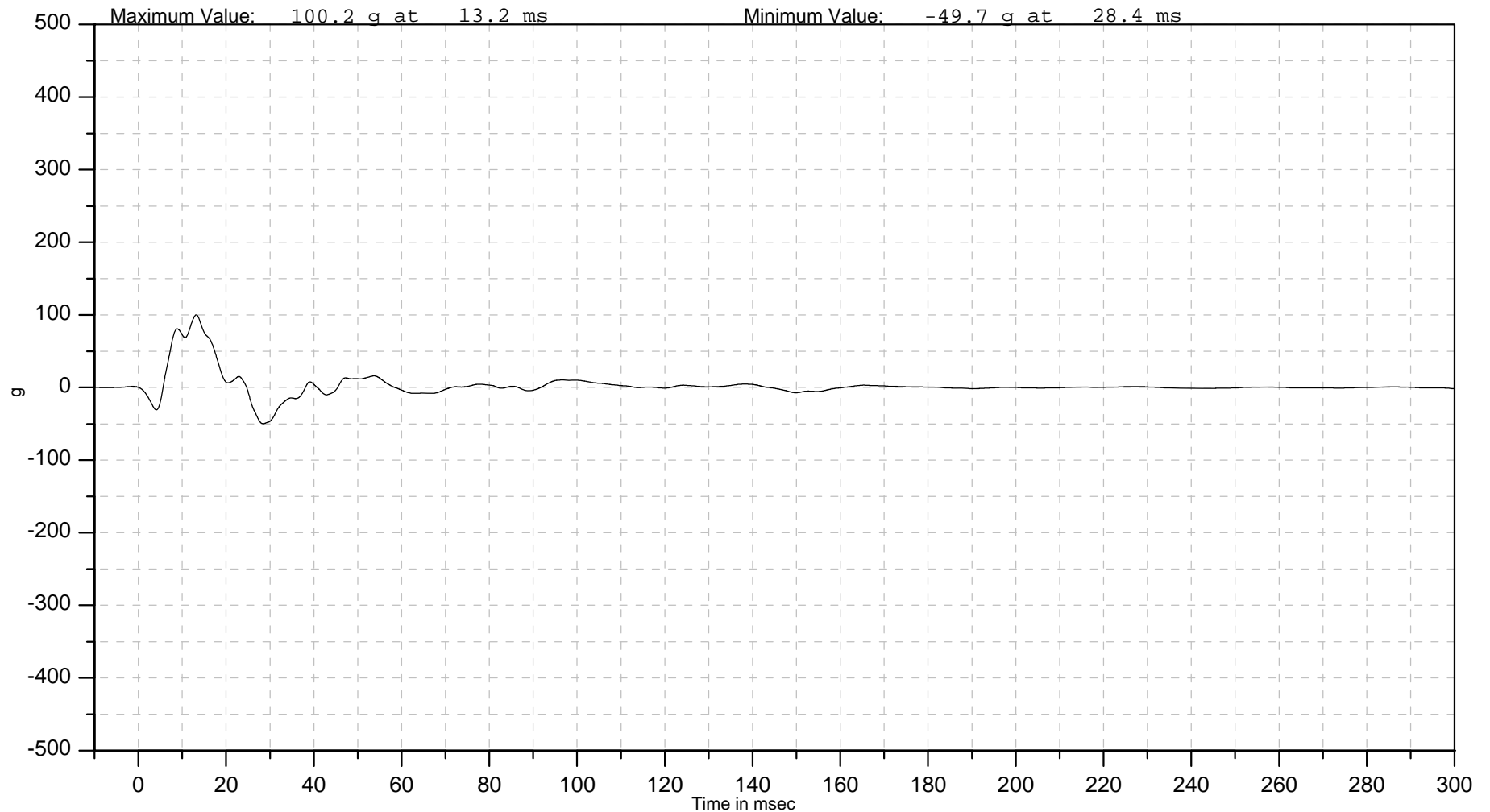
ISO Channel
10DOORLEREPEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Pedestrian

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOORLERECEACYD

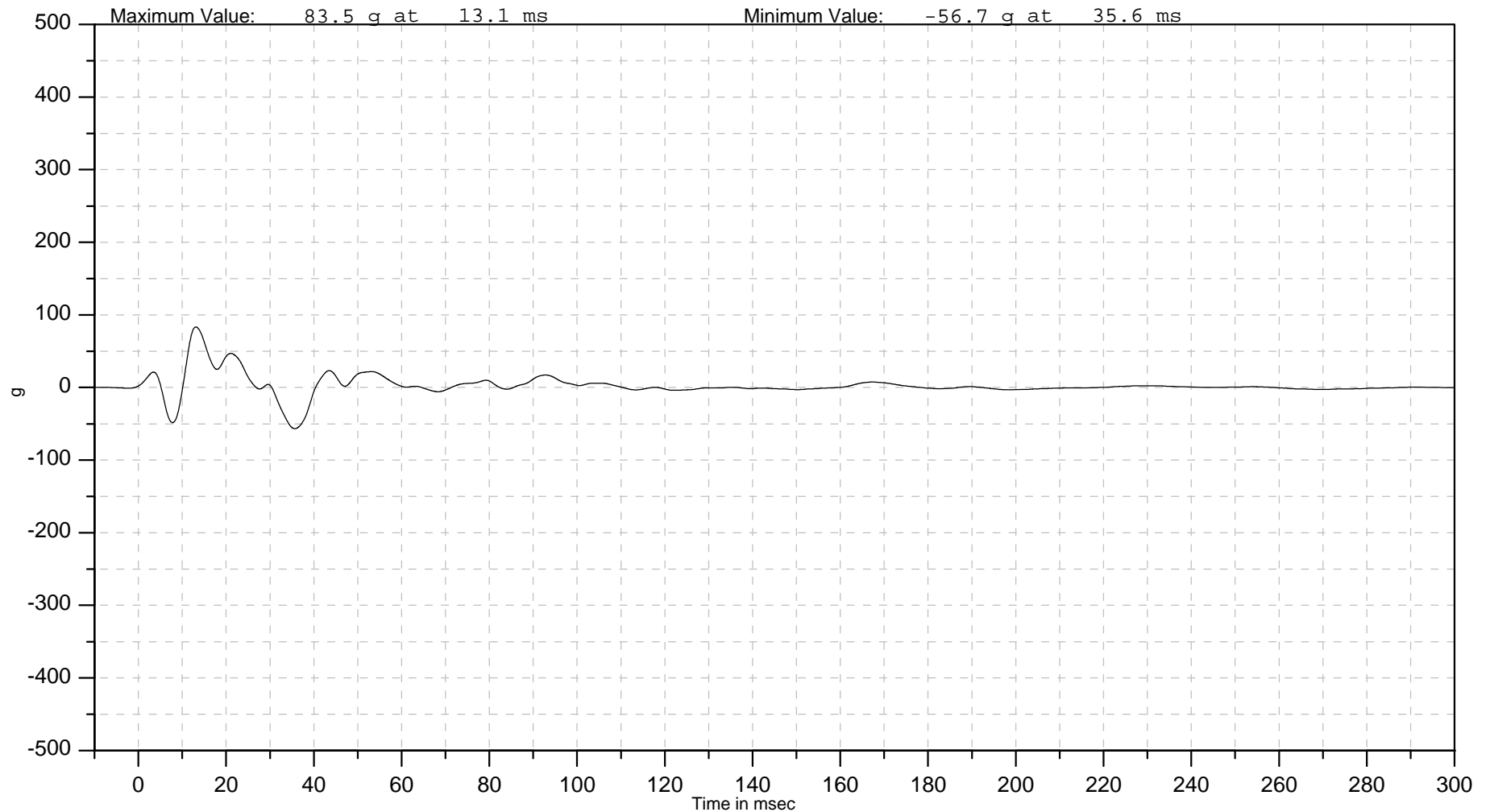
ISO Channel
10DOORLERECEACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Door Center Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLEFR00ACYD

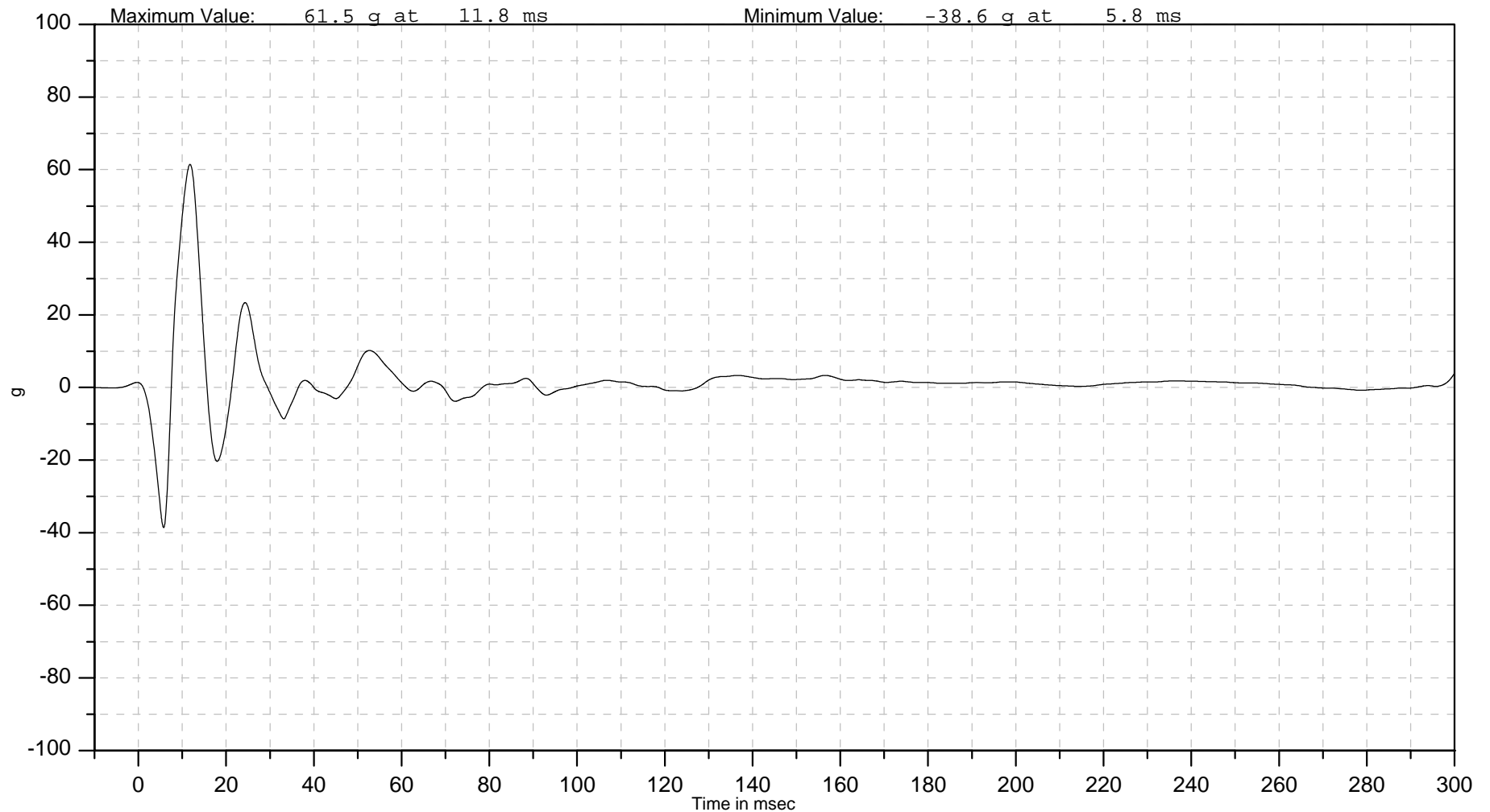
ISO Channel
10SILLLEFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLERE00ACYD

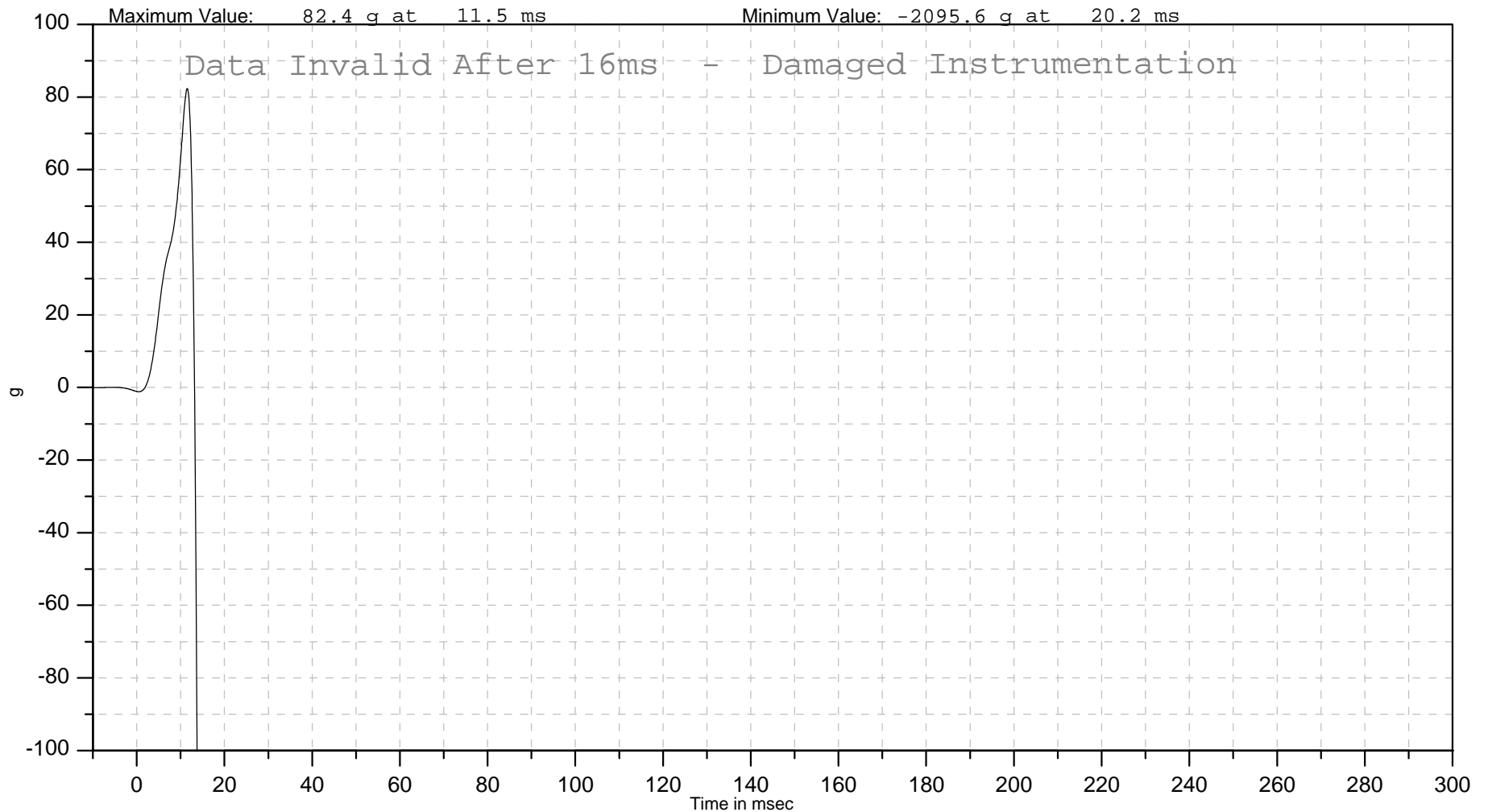
ISO Channel
10SILLLERE00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLERE00ACYD

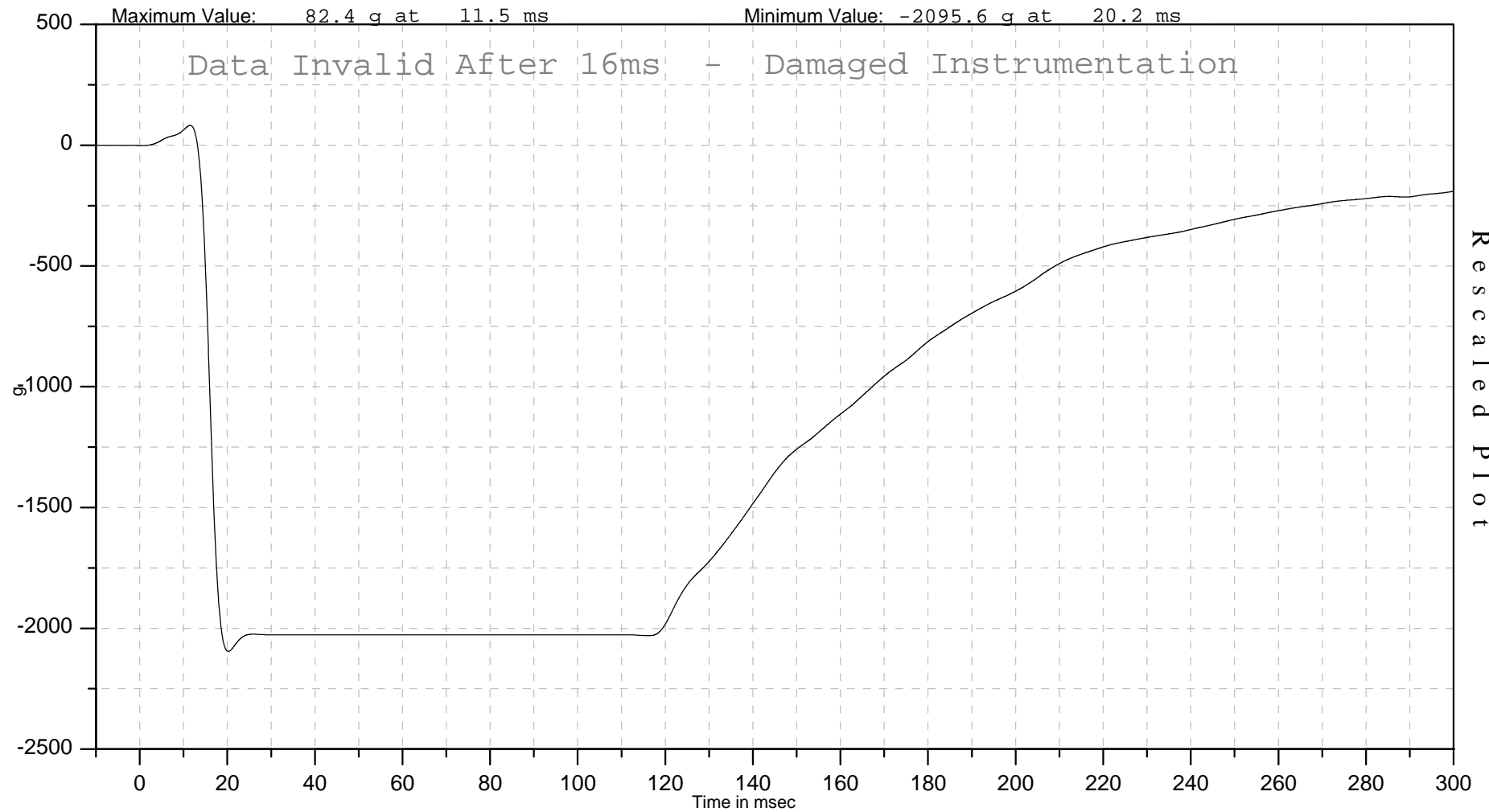
ISO Channel
10SILLLERE00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Rear Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRIFR00ACYD

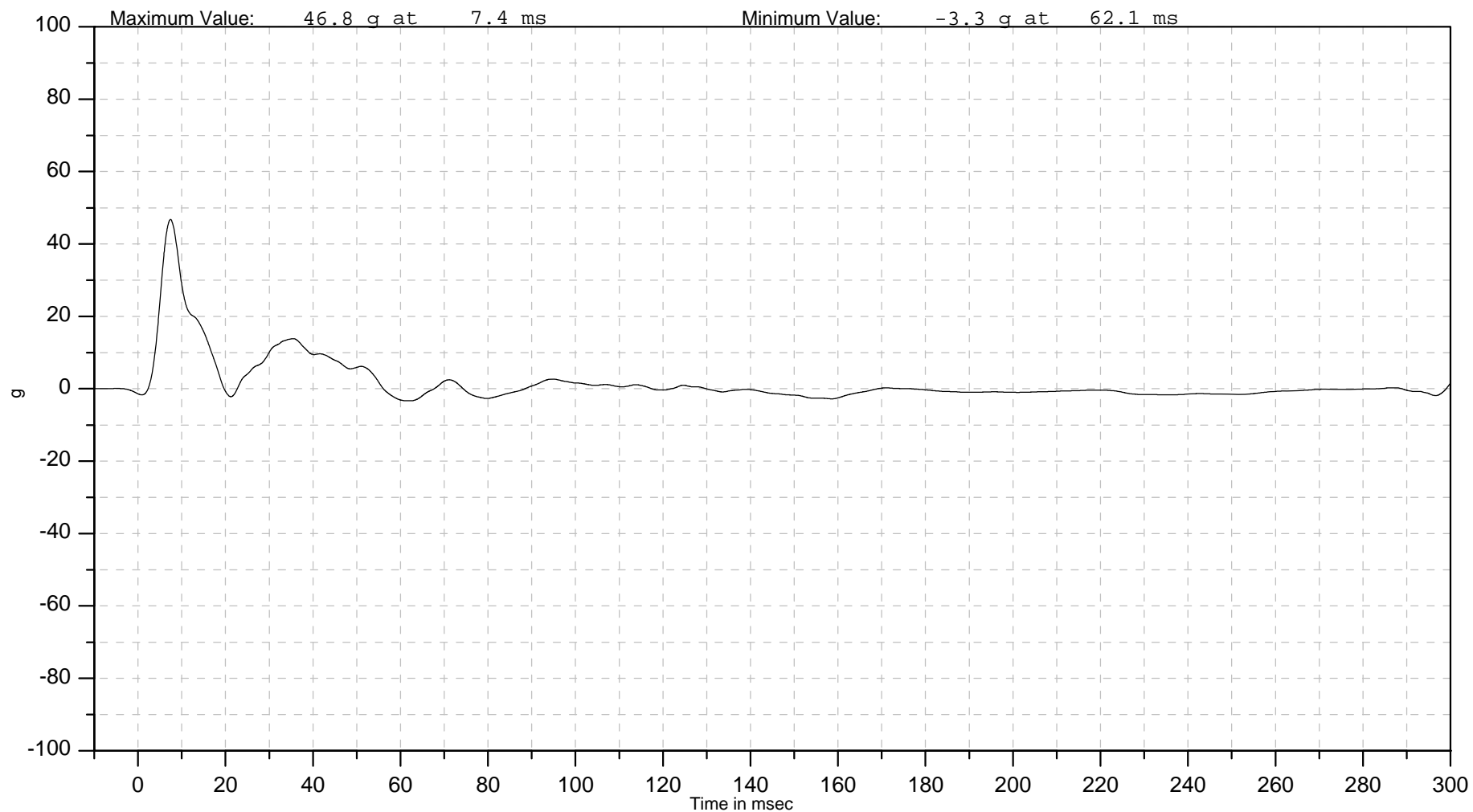
ISO Channel
10SILLRIFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRIRE00ACYD

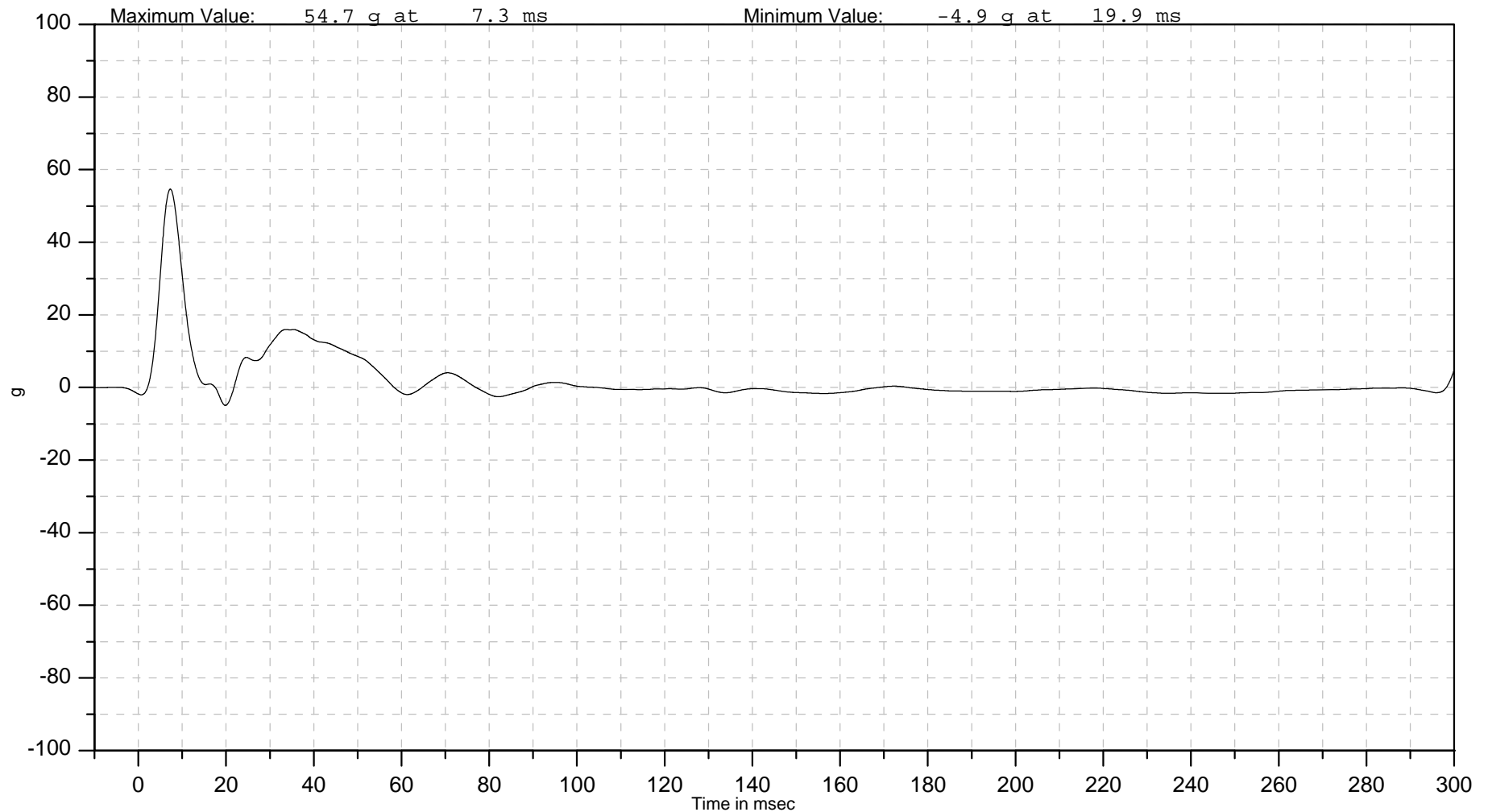
ISO Channel
10SILLRIRE00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Rear Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLEUP00ACYD

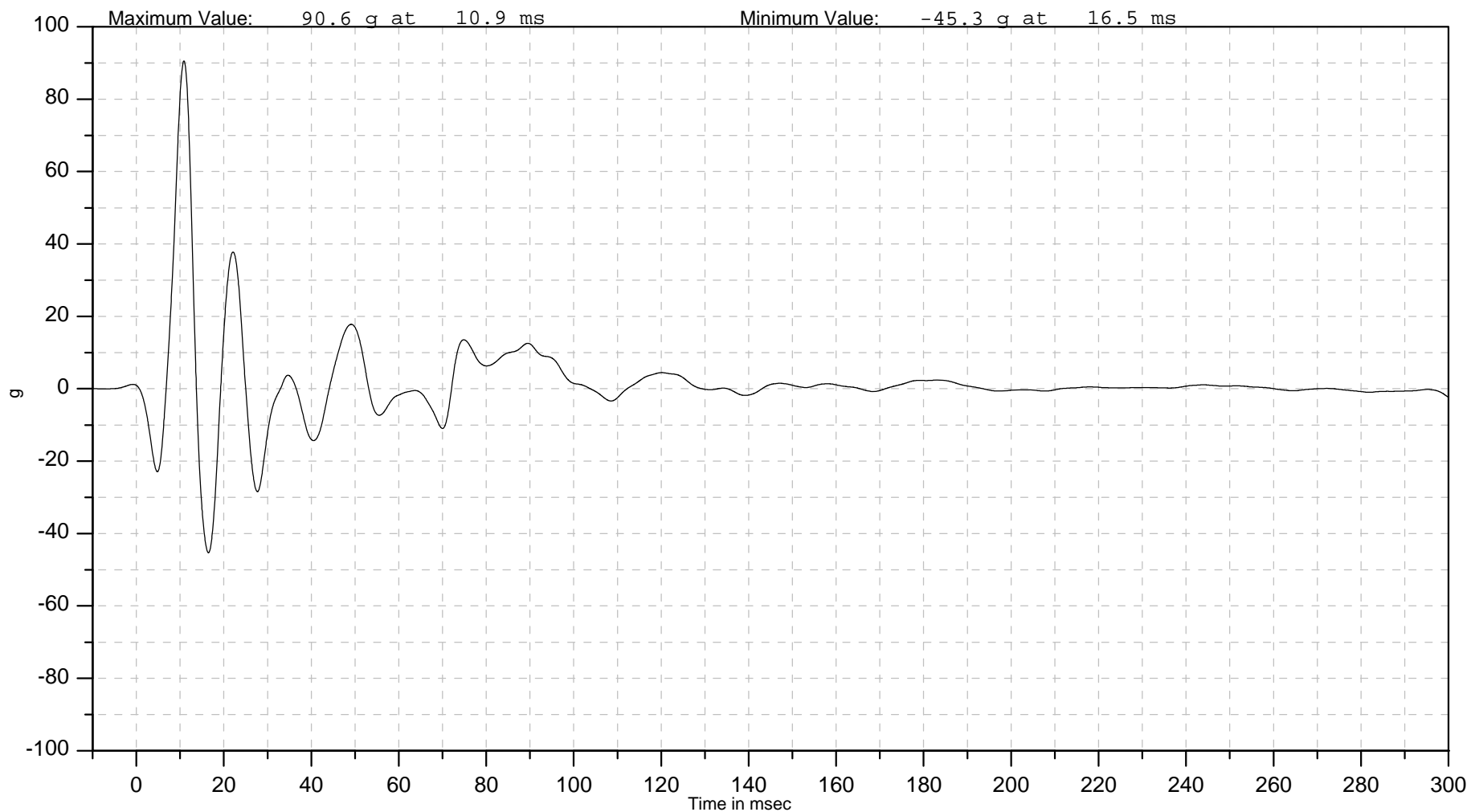
ISO Channel
10BPILLEUP00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Upper B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLEMI00ACYD

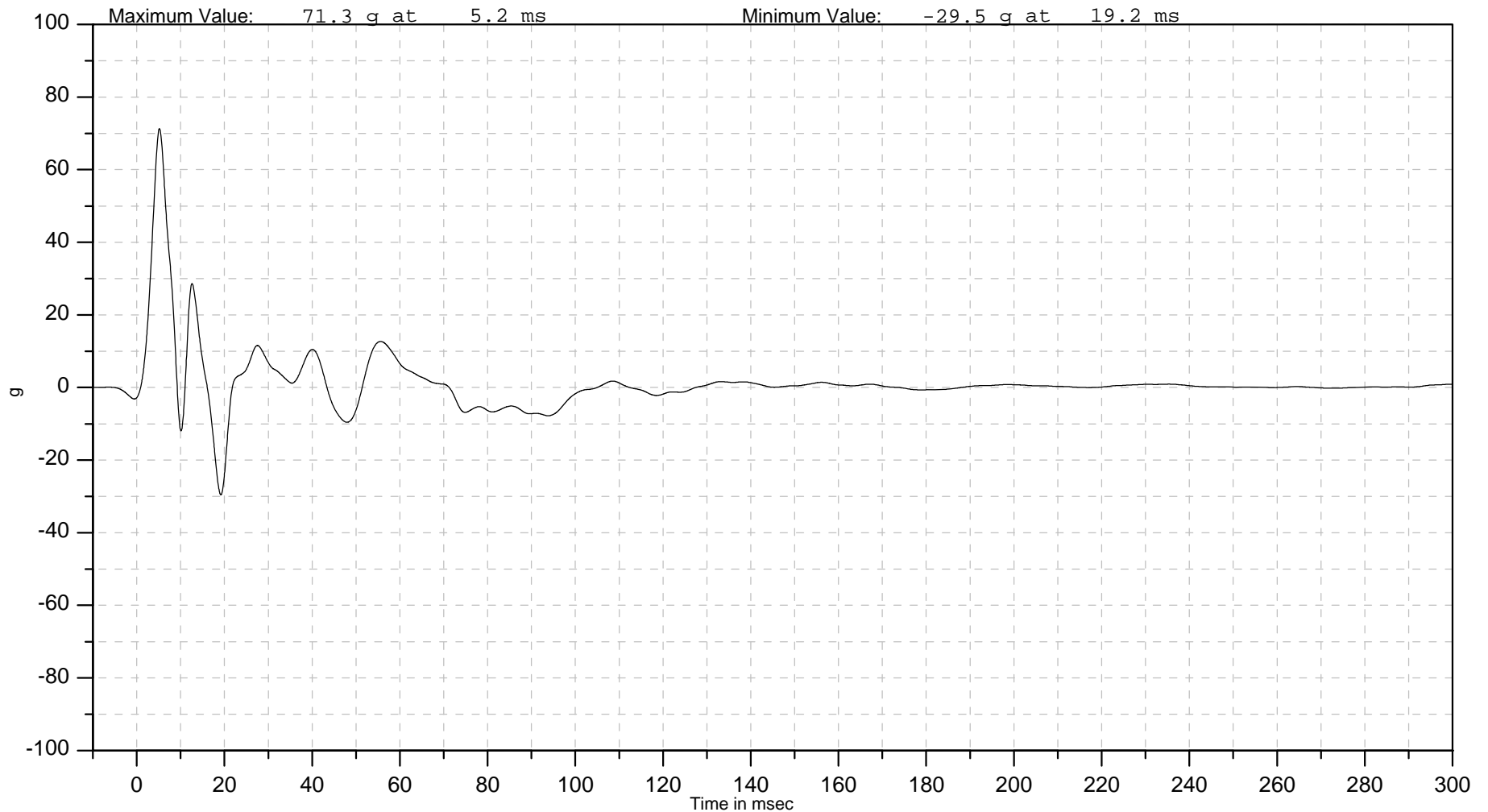
ISO Channel
10BPILLEMI00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Middle B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLELO00ACYD

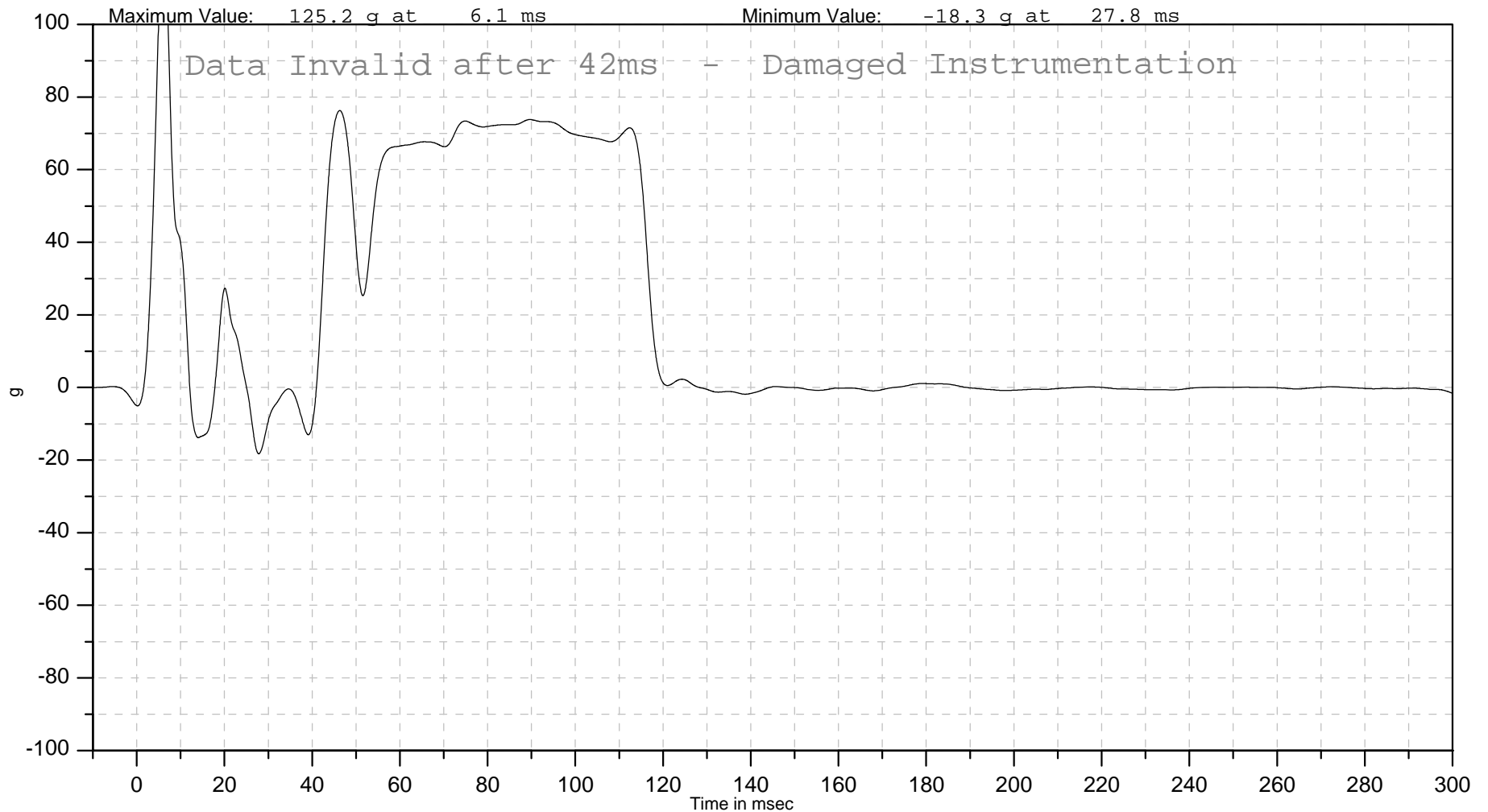
ISO Channel
10BPILLELO00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Lower B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10BPILLELO00ACYD

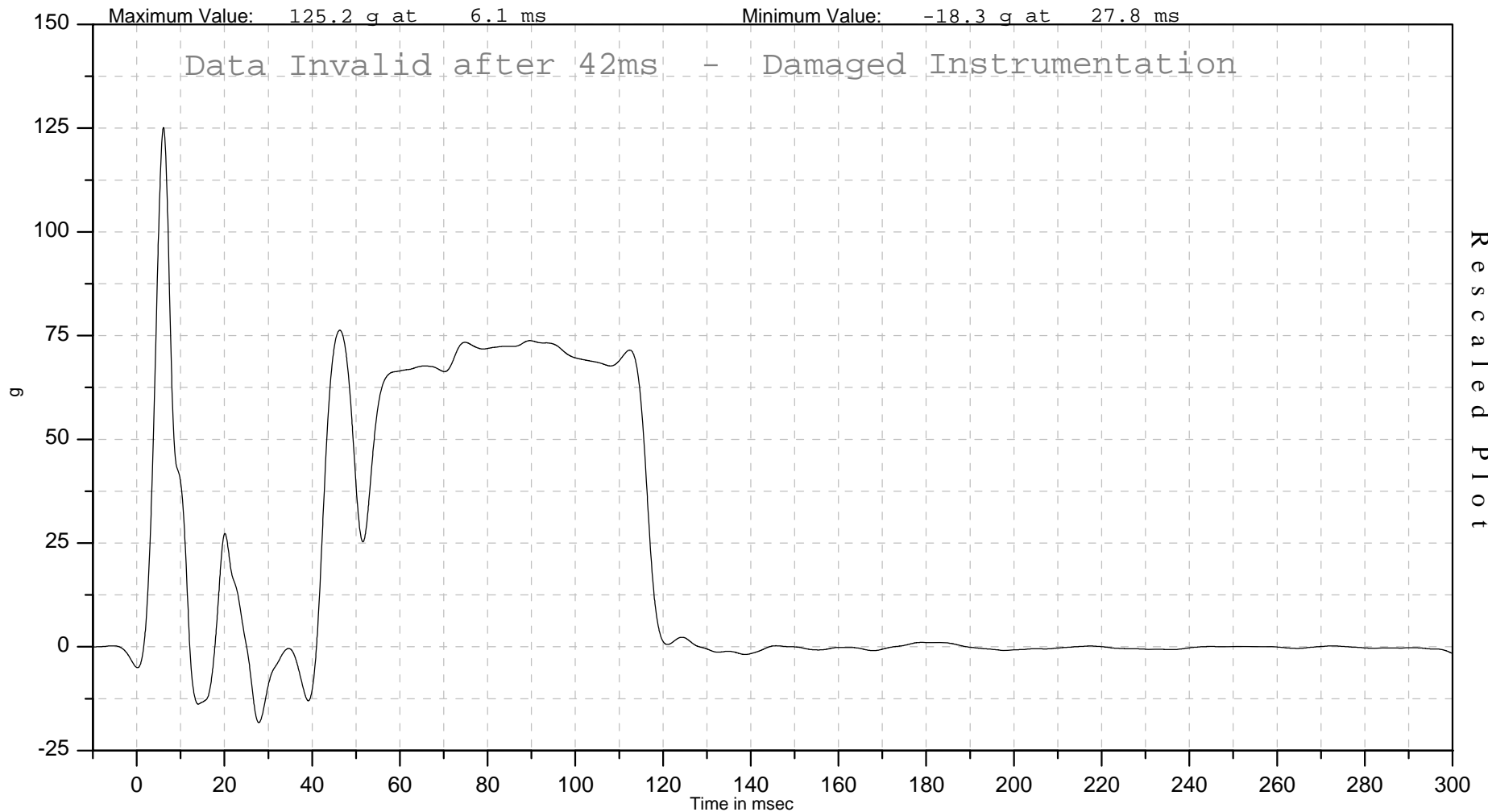
ISO Channel
10BPILLELO00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Lower B-Pillar Y Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
10BPILLERO00ACYD

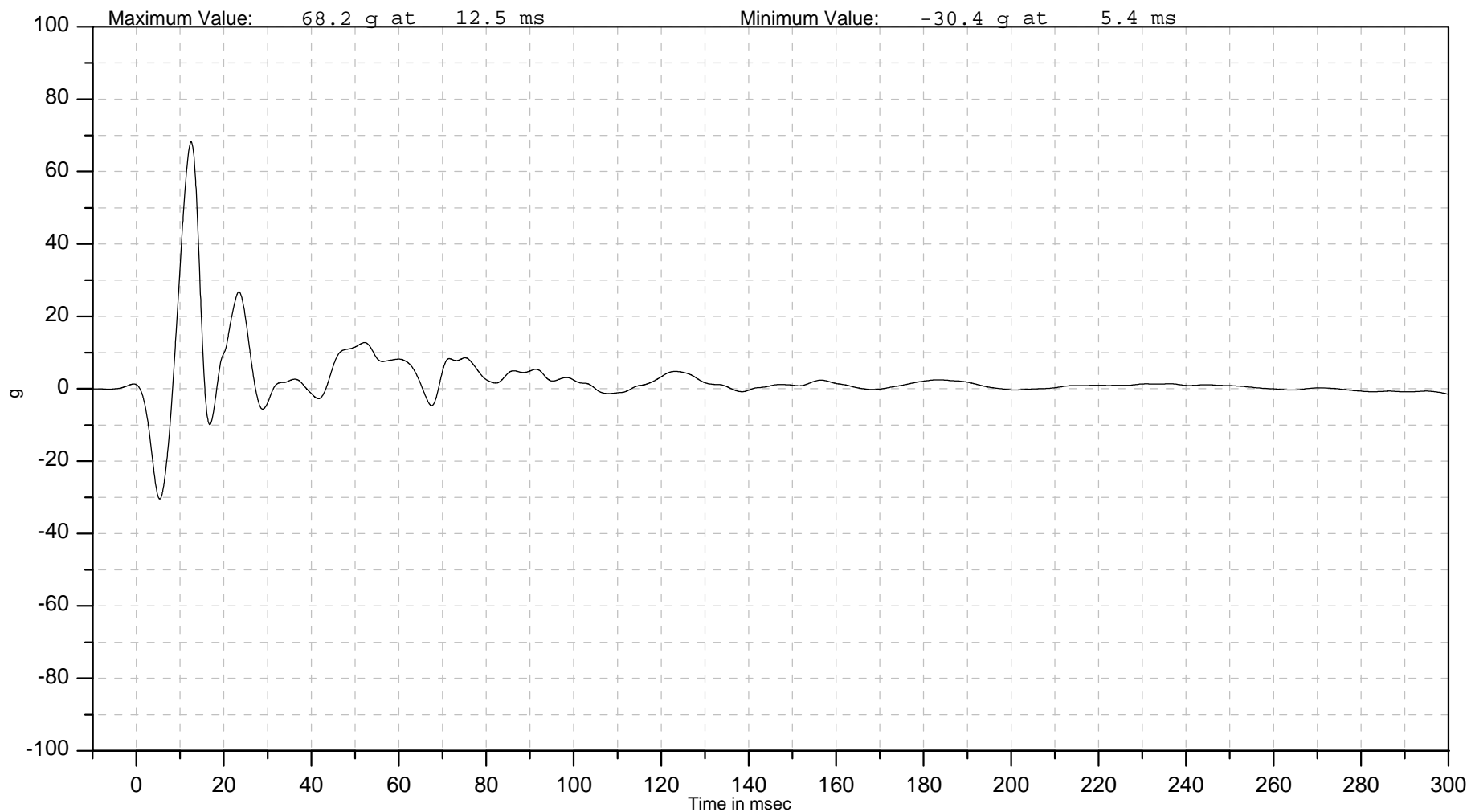
ISO Channel
10BPILLERO00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left B-Pillar Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10TUNN000000ACYD

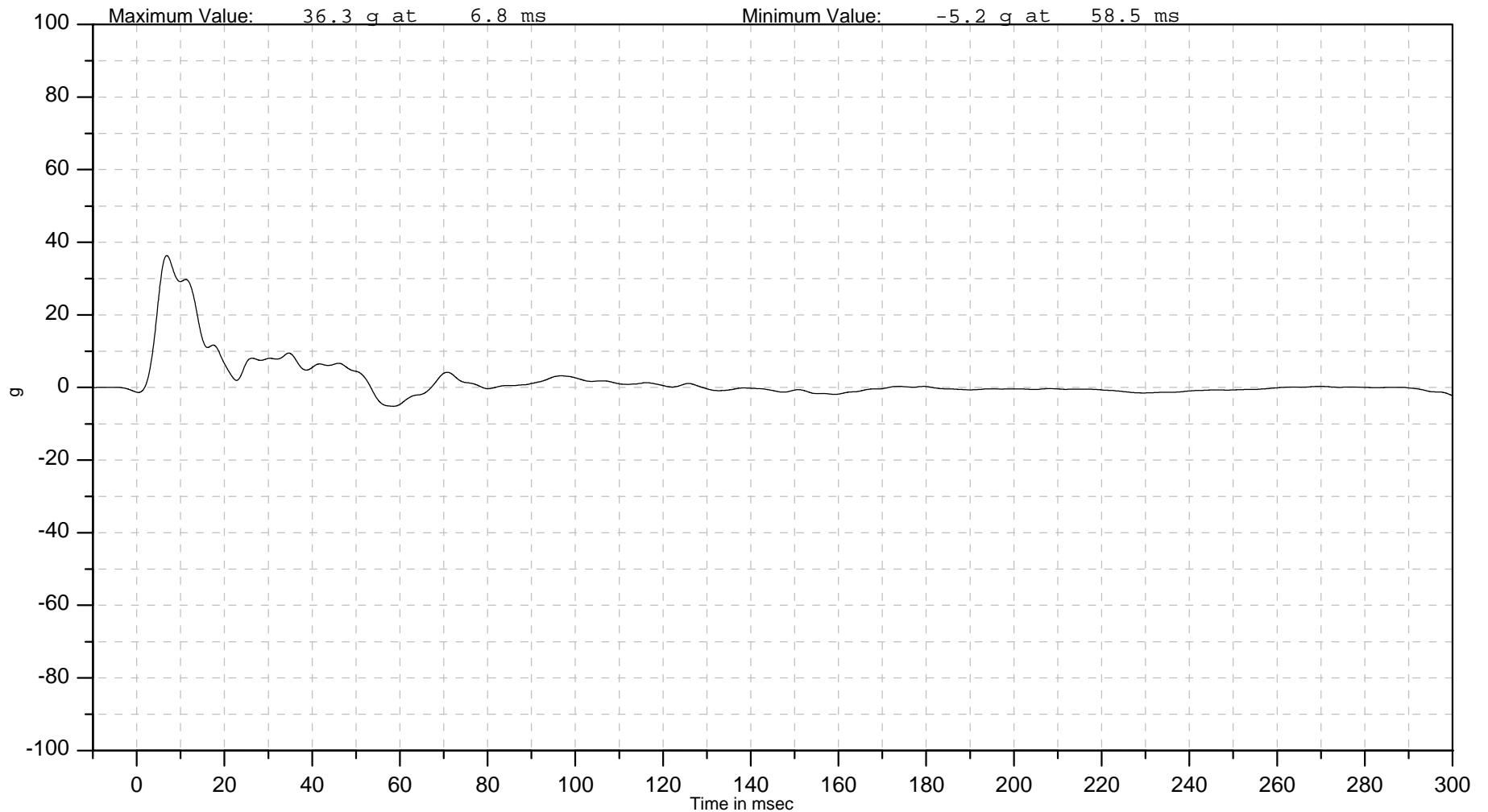
ISO Channel
10TUNN000000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Tunnel Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

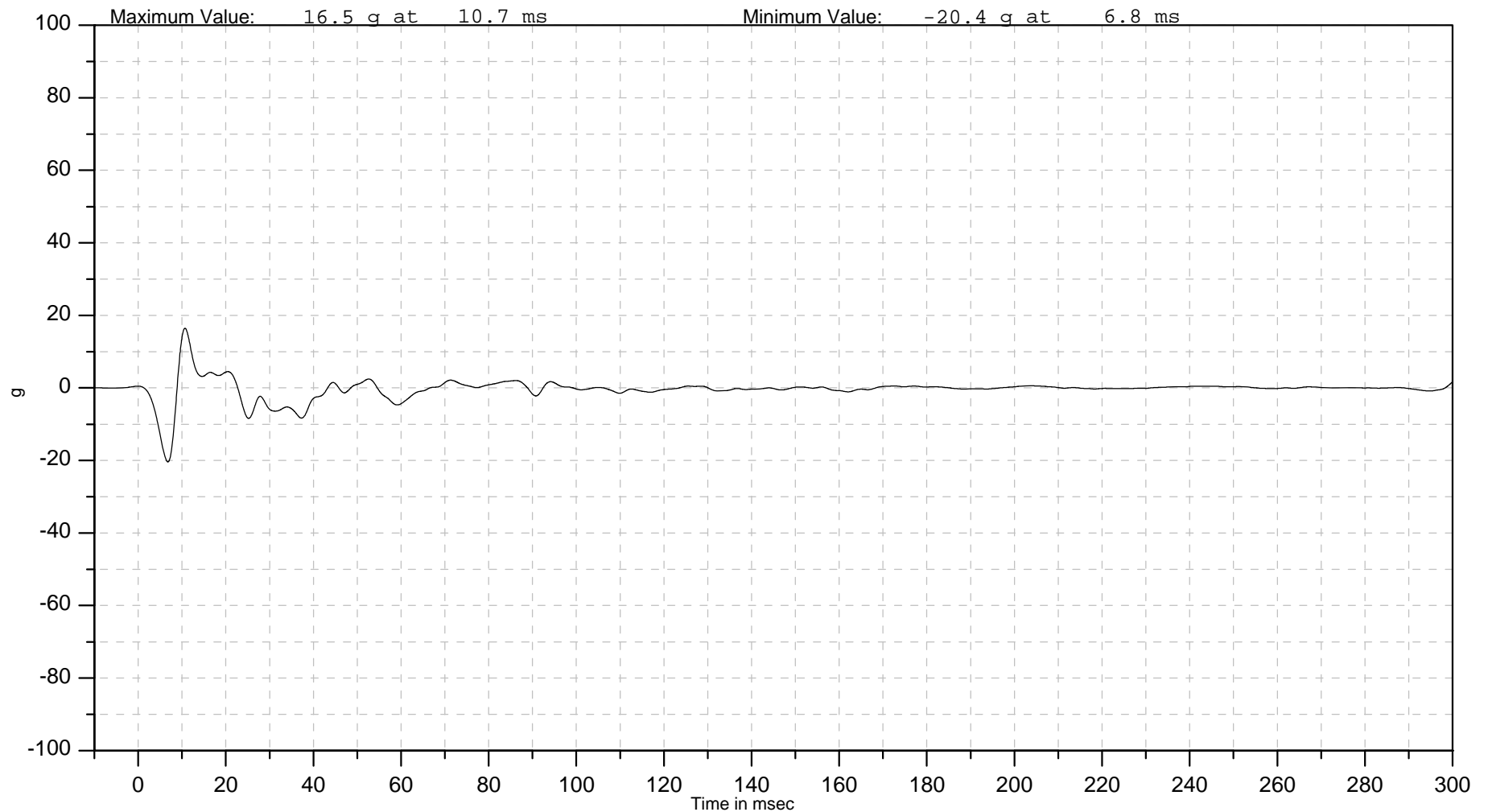
ISO Channel
10ABSE000000ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

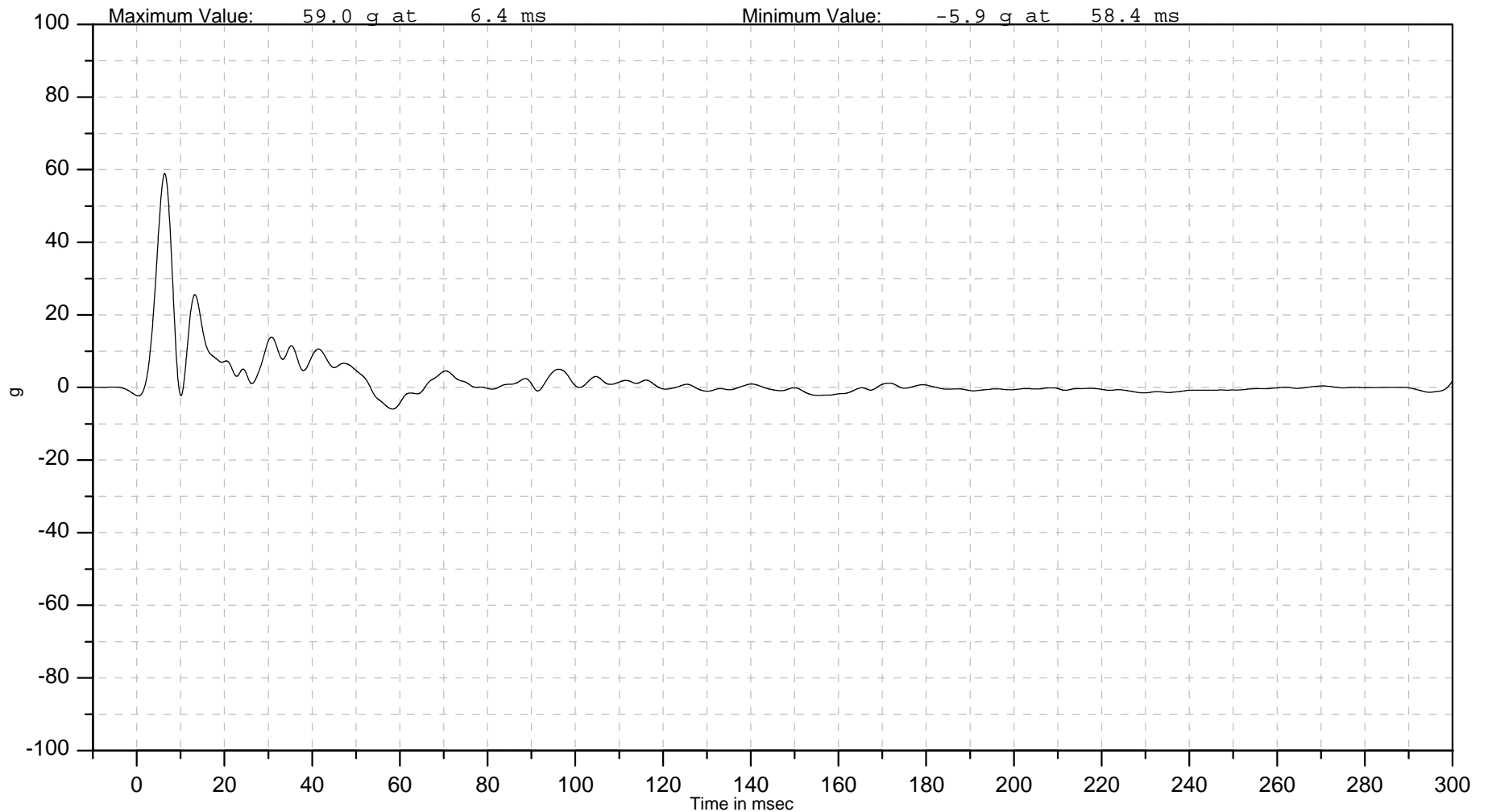
ISO Channel
10ABSE000000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSLE0000ACYD

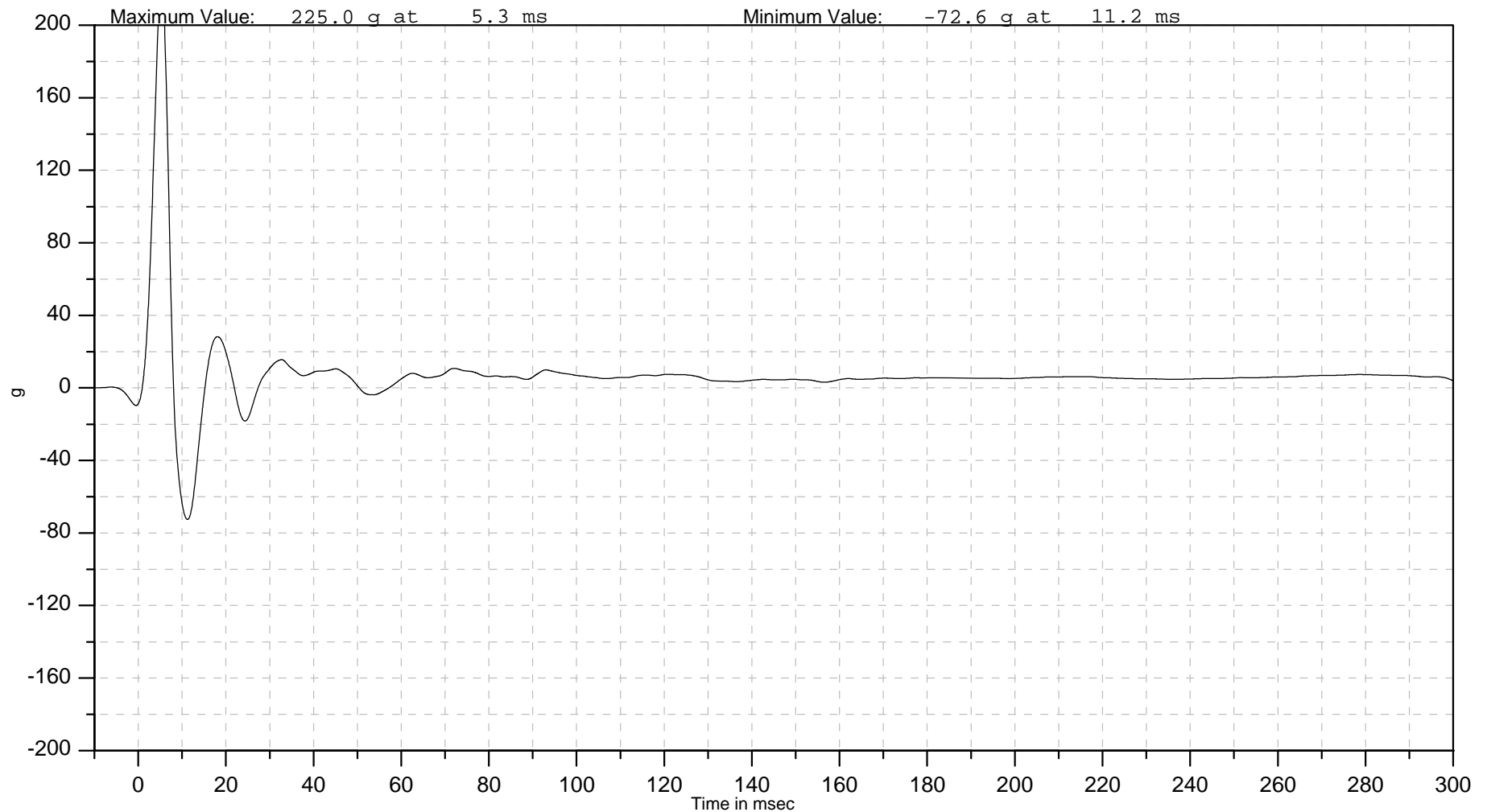
ISO Channel
10SENSLE0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSLE0000ACYD

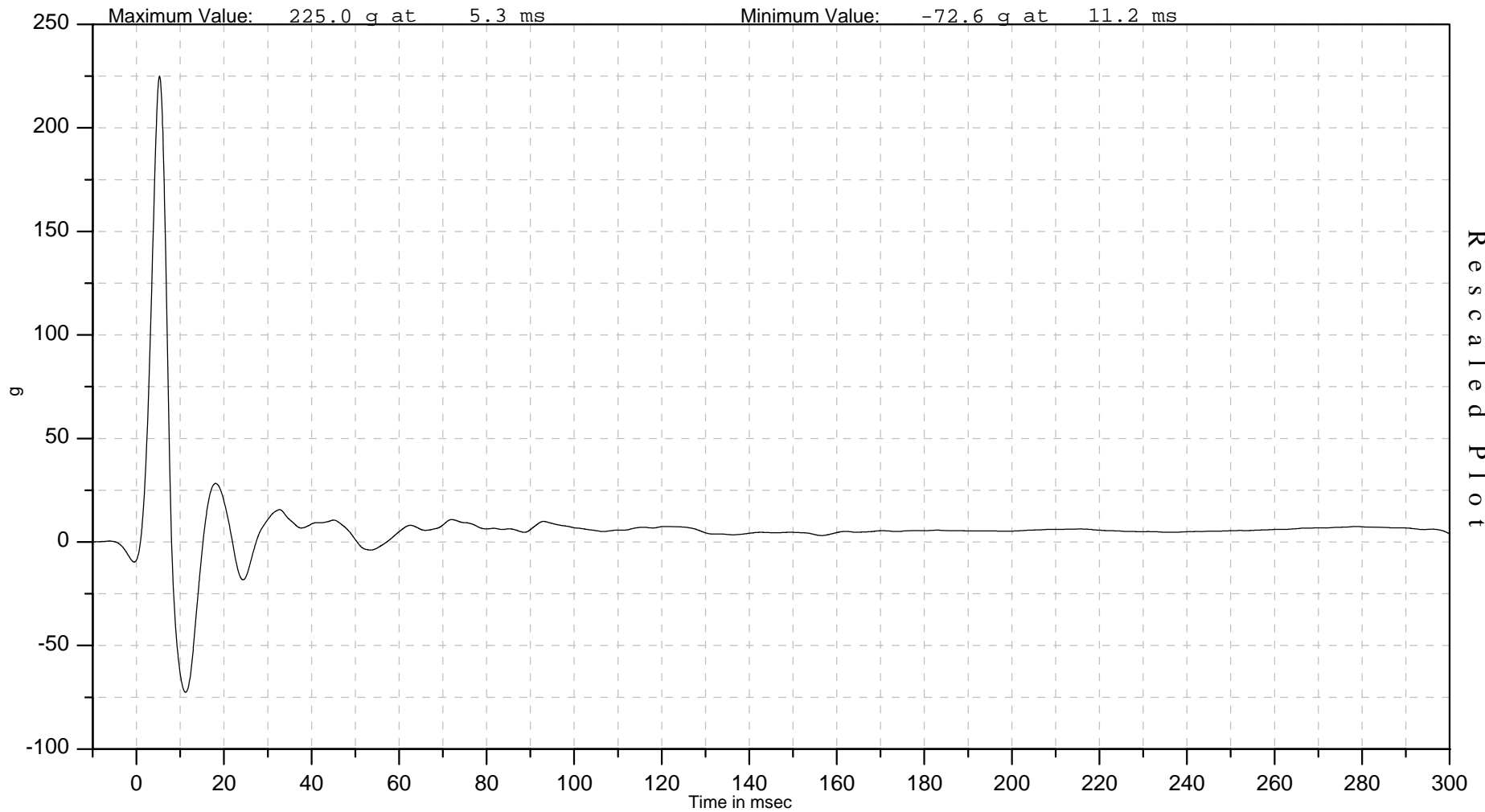
ISO Channel
10SENSLE0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sensor Y Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
10DOHALEFR00ACYD

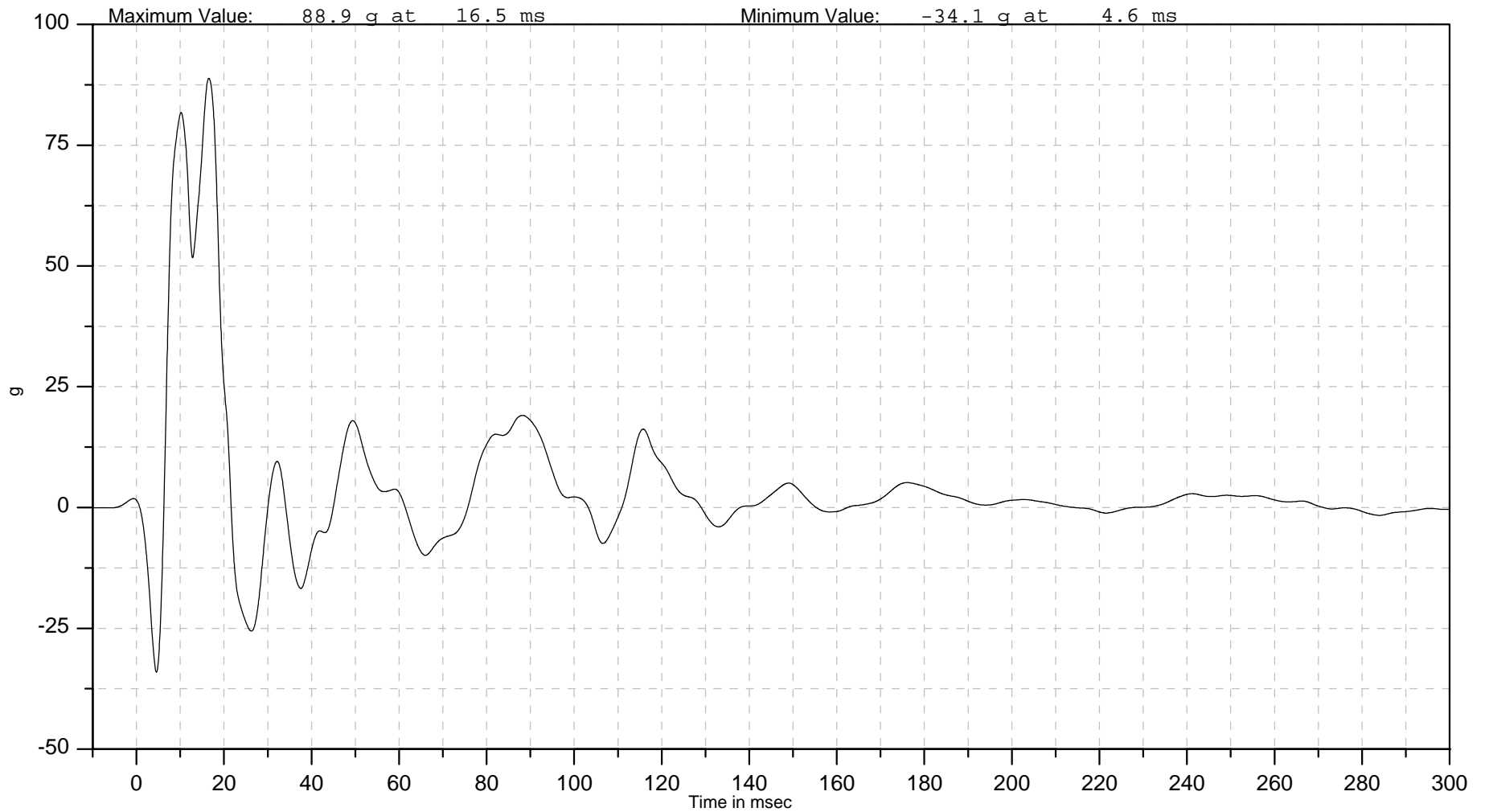
ISO Channel
10DOHALEFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Door Handle Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSRI0000ACYD

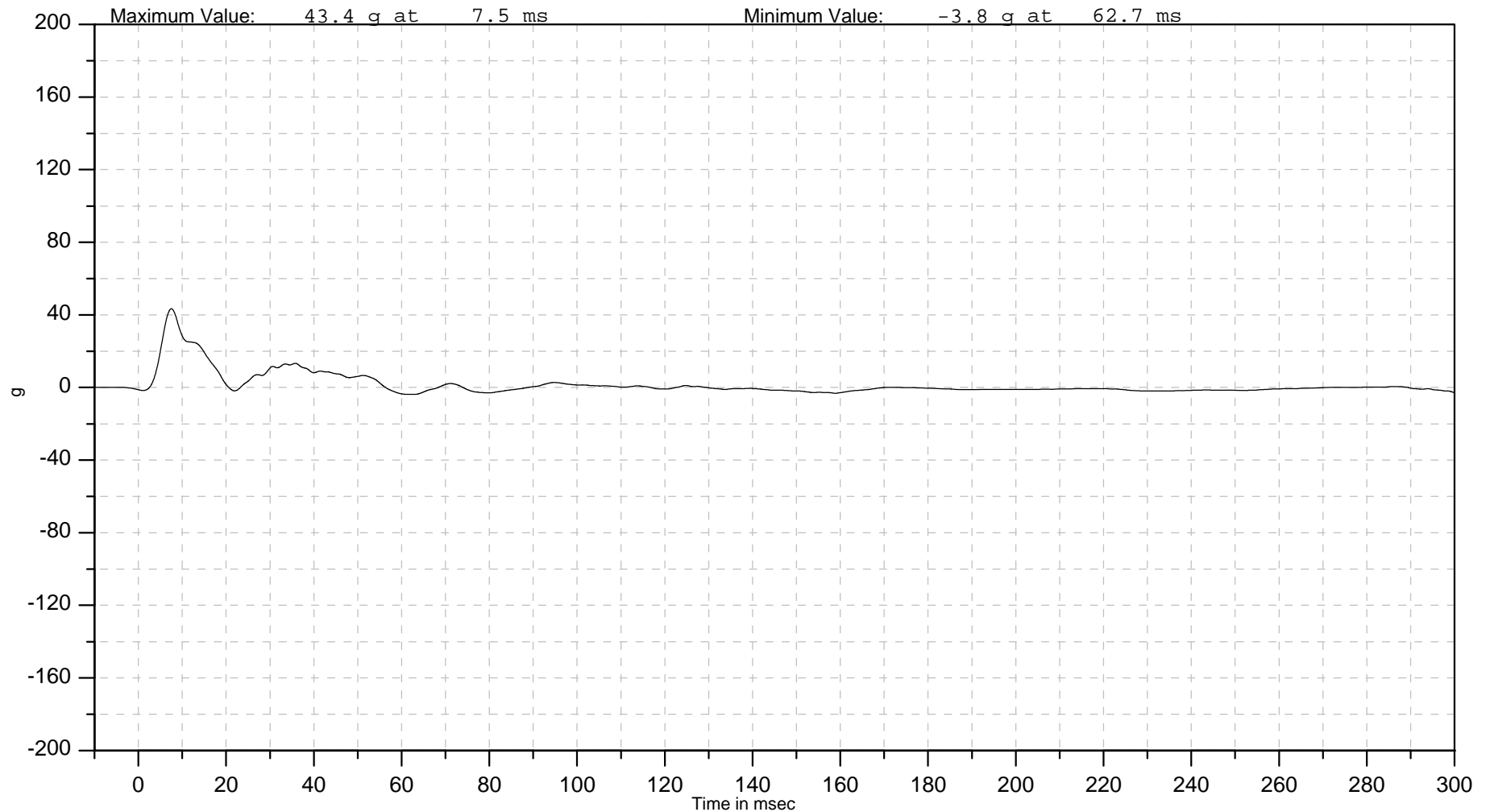
ISO Channel
10SENSRI0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10DOHARIFR00ACYD

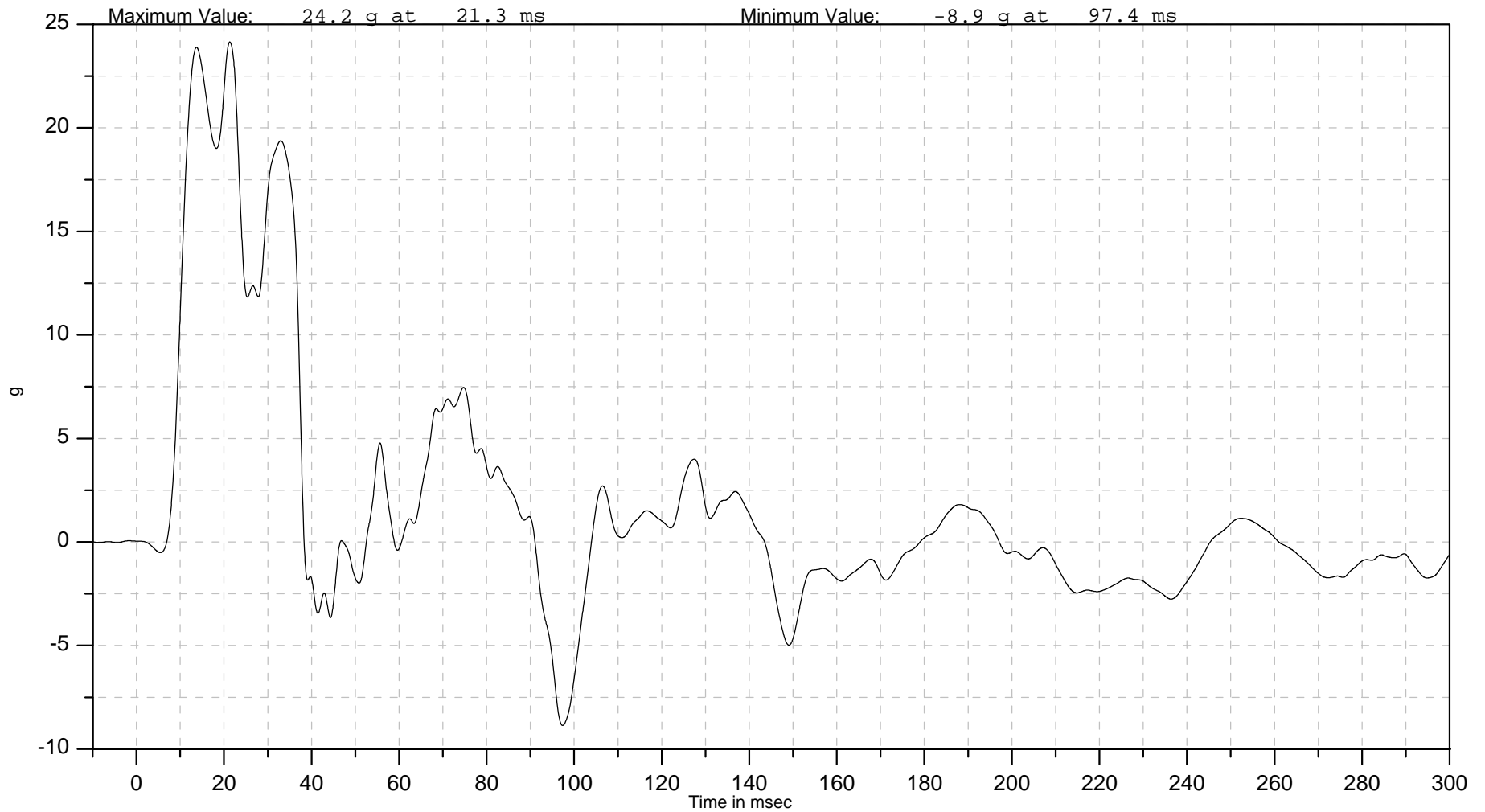
ISO Channel
10DOHARIFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Y Acceleration





Autoliv North America (NTC)

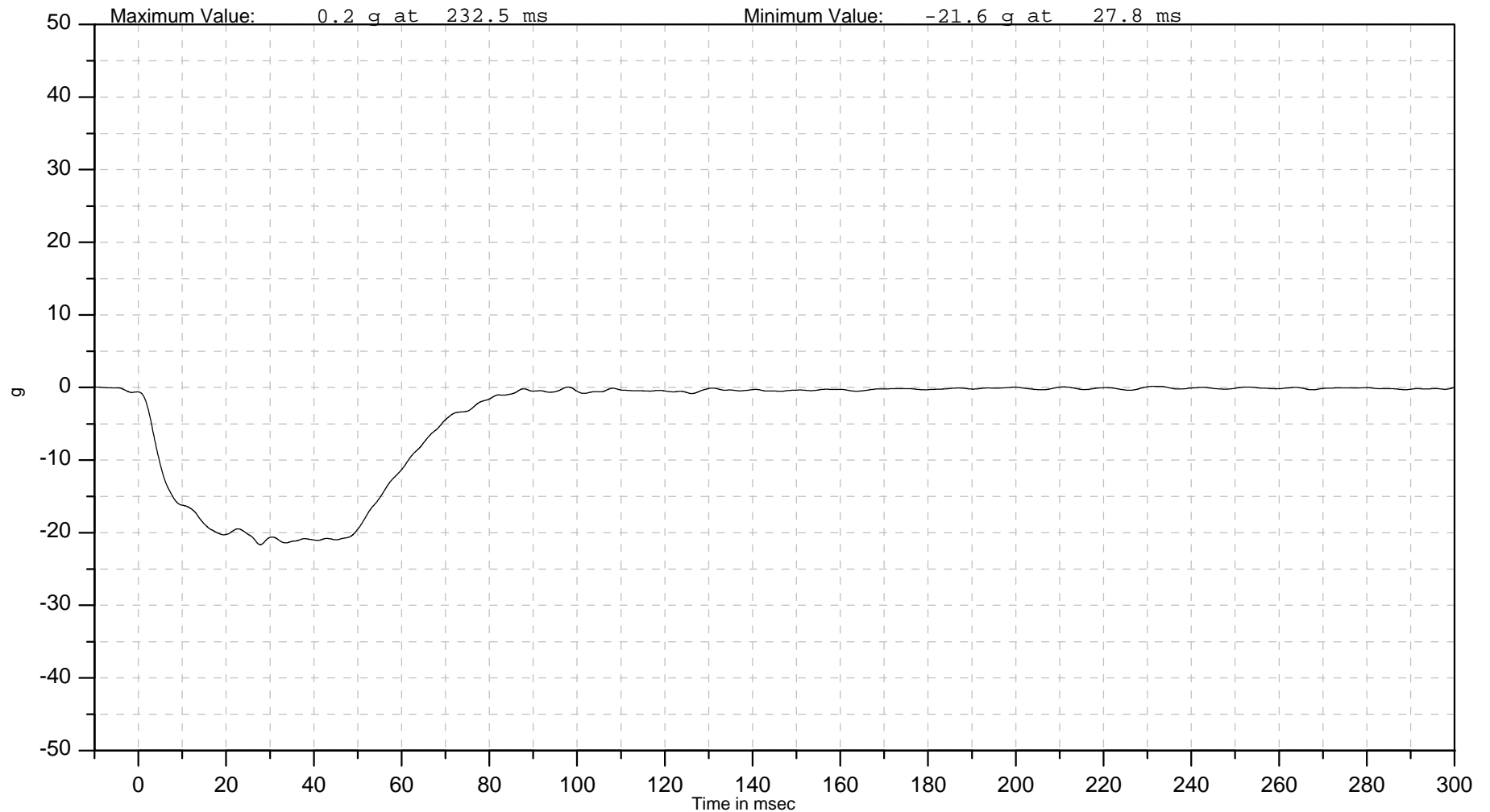
Autoliv Channel
M0MBARCG0000ACXD

ISO Channel
M0MBARCG0000ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier X Acceleration





Autoliv North America (NTC)

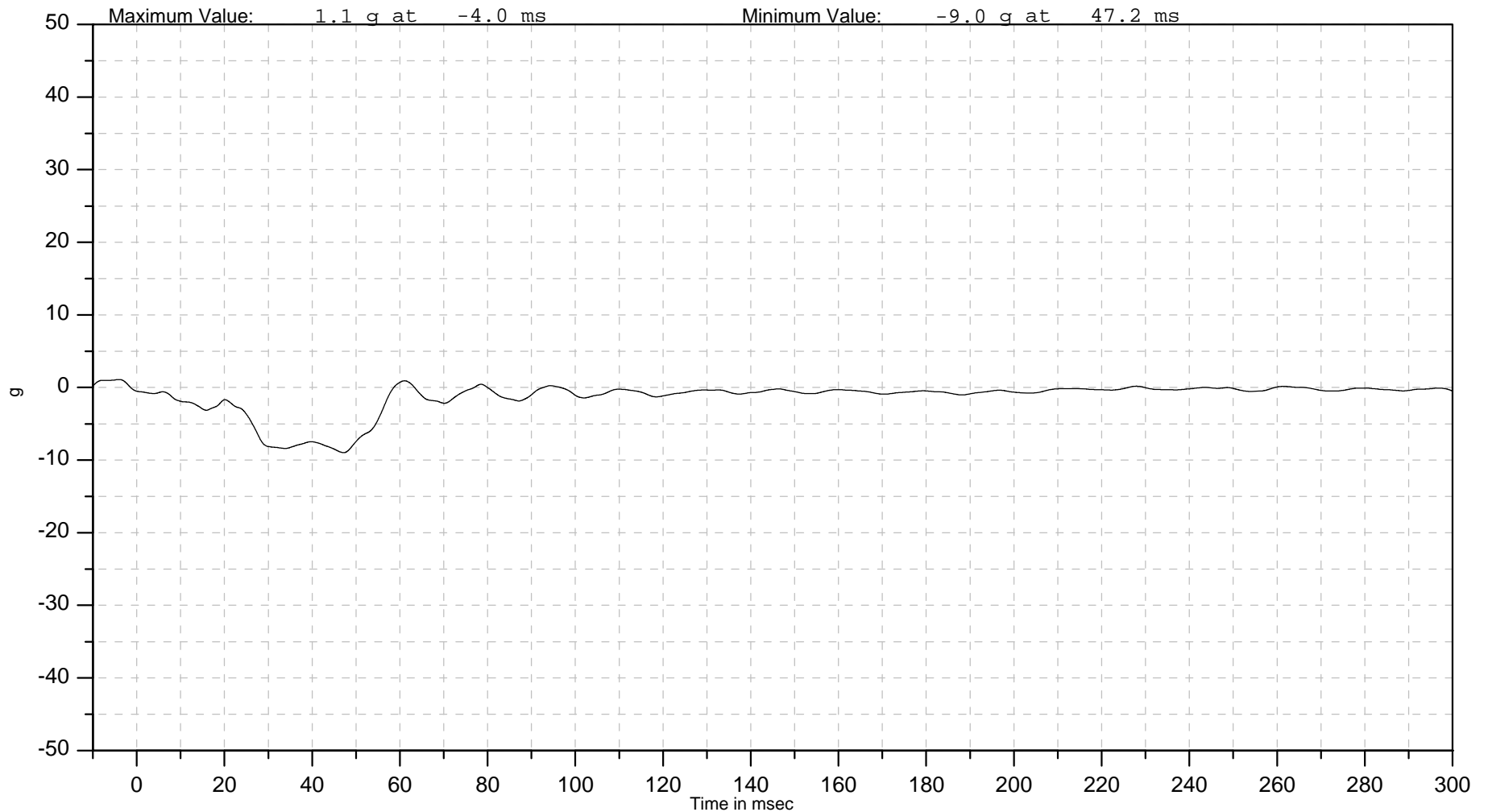
Autoliv Channel
M0MBCRCG0000ACYD

ISO Channel
M0MBCRCG0000ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Y Acceleration





Autoliv North America (NTC)

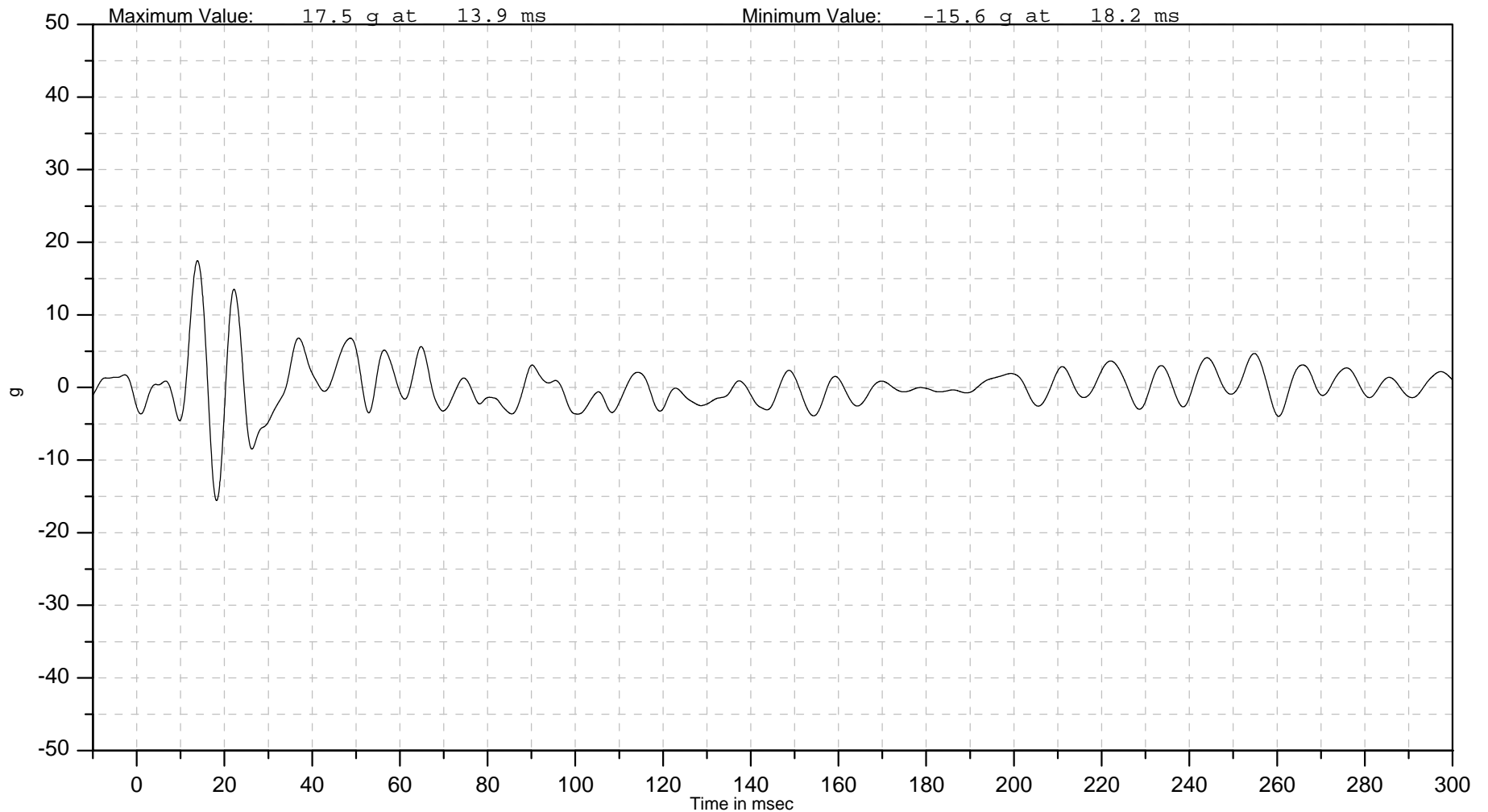
Autoliv Channel
M0MBCRCG0000ACZD

ISO Channel
M0MBCRCG0000ACZD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBCARCG0000ACRD

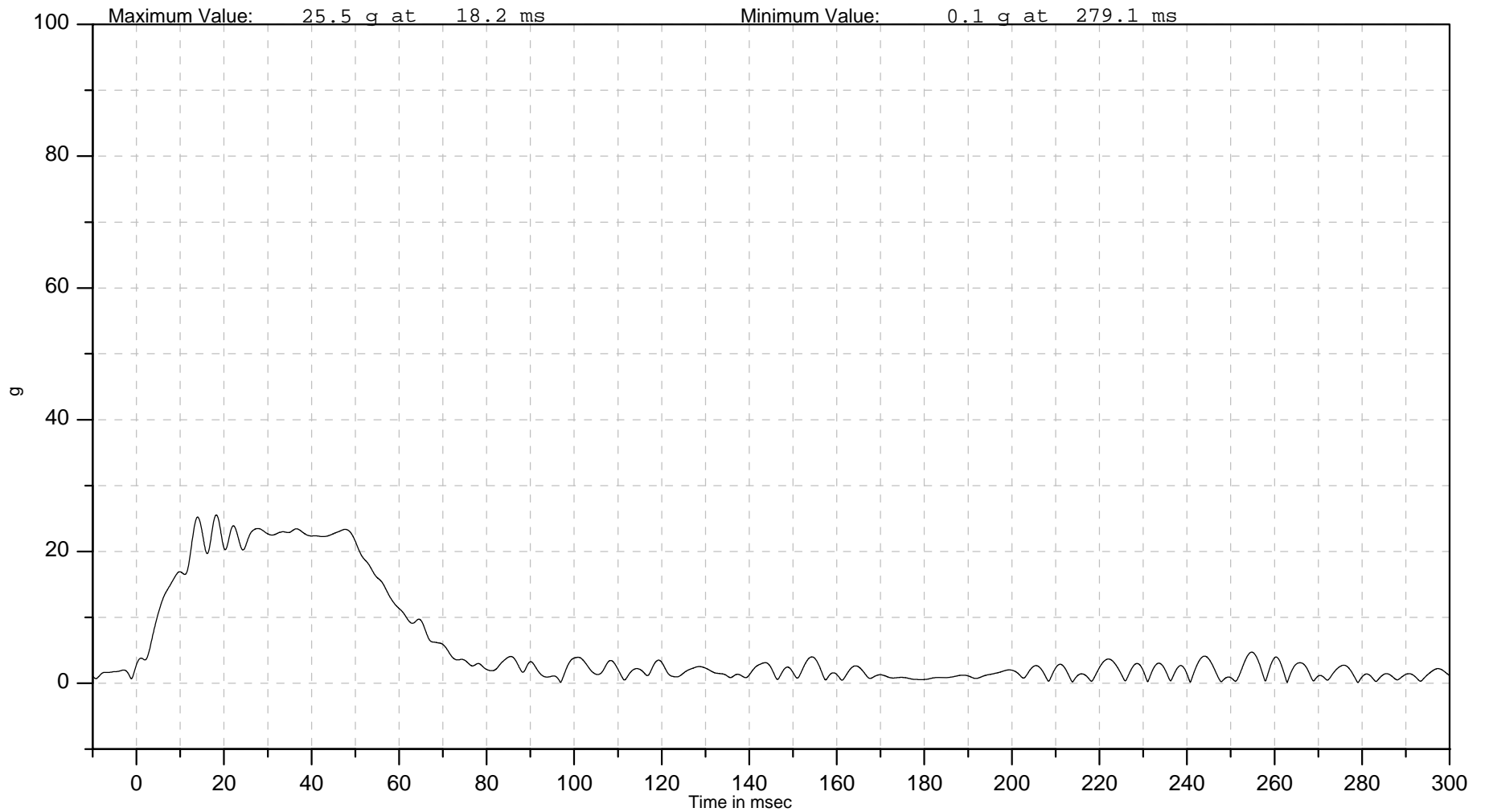
ISO Channel
M0MBCARCG0000ACRD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Resultant Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARMIFR00ACXD

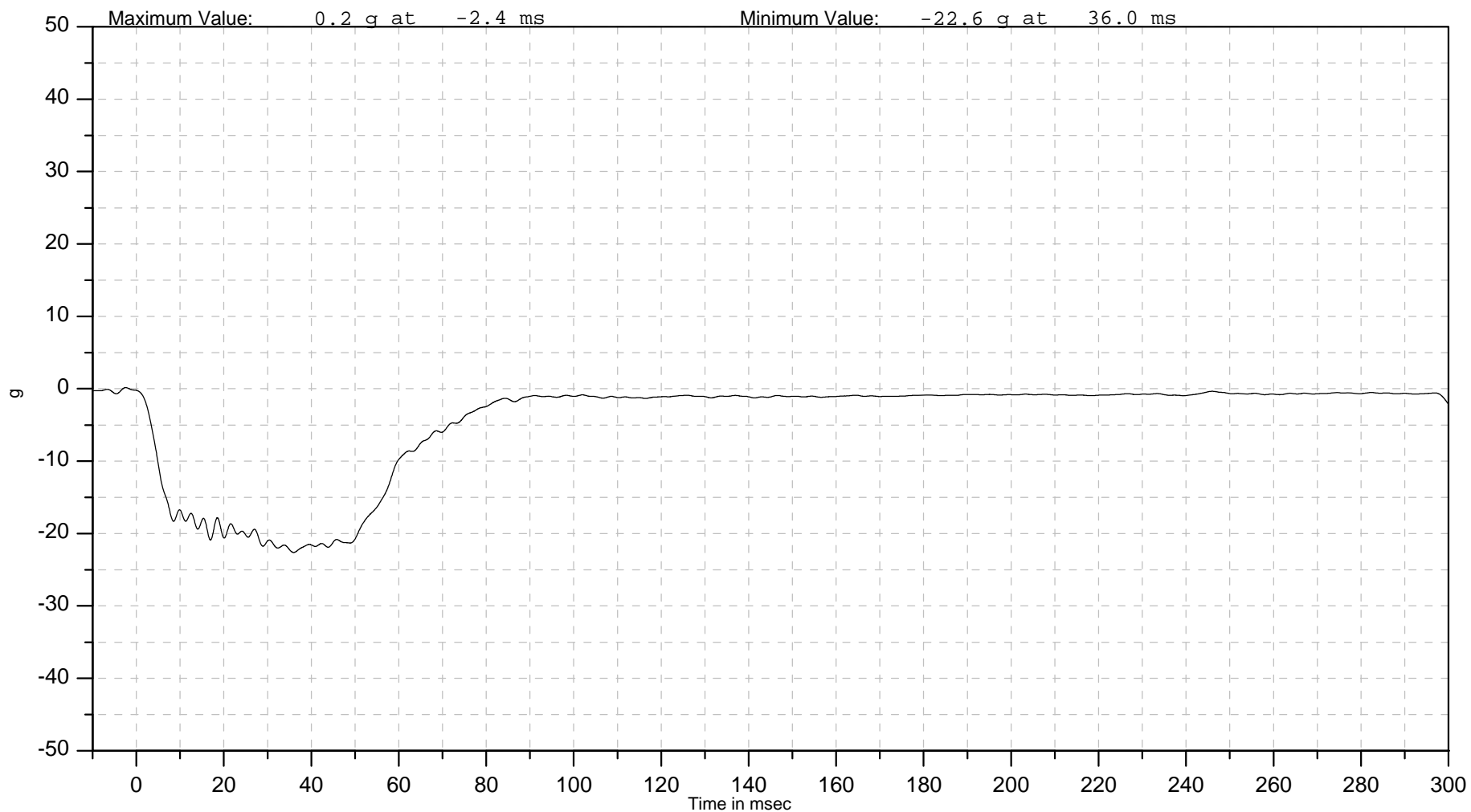
ISO Channel
M0MBARMIFR00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

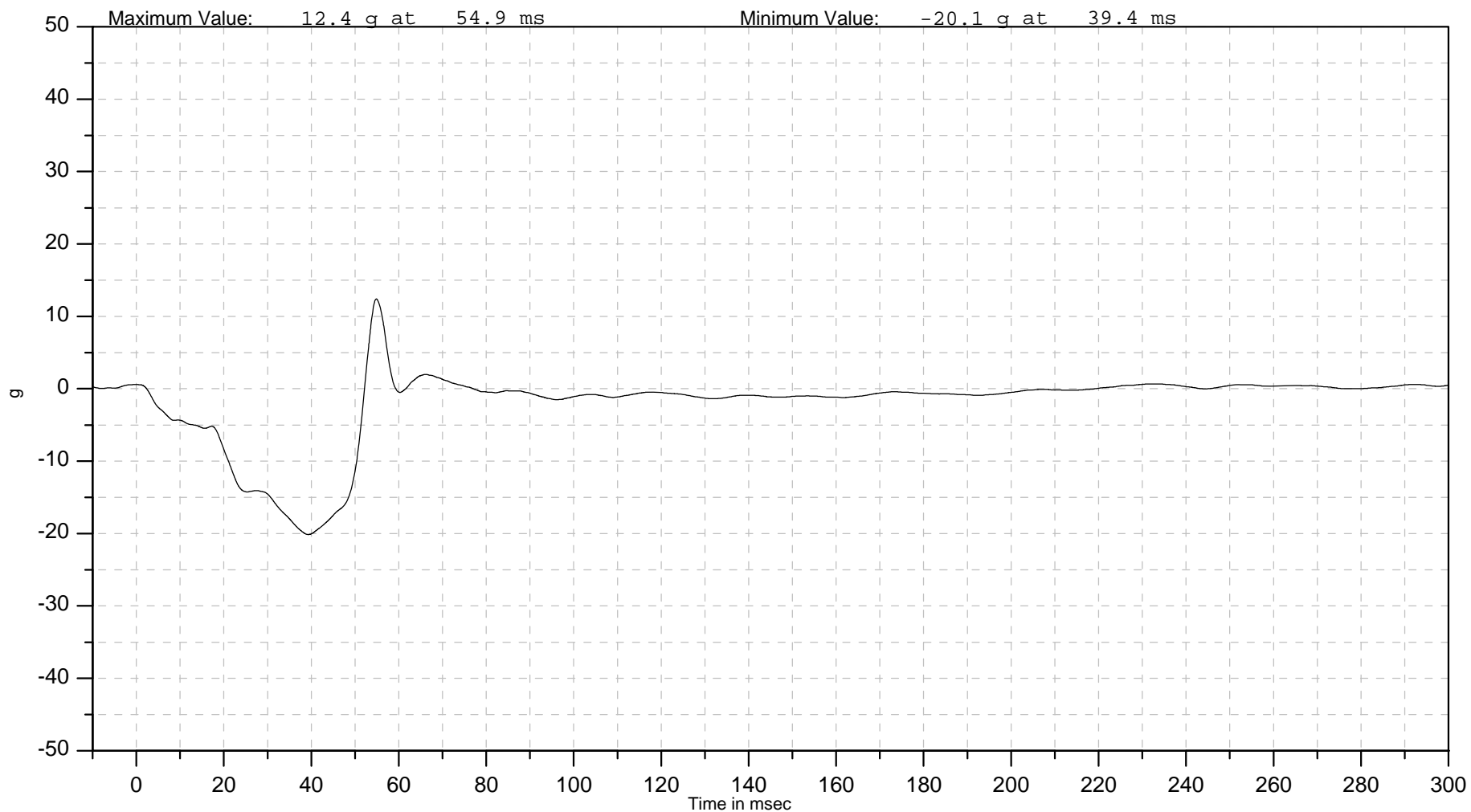
Autoliv Channel
M0MBARMIFR00ACYD

ISO Channel
M0MBARMIFR00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Y Acceleration





Autoliv North America (NTC)

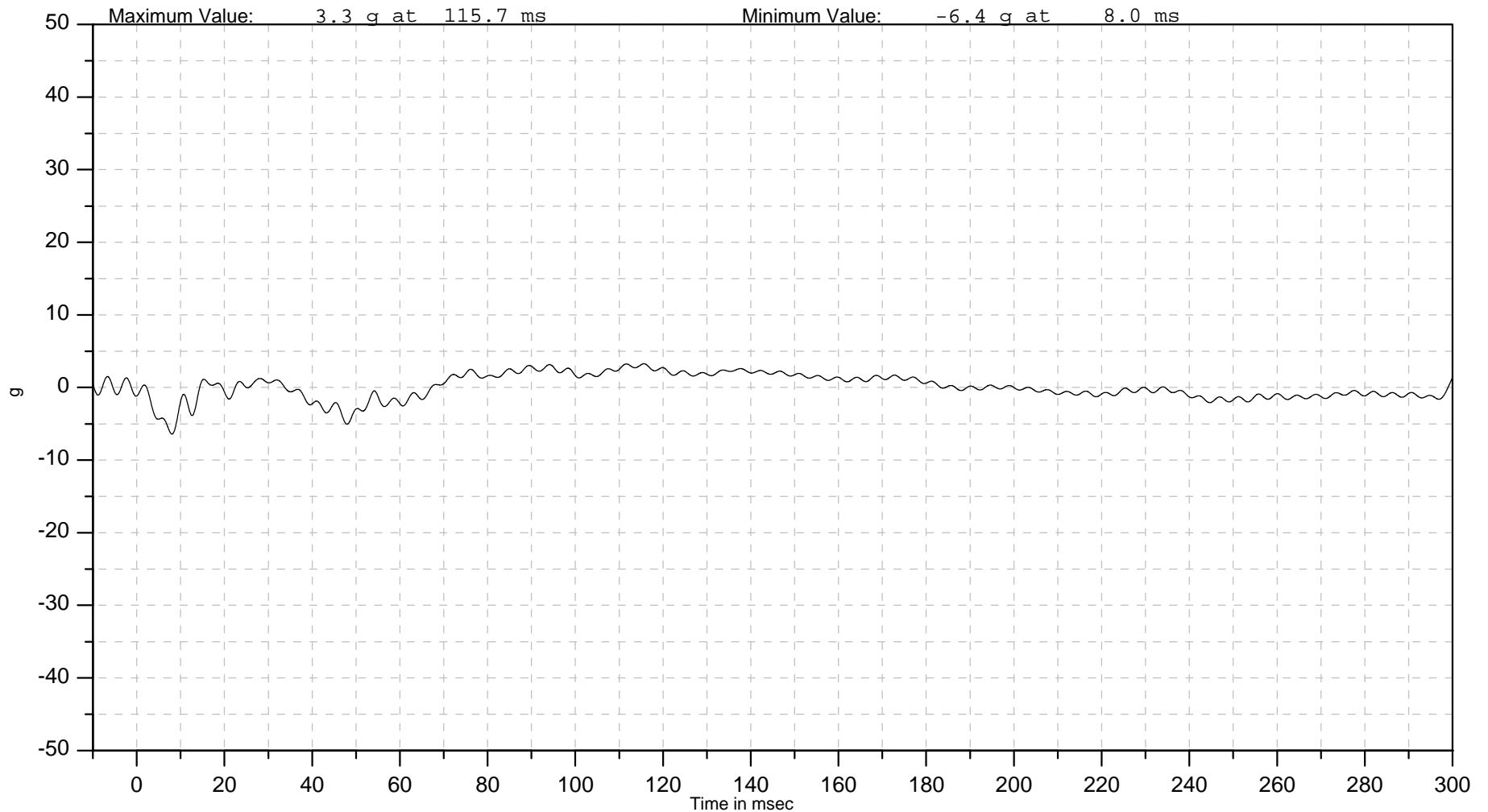
Autoliv Channel
M0MBARMIFR00ACZD

ISO Channel
M0MBARMIFR00ACZD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARREMI00ACYD

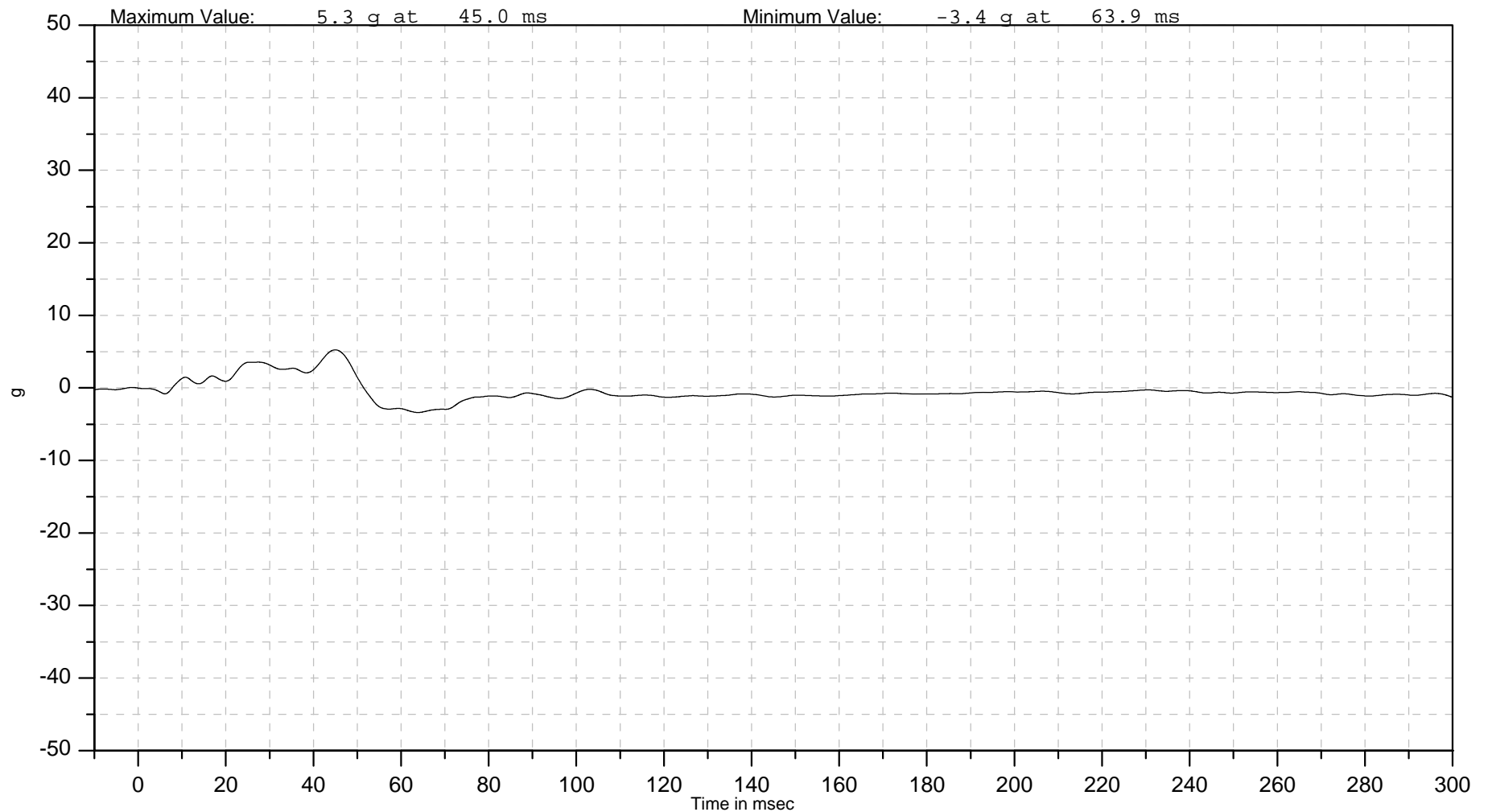
ISO Channel
M0MBARREMI00ACYD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Rear Middle Mobile Barrier Y Acceleration





Autoliv North America (NTC)

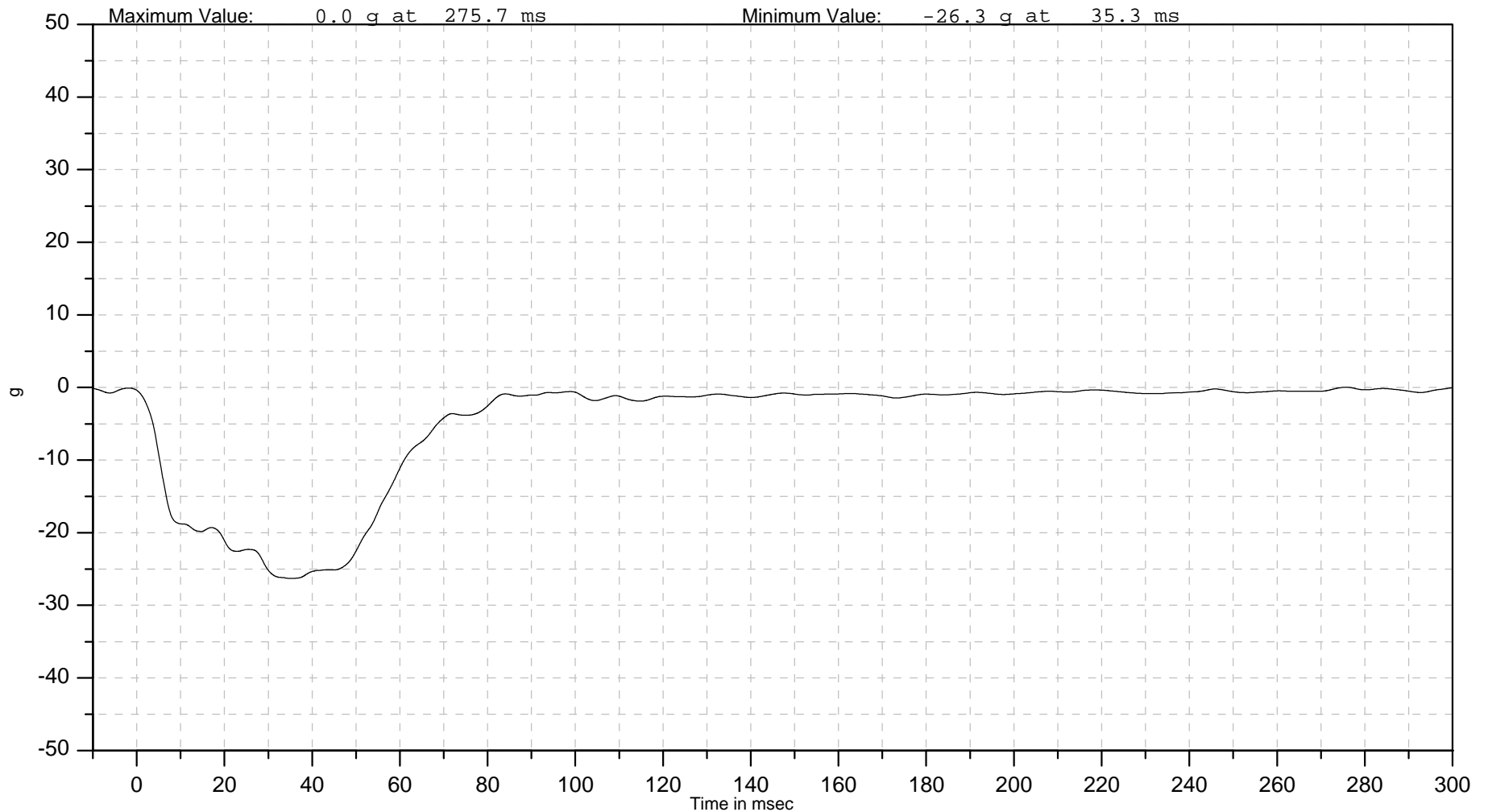
Autoliv Channel
M0MBARLEFR00ACXD

ISO Channel
M0MBARLEFR00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

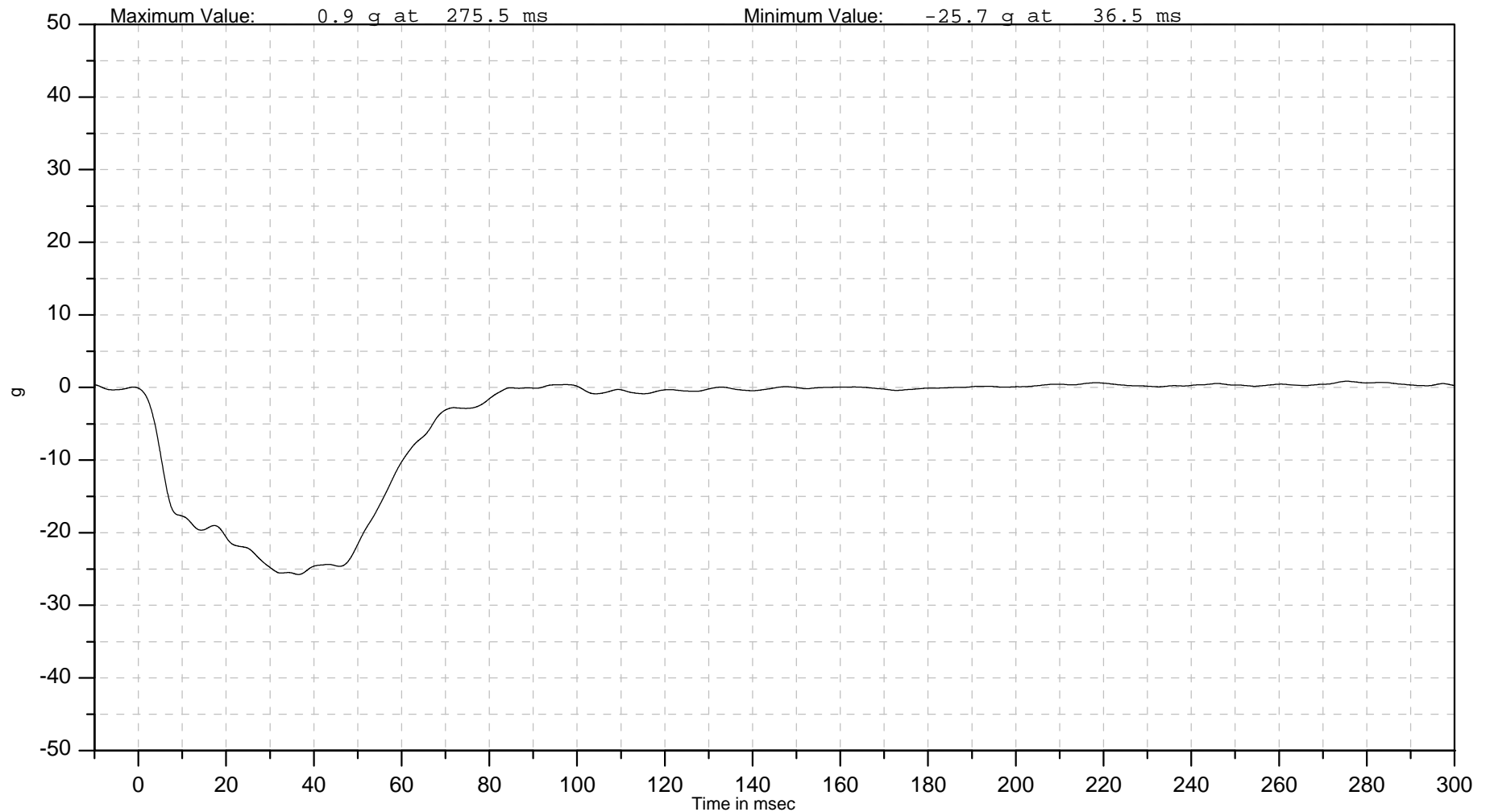
Autoliv Channel
M0MBARLEMI00ACXD

ISO Channel
M0MBARLEMI00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Middle Mobile Barrier X Acceleration





Autoliv North America (NTC)

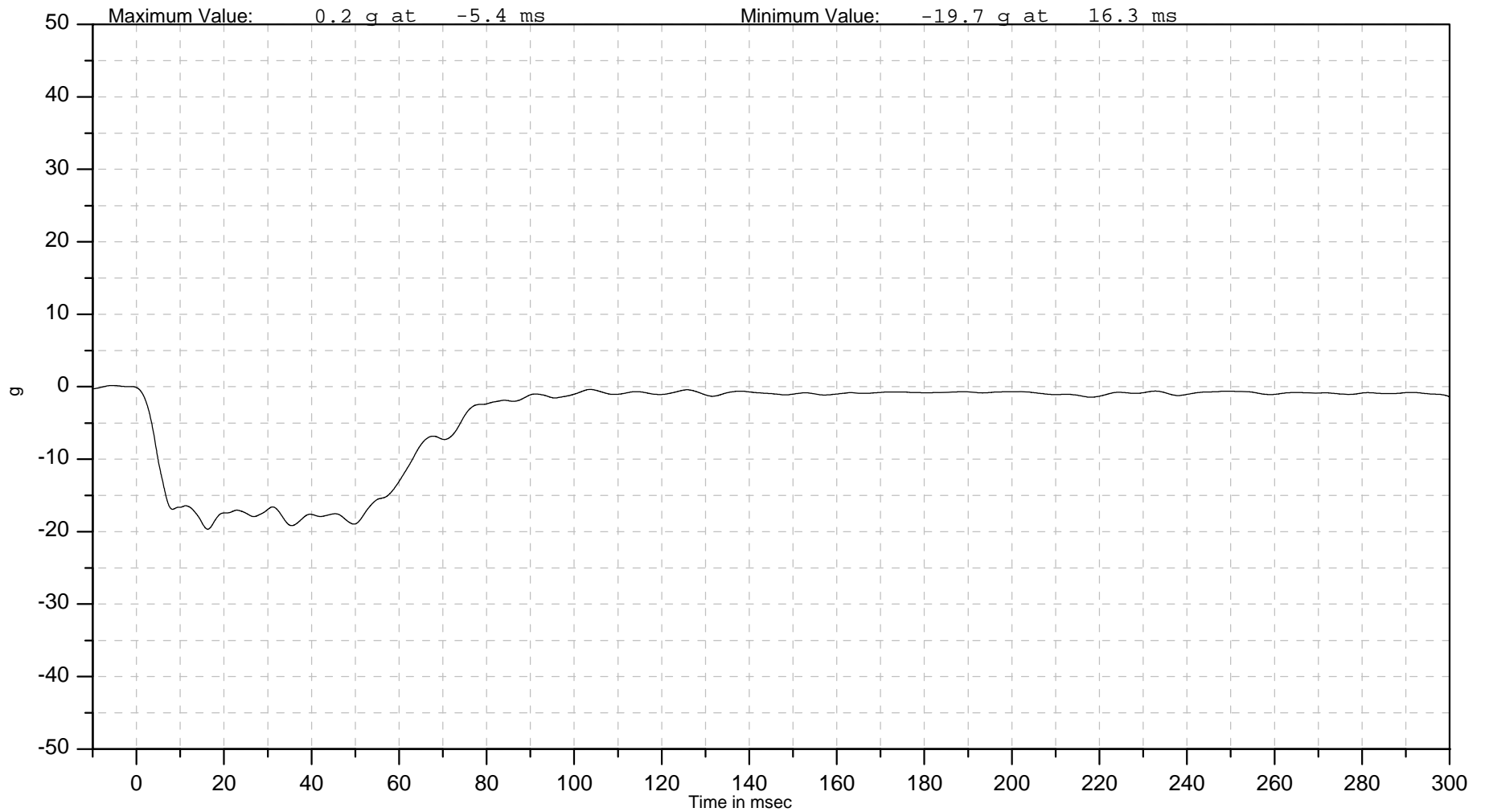
Autoliv Channel
M0MBARRIFR00ACXD

ISO Channel
M0MBARRIFR00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARRIMI00ACXD

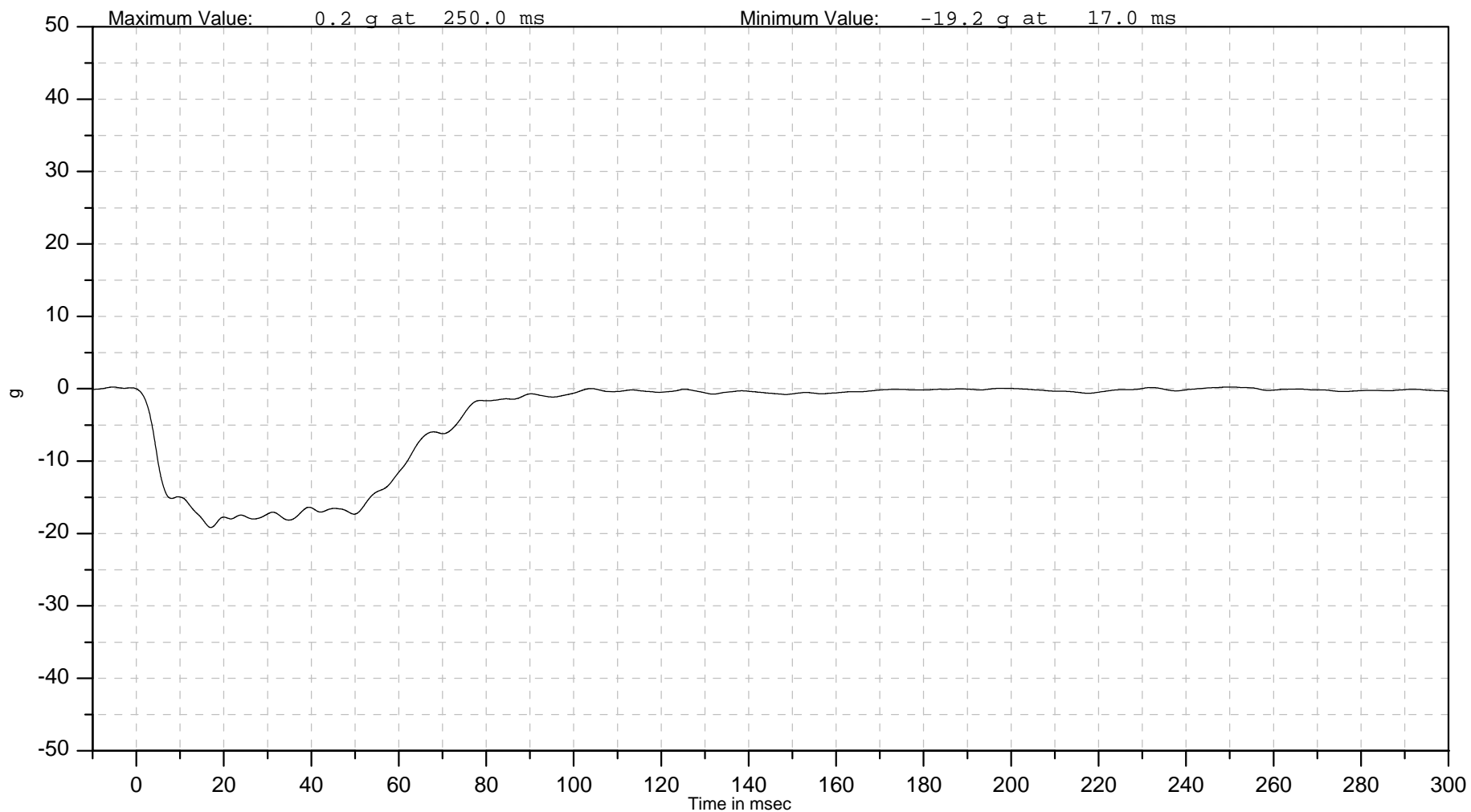
ISO Channel
M0MBARRIMI00ACXD

Test Number: B1040195
Test Date: 18-Jun-2004
Test Description: Nissan P61B LH SINCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Middle Mobile Barrier X Acceleration





Autoliv North America (NTC)

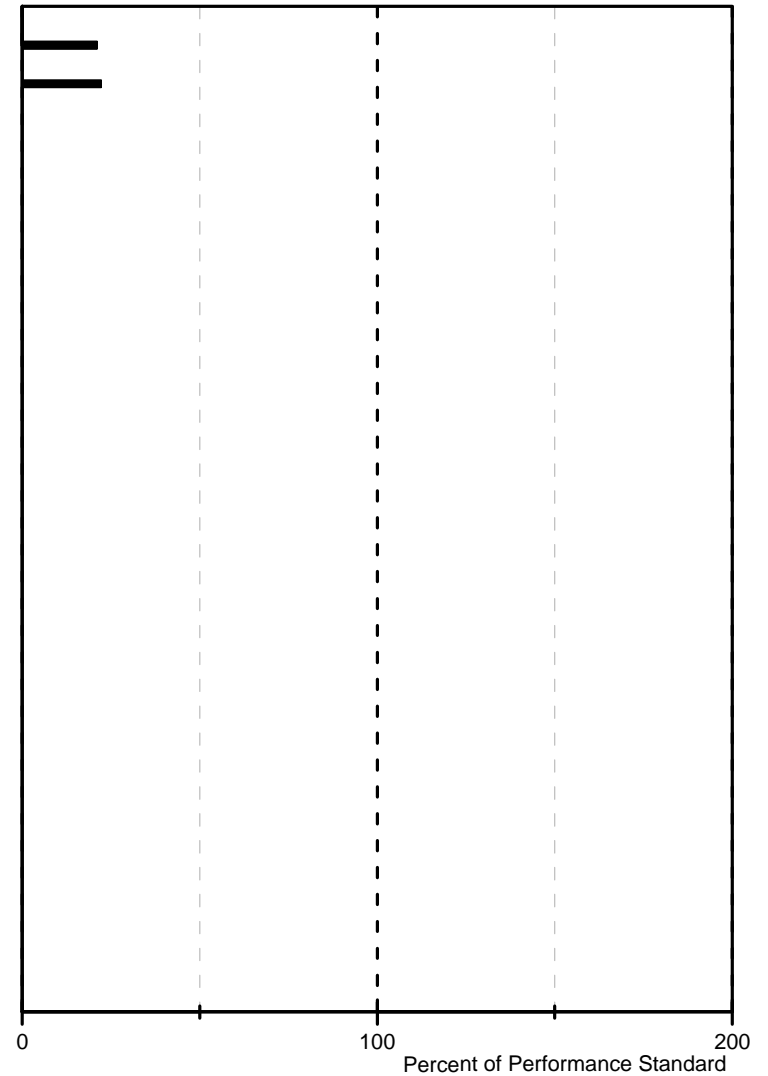
Test Number: B1040195

Test Date: 18-Jun-2004

Test Description: Nissan P61B LH SINCAP

Injury Performance

Injury Parameter	Performance Standard		Test Result
Driver TTI	90.0	(1)	19.0
Left 2nd Row Passenger TTI	90.0	(1)	20.0



(1) FMVSS 208 Performance Standard
(2) Side Airbag Out-of-Position TWG Injury Reference Value
(3) Side Airbag Out-of-Position TWG Injury Research Value

FINAL REPORT OF: B1040229
35 MPH FLAT FRONTAL IMPACT TEST
ON A 2005 P61B VEHICLE



PREPARED FOR:
NISSAN TECHNICAL CENTER NORTH AMERICA, INC.
39001 SUNRISE DRIVE
FARMINGTON HILLS, MI 48331

PREPARED BY:
AUTOLIV NORTH AMERICA, INC.
1320 PACIFIC DRIVE
AUBURN HILLS, MI 48326

ABSTRACT

Objective:

A 35.0 mph flat frontal impact test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate the vehicle's restraint system performance under the NCAP test condition. Also, windshield retention and windshield intrusion were monitored under the specifications of FMVSS 212 and 219, and fuel system integrity was monitored under the specifications of FMVSS 301.

Scope:

One 2005 Nissan P61B vehicle was tested under flat frontal impact condition in accordance with the specifications of NCAP. The test speed at impact should be 35.0 mph +0.5/-0.0 mph as requested by the customer. Windshield retention and windshield intrusion measurements should be made under the specifications of FMVSS 212 and 219. Fuel system integrity should be monitored under the specifications of FMVSS 301.

Conclusion:

The test was conducted in accordance with the specifications of NCAP. The actual final speed at impact was 35.1 mph. Windshield measurements were made and can be found in Section 4.0 of this report. The fuel system was monitored and results can be found in Section 6.0 of this report.

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Report Prepared By:

Rashad Ahmad
Test Engineer

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SECTION 1.0 PURPOSE AND TEST PROCEDURE

Purpose

A 35.0 mph flat frontal impact test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate the PT-1 NCAP pulse under the NCAP test condition. Also, windshield retention and windshield intrusion were monitored under the specifications of FMVSS 212 and 219, and fuel system integrity was monitored under the specifications of FMVSS 301.

Test Procedure

The test was conducted on the subject P61B vehicle (Vehicle #: 5WT114) in accordance with the specifications of the NCAP test procedure. The vehicle's total test weight was 2441.5 kg. Two Hybrid III 50% dummies were used and placed in the front left and front right seating positions. Only the right front dummy was instrumented with head, chest, and pelvis accelerometers, upper neck and femur load cells, and a chest deflection potentiometer.

The vehicle was instrumented with 20 sensors installed to record vehicle accelerations, seat belt loads, dummy contact times, and restraint system event times. The left and right side windows were set in the full down position. The left front seat back was set to 10.5 degrees from vertical as measured at the headrest posts. The right front seat back was set to 10.8 degrees from vertical as measured at the headrest posts. The left and right front seat tracks were set at mid position, and both head restraints were placed in the uppermost position. The left front seat was also adjusted to its full down position. The steering wheel was set to 23.1 degrees from vertical. The dummies were belted for the test and the left and right adjustable turning loops were placed in the uppermost position. The front and rear tire pressures were set at 35 psi. The fuel system was filled with 76 L of Stoddard solution.

Time zero was marked at the first contact of the vehicle bumper to the flat face rigid barrier. The vehicle's airbag control unit deployed the vehicle's restraint systems.

FMVSS 219 Test Procedure

Prior to the test, the lower edge of the windshield protected zone was determined by placing a 6.5 inch diameter rigid sphere weighing 15 pounds in a position such that it simultaneously contacted the inner surface of the windshield and the top surface of the instrument panel. A locus of points was drawn on the inner surface of the windshield that was contactable by the sphere across the width of the instrument panel. A second line was drawn on the windshield 0.5 inch below the locus line. This line, transferred to the outer surface of the windshield, is the lower edge of the protected zone.

FMVSS 301 Test Procedure

The vehicle's fuel system was monitored for the 30 minute time period immediately following the front impact. After 30 minutes the vehicle was mounted on a rotisserie. The vehicle was rotated a total of 360 degrees about its longitudinal axis. The 360 degrees rotation was divided into 90 degrees increments. The vehicle was rotated to each 90 degrees increment in two minutes and maintained at each 90 degrees increment for five minutes. The fuel system was monitored during the entire 360 degrees rotation.

SECTION 2.0 SUMMARY OF TEST DATA

Test Data Summary

A 2005 Nissan P61B vehicle was impacted under the flat frontal barrier test condition at 35.1 mph on July 16, 2004.

For the occupant in the right front seat, the 36 ms HIC was 629, the 15 ms HIC was 470, the Nij was 0.71, the peak neck tension was 1587 N, the peak neck compression was 353 N, the 3 ms chest clip was 47.8 g, the peak chest deflection was 34.2 mm, and the peak left and right femur loads were 2460 N and 2789 N, respectively.

There was no intrusion into the windshield protected zone and 95.8 % total windshield retention. FMVSS 212 and FMVSS 219 data sheets can be found in Section 4.0 of this report.

Stoddard solvent was collected during the post-test static vehicle rollover. Data sheets can be found in Section 6.0 of this report.

TABLE 1
DATA CHANNEL SUMMARY

Channel Name	Max value	Max time (ms)	Min value	Min. time (ms)
11SEBE0000B3FO0D	7282.6 N	66.4	-52.2 N	153.6
11SEBE0000B6FO0D	8874.7 N	48.4	-28.8 N	300
13HEAD0000H3ACXA	8.3 g	241.9	-68.4 g	71.4
13HEAD0000H3ACYA	4.9 g	237.9	-12.0 g	72.4
13HEAD0000H3ACZA	27.2 g	56.9	-7.8 g	97.8
13NECKUP00H3FOXA	126.9 N	260.2	-1003.6 N	72.1
13NECKUP00H3FOYA	101.1 N	268.8	-151.8 N	125
13NECKUP00H3FOZA	1587.4 N	68.9	-352.7 N	276.3
13NECKUP00H3MOXB	30.2 Nm	72.8	-10.0 Nm	131.1
13NECKUP00H3MOYB	21.4 Nm	148.3	-84.3 Nm	72.2
13NECKUPT0H3MOXB	28.1 Nm	72.7	-12.4 Nm	131.1
13NECKUPT0H3MOYB	25.4 Nm	146	-66.7 Nm	72.6
13NECKUP00H3MOZB	21.0 Nm	92.6	-9.0 Nm	150.8
13CHST0000H3ACXC	2.4 g	281	-49.6 g	68.1
13CHST0000H3ACYC	4.1 g	43.1	-7.3 g	81.5
13CHST0000H3ACZC	9.1 g	56.4	-10.1 g	103.7
13CHST0000H3DSXB	0.0 mm	-7.5	-34.2 mm	69.2
13PELV0000H3ACXA	6.8 g	111.2	-90.8 g	55.4
13PELV0000H3ACYA	5.3 g	43.7	-11.5 g	64
13PELV0000H3ACZA	25.7 g	55	-194.8 g	56.8
13FEMRLE00H3FOZB	327.6 N	29.5	-2460.4 N	51.8
13FEMRRI00H3FOZB	352.4 N	29.6	-2788.7 N	48.9
13SEBE0000B3FO0D	7430.1 N	45.7	-56.2 N	132.1
13SEBE0000B6FO0D	9415.9 N	49.7	-51.8 N	111.6
10SILLLE0000ACXD	3.8 g	105.3	-50.1 g	49.1
10SILLRI0000ACXD	4.3 g	104.7	-38.2 g	48.5
10TUNN000000ACXD	10.2 g	61.8	-63.2 g	53.3
10TUNN000000ACYD	12.6 g	36.7	-12.7 g	50.5
10TUNN000000ACZD	31.2 g	46.4	-27.2 g	62.4
10ABSE000000ACXD	3.7 g	103.1	-51.0 g	49.9
10ABSE000000ACYD	15.1 g	37.5	-19.5 g	50.4
10ABSE000000ACZD	44.5 g	54.1	-23.0 g	75.7
10CZCS000000ACXD	1976.5 g	40.2	-297.0 g	16.2
10CZCS000000ACZD	112.3 g	10.3	-103.4 g	13.9
L0FBARB10000FOXD	59.1 N	156.5	-2407.6 N	35.2
L0FBARC10000FOXD	134.0 N	8	-2618.4 N	14.5
L0FBARA20000FOXD	171.4 N	16.5	-6236.6 N	24.2
L0FBARB20000FOXD	141.1 N	5.6	-6840.1 N	44
L0FBARC20000FOXD	57.1 N	1.9	-9379.3 N	22.1
L0FBARD20000FOXD	99.7 N	2.7	-14232.1 N	70.4
L0FBARA30000FOXD	282.5 N	6.1	-11518.6 N	21.4
L0FBARB30000FOXD	292.6 N	4.6	-7675.3 N	13.6
L0FBARC30000FOXD	79.4 N	0.3	-79257.9 N	44.3
L0FBARD30000FOXD	2087.1 N	1.7	-170994.6 N	23

Channel Name	Max value	Max time (ms)	Min value	Min. time (ms)
LOFBARA40000FOXD	234.4 N	4.6	-4588.8 N	10.7
LOFBARB40000FOXD	76.4 N	0.3	-13935.9 N	38
LOFBARC40000FOXD	382.4 N	0.1	-47412.9 N	40.9
LOFBARD40000FOXD	1435.6 N	1.4	-111567.9 N	38
LOFBARA50000FOXD	349.5 N	4.4	-12933.1 N	12.6
LOFBARB50000FOXD	106.3 N	-0.9	-70243.7 N	38.8
LOFBARC50000FOXD	67.5 N	-3.5	-96282.2 N	39.3
LOFBARD50000FOXD	1158.2 N	-1	-61713.6 N	36.8
LOFBARA60000FOXD	222.1 N	4.4	-7654.8 N	35.3
LOFBARB60000FOXD	56.3 N	0.5	-45813.9 N	37.9
LOFBARC60000FOXD	180.8 N	-0.7	-89196.4 N	37.9
LOFBARD60000FOXD	1101.1 N	0.2	-84221.8 N	33.9
LOFBARA70000FOXD	251.9 N	5.7	-14148.6 N	23.6
LOFBARB70000FOXD	86.0 N	2.5	-14715.7 N	26.2
LOFBARC70000FOXD	369.4 N	2.2	-108036.5 N	44.2
LOFBARD70000FOXD	488.4 N	4	-179002.2 N	36.7
LOFBARA80000FOXD	87.3 N	13.3	-9271.2 N	32.6
LOFBARB80000FOXD	85.4 N	5.2	-8065.5 N	25.8
LOFBARC80000FOXD	52.8 N	0.4	-14953.7 N	23.2
LOFBARD80000FOXD	1896.1 N	1.5	-49576.1 N	8.1
LOFBARB90000FOXD	88.2 N	8.6	-5606.1 N	32.4
LOFBARC90000FOXD	115.6 N	5.9	-4180.5 N	39.9
LOFBARA40000FOXD	234.4 N	4.6	-4588.8 N	10.7
LOFBARB40000FOXD	76.4 N	0.3	-13935.9 N	38
LOFBARC40000FOXD	382.4 N	0.1	-47412.9 N	40.9
LOFBARD40000FOXD	1435.6 N	1.4	-111567.9 N	38
LOFBARA50000FOXD	349.5 N	4.4	-12933.1 N	12.6
LOFBARB50000FOXD	106.3 N	-0.9	-70243.7 N	38.8
LOFBARC50000FOXD	67.5 N	-3.5	-96282.2 N	39.3
LOFBARD50000FOXD	1158.2 N	-1	-61713.6 N	36.8
LOFBARA60000FOXD	222.1 N	4.4	-7654.8 N	35.3
LOFBARB60000FOXD	56.3 N	0.5	-45813.9 N	37.9
LOFBARC60000FOXD	180.8 N	-0.7	-89196.4 N	37.9
LOFBARD60000FOXD	1101.1 N	0.2	-84221.8 N	33.9
LOFBARA70000FOXD	251.9 N	5.7	-14148.6 N	23.6

SECTION 3.0
GENERAL TEST AND VEHICLE DATA

TABLE 2
GENERAL TEST AND VEHICLE DATA

Test Vehicle Information:

Test Information:

Test Number:	B1040229
Date Of Test:	07/16/04
Test Temperature:	69 F
VIN:	5N1ED28T45C [REDACTED]
Test Impact Velocity:	35.1 mph

Vehicle Information:

Vehicle manufactured by:	Nissan
Vehicle number:	5WT114
Requested cold pressure:	35 psi

Target test weight:

Front:	1211.6 kg
Rear:	1255.4 kg
Total:	2467.0 kg

Actual test weight:

Total front weight:	1111.5 kg
Total rear weight:	1328.5 kg
Total test weight:	2441.5 kg
Ballast added to achieve target weight: 22.7 kg shot bag strapped to drv. floor, Instrumentation and brake machine: 47.6 kg mounted in cargo area, 158.7 kg bar weight added to 2 nd row center.	
Items removed: None.	

Dummy Information:

Seating position:	Left front	Right front
Type:	Hybrid III 50%	Hybrid III 50%
Serial number:	693	558
Instrumentation:	Yes	Yes

Left front seating position:

Seat back angle:	10.5 degrees measured at headrest post
Seat track position:	mid
Head rest position:	full up
Seat height position:	full down
Belt D-ring position:	full up
Steering column angle:	23.1 degrees

Right front seating position:

Seat back angle:	10.8 degrees measured at headrest post
Seat track position:	mid
Head rest position:	full up
Seat height position:	not adjustable
Belt D-ring position:	full up

SECTION 4.0
DUMMY AND TEST DATA SUMMARY

TABLE 3
DUMMY POSITIONING DATA

Dummy Measurement	Left Front Seat	Right Front Seat
Head CG X*	250 mm	241 mm
Head CG Y**	285 mm	282 mm
Head CG Z*	1005 mm	1006 mm
Hip Point X*	122 mm	107 mm
Hip Point Y**	175 mm	185 mm
Hip Point Z*	343 mm	350 mm
Outboard Knee Pivot X*	-259 mm	-266 mm
Outboard Knee Pivot Y**	185 mm	222 mm
Outboard Knee Pivot Z*	455 mm	473 mm
Knee Spacing	335 mm	270 mm
Left Knee to Dash	149 mm	127 mm
Right Knee to Dash	135 mm	133 mm
Heel Spacing	340 mm	230 mm
Nose to Upper Rim	392 mm	---
Nose to I.P.	---	587 mm
Chest to I.P.	---	525 mm
Chest to Airbag Module	320 mm	---
Lower Abdomen to Rim	---	---
Head to Front Header	375 mm	378 mm
Pelvis Angle	22.4 deg.	22.8 deg.

*Measurements are referenced from the body gauge hole.

**Measurements are referenced from sill pinch flange.

TABLE 4
SENSOR CALIBRATION

Channel Name	Sensor Serial Number	Last Calibration Date
11AIRB010000CU00	Fluke05	10/23/2003
11AIRB020000CU00	Fluke06	10/23/2003
13AIRB010000CU00	Fluke12	10/23/2003
13AIRB020000CU00	Fluke13	10/23/2003
10ABSE000000ACXD	B36397	2/9/2004
10ABSE000000ACYD	B36382	2/9/2004
10ABSE000000ACZD	B36086	2/9/2004
10CZCS000000ACXD	B18642	10/30/2003
10CZCS000000ACZD	B18104	11/13/2003
11SEBE0000B3FO0D	P03452	4/2/2004
11SEBE0000B6FO0D	P03448	9/8/2003
13SEBE0000B3FO0D	W03025	9/16/2003
13SEBE0000B6FO0D	Y00037	2/25/2004
10SILLLE0000ACXD	B18407	11/13/2003
10SILLRI0000ACXD	B19708	11/5/2003
10TUNN000000ACXD	B36337	2/9/2004
10TUNN000000ACYD	B23404	3/18/2004
10TUNN000000ACZD	B35507	8/21/2003
13HEAD0000H3ACXA	P31731	1/5/2004
13HEAD0000H3ACYA	P31435	1/5/2004
13HEAD0000H3ACZA	P31620	1/5/2004
13NECKUP00H3FOXA	0741	9/10/2003
13NECKUP00H3FOYA	0741	9/10/2003
13NECKUP00H3FOZA	0741	9/10/2003
13NECKUP00H3MOXB	0741	9/10/2003
13NECKUP00H3MOYB	0741	9/10/2003
13NECKUP00H3MOZB	0741	9/10/2003
13CHST0000H3ACXC	P27856	5/18/2004
13CHST0000H3ACYC	P27486	5/18/2004
13CHST0000H3ACZC	P28396	5/17/2004
13CHST0000H3DSXB	CPH3003	10/8/2003
13PELV0000H3ACXA	P29500	5/18/2004
13PELV0000H3ACYA	P30475	5/18/2004
13PELV0000H3ACZA	P27359	5/18/2004
13FEMRLE00H3FOZB	0685	8/26/2003
13FEMRRI00H3FOZB	0676	8/26/2003
L0FBARB10000FOXD	000621-B1X	4/15/2004
L0FBARC10000FOXD	000621-C1X	4/15/2004
L0FBARA20000FOXD	000621-A2X	4/15/2004
L0FBARB20000FOXD	000621-B2X	4/15/2004
L0FBARC20000FOXD	000621-C2X	4/16/2004
L0FBARD20000FOXD	000621-D2X	4/15/2004
L0FBARA30000FOXD	000621-A3X	4/15/2004
L0FBARB30000FOXD	000621-B3X	4/15/2004
L0FBARC30000FOXD	000621-C3X	4/15/2004
L0FBARD30000FOXD	000621-D3X	4/16/2004

Channel Name	Sensor Serial Number	Last Calibration Date
L0FBARA40000FOXD	000504-A4X	4/15/2004
L0FBARB40000FOXD	000504-B4X	4/16/2004
L0FBARC40000FOXD	000621-C4X	4/16/2004
L0FBARD40000FOXD	000621-D4X	4/15/2004
L0FBARA50000FOXD	000504-A5X	4/15/2004
L0FBARB50000FOXD	000504-B5X	4/15/2004
L0FBARC50000FOXD	000621-C5X	4/15/2004
L0FBARD50000FOXD	000621-D5X	4/15/2004
L0FBARA60000FOXD	000504-A6X	4/15/2004
L0FBARB60000FOXD	000504-B6X	4/16/2004
L0FBARC60000FOXD	000621-C6X	4/16/2004
L0FBARD60000FOXD	000621-D6X	4/16/2004
L0FBARA70000FOXD	000621-A7X	4/16/2004
L0FBARB70000FOXD	000621-B7X	4/16/2004
L0FBARC70000FOXD	000621-C7X	4/15/2004
L0FBARD70000FOXD	000621-D7X	4/16/2004
L0FBARA80000FOXD	000621-A8X	4/15/2004
L0FBARB80000FOXD	000621-B8X	4/15/2004
L0FBARC80000FOXD	000621-C8X	4/15/2004
L0FBARD80000FOXD	000621-D8X	4/15/2004
L0FBARB90000FOXD	000621-B9X	4/16/2004
L0FBARC90000FOXD	000621-C9X	4/16/2004

FIGURE 1
BARRIER FACE LOAD CELL

(vehicle is centered on column #5)

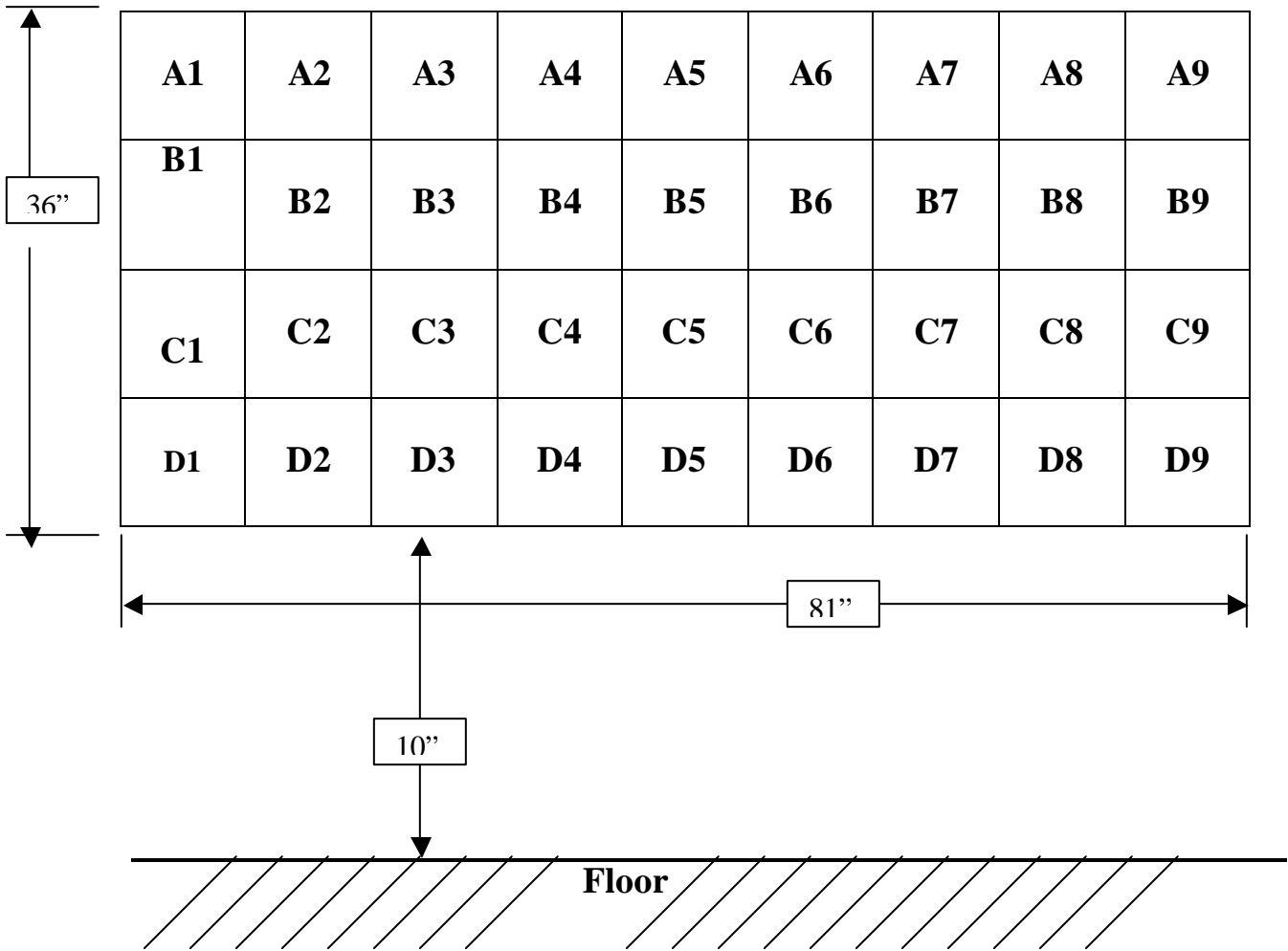
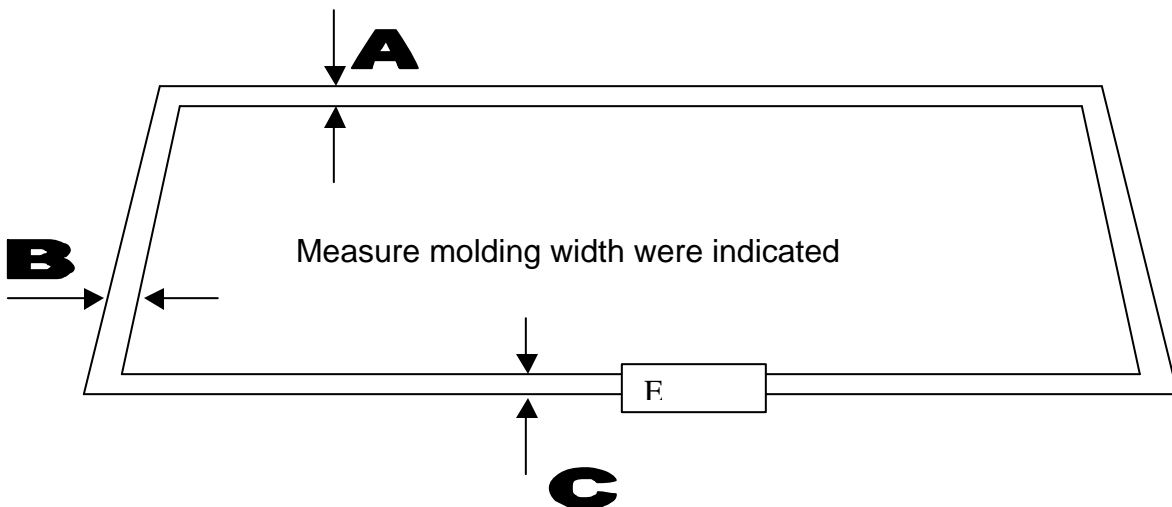


FIGURE 2
WINDSHIELD RETENTION DATA

Windshield Periphery Measurements: (mm)			
Location:	Pre-test	Post-test	Percent Retention
Driver Side:	2124 mm	2124 mm	100 %
Pass. Side:	2124 mm	1945 mm	91.6 %
Total:	4248 mm	4069 mm	95.8 %

Pre-test windshield mounting material temperature: 69 F
Loss of windshield retention lengths: D = 179 mm
Indicate loss of retention areas on windshield diagram: See diagram below

Molding Measurement	
A	15 mm
B	16 mm
C	12 mm

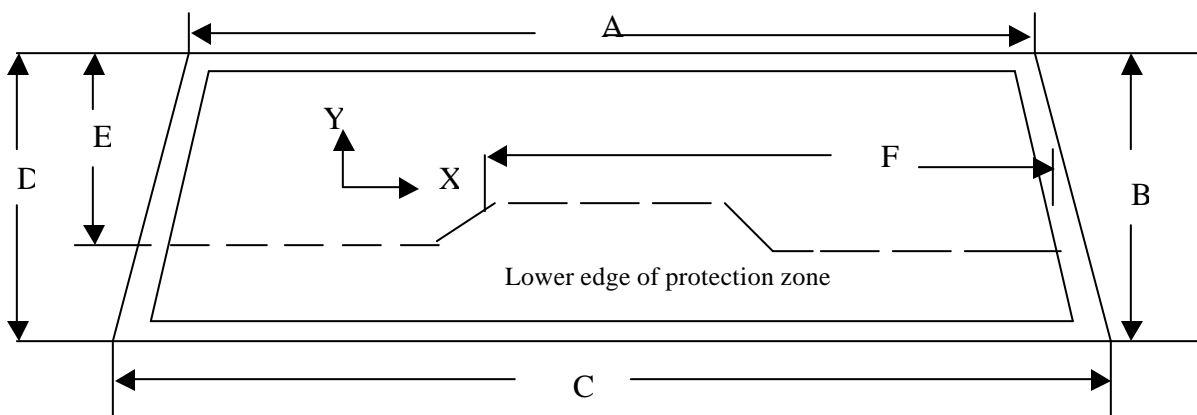


**FIGURE 3
WINDSHIELD INTRUSION DATA**

Windshield Measurements:			
A	1196 mm	D	774 mm
B	775 mm	E	489 mm
C	1546 mm	F	407 mm

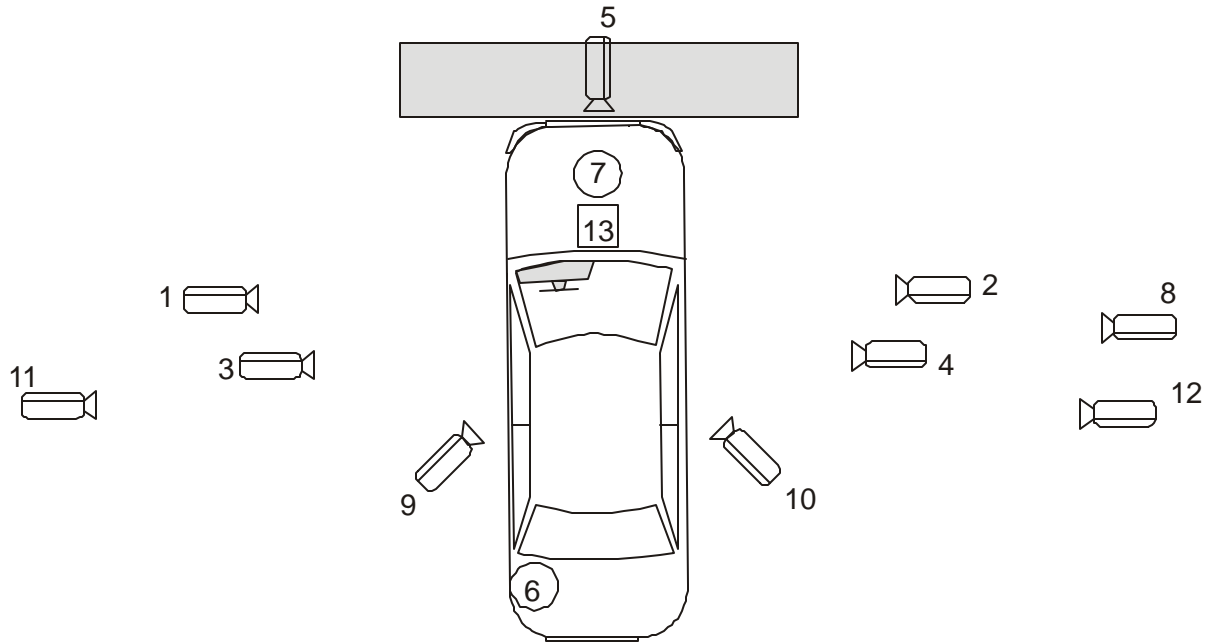
Areas Of Windshield Template Penetration With A Depth Greater Than 0.25 in:			
Coordinates:	Point 1	Point 2	Point 3
X:	None	None	None
Y:	None	None	None

Areas Of Windshield Penetration, Below Protected Zone, And Through Inner Surface Of Windshield:			
Coordinates:	Point 1	Point 2	Point 3
X:	None	None	None
Y:	None	None	None



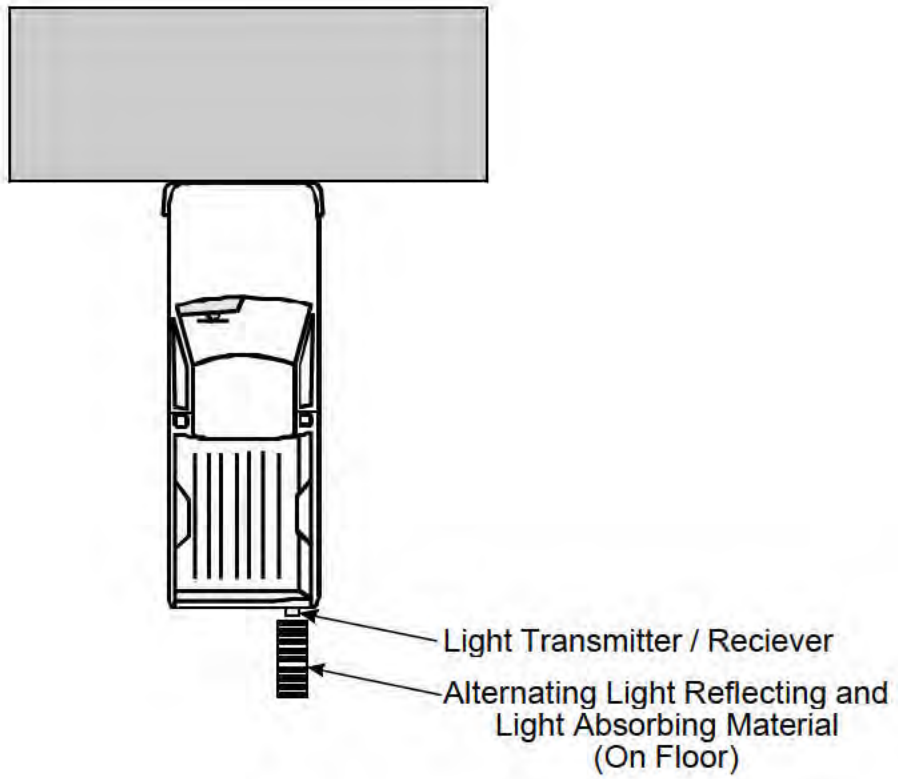
SECTION 5.0
PHOTOGRAPHIC COVERAGE AND SPEED TRAP SETUP

FIGURE 4
CAMERA LOCATIONS



#	View
1	Left side – barrier to b-pillar
2	Right side – barrier to b-pillar
3	Left side – a-pillar to b-pillar (video)
4	Right side – a-pillar to b-pillar (video)
5	Through windshield at driver and passenger
6	Fuel Tank close-up
7	Underbody view – front
8	Panning real-time
9	Driver over LH shoulder viewing airbag
10	Pass over RH shoulder viewing airbag
11	Overall LH view
12	Overall RH view
13	Overhead view of vehicle and barrier

FIGURE 5
SPEED TRAP SETUP



SECTION 6
FUEL SYSTEM DATA

TABLE 5
FUEL SYSTEM DATA

Make/model:	2005 Nissan P61B vehicle
Fuel system capacity:	80 L
Usable capacity:	80 L
Test volume range:	76 L (95% of usable capacity)
Test fluid type:	Stoddard solvent
Specific gravity:	0.77-0.8
Kinematic viscosity:	1.36 centistoke @ 20 Degree C
Test fluid color:	Purple

TABLE 6
FLUID SYSTEM COLLECTION DATA

Test Date	7/16/04	Project	2005 Nissan P61B
Test Number	B1040229	Test Personnel	Rashad Ahmad

TIME AFTER CRASH MOTION CEASES: 1:48 p.m.

INTERVAL	Oz.	INTERVAL	Oz.
1 st 5 minutes	0	18 th minute	0
6 th minute	0	19 th minute	0
7 th minute	0	20 th minute	0
8 th minute	0	21 st minute	0
9 th minute	0	22 nd minute	0
10 th minute	0	23 rd minute	0
11 th minute	0	24 th minute	0
12 th minute	0	25 th minute	0
13 th minute	0	26 th minute	0
14 th minute	0	27 th minute	0
15 th minute	0	28 th minute	0
16 th minute	0	29 th minute	0
17 th minute	0	30 th minute	0

ROLLOVER START TIME: 2:23 p.m.

		Oz.
90° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
180° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
270° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
360° Rill Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0

ROLLOVER FINISH TIME: 2:47 p.m.

APPENDIX A
TEST DATA PLOTS



Autoliv North America (NTC)

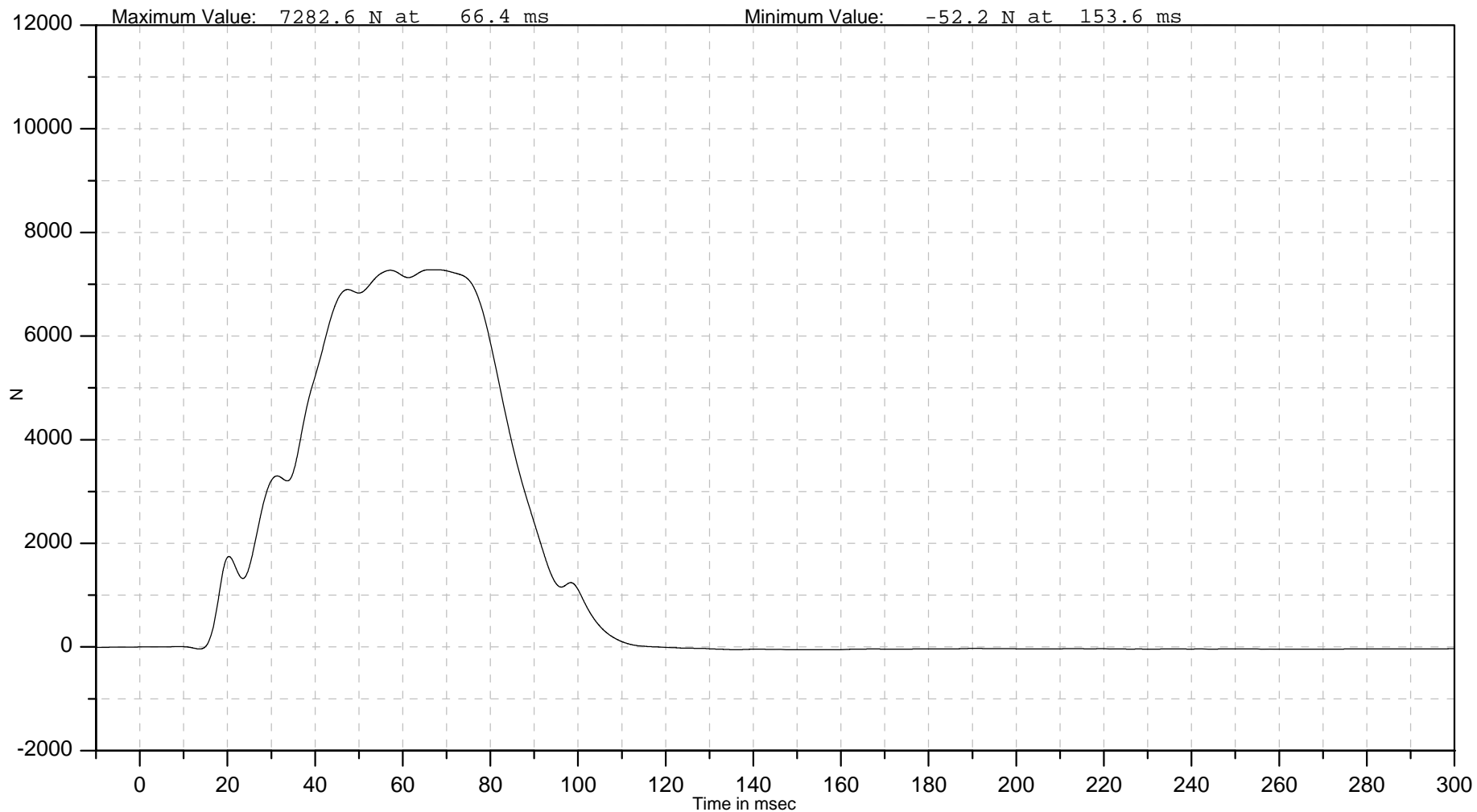
Autoliv Channel
11SEBE0000B3FO0D

ISO Channel
11SEBE0000B3FO0D

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Driver at Upper Diagonal Belt Seat Belt Force





Autoliv North America (NTC)

Autoliv Channel
11SEBE0000B6FO0D

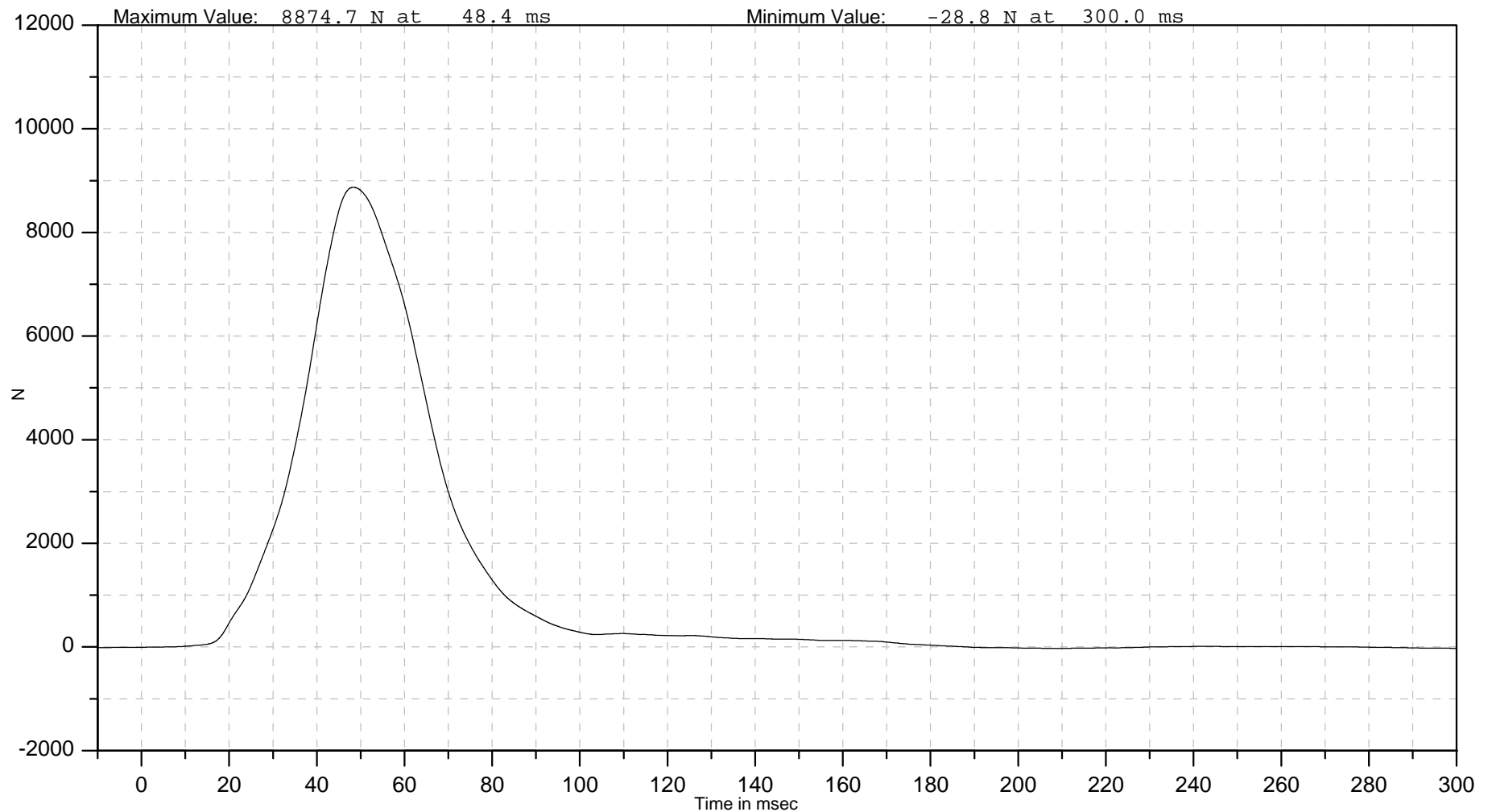
ISO Channel
11SEBE0000B6FO0D

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Driver at Lap Belt Outside Seat Belt Force





Autoliv North America (NTC)

Autoliv Channel
11AIRB010000CU00

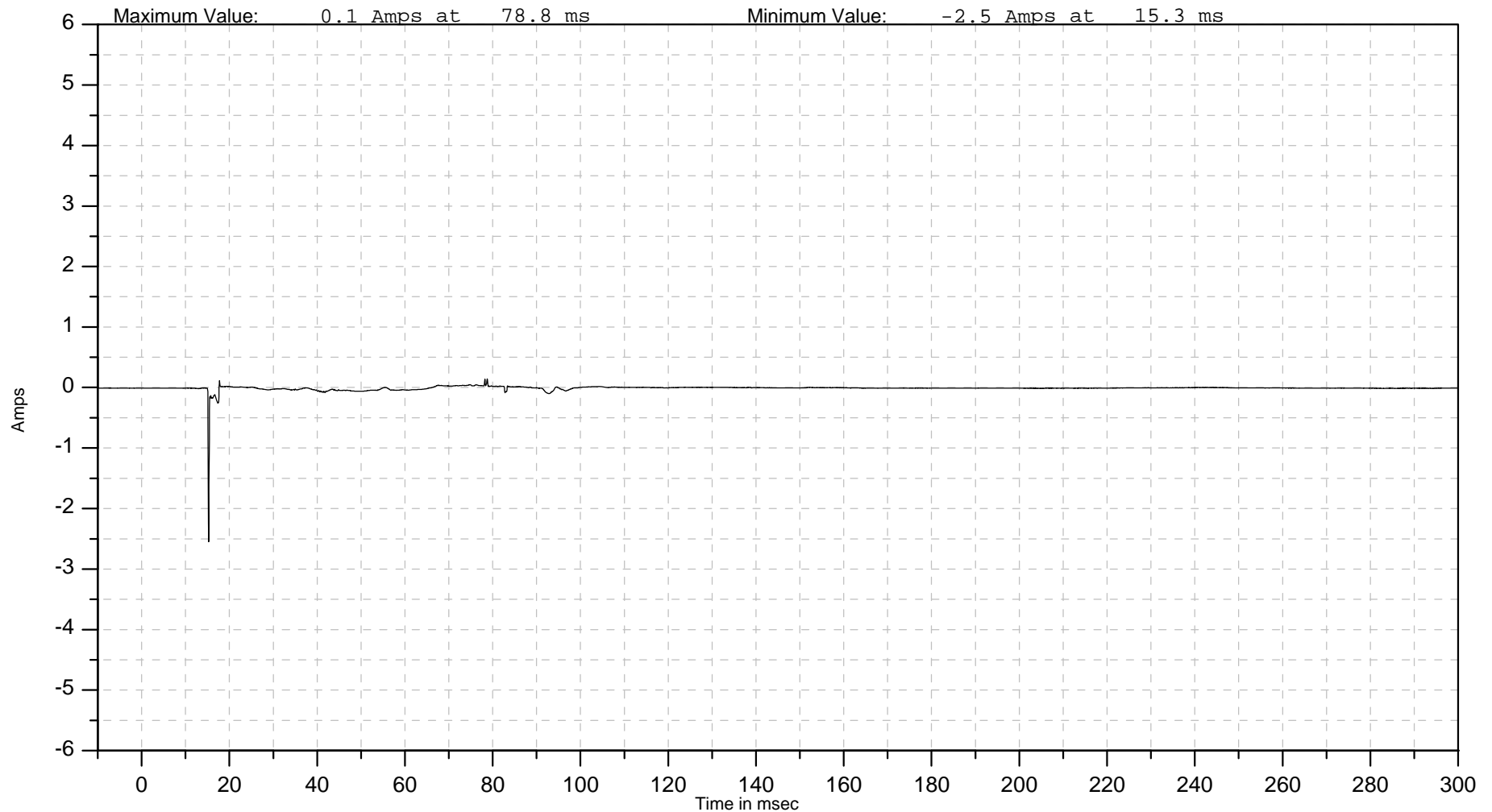
ISO Channel
11AIRB010000CU00

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 1 Airbag Current





Autoliv North America (NTC)

Autoliv Channel
11AIRB020000CU00

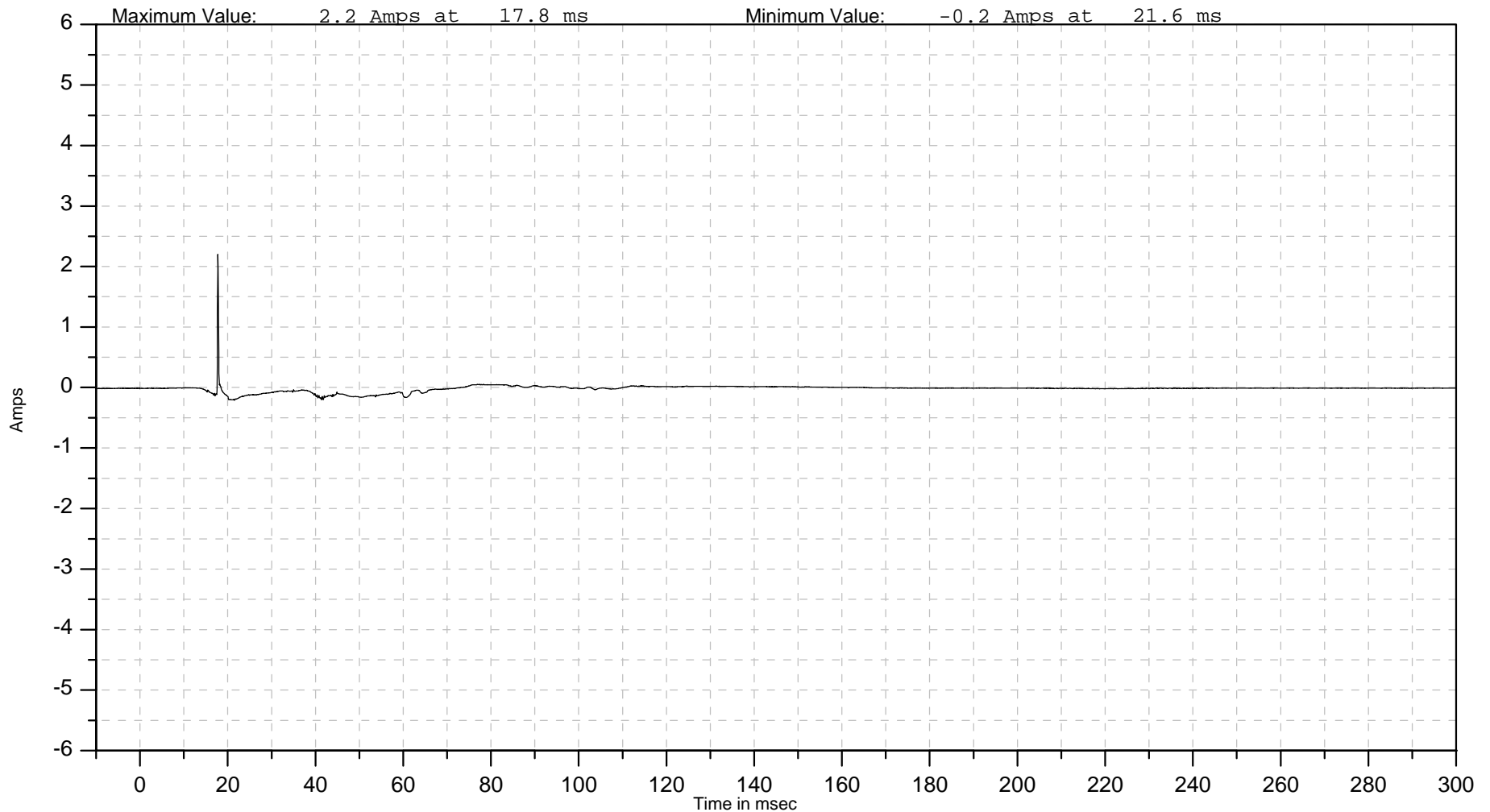
ISO Channel
11AIRB020000CU00

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 2 Airbag Current





Autoliv North America (NTC)

Autoliv Channel
13HEAD0000H3ACXA

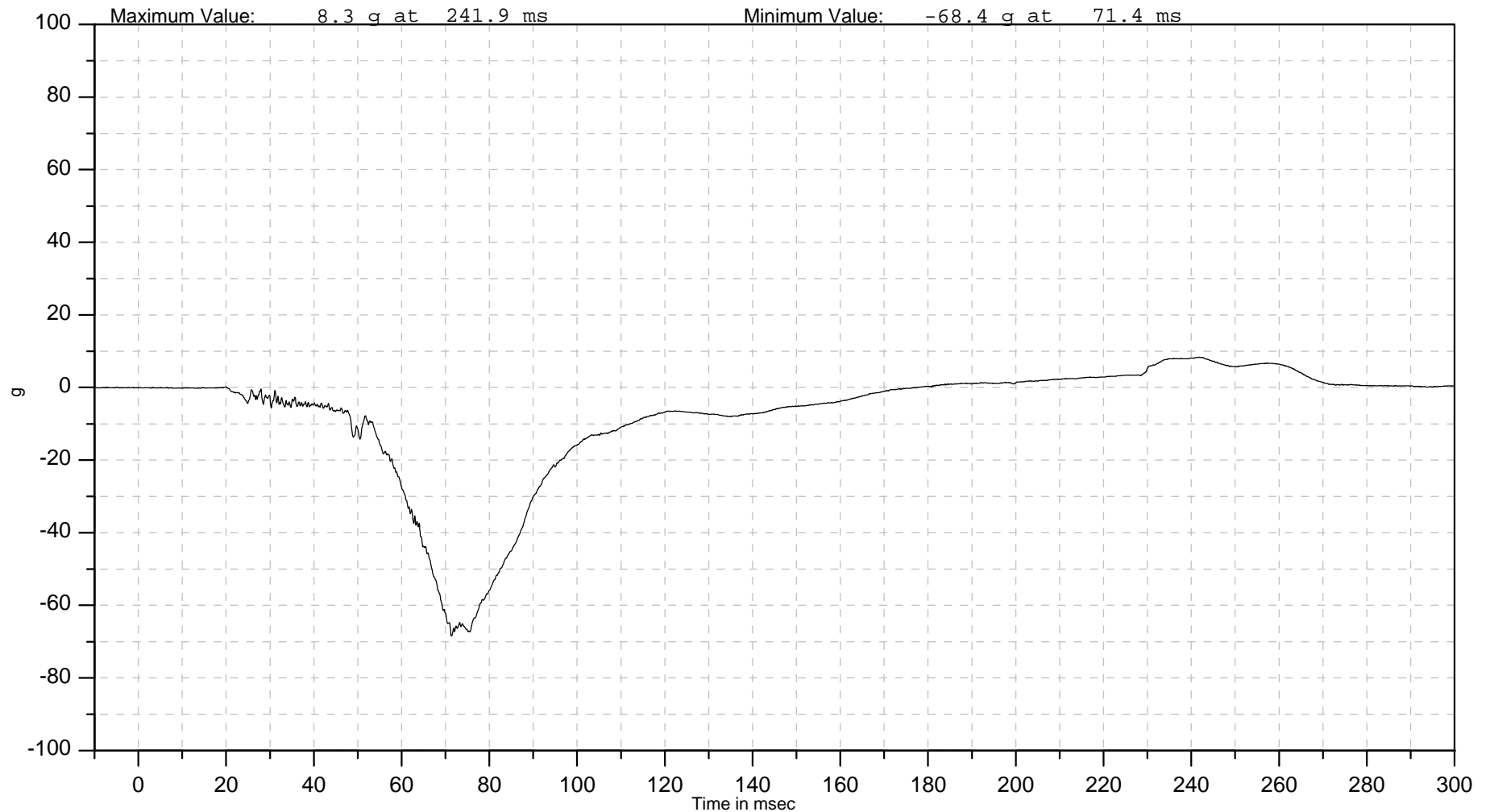
ISO Channel
13HEAD0000H3ACXA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Head X Acceleration





Autoliv North America (NTC)

Autoliv Channel
13HEAD0000H3ACYA

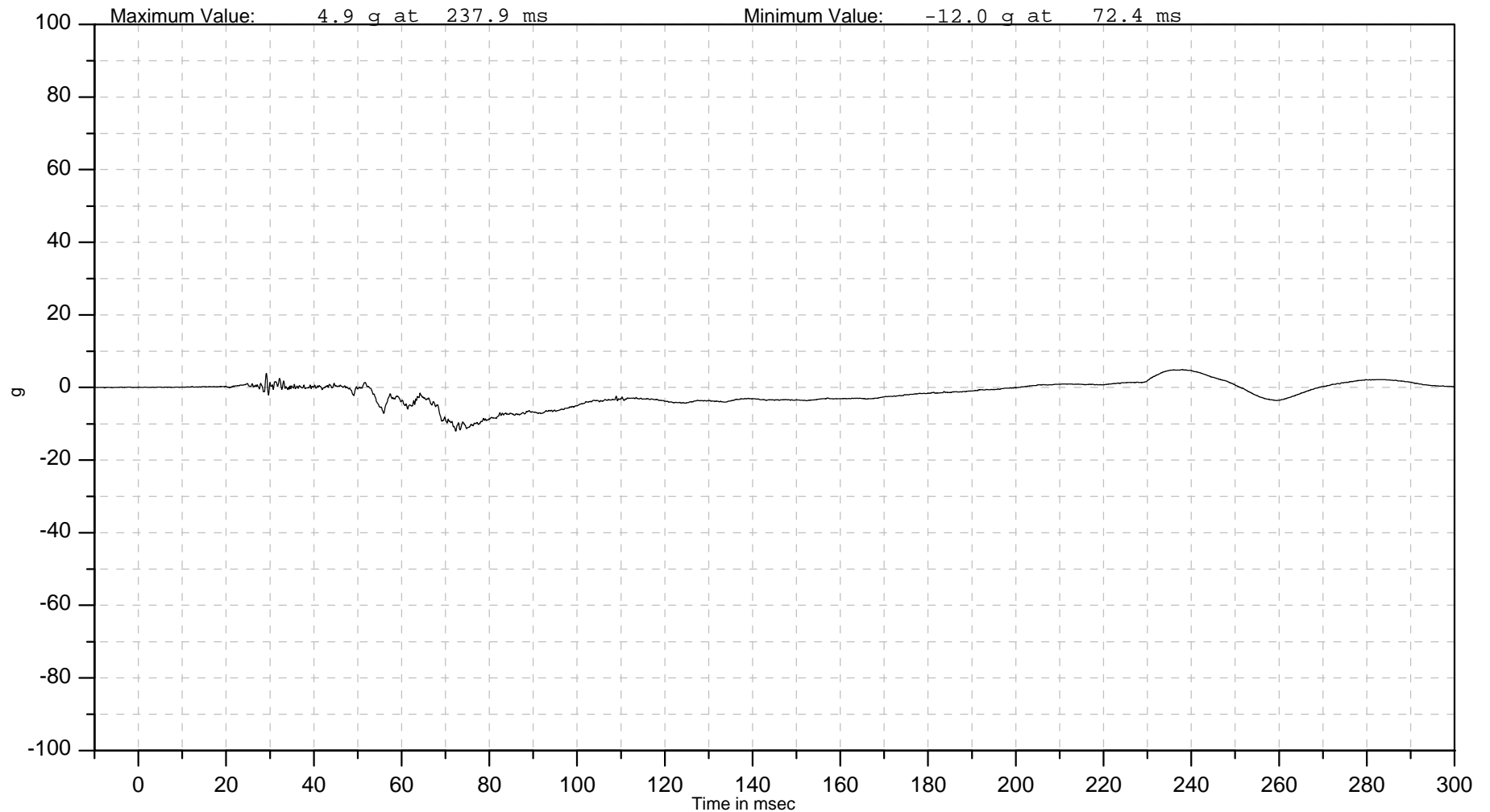
ISO Channel
13HEAD0000H3ACYA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Head Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
13HEAD0000H3ACZA

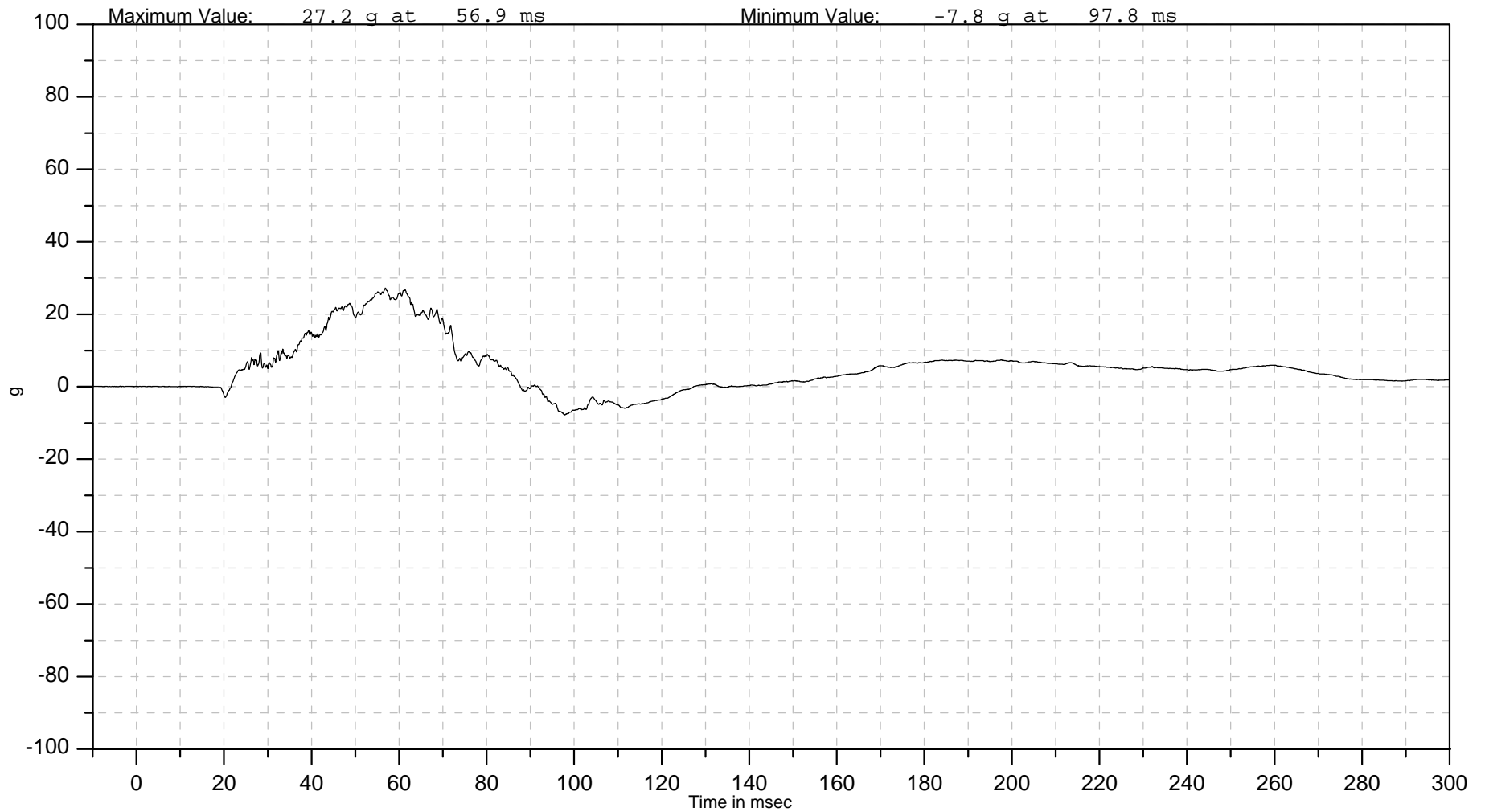
ISO Channel
13HEAD0000H3ACZA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Head Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
13HEAD0000H3ACRA

ISO Channel
13HEAD0000H3ACRA

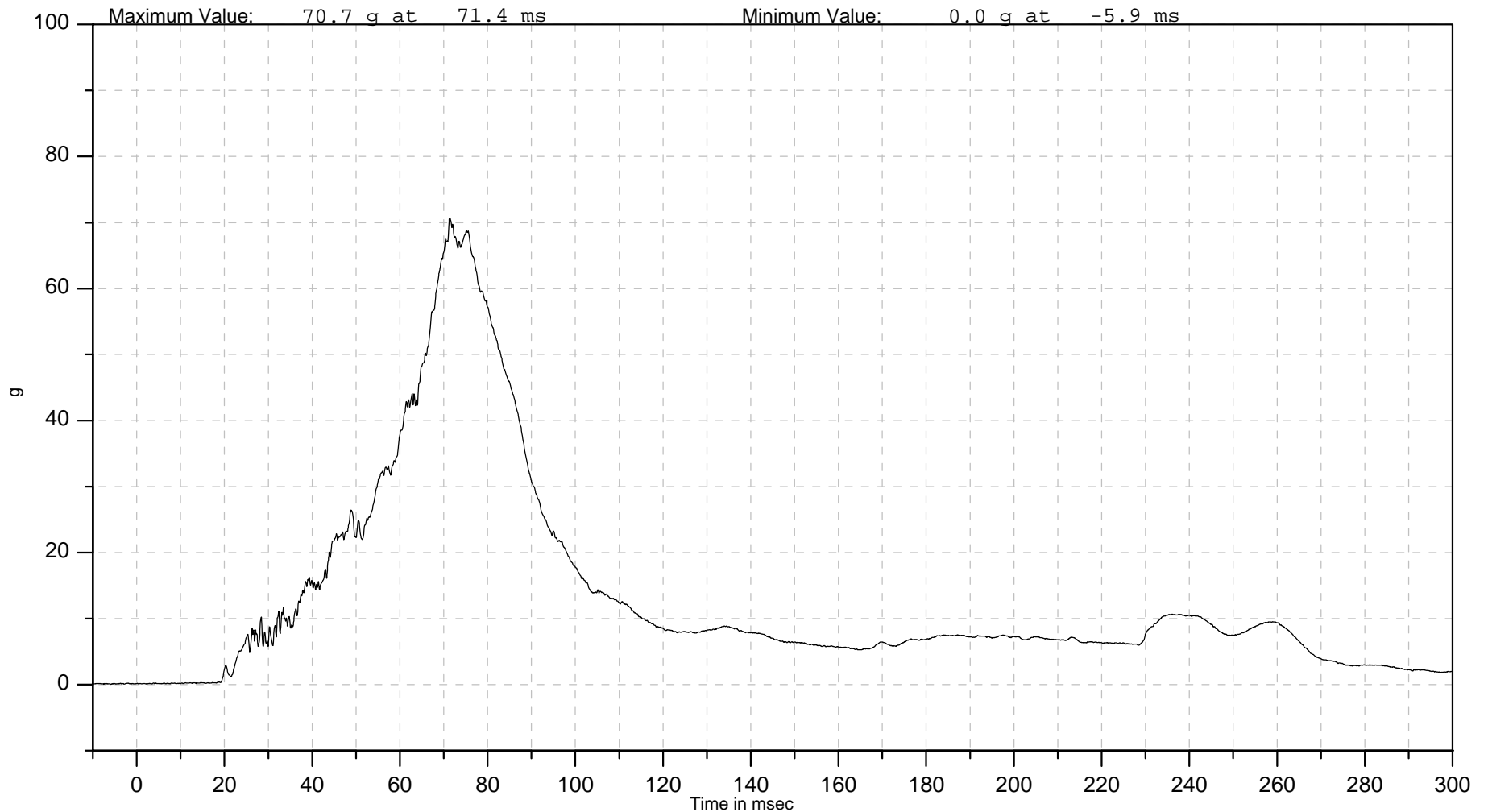
Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Head Resultant Acceleration

HIC36: 629 from 54.7 to 90.7 msec (36.0 msec interval)
HIC15: 470 from 66.8 to 81.8 msec (15.0 msec interval)





Autoliv North America (NTC)

Autoliv Channel
13NECKUP00H3FOXA

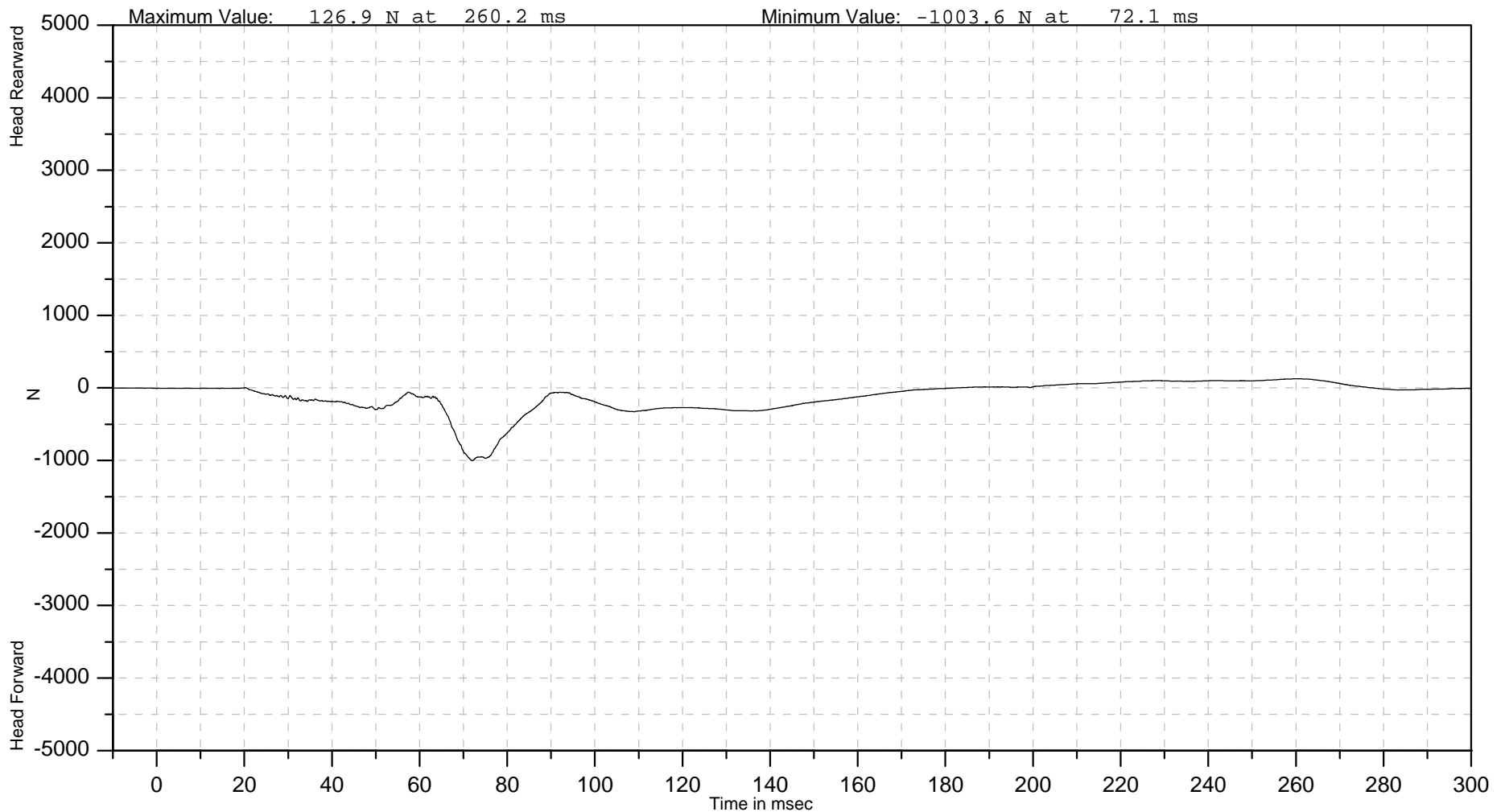
ISO Channel
13NECKUP00H3FOXA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Upper Neck X Force





Autoliv North America (NTC)

Autoliv Channel
13NECKUP00H3FOYA

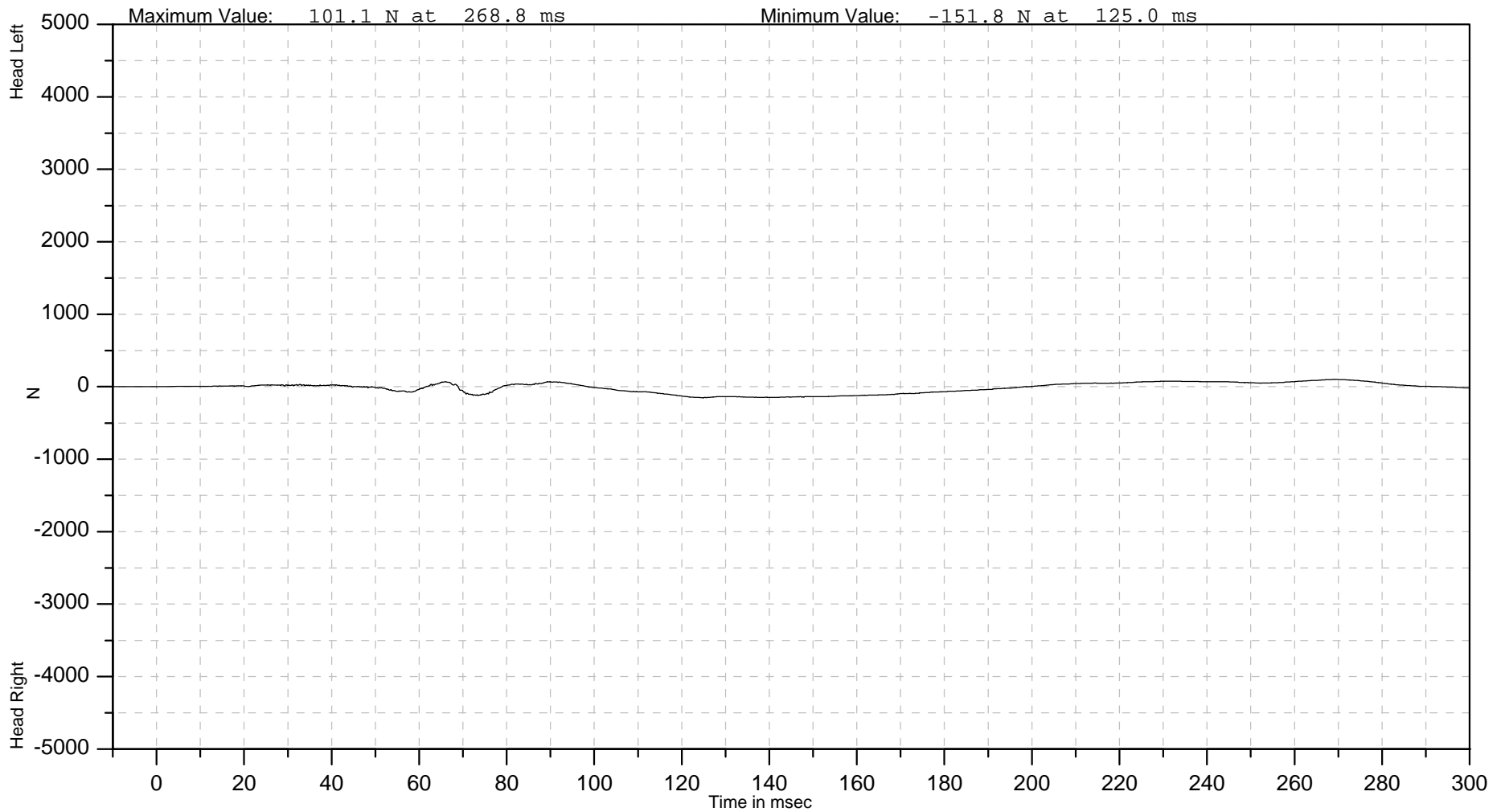
ISO Channel
13NECKUP00H3FOYA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Upper Neck Y Force





Autoliv North America (NTC)

Autoliv Channel
13NECKUP00H3FOZA

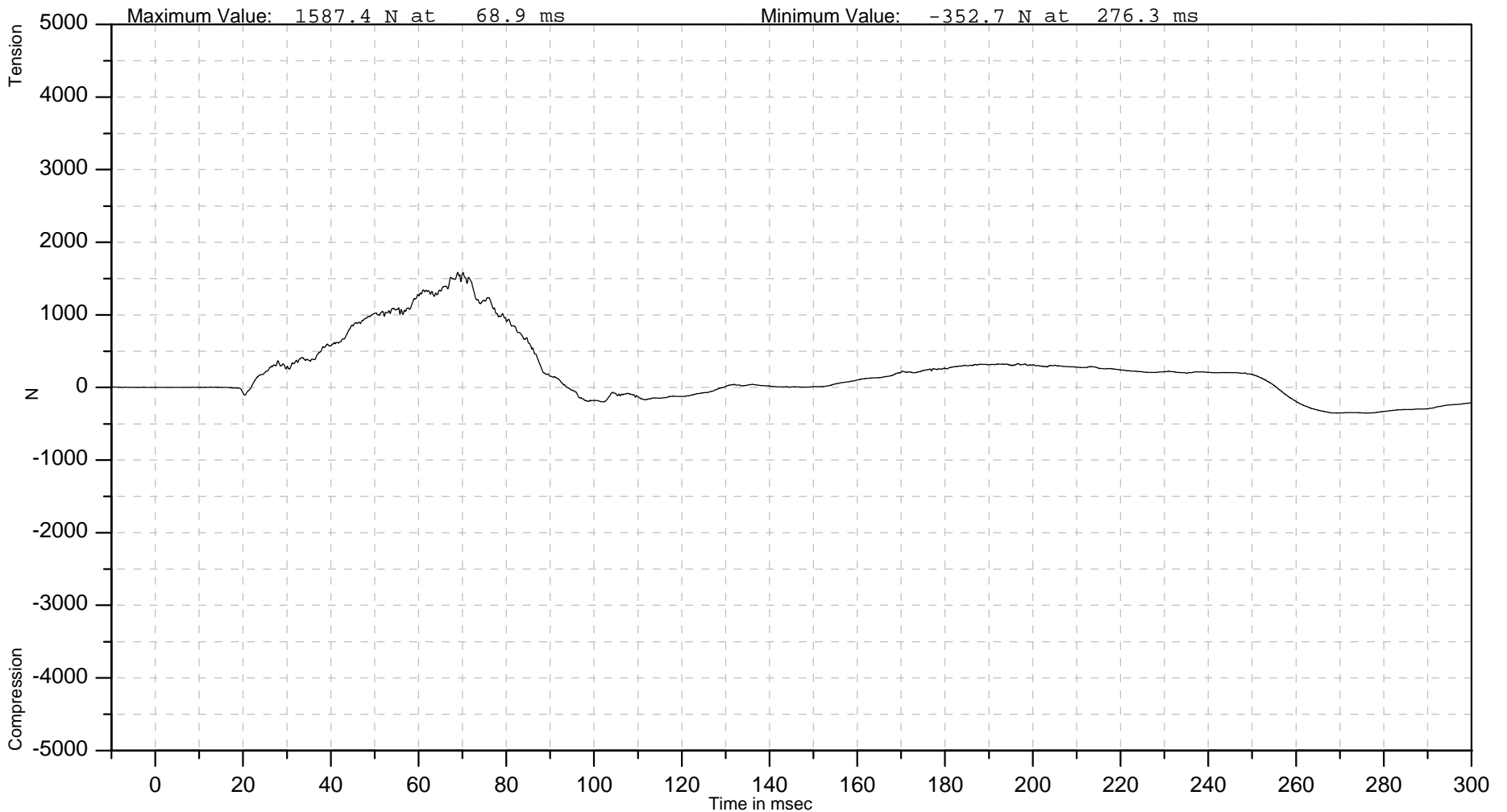
ISO Channel
13NECKUP00H3FOZA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Upper Neck Z Force





Autoliv North America (NTC)

Autoliv Channel
13NECKUP00H3MOXB

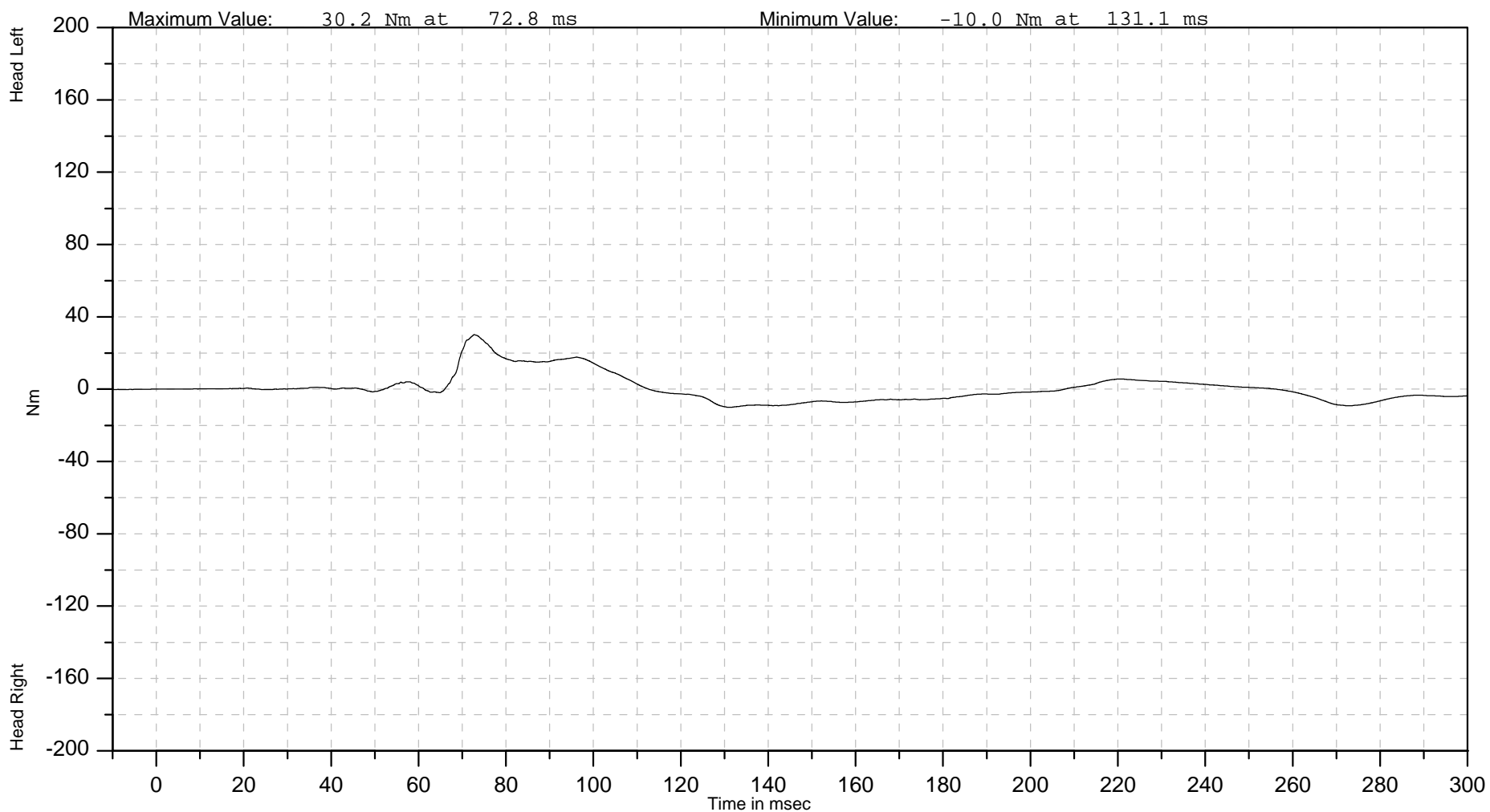
ISO Channel
13NECKUP00H3MOXB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Upper Neck X Moment





Autoliv North America (NTC)

Autoliv Channel
13NECKUP00H3MOYB

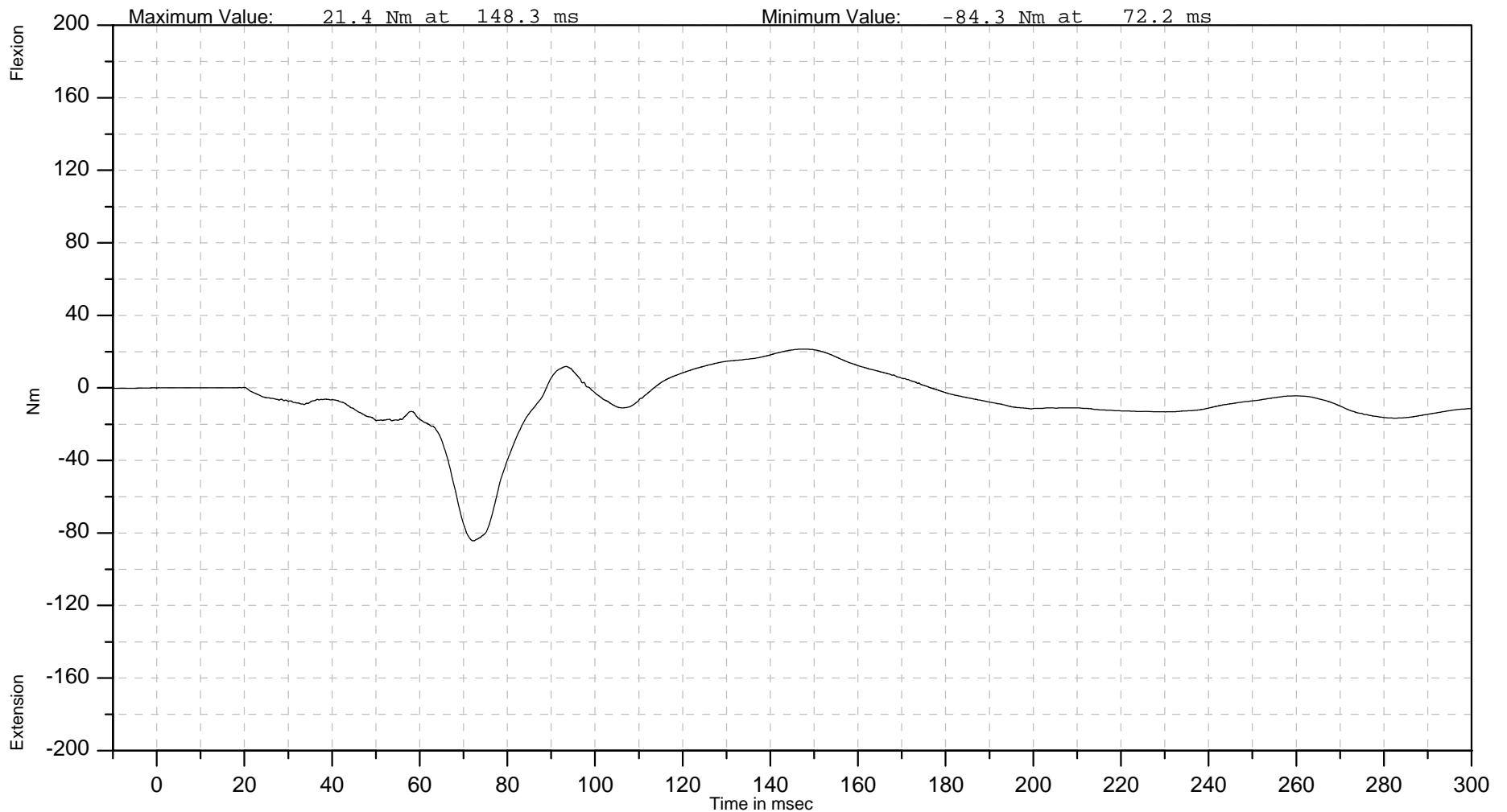
ISO Channel
13NECKUP00H3MOYB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Upper Neck Y Moment





Autoliv North America (NTC)

Autoliv Channel
13NECKUPTOH3MOXB

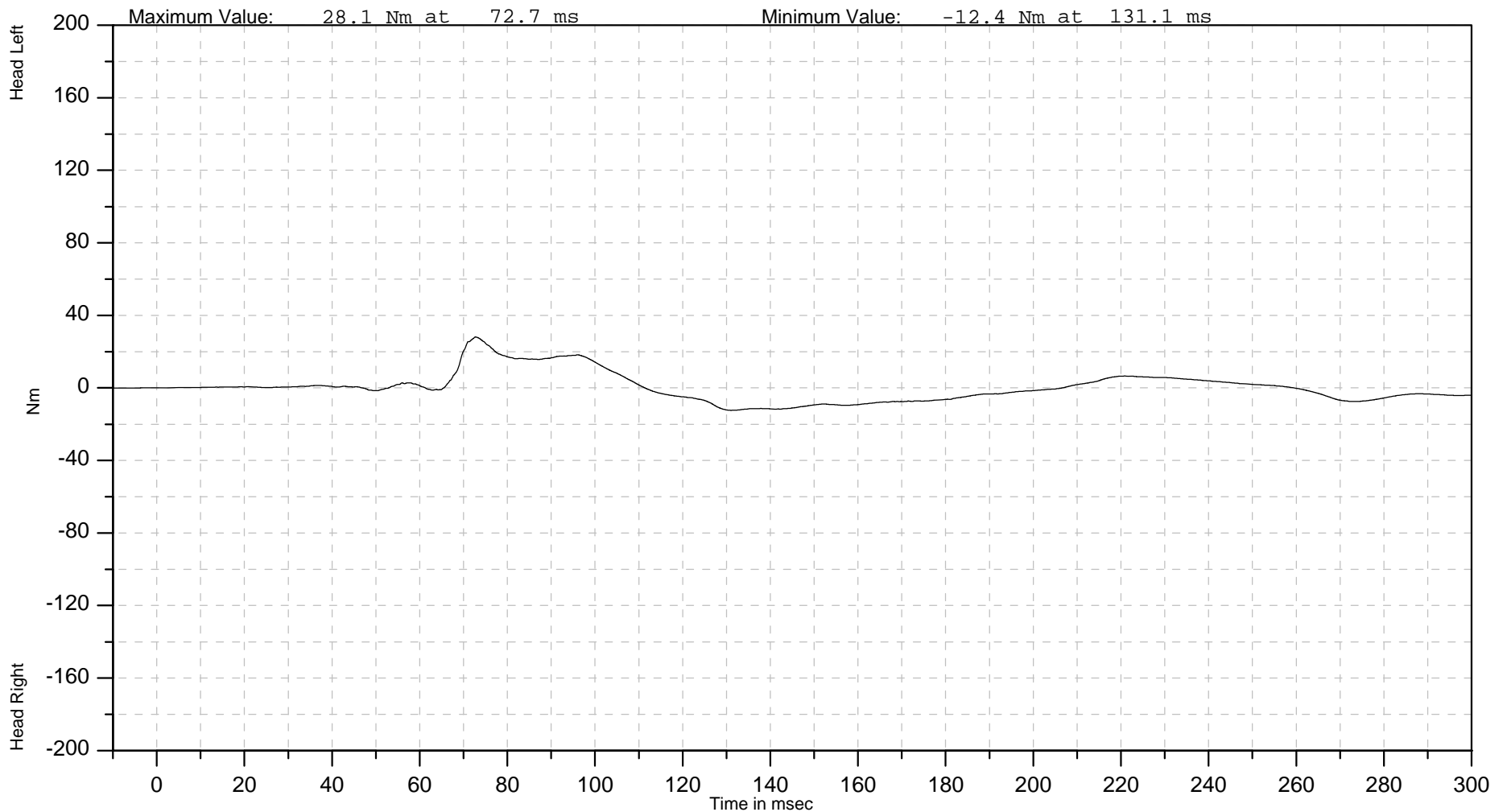
ISO Channel
13NECKUPTOH3MOXB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Occipital Condyle Neck X Moment





Autoliv North America (NTC)

Autoliv Channel
13NECKUPTOH3MOYB

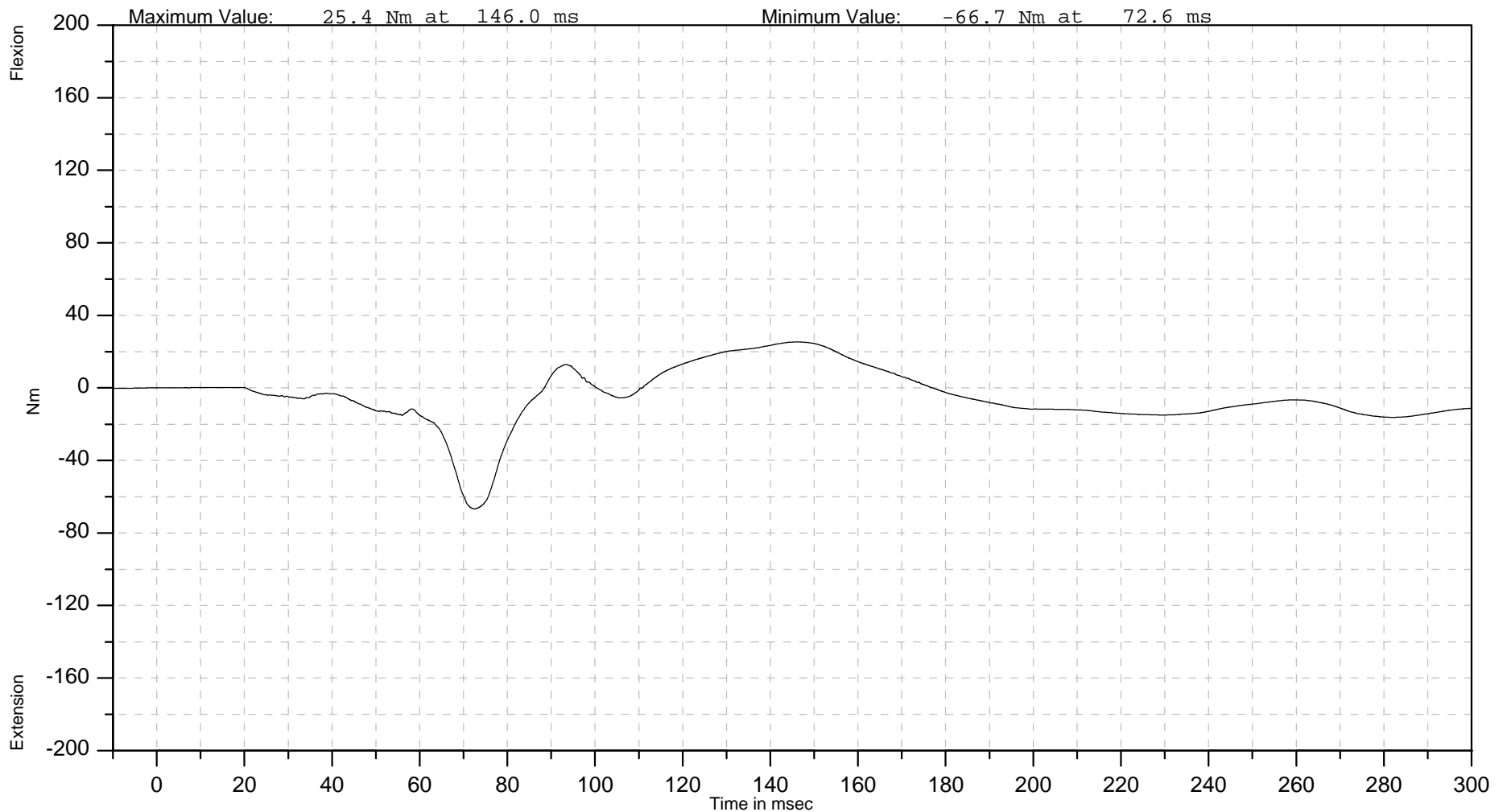
ISO Channel
13NECKUPTOH3MOYB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Occipital Condyle Neck Y Moment





Autoliv North America (NTC)

Autoliv Channel
13NECKUPIJH3000B

ISO Channel
13NECKUPTEH3000B

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

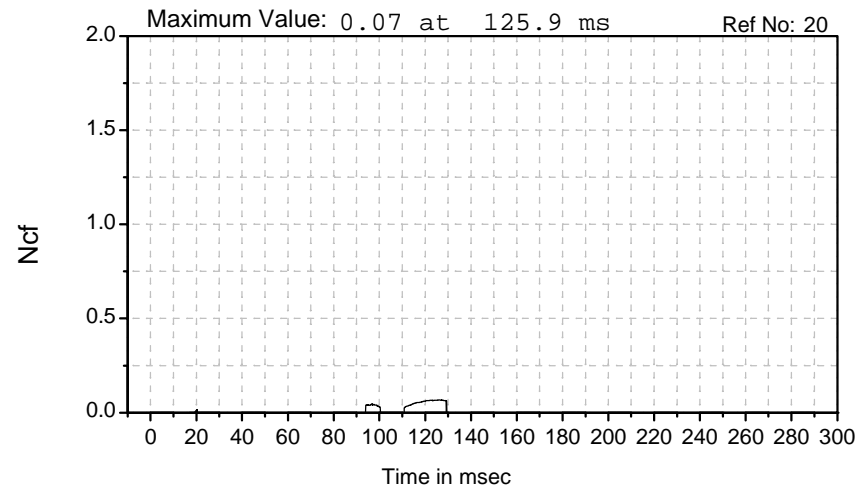
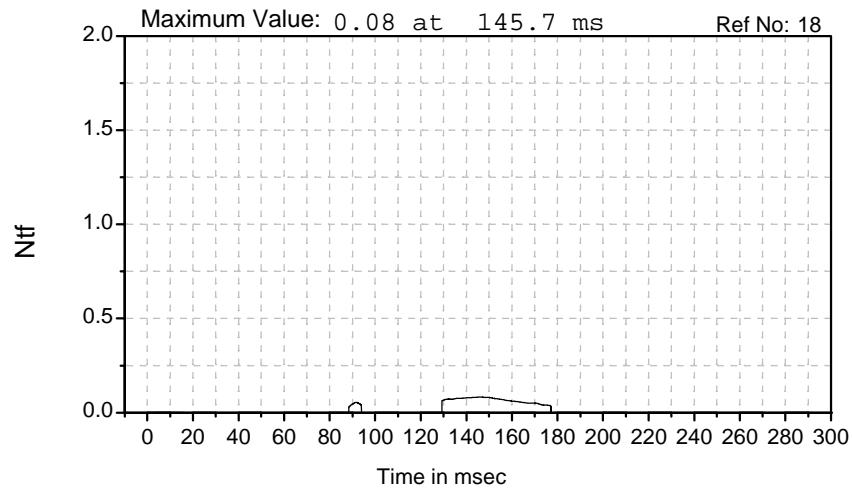
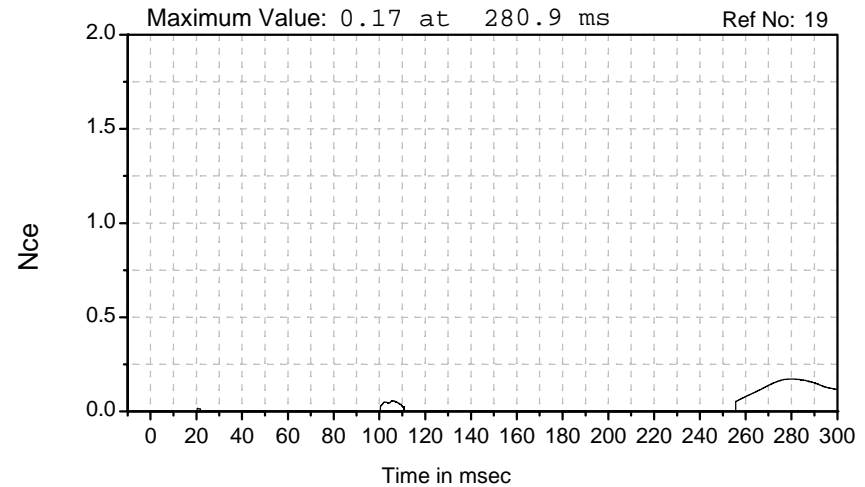
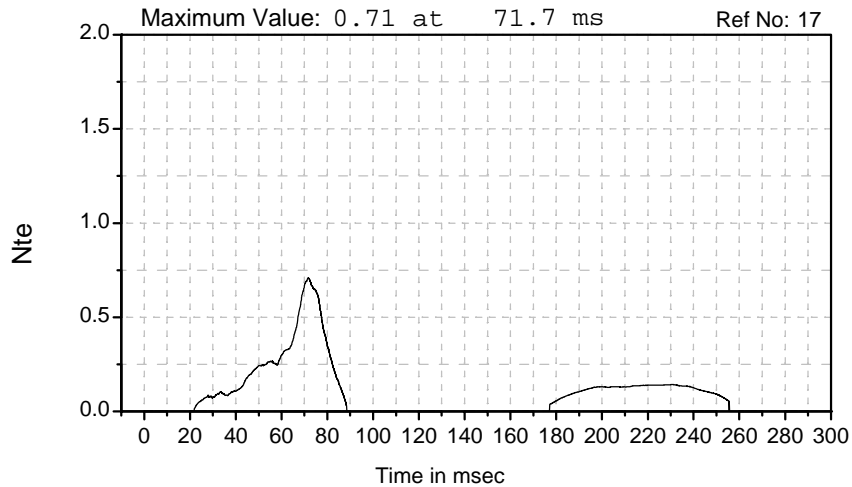
Filter: CFC 600
Sign Convention: SAE J211

RFP Nij

NIJ value is 0.71 calculated From Tension-Extension Component

Critical Values:

Tension = 6806 N Flexion = 310 Nm
Compressions = 6160 N Extension = 135 Nm





Autoliv North America (NTC)

Autoliv Channel
13NECKUPIJH3000B

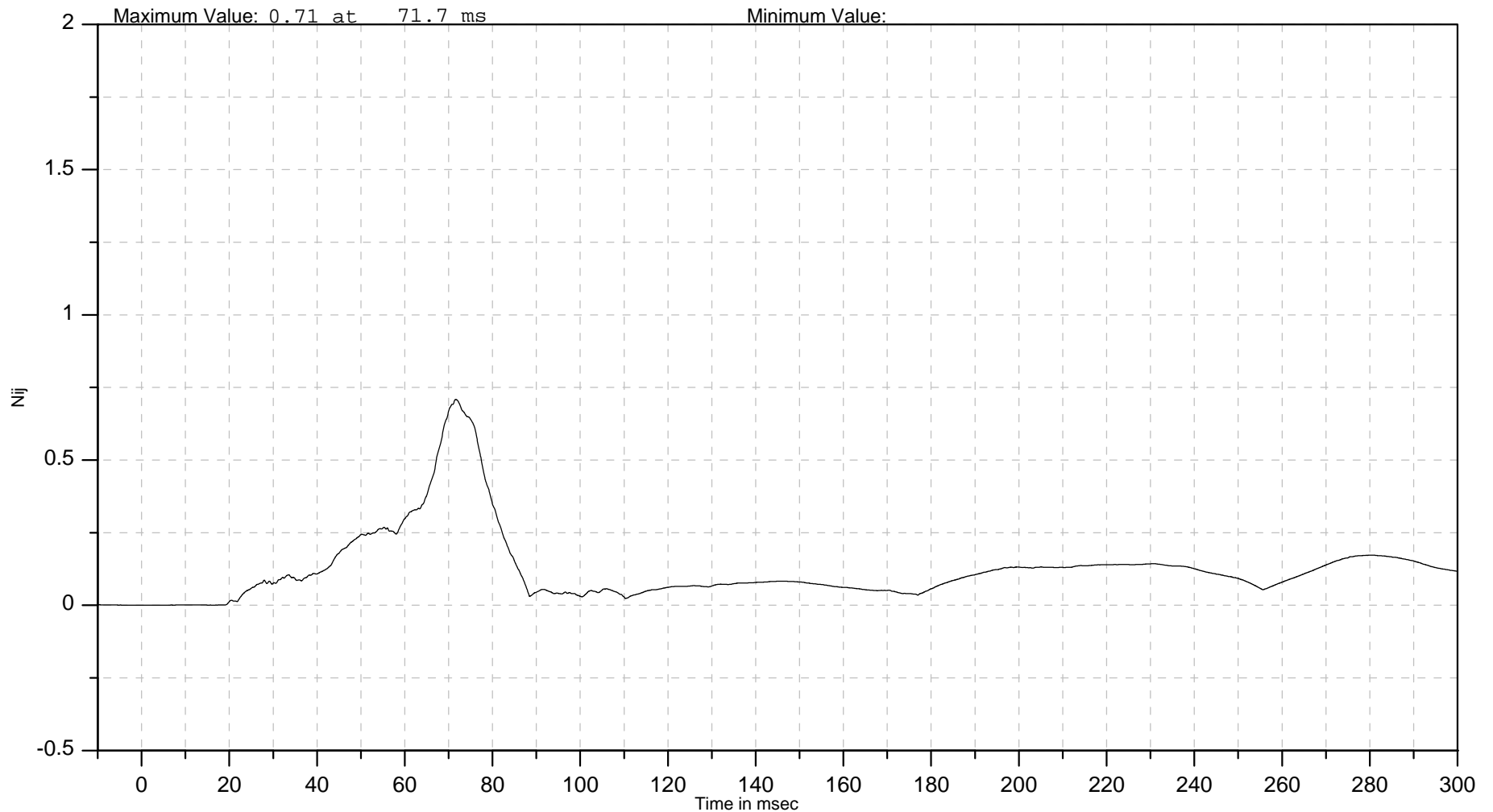
ISO Channel
13NECKUPIJH3000B

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Upper Nij Neck





Autoliv North America (NTC)

Autoliv Channel
13NECKUP00H3MOZB

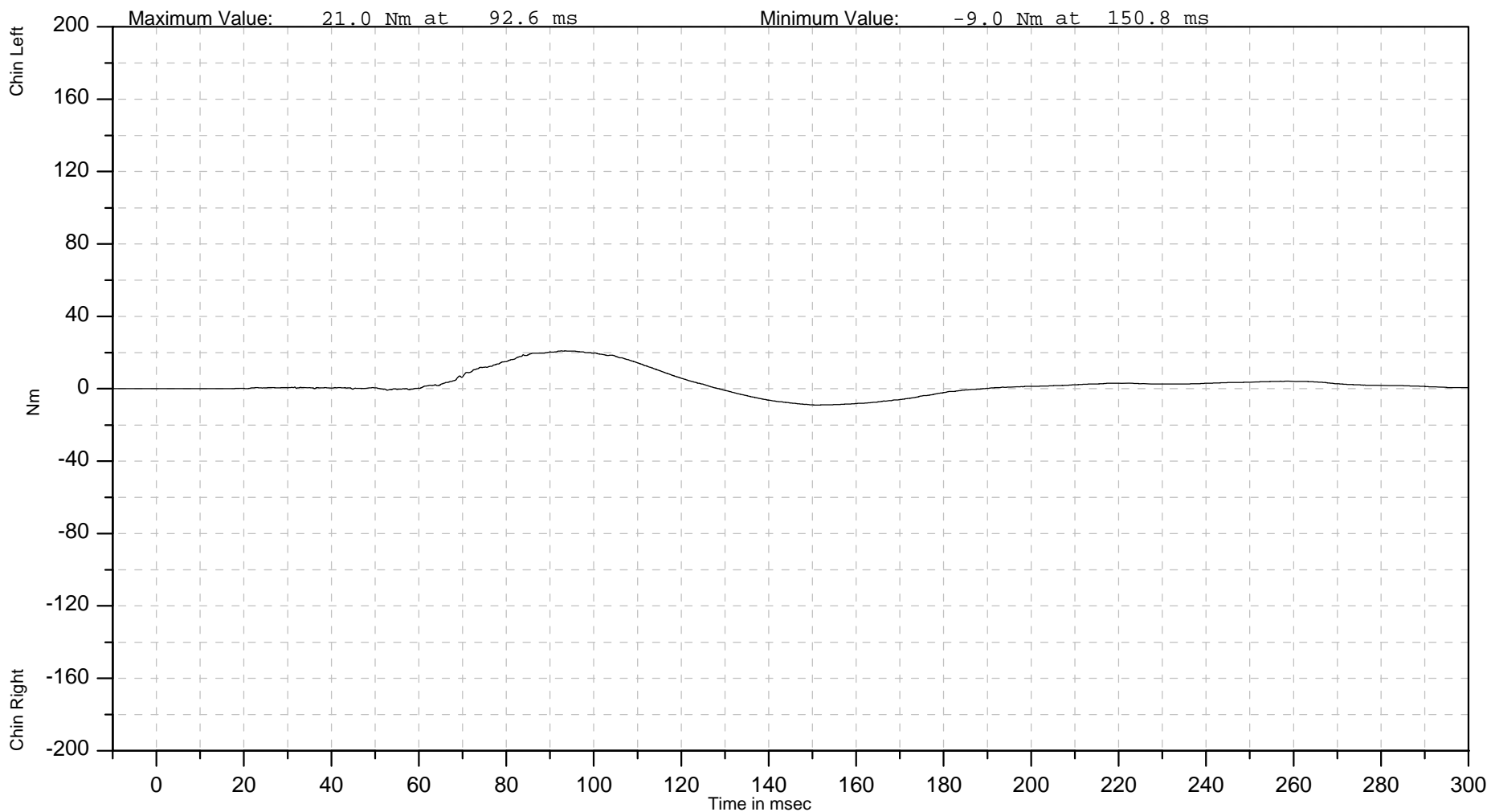
ISO Channel
13NECKUP00H3MOZB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Upper Neck Z Moment





Autoliv North America (NTC)

Autoliv Channel
13CHST0000H3ACXC

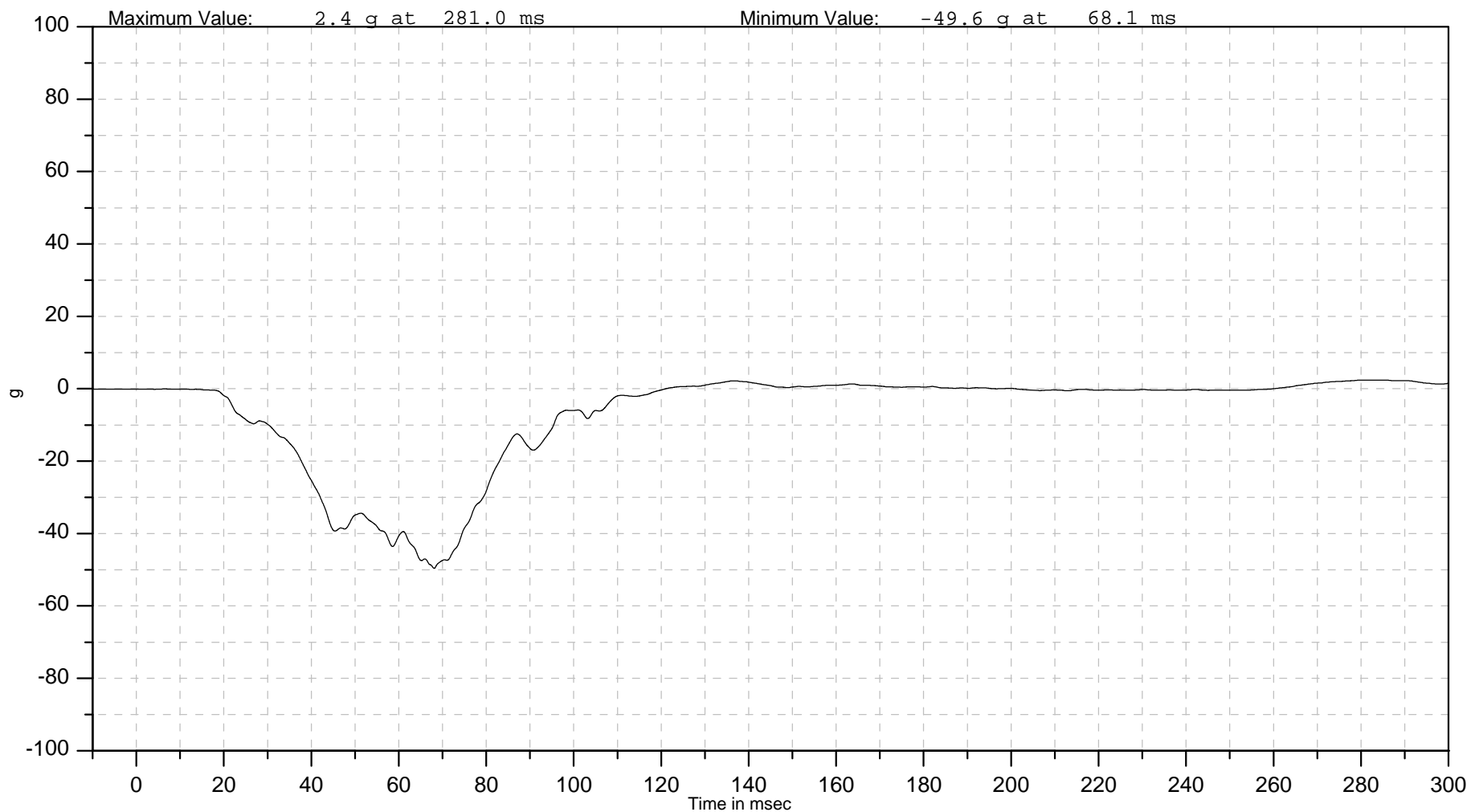
ISO Channel
13CHST0000H3ACXC

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 180
Sign Convention: SAE J211

RFP Chest X Acceleration





Autoliv North America (NTC)

Autoliv Channel
13CHST0000H3ACYC

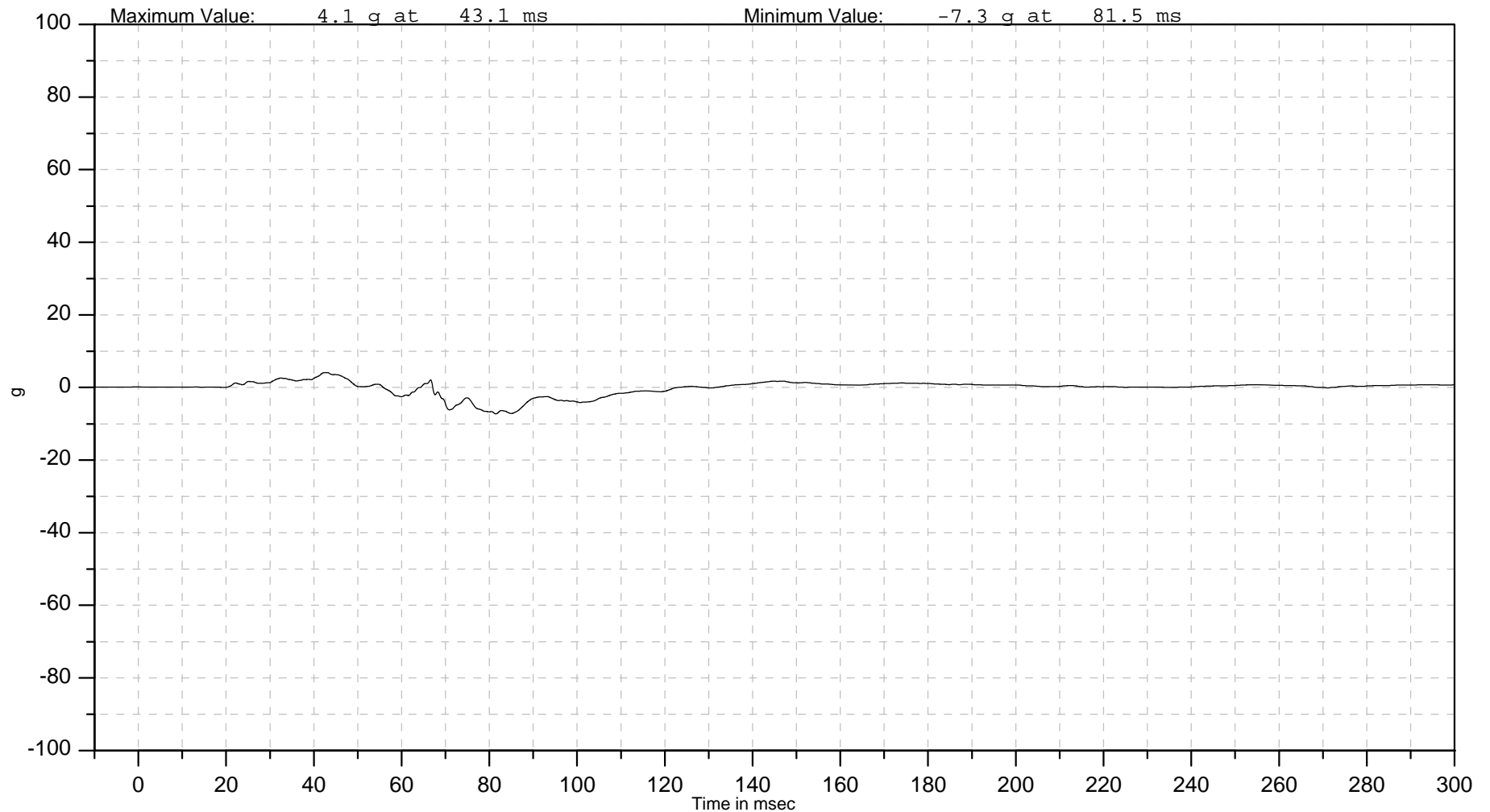
ISO Channel
13CHST0000H3ACYC

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 180
Sign Convention: SAE J211

RFP Chest Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
13CHST0000H3ACZC

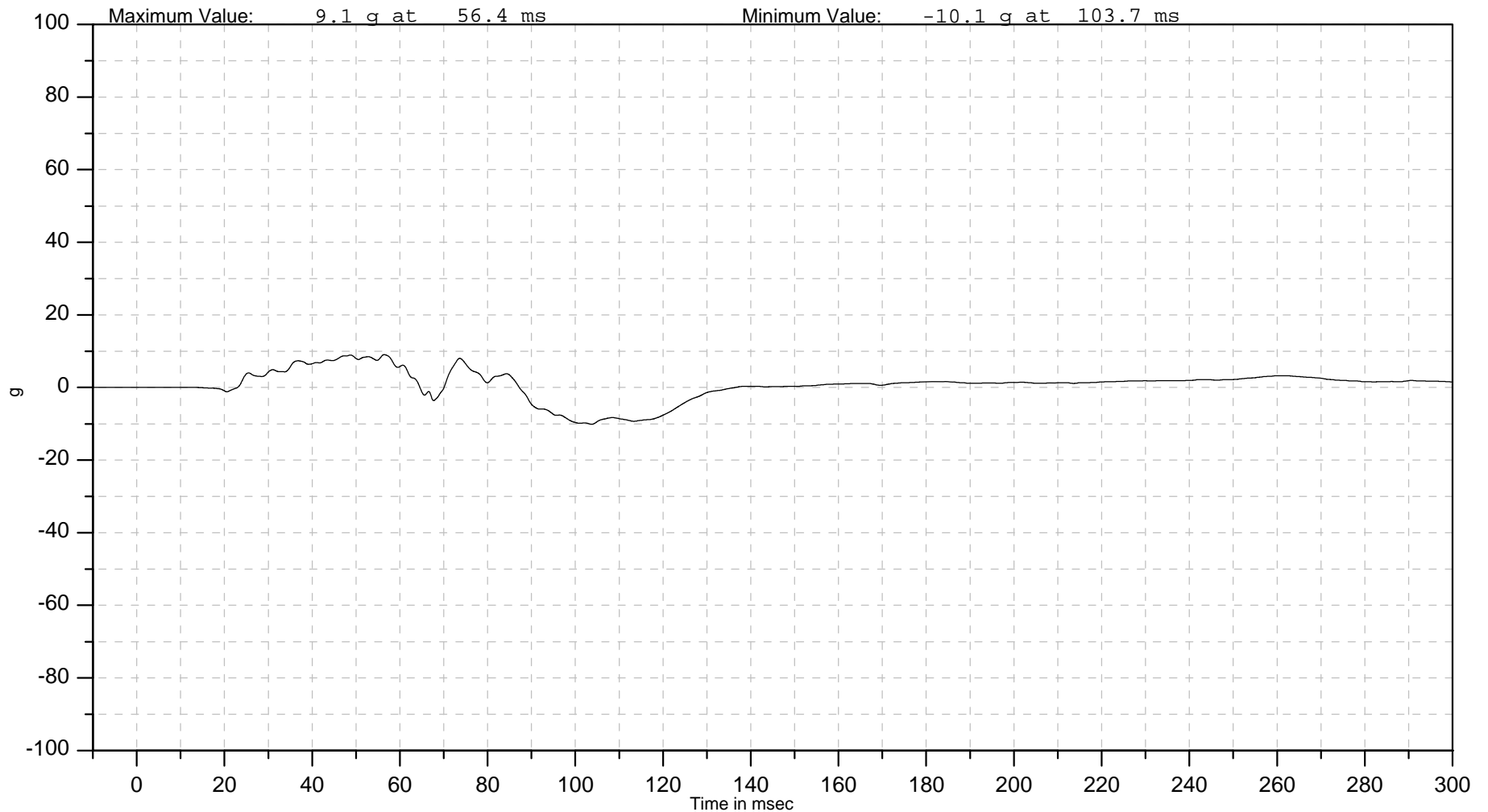
ISO Channel
13CHST0000H3ACZC

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 180
Sign Convention: SAE J211

RFP Chest Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
13CHST0000H3ACRC

ISO Channel
13CHST0000H3ACRC

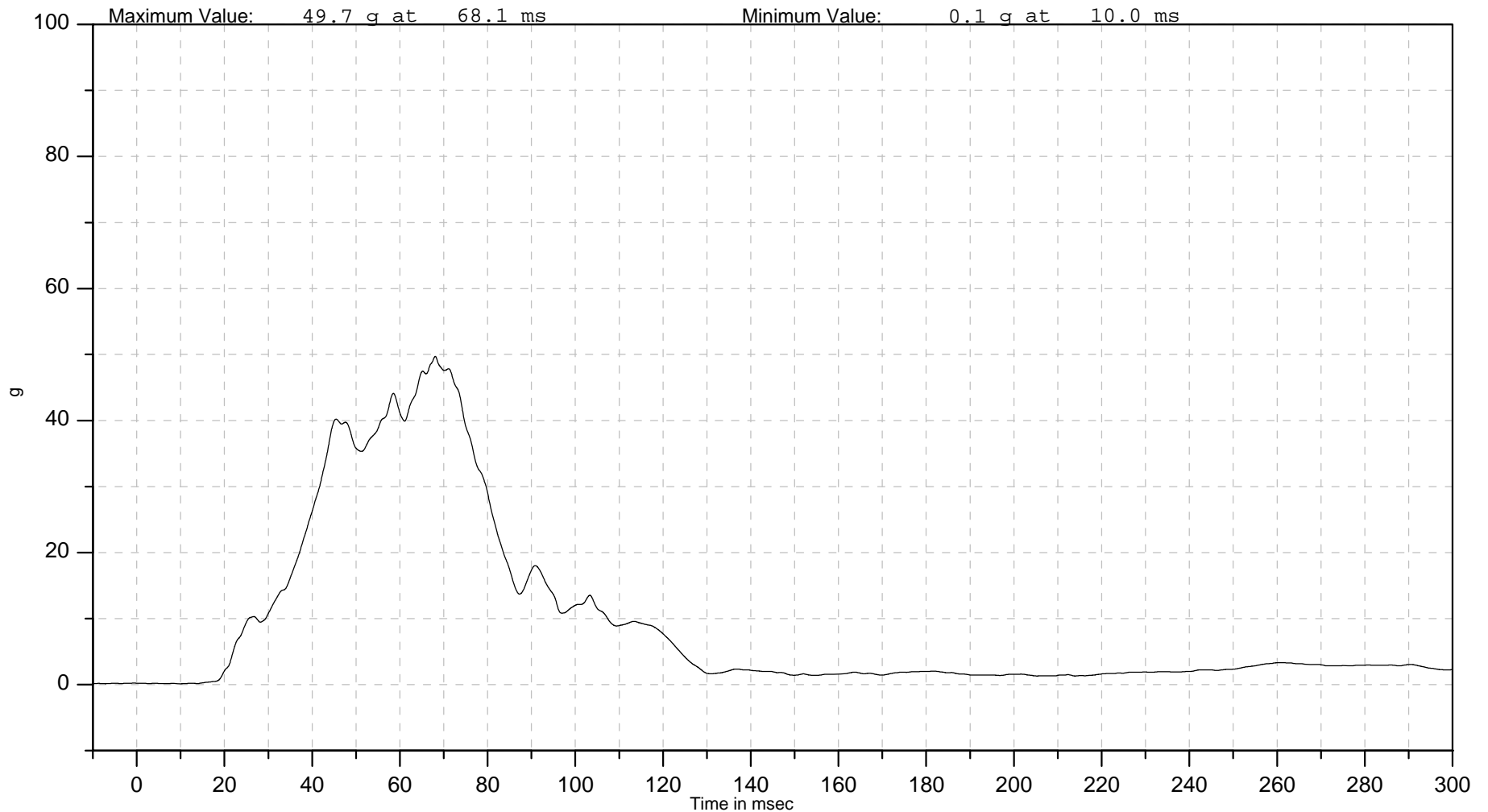
Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 180
Sign Convention: SAE J211

RFP Chest Resultant Acceleration

3ms Cumulative Clip Value: 47.9 g from 66.6 to 71.1 msec
3ms Continuous Clip Value: 47.8 g from 66.6 to 69.6 msec





Autoliv North America (NTC)

Autoliv Channel
13CHST0000H3DSXB

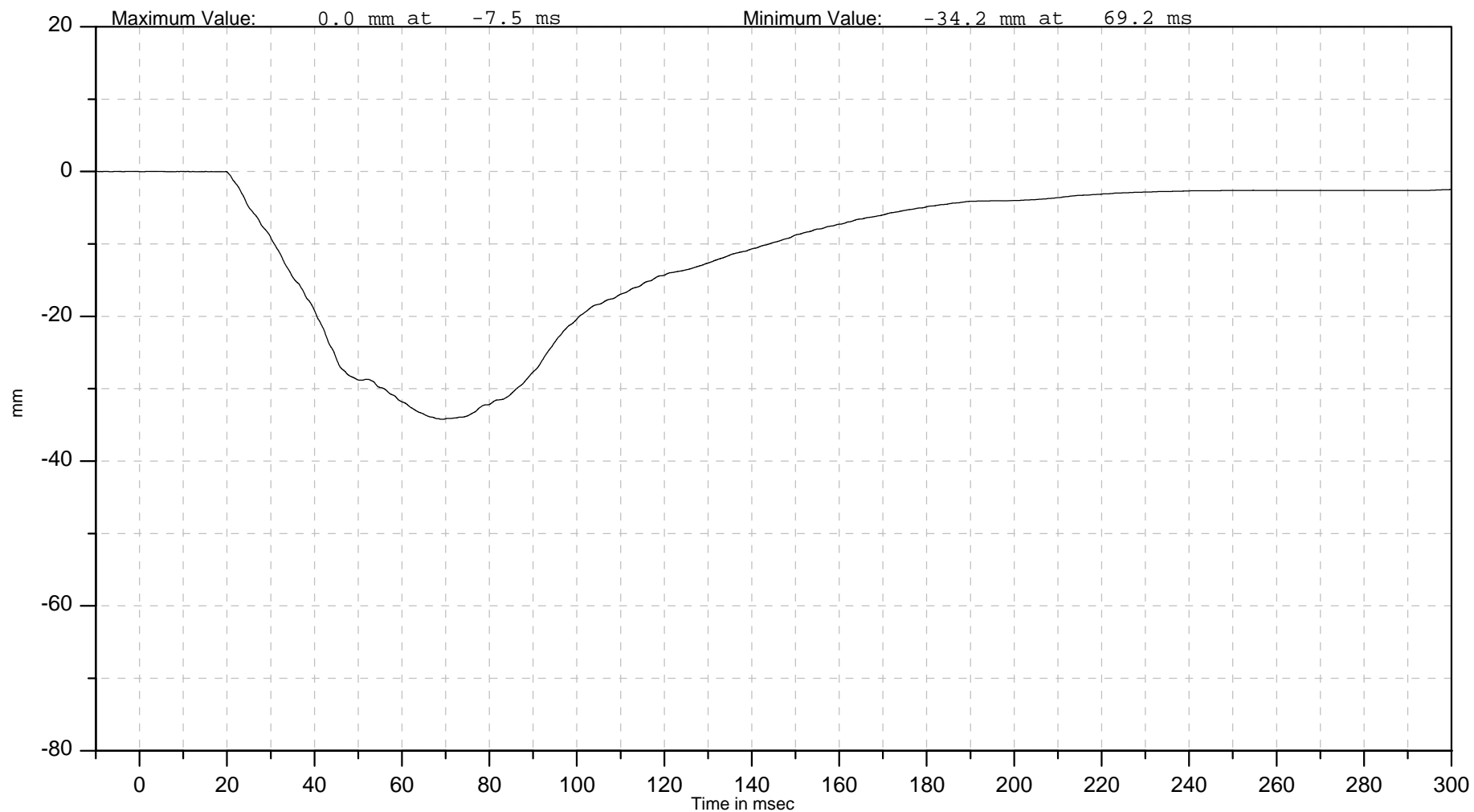
ISO Channel
13CHST0000H3DSXB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Chest Deflection





Autoliv North America (NTC)

Autoliv Channel
13PELV0000H3ACXA

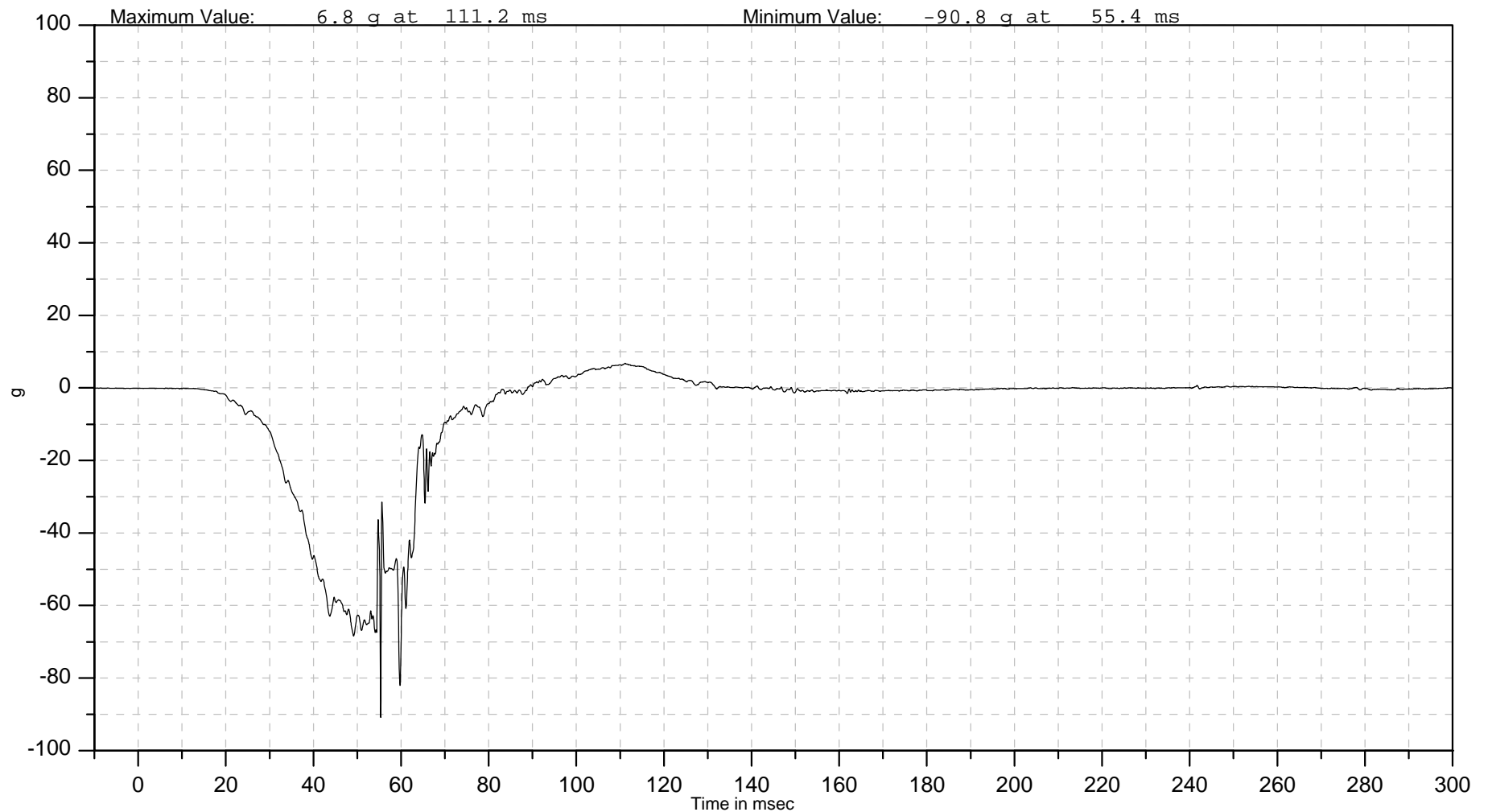
ISO Channel
13PELV0000H3ACXA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Pelvis X Acceleration





Autoliv North America (NTC)

Autoliv Channel
13PELV0000H3ACYA

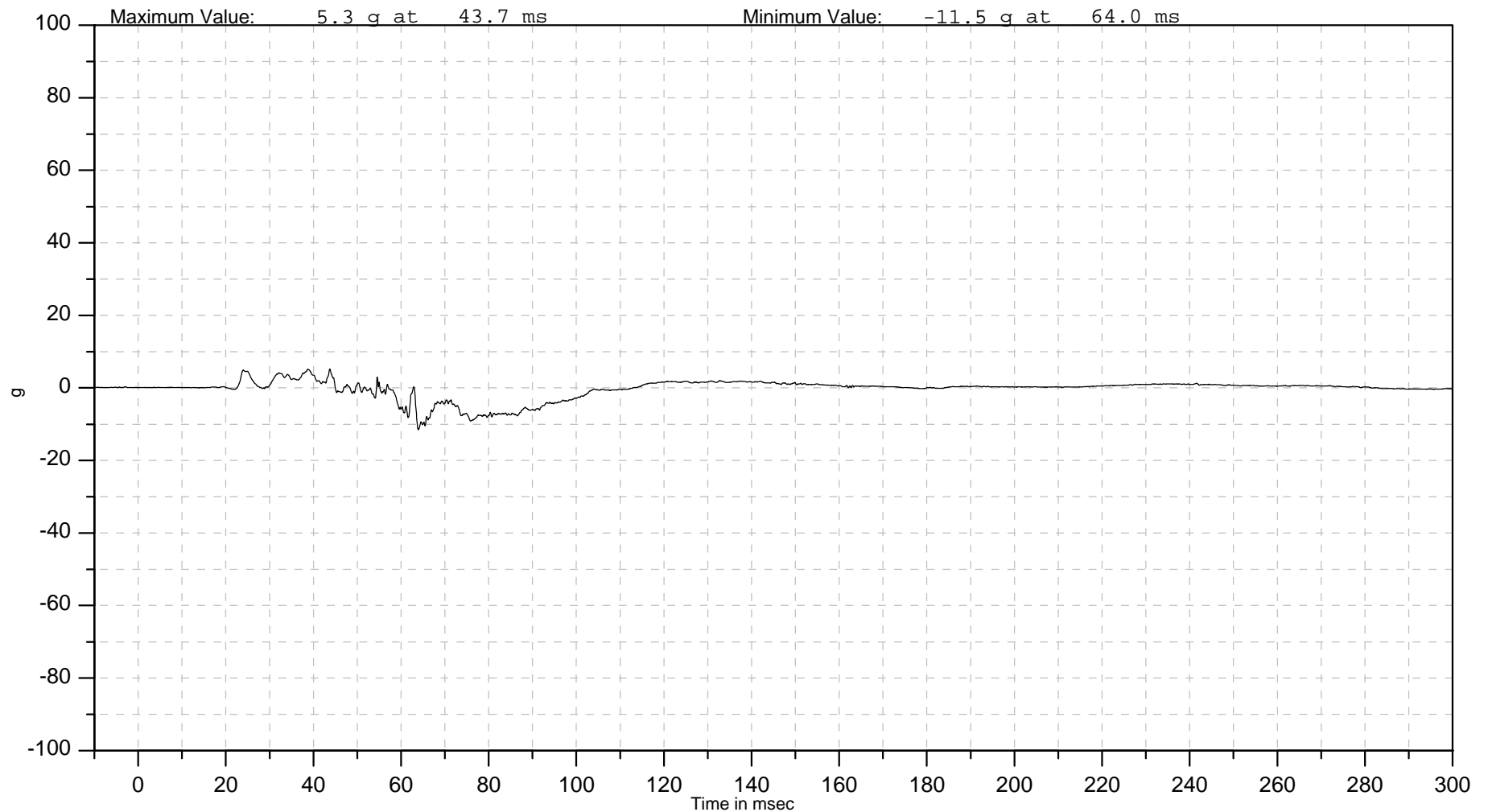
ISO Channel
13PELV0000H3ACYA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Pelvis Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
13PELV0000H3ACZA

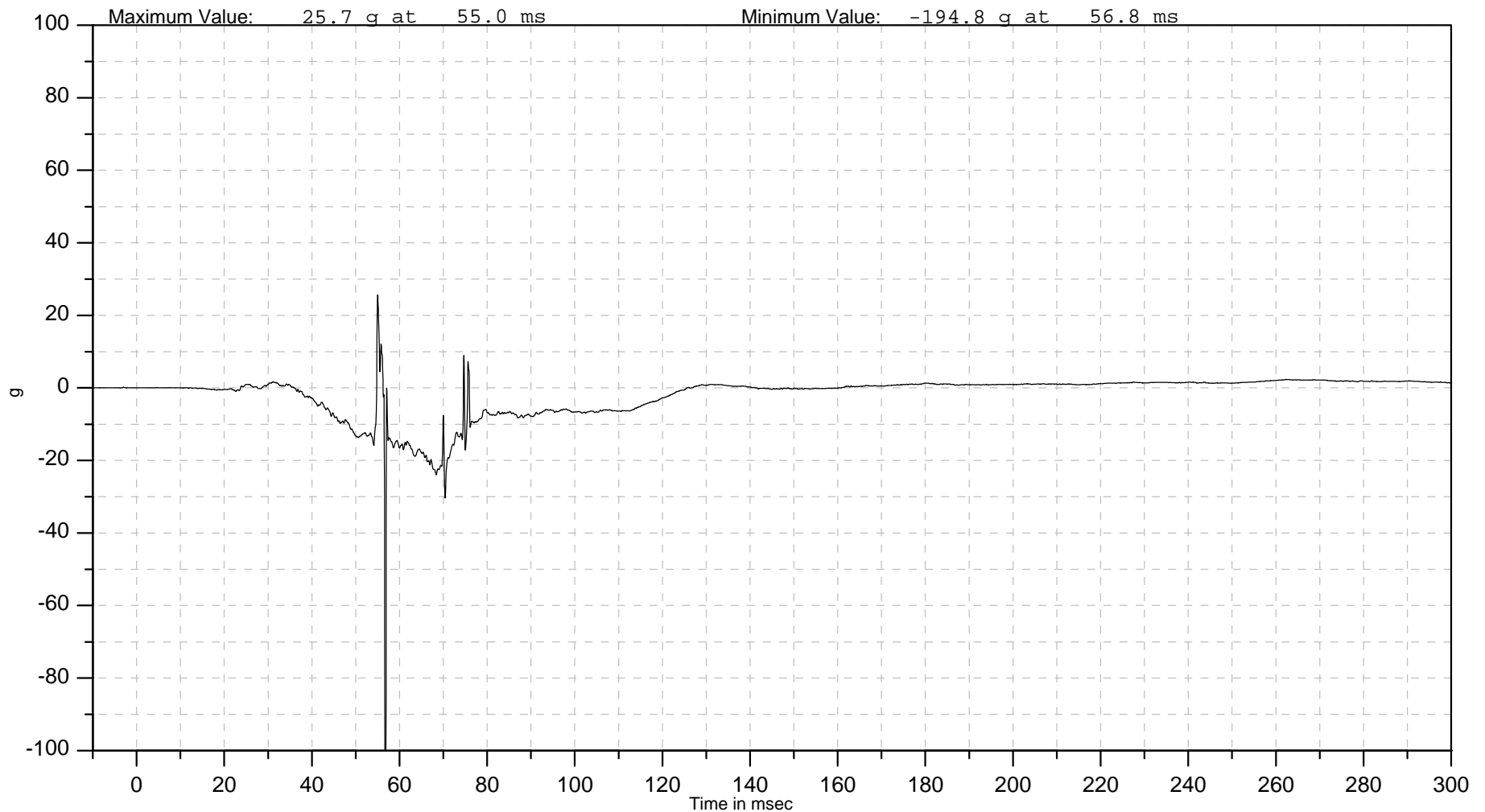
ISO Channel
13PELV0000H3ACZA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Pelvis Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
13PELV0000H3ACZA

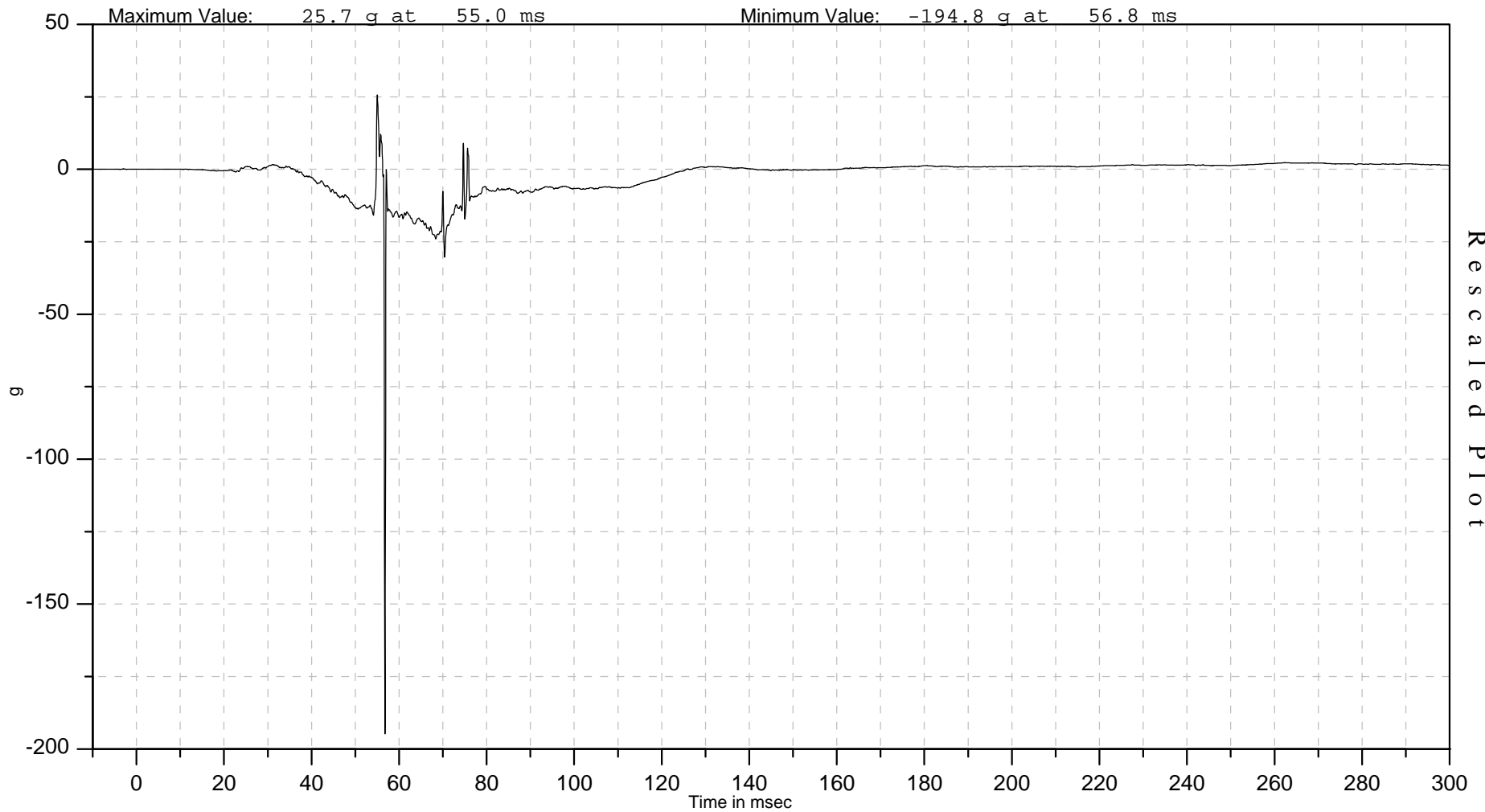
ISO Channel
13PELV0000H3ACZA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Pelvis Z Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
13PELV0000H3ACRA

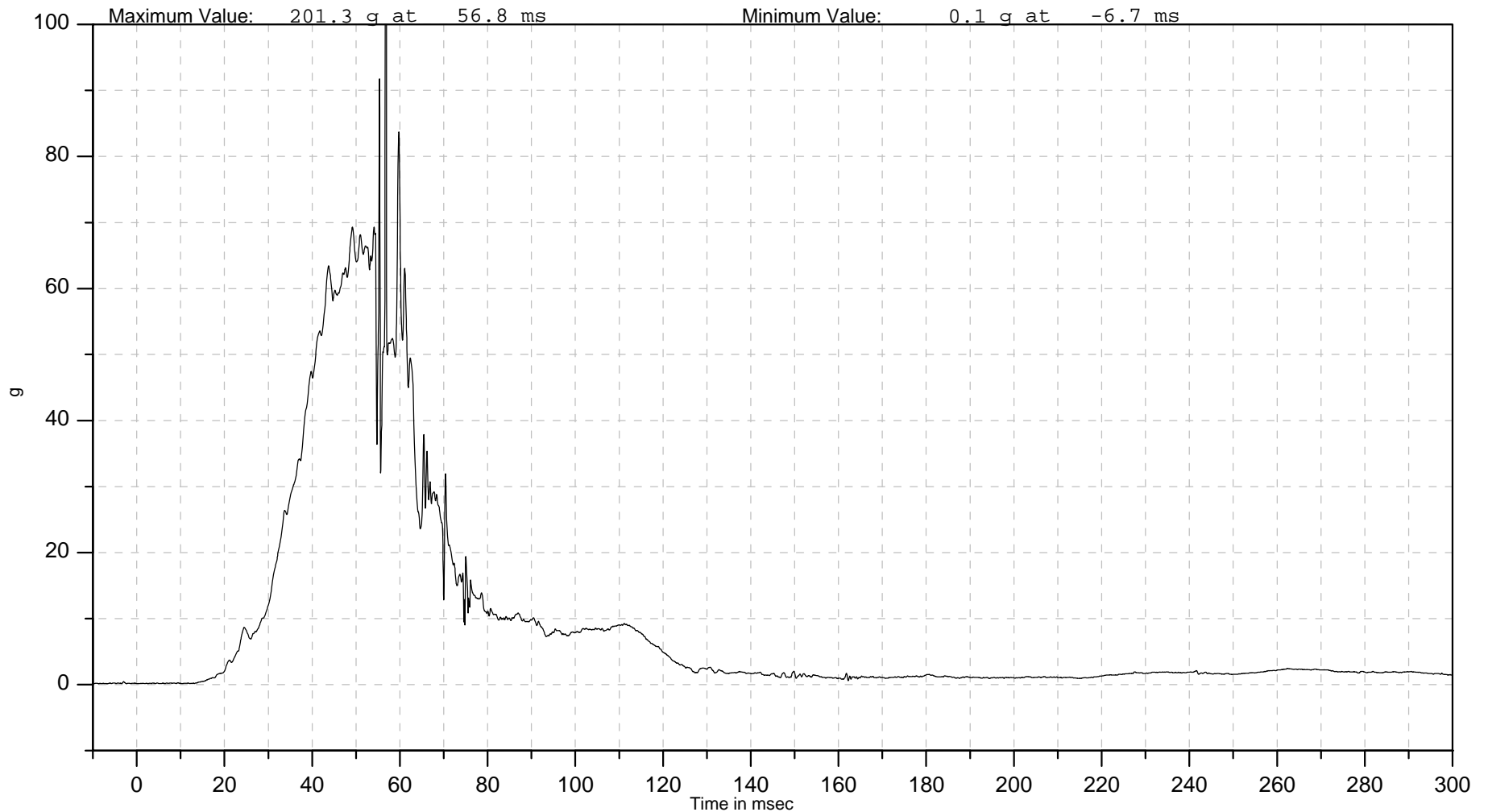
ISO Channel
13PELV0000H3ACRA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Pelvis Resultant Acceleration





Autoliv North America (NTC)

Autoliv Channel
13PELV0000H3ACRA

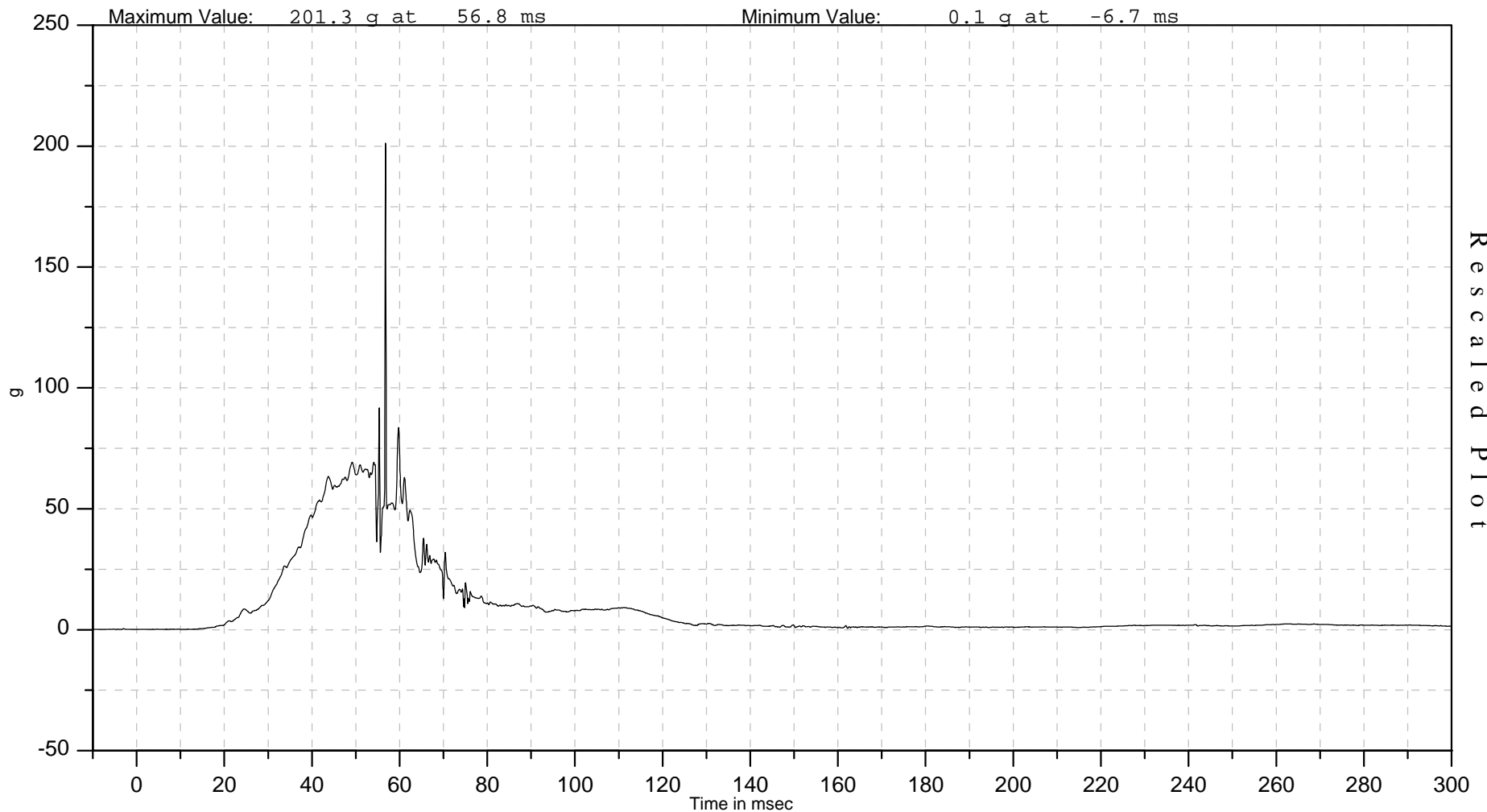
ISO Channel
13PELV0000H3ACRA

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 1000
Sign Convention: SAE J211

RFP Pelvis Resultant Acceleration



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
13FEMRLE00H3FOZB

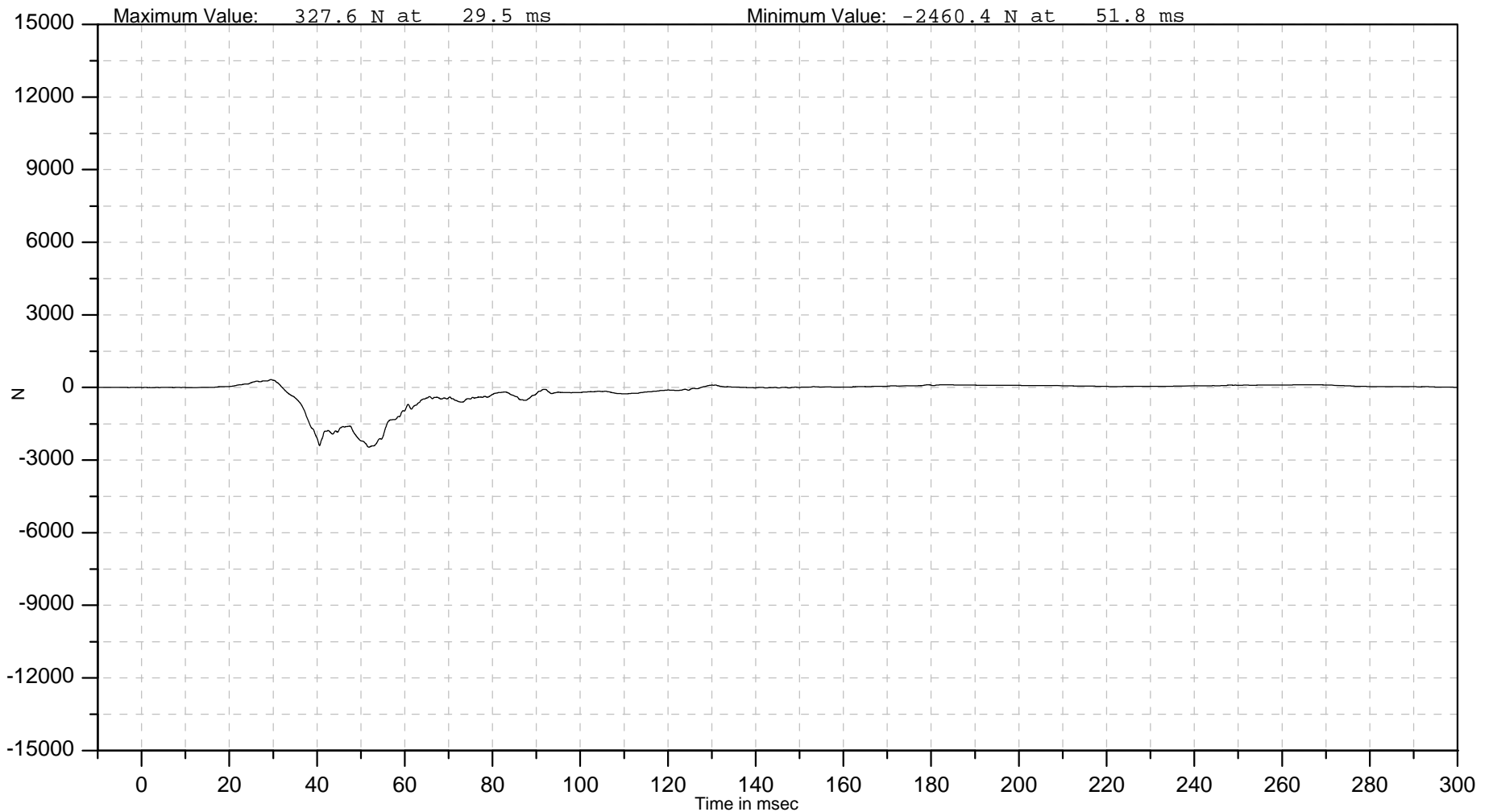
ISO Channel
13FEMRLE00H3FOZB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Left Femur Z Force





Autoliv North America (NTC)

Autoliv Channel
13FEMRRI00H3FOZB

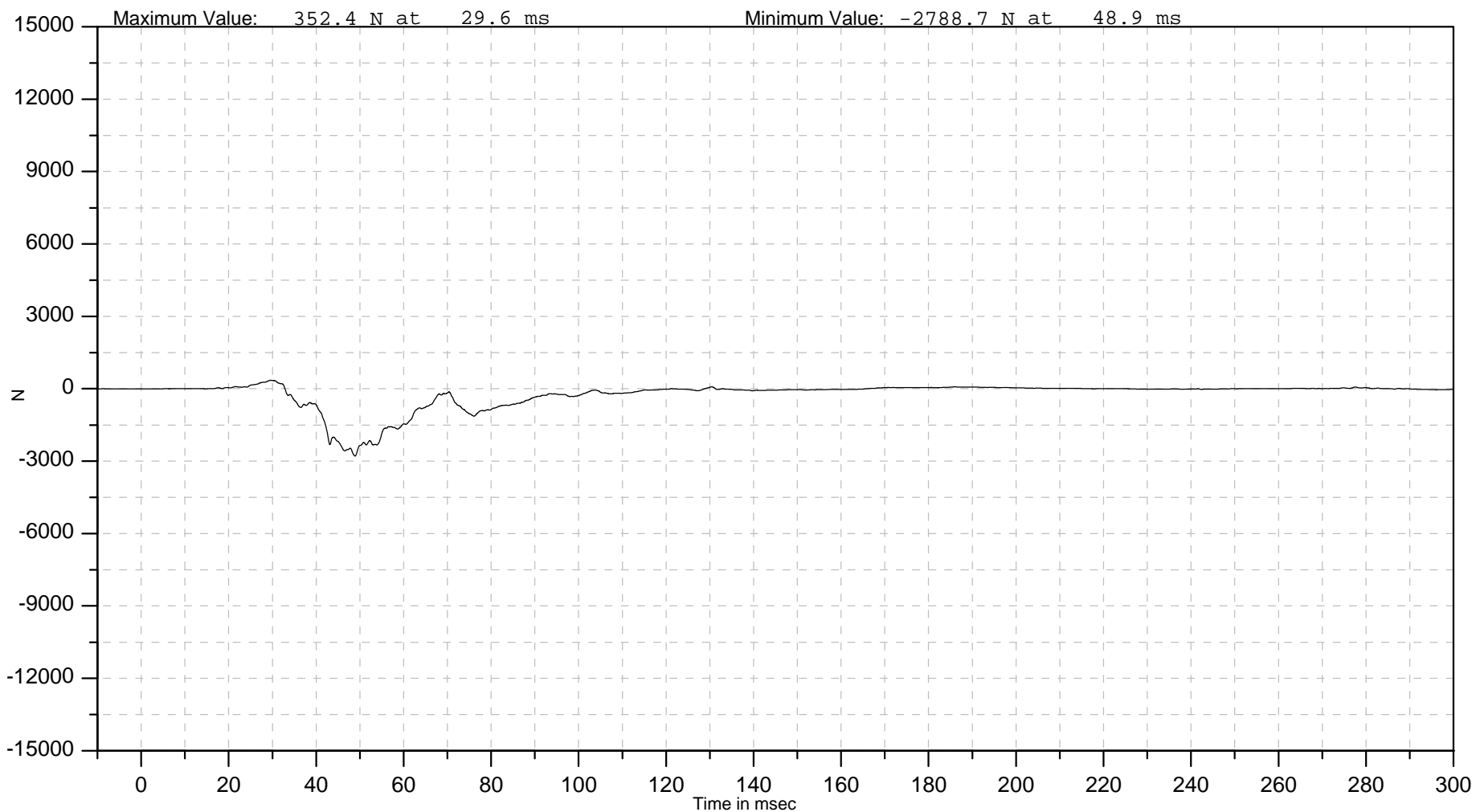
ISO Channel
13FEMRRI00H3FOZB

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Hybrid III 50th

Filter: CFC 600
Sign Convention: SAE J211

RFP Right Femur Z Force





Autoliv North America (NTC)

Autoliv Channel
13SEBE0000B3FO0D

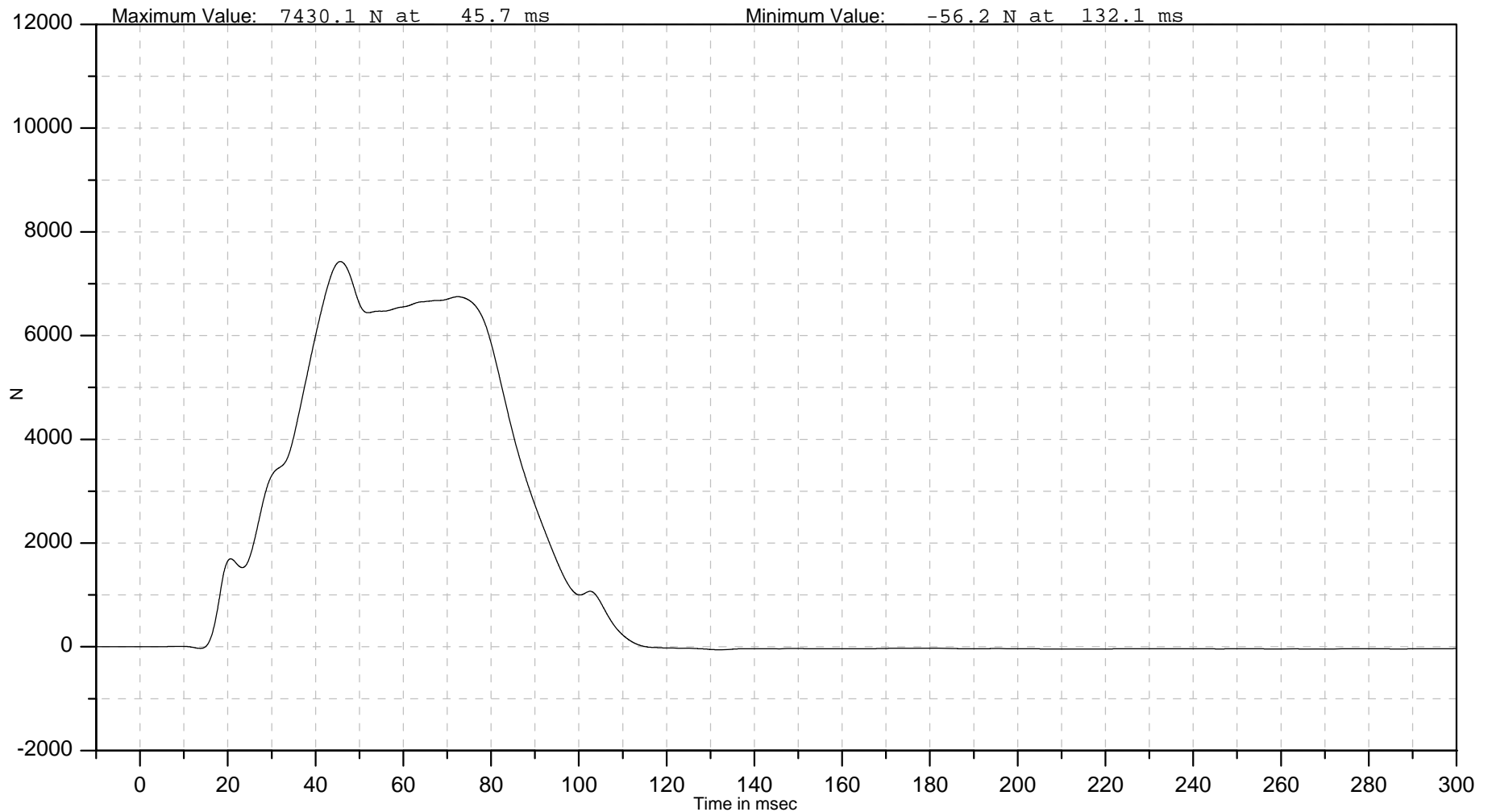
ISO Channel
13SEBE0000B3FO0D

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

RFP at Upper Diagonal Belt Seat Belt Force





Autoliv North America (NTC)

Autoliv Channel
13SEBE0000B6FO0D

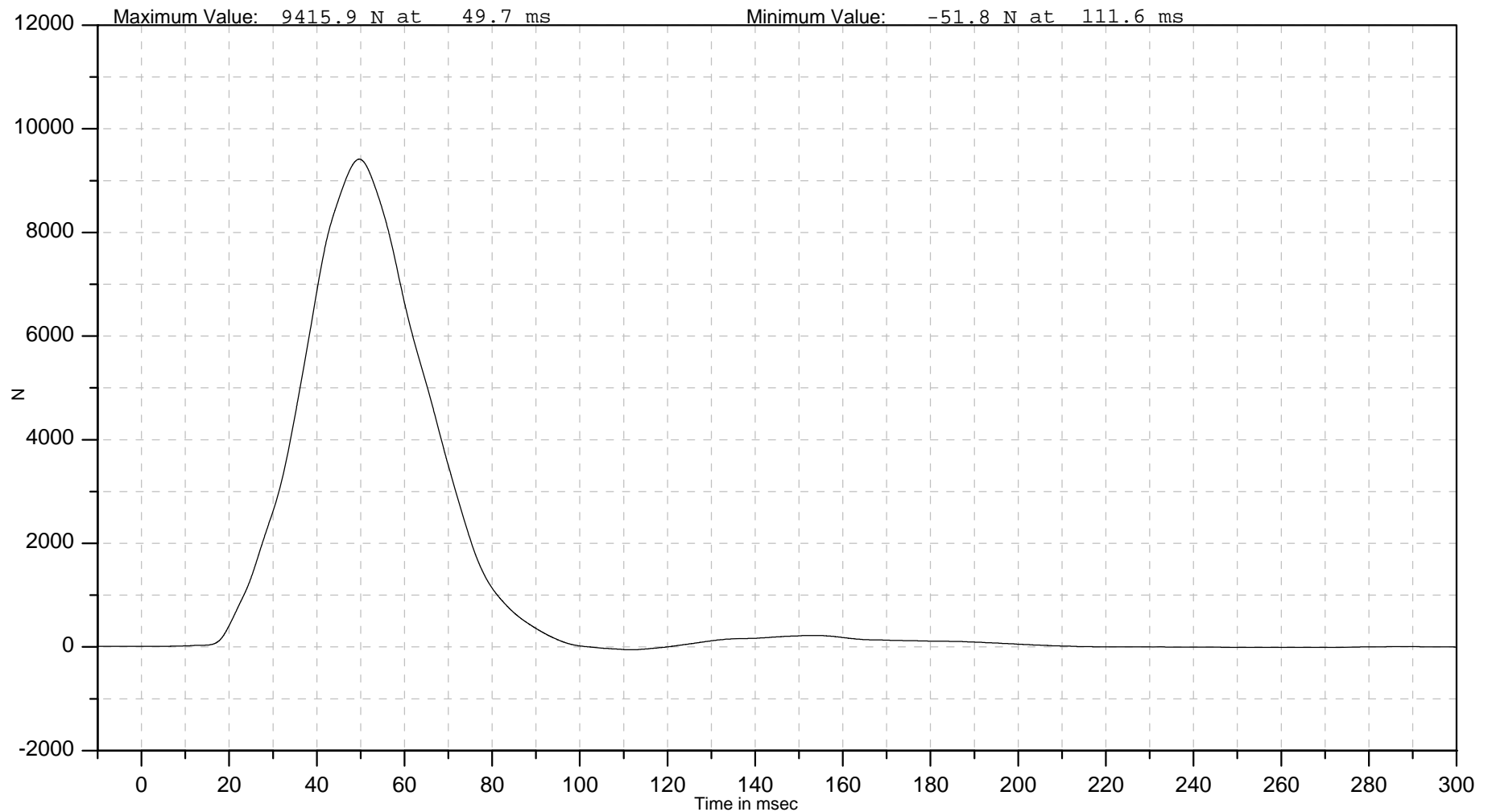
ISO Channel
13SEBE0000B6FO0D

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

RFP at Lap Belt Outside Seat Belt Force





Autoliv North America (NTC)

Autoliv Channel
13AIRB010000CU00

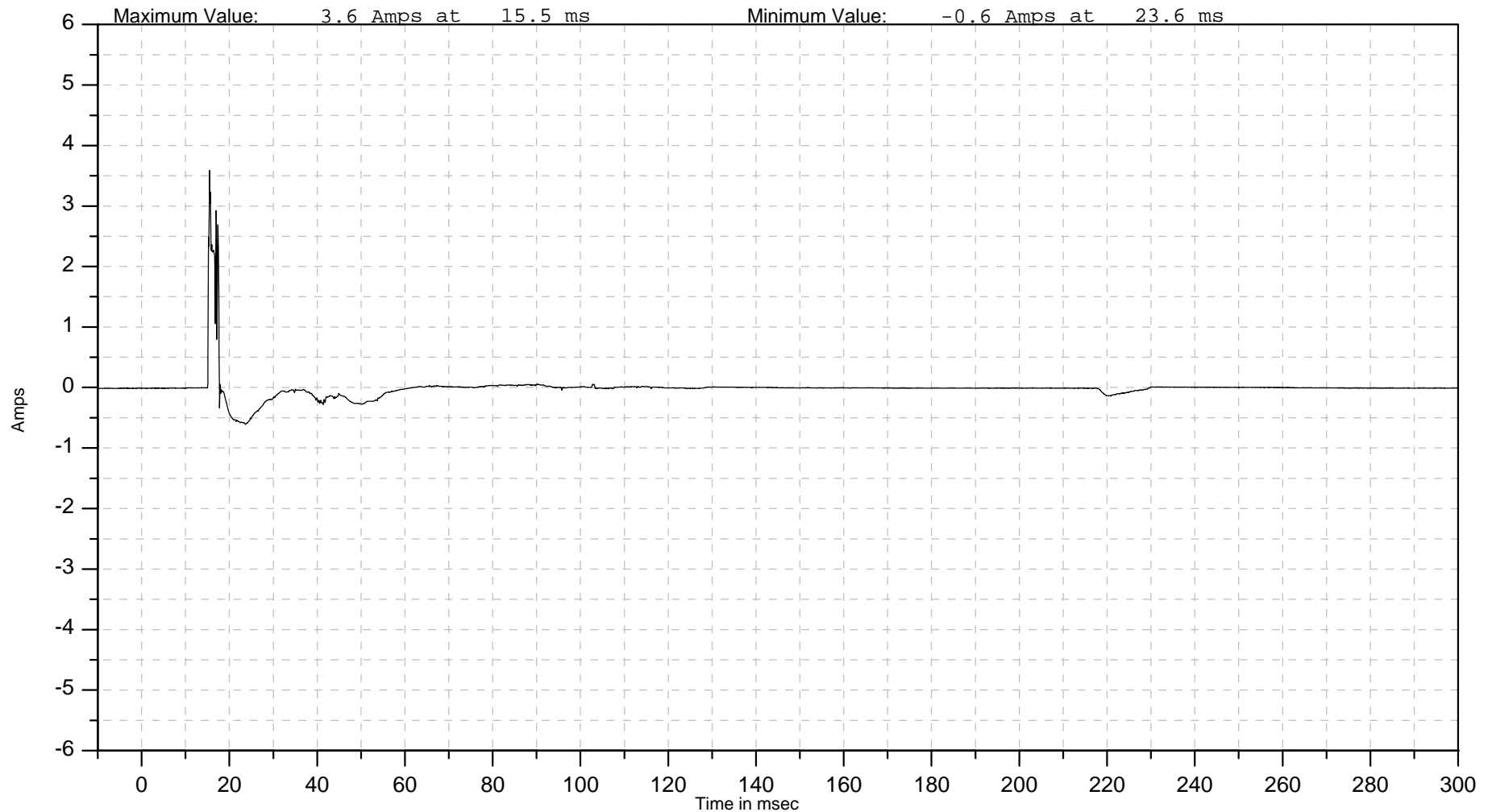
ISO Channel
13AIRB010000CU00

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 1 Airbag Current





Autoliv North America (NTC)

Autoliv Channel
13AIRB020000CU00

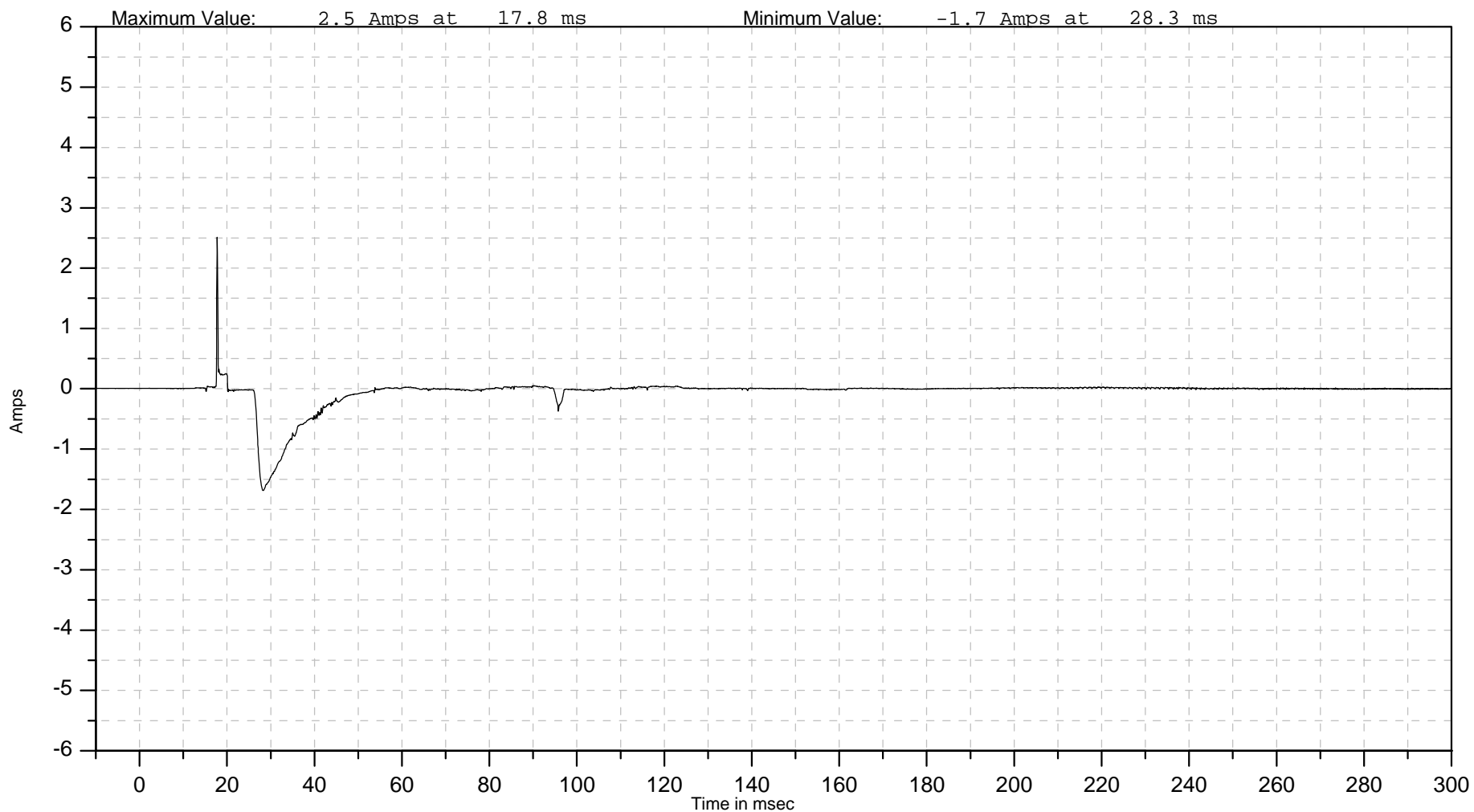
ISO Channel
13AIRB020000CU00

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 2 Airbag Current





Autoliv North America (NTC)

Autoliv Channel
10VEHC000001EV00

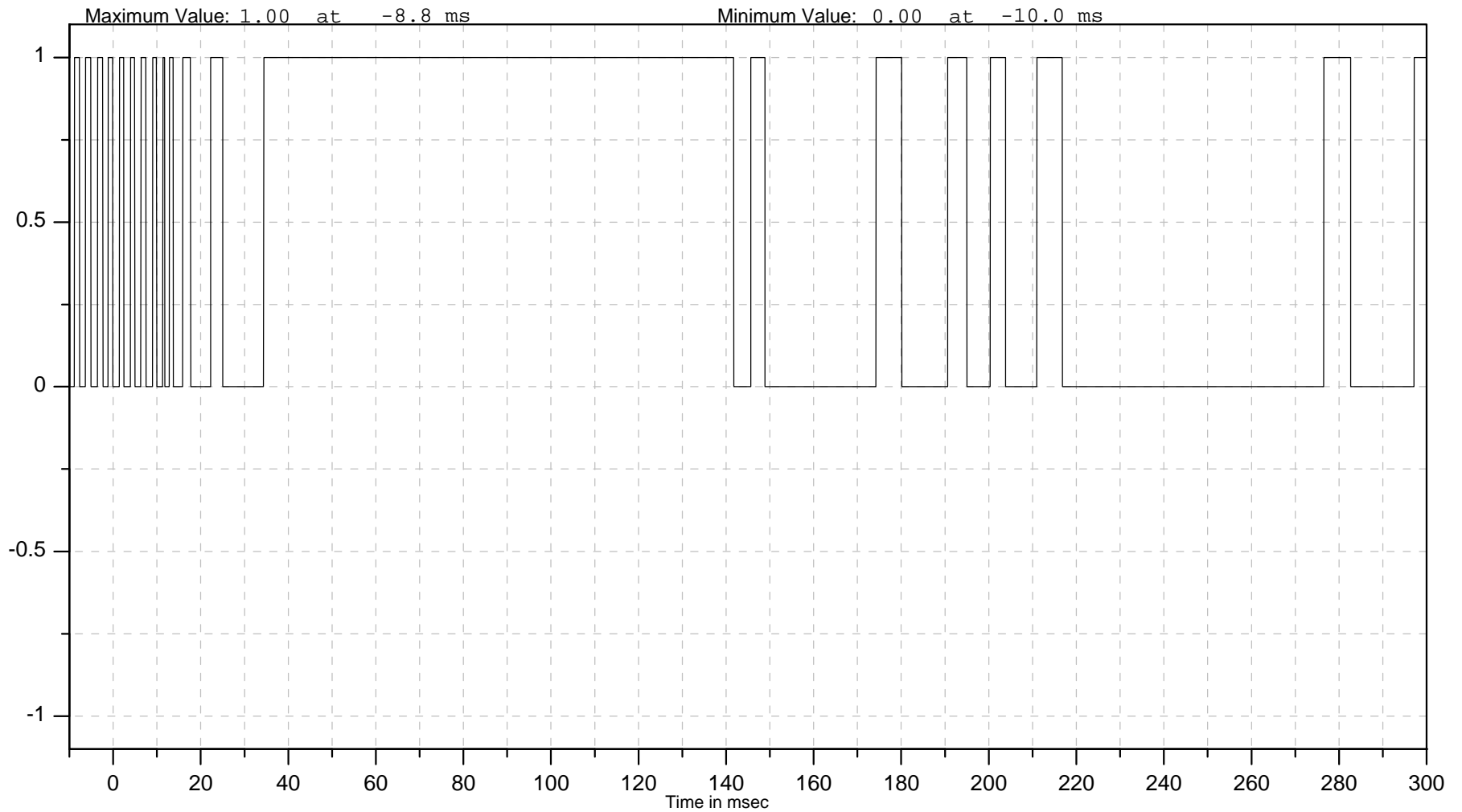
ISO Channel
10VEHC000001EV00

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 1





Autoliv North America (NTC)

Autoliv Channel
10VEHC000002EV00

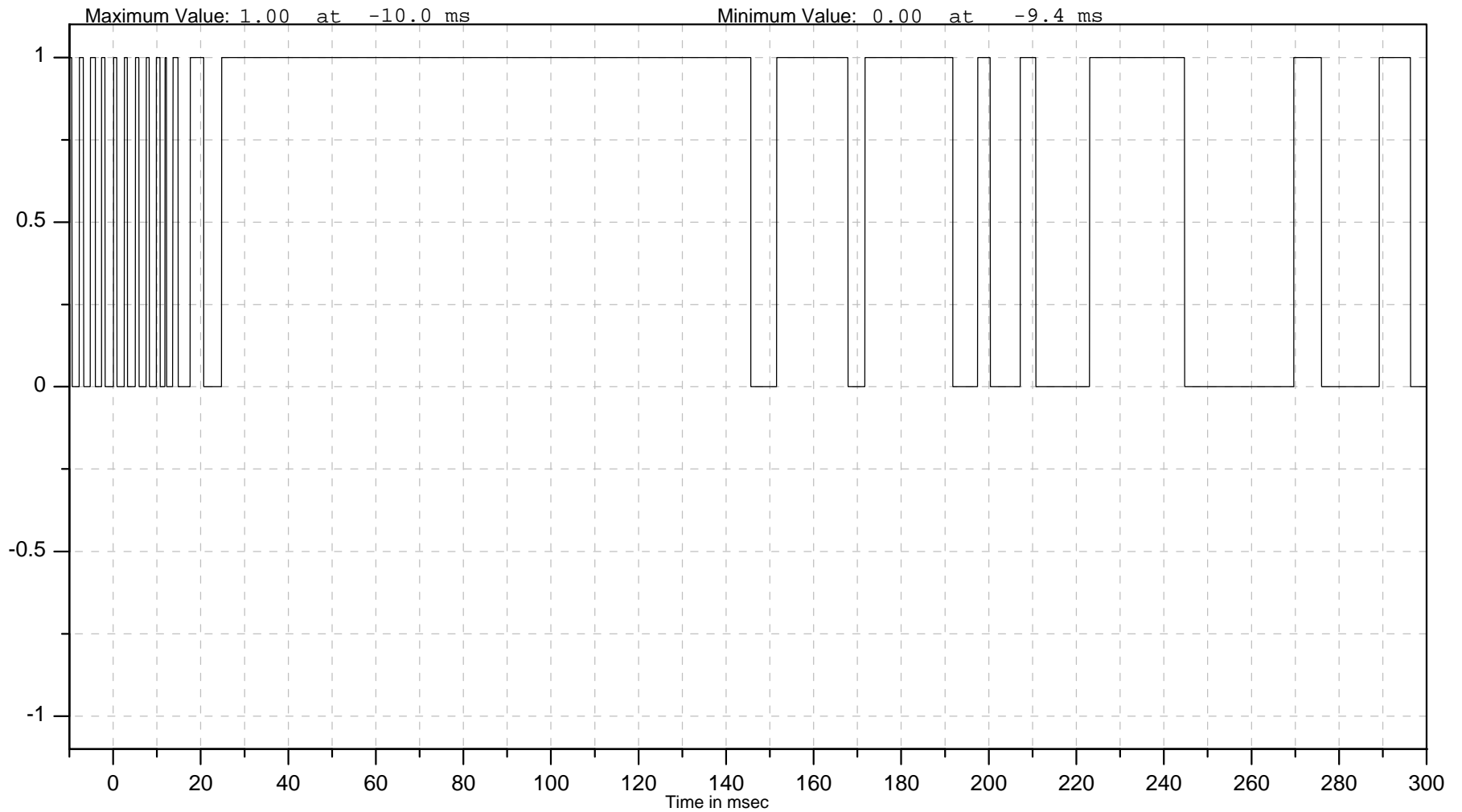
ISO Channel
10VEHC000002EV00

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

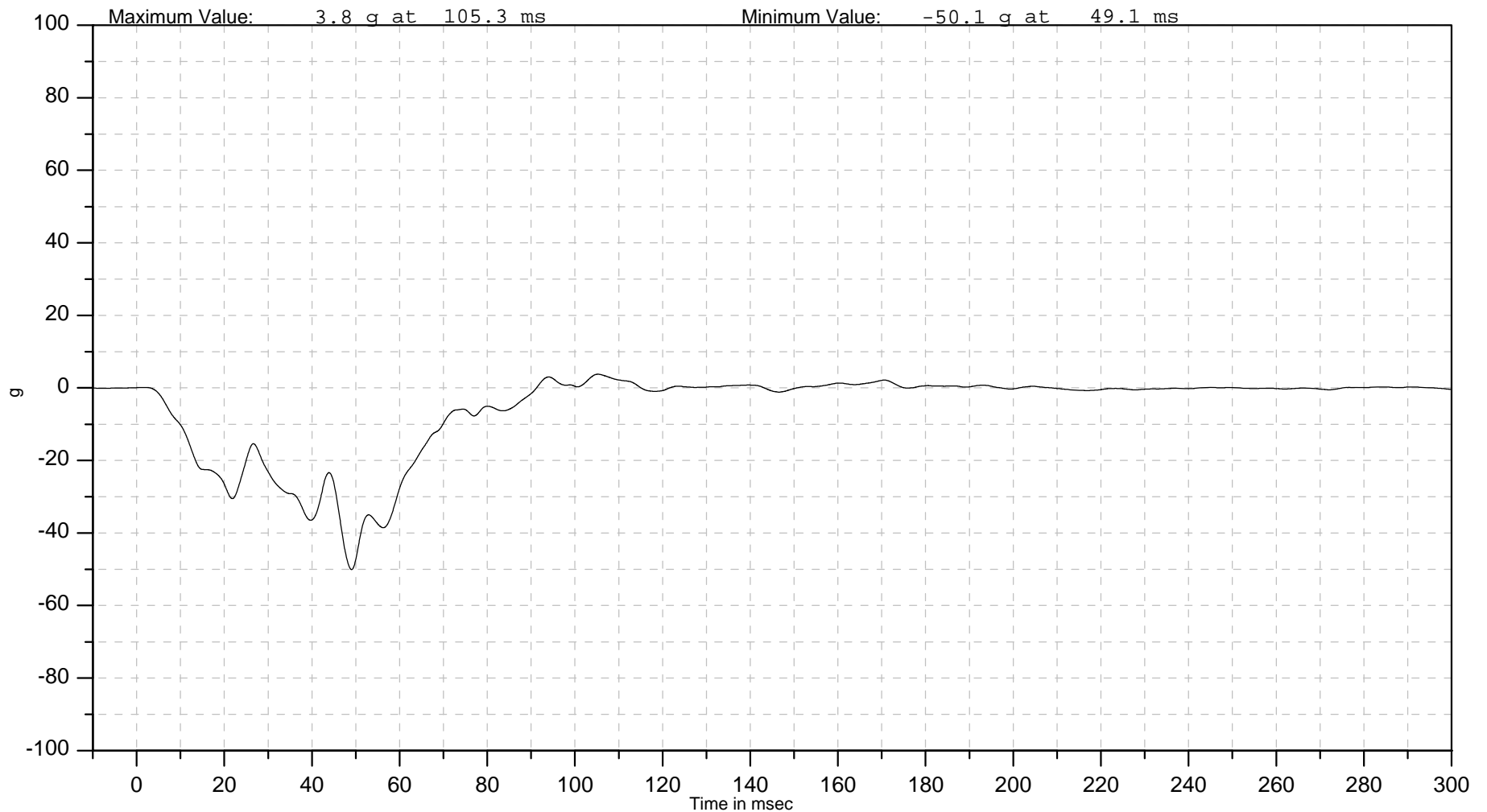
ISO Channel
10SILLLE0000ACXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

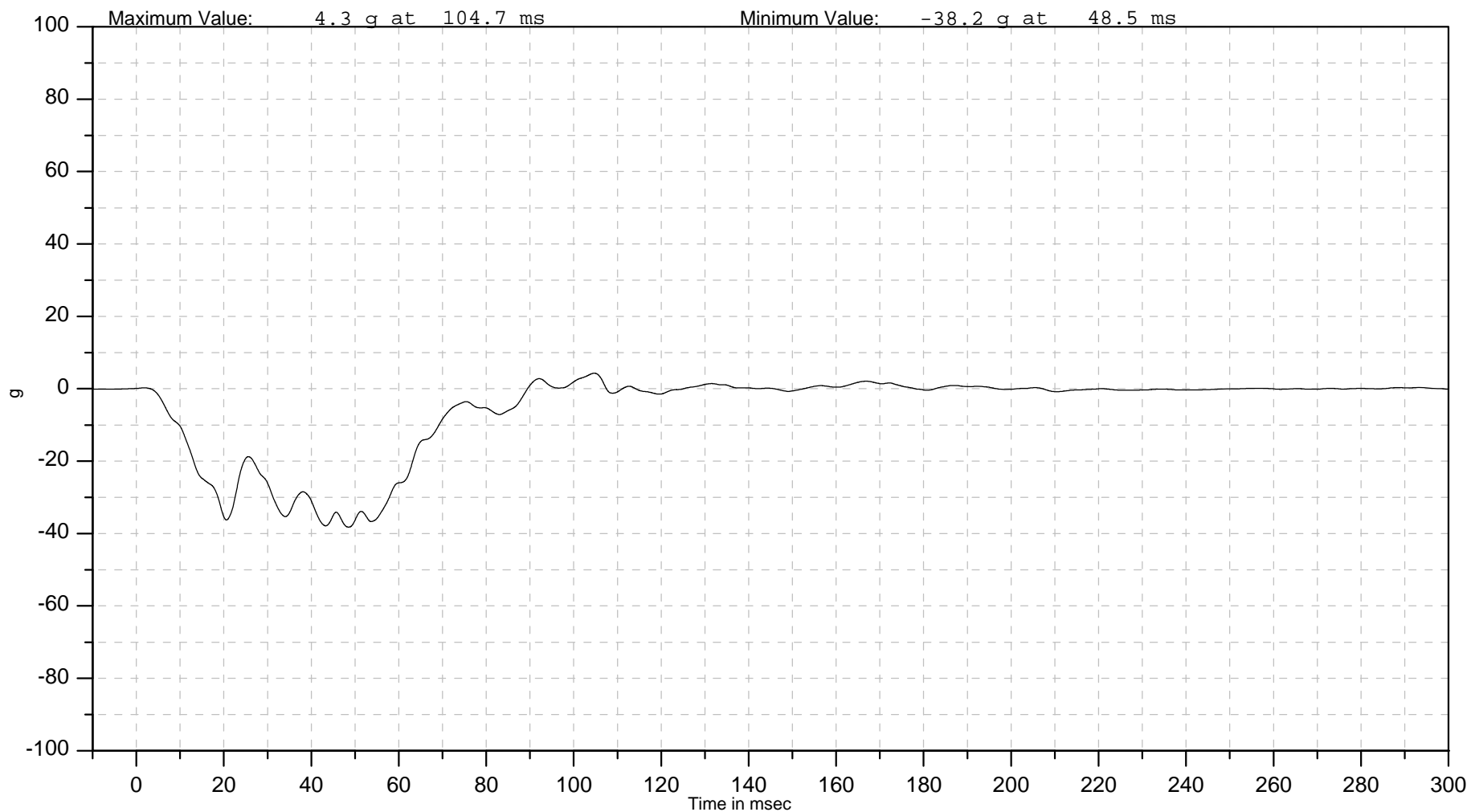
Autoliv Channel
10SILLRI0000ACXD

ISO Channel
10SILLRI0000ACXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10TUNN000000ACXD

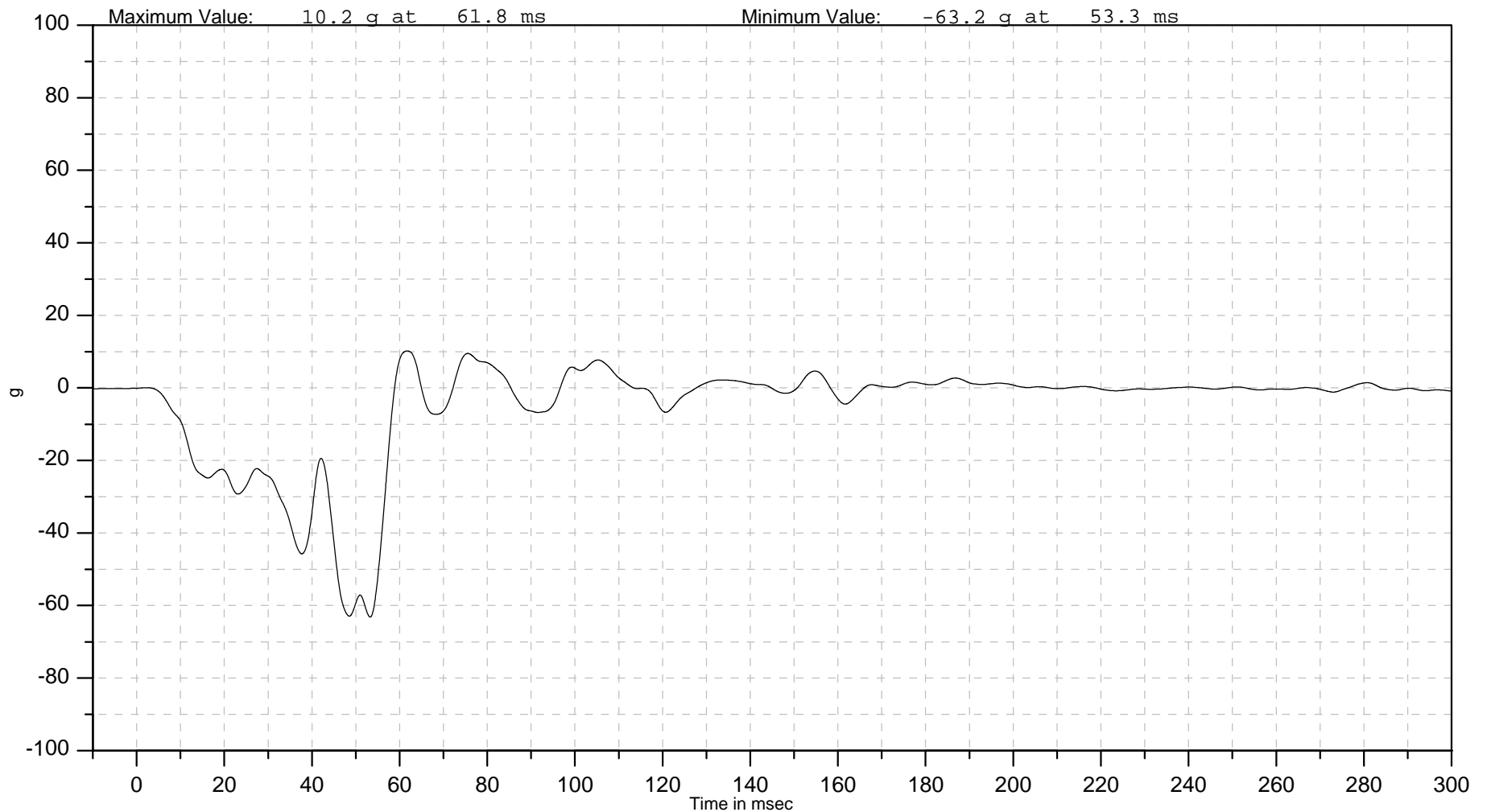
ISO Channel
10TUNN000000ACXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Tunnel X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10TUNN000000ACYD

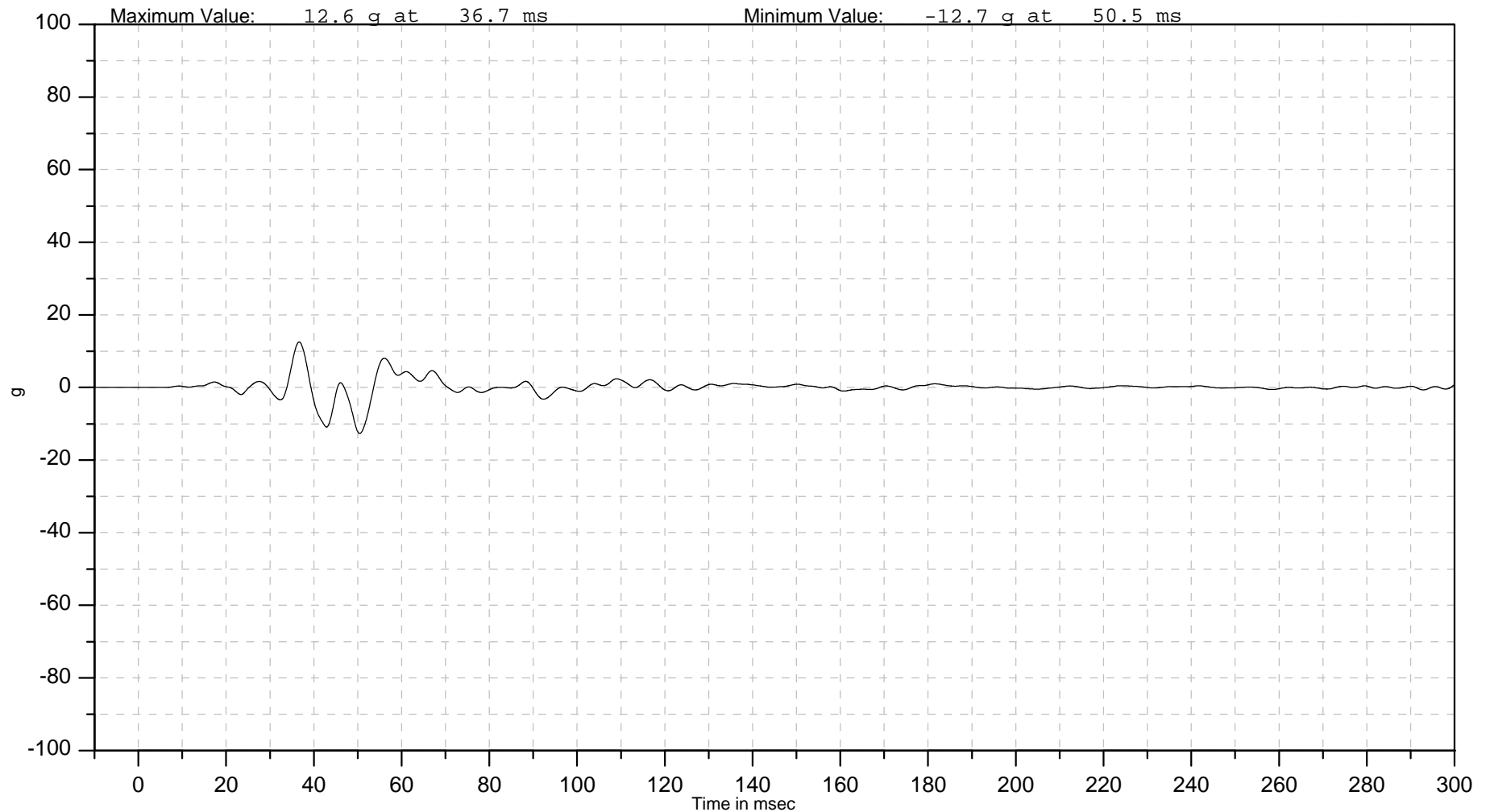
ISO Channel
10TUNN000000ACYD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Tunnel Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10TUNN000000ACZD

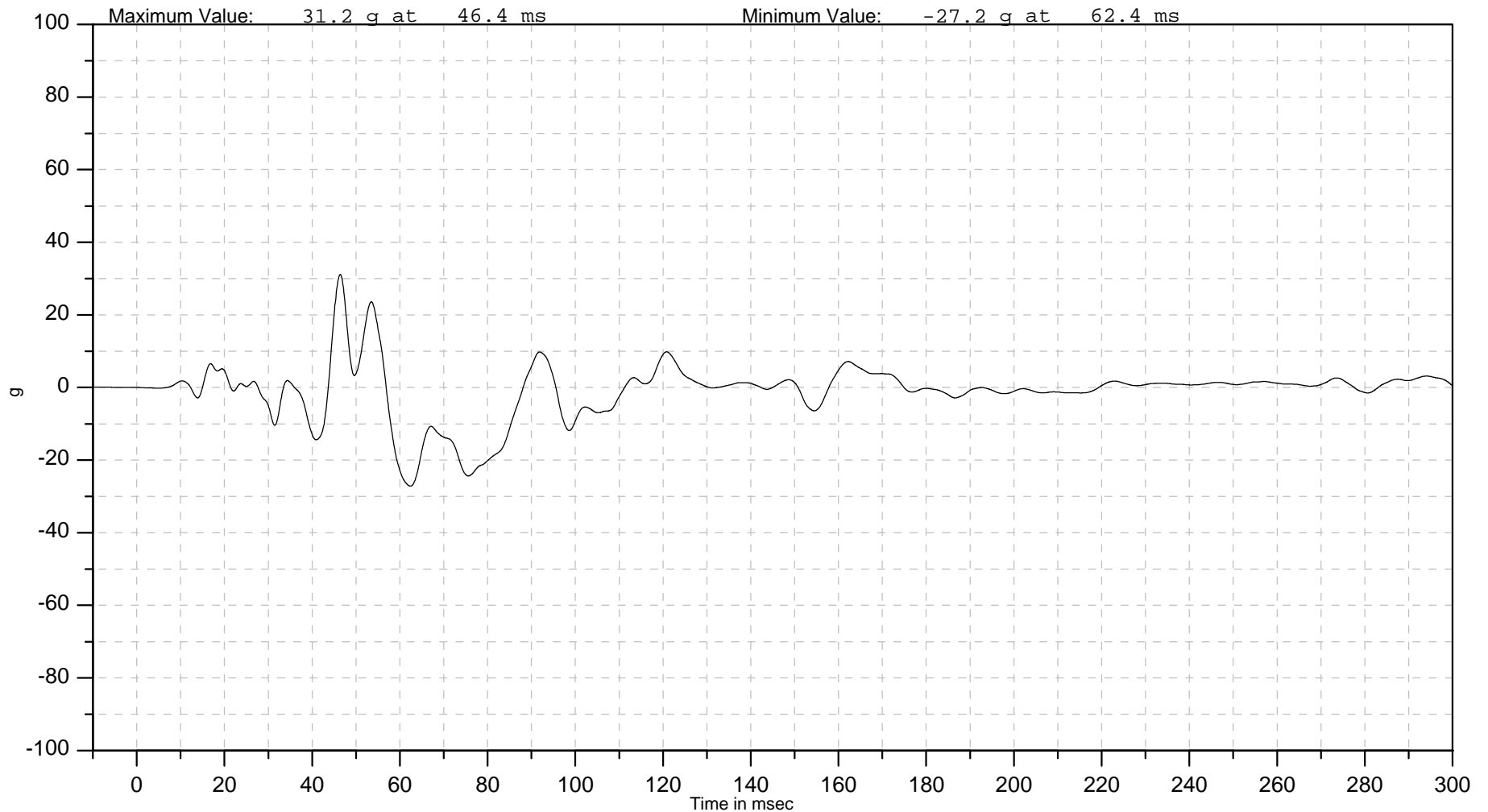
ISO Channel
10TUNN000000ACZD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Tunnel Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

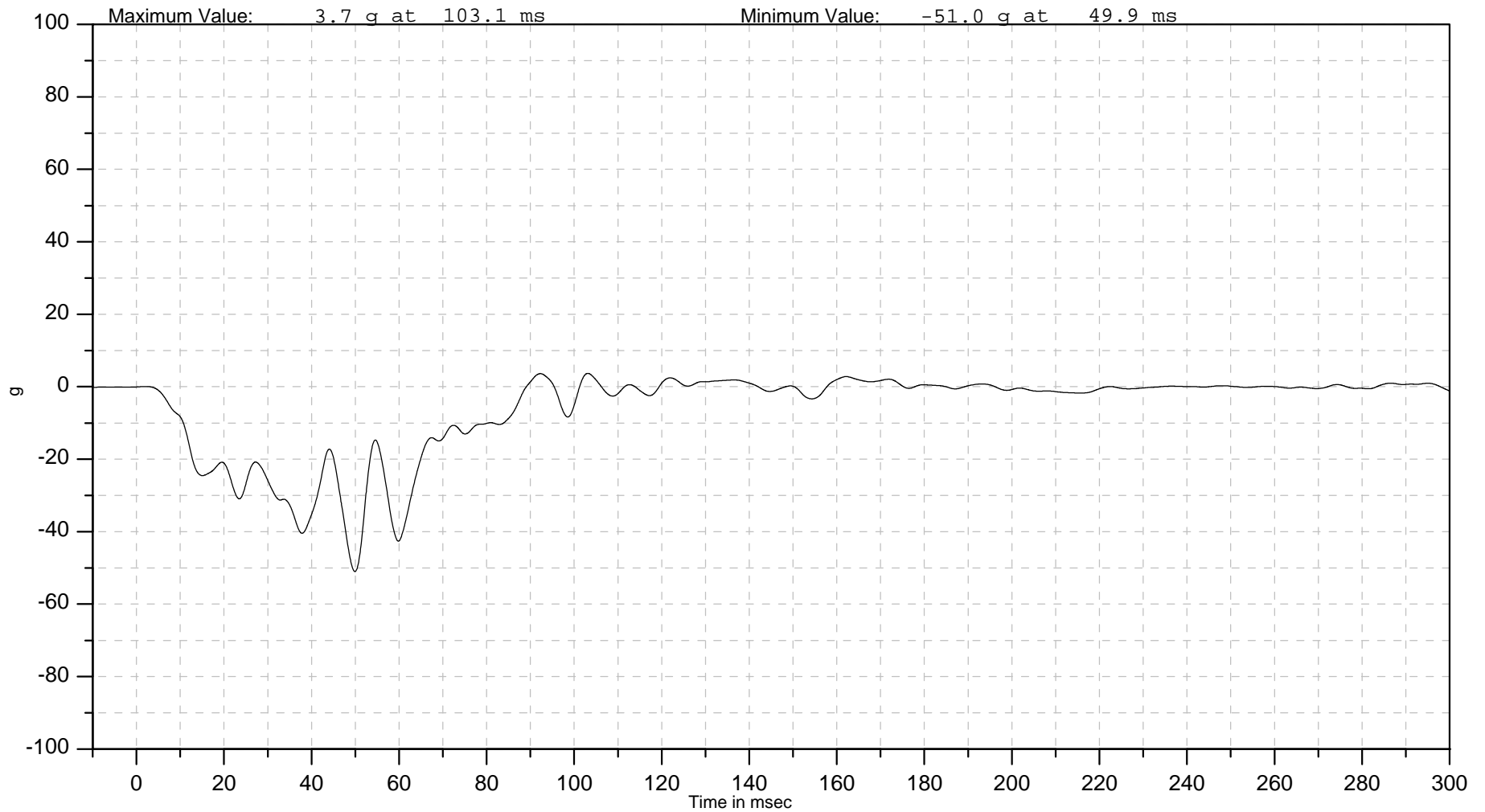
ISO Channel
10ABSE000000ACXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

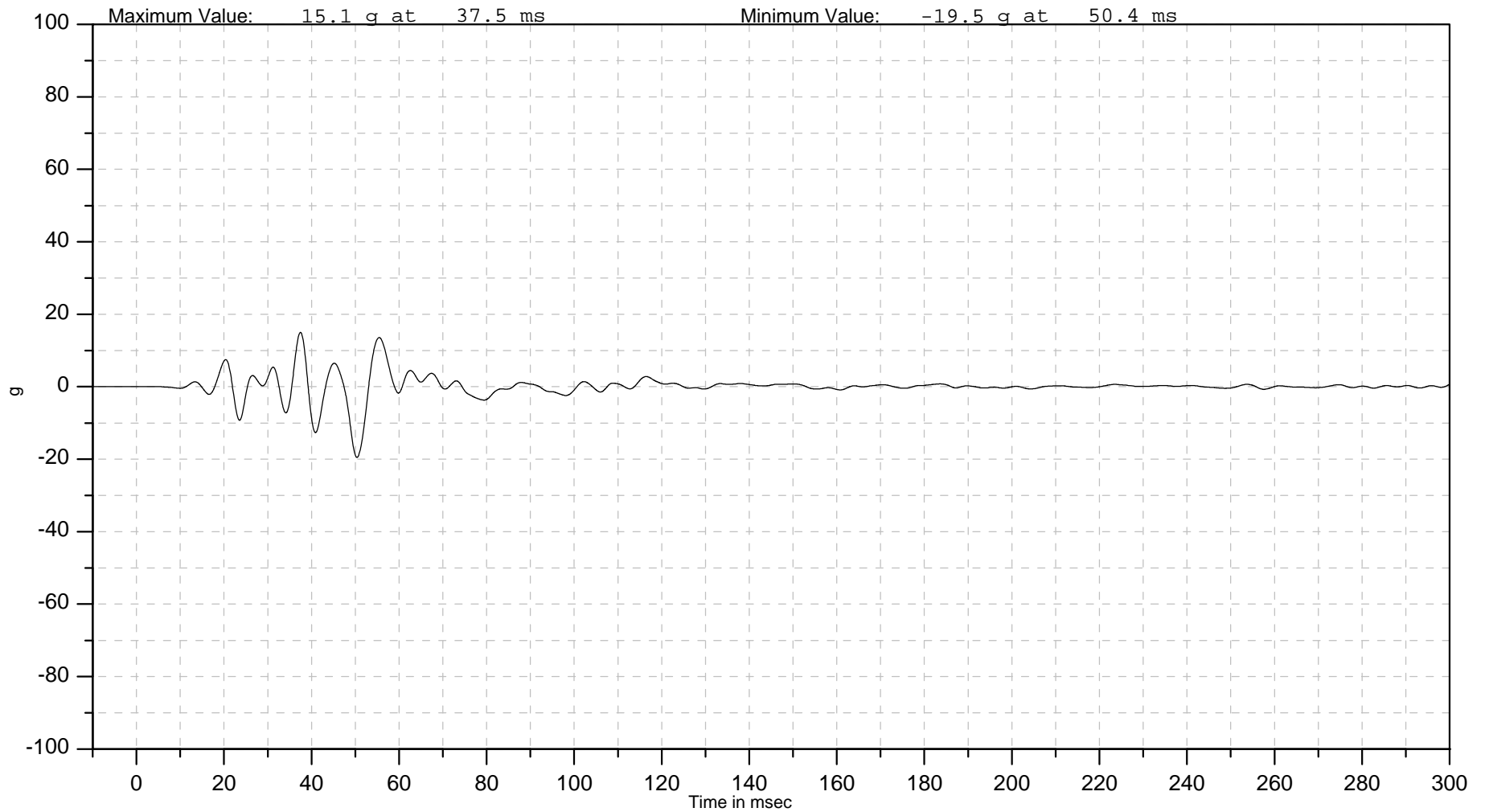
ISO Channel
10ABSE000000ACYD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACZD

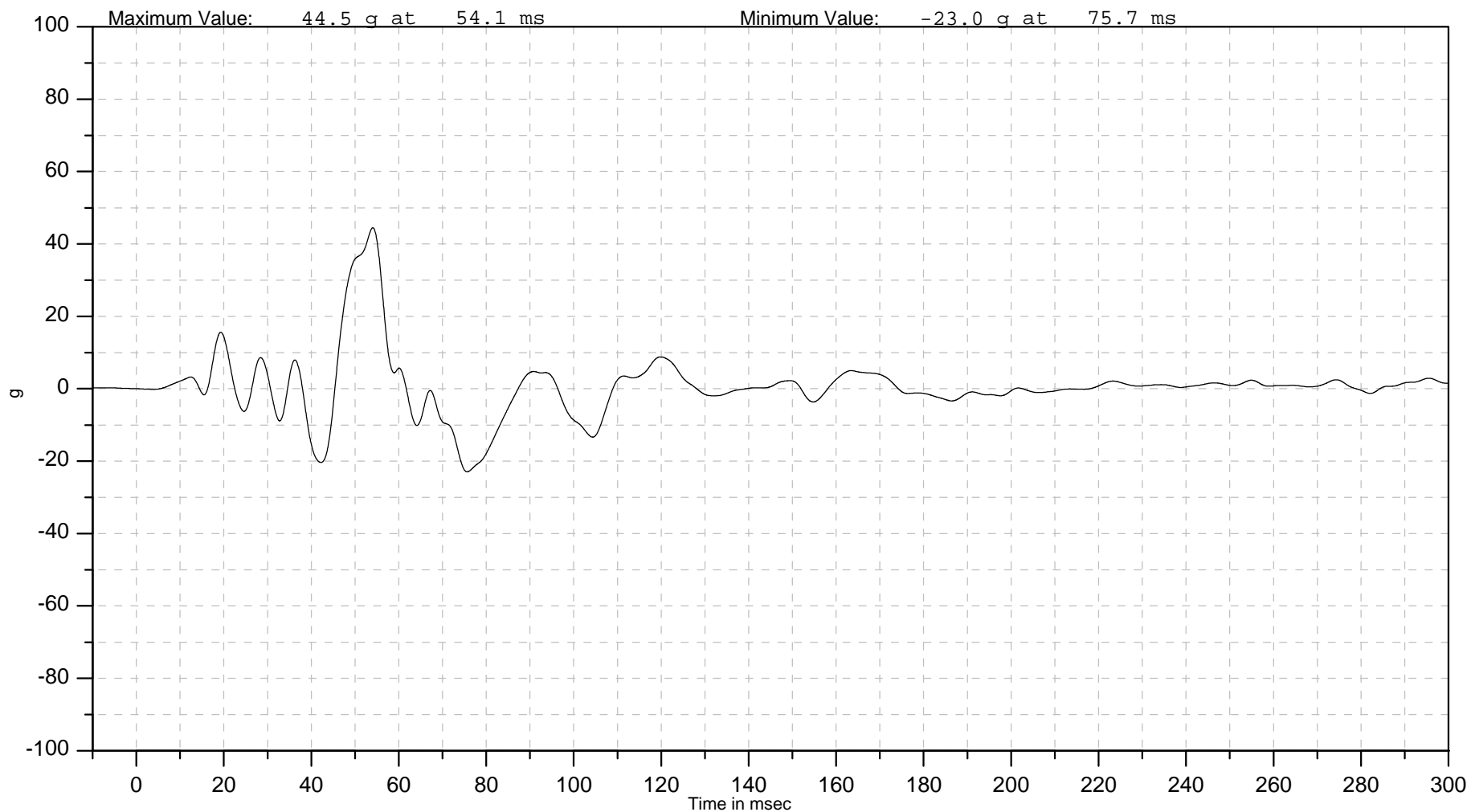
ISO Channel
10ABSE000000ACZD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10CZCS000000ACXD

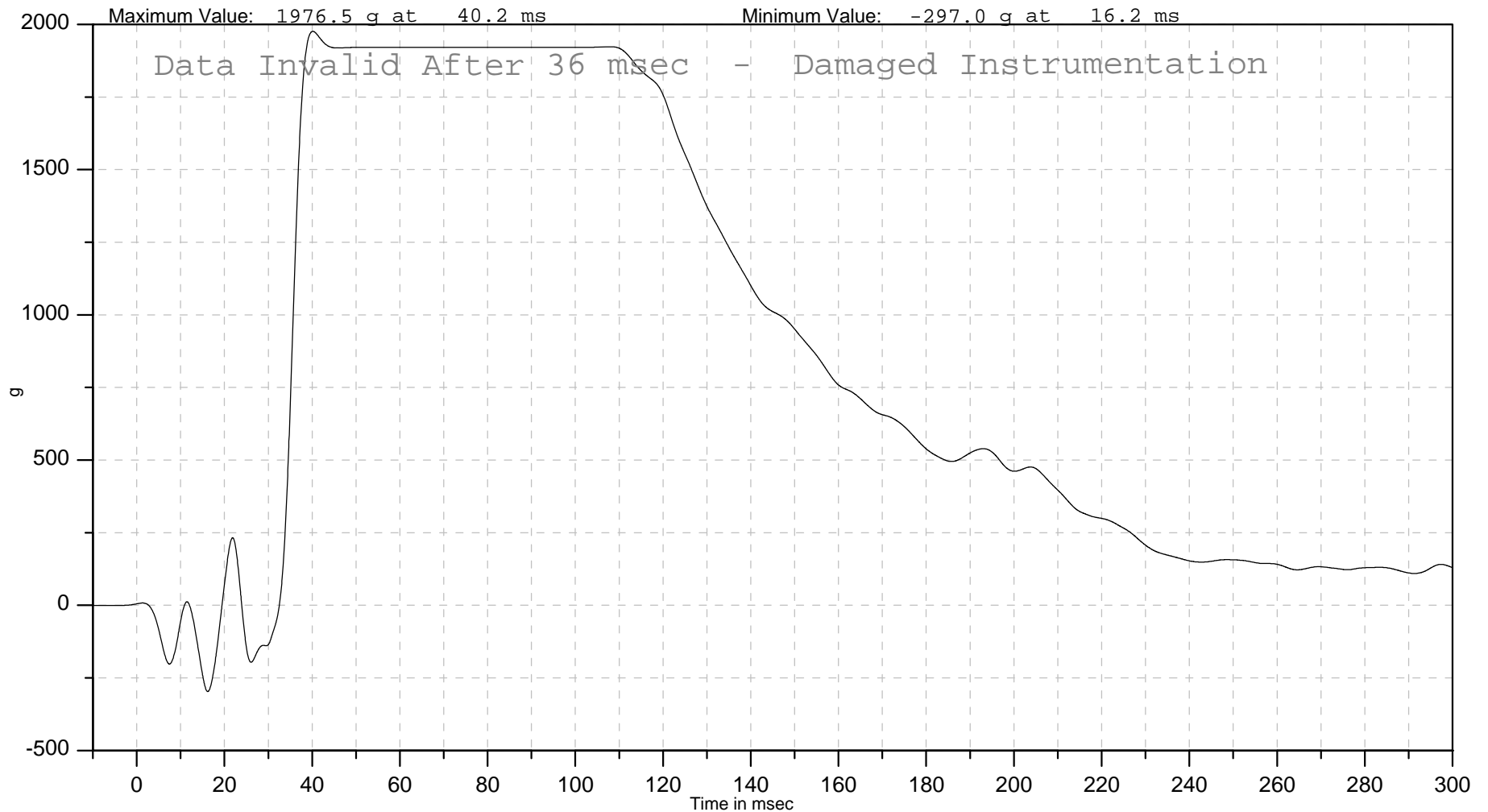
ISO Channel
10CZCS000000ACXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CZC Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10CZCS000000ACZD

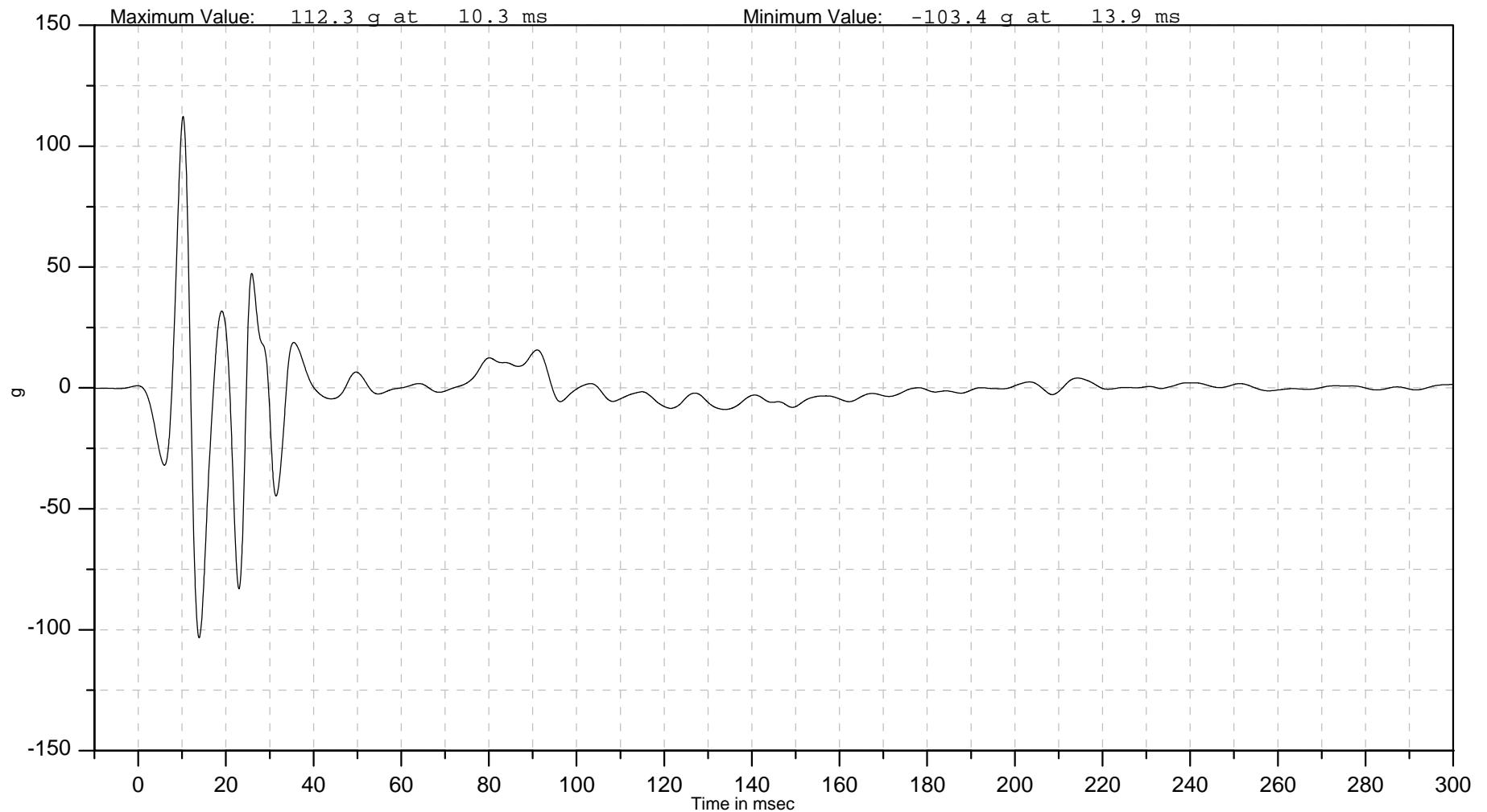
ISO Channel
10CZCS000000ACZD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CZC Sensor Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
L0FBARB10000FOXD

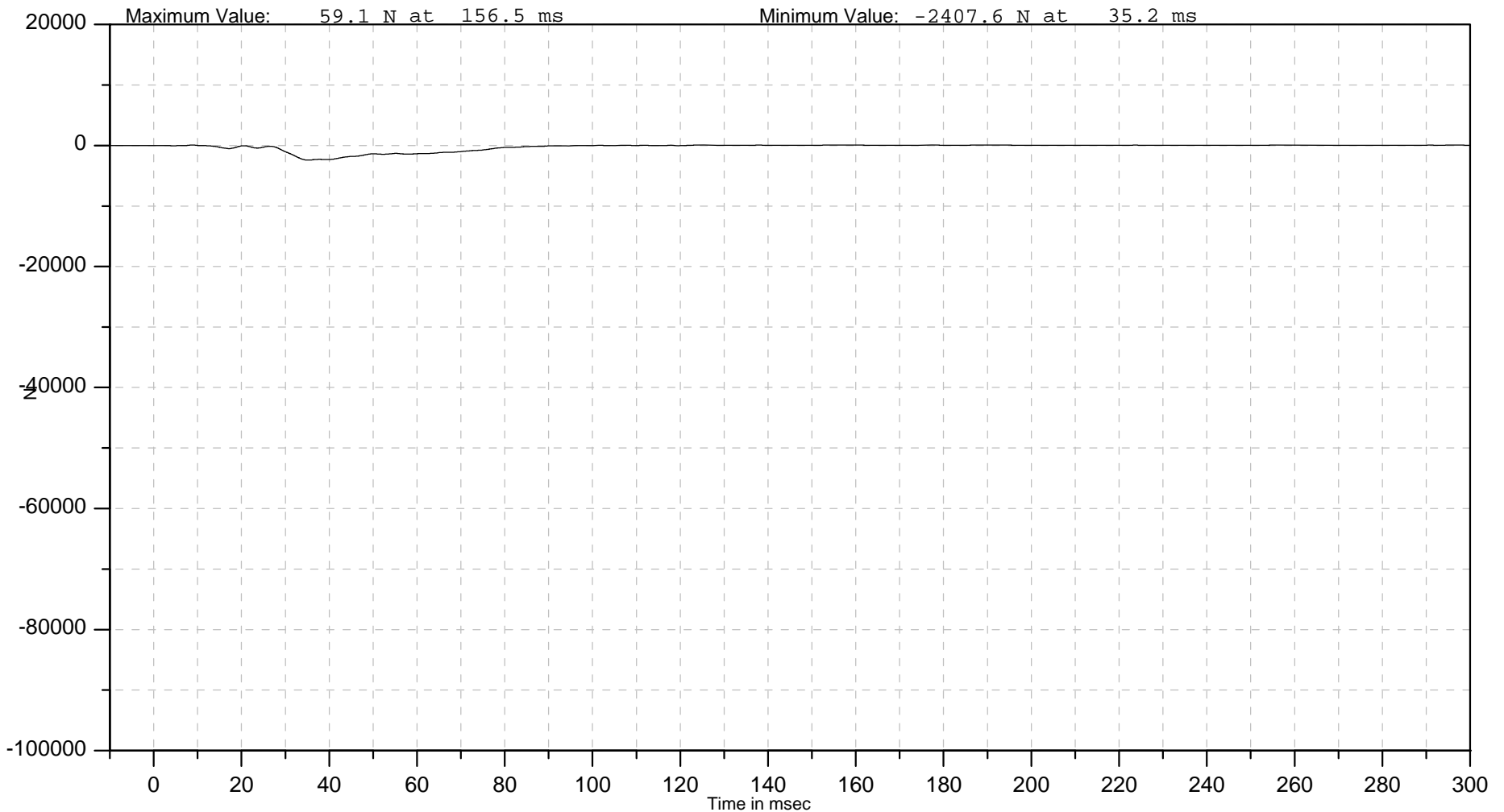
ISO Channel
L0FBARB10000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 1st from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC10000FOXD

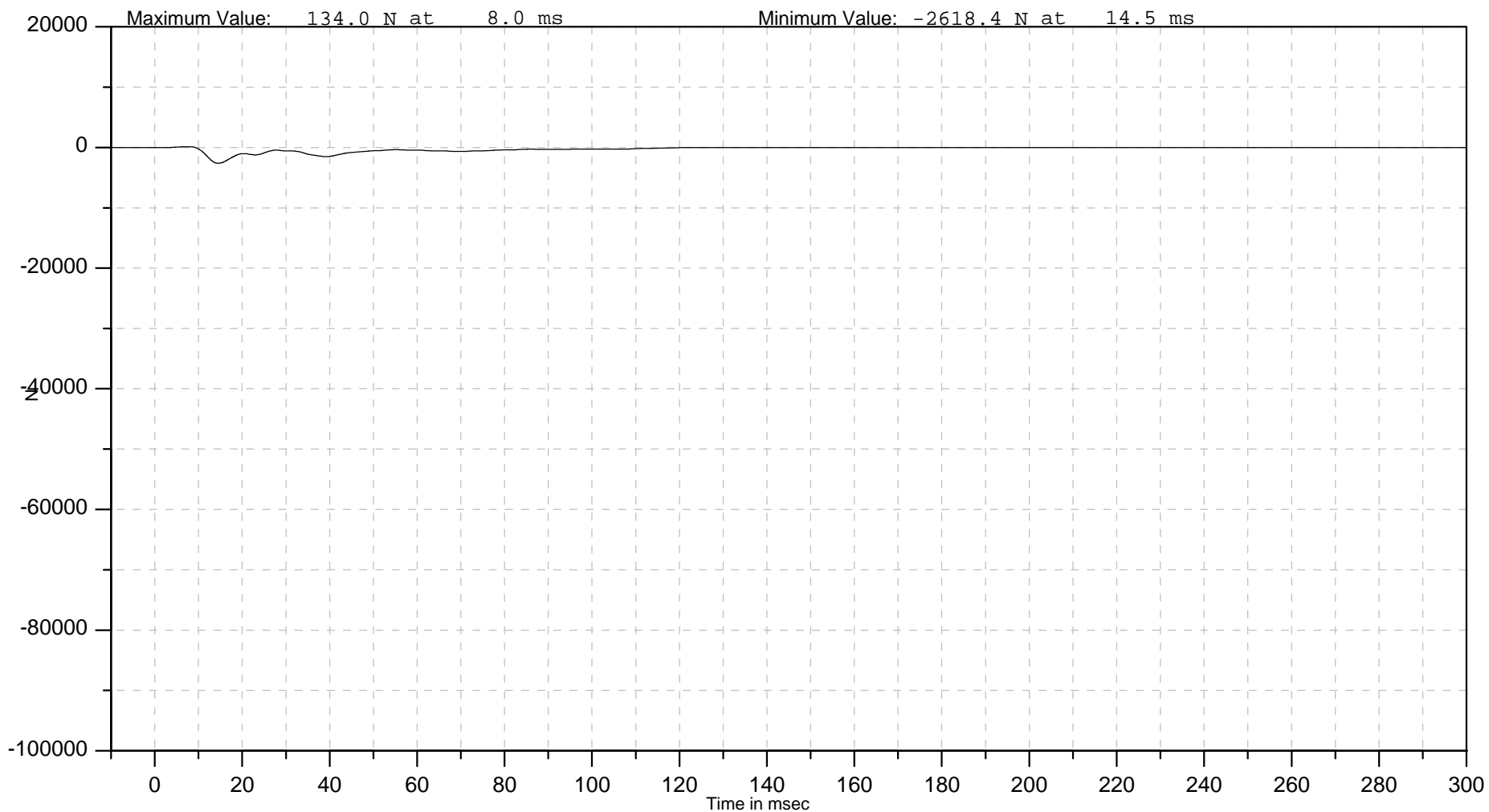
ISO Channel
L0FBARC10000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 1st from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARA20000FOXD

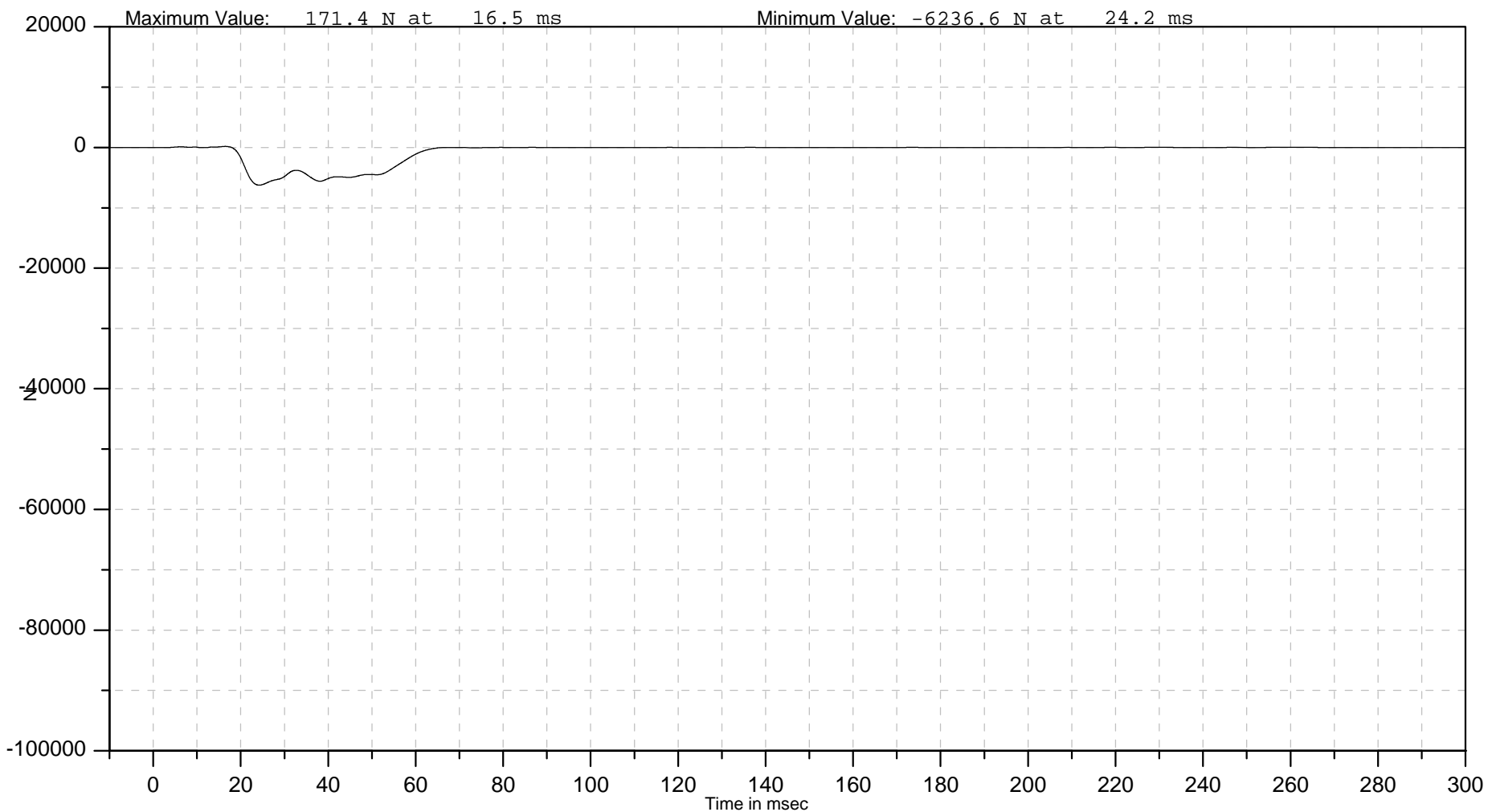
ISO Channel
L0FBARA20000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

top row, 2nd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB20000FOXD

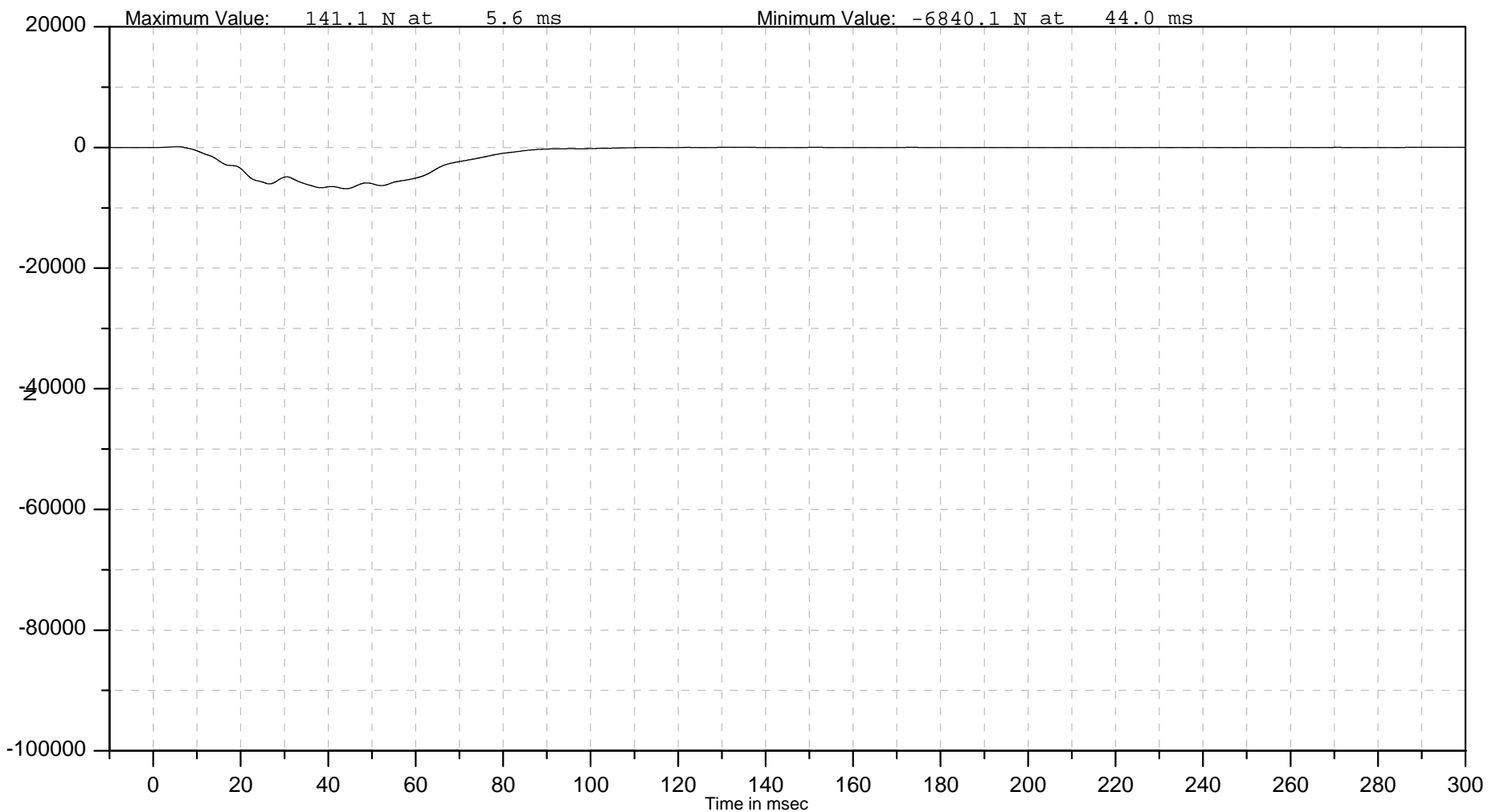
ISO Channel
L0FBARB20000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 2nd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC20000FOXD

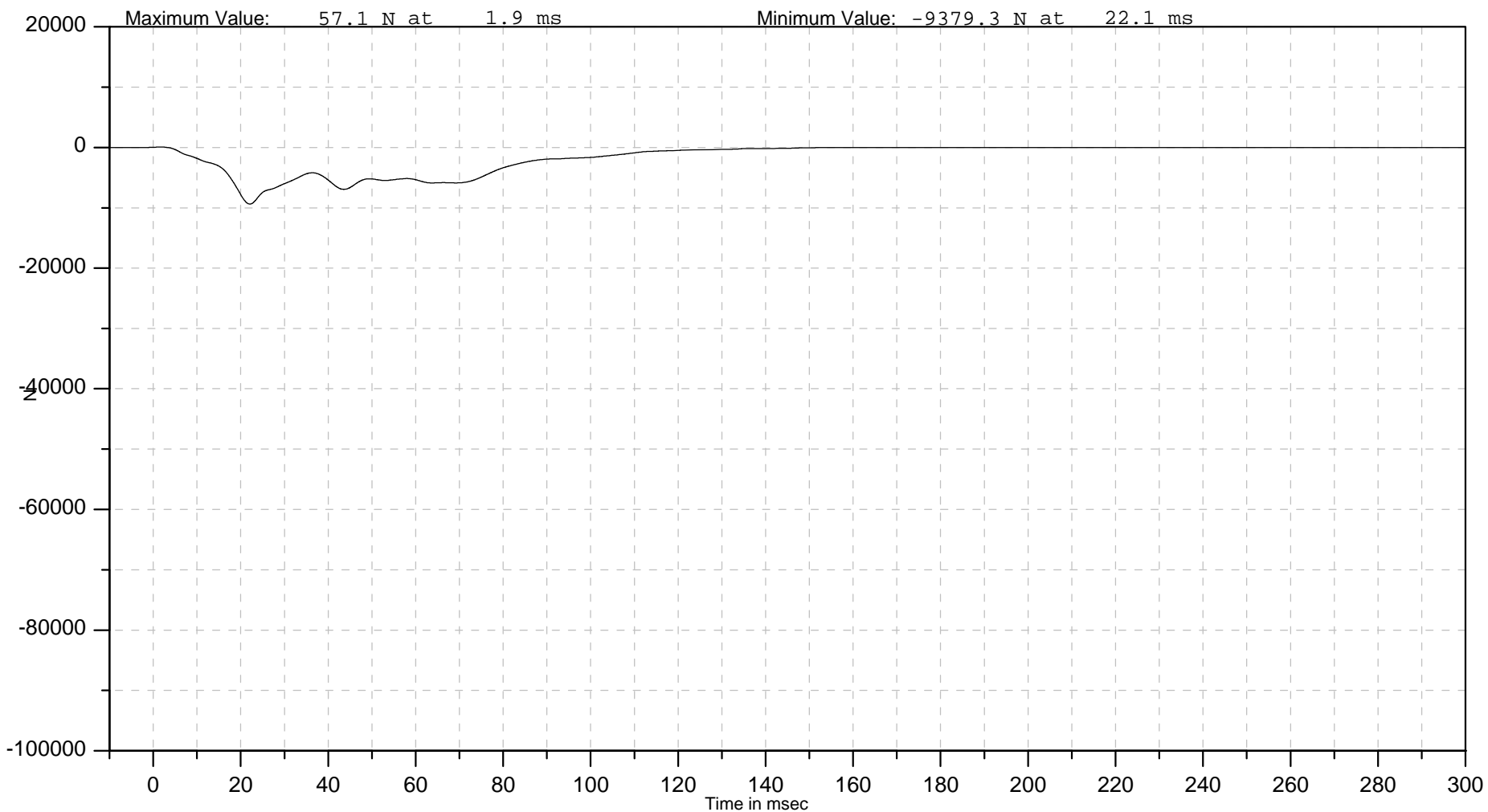
ISO Channel
L0FBARC20000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 2nd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD20000FOXD

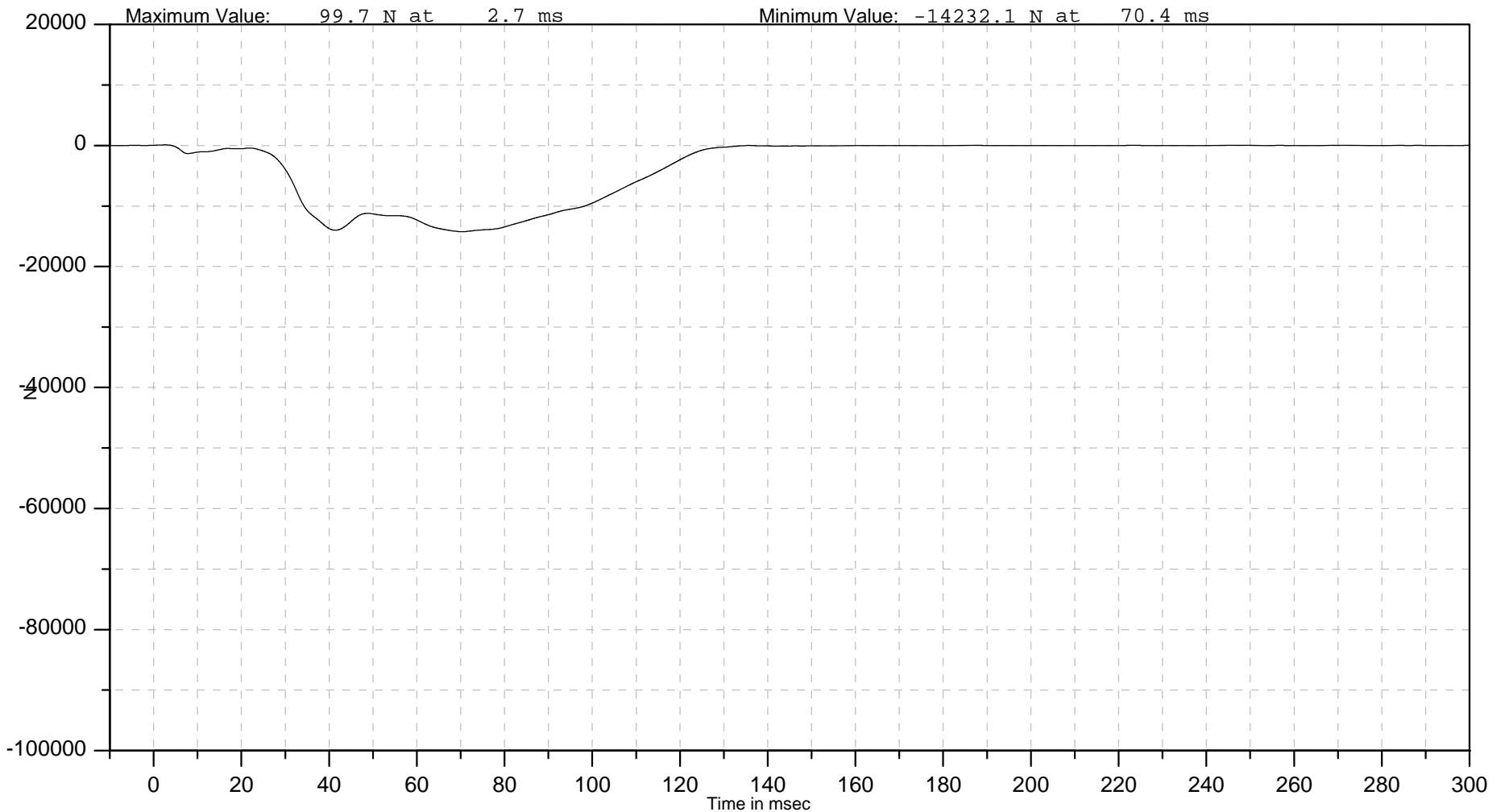
ISO Channel
L0FBARD20000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 2nd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARA30000FOXD

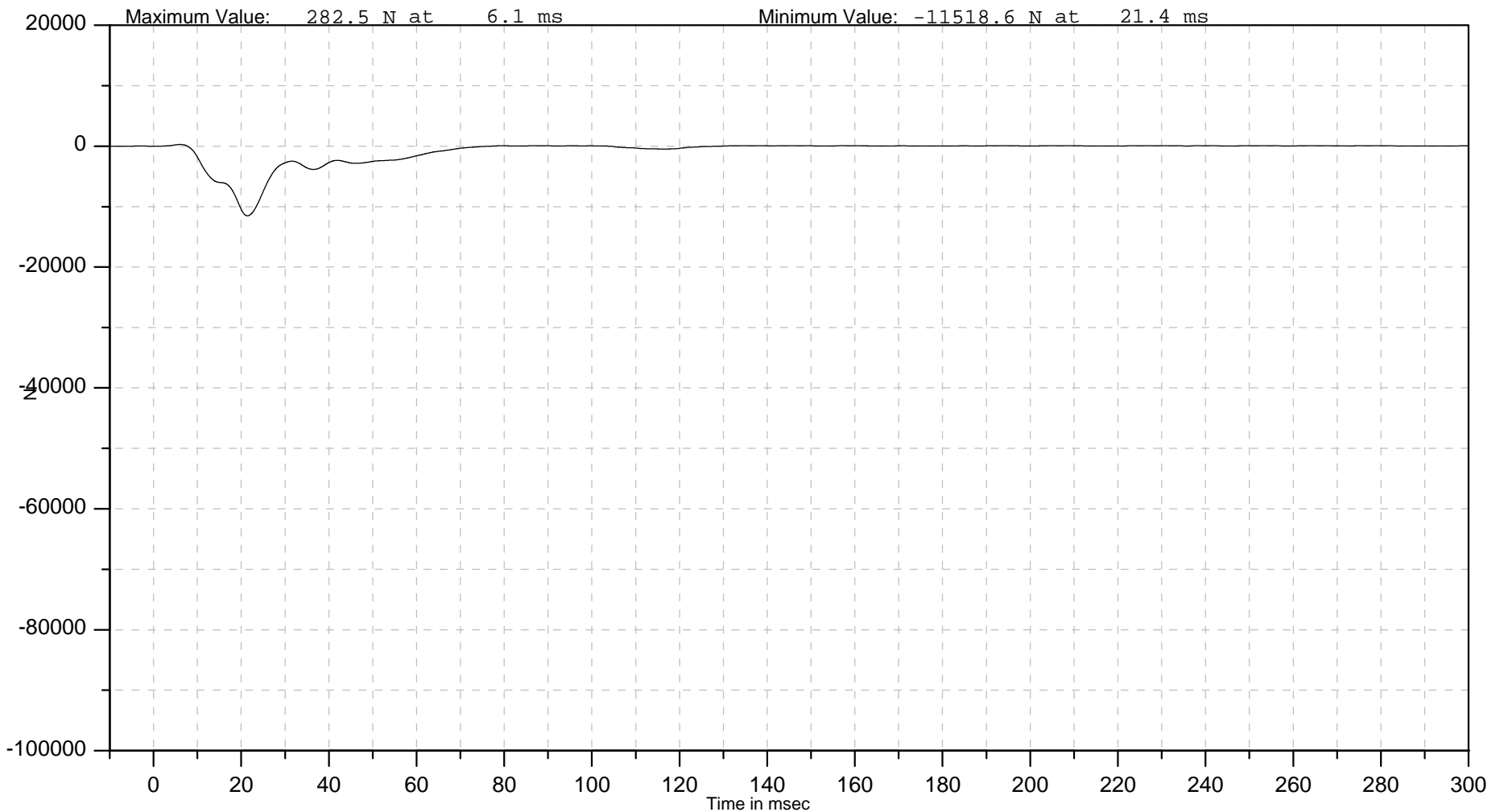
ISO Channel
L0FBARA30000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

top row, 3rd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB30000FOXD

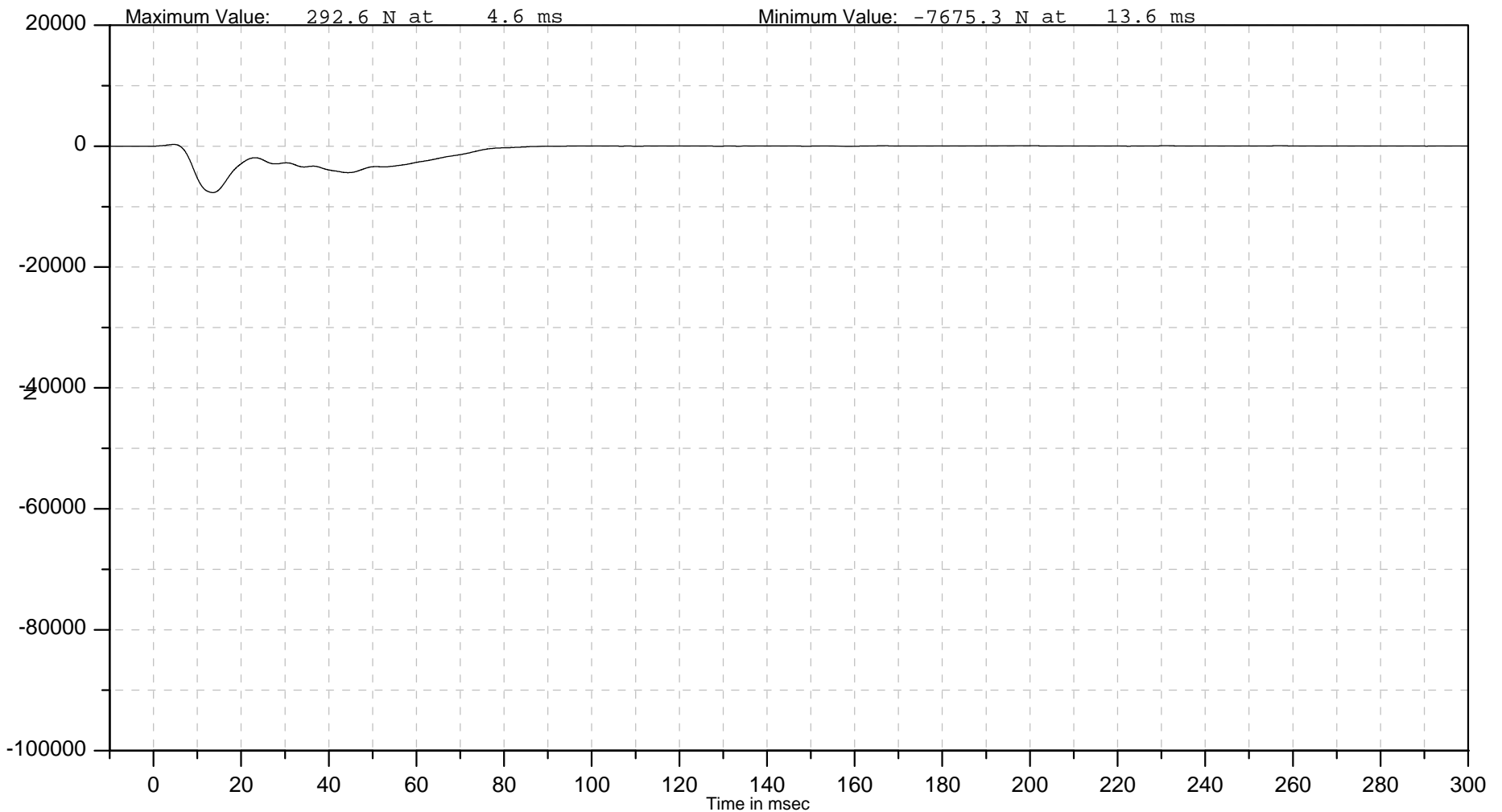
ISO Channel
L0FBARB30000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 3rd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC30000FOXD

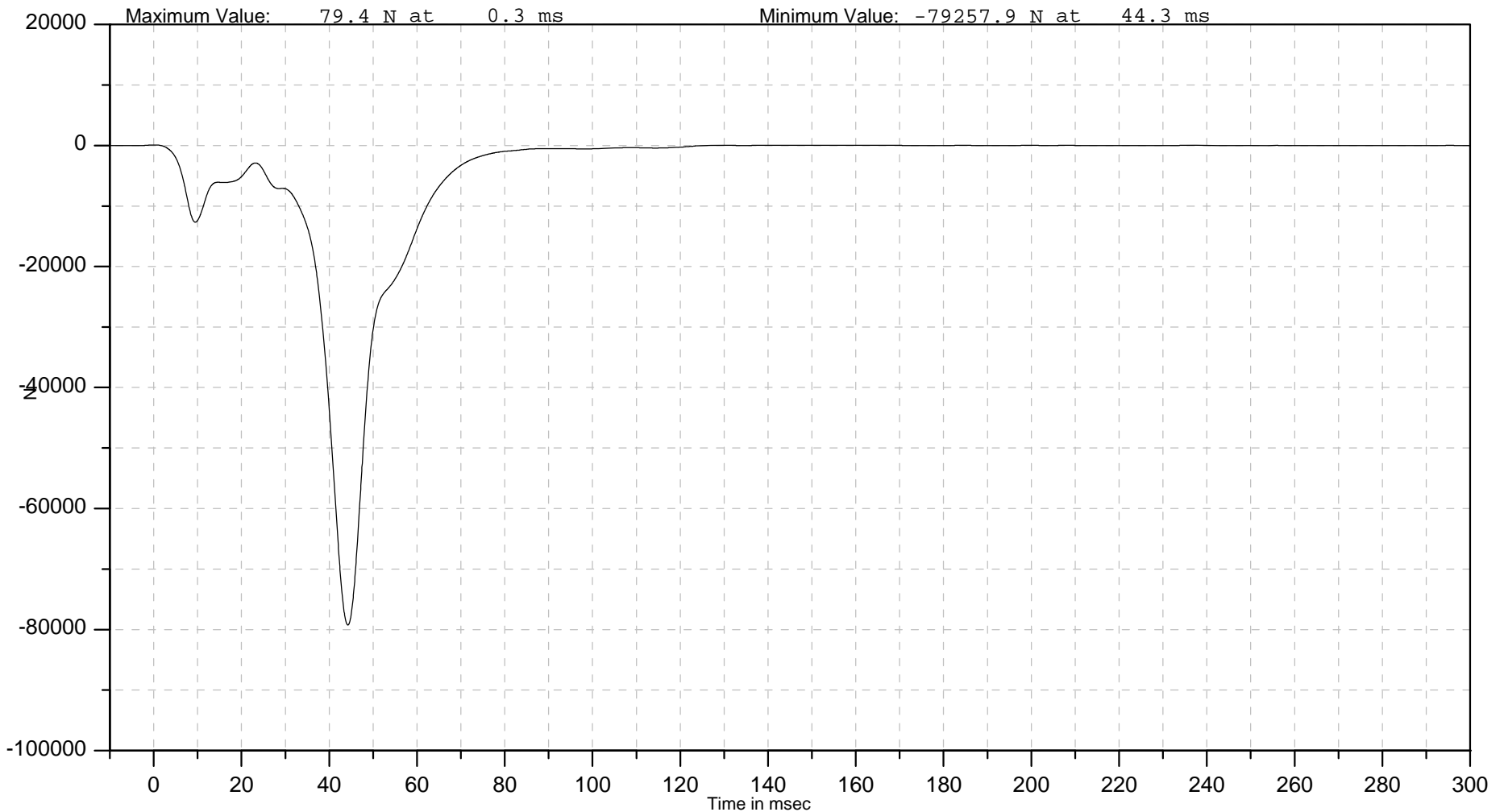
ISO Channel
L0FBARC30000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 3rd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD30000FOXD

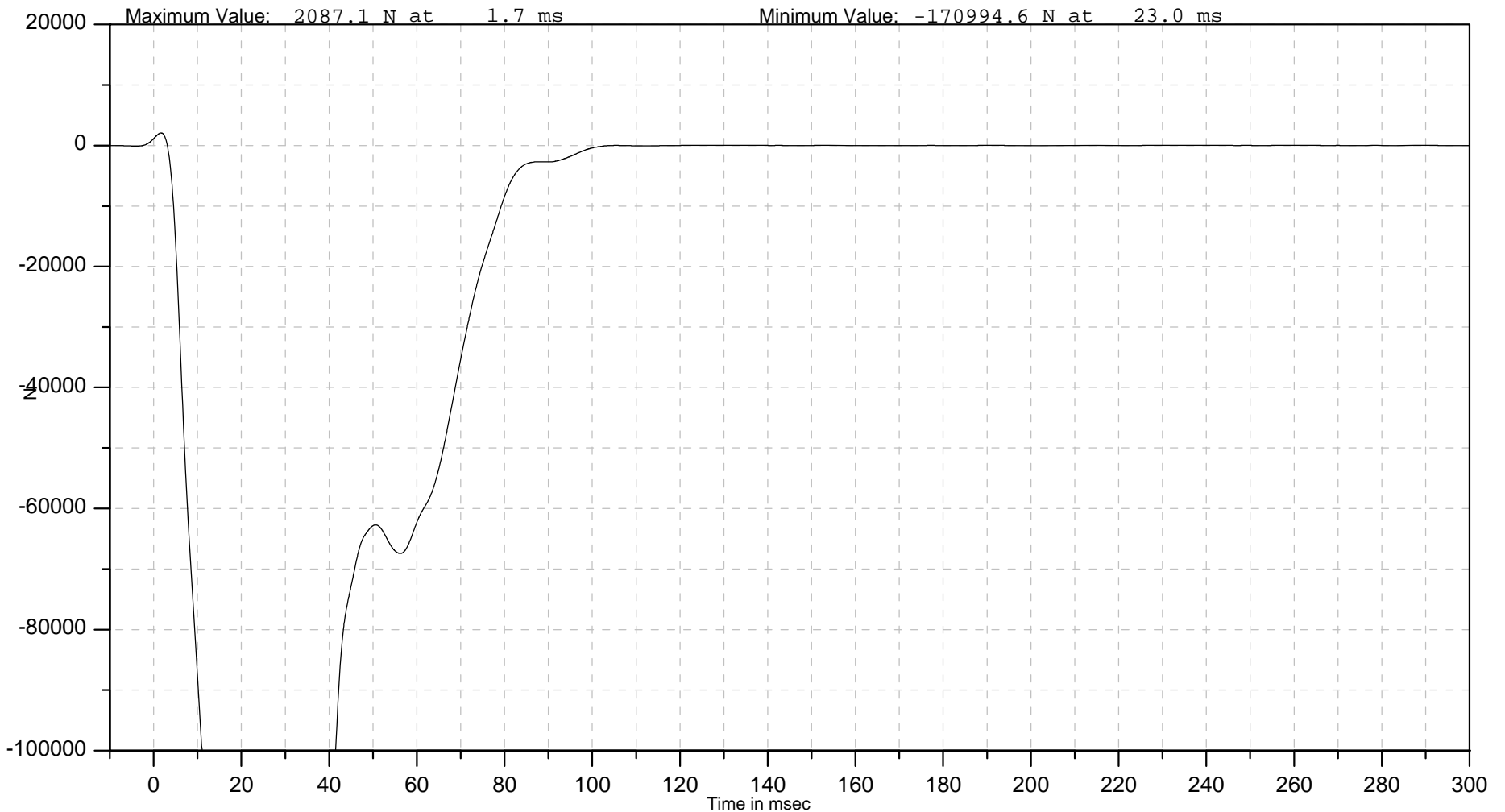
ISO Channel
L0FBARD30000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 3rd from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD30000FOXD

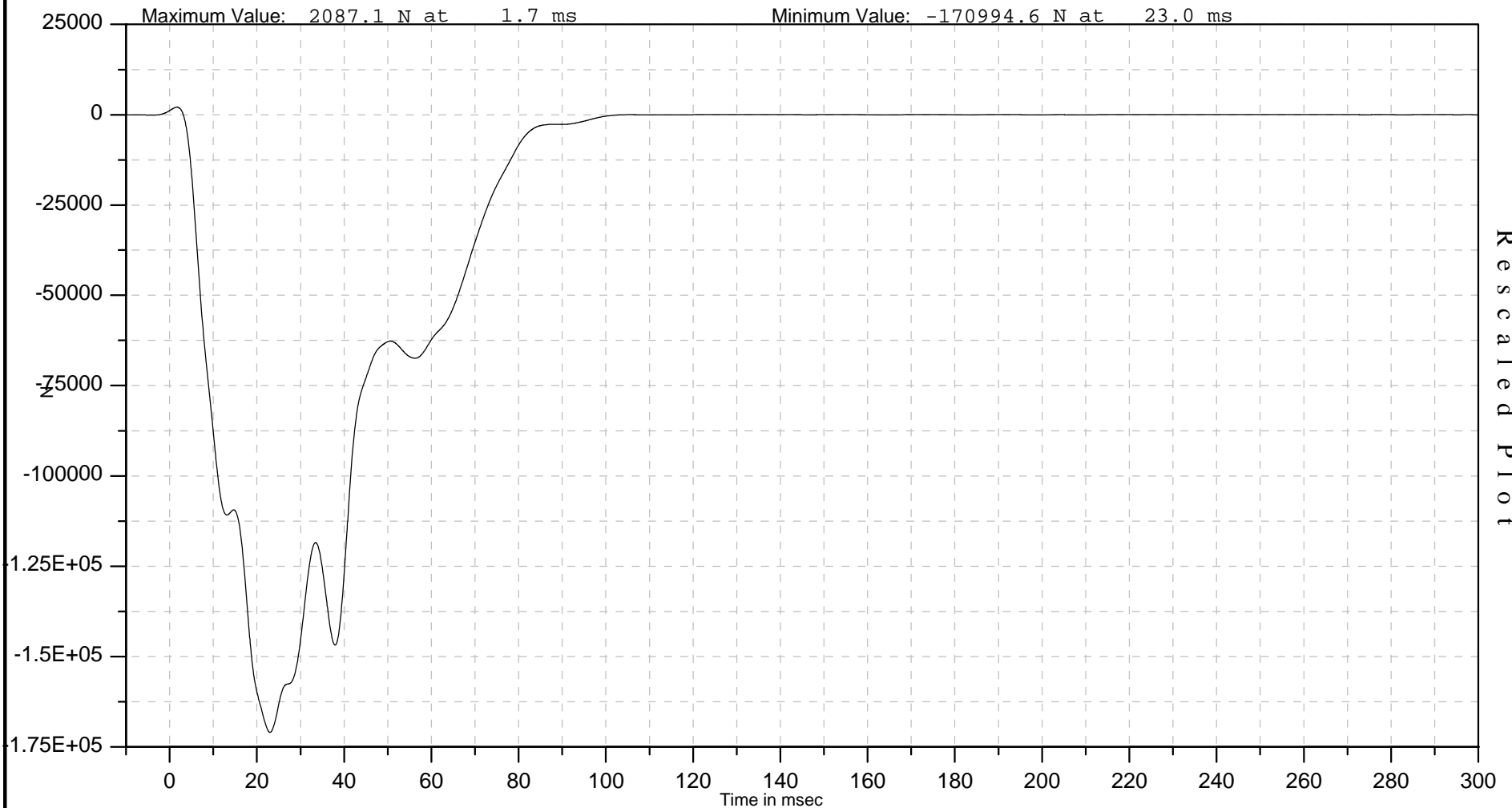
ISO Channel
L0FBARD30000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 3rd from left Fixed Barrier X Force



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
L0FBARA40000FOXD

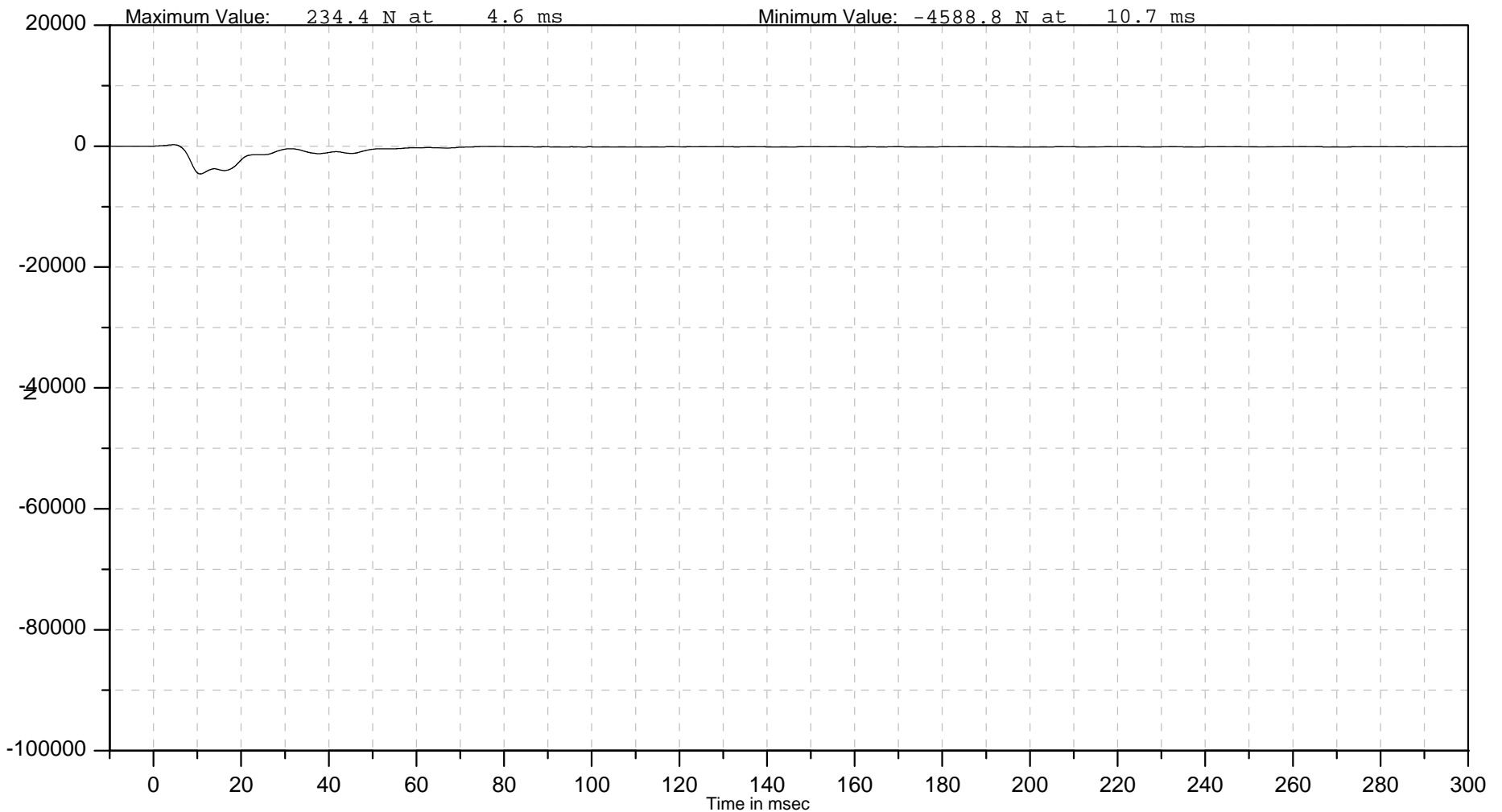
ISO Channel
L0FBARA40000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

top row, 4th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB40000FOXD

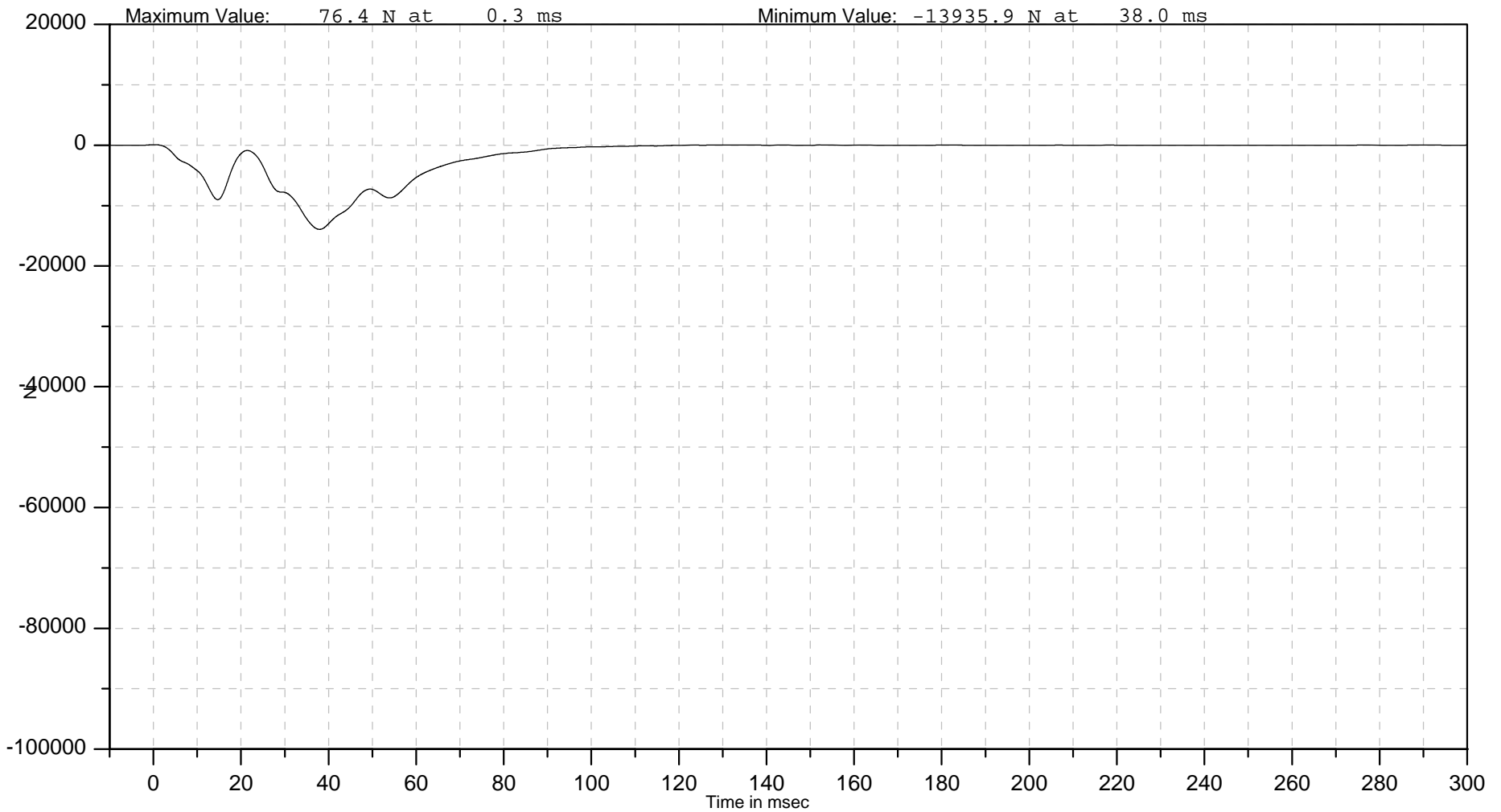
ISO Channel
L0FBARB40000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 4th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC40000FOXD

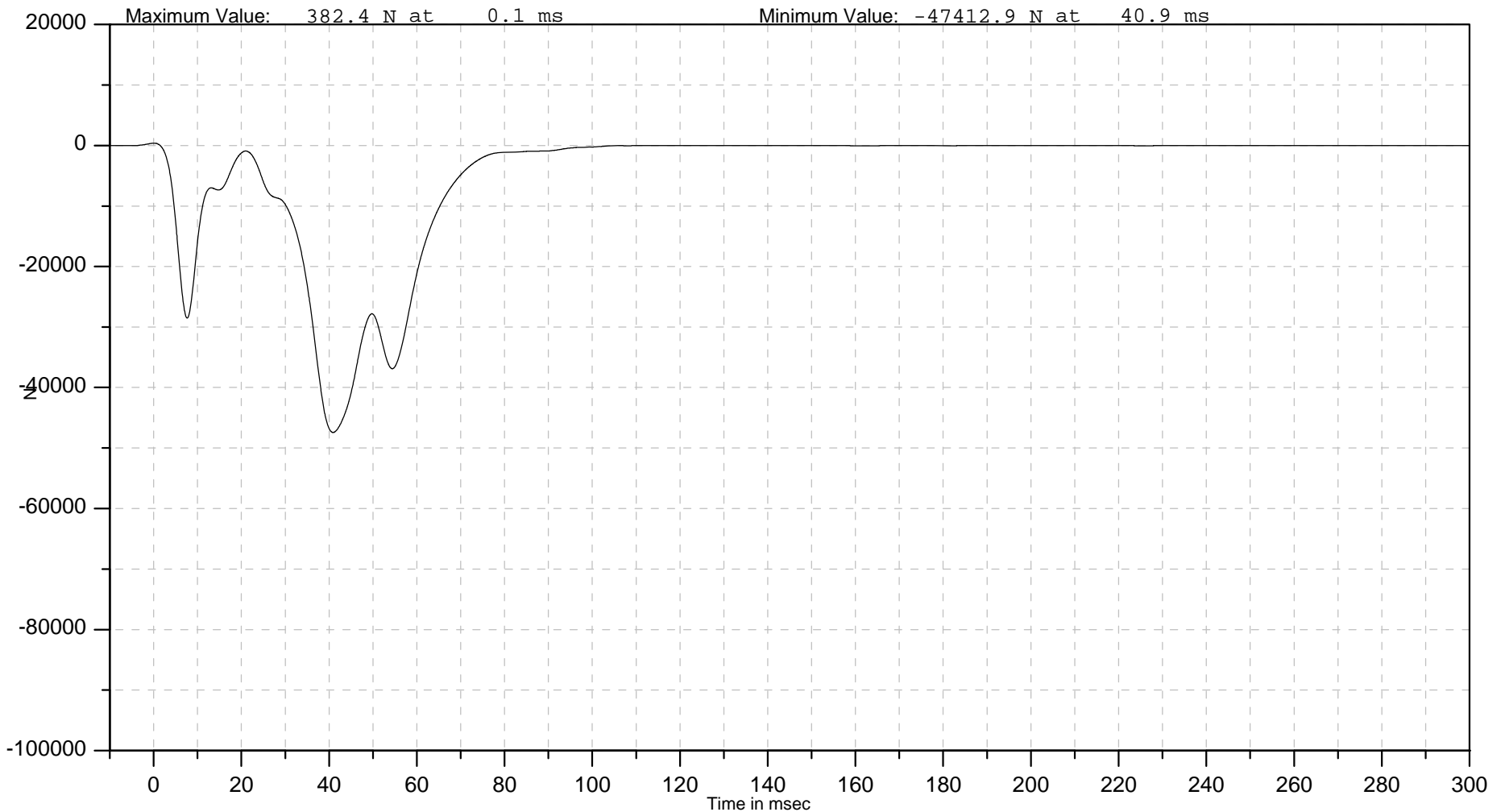
ISO Channel
L0FBARC40000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 4th from left Fixed Barrier X Force





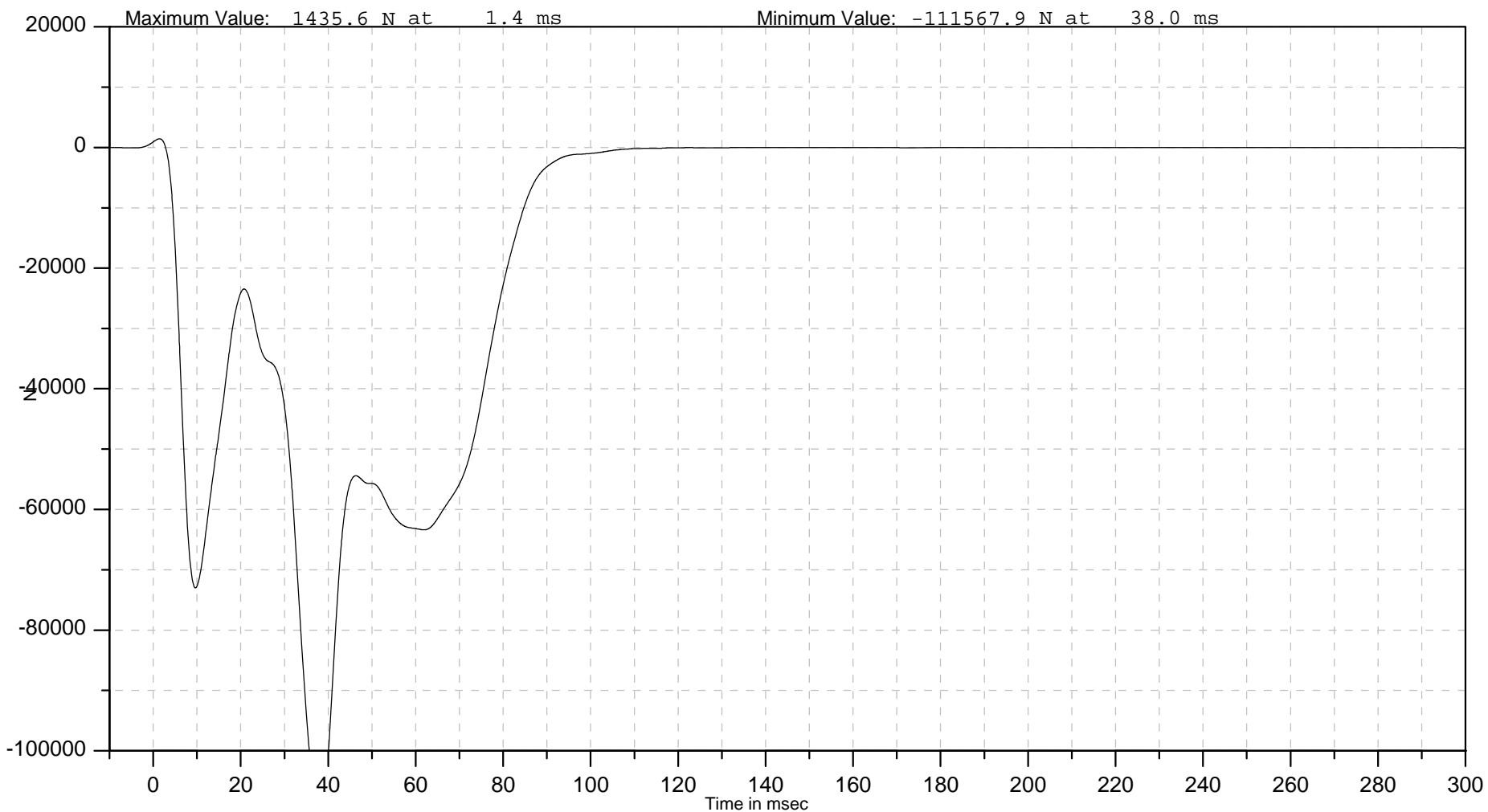
Autoliv North America (NTC)

Autoliv Channel
L0FBARD40000FOXD

ISO Channel
L0FBARD40000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type	Filter:	CFC 60
Non dummy channel	Sign Convention:	SAE J211
bottom row, 4th from left Fixed Barrier X Force		





Autoliv North America (NTC)

Autoliv Channel
L0FBARD40000FOXD

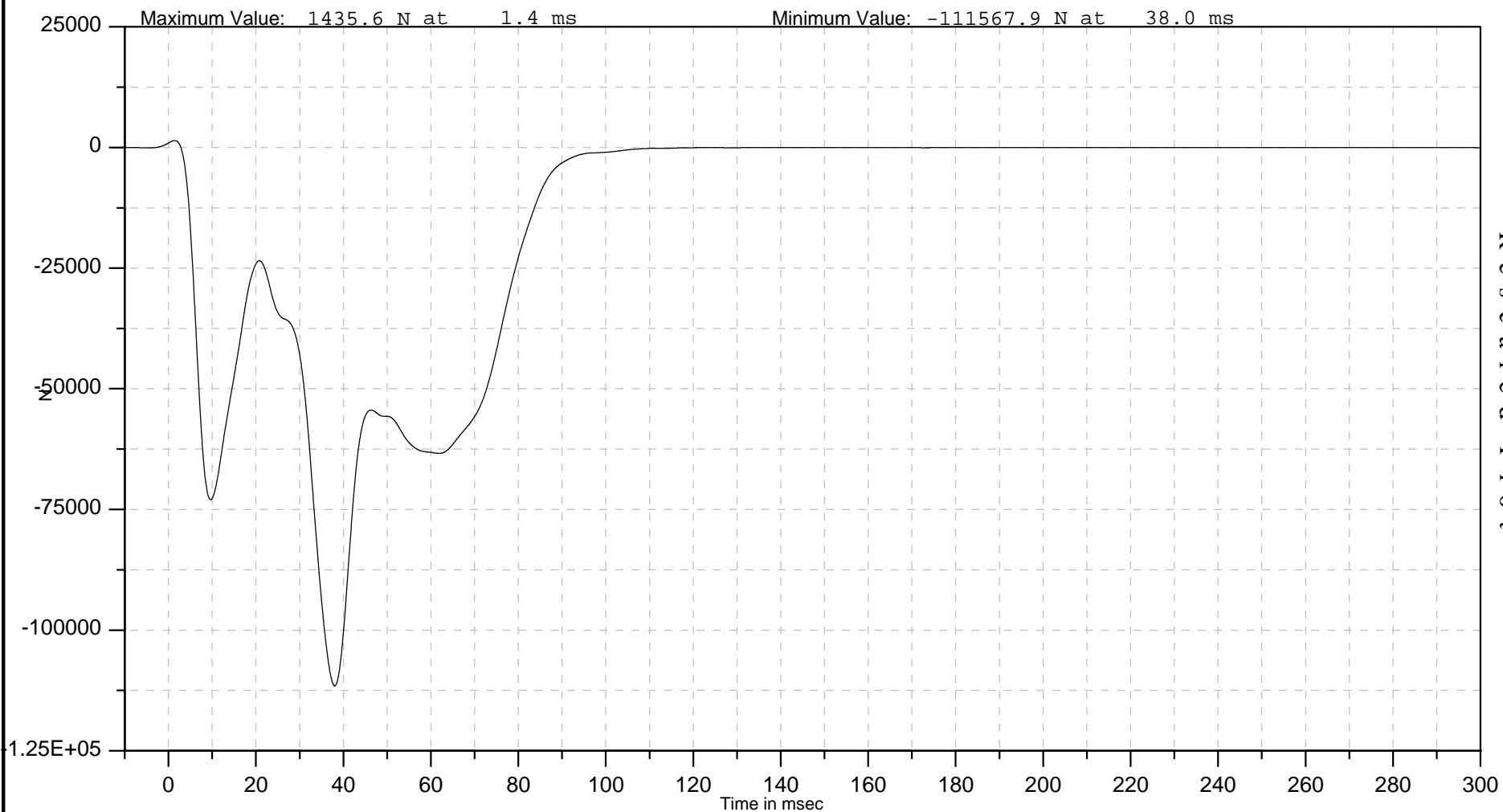
ISO Channel
L0FBARD40000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 4th from left Fixed Barrier X Force



Rescaled Plot



Autoliv North America (NTC)

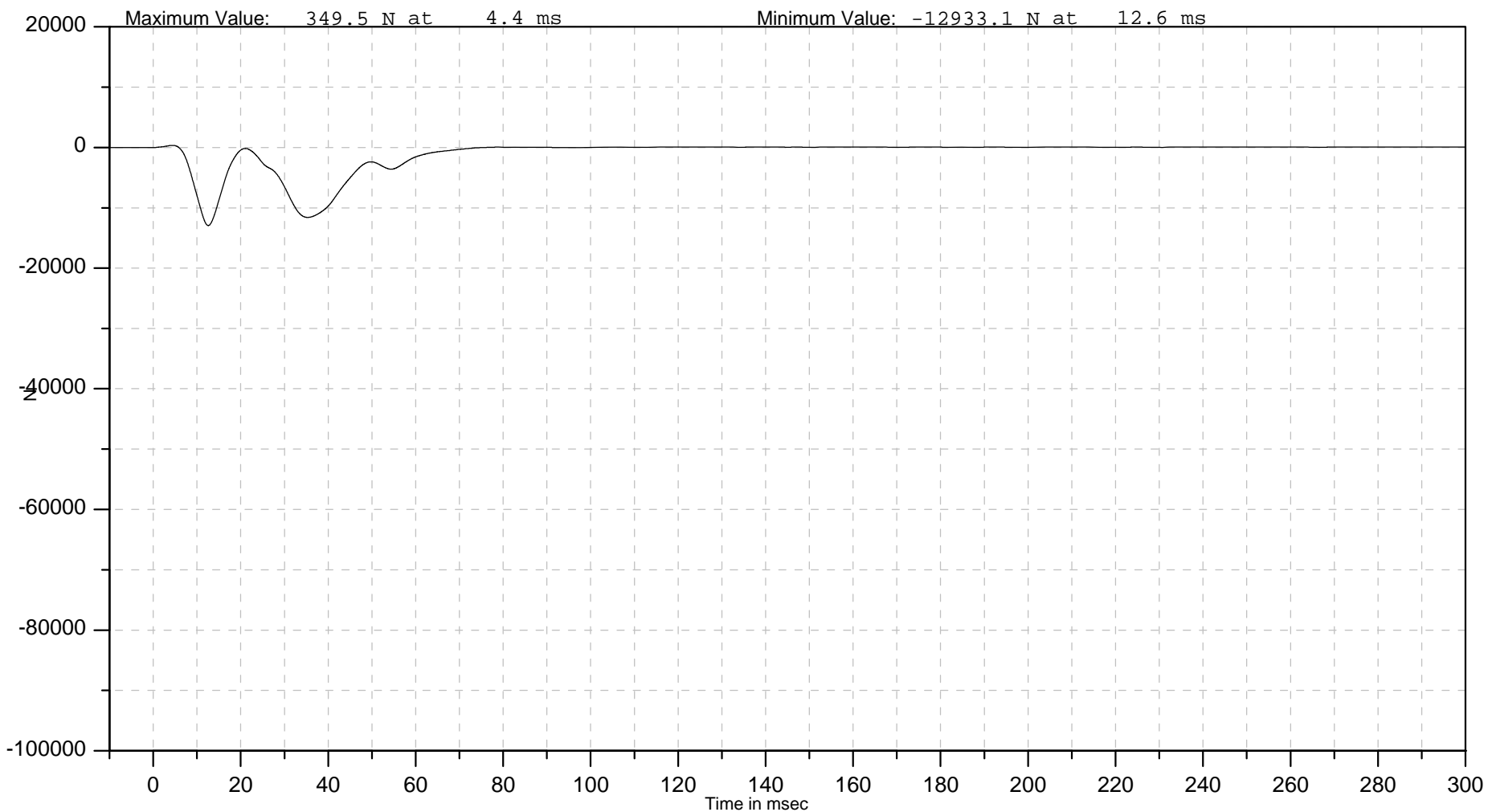
Autoliv Channel
L0FBARA50000FOXD

ISO Channel
L0FBARA50000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

top row, 5th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB50000FOXD

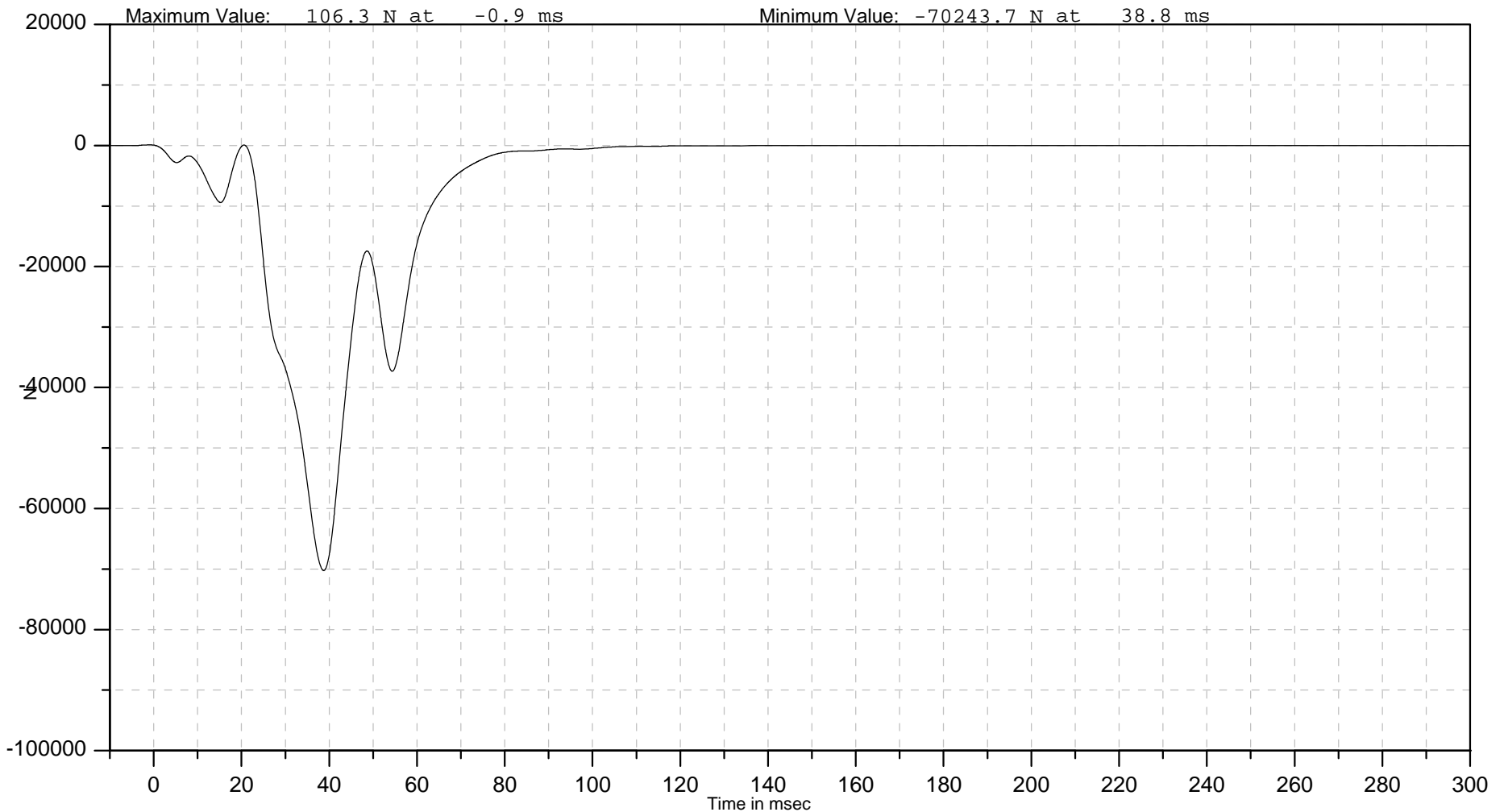
ISO Channel
L0FBARB50000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 5th from left Fixed Barrier X Force





Autoliv North America (NTC)

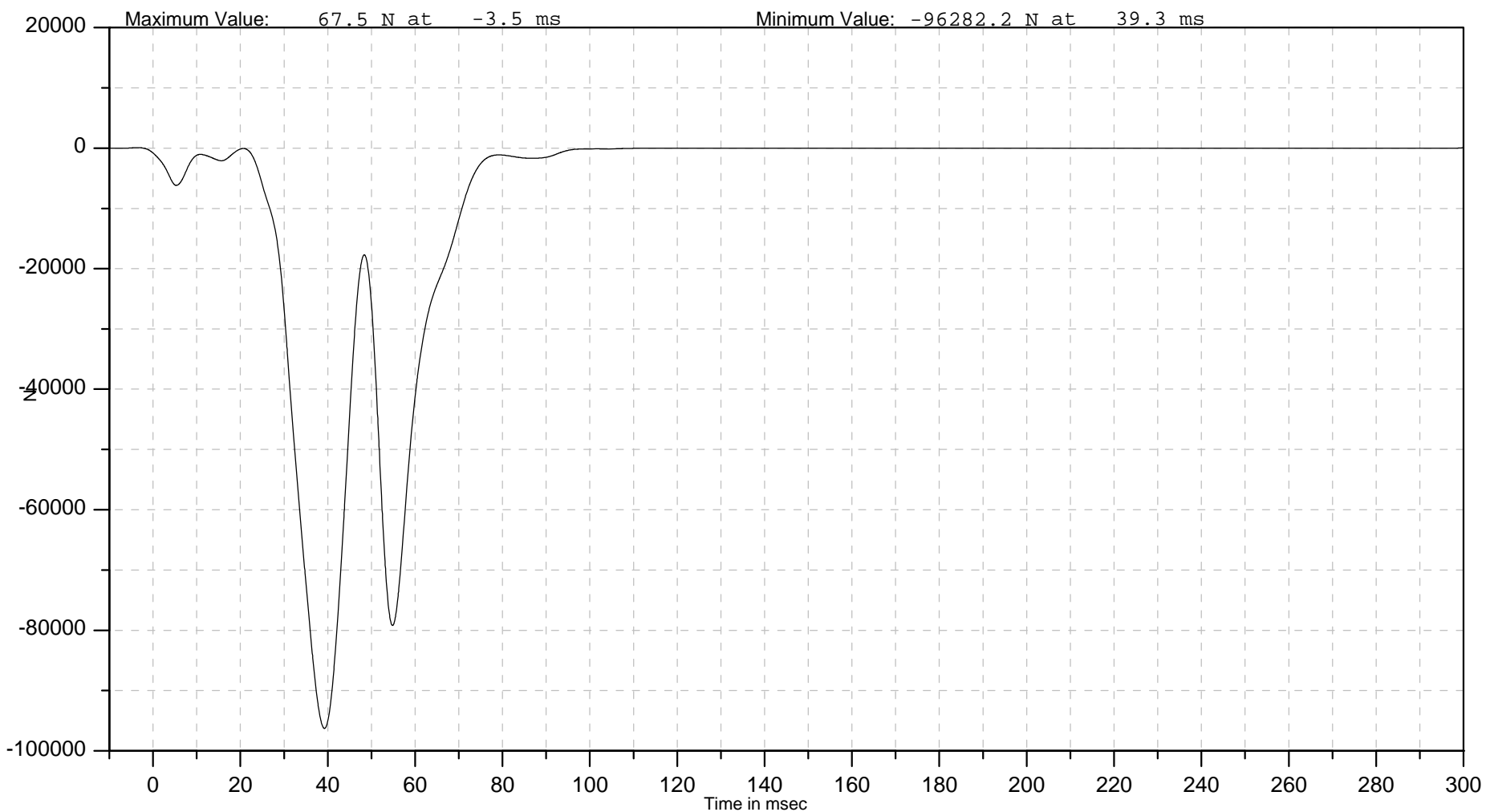
Autoliv Channel
L0FBARC50000FOXD

ISO Channel
L0FBARC50000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 5th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD50000FOXD

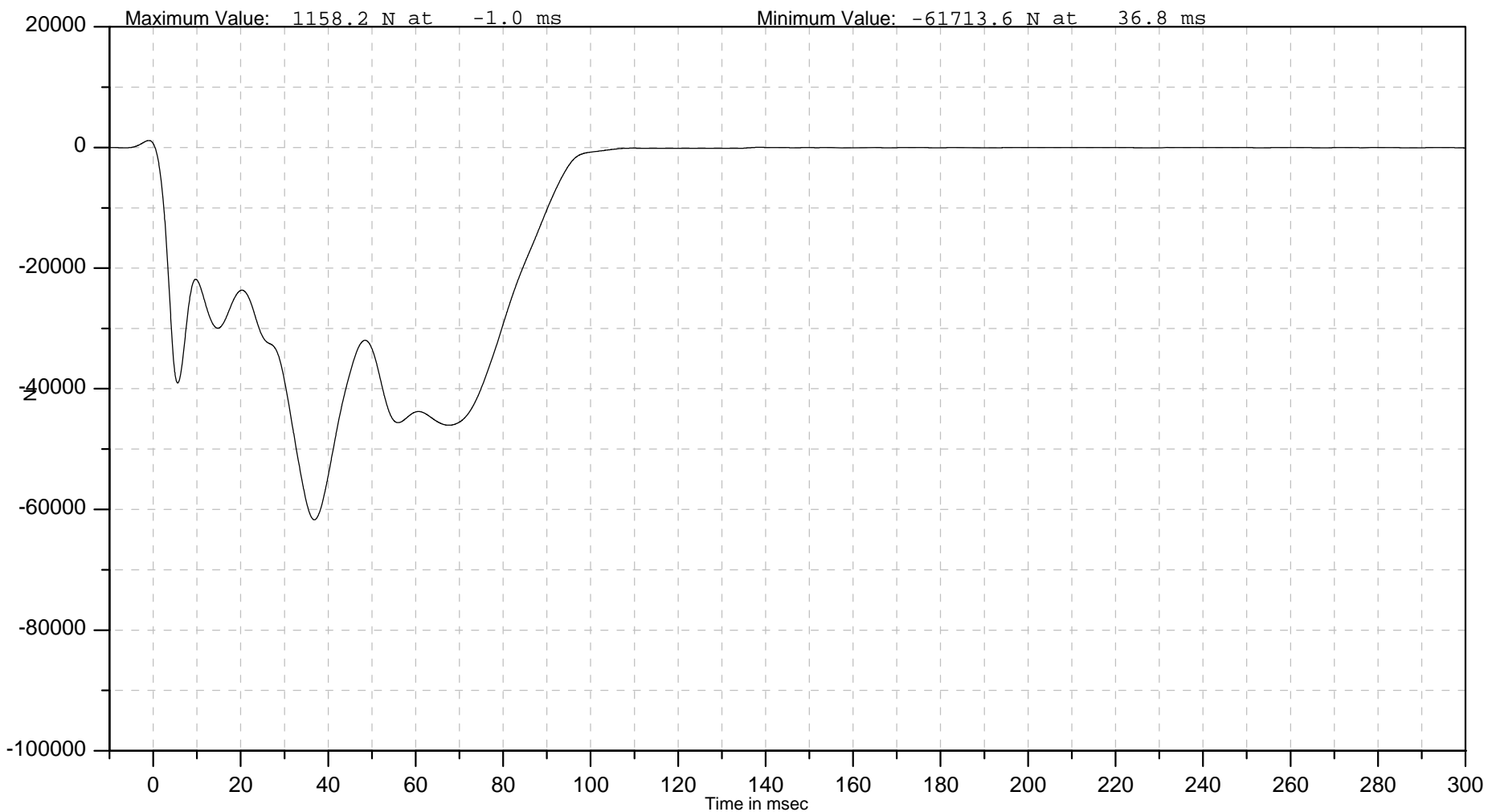
ISO Channel
L0FBARD50000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 5th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARA60000FOXD

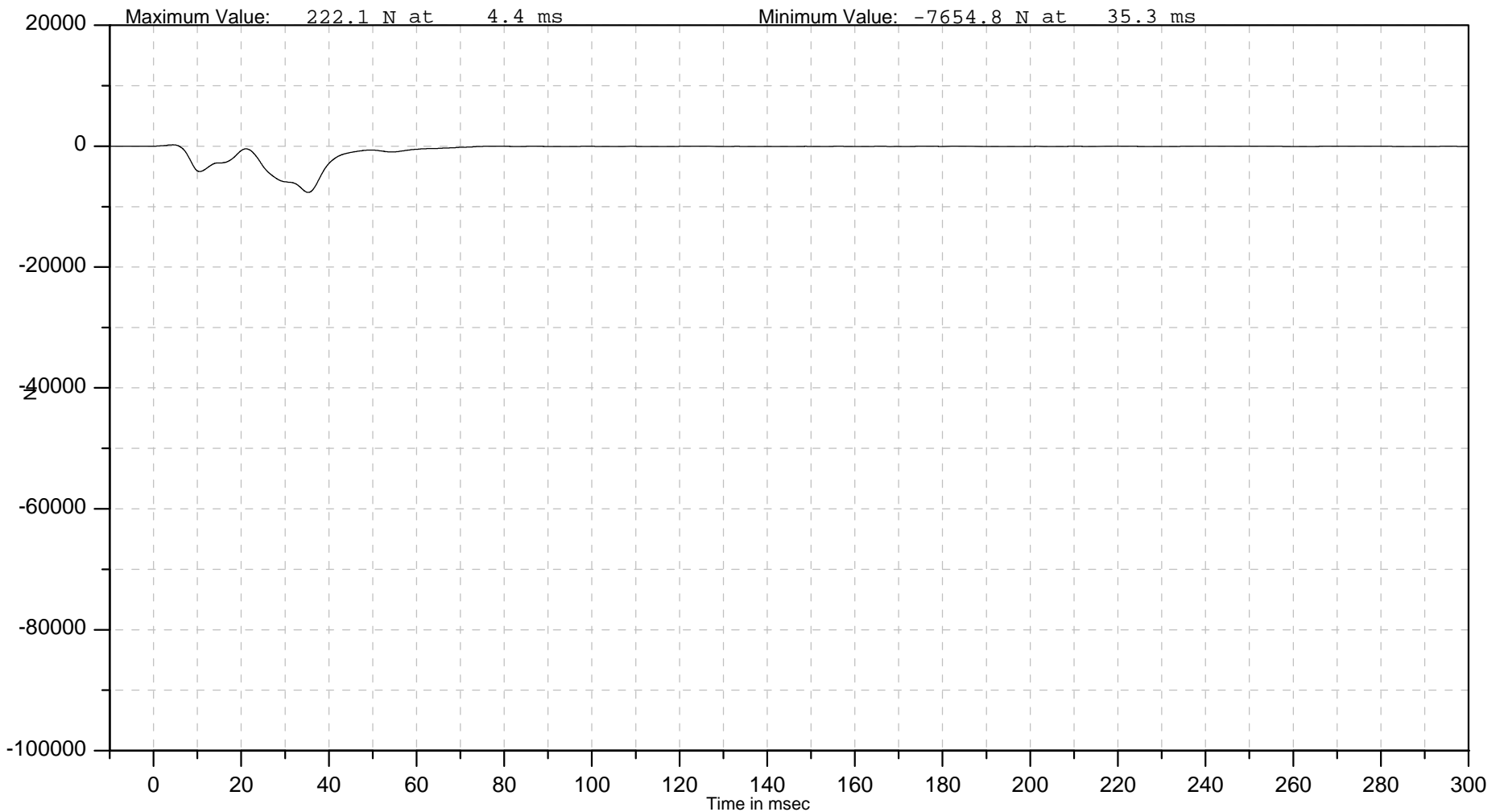
ISO Channel
L0FBARA60000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

top row, 6th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB60000FOXD

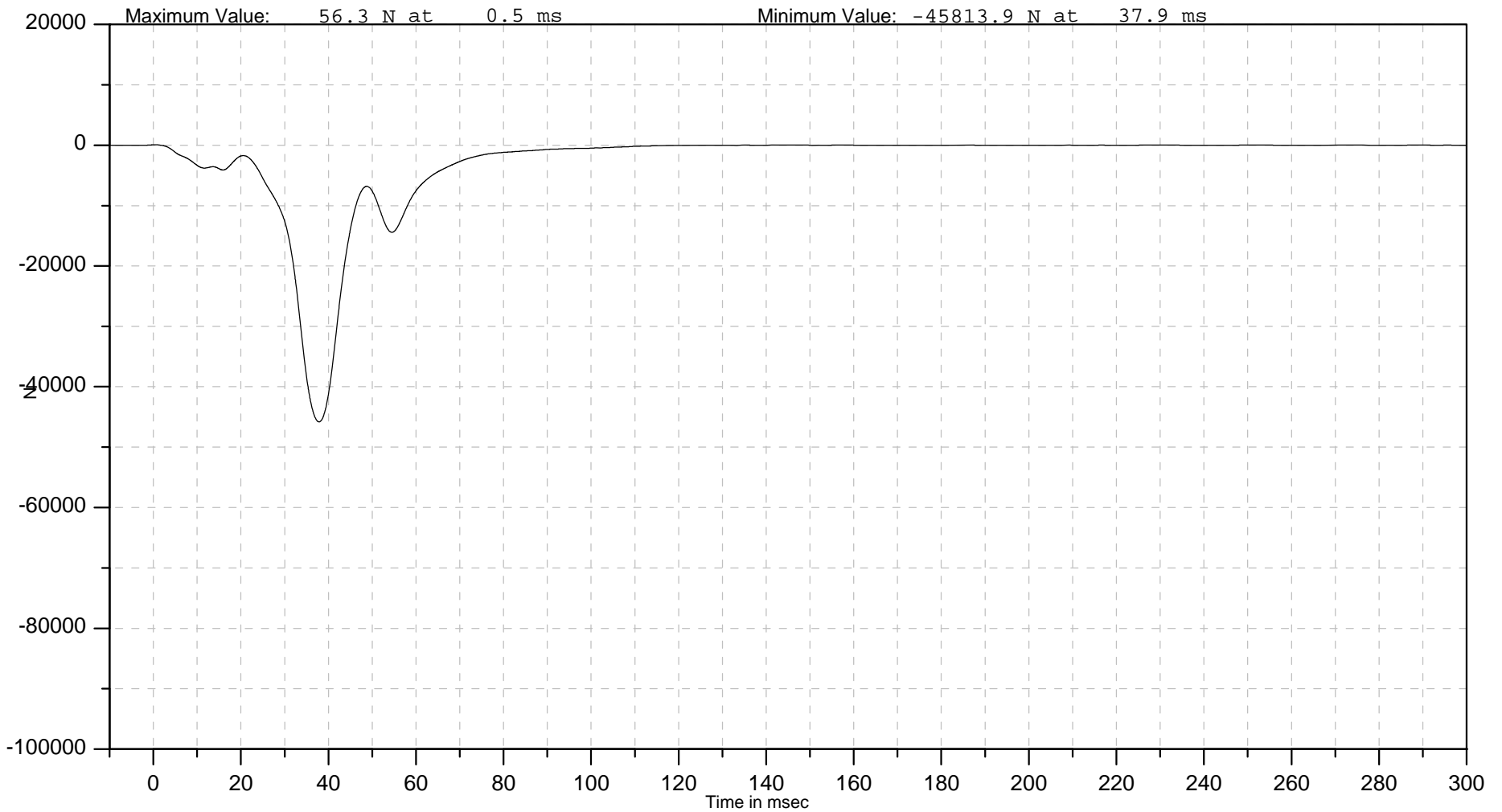
ISO Channel
L0FBARB60000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 6th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC60000FOXD

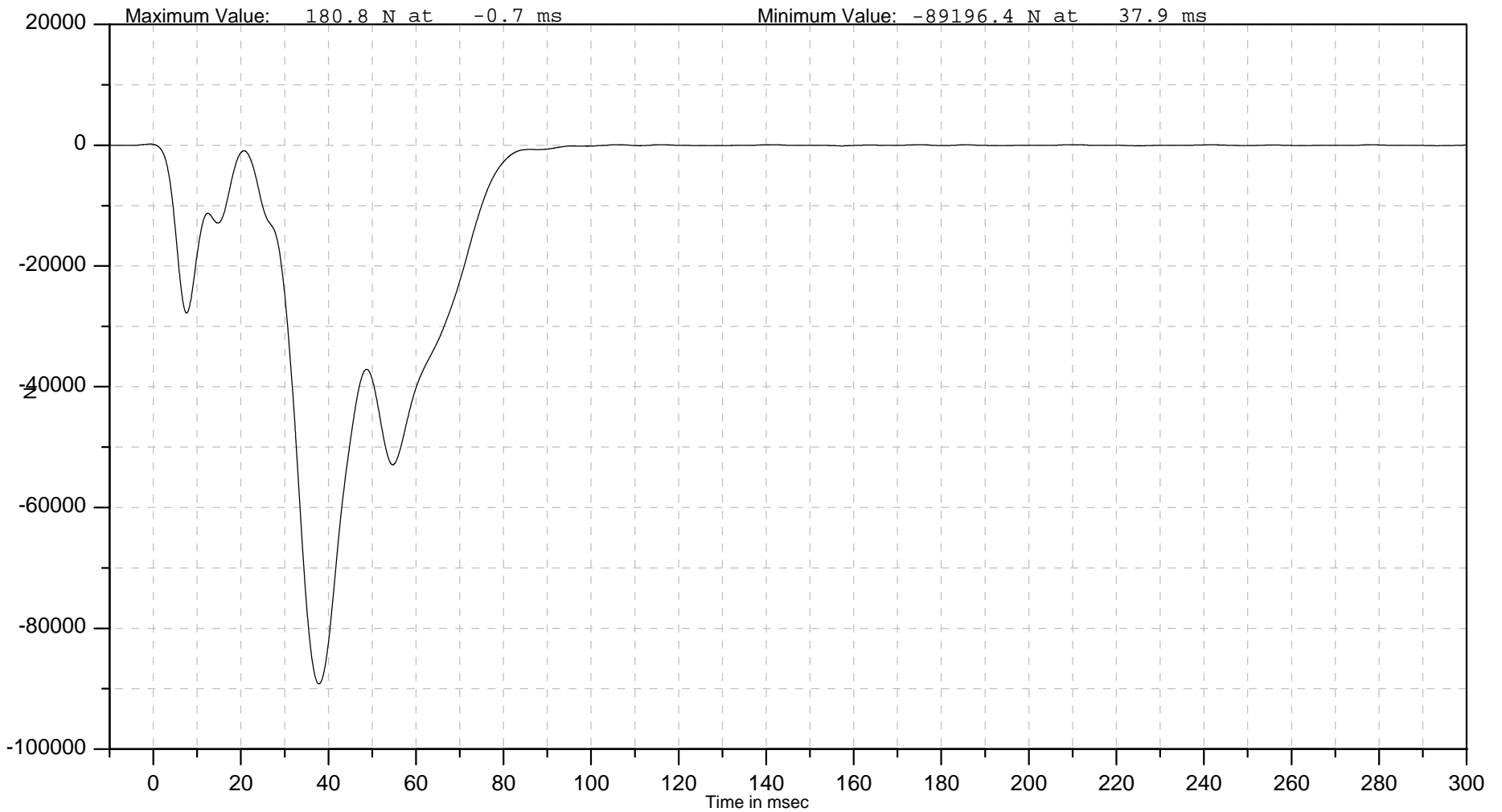
ISO Channel
L0FBARC60000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 6th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD60000FOXD

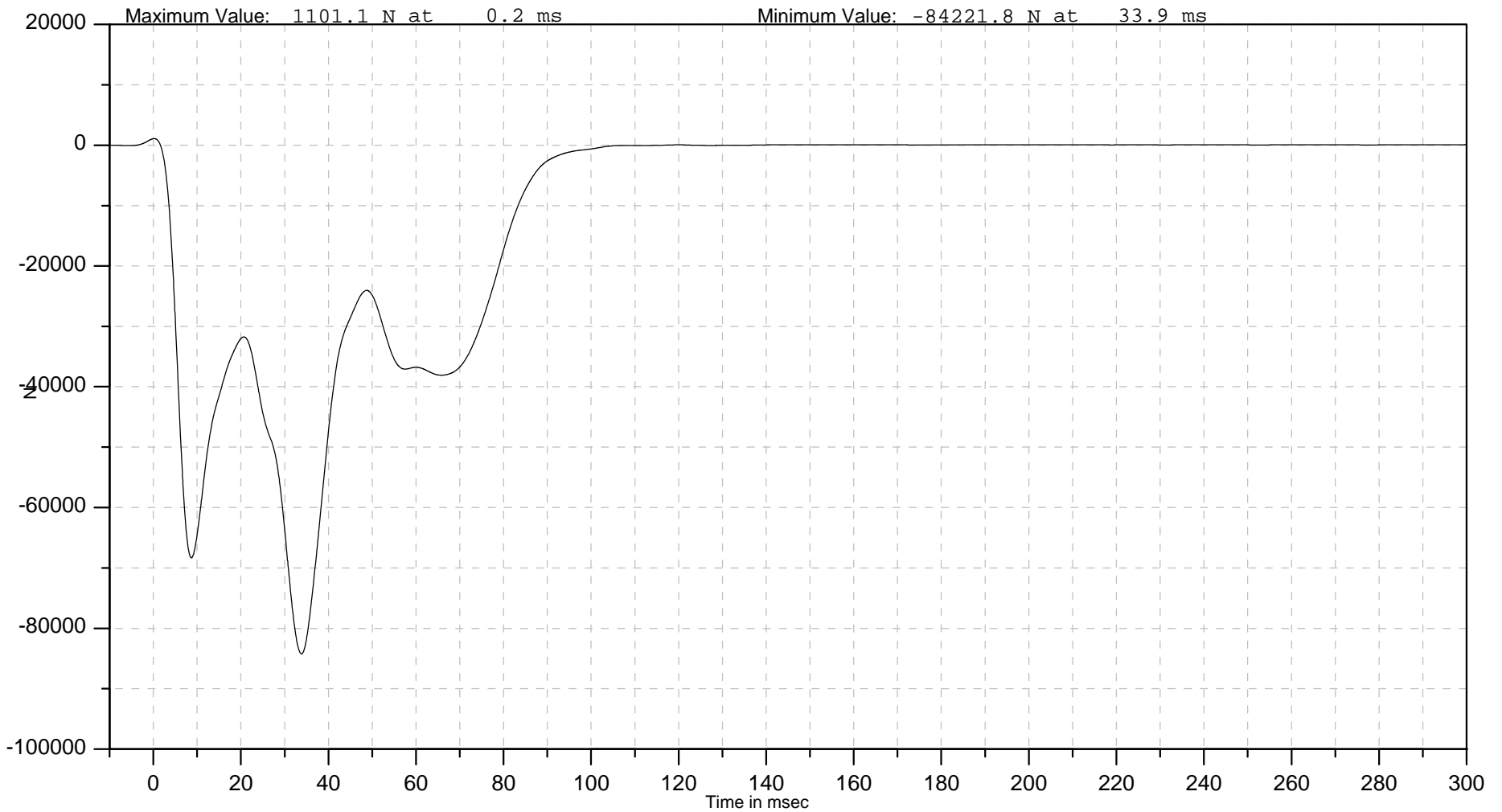
ISO Channel
L0FBARD60000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 6th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARA70000FOXD

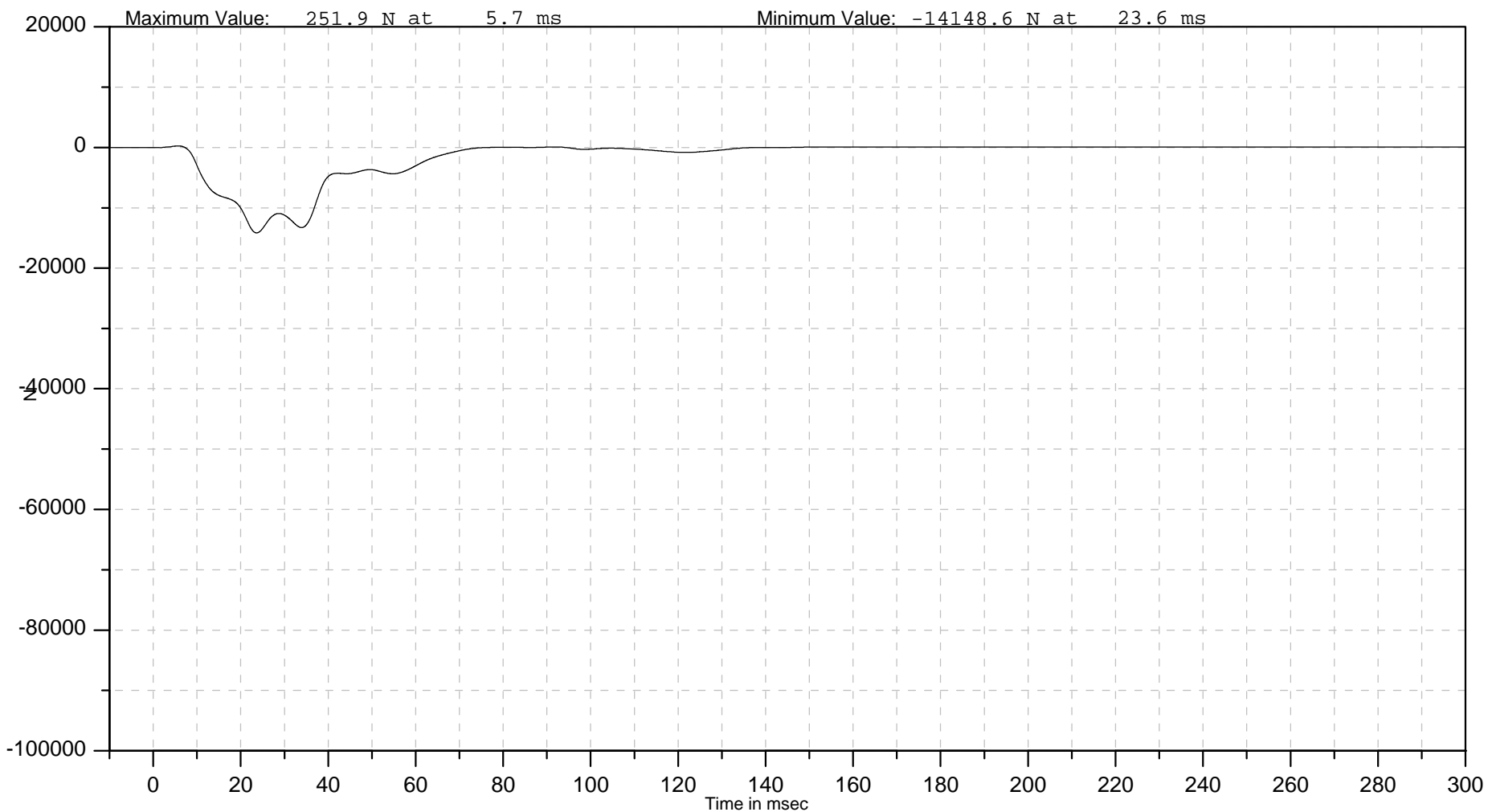
ISO Channel
L0FBARA70000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

top row, 7th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB70000FOXD

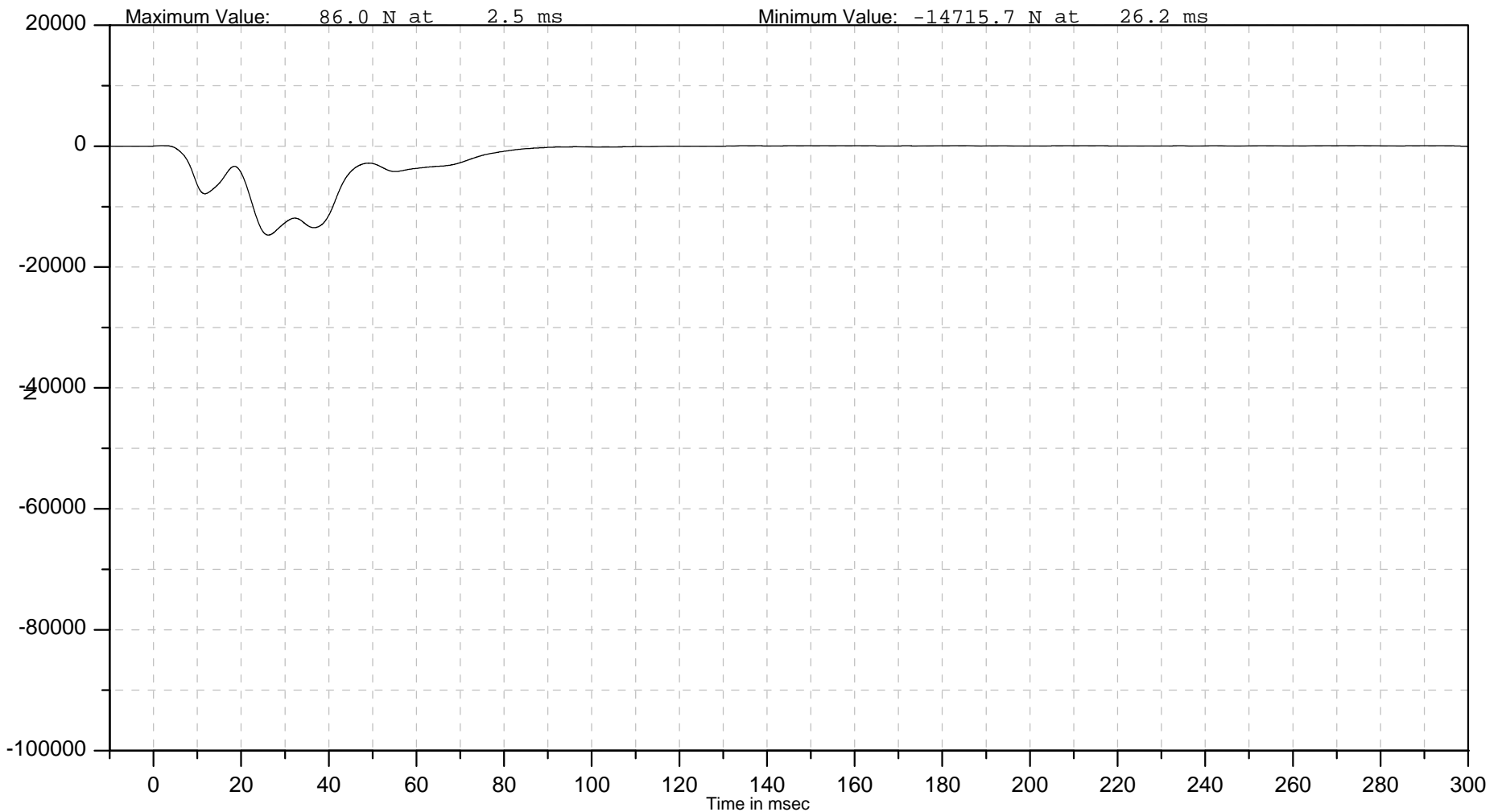
ISO Channel
L0FBARB70000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 7th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC70000FOXD

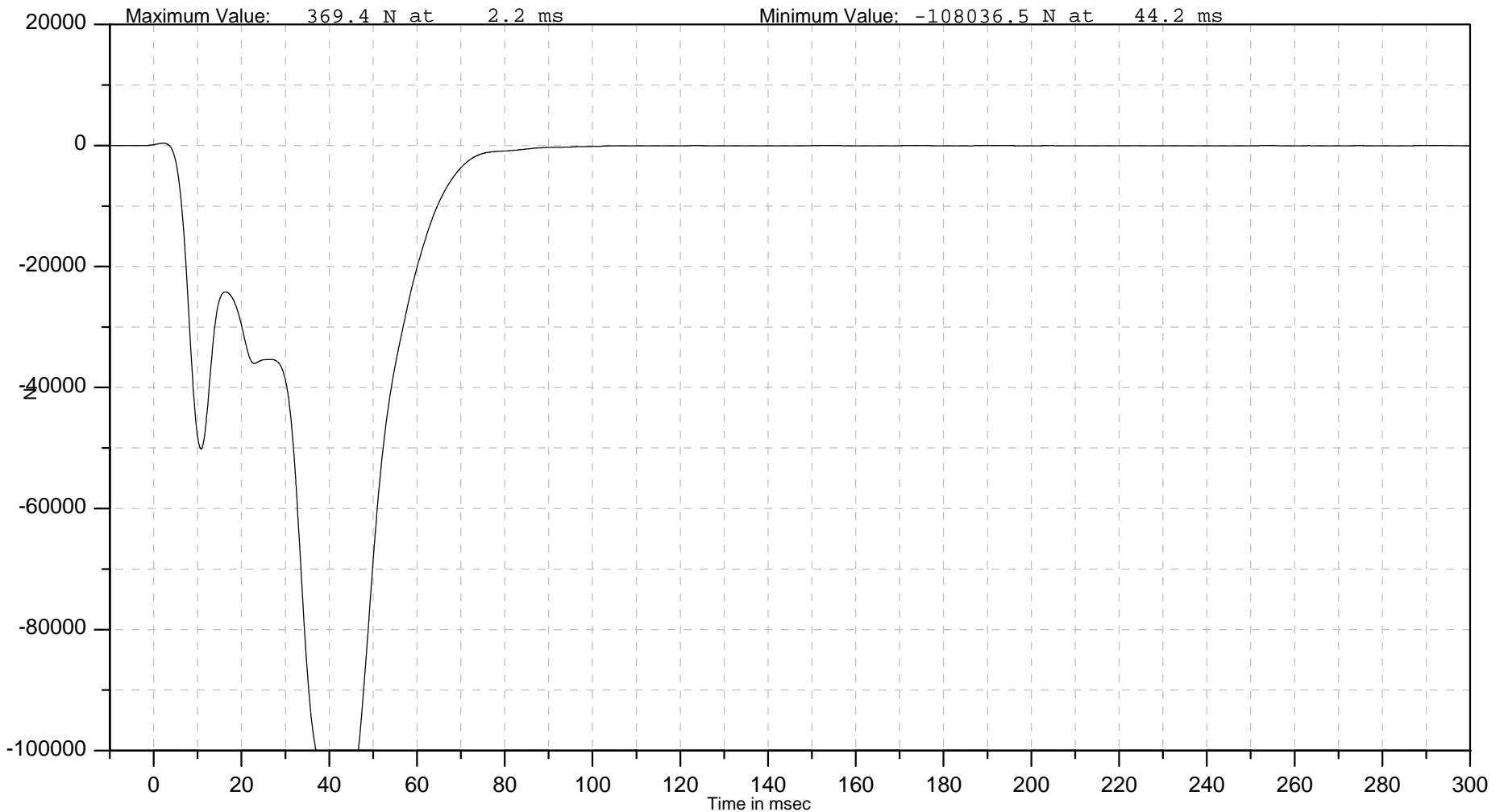
ISO Channel
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Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 7th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC70000FOXD

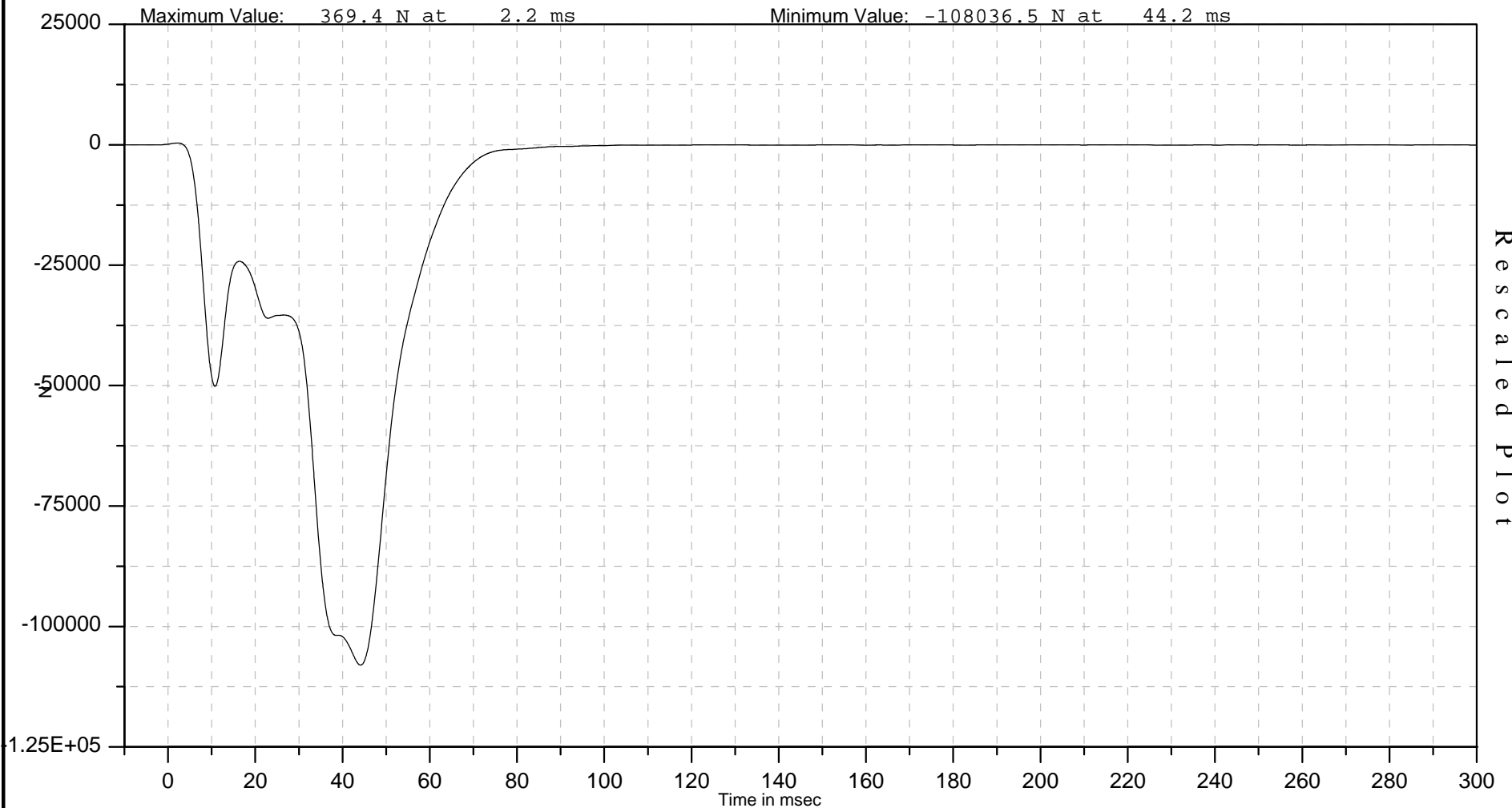
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Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 7th from left Fixed Barrier X Force



Rescaled Plot



Autoliv North America (NTC)

Autoliv Channel
L0FBARD70000FOXD

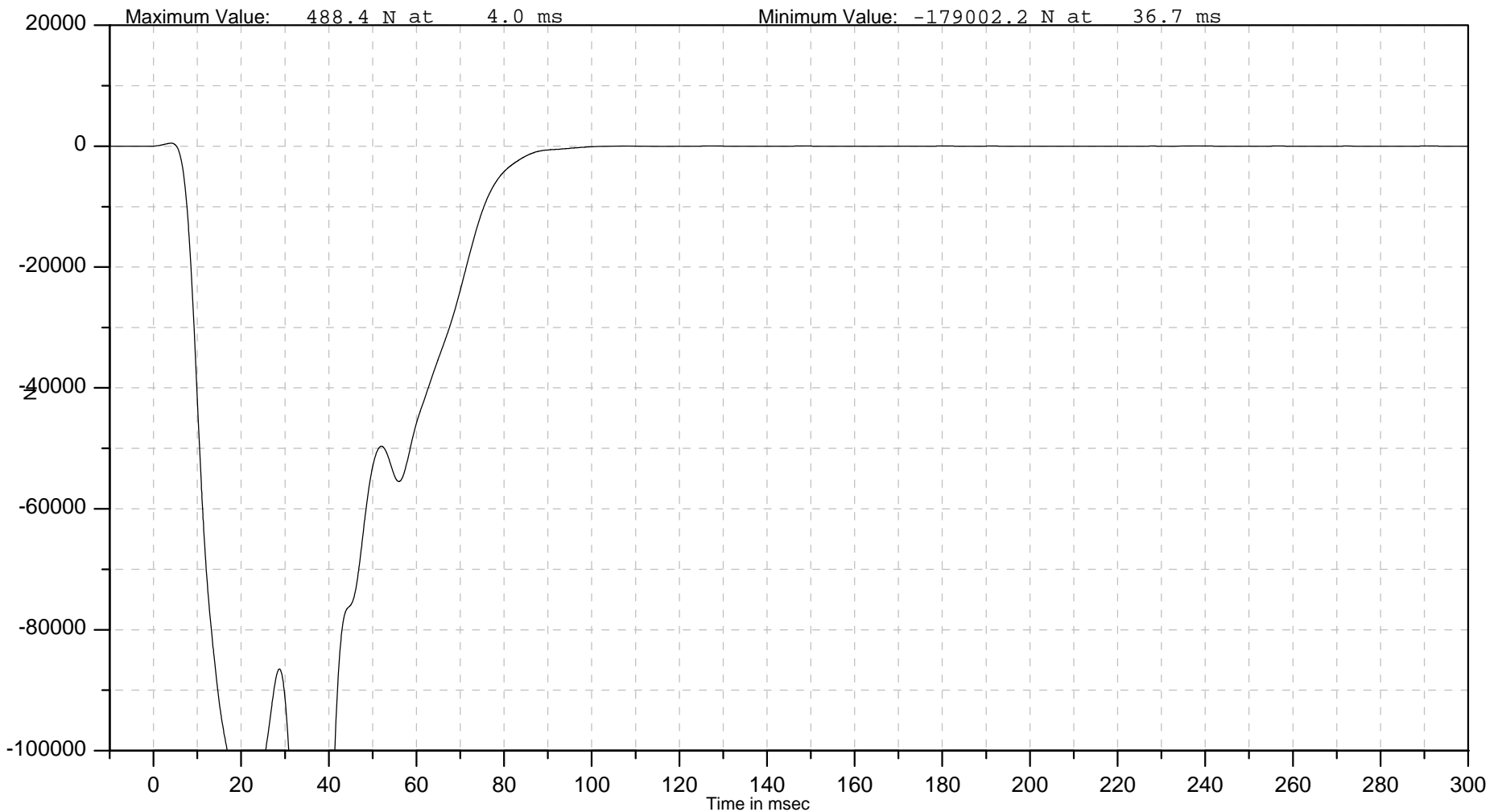
ISO Channel
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Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 7th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD70000FOXD

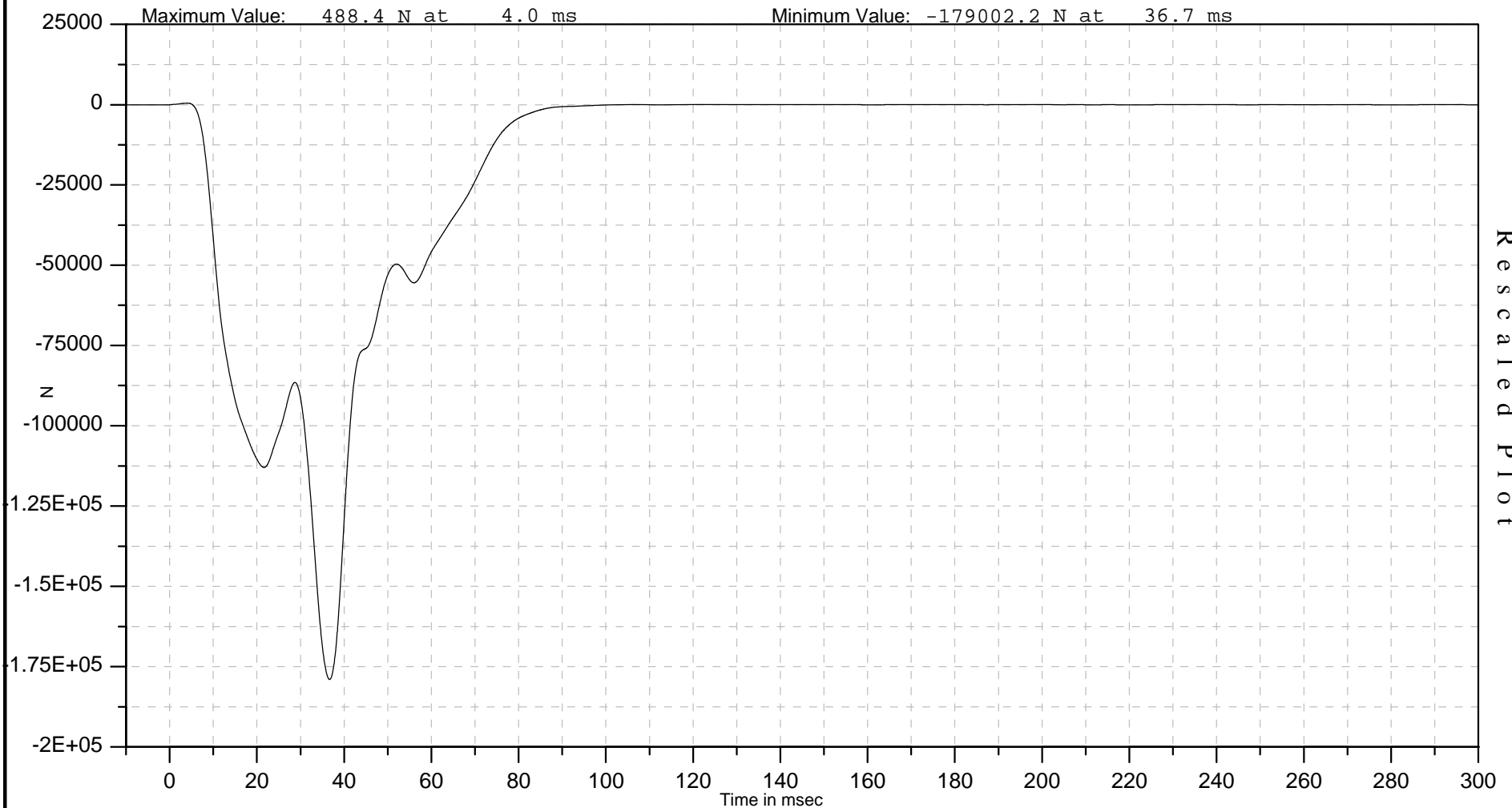
ISO Channel
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Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 7th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARA80000FOXD

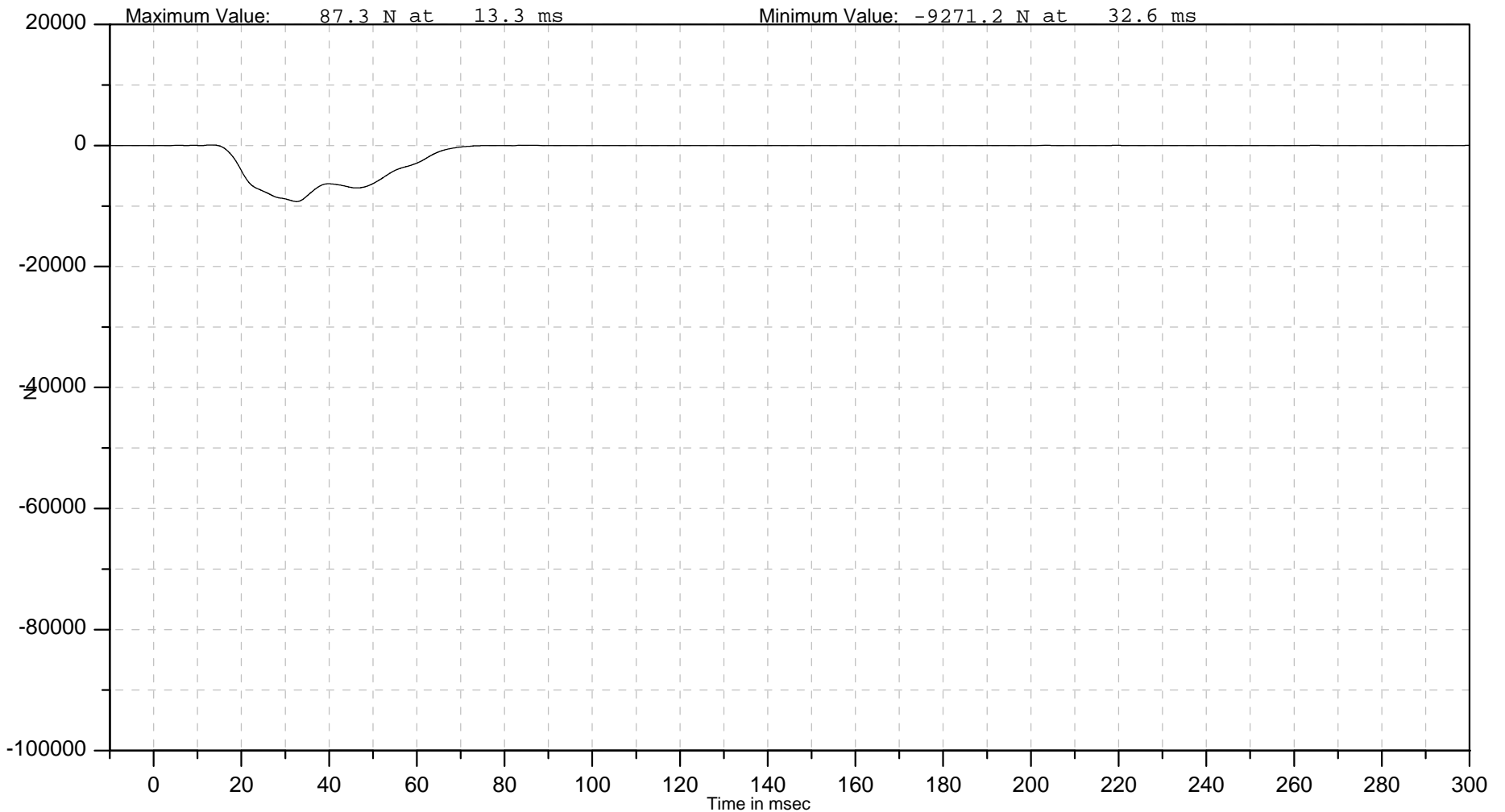
ISO Channel
L0FBARA80000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

top row, 8th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB80000FOXD

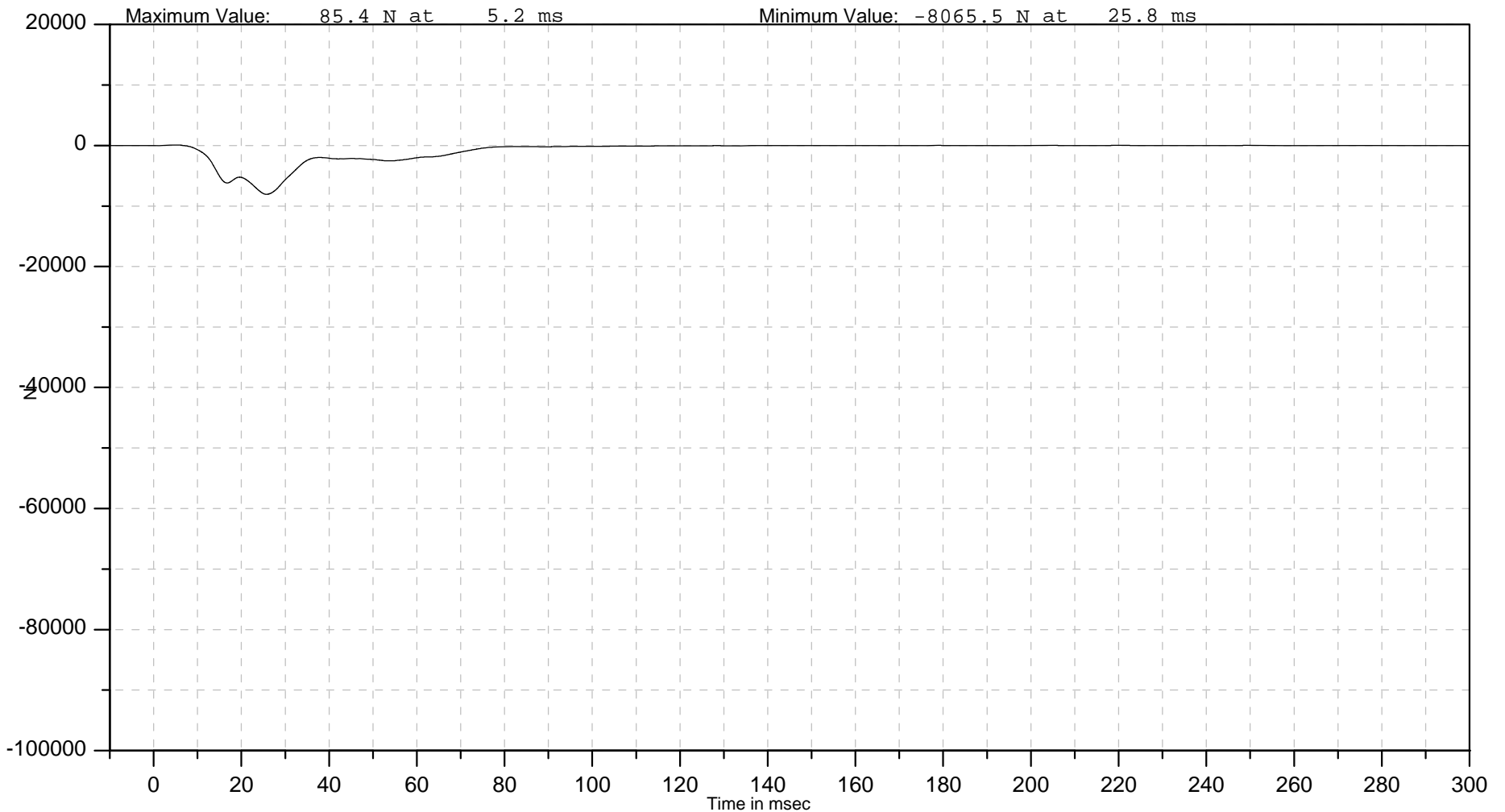
ISO Channel
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Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 8th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC80000FOXD

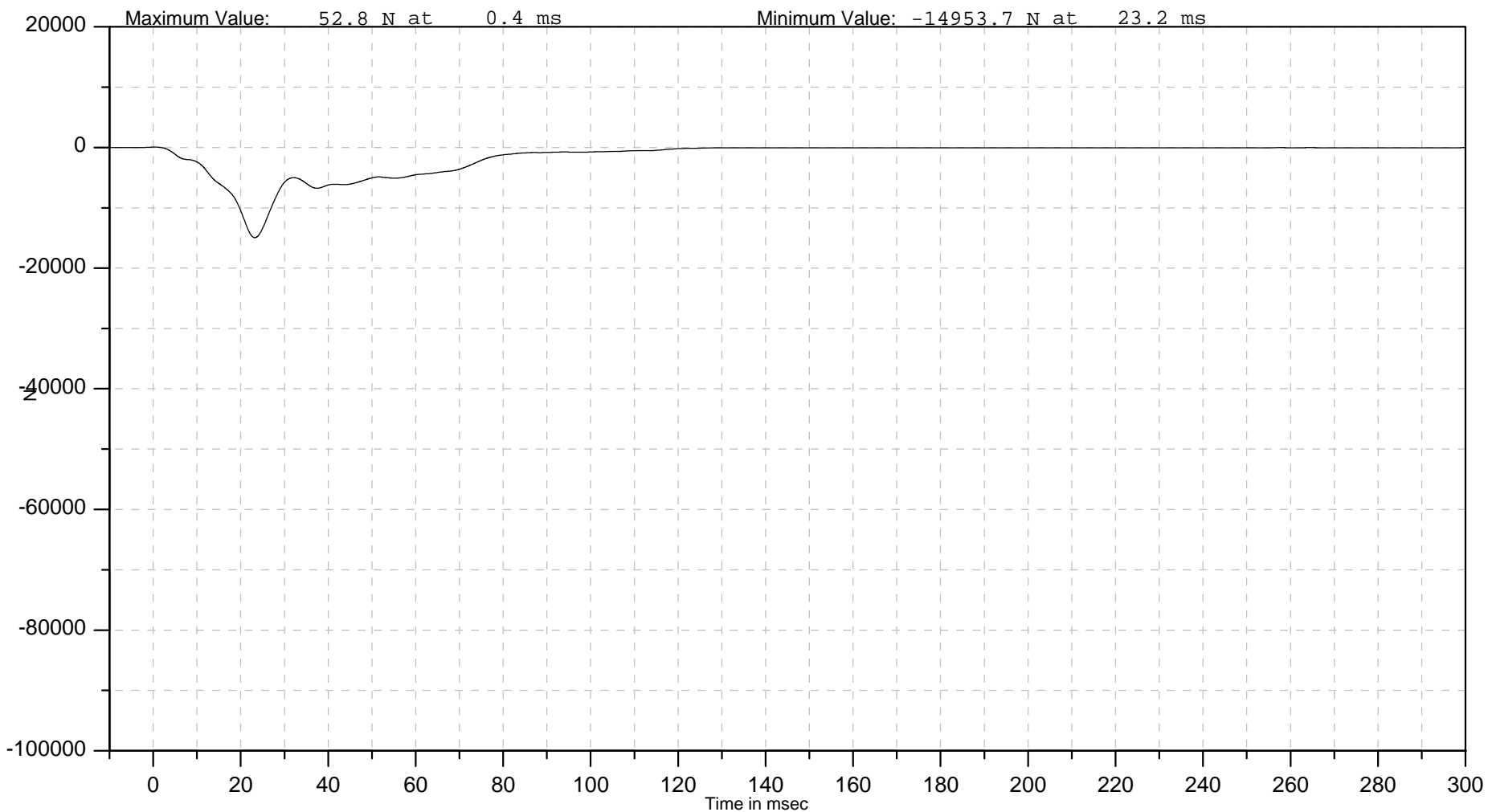
ISO Channel
L0FBARC80000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 8th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARD80000FOXD

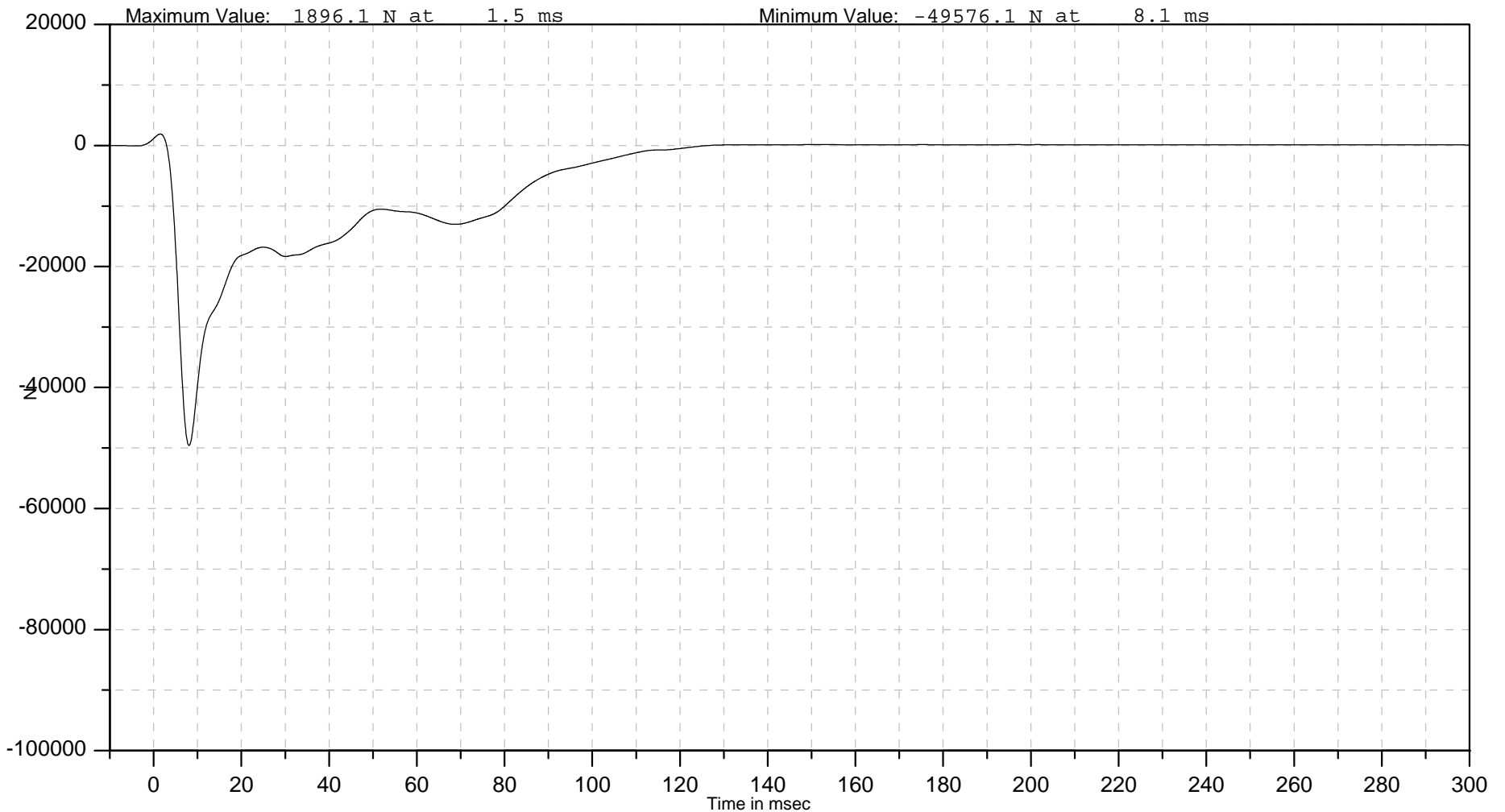
ISO Channel
L0FBARD80000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

bottom row, 8th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARB90000FOXD

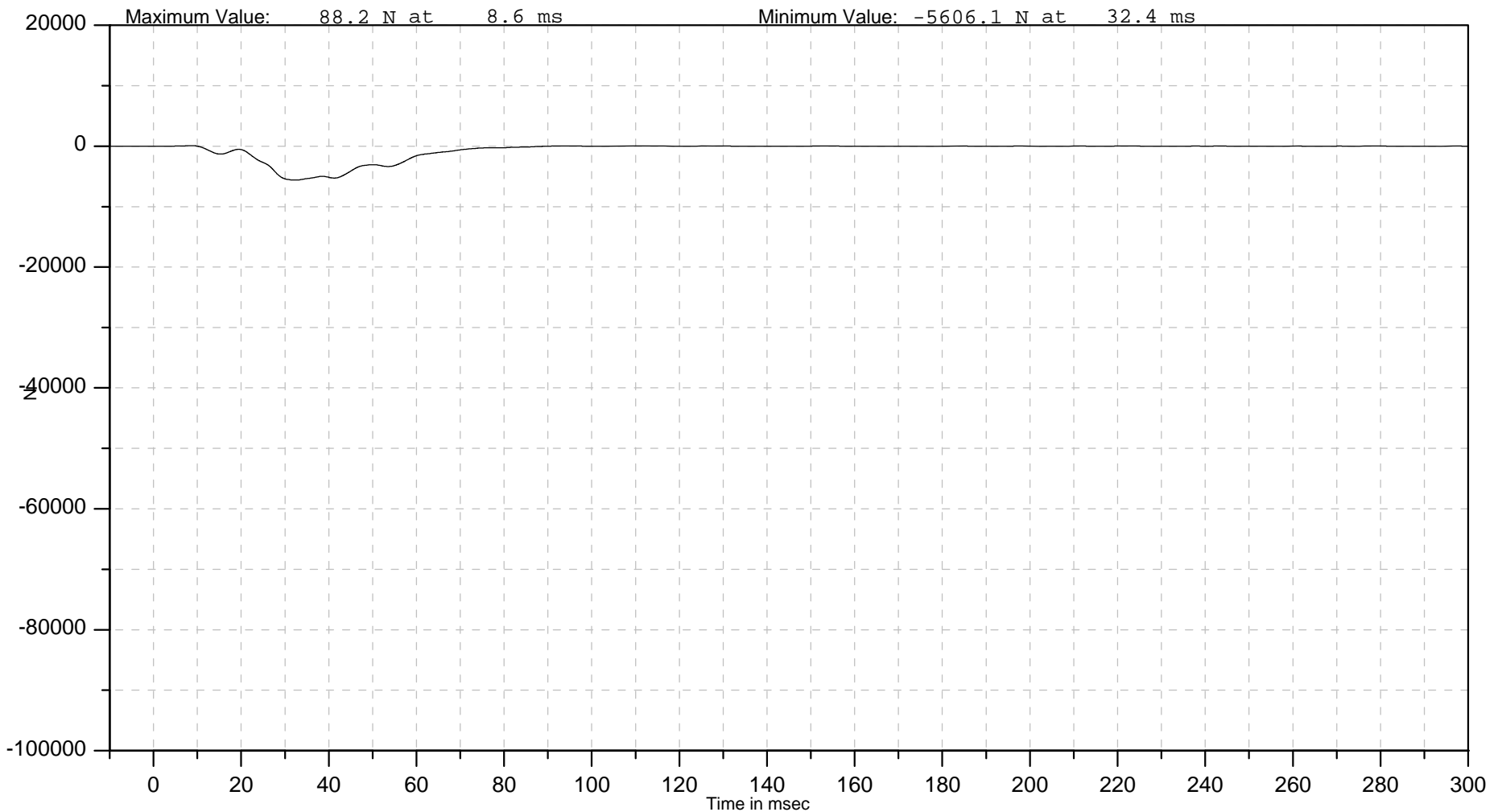
ISO Channel
L0FBARB90000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

3rd row up, 9th from left Fixed Barrier X Force





Autoliv North America (NTC)

Autoliv Channel
L0FBARC90000FOXD

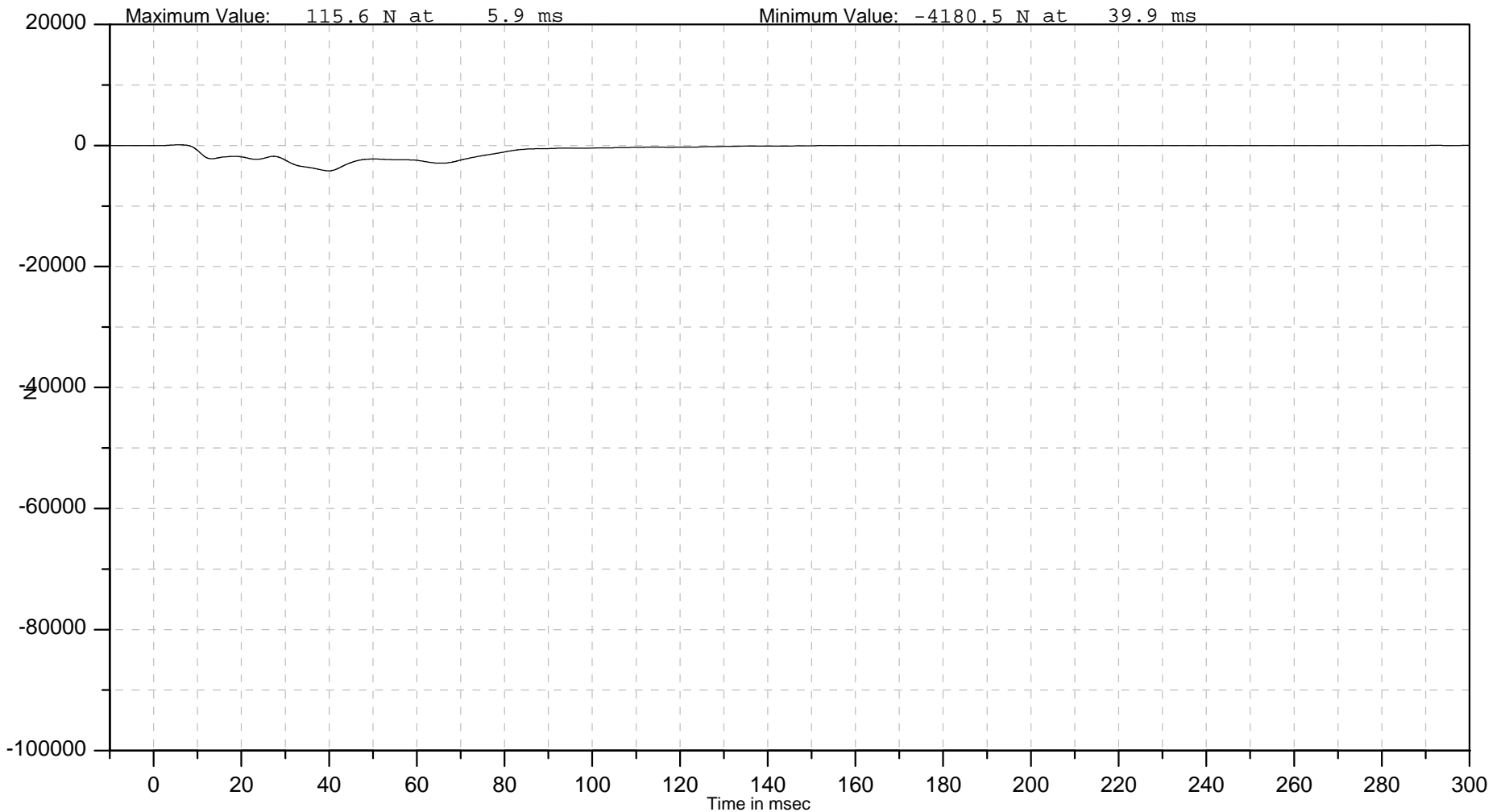
ISO Channel
L0FBARC90000FOXD

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

2nd row up, 9th from left Fixed Barrier X Force



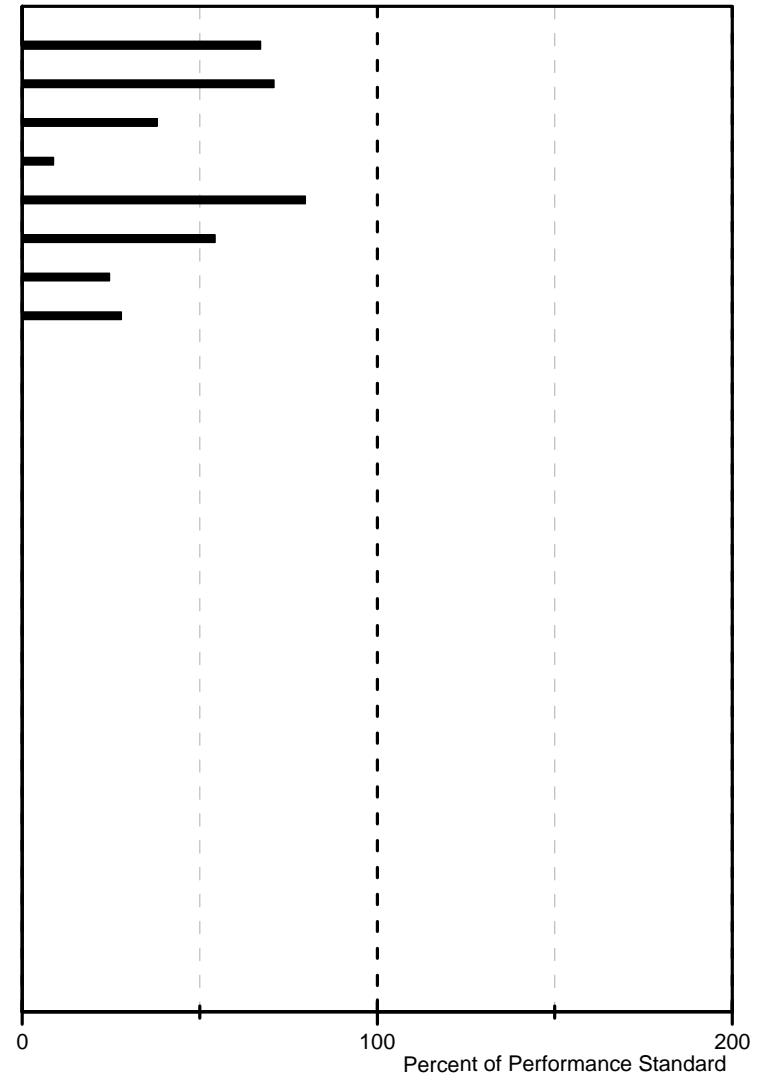


Autoliv North America (NTC)

Test Number: B1040229
Test Date: 16-Jul-2004
Test Description: Nissan P61B NCAP

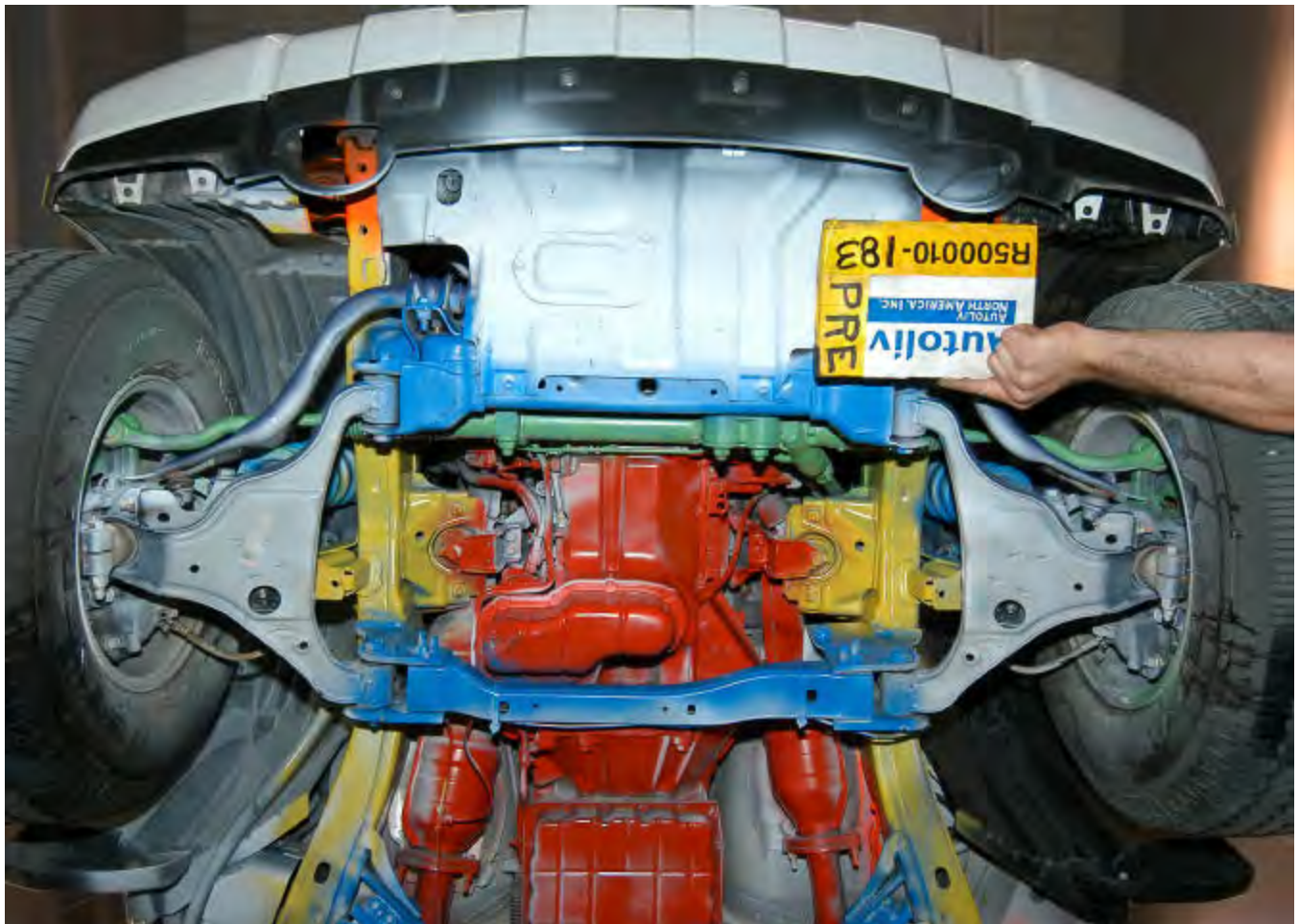
Injury Performance

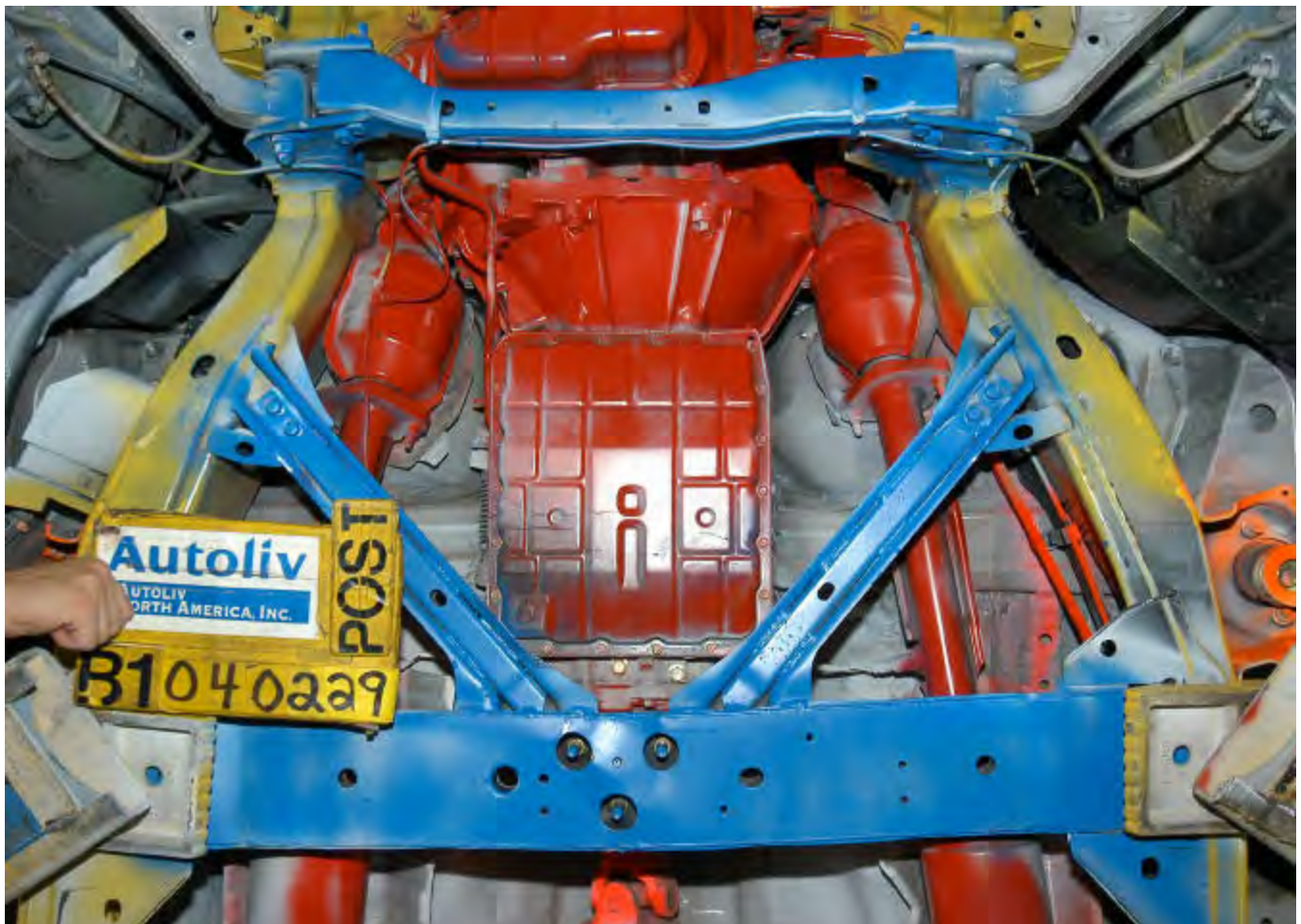
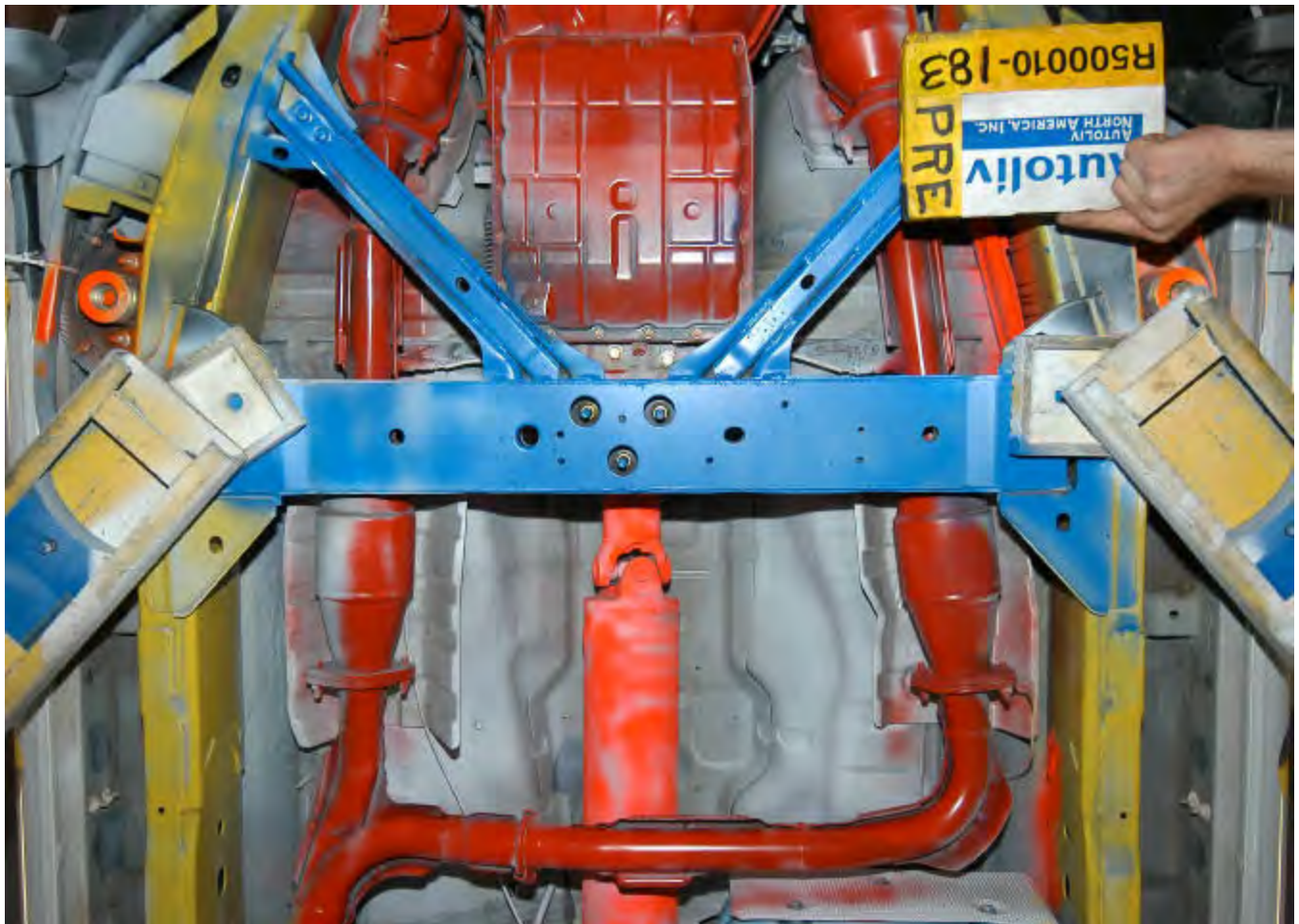
Injury Parameter	Performance Standard		Test Result
RFP HIC 15ms	700	*	470
RFP Nij	1.00	*	0.71
RFP Upper Neck Tension	4170 N	*	1587 N
RFP Upper Neck Compression	4000 N	*	353 N
RFP Chest 3ms Acceleration	60.0 g	*	47.8 g
RFP Chest Deflection	63.0 mm	*	34.2 mm
RFP Left Femur Compression	10000 N	*	2460 N
RFP Right Femur Compression	10000 N	*	2789 N

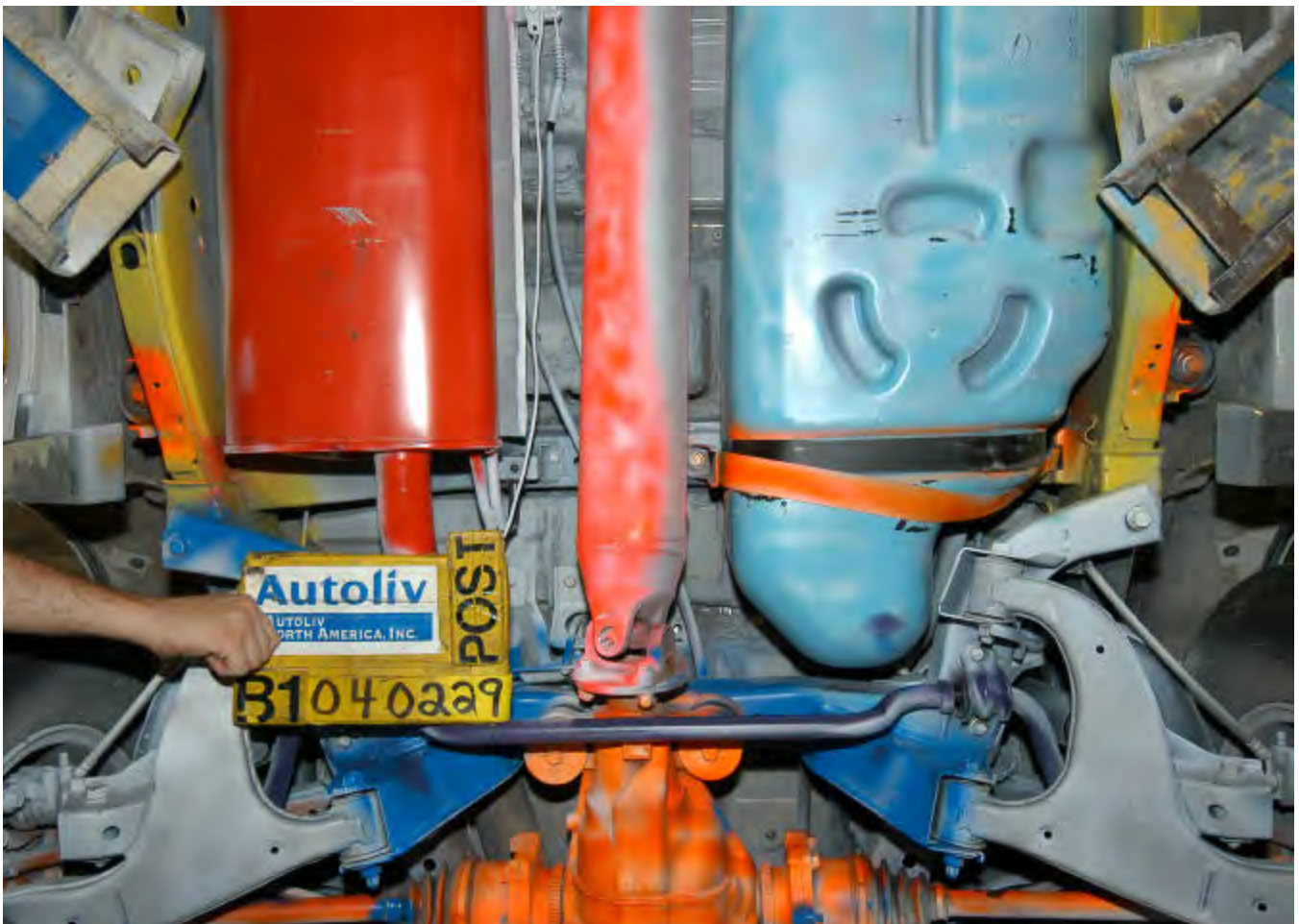


* FMVSS 208 Performance Standard

APPENDIX B
TEST PHOTOGRAPHS





















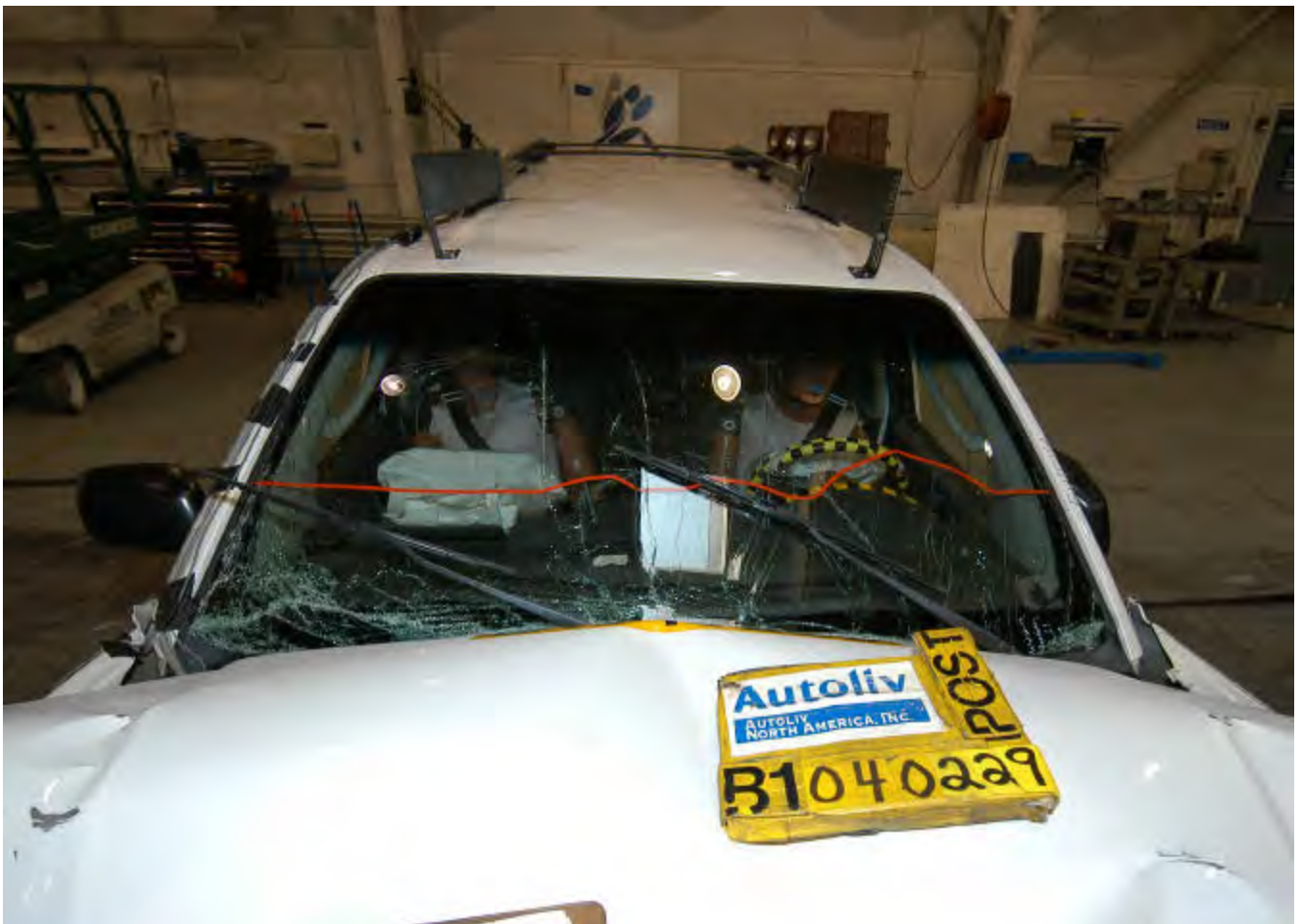










































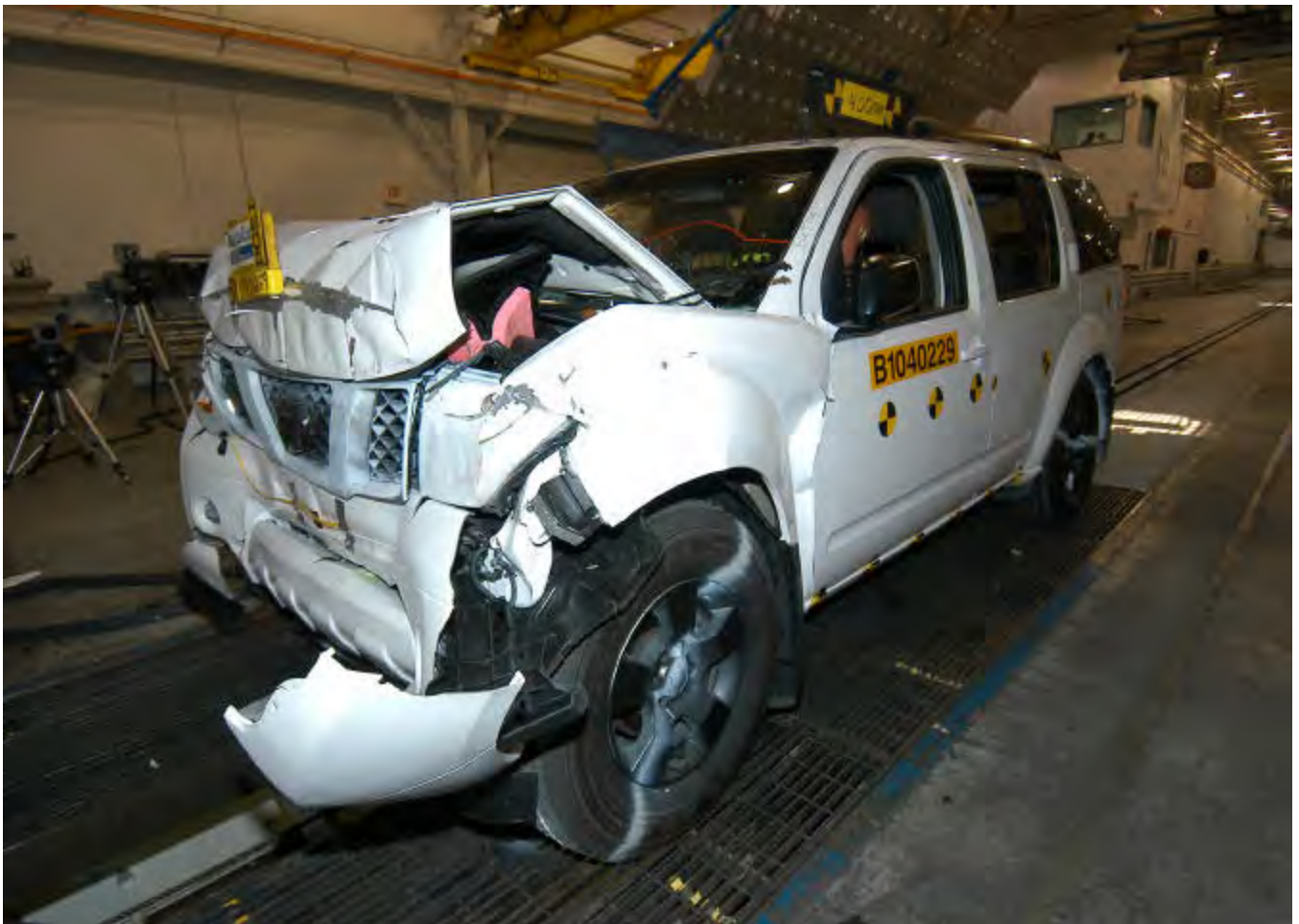






















FINAL REPORT OF: B1040239
30 MPH RIGHT ANGLE BARRIER TEST
2005 NISSAN P61B



Autoliv

PREPARED FOR:
NISSAN TECHNICAL CENTER NORTH AMERICA, INC.
39001 SUNRISE DRIVE
FARMINGTON HILLS, MI 48331

PREPARED BY:
AUTOLIV NORTH AMERICA, INC.
1320 PACIFIC DRIVE
AUBURN HILLS, MI 48326

ABSTRACT

Objective:

A 30 mph right angle barrier test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate occupant protection performance.

Scope:

One 2005 Nissan P61B vehicle was tested under the 30 degrees right angle barrier test condition. The test speed at impact should be 30 mph +0.5/-0.0 mph per Nissan's request.

Conclusion:

The test was conducted in accordance with the specifications of FMVSS 208. The actual final velocity at impact was 30.4 mph.

Notice:

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Report Prepared By:

Rashad Ahmad
Test Engineer

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SECTION 1.0 PURPOSE AND TEST PROCEDURE

Purpose

A 30 mph right angle barrier test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate occupant protection performance. Also, windshield retention and windshield intrusion were monitored under the specifications of FMVSS 212 and 219, and fuel system integrity was monitored under the specifications of FMVSS 301.

Test Procedure

The test was conducted on the subject Nissan 2005 P61B vehicle (Vehicle #: 5WT119). The vehicle's total test weight was 2478.5 kg. Two Hybrid III 50% adult male dummies were used for the test and placed in the left front and right front seating positions. The dummies were belted, but not instrumented for the test.

The 2005 Nissan P61B vehicle was instrumented with 23 sensors installed to record vehicle accelerations and restraint system fire times. The left and right side windows were set at full down position. The left front seat back was set to 10.3 degrees from vertical as measured at the headrest posts. The right front seat back was set to 10.3 degrees from vertical as measured at the headrest posts. The left and right front seat tracks were set in the mid position. The left and right front headrests were placed in the uppermost position. The left and right front adjustable turning loops were also placed in the uppermost position. The left front seat was also adjusted to its lowest position. The steering wheel was set to 24.0 degrees from vertical. The front and rear tires were set at 35 psi. The vehicle fuel system was filled with 76 L of Stoddard solvent for the test.

Time zero was marked at the first contact of the vehicle bumper to the rigid barrier. The vehicle's airbag control unit deployed the vehicle's restraint systems.

FMVSS 219 Test Procedure

Prior to the test, the lower edge of the windshield protected zone was determined by placing a 6.5 inch diameter rigid sphere weighing 15 pounds in a position such that it simultaneously contacted the inner surface of the windshield and the top surface of the instrument panel. A locus of points was drawn on the inner surface of the windshield that was contactable by the sphere across the width of the instrument panel. A second line was drawn on the windshield 0.5 inch below the locus line. This line, transferred to the outer surface of the windshield, is the lower edge of the protected zone.

FMVSS 301 Test Procedure

The vehicle's fuel system was monitored for the 30 minute time period immediately following the front impact. After 30 minutes the vehicle was mounted on a rotisserie. The vehicle was rotated a total of 360 degrees about its longitudinal axis. The 360 degrees rotation was divided into 90 degrees increments. The vehicle was rotated to each 90 degrees increment in two minutes and maintained at each 90 degrees increment for five minutes. The fuel system was monitored during the entire 360 degrees rotation.

SECTION 2.0
SUMMARY OF TEST RESULTS

Test Results Summary

A 2005 Nissan P61B vehicle (Vehicle #: 5WT119) impacted a right angle rigid barrier at 30.4 mph on July 21, 2004.

SECTION 3.0
GENERAL TEST DATA

TABLE 1
GENERAL TEST DATA

Test Information:

Test number	B1040239
Date of test	07-21-04
Test temperature	69 F
VIN	5N1ED28Y45C [REDACTED]
Test Impact Velocity	30.4 mph

Target Test Weight:

Front	1181 kg
Rear	1299 kg
Total	2480 kg

Weight of Test Vehicle with Required Occupants and Ballast:

Total front weight	1182.0 kg
Total rear weight	1296.5 kg
Total test weight	2478.5 kg
Ballast added to achieve target test weight: 27.2 kg steel shot bags strapped to drv & pass floor, 29.5 kg steel shot bags strapped to 2 nd row, 11.3 kg mounted in 3 rd row, 68.0 kg steel mounted on trailer hitch. Instrumentation and brake machine: 48.7 kg mounted in trunk. Items removed to achieve target test weight: none.	

Dummy Information:

Dummies	Left Front Seat	Right Front Seat
Type:	Hybrid III 50% male	Hybrid III 50% male
Serial Number:	433	693
Instrumentation:	No	No

Front Left Seat Position:

Seat back angle:	10.3 degrees (measured at the headrest post)
Seat track position:	mid
Seat height position:	full down
Head rest position:	full up
Steering column angle:	24.0 degrees
Telescoping column:	mid
Belt D-ring position:	full up

Front Right Seat Position:

Seat back angle:	10.3 degrees (measured at the headrest post)
Seat track position:	mid
Seat height position:	not adjustable
Head rest position:	full up
Belt D-ring position:	full up

SECTION 4.0
TEST DATA SUMMARY

TABLE 2
VEHICLE DATA SUMMARY

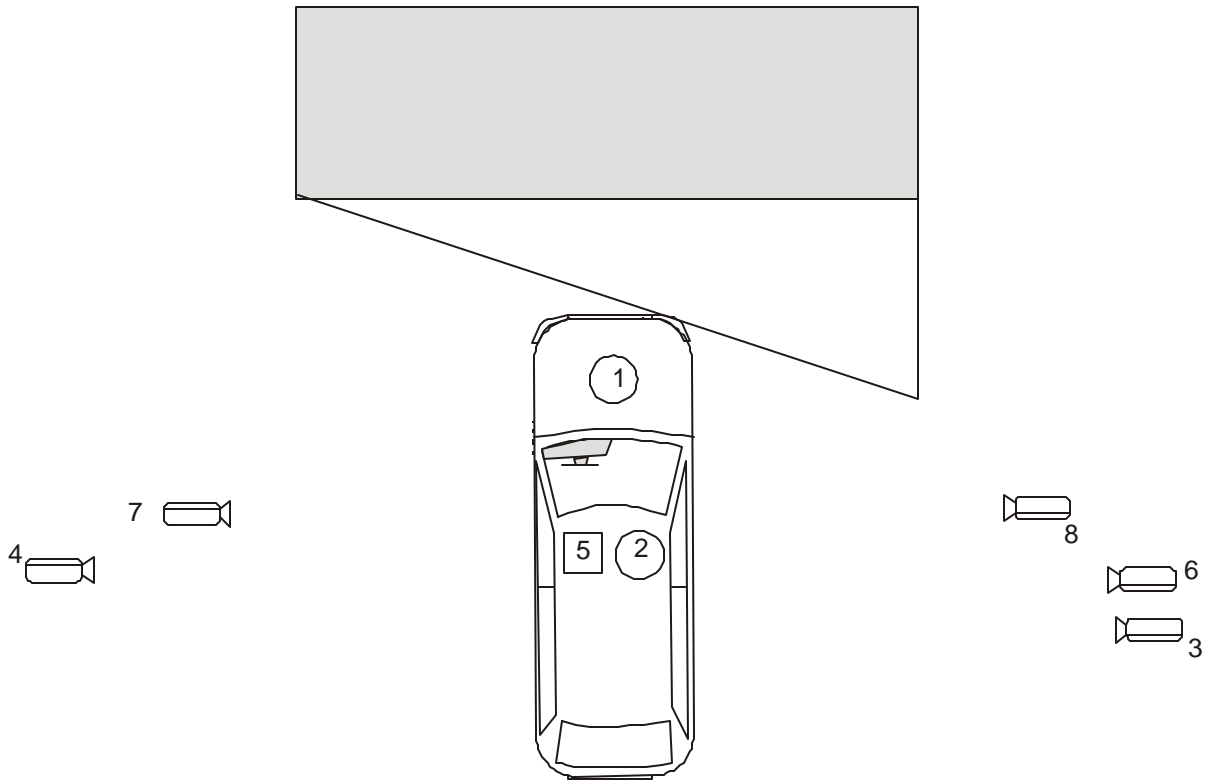
Channel Name	Positive Peak	Positive Peak (ms)	Negative Peak	Negative Peak (ms)
10SILLLE0000ACXD	1.0 g	163.5	-29.7 g	58.2
10SILLLE0000ACYD	5.7 g	61.8	-13.1 g	71.6
10SILLRI0000ACXD	34.0 g	53.4	-0.1 g	-1.1
10SILLRI0000ACYD	34.2 g	52.3	-16.7 g	57.3
10FRAMLE0000ACXD	7.7 g	111.6	-39.8 g	55.1
10FRAMLE0000ACYD	47.6 g	56	-22.9 g	70.7
10FRAMRI0000ACXD	18.7 g	24.3	-81.5 g	50.6
10FRAMRI0000ACYD	23.4 g	50.9	-65.1 g	55.6
10FULTCG0000ACXD	39.0 g	69.8	-539.8 g	82.4
10FULTCG0000ACYD	332.7 g	70.7	-24.7 g	113.5
10FULTCG0000ACZD	208.4 g	71.4	-178.3 g	126.5
10ABSE000000ACXD	24.1 g	79	-76.1 g	74.7
10ABSE000000ACYD	45.6 g	74.9	-50.4 g	78.6
10ABSE000000ACZD	34.9 g	77.4	-26.2 g	88
10CZCS000000ACXD	75.8 g	41.3	-79.8 g	53.3
10CZCSR000000ACXD	66.3 g	40.7	-78.1 g	17.1

TABLE 3
SENSOR CALIBRATION DATA

Channel Name	Sensor	Last cal. date
10SILLLE0000ACXD	B15206	3/18/2004
10SILLLE0000ACYD	B12623	11/12/2003
10SILLRI0000ACXD	A11282	2/10/2004
10SILLRI0000ACYD	B18412	11/4/2003
10FULTCG0000ACXD	B35198	1/12/2004
10FULTCG0000ACYD	B35454	1/12/2004
10FULTCG0000ACZD	B36363	2/9/2004
10FRAMLE0000ACXD	B19708	11/5/2003
10FRAMLE0000ACYD	B18407	11/13/2003
10FRAMRI0000ACXD	B24107	4/5/2004
10FRAMRI0000ACYD	B35095	8/13/2003
10ABSE000000ACXD	B36397	2/9/2004
10ABSE000000ACYD	B36382	2/9/2004
10ABSE000000ACZD	B36086	2/9/2004
10CZCS000000ACXD	B35963	2/9/2004
10CZCSR000000ACXD	B24457	2/10/2004
11ABSE010000CU00	Fluke19	6/10/2004
11ABSE020000CU00	Fluke20	6/10/2004
11ABSE030000CU00	Fluke21	9/4/2003
13ABSE010000CU00	Fluke30	3/26/2004
13ABSE020000CU00	Fluke31	3/26/2004
13ABSE030000CU00	Fluke33	3/26/2004

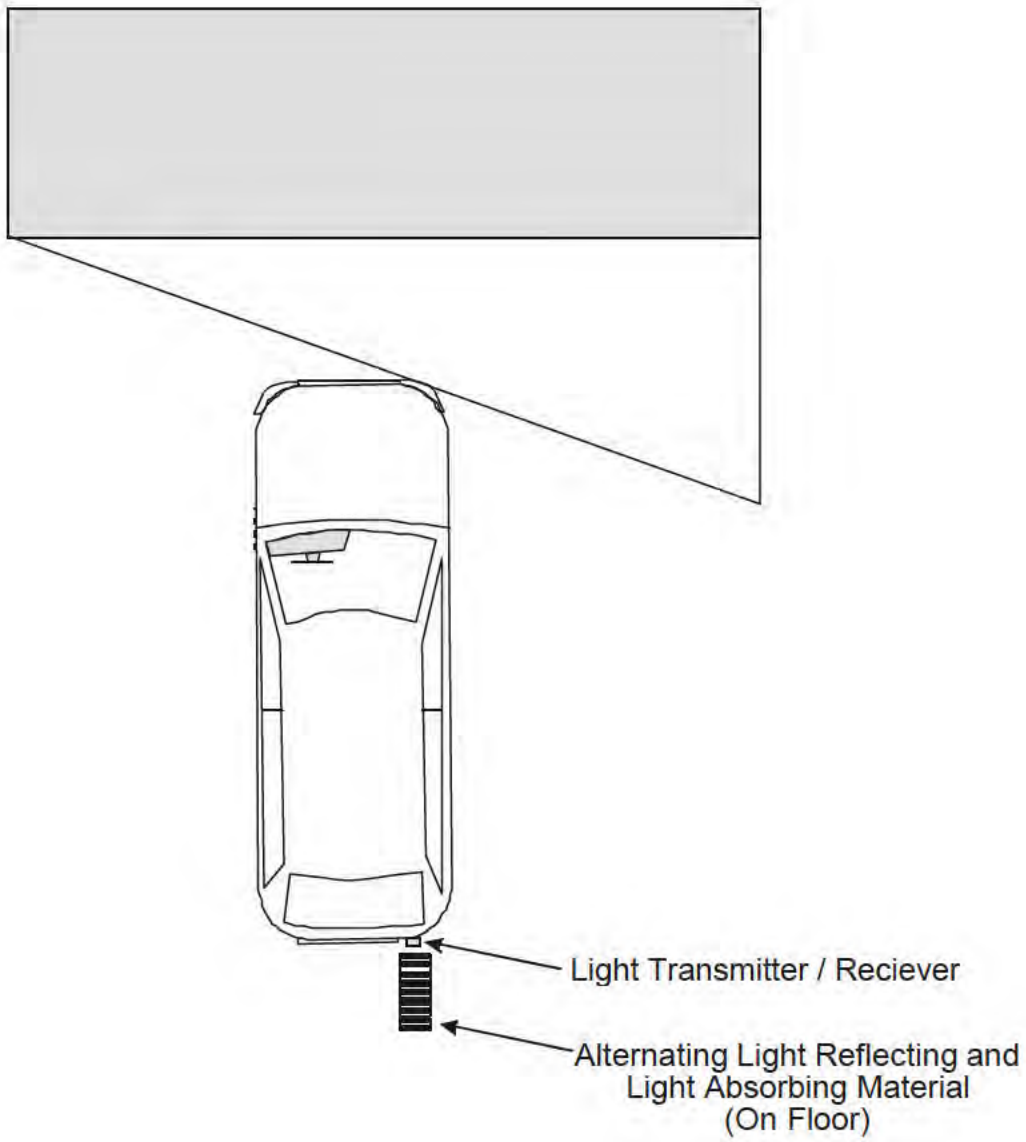
SECTION 5.0
PHOTOGRAPHIC COVERAGE AND SPEED TRAP SETUP

FIGURE 1
CAMERA LOCATIONS



#	View
1	Bottom View Front (Pit)
2	Bottom View Mid (Pit)
3	Panning Real-Time
4	Overall LH side view
5	Overhead view of vehicle & barrier
6	Overall RH side view
7	Driver Profile
8	Passenger Profile

FIGURE 2
SPEED TRAP SETUP



SECTION 6.0
 FIGURE 3
 WINDSHIELD RETENTION DATA

Windshield Periphery Measurements: (mm)			
Location:	Pre-test	Post-test	Percent Retention
Driver Side:	2124 mm	2124 mm	100 %
Pass. Side:	2124 mm	2124 mm	100 %
Total:	4248 mm	4248 mm	100 %

Pre-test windshield mounting material temperature: 69 F
Loss of windshield retention lengths: n/a
Indicate loss of retention areas on windshield diagram: n/a

Molding Measurement	
A	17 mm
B	15 mm
C	12 mm

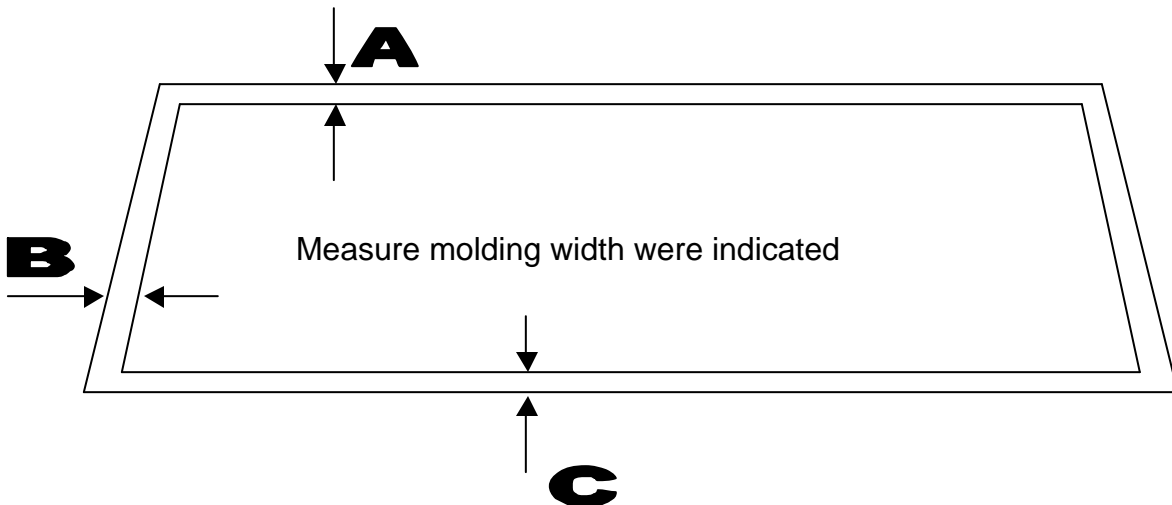
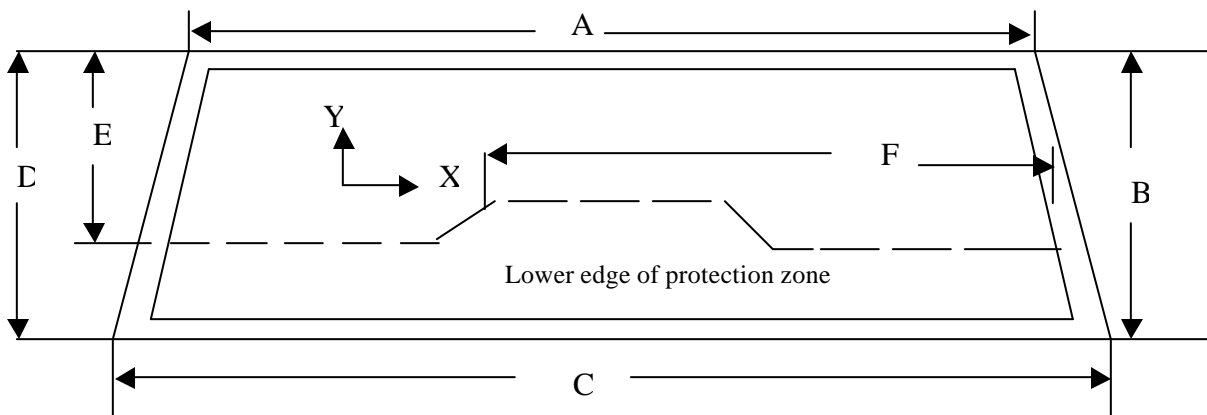


FIGURE 4
WINDSHIELD INTRUSION DATA

Windshield Measurements:			
A	1250 mm	D	792 mm
B	800 mm	E	490 mm
C	1555 mm	F	485 mm

Areas Of Windshield Template Penetration With A Depth Greater Than 0.25 in:			
Coordinates:	Point 1	Point 2	Point 3
X:	None	None	None
Y:	None	None	None

Areas Of Windshield Penetration, Below Protected Zone, And Through Inner Surface Of Windshield:			
Coordinates:	Point 1	Point 2	Point 3
X:	None	None	None
Y:	None	None	None



SECTION 6
FUEL SYSTEM DATA

TABLE 4
FUEL SYSTEM DATA

Make/model:	2005 Nissan P61B vehicle
Fuel system capacity:	80 L
Usable capacity:	80 L
Test volume range:	76.0 L (95% of usable capacity)
Test fluid type:	Stoddard solvent
Specific gravity:	0.77-0.8
Kinematic viscosity:	1.36 centistoke @ 20 Degree C
Test fluid color:	Purple

TABLE 6
FLUID SYSTEM COLLECTION DATA

Test Date	7/21/04	Project	2005 Nissan P61B
Test Number	B1040239	Test Personnel	Rashad Ahmad

TIME AFTER CRASH MOTION CEASES: 12:26 p.m.

INTERVAL	Oz.	INTERVAL	Oz.
1 st 5 minutes	0	18 th minute	0
6 th minute	0	19 th minute	0
7 th minute	0	20 th minute	0
8 th minute	0	21 st minute	0
9 th minute	0	22 nd minute	0
10 th minute	0	23 rd minute	0
11 th minute	0	24 th minute	0
12 th minute	0	25 th minute	0
13 th minute	0	26 th minute	0
14 th minute	0	27 th minute	0
15 th minute	0	28 th minute	0
16 th minute	0	29 th minute	0
17 th minute	0	30 th minute	0

ROLLOVER START TIME: 2:40 p.m.

		Oz.
90° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
180° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
270° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
360° Rill Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0

ROLLOVER FINISH TIME: 3:08 p.m.

APPENDIX A
TEST DATA PLOTS



Autoliv North America (NTC)

Autoliv Channel
11ABSE010000CU00

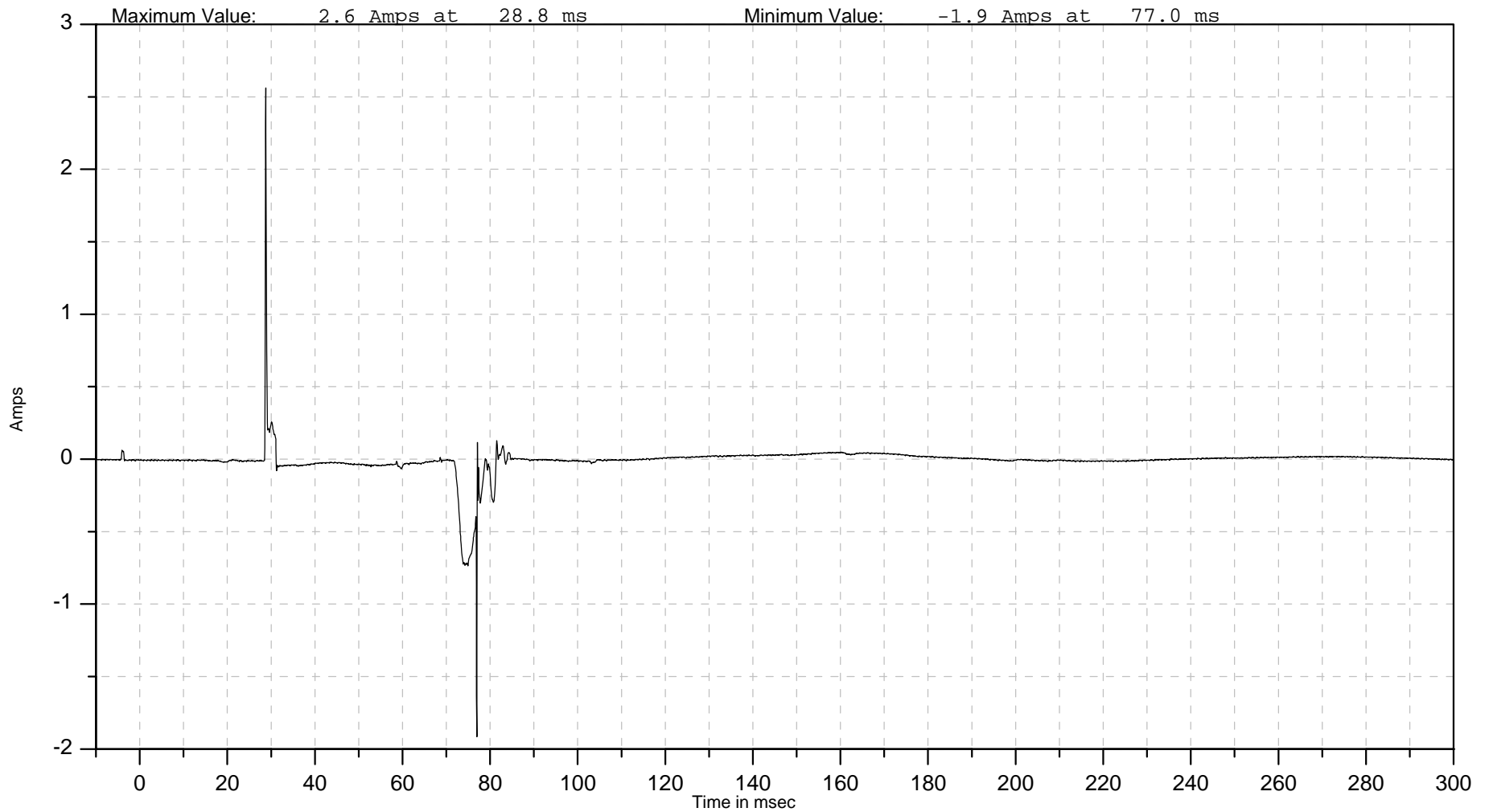
ISO Channel
11ABSE010000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
11ABSE020000CU00

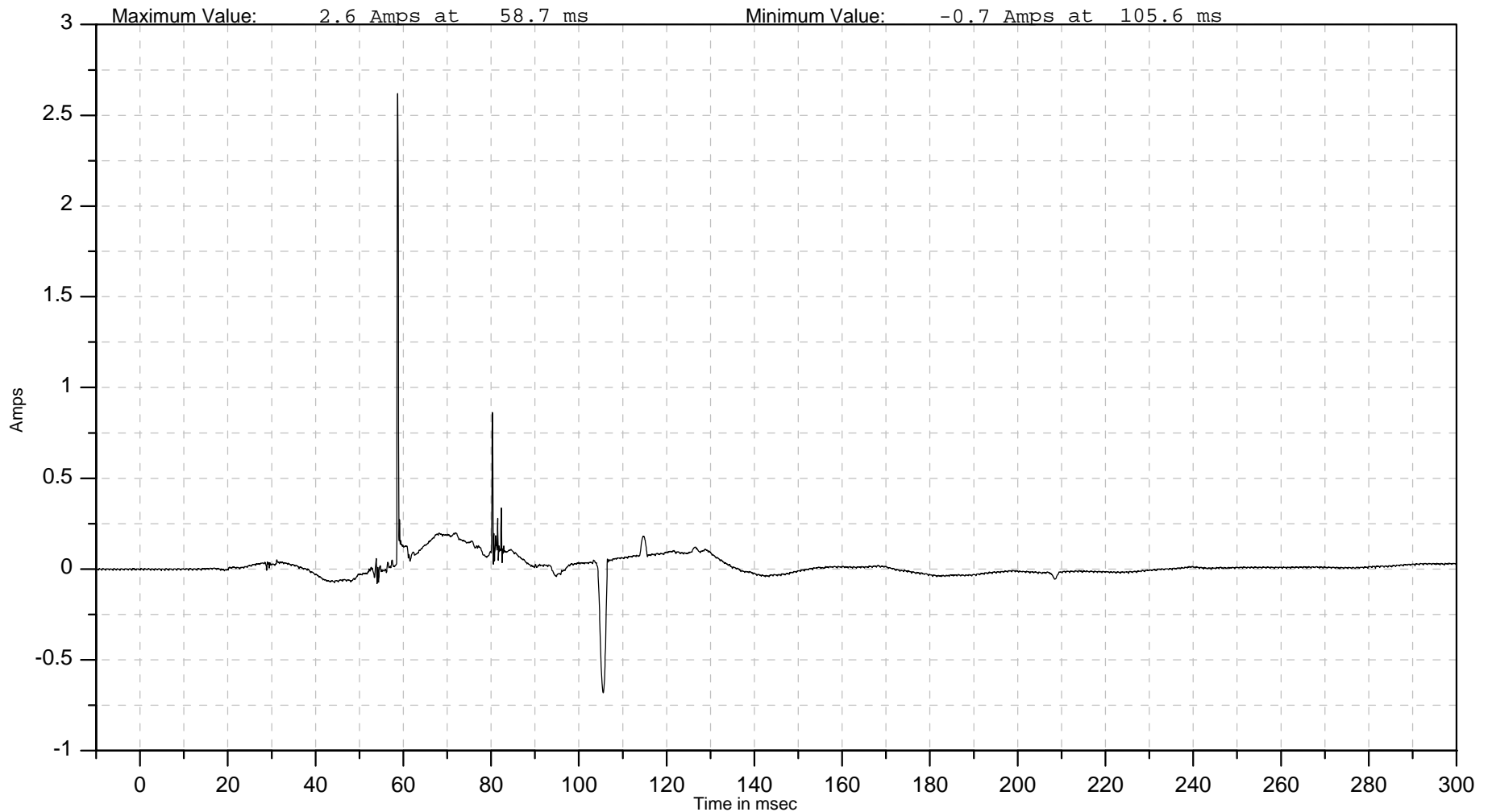
ISO Channel
11ABSE020000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
11ABSE030000CU00

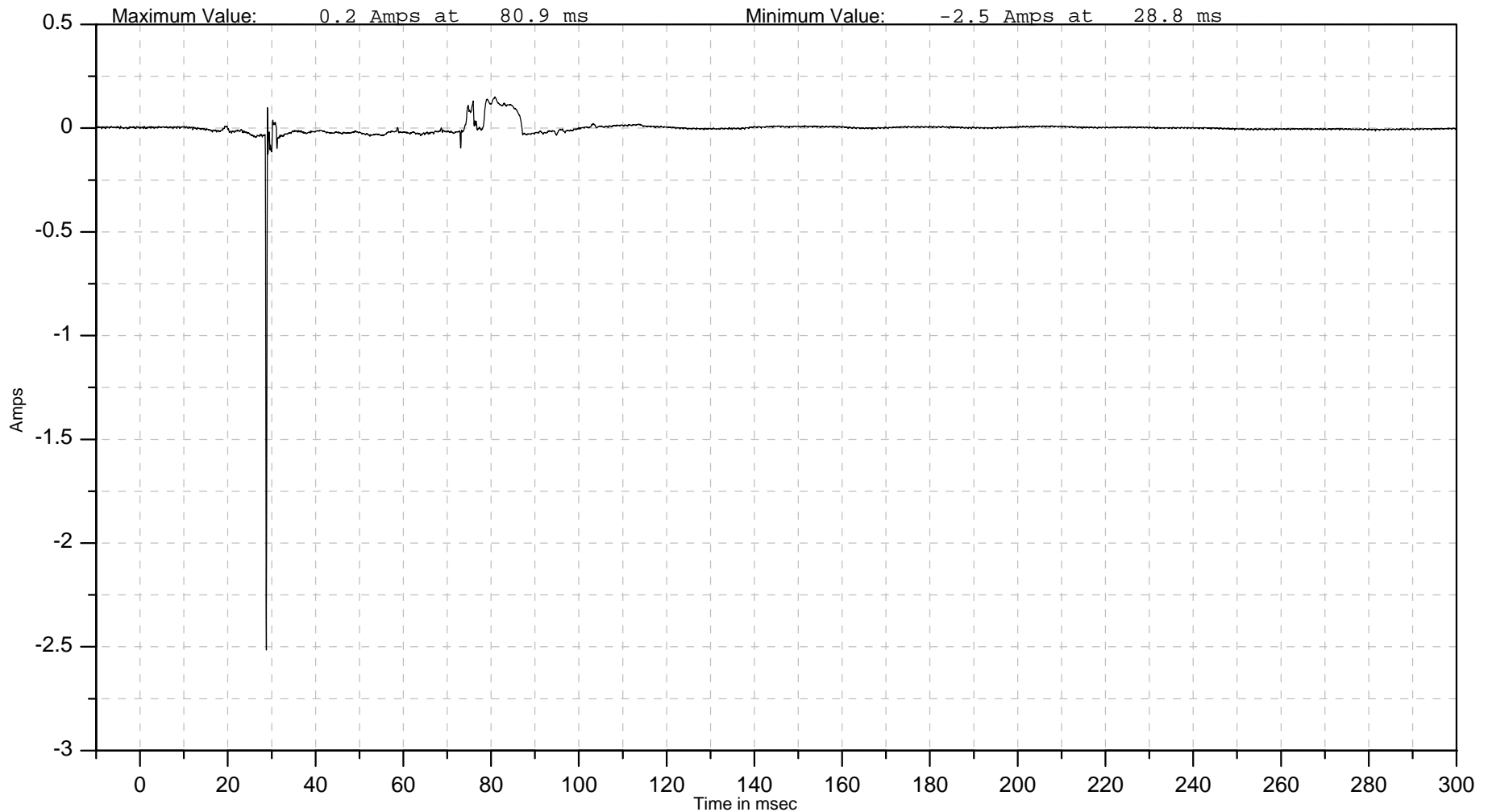
ISO Channel
11ABSE030000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 3 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE010000CU00

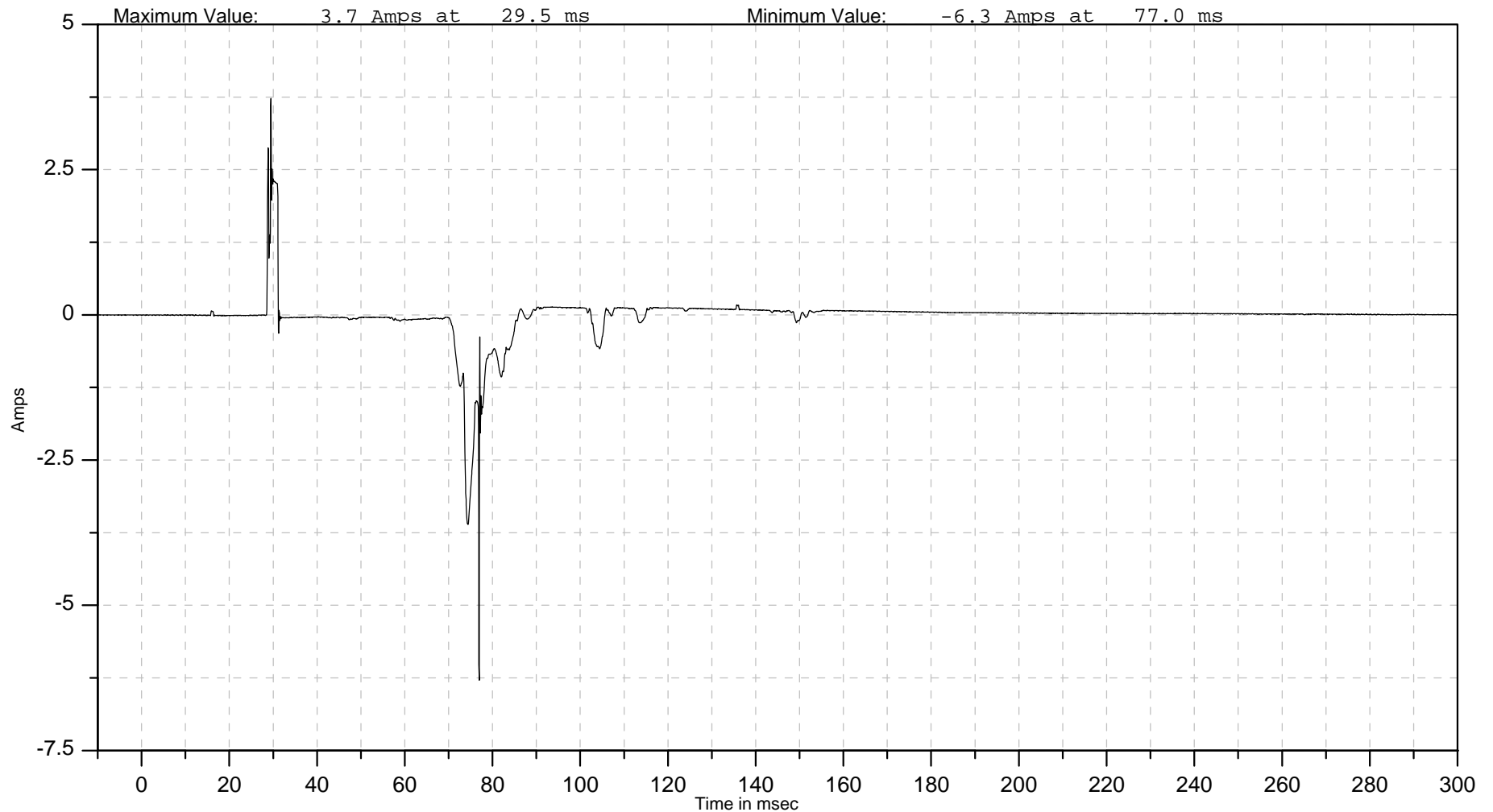
ISO Channel
13ABSE010000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE020000CU00

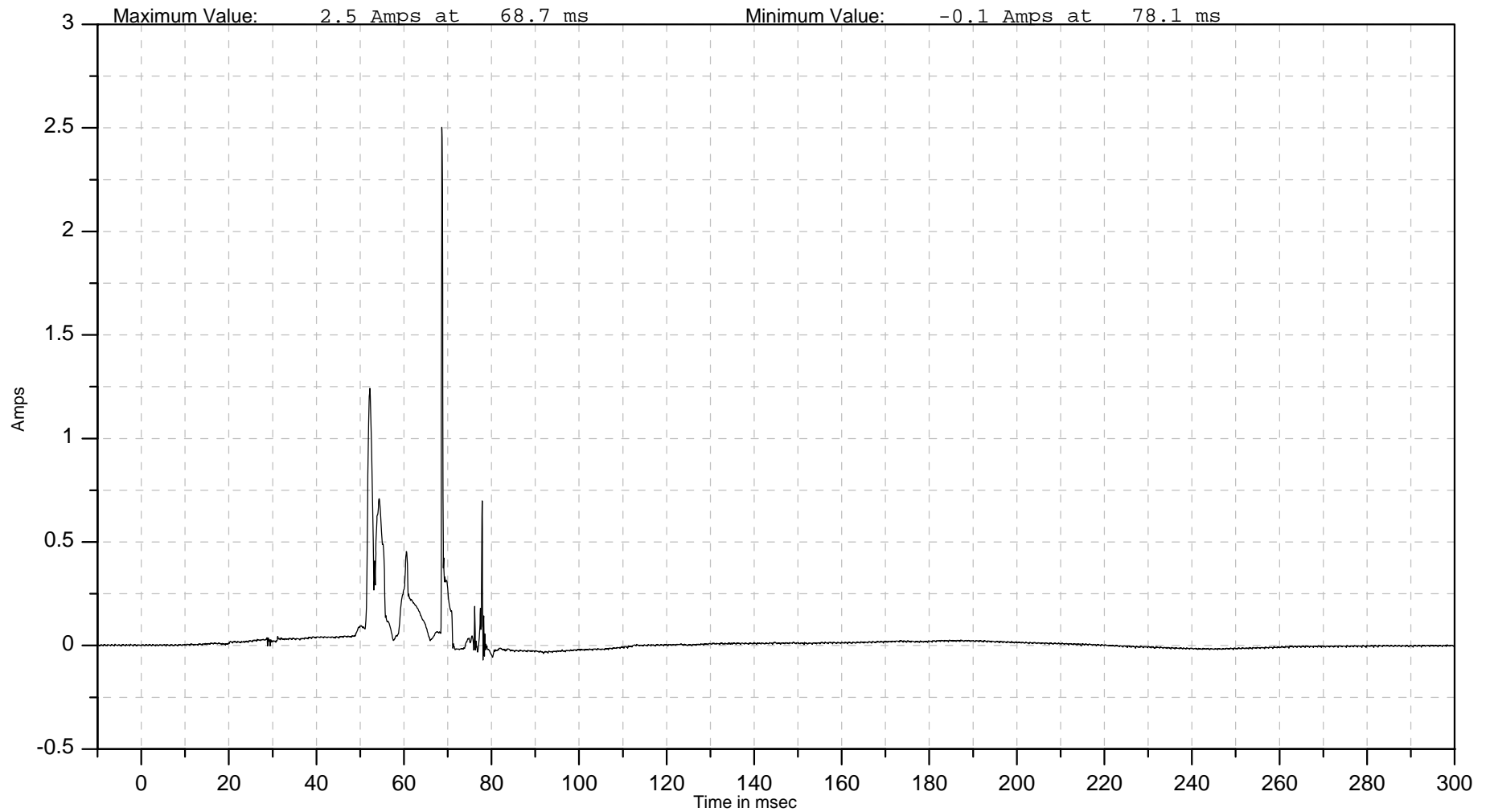
ISO Channel
13ABSE020000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE030000CU00

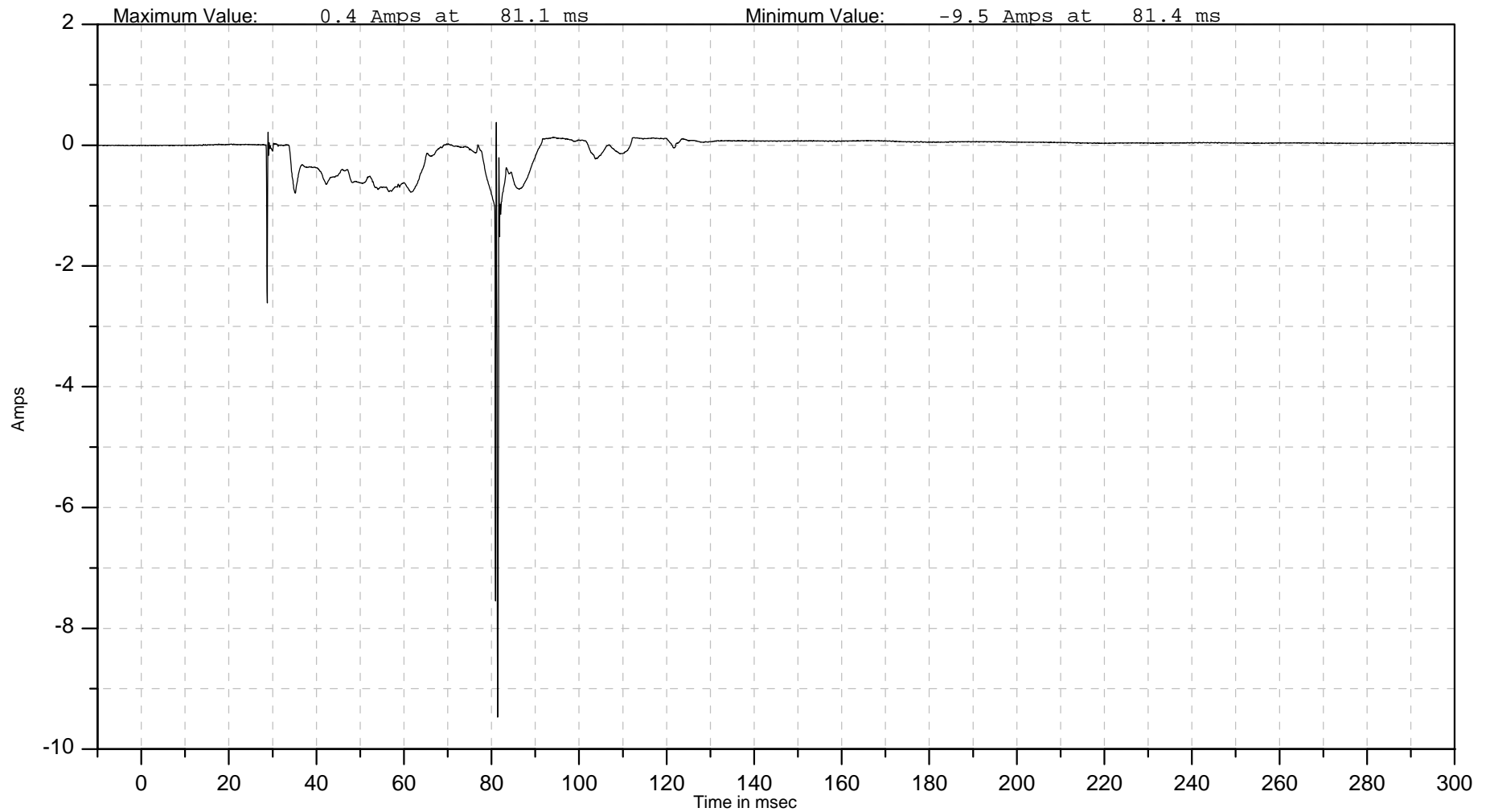
ISO Channel
13ABSE030000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 3 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
10VEHC000001EV00

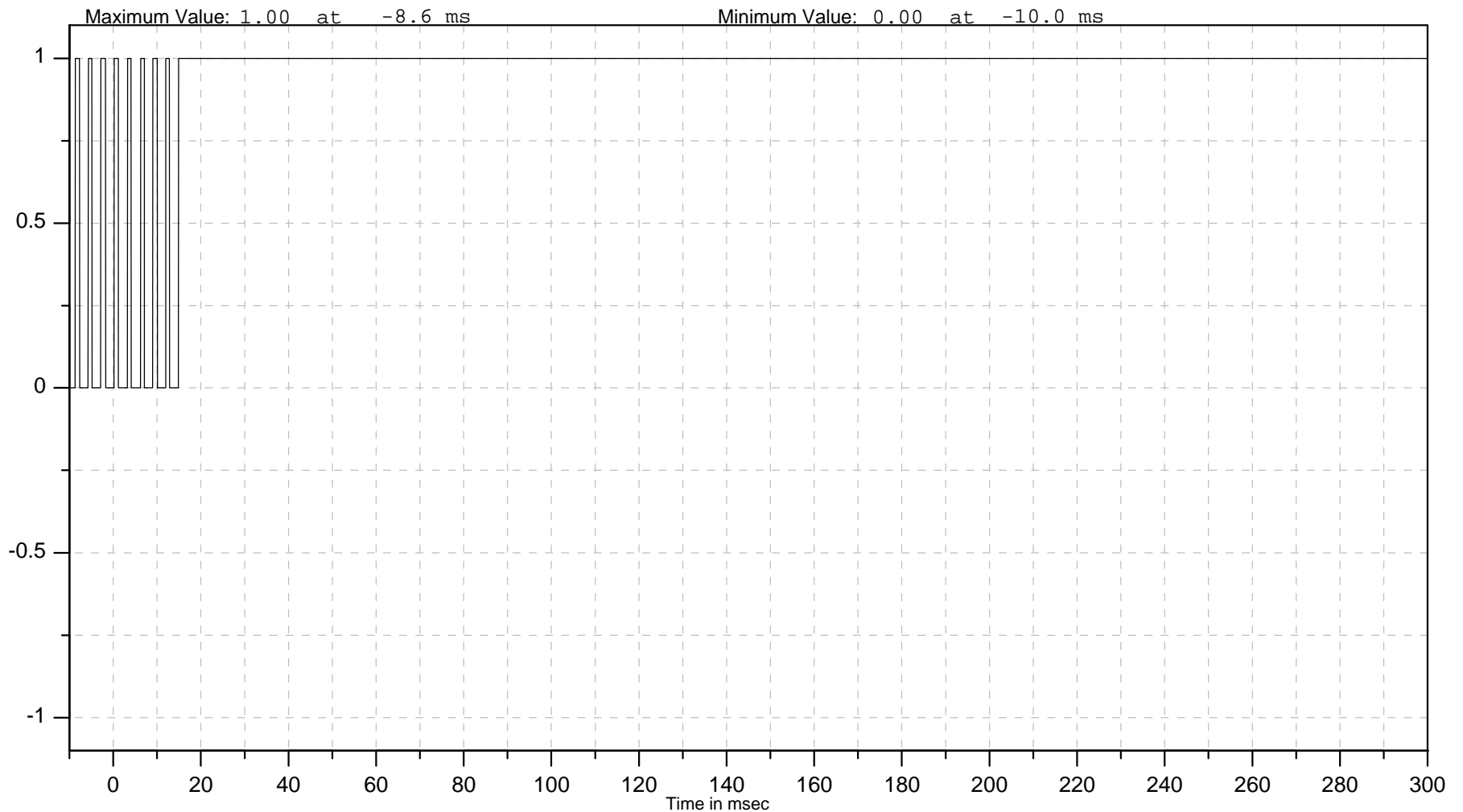
ISO Channel
10VEHC000001EV00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 1





Autoliv North America (NTC)

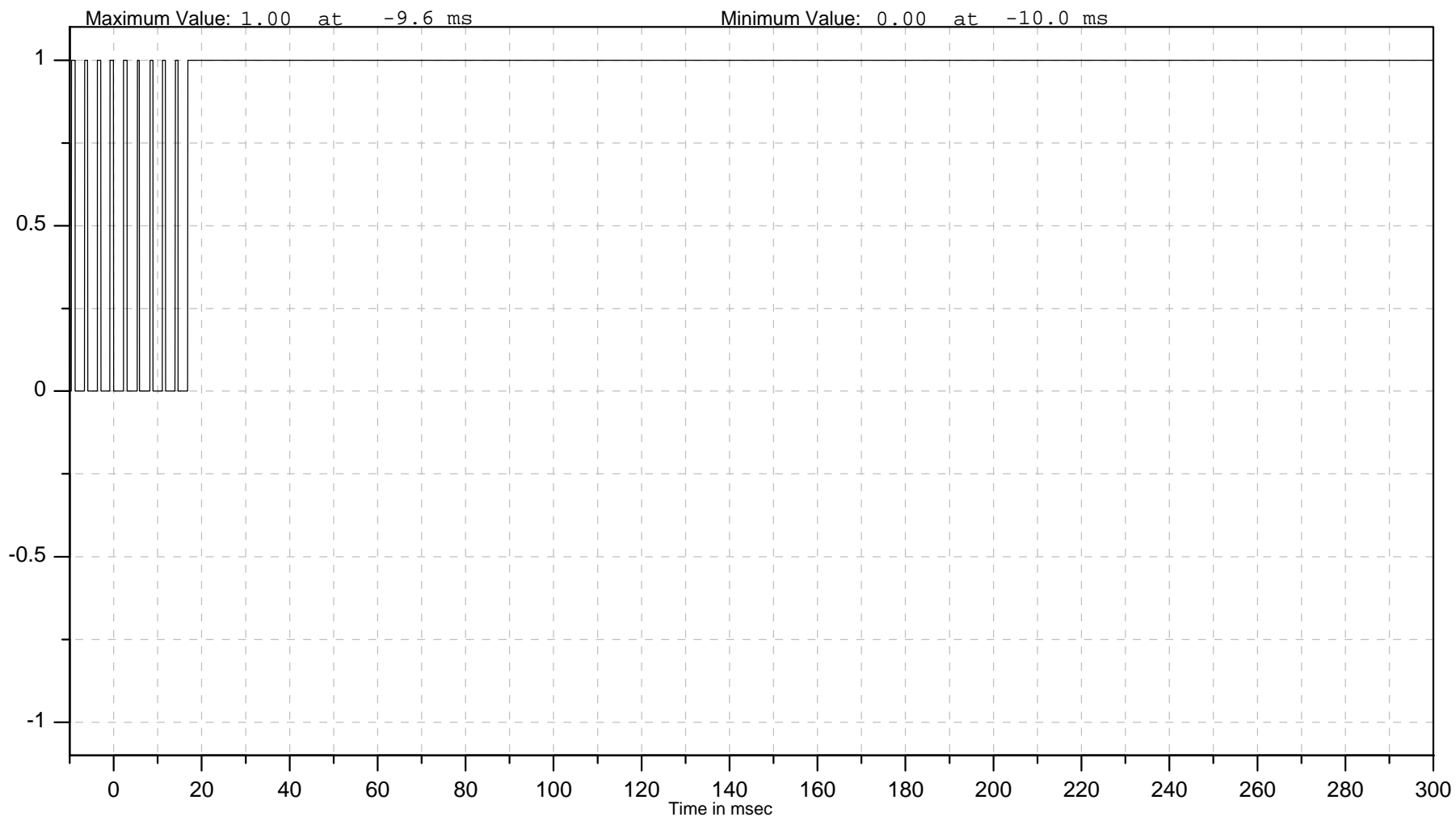
Autoliv Channel
10VEHC000002EV00

ISO Channel
10VEHC000002EV00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

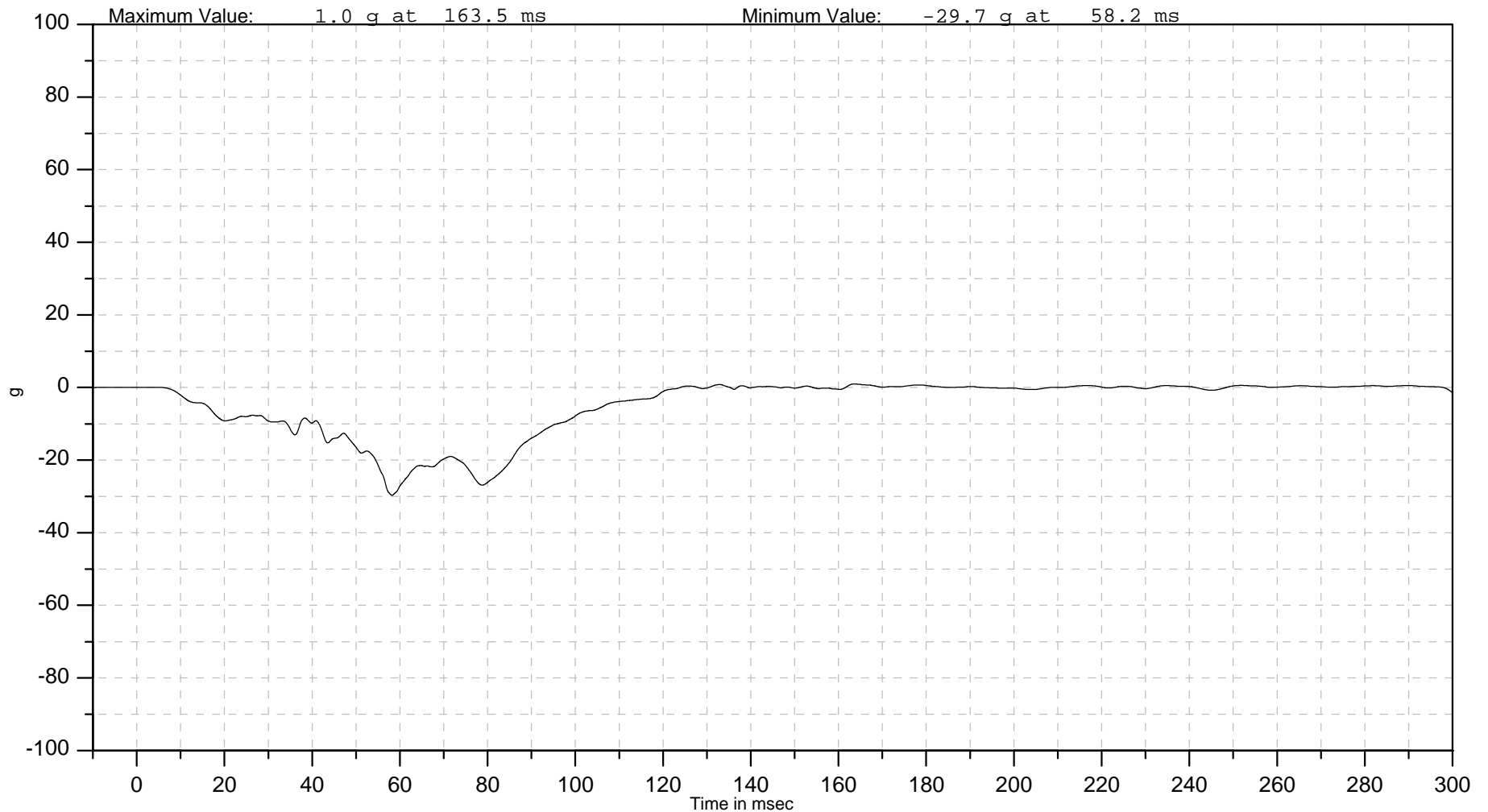
ISO Channel
10SILLLE0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACYD

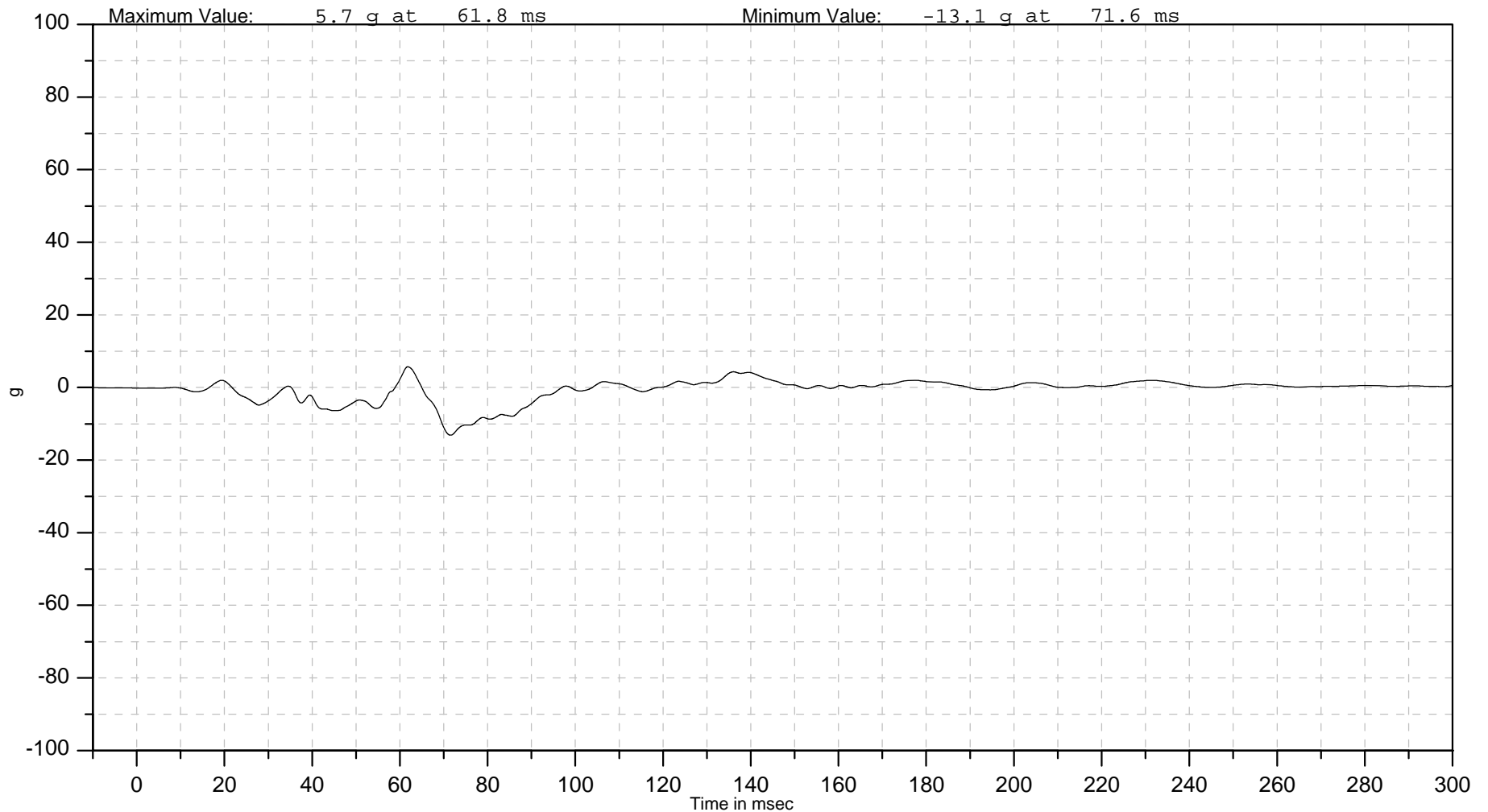
ISO Channel
10SILLLE0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRI0000ACXD

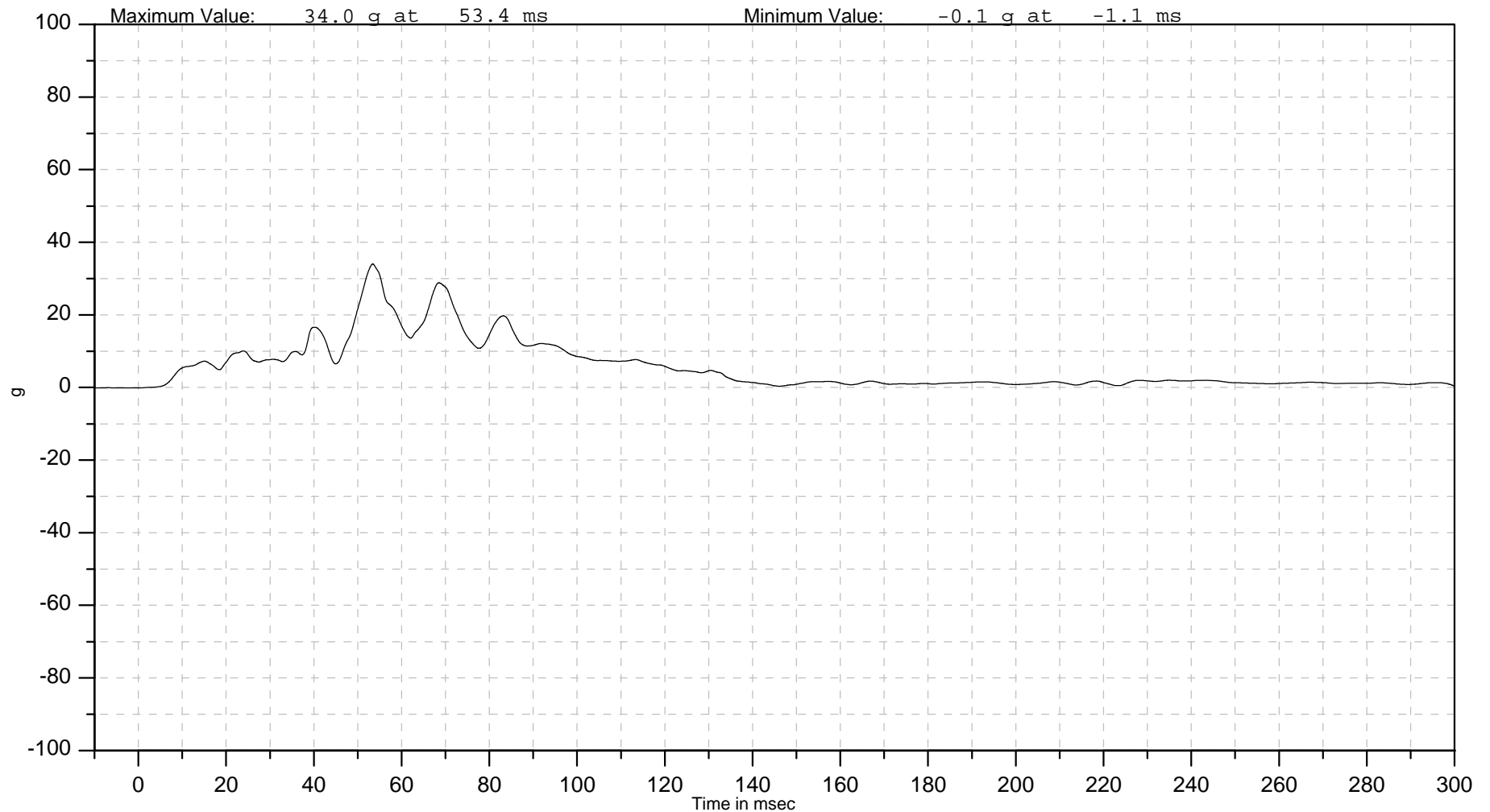
ISO Channel
10SILLRI0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

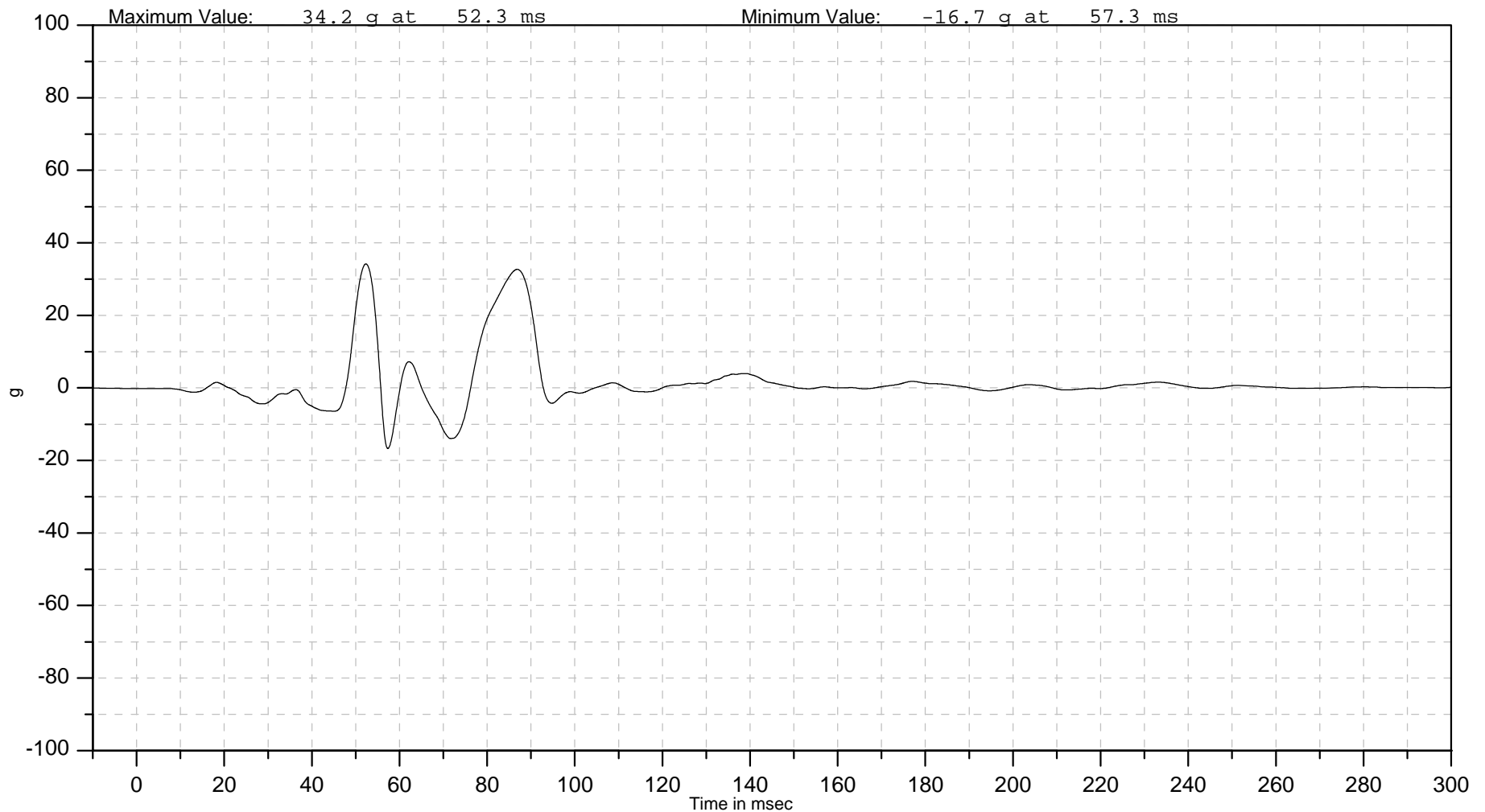
Autoliv Channel
10SILLRI0000ACYD

ISO Channel
10SILLRI0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACXD

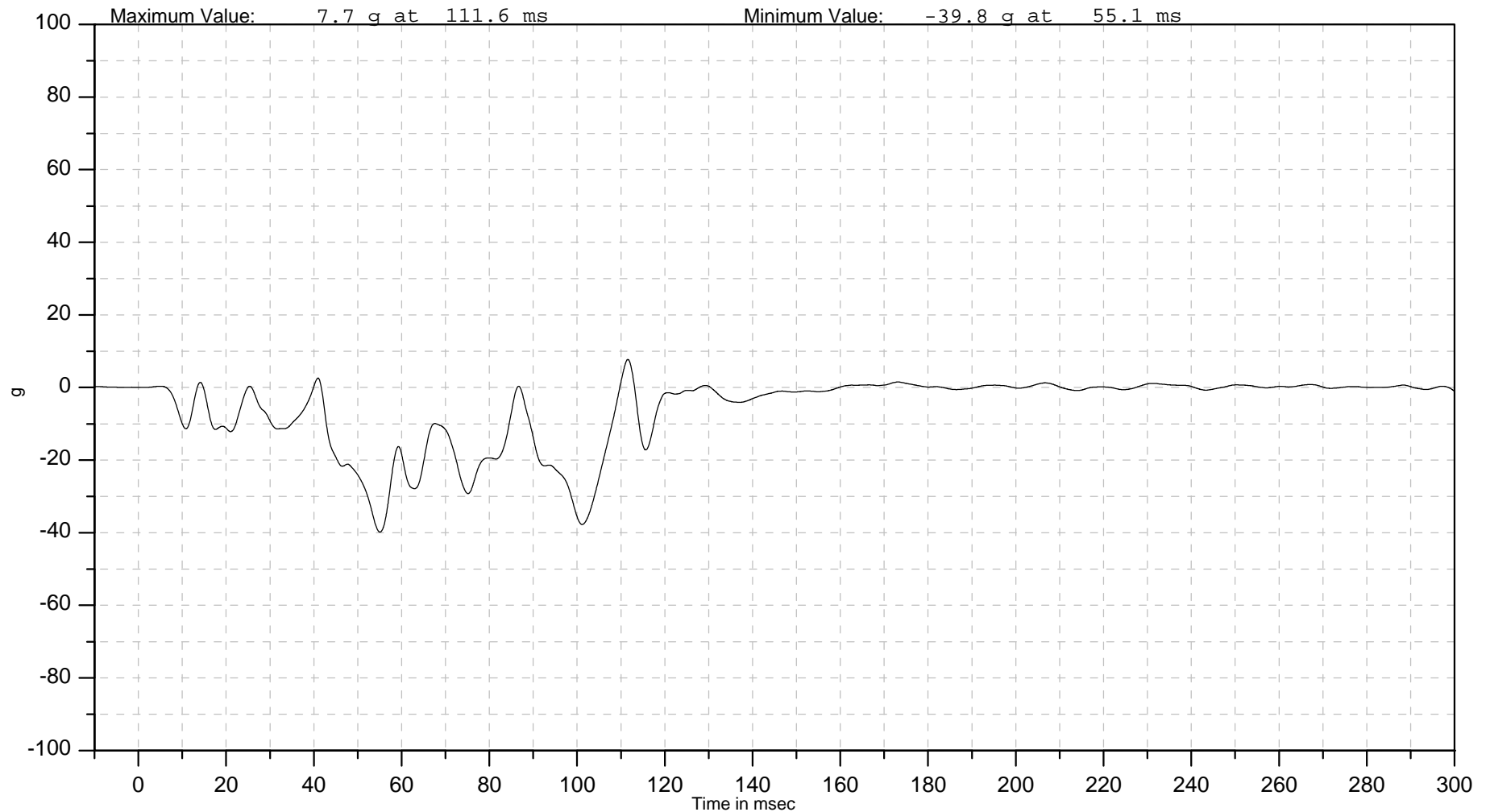
ISO Channel
10FRAMLE0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACYD

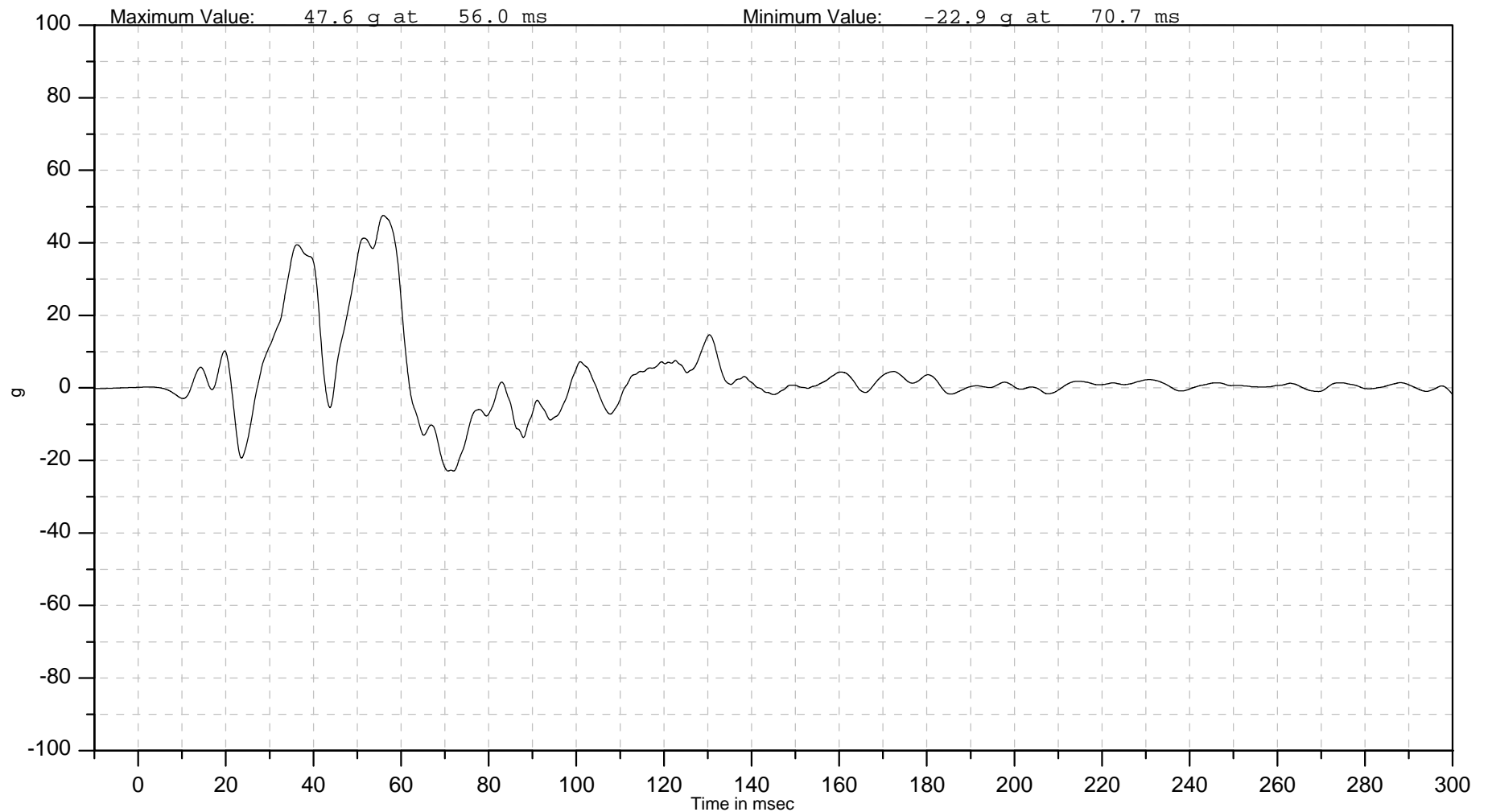
ISO Channel
10FRAMLE0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACXD

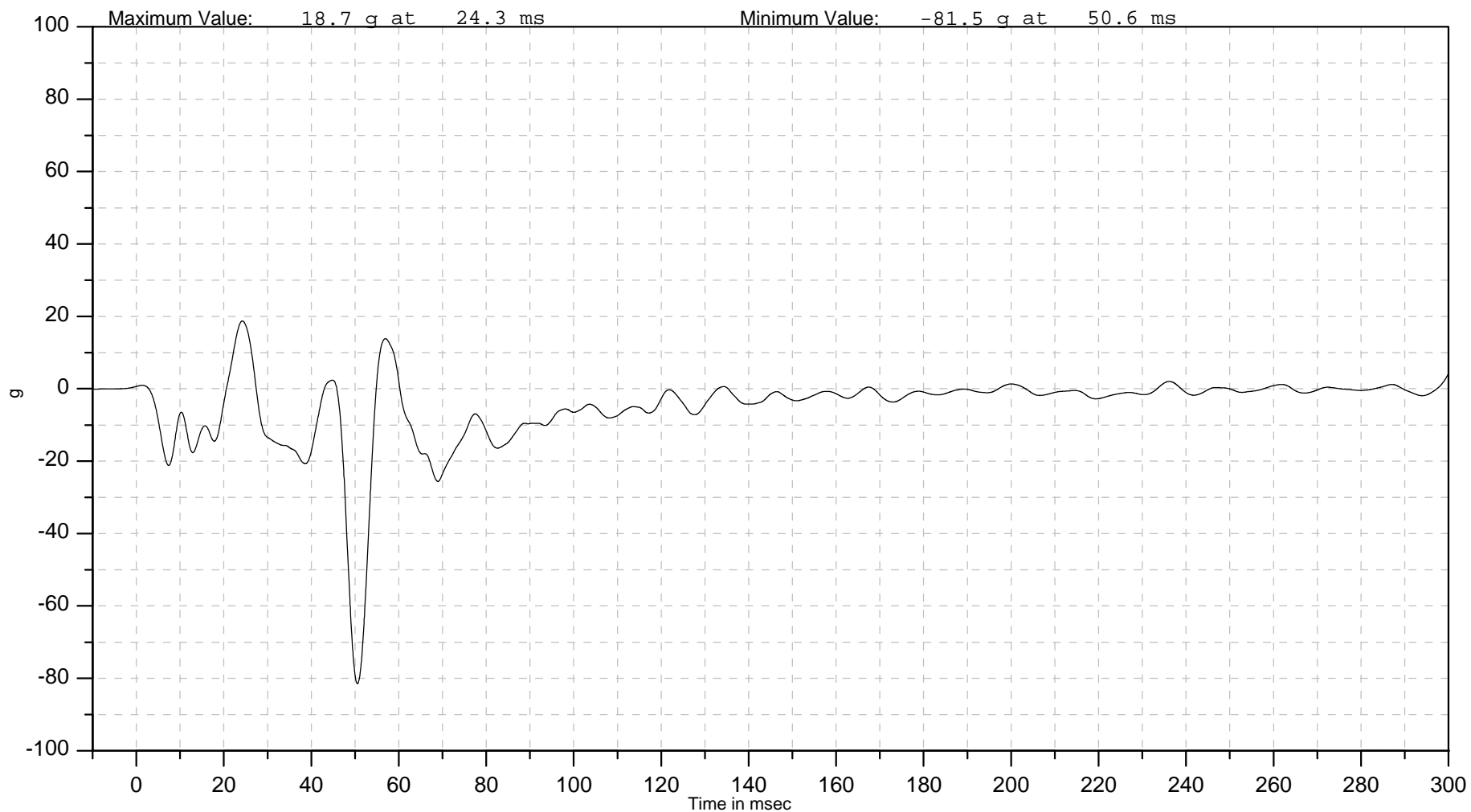
ISO Channel
10FRAMRI0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACYD

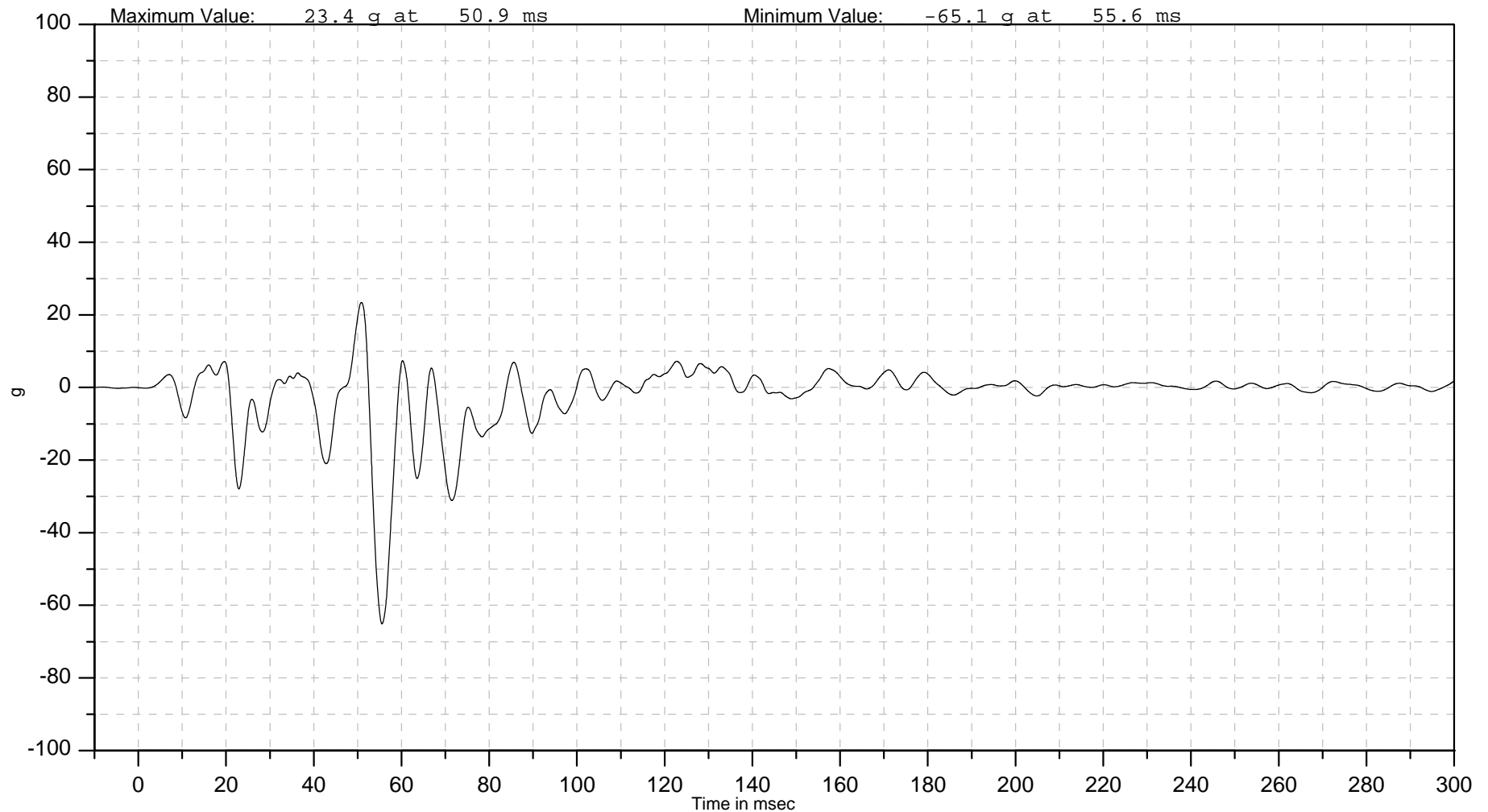
ISO Channel
10FRAMRI0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame Y Acceleration





Autoliv North America (NTC)

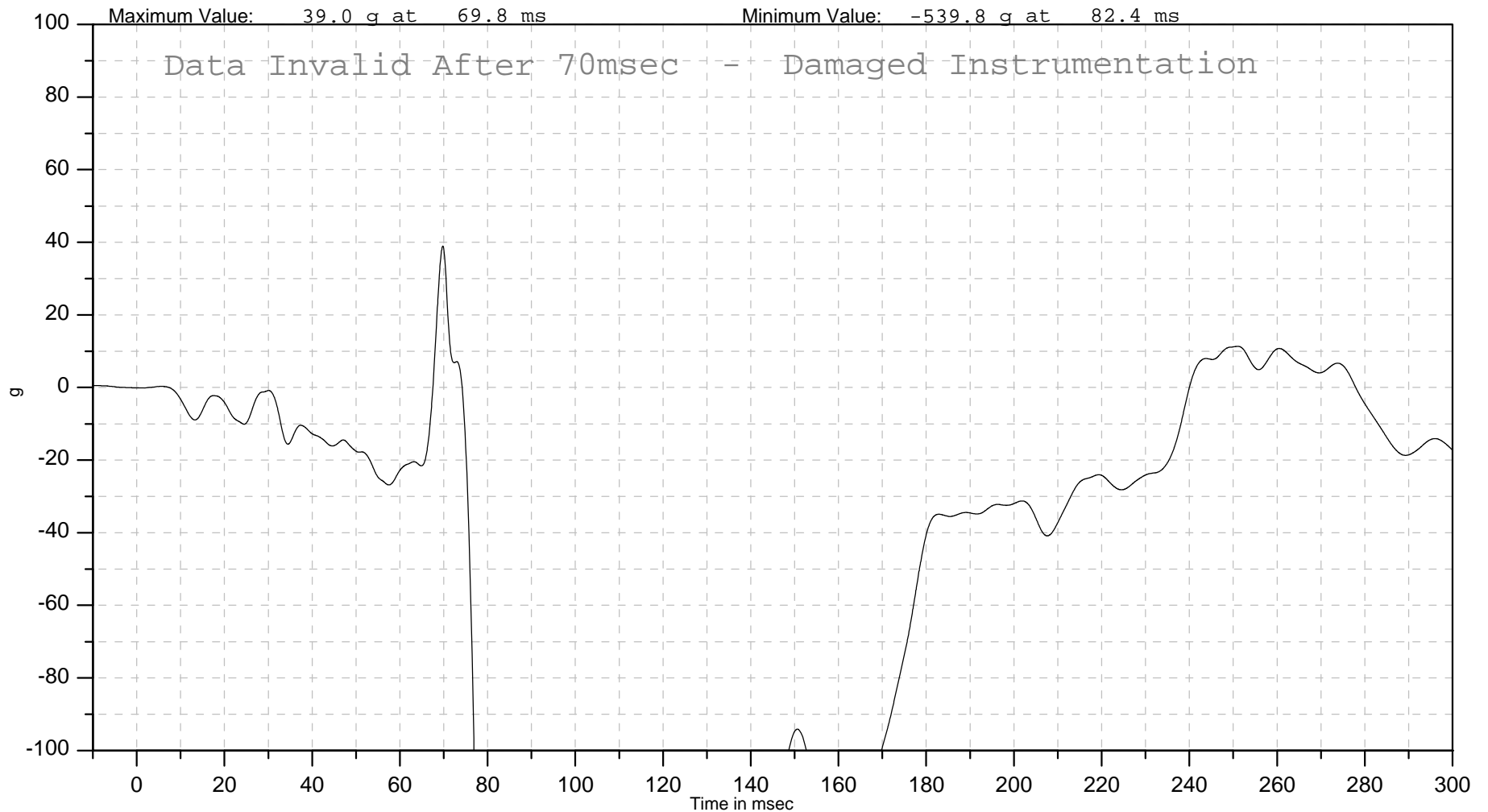
Autoliv Channel
10FULTCG0000ACXD

ISO Channel
10FULTCG0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTCG0000ACXD

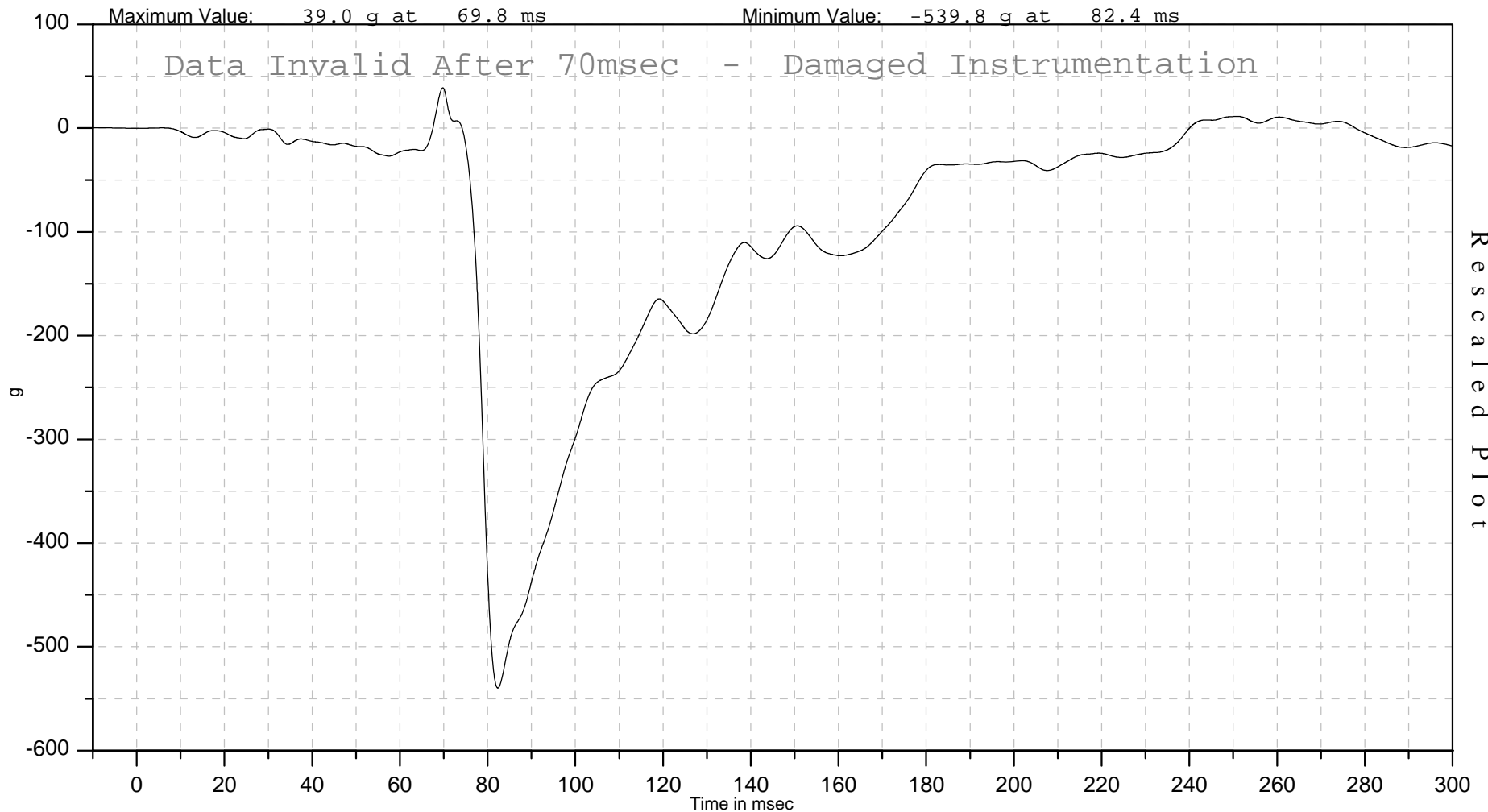
ISO Channel
10FULTCG0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank X Acceleration





Autoliv North America (NTC)

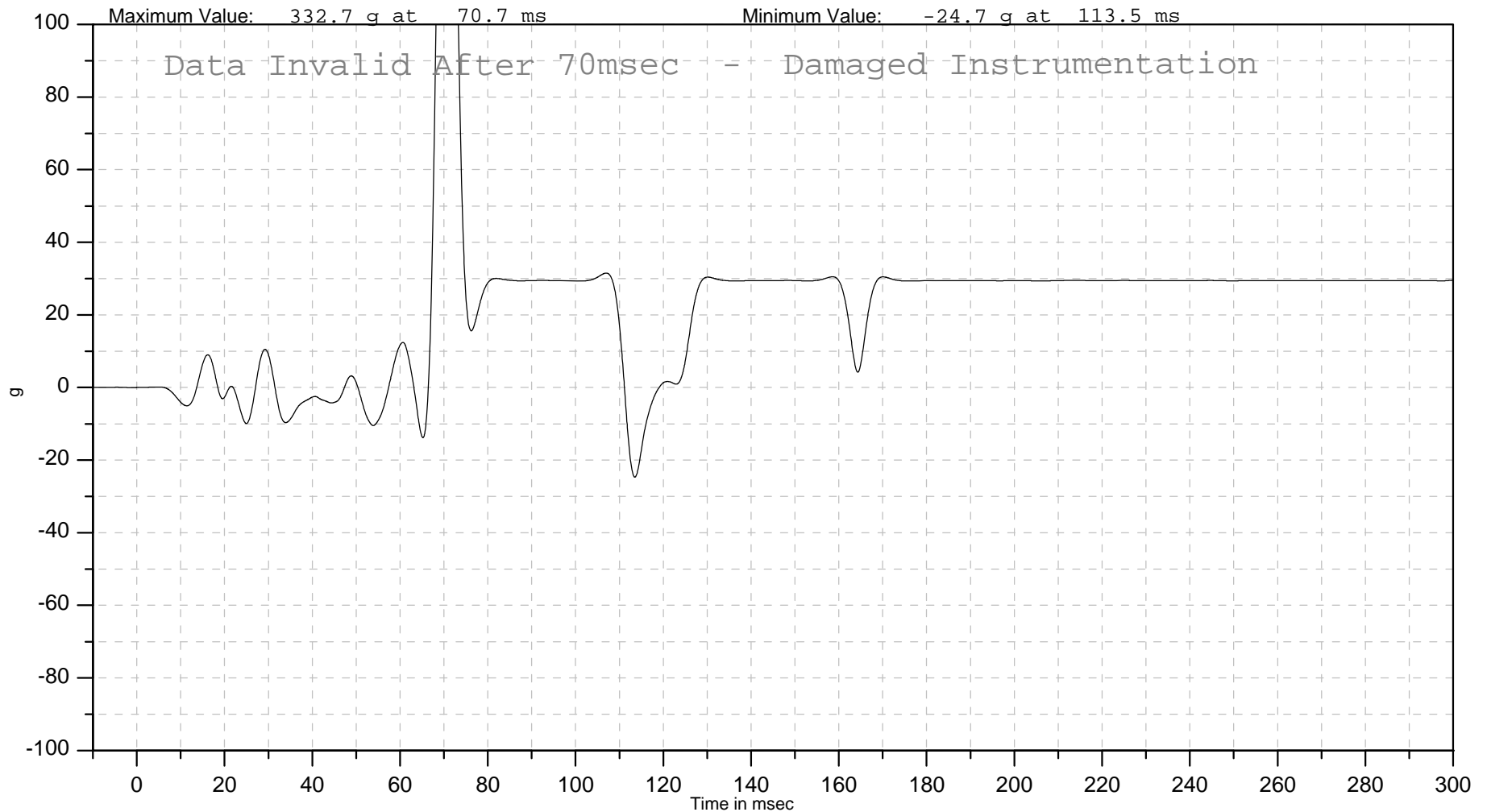
Autoliv Channel
10FULTCG0000ACYD

ISO Channel
10FULTCG0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Y Acceleration





Autoliv North America (NTC)

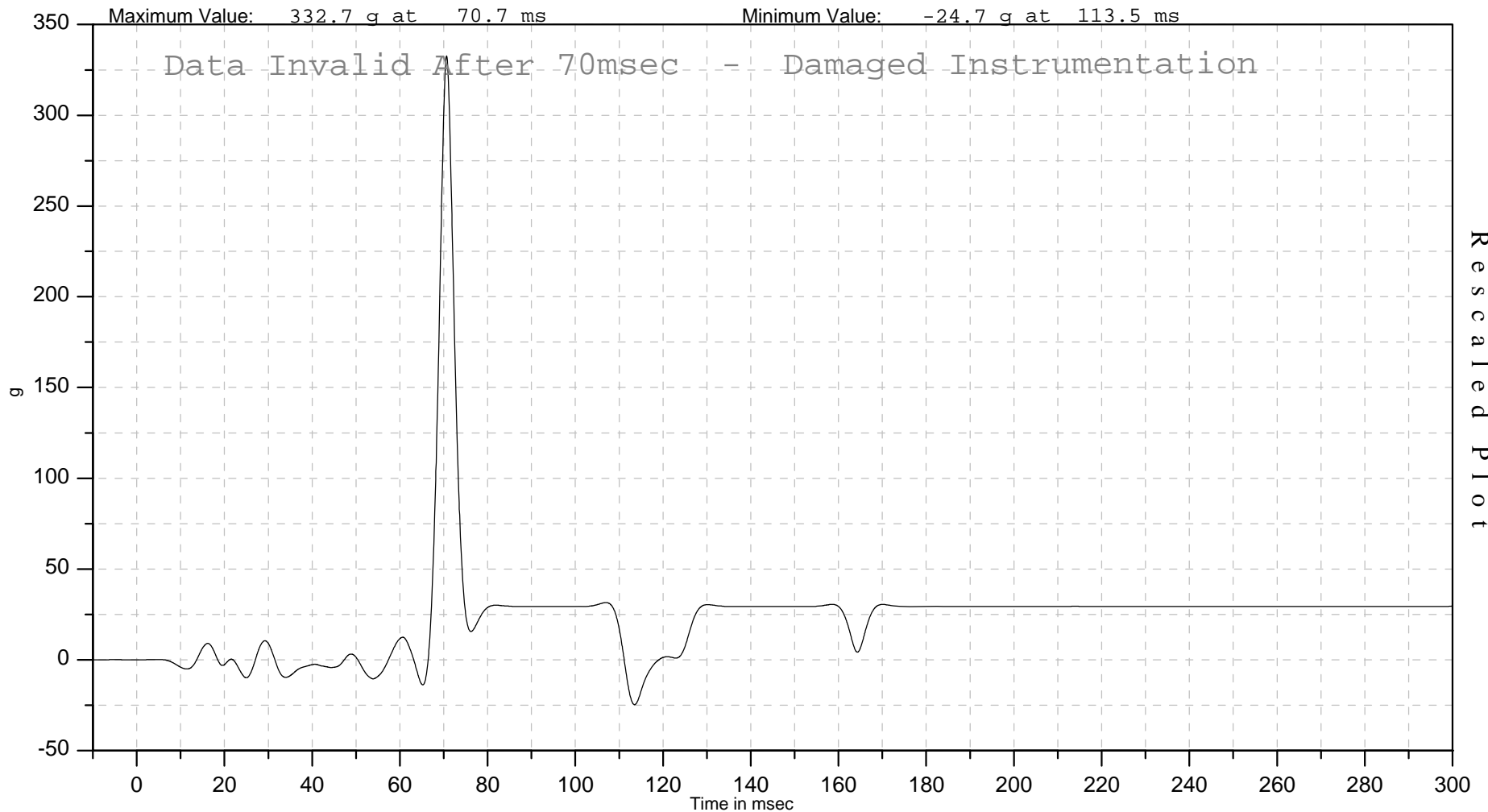
Autoliv Channel
10FULTCG0000ACYD

ISO Channel
10FULTCG0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTCG0000ACZD

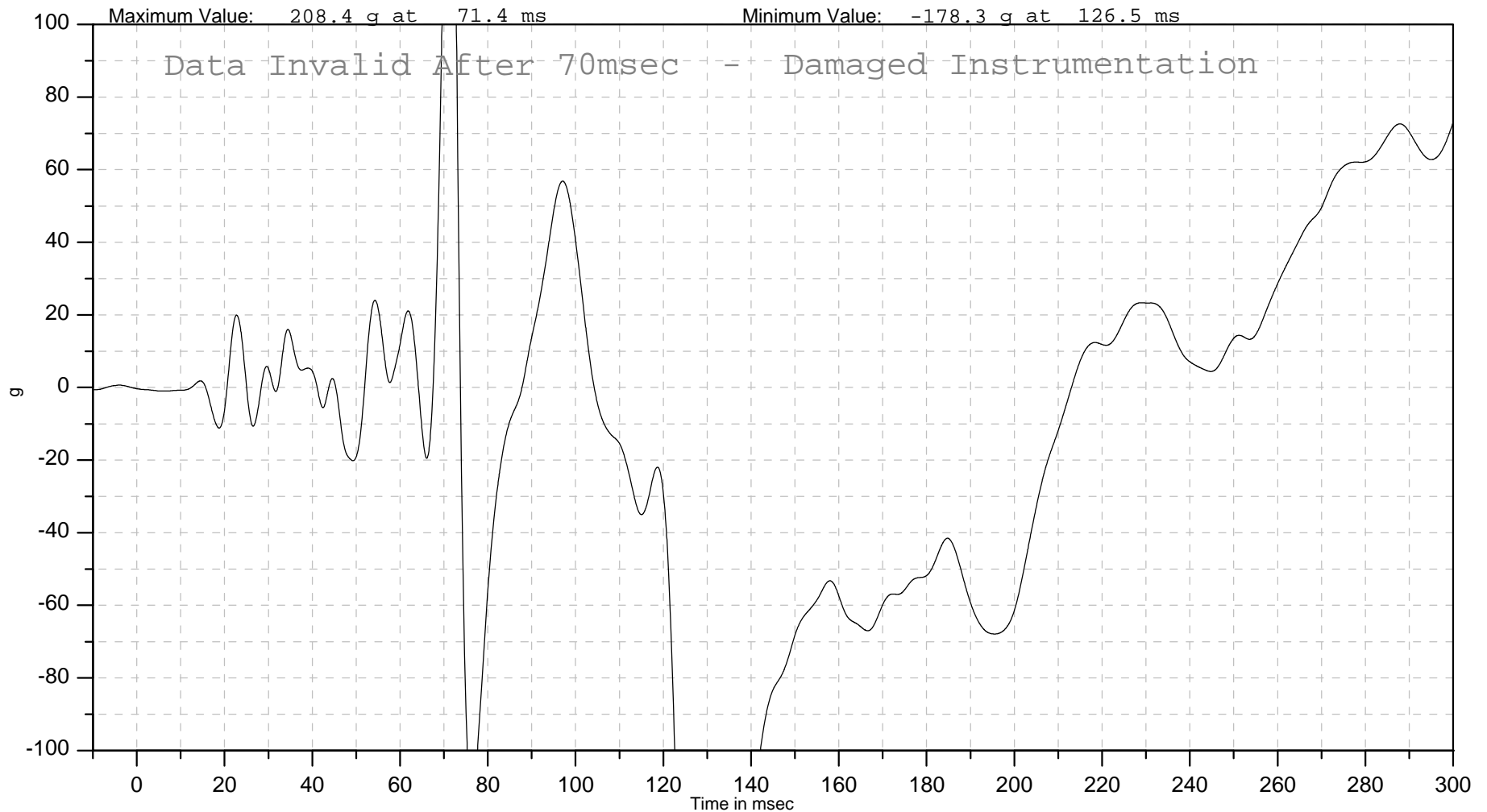
ISO Channel
10FULTCG0000ACZD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTCG0000ACZD

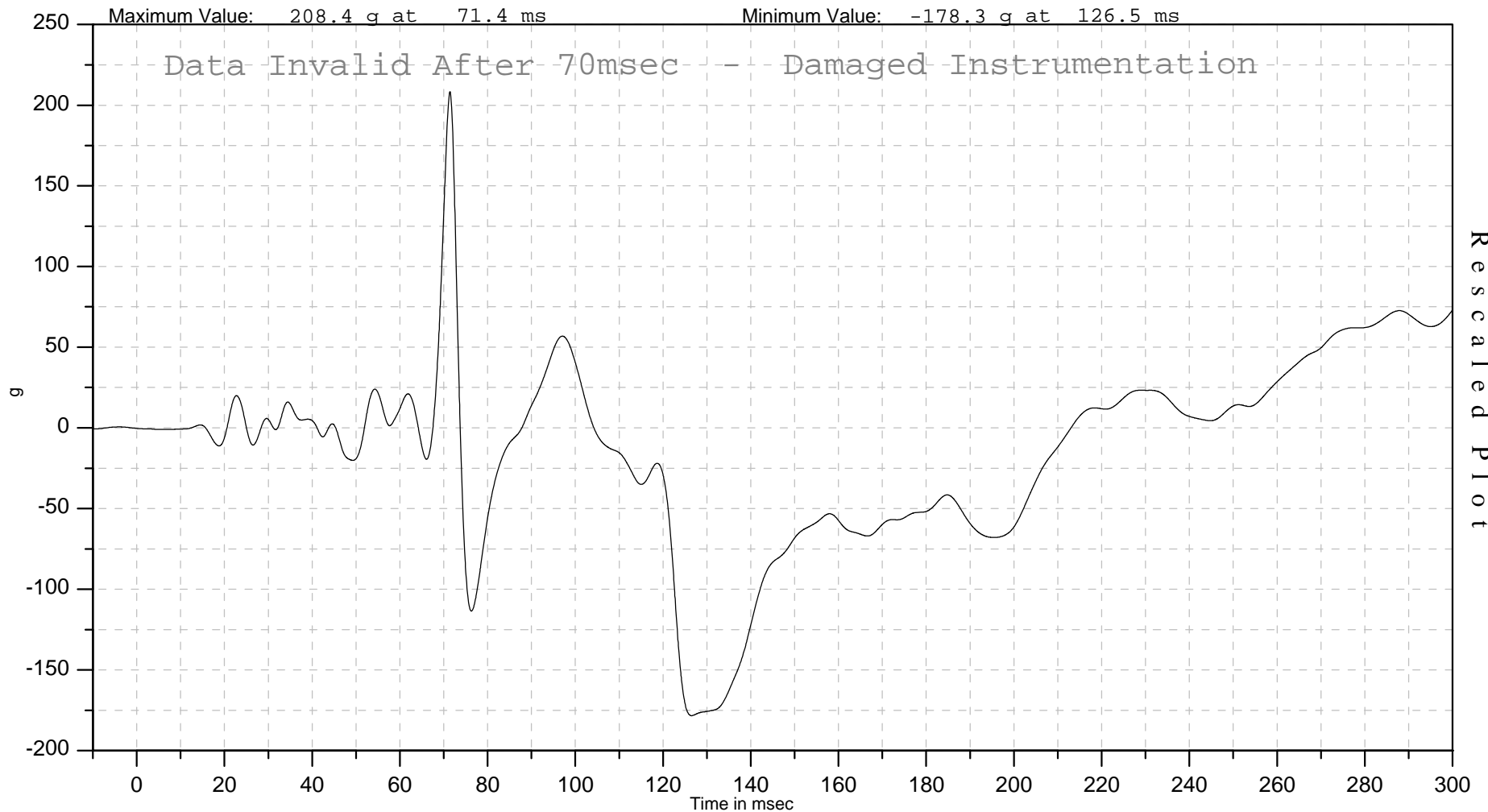
ISO Channel
10FULTCG0000ACZD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

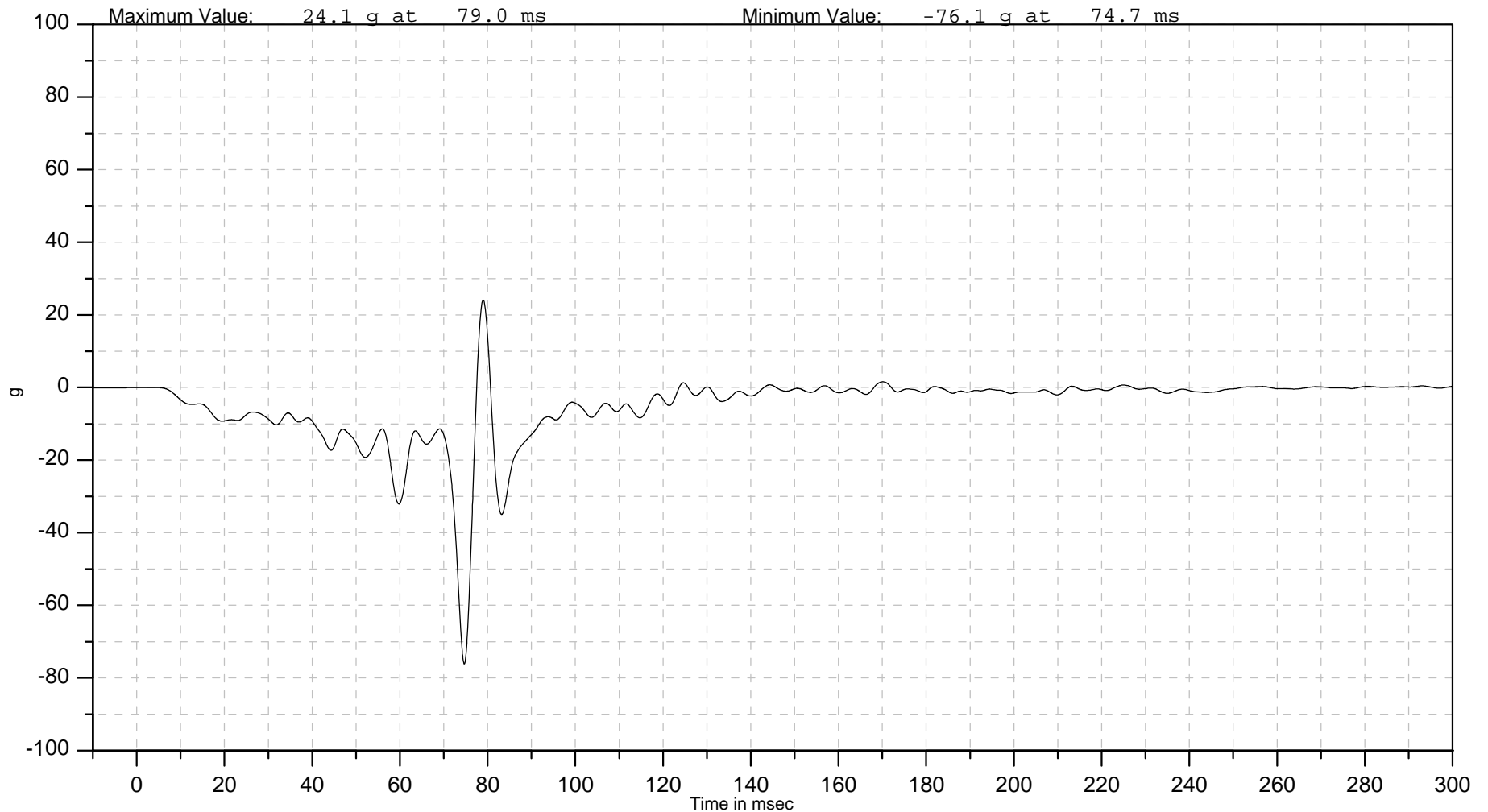
ISO Channel
10ABSE000000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

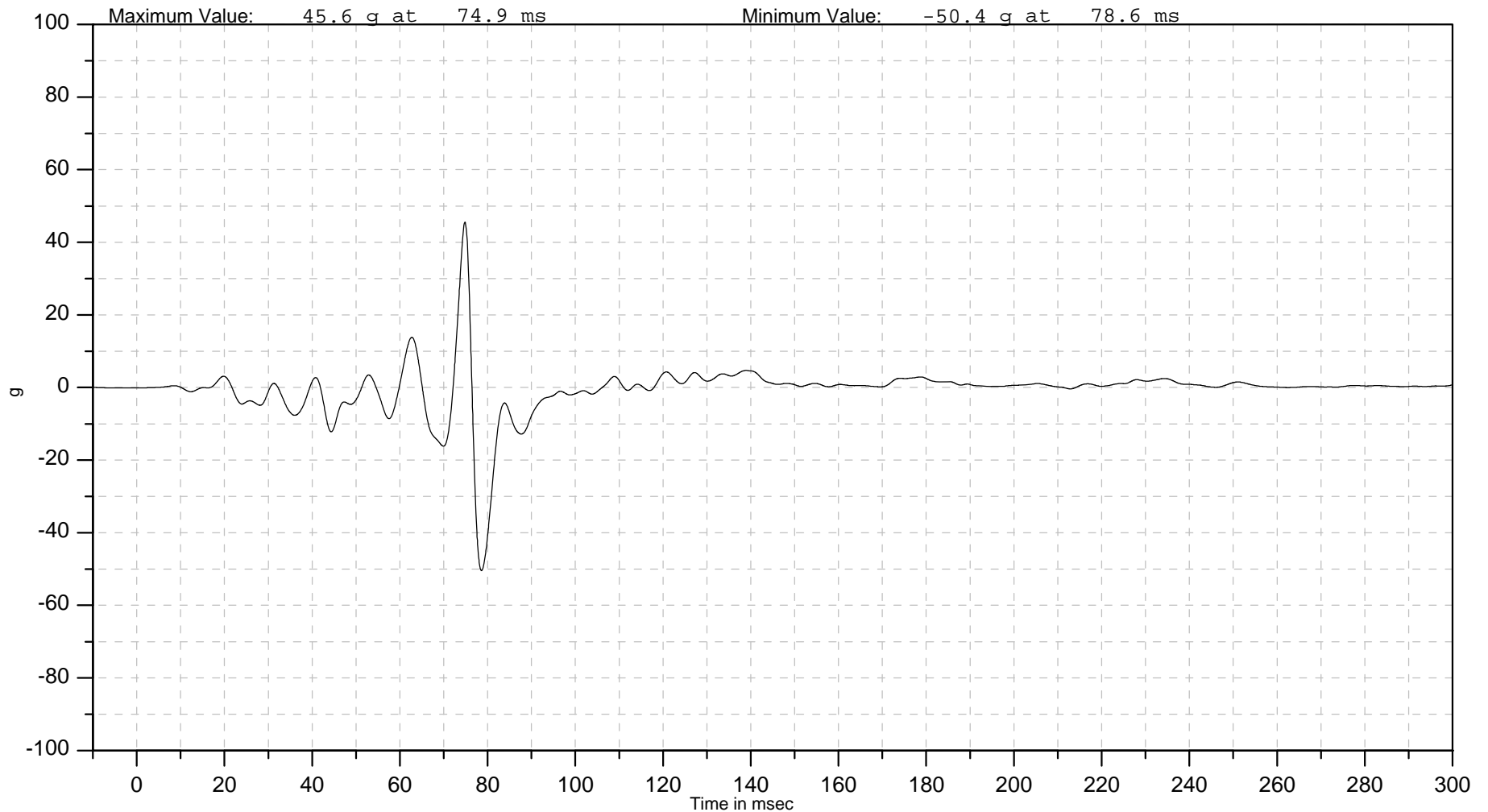
ISO Channel
10ABSE000000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACZD

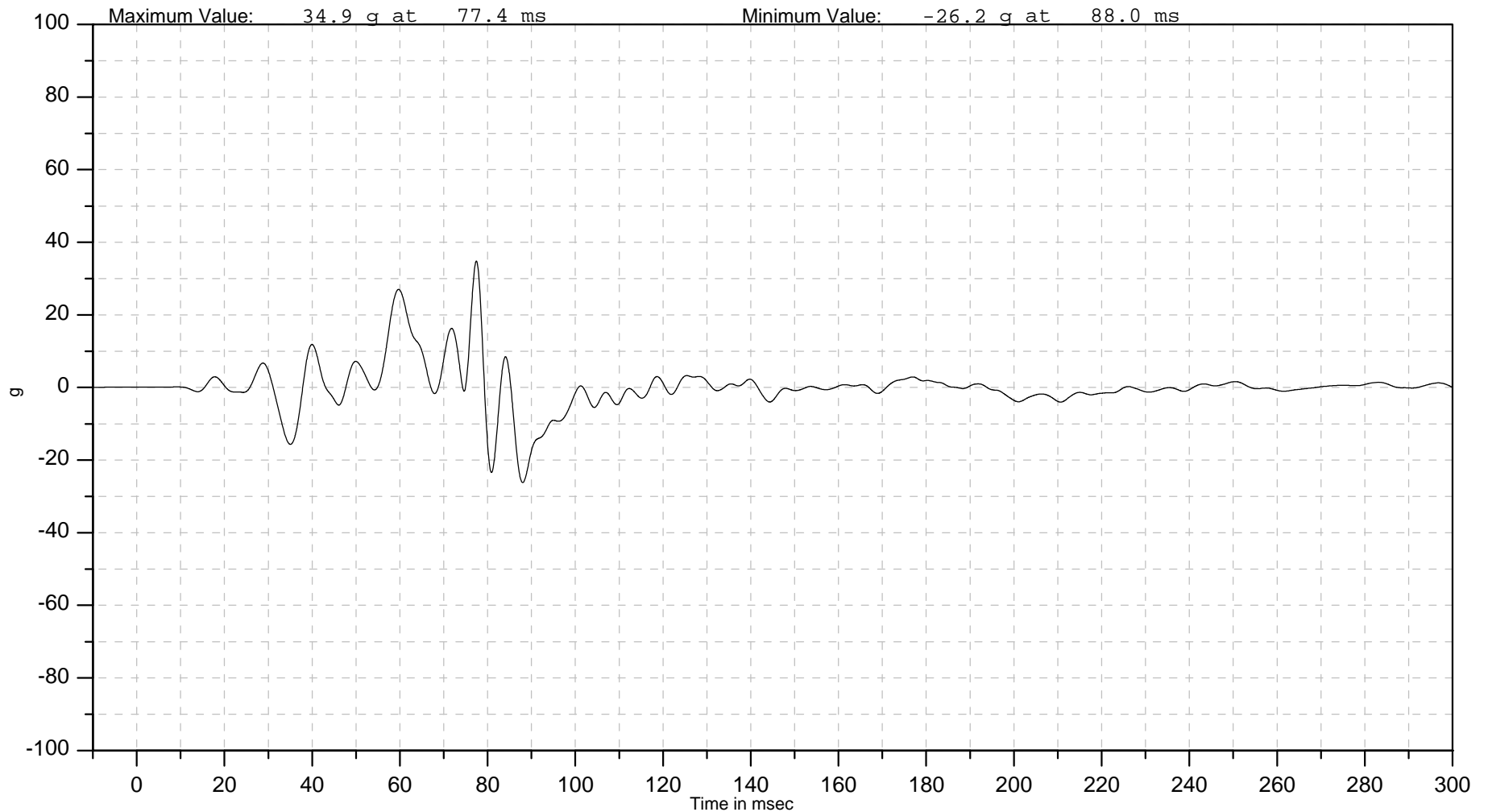
ISO Channel
10ABSE000000ACZD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10CZCS000000ACXD

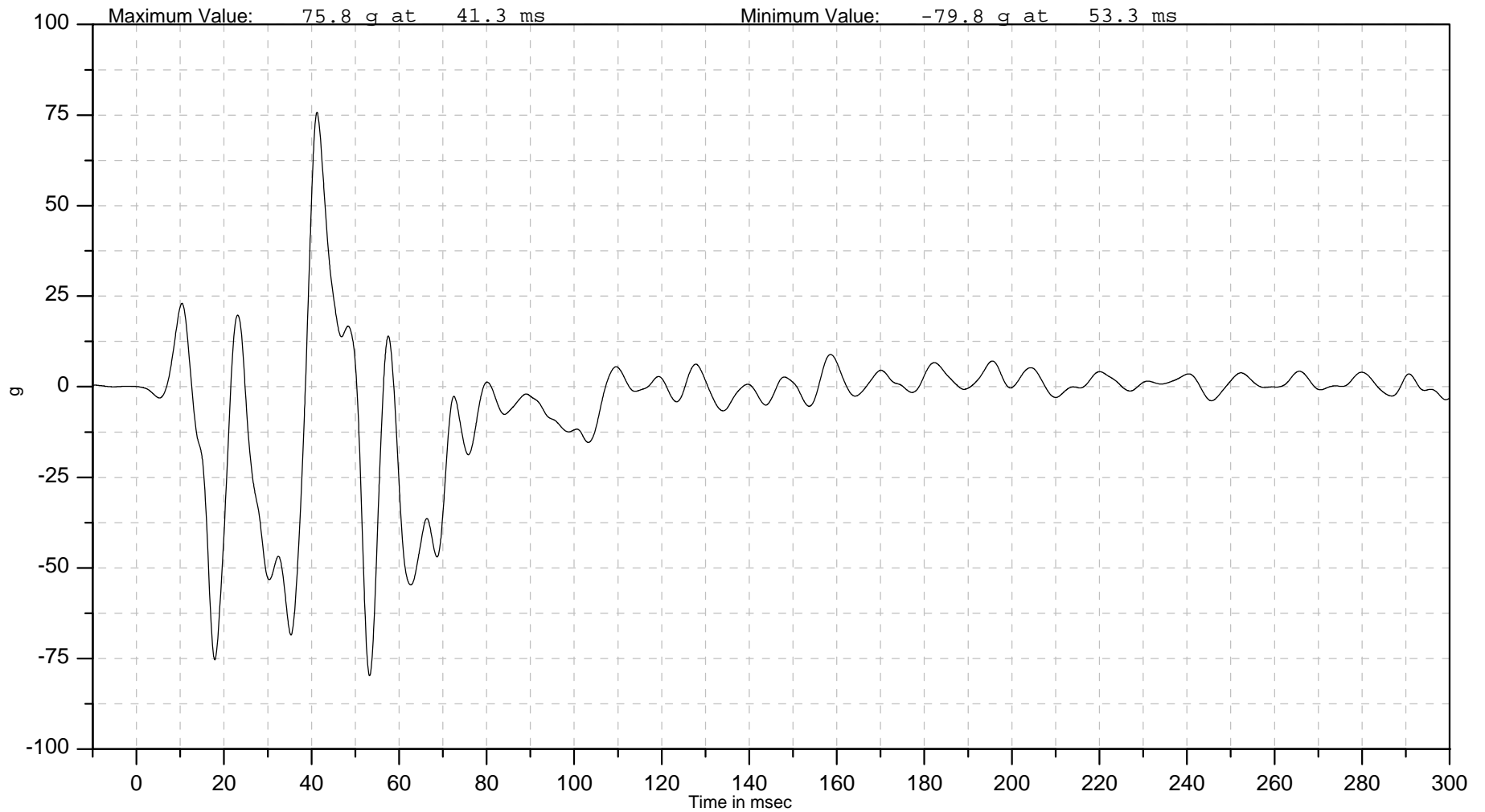
ISO Channel
10CZCS000000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CZC Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10CZCSR0000ACXD

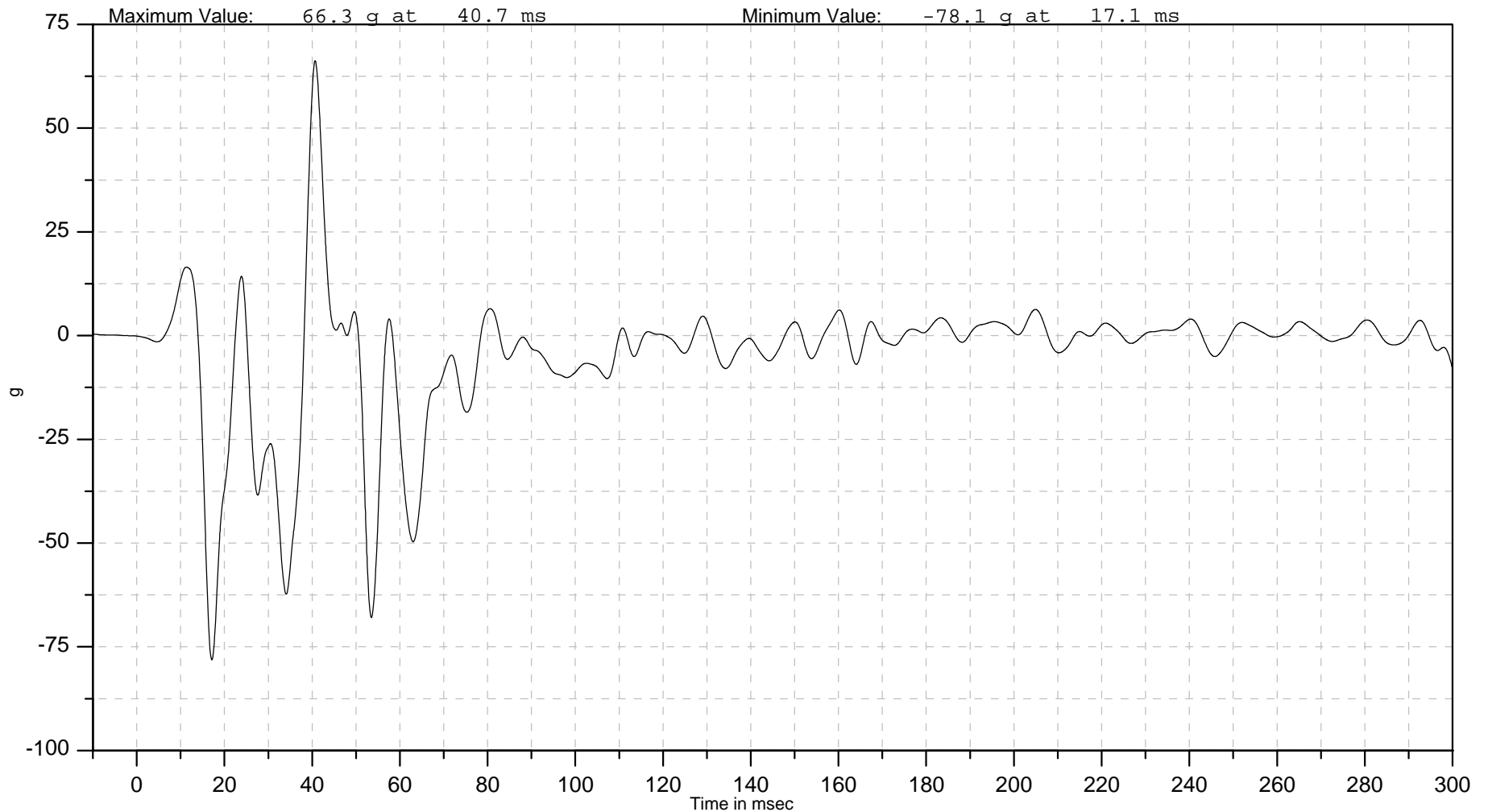
ISO Channel
10CZCSR0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Redundant CZC Sensor X Acceleration



APPENDIX B

TEST PHOTOGRAPHS







































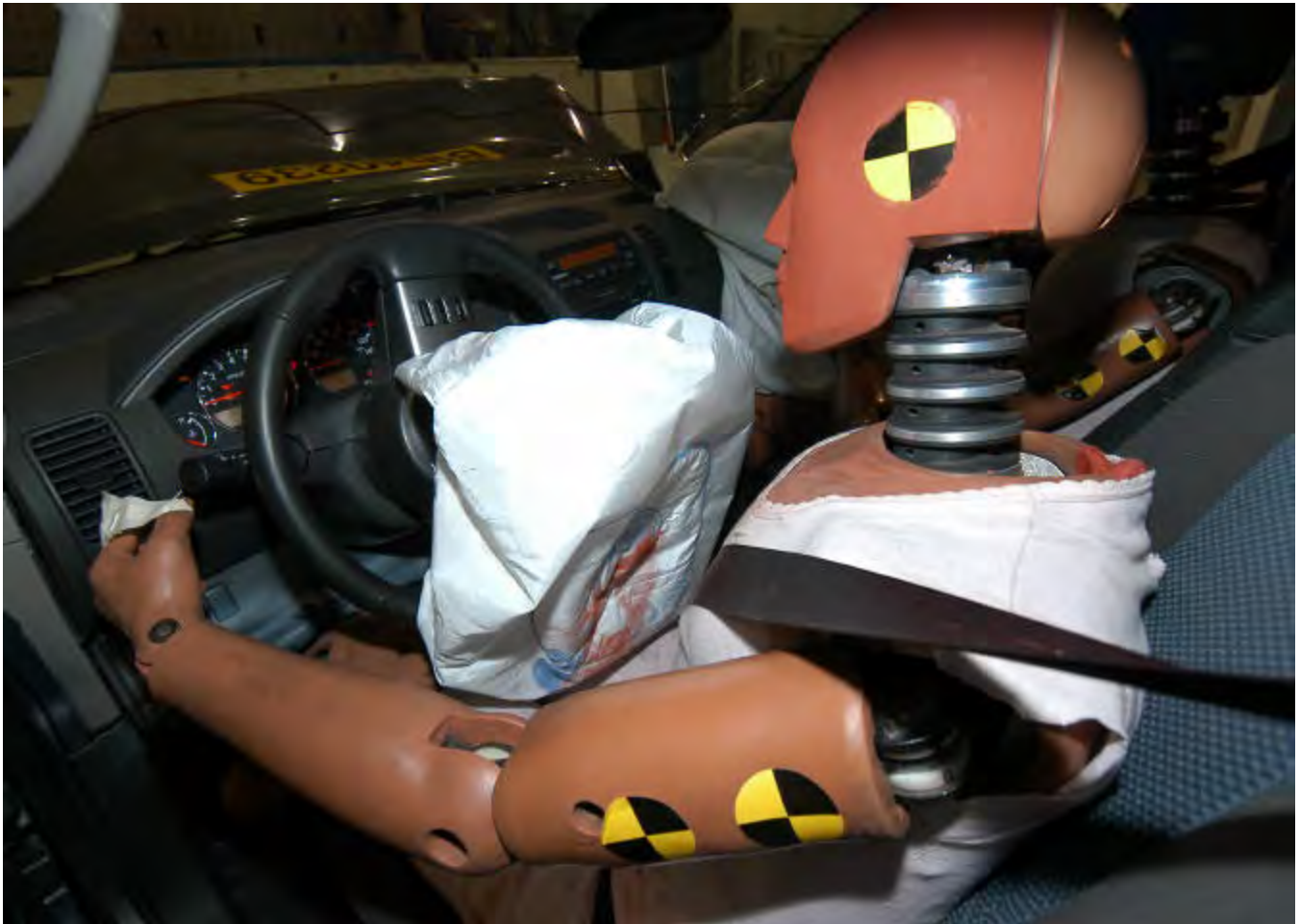
























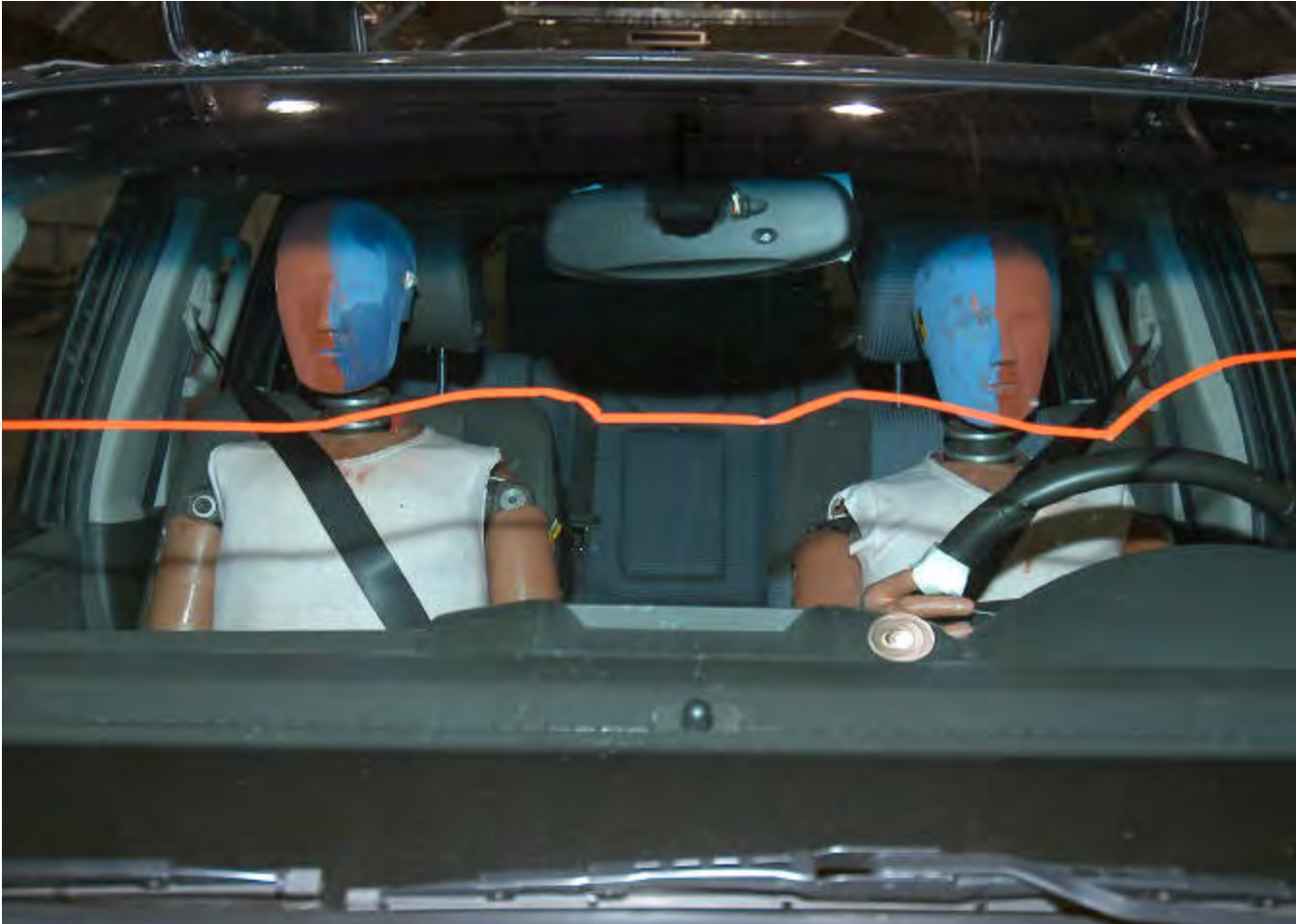














Autoliv North America (NTC)

Autoliv Channel
11ABSE010000CU00

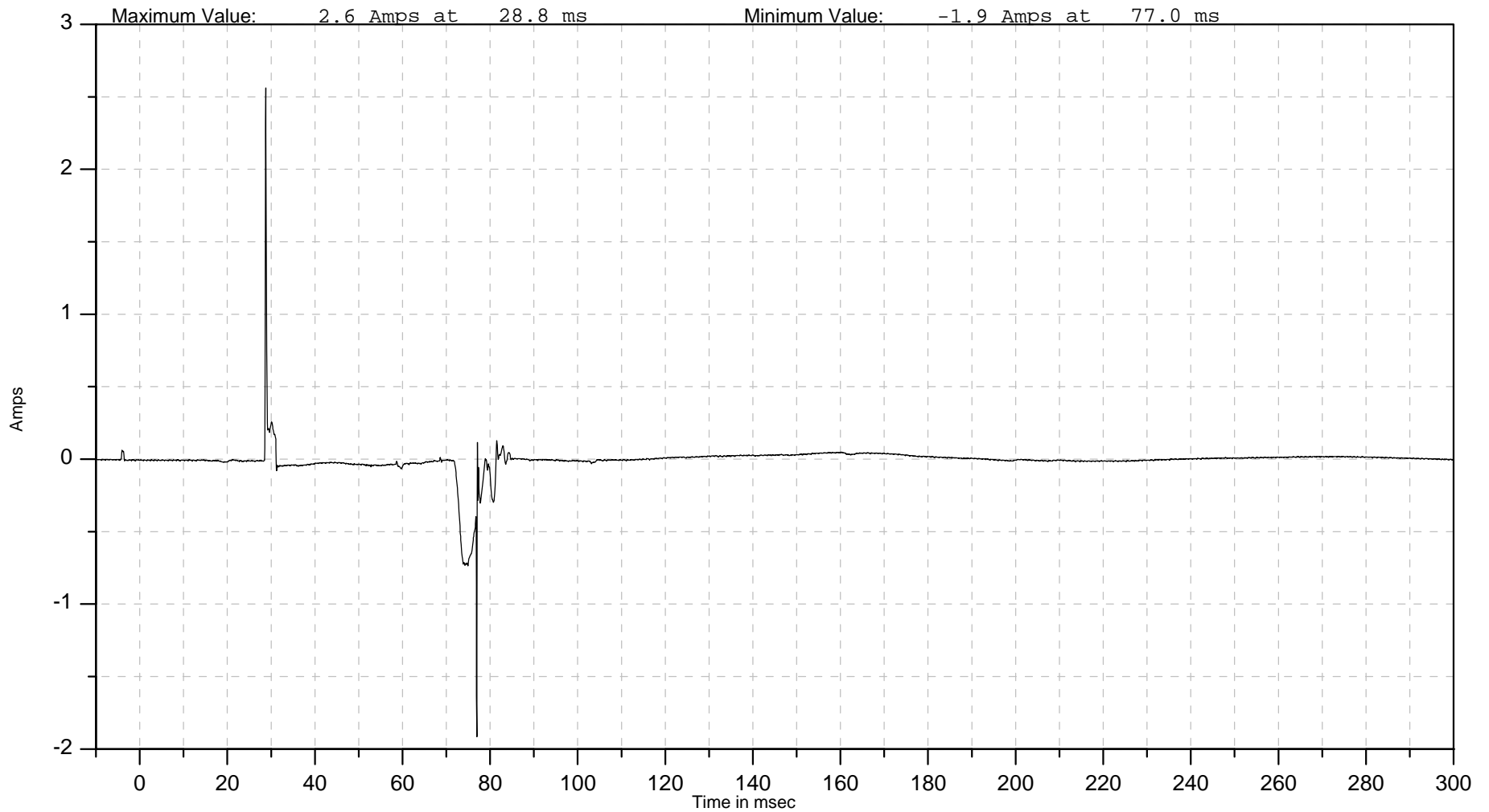
ISO Channel
11ABSE010000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
11ABSE020000CU00

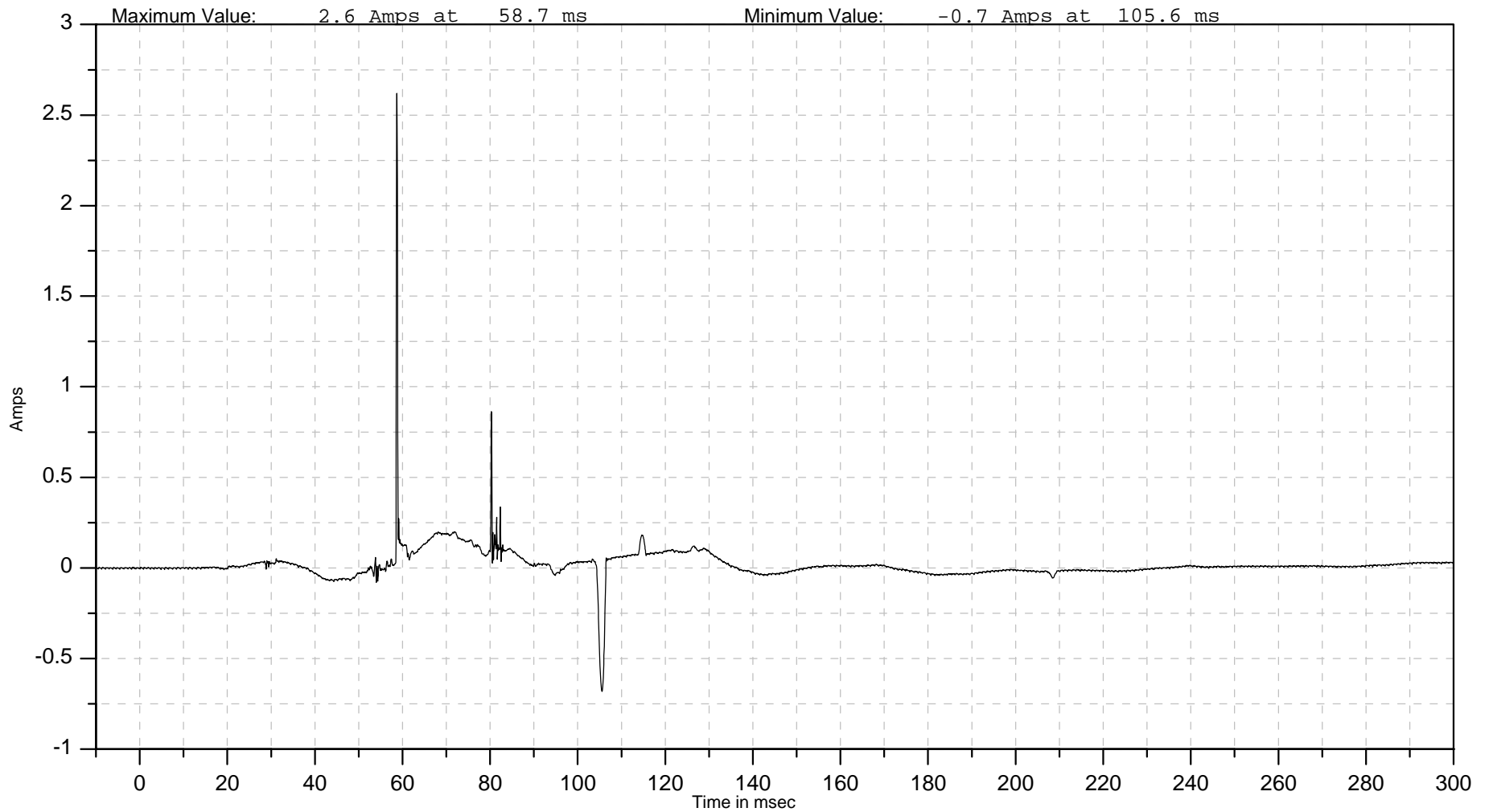
ISO Channel
11ABSE020000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
11ABSE030000CU00

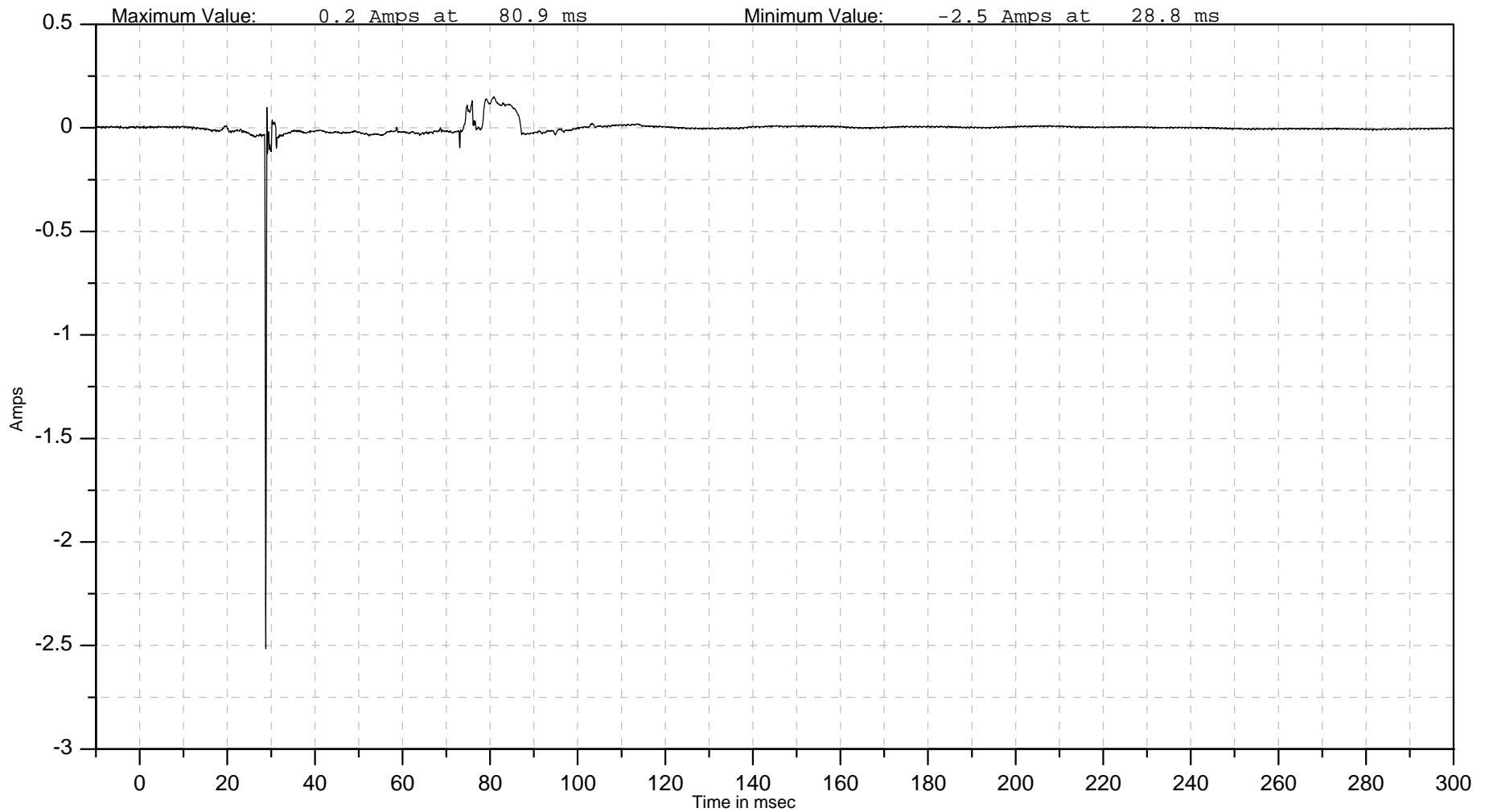
ISO Channel
11ABSE030000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 3 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE010000CU00

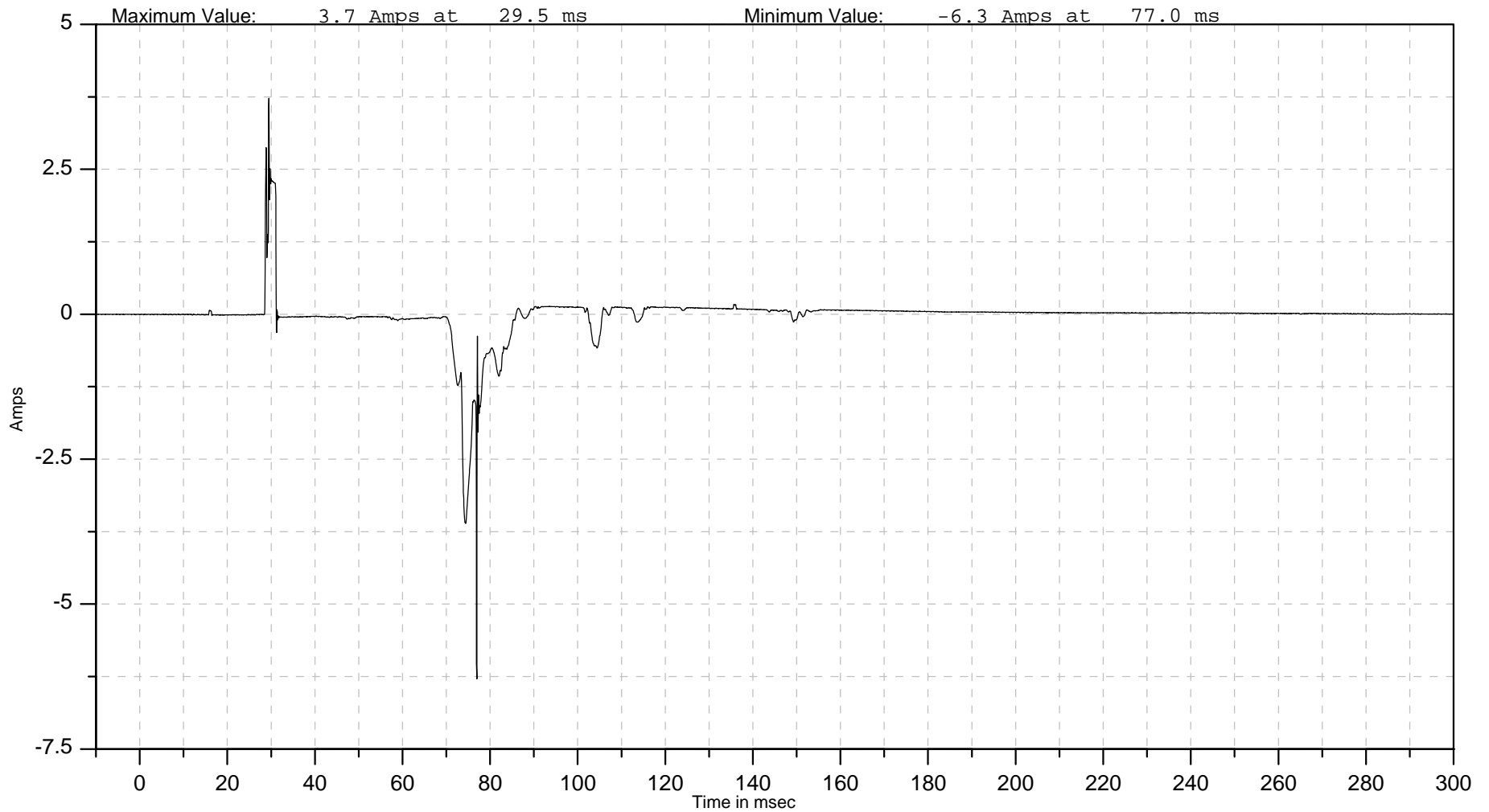
ISO Channel
13ABSE010000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 1 Airbag Sensor Current





Autoliv North America (NTC)

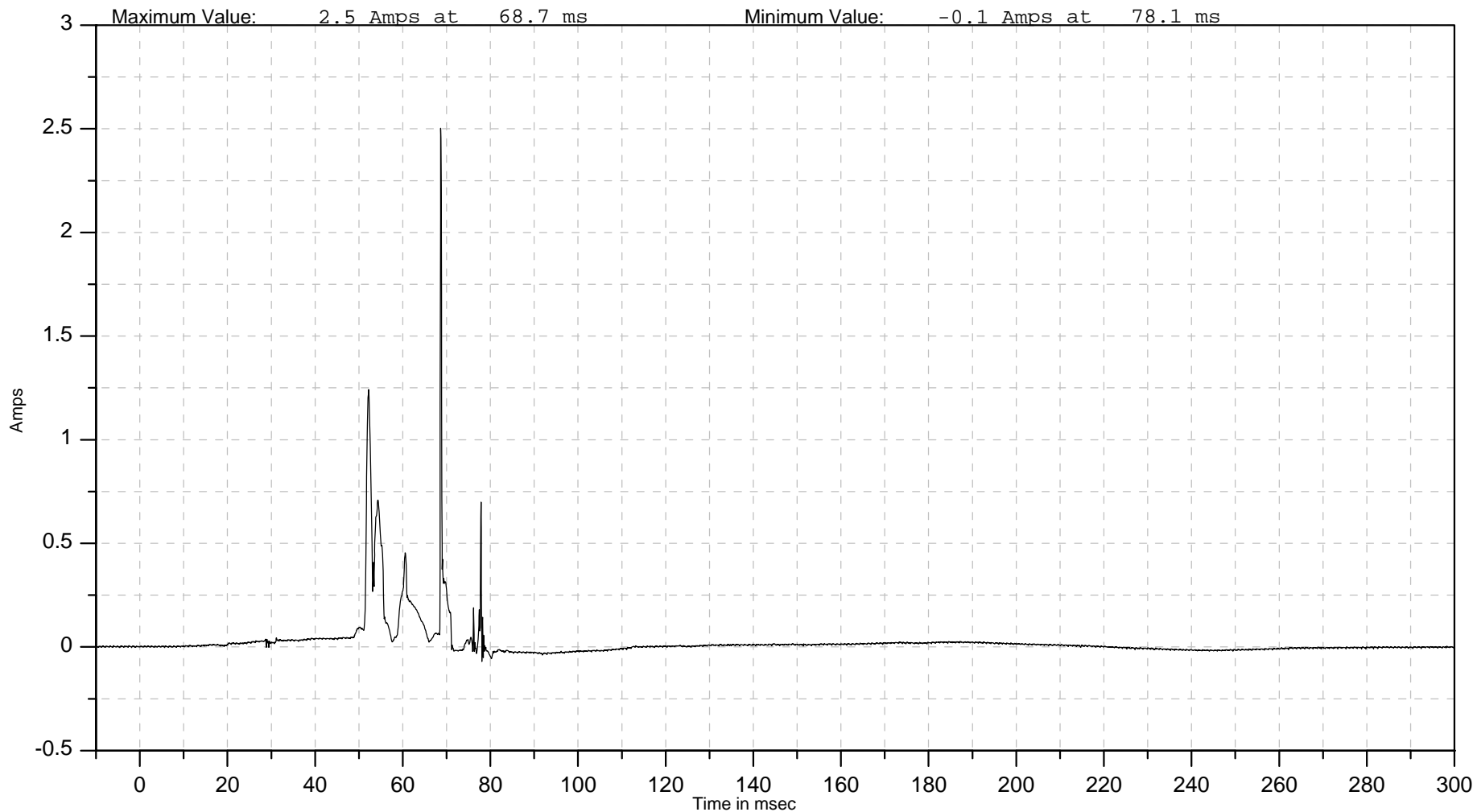
Autoliv Channel
13ABSE020000CU00

ISO Channel
13ABSE020000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: Unfiltered
Sign Convention: SAE J211

RFP 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE030000CU00

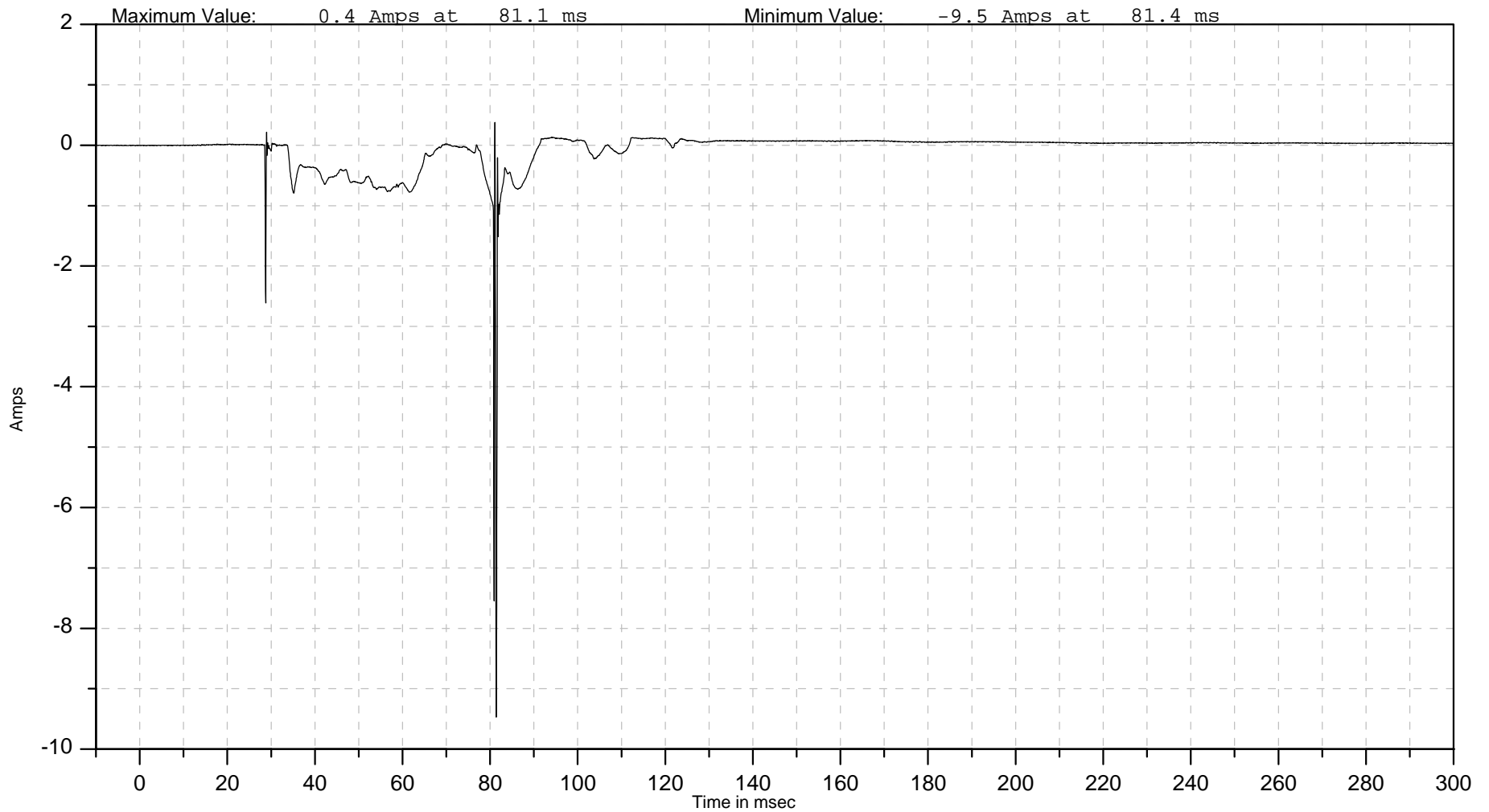
ISO Channel
13ABSE030000CU00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 3 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
10VEHC000001EV00

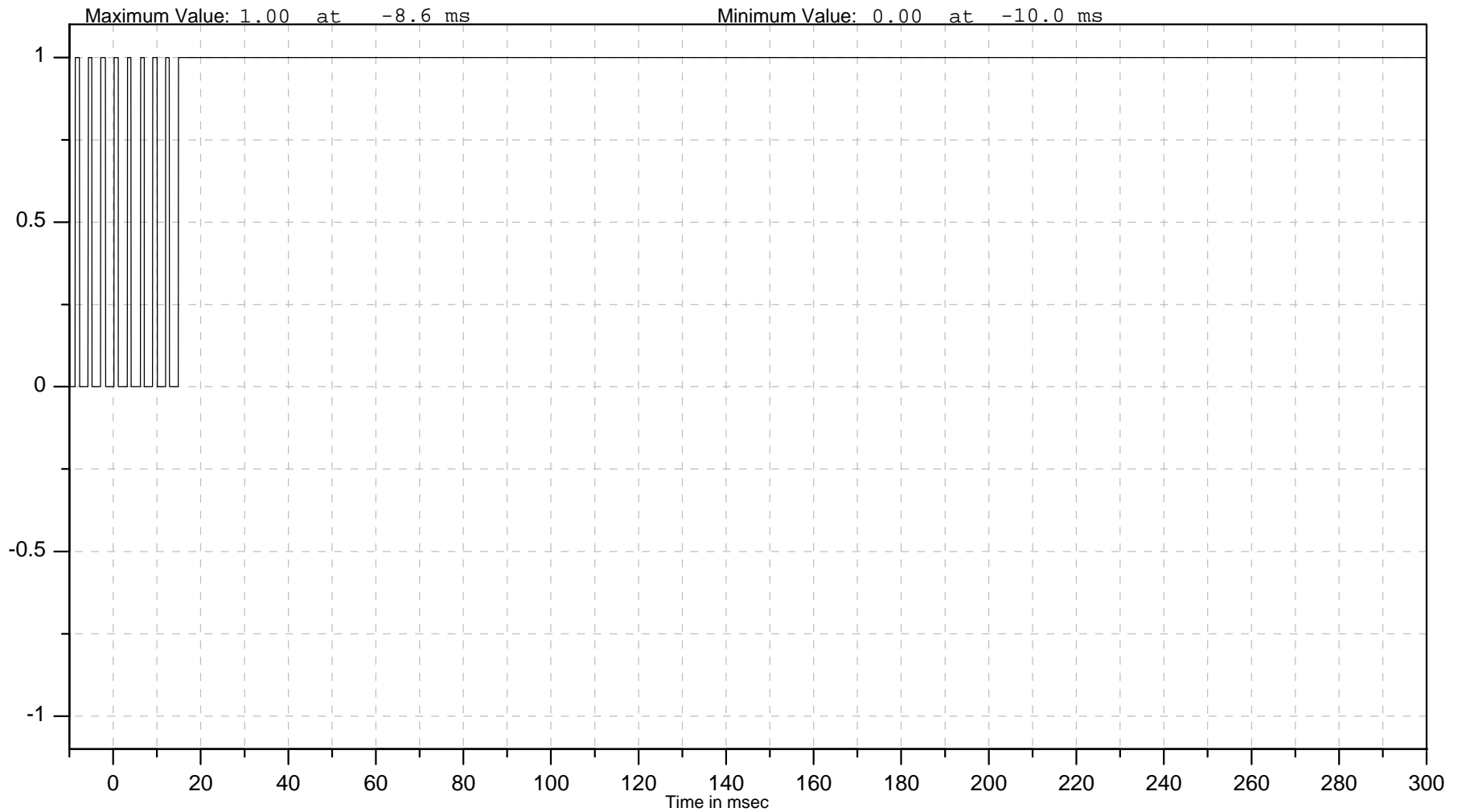
ISO Channel
10VEHC000001EV00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 1





Autoliv North America (NTC)

Autoliv Channel
10VEHC000002EV00

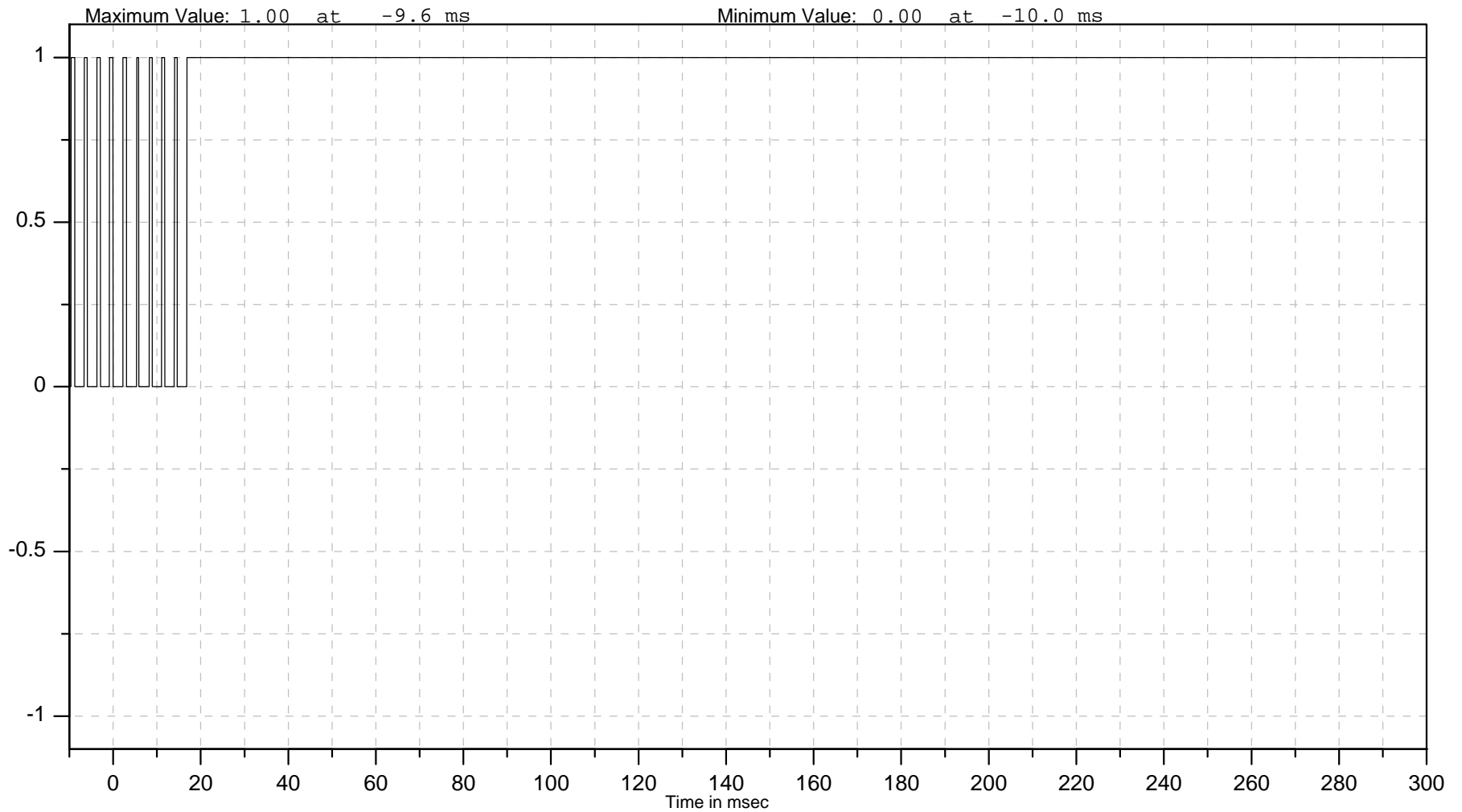
ISO Channel
10VEHC000002EV00

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

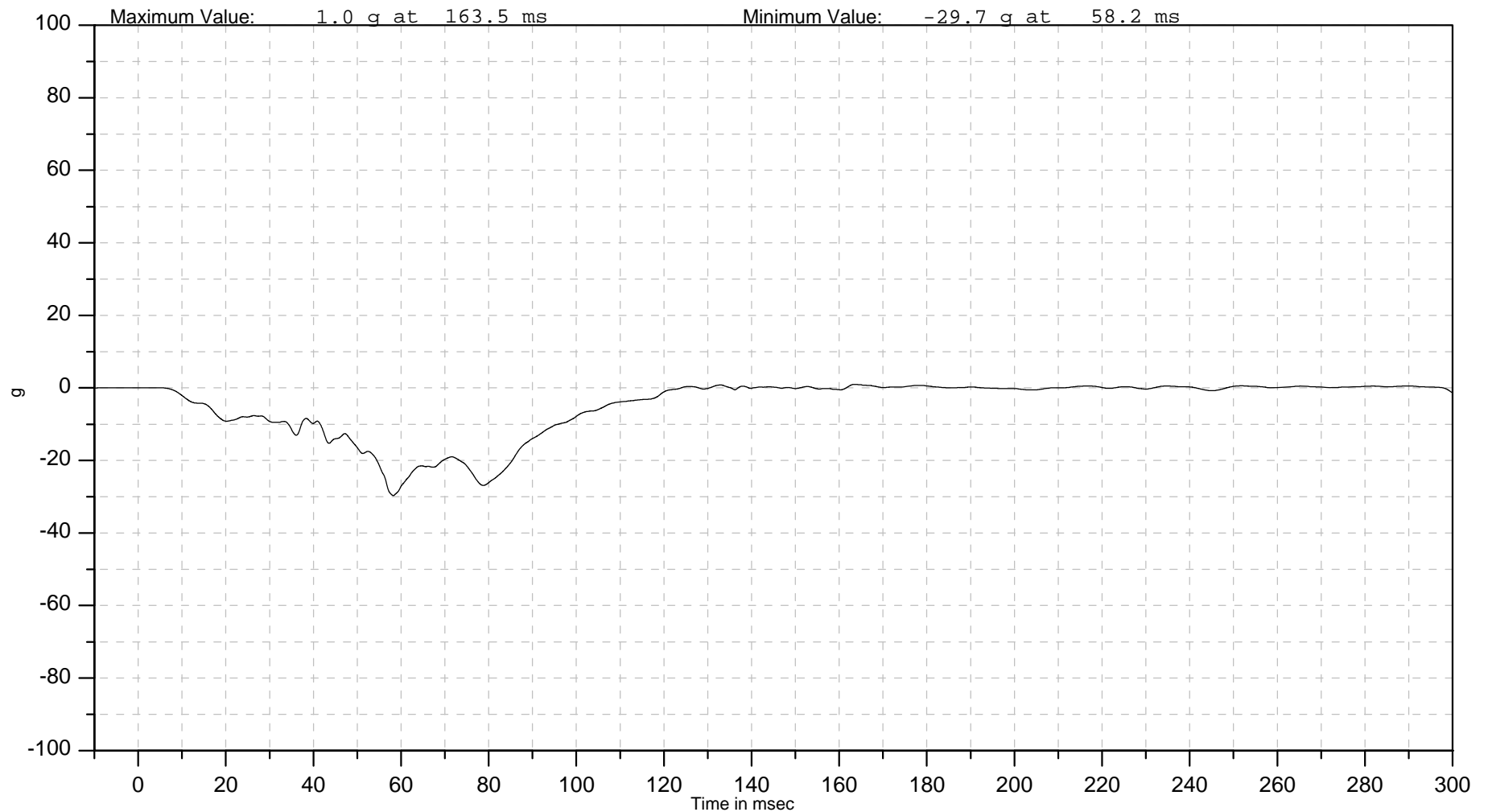
ISO Channel
10SILLLE0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACYD

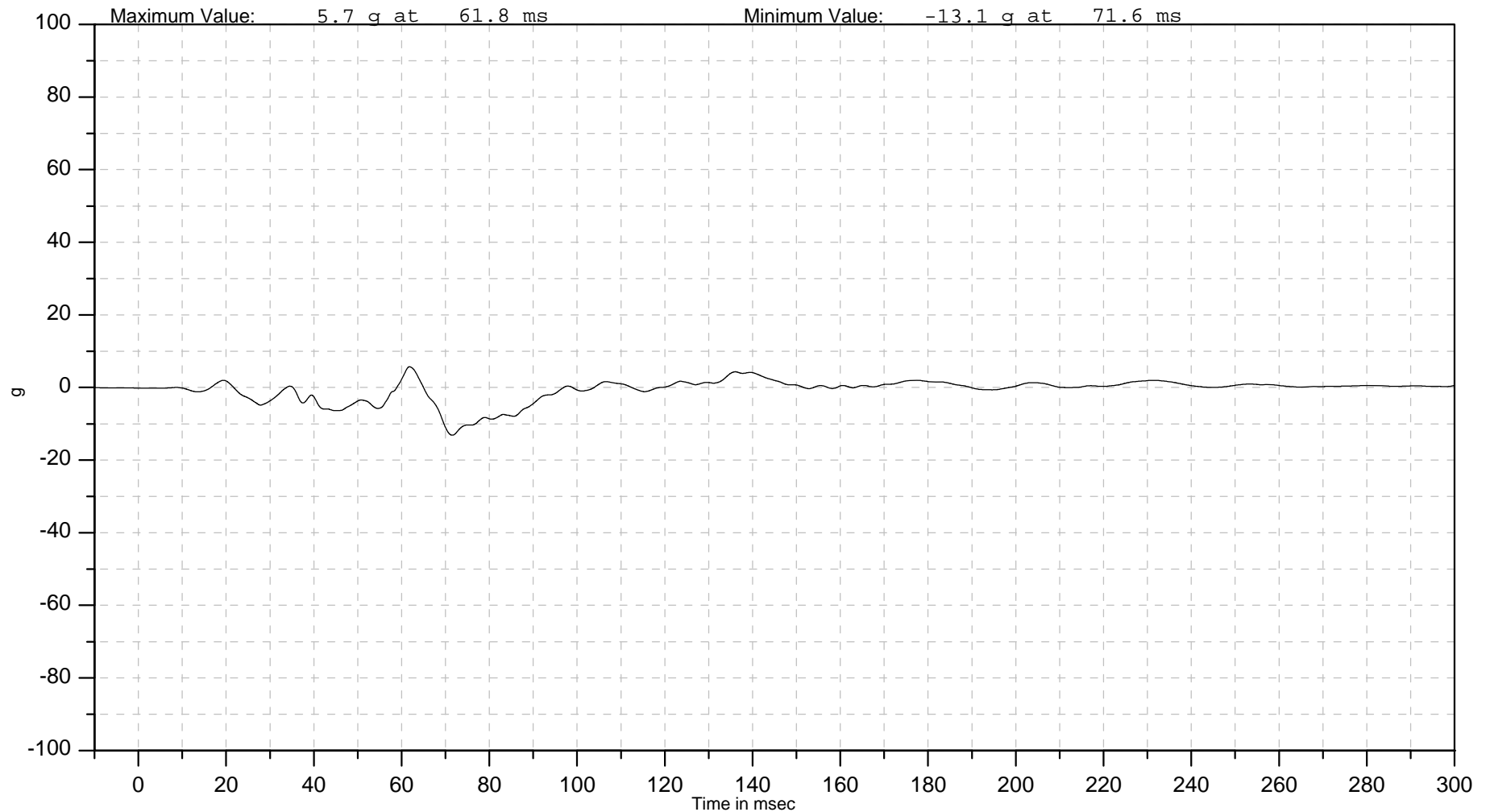
ISO Channel
10SILLLE0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRI0000ACXD

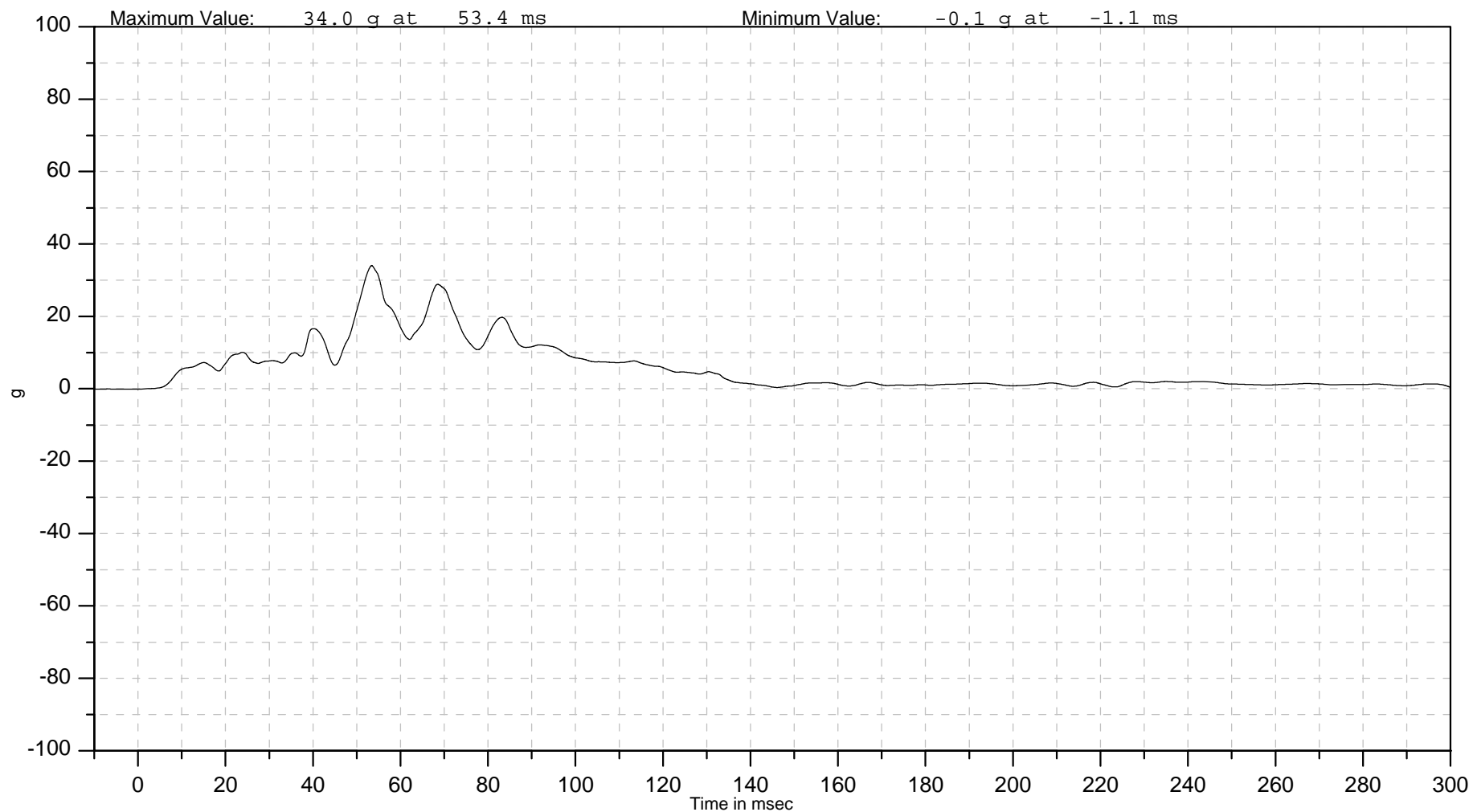
ISO Channel
10SILLRI0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRI0000ACYD

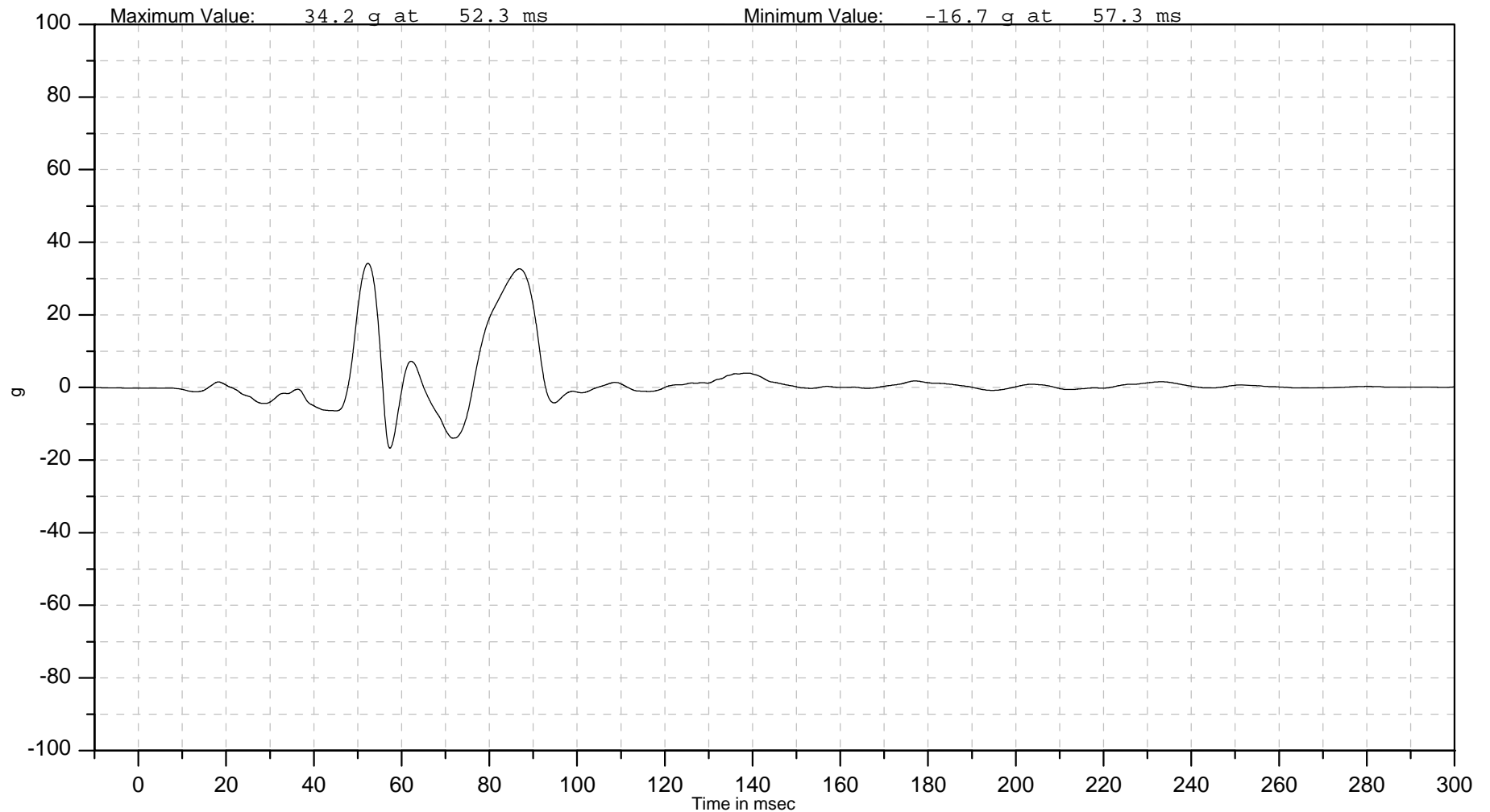
ISO Channel
10SILLRI0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACXD

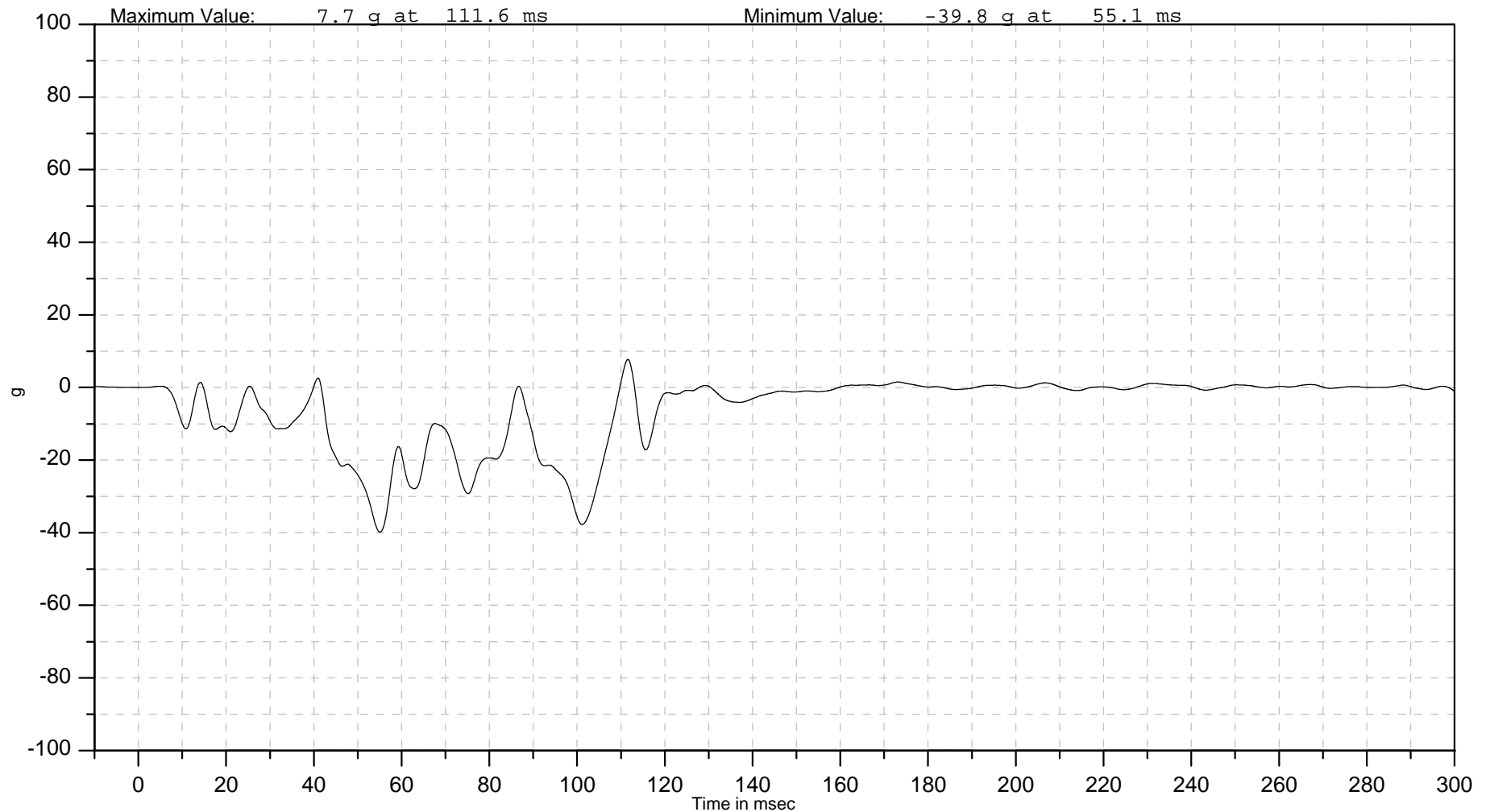
ISO Channel
10FRAMLE0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACYD

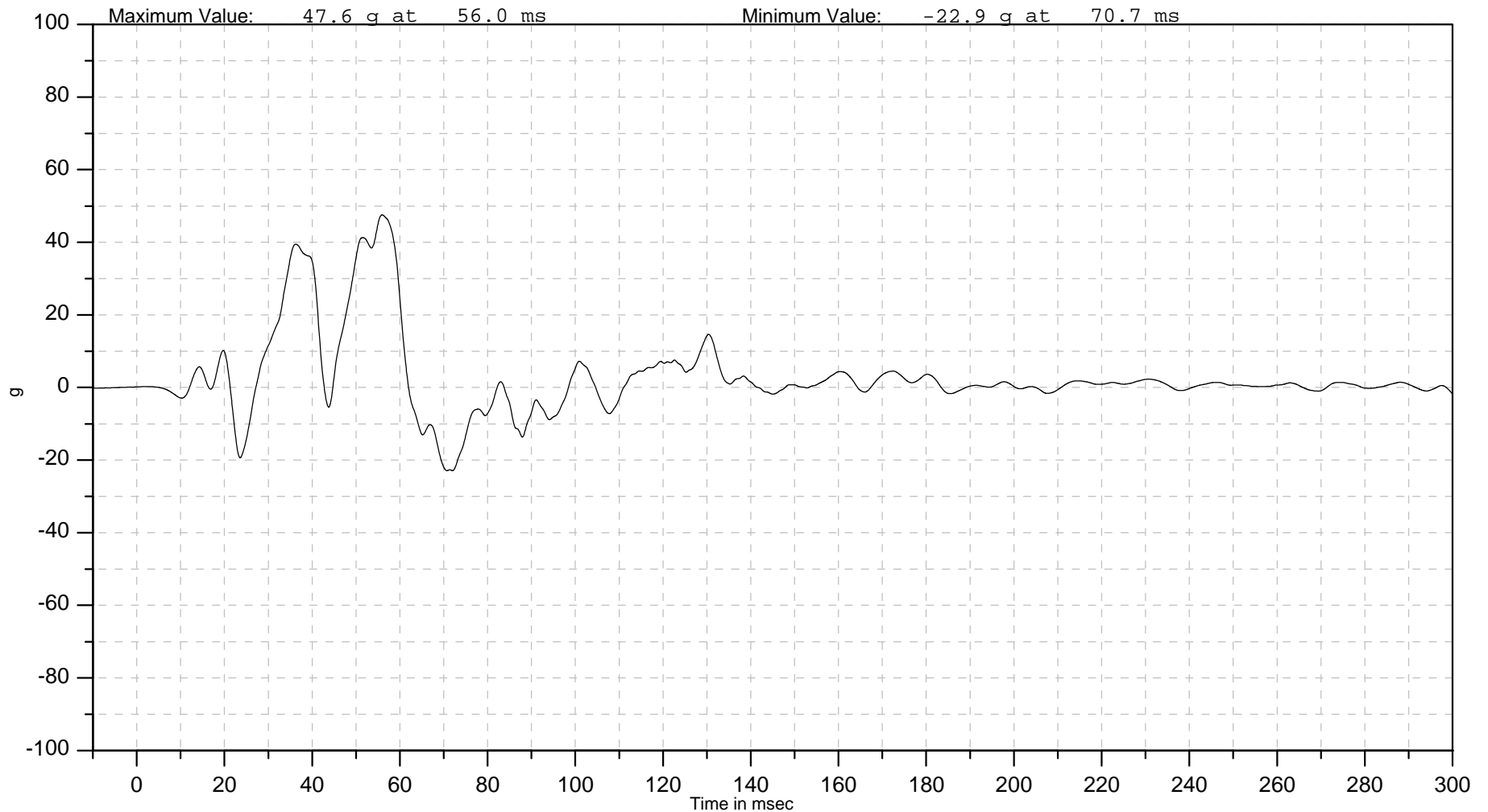
ISO Channel
10FRAMLE0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACXD

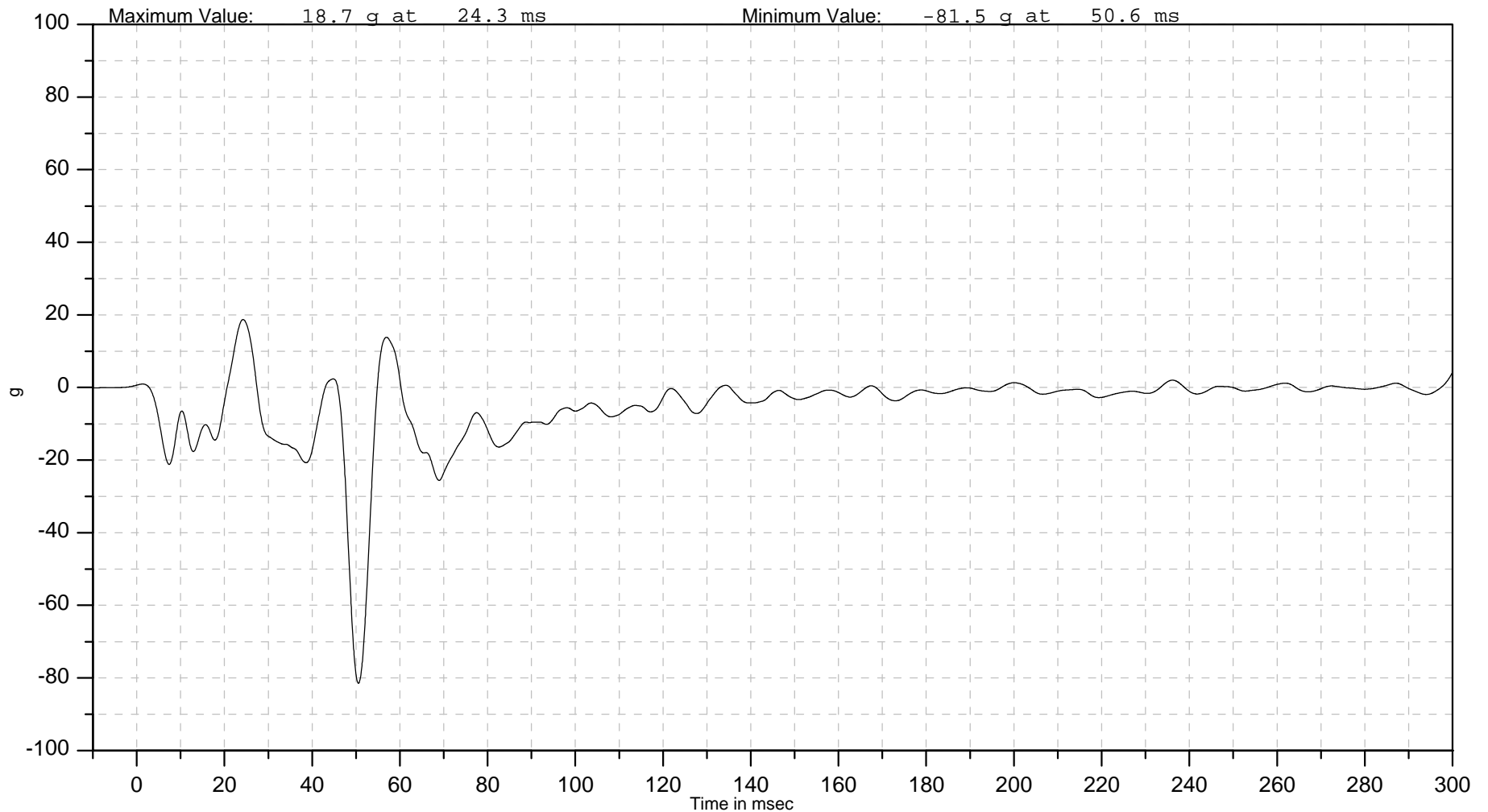
ISO Channel
10FRAMRI0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACYD

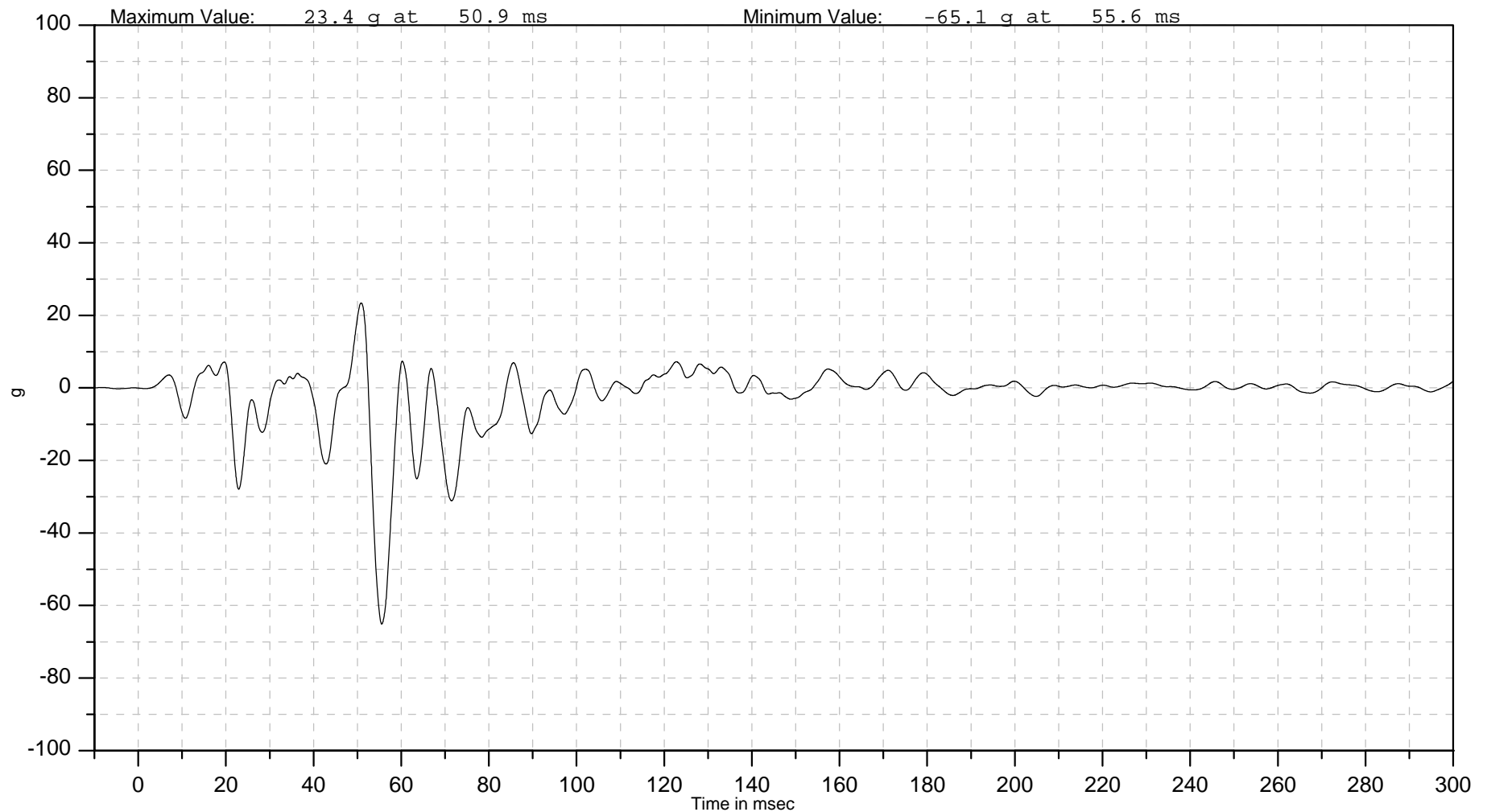
ISO Channel
10FRAMRI0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame Y Acceleration





Autoliv North America (NTC)

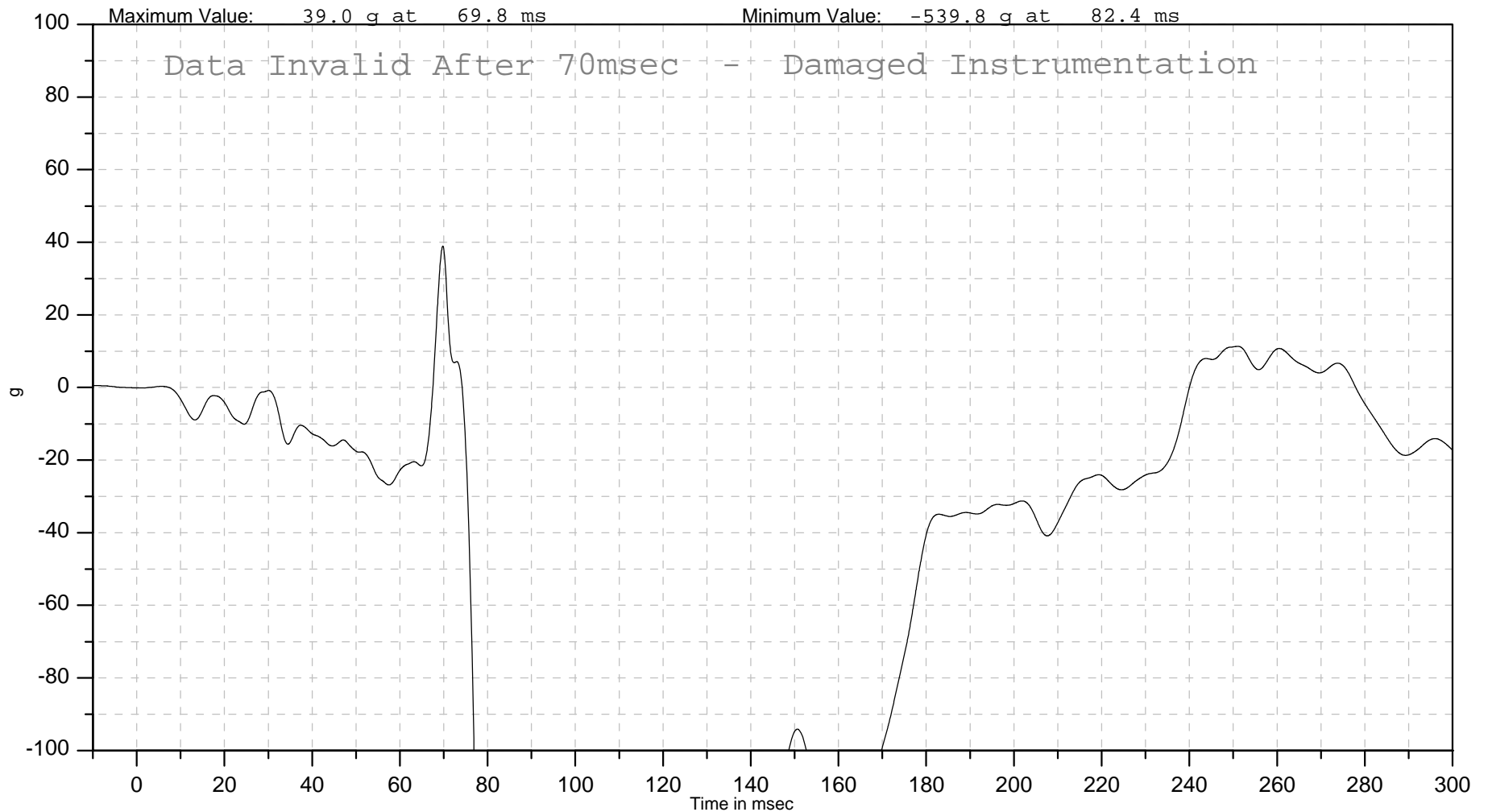
Autoliv Channel
10FULTCG0000ACXD

ISO Channel
10FULTCG0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTCG0000ACXD

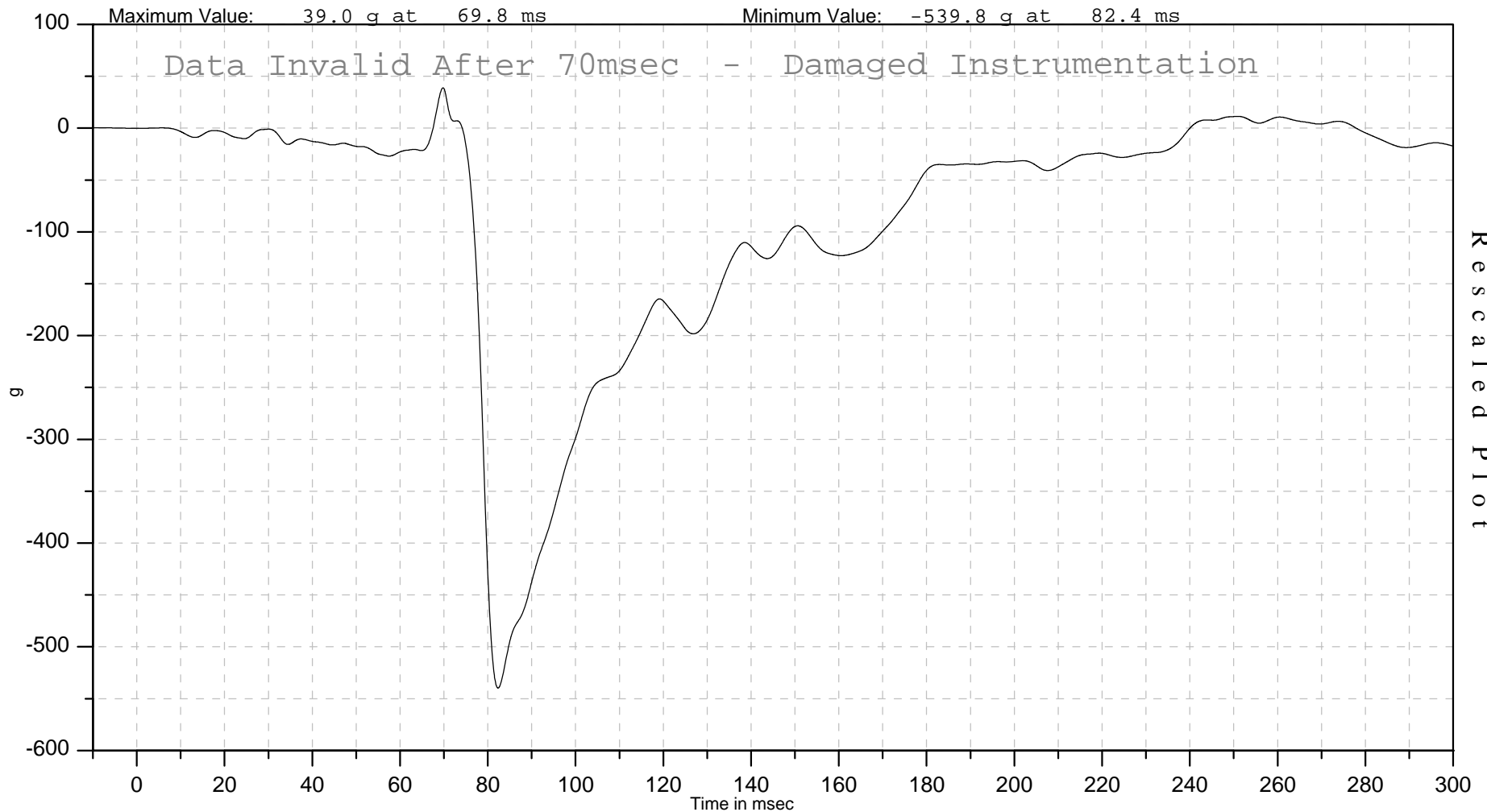
ISO Channel
10FULTCG0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank X Acceleration





Autoliv North America (NTC)

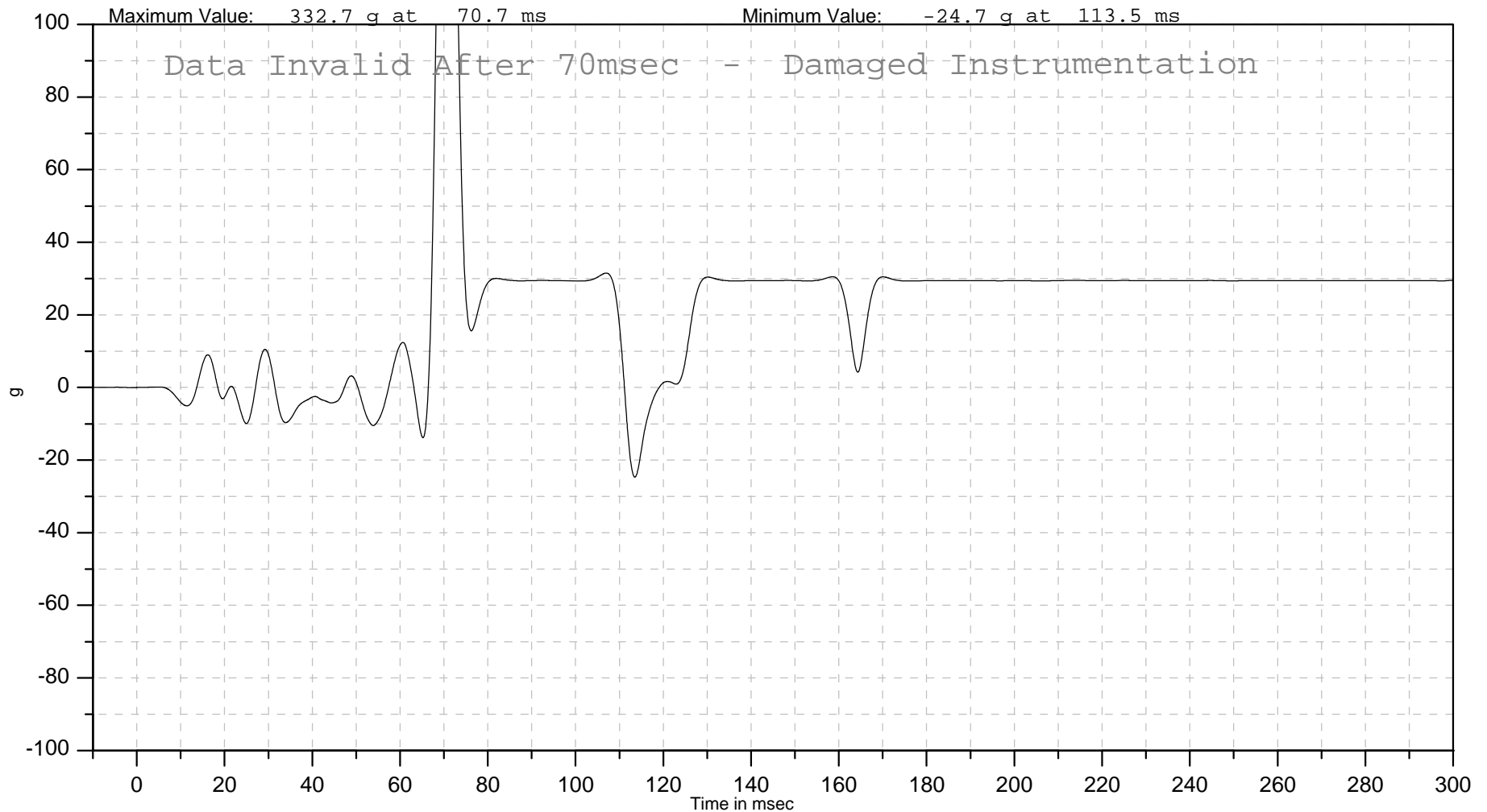
Autoliv Channel
10FULTCG0000ACYD

ISO Channel
10FULTCG0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Y Acceleration





Autoliv North America (NTC)

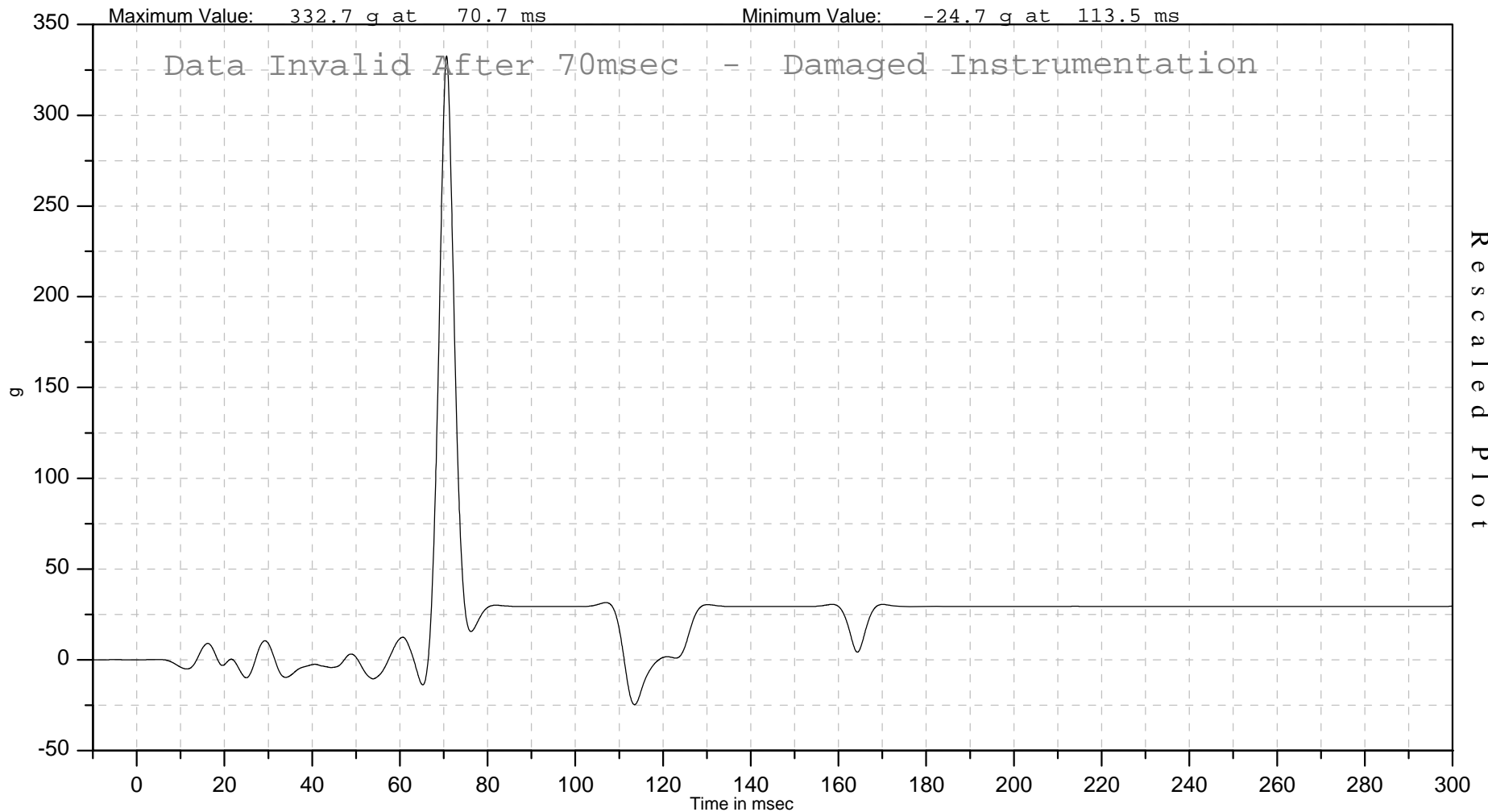
Autoliv Channel
10FULTCG0000ACYD

ISO Channel
10FULTCG0000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTCG0000ACZD

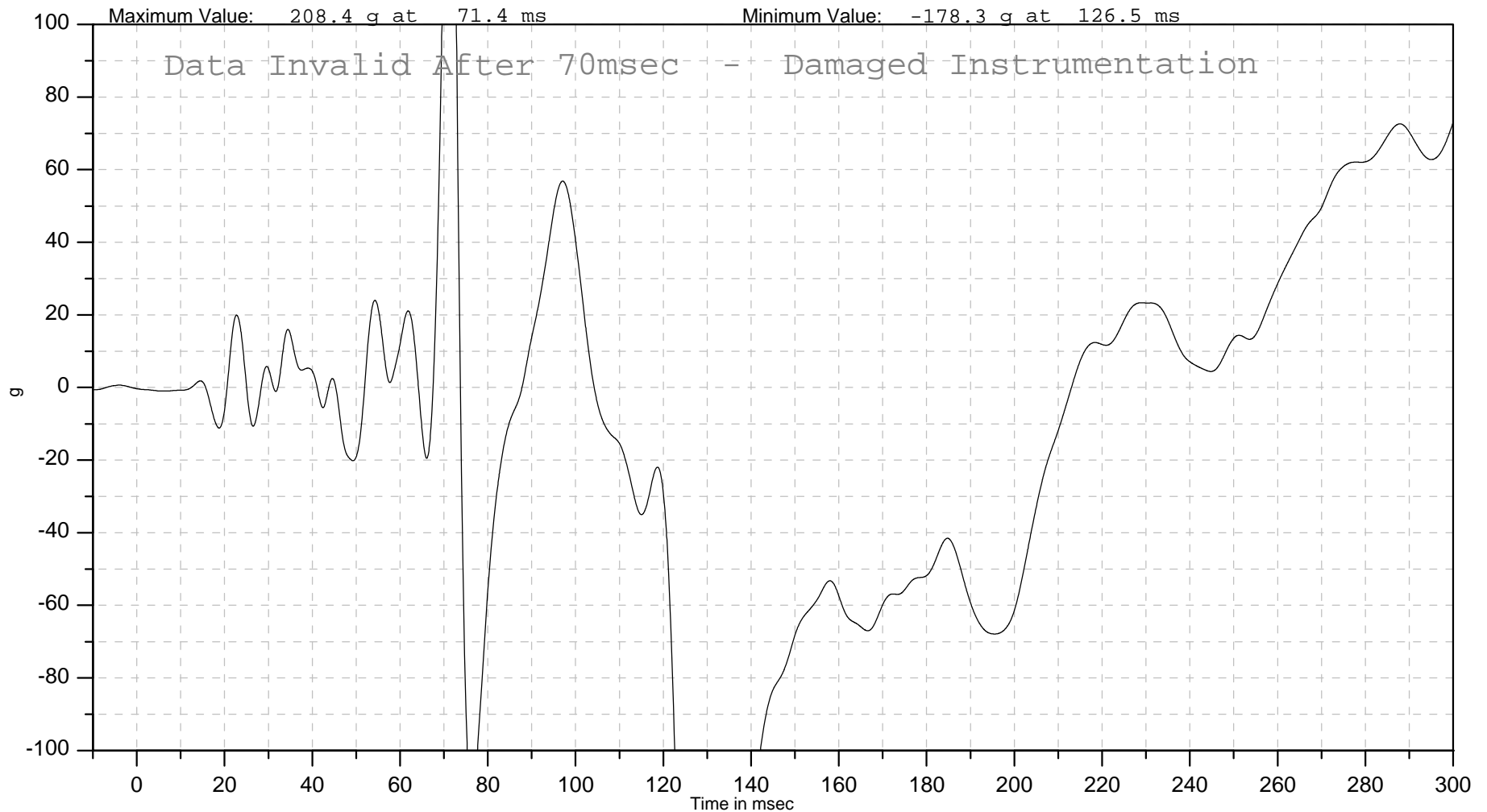
ISO Channel
10FULTCG0000ACZD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTCG0000ACZD

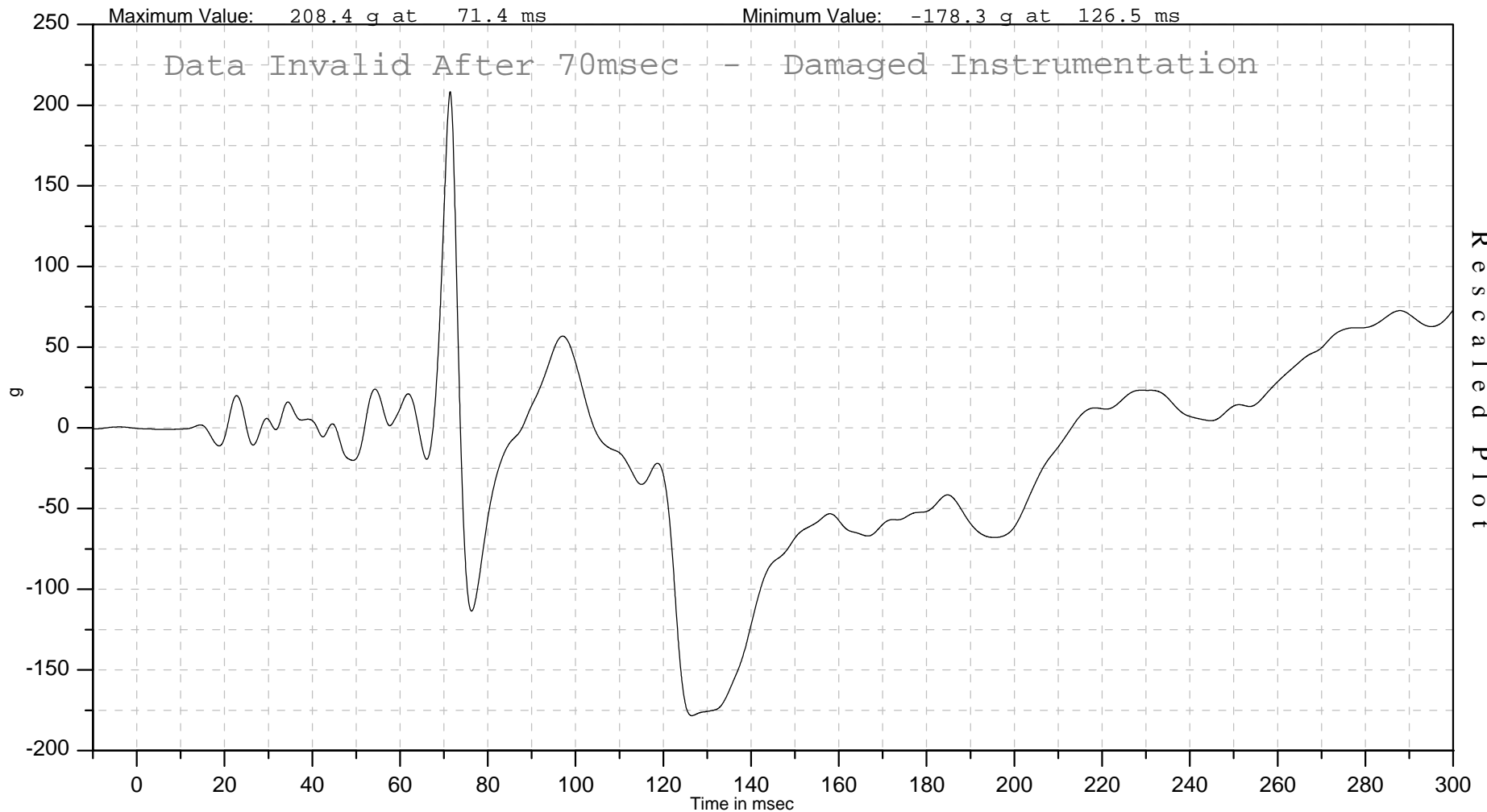
ISO Channel
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Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Fuel Tank Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

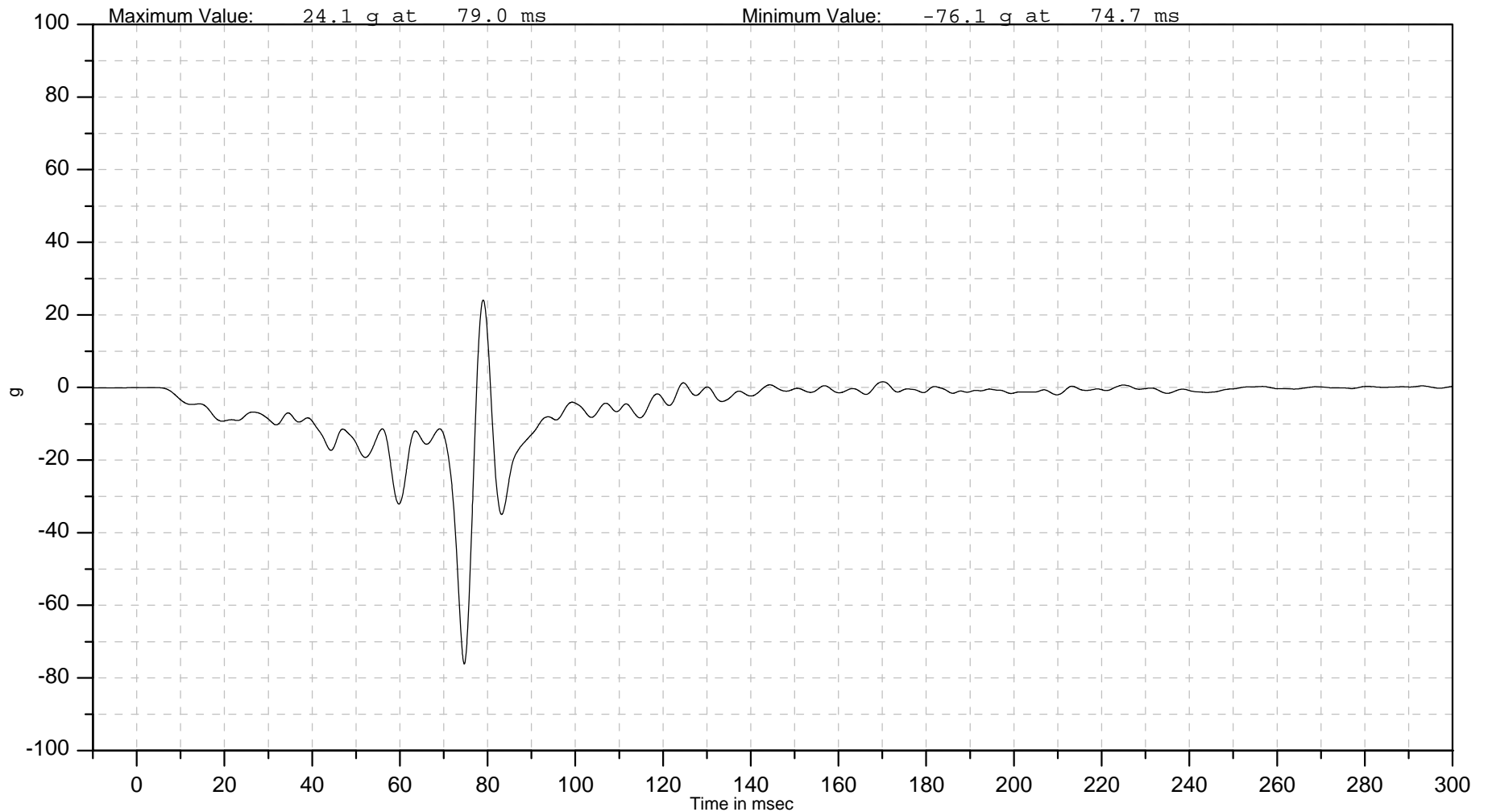
ISO Channel
10ABSE000000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

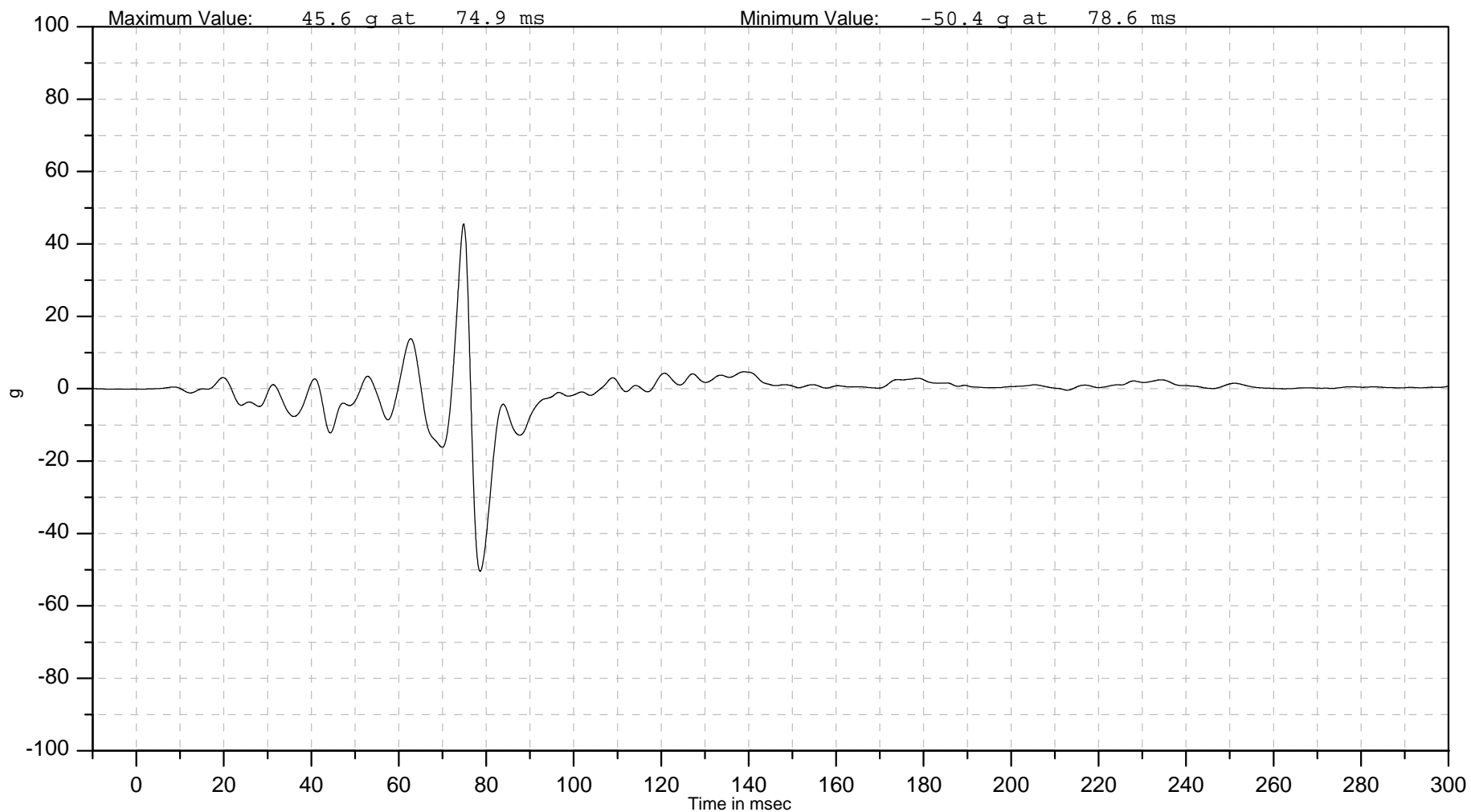
Autoliv Channel
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ISO Channel
10ABSE000000ACYD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACZD

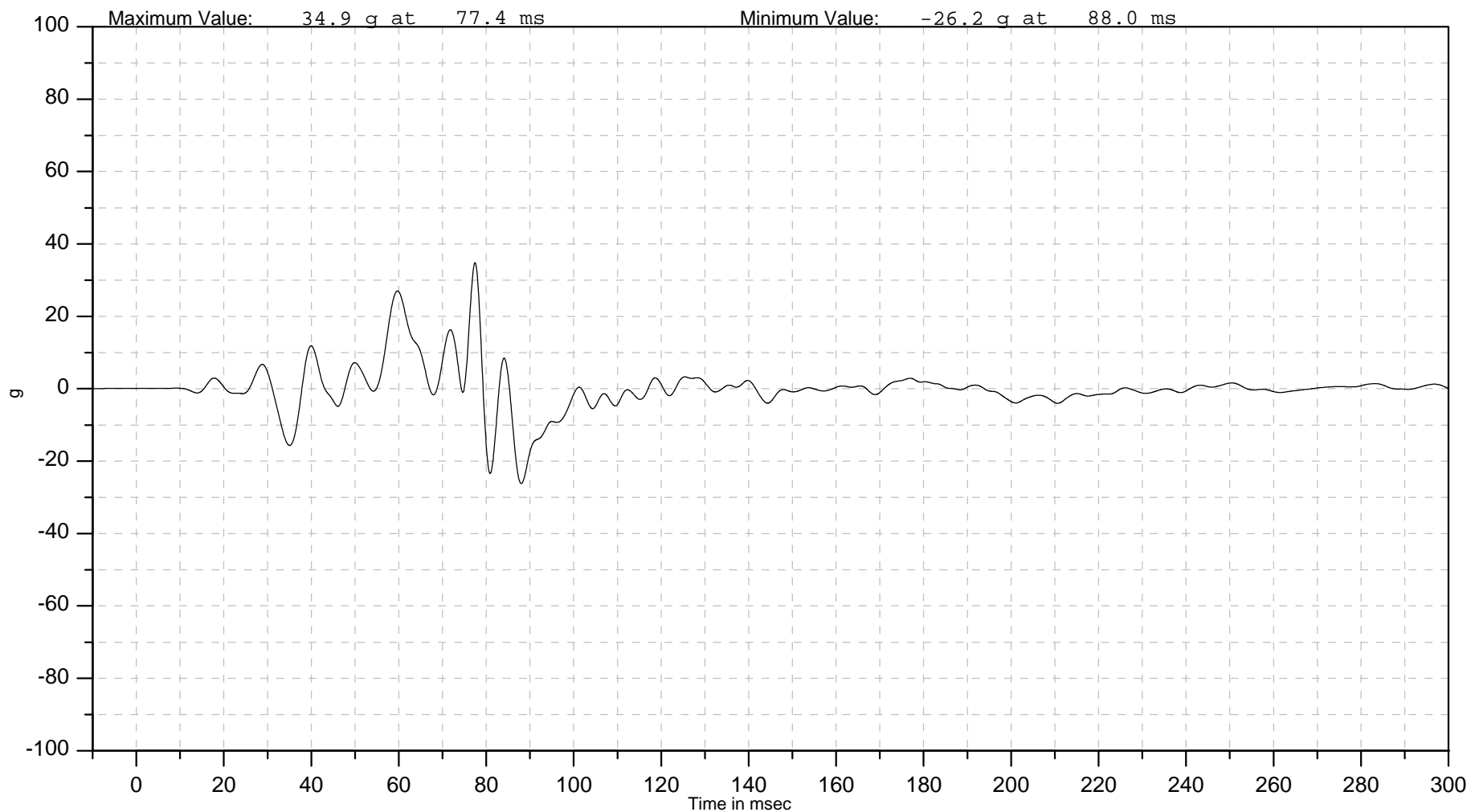
ISO Channel
10ABSE000000ACZD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10CZCS000000ACXD

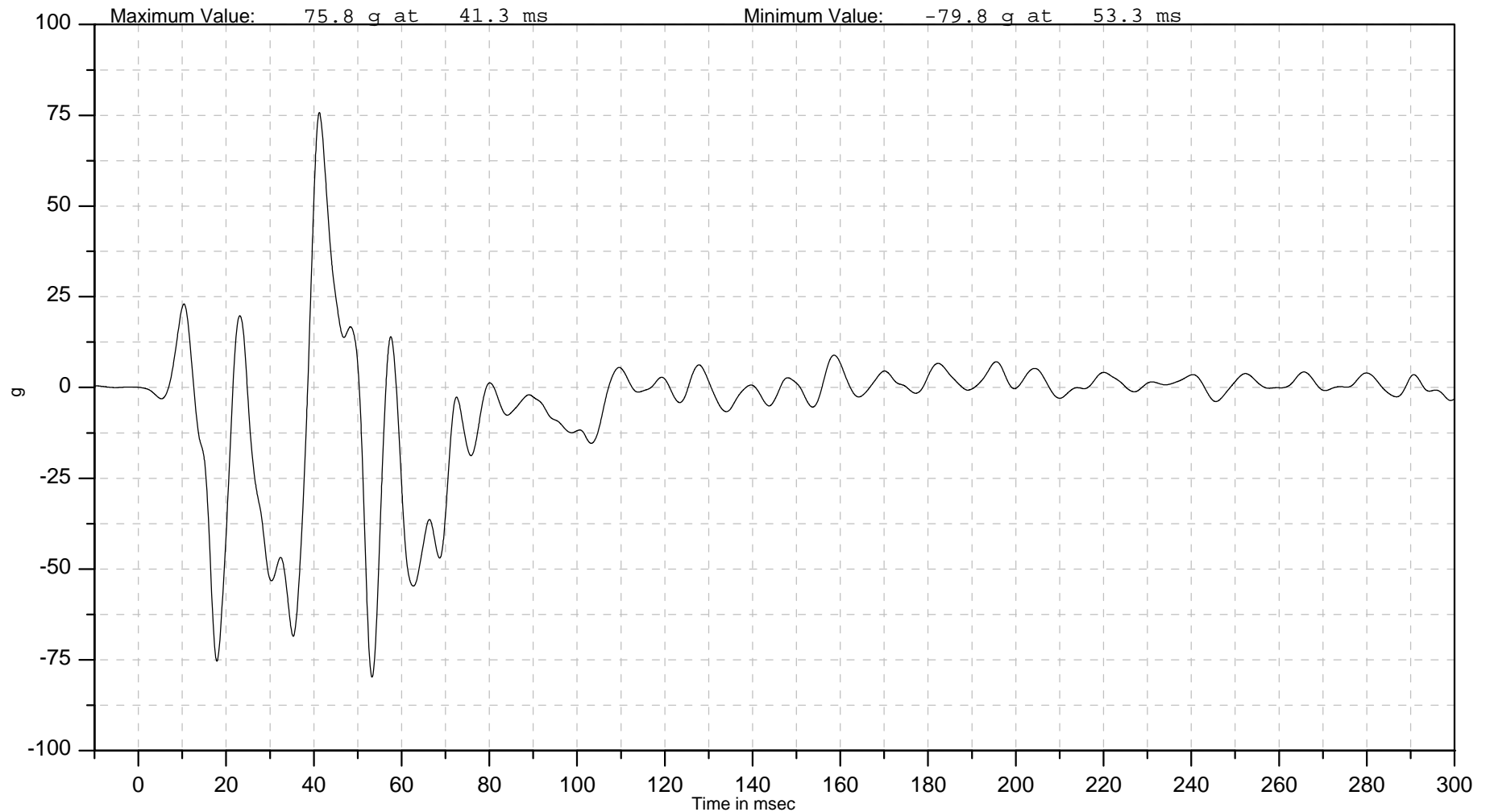
ISO Channel
10CZCS000000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CZC Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10CZCSR0000ACXD

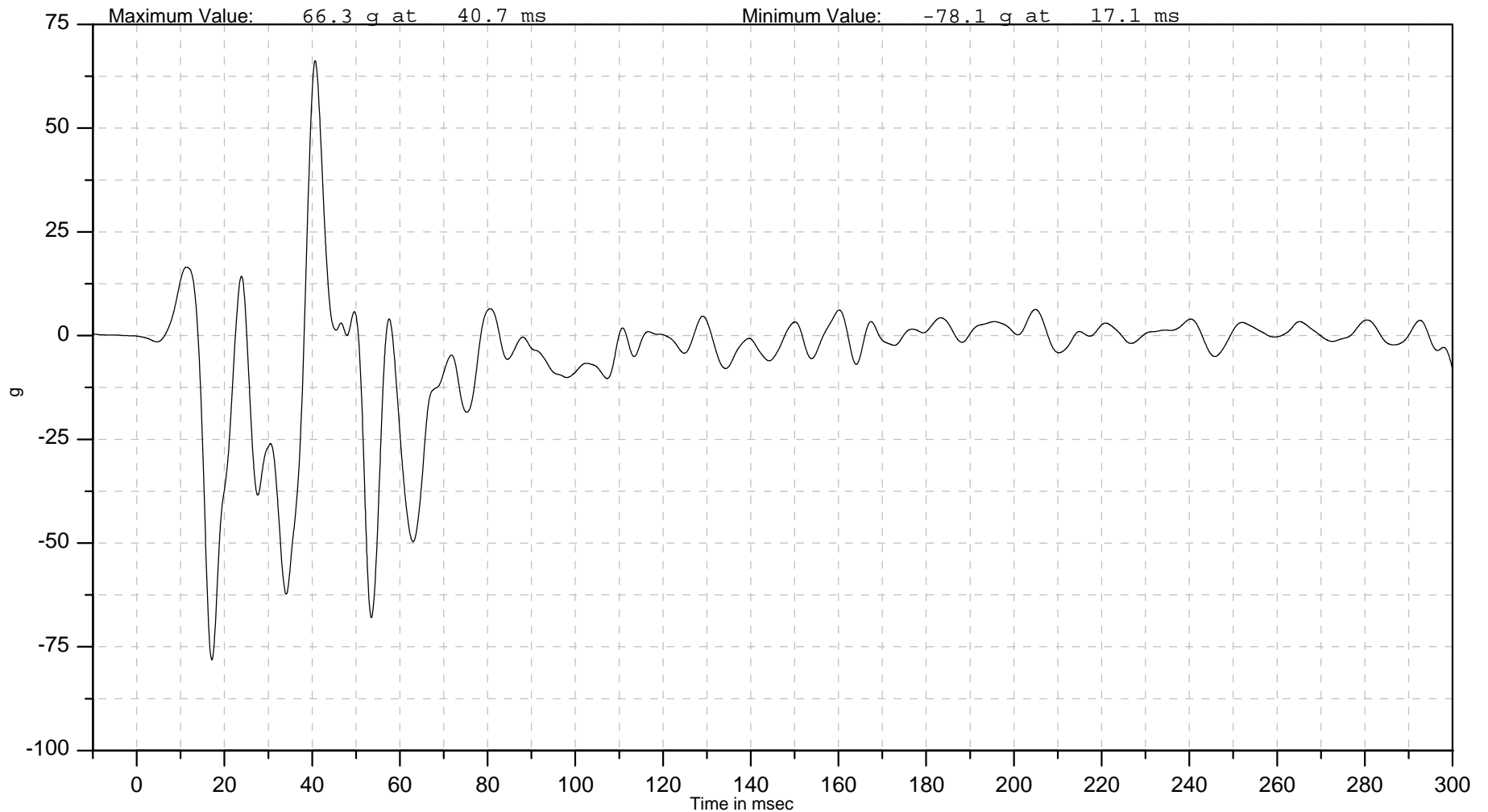
ISO Channel
10CZCSR0000ACXD

Test Number: B1040239
Test Date: 21-Jul-2004
Test Description: Nissan P61B 30mph RAB

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Redundant CZC Sensor X Acceleration



FINAL REPORT OF: B1040240
50 MPH 70% OFFSET REAR IMPACT TEST
2005 NISSAN P61B



Autoliv

PREPARED FOR:
NISSAN TECHNICAL CENTER NORTH AMERICA, INC.
39001 SUNRISE DRIVE
FARMINGTON HILLS, MI 48331

PREPARED BY:
AUTOLIV NORTH AMERICA, INC.
1320 PACIFIC DRIVE
AUBURN HILLS, MI 48326

ABSTRACT

Objective:

A 50 mph 70% offset rear impact test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate the vehicle's fuel system integrity under the rear impact test condition.

Scope:

One Nissan 2005 P61B vehicle was impacted under the 70% offset rear impact test condition. The moving barrier velocity at the time of impact should be 50.3 mph +0.5 mph/-0.0 mph per Nissan's request.

Conclusion:

The test was conducted in accordance with the 70% offset rear impact test procedure. The actual final velocity at impact was 50.3 mph. Fuel system data can be found in Section 6.0 of this report.

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Report Prepared By:

Don Welsch
Test Engineer

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SECTION 1.0 PURPOSE AND TEST PROCEDURE

Purpose

A 50 mph 70% offset rear impact test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate the vehicle's fuel system integrity under the rear impact test condition.

Test Procedure

The test was conducted on the subject Nissan 2005 P61B vehicle (Vehicle #: 5WT127). The vehicle's total test weight was 2498.0 kg. Two Hybrid III 50% male dummies were used for the test and placed in the left front and right front seating positions. The dummies were not instrumented.

The 2005 Nissan P61B vehicle was instrumented with seven sensors installed to record vehicle accelerations. The dummies placed in the front seats were belted. The front and rear tires were set at 35psi. The vehicle fuel system was filled with 76.0 L of Stoddard solvent.

The test vehicle was impacted with a Moving Deformable Barrier (MDB) meeting the guidelines specified in FMVSS 214. The wheels of the MDB were not crabbed for the test. The deformable barrier face was lowered 50 mm from the barrier face height specified in FMVSS 214. The longitudinal centerline of the test vehicle was parallel to the longitudinal centerline of the MDB. An impact reference line was marked on the rear bumper of the vehicle, offset of the vehicle's centerline by 20% of the vehicle width. The right edge of the MDB was positioned to impact the vehicle on the impact reference line. A probe was mounted on the MDB and was aligned with a target placed on the vehicle to record impact location with respect to the impact reference line. The right edge of the MDB impacted the vehicle 35 mm inboard of the impact reference line.

Time zero was detected when the MDB first contacted the test vehicle.

SECTION 2.0 SUMMARY OF TEST RESULTS

Test Results Summary

A 2005 Nissan P61B vehicle (Vehicle #: 5WT127) was impacted under the 70% offset rear impact test condition at 50.3 mph on July 21, 2004. There were no fuel leaks during the crash event, during the 30 minutes immediately following the impact, or during any portion of the post-test static rollover. Fuel system data can be found in Section 6.0 of this report.

SECTION 3.0
GENERAL TEST DATA

TABLE 1
GENERAL TEST DATA

Test Information:

Test number	B1040240
Date of test	07-21-04
Test temperature	69 F
VIN	5N1MD28Y85C [REDACTED]
Test Impact Velocity	50.3 mph

Target Test Weight:

Front	1226.2 kg
Rear	1275.8 kg
Total	2502.0 kg

Weight of Test Vehicle with Required Occupants and Ballast:

Total front weight	1236.0 kg
Total rear weight	1262.0 kg
Total test weight	2498.0 kg
Weight of ballast secured in vehicle: 45 kg steel shot bags on left 2 nd row seat. 50 kg steel shot bags on right 2 nd row seat. 27 kg steel shot bags on right 3 rd row seat. Instrumentation and brake machine: 38 kg mounted on hood. Items removed: None.	

Dummy Information:

Dummies	Left Front Seat	Right Front Seat
Type:	HIII 50%	HIII 50%
Instrumentation:	No	No

SECTION 4.0
TEST DATA SUMMARY

TABLE 2
VEHICLE DATA SUMMARY

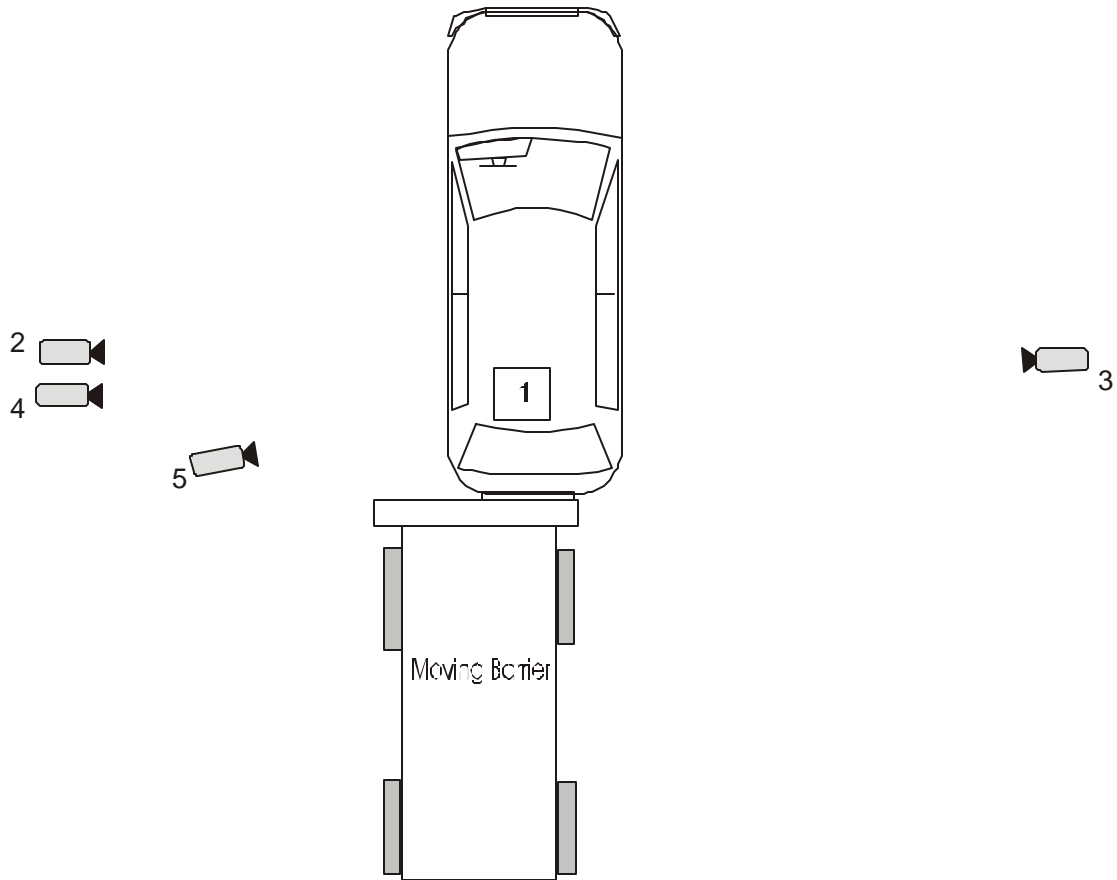
Channel Name	Positive Peak	Positive Peak (ms)	Negative Peak	Negative Peak (ms)
10SILLLE0000ACXD	17.1 g	45.3	-1.0 g	142.1
10SILLLE0000ACYD	10.4 g	38.5	-3.5 g	47.9
10SILLRI0000ACXD	18.4 g	43.6	-0.6 g	132.2
10SILLRI0000ACYD	8.0 g	42.8	-2.1 g	47.6
10FULTLOMI00ACXD	38.8 g	57.9	-11.5 g	43.9
10ABSE000000ACXD	15.5 g	85.6	-1.2 g	142.1
10ABSERD0000ACXD	16.8 g	85.7	-1.2 g	142.2
M0MBARMIFR00ACXD	0.5 g	183.6	-29.8 g	33.6
M0MBARLEFR00ACXD	0.2 g	0.7	-28.6 g	34.7
M0MBARRIFR00ACXD	0.6 g	150.1	-27.9 g	32.5

TABLE 3
SENSOR CALIBRATION DATA

Channel Name	Sensor	Last cal. date
M0MBARLEFR00ACXD	96E06-J12	4/13/2004
M0MBARMIFR00ACXD	95H20-A20	4/13/2004
M0MBARRIFR00ACXD	95H21-E01	4/13/2004
10SILLLE0000ACXD	B24387	12/3/2003
10SILLLE0000ACYD	B35104	8/21/2003
10SILLRI0000ACXD	B36262	2/9/2004
10SILLRI0000ACYD	B23950	12/18/2003
10ABSE000000ACXD	B32210	3/1/2004
10ABSERD0000ACXD	B35611	8/20/2003
10FULTLOMI00ACXD	B32225	3/1/2004

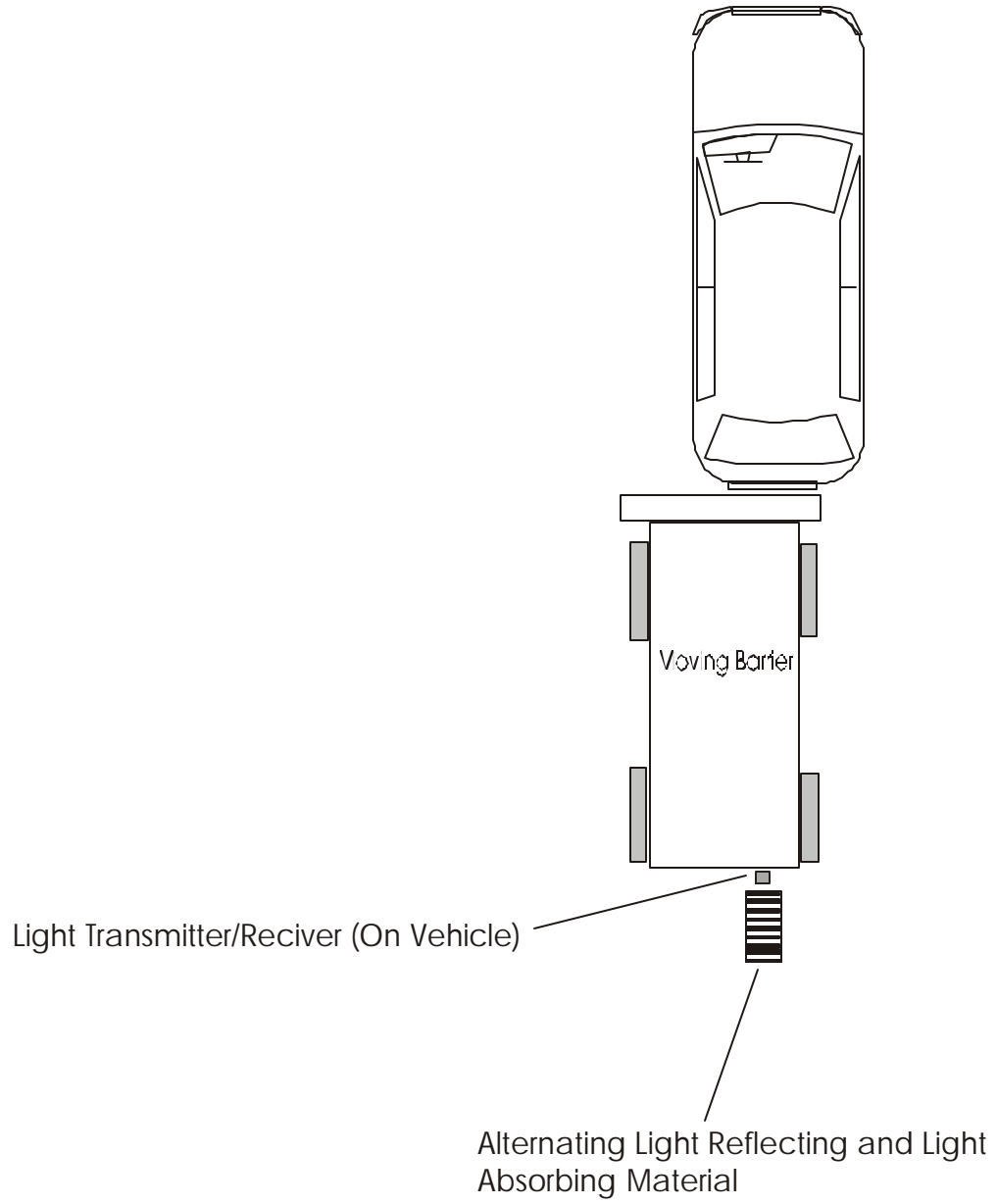
SECTION 5.0
PHOTOGRAPHIC COVERAGE AND SPEED TRAP SETUP

FIGURE 1
CAMERA LOCATIONS



Camera Number	View
1	Overhead view
2	Left side view – entire vehicle
3	Right side view – entire vehicle
4	Left side view – entire vehicle (real time)
5	Left side view – close up of left rear tire area

FIGURE 2
SPEED TRAP SETUP



SECTION 6.0
FUEL SYSTEM DATA

TABLE 4
FUEL SYSTEM DATA

Make/model:	2005 Nissan P61B vehicle
Fuel system capacity:	80 L
Usable capacity:	80 L
Test volume range:	76 L (95% of usable capacity)
Test fluid type:	Stoddard solvent
Specific gravity:	0.77-0.8
Kinematic viscosity:	1.36 centistoke @ 20 Degree C
Test fluid color:	Purple

TABLE 5
FLUID SYSTEM COLLECTION DATA

Test Date	07/21/04	Project	2005 Nissan P61B
Test Number	B1040240	Test Personnel	Don Welsch

TIME AFTER CRASH MOTION CEASES: 2:31 p.m.

INTERVAL	Oz.	INTERVAL	Oz.
1 st 5 minutes	0	18 th minute	0
6 th minute	0	19 th minute	0
7 th minute	0	20 th minute	0
8 th minute	0	21 st minute	0
9 th minute	0	22 nd minute	0
10 th minute	0	23 rd minute	0
11 th minute	0	24 th minute	0
12 th minute	0	25 th minute	0
13 th minute	0	26 th minute	0
14 th minute	0	27 th minute	0
15 th minute	0	28 th minute	0
16 th minute	0	29 th minute	0
17 th minute	0	30 th minute	0

ROLLOVER START TIME: 3:47 p.m.

		Oz.
90° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
180° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
270° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
360° Rill Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0

ROLLOVER FINISH TIME: 4:15 p.m.

APPENDIX A

TEST DATA PLOTS



Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

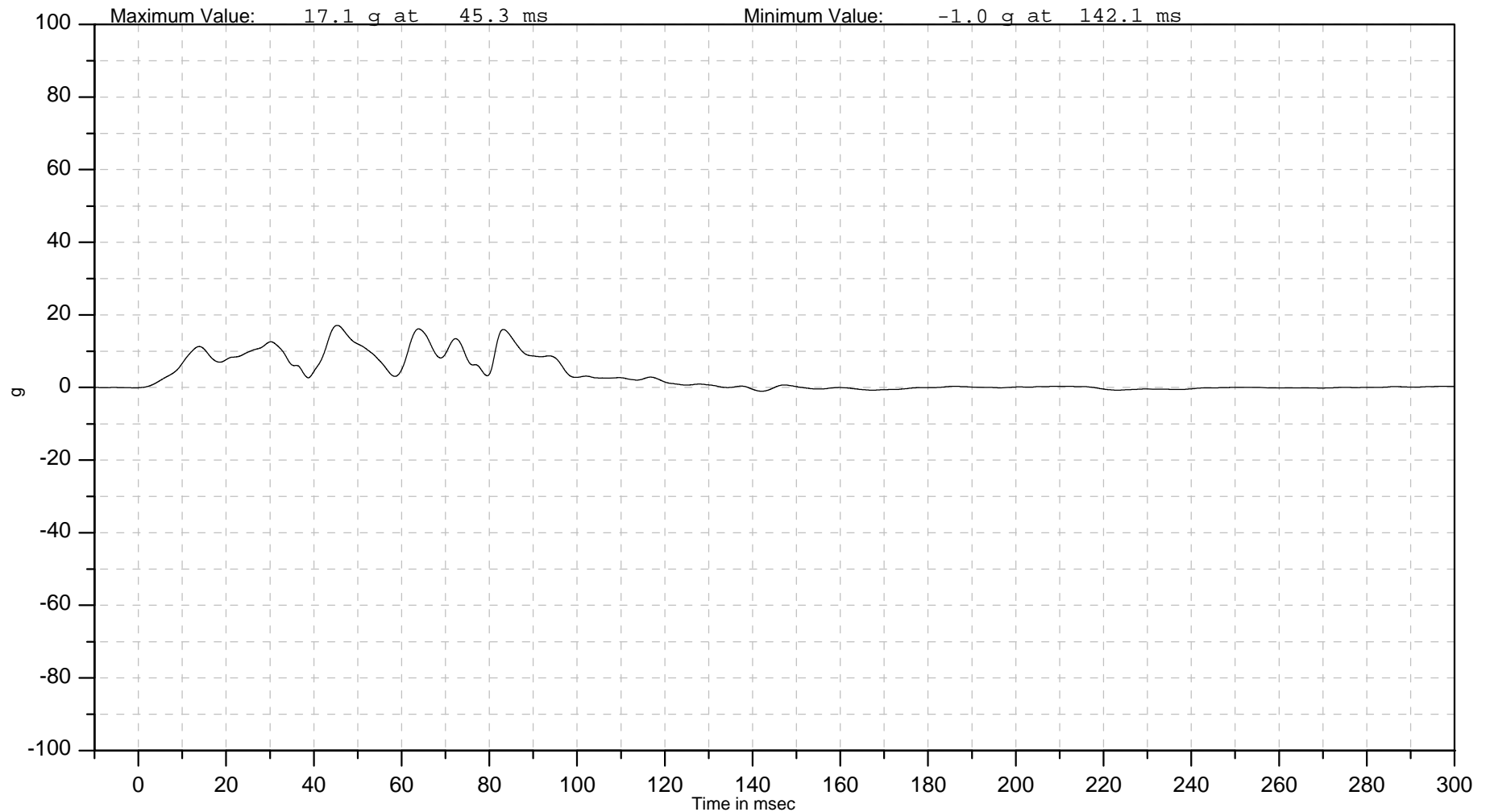
ISO Channel
10SILLLE0000ACXD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACYD

ISO Channel
10SILLLE0000ACYD

Test Number: B1040240

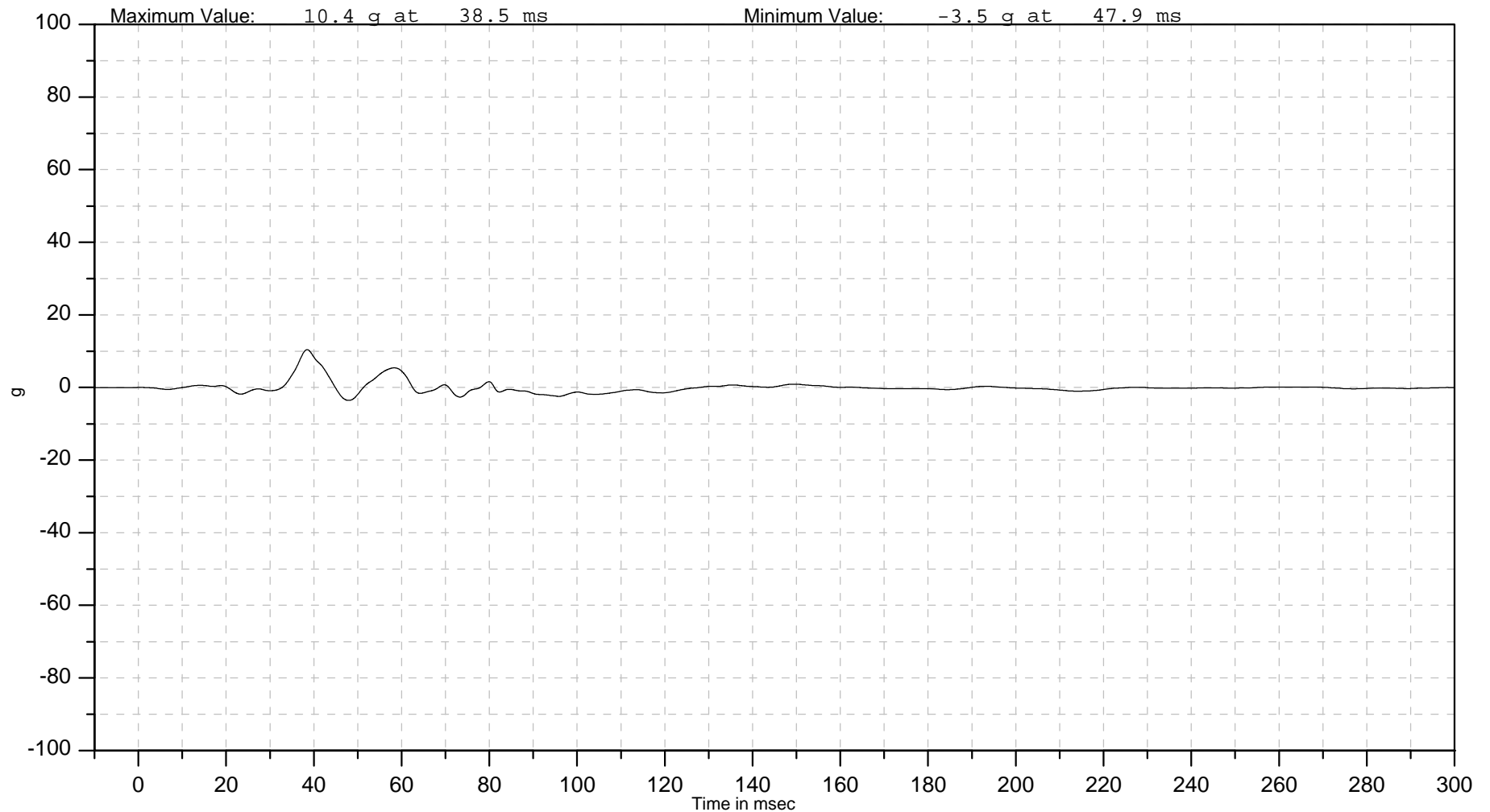
Test Date: 21-Jul-2004

Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill Y Acceleration





Autoliv North America (NTC)

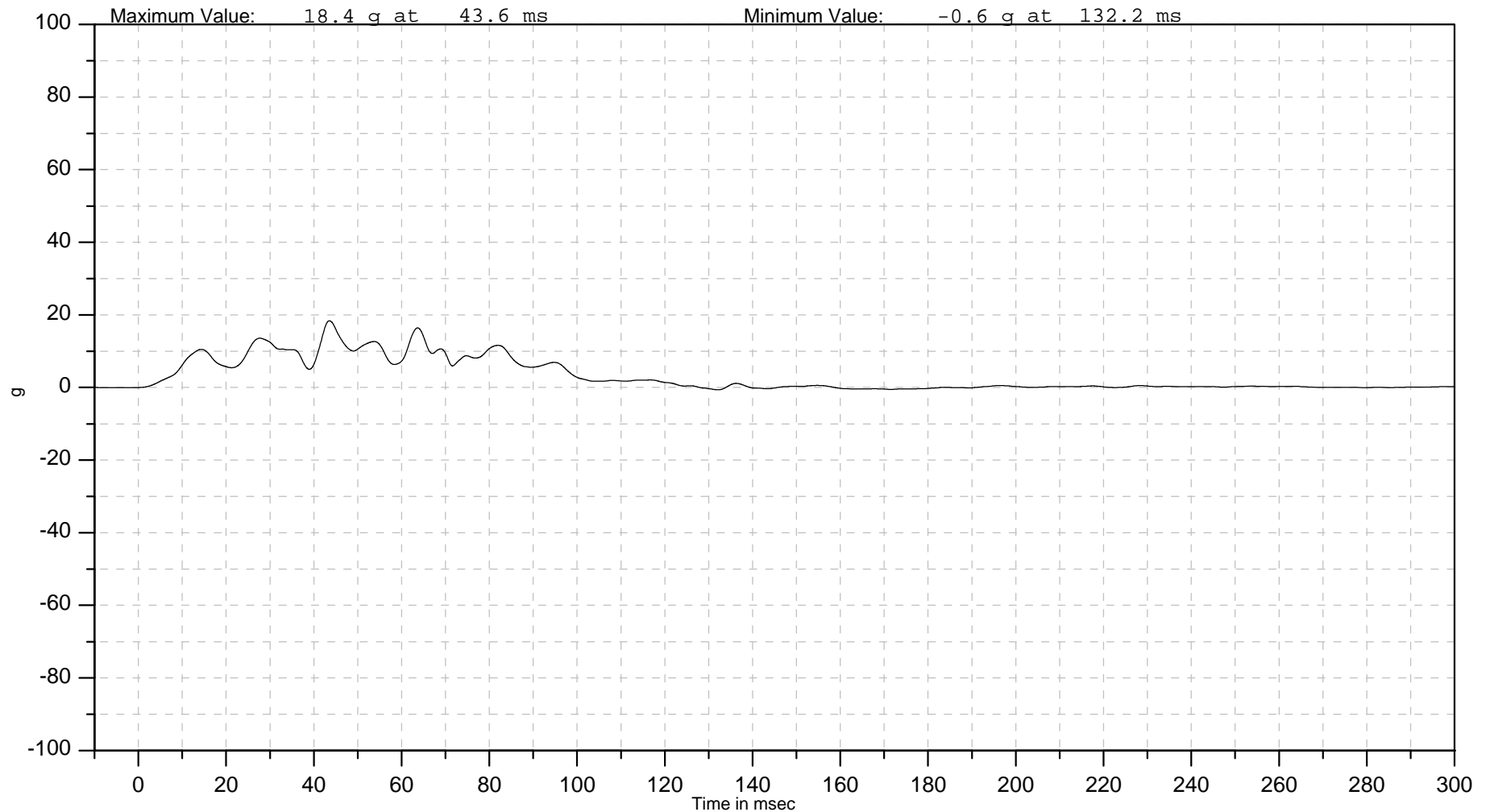
Autoliv Channel
10SILLRI0000ACXD

ISO Channel
10SILLRI0000ACXD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

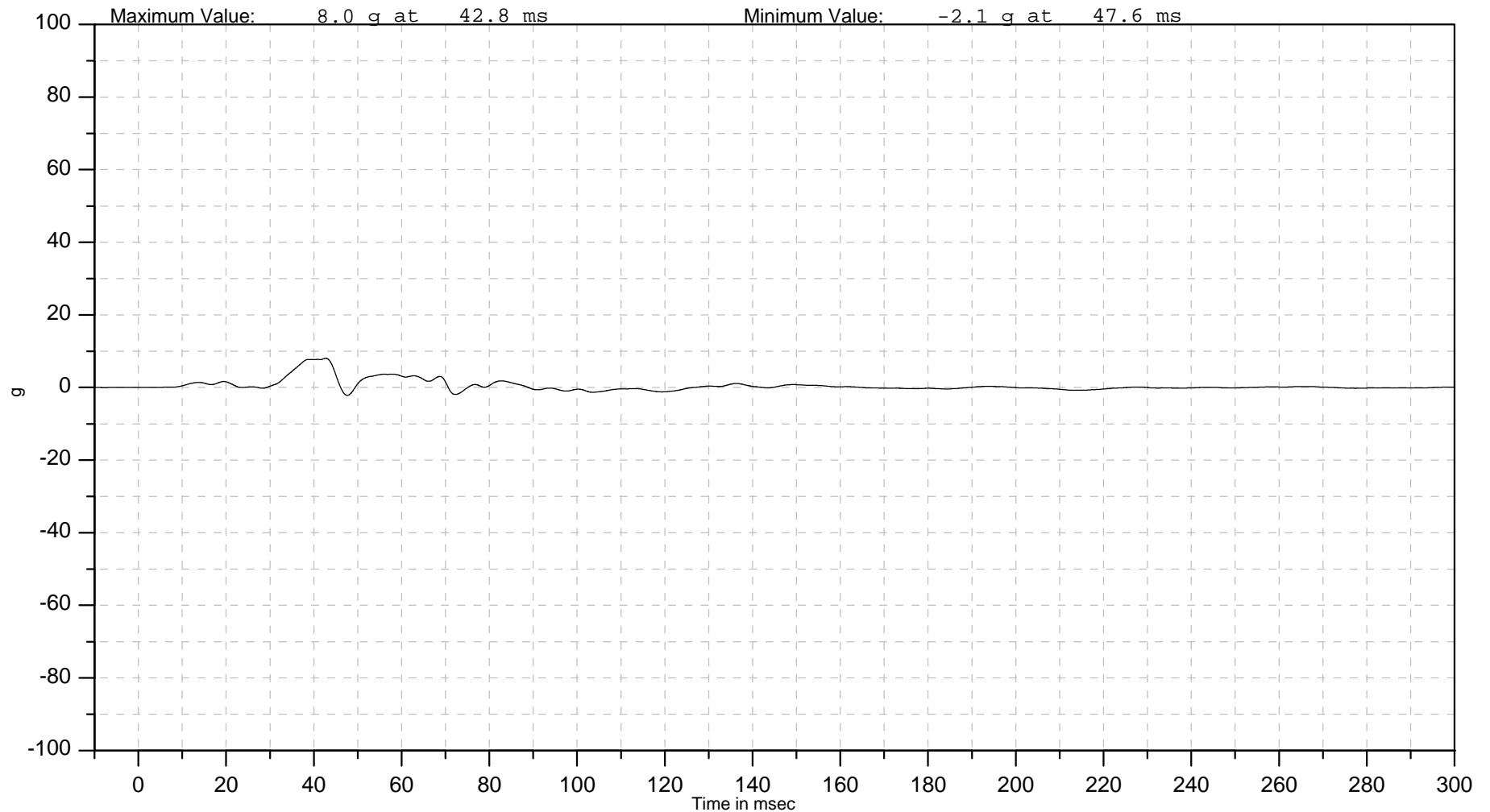
Autoliv Channel
10SILLRI0000ACYD

ISO Channel
10SILLRI0000ACYD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACXD

ISO Channel
10FULTLOMI00ACXD

Test Number: B1040240

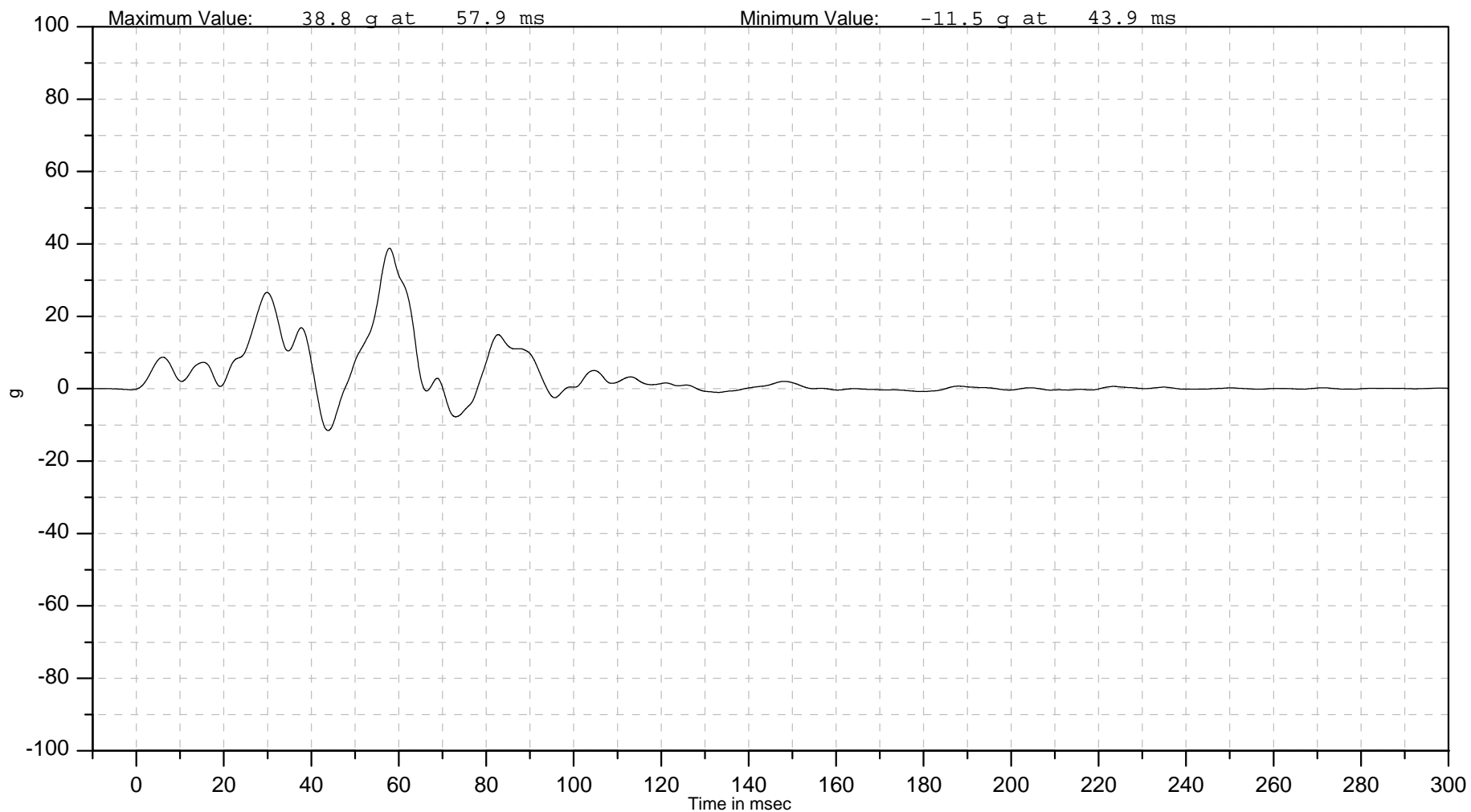
Test Date: 21-Jul-2004

Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

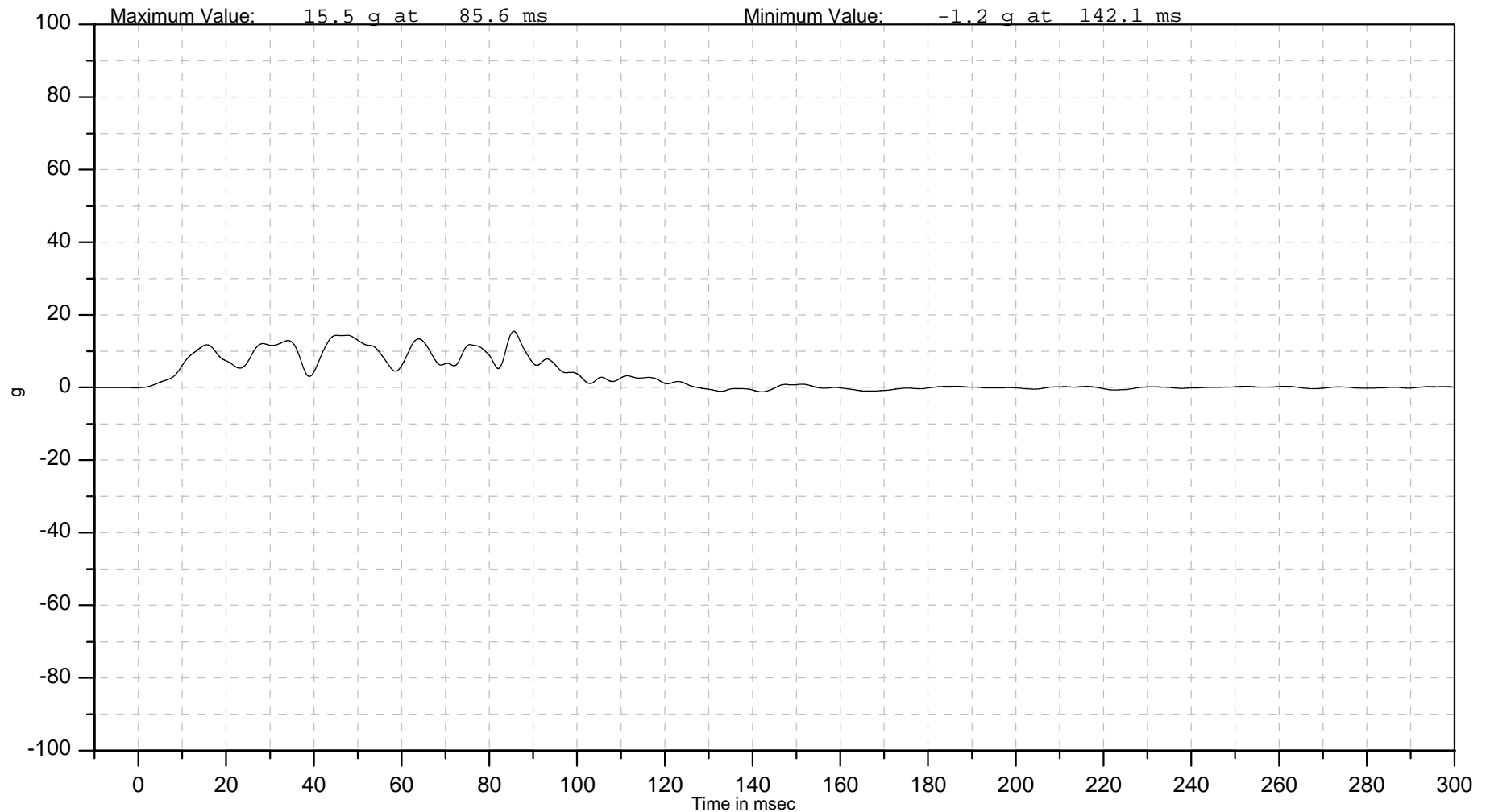
ISO Channel
10ABSE000000ACXD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

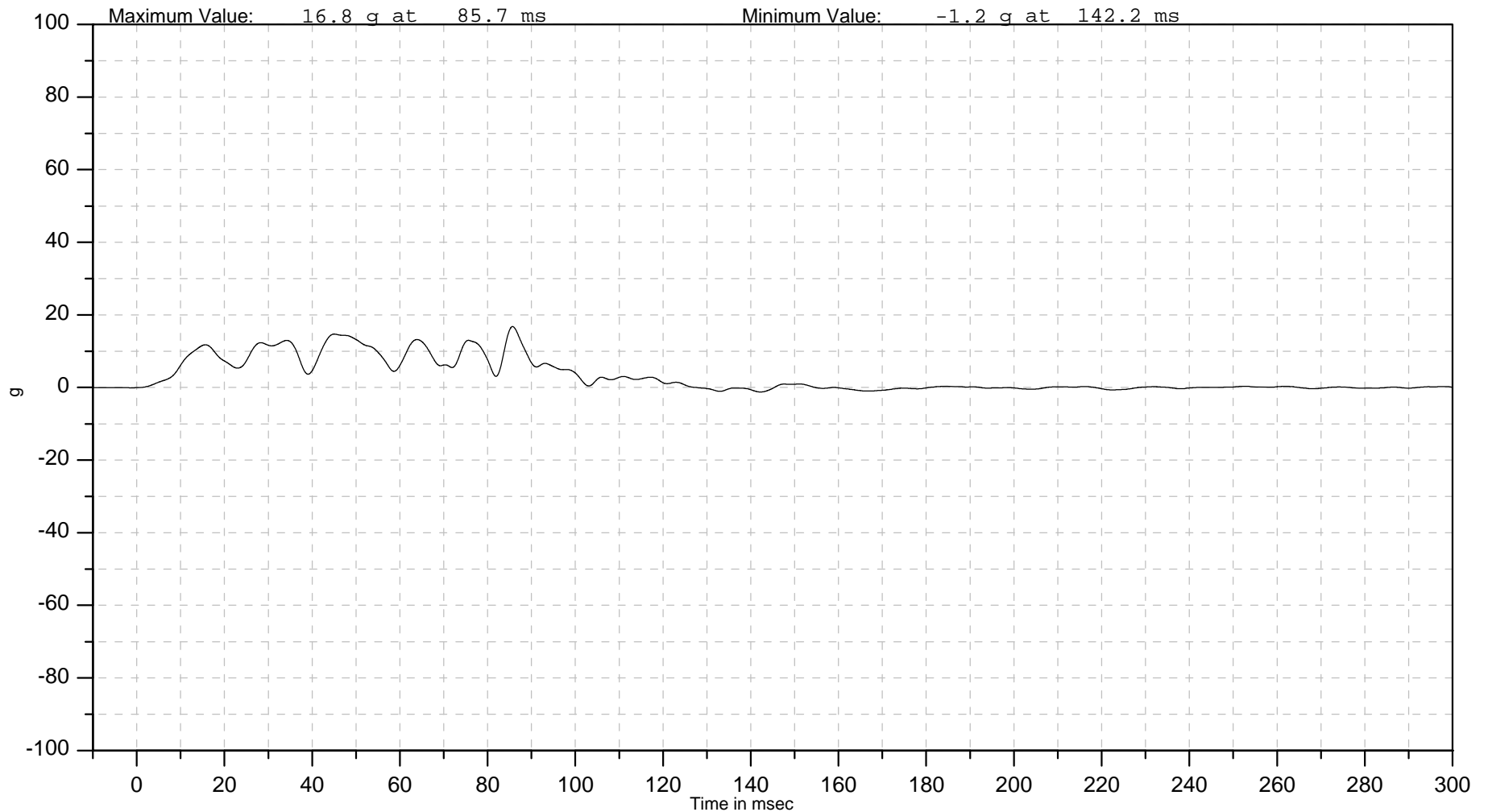
Autoliv Channel
10ABSERD0000ACXD

ISO Channel
10ABSERD0000ACXD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Redundant Airbag Sensor X Acceleration





Autoliv North America (NTC)

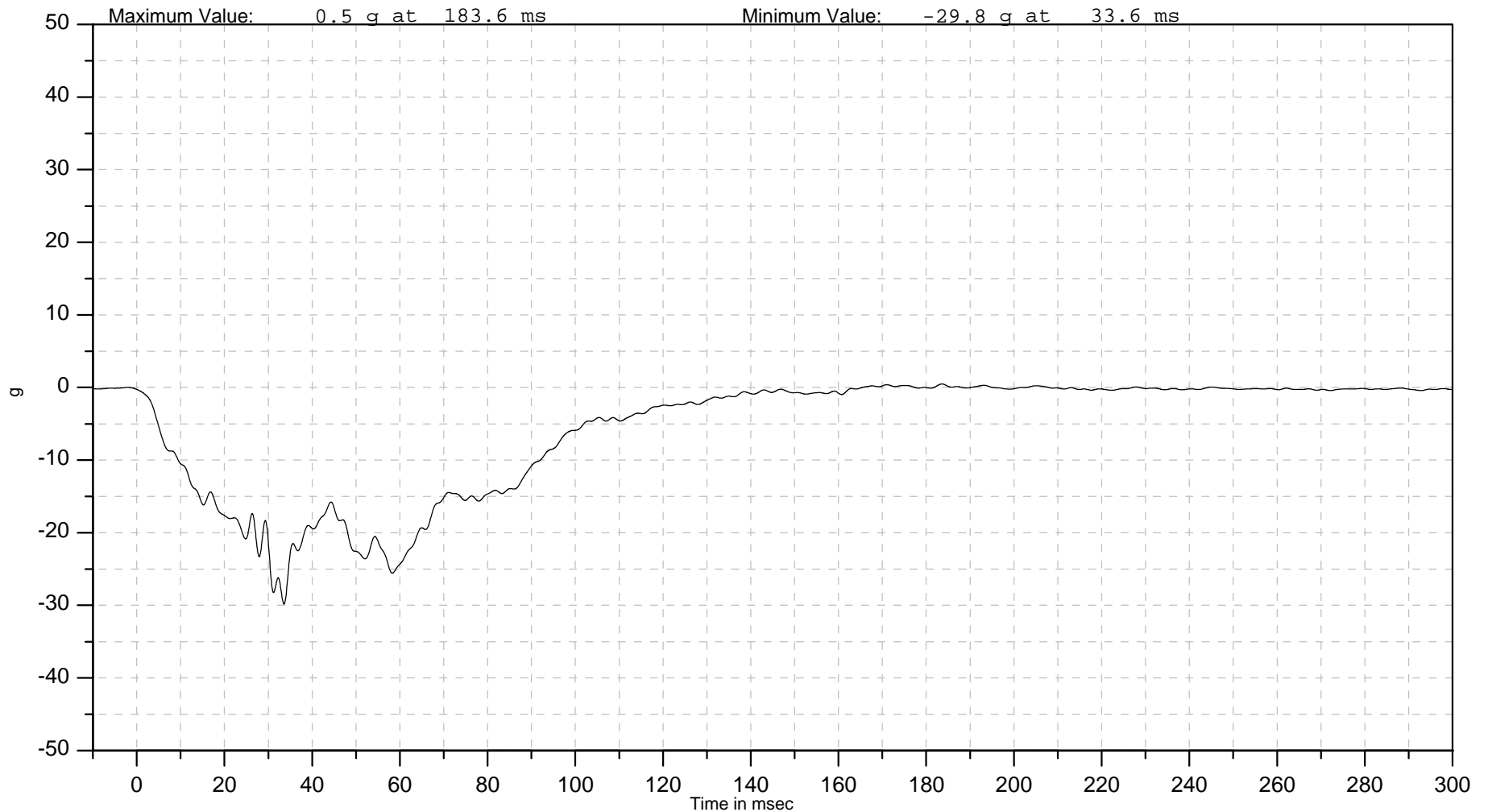
Autoliv Channel
M0MBARMIFR00ACXD

ISO Channel
M0MBARMIFR00ACXD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARLEFR00ACXD

ISO Channel
M0MBARLEFR00ACXD

Test Number: B1040240

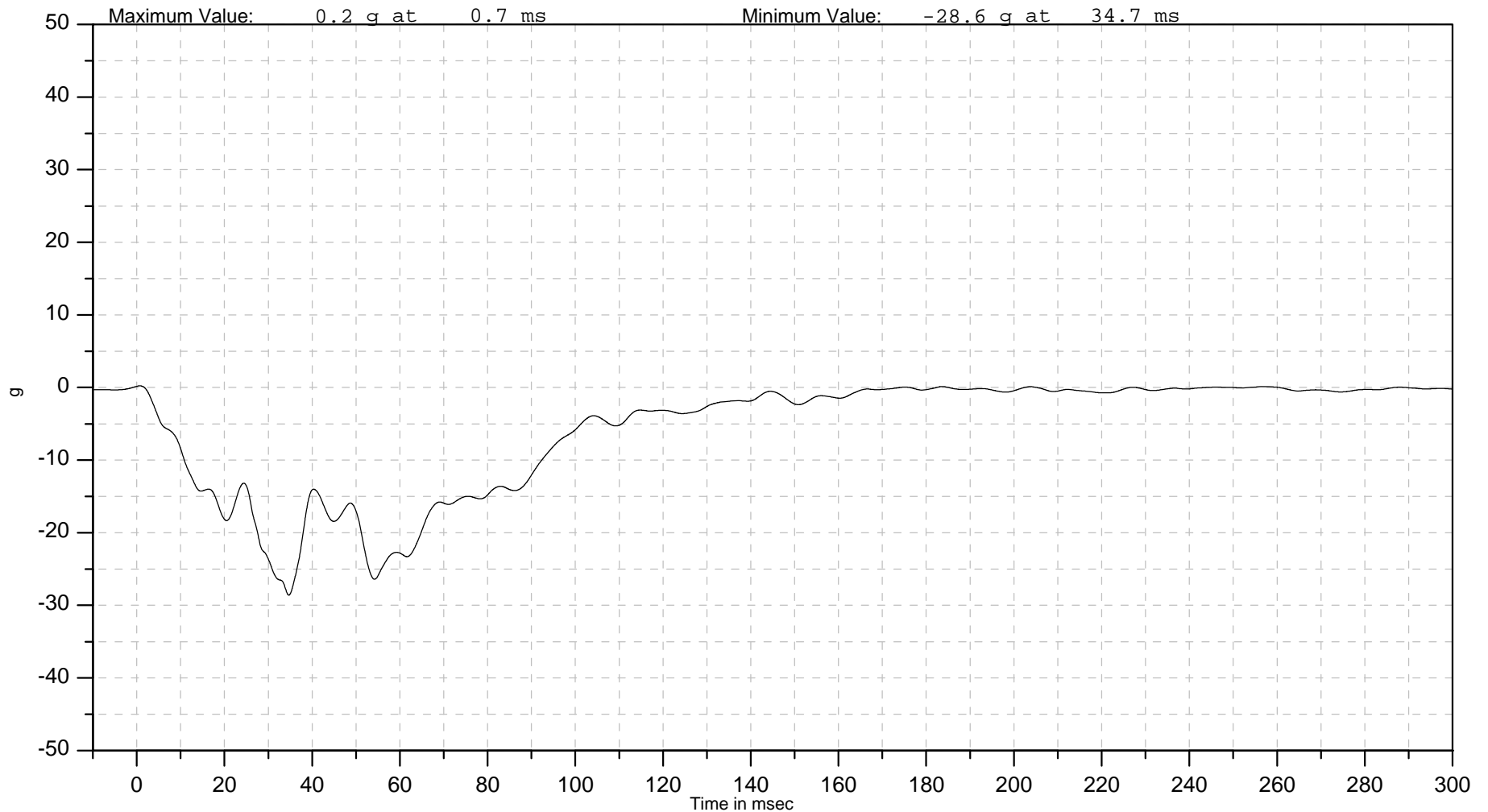
Test Date: 21-Jul-2004

Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

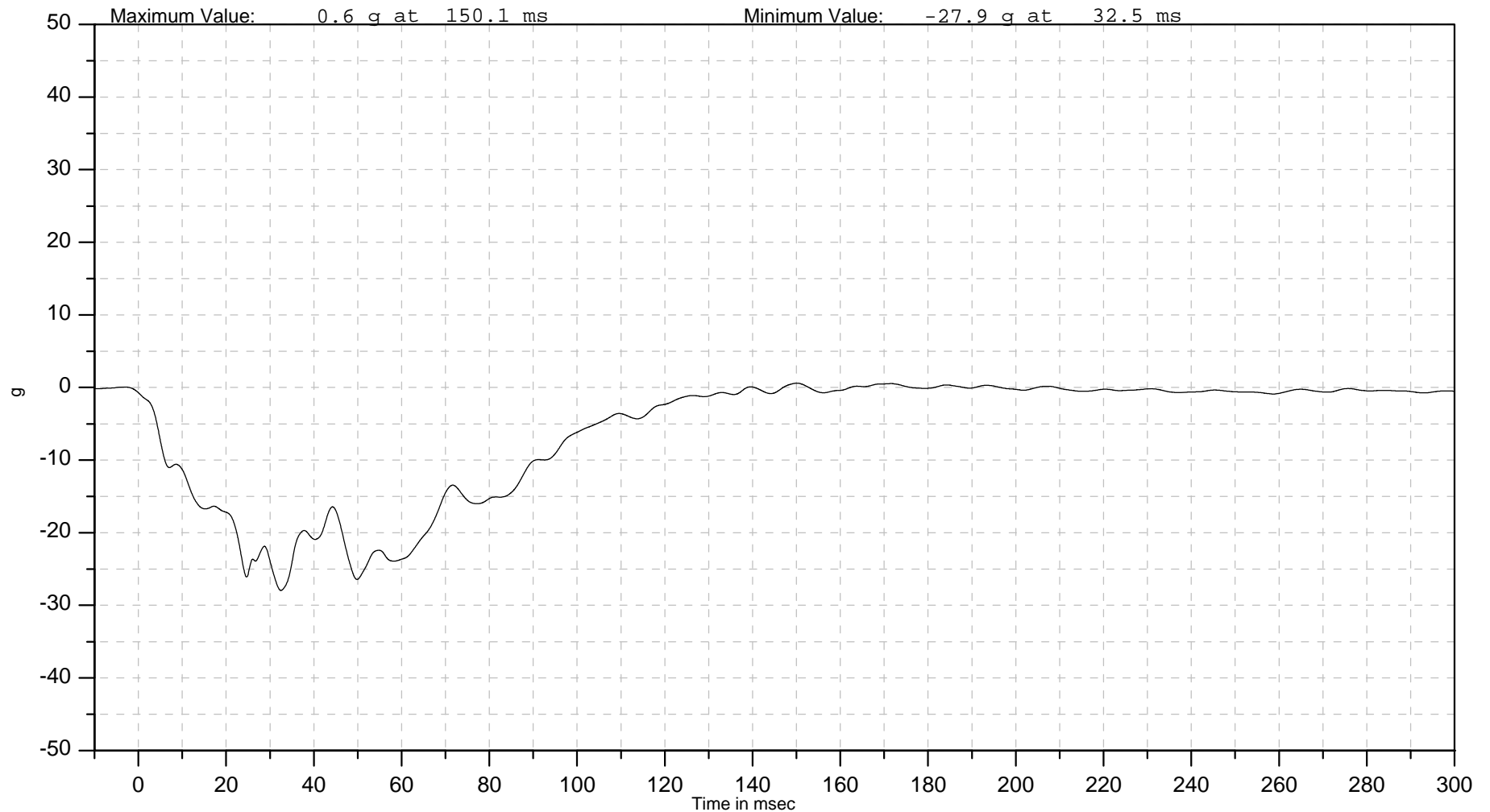
Autoliv Channel
M0MBARRIFR00ACXD

ISO Channel
M0MBARRIFR00ACXD

Test Number: B1040240
Test Date: 21-Jul-2004
Test Description: Nissan P61B 50 mph 70% Offset Rear Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Front Mobile Barrier X Acceleration



APPENDIX B

TEST PHOTOGRAPHS





































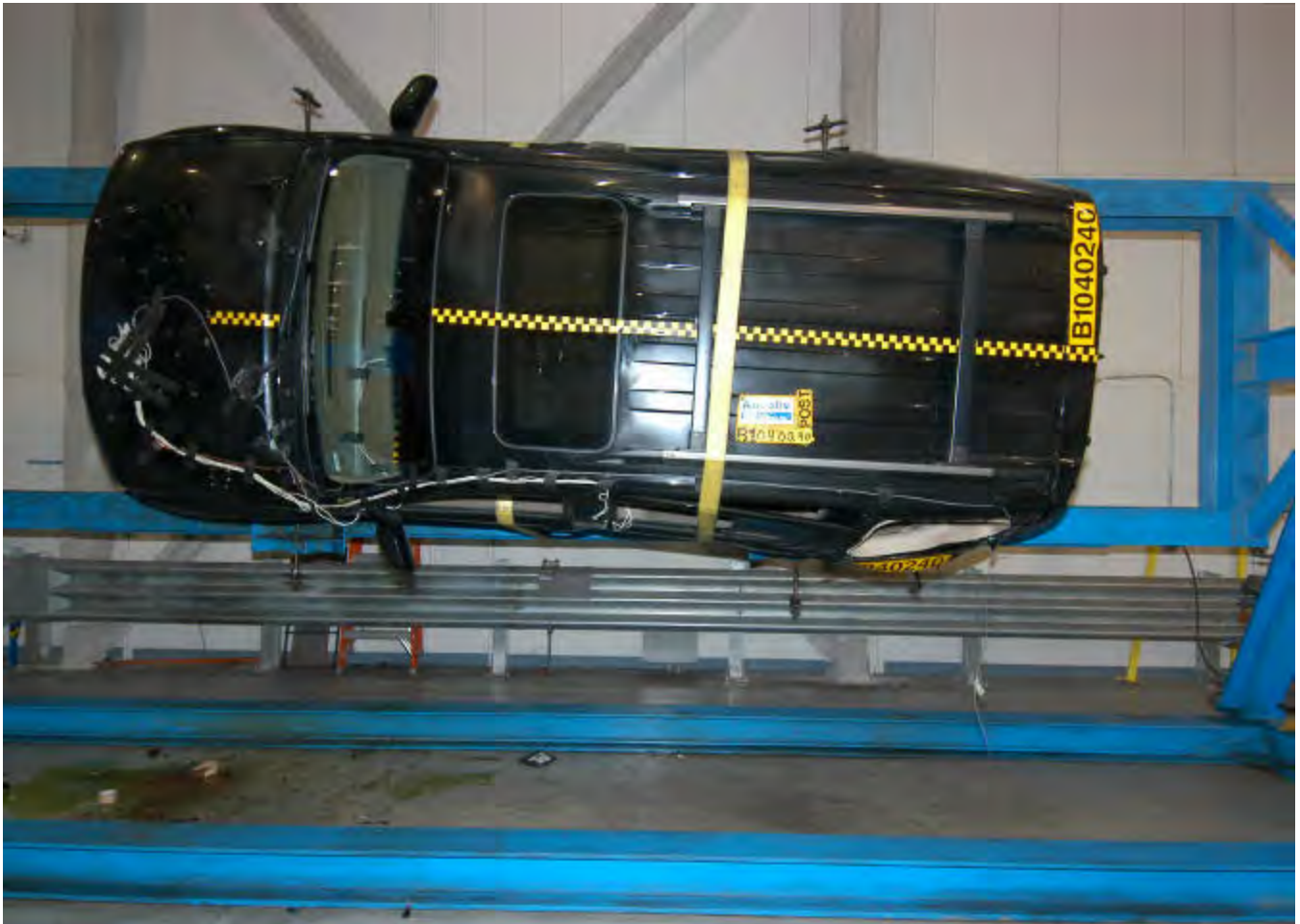














FINAL REPORT OF: B1040251
30 MPH LEFT ANGLE BARRIER TEST
2005 NISSAN P61B



Autoliv

PREPARED FOR:
NISSAN TECHNICAL CENTER NORTH AMERICA, INC.
39001 SUNRISE DRIVE
FARMINGTON HILLS, MI 48331

PREPARED BY:
AUTOLIV NORTH AMERICA, INC.
1320 PACIFIC DRIVE
AUBURN HILLS, MI 48326

ABSTRACT

Objective:

A 30 mph left angle barrier test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate occupant protection performance.

Scope:

One 2005 Nissan P61B vehicle was tested under the 30 degrees left angle barrier test condition. The test speed at impact should be 30 mph +0.5/-0.0 mph per Nissan's request.

Conclusion:

The test was conducted in accordance with the specifications of FMVSS 208. The actual final velocity at impact was 30.3 mph.

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Report Prepared By:

Rashad Ahmad
Test Engineer

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SECTION 1.0 PURPOSE AND TEST PROCEDURE

Purpose

A 30 mph left angle barrier test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate occupant protection performance. Also, windshield retention and windshield intrusion were monitored under the specifications of FMVSS 212 and 219, and fuel system integrity was monitored under the specifications of FMVSS 301.

Test Procedure

The test was conducted on the subject Nissan 2005 P61B vehicle (Vehicle #: 5WT123). The vehicle's total test weight was 2468.5 kg. Two Hybrid III 50% adult male dummies were used for the test and placed in the left front and right front seating positions. The dummies were belted, but not instrumented for the test.

The 2005 Nissan P61B vehicle was instrumented with 21 sensors installed to record vehicle accelerations and restraint system fire times. The left and right side windows were set at full down position. The left front seat back was set to 10.3 degrees from vertical as measured at the headrest posts. The right front seat back was set to 10.7 degrees from vertical as measured at the headrest posts. The left and right front seat tracks were set in the mid position. The left and right front headrests were placed in the uppermost position. The left and right front adjustable turning loops were also placed in the uppermost position. The left front seat was also adjusted to its lowest position. The steering wheel was set to 24.6 degrees from vertical. The front and rear tires were set at 35 psi. The vehicle fuel system was filled with 76 L of Stoddard solvent for the test.

Time zero was marked at the first contact of the vehicle bumper to the rigid barrier. The vehicle's airbag control unit deployed the vehicle's restraint systems.

FMVSS 219 Test Procedure

Prior to the test, the lower edge of the windshield protected zone was determined by placing a 6.5 inch diameter rigid sphere weighing 15 pounds in a position such that it simultaneously contacted the inner surface of the windshield and the top surface of the instrument panel. A locus of points was drawn on the inner surface of the windshield that was contactable by the sphere across the width of the instrument panel. A second line was drawn on the windshield 0.5 inch below the locus line. This line, transferred to the outer surface of the windshield, is the lower edge of the protected zone.

FMVSS 301 Test Procedure

The vehicle's fuel system was monitored for the 30 minute time period immediately following the front impact. After 30 minutes the vehicle was mounted on a rotisserie. The vehicle was rotated a total of 360 degrees about its longitudinal axis. The 360 degrees rotation was divided into 90 degrees increments. The vehicle was rotated to each 90 degrees increment in two minutes and maintained at each 90 degrees increment for five minutes. The fuel system was monitored during the entire 360 degrees rotation.

SECTION 2.0
SUMMARY OF TEST RESULTS

Test Results Summary

A 2005 Nissan P61B vehicle (Vehicle #: 5WT123) impacted a left angle rigid barrier at 30.3 mph on July 29, 2004.

SECTION 3.0
GENERAL TEST DATA

TABLE 1
GENERAL TEST DATA

Test Information:

Test number	B1040251
Date of test	07-29-04
Test temperature	69 F
VIN	5N1MD28Y05C [REDACTED]
Test Impact Velocity	30.3 mph

Target Test Weight:

Front	1211.6 kg
Rear	1255.4 kg
Total	2467.0 kg

Weight of Test Vehicle with Required Occupants and Ballast:

Total front weight	1181.5 kg
Total rear weight	1287.0 kg
Total test weight	2468.5 kg
Ballast added to achieve target test weight: 54.4 kg steel shot bags strapped to drv & pass floor. Instrumentation and brake machine: 36.5 kg mounted in trunk. Items removed to achieve target test weight: none.	

Dummy Information:

Dummies	Left Front Seat	Right Front Seat
Type:	Hybrid III 50% male	Hybrid III 50% male
Serial Number:	433	693
Instrumentation:	No	No

Front Left Seat Position:

Seat back angle:	10.3 degrees (measured at the headrest post)
Seat track position:	mid
Seat height position:	full down
Head rest position:	full up
Steering column angle:	24.6 degrees
Telescoping column:	mid
Belt D-ring position:	full up

Front Right Seat Position:

Seat back angle:	10.7 degrees (measured at the headrest post)
Seat track position:	mid
Seat height position:	not adjustable
Head rest position:	full up
Belt D-ring position:	full up

SECTION 4.0
TEST DATA SUMMARY

TABLE 2
VEHICLE DATA SUMMARY

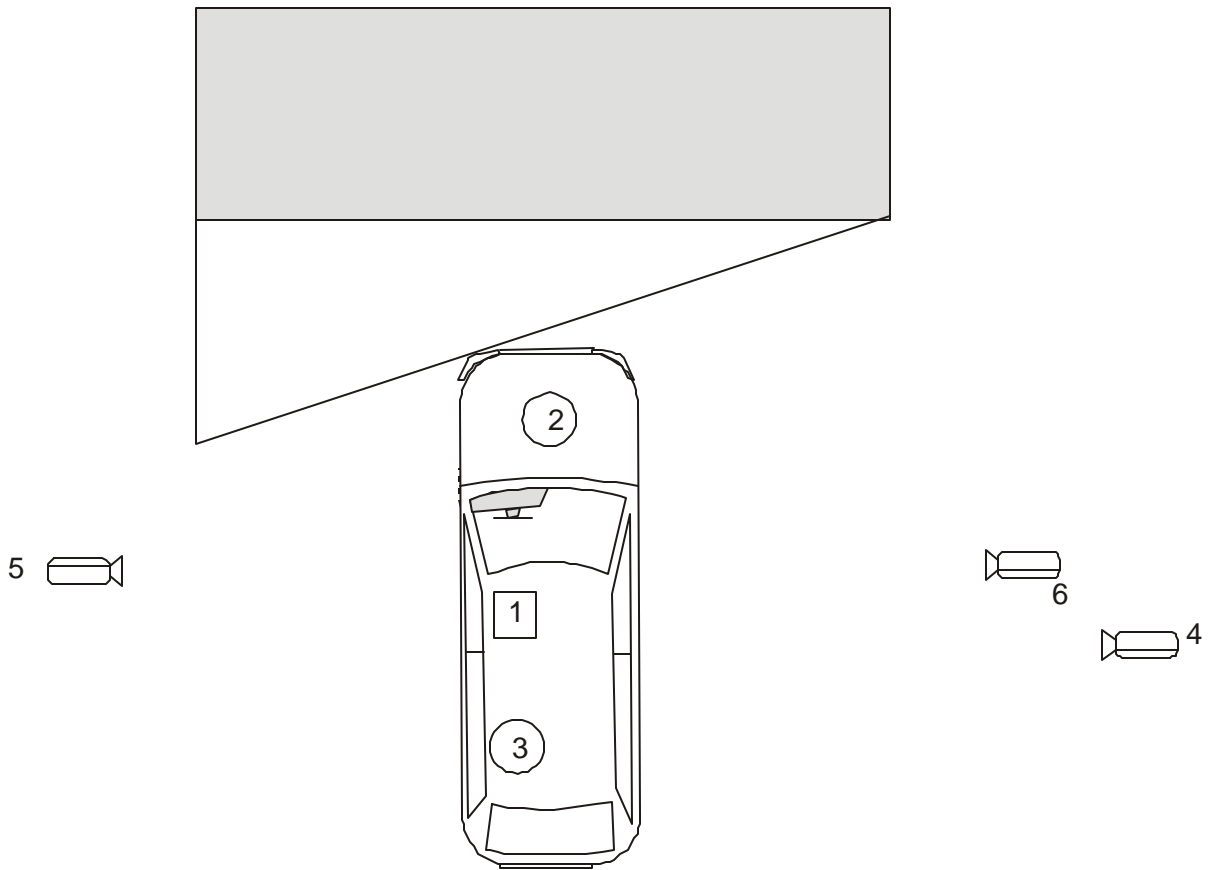
Channel Name	Positive Peak	Positive Peak (ms)	Negative Peak	Negative Peak (ms)
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10SILLLE0000ACYD	15.2 g	60.2	-5.6 g	89.9
10SILLRI0000ACXD	1.4 g	138.8	-31.2 g	74.3
10SILLRI0000ACYD	15.9 g	62.3	-4.4 g	95.3
10FRAMLE0000ACXD	30.8 g	49.5	-40.3 g	36.8
10FRAMLE0000ACYD	42.2 g	58.4	-21.5 g	53.6
10FRAMRI0000ACXD	4.3 g	21.9	-33.8 g	69
10FRAMRI0000ACYD	44.8 g	69.6	-22.7 g	43.4
10FULTLOMI00ACXD	18.0 g	53	-35.9 g	85.4
10FULTLOMI00ACYD	19.3 g	87.7	-14.2 g	123.4
10FULTLOMI00ACZD	35.7 g	16.3	-50.3 g	55.1
10ABSE000000ACXD	2.0 g	151.8	-30.9 g	71.6
10ABSE000000ACYD	16.3 g	72.4	-12.2 g	97.1
10ABSE000000ACZD	20.6 g	62.9	-17.5 g	87.7
10SENSFR0000ACXD	70.1 g	37.3	-333.7 g	88.8
10SENSFRRD00ACXD	52.9 g	35.8	-110.7 g	50.1

TABLE 3
SENSOR CALIBRATION DATA

Channel Name	Sensor	Last cal. date
10SILLLE0000ACXD	B22390	2/10/2004
10SILLLE0000ACYD	B36118	1/12/2004
10SILLRI0000ACXD	B36384	2/9/2004
10SILLRI0000ACYD	B24113	2/10/2004
10FULTLOMI00ACXD	B36337	2/9/2004
10FULTLOMI00ACYD	B23404	3/18/2004
10FULTLOMI00ACZD	B35507	8/21/2003
10FRAMLE0000ACXD	B24348	3/18/2004
10FRAMLE0000ACYD	B32226	3/1/2004
10FRAMRI0000ACXD	B36400	2/9/2004
10FRAMRI0000ACYD	B36399	2/9/2004
10ABSE000000ACXD	B23506	12/18/2003
10ABSE000000ACYD	B23767	11/14/2003
10ABSE000000ACZD	B24453	3/18/2004
10SENSFR0000ACXD	B12623	11/12/2003
10SENSFRRD00ACXD	B15206	3/18/2004
11ABSE010000CU00	Fluke05	10/23/2003
11ABSE020000CU00	Fluke18	6/10/2004
13ABSE010000CU00	Fluke28	9/4/2003
13ABSE020000CU00	Fluke29	3/26/2004

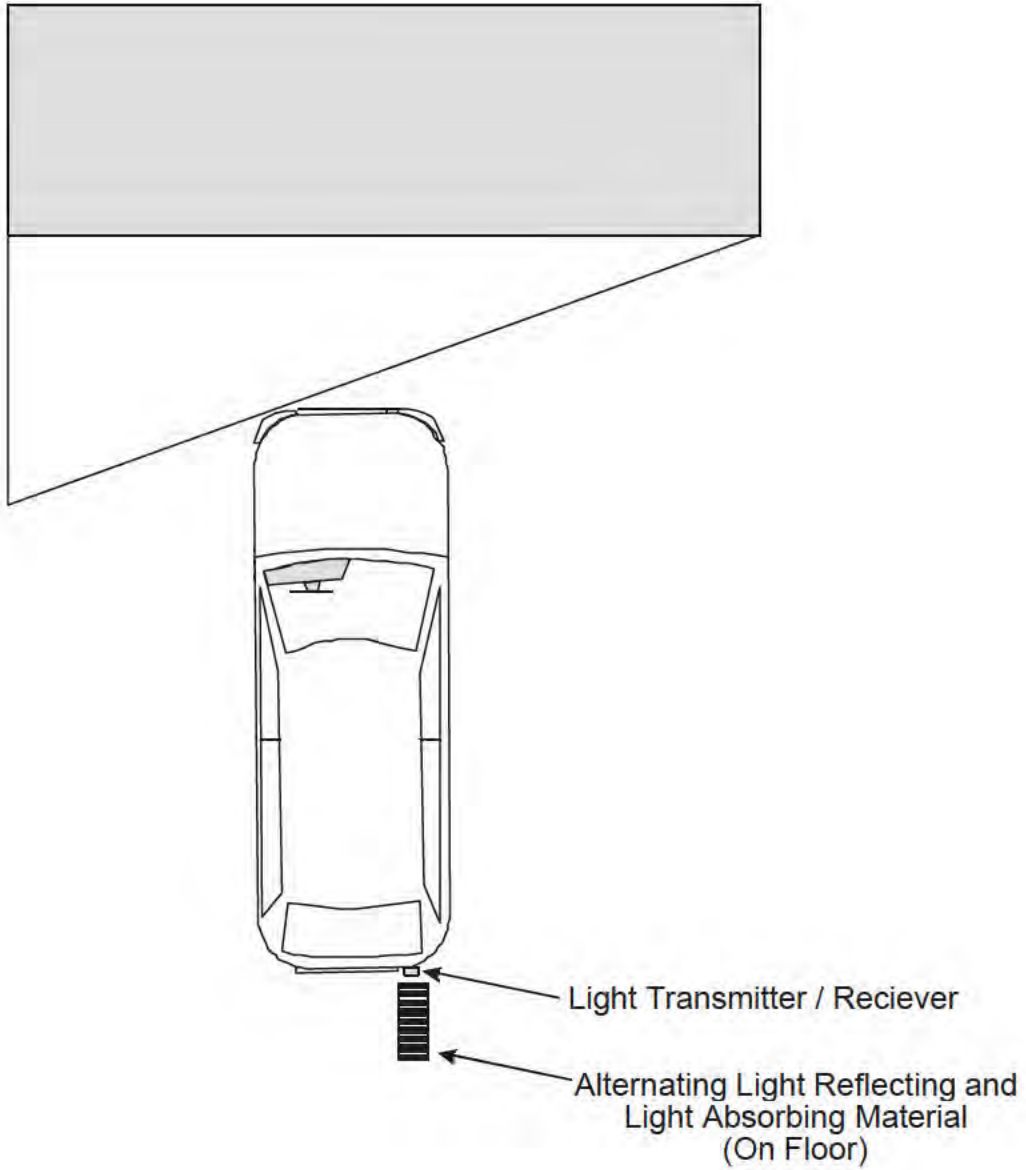
SECTION 5.0
 PHOTOGRAPHIC COVERAGE AND SPEED TRAP SETUP

FIGURE 1
 CAMERA LOCATIONS



#	View
1	Overhead
2	Bottom View Front (Pit)
3	Bottom View Fuel-tank (Pit)
4	Panning Real-Time
5	Driver Profile
6	Passenger Profile

FIGURE 2
SPEED TRAP SETUP



SECTION 6.0
 FIGURE 3
 WINDSHIELD RETENTION DATA

Windshield Periphery Measurements: (mm)			
Location:	Pre-test	Post-test	Percent Retention
Driver Side:	2129 mm	2129 mm	100 %
Pass. Side:	2129 mm	2129 mm	100 %
Total:	4258 mm	4258 mm	100 %

Pre-test windshield mounting material temperature: 69 F
Loss of windshield retention lengths: n/a
Indicate loss of retention areas on windshield diagram: n/a

Molding Measurement	
A	17 mm
B	14 mm
C	12 mm

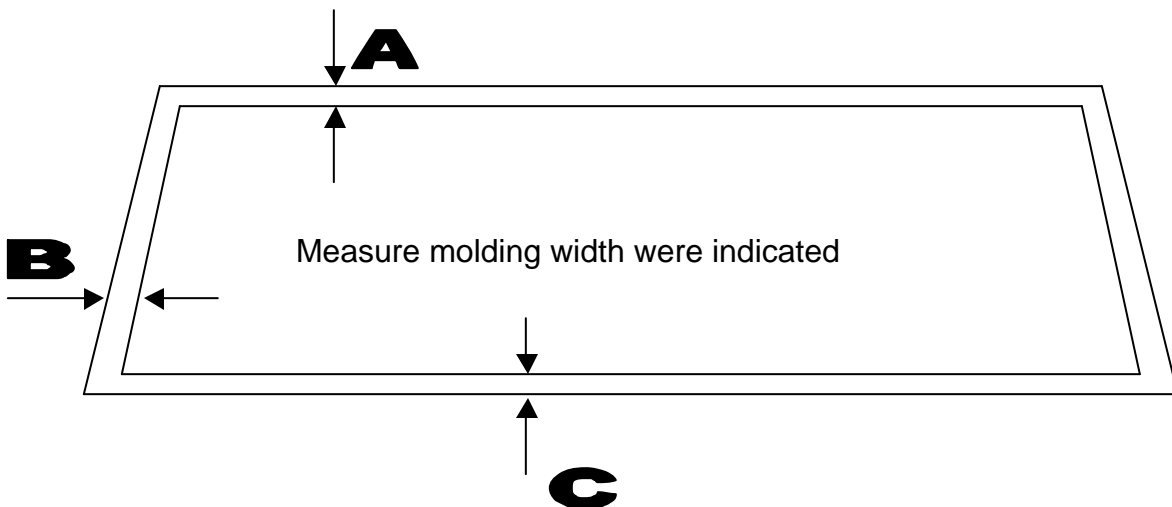
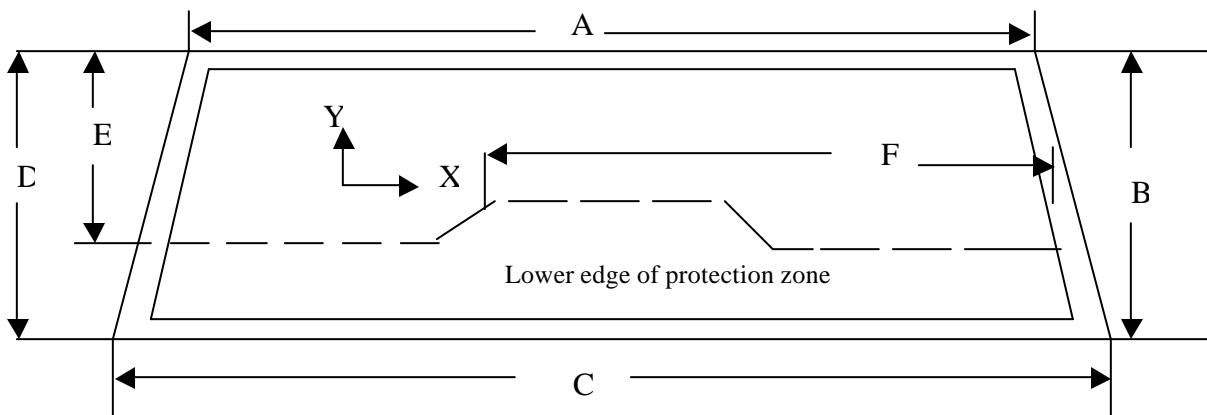


FIGURE 4
WINDSHIELD INTRUSION DATA

Windshield Measurements:			
A	1176 mm	D	790 mm
B	793 mm	E	506 mm
C	1531 mm	F	396 mm

Areas Of Windshield Template Penetration With A Depth Greater Than 0.25 in:			
Coordinates:	Point 1	Point 2	Point 3
X:	None	None	None
Y:	None	None	None

Areas Of Windshield Penetration, Below Protected Zone, And Through Inner Surface Of Windshield:			
Coordinates:	Point 1	Point 2	Point 3
X:	None	None	None
Y:	None	None	None



SECTION 6
FUEL SYSTEM DATA

TABLE 4
FUEL SYSTEM DATA

Make/model:	2005 Nissan P61B vehicle
Fuel system capacity:	80 L
Usable capacity:	80 L
Test volume range:	76.0 L (95% of usable capacity)
Test fluid type:	Stoddard solvent
Specific gravity:	0.77-0.8
Kinematic viscosity:	1.36 centistoke @ 20 Degree C
Test fluid color:	Purple

TABLE 6
FLUID SYSTEM COLLECTION DATA

Test Date	7/29/04	Project	2005 Nissan P61B
Test Number	B1040251	Test Personnel	Rashad Ahmad

TIME AFTER CRASH MOTION CEASES: 10:35 a.m.

INTERVAL	Oz.	INTERVAL	Oz.
1 st 5 minutes	0	18 th minute	0
6 th minute	0	19 th minute	0
7 th minute	0	20 th minute	0
8 th minute	0	21 st minute	0
9 th minute	0	22 nd minute	0
10 th minute	0	23 rd minute	0
11 th minute	0	24 th minute	0
12 th minute	0	25 th minute	0
13 th minute	0	26 th minute	0
14 th minute	0	27 th minute	0
15 th minute	0	28 th minute	0
16 th minute	0	29 th minute	0
17 th minute	0	30 th minute	0

ROLLOVER START TIME: 12:50 p.m.

		Oz.
90° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
180° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
270° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
360° Rill Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0

ROLLOVER FINISH TIME: 1:15 p.m.

APPENDIX A

TEST DATA PLOTS



Autoliv North America (NTC)

Autoliv Channel
11ABSE010000CU00

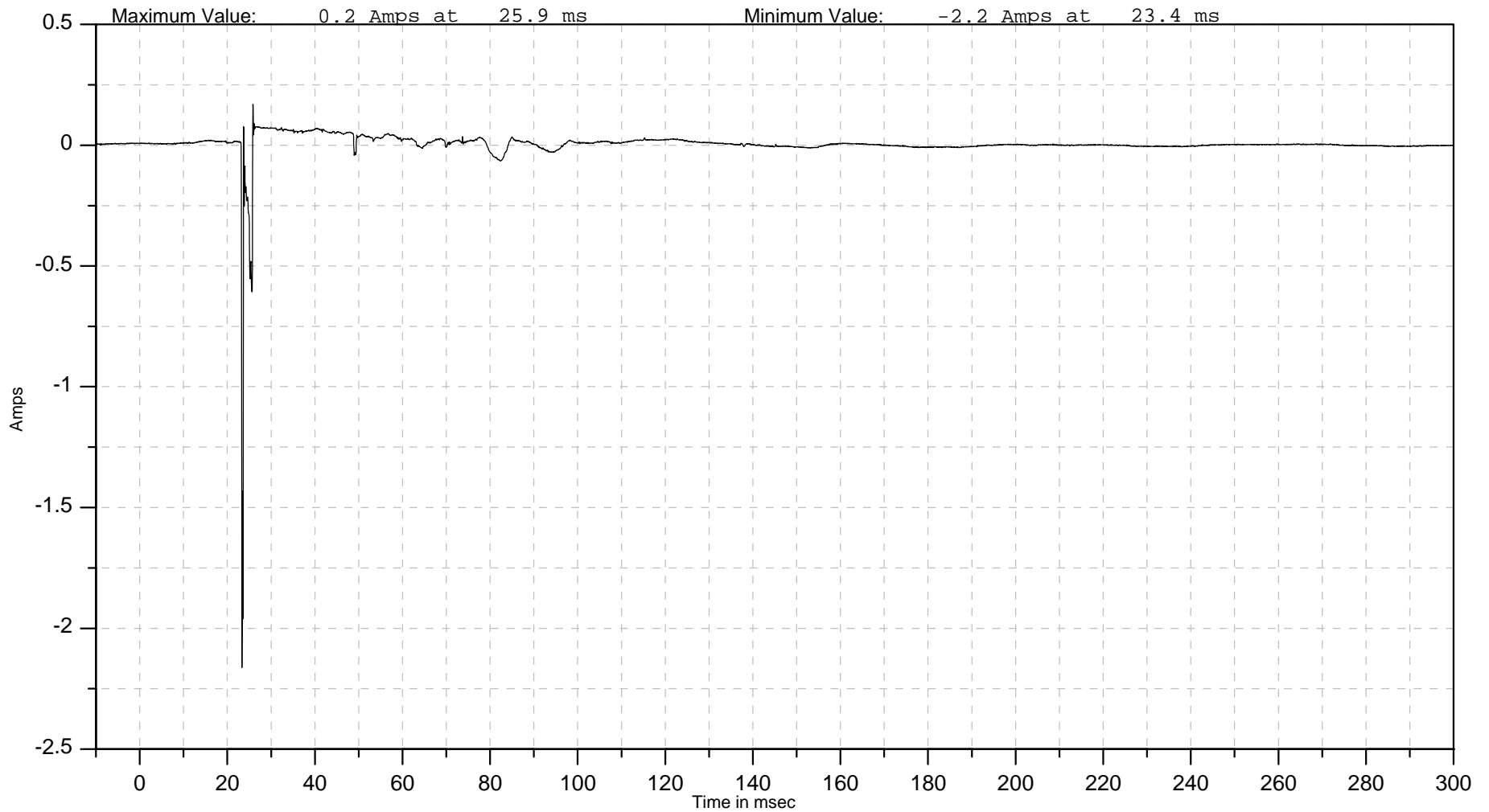
ISO Channel
11ABSE010000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
11ABSE020000CU00

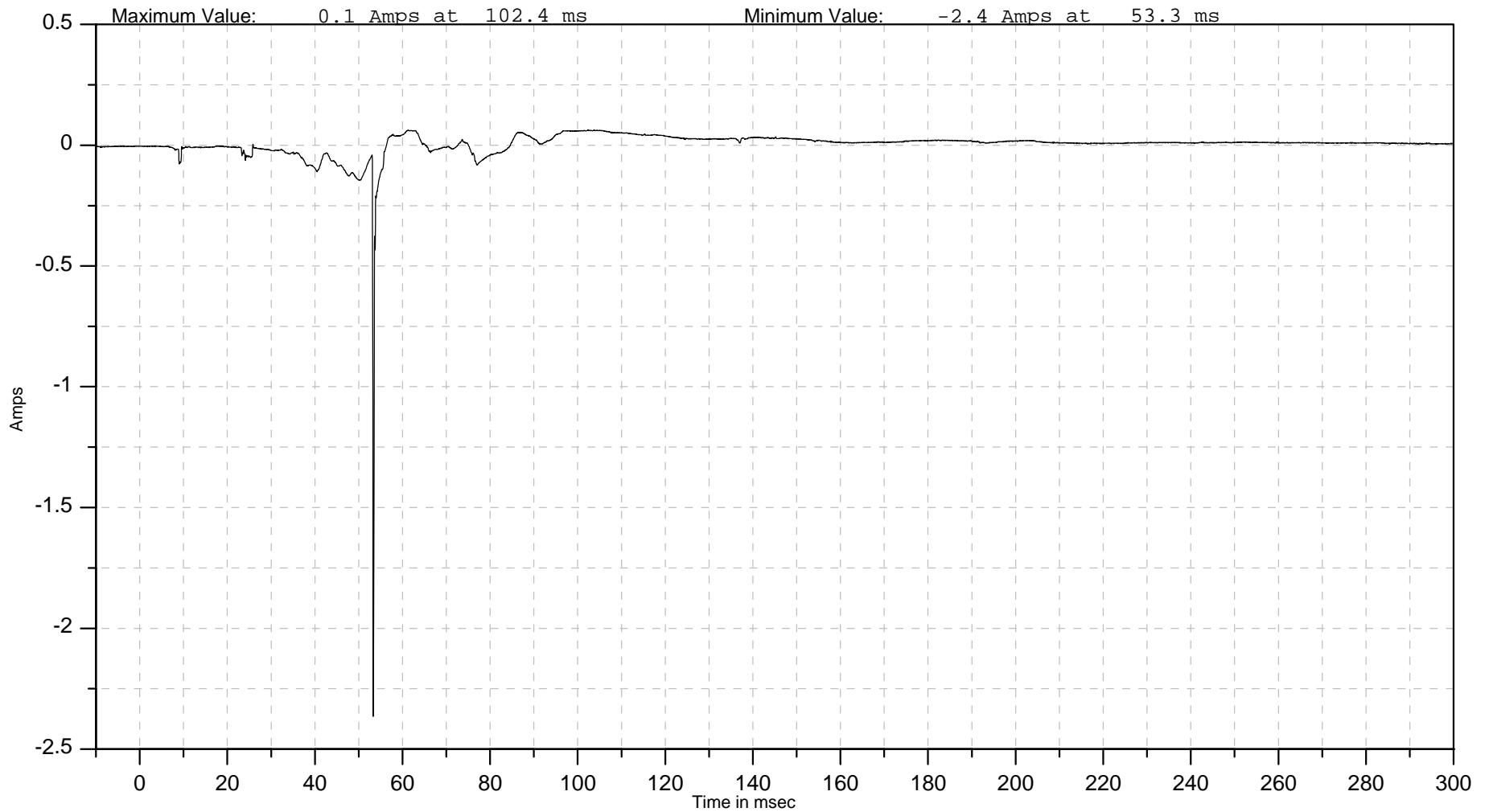
ISO Channel
11ABSE020000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE010000CU00

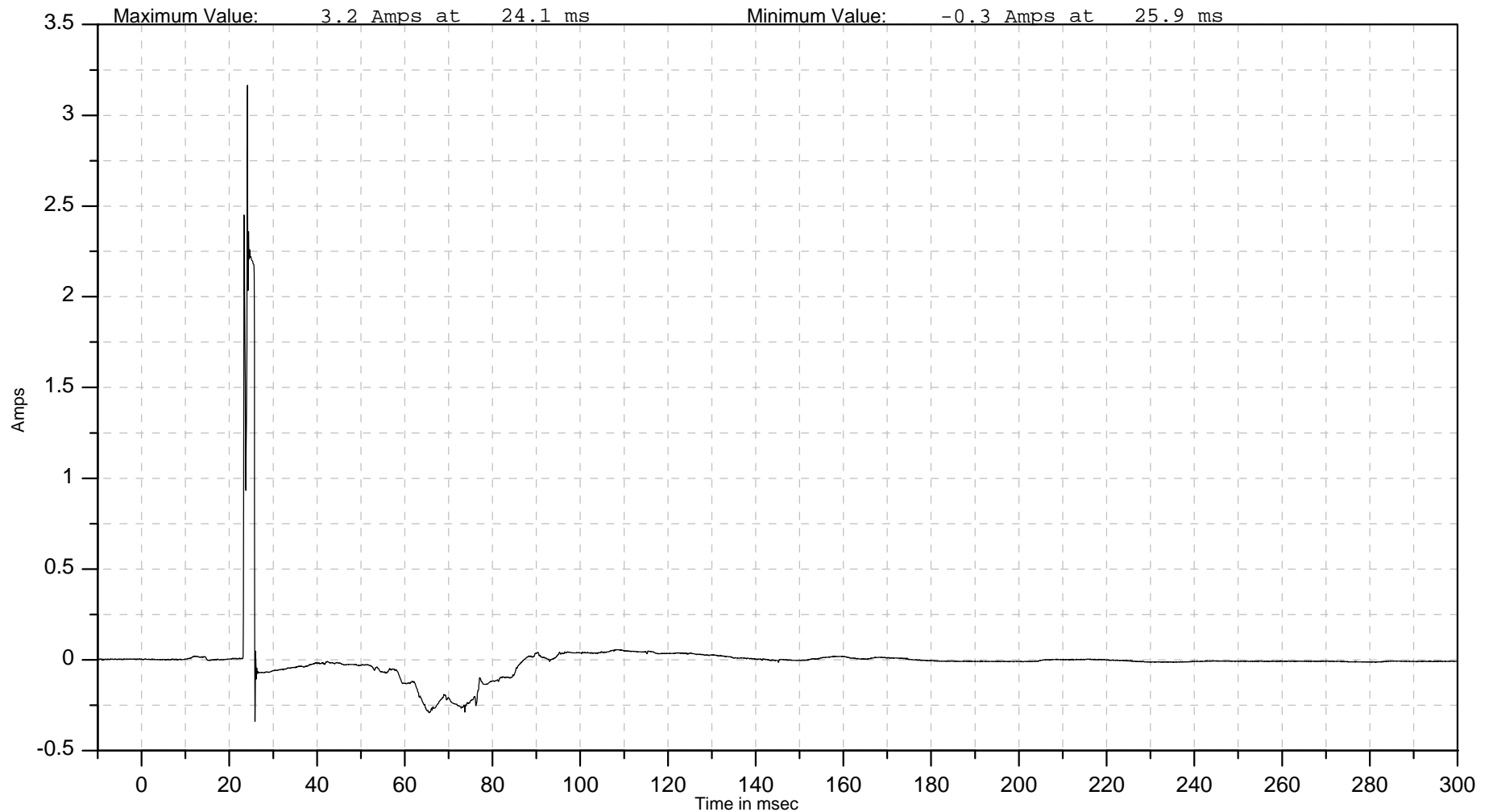
ISO Channel
13ABSE010000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE020000CU00

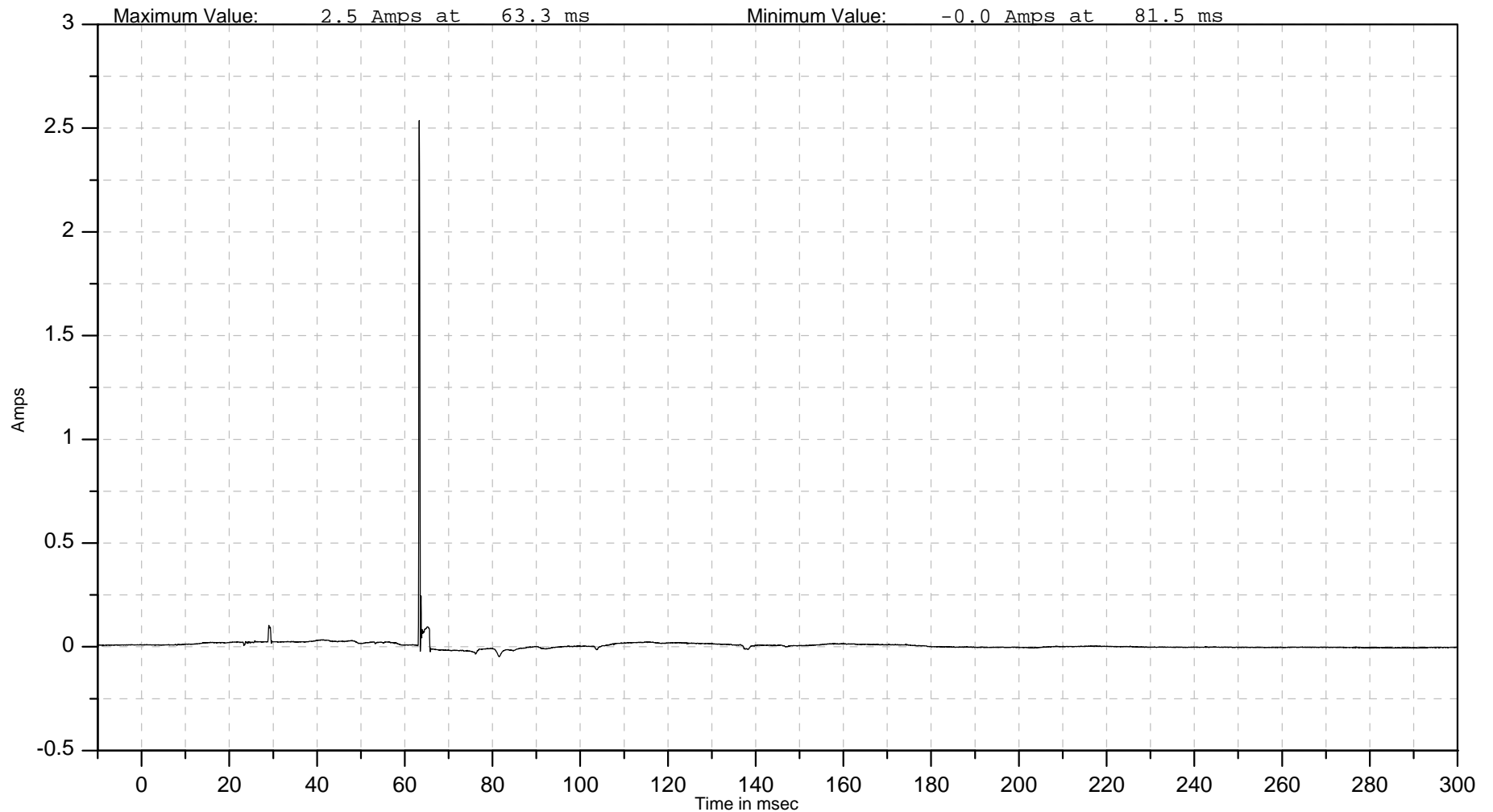
ISO Channel
13ABSE020000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
10VEHC000001EV00

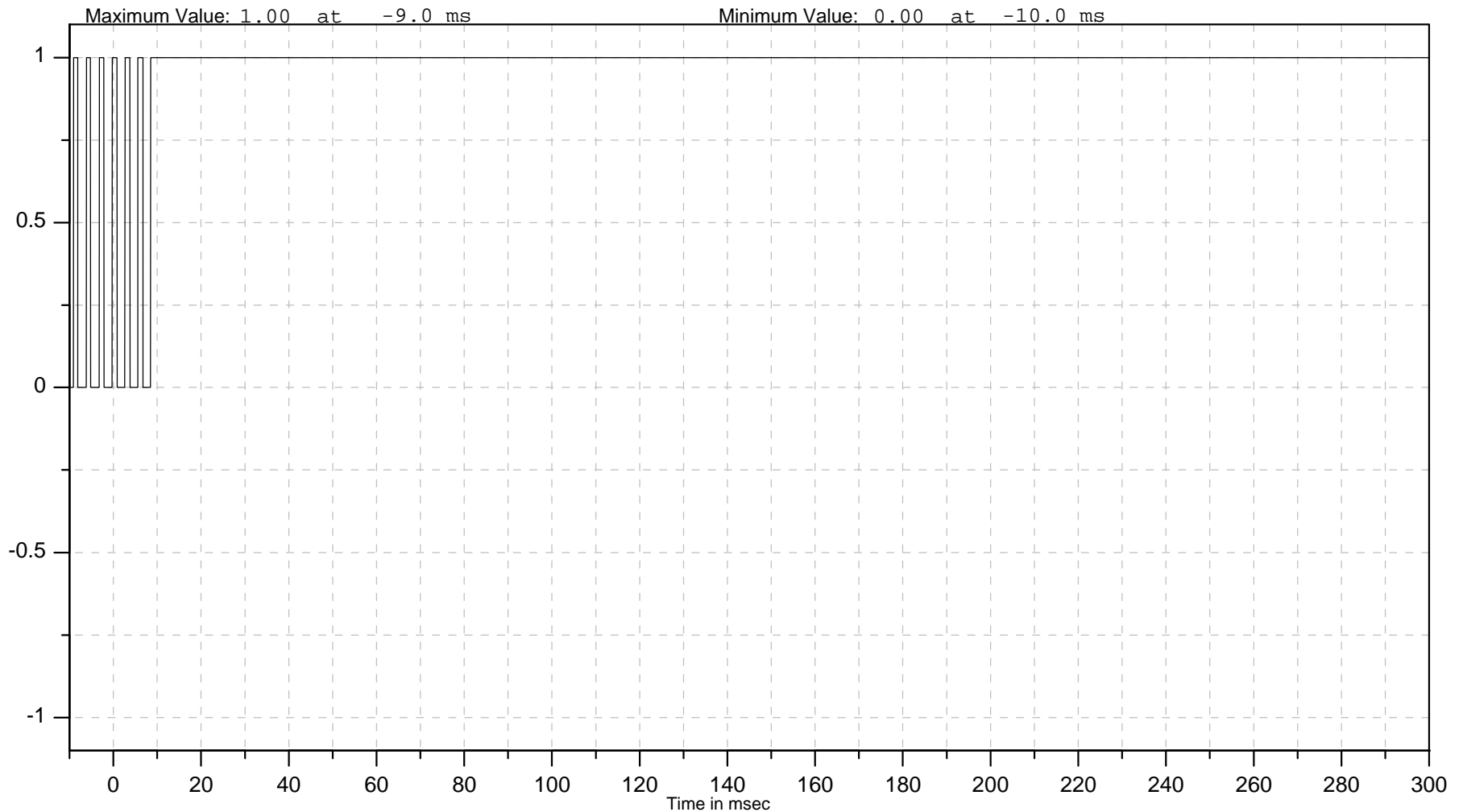
ISO Channel
10VEHC000001EV00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 1





Autoliv North America (NTC)

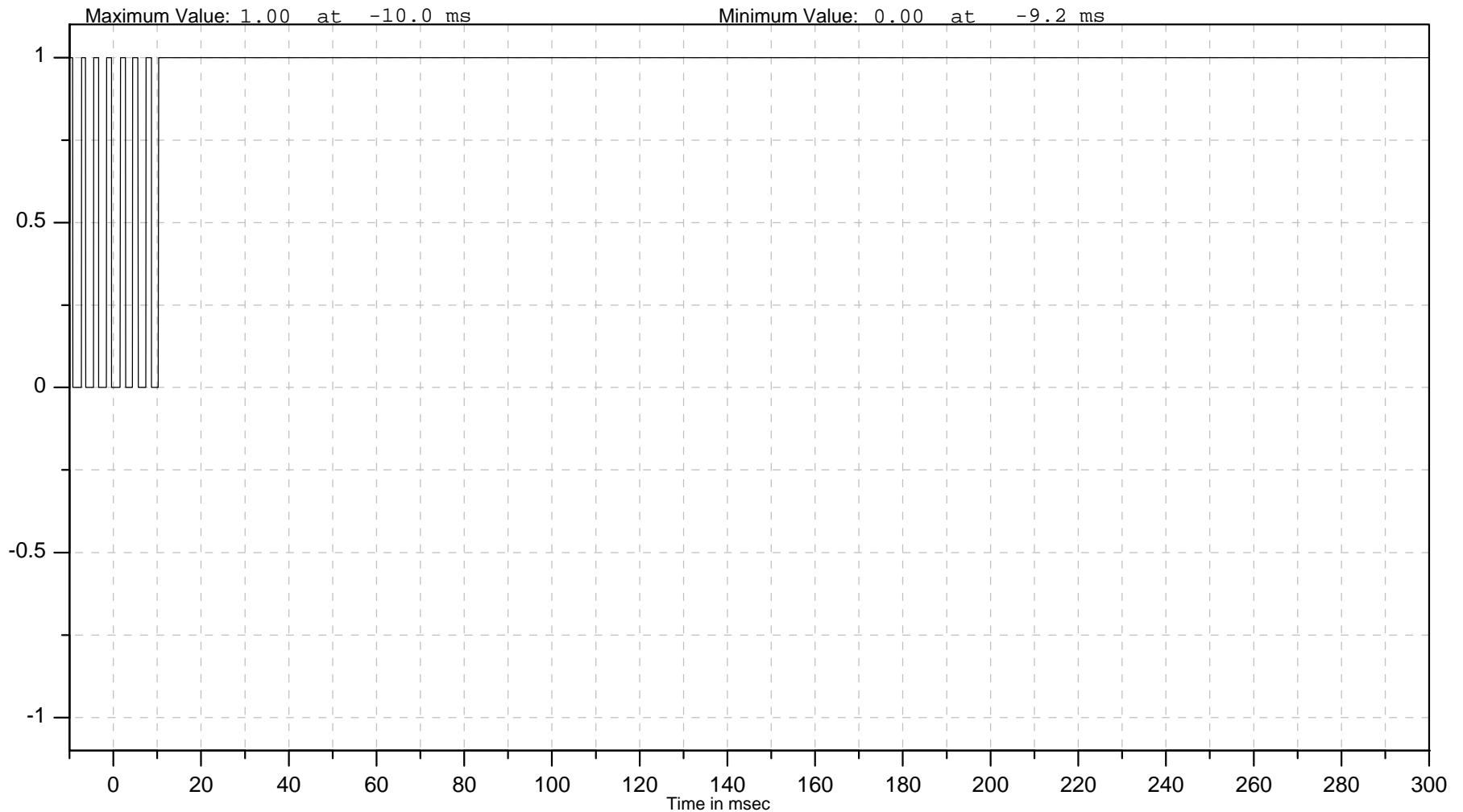
Autoliv Channel
10VEHC000002EV00

ISO Channel
10VEHC000002EV00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

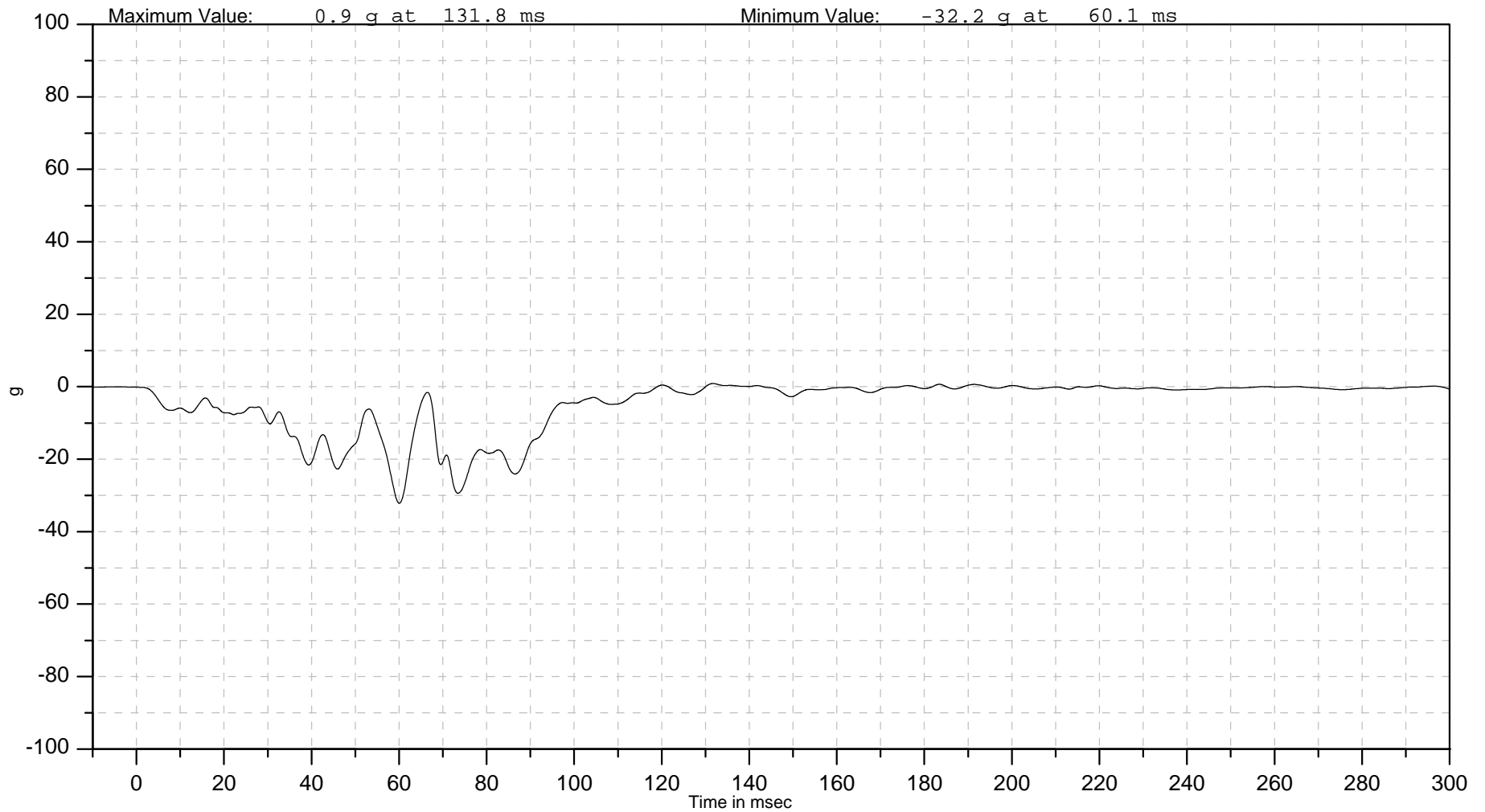
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10SILLLE0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

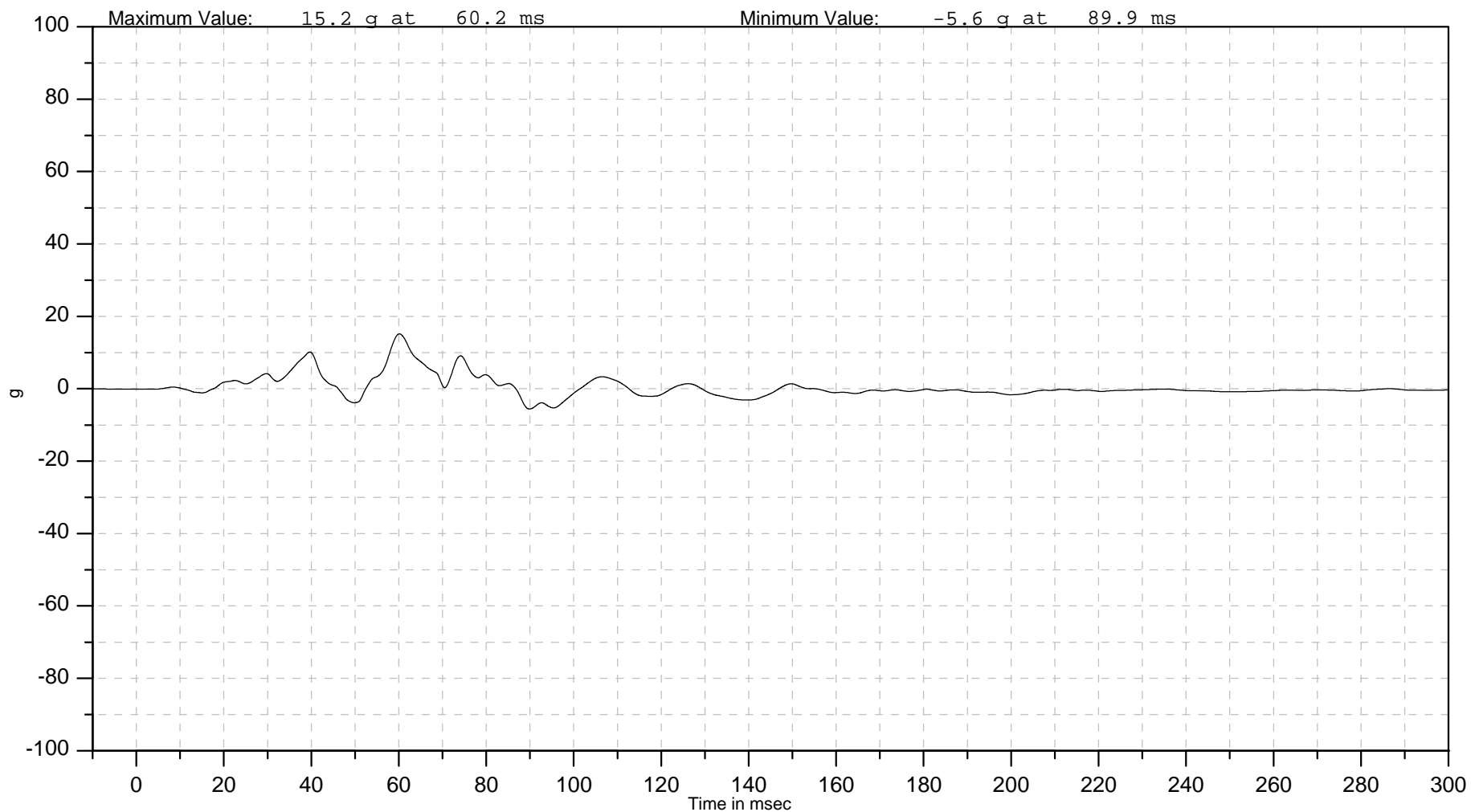
Autoliv Channel
10SILLLE0000ACYD

ISO Channel
10SILLLE0000ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRI0000ACXD

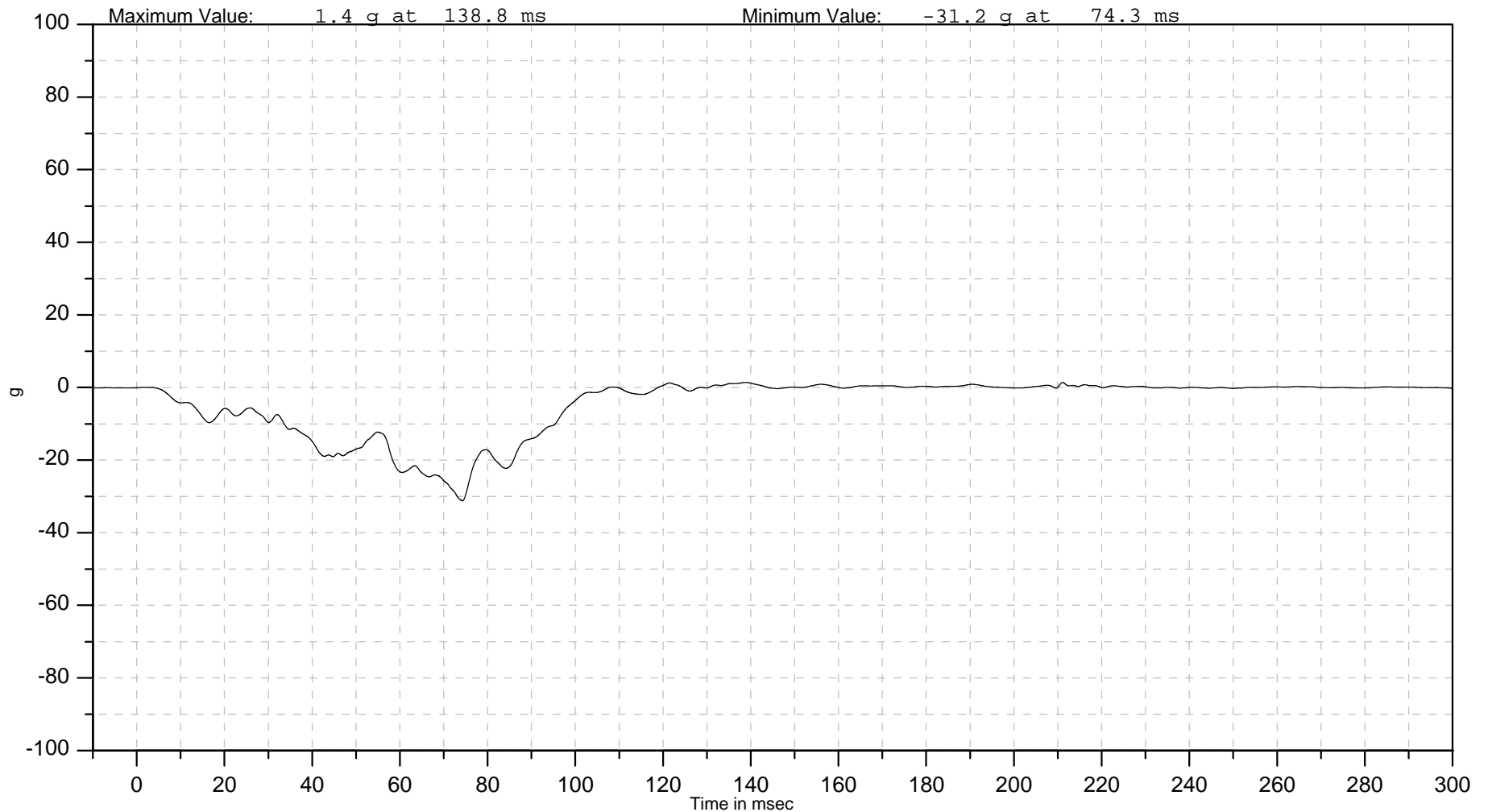
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
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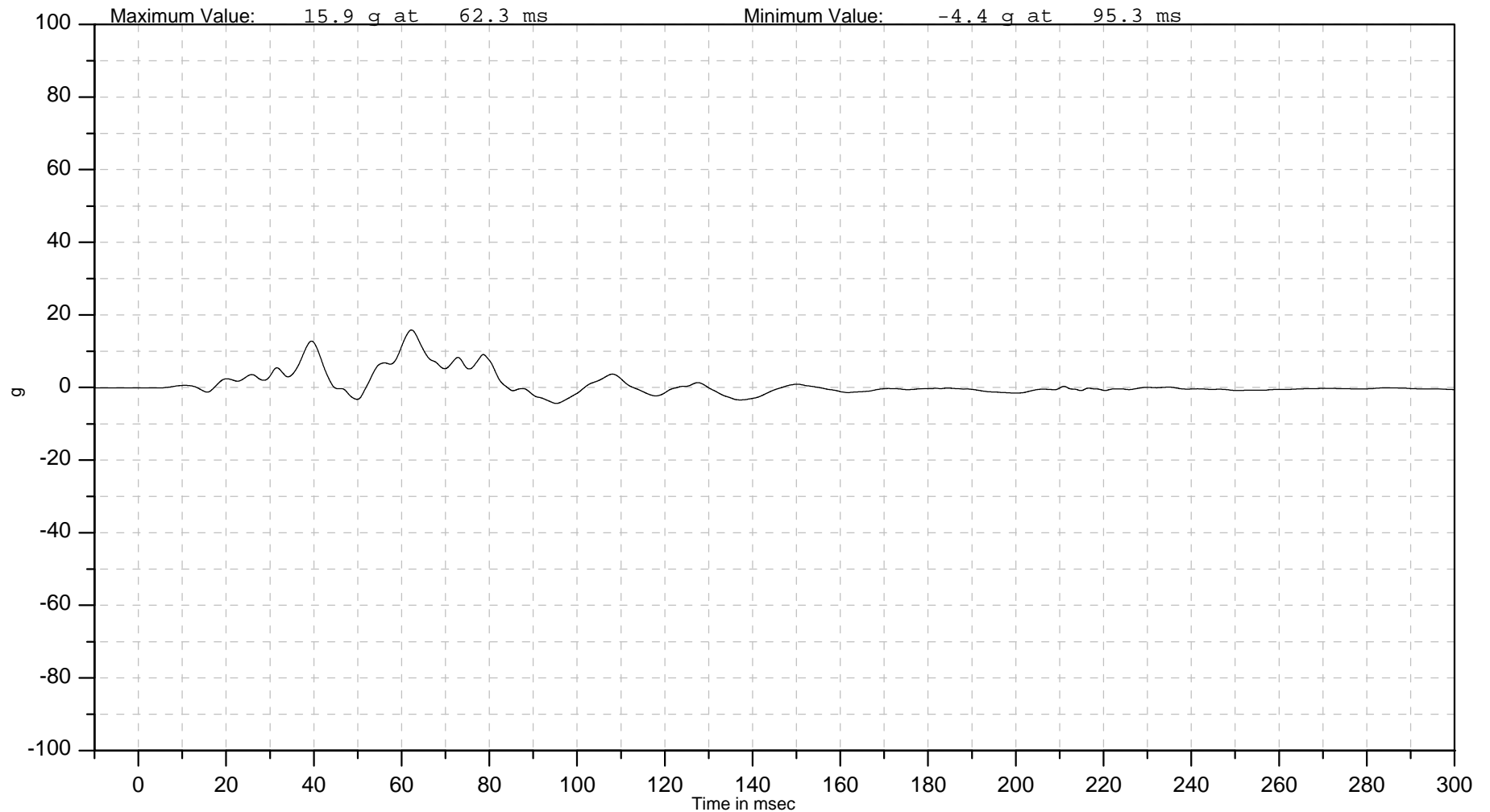
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACXD

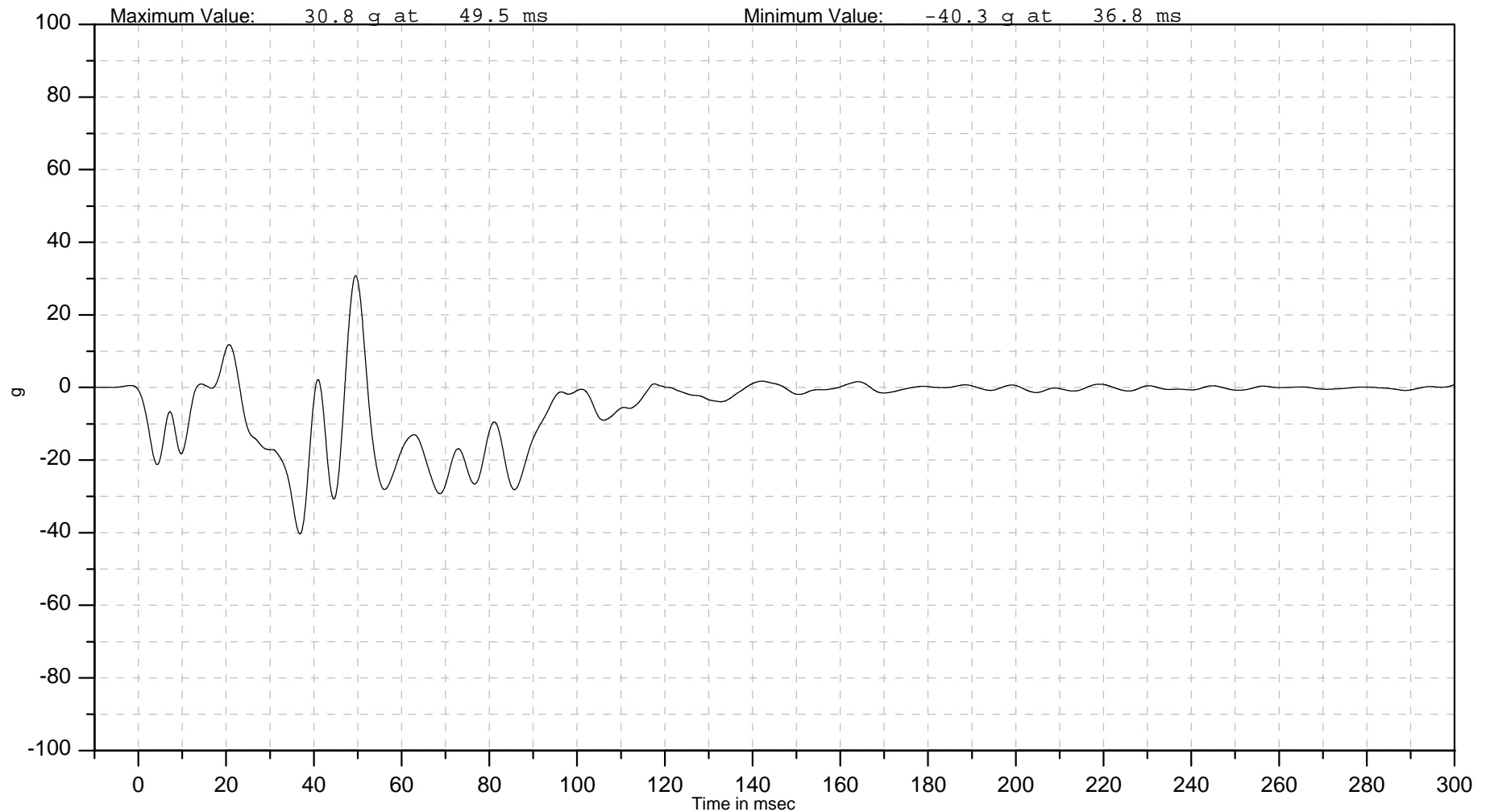
ISO Channel
10FRAMLE0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACYD

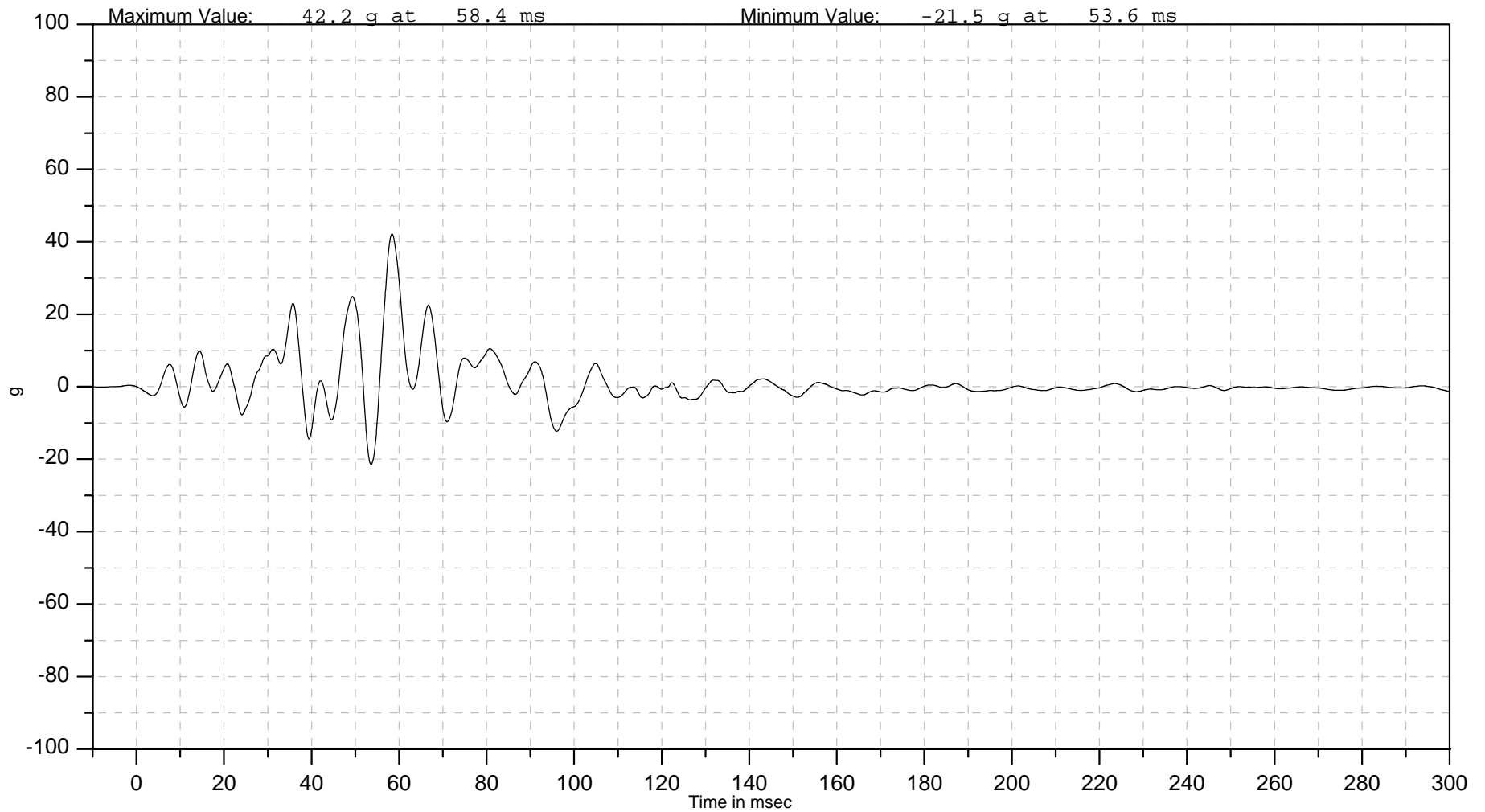
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACXD

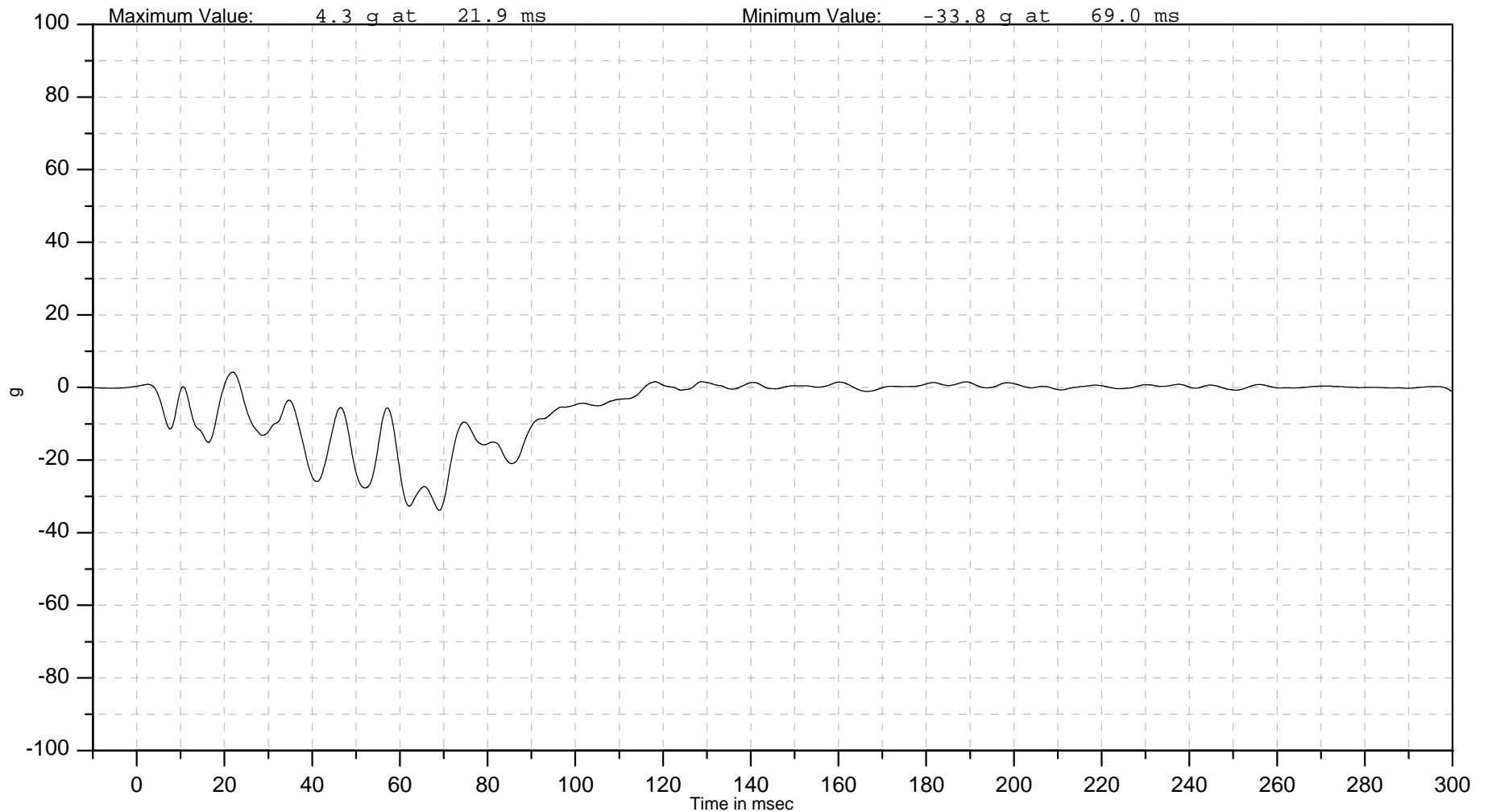
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame X Acceleration





Autoliv North America (NTC)

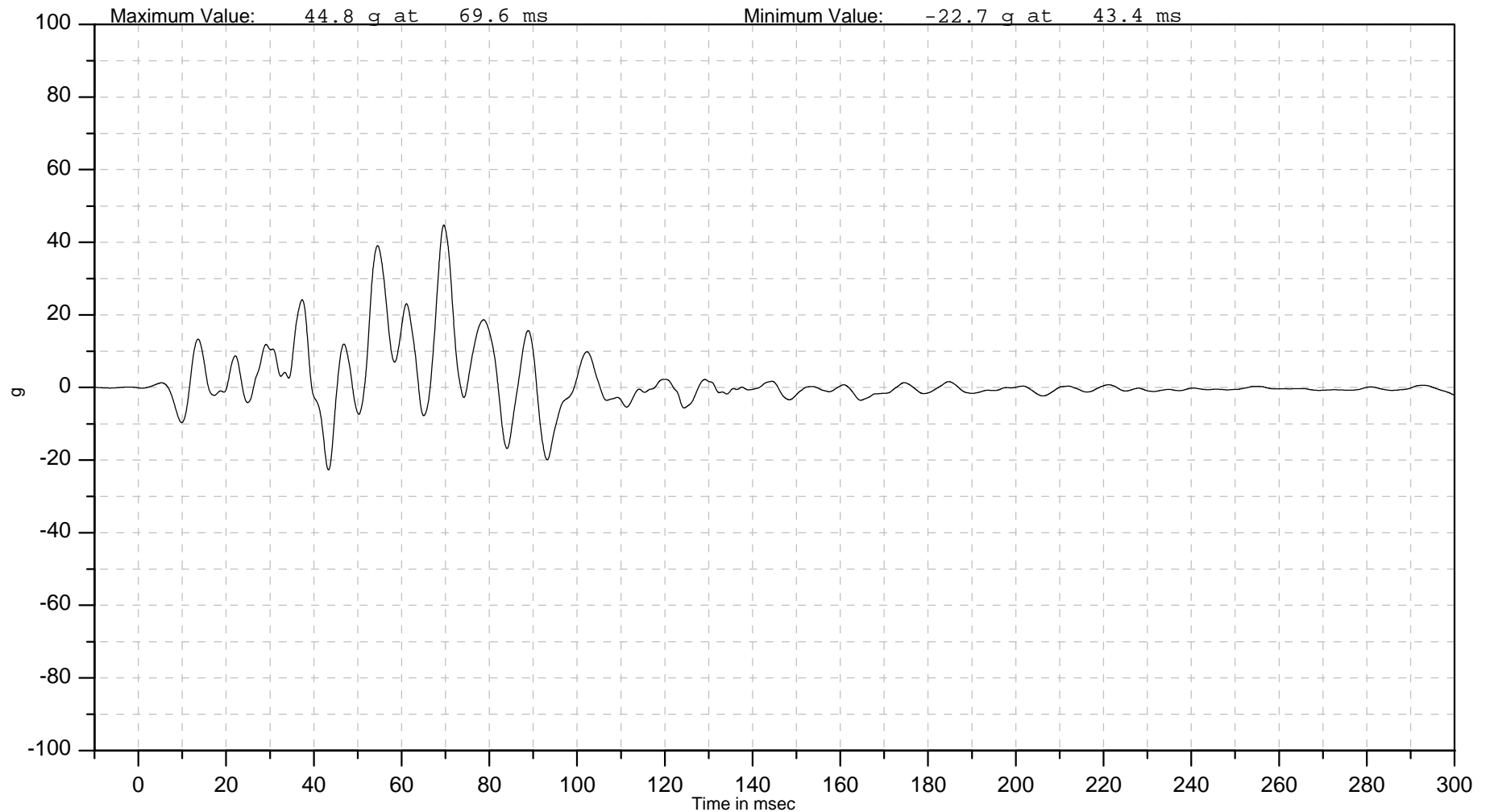
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ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Frame Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACXD

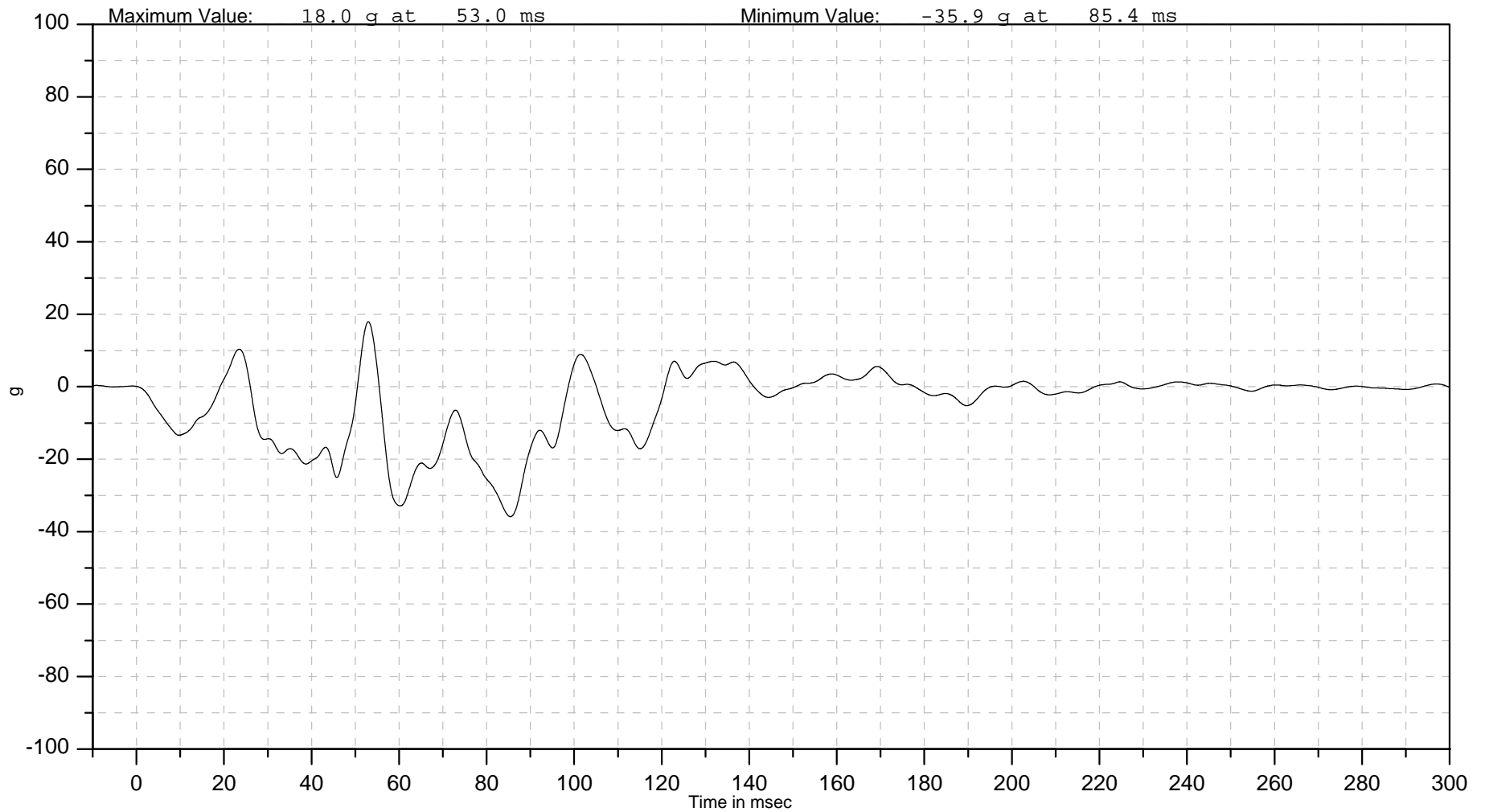
ISO Channel
10FULTLOMI00ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACYD

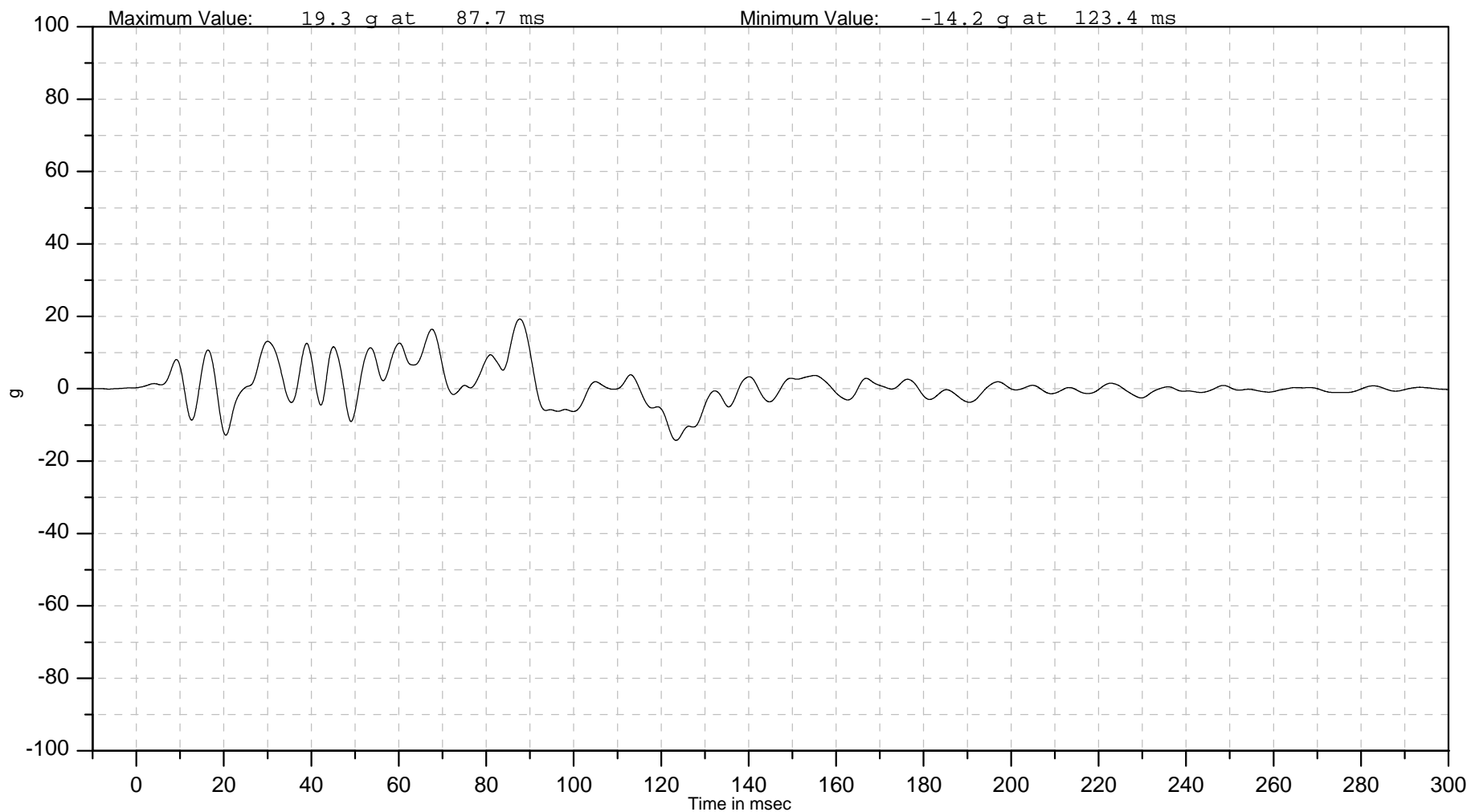
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACZD

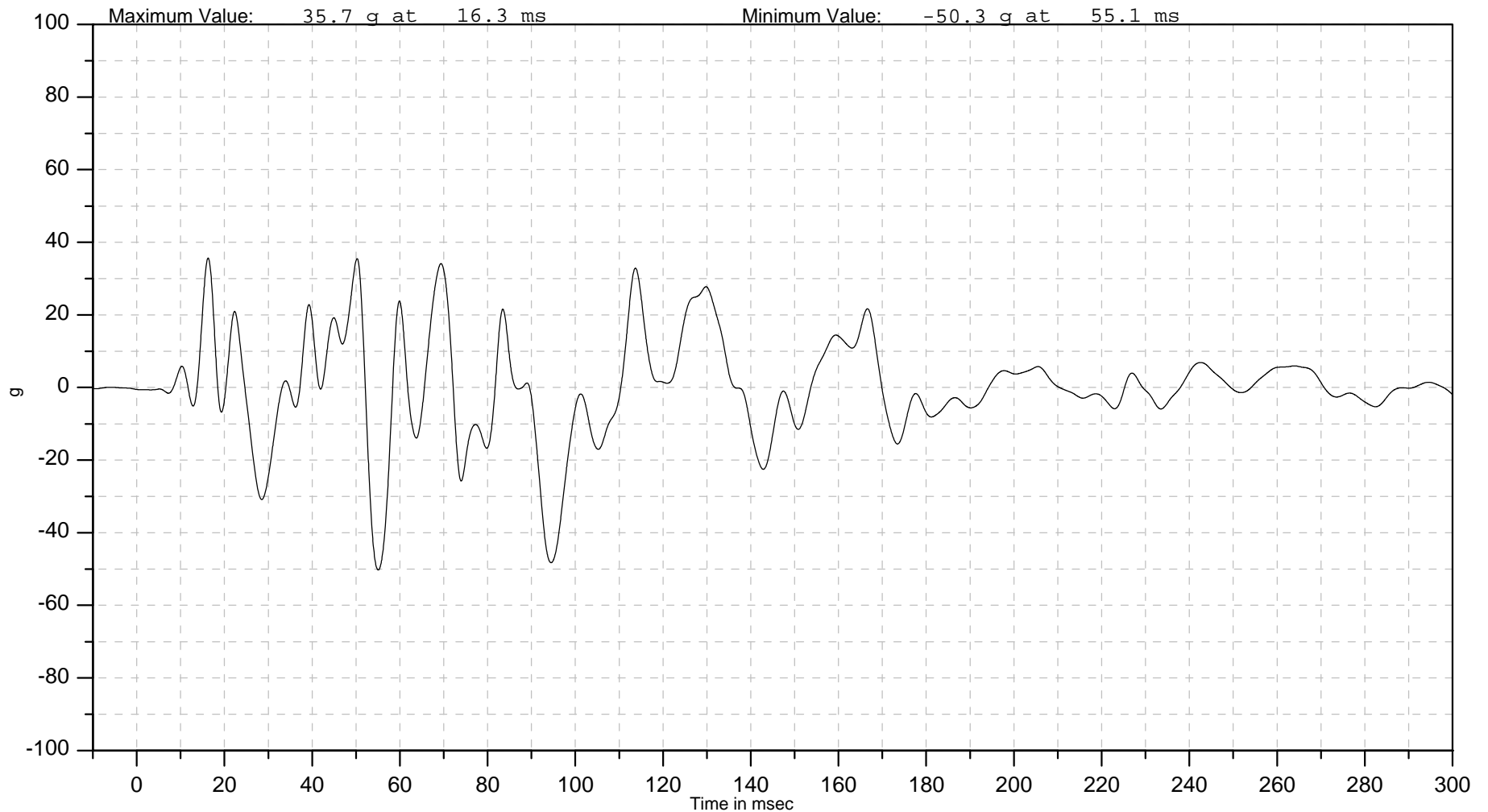
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

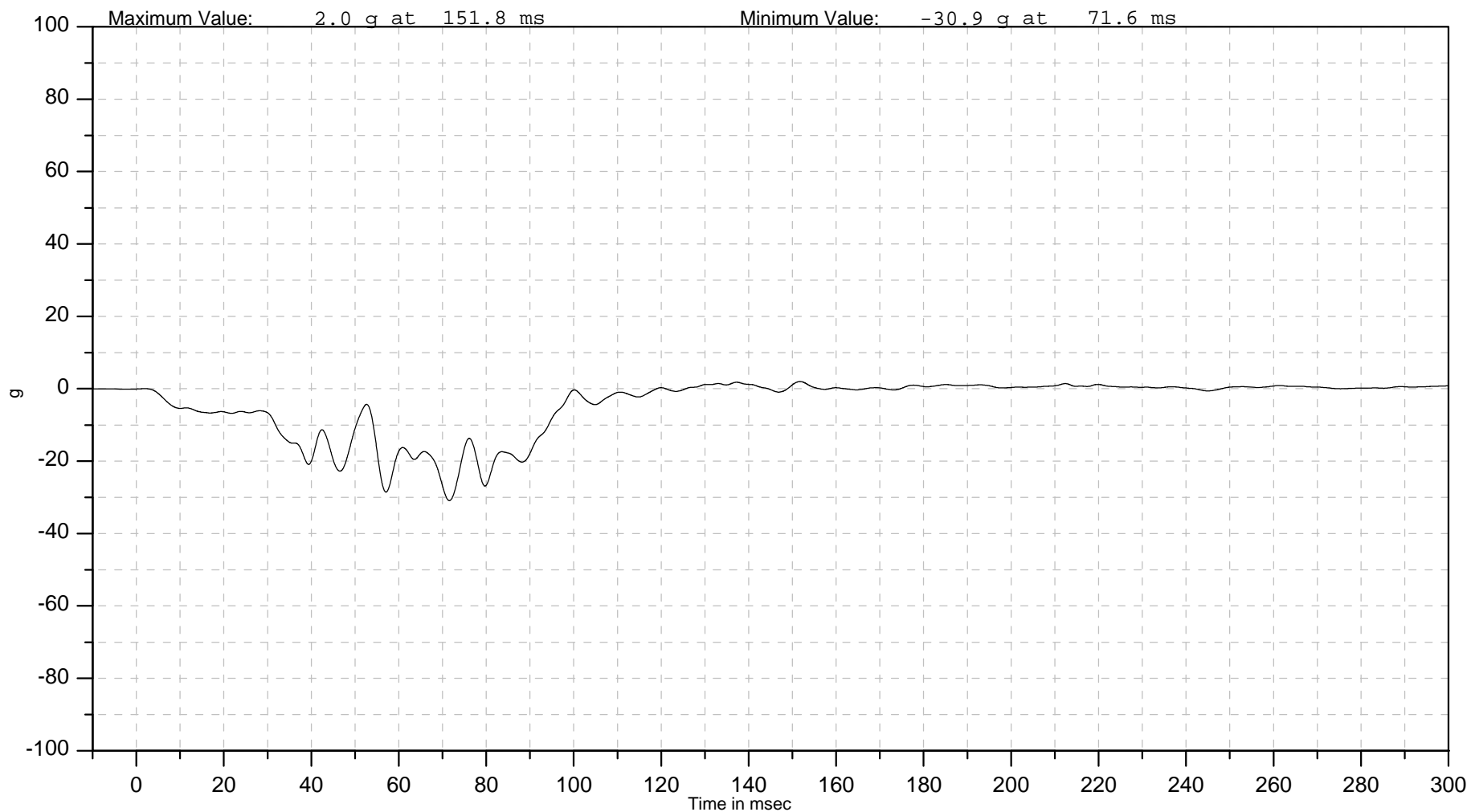
ISO Channel
10ABSE000000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

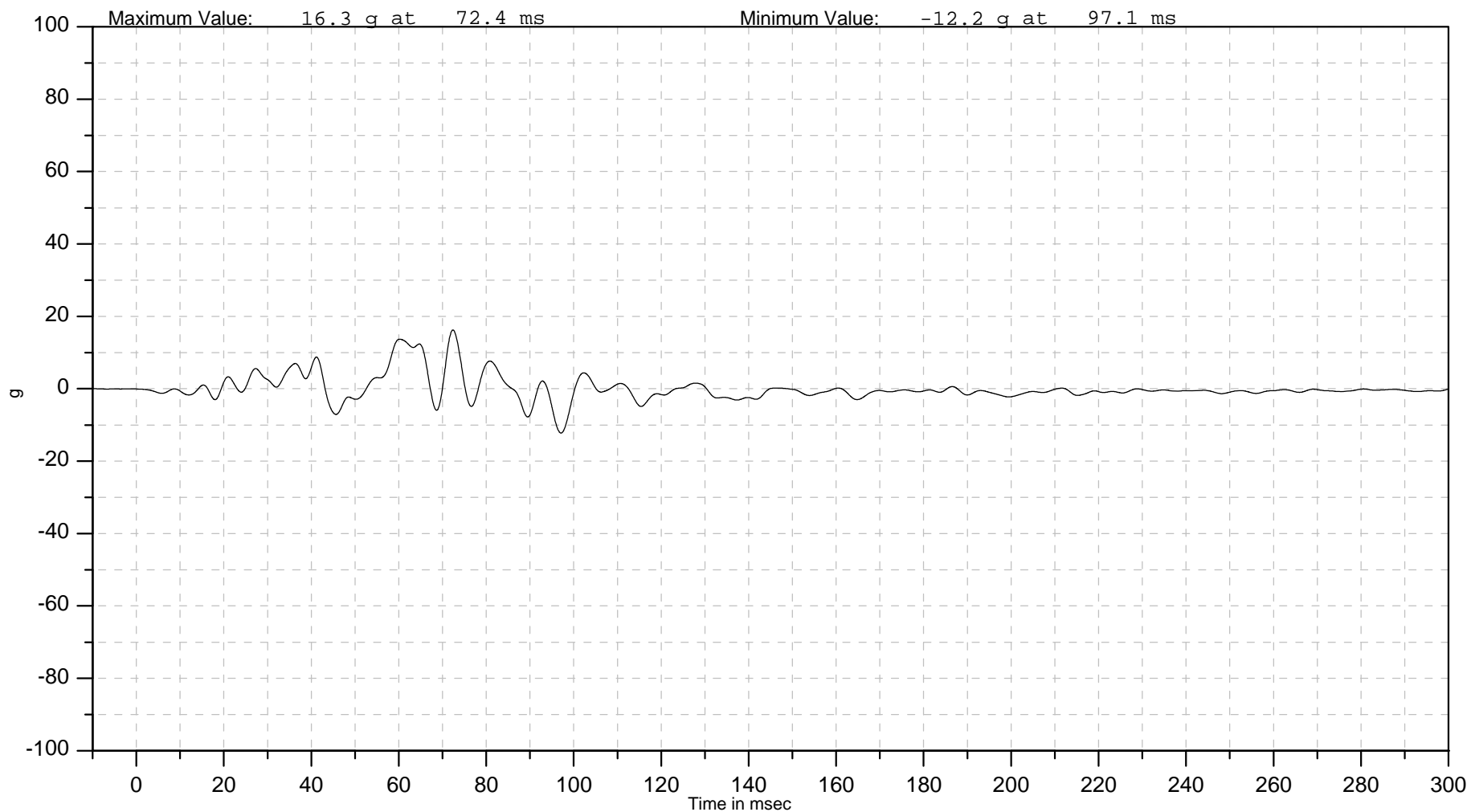
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
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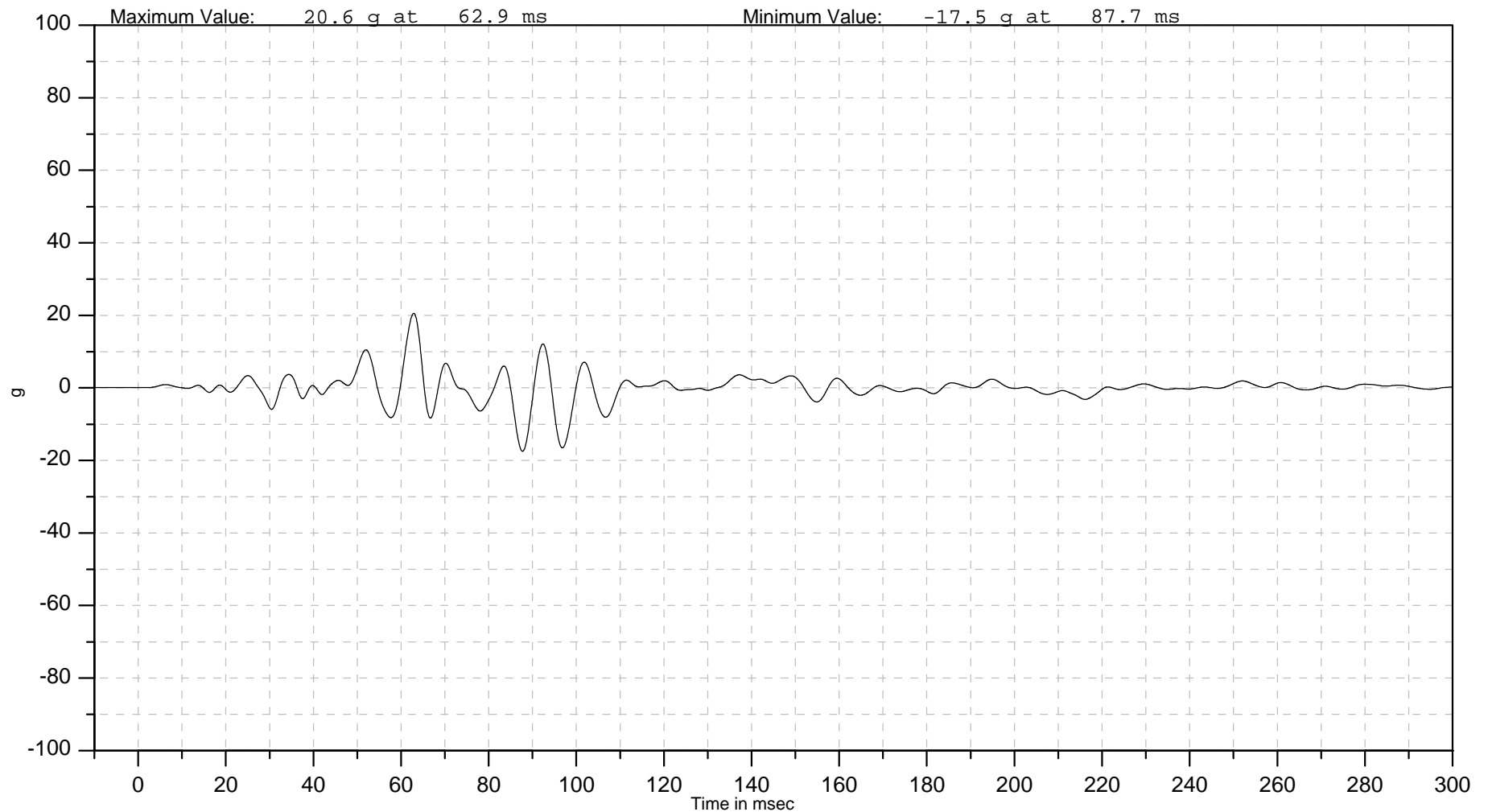
ISO Channel
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Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Z Acceleration





Autoliv North America (NTC)

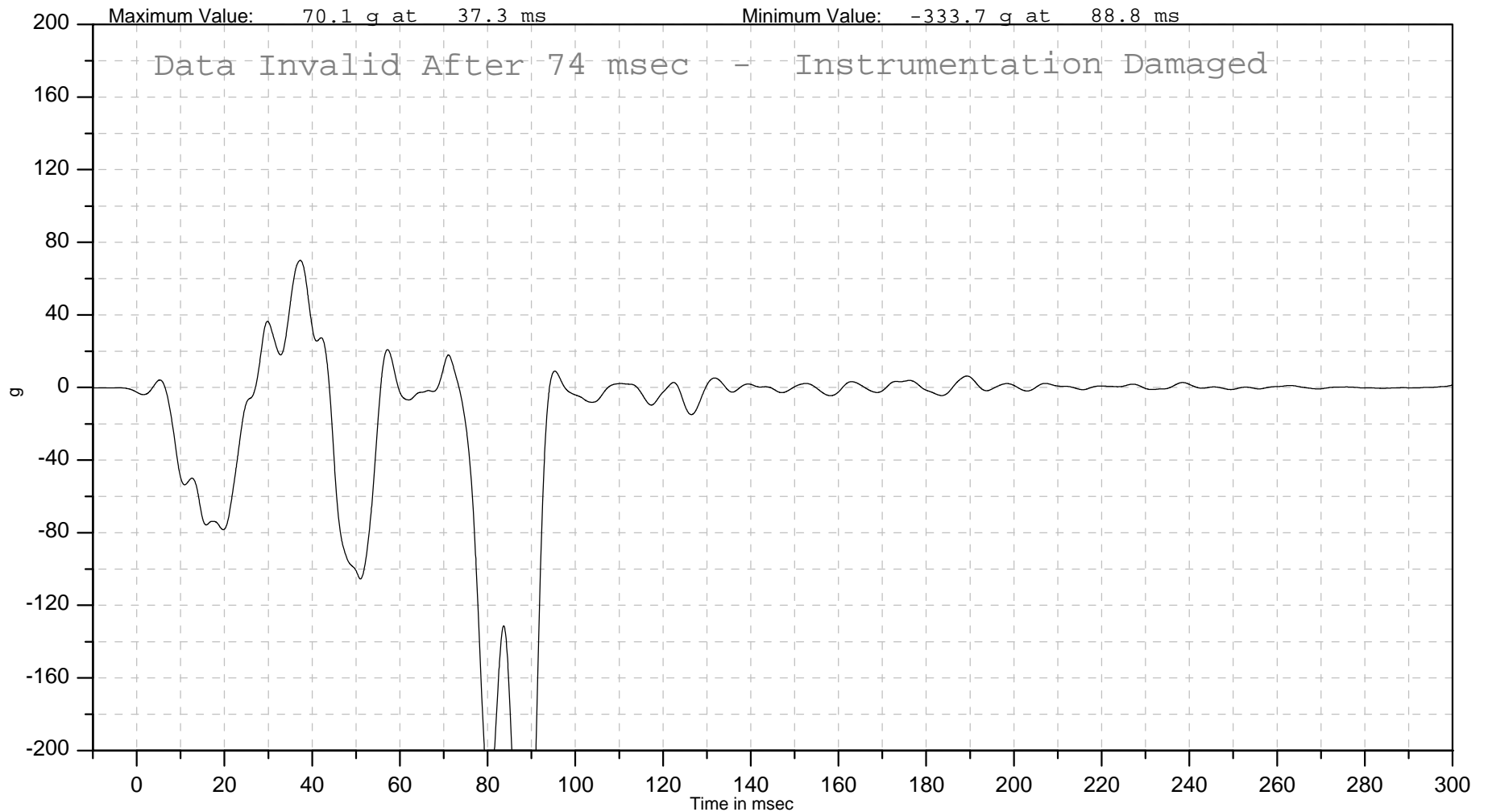
Autoliv Channel
10SENSFR0000ACXD

ISO Channel
10SENSFR0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Front Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
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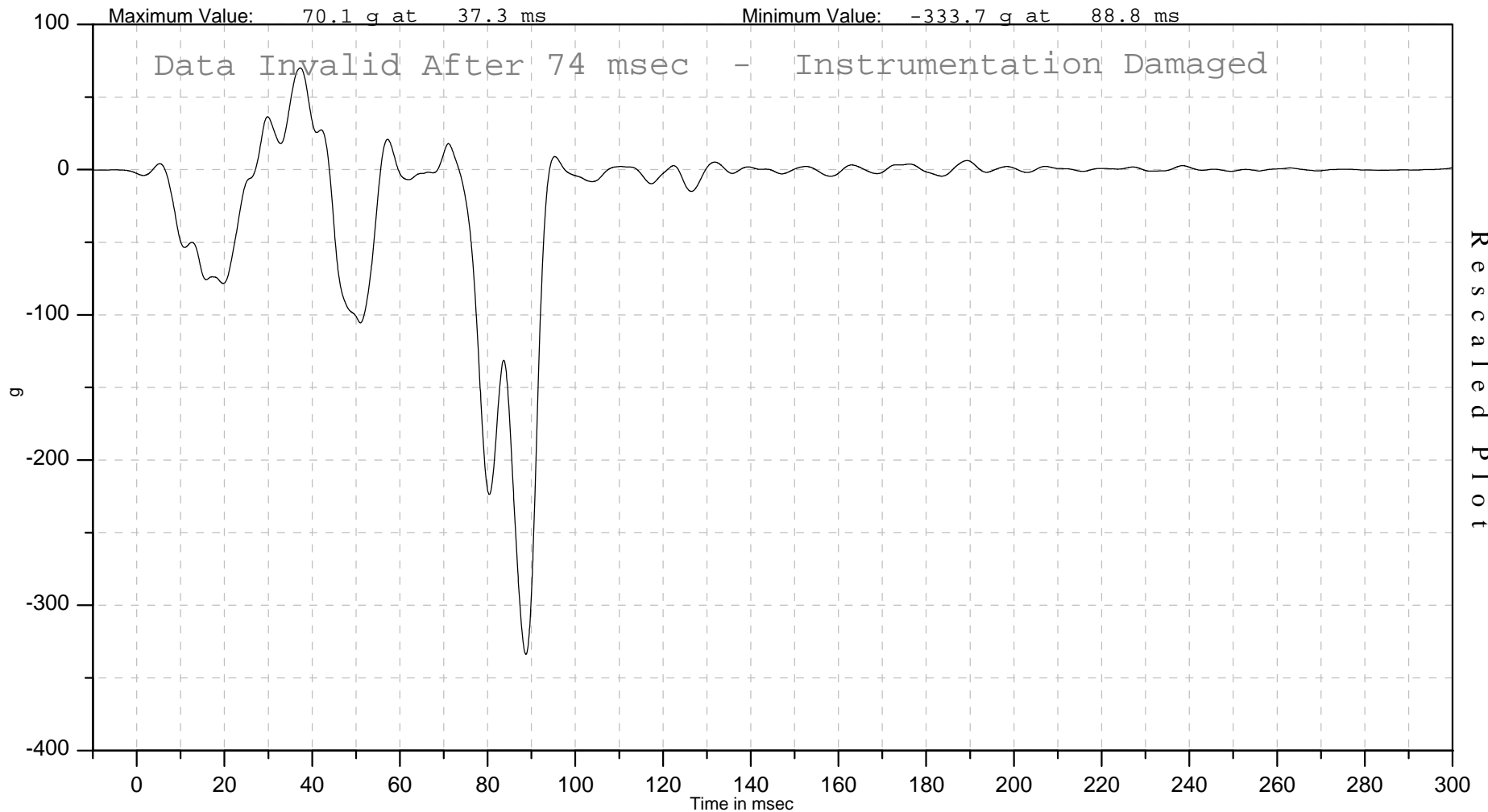
ISO Channel
10SENSFR0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Front Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSFRRD00ACXD

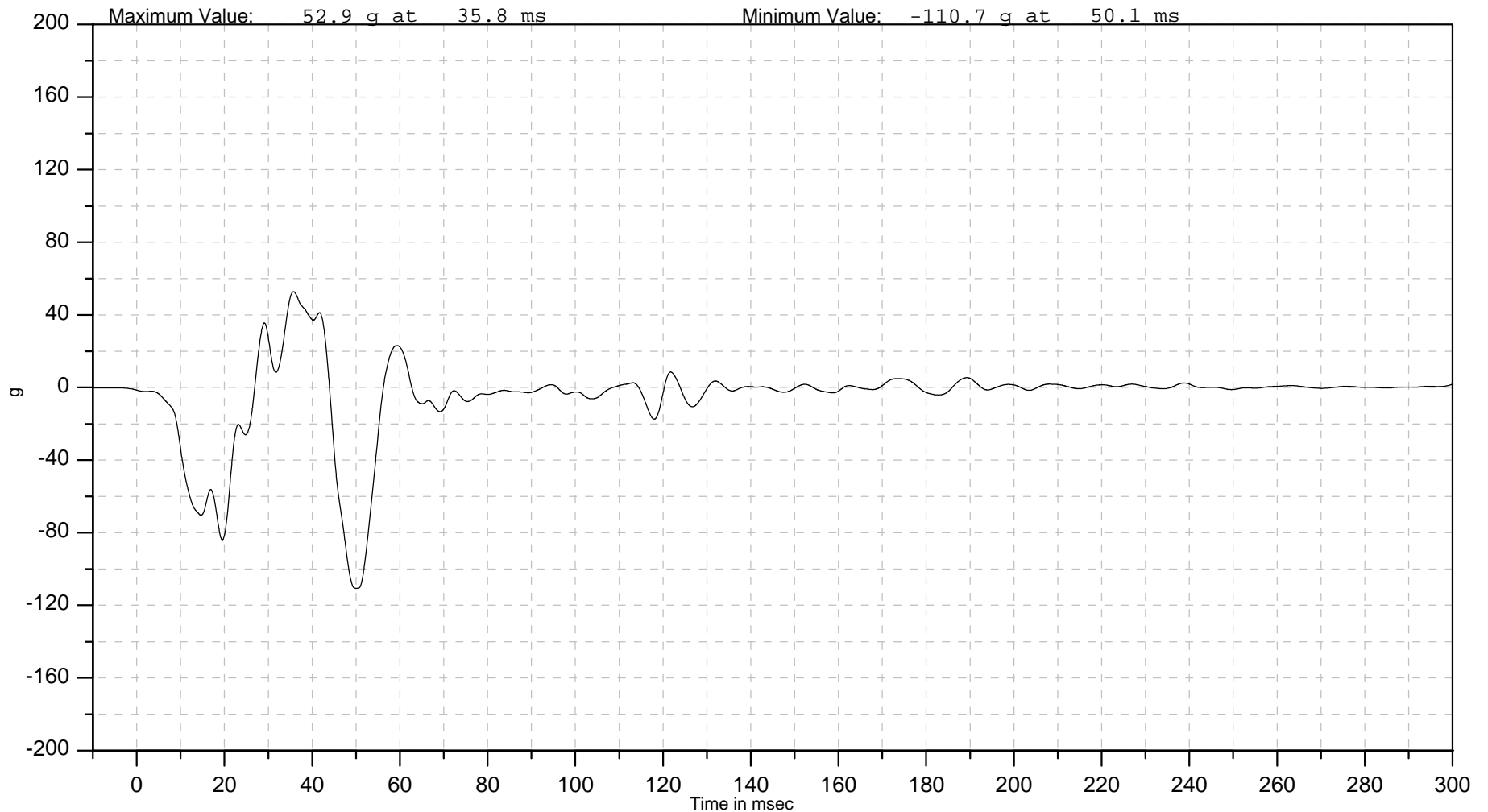
ISO Channel
10SENSFRRD00ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

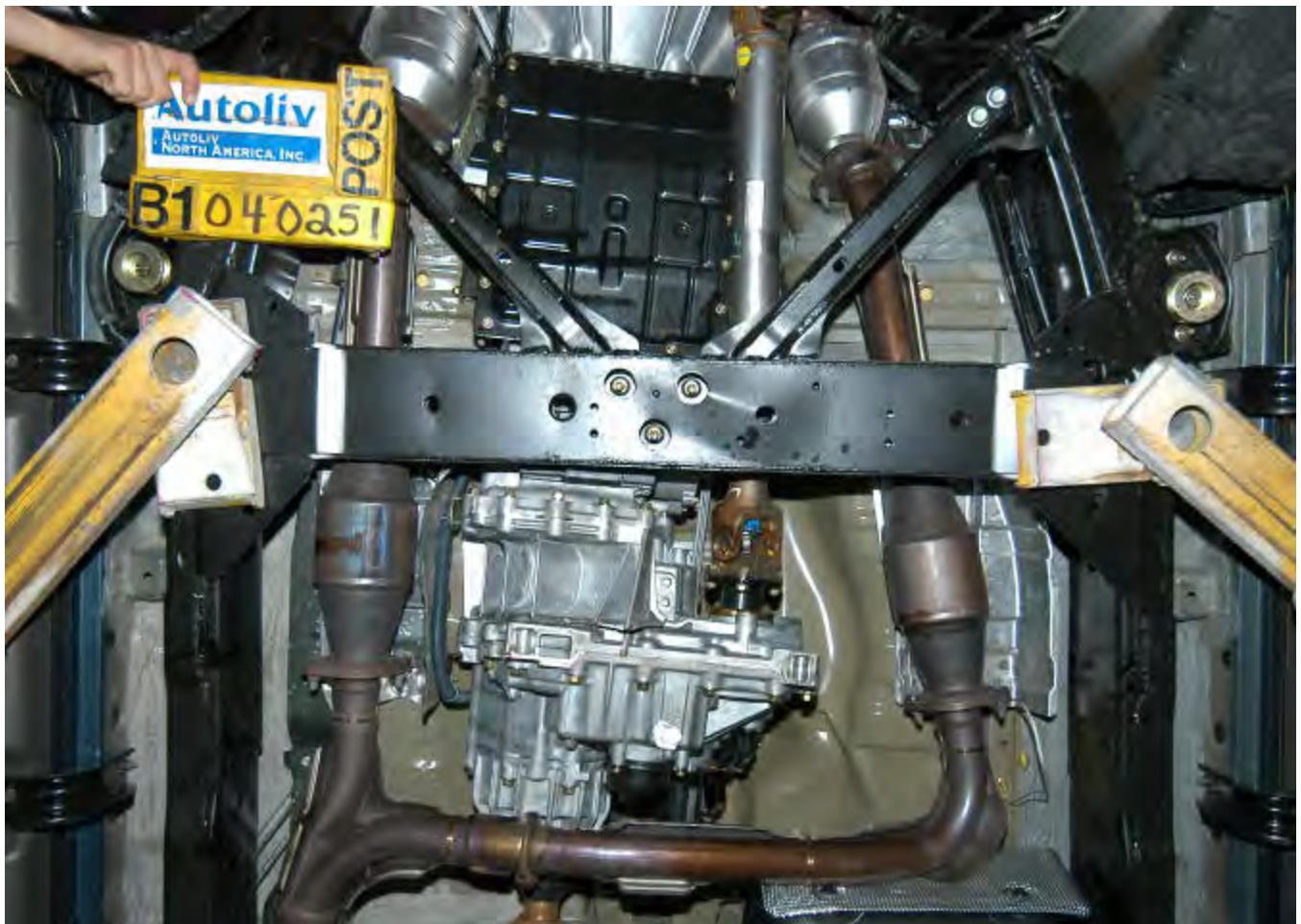
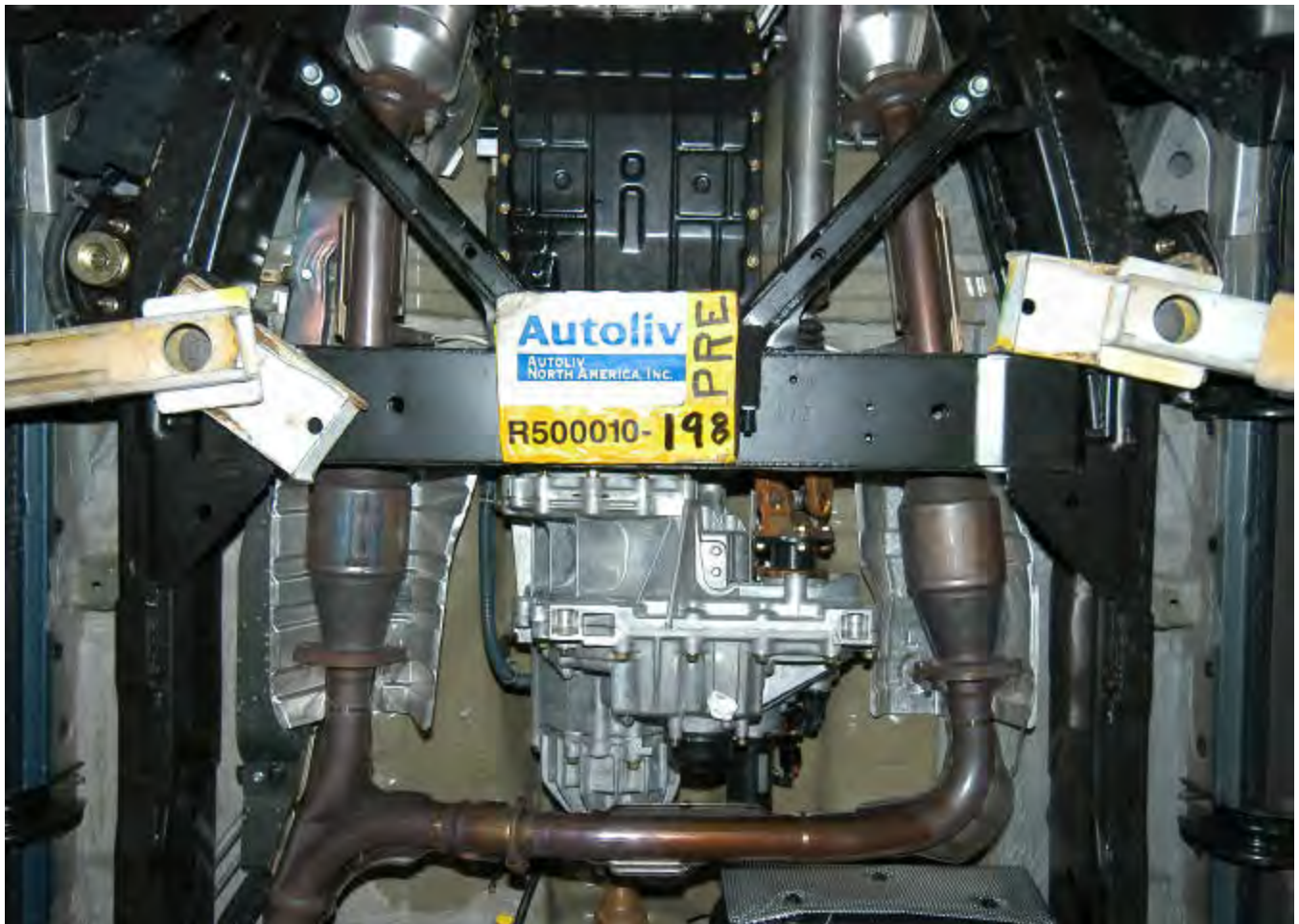
Front Redundant Sensor X Acceleration



APPENDIX B

TEST PHOTOGRAPHS



















































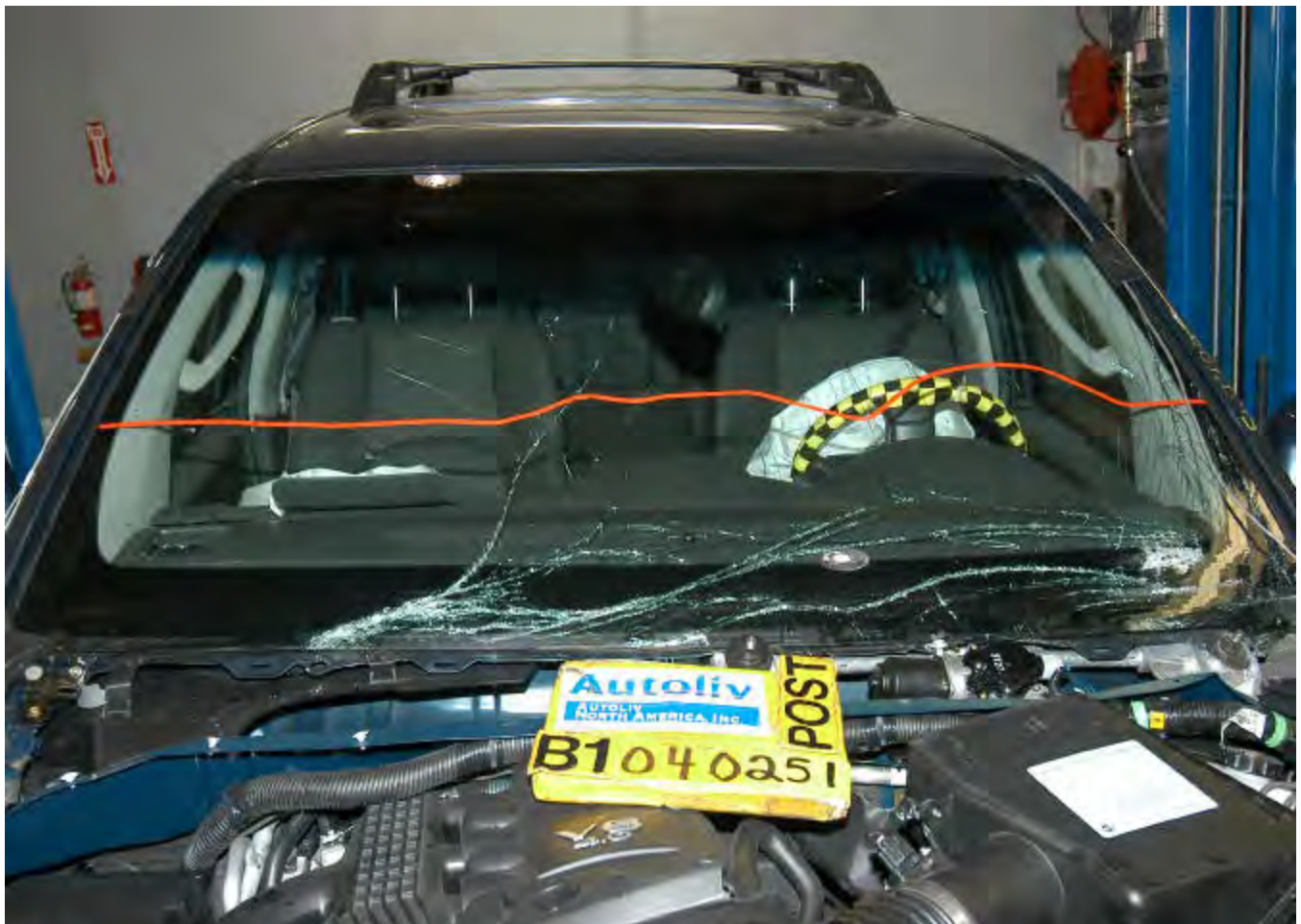








































Autoliv North America (NTC)

Autoliv Channel
11ABSE010000CU00

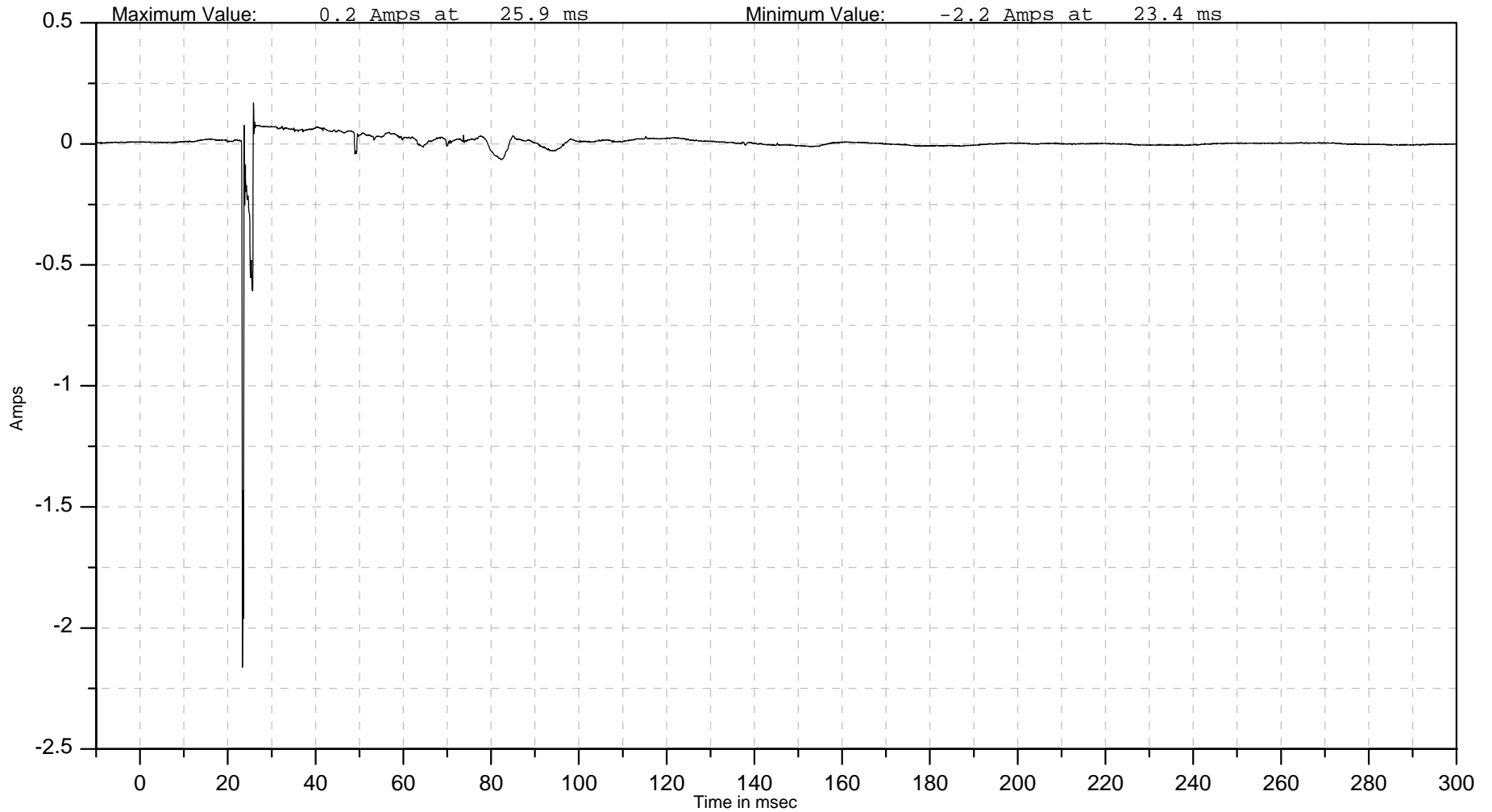
ISO Channel
11ABSE010000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
11ABSE020000CU00

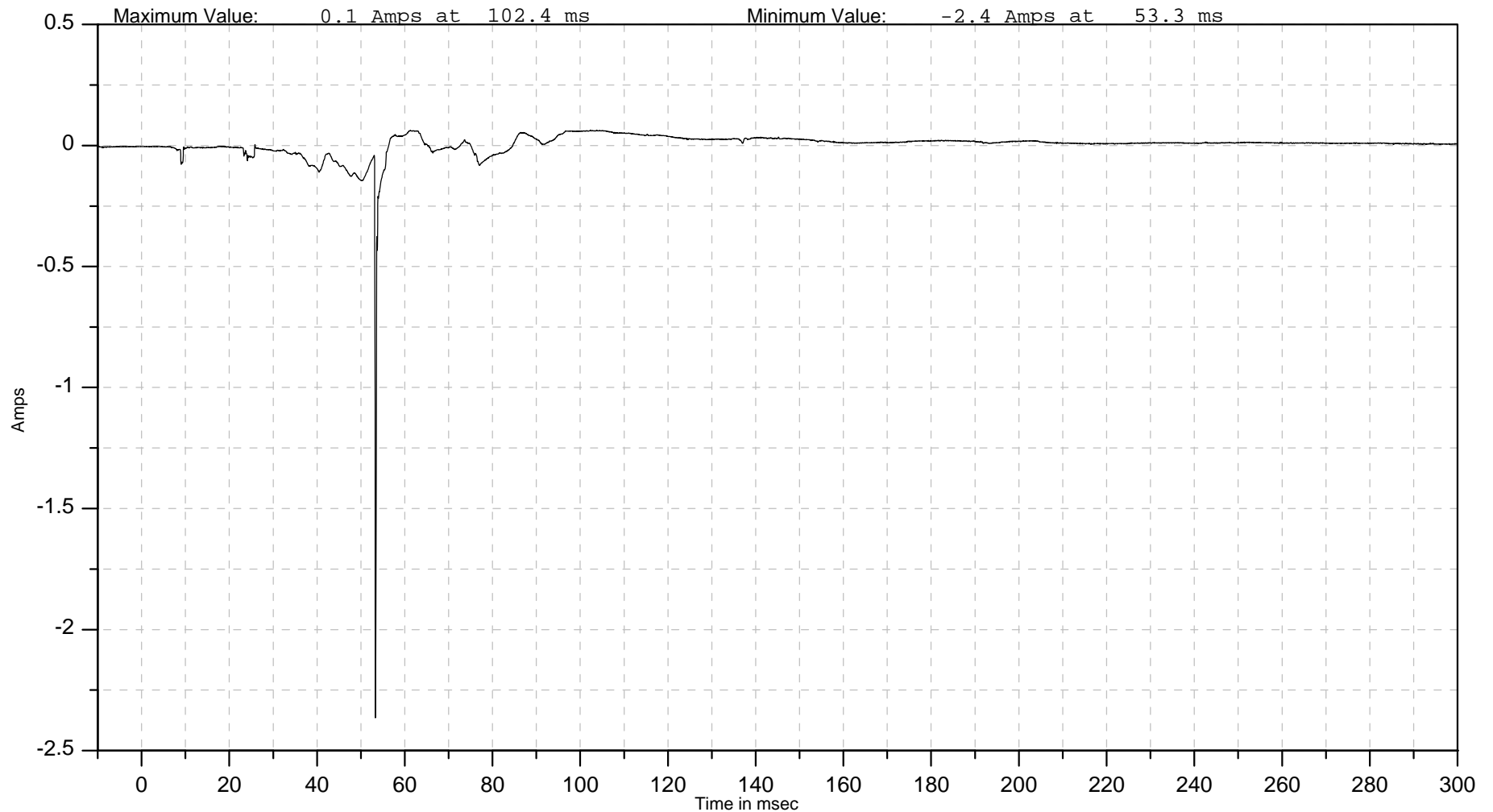
ISO Channel
11ABSE020000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Driver 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE010000CU00

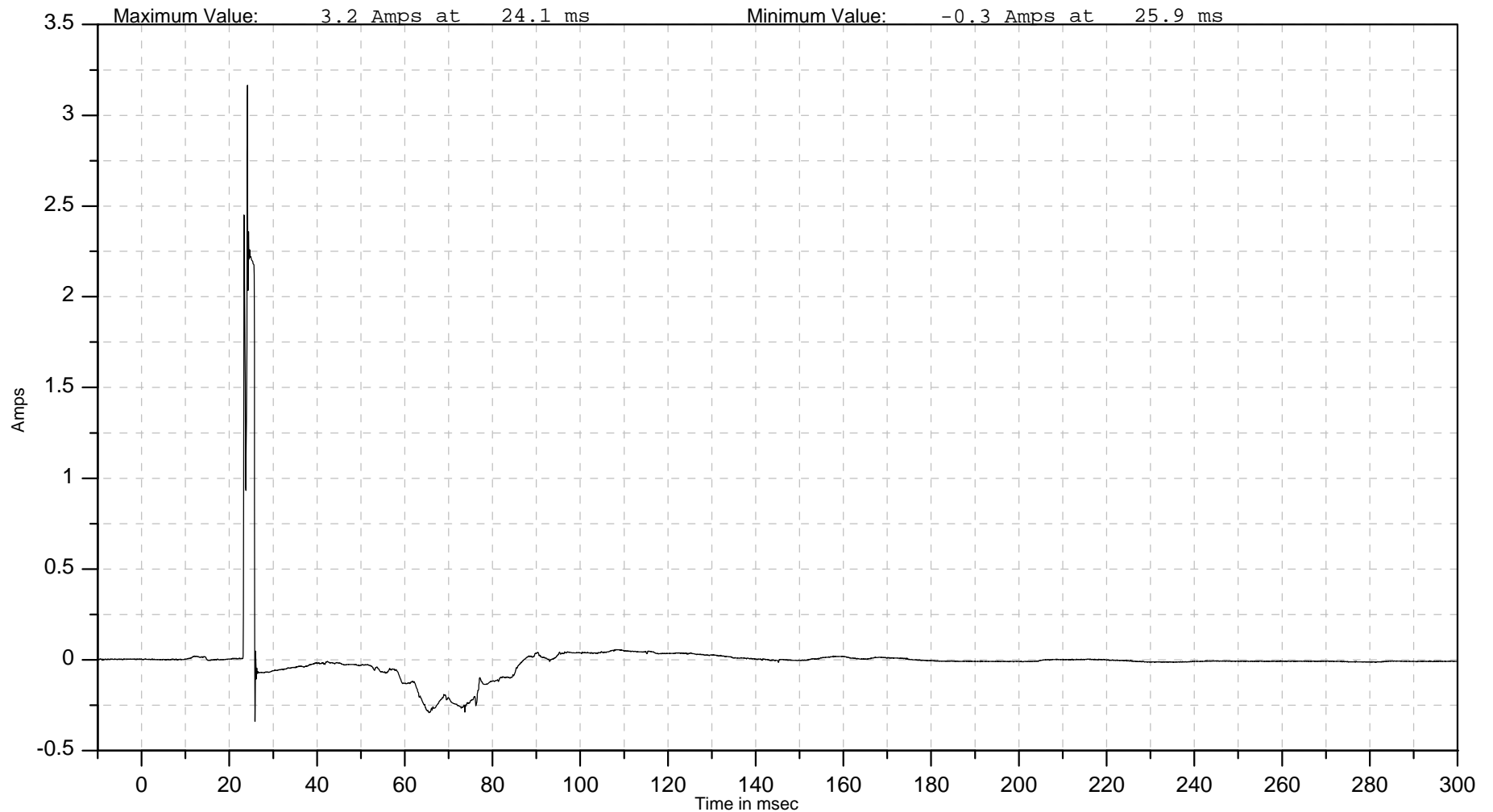
ISO Channel
13ABSE010000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 1 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
13ABSE020000CU00

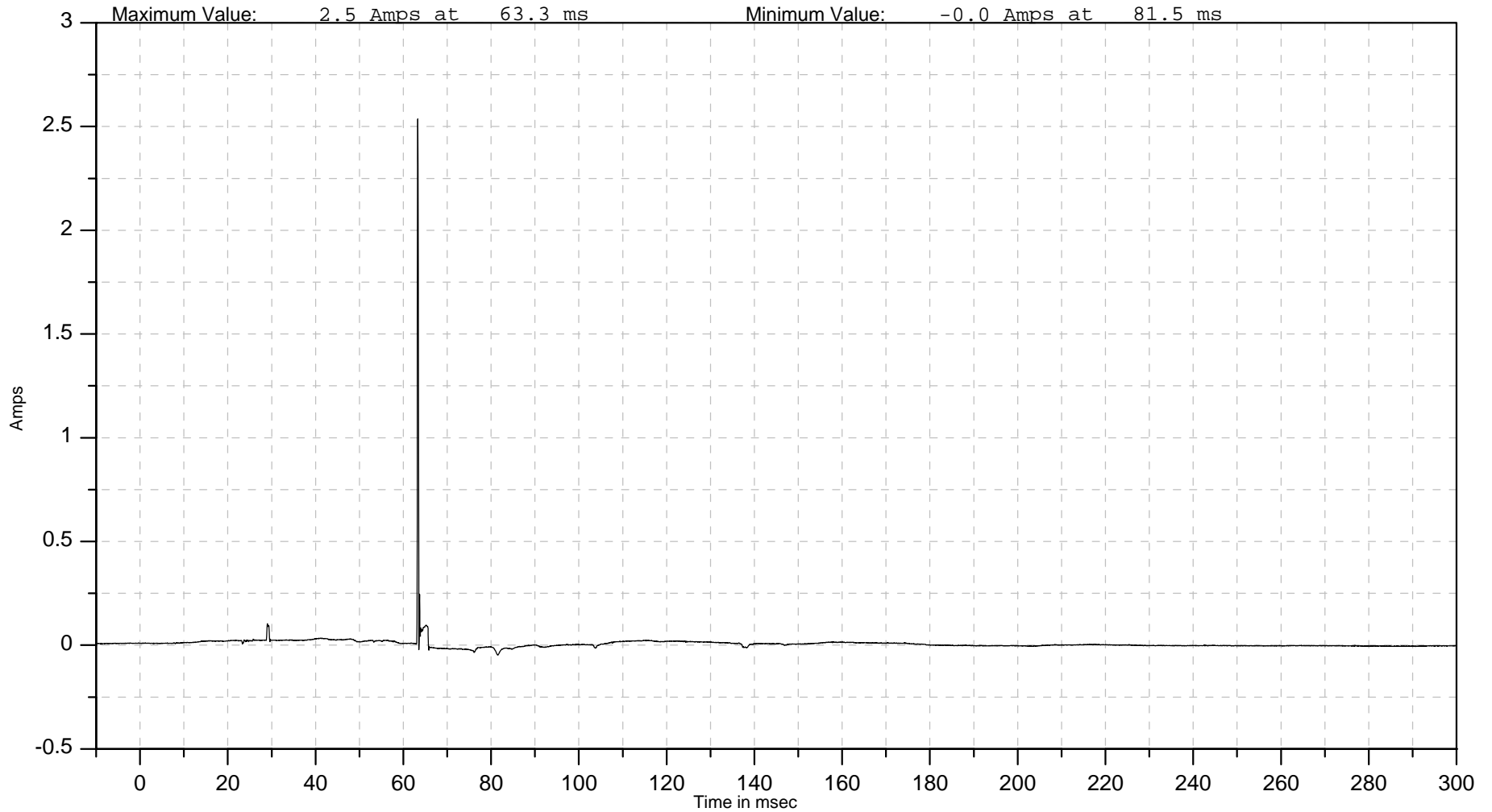
ISO Channel
13ABSE020000CU00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

RFP 2 Airbag Sensor Current





Autoliv North America (NTC)

Autoliv Channel
10VEHC000001EV00

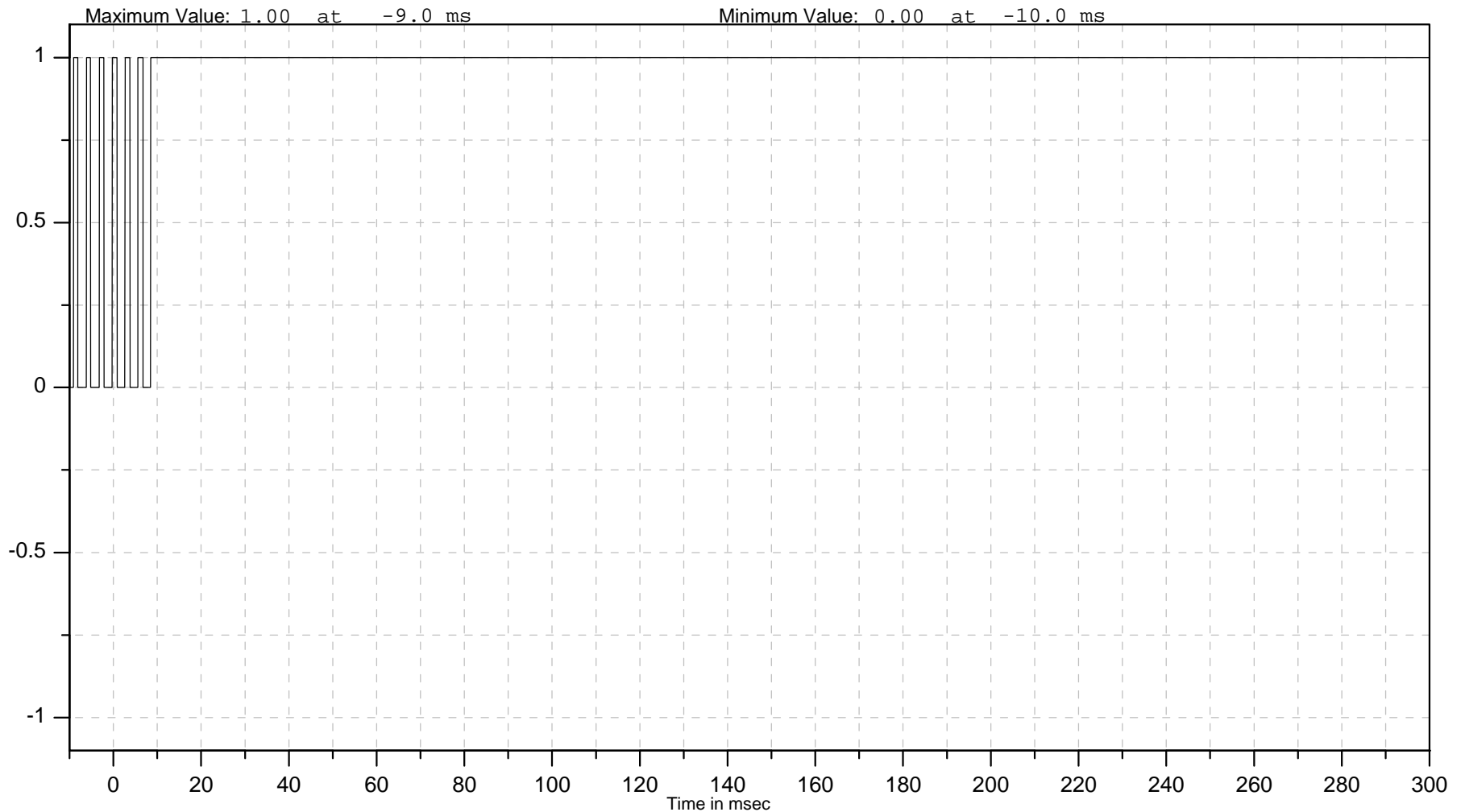
ISO Channel
10VEHC000001EV00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 1





Autoliv North America (NTC)

Autoliv Channel
10VEHC000002EV00

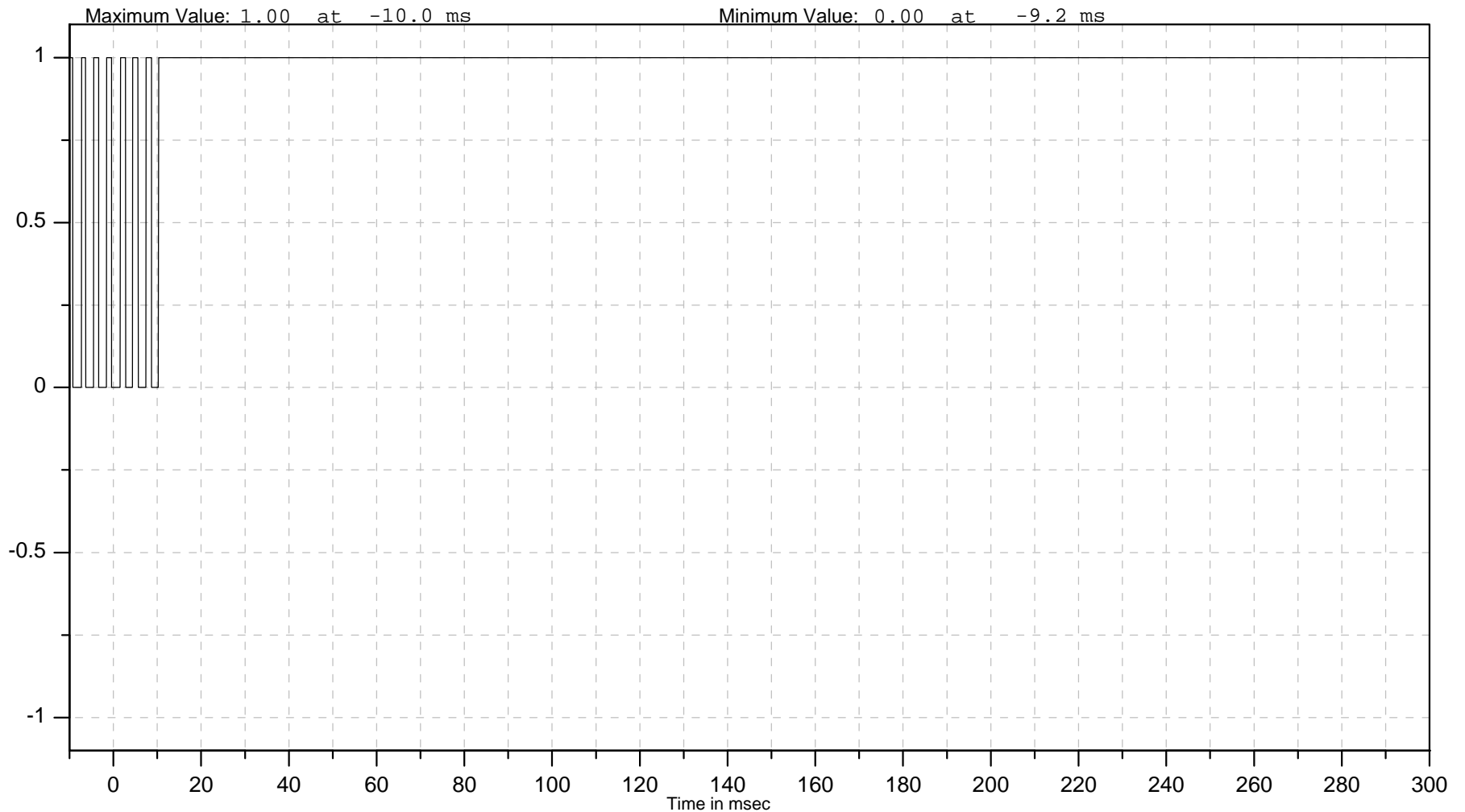
ISO Channel
10VEHC000002EV00

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Vehicle Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

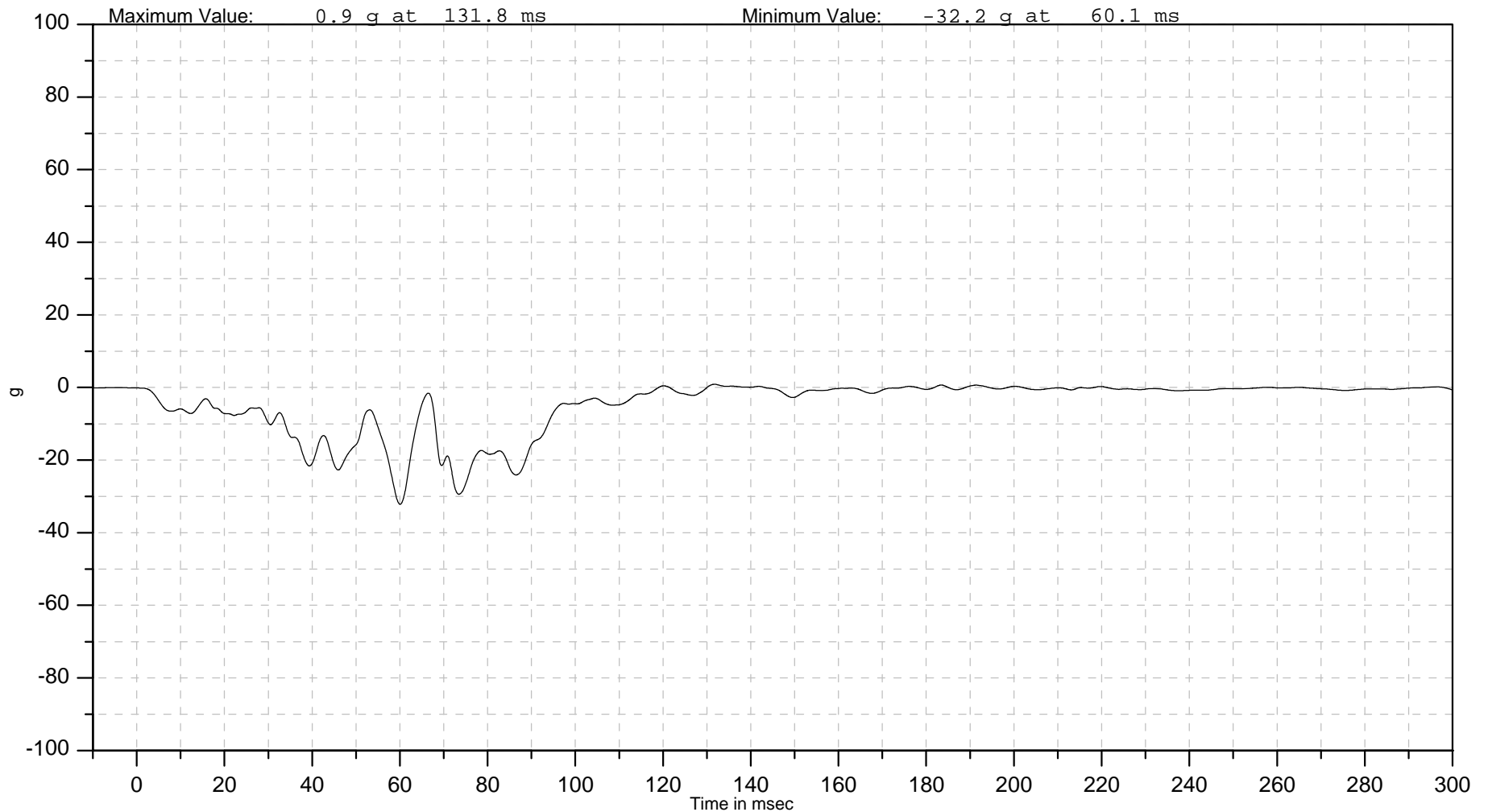
ISO Channel
10SILLLE0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACYD

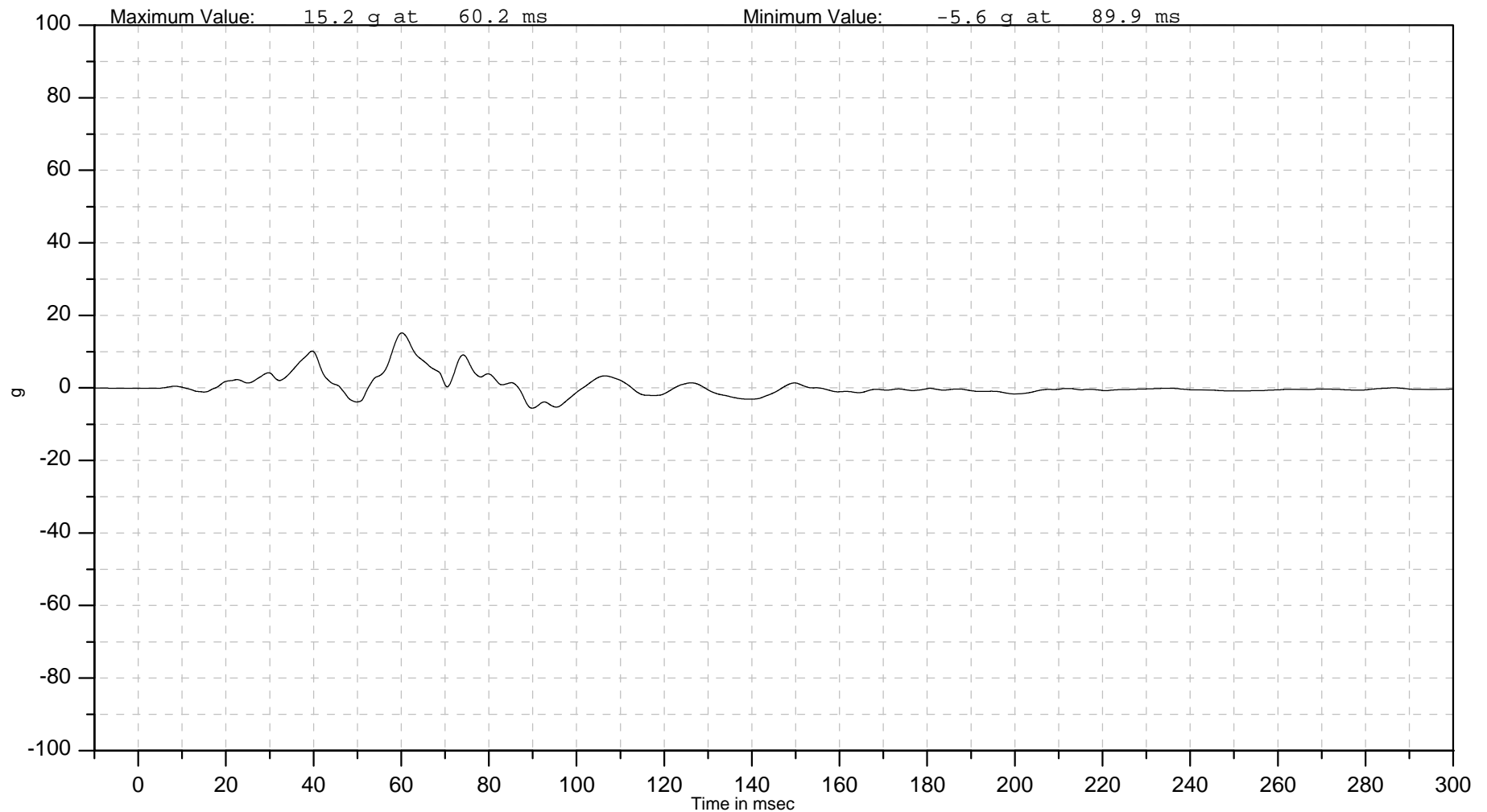
ISO Channel
10SILLLE0000ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRI0000ACXD

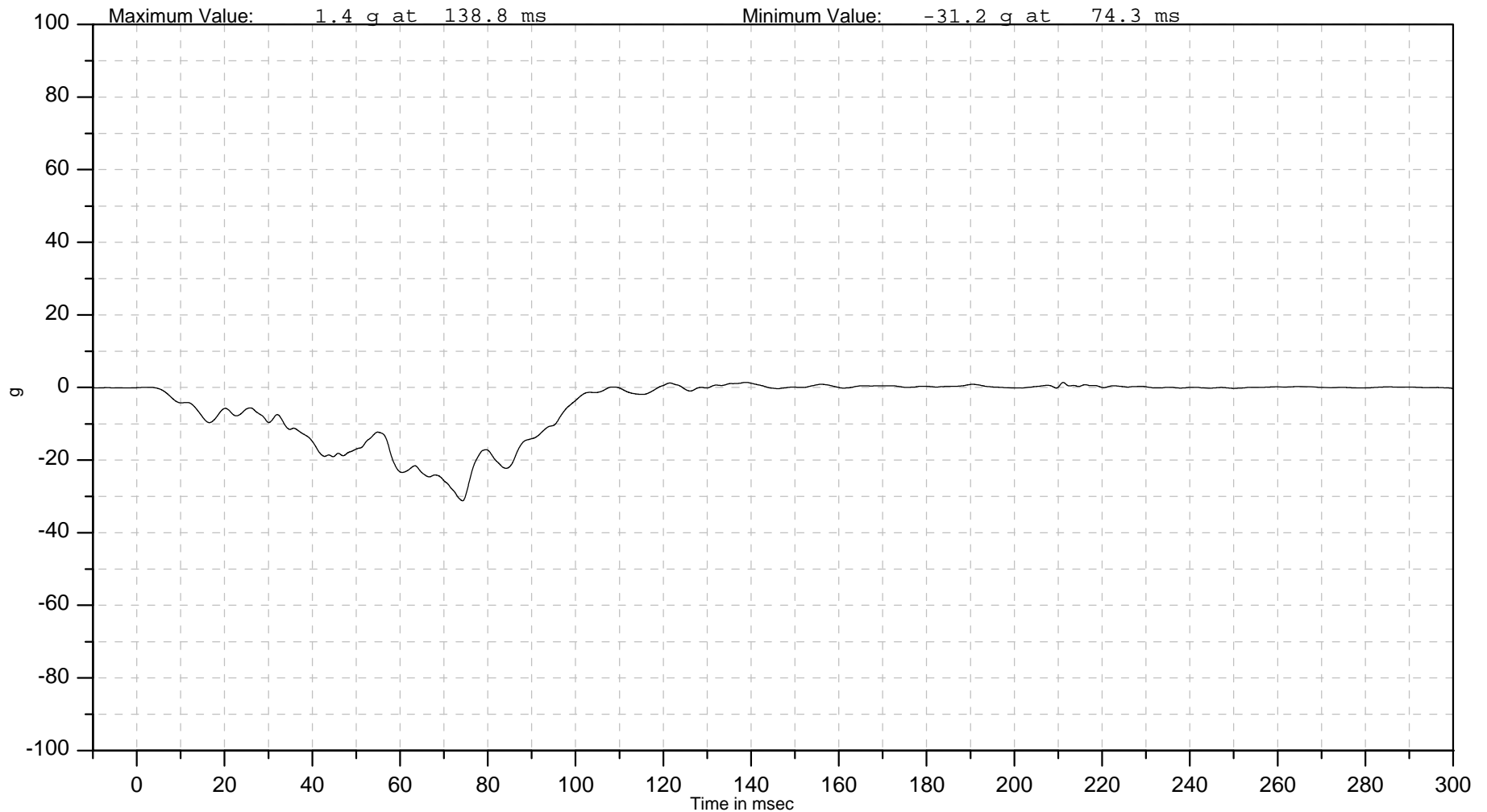
ISO Channel
10SILLRI0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

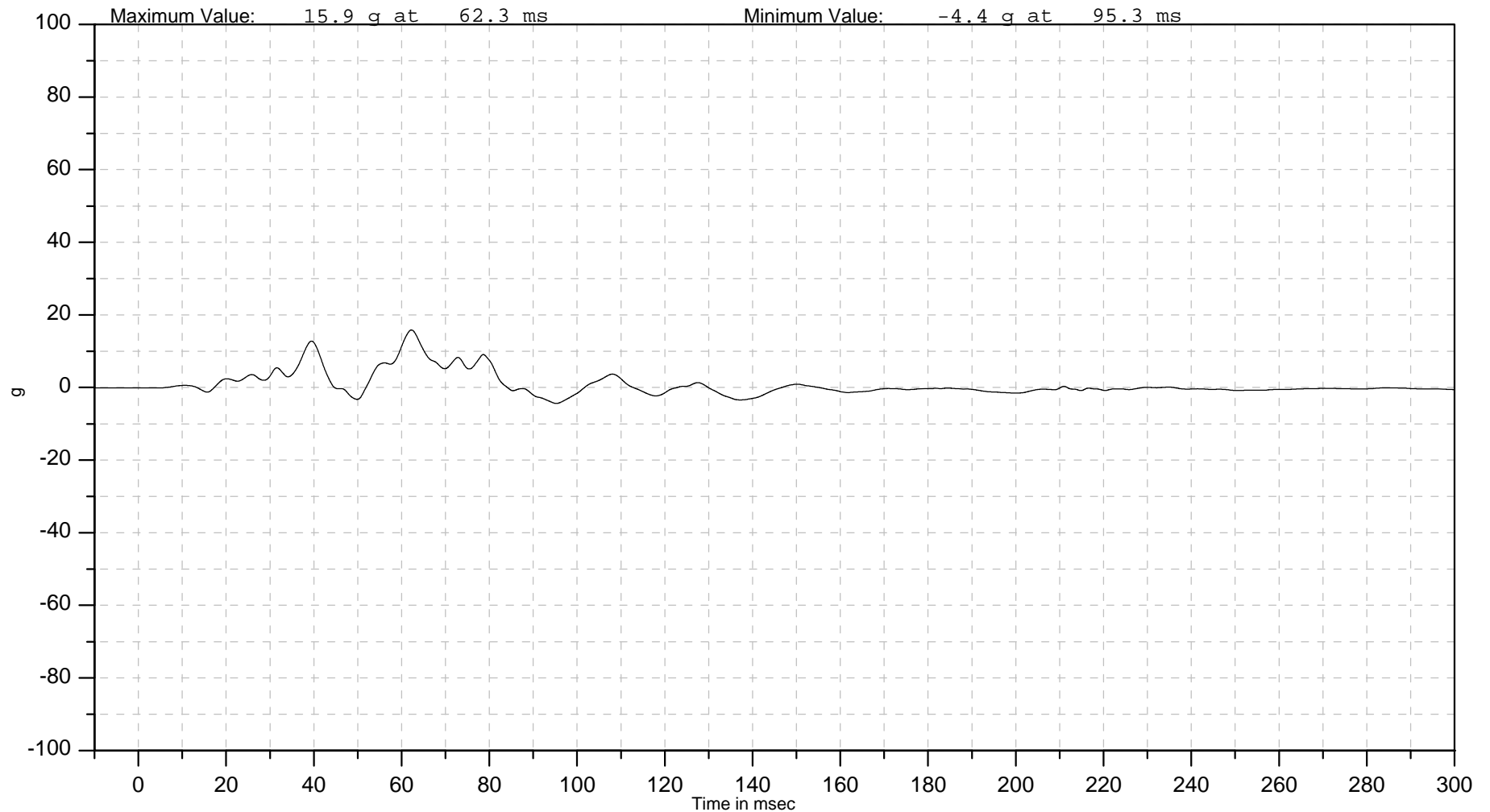
Autoliv Channel
10SILLRI0000ACYD

ISO Channel
10SILLRI0000ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Sill Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACXD

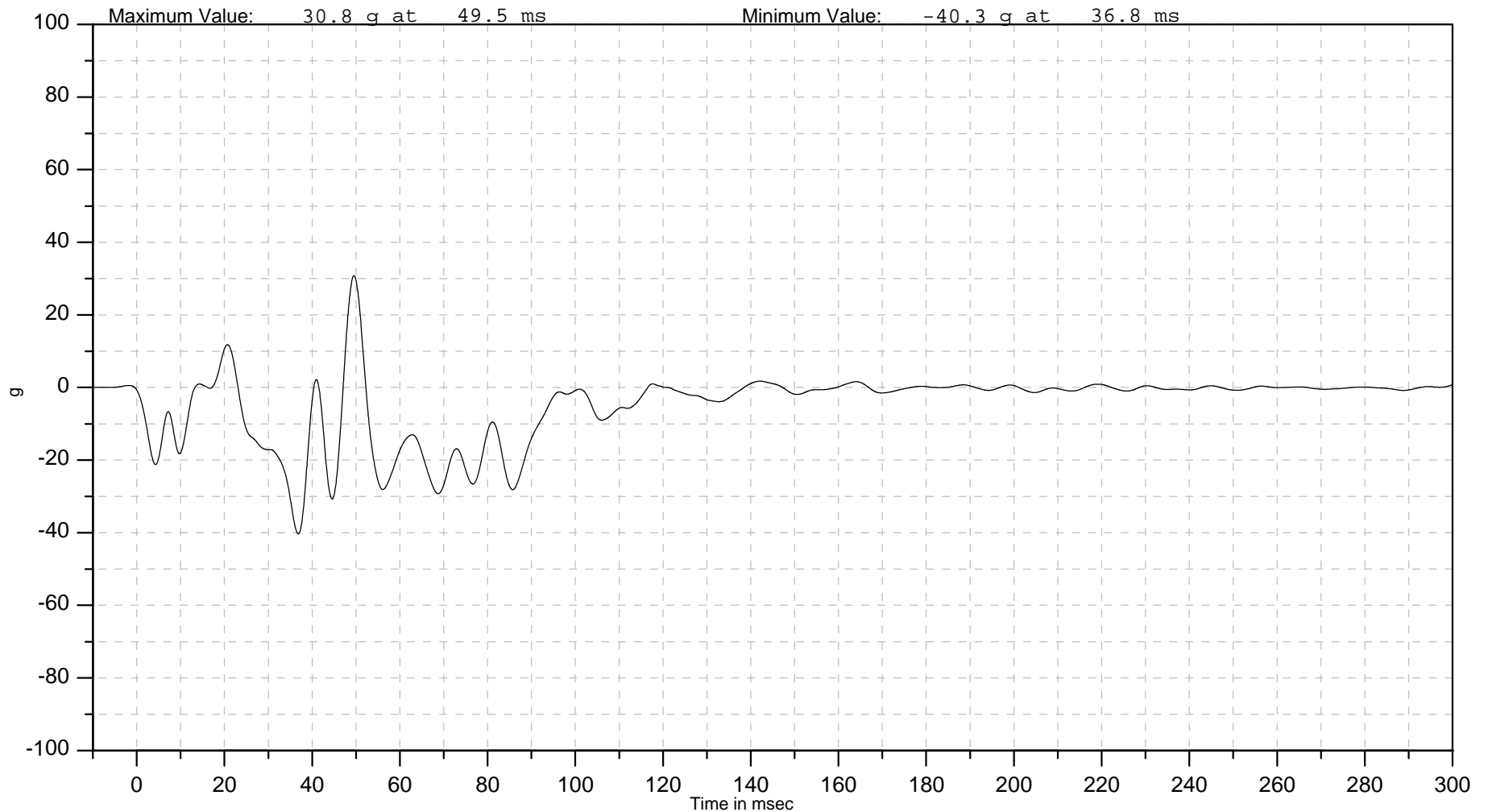
ISO Channel
10FRAMLE0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMLE0000ACYD

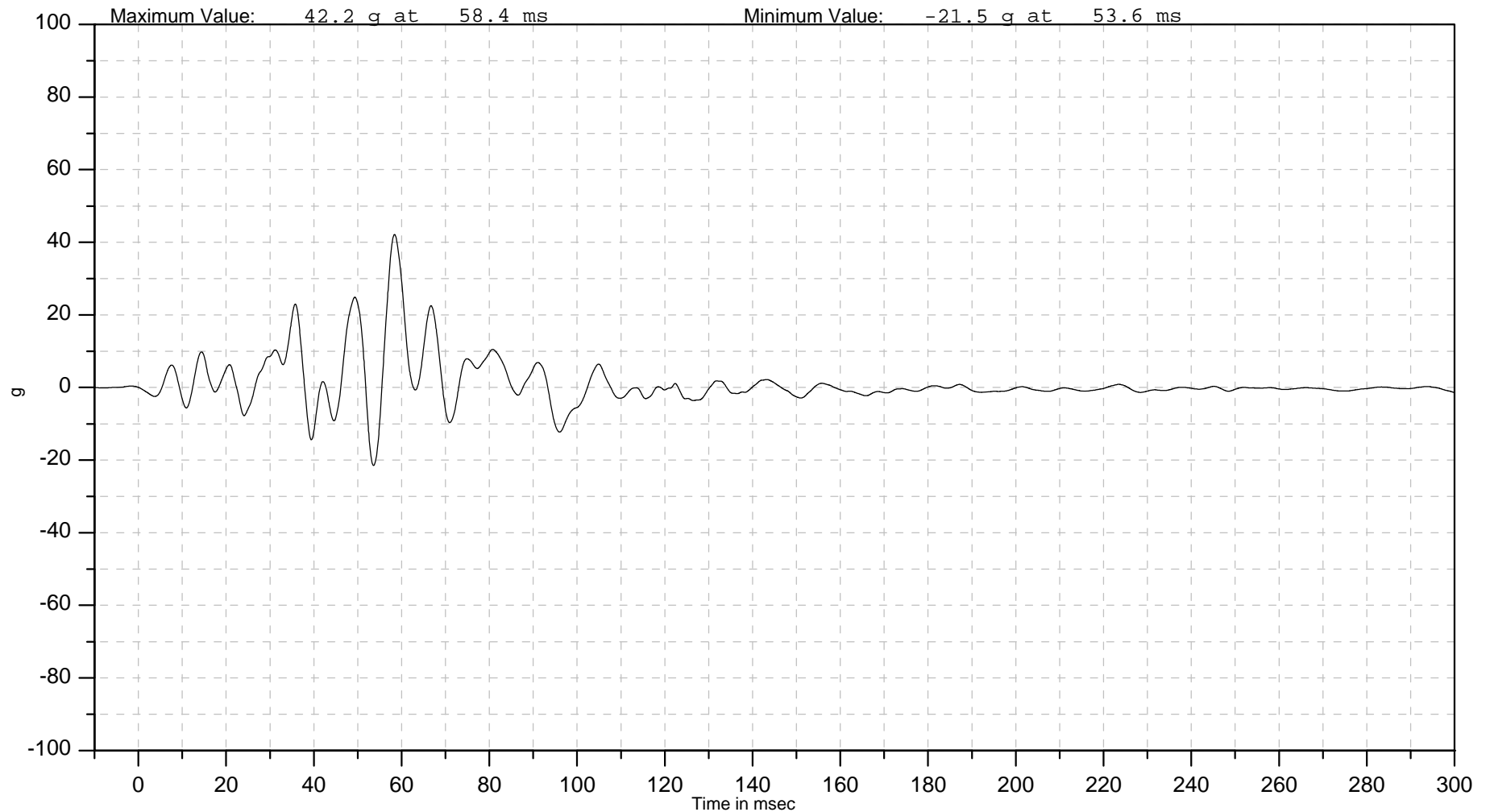
ISO Channel
10FRAMLE0000ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Frame Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACXD

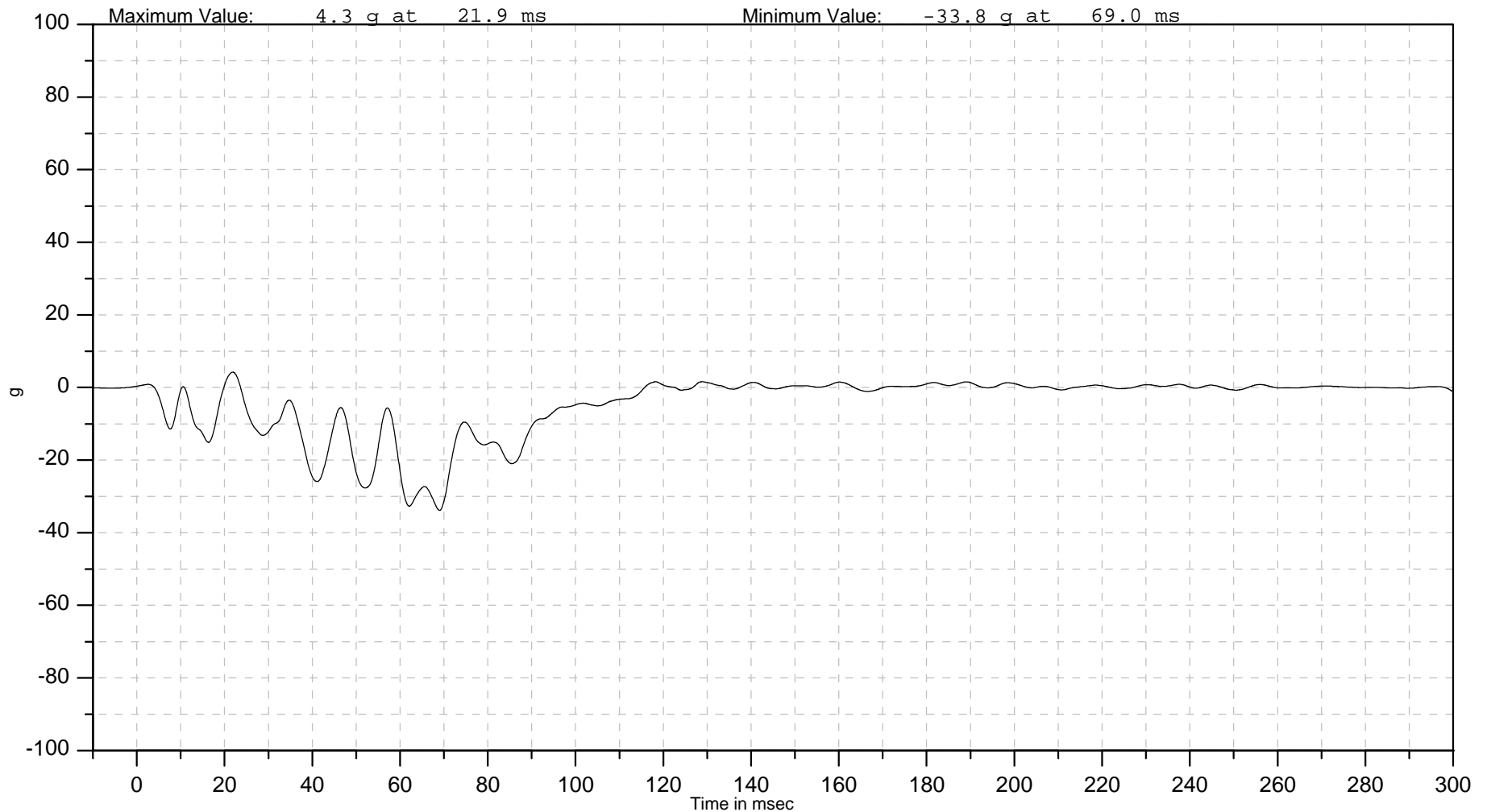
ISO Channel
10FRAMRI0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FRAMRI0000ACYD

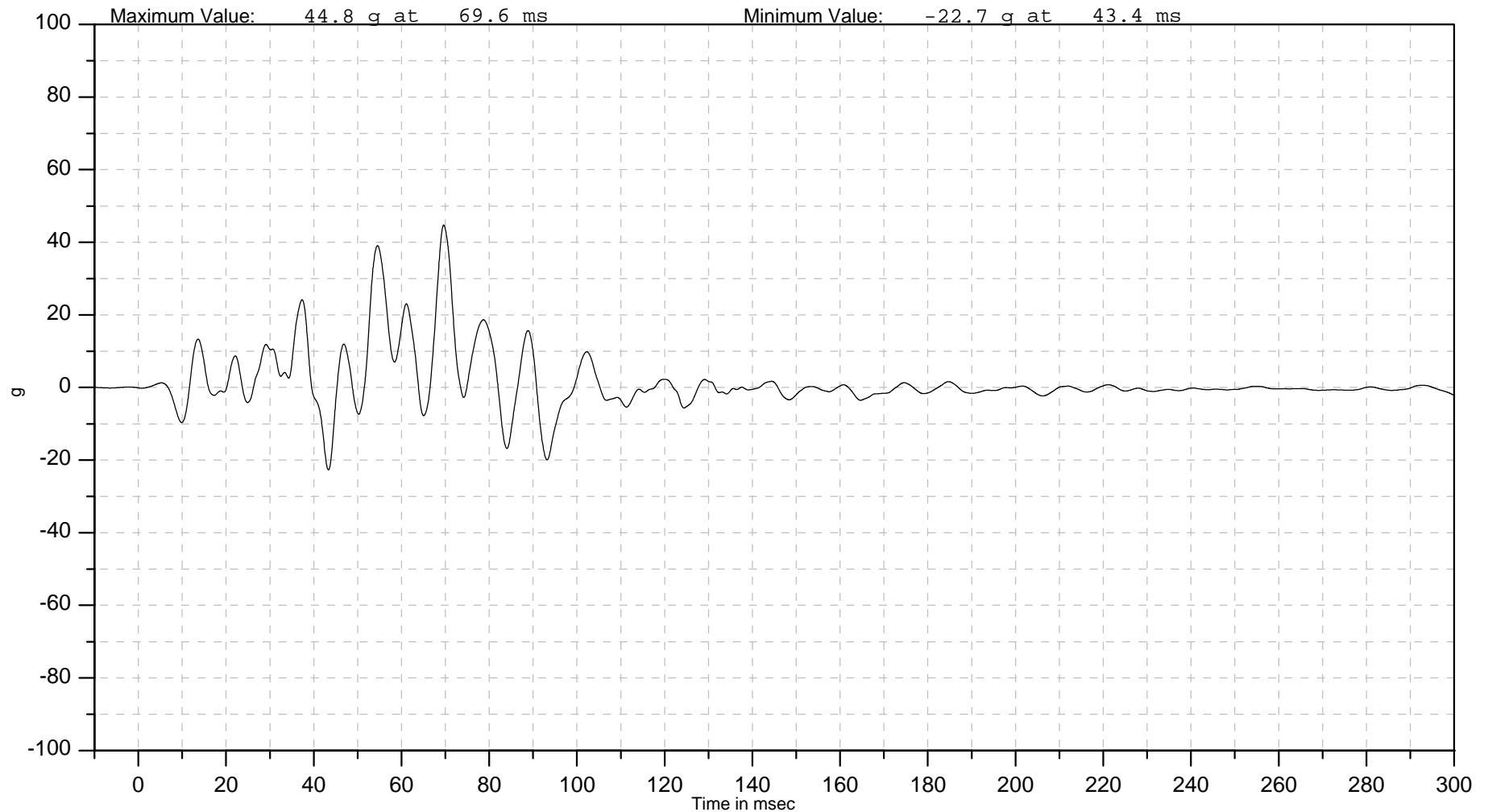
ISO Channel
10FRAMRI0000ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Frame Y Acceleration





Autoliv North America (NTC)

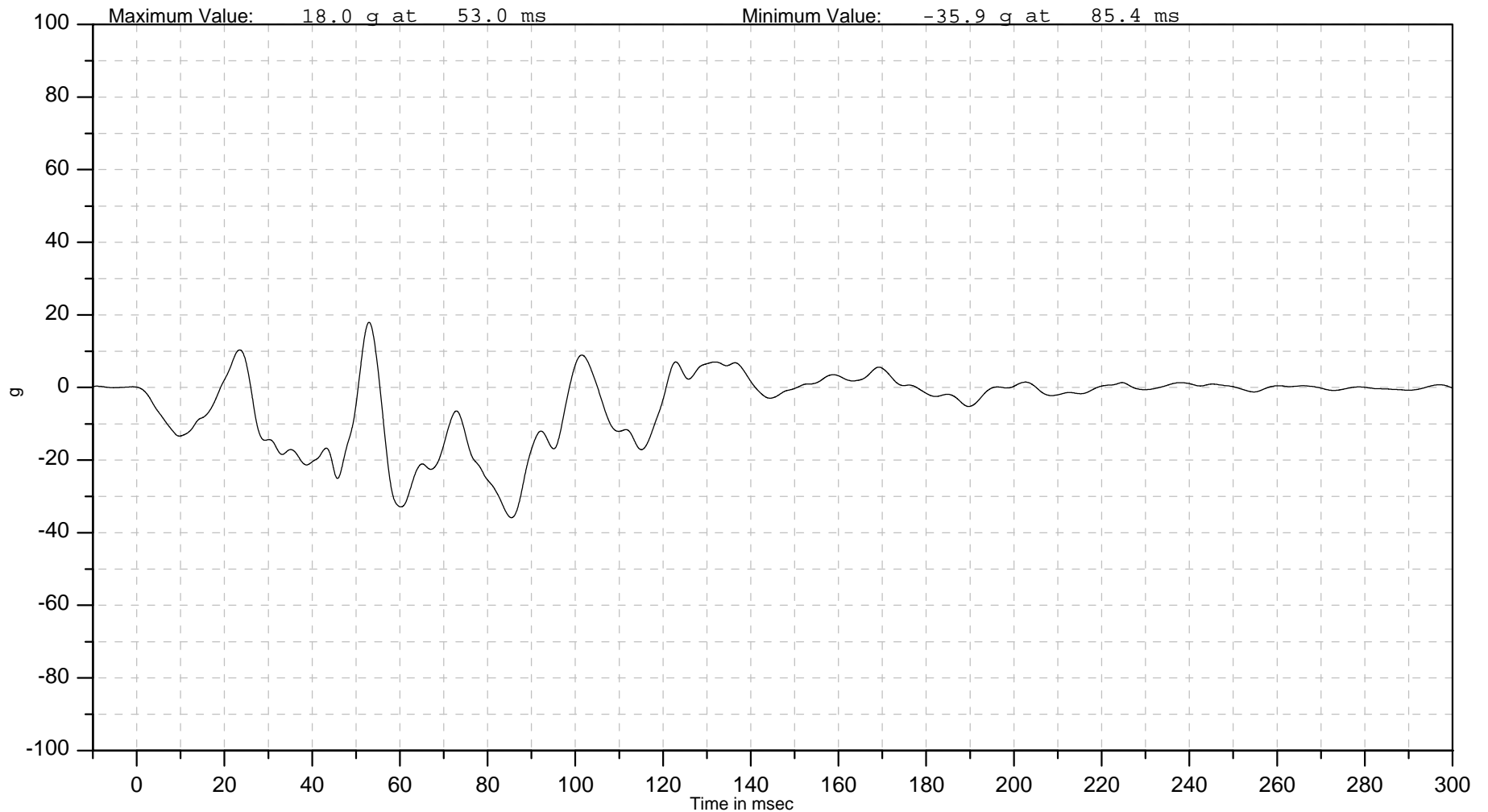
Autoliv Channel
10FULTLOMI00ACXD

ISO Channel
10FULTLOMI00ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACYD

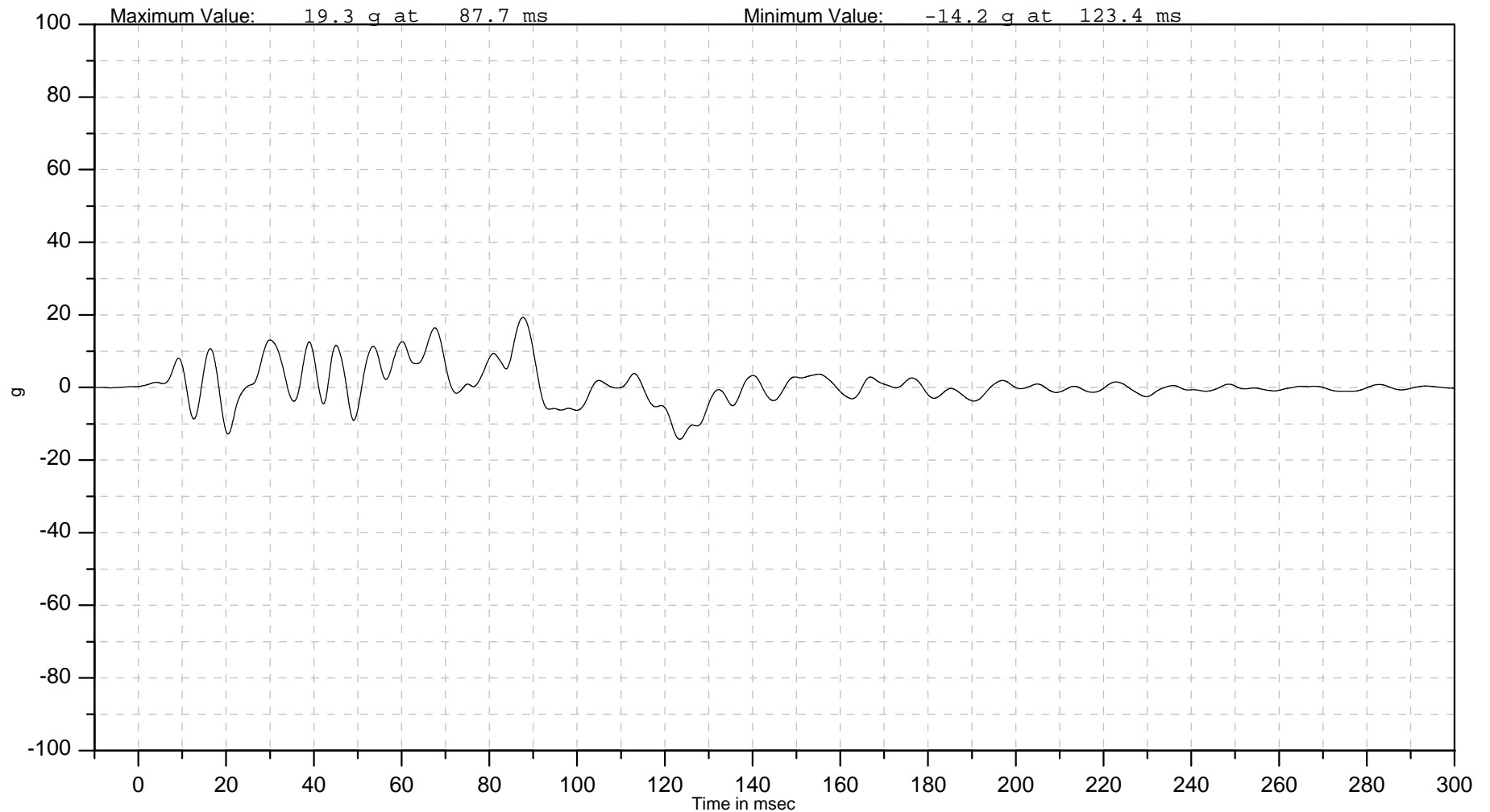
ISO Channel
10FULTLOMI00ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACZD

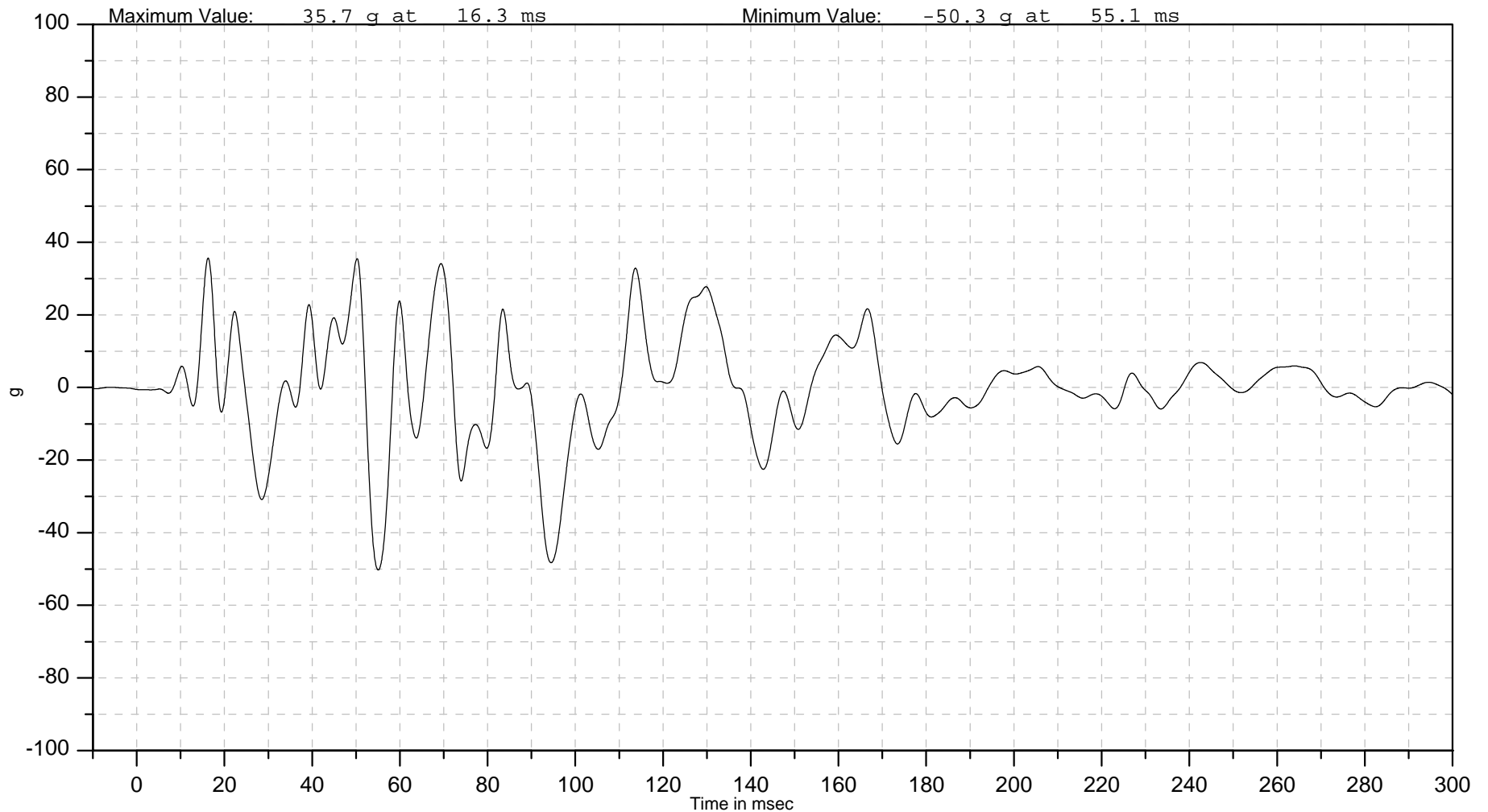
ISO Channel
10FULTLOMI00ACZD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACXD

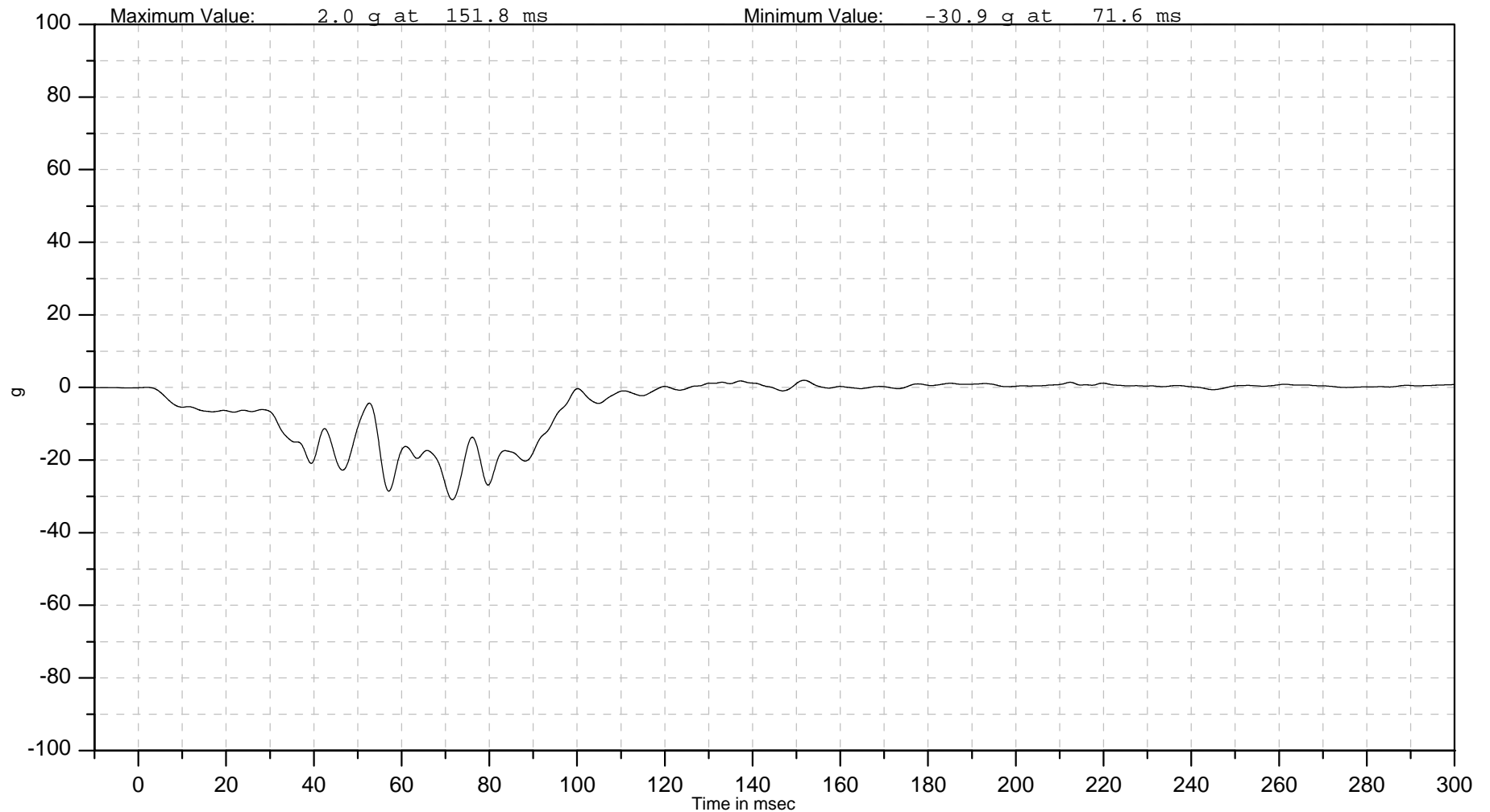
ISO Channel
10ABSE000000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

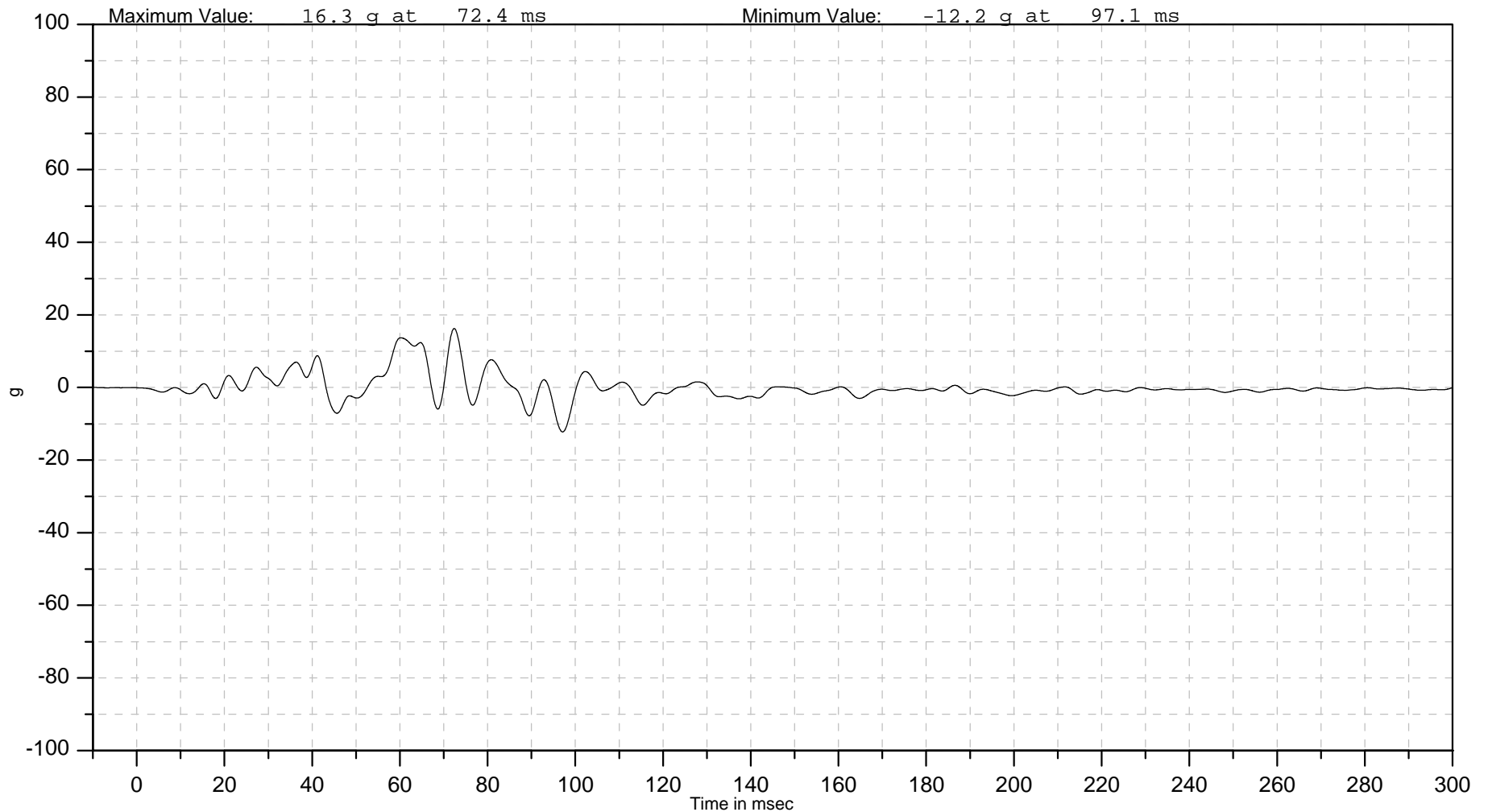
ISO Channel
10ABSE000000ACYD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACZD

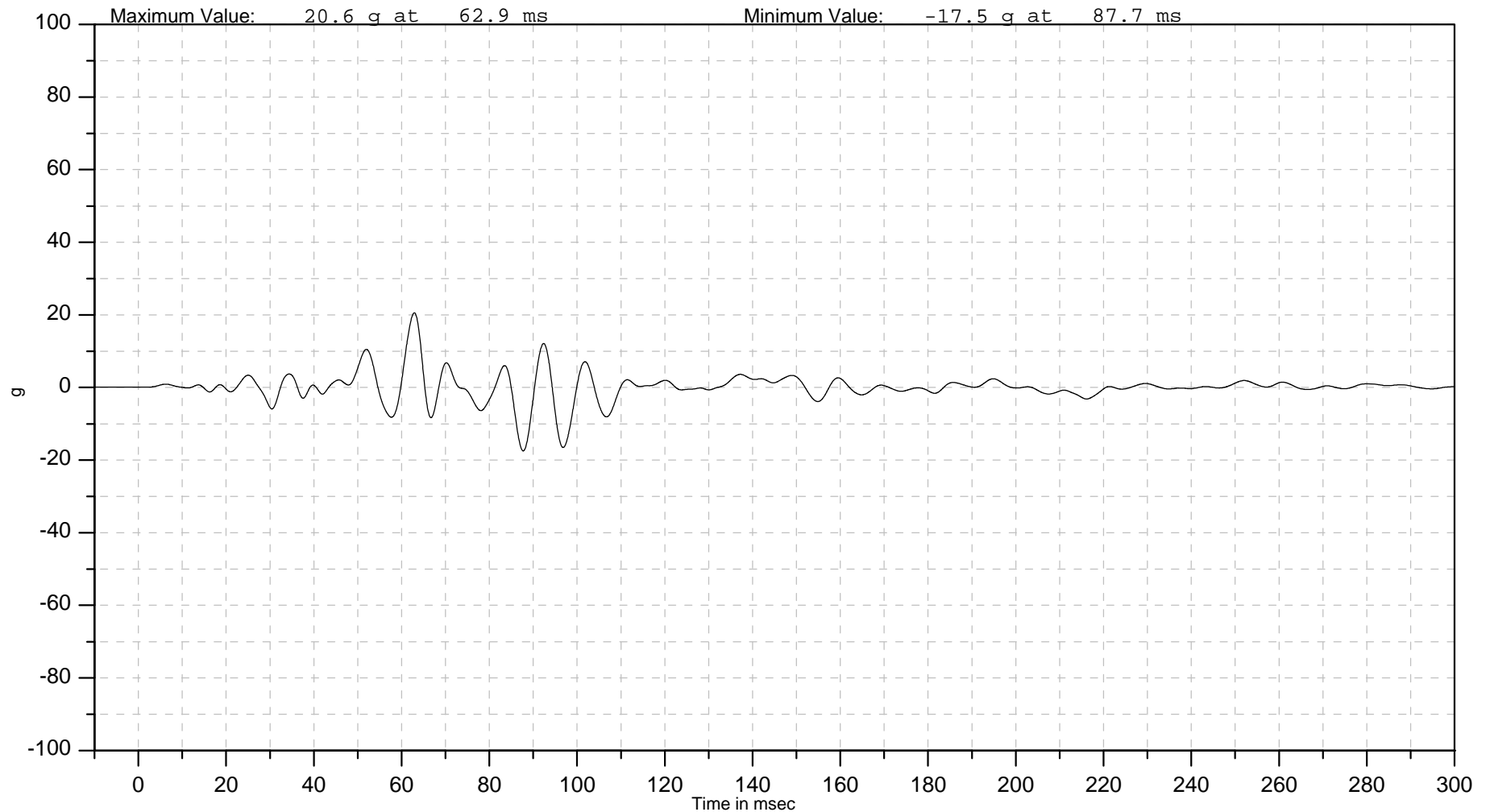
ISO Channel
10ABSE000000ACZD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Z Acceleration





Autoliv North America (NTC)

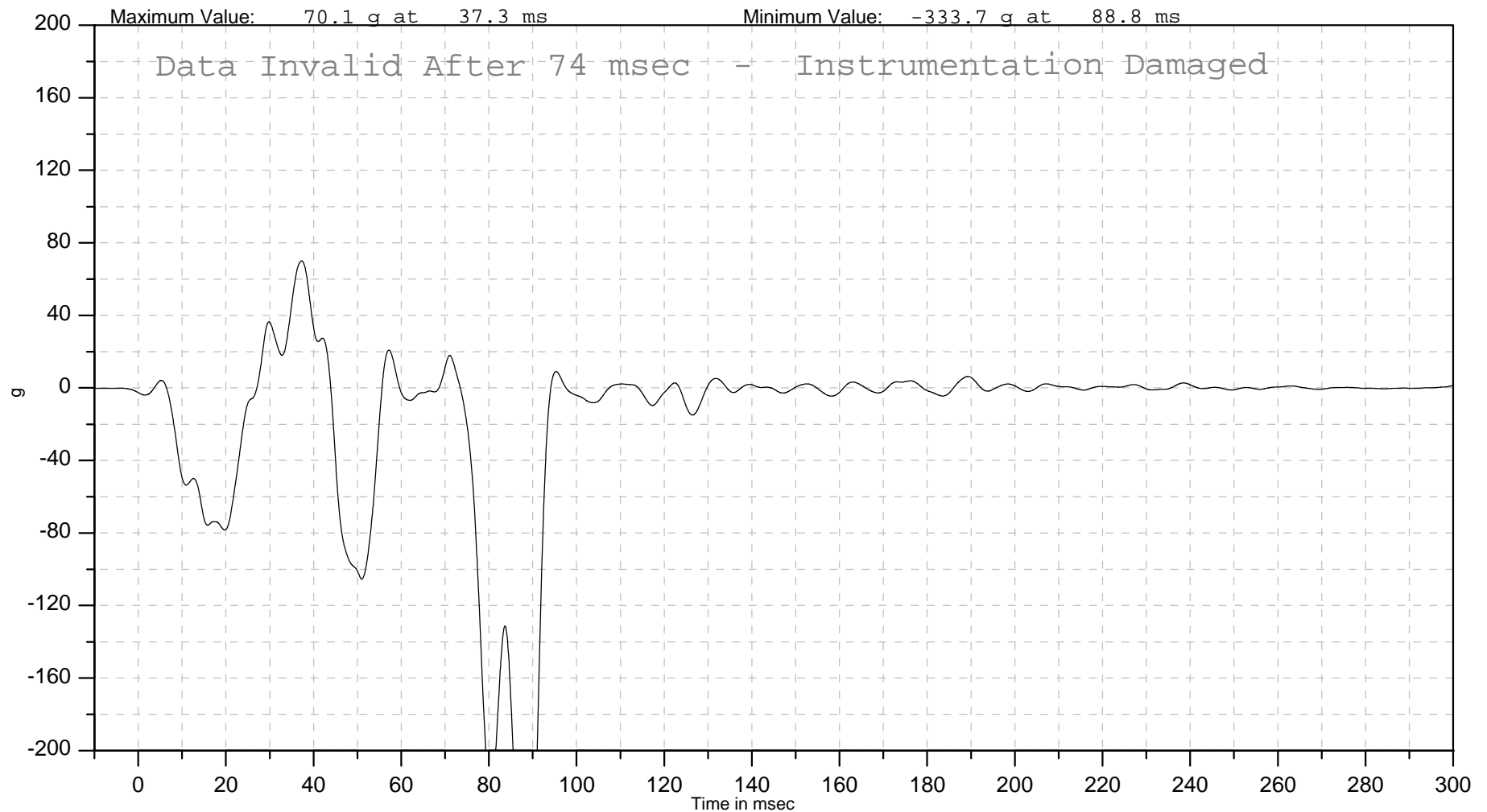
Autoliv Channel
10SENSFR0000ACXD

ISO Channel
10SENSFR0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Front Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSFR0000ACXD

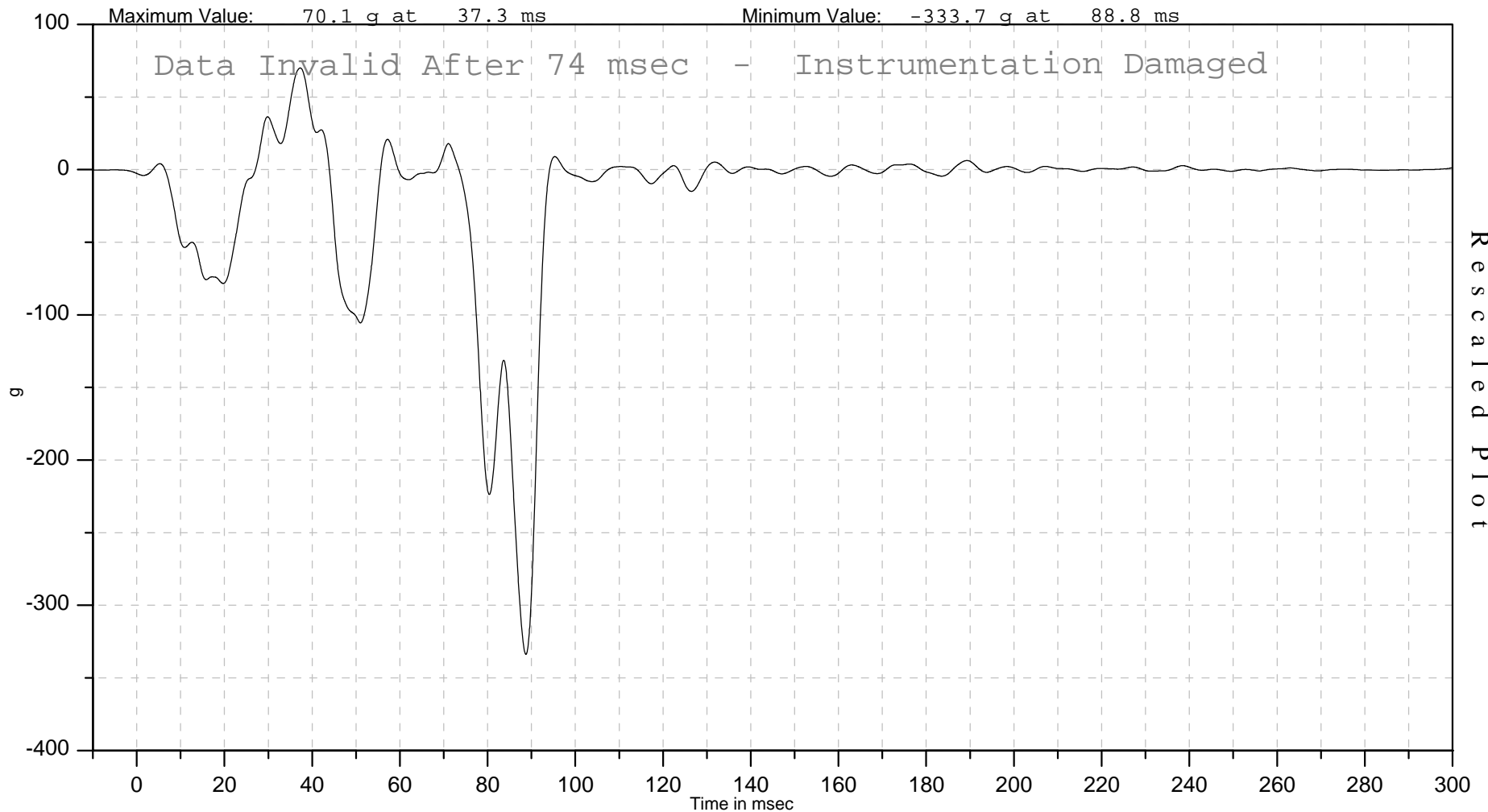
ISO Channel
10SENSFR0000ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Front Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SENSFRRD00ACXD

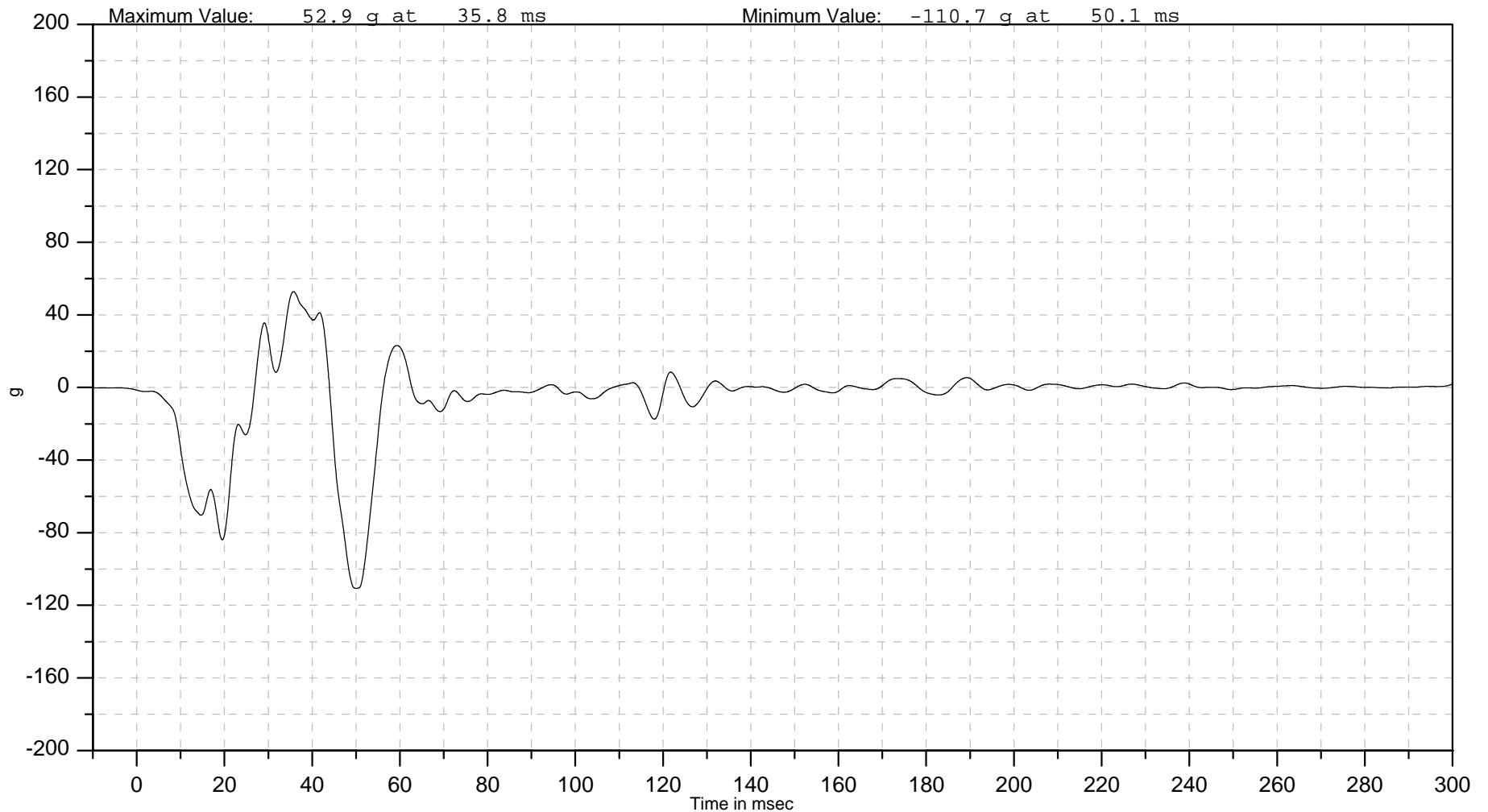
ISO Channel
10SENSFRRD00ACXD

Test Number: B1040251
Test Date: 29-Jul-2004
Test Description: Nissan P61B 30mph Left Angle Barrier

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Front Redundant Sensor X Acceleration





Autoliv North America (NTC)

Autoliv Channel
N/A

ISO Channel
N/A

Test Number: B1040277

Test Date: 16-Aug-2004

Test Description: 2005 P61B 50mph Fuel Filler Impact

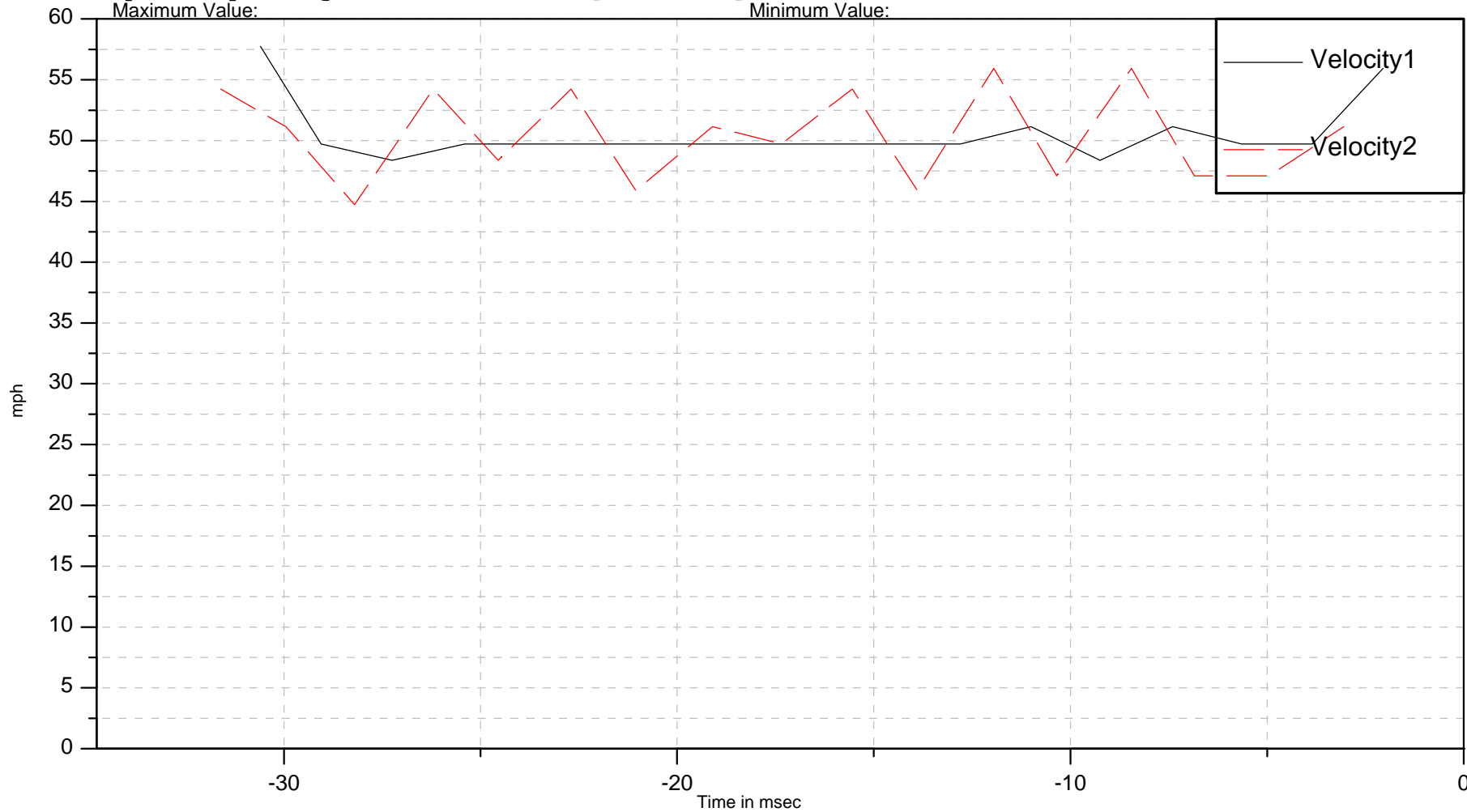
Dummy Type

Filter: N/A

Sign Convention: SAE J211

Speed Trap Calculated Cart Velocity

Speed Trap 1 Calculated Velocity = 50.6 mph
Speed Trap 2 Calculated Velocity = 50.5 mph
Speed Trap Average Calculated Velocity = 50.5 mph
Maximum Value: Minimum Value:





Autoliv North America (NTC)

Autoliv Channel
10CART000001EV00

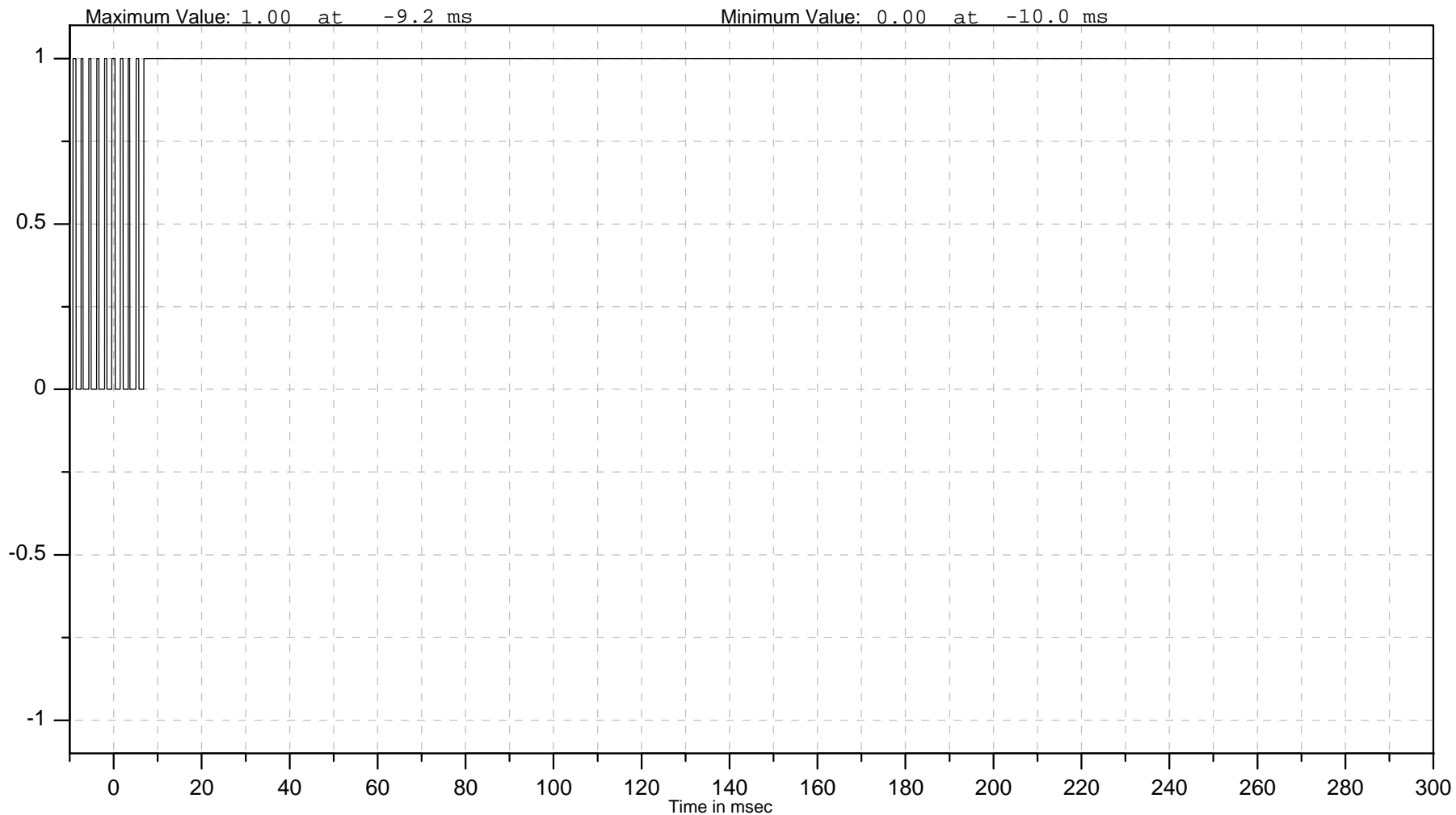
ISO Channel
10CART000001EV00

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 1





Autoliv North America (NTC)

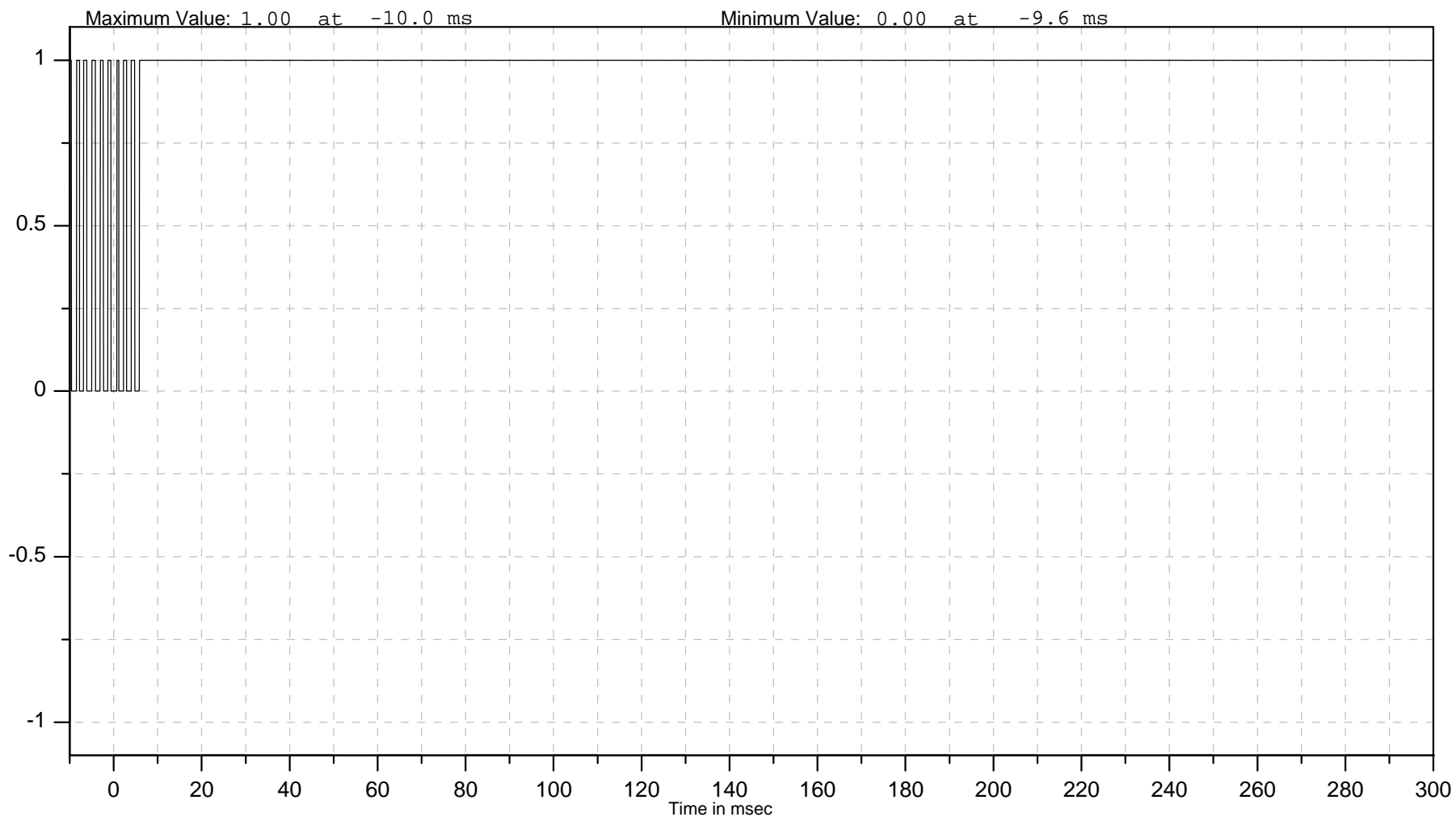
Autoliv Channel
10CART000002EV00

ISO Channel
10CART000002EV00

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

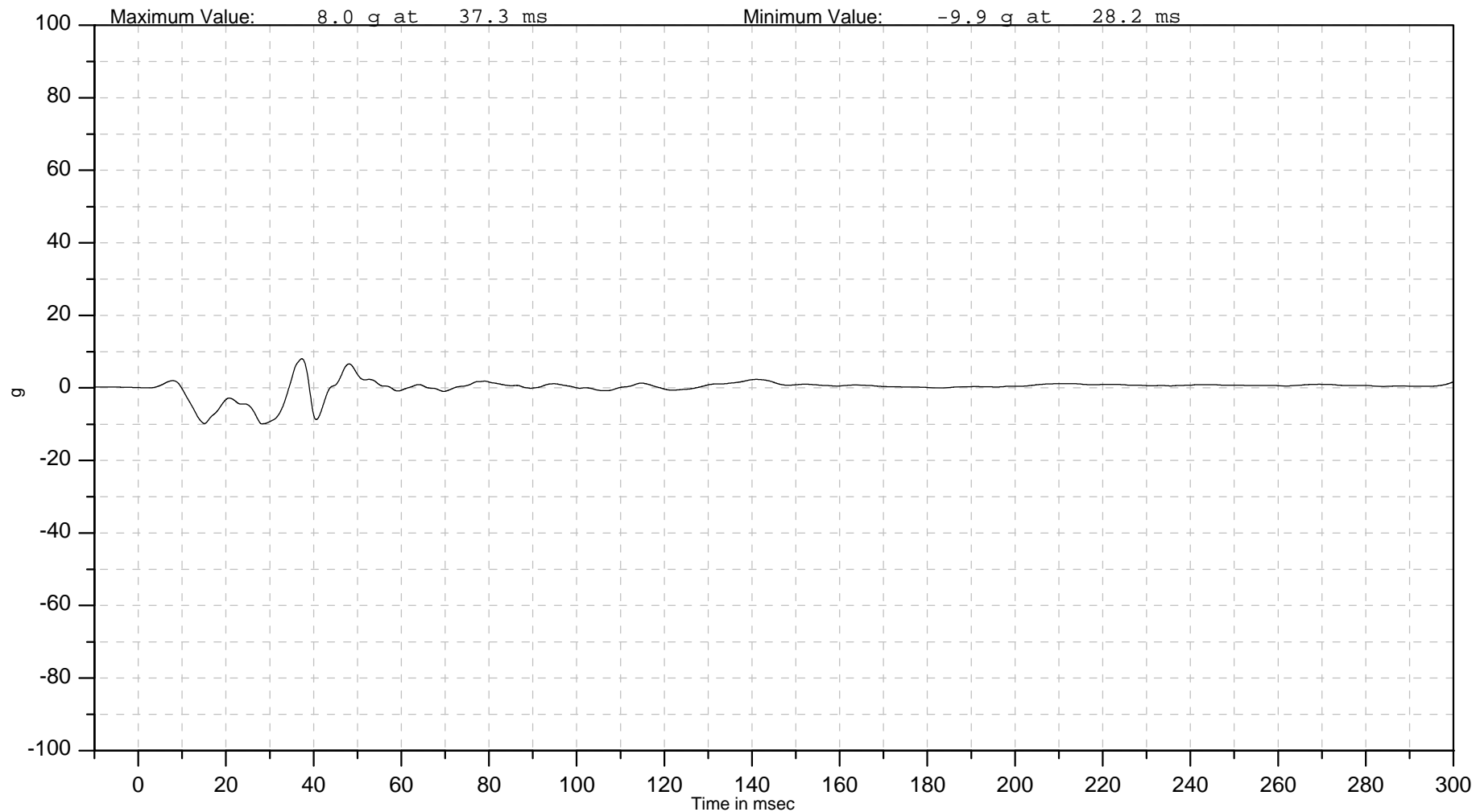
ISO Channel
10SILLLE0000ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

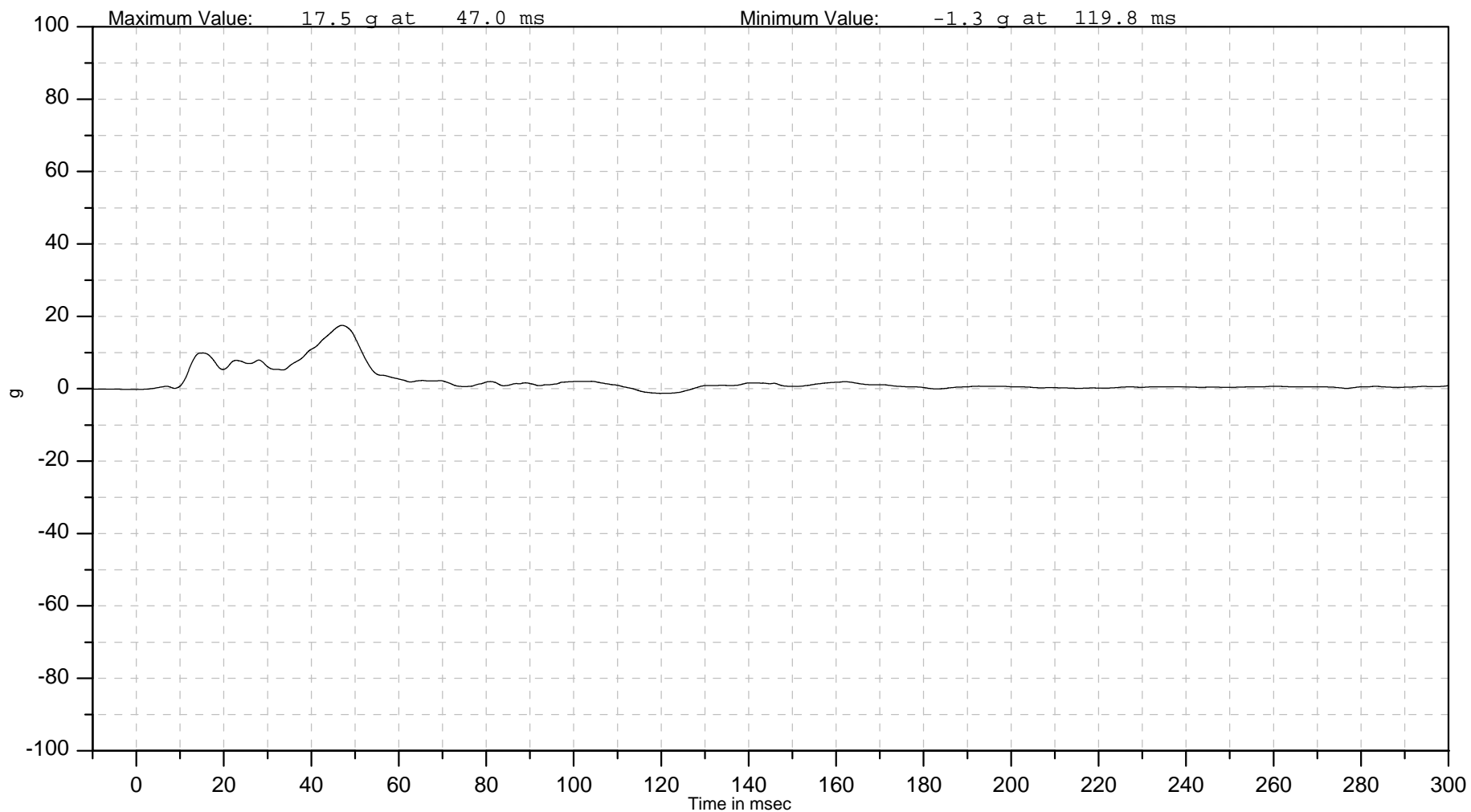
Autoliv Channel
10SILLRI0000ACXD

ISO Channel
10SILLRI0000ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACXD

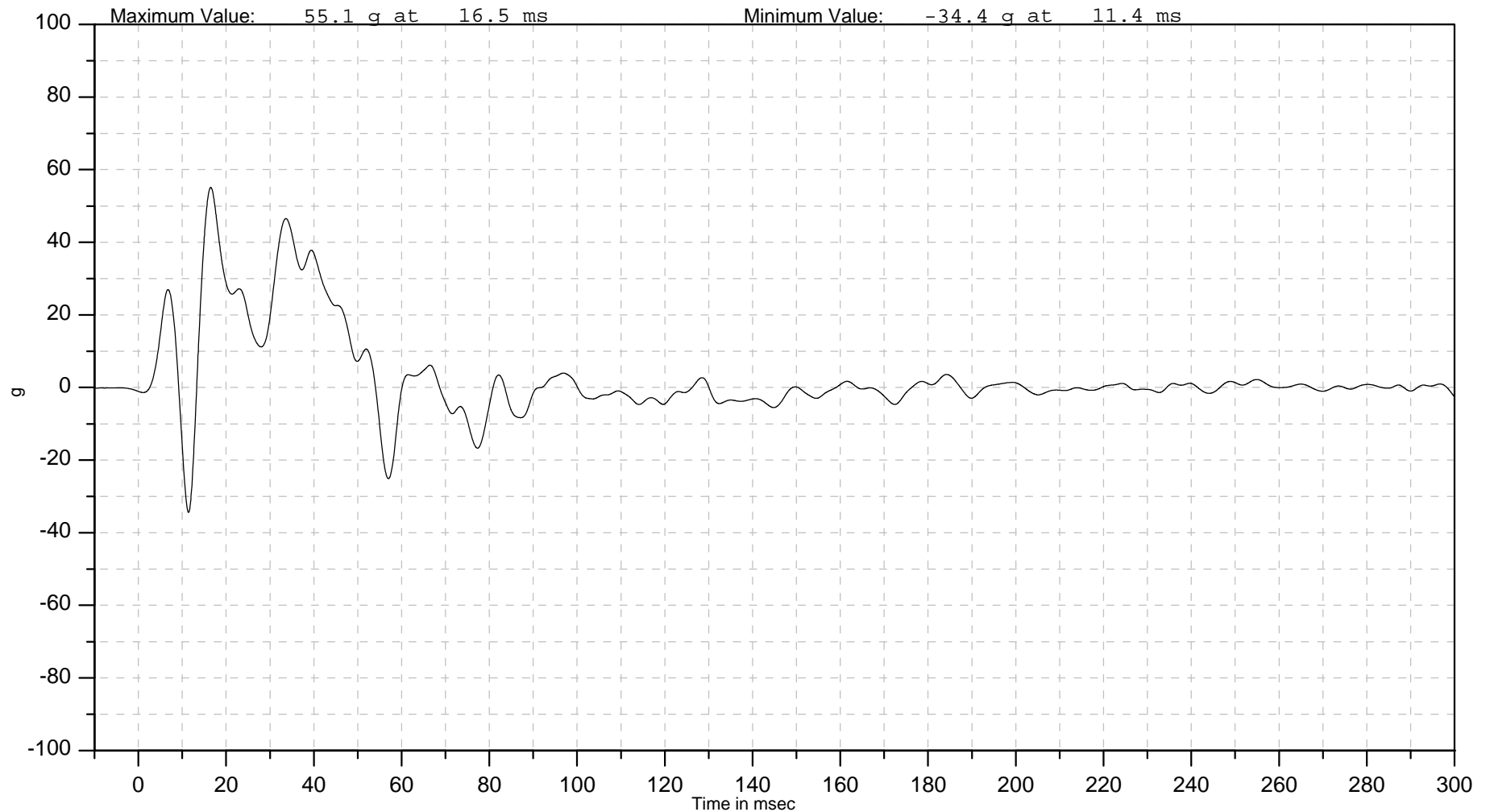
ISO Channel
10FULTLOMI00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

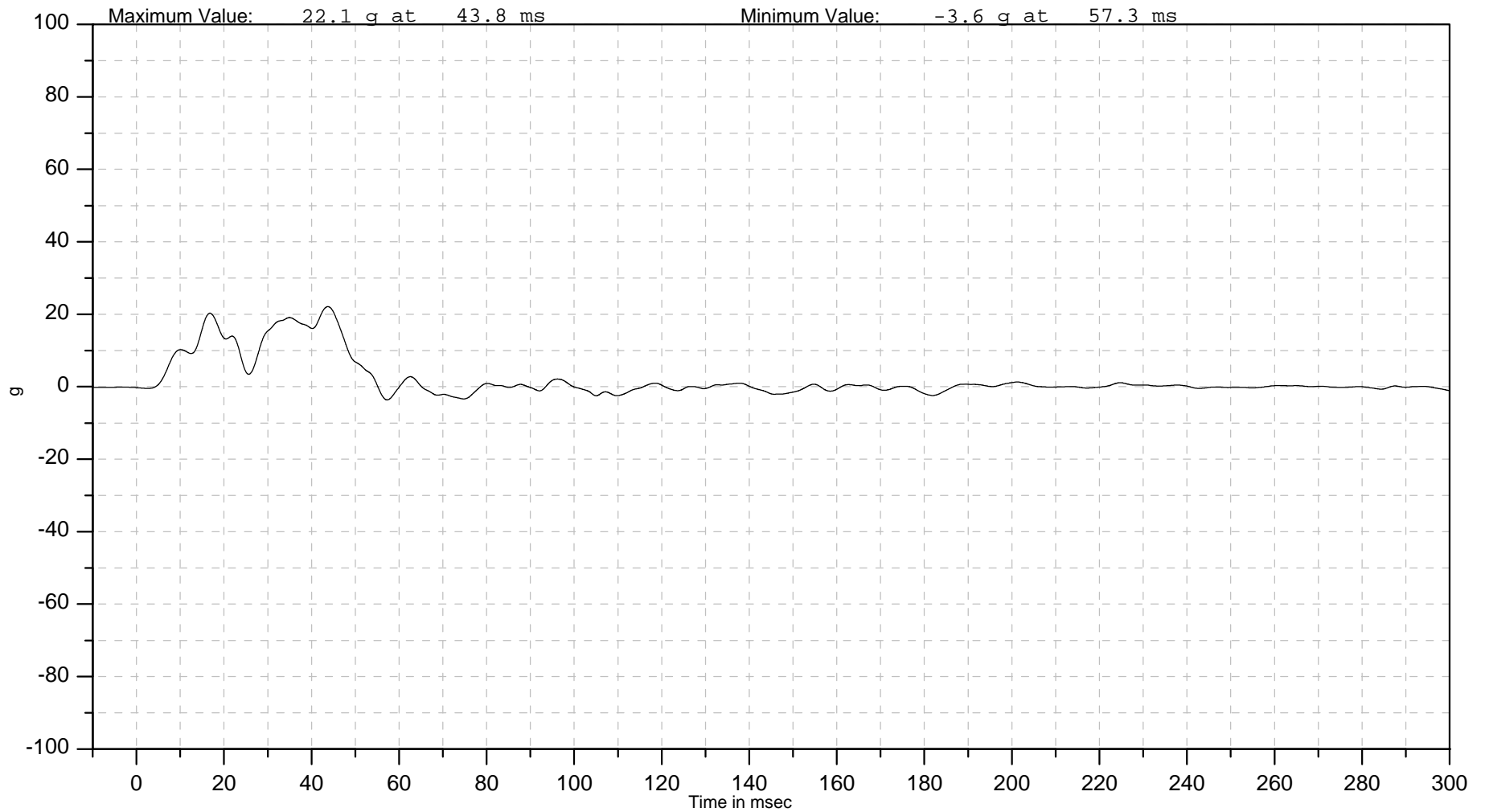
ISO Channel
10ABSE000000ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

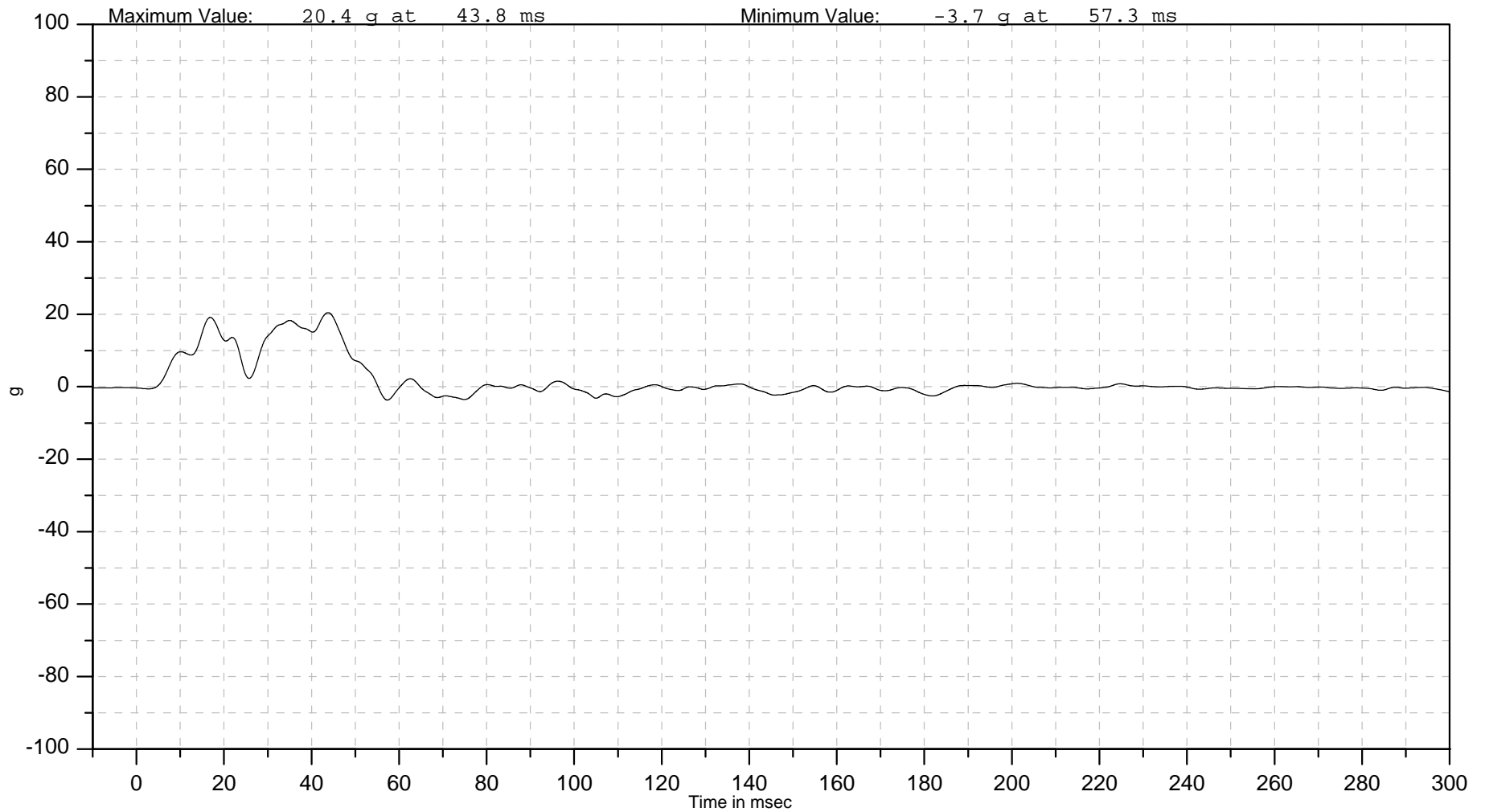
Autoliv Channel
10ABSERD0000ACYD

ISO Channel
10ABSERD0000ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Redundant Airbag Sensor Y Acceleration





Autoliv North America (NTC)

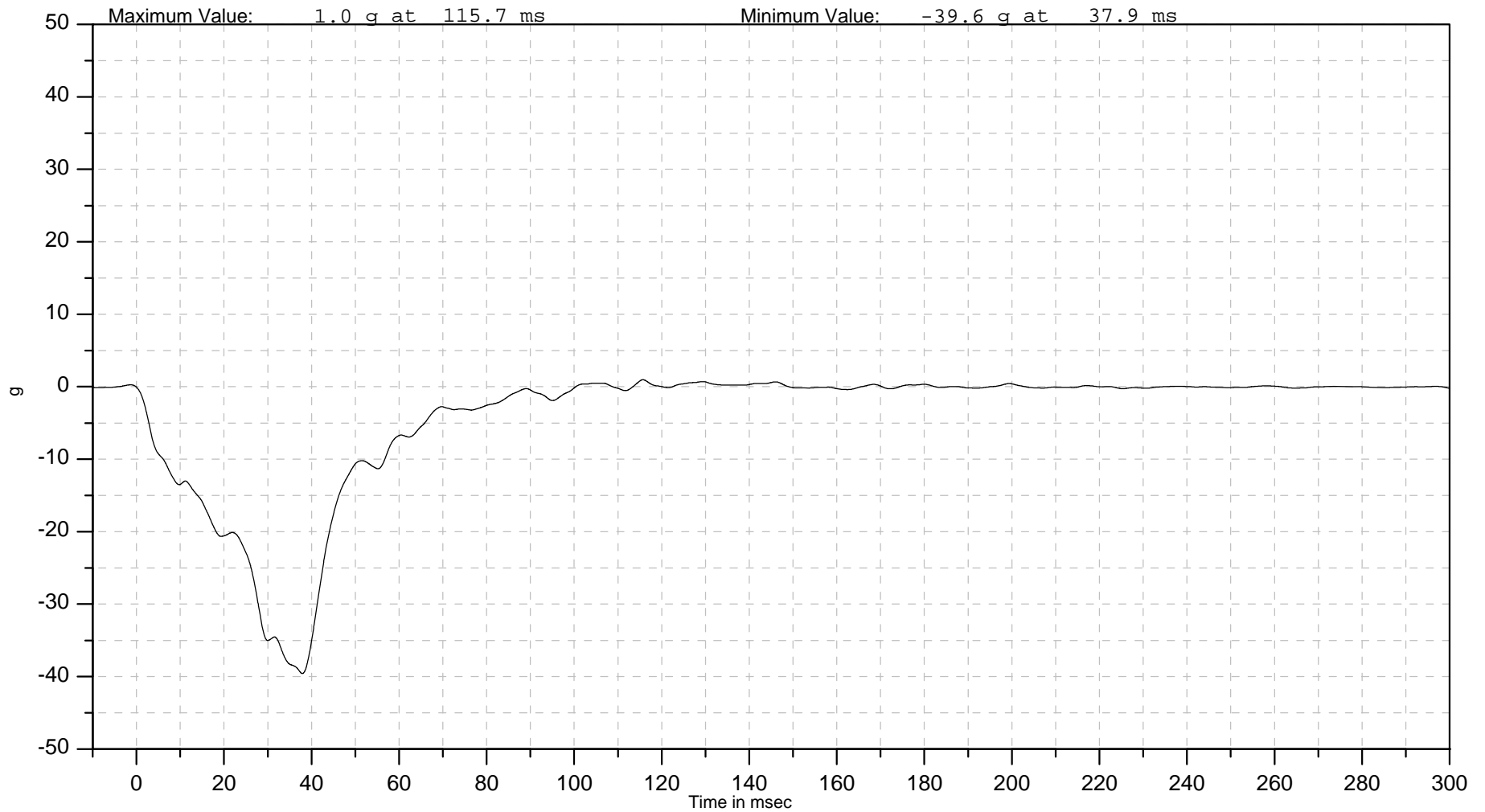
Autoliv Channel
M0MBARCG0000ACXD

ISO Channel
M0MBARCG0000ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier X Acceleration





Autoliv North America (NTC)

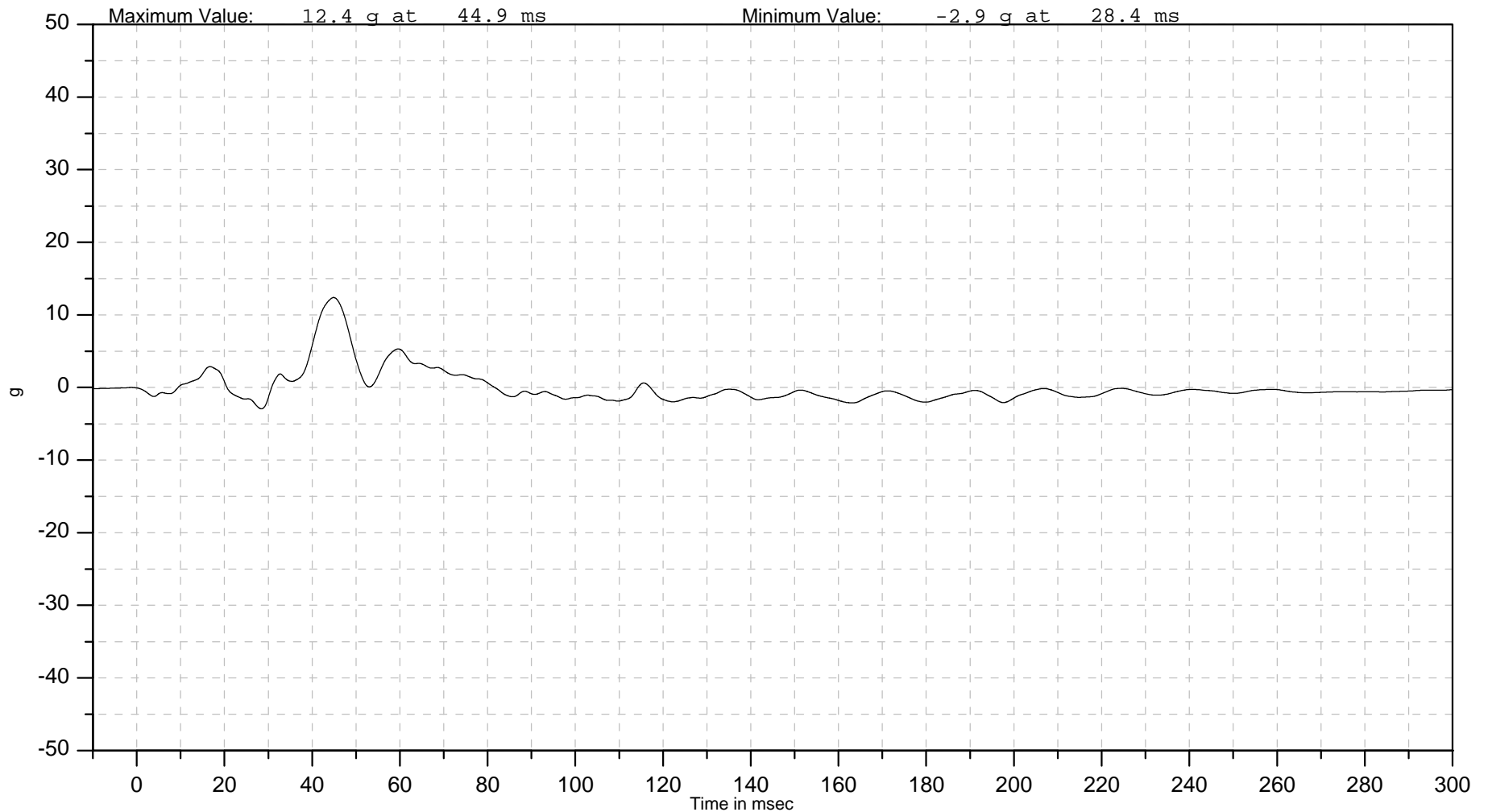
Autoliv Channel
M0MBCRCG0000ACYD

ISO Channel
M0MBCRCG0000ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARCG0000ACZD

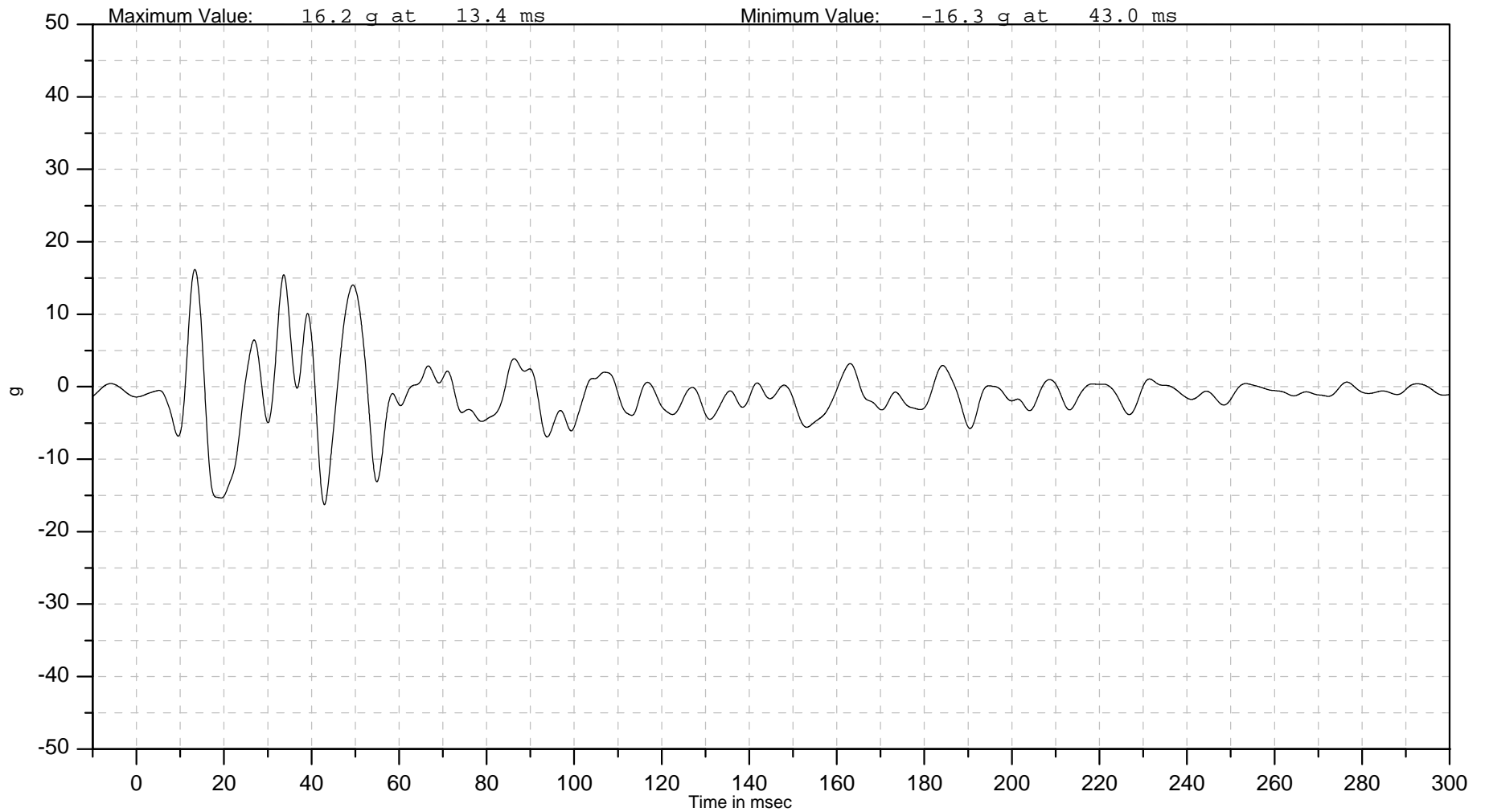
ISO Channel
M0MBARCG0000ACZD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Z Acceleration





Autoliv North America (NTC)

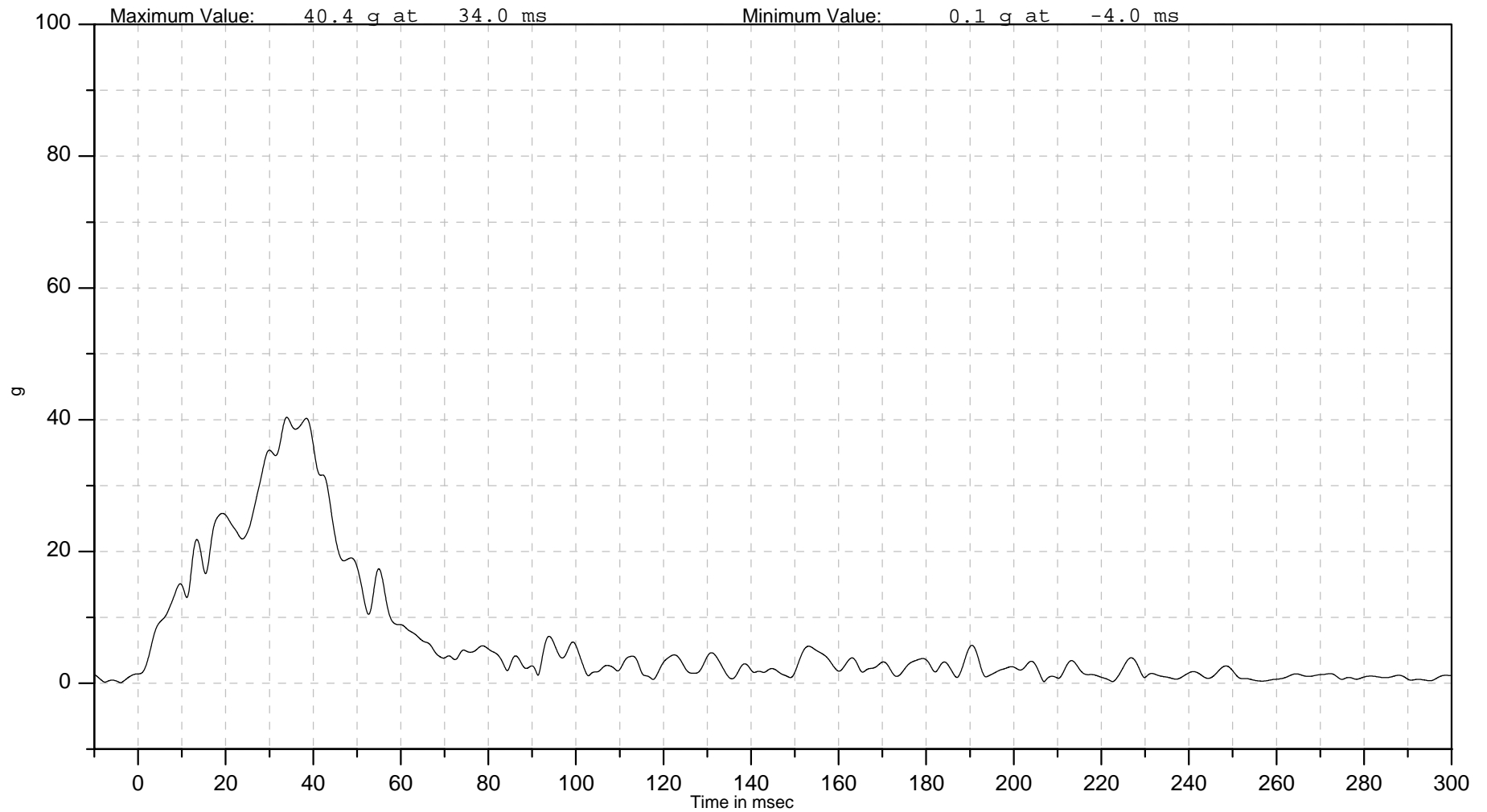
Autoliv Channel
M0MBCARCG0000ACRD

ISO Channel
M0MBCARCG0000ACRD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Resultant Acceleration





Autoliv North America (NTC)

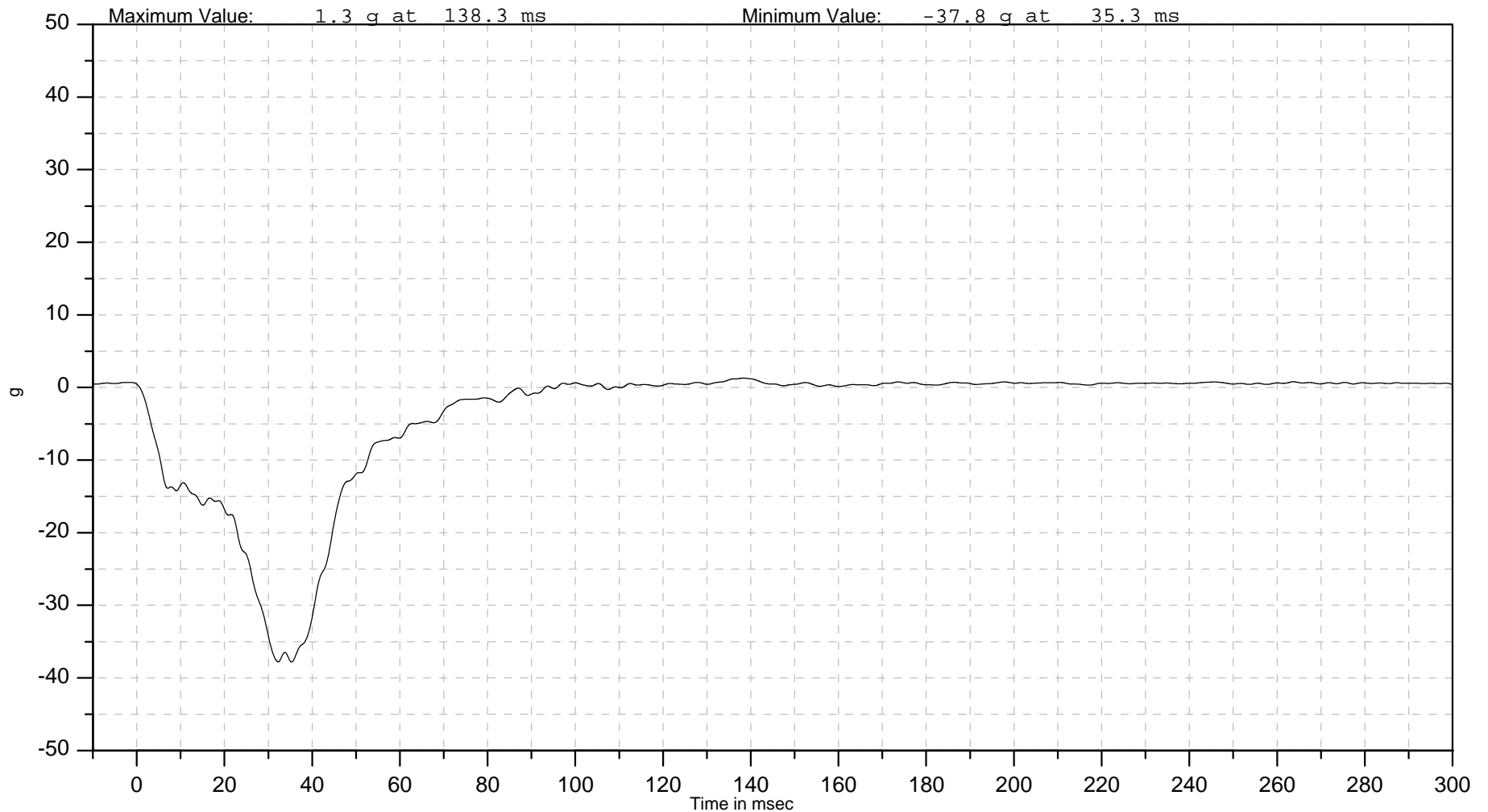
Autoliv Channel
M0MBARMIFR00ACXD

ISO Channel
M0MBARMIFR00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

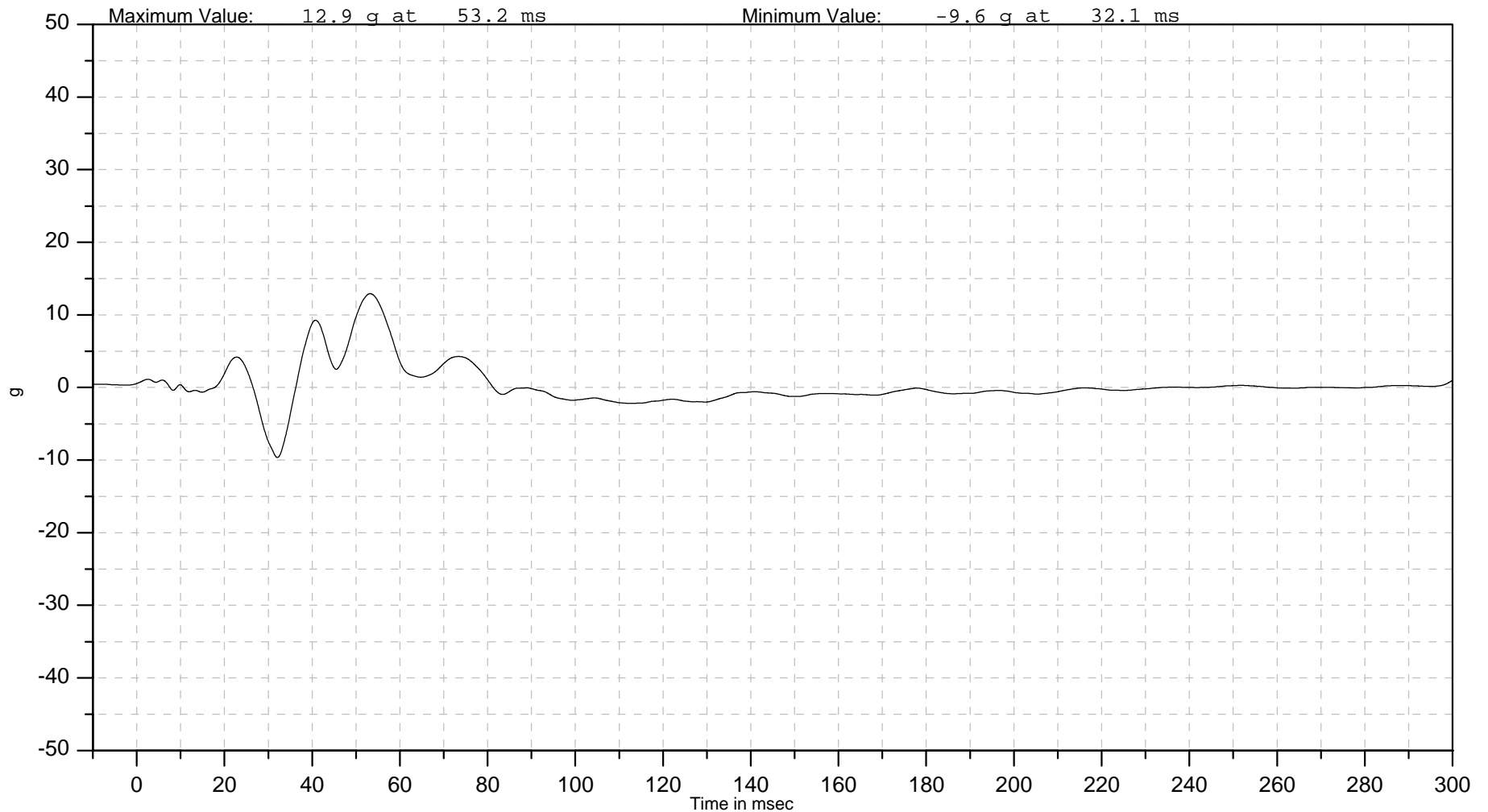
Autoliv Channel
M0MBARMIFR00ACYD

ISO Channel
M0MBARMIFR00ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Y Acceleration





Autoliv North America (NTC)

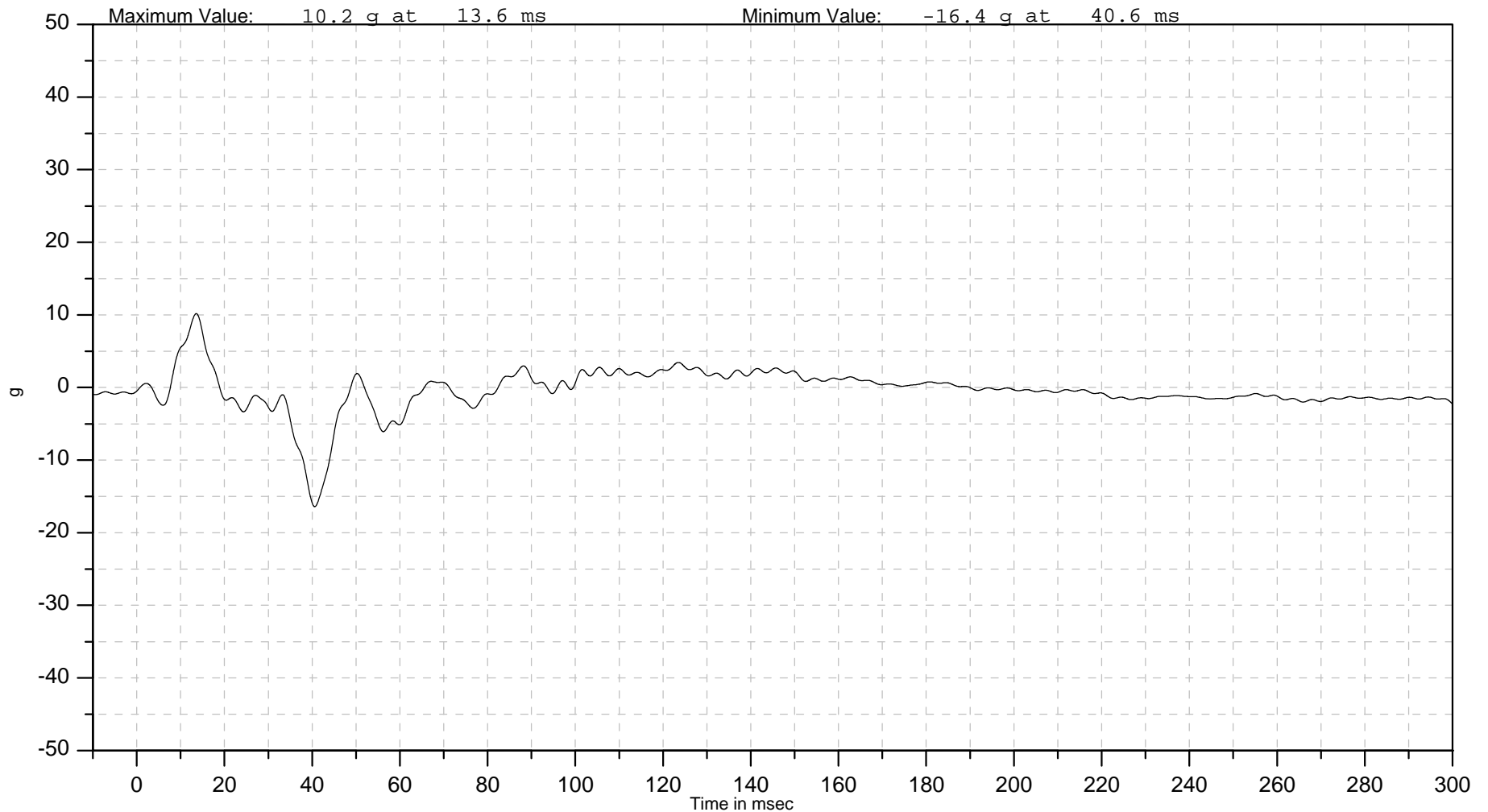
Autoliv Channel
M0MBARMIFR00ACZD

ISO Channel
M0MBARMIFR00ACZD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Z Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARREMI00ACYD

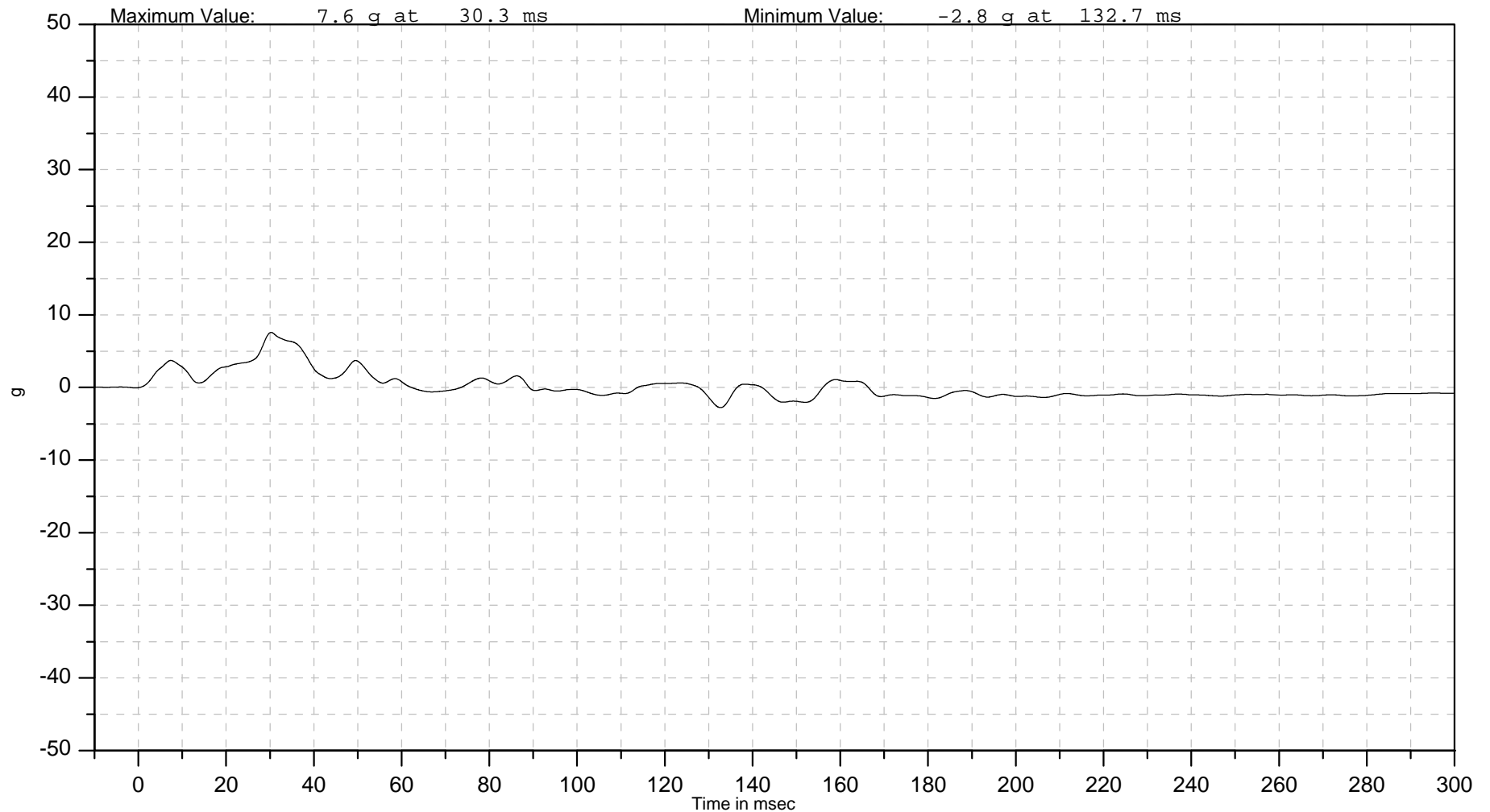
ISO Channel
M0MBARREMI00ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Rear Middle Mobile Barrier Y Acceleration





Autoliv North America (NTC)

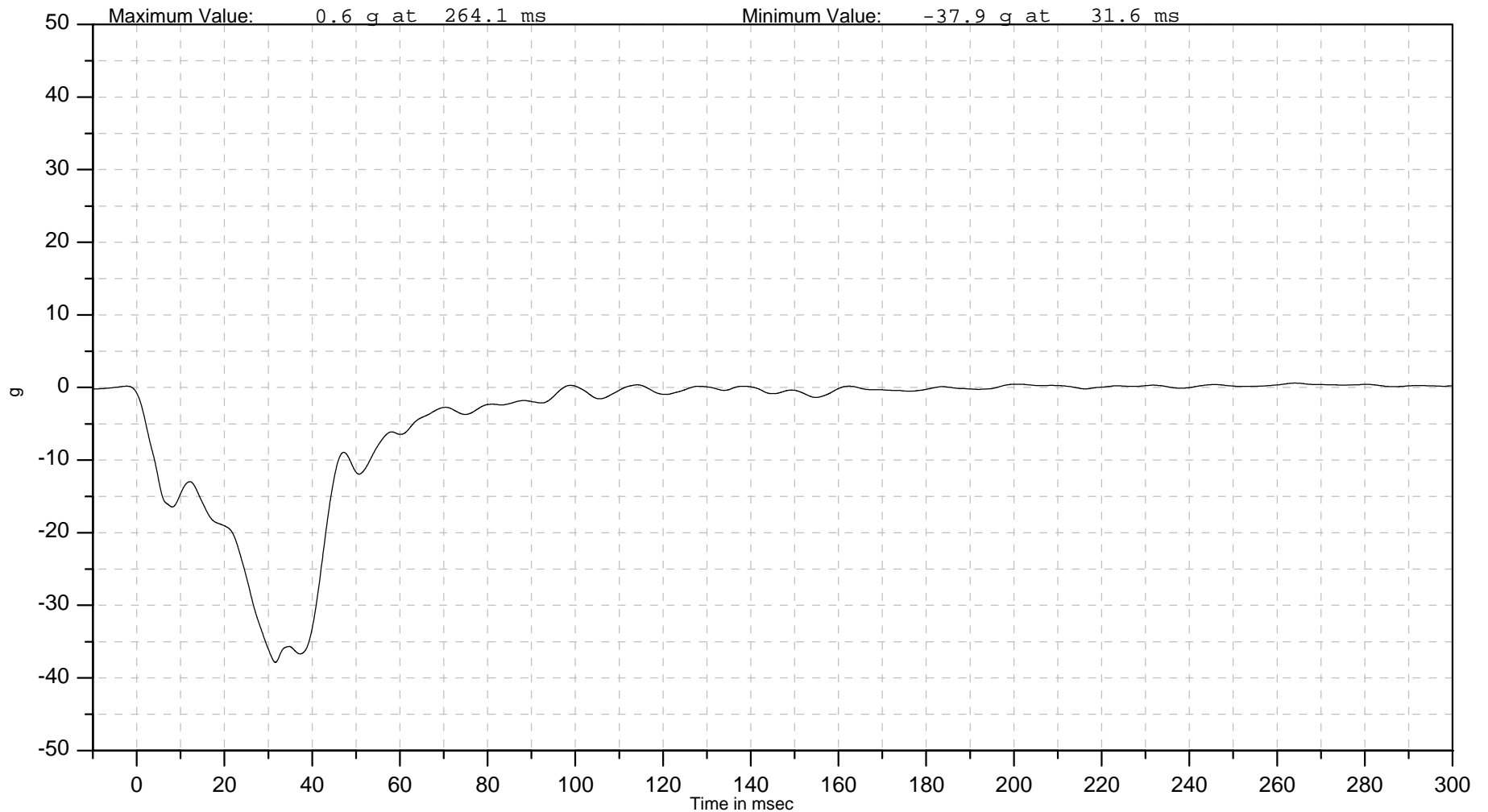
Autoliv Channel
M0MBARLEFR00ACXD

ISO Channel
M0MBARLEFR00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

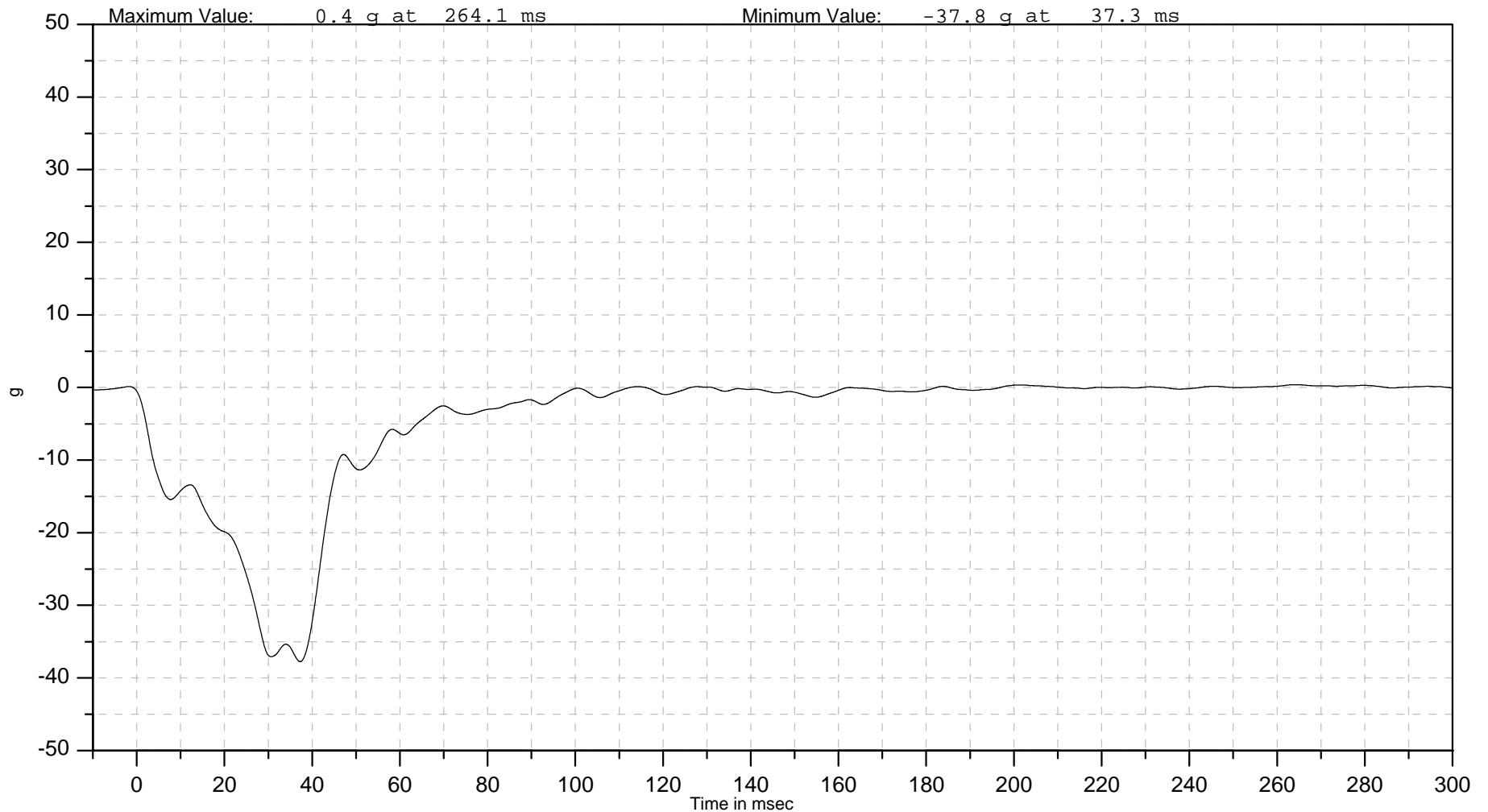
Autoliv Channel
M0MBARLEMI00ACXD

ISO Channel
M0MBARLEMI00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Middle Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARRIFR00ACXD

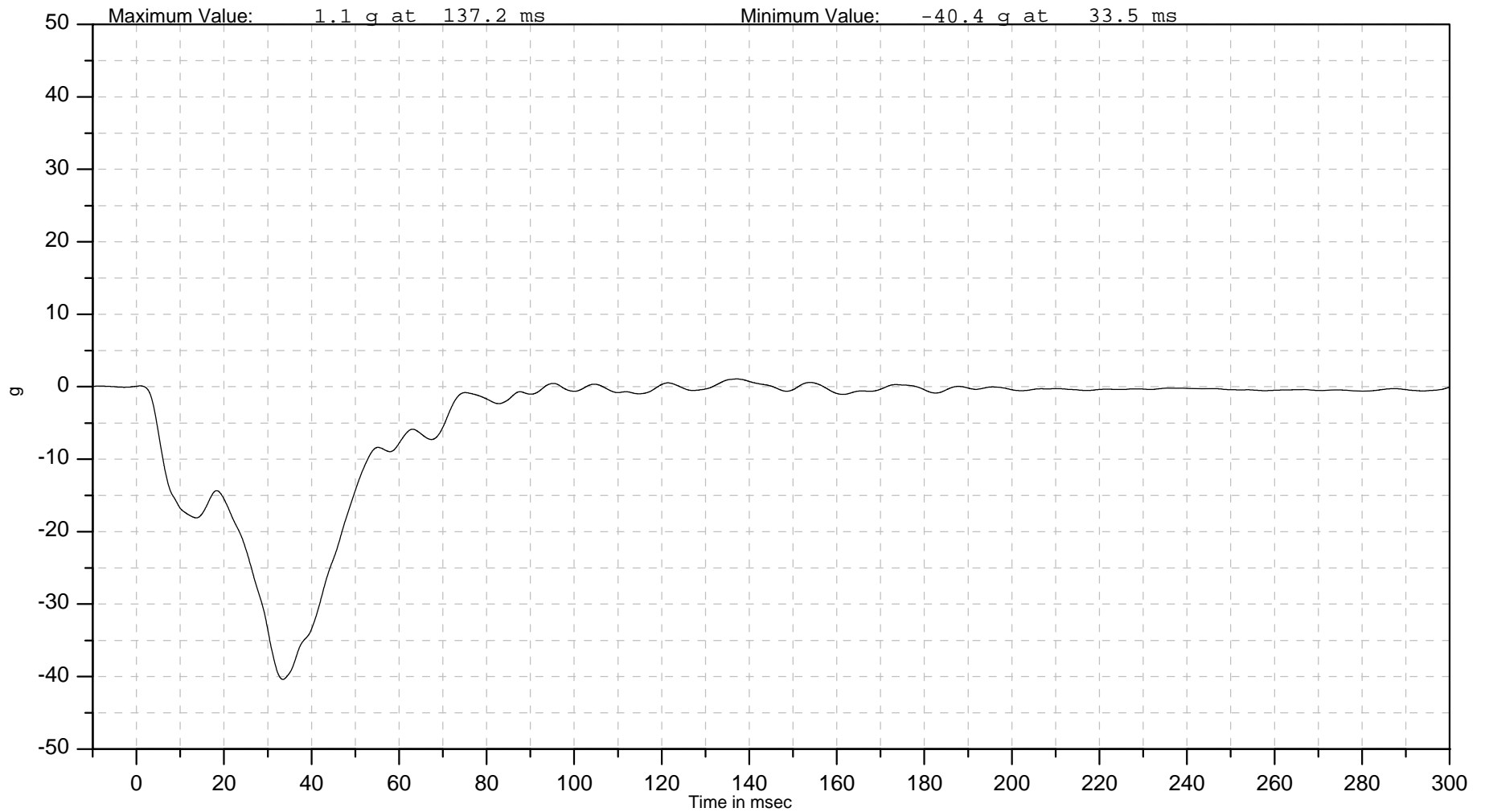
ISO Channel
M0MBARRIFR00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARRIMI00ACXD

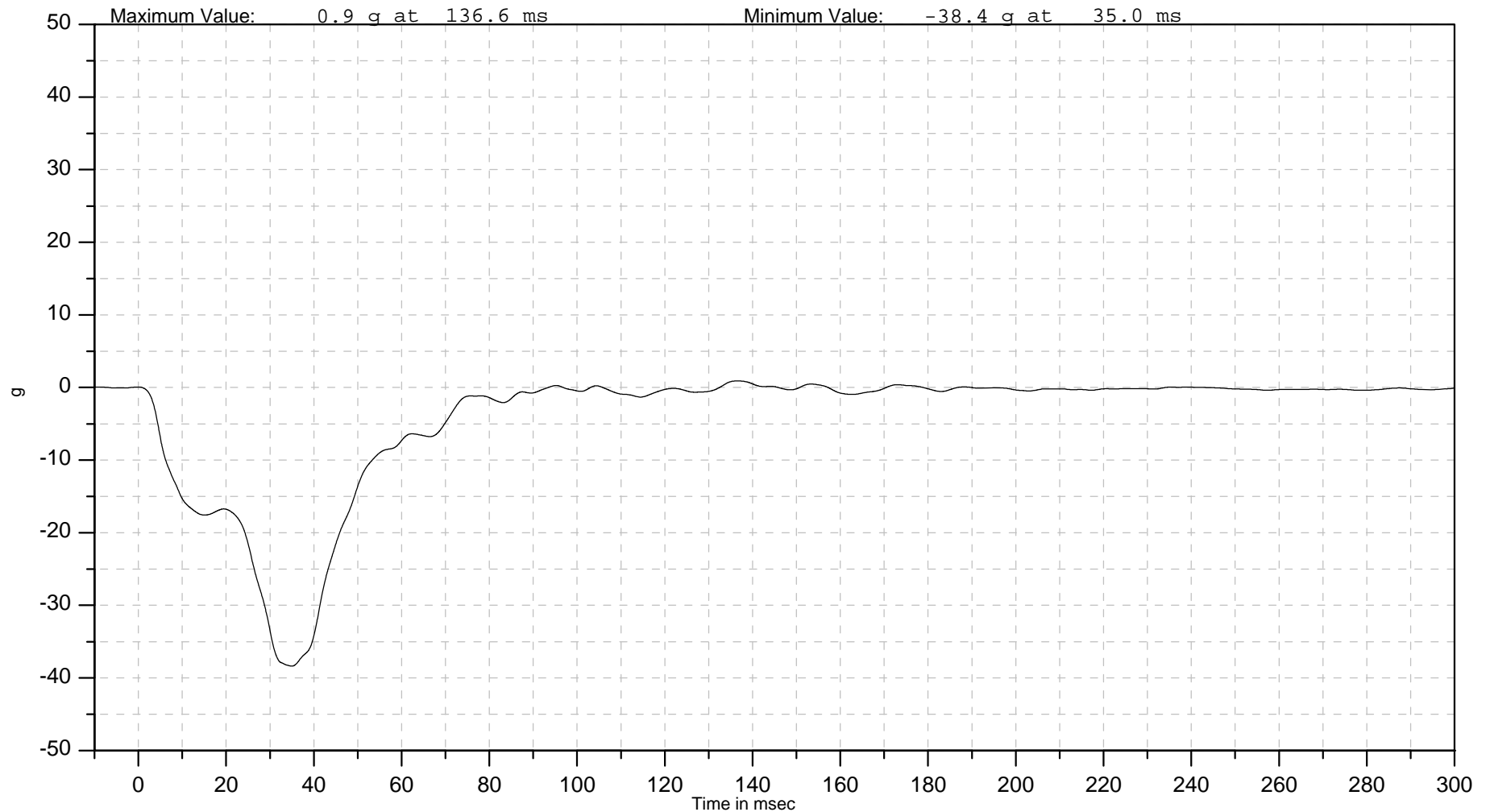
ISO Channel
M0MBARRIMI00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Middle Mobile Barrier X Acceleration



FINAL REPORT OF: B1040277
50 MPH FUEL FILLER SIDE IMPACT TEST
FUEL INTEGRITY TEST PER FMVSS 301
2005 NISSAN P61B



Autoliv

PREPARED FOR:
NISSAN TECHNICAL CENTER NORTH AMERICA, INC.
39001 SUNRISE DRIVE
FARMINGTON HILLS, MI 48331

PREPARED BY:
AUTOLIV NORTH AMERICA, INC.
1320 PACIFIC DRIVE
AUBURN HILLS, MI 48326

ABSTRACT

Objective:

A 50 mph fuel filler side impact test was conducted on a 2005 Nissan P61B vehicle, along with an FMVSS 301 Fuel Rollover. The primary objective was to evaluate the vehicle's fuel system integrity under the side impact test condition.

Scope:

One Nissan 2005 P61B vehicle was impacted under the fuel filler side impact test condition. The moving barrier velocity at the time of impact should be 50.0 mph +0.5 mph/-0.0 mph per Nissan's request.

Conclusion:

The test was conducted in accordance with the fuel filler side impact test procedure. The actual final velocity at impact was 50.5 mph. Fuel system data can be found in Section 6.0 of this report.

Notice:

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Report Prepared By:

Mindy Heading
Test Engineer

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SECTION 1.0 PURPOSE AND TEST PROCEDURE

Purpose

A 50 mph fuel filler side impact test was conducted on a 2005 Nissan P61B vehicle. The primary objective was to evaluate the vehicle's fuel system integrity under the side impact test condition.

Test Procedure

The test was conducted on the subject Nissan P61B vehicle (Vehicle #: 5WT134). The vehicle's total test weight was 2511.0 kg. Two Hybrid III 50% male dummies were used for the test and placed in the left front and right front seating positions. The dummies were not instrumented.

The 2005 Nissan P61B vehicle was instrumented with five sensors installed to record vehicle accelerations. The dummies placed in the front seats were belted. The front and rear tires were set at 35psi. The vehicle fuel system was filled with 76.0 L of Stoddard solvent.

The test vehicle was impacted with a Moving Deformable Barrier (MDB) meeting the guidelines specified in FMVSS 214. The wheels of the MDB were not crabbed for the test. The deformable barrier face was lowered 50 mm from the barrier face height specified in FMVSS 214. The longitudinal centerline of the test vehicle was perpendicular to the longitudinal centerline of the MDB. An impact reference line was marked on the left side of the vehicle, centered on the fuel filler cap. The lateral centerline of the MDB face was positioned to impact the vehicle on the impact reference line. A probe was mounted on the MDB and was aligned with a target placed on the vehicle to record impact location with respect to the impact reference line. The lateral centerline of the MDB face impacted the vehicle 20 mm forward of the impact reference line.

Time zero was detected when the MDB first contacted the test vehicle.

SECTION 2.0 SUMMARY OF TEST RESULTS

Test Results Summary

A 2005 Nissan P61B vehicle (Vehicle #: 5WT134) was impacted under the fuel filler side impact test condition at 50.5 mph on August 16, 2004. There were no fuel leaks during the crash event, during the 30 minutes immediately following the impact, or during any part of the post-test static rollover. Fuel system data can be found in Section 6.0 of this report.

SECTION 3.0
GENERAL TEST DATA

TABLE 1
GENERAL TEST DATA

Test Information:

Test number	B1040277
Date of test	08-16-04
Test temperature	69 F
VIN	5N1ED28Y55C [REDACTED]
Test Impact Velocity	50.5 mph

Target Test Weight:

Front	1226.2 kg
Rear	1275.8 kg
Total	2502.0 kg

Weight of Test Vehicle with Required Occupants and Ballast:

Total front weight	1244.5 kg
Total rear weight	1266.5 kg
Total test weight	2511.0 kg
<p>Weight of ballast secured in vehicle: 27 kg steel plates mounted to instrumentation rack. 45 kg bag weight added to RH 2nd row seat, 45 kg to LH 2nd row seat, 11 kg to center 2nd row seat, and 45 kg to RH 3rd row seat. 20 kg shot added to engine. 34 kg steel plates mounted on rear hitch. 64 kg steel plates mounted to front bumper.</p> <p>Instrumentation and brake machine: 38 kg mounted in truck bed.</p> <p>Items removed: None.</p>	

Dummy Information:

Dummies	Left Front Seat	Right Front Seat
Type:	HIII 50%	HIII 50%
Instrumentation:	No	No

SECTION 4.0
TEST DATA SUMMARY

TABLE 2
VEHICLE DATA SUMMARY

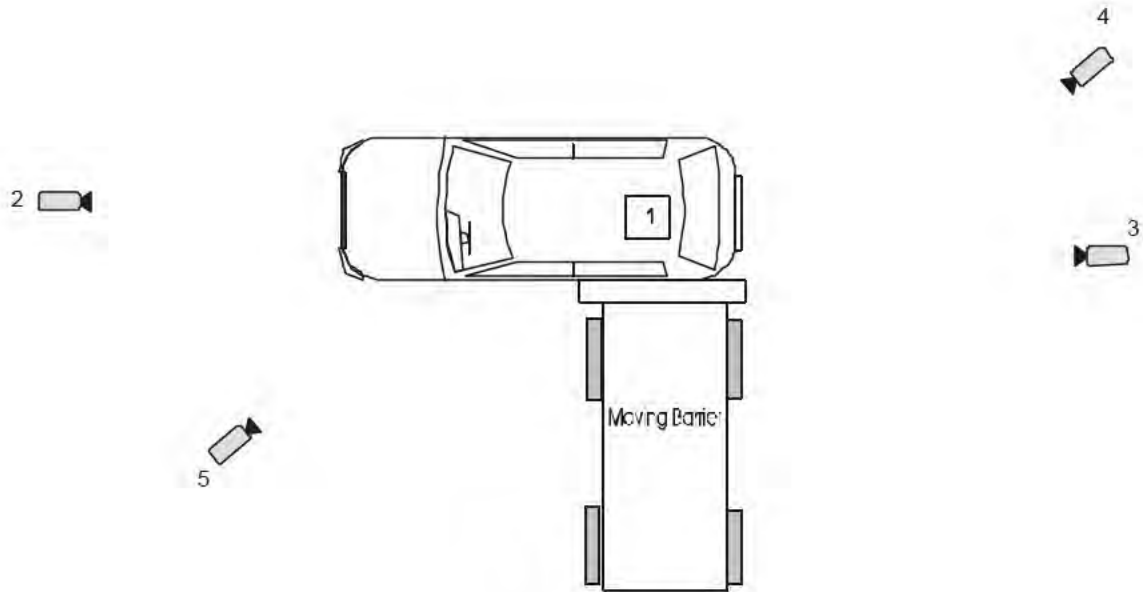
Channel Name	Positive Peak	Positive Peak (ms)	Negative Peak	Negative Peak (ms)
10SILLLEFR00ACYD	8.0 g	37.3	-9.9 g	28.2
10SILLRIFR00ACYD	17.5 g	47.0	-1.3 g	119.8
10FULTLOMI00ACXD	55.1 g	16.5	-34.4 g	11.4
10ABSE000000ACYD	22.1 g	43.8	-3.6 g	57.3
10ABSERD0000ACYD	20.4 g	43.8	-3.7 g	57.3
M0MBARCG0000ACXD	1.0 g	115.7	-39.6 g	37.9
M0MBARCG0000ACYD	12.4 g	44.9	-2.9 g	28.4
M0MBARCG0000ACZD	16.2g	13.4	-16.3 g	43.0
M0MBARCG0000ACRD	40.4 g	34.0	0.1 g	-4.0
M0MBARMIFR00ACXD	1.3 g	138.3	-37.8 g	35.3
M0MBARMIFR00ACYD	12.9 g	53.2	-9.6 g	32.1
M0MBARMIFR00ACZD	10.2 g	13.6	-16.4 g	40.6
M0MBARREMI00ACYD	7.6 g	30.3	-2.8 g	132.7
M0MBARLEFR00ACXD	0.6 g	264.1	-37.9 g	31.6
M0MBARLEMI00ACXD	0.4 g	264.1	-37.8 g	37.3
M0MBARRIFR00ACXD	1.1 g	137.2	-40.4 g	33.5
M0MBARRIMI00ACXD	0.9 g	136.6	-38.4 g	35.0

TABLE 3
SENSOR CALIBRATION DATA

ISO NAME	SERIAL #	CAL DATE
10SILLLE0000ACXD	B36118	1/12/2004
10SILLRI0000ACXD	B22390	2/10/2004
10FULTLOMI00ACXD	B36403	2/9/2004
10ABSE000000ACYD	B36401	2/9/2004
10ABSERD0000ACYD	B36350	2/9/2004
M0MBARCG0000ACXD	97D10-F25	4/13/2004
M0MBARCG0000ACYD	95I17-X14	9/29/2003
M0MBARCG0000ACZD	96E06-G04	4/14/2004
M0MBARLEFR00ACXD	96E06-J12	4/13/2004
M0MBARMIFR00ACXD	95H20-A20	4/13/2004
M0MBARMIFR00ACYD	95J15-A20	4/13/2004
M0MBARMIFR00ACZD	96E06-J06	4/13/2004
M0MBARRIFR00ACXD	95H21-E01	4/13/2004
M0MBARLEMI00ACXD	96D25-E12	4/13/2004
M0MBARRIMI00ACXD	96E03-F18	4/13/2004
M0MBARREMI00ACYD	B35553	8/20/2003

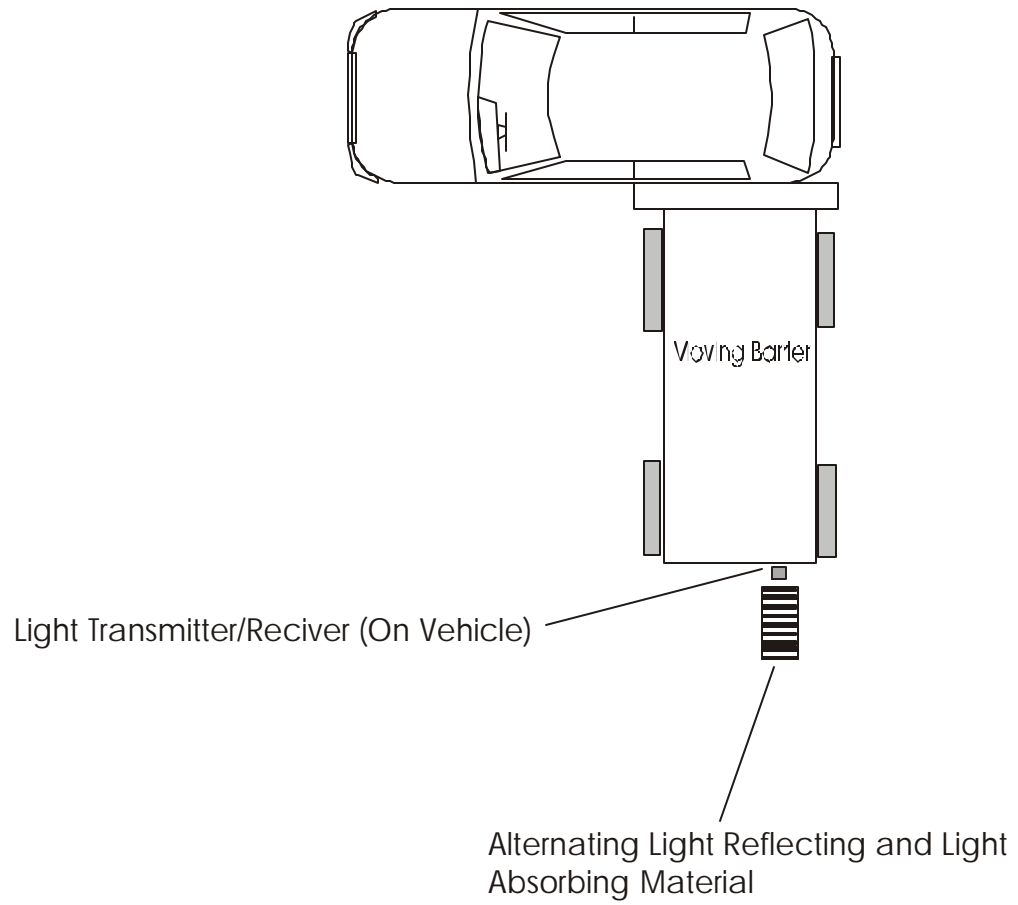
SECTION 5.0
 PHOTOGRAPHIC COVERAGE AND SPEED TRAP SETUP

FIGURE 1
 CAMERA LOCATIONS



Camera Number	View
1	Overhead view of vehicle
2	Front view of vehicle (video)
3	Rear view, stuck side of vehicle (video)
4	Rear oblique view of vehicle (video)
5	Panning and Documentary (real time)

FIGURE 2
SPEED TRAP SETUP



SECTION 6.0
FUEL SYSTEM DATA

TABLE 4
FUEL SYSTEM DATA

Make/model:	2005 Nissan P61B vehicle
Fuel system capacity:	80.0 L
Usable capacity:	80.0 L
Test volume range:	76.0 L (95% of usable capacity)
Test fluid type:	Stoddard solvent
Specific gravity:	0.77-0.8
Kinematic viscosity:	1.36 centistoke @ 20 Degree C
Test fluid color:	Purple

TABLE 5
FLUID SYSTEM COLLECTION DATA

Test Date	08/16/04	Project	2005 Nissan P61B
Test Number	B1040277	Test Personnel	Mindy Heading

TIME AFTER CRASH MOTION CEASES: 1:45 pm

INTERVAL	Oz.	INTERVAL	Oz.
1 st 5 minutes	0	18 th minute	0
6 th minute	0	19 th minute	0
7 th minute	0	20 th minute	0
8 th minute	0	21 st minute	0
9 th minute	0	22 nd minute	0
10 th minute	0	23 rd minute	0
11 th minute	0	24 th minute	0
12 th minute	0	25 th minute	0
13 th minute	0	26 th minute	0
14 th minute	0	27 th minute	0
15 th minute	0	28 th minute	0
16 th minute	0	29 th minute	0
17 th minute	0	30 th minute	0

ROLLOVER START TIME: 2:41 p.m.

		Oz.
90° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
180° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
270° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0
360° Roll Start:	1 st 5 minutes	0
	6 th minute	0
	7 th minute	0

ROLLOVER FINISH TIME: 3:09 p.m.

APPENDIX A

TEST DATA PLOTS



Autoliv North America (NTC)

Autoliv Channel
N/A

ISO Channel
N/A

Test Number: B1040277

Test Date: 16-Aug-2004

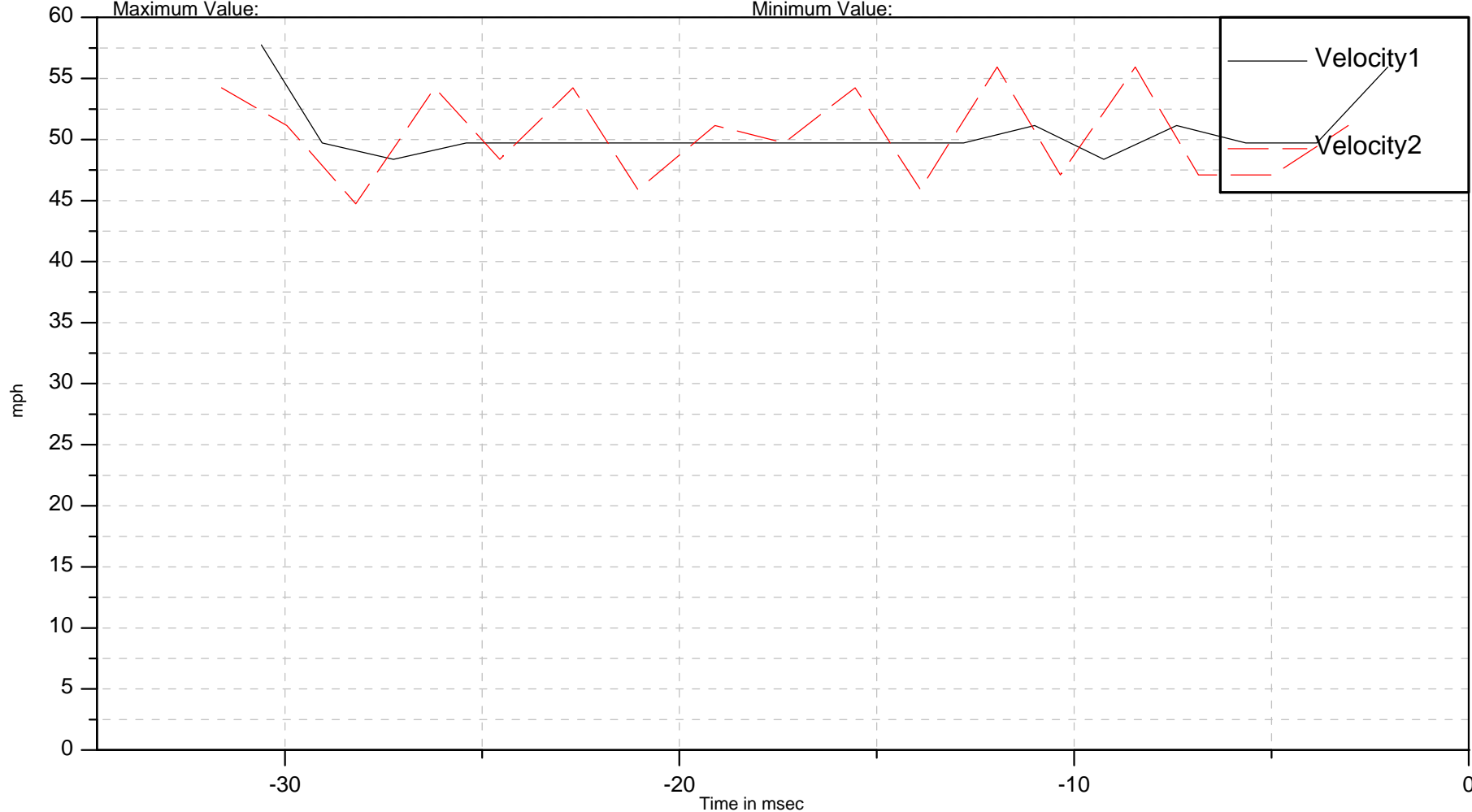
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type

Filter: N/A
Sign Convention: SAE J211

Speed Trap Calculated Cart Velocity

Speed Trap 1 Calculated Velocity = 50.6 mph
Speed Trap 2 Calculated Velocity = 50.5 mph
Speed Trap Average Calculated Velocity = 50.5 mph
Maximum Value: Minimum Value:





Autoliv North America (NTC)

Autoliv Channel
10CART000001EV00

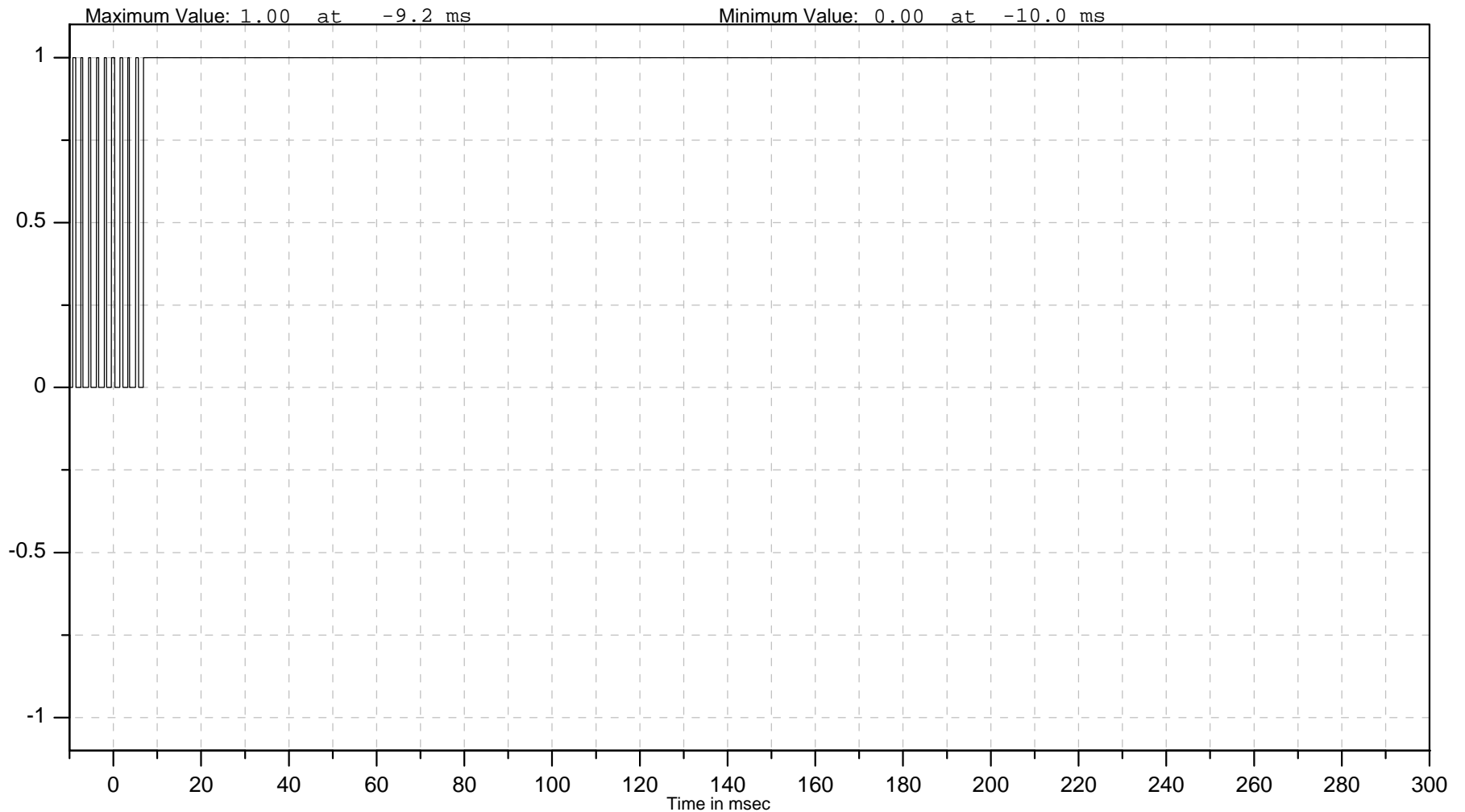
ISO Channel
10CART000001EV00

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 1





Autoliv North America (NTC)

Autoliv Channel
10CART000002EV00

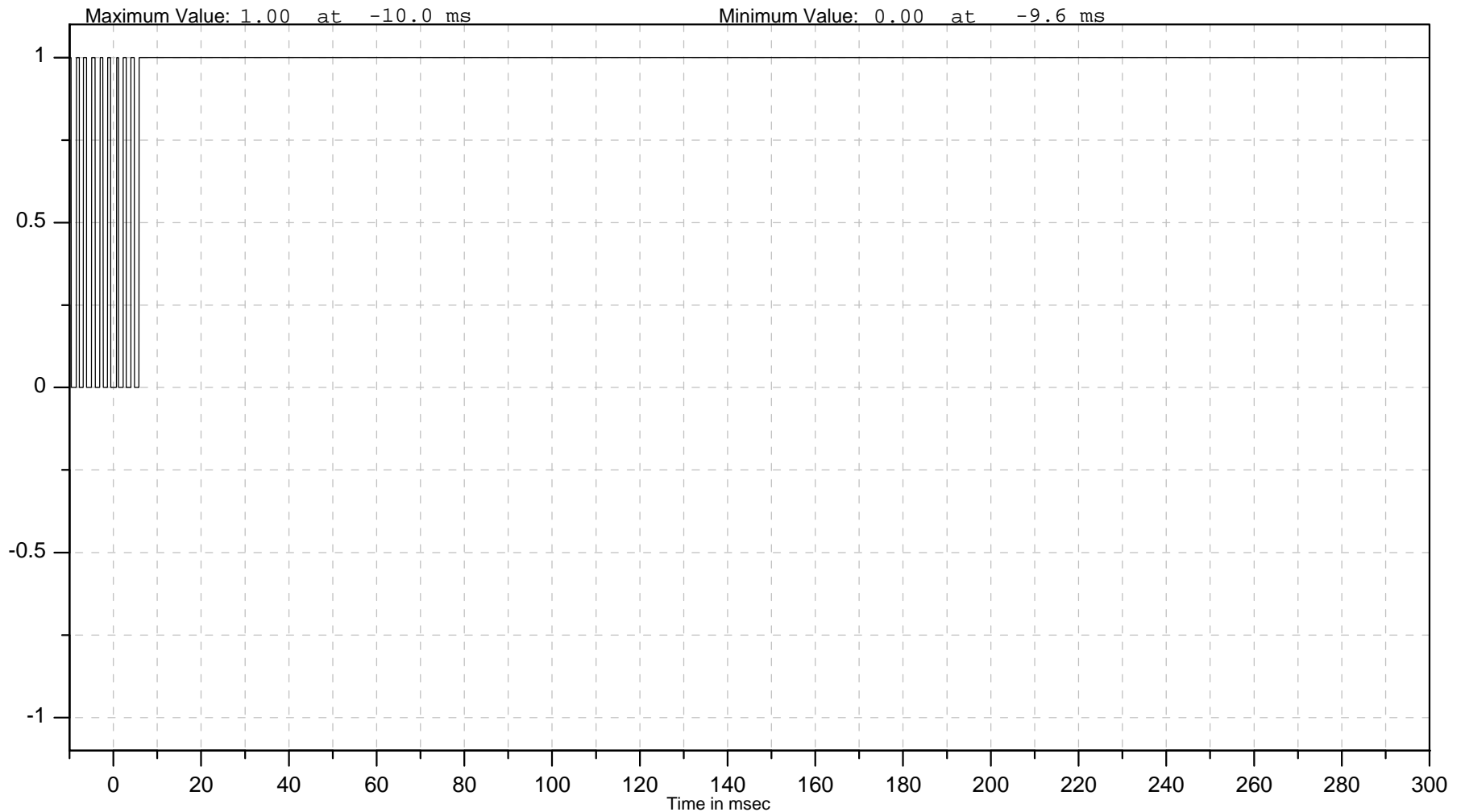
ISO Channel
10CART000002EV00

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: Unfiltered
Sign Convention: SAE J211

Cart Event 2





Autoliv North America (NTC)

Autoliv Channel
10SILLLE0000ACXD

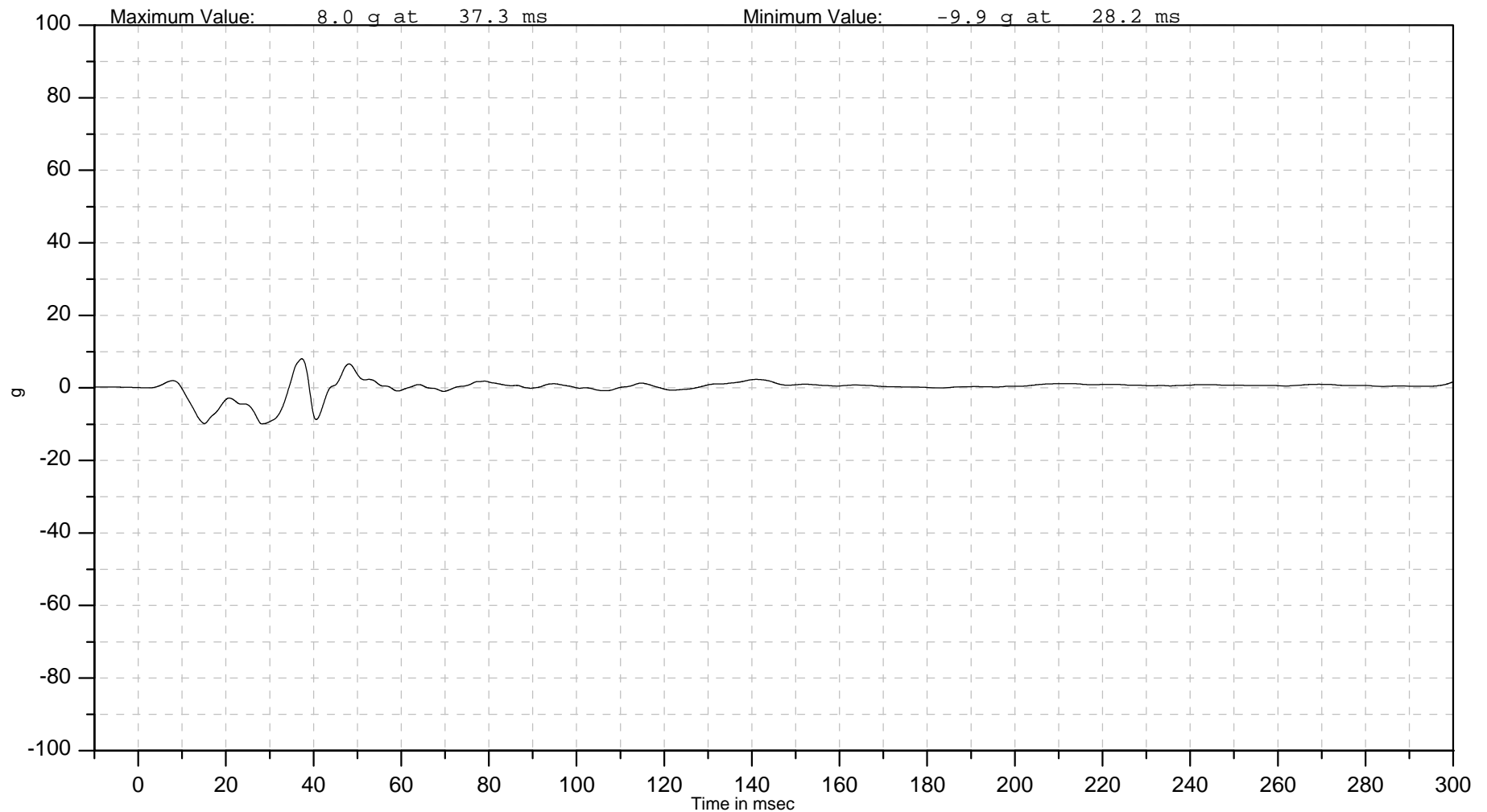
ISO Channel
10SILLLE0000ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Left Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10SILLRI0000ACXD

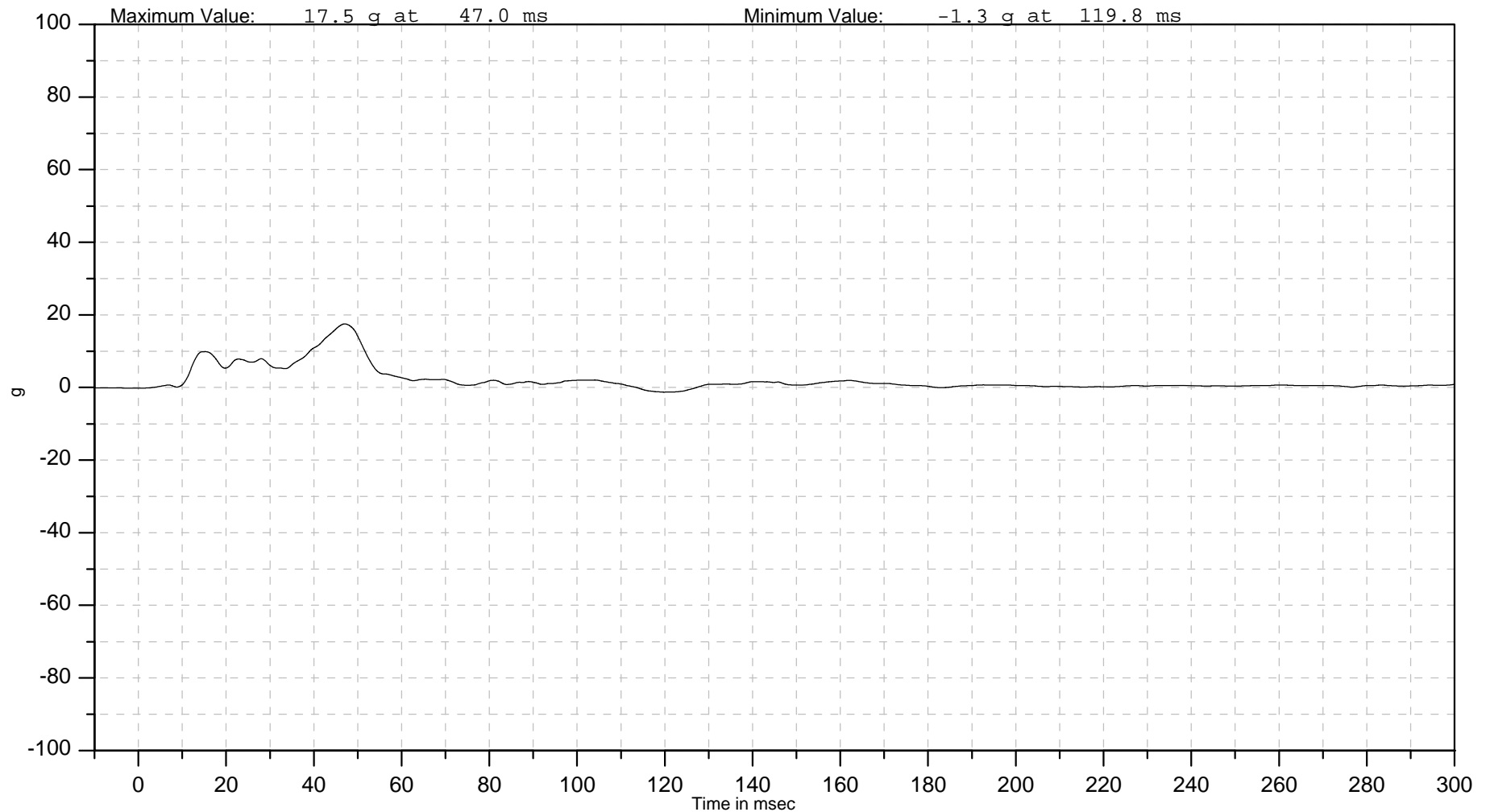
ISO Channel
10SILLRI0000ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Sill X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10FULTLOMI00ACXD

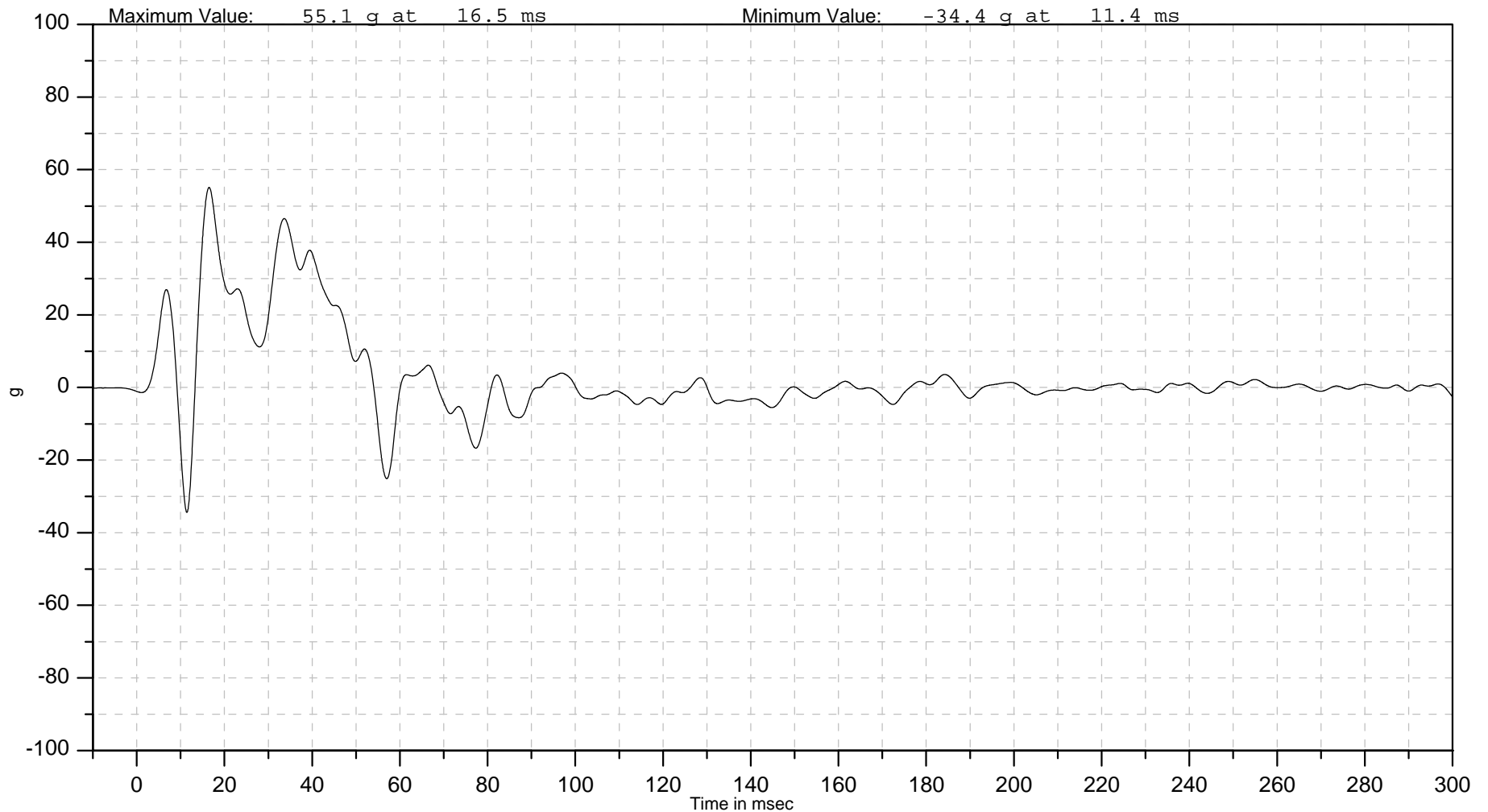
ISO Channel
10FULTLOMI00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Lower Middle Fuel Tank X Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSE000000ACYD

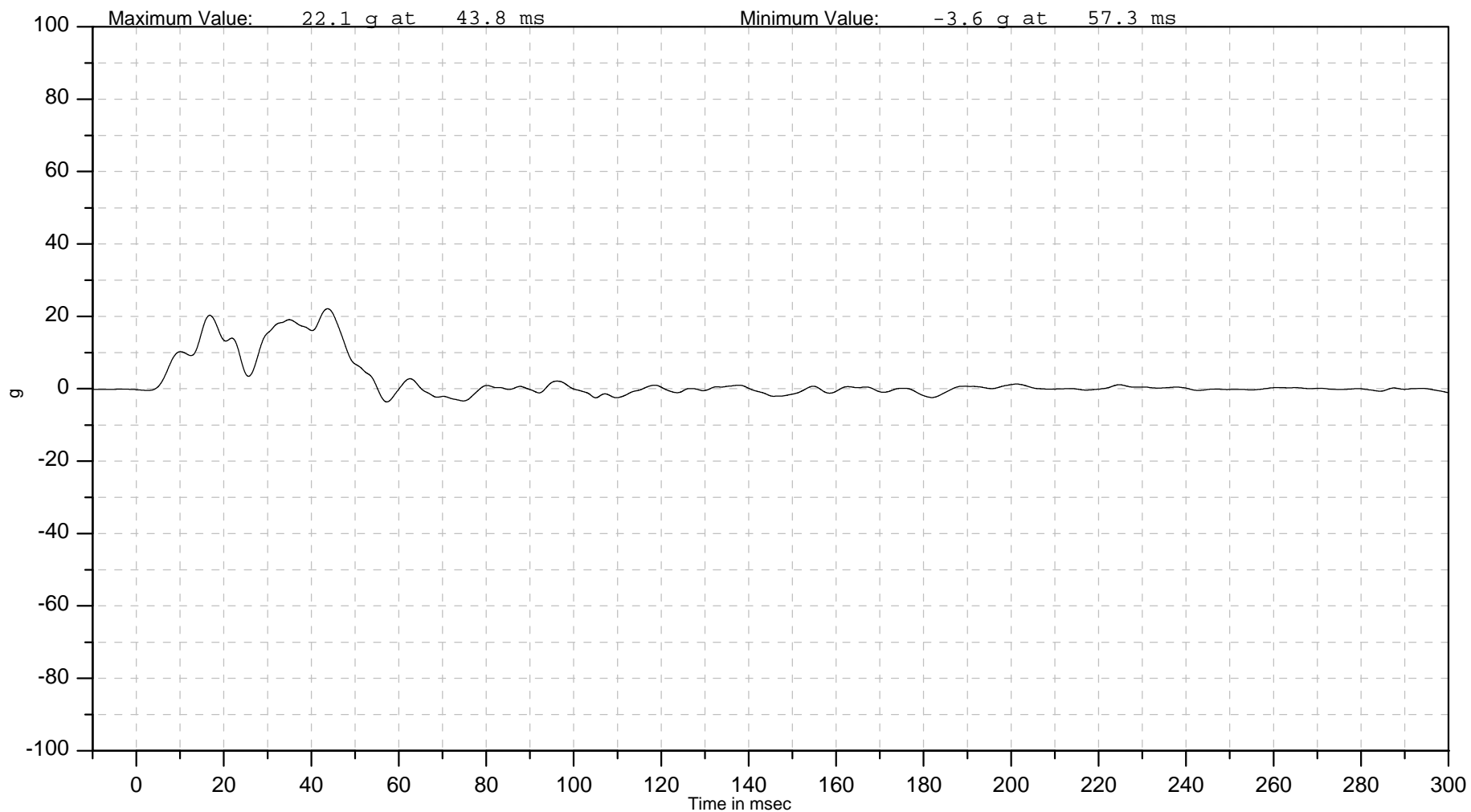
ISO Channel
10ABSE000000ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Airbag Sensor Y Acceleration





Autoliv North America (NTC)

Autoliv Channel
10ABSERD0000ACYD

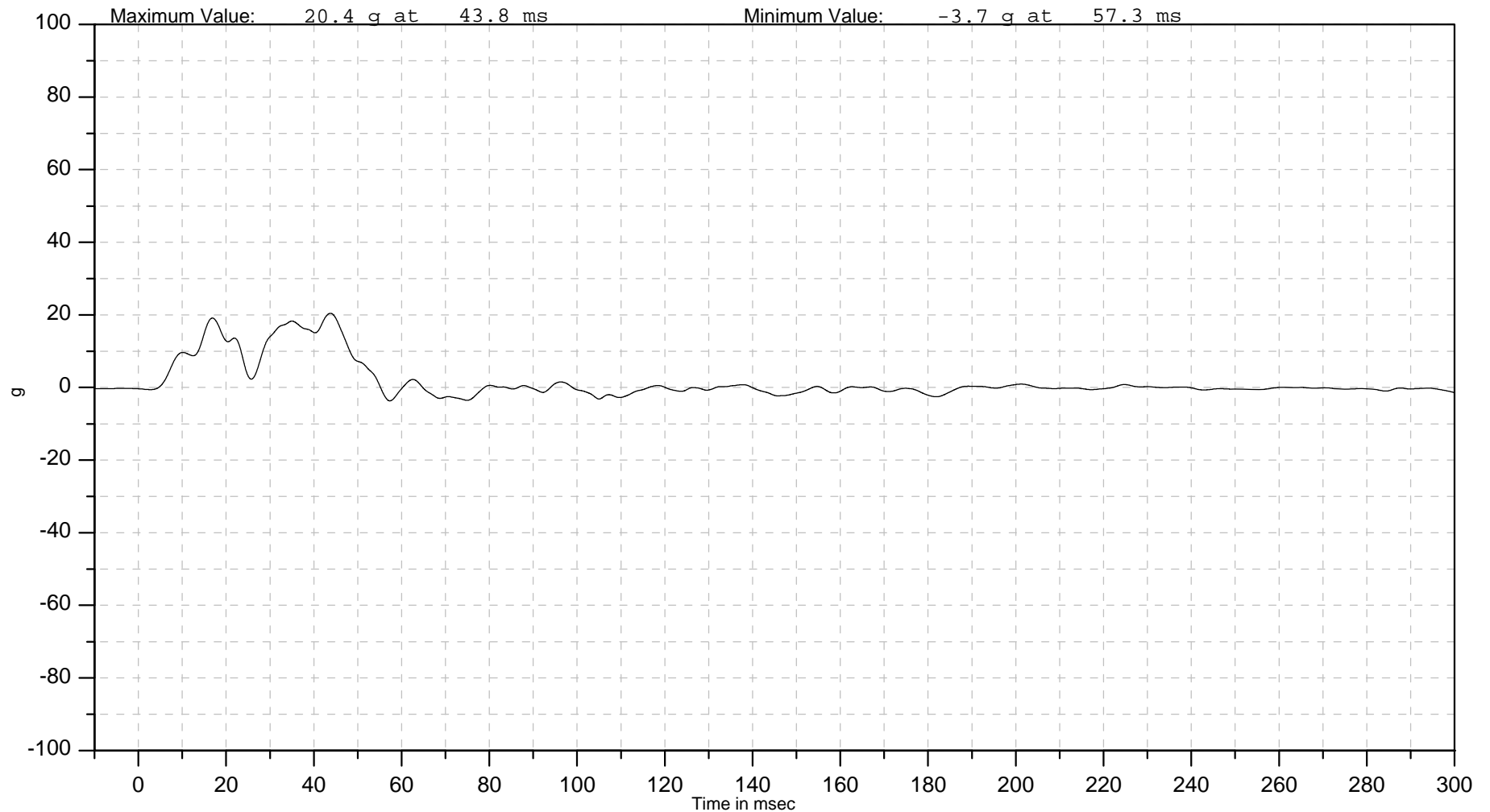
ISO Channel
10ABSERD0000ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Redundant Airbag Sensor Y Acceleration





Autoliv North America (NTC)

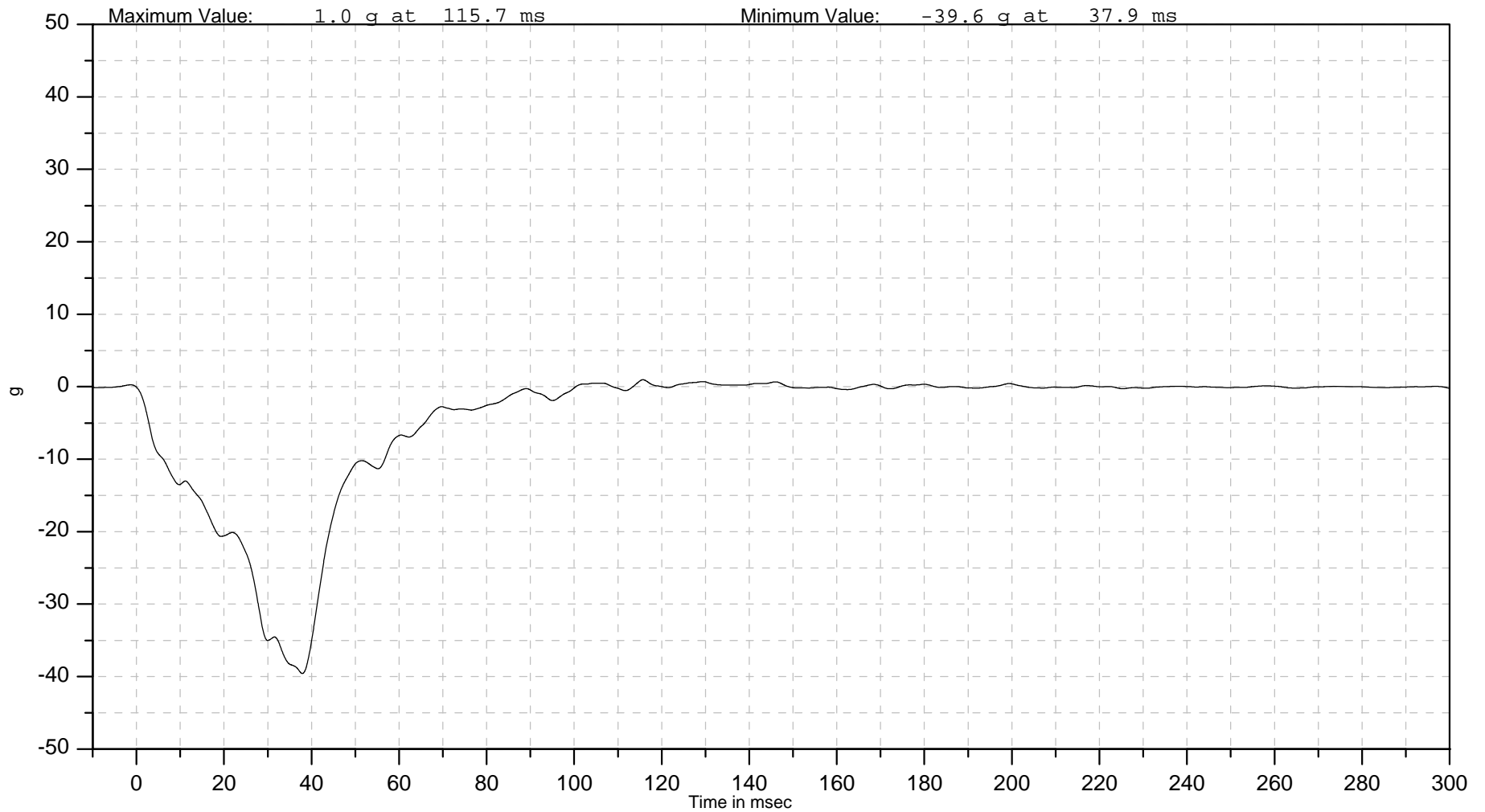
Autoliv Channel
M0MBARCG0000ACXD

ISO Channel
M0MBARCG0000ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier X Acceleration





Autoliv North America (NTC)

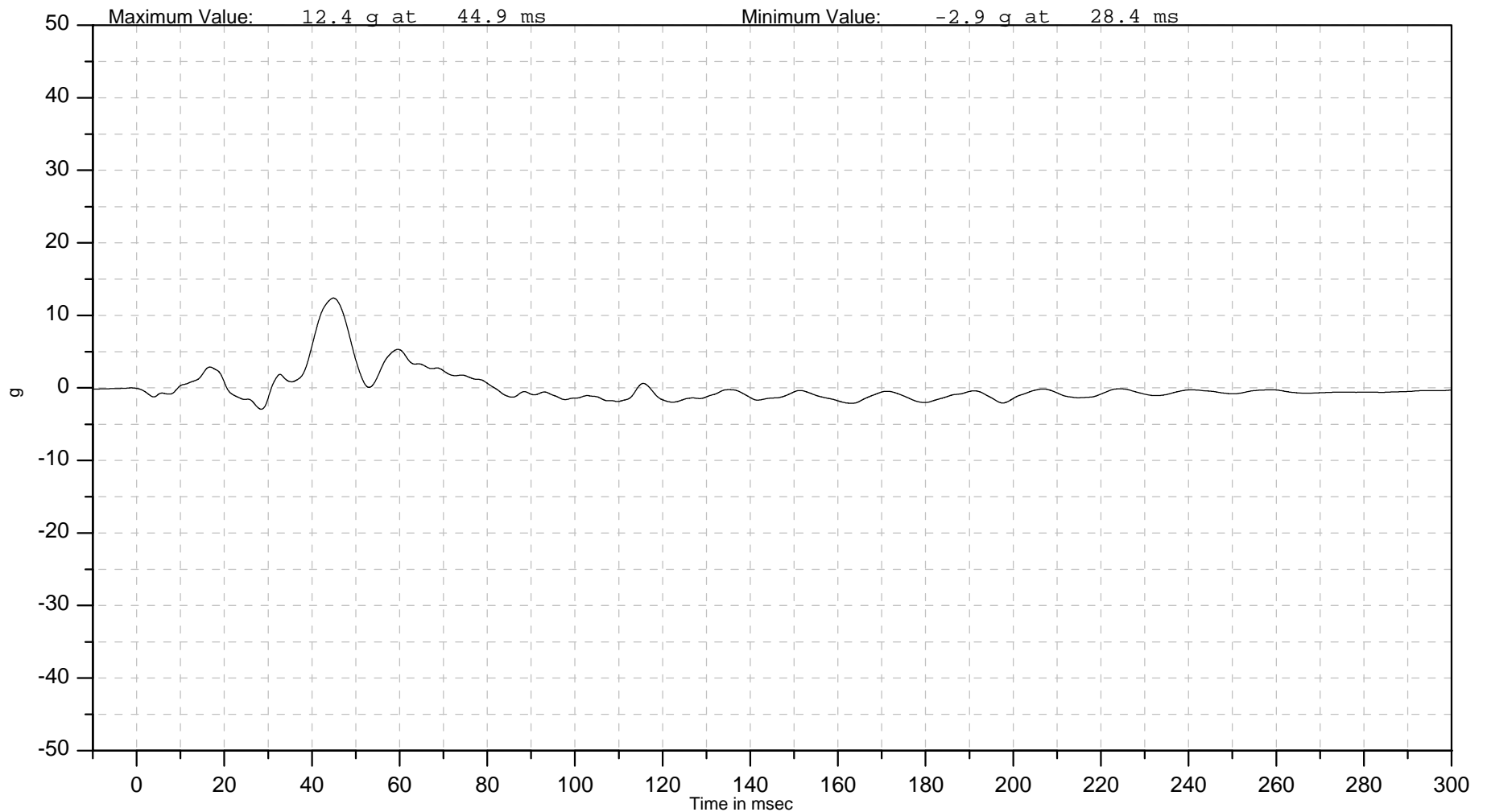
Autoliv Channel
M0MBARCG0000ACYD

ISO Channel
M0MBARCG0000ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Y Acceleration





Autoliv North America (NTC)

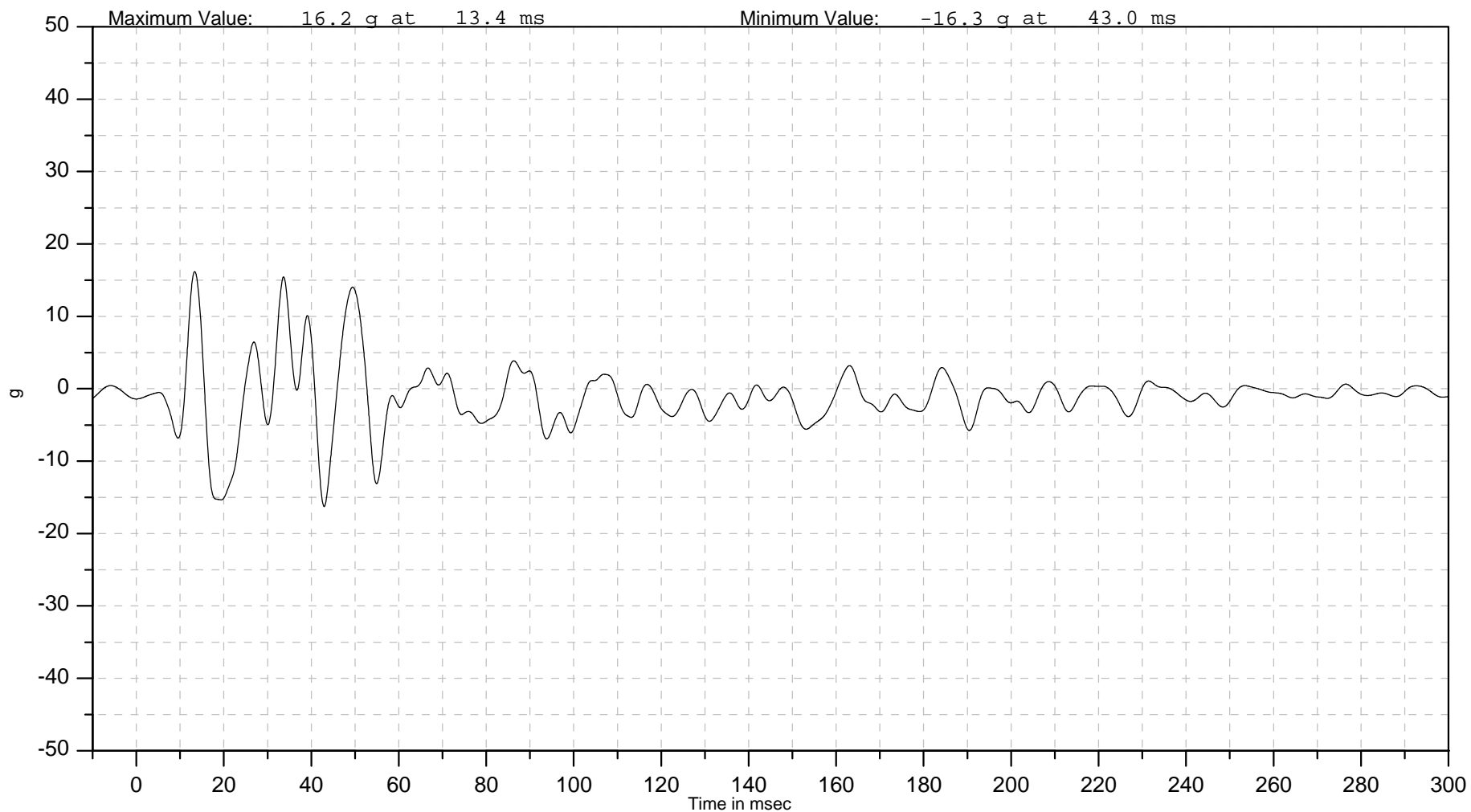
Autoliv Channel
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ISO Channel
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Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Z Acceleration





Autoliv North America (NTC)

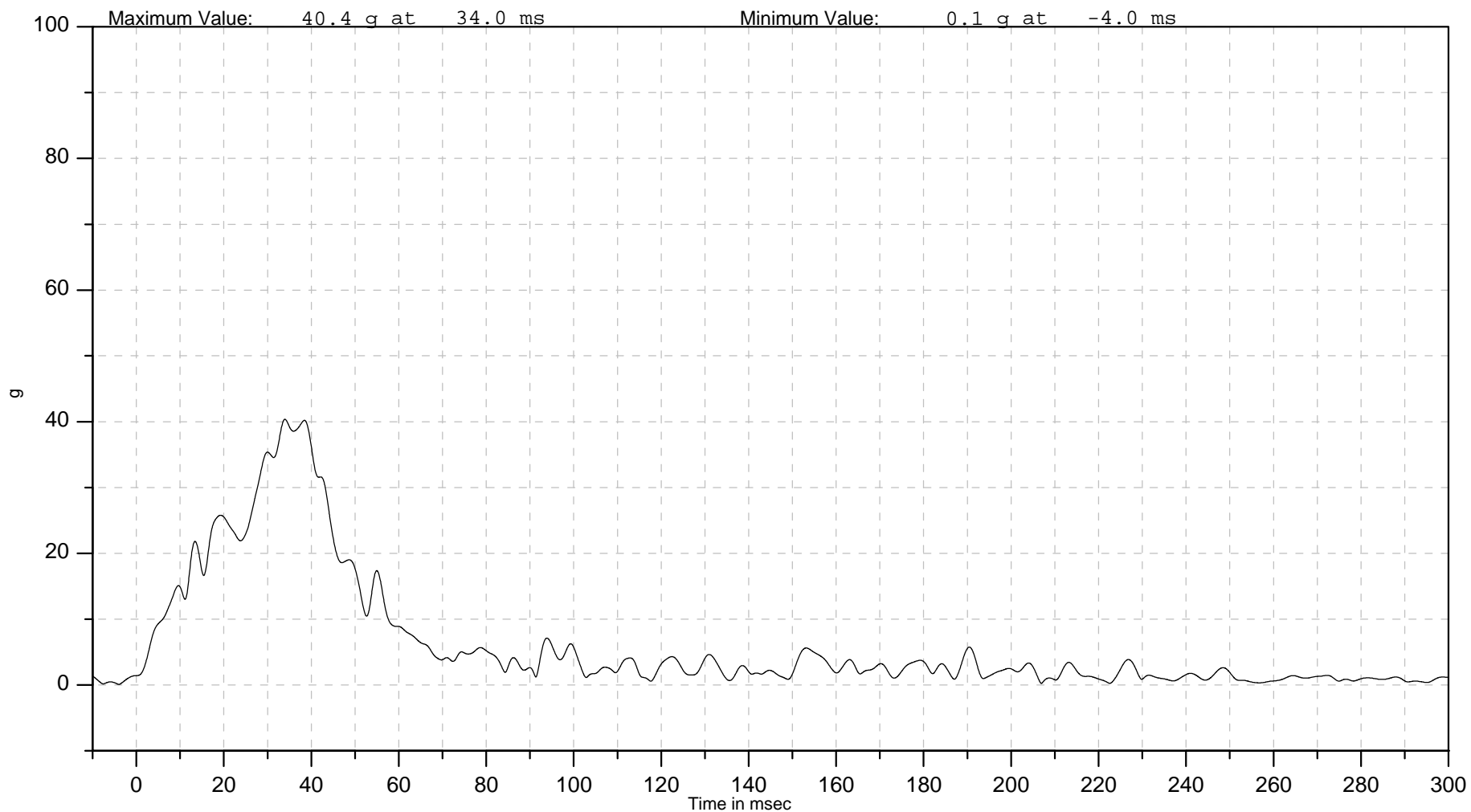
Autoliv Channel
M0MBCARCG0000ACRD

ISO Channel
M0MBCARCG0000ACRD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

CG Mobile Barrier Resultant Acceleration





Autoliv North America (NTC)

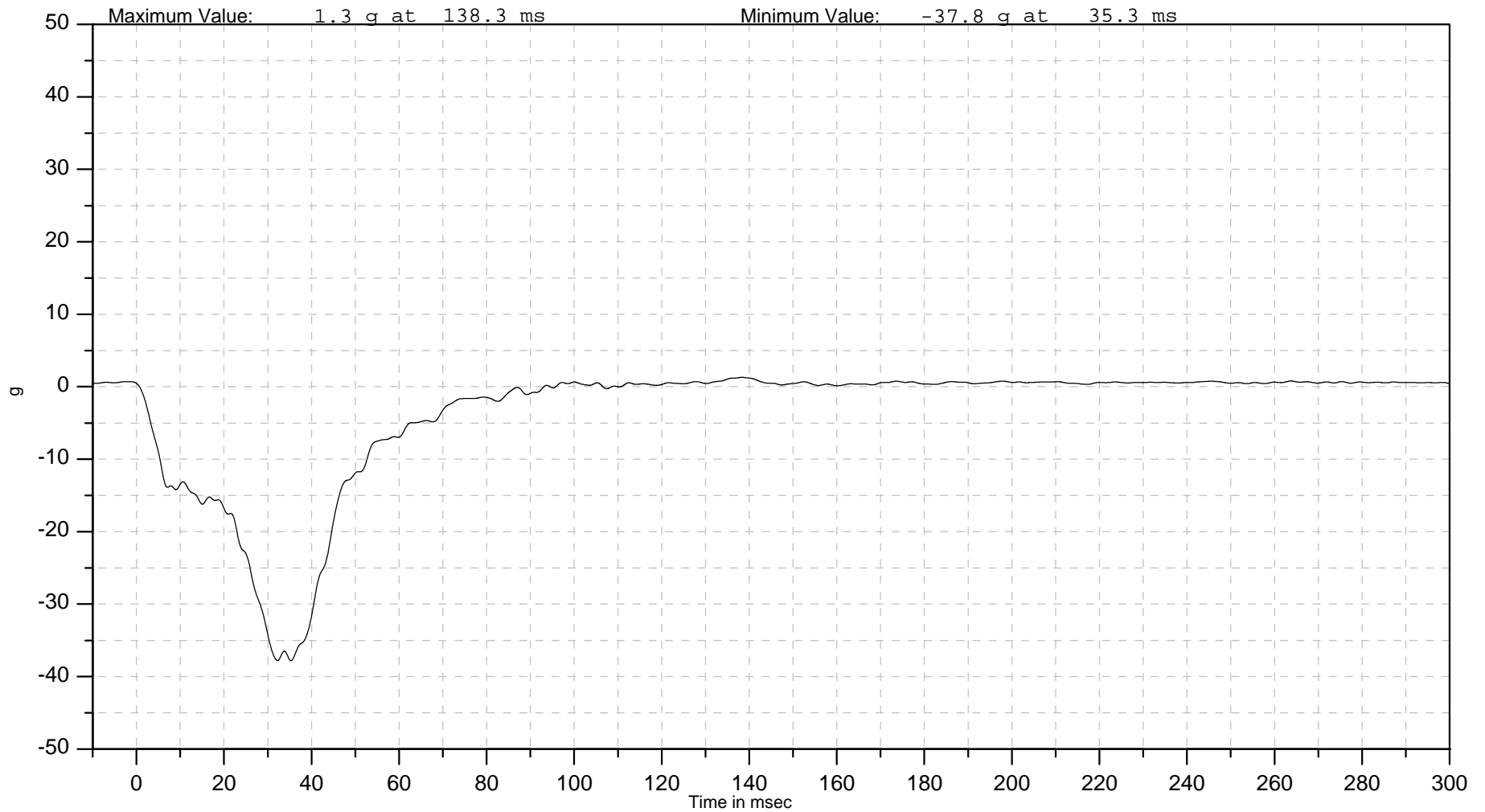
Autoliv Channel
M0MBARMIFR00ACXD

ISO Channel
M0MBARMIFR00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

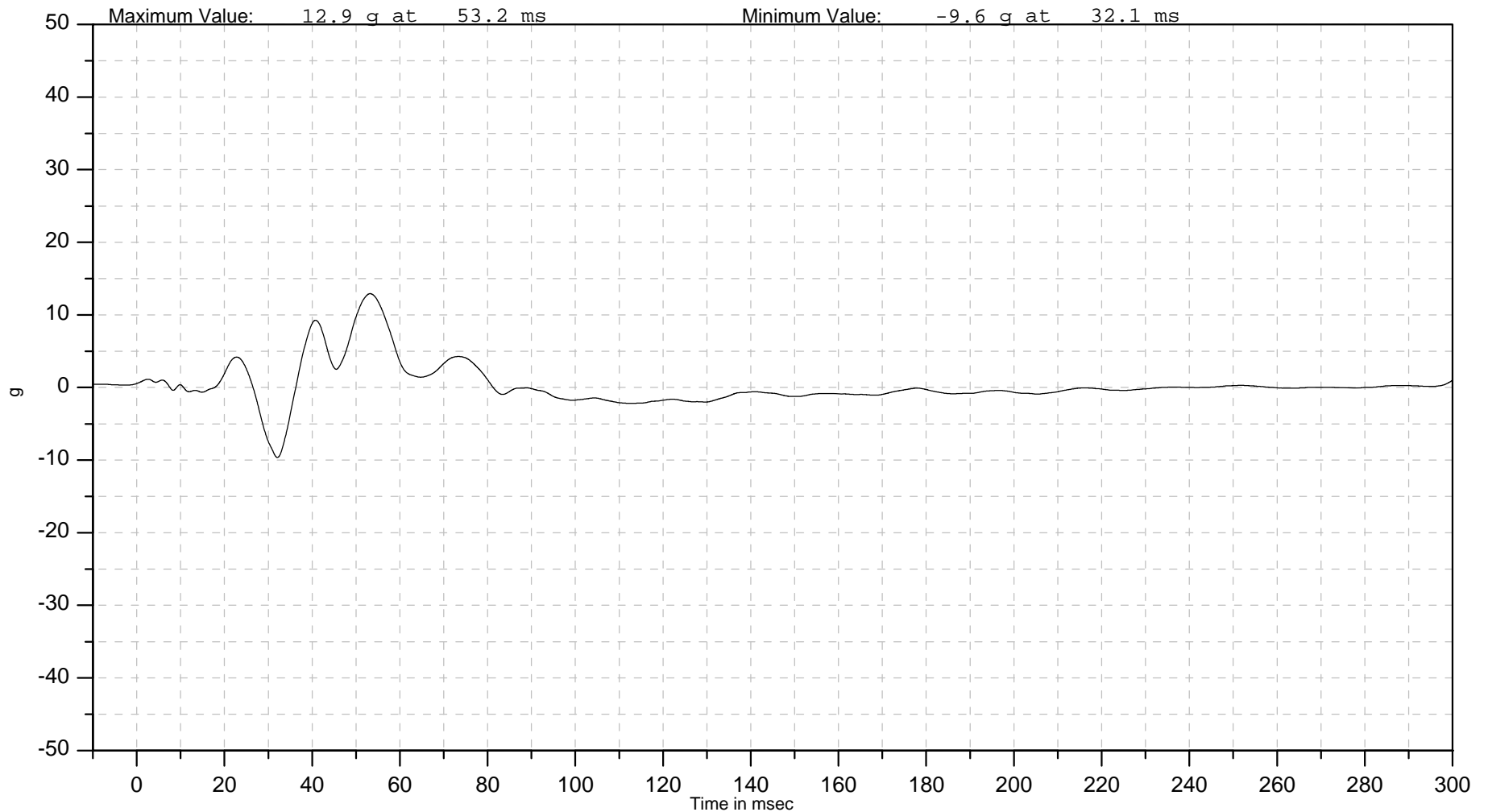
Autoliv Channel
M0MBARMIFR00ACYD

ISO Channel
M0MBARMIFR00ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Y Acceleration





Autoliv North America (NTC)

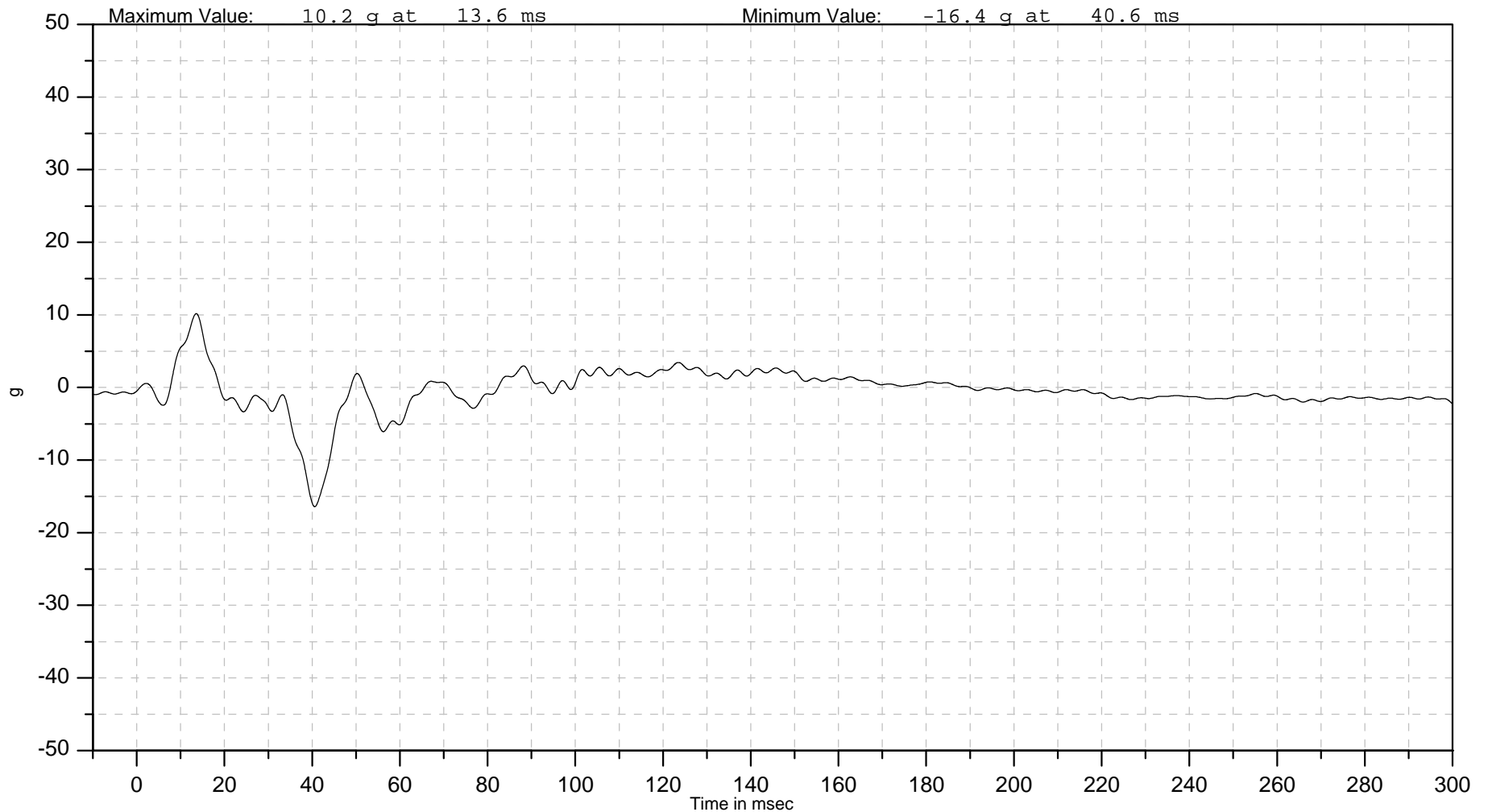
Autoliv Channel
M0MBARMIFR00ACZD

ISO Channel
M0MBARMIFR00ACZD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Middle Front Mobile Barrier Z Acceleration





Autoliv North America (NTC)

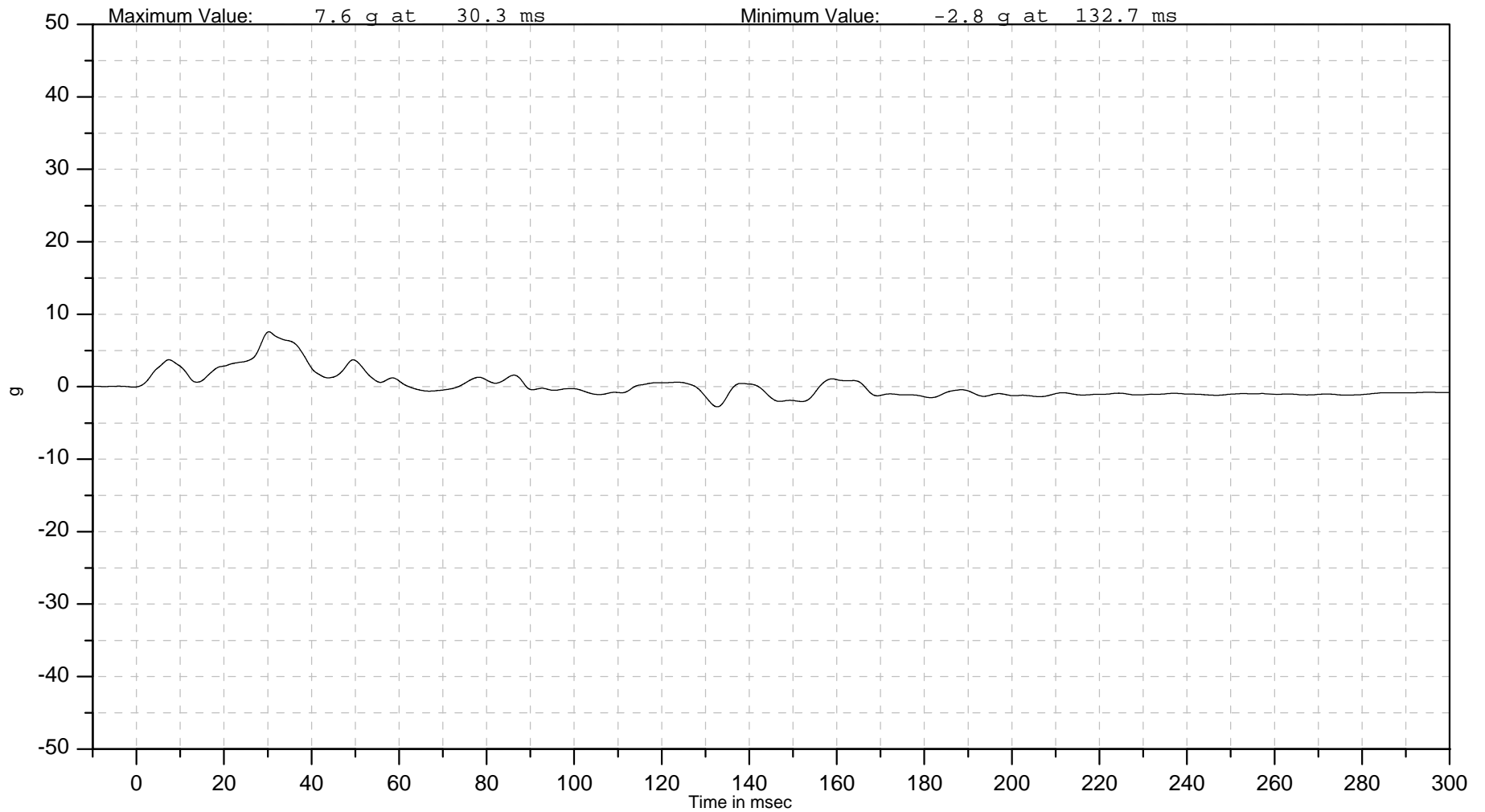
Autoliv Channel
M0MBARREMI00ACYD

ISO Channel
M0MBARREMI00ACYD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Rear Middle Mobile Barrier Y Acceleration





Autoliv North America (NTC)

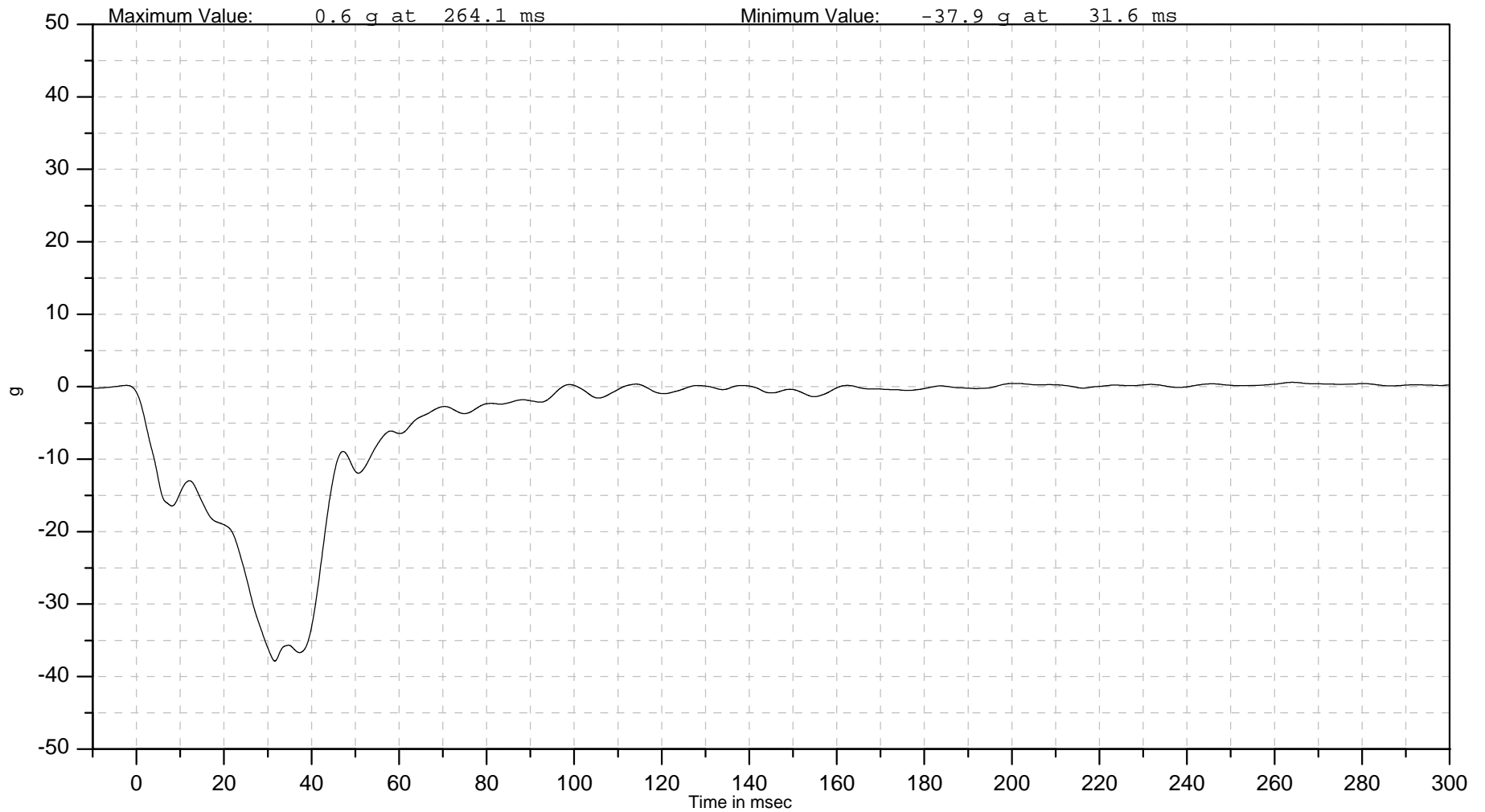
Autoliv Channel
M0MBARLEFR00ACXD

ISO Channel
M0MBARLEFR00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

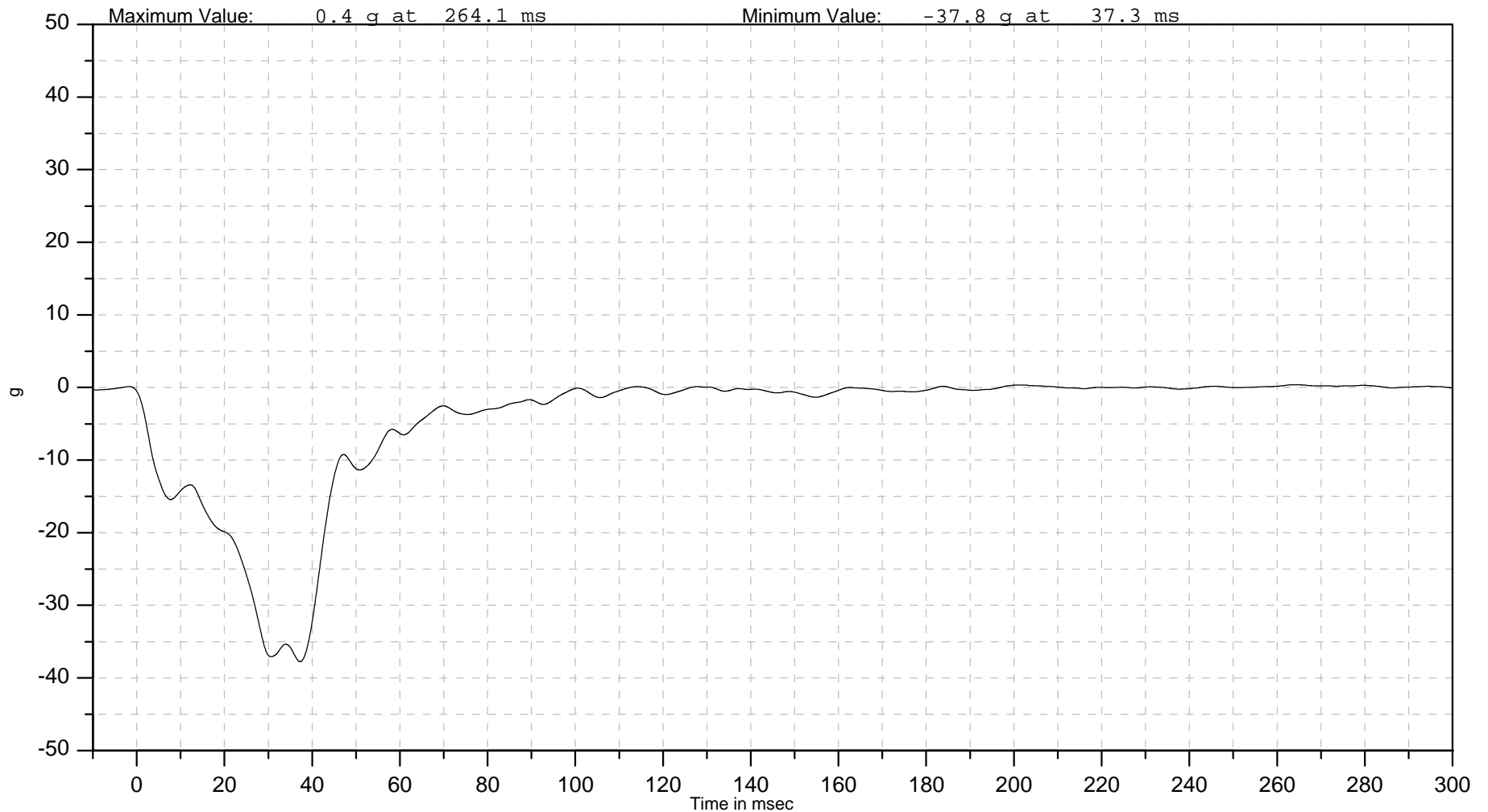
Autoliv Channel
M0MBARLEMI00ACXD

ISO Channel
M0MBARLEMI00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Left Middle Mobile Barrier X Acceleration





Autoliv North America (NTC)

Autoliv Channel
M0MBARRIFR00ACXD

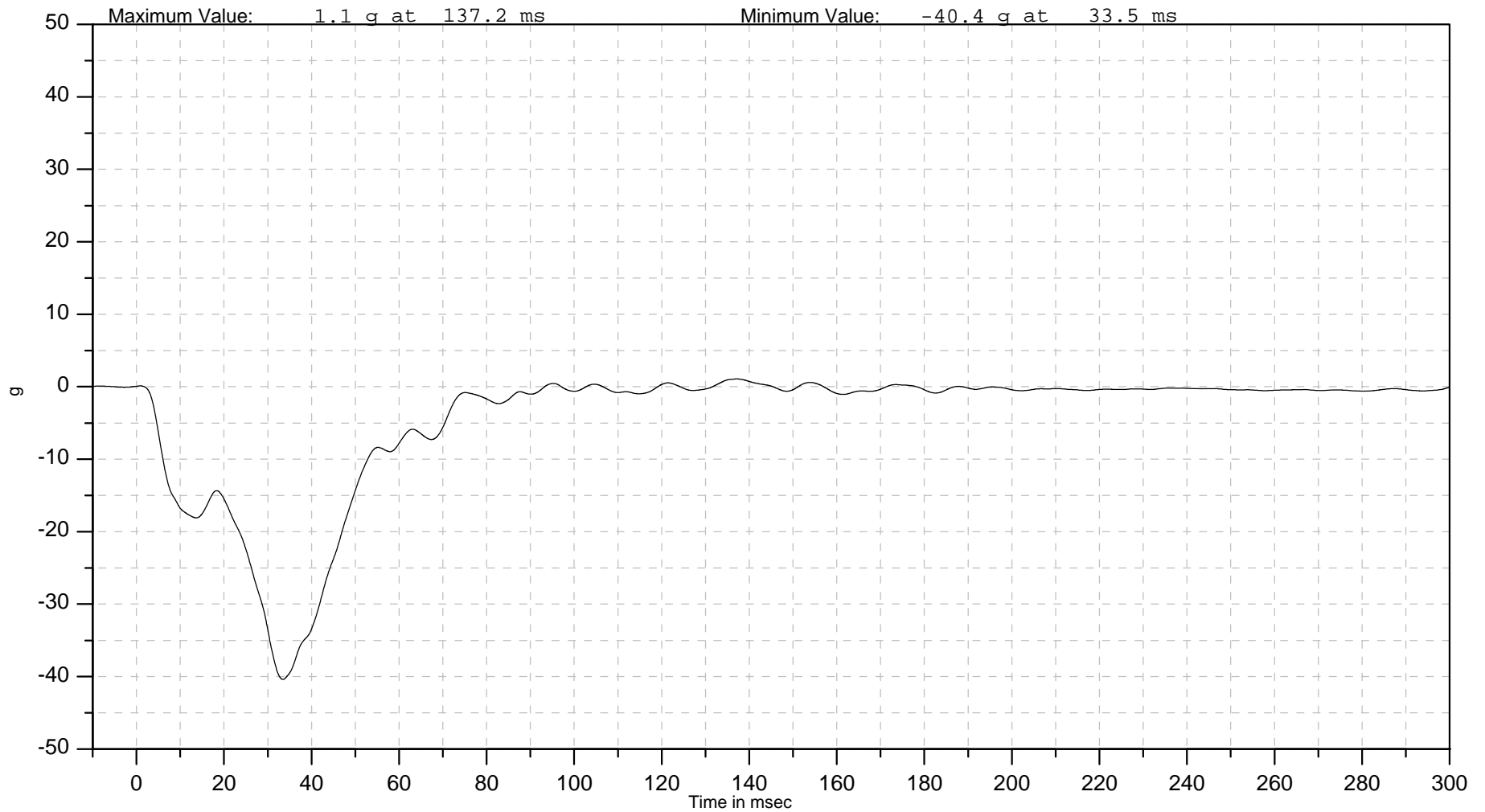
ISO Channel
M0MBARRIFR00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type
Non dummy channel

Filter: CFC 60
Sign Convention: SAE J211

Right Front Mobile Barrier X Acceleration





Autoliv North America (NTC)

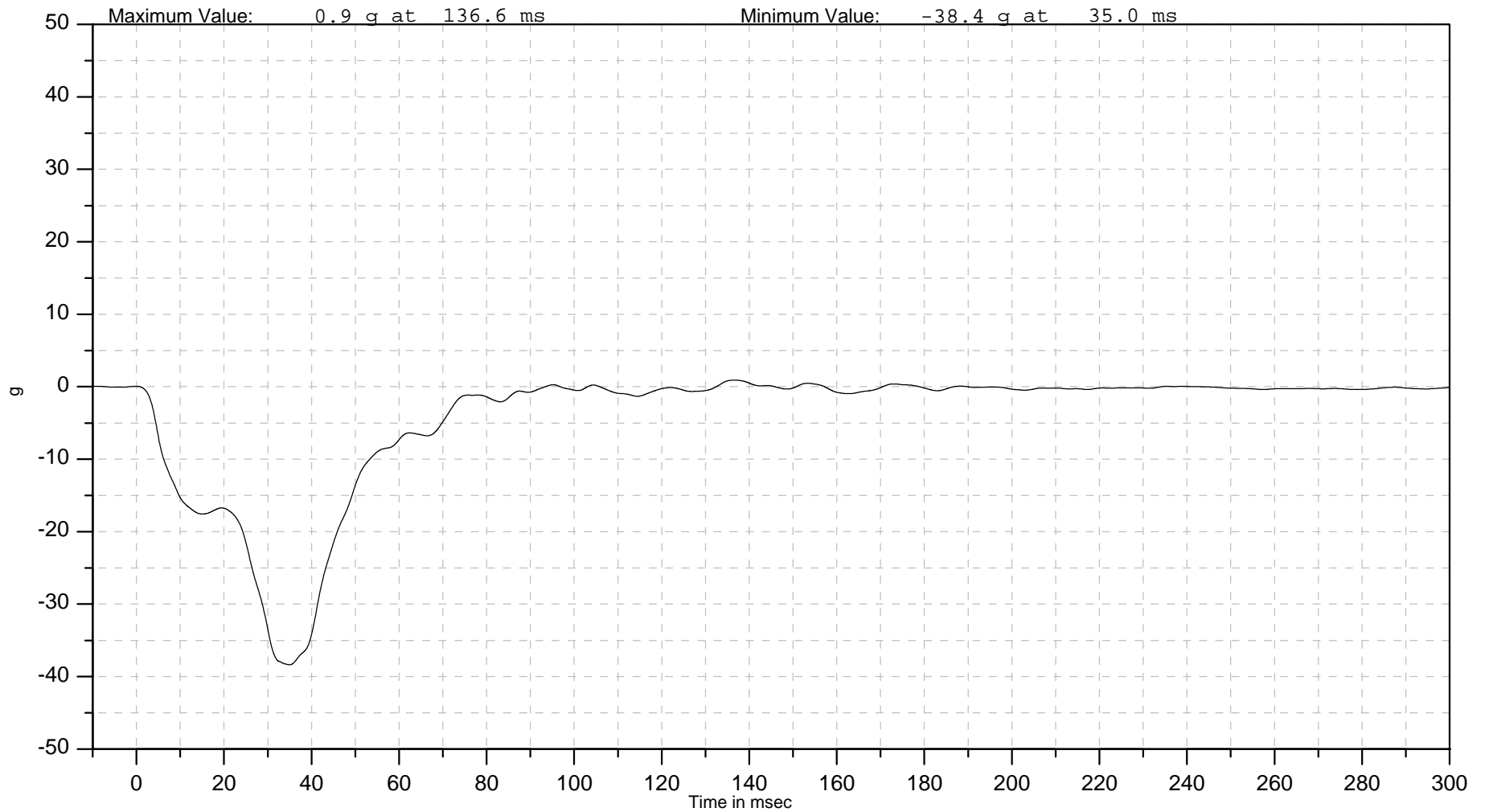
Autoliv Channel
M0MBARRIMI00ACXD

ISO Channel
M0MBARRIMI00ACXD

Test Number: B1040277
Test Date: 16-Aug-2004
Test Description: 2005 P61B 50mph Fuel Filler Impact

Dummy Type: Non dummy channel
Filter: CFC 60
Sign Convention: SAE J211

Right Middle Mobile Barrier X Acceleration



APPENDIX B

TEST PHOTOGRAPHS





































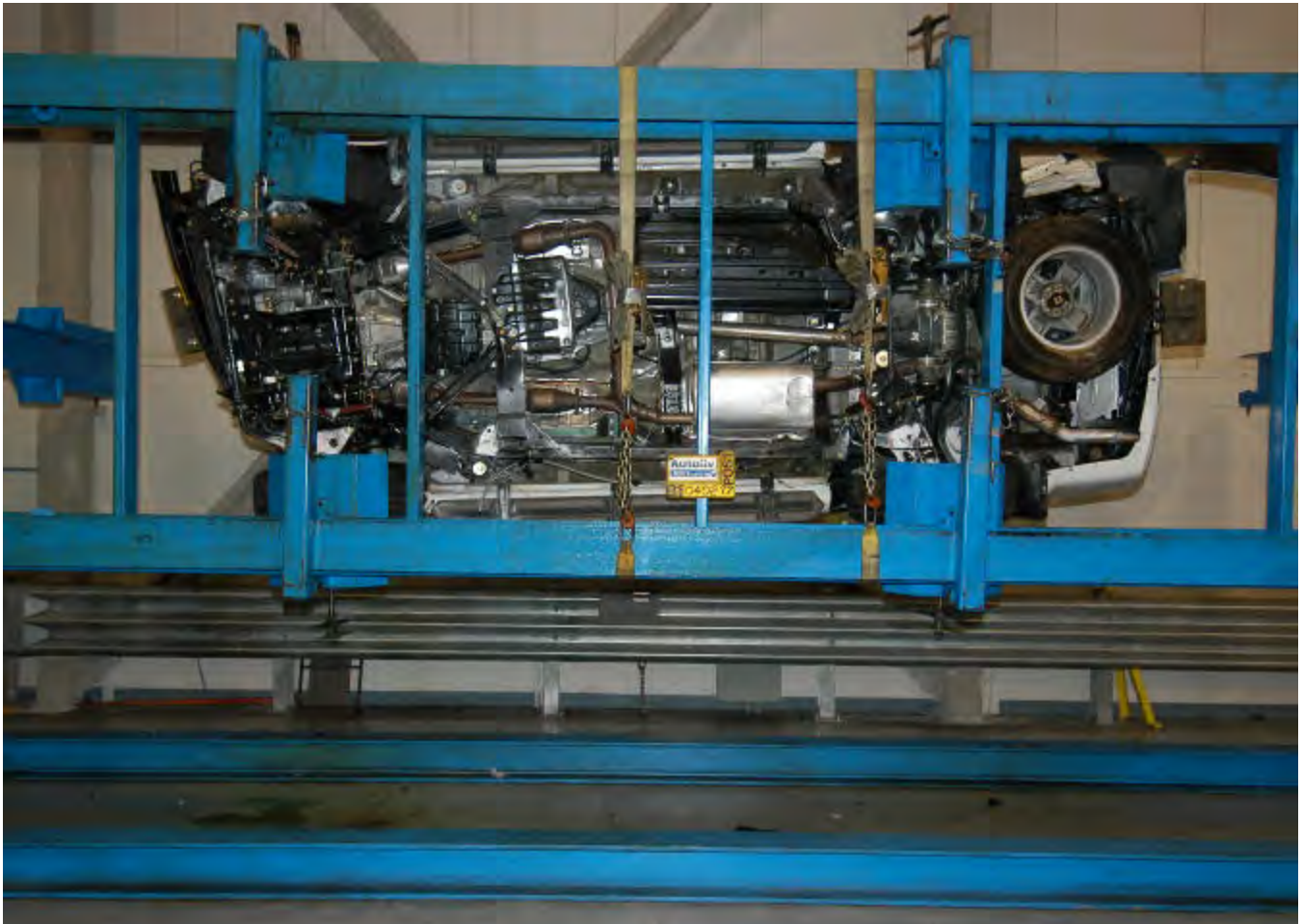
































報告書配布先

部署	詳報	要報
XW4-3		1
ZA4-3		1
KS5-3		1
KC4(控元)		1
合計		4
P1迄要報		

区分 _____
 実験番号 _____
 依頼番号 _____

**開発品質
 実験報告**

KC0部 KC4
 発行日付 04.07.21

No.KC4D-040603

題目 FUEL TANK PRESSURE RESISTANCE STRENGTH

担当者 T.FUWA

実験期間: 03.09.11 - 04.01.16

1.Purpose

We confirm the pressure resistance of the fuel tank.

2.Test Condition

2-1 Test Piece TANK ASSY-FUEL

3.Conclusion

OK

Met the Criteria.

4.Test Procedure

Mount the fuel tank to a special jig and apply positive pressure.

5.Result

Table-1

Criteria	Result		Judgement
	Leakage	Cracks, Breakage	
No leakage after applying 29.4kPa for 30 sec.	None	None	OK

Applied Model

05MY R51
 D23
 WD23

発行課
 KC4
 主担
 担当者
 T. Fujiwara

報告書配布先

部署	詳報	要報
XW4-3	1	
ZA4-3	1	
KS5-3	1	
KC4(控え)	1	
合計	4	
P1迄要報		

区分 _____
 実験番号 _____
 依頼番号 _____

開発品質 実験報告

KC0部 KC4
 発行日付 04.07.21

No.KC4D-040604

題目 PLASTIC TANK FIRE RESISTANCE TEST

担当者 T.FUWA 実験期間: 03.12.01

1. Purpose

We confirm the refractoriness test of the fuel tank.

2. Test Condition

2-1 Test Piece TANK ASSY-FUEL

2-2 Test Condition Test ; 3 times

table-1

	Test condition
Method to fix tank	Mounted to cut body by strap
Fuel volume	50% of tank capacity
Pre-heating	60 sec
Direct exposure	60 sec
Indirect exposure	60 sec

Applied Model

05MY R51
 D23
 WD23

3. Conclusion

OK

Met the Criteria.

4. Result

Table-2

Criteria	Result	Judgement
	Leakage	
No leakage after the test.	None	OK

発行課
 KC4
 主担
 担当者
 担当
 T. Yamamoto
 T. Fuwa

報告書配布先

部署	詳細	要報
XW4-3		1
ZA4-3		1
KS5-3		1
KC4(控元)		1
合計		4
PT迄要報		

区分 _____
 実験番号 _____
 依頼番号 _____

**開発品質
 実験報告**

KC0部 KC4
 発行日付 04.07.21

No.KC4D-040605

題目 FUEL TANK TUBE MOUNTING STRENGTH

担当者 T.FUWA

実験期間: 04.07.21

1.Purpose

We confirm the tube mounting strength of the fuel tank.

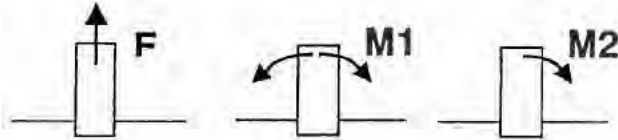
Applied Model

05MY R51
 D23
 WD23

2.Test Condition

2-1 Test Piece TANK ASSY-FUEL

2-2 Direction of Load



3.Conclusion

OK

Met the Criteria.

4.Result

Table-1

TUBE () indicates outer diameter d.	Direction of Load			
	F	M1	M2	
A TUBE-EVAPO (6.35)	OK	OK	OK	
B TUBE-FILLER (32)	OK	OK	/	
LOAD	15 > d	981N	+/-4.9Nm	9.8Nm
	15 < d < 20	1471N	+/-9.8Nm	9.8Nm
	20 < d	1961N	+/-29.4Nm	98.1Nm

CRITERIA : No leakage after applying load

** Reference data

発行課 KC4
 主担 佐藤
 担当者
 21/7/21
 G. Yamawaki
 T. Fuwa

報告書配布先

部署	詳細	報告
XW4-3	1	
ZA4-3	1	
KS5-3	1	
KC4(控え)	1	
合計	4	
PI迄要報		

区分 _____
 実験番号 _____
 依頼番号 _____

開発品質 実験報告

KC0部 KC4
 発行日付 04.07.21

No.KC4D-040606

題目 FUEL TANK IMPACT STRENGTH (PLASTIC)

担当者 T.FUWA 実験期間: 04.01.26- 04.01.28

1.Purpose

We confirm the drop weight impact test of the fuel tank.

2.Test Condition

2-1 Test Piece TANK ASSY-FUEL

2-2 Test Condition

Table-1

Test Condition	
Method to fix the tank	Mounted to a special jig by the strap
Liquid inside the tank	80.0L(60% solution of ethylene glycol)
Impact Energy	30.4 Nm
Impact body	Way of Collision Pendulum
	Material Steel
	Weight 147.1 N
	Radius of top and ridges R3

Applied Model

05MY R51
 D23
 WD23

3.Conclusion

OK

Met the Criteria.

4.Result

Table-2

	Fluid Temperature	Fluid Leakage
1	-40deg C	None
2	-40deg C	None
3	-40deg C	None
4	-40deg C	None
5	-40deg C	None
6	-40deg C	None
7	-40deg C	None
8	-40deg C	None
9	-40deg C	None
10	-40deg C	None
11	-40deg C	None
12	-40deg C	None
13	-40deg C	None
14	-40deg C	None
15	-40deg C	None
16	-40deg C	None
17	-40deg C	None
18	-40deg C	None
19	-40deg C	None

CRITERIA

No leakage and cracks after applying load

発行課
 KC4
 主担
 担当者
 T. Fuwa
 R. Yamamoto

CONFIDENTIAL

Category: 342
Test No.: HT2004-083

**Development Quality
Test Report
No. KC5D040601**

Classification: 6-1
Retention: 6/2005

Scope of Application:
342 (all markets & all engines)

Dept.	HVAC development group
Issue Date:	06/16/2004

SUBJECT: EVAPO System Basic Safety

Tested By: KC5 (Matoba) and KS5 (Inoue)

Test Date: 6/09/2004 ~ 6/16/2004

1. Summary

We checked the vehicle basic safety of EXH system based on the gasoline vapor from the EVAPO system of the subject vehicle.

2. Conclusion

OK

The basic safety for items such as vehicle fire met the reference value based on the gasoline vapor from the EVAPO system.

3. Results

Driving Condition	Concentration Measurement Position	Reference Value	Test Results (HC concentration)	Judgment
Gradient driving + K/OFF	1. Behind main muffler	1000rpm at EXH	0 ppm	OK
	2. Beside rear tube		0 ppm	OK
	3. Canister drain opening		0 ppm	OK

See figure below for positions 1 ~ 3

4. Test Specs (Vehicle No. SLB034)

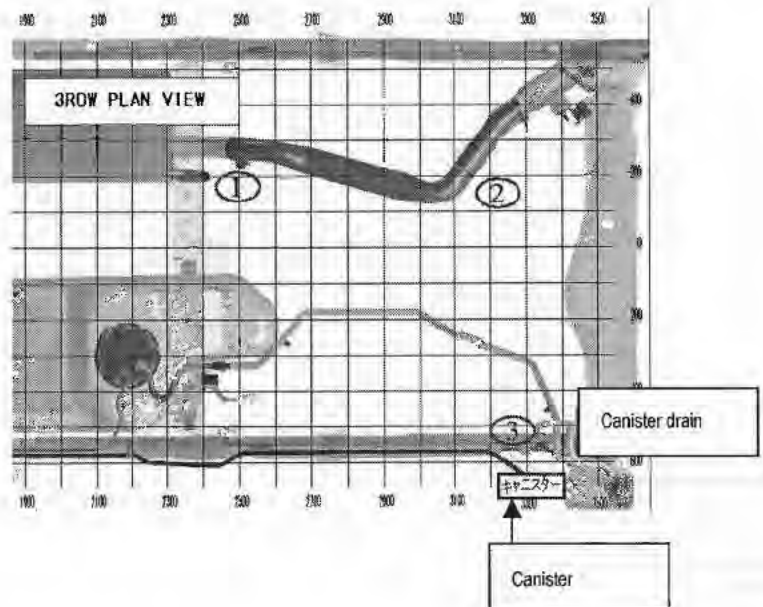
Market: Australia

Engine: ZV7

T/M: IK (5AT)

A/C: Yes

EVAPO & Drain Hose: See figure



CONFIDENTIAL

Category: 342
 Test No.: HT2004-083

**Development Quality
 Test Report
 No. KC5D040601**

Classification: 6-1
 Retention: 6/2005

Scope of Application:
 342 (all markets & all engines)

Dept.	HVAC development group
Issue Date:	06/16/2004

SUBJECT: EVAPO System Basic Safety

Tested By: KC5 (Matoba) and KS5 (Inoue)

Test Date: 6/09/2004 ~ 6/16/2004

1. Summary

We checked the vehicle basic safety of EXH system based on the gasoline vapor from the EVAPO system of the subject vehicle.

2. Conclusion

OK

The basic safety for items such as vehicle fire met the reference value based on the gasoline vapor from the EVAPO system.

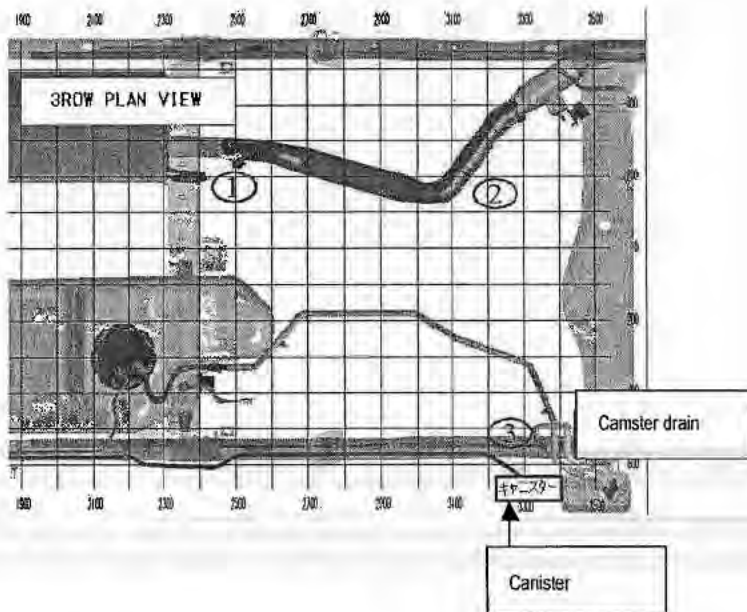
3. Results

Driving Condition	Concentration Measurement Position	Reference Value	Test Results (HC concentration)	Judgment
Gradient driving + K/OFF	1. Behind main muffler	1000rpm at EXH	0 ppm	OK
	2. Beside rear tube		0 ppm	OK
	3. Canister drain opening		0 ppm	OK

See figure below for positions 1 ~ 3

4. Test Specs (Vehicle No. SLB034)

Market: Australia
 Engine: ZV7
 T/M: IK (5AT)
 A/C: Yes
 EVAPO & Drain Hose: See figure



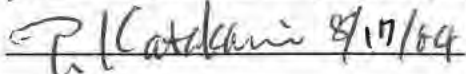


DESIGN QUALITY TEST REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NY5034 DATE (mm/dd/yy) 8/16/04

TITLE: "50 mph Moving Deformable Barrier to Vehicle at Fuel Filler Base"

MODEL CODE: R51	ISSUER:  8/17/04 J. Dix
MODEL YEAR: 2005	
TEST PERIOD: 8/16/04	APPROVAL:  8/17/04.  8/17/04

1. Purpose

This report confirms 2005 model year, R51, meets the reference value when tested in a 50mph Moving Deformable Barrier to Vehicle at Fuel Filler Base crash test.

Applied Model	R51 All Models
Destination	North America
Ref. No.	

2. Test Results

Item	Reference Value	Results
Fuel System Integrity	No fuel Spillage	No Spillage
Door Opening Performance	Doors must not open during the test	OK

(3) Condition of Dummies (Used for ballast only – occupant performance is not a part of test procedure)

Type of Dummy		HYB III (Subpart B of Part 572) (Not instrumented)	
Dummy Position		Each front outboard seating position	
Restraint System		Driver: Type 2 Seat Belt	
		Passenger: Type 2 Seat Belt	
Position of Seats	Seat Back	Driver: (Nominal Design Position)	21 deg. Measured on the seatback frame
		Passenger: (Normal Design Position)	21 deg. Measured on the seatback frame
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	Mid Track Position
		Passenger: Midpoint, or closest point to the rear of midpoint	Mid Track Position

(4) Vehicle Condition

Fuel Tank	Usable capacity:	80 Liters	
	Charged volume:	76 Liters	
	Test Fluid:	Name:	Stoddard Solvent
		Specific Gravity	0.77 – 0.80
Ignition Key Position	ON		
Fuel Pump Operation	(YES/NO)	Type of Pump:	Electric pump
Parking Brake	Disengage		
Transmission	Neutral		
Adjustable Pedal Position	Full Forward		
Tire Pressure	Front:	241 kPa	
	Rear:	241 kPa	
Steering Column Position	Mid position		
	N/A		
Hood	Fully closed and latched.		
Wiper	Not operated		
Temperature	Inside the Vehicle	69 °F	
	Windshield Moulding	69 °F	
	Test Site	69 °F	
Door & Trunklid (Rear Gate)		Fully closed and latched but not locked.	
Side Window Glass	Front Right:	(Opened/Closed)	
	Front Left:	(Opened / Closed)	
	Center Right:	(Opened / Closed)	
	Center Left:	(Opened / Closed)	
	Rear Right:	(Opened/Closed)	
	Rear Left:	(Opened /Closed)	
Other Fluid	Radiator	(Normal/Drained)	
	Battery	(Normal/Drained)	
	Washer	(Normal/Drained)	
	Oil	(Normal/Drained)	
Tools & Jack		Installed	

4. Test Data

1. Photographs of the test vehicle, photo 1 through 24, on pages 6 through 17.
2. Detailed data of fuel leakage after the test. See Tables 1 & 2 on pages 18 through 19.



Photo No. 1 PRE TEST
Subject: Side View



Photo No. 2 POST TEST
Subject: Side View



Photo No. 3 PRE TEST
Subject: Rear View



Photo No. 4 POST TEST
Subject: Rear View



Photo No. 5 PRE TEST
Subject: Underbody Front View



Photo No. 6 POST TEST
Subject: Underbody Front View



Photo No. 7 PRE TEST
Subject: Underbody Center View



Photo No. 8 POST TEST
Subject: Underbody Center View



Photo No. 9 PRE TEST
Subject: Underbody Center View #2

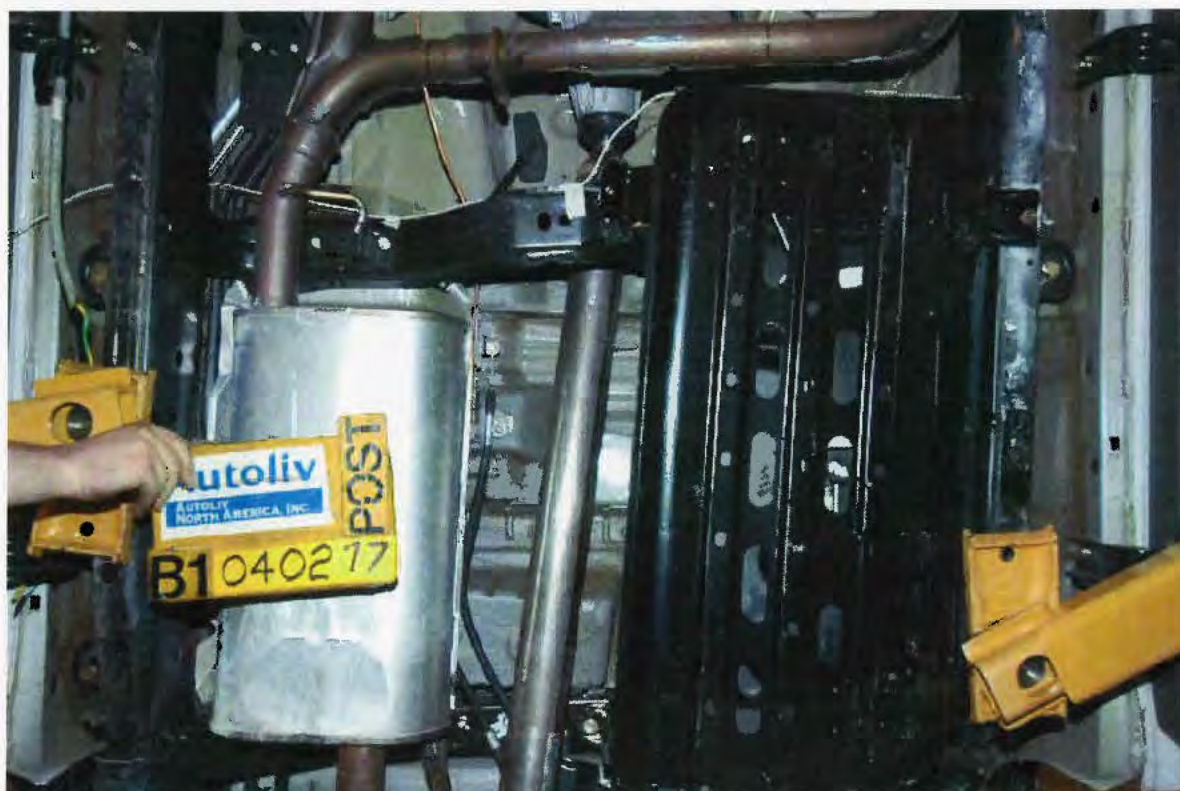


Photo No. 10 POST TEST
Subject: Underbody Center View #2



Photo No. 11 PRE TEST
Subject: Underbody Rear View



Photo No. 12 POST TEST
Subject: Underbody Rear View



Photo No. 13 PRE TEST
Subject: Fuel Tank View



Photo No. 14 POST TEST
Subject: Fuel Tank View



Photo No. 15 PRE TEST
Subject: Fuel Filler Hose Rear View



Photo No. 16 POST TEST
Subject: Fuel Filler Hose View



Photo No. 17 PRE TEST
Subject: Fuel Filler Cap View



Photo No. 18 POST TEST
Subject: Fuel Filler Cap View



Photo No. 19 PRE TEST
Subject: Engine Compartment



Photo No. 20 POST TEST
Subject: Engine Compartment



Photo No. 21
Subject: Static Rollover 0°



Photo No. 22
Subject: Static Rollover 90°



Photo No. 23
Subject: Static Rollover 180°

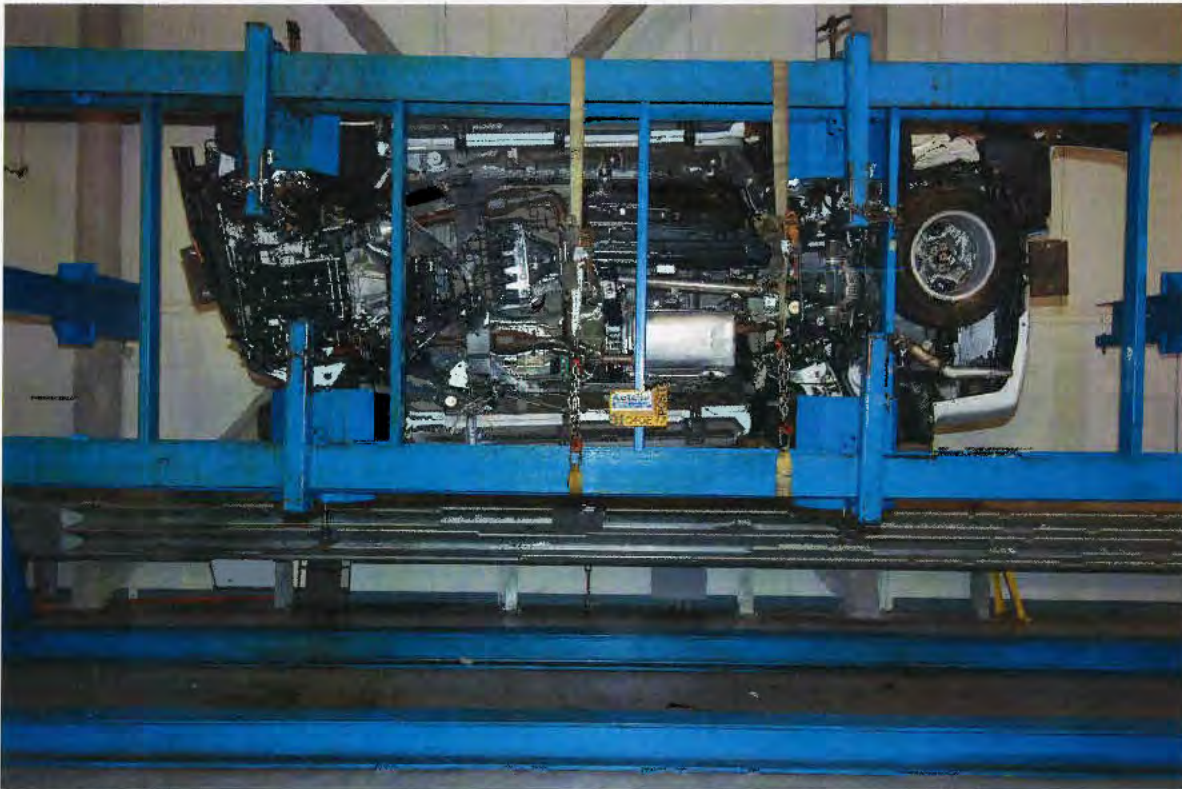


Photo No. 24
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test


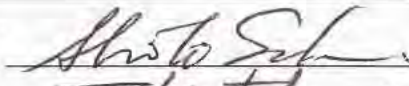
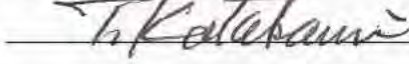
Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
	Rotation 0 ⁰ 90 ⁰	2	None	None	None	None	None	None
	Hold at 90 ⁰	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90 ⁰ 180 ⁰	2	None	None	None	None	None	
	Hold at 180 ⁰	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180 ⁰ 270 ⁰	2	None	None	None	None	None	
Hold at 270 ⁰	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270 ⁰ 360 ⁰	2	None	None	None	None	None		
Hold at 360 ⁰	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	

DESIGN QUALITY TEST REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NY8258 DATE (mm/dd/yy) 03/22/2007

TITLE: "50 mph Moving Deformable Barrier to Vehicle at Fuel Filler Base"

MODEL CODE: R51	ISSUER:  R. Kobrossy
MODEL YEAR: 2008	
TEST PERIOD: 11/13/2006	APPROVAL:  

1. Purpose

This report confirms 2008 model year, R51, meets the reference value when tested in a 50mph Moving Deformable Barrier to Vehicle at Fuel Filler Base crash test.

Applied Model	R51 SUV All Models By NNA-Smyrna
Destination	North America
Ref. No.	

2. Test Results

Item	Reference Value	Results
Fuel System Integrity	No fuel Spillage	No Spillage
Door Opening Performance	Doors must not open during the test	OK

3. Test Conditions

3.1 Test Vehicle

Type: R51 SUV

VIN: N/A

Vehicle No: 8WS04

Engine: VK56DE (V8) Transmission: 5A/T

Impact Velocity: 80.4 kph

Weight of Vehicle: 2643.7 kg

Weight of Bullet Barrier: 1367.6 kg

(1) Reason for the selection of test vehicle

The R51 SUV does not have significant model differences (e.g. body type) which would influence crash test performance. The LH side is selected because of the fuel filler location.

(2) Weight Condition

	Total	Front	Rear
*Target Weight:	2643.7 kg	1242.4 kg	1401.3 kg
**Test Weight:	2643.7 kg	1246.2 kg	1397.5 kg

*Max curb weight among application models + 2 dummies + 136 kg cargo.

*Vehicle Type: R51 SUV with Full Options

** Difference in test and target weight split between front and rear has no effect on test results

(3) Condition of Dummies (Used for ballast only – occupant performance is not a part of test procedure)

Type of Dummy		HYB II (Not instrumented)	
Dummy Position		Each front outboard seating position	
Restraint System		Driver:	Front Air Bag and Type 2 Seat Belt
		Passenger:	Front Air Bag and Type 2 Seat Belt
Position of Seats	Seat Back	Driver: (Nominal Design Position)	6 notches from full forward, first notch is 0.
		Passenger: (Normal Design Position)	6 notches from full forward, first notch is 0.
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	Mid Track Position
		Passenger: Midpoint, or closest point to the rear of midpoint	Mid Track Position

(4) Vehicle Condition

Fuel Tank	Usable capacity:	80 Liters	
	Charged volume:	76.1 Liters	
	Test Fluid:	Name:	Stoddard Solvent
		Specific Gravity	0.77 – 0.80
Ignition Key Position	ON		
Fuel Pump Operation	(YES/NO)	Type of Pump:	Electric pump
Parking Brake	Disengage		
Transmission	Neutral		
Adjustable Pedal Position	Full Forward		
Tire Pressure	Front:	221 kPa	
	Rear:	221 kPa	
Steering Column Position	Mid position		
	N/A		
Hood	Fully closed and latched.		
Wiper	Not operated		
Temperature	Inside the Vehicle	39°F	
	Windshield Moulding	39°F	
	Test Site	39°F	
Door & Trunklid (Rear Gate)		Fully closed and latched but not locked.	
Side Window Glass	Front Right:	(Opened/Closed)	
	Front Left:	(Opened / Closed)	
	Center Right:	(Opened/Closed)	
	Center Left:	(Opened / Closed)	
	Rear Right:	(Opened/Closed)	
	Rear Left:	(Opened / Closed)	
Other Fluid	Radiator	(Normal/Drained)	
	Battery	(Normal/Drained)	
	Washer	(Normal/Drained)	
	Oil	(Normal/Drained)	
Tools & Jack		Installed	

4. Test Data

1. Photographs of the test vehicle, photo 1 through 26, on pages 6 through 18.
2. Detailed data of fuel leakage after the test. See Tables 1 & 2 on pages 19 through 20.



Photo No. 1 PRE TEST
Subject: Side View



Photo No. 2 POST TEST
Subject: Side View



Photo No. 3 PRE TEST
Subject: Rear View



Photo No. 4 POST TEST
Subject: Rear View

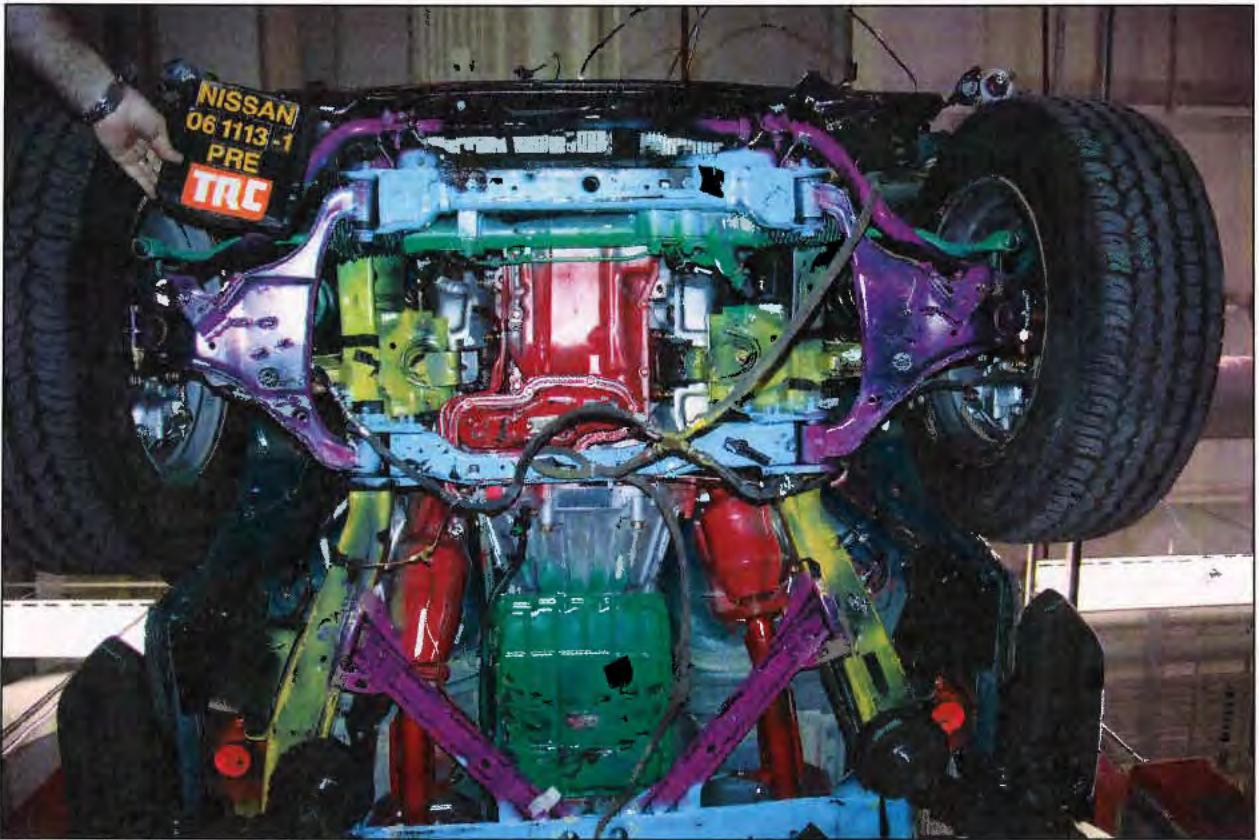


Photo No. 5 PRE TEST
Subject: Underbody Front View

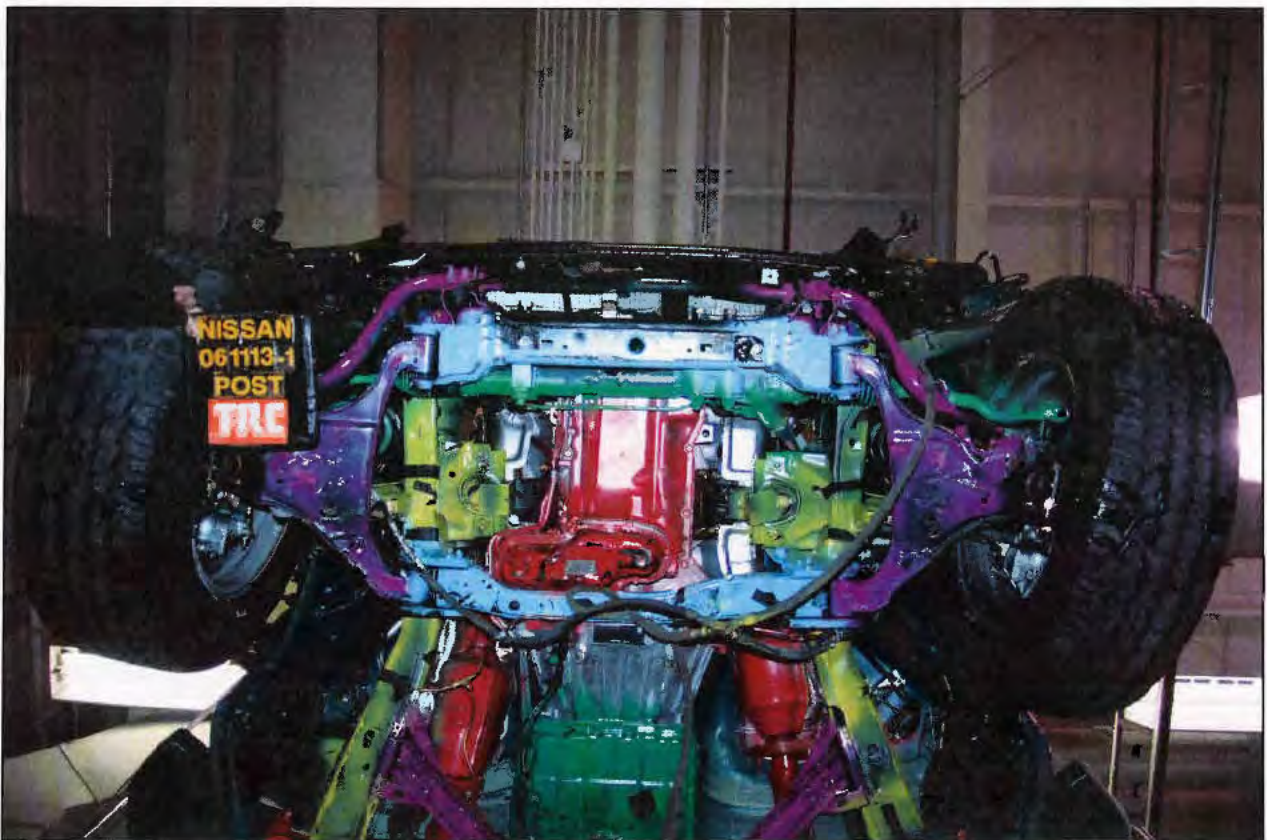


Photo No. 6 POST TEST
Subject: Underbody Front View

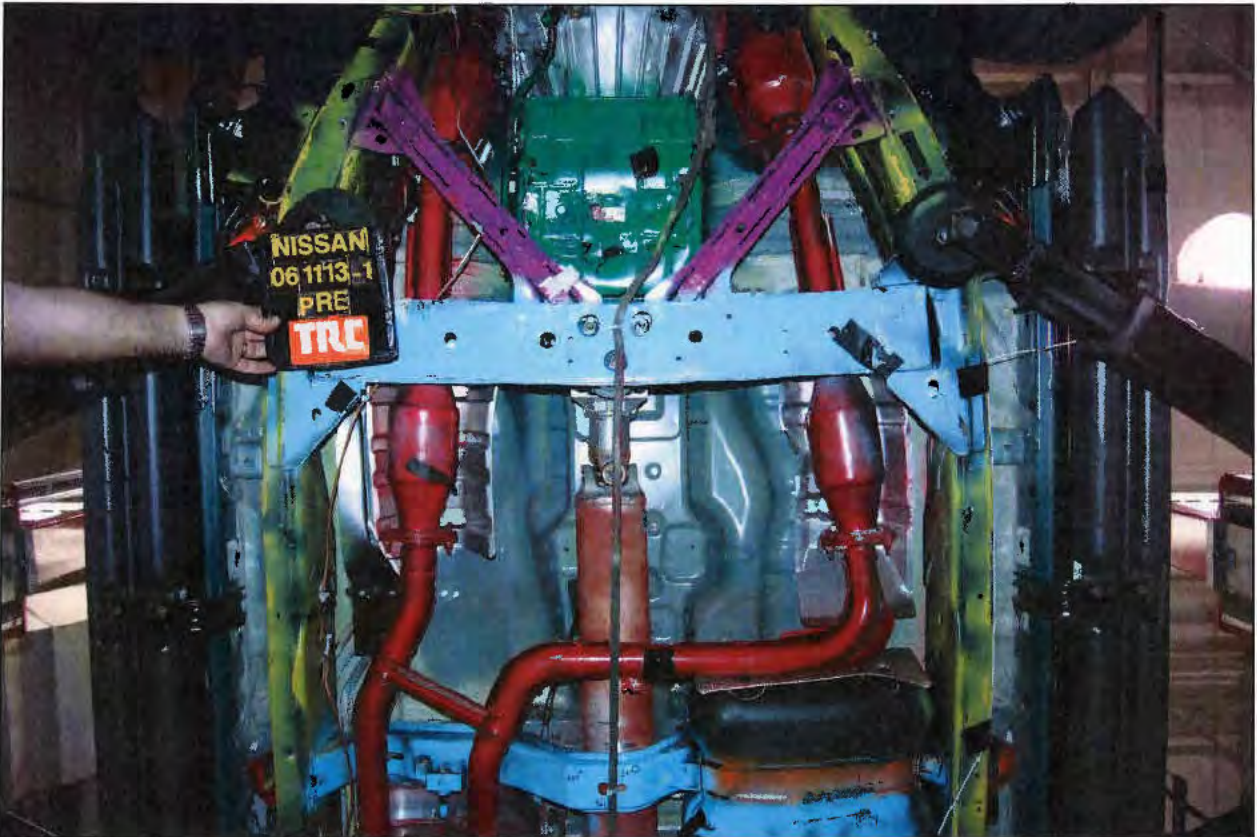


Photo No. 7 PRE TEST
Subject: Center-1 Underbody View

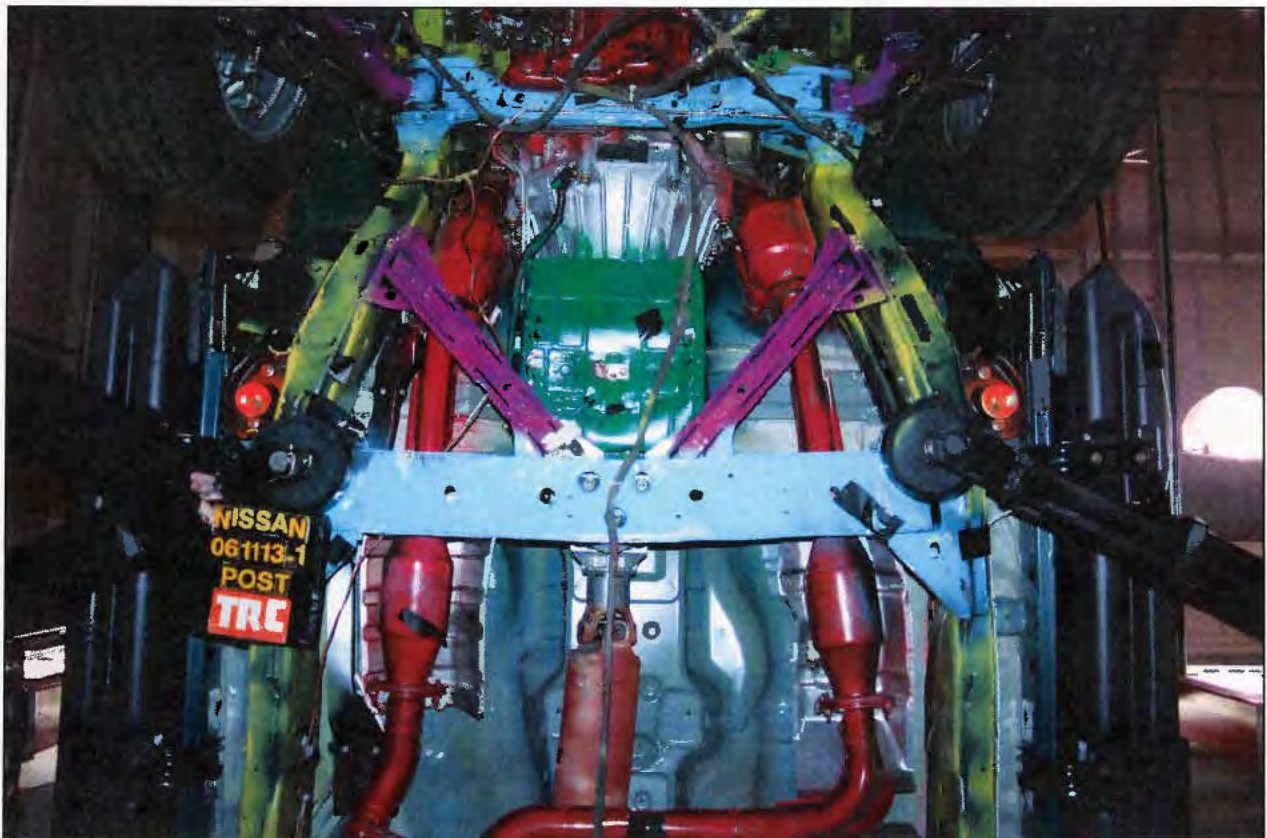


Photo No. 8 POST TEST
Subject: Center-1 Underbody View

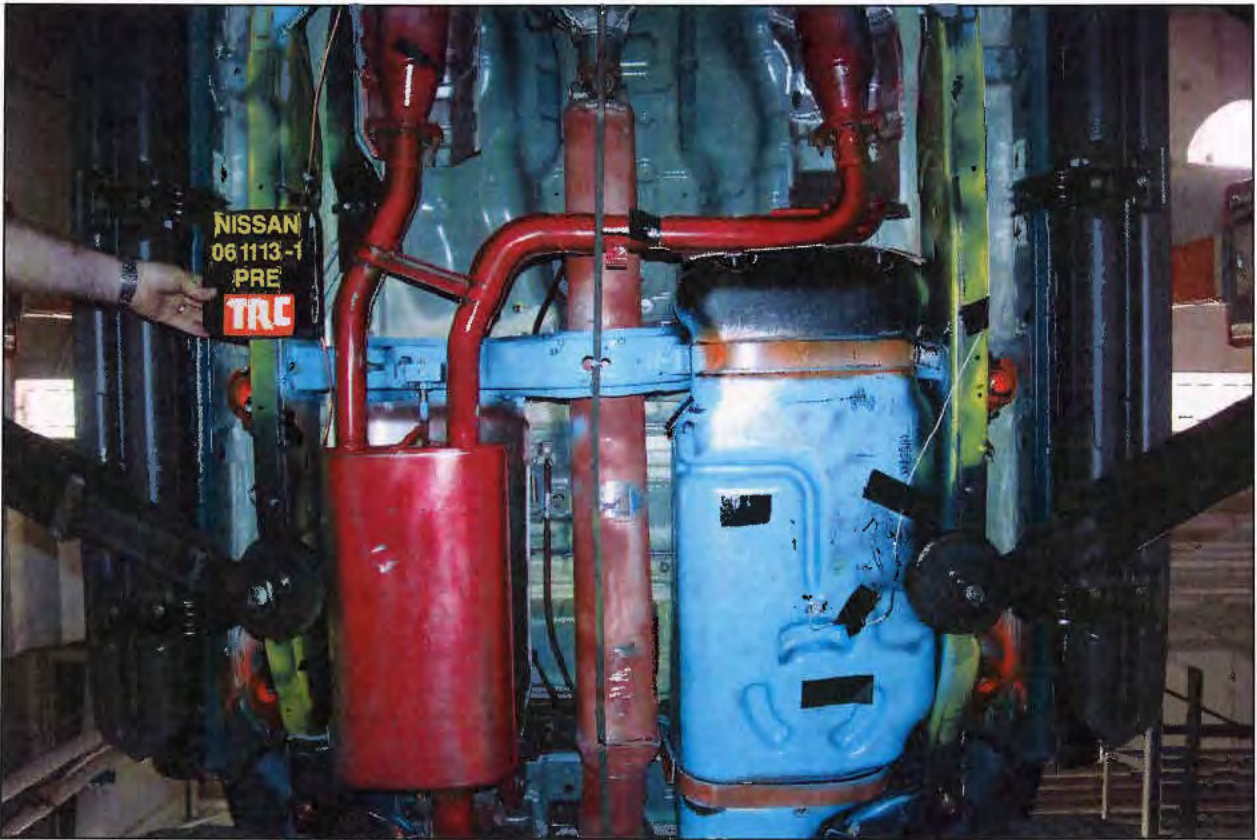


Photo No. 9 PRE TEST
Subject: Center-2 Underbody View

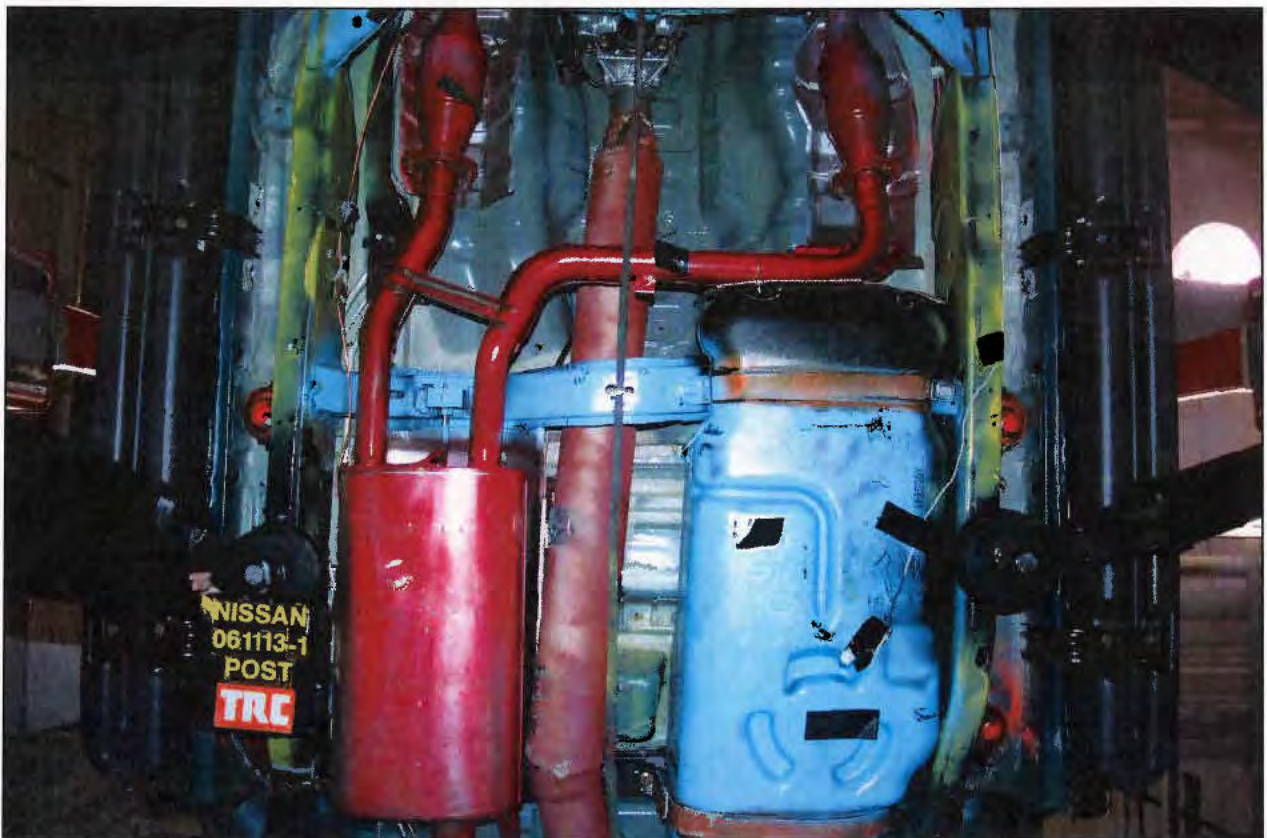


Photo No. 10 POST TEST
Subject: Center-2 Underbody View

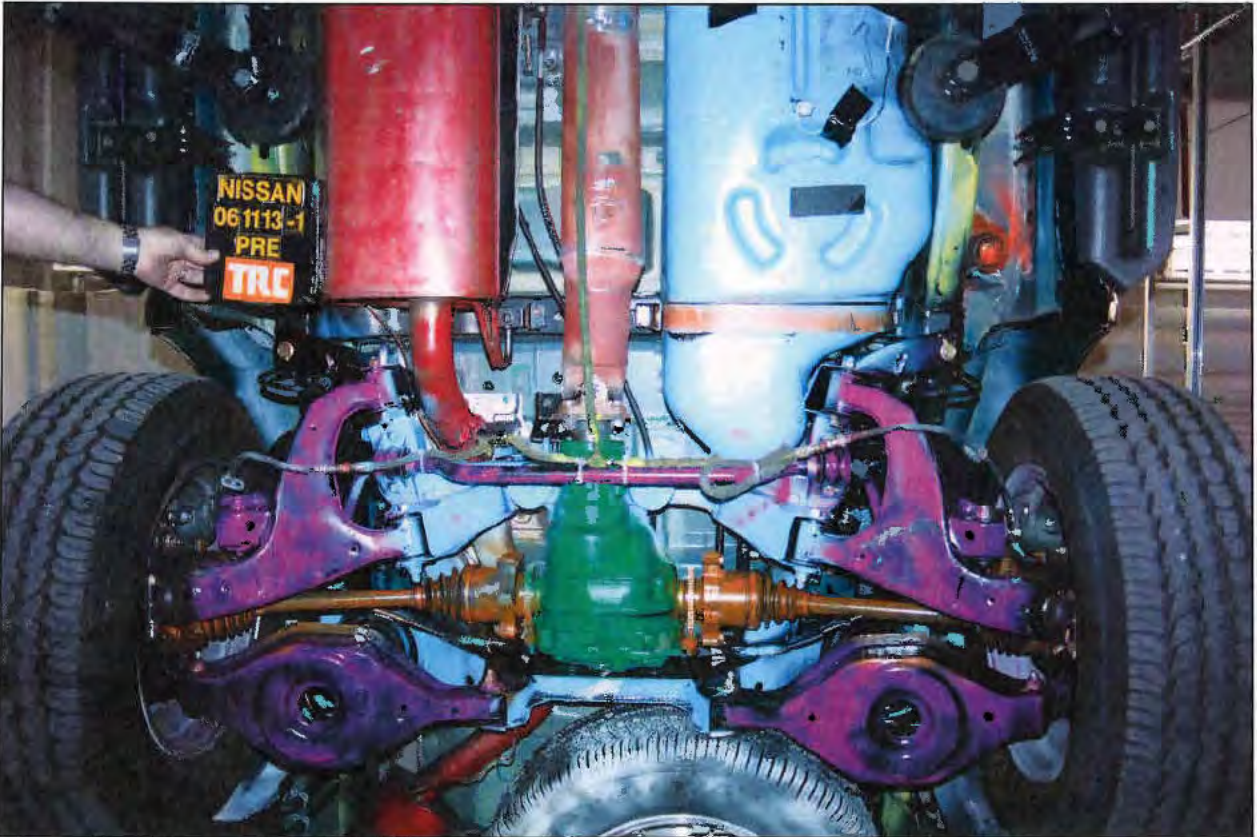


Photo No. 11 PRE TEST
Subject: Center-3 Underbody View

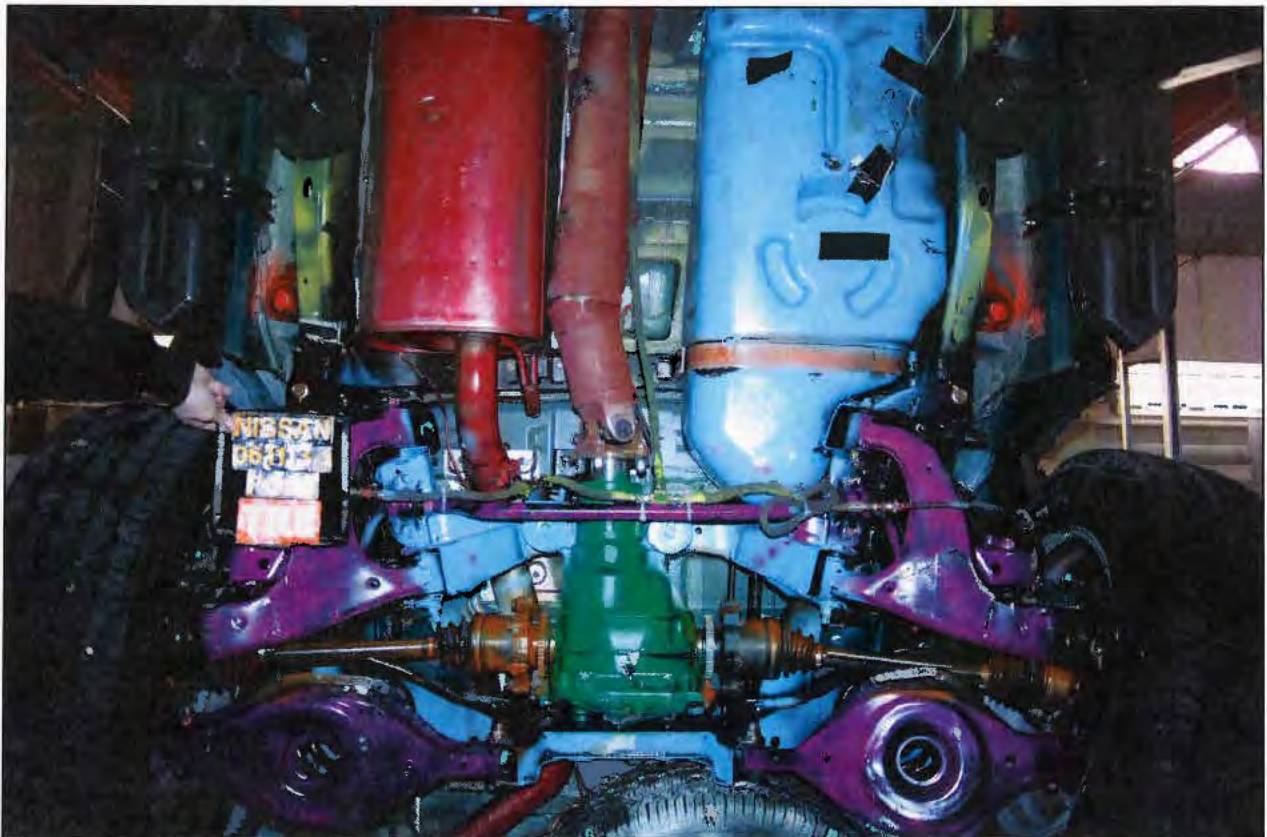


Photo No. 12 POST TEST
Subject: Center-3 Underbody View

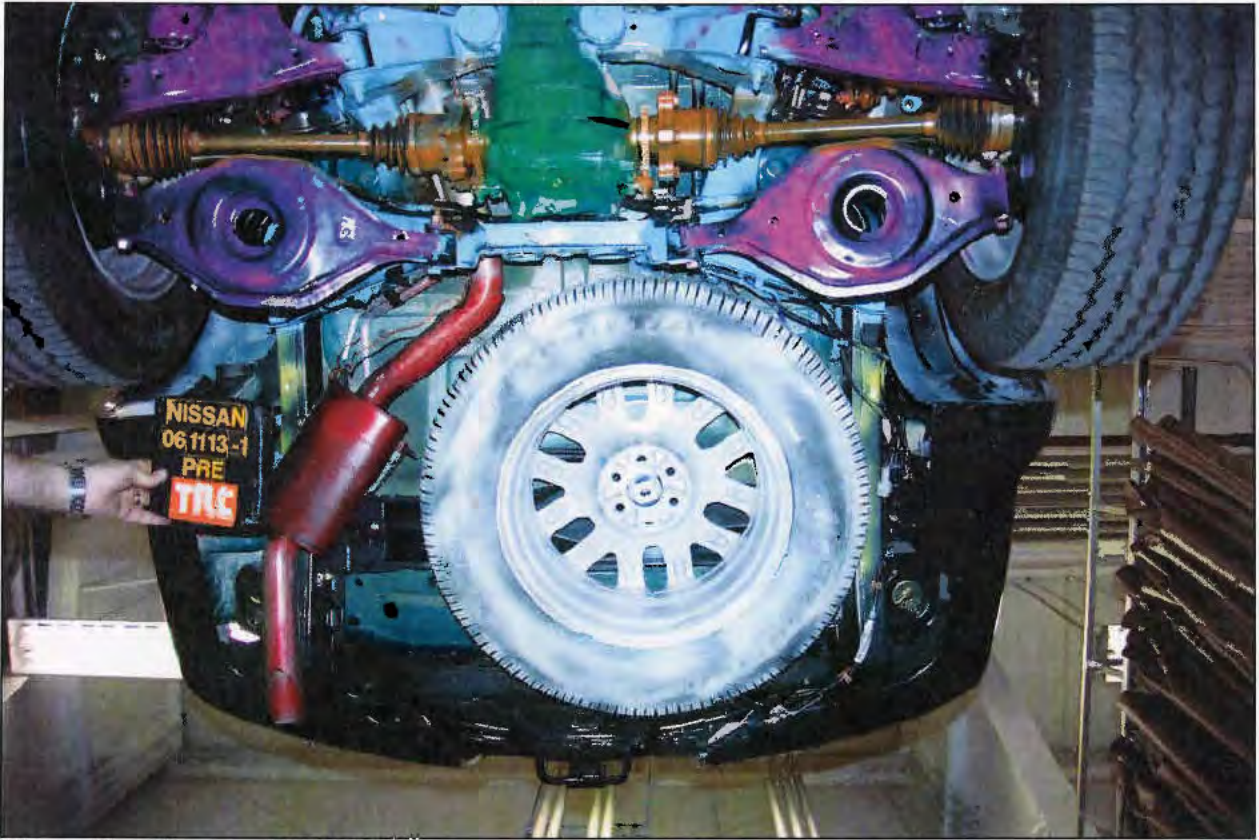


Photo No. 13 PRE TEST
Subject: Underbody Rear View



Photo No. 14 POST TEST
Subject: Underbody Rear View



Photo No. 15 **PRE TEST**
Subject: Fuel Tank View

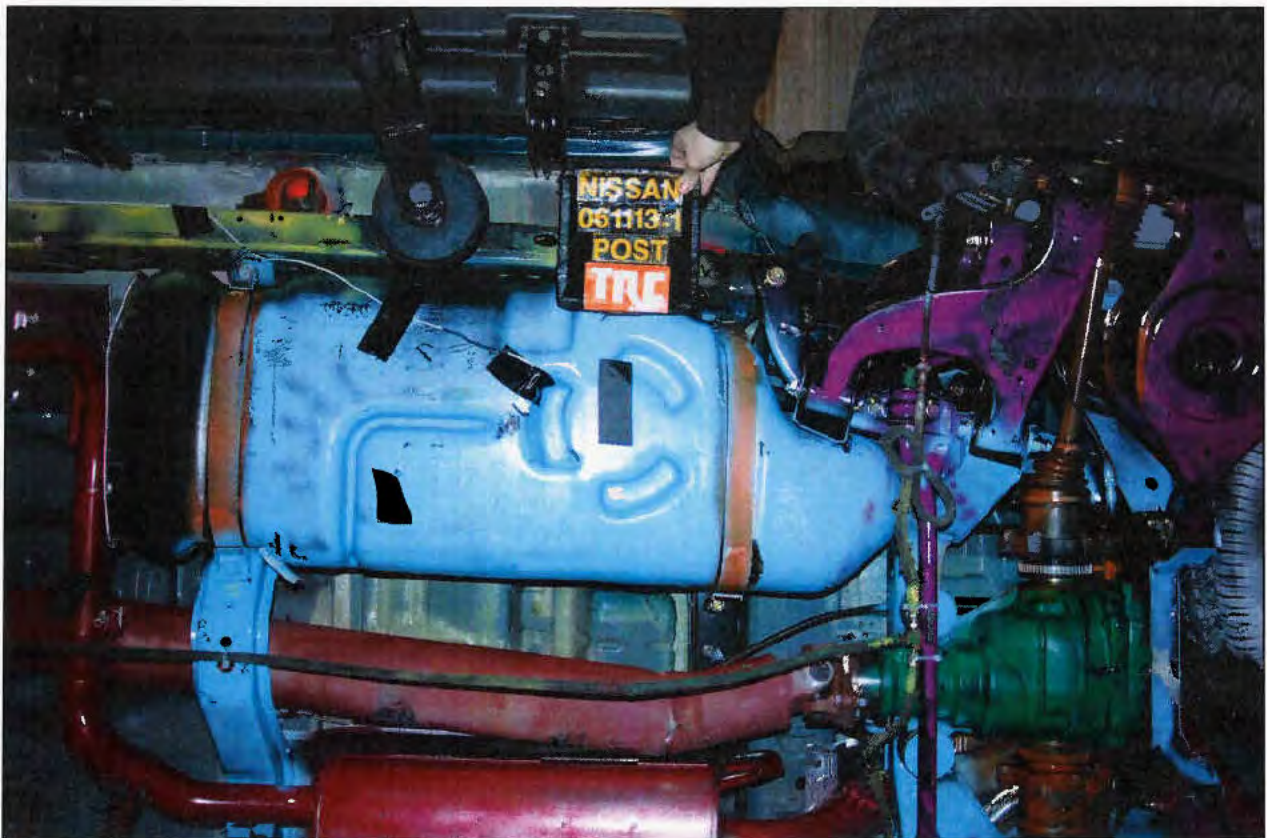


Photo No. 16 **POST TEST**
Subject: Fuel Tank View

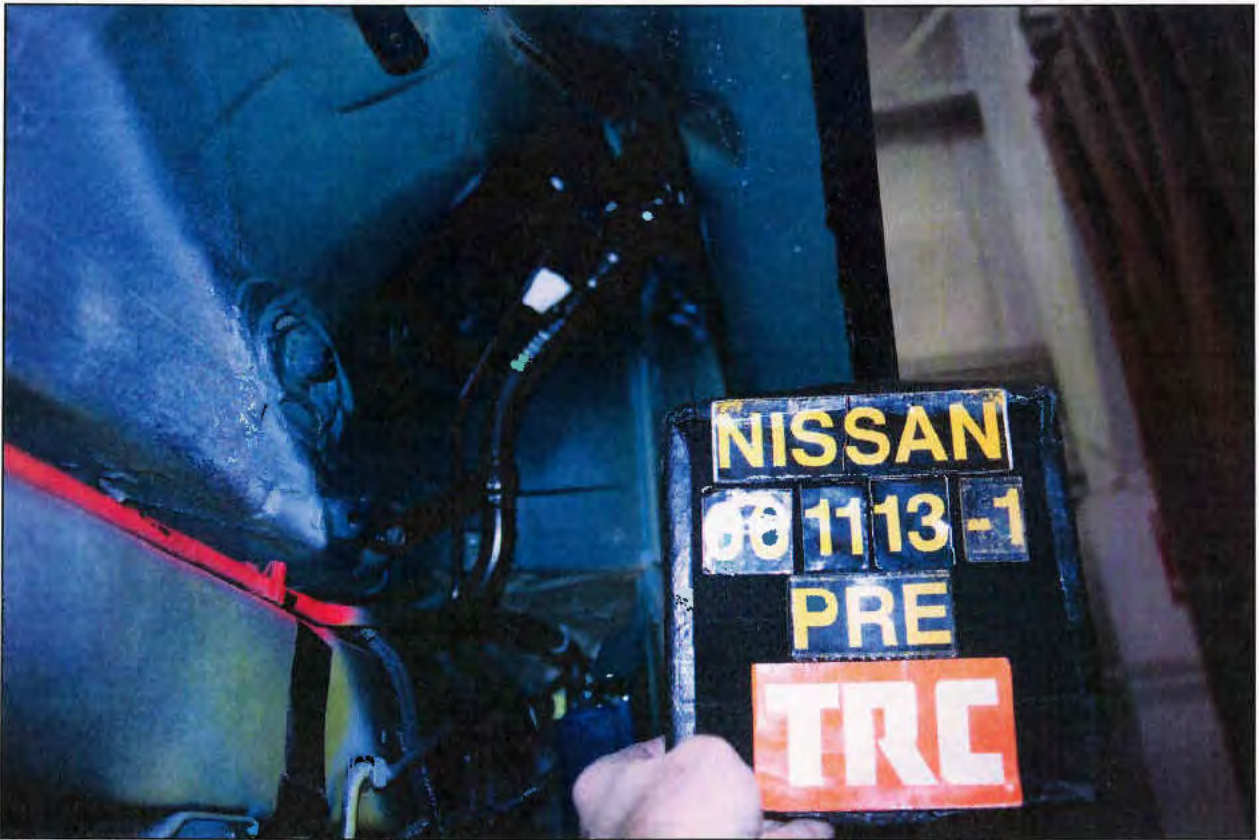


Photo No. 17 PRE TEST
Subject: Fuel Filler Hose Rear View



Photo No. 18 POST TEST
Subject: Fuel Filler Hose View

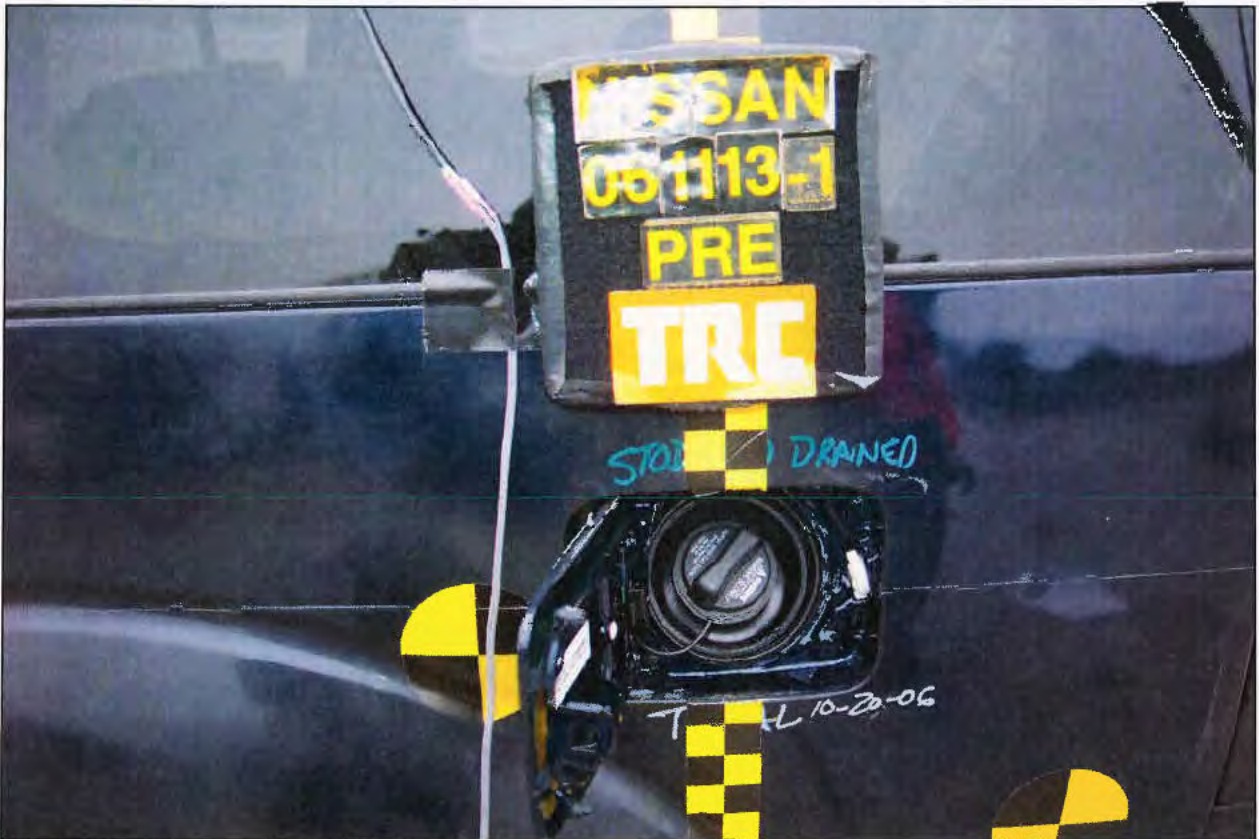


Photo No. 19 **PRE TEST**
Subject: Fuel Filler Cap View



Photo No. 20 **POST TEST**
Subject: Fuel Filler Cap View

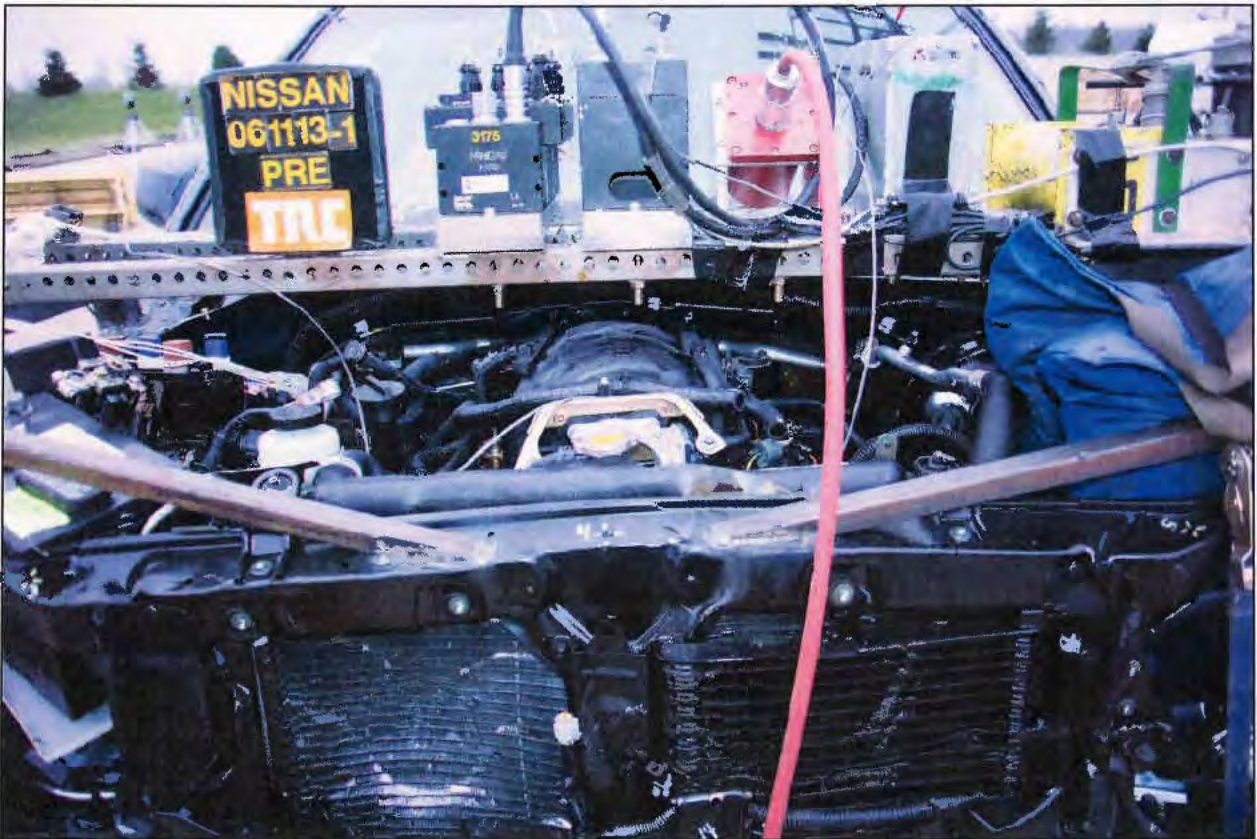


Photo No. 21 PRE TEST
Subject: Engine Compartment



Photo No. 22 POST TEST
Subject: Engine Compartment



Photo No. 23
Subject: Static Rollover 0°

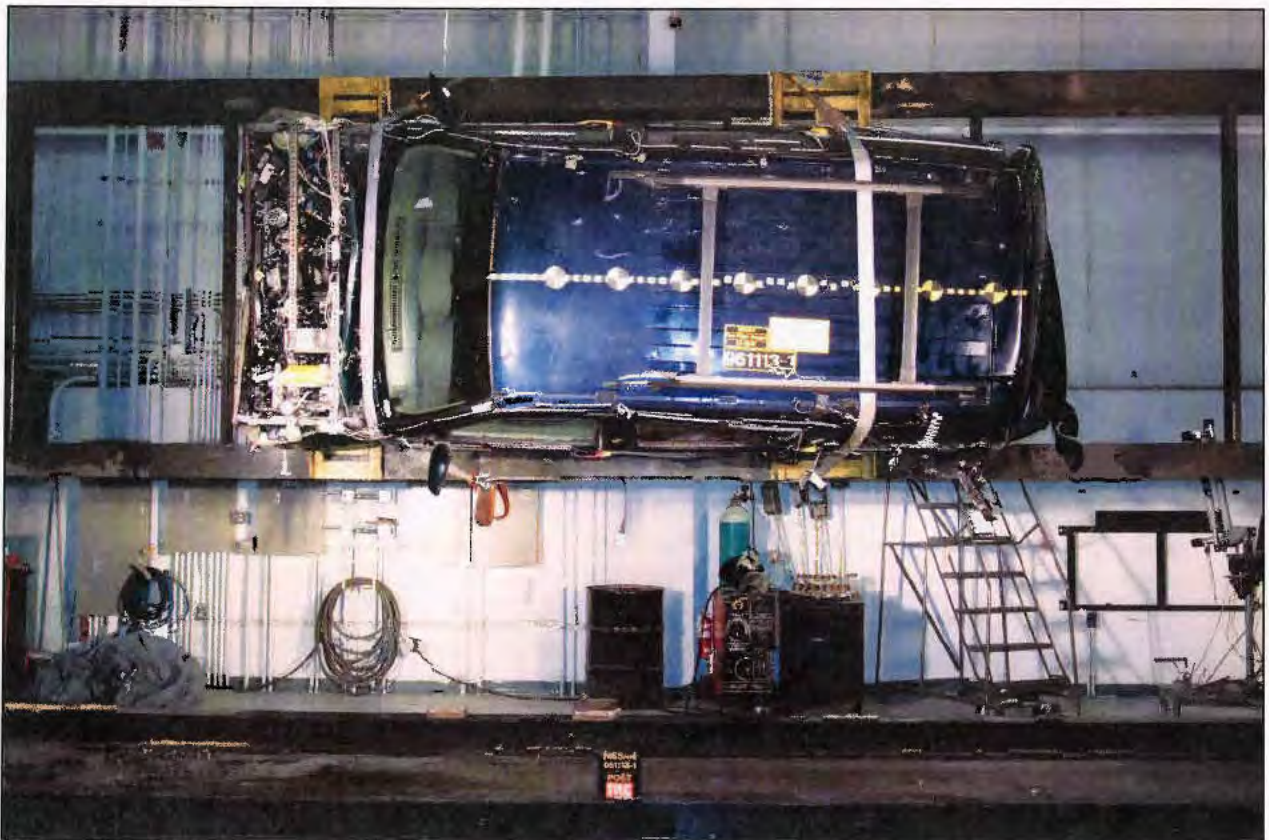


Photo No. 24
Subject: Static Rollover 90°

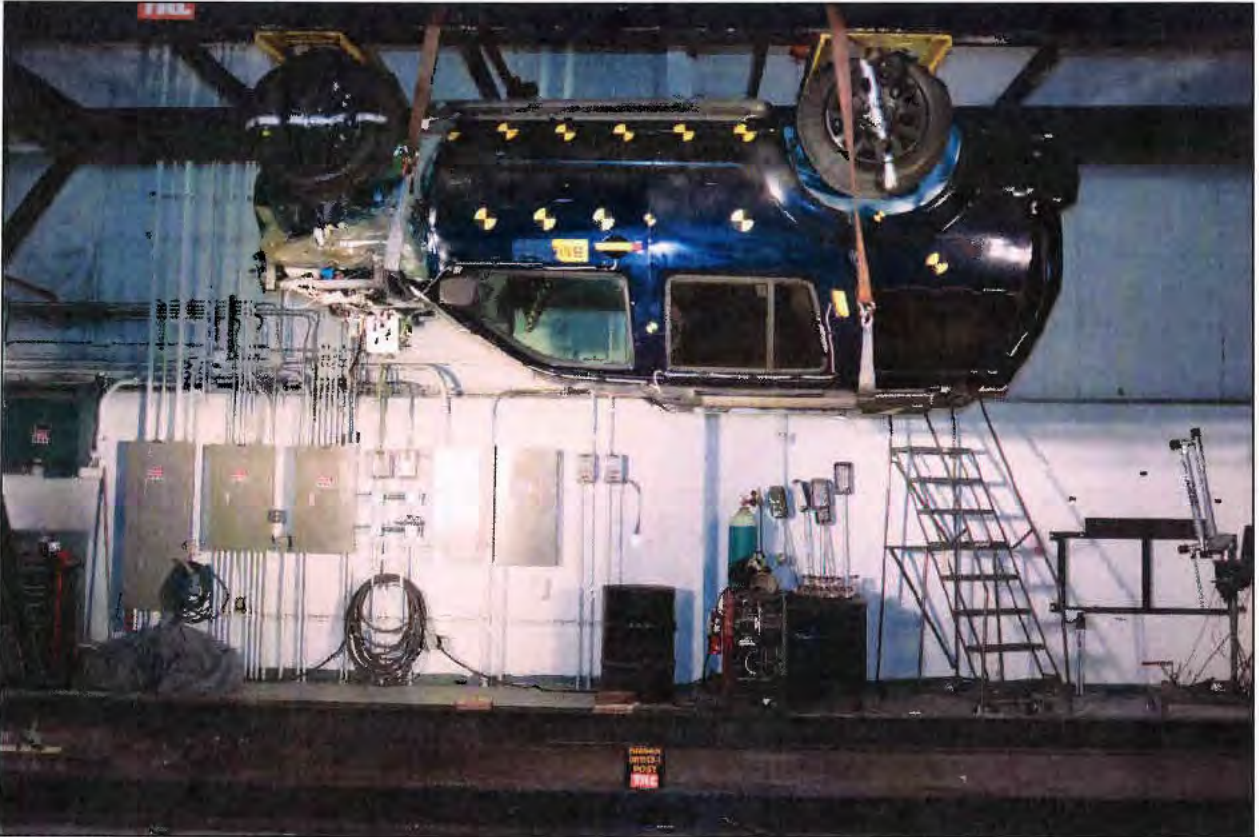


Photo No. 25
Subject: Static Rollover 180°

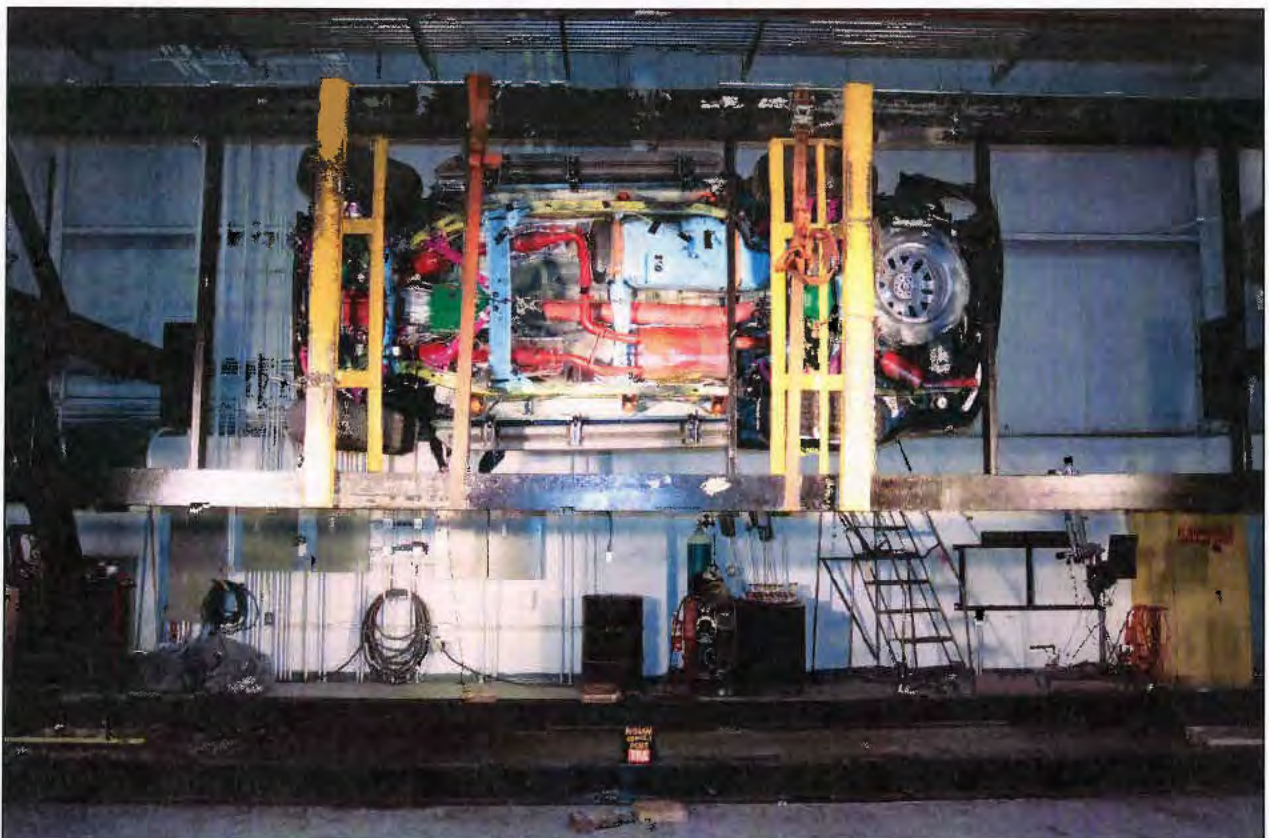


Photo No. 26
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
	Rotation 0 ⁰ 90 ^o	2	None	None	None	None	None	None
	Hold at 90 ⁰	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90 ⁰ 180 ⁰	2	None	None	None	None	None	
	Hold at 180 ⁰	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180 ⁰ 270 ⁰	2	None	None	None	None	None	
Hold at 270 ⁰	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270 ⁰ 360 ⁰	2	None	None	None	None	None		
Hold at 360 ⁰	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	

CONFIDENTIAL

DESIGN QUALITY TEST REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NY8259 DATE (mm/dd/yy) 01/18/07

TITLE: "Safety Protection in the Exhaust System"

MODEL CODE: R51	ISSUER: <i>M. Zaremba</i> Matthew Zaremba
MODEL YEAR: 2008	
TEST PERIOD: 03/06/06 to 03/07/06	APPROVAL: <i>R. Eisenhour</i> R. Eisenhour (M) <i>S. Inamijima</i> S. Inamijima (D)

1. Purpose

This report shows the test results on vehicle safety protection performance tests of the exhaust system when gasoline vapor rises from the canister on 2008 Model Year.

Applied Model	R51
Destination	North America
Ref. No.	

2. Conclusion

Meets the criteria.

3. Test Conditions

3.1 Specifications

Engine: ZH2

T/M: IK (5AT)

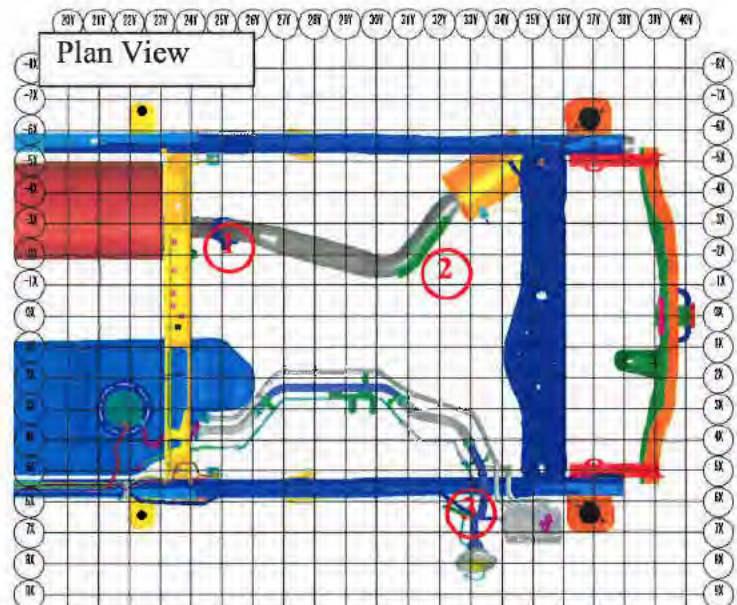
A/C: Yes

Canister and drain hose: See Figure

Canister position:

Canister diameter:

Drain hose position:



4. Test Results

Driving Conditions	Area*	Acceptance Criteria	Test Results (Amount of HC)	Judgement
Hill Climbing +K/OFF	(1) Behind main muffler	HC content is 10000 ppm or less	0	OK
	(2) Across rear tube		0	OK
	(3) Canister drain open area		0	OK

*Areas where gasoline vapors flow.

報告配布先

部署	詳報	要報
XW4		1
KC4控		1
合計		2
P. 1 迄要報		

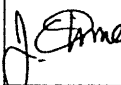

区分 _____
 実験番号 _____
 依頼番号 _____

(秘) 認証実験報告
 No.KC4C-040607

KC0部 KC4 課
 発行日付 '04.7.27

題目 CALIF, ARB Fuel Fill Pipes and Openings Requirements
2005 Year Model Conformity
 担当者 K.YAMANAMI 実験期間 04.7.26~'04.7.27

<p>1. Purpose</p> <p>We confirm the conformity of ARB Fuel Fill Pipes and Openings Requirements.</p> <p>2. Conclusion</p> <p style="border: 1px solid black; padding: 5px; text-align: center;">Complied with ARB Fuel Fill Pipes and Openings Requirements.</p> <p>3. Result</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 65%;">Requirements</th> <th style="width: 30%;">Results</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>The fill pipe and fuel tank opening should comply with design specifications.</td> <td style="text-align: center;">OK</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Fill pipe shall accept a fill rate of 10 gallons per minutes. There shall be no premature nozzle shut-off in 90 percent of the test repetitions. There shall be no more than 1 milliliter liquid gasoline loss per test in 90 percent of the tests. There shall be no unlatching of the vapor recovery nozzle during dispensing or upon nozzle shut-off.</td> <td style="text-align: center;">OK</td> </tr> <tr> <td style="text-align: center;">3</td> <td>There shall be no sharp projections or edges within the fill pipe access zone, along the surface of the fill pipe access zone, or along the surface of adjacent zone outside of the fill pipe access zone.</td> <td style="text-align: center;">OK</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Any restriction device shall be sufficiently durable to withstand simple tampering and to prevent expansion of the restriction device diameter to 2.4 centimeters or removal of the restriction device without extraordinary effort.</td> <td style="text-align: center;">OK</td> </tr> <tr> <td style="text-align: center;">5</td> <td>The fill pipe assembly including fuel tank cap shall not expel liquid gasoline during normal driving maneuvers or parking attitude.</td> <td style="text-align: center;">OK</td> </tr> <tr> <td style="text-align: center;">6</td> <td>The manufacture of motor vehicle shall warrant that the vehicle conforms to the specifications in Sections 2,3,4 and 5 herein for the useful life of the vehicle.</td> <td style="text-align: center;">OK</td> </tr> </tbody> </table>		Requirements	Results	1	The fill pipe and fuel tank opening should comply with design specifications.	OK	2	Fill pipe shall accept a fill rate of 10 gallons per minutes. There shall be no premature nozzle shut-off in 90 percent of the test repetitions. There shall be no more than 1 milliliter liquid gasoline loss per test in 90 percent of the tests. There shall be no unlatching of the vapor recovery nozzle during dispensing or upon nozzle shut-off.	OK	3	There shall be no sharp projections or edges within the fill pipe access zone, along the surface of the fill pipe access zone, or along the surface of adjacent zone outside of the fill pipe access zone.	OK	4	Any restriction device shall be sufficiently durable to withstand simple tampering and to prevent expansion of the restriction device diameter to 2.4 centimeters or removal of the restriction device without extraordinary effort.	OK	5	The fill pipe assembly including fuel tank cap shall not expel liquid gasoline during normal driving maneuvers or parking attitude.	OK	6	The manufacture of motor vehicle shall warrant that the vehicle conforms to the specifications in Sections 2,3,4 and 5 herein for the useful life of the vehicle.	OK	<p style="text-align: center;">Applied Model</p> <p style="text-align: center; border: 1px solid black; padding: 5px;">05MY R51</p>
	Requirements	Results																				
1	The fill pipe and fuel tank opening should comply with design specifications.	OK																				
2	Fill pipe shall accept a fill rate of 10 gallons per minutes. There shall be no premature nozzle shut-off in 90 percent of the test repetitions. There shall be no more than 1 milliliter liquid gasoline loss per test in 90 percent of the tests. There shall be no unlatching of the vapor recovery nozzle during dispensing or upon nozzle shut-off.	OK																				
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4	Any restriction device shall be sufficiently durable to withstand simple tampering and to prevent expansion of the restriction device diameter to 2.4 centimeters or removal of the restriction device without extraordinary effort.	OK																				
5	The fill pipe assembly including fuel tank cap shall not expel liquid gasoline during normal driving maneuvers or parking attitude.	OK																				
6	The manufacture of motor vehicle shall warrant that the vehicle conforms to the specifications in Sections 2,3,4 and 5 herein for the useful life of the vehicle.	OK																				

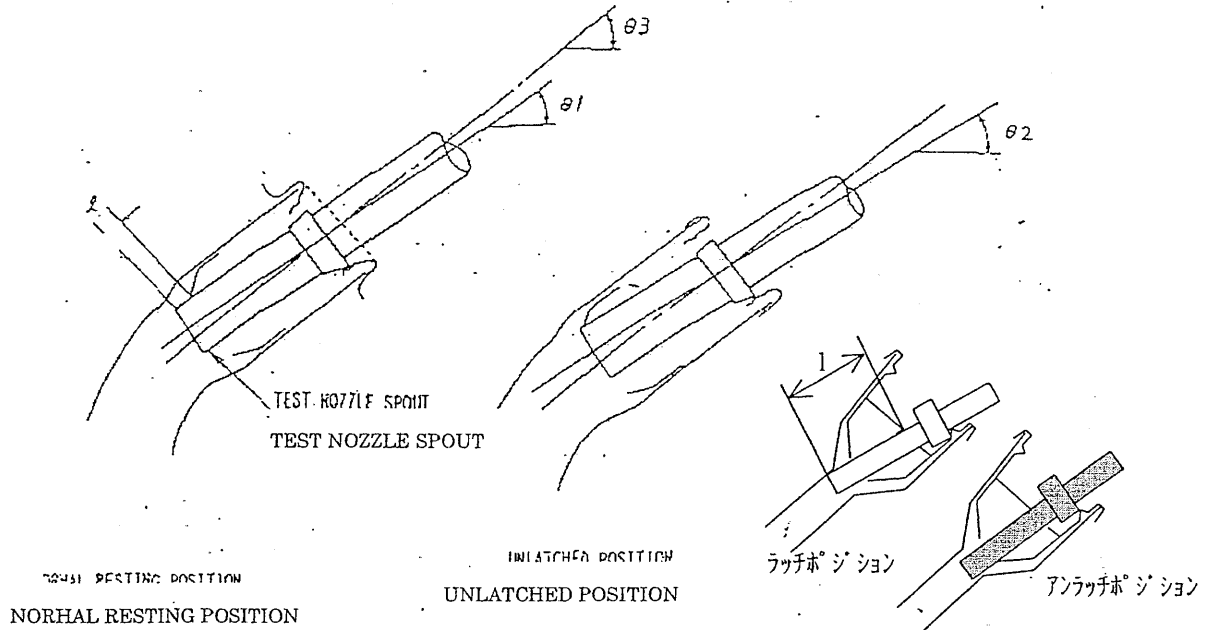
発行課
 KC4
 主担

 担当者


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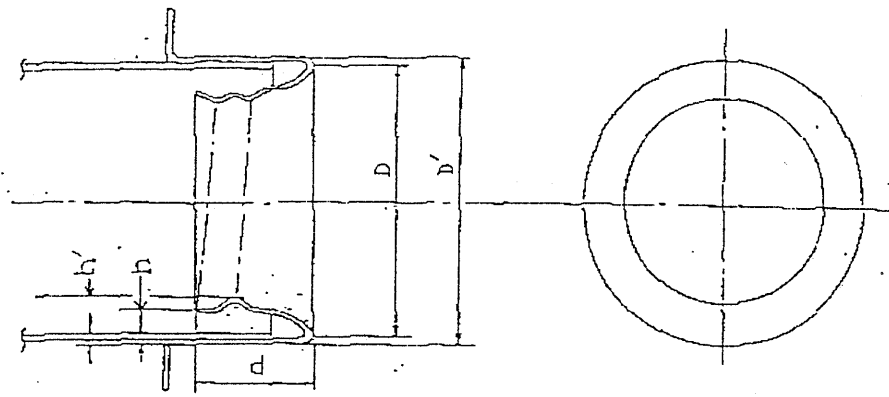
ARB Fuel Fill Pipes and Openings Requirements

Inspection Specifications

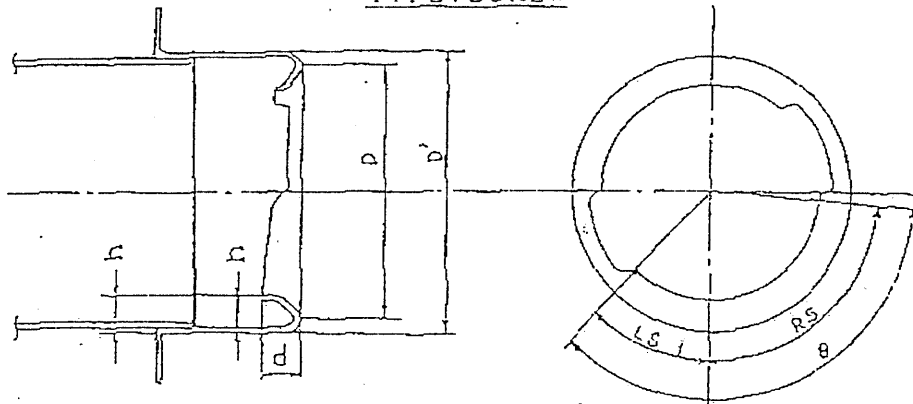
1 Design Specifications



	Standard	Design	Results	Judgment
Angel $\alpha(\theta 1 - \theta 3)$	$-10^\circ \leq a \leq +20^\circ$	-5.6°	-5.4	OK
Angel $\beta(\theta 2 - \theta 3)$	—	-1.2°	-3.8	—
Angel $\theta 1$	$\theta 1 \geq 30^\circ$	41.9°	40.4	OK
Angel $\theta 2$	—	46.3°	42.0	—
Angel $\theta 3$	—	47.5°	45.8	—
Amount of test nozzle passing l	$l \geq 2.25 \text{ cm}$	5.1cm	5.1cm	OK
Access zone	There shall be no sharp edges within the fill pipe access zone.	There are no shape edges.	There are no shape edges.	OK



TYPE : SCREW



TYPE : BAYONET

	Standard	Design	Results	Judgment
Fill pipe face surface	0.025cmTIR(1)	0.025cm	0.009cm	OK
Fill pipe face ; D	$D \leq 5.75\text{cm}$	5.24cm	5.42cm	OK
Angle of locking lip; θ	$\theta \geq 100^\circ$	150°	141°	OK
Angle of locking lip; RS	$RS \geq 35^\circ$	61°	59°	OK
Angle of locking lip; LS	$LS \geq 35^\circ$	89°	82°	OK
Height of locking lip h (h')	$h \geq 0.25\text{cm}$ $h' \geq 0.85\text{cm}$	0.3cm	0.25cm 0.85cm	OK
Depth of locking lip; d	$0.4 \leq d \leq 1.3\text{cm}$ on RP(2) as $0.4\text{cm} > d$. Depth through \leq 0.006cm/degree	1.3cm	1.29cm	OK

(1) Total Indicated Reading

(2) Reference Plan

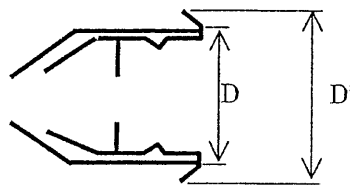


图 1

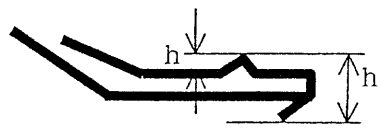


图 2

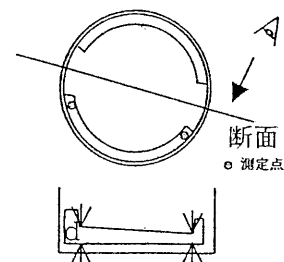


图 3

NOZZLE	Amount of filling	TEST ITEM	TEST NO.					TEST NO.					Judgement standerd	Judgement	
			1	2	3	4	5	6	7	8	9	10			
TEST NO.1 to 5 OPW 11-VF4.7 TEST NO.6 to 10 EMCO WHEATOM A4015	10 GPM (37.9 l/min)	Amount of filling at auto shut-off V1(l)	71.1	71.0	71.1	71.1	71.1	71.0	71.0	71.0	71.0	71.1	—	—	
		Amount of filling after auto shut-off V2(l)	0.9	1.0	1.0	1.0	0.9	1.1	1.0	1.1	1.1	0.9	V2 ≤ 7.57l or γ = 90%	ok	
		*1 Filling rate at shut-off γ (%)	98.9	98.8	98.8	98.8	98.9	98.6	98.8	98.6	98.6	98.9		ok	
		Outflow at shut-off (ml)	0	0	0	0	0	0	0	0	0	0	0	NO more than 1 ml at liquid gasoline loss per test in 90% of tests.	ok
		Amount of gasoline at the start of test V3(l) (V3=V0-V1-V2)	8	8	8	8	8	8	8	8	8	8	8	The fuel tank level shall be approximately 10% of the nominal tank capacity.	ok
		V3/V0(%)	10	10	10	10	10	10	10	10	10	10	10		ok
		Unlatching	no	no	no	no	no	no	no	no	no	no	no	There shall be no unlatching.	ok

*1 $\gamma = (V0 - V2) / V0 \times 100(\%)$ Vehicle posion Level Gasoline used as fuel R.V.P. 0.68 .kg/cm²
 Hose load 4.5kg Temp 23 °C
 Pressure drop from the nozzle fill pipe 13 mm Aq.

4 - 3 Specifications to Reduce Damage to Vapor Recovery Nozzles.

Requirements	Results	Judgement
There shall be no sharp projections or edges within the fill pipe access zone, along the surface of the fill pipe access zone, or along the surface of adjacent zone outside of the fill pipe access zone.	Complied	OK

4 - 4 fill pipe Assembly and Restriction Device Durability and Other Specifications.

Requirements	Results	Judgement
(1)Any restriction device shall be sufficiently durable to withstand simple tampering and to prevent expansion of the restriction device diameter to 2.4 centimeters or removal of the restriction device without extraordinary effort.	Complied	OK
(2)The fill pipe assembly including fuel tank cap shall not expel liquid gasoline during normal driving maneuvers or parking attitudes.	Complied	OK
(3)The manufacture of motor vehicle shall warrant that the vehicle conforms to the specification in Sections 2,3,4 and 5 herein for the useful life of the vehicle.	Complied	OK

報告書配布先

部署	詳	要
	報	報
XW4		1
NTCNA 4153		1
KC4(控元)		1
合計		3
P1迄要報		

区分 _____
 実験番号 _____
 依頼番号 _____


(秘) 認証実験報告


KC0部 KC4
 発行日付 '04.7.27

No.KC4C-040608

題目 Conformity with EPA Part 80 Sec.80.24/CMVSR1101(5)
 担当者 K.YAMANAMI 実験期間: '04.06.14~'04.06.18

<p><u>1.Purpose</u></p> <p>This report shows certification test results of EPA Part80, Sec.80.24 /CMVSR 1101(5) Leaded Gasoline Fuel and Regulation Conformity Test on 2005 Model year.</p> <p><u>2.Conclusion</u></p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Complied with the EPA part 80, Sec 80.24/CMVSR 1101(5). </div> <p><u>3.Result</u></p> <p>3.1 Summary of Test Results (1)Insertion of a nozzle</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Requirement</th> <th style="width: 25%;">Results</th> <th style="width: 25%;">Judgement</th> </tr> </thead> <tbody> <tr> <td>Each gasoline tank filler inlet should be designed so as to prevent the insertion of a nozzle with a spout of leaded gasoline and allows the insertion of a nozzle with spout of unleaded gasoline.</td> <td style="text-align: center;">Complied</td> <td style="text-align: center;">OK</td> </tr> </tbody> </table> <p>3.2 Detail of Test Results (2)Insertion of a nozzle</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 15%;">Nozzle</th> <th style="width: 40%;">Requirement</th> <th colspan="3" style="width: 45%;">Result</th> </tr> <tr> <th>Standard</th> <th>Nozzle Model</th> <th>Spec</th> <th>Insertion</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center;">Unleaded</td> <td>Outside diameter of the terminal end $D \leq 21.34\text{mm}$</td> <td rowspan="3" style="text-align: center;">OPW11A</td> <td style="text-align: center;">20mm</td> <td rowspan="3" style="text-align: center;">Yes</td> </tr> <tr> <td>Straight section $L_1 \geq 63.4\text{mm}$</td> <td style="text-align: center;">108mm</td> </tr> <tr> <td>Terminal end of the retaining spring $L_2 \geq 76.0\text{mm}$</td> <td style="text-align: center;">108mm</td> </tr> <tr> <td style="text-align: center;">Leaded</td> <td>Outside diameter of the terminal end $D \geq 23.63\text{mm}$</td> <td style="text-align: center;">ECM Wheaton A2000</td> <td style="text-align: center;">24mm</td> <td style="text-align: center;">No</td> </tr> </tbody> </table>	Requirement	Results	Judgement	Each gasoline tank filler inlet should be designed so as to prevent the insertion of a nozzle with a spout of leaded gasoline and allows the insertion of a nozzle with spout of unleaded gasoline.	Complied	OK	Nozzle	Requirement	Result			Standard	Nozzle Model	Spec	Insertion	Unleaded	Outside diameter of the terminal end $D \leq 21.34\text{mm}$	OPW11A	20mm	Yes	Straight section $L_1 \geq 63.4\text{mm}$	108mm	Terminal end of the retaining spring $L_2 \geq 76.0\text{mm}$	108mm	Leaded	Outside diameter of the terminal end $D \geq 23.63\text{mm}$	ECM Wheaton A2000	24mm	No	<p>Applied Model</p> <p style="text-align: center;">05MY R51 D23 WD23</p>
Requirement	Results	Judgement																												
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Leaded	Outside diameter of the terminal end $D \geq 23.63\text{mm}$	ECM Wheaton A2000	24mm	No																										

発行課
 KC4
 主担

 担当者



報告配布先

部署	詳細	要報
KJ9-3		1
XR3-3		1
KC4控		1
合計		3
P. 1 迄要報		

区分
 実験番号
 依頼番号

秘 認証実験報告

KC0部 KC4 課

No. KC4C-050101

発行日付 '05.01.28

題目 R51 CALIF, ARB Fuel Fill Pipes and Openings Requirements
 2006 Year Model Conformity
 担当者 K.Yamanami
 実験期間

1. Purpose	Applied Model
<p>We confirm the conformity of filler inlet of '06 Year Model with ARB Fuel Fill Pipes and Openings Requirements. Because '06 Year Model have no change compared with '05 Year Model, We apply to the report of '05 Year Model.</p> <p>Applied report No. KC4C-040607</p>	06MY R51
2. Conclusion	
<p>Complied with ARB Fuel Fill Pipes and Openings Requirements.</p>	

発行課
 KC4
 主担
 T. Satoh
 担当者
 K. Yamanami

A
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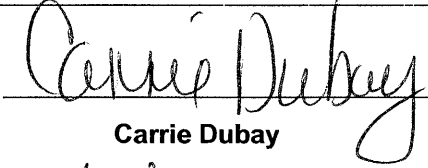
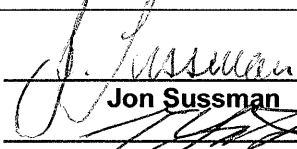

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1086 DATE(mm/dd/yy) 05/06/09

TITLE: EPA Part 80 Sec. 80.24/CMVSR1101 (5)

MODEL CODE: R51/D40/N50	ISSUER:  Carrie Dubay
MODEL YEAR: 2010	
TEST PERIOD: Carry Over	APPROVAL:  Jon Sussman  Takeshi Yamaguchi

1. Purpose

This report shows certification test results of EPA Part 80 Sec. 80.24/CMVSR1101(5) on 2010 Model Year.

2. Conclusion

As the Fuel System of model year 2010 has no certification related differences from that of model year 2005, we adopt the following report:

Report No.: KC4C-040608

Complied with EPA Part 80 Sec. 80.24/CMVSR1101(5)

Applied Model
R51/D40/N50 All Models By NNA-Smyrna For FED, CAN

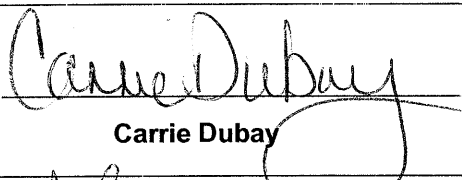
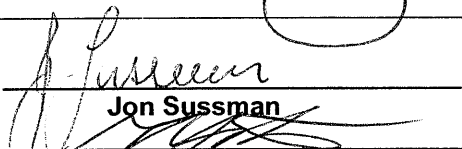

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1128 DATE(mm/dd/yy) 05/06/09

TITLE: California ARB Fuel Fill Pipes and Opening Requirements

MODEL CODE: R51	ISSUER:  Carrie Dubay
MODEL YEAR: 2010	
TEST PERIOD: Carry Over	APPROVAL:  Jon Sussman  Takeshi Yamaguchi

1. Purpose

This report shows certification test results of California ARB Fuel Fill Pipes and Opening Requirements on 2010 Model Year.

2. Conclusion

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

As the Fuel System of model year 2010 has no certification related differences from that of model year 2005 and updated in 2008 we adopt the following reports:

Report No: NX8F0830	Title: Amount of Test Nozzle Passing	Date: 1/15/08
Report No: KC4C-040607	All of California ARB Fuel Fill Pipes and Openings except report no. NX8F0830	2005

Meets the requirements of California ARB Fuel Fill Pipes and Openings and CMVSS No. 1101 provisions.

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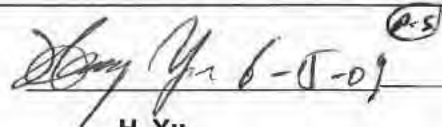

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1172 DATE (mm/dd/yy): 06/15/2009

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

Rear Moving Deformable Barrier 70% Offset Crash and Static Rollover

MODEL CODE: R51	ISSUER:  H. Yu
MODEL YEAR: 2010	
TEST PERIOD: Carry Over	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2010 Model Year.

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

2. Conclusion

As the Fuel System Integrity of model year 2010 has no certification related differences from that of model year 2008, we adopt the following reports.

Report Number	Application
NX8F0675	R51 All Models

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Rear Moving Barrier Crash and Static Rollover

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1173 DATE (mm/dd/yy): 06/15/2009

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

MODEL CODE: R51	ISSUER: <i>H. Yu</i> 6-15-09 P.S.
MODEL YEAR: 2010	H. Yu
TEST PERIOD: Carry Over	APPROVAL: <i>C. G. ...</i> <i>Christopher ...</i>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2010 Model Year.

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

2. Conclusion

As the Fuel System Integrity of model year 2010 has no certification related differences from that of model year 2008, we adopt the following reports.

Report Number	Application
NX8F0677	R51 All Models

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1175 DATE (mm/dd/yy): 06/15/2009

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
Front 30° LH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <i>H. Yu</i> P. 5.
MODEL YEAR: 2010	H. Yu
TEST PERIOD: Carry Over	APPROVAL: <i>[Signature]</i> <i>[Signature]</i>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2010 Model Year.

Applied Model
R51 VK56 Models By NNA-Smyrna For FED, CAN

2. Conclusion

As the Fuel System Integrity of model year 2010 has no certification related differences from that of model year 2008, we adopt the following reports.

Report Number	Application
NX8F0575	R51 VK56 Models

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° LH Barrier Crash and Static Rollover

Nissan Strictly Confidential

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1183 DATE (mm/dd/yy): 06/15/2009

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Frontal 0° Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <i>H. Yu</i> (P.S.)
MODEL YEAR: 2010	H. Yu
TEST PERIOD: Carry Over	APPROVAL: <i>[Signature]</i>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2010 Model Year.

Applied Model
R51 VK56 Models By NNA-Smyrna For FED, CAN

2. Conclusion

As the Fuel System Integrity of model year 2010 has no certification related differences from that of model year 2008, we adopt the following reports.

Report Number	Application
NX8F0649	R51 VK56 Models

Complied with FMVSS/CMVSS No. 301, Frontal Barrier Crash and Static Rollover requirements.

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1189 DATE (mm/dd/yy): 06/15/2009

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
Front 30° LH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <u>Hong Yu 6-15-09</u> H. Yu
MODEL YEAR: 2010	
TEST PERIOD: Carry Over	APPROVAL: <u>[Signature]</u> <u>Christopher Seal</u>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2010 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2010 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0034	R51 VQ40 Models

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° LH Barrier Crash and Static Rollover

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX0F1190 DATE (mm/dd/yy): 06/15/2009

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
Front 30° RH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <i>H. Yu</i> 6-15-09 (P.S.) H. Yu
MODEL YEAR: 2010	
TEST PERIOD: Carry Over	APPROVAL: <i>Christopher Reed</i>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2010 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2010 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0033	R51 VQ40 Models

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° RH Barrier Crash and Static Rollover

4. Test Conditions

(1) Reason for the selection of test vehicle

The R51 does not have a significant model difference (e.g. body type) which would influence crash test performance. The LH side is selected because of the fuel filler location.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2280 kg	1072 kg	1208 kg
**Test Weight	2280 kg	1082 kg	1198 kg

*The weight of the test vehicle was set at the lightest weight among application models.
 ** Difference in test and target weight split between front and rear has no effect on test results.

Vehicle Type: R51 with Standard Option

Cargo & Luggage Weight	Data Collection equipment in trunk: 74.2 kg
Weight Adjustment	11 kg ballast added to rear, Spare tire removed. Front Bumper Facia and Grill Removed

(3) Condition of Dummies

Dummy	Type of Dummy:	SID (Subpart M of Part 572)	
	Dummy Position	Front and Rear Outboard of Struck Side	
	Restraint System	Driver: Front Air Bag and Type 2 Seat Belt, inflatable Curtain	
Passenger: Type 2 Seat Belt, inflatable Curtain			
Position of Seats	Seat Back	Front LH	Nominal design position, 21 degrees measured on the seatback frame
		Rear LH	Nominal design position, 3 Notches from 1 st lock
	Seat Slide	Front LH	Mid Track
		Rear LH	NA

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 liters		
	Charged Volume	76 liters		
	Test Fluid	Name	Stoddard Solvent	
		Specific Gravity	0.77 – 0.8	
Ignition Key Position		ON		
Fuel Pump Operation		YES	Type of Pump:	Electric pump
Parking Brake		Engaged		
Transmission		Neutral		
Tire Pressure	Front	35 psi		
	Rear	35 psi		
Steering Column Position	Tilt:	MID		
	Telescopic:	N/A		
Adjustable Pedal Position		Full Forward		
Hood		Closed and Latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69°F		
	Windshield Molding	69°F		
	Test Site	69°F		
Door & Trunk Lid (Rear Gate)		Fully closed and latched, but not locked		
Side Window Glass	Front Right	Opened		
	Front Left	Closed		
	Center Right	Opened		
	Center Left	Closed		
	Rear Right	Closed		
	Rear Left	Closed		
Other Fluid	Radiator	Drained		
	Battery	Drained		
	Washer	Drained		
	Oil	Drained		
Tools & Jack		Removed		

5. Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No. 1 through 24 on pages 6 through 17
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 18 through 19



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment



Photo No. 6 POST-TEST
Subject: Engine Compartment

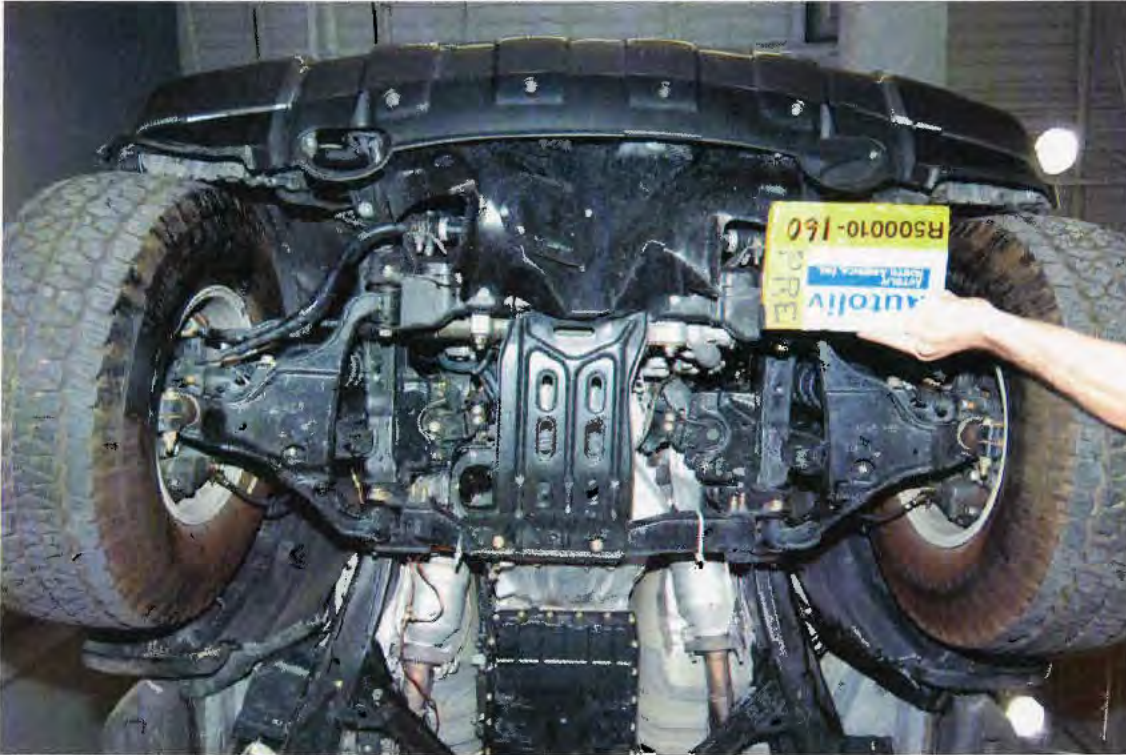


Photo No. 7 PRE-TEST

Subject: Front Underbody View- Front bumper fascia was removed to achieve test weight.



Photo No. 8 POST -TEST

Subject: Front Underbody View

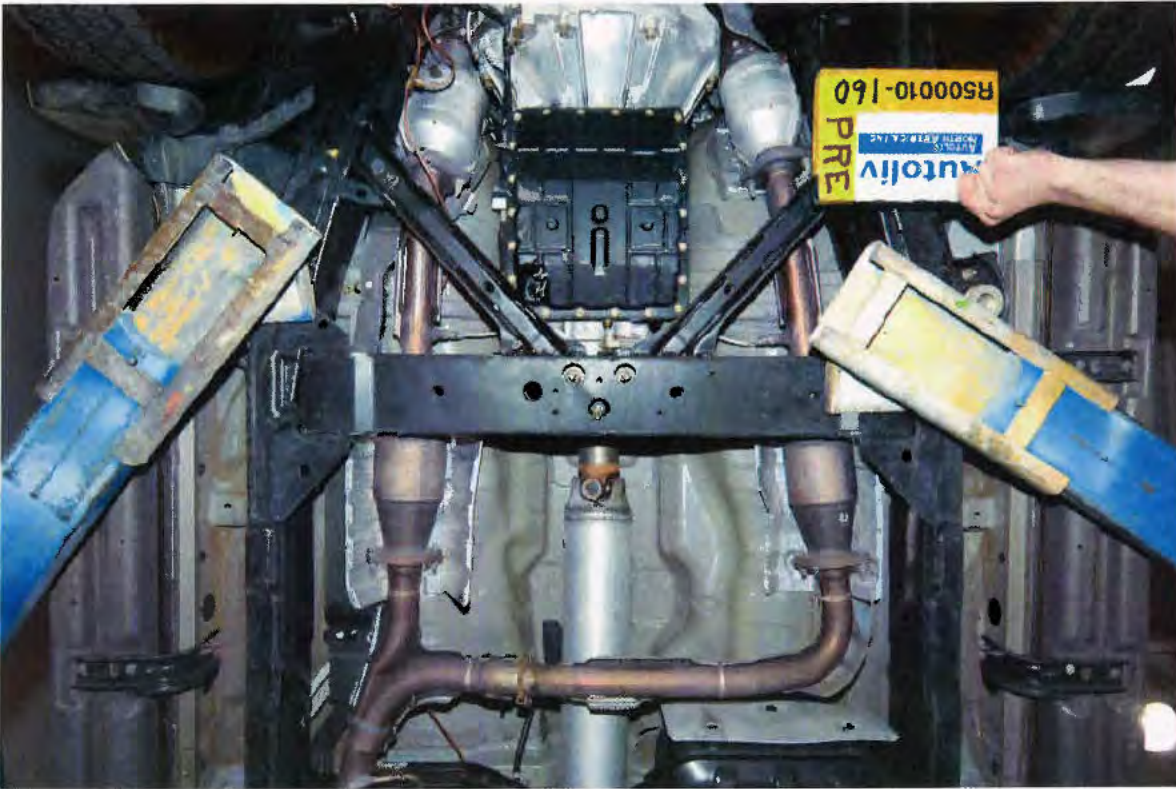


Photo No. 9 PRE-TEST
Subject: Center Underbody View Front

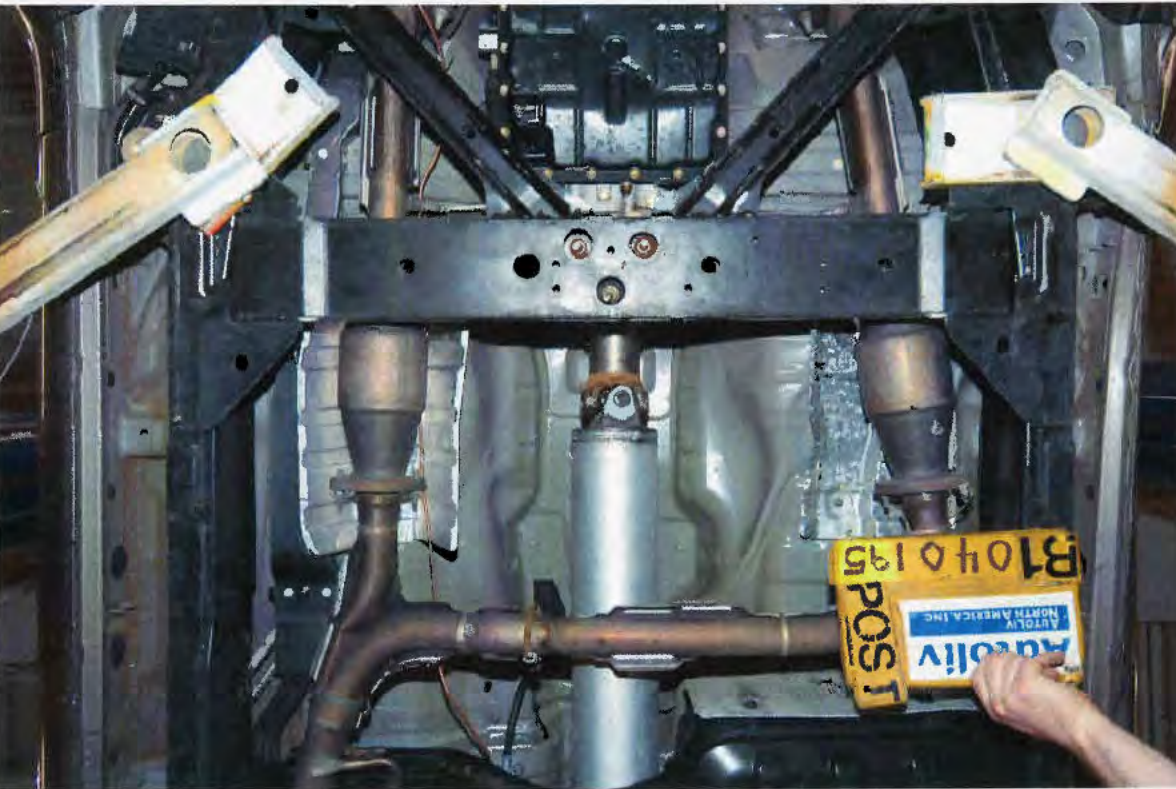


Photo No. 10 POST-TEST
Subject: Center Underbody View Front

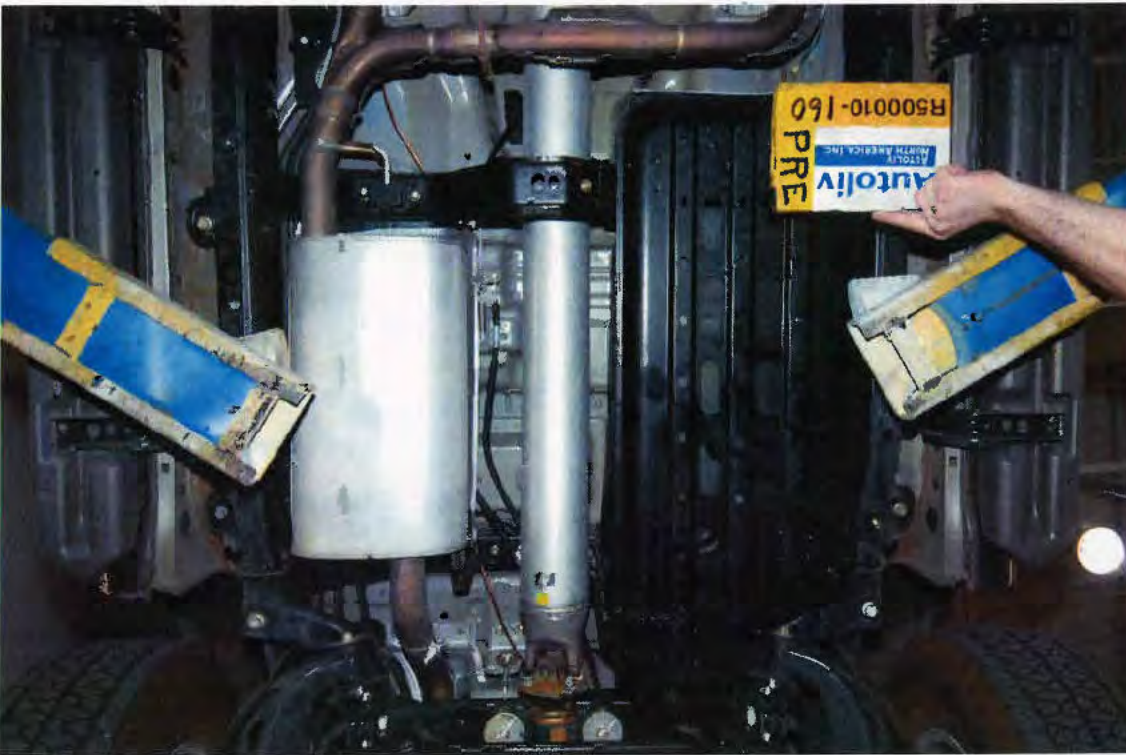


Photo No. 11 PRE-TEST
Subject: Center Underbody View Mid



Photo No. 12 POST-TEST
Subject: Center Underbody View Mid



Photo No. 13 PRE-TEST
Subject: Rear Underbody View



Photo No. 14 POST-TEST
Subject: Rear Underbody View



Photo No. 15 PRE-TEST
Subject: Fuel Tank View



Photo No. 16 POST-TEST
Subject: Fuel Tank View



Photo No. 17 PRE-TEST

Subject: Filler Hose View – Spare tire was removed to achieve test weight.



Photo No. 18 POST-TEST

Subject: Filler Hose View



Photo No. 19 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 20 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 21
Subject: Static Rollover 0°



Photo No. 22
Subject: Static Rollover 90°



Photo No. 23
Subject: Static Rollover 180°

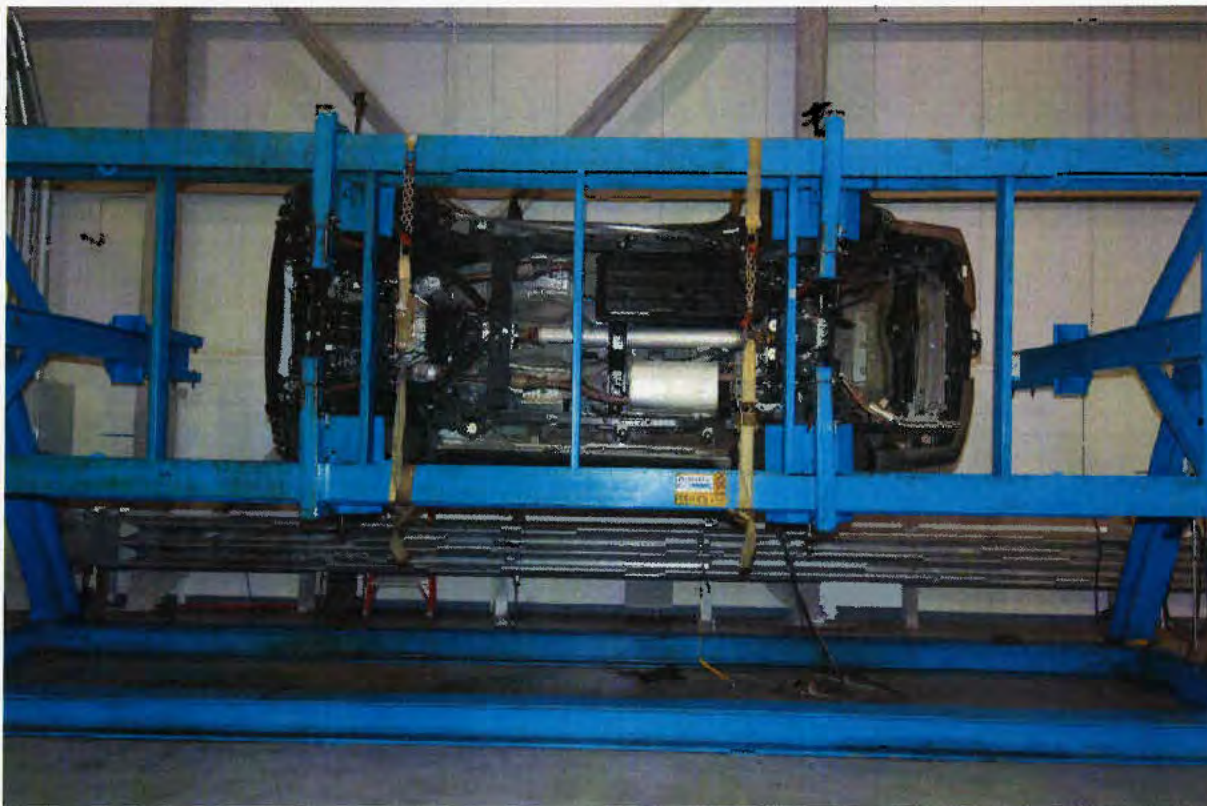


Photo No. 24
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Lateral Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
From time of impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Lateral Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0° 90°	2	No	No	No	No	No	No
	Hold at 90°	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 90° 180°	2	No	No	No	No	No	No
	Hold at 180°	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 180° 270°	2	No	No	No	No	No	No
Hold at 270°	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	
Rotation 270° 360°	2	No	No	No	No	No	No	
Hold at 360°	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	

Category: _____
Test No.: _____
Request No.: _____

**DEVELOPMENT QUALITY
TEST REPORT**

Classification: _____
Retention: _____

No. KS4D960105

Dept.	KS4
Issue Date:	1/19/96

SUBJECT: Revision of MVSS301 Side Impact Test Standard

Tested By: _____

Test Date: _____

1. Summary

Feasibility of substituting test conditions in MVSS214 for MVSS301 side impact test was studied as follows.

2. Conclusion

- Carryover of MVSS214 test for MVSS301 side impact test is deemed OK (basis for decision cited below).
- Testing shall be carried out accordingly in future development vehicles. Fuel leak check based on static rollover in MVSS214 test (certification) will be added, and certification notification sheet will be issued for MVSS301.

3. Study Results

Judgment cited above deemed OK based on the following.

- MVSS214 test conditions involve higher impact energy than side impact test stipulated in MVSS301, thus test conditions are more severe for the vehicle being impacted.
- Based on width of moving barrier, there is no major difference in impact range either.
- Performance evaluation with deformation applied to fuel system is as follows. Although there are no regulatory requirements under the present side impact conditions, Nissan independently tests direct impact on filler base and evaluates safety of fuel system.

Comparison between MVSS301 and MVSS214

	MVSS301	MVSS214
Moving barrier weight	1814kg	1368kg
Moving barrier speed	32.2 km/h	53.9 km/h
Impact surface range: Width x height	1981 x 1524	1676 x 559
Impact angle	Perpendicular to vehicle being impacted	27 degrees in front of perpendicular to vehicle being impacted
Load energy (angle correction)	7.4 KJ	12.5 KJ

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NX5F0023 DATE(mm/dd/yy) 07/20/04

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Rear Moving Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <u> Henry Yu 7/20/04 </u> H. Yu
MODEL YEAR: 2005	APPROVAL: <u> Shiro Sakai 7/28/04 </u> <u> T. Katakami 7/28/04 </u>
TEST PERIOD: 07/15/04	

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2005 Model Year.

1.1 Test Vehicle: 5WT102
VIN: 5N1MD28Y25C

Applied Model
R51 All Models by NNA Smyrna for FED, CAN

2. Conclusion

Complied with FMVSS/CMVSS No. 301, Rear Barrier Crash and Static Rollover requirements.

3. Reason for Selection of Test Method

The "35mph Rear Moving Barrier Crash Test" condition demonstrated compliance to FMVSS/CMVSS 301, "Fuel System Integrity" (30mph Rear Moving Barrier Crash Test). The "35mph Rear Moving Barrier Crash Test" condition is more severe than the "30mph Rear Moving Barrier Crash Test" condition. This is supported by the increase in impact velocity, resulting in increased kinetic energy as well as the increase in vehicle intrusion.

4. Test Results

4.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgement
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one - minute interval shall not exceed 28g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28g.	Complied No spillage	OK

4.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51

Vin: 5N1MD28Y25C XXXXXXXXXX Transmission: 5 A/T

Engine: VQ40

Impact Velocity: 56.6 kph (35.2mph)

(2) Weight of Test Vehicle: Front Weight: 1286.0 kg
Rear Weight: 1219.5 kg
Total Weight: 2505.5 kg

(3) Test Method: In Accordance with SAE J850, "Barrier Collision Tests," and FMVSS No. 301, S6.1 (Rear Barrier Crash), and S6.4 (Static Rollover).

4.3 Test Conditions

(1) Reason for the selection of test vehicle.

The R51 does not have a significant model difference (e.g. body type) which would influence crash test performance. The body design is symmetrical with exception of the fuel lines which are located on the left side of the vehicle.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2502.0 kg	1226.2 kg	1275.8 kg
**Test Weight	27505.5 kg	1286.0 kg	1219.5 kg

*The weight of the test vehicle was set at the maximum weight among application models

** Difference in test and target weight split between front and rear has no effect on test result.

*Vehicle Type: R51 with Full Options

Cargo & Luggage Weight	Loading Position: Data acquisition (52 kg) was secured on top of the hood.
Weight Adjustment	45kg strapped at 3 rd row. 22.6 kg strapped at 2 nd row 45kg shots in engine, 9 kg add in glove box 48.7 kg mounted on hood

(3) Condition of Dummies

Dummy	Type of Dummy:	Hybrid III (non-instrumented)		
	Dummy Position	Mid Seat Track Position		
	Restraint System	Driver	Type 2 seat belt	
Passenger		Type 2 seat belt		
Position of Seats	Seat Back	Driver: (Nominal Design Position)	12 degree at headrest post	
		Passenger: (Normal Design Position)	12 degree at headrest post	
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	10 Notches or 120 mm from Rearmost position	
		Passenger: Midpoint, or closest point to the rear of midpoint	10 Notches or 120 mm from Rearmost position	

(4) Vehicle Condition

Fuel Tank	Usable capacity:	80 Liters		
	Charged volume:	76 Liters		
	Test Fluid:	Name:	Stoddard Solvent	
Specific Gravity		0.77 – 0.80		
Ignition Key Position		ON		
Fuel Pump Operation		YES	Type of Pump:	Electric: pump
Parking Brake		Disengage		
Transmission		Neutral		
Adjustable Pedal Position		Full Forward		
Steering Column Position	Tilt:	Mid position		
	Telescopic:	N/A		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69° F		
	Windshield Molding	69° F		
	Test Site	69° F		
Tire Pressure	Front:	35 psi		
	Rear:	35 psi		
Door & Trunklid (Rear Gate)		Fully closed and latched but not locked.		
Side Window Glass	Front Right	(Opened)		
	Rear Right	(Opened)		
	Front Left	(Opened)		
	Rear Left	(Opened)		
Other Fluid	Radiator	(Drained)		
	Battery	(Drained)		
	Washer	(Drained)		
	Oil	(Drained)		

4.4 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 28 on pages 6 through 19.

- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 20 through 21.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View

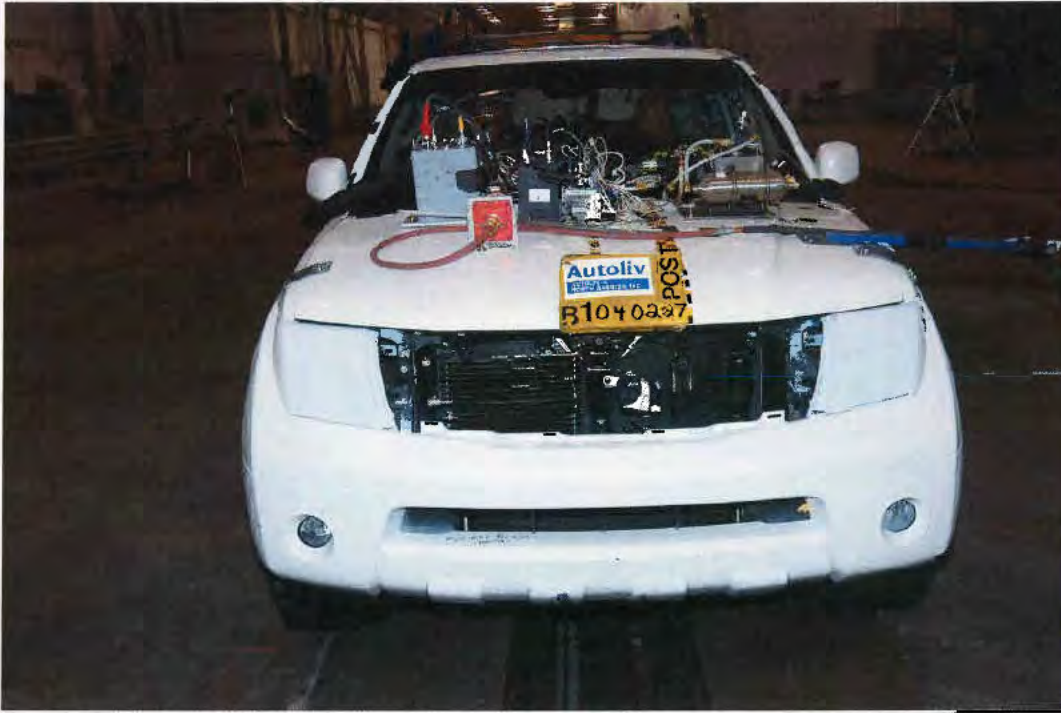


Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Rear View



Photo No. 6 POST-TEST
Subject: Rear View



Photo No. 7 PRE-TEST
Subject: Engine Compartment



Photo No. 8 POST -TEST
Subject: Engine Compartment



Photo No. 9 PRE-TEST
Subject: Front Underbody View



Photo No. 10 POST -TEST
Subject: Front Underbody View



Photo No. 11 PRE-TEST
Subject: Center-Front Underbody View

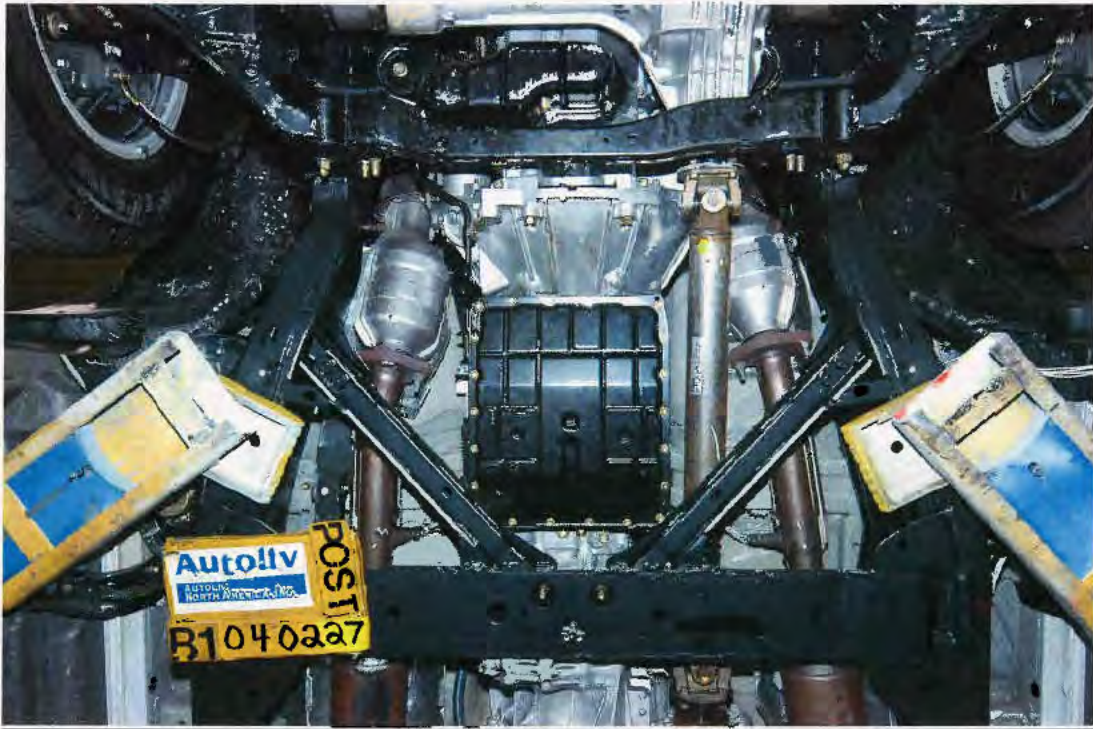


Photo No. 12 POST-TEST
Subject: Center-Front Underbody View

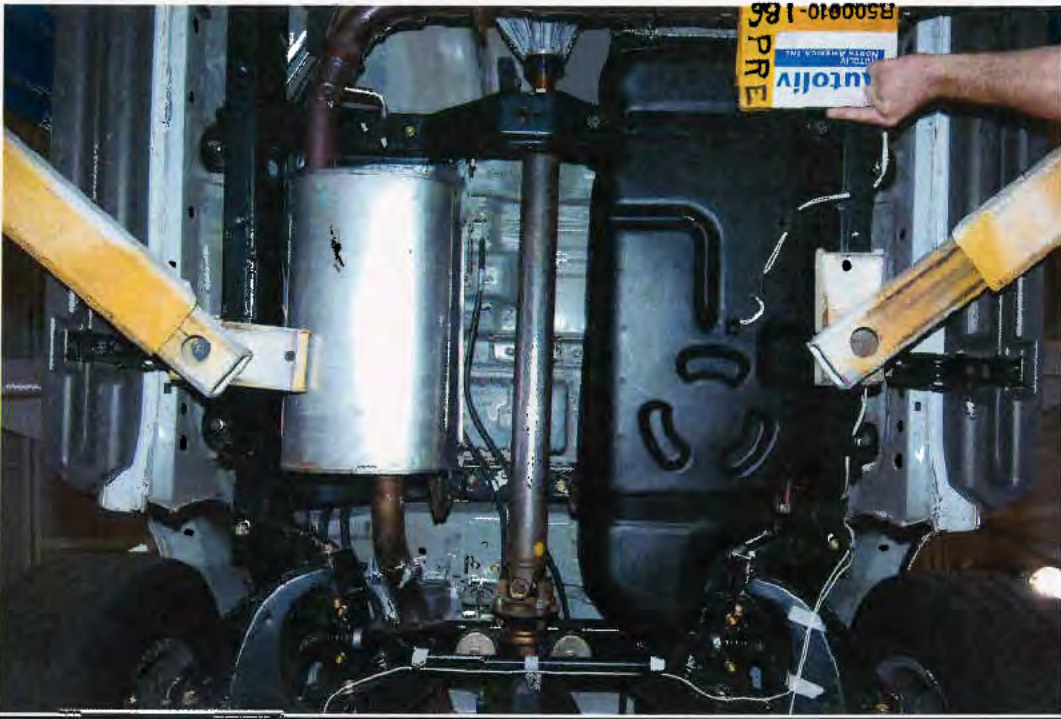


Photo No. 13 PRE-TEST
Subject: Center Underbody View



Photo No. 14 POST-TEST
Subject: Center Underbody View

No Pre Test Photo

Photo No. 15 PRE-TEST
Subject: Center-Rear Underbody View



Photo No. 16 POST-TEST
Subject: Center-Rear Underbody View

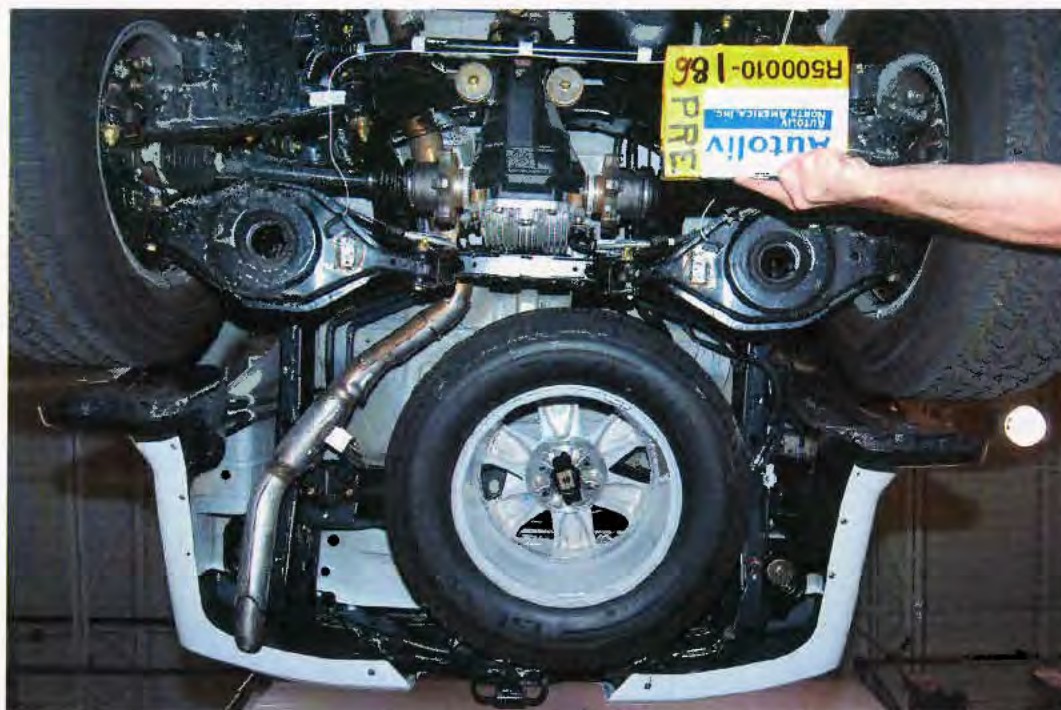


Photo No. 17 PRE-TEST
Subject: Rear Underbody View



Photo No. 18 POST-TEST
Subject: Rear Underbody View



Photo No. 19 PRE-TEST
Subject: Fuel Tank View



Photo No. 20 POST-TEST
Subject: Fuel Tank View



Photo No. 21 PRE-TEST
Subject: Filler Hose View



Photo No. 22 POST-TEST
Subject: Filler Hose View



Photo No. 23 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 24 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 25
Subject: Static Rollover 0°



Photo No. 26
Subject: Static Rollover 90°



Photo No. 27
Subject: Static Rollover 180°

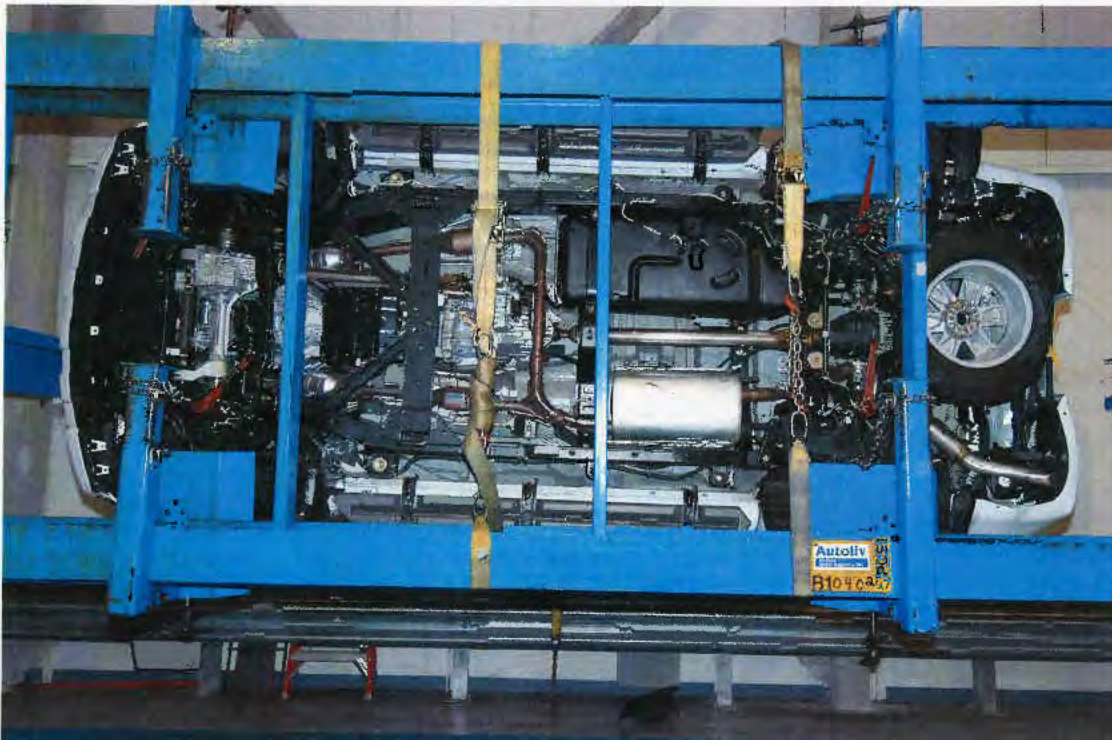


Photo No. 28
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Rear Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
From time of impact until vehicle motion ceases.	No	No	No	No	No	No
In the five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Rear Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0 ^o 90 ^o	2						
	Hold at 90 ^o	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90 ^o 180 ^o	2						
	Hold at 180 ^o	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180 ^o 270 ^o	2						
Hold at 270 ^o	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270 ^o 360 ^o	2							
Hold at 360 ^o	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	

Reference Attachment
General Vehicle Evaluation

General Vehicle Evaluation

Test Date: 07/15/04	Vehicle No. 5WT102	R51
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Item	Requirement	Result	Judgment
Seat Integrity	Seat reclining device shall not be sheared. Seat frame shall not fracture. Seat slide shall not move.	Seat was not broken.	OK
Door Openability	At least half of the doors must open after the test.	Front and 2 nd row doors opened after test without the use of tools.	OK
Door Opening During Test	Door must not open.	All doors remained closed during test.	OK
Occupant Kinematics	Occupant shall not slip out from seat belt.	Occupants remained under seatbelts.	OK

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgment
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28 g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142 g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one -minute interval shall not exceed 28 g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142 g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28 g.	Complied No spillage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51

Vin: 5N1ED28Y45C XXXXXXXXXX

Transmission: 5A/T

Engine: VQ40

Impact Velocity: 48.9 kph (30.4 mph)

(2) Weight of Test Vehicle: Front Weight 1182 kg
Rear Weight: 1297 kg
Total Weight: 2479 kg

(3) Test Method:

In Accordance with SAE J850, "Barrier Collision Tests," and FMVSS No. 301, S6.1 (Frontal Barrier Crash), and S6.4 (Static Rollover).

4. Test Conditions

(1) Reason for the selection of test vehicle

There are no certification related differences in the frontal structure and fuel system between R51, N50, and D40(V6 models). The weight was adjusted to the heaviest applicable model to evaluate the most severe case condition.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2467 kg	1212 kg	1255 kg
Test Weight	2479 kg	1182 kg	1297 kg

*The weight of the test vehicle was set at the max.weight among application models

*Vehicle Type: R51 with Full Options

Cargo & Luggage Weight	Loading Position: Data acquisition was secured in the cargo area behind the 3 rd seat.
Weight Adjustment	Rear: 49 kg data collection system in rear cargo area 27 kg of steel shot bag was added to the floor 16 kg of steel shot bag was attached to the 2 nd row seats 11 kg of steel shot bag was attached to the 3 rd row seats 68 kg steel plate was mounted to the trailer hitch

(3) Condition of Dummies

Dummy	Type of Dummy:	HYB III (Subpart E of part 572)	
	Dummy Position	Each front outboard seating position	
	Restraint System	Driver: Type 2 seat belt and Air Bag	
Passenger: Type 2 seat belt and Air Bag			
Position of Seats	Seat Back	Driver: (Nominal Design Position)	Nominal design position
		Passenger: (Normal Design Position)	Nominal design position
	Seat Slide	Driver: Midpoint	Mid-track
		Passenger: Midpoint	Mid-track

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 L		
	Charged Volume	76 L		
	Test Fluid	Name	Stoddard Solvent	
Specific Gravity		0.764		
Ignition Key Position		ON		
Fuel Pump Operation		Activated	Type of Pump:	Electric pump
Parking Brake		Disengaged		
Transmission		Neutral		
Tire Pressure	Front	35 Psi		
	Rear	35 Psi		
Steering Column Position	Tilt	Mid Position		
	Telescopic	N/A		
Adjustable Pedal Position		Forward Most Position		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69°F		
	Windshield Molding	69°F		
	Test Site	69°F		
Door & Trunk Lid (Rear Gate)		Rear gate closed and latched but not locked.		
Side Window Glass	Front Right	Opened		
	Front Left	Opened		
Other Fluid	Radiator	Drained		
	Battery	Drained		
	Washer	Drained		
	Oil	Drained		
Tools & Jack		Removed		

3.4 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 26 on pages 5 through 16.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 17 through 18.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment



Photo No. 6 POST -TEST
Subject: Engine Compartment

Hood was removed post-test by technician



Photo No. 7 PRE-TEST
Subject: Front Underbody View



Photo No. 8 POST -TEST
Subject: Front Underbody View

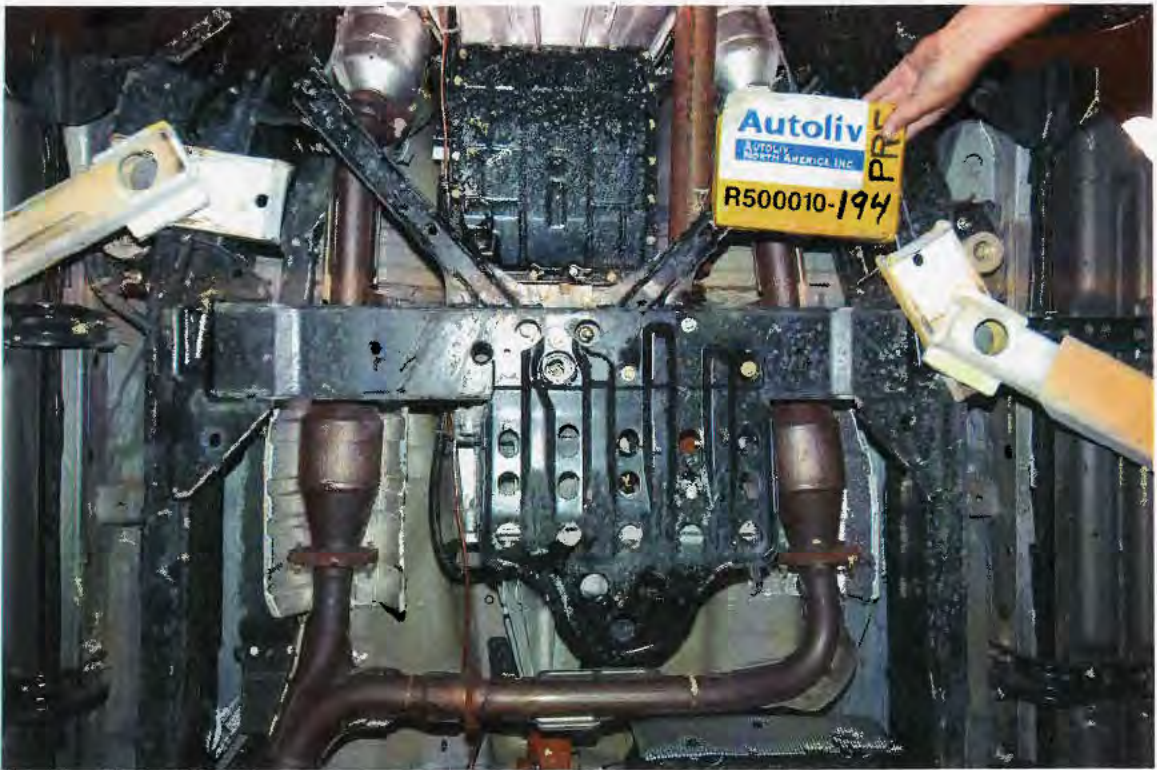


Photo No. 9 PRE-TEST
Subject: Center Underbody View Front

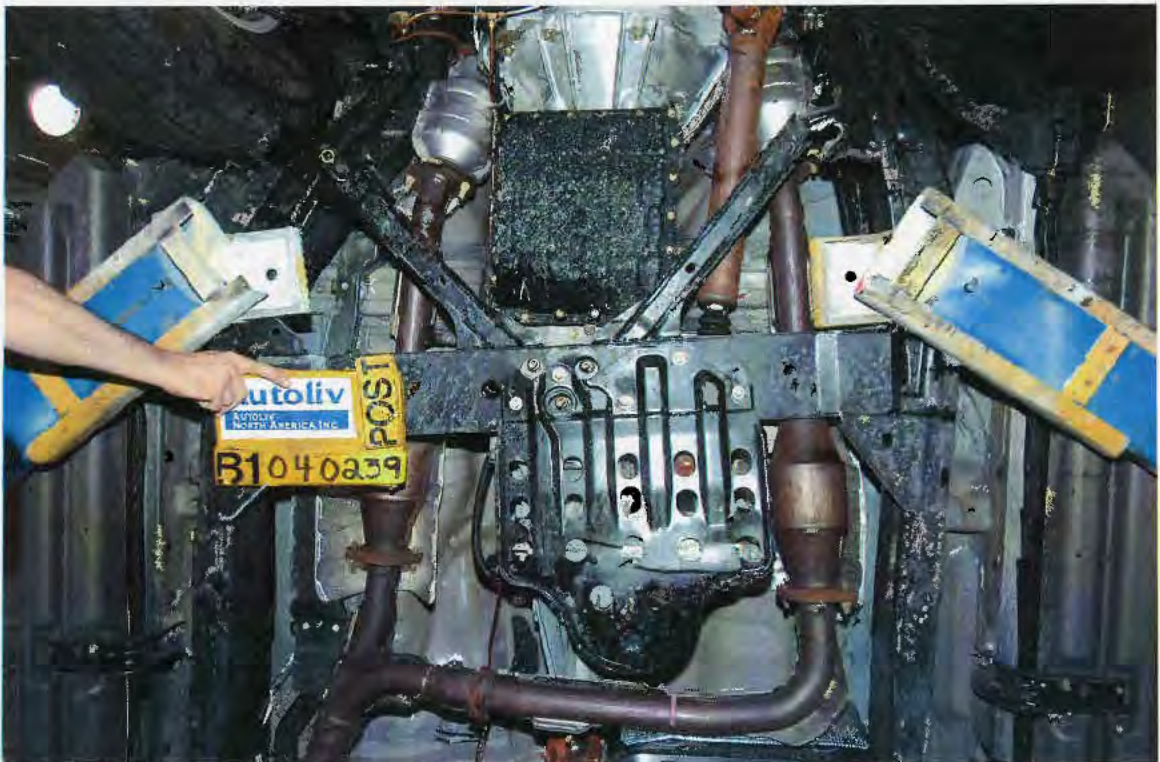


Photo No. 10 POST-TEST
Subject: Center Underbody View Front



Photo No. 11 PRE-TEST
Subject: Center Underbody View Rear



Photo No. 12 POST-TEST
Subject: Center Underbody View Rear



Photo No. 15 PRE-TEST
Subject: Rear Underbody View



Photo No. 16 POST -TEST
Subject: Rear Underbody View



Photo No. 17 PRE-TEST
Subject: Fuel Tank View



Photo No. 18 POST-TEST
Subject: Fuel Tank View



Photo No. 19 PRE-TEST
Subject: Filler Hose View



Photo No. 20 POST-TEST
Subject: Filler Hose View



Photo No. 21 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 22 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 23
Subject: Static Rollover 0°



Photo No. 24
Subject: Static Rollover 90°



Photo No. 25
Subject: Static Rollover 180°

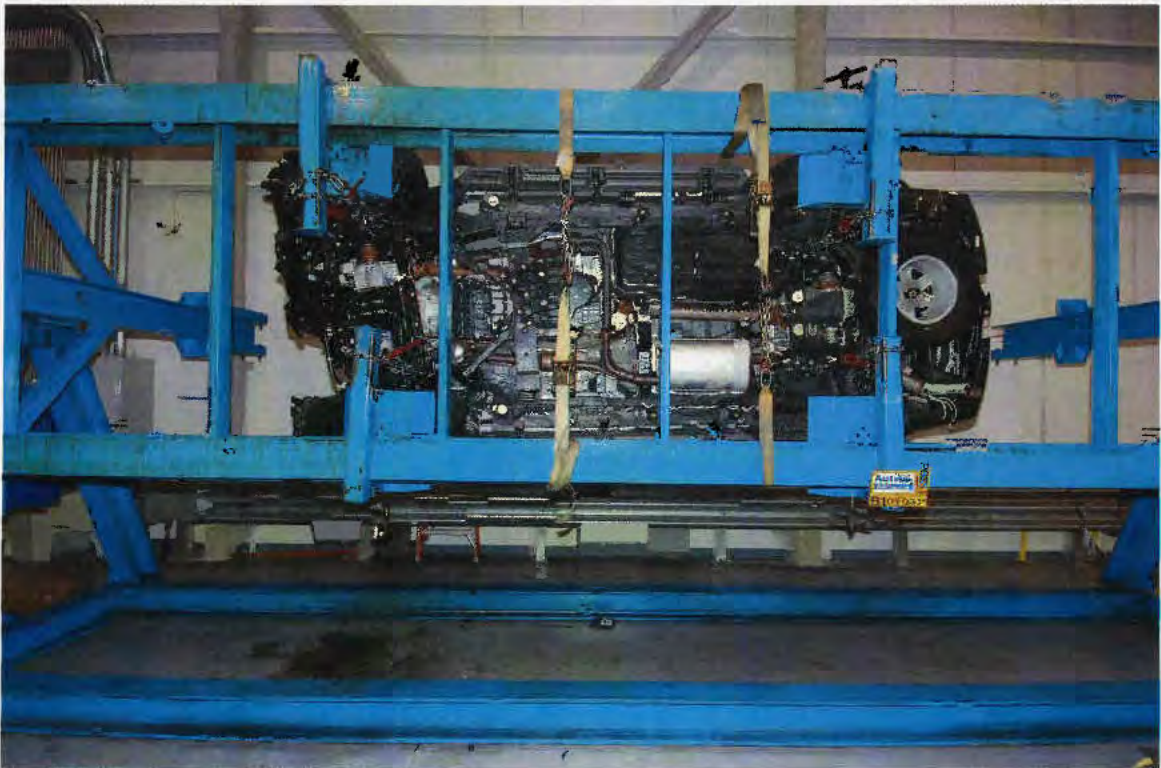


Photo No. 26
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2.1 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
	Rotation 0° 90°	2	None	None	None	None	None	None
	Hold at 90°	5	5	None	None	None	None	None
			1	None	None	None	None	None
	Hold at 90°	5	1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90° 180°	2	None	None	None	None	None	None
	Hold at 180°	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
Rotation 180° 270°	2	None	None	None	None	None	None	
Hold at 270°	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270° 360°	2	None	None	None	None	None	None	
Hold at 360°	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgment
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28 g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142 g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one -minute interval shall not exceed 28 g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142 g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28 g.	Complied No spillage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model:

R51

Vin:

5N1MD28Y05C

Transmission: 5A/T

Engine:

VQ40

Impact Velocity:

30.3 mph

(2) Weight of Test Vehicle: Front Weight 1181.5 kg
Rear Weight: 1287.0 kg
Total Weight: 2468.5 kg

(3) Test Method:

In Accordance with SAE J850, "Barrier Collision Tests," and FMVSS No. 301, S6.1 (Frontal Barrier Crash), and S6.4 (Static Rollover).

4. Test Conditions

(1) Reason for the selection of test vehicle

The weight was adjusted to the heaviest applicable model to evaluate the most severe case condition.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2480 kg	1181 kg	1299 kg
Test Weight	2468.5 kg	1181.5 kg	1287.0 kg

*The weight of the test vehicle was set at the max. weight among application models

*Vehicle Type: R51 with Full Options

Cargo & Luggage Weight	Loading Position: Data acquisition was secured in the cargo area behind the 3 rd seat.
Weight Adjustment	145.3 kg was added: Front: None Rear: 36.5 kg data collection system in rear cargo area 54.4 kg of steel shot bag was added to the floor 54.4 kg steel plate was mounted to the trailer hitch

(3) Condition of Dummies

Dummy	Type of Dummy:	HYB III (Subpart E of part 572)	
	Dummy Position	Each front outboard seating position	
	Restraint System	Driver: Type 2 seat belt and Air Bag	
Passenger: Type 2 seat belt and Air Bag			
Position of Seats	Seat Back	Driver: (Nominal Design Position)	Nomtnal design position
		Passenger: (Normal Design Position)	Nomtnal design position
	Seat Slide	Driver: Midpoint of track	Mid-track
		Passenger: Midpoint of track	Mid-track

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 L		
	Charged Volume	76 L		
	Test Fluid	Name	Stoddard Solvent	
Specific Gravity		0.764		
Ignition Key Position		ON		
Fuel Pump Operation		Activated	Type of Pump:	Electric pump
Parking Brake		Disengaged		
Transmission		Neutral		
Tire Pressure	Front	35 Psi		
	Rear	35 Psi		
Steering Column Position	Tilt	Mid		
	Telescopic	N/A		
Adjustable Pedal Position		N/A		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69°F		
	Windshield Molding	69°F		
	Test Site	69 °F		
Door & Trunk Lid (Rear Gate)		Rear gate closed and latched but not locked.		
Side Window Glass	Front Right	Closed		
	Front Left	Closed		
Other Fluid	Radiator	Drained		
	Battery	Drained		
	Washer	Drained		
	Oil	Drained		
Tools & Jack		Removed		

4.1 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 26 on pages 5 through 16.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 17 through 18.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment



Photo No. 6 POST-TEST
Subject: Engine Compartment

Hood was removed
post-test by technician

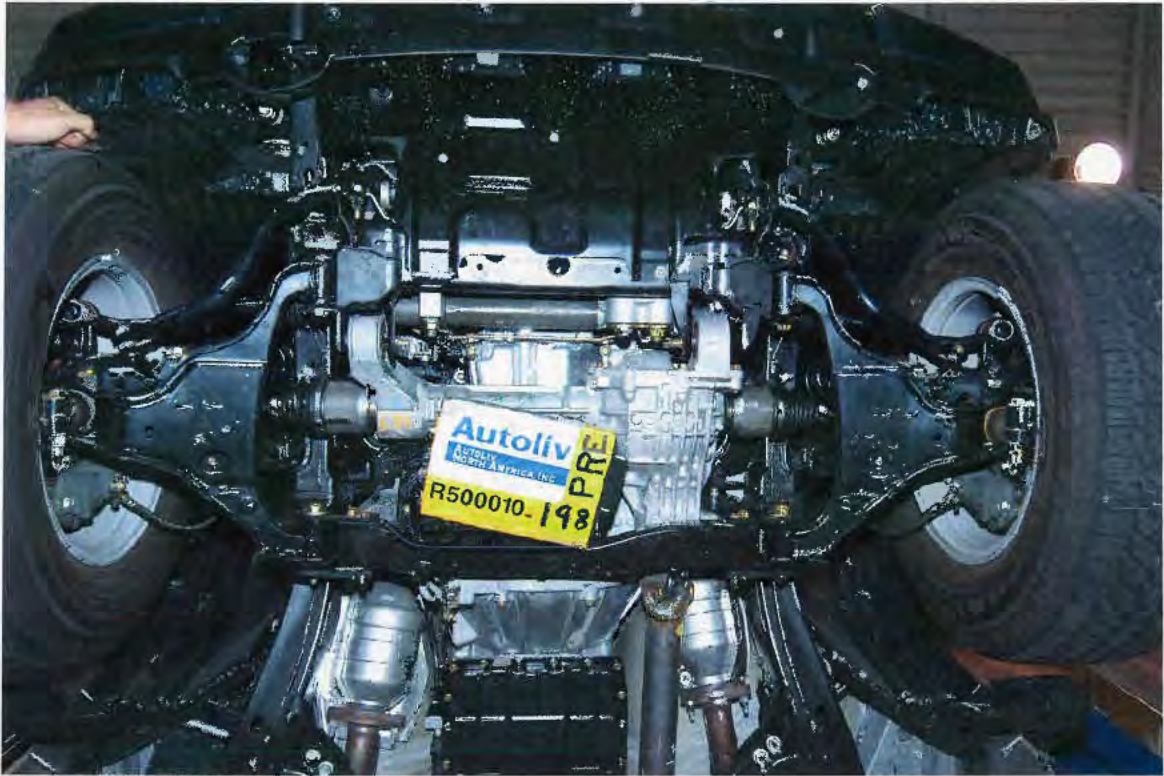


Photo No. 7 PRE-TEST
Subject: Front Underbody View

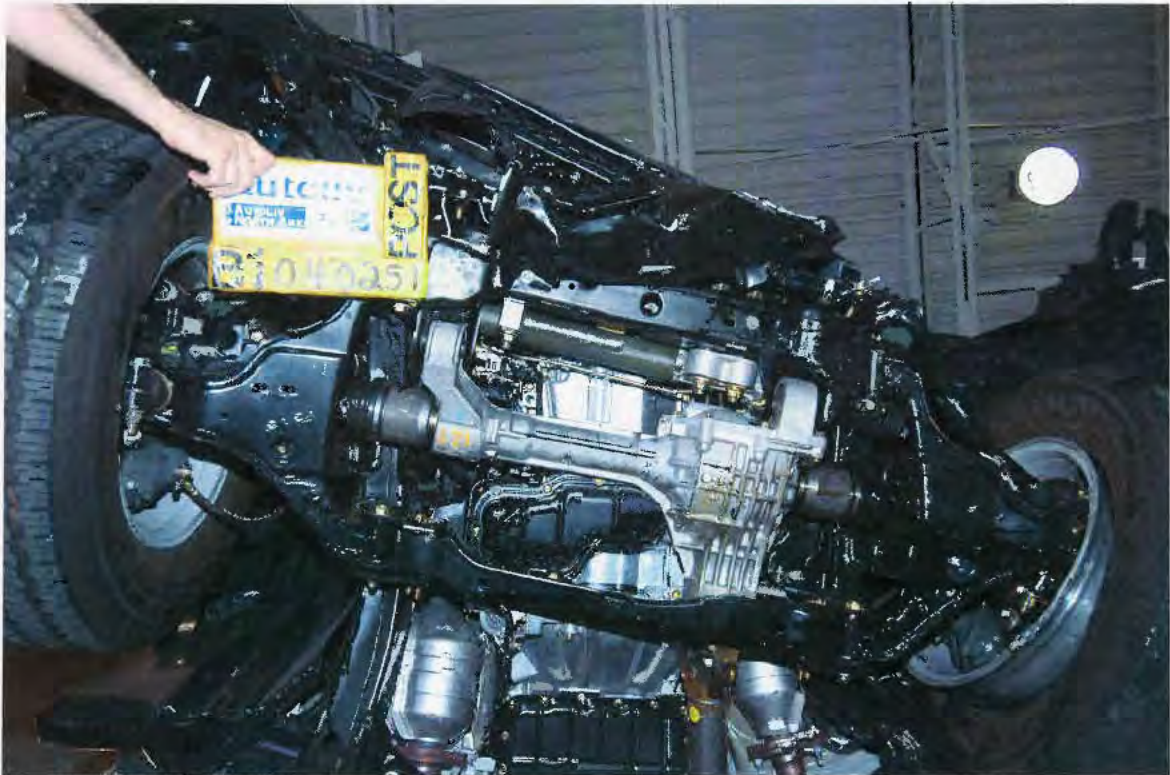


Photo No. 8 POST-TEST
Subject: Front Underbody View

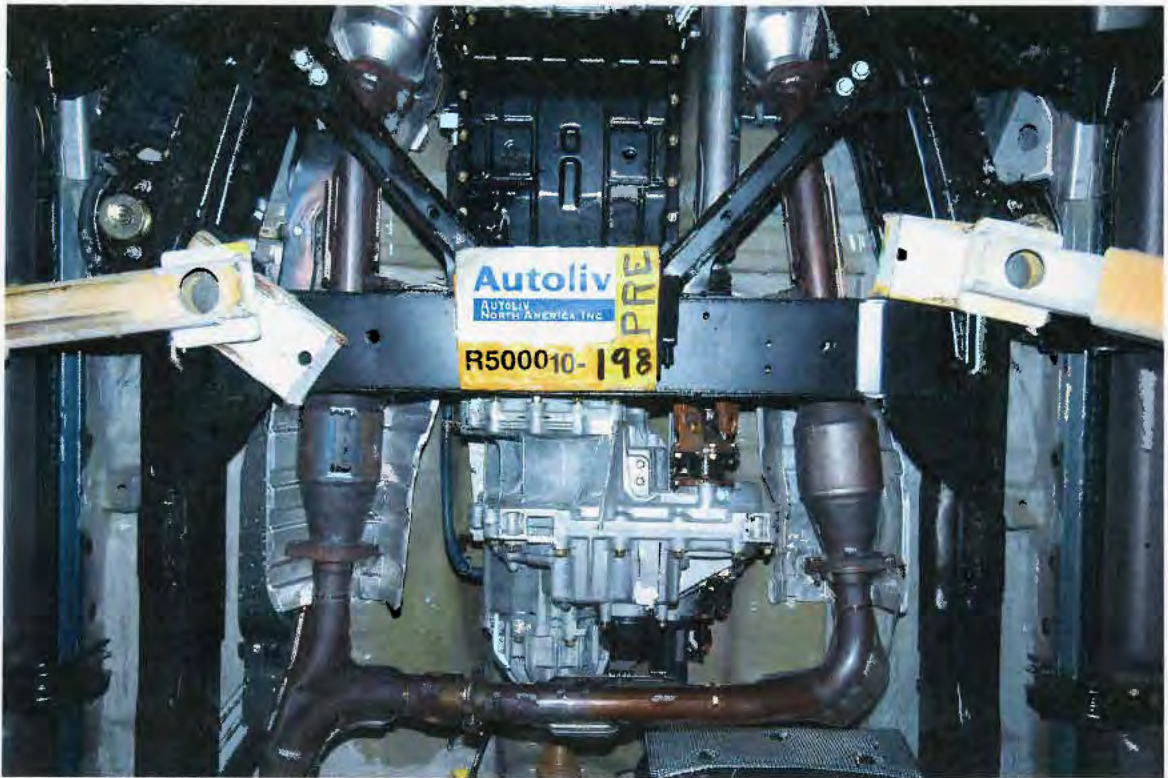


Photo No. 9 PRE-TEST
Subject: Center Underbody View Front

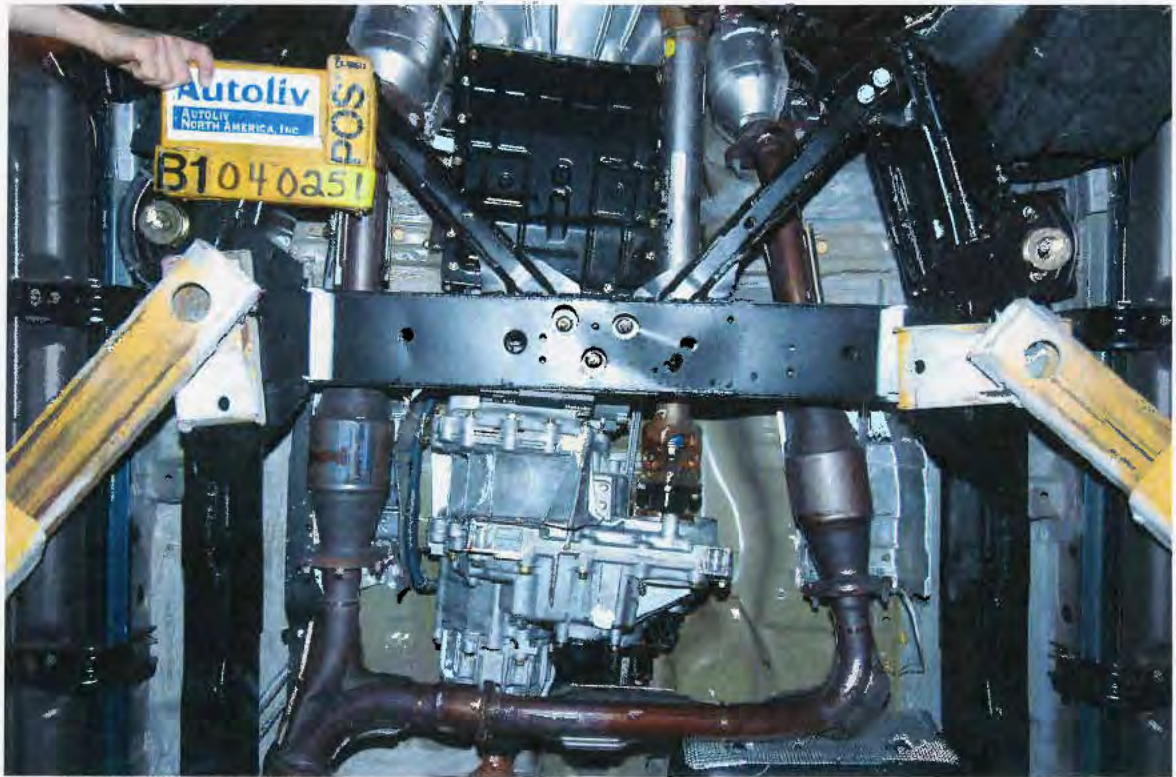


Photo No. 10 POST-TEST
Subject: Center Underbody View Front



Photo No. 11 PRE-TEST
Subject: Center Underbody View Mid



Photo No. 12 POST-TEST
Subject: Center Underbody View Mid



Photo No. 13 PRE-TEST
Subject: Rear Underbody View



Photo No. 14 POST-TEST
Subject: Rear Underbody View



Photo No. 15 PRE-TEST
Subject: Fuel Tank View



Photo No. 16 POST-TEST
Subject: Fuel Tank View



Test company omitted the use of the numbered test placard for this view

Photo No. 17 PRE-TEST
Subject: Filler Hose View



Test company lowered the spare tire post test to allow the use of the test placard in the photo

Photo No. 18 POST-TEST
Subject: Filler Hose View



Photo No. 19 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 20 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 23
Subject: Static Rollover 0°



Photo No. 24
Subject: Static Rollover 90°



Photo No. 25
Subject: Static Rollover 180°



Photo No. 26
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2.1 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
	Rotation 0 ⁰ 90 ⁰	2	None	None	None	None	None	None
	Hold at 90 ⁰	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90 ⁰ 180 ⁰	2	None	None	None	None	None	
	Hold at 180 ⁰	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180 ⁰ 270 ⁰	2	None	None	None	None	None	
Hold at 270 ⁰	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270 ⁰ 360 ⁰	2	None	None	None	None	None		
Hold at 360 ⁰	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NX5F0049 DATE(mm/dd/yy) 07/23/04

TITLE: FMVSS No. 301, "Fuel System Integrity"

 Frontal 0° Barrier Crash and Static Rollover

MODEL CODE: R51, D40 (V6 Only), N50	ISSUER: <i>S. Karwaczynski</i> 7/27/04 S. Karwaczynski
MODEL YEAR: 2005	
TEST PERIOD: 7/16/04	APPROVAL: <i>Alto Sbr</i> 7/28/04 <i>W. Katkiewicz</i> 7/24/04

1. Purpose

This report shows certification test results of FMVSS No. 301 on 2005 Model Year.

Applied Model
R51: All Models D40: V6 Only N50: All Models By NNA-Smyrna For FED, CAN

2. Conclusion

Complied with FMVSS No. 301, Frontal Barrier Crash and Static Rollover requirements.

3. Test Results

3.1 Summary of Test Results

Item FMVSS	Requirement	Results	Judgment
S5.5	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28 g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142 g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one -minute interval shall not exceed 28 g.	Complied No Leakage	OK
S5.6	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142 g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28 g.	Complied No Leakage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51

Vehicle No 5WT114

Vin: 5N1ED28T45C XXXXXXXXXX Transmission: 5 A/T

Engine: VQ40

Impact Velocity: 56.5 kph (35.1 mph)

(2) Weight of Test Vehicle: Front Weight 1113 kg
Rear Weight: 1329 kg
Total Weight: 2442 kg

(3) Test Method: In Accordance with SAE J850, "Barrier Collision Tests," and FMVSS No. 301, S6.1 (Frontal Barrier Crash), and S6.4 (Static Rollover).

4. Test Conditions

(1) Reason for the selection of test vehicle

There are no certification related differences in the frontal structure and fuel system between R51, N50, and D40(V6 models). The weight was adjusted to the heaviest applicable model to evaluate the most severe case condition.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2467 kg	1212 kg	1255 kg
Test Weight	2442 kg	1113 kg	1329 kg

*The weight of the test vehicle was set at the maximum weight among application models.

*Vehicle Type: R51 with Standard Options

Cargo & Luggage Weight	Loading Position: Data acquisition was secured in the cargo area behind the 3 rd seat.
Weight Adjustment	Front: 47.6 kg steel shot in engine. Rear : 48.8 kg data collection system in rear cargo area. 45.4 kg steel plate on rear trailer hitch 22.7 kg shot bag on Driver floor 158.8 kg on bar weight at 2 nd row center seat

(3) Condition of Dummies

Dummy	Type of Dummy:	HYB III (Subpart E of Part 572)	
	Dummy Position	Front LH and RH Outboard Seating Position	
Restraint System	Driver	Air Bag, Type 2 Seat Belt	
	Passenger	Air Bag, Type 2 Seat Belt	
Seat Position	Seat Back	Driver: (Nominal Design Position)	Nominal design position
		Passenger: (Normal Design Position)	Nominal design position
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	Mid-track
		Passenger: Midpoint, or closest point to the rear of midpoint	Mid-track

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 liters		
	Charged Volume	76 liters		
	Test Fluid	Name	Stoddard Solvent	
		Specific Gravity	0.77 - 0.8	
Ignition Key Position		ON		
Fuel Pump Operation		YES	Type of Pump:	Electric pump
Parking Brake		Disengaged		
Transmission		Neutral		
Tire Pressure	Front	35 psi		
	Rear	35 psi		
Steering Column Position	Tilt:	Mid		
	Telescopic:	N/A		
Adjustable Pedal Position		Full Forward		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69° F		
	Windshield Molding	69° F		
	Test Site	69° F		
Door & Trunk Lid (Rear Gate)		Fully closed and latched, but not locked		
Side Window Glass	Front Right	(Opened)		
	Front Left	(Opened)		
Other Fluid	Radiator	(Drained)		
	Battery	(Drained)		
	Washer	(Drained)		
	Oil	(Drained)		
Tools & Jack		Removed		

5. Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 24 on pages 5 through 16.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 17 through 18

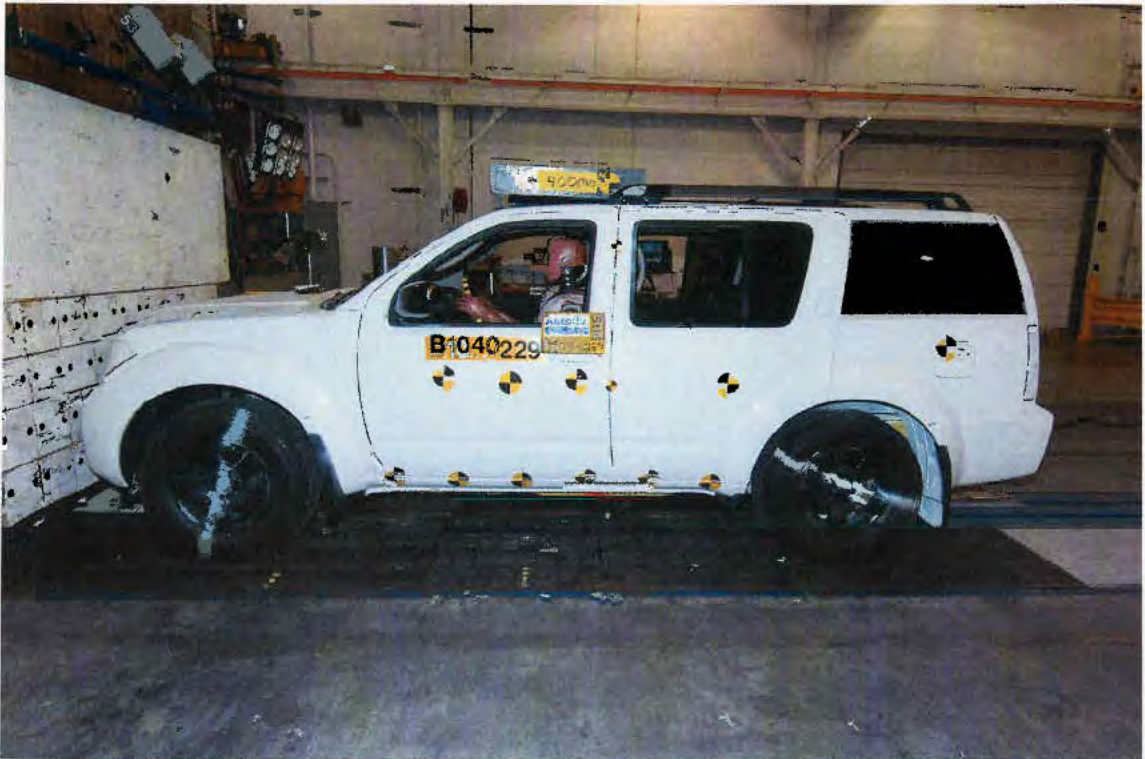


Photo No. 1 PRE-TEST
Subject: Driver Side View



Photo No. 2 POST-TEST
Subject: Driver Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment

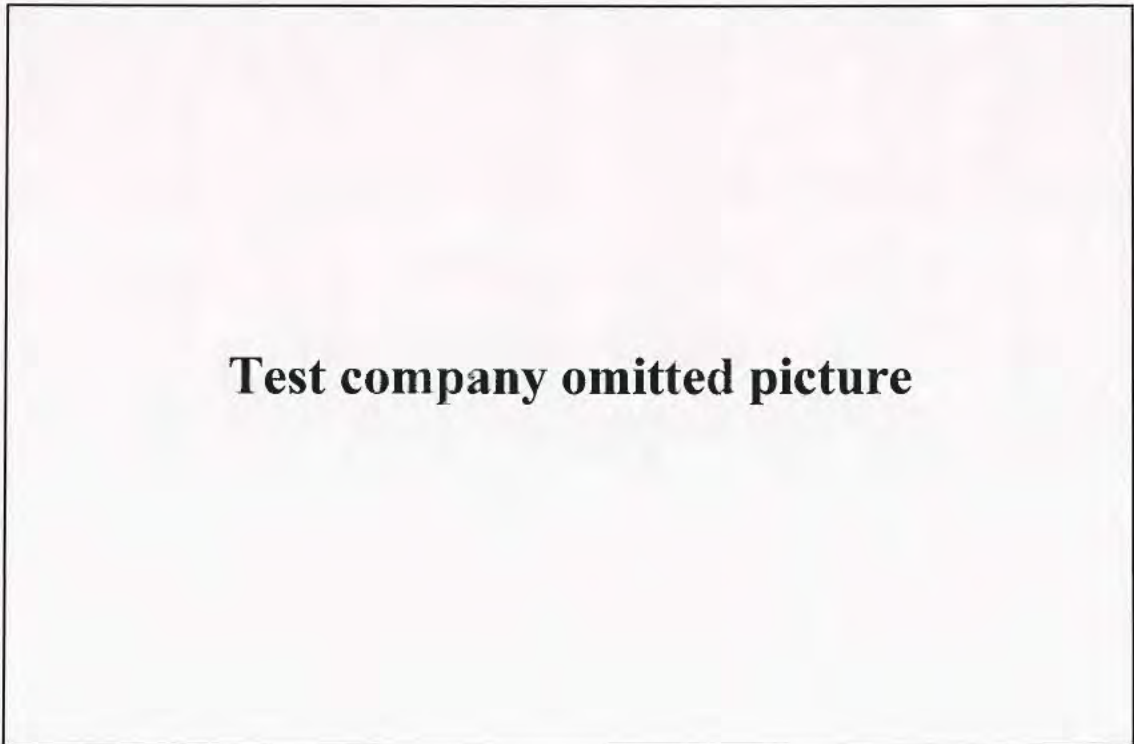


Photo No. 6 POST -TEST
Subject: Engine Compartment

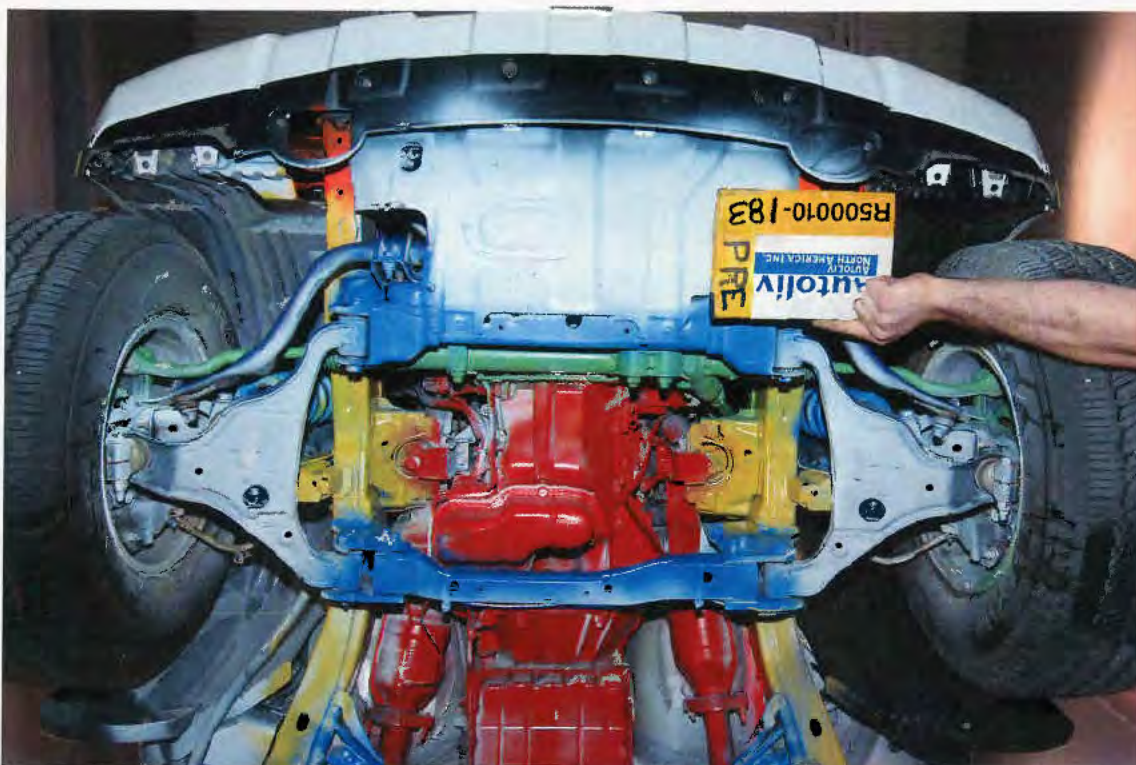


Photo No. 7 PRE-TEST
Subject: Front Underbody View



Photo No. 8 POST-TEST
Subject: Front Underbody View

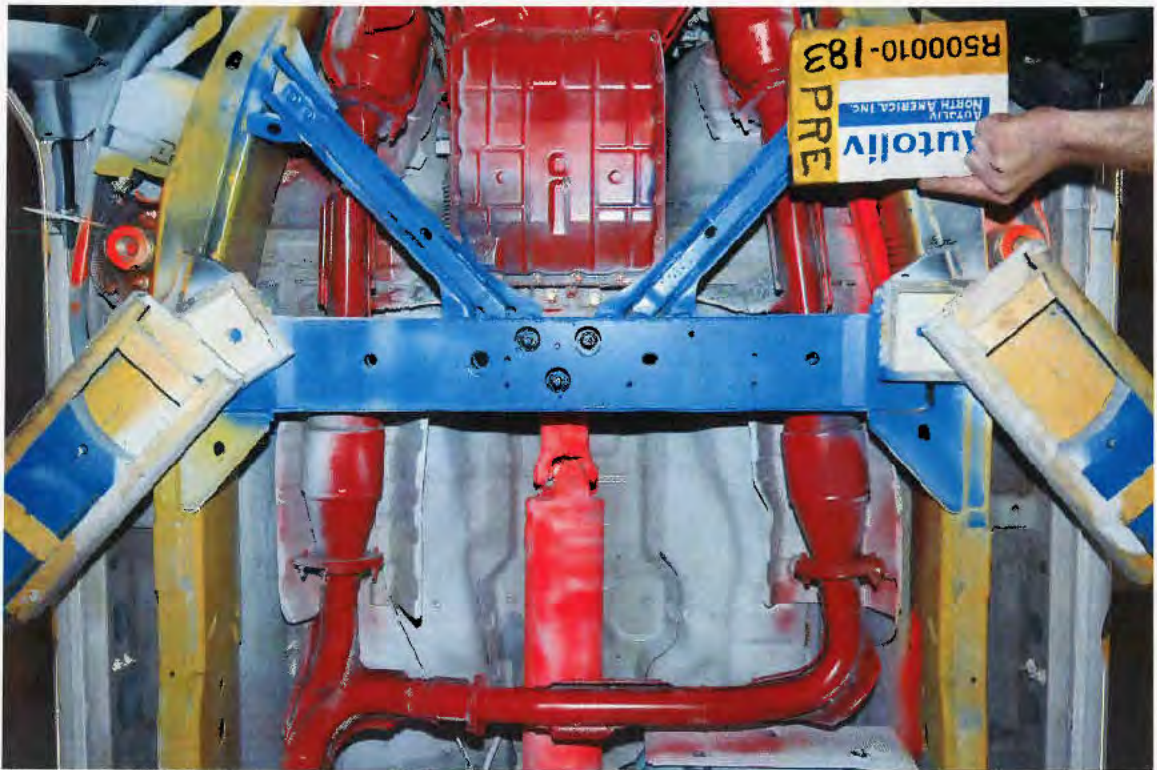


Photo No. 9 PRE-TEST
Subject: Center Front Underbody View

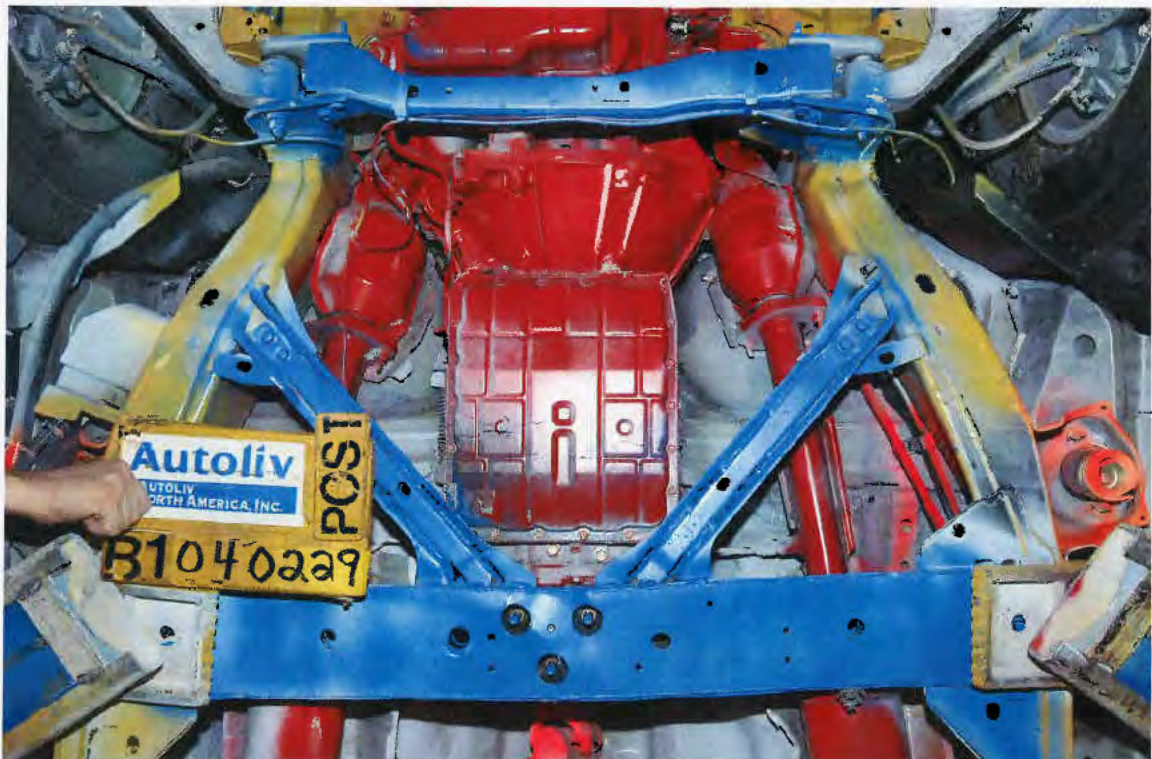


Photo No. 10 POST-TEST
Subject: Center Front Underbody View



Photo No. 13 PRE-TEST
Subject: Center Middle Underbody View

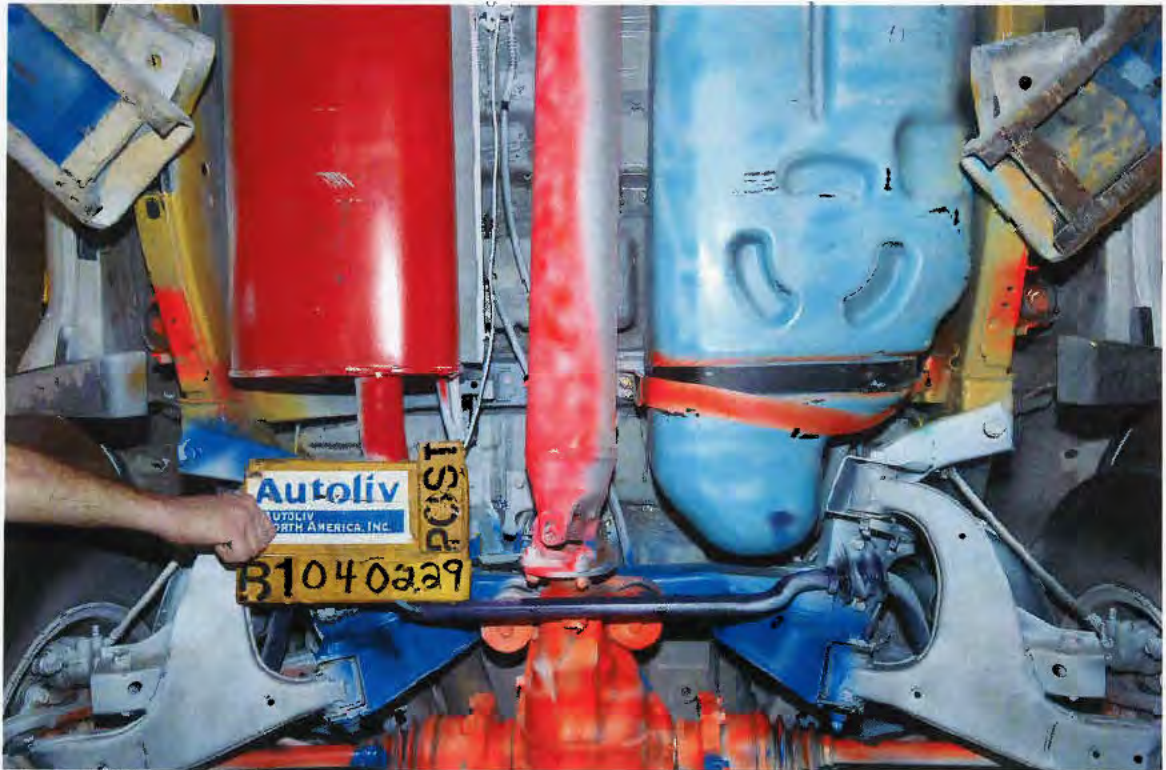


Photo No. 14 POST-TEST
Subject: Center Middle Underbody View

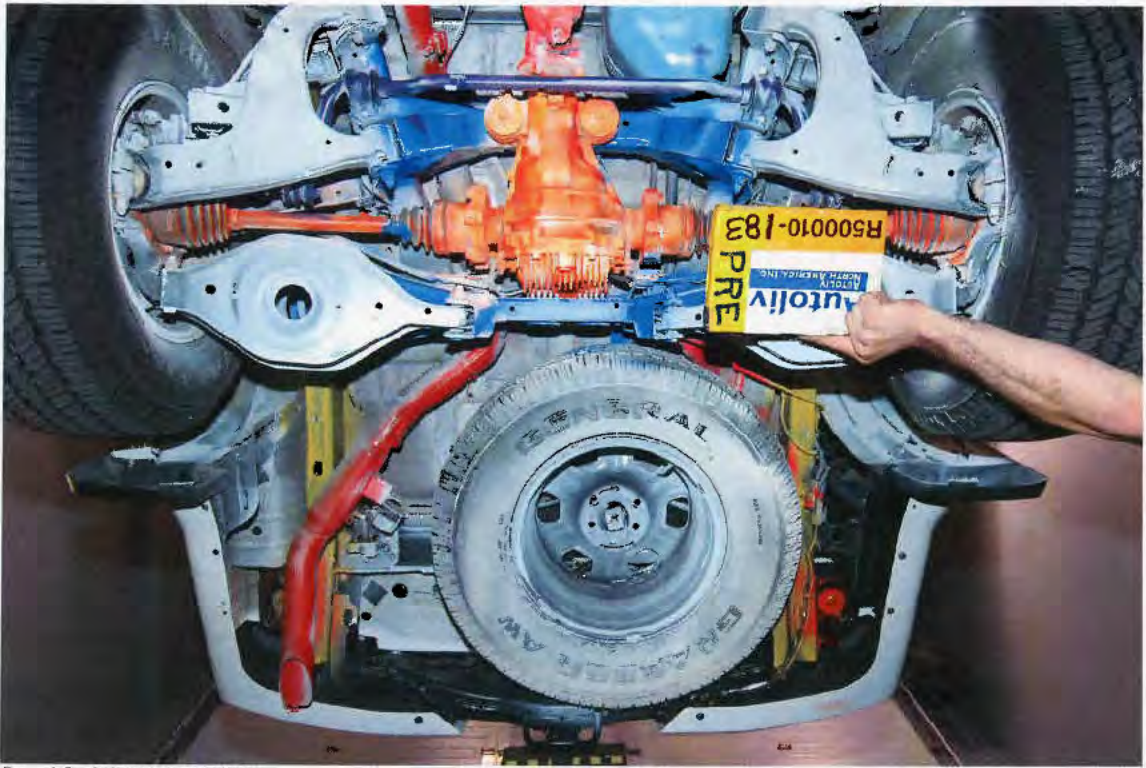


Photo No. 13 PRE-TEST
Subject: Rear Underbody View

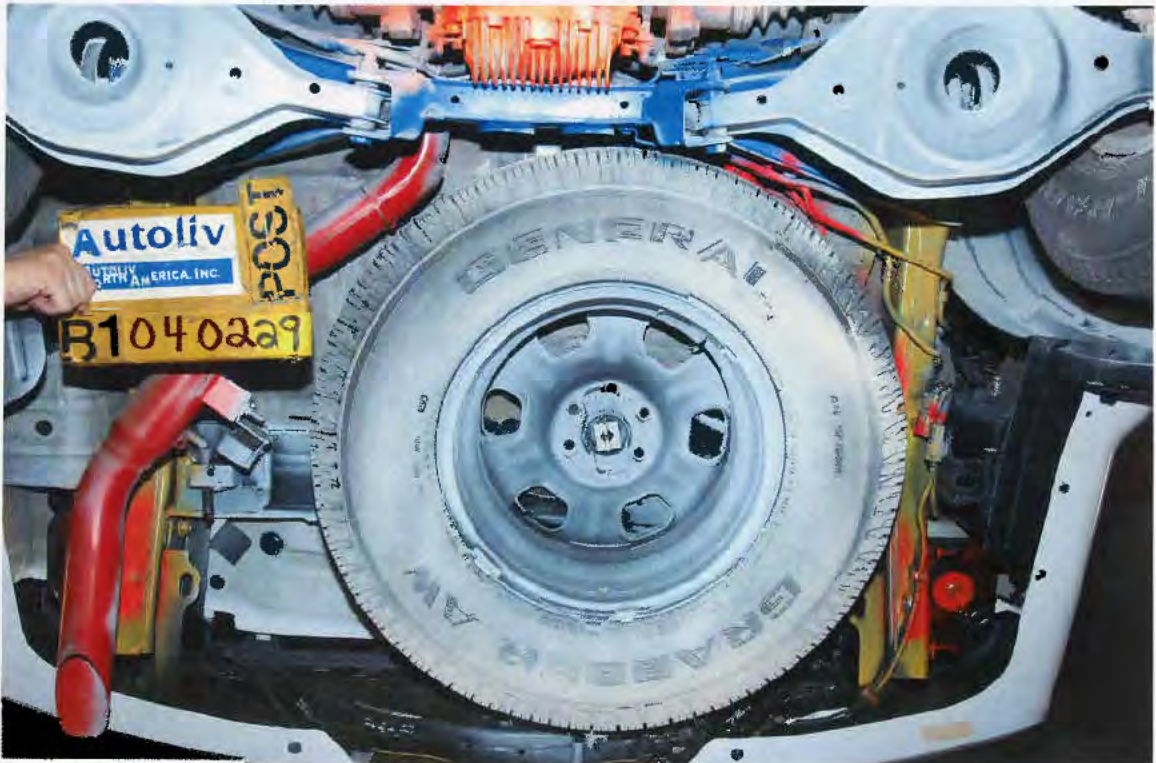


Photo No. 14 POST-TEST
Subject: Rear Underbody View

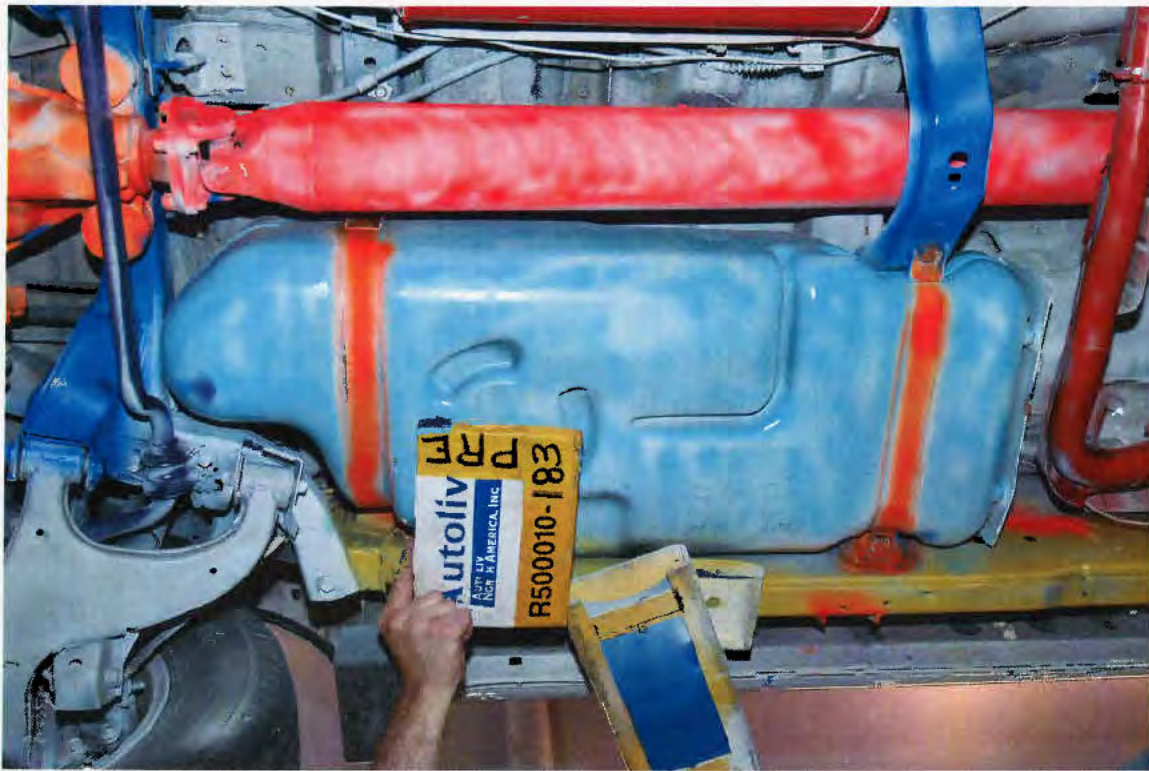


Photo No. 15 PRE-TEST
Subject: Fuel Tank View

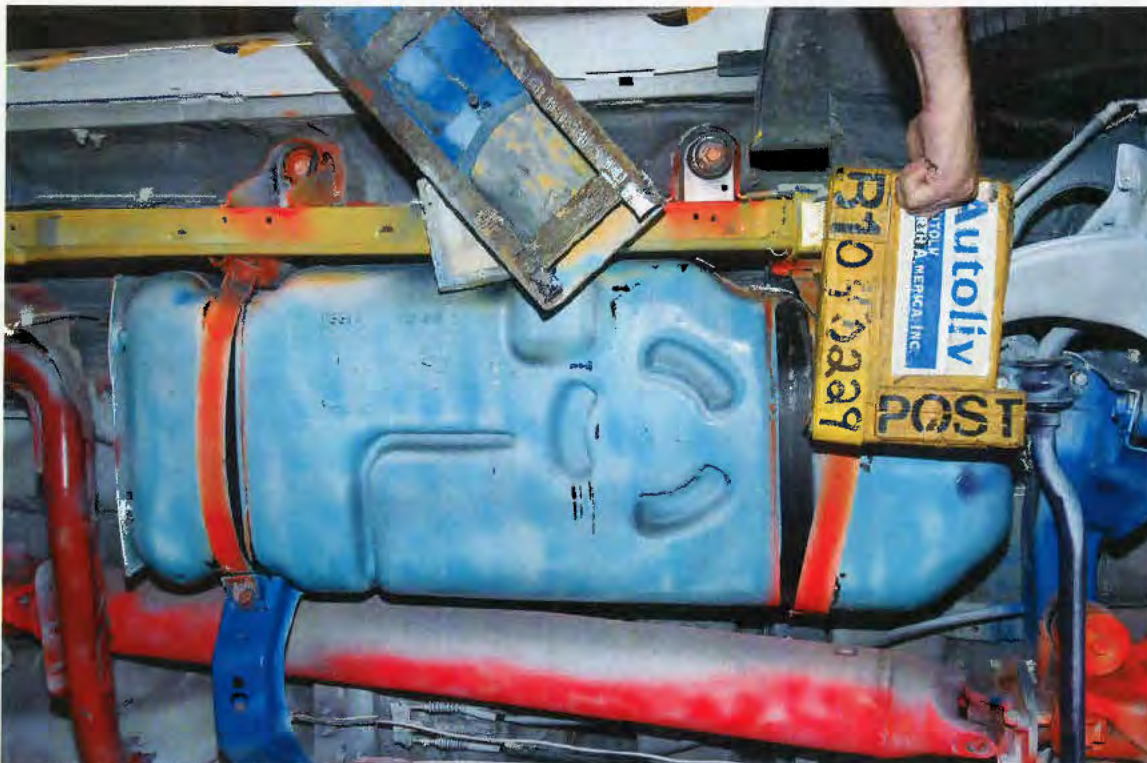


Photo No. 16 POST-TEST
Subject: Fuel Tank View



Test company omitted the use of the numbered test placard for this view

Photo No. 17 PRE-TEST
Subject: Filler Hose View



Test company omitted the use of the numbered test placard for this view

Photo No. 18 POST-TEST
Subject: Filler Hose View



Photo No. 19 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 20 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 21
Subject: Static Rollover 0°



Photo No. 22
Subject: Static Rollover 90°



Photo No. 23
Subject: Static Rollover 180°



Photo No. 24
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2.1 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0 ⁰ 90 ⁰	2	No	No	No	No	No	No
	Hold at 90 ⁰	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 90 ⁰ 180 ⁰	2	No	No	No	No	No	No
	Hold at 180 ⁰	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 180 ⁰ 270 ⁰	2	No	No	No	No	No	No
Hold at 270 ⁰	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	
Rotation 270 ⁰ 360 ⁰	2	No	No	No	No	No	No	
Hold at 360 ⁰	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX5F0063 DATE(mm/dd/yy) 07/22/04

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Rear Moving Deformable Barrier 70% Offset Crash and Static Rollover

MODEL CODE: R51	ISSUER: <u> <i>J. Dix</i> 7/22/04 </u> 7/22/04
MODEL YEAR: 2005	J. Dix
TEST PERIOD: 07/21/04	APPROVAL: <u> <i>Ali Tozikov</i> 7/22/04 </u> <u> <i>T. Katalcamir</i> 7/22/04 </u>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2005 Model Year.

1.1 Test Vehicle: 5WT127

VIN: 5N1MD28Y85C

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

2. Conclusion

Complied with FMVSS/CMVSS No. 301, Rear Barrier Offset Crash and Static Rollover requirements.

3. Reason for Selection of Test Method

Demonstrates compliance to FMVSS/CMVSS 301 Section 6.2(b) "Fuel System Integrity" (50mph Rear Moving Deformable Barrier Crash Test).

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgement
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one - minute interval shall not exceed 28g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28g.	Complied No spillage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51

Vin: 5N1B320W44N XXXXXXXXXX Transmission: 5 A/T

Engine: VQ40

Impact Velocity: 81.0 kph

(2) Weight of Test Vehicle: Front Weight: 1236.0 kg
Rear Weight: 1262.0 kg
Total Weight: 2498.0 kg

(3) Test Method: In Accordance with FMVSS No. 301, S7.3 (b) (Rear Barrier Crash)

3.3 Test Conditions

(1) Reason for the selection of test vehicle.

The R51 does not have a significant model difference (e.g. body type) which would influence crash test performance. The body design is symmetrical with exception of the fuel lines which are located on the left side of the vehicle.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2502.0 kg	1226.2 kg	1275.8 kg
**Test Weight	2498.0 kg	1262.0 kg	1236.0 kg

*The weight of the test vehicle was set at the maximum weight among application models

** Difference in test and target weight split between front and rear has no effect on test results.

*Vehicle Type: R51 with Full Options

Cargo & Luggage Weight	Loading Position: Data acquisition (42 kg) was secured on top of the hood.
Weight Adjustment	50 kg steel shot bags added on each of 2 nd row outboard seats, 25kg steel shot bag added to the RH 3 rd row seat.

(3) Condition of Dummies

Dummy	Type of Dummy:	Hybrid III (non-instrumented)		
	Dummy Position	Mid Seat Track Position		
	Restraint System	Driver	Type 2 seat belt	
Passenger		Type 2 seat belt		
Position of Seats	Seat Back	Driver: (Nominal Design Position)	21° measured on the seat back frame.	
		Passenger: (Normal Design Position)	21° measured on the seat back frame.	
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	Mid seat track	
		Passenger: Midpoint, or closest point to the rear of midpoint	Mid seat track	

(4) Vehicle Condition

Fuel Tank	Usable capacity:	80 Liters		
	Charged volume:	76 Liters		
	Test Fluid:	Name:	Stoddard Solvent	
Specific Gravity		0.77 – 0.80		
Ignition Key Position		ON		
Fuel Pump Operation		YES	Type of Pump:	Electric: pump
Parking Brake		Disengage		
Transmission		Neutral		
Adjustable Pedal Position		Full Forward		
Steering Column Position	Tilt:	Mid position		
	Telescopic:	N/A		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69° F		
	Windshield Molding	69° F		
	Test Site	69° F		
Tire Pressure	Front:	241 kPa		
	Rear:	241 kPa		
Door & Trunklid (Rear Gate)		Fully closed and latched but not locked.		
Side Window Glass	Front Right	(Opened)		
	Front Left	(Opened)		
Other Fluid	Radiator	(Drained)		
	Battery	(Drained)		
	Washer	(Drained)		
	Oil	(Drained)		

3.4 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 26 on pages 6 through 18.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 19 through 20.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View

Test Company did not take photo.

Photo No. 5 PRE-TEST
Subject: Rear View



Photo No. 6 POST-TEST
Subject: Rear View



Photo No. 7 PRE-TEST
Subject: Engine Compartment



Photo No. 8 POST -TEST
Subject: Engine Compartment

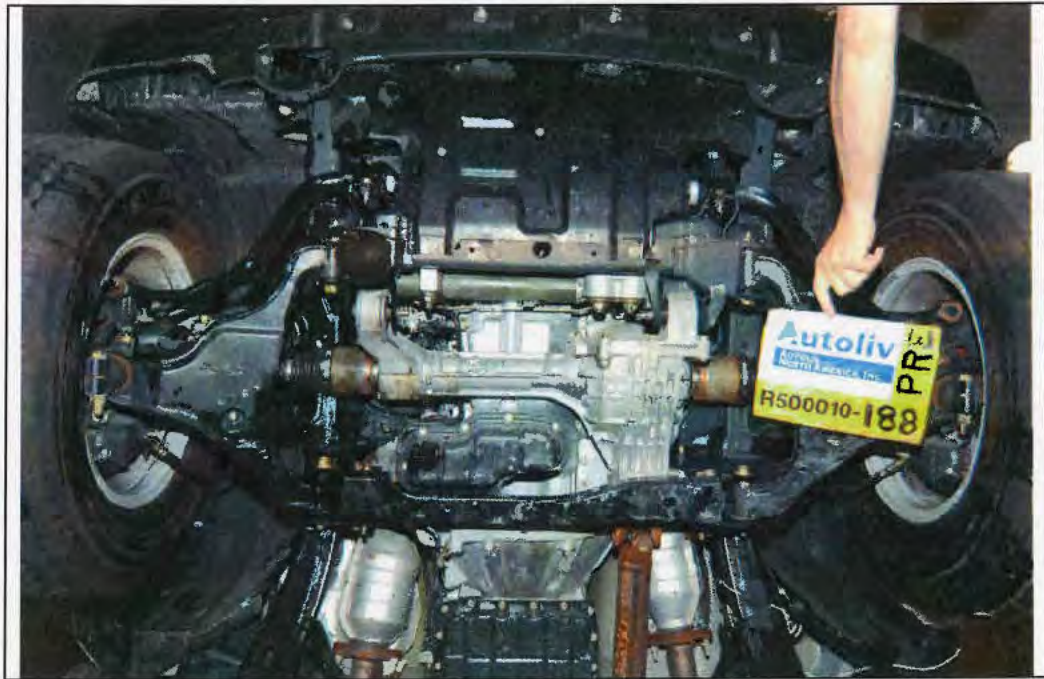


Photo No. 9 PRE-TEST
Subject: Front Underbody View



Photo No. 10 POST -TEST
Subject: Front Underbody View

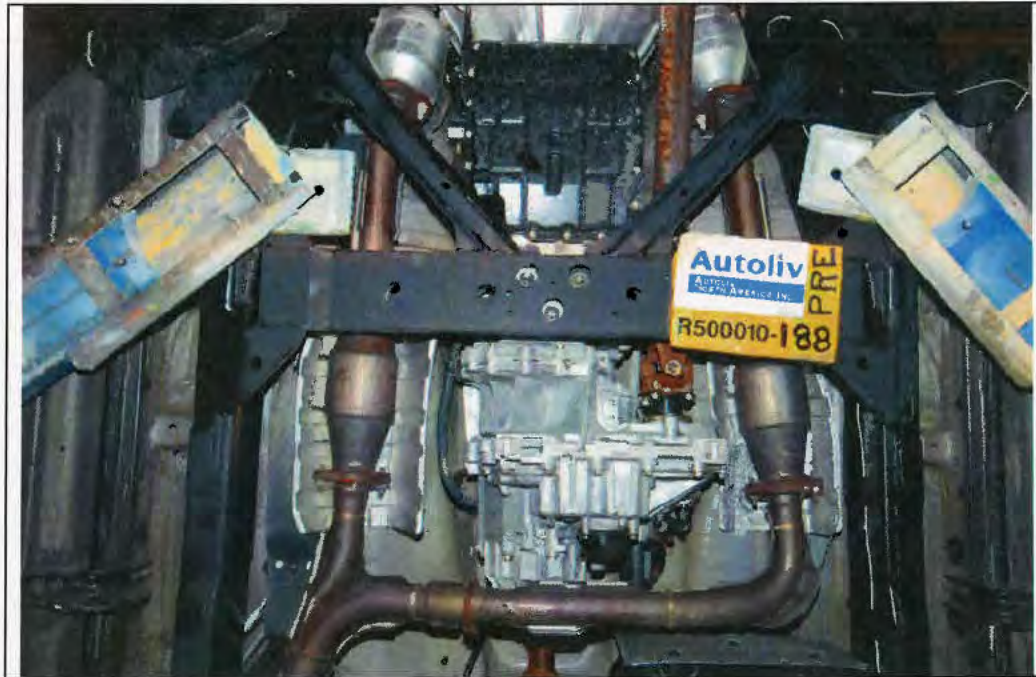


Photo No. 11 PRE-TEST
Subject: Center-Front Underbody View

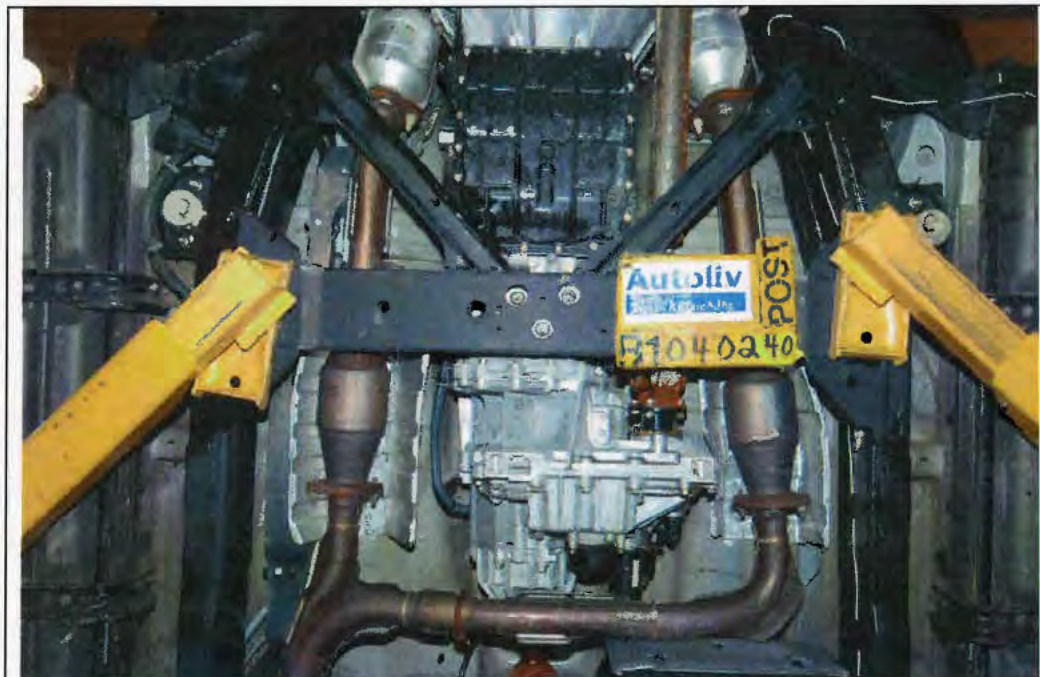


Photo No. 12 POST -TEST
Subject: Center-Front Underbody View



Photo No. 13 PRE-TEST
Subject: Center Underbody View



Photo No. 14 POST-TEST
Subject: Center Underbody View



Photo No. 15 PRE-TEST
Subject: Rear Underbody View



Photo No. 16 POST-TEST
Subject: Rear Underbody View



Photo No. 17 PRE-TEST
Subject: Fuel Tank View



Photo No. 18 POST-TEST
Subject: Fuel Tank View

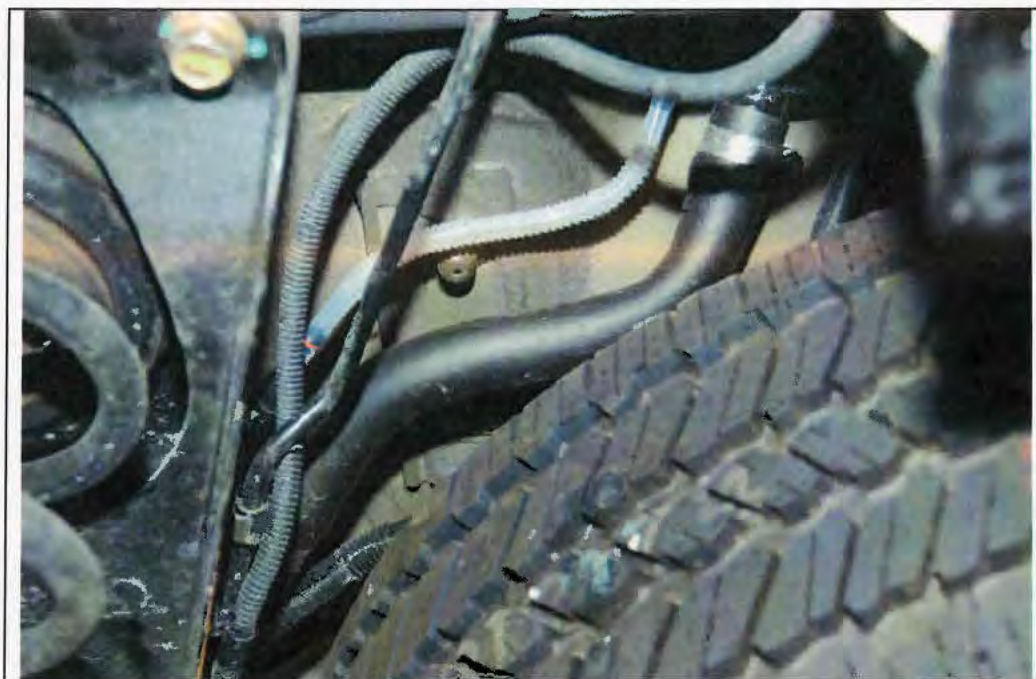


Photo No. 19 PRE-TEST
Subject: Filler Hose View



Photo No. 20 POST-TEST
Subject: Filler Hose View



Photo No. 21 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 22 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 23
Subject: Static Rollover 0°



Photo No. 24
Subject: Static Rollover 90°



Photo No. 25
Subject: Static Rollover 180°

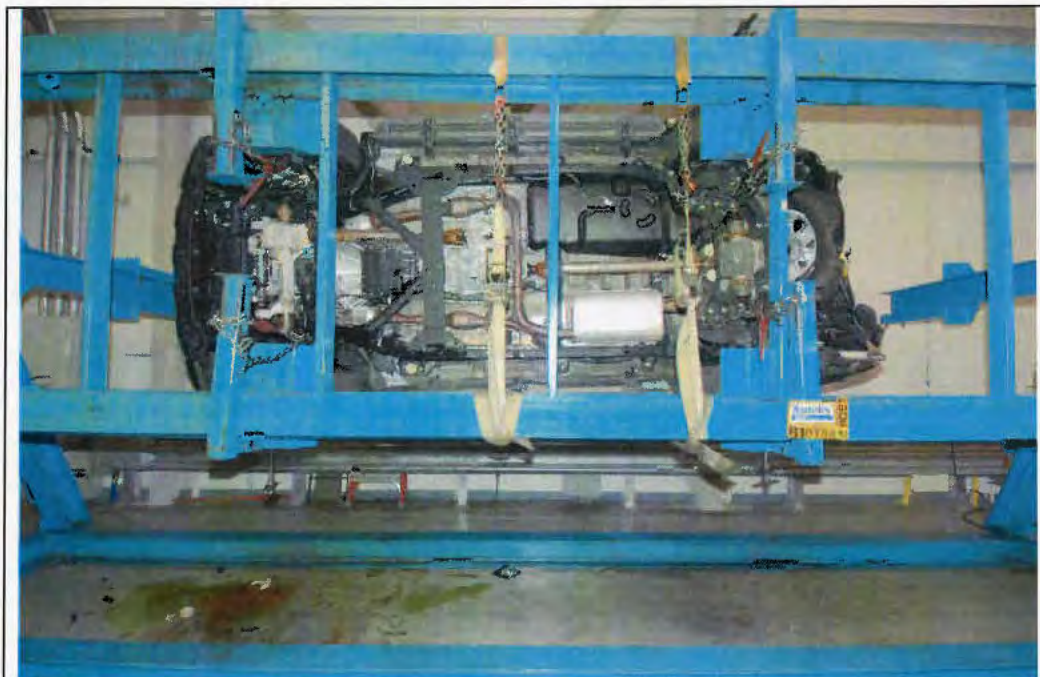


Photo No. 26
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
From time of impact until vehicle motion ceases.	No	No	No	No	No	No
In the five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0° 90°	2						
	Hold at 90°	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90° 180°	2						
	Hold at 180°	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180° 270°	2						
Hold at 270°	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270° 360°	2							
Hold at 360°	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX6F0300 DATE(mm/dd/yy) 08/02/05

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

MODEL CODE: R51, D40, N50	ISSUER: <i>Ronald A. Bowers</i> 8/2/05 R. Bowers
MODEL YEAR: 2006	
TEST PERIOD: Carry Over	APPROVAL: <i>Mito S. ...</i> <i>T. Katakami</i>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2006 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2006 has no certification related differences from that of model year 2005, we adopt the following report.

Applied Model
R51: All Models D40: All Models N50: All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0005	R51
NX5F0102	D40 King Cab, w/ VQ40 Engine
NX5F0103	D40 Crew Cab
NX5F0165	D40 King Cab, w/ TR25 Engine
NX5F0170	N50

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX6F0301 DATE(mm/dd/yy) 08/02/05

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
 Rear Moving Barrier Crash and Static Rollover

MODEL CODE: R51, D40, N50	ISSUER: <u> <i>Ronald O. Bowers 8/2/05</i> </u> R. Bowers
MODEL YEAR: 2006	
TEST PERIOD: Carry Over	APPROVAL: <u> <i>Mito Seki</i> </u> <u> <i>T. Katabami</i> </u>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2006 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2006 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51: All Models D40: All Models N50: All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0023	R51
NX5F0096	D40 King Cab, w/ VQ40 Engine
NX5F0097	D40 Crew Cab
NX5F0163	D40 King Cab, w/ TR25 Engine
NX5F0167	N50

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Rear Moving Barrier Crash and Static Rollover

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX6F0304 DATE(mm/dd/yy) 08/02/05

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Rear Moving Deformable Barrier 70% Offset Crash and Static Rollover

MODEL CODE: R51, D40, N50	ISSUER: <u> Ronald A. Bowers 8/2/05 </u> R. Bowers
MODEL YEAR: 2006	
TEST PERIOD: Carry Over	APPROVAL: <u> Akito Sakai </u> <u> T. Katahara </u>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2006 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2006 has no certification related differences from that of model year 2005, we adopt the following reports,

Applied Model
R51: All Models D40: All Models N50: All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0063	R51
NX5F0098	D40 King Cab, w/ VQ40 Engine
NX5F0099	D40 Crew Cab
NX5F0164	D40 King Cab, w/ TR25 Engine
NX5F0168	N50

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Rear Moving Barrier Crash and Static Rollover



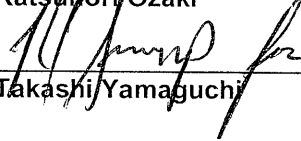
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX7F0491 DATE(mm/dd/yy) 06/22/06

TITLE: EPA Part 80, Sec. 80.24/CMVSS 1100

Leaded Gasoline Fuel and Regulation Conformity Test

MODEL CODE: R51 / N50 / D40	ISSUER:  Todd Marentette
MODEL YEAR: 2007	APPROVAL:  Katsunori Ozaki
TEST PERIOD: Carry Over	 Takashi Yamaguchi

1. Purpose

This report shows certification test results of EPA Part 80, Sec. 80.24/CMVSS 1100 Leaded Gasoline Fuel and Regulation Conformity Test on 2007 Model Year.

2. Conclusion

As the Fuel System of model year 2007 has no certification related differences from that of model year 2005, we adopt the following report.

Report No.: KC4C-040608

Applied Model
R51, N50, D40 All Models By NNA-Smyrna For FED, CAN


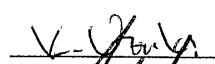
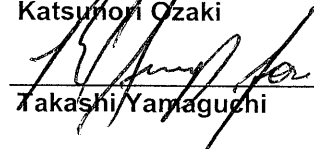
Complied with EPA Part 80, Sec. 80.24/CMVSS 1100, Leaded Gasoline Fuel and Regulation Conformity Test.

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NX7F0492 DATE(mm/dd/yy) 06/22/06

TITLE: California ARB Fuel Fill Pipes and Opening Requirements

MODEL CODE: R51	ISSUER:  Todd Marentette
MODEL YEAR: 2007	APPROVAL:  Katsumori Ozaki
TEST PERIOD: Carry Over	 Takashi Yamaguchi

1. Purpose

This report shows certification test results of California ARB Fuel Fill Pipes and Opening Requirements on 2007 Model Year.

2. Conclusion

As the Fuel System of model year 2007 has no certification related differences from that of model year 2005, we adopt the following reports.

Report No.: KC4C-040607

Applied Model
R51 All Models by NNA-Smyrna for FED,CAN

Complied with the California ARB Fuel Fill Pipes and Opening Requirements.


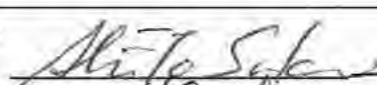
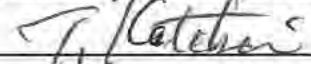
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX7F0532 DATE(mm/dd/yy) 07/26/2006

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Rear Moving Deformable Barrier 70% Offset Crash and Static Rollover

MODEL CODE: R51, D40, N50	ISSUER:  R. Kobrossy
MODEL YEAR: 2007	APPROVAL:  
TEST PERIOD: Carry Over	

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2007 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2007 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51: All Models D40: Except CC LWB N50: All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0063	R51
NX5F0098	D40 King Cab, w/ VQ40 Engine
NX5F0099	D40 Crew Cab, Except LWB
NX5F0164	D40 King Cab, w/ TR25 Engine
NX5F0168	N50


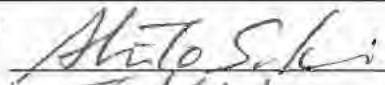
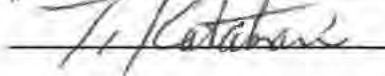
Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Rear Moving Barrier Crash and Static Rollover

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX7F0544 DATE(mm/dd/yy) 07/26/2006

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
 Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

MODEL CODE: R51, D40, N50	ISSUER:  R. Kobrossy
MODEL YEAR: 2007	
TEST PERIOD: Carry Over	APPROVAL:  

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2007 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2007 has no certification related differences from that of model year 2006, we adopt the following report.

Applied Model
R51: All Models D40: Except CC LWB N50: All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0005	R51
NX6F0414	D40 King Cab, w/ VQ40 Engine
NX5F0103	D40 Crew Cab, except LWB
NX6F0413	D40 King Cab, w/ TR25 Engine
NX5F0170	N50

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.


REPORT NO.: NX8F0574 DATE(mm/dd/yy) 01/24/2007

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
Front 30° RH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <u><i>Henry Yu</i></u> H. Yu
MODEL YEAR: 2008	
TEST PERIOD: 01/23/2007	APPROVAL: <u><i>Patricia A. Sakai</i></u> <u><i>W. Katsunuma</i></u>

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2008 Model Year.

1.1 Test Vehicle: 8WP109
VIN: 5N1BR18B38C 

Applied Model
R51 VK56 All Models by NNA Smyrna for FED, CAL, CAN

2. Conclusion

Complied with FMVSS/CMVSS No. 301, Frontal Barrier Crash and Static Rollover requirements.

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgment
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28 g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142 g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one-minute interval shall not exceed 28 g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142 g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28 g.	Complied No spillage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51

Vehicle No.: 8WP109

Vin: 5N1BR18B38C XXXXXXXXXX Transmission: 5A/T

Engine: VK56

Impact Velocity: 30.1 mph or 48.4 km/h

(2) Weight of Test Vehicle: Front Weight 1245.4 kg
 Rear Weight: 1398.7 kg
 Total Weight: 2644.1 kg

(3) Test Method:

In Accordance with SAE J850, "Barrier Collision Tests," and FMVSS No. 301, S6.1 (Frontal Barrier Crash), and S6.4 (Static Rollover).

4. Test Conditions

(1) Reason for the selection of test vehicle

There are no certification related differences in the frontal structure and fuel system in the R51 model. The weight was adjusted to the heaviest applicable model to evaluate the most severe case condition.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2644.0 kg	1284.0 kg	1360.0 kg
Test Weight	2644.1 kg	1245.4 kg	1398.7 kg

*The weight of the test vehicle was set at the max.weight among application models

*Vehicle Type: R51 with Full Options

Cargo & Luggage Weight	Loading Position: Data acquisition was secured in the cargo area behind the 3rd row seat.
Weight Adjustment	230 lbs plate weight in the 3 rd row seat 145lbs plate weight on the 2 nd row seat floor Rear plastic trim were removed.

(3) Condition of Dummies

Dummy	Type of Dummy:	HYB II (Subpart B of part 572)	
	Dummy Position	Each front outboard seating position	
	Restraint System	Driver:	Type 2 seat belt and Air Bag
Passenger:		Type 2 seat belt and Air Bag	
Position of Seats	Seat Back	Driver: (Nominal Design Position)	6 notches from full up position
		Passenger: (Nominal Design Position)	9 notches from full up position
	Seat Slide	Driver: Midpoint	10 notches from rearmost position
		Passenger: Midpoint	10 notches from rearmost position

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 L		
	Charged Volume	76 L		
	Test Fluid	Name	Stoddard Solvent	
Specific Gravity		0.764		
Ignition Key Position		ON		
Fuel Pump Operation		Activated	Type of Pump:	Electric pump
Parking Brake		Disengaged		
Transmission		Neutral		
Tire Pressure	Front	35 Psi		
	Rear	35 Psi		
Steering Column Position	Tilt	Mtd Position		
	Telescopic	N/A		
Adjustable Pedal Position		N/A		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	70°F		
	Windshield Molding	70°F		
	Test Site	70°F		
Door & Trunk Lid (Rear Gate)		Doors latched but not locked.		
Side Window Glass	Front Right	Closed		
	Front Left	Closed		
Other Fluid	Radiator	Drained		
	Battery	Drained		
	Washer	Drained		
	Oil	Drained		
Tools & Jack		Installed		

3.4 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 24 on pages 5 through 16.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 17 through 18.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View

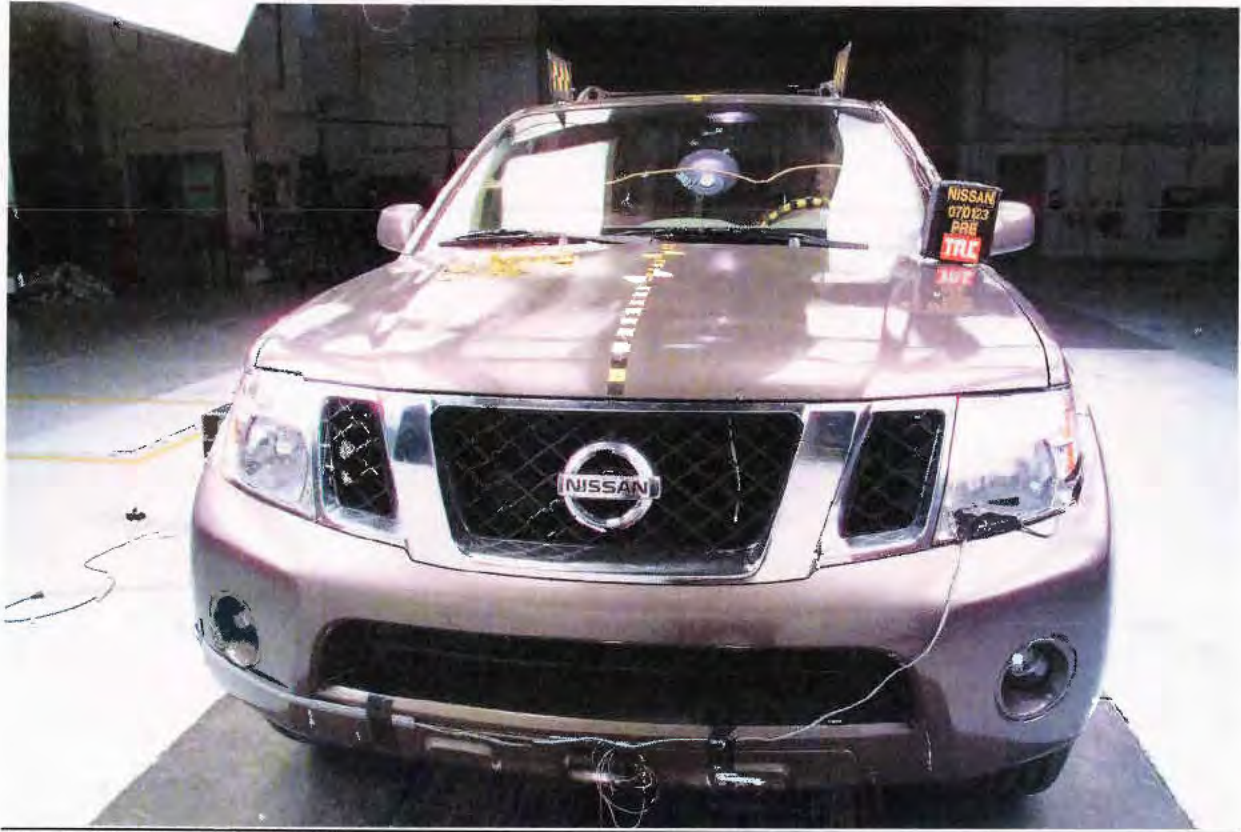


Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST-TEST
Subject: Front View

Test Company did not take this picture

Photo No. 5 PRE-TEST
Subject: Engine Compartment



Photo No. 6 POST-TEST
Subject: Engine Compartment

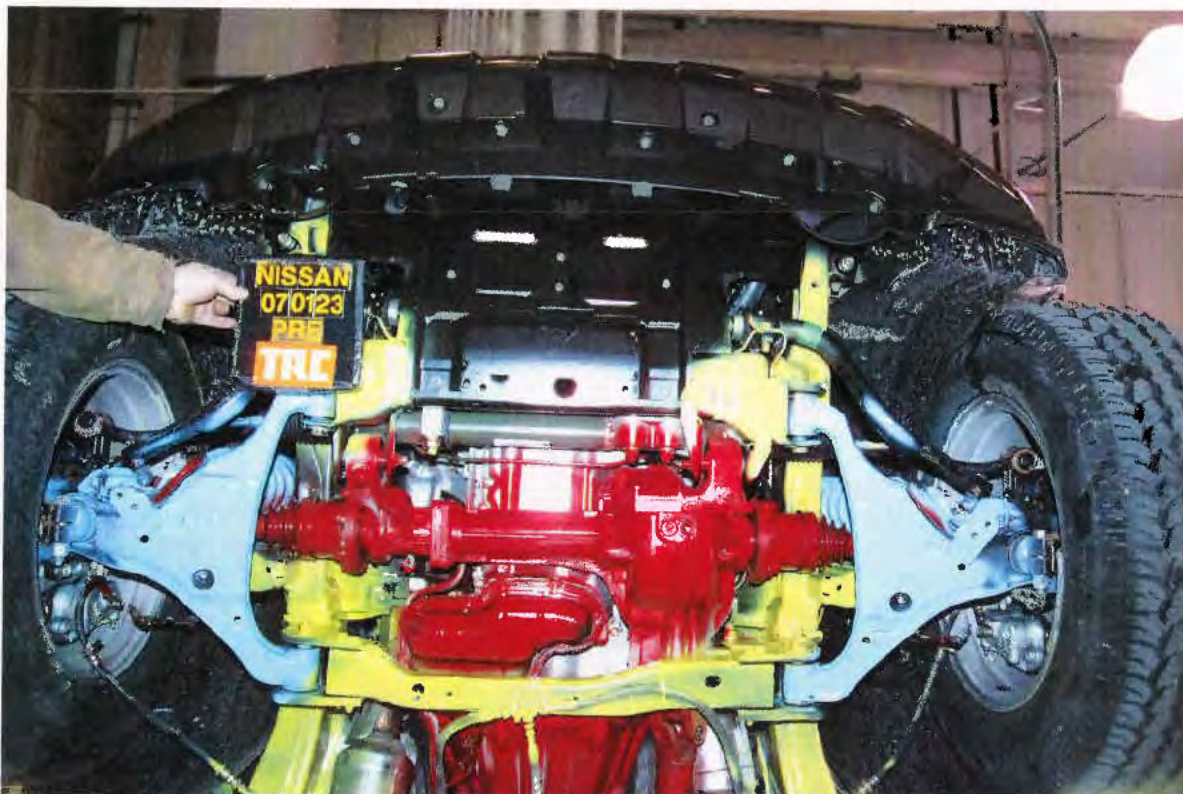


Photo No. 7 PRE-TEST
Subject: Front Underbody View



Photo No. 8 POST-TEST
Subject: Front Underbody View

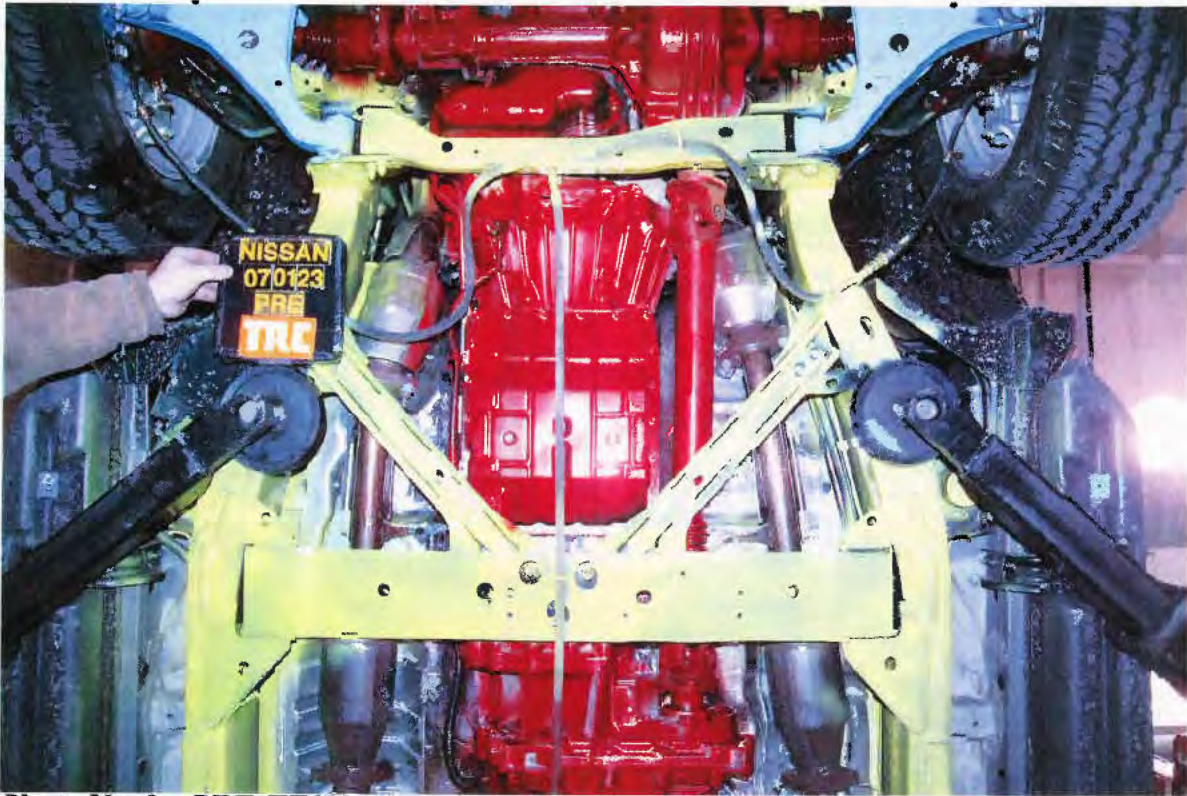


Photo No. 9 PRE-TEST
Subject: Center Underbody View Front

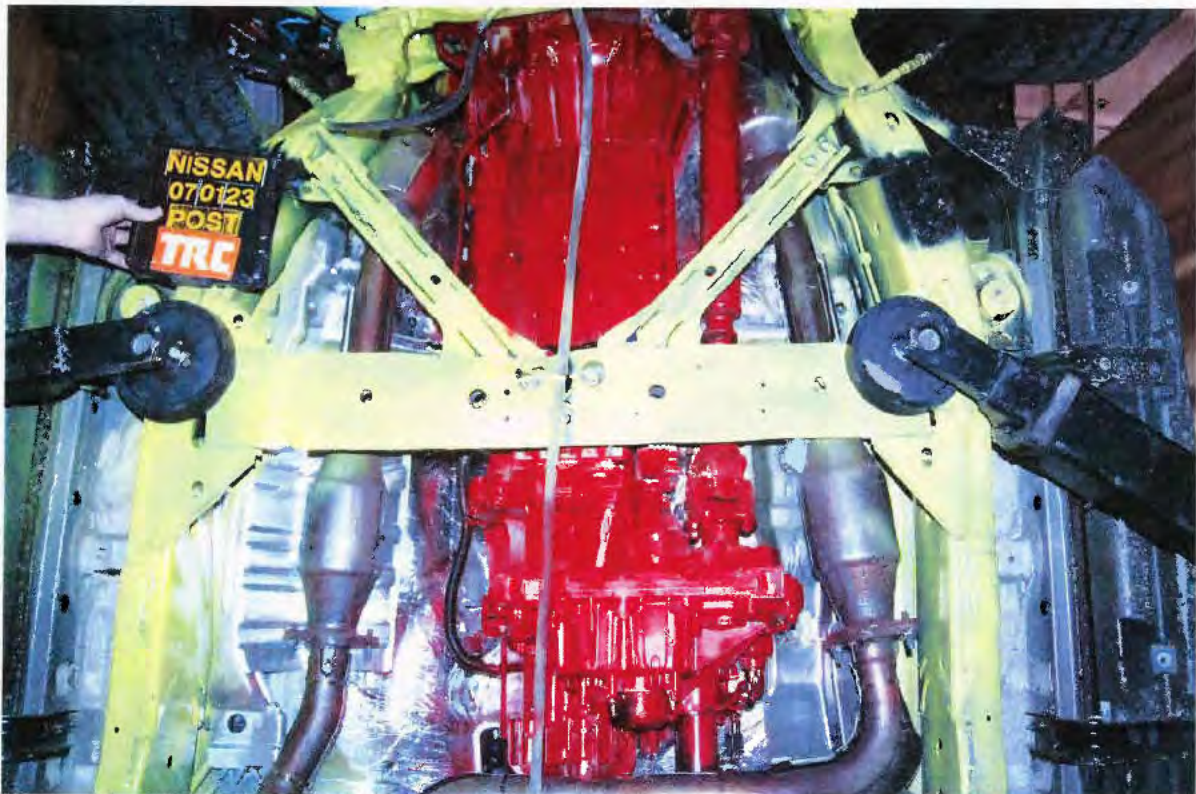


Photo No. 10 POST-TEST
Subject: Center Underbody View Front



Photo No. 11 PRE-TEST
Subject: Center Underbody View Rear



Photo No. 12 POST-TEST
Subject: Center Underbody View Rear

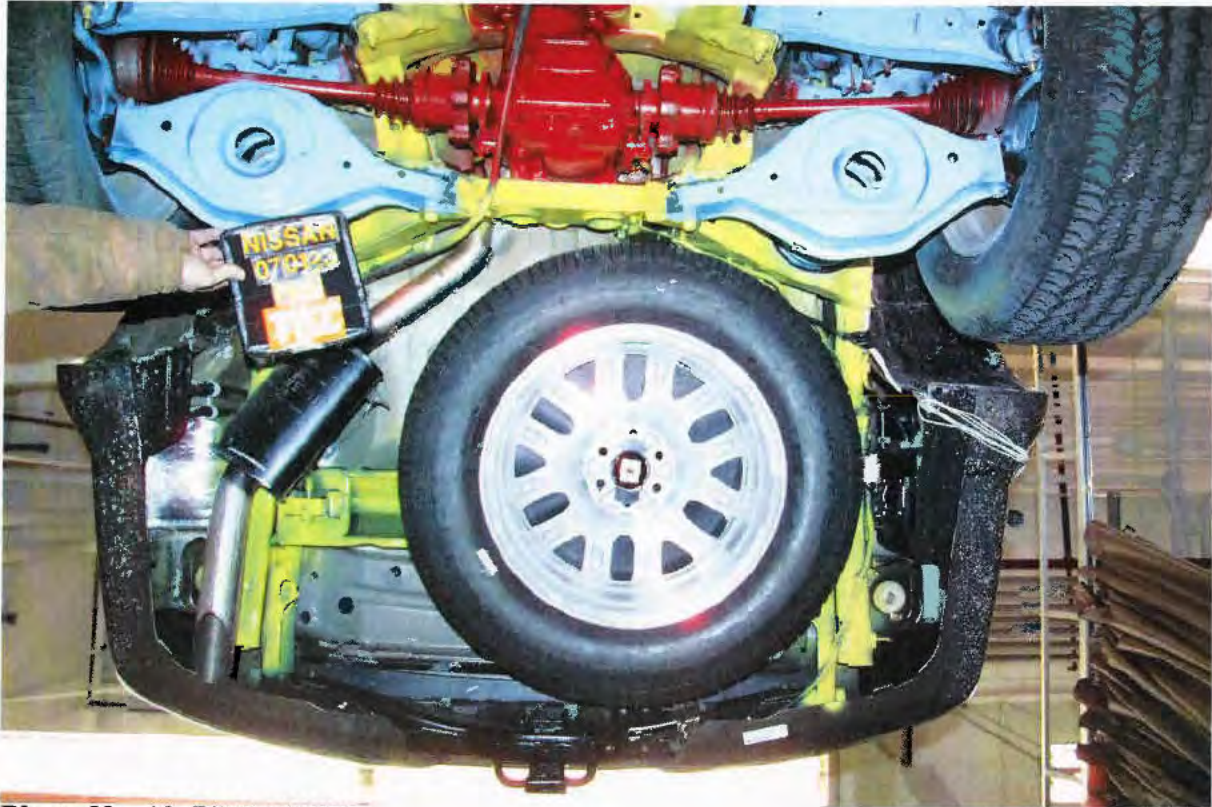


Photo No. 13 PRE-TEST
Subject: Rear Underbody View

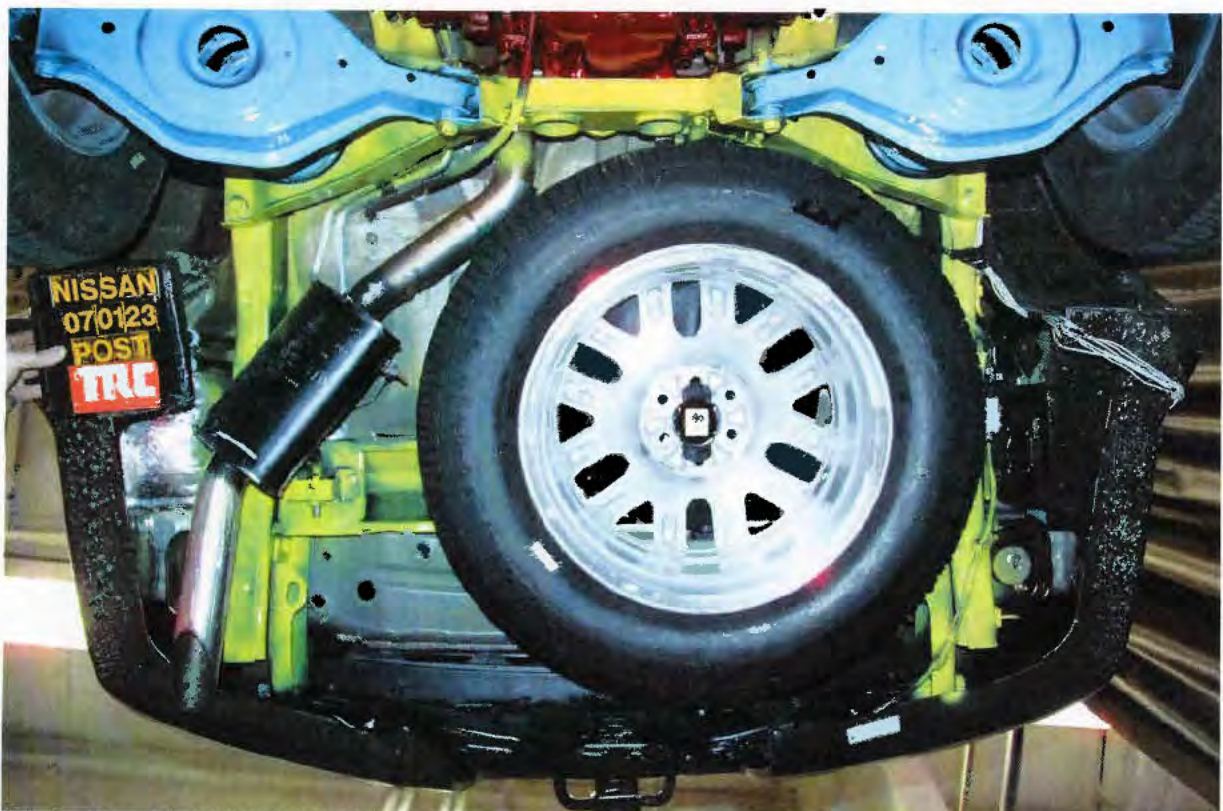


Photo No. 14 POST -TEST
Subject: Rear Underbody View

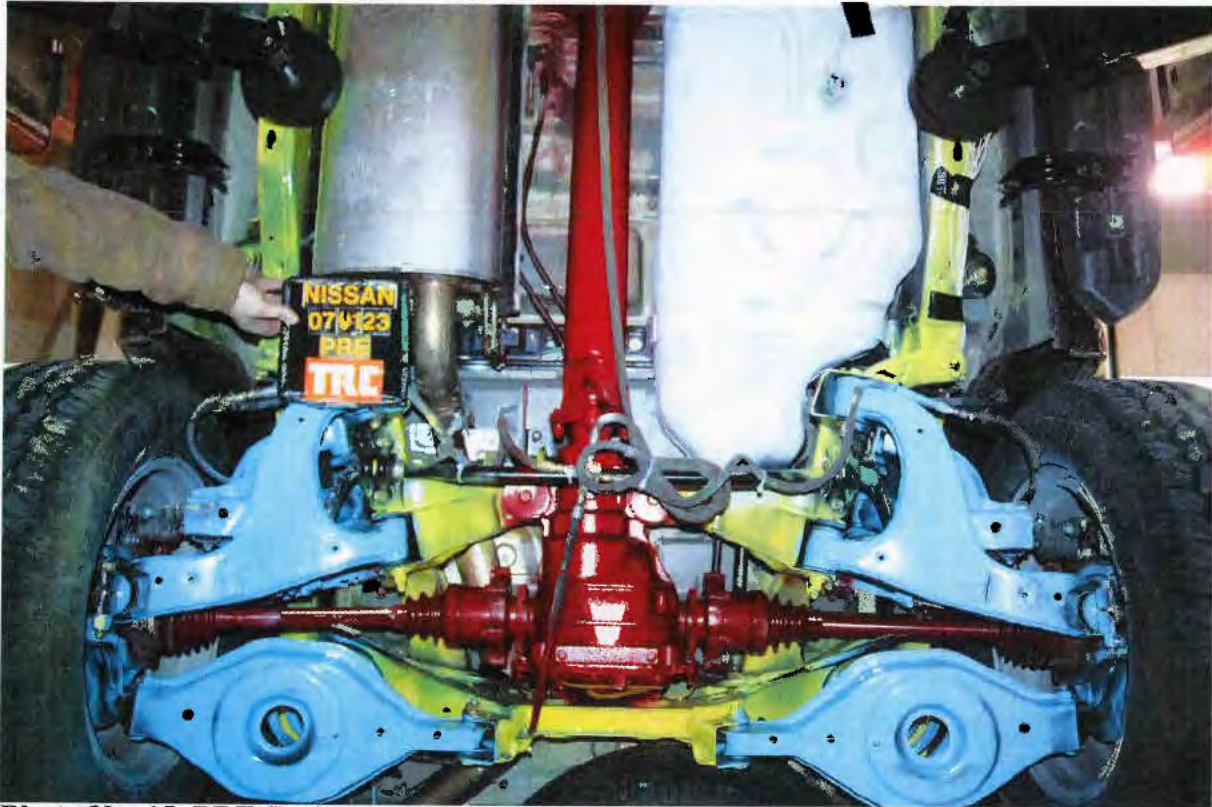


Photo No. 15 PRE-TEST
Subject: Fuel Tank View

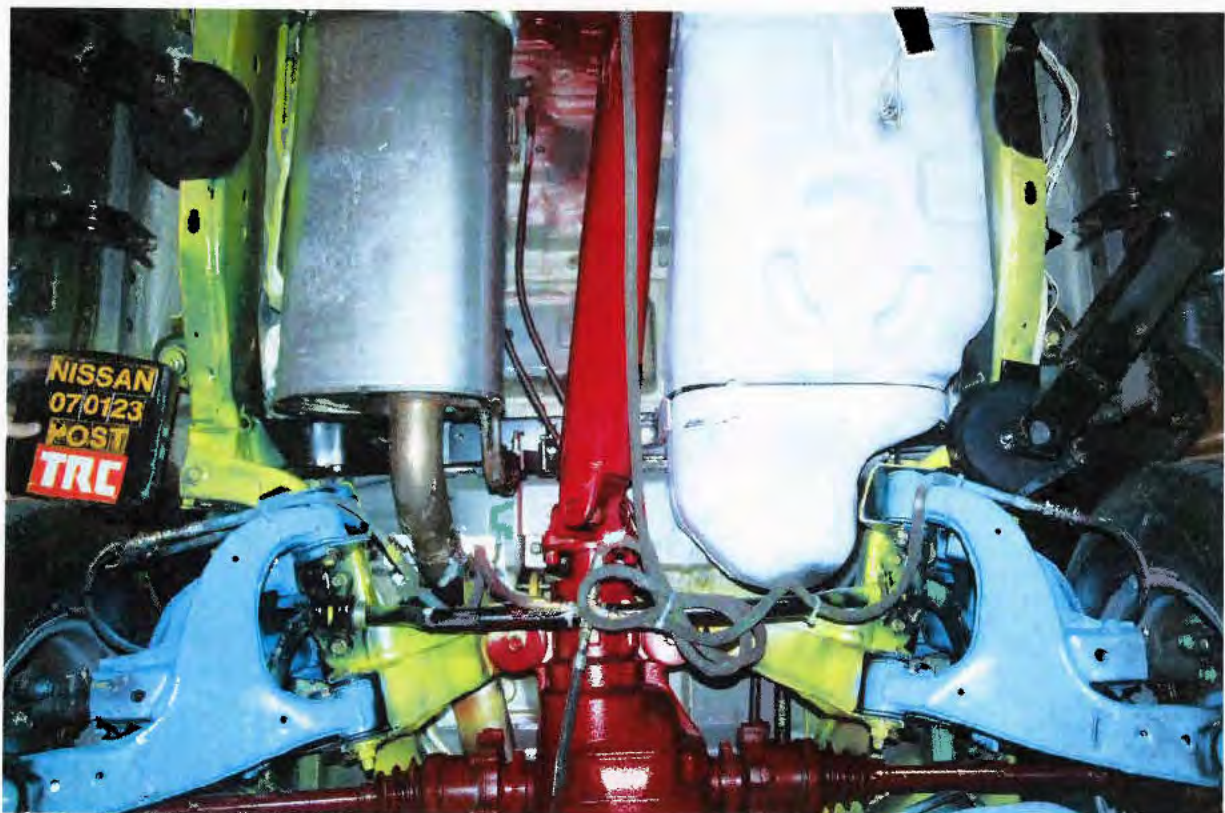


Photo No. 16 POST-TEST
Subject: Fuel Tank View

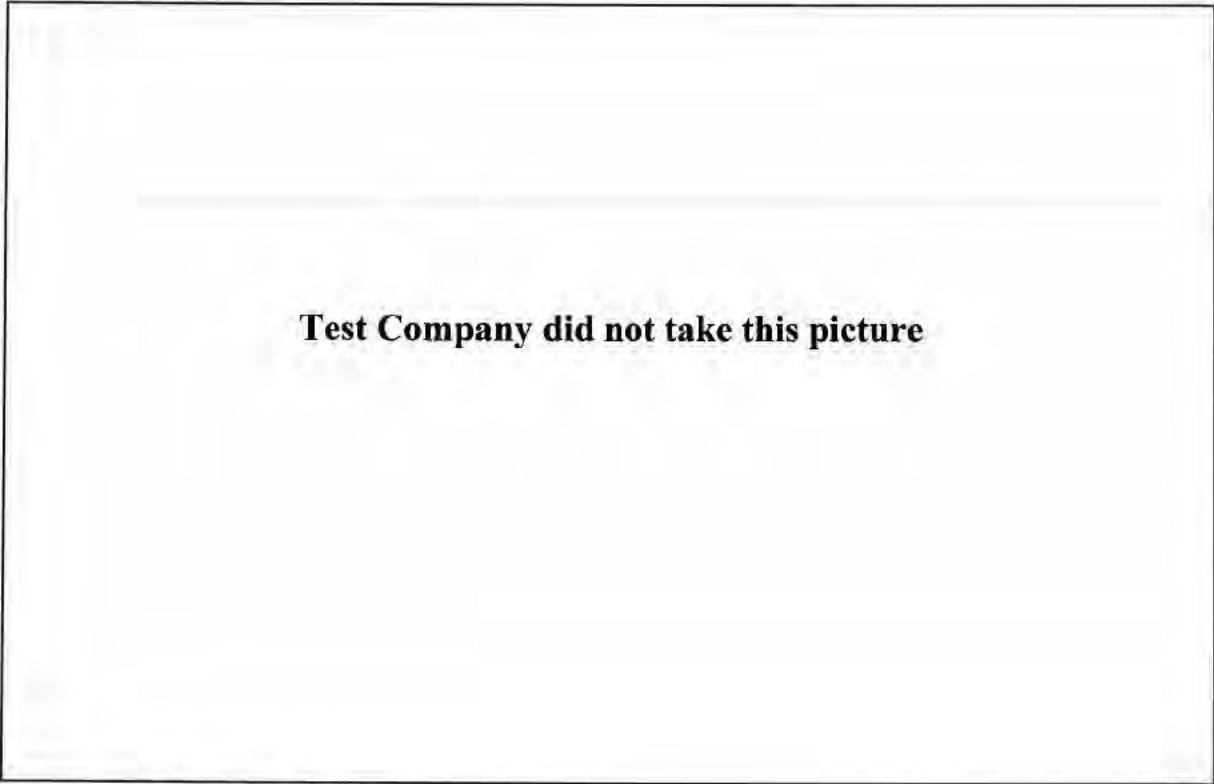


Photo No. 17 PRE-TEST
Subject: Filler Hose View

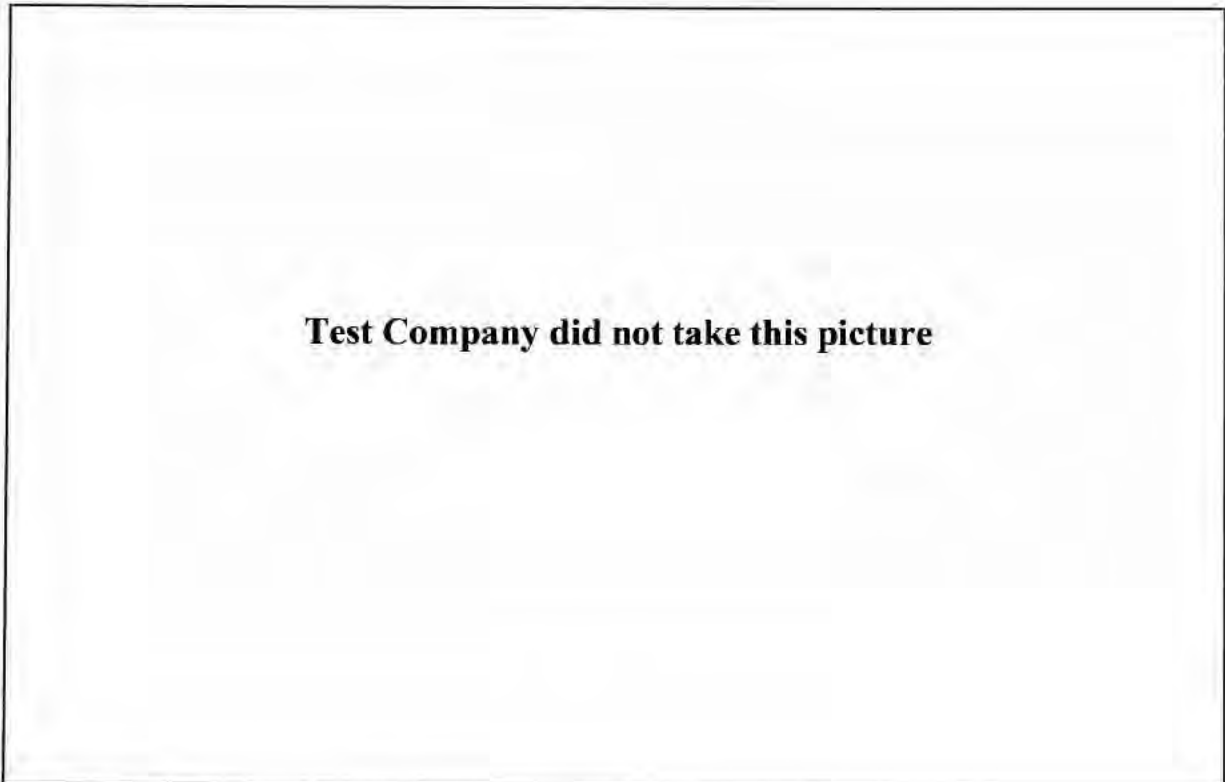


Photo No. 18 POST-TEST
Subject: Filler Hose View



Photo No. 19 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 20 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 21
Subject: Static Rollover 0°



Photo No. 22
Subject: Static Rollover 90°



Photo No. 23
Subject: Static Rollover 180°

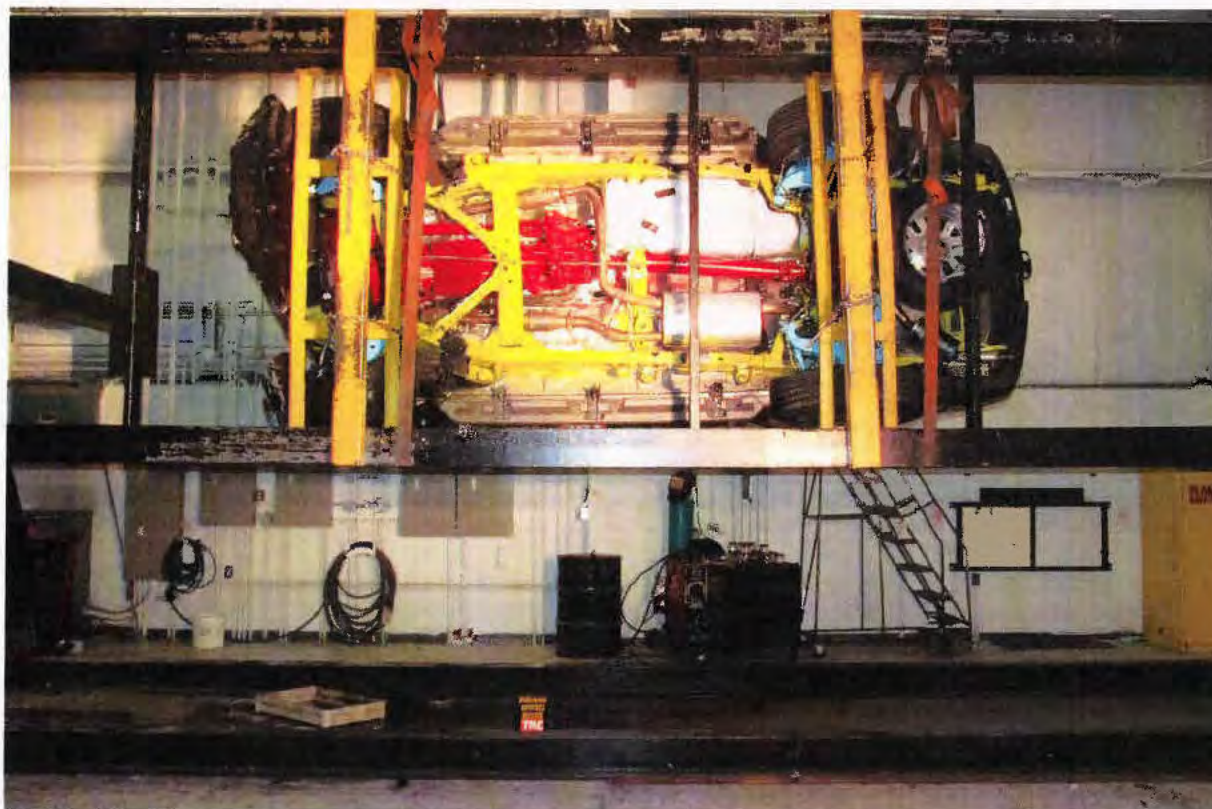


Photo No. 24
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2.1 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
	Rotation 0 ⁰ 90 ⁰	2	None	None	None	None	None	None
	Hold at 90 ⁰	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90 ⁰ 180 ⁰	2	None	None	None	None	None	
	Hold at 180 ⁰	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180 ⁰ 270 ⁰	2	None	None	None	None	None	
Hold at 270 ⁰	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270 ⁰ 360 ⁰	2	None	None	None	None	None		
Hold at 360 ⁰	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgment
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28 g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142 g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one -minute interval shall not exceed 28 g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142 g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28 g.	Complied No spillage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model:

R51

Vin:

5N1BR18B18C XXXXXXXXXX

Transmission: 5 A/T

Engine:

VK56

Impact Velocity:

30.2mph or 48.6 km/h

(2) Weight of Test Vehicle: Front Weight: 1214.0 kg

Rear Weight: 1429.0 kg

Total Weight: 2643.0 kg

(3) Test Method:

In Accordance with SAE J850, "Barrier Collision Tests," and FMVSS No. 301, S6.1 (Frontal Barrier Crash), and S6.4 (Static Rollover).

4. Test Conditions

(1) Reason for the selection of test vehicle

There are no certification related differences in the frontal structure and fuel system in the R51. The weight was adjusted to the heaviest applicable model to evaluate the most severe case condition

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2644 kg	1276 kg	1368 kg
Test Weight	2643 kg	1214 kg	1429 kg

*The weight of the test vehicle was set at the max.weight among application models

*Vehicle Type: R51 with Full Options

Cargo & Luggage Weight	Loading Position: 47 kg Data acquisition was secured in the cargo area behind the 3 rd seat
Weight Adjustment	59 kg on the rear tow hitch 59 kg plate on the floor, behind the passenger seat

(3) Condition of Dummies

Dummy	Type of Dummy:	HYB III (Subpart E of part 572)	
	Dummy Position	Each front outboard seating position	
	Restraint System	Driver: Type 2 seat belt and Air Bag	
Passenger: Type 2 seat belt and Air Bag			
Position of Seats	Seat Back	Driver: (Nominal Design Position)	6 notches from full up position
		Passenger: (Normal Design Position)	9 notches from full up position
	Seat Slide	Driver: Midpoint of track	10 notches from rearmost position
		Passenger: Midpoint of track	10 notches from rearmost position

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 L		
	Charged Volume	76 L		
	Test Fluid	Name	Stoddard Solvent	
		Specific Gravity	0.764	
Ignition Key Position		ON		
Fuel Pump Operation		Activated	Type of Pump:	Electric pump
Parking Brake		Disengaged		
Transmission		Neutral		
Tire Pressure	Front	35 Psi		
	Rear	35 Psi		
Steering Column Position	Tilt	Mid		
	Telescopic	N/A		
Adjustable Pedal Position		N/A		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	70°F		
	Windshield Molding	70°F		
	Test Site	70°F		
Door & Trunk Lid (Rear Gate)		Door latched but not locked.		
Side Window Glass	Front Right	Closed		
	Front Left	Closed		
Other Fluid	Radiator	Drained		
	Battery	Drained		
	Washer	Drained		
	Oil	Drained		
Tools & Jack		Installed		

4.1 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 24 on pages 5 through 16.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 17 through 18.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST -TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment



Photo No. 6 POST -TEST
Subject: Engine Compartment



Photo No. 7 PRE-TEST
Subject: Front Underbody View



Photo No. 8 POST -TEST
Subject: Front Underbody View

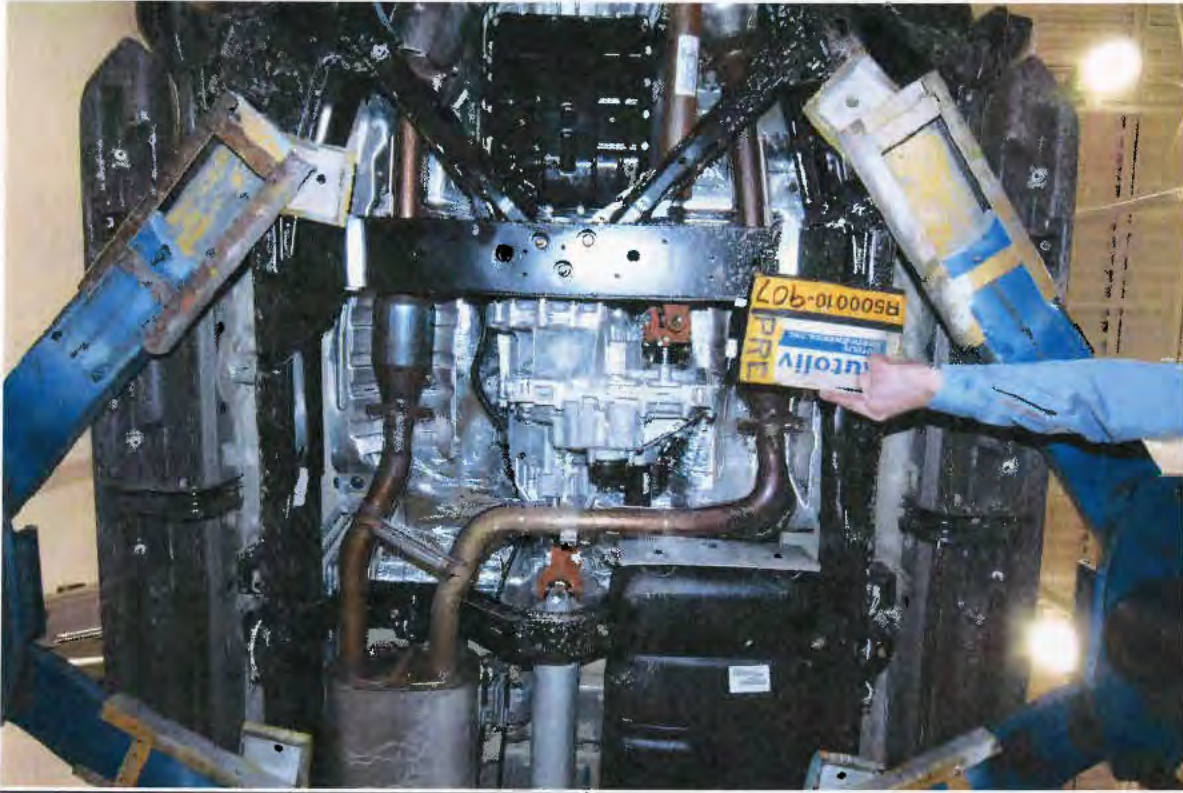


Photo No. 9 PRE-TEST
Subject: Center Underbody View Front



Photo No. 10 POST-TEST
Subject: Center Underbody View Front

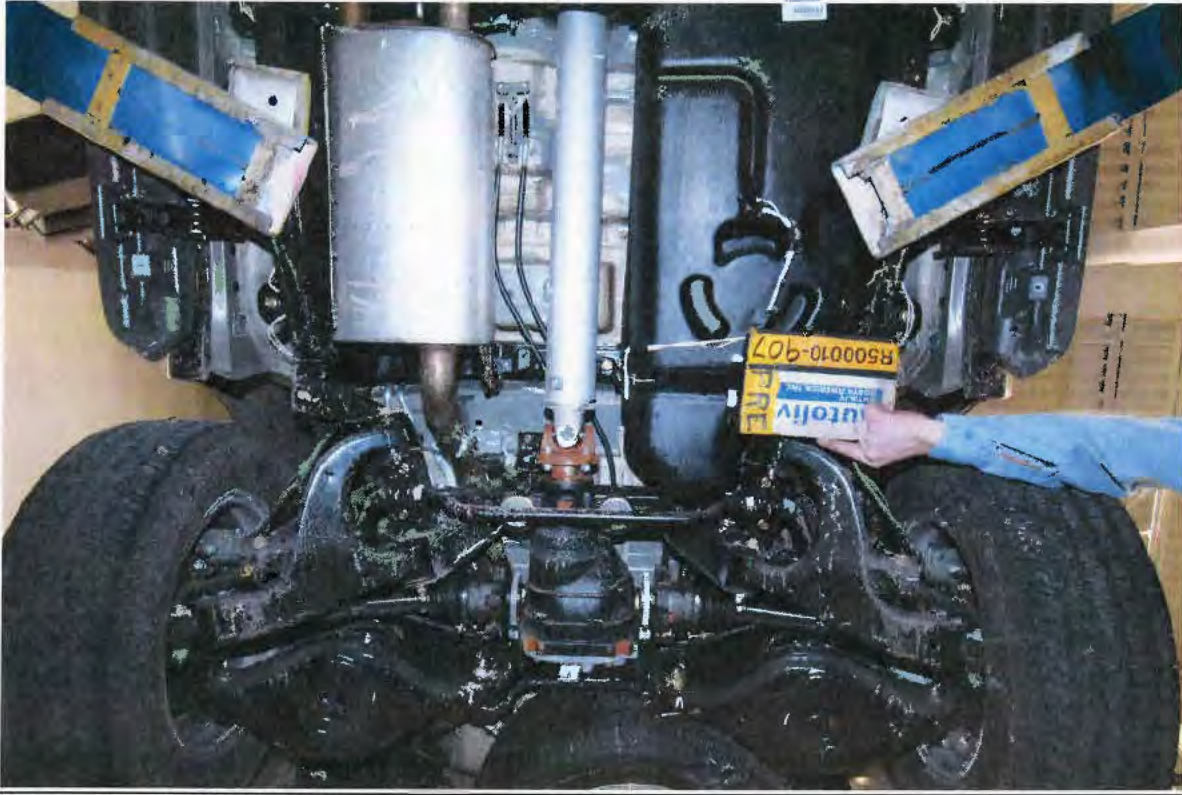


Photo No. 11 PRE-TEST
Subject: Center Underbody View Mid



Photo No. 12 POST-TEST
Subject: Center Underbody View Mid

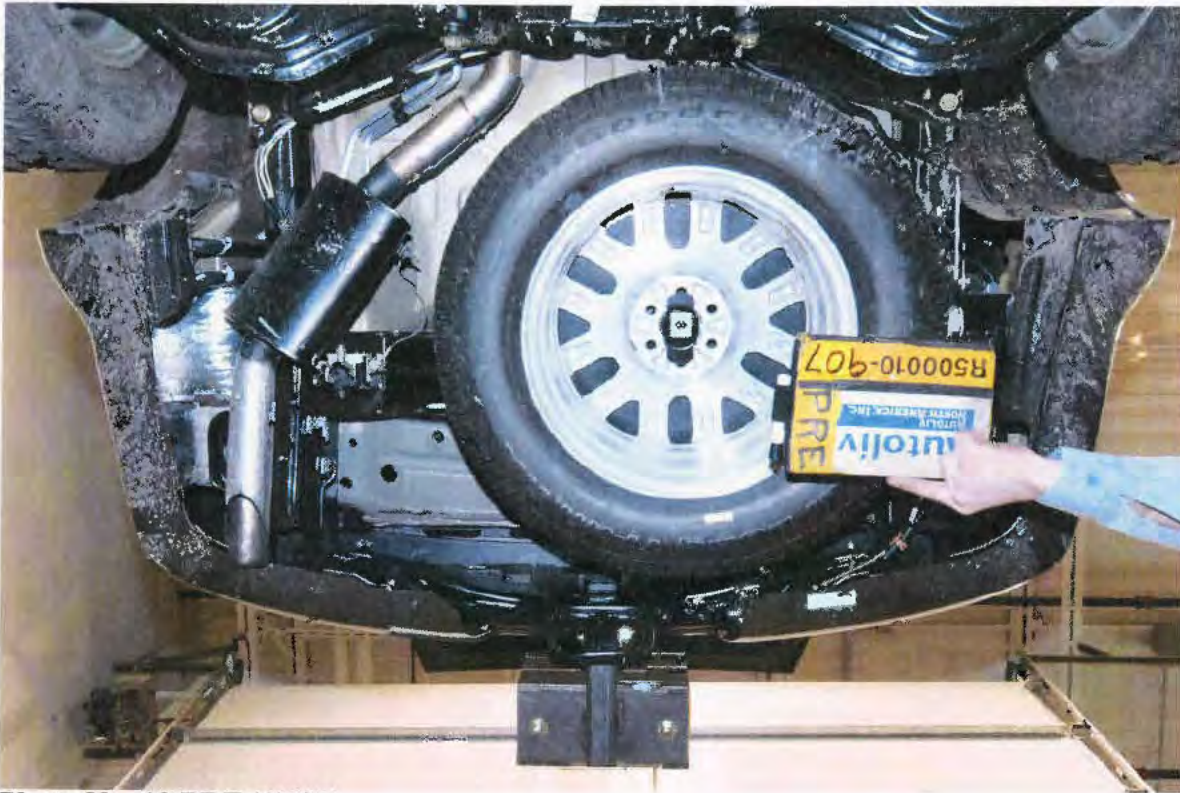


Photo No. 13 PRE-TEST
Subject: Rear Underbody View

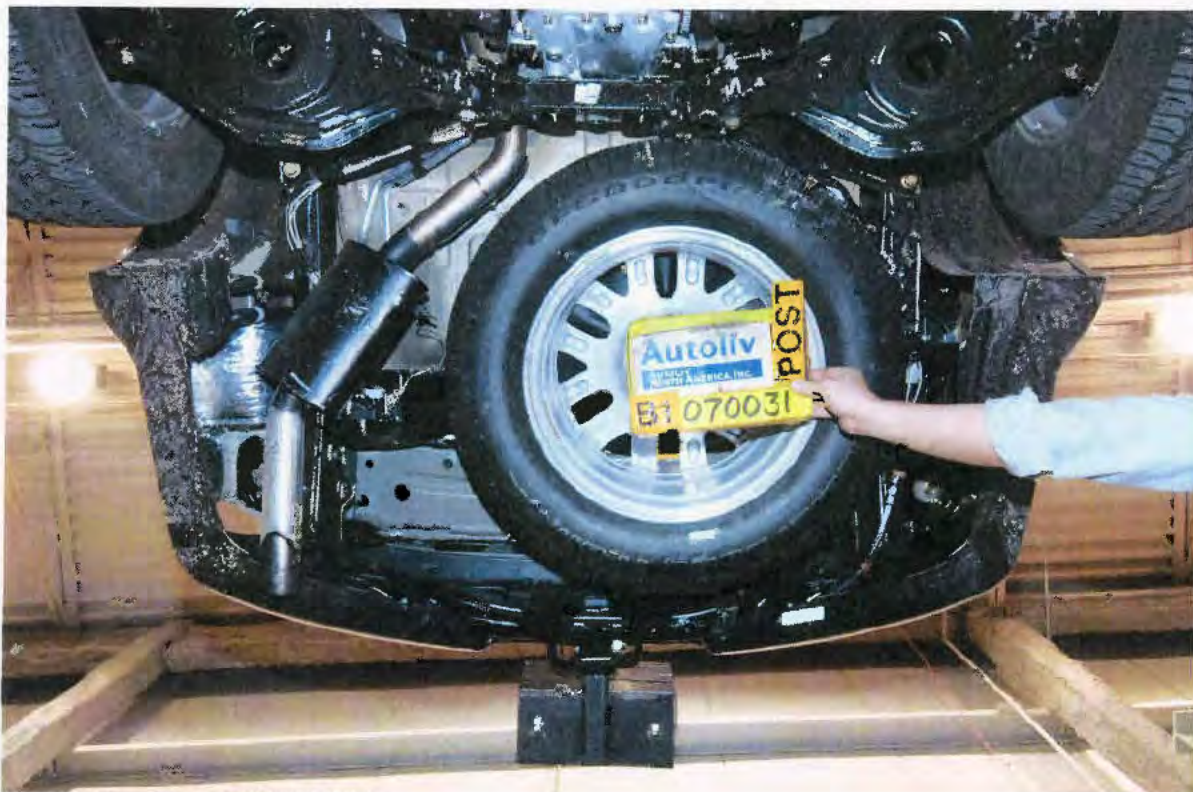


Photo No. 14 POST-TEST
Subject: Rear Underbody View



Photo No. 15 PRE-TEST
Subject: Fuel Tank View



Photo No. 16 POST-TEST
Subject: Fuel Tank View



Photo No. 17 PRE-TEST
Subject: Filler Hose View



Photo No. 18 POST-TEST
Subject: Filler Hose View



Photo No. 19 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 20 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 21
Subject: Static Rollover 0°

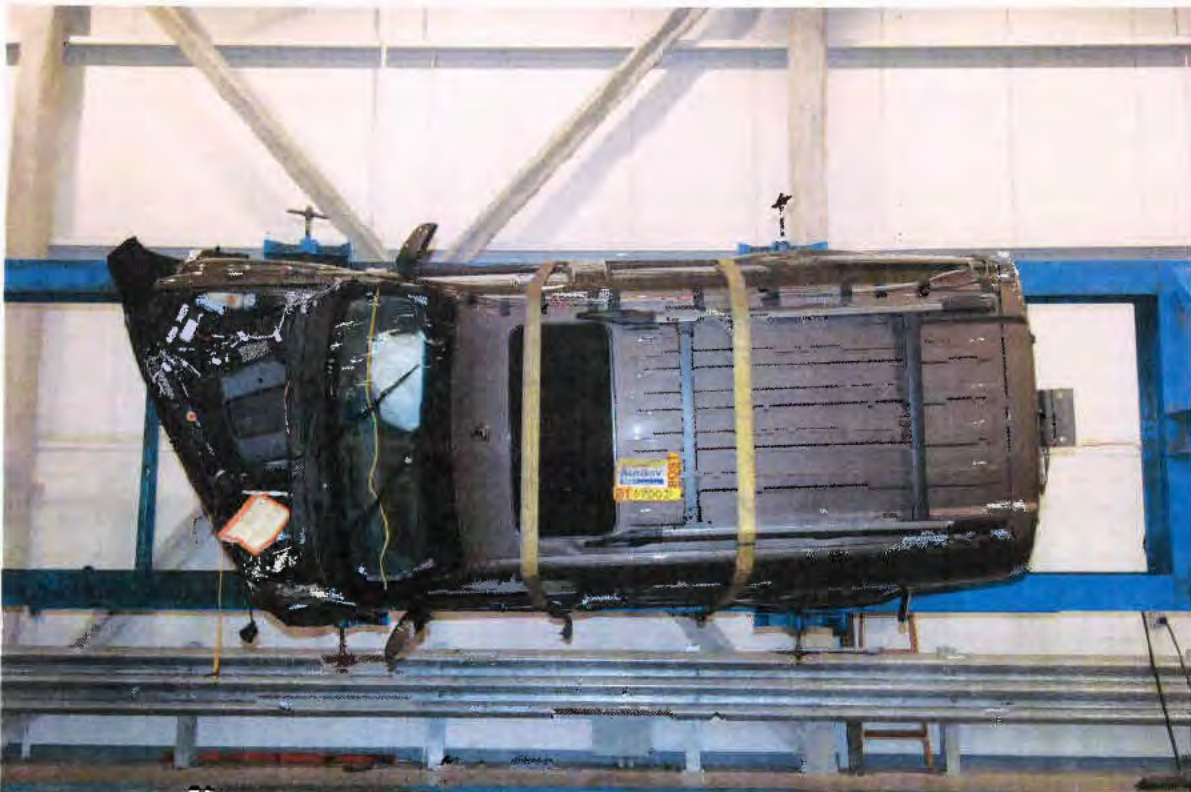


Photo No. 22
Subject: Static Rollover 90°

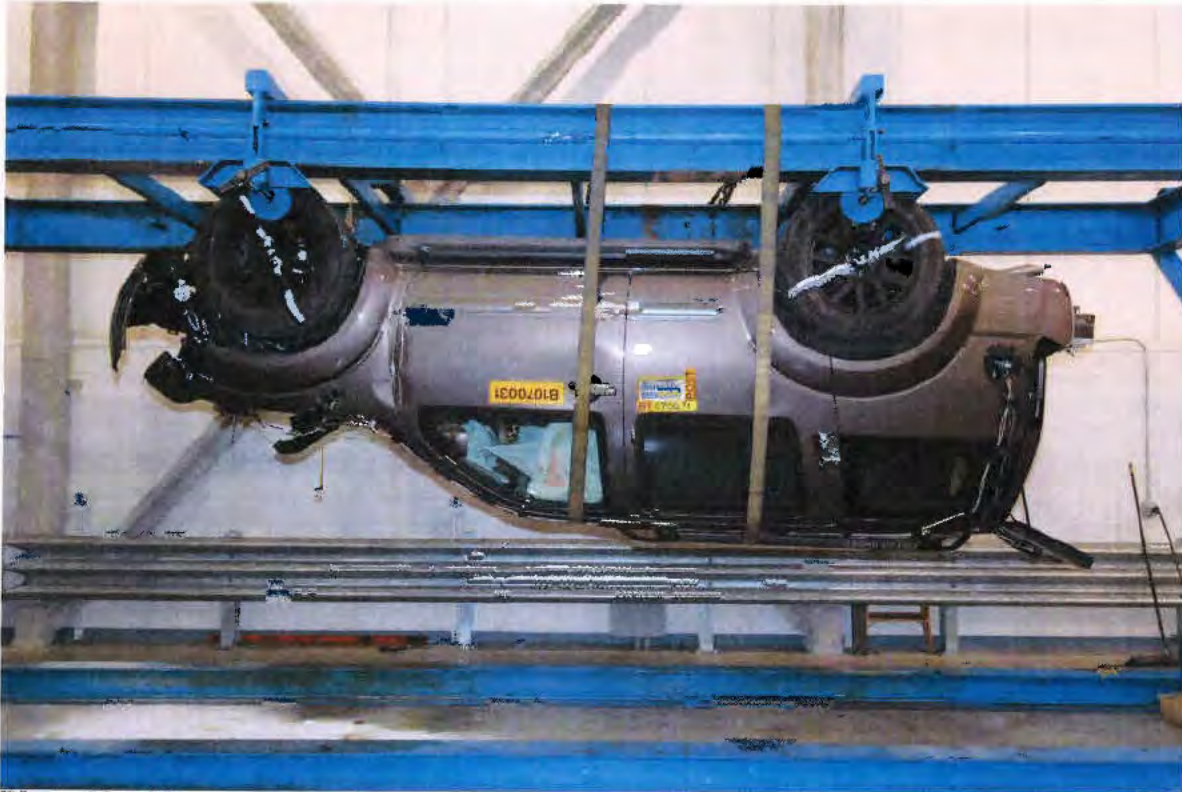


Photo No. 23
Subject: Static Rollover 180⁰

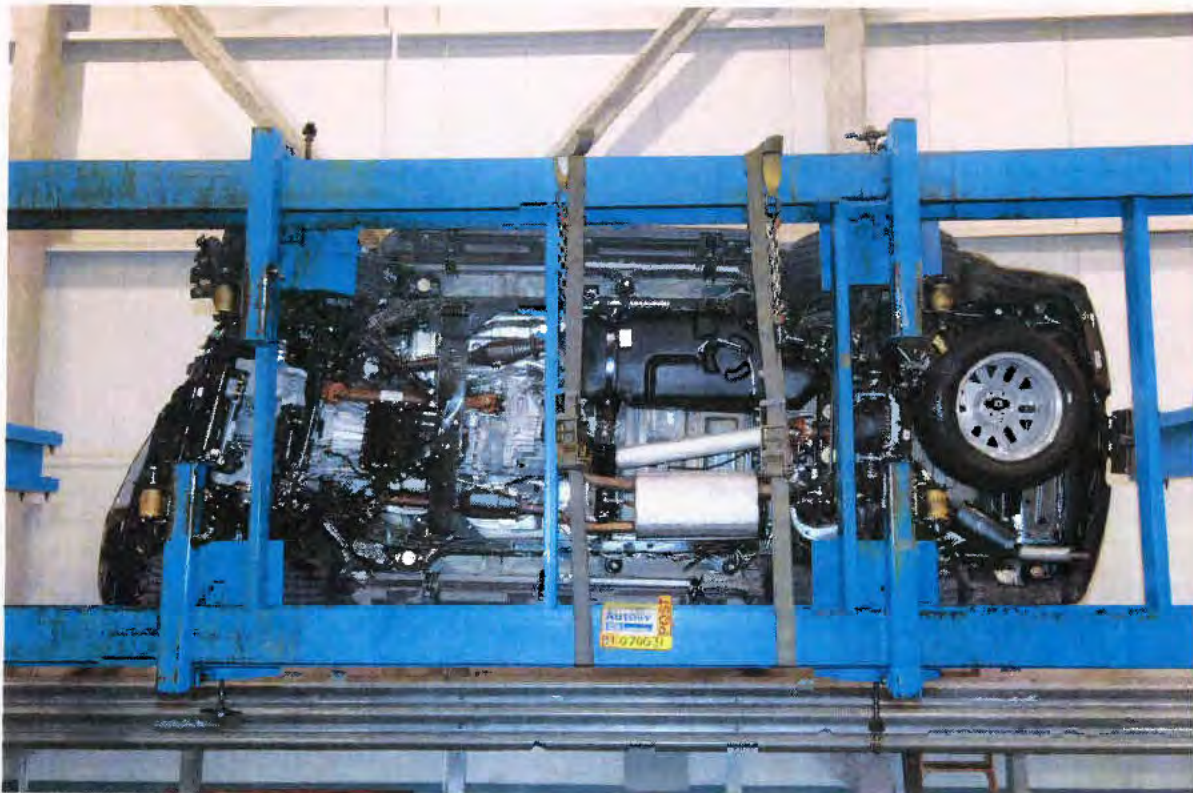


Photo No. 24
Subject: Static Rollover 270⁰

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2.1 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Strainer	Fuel Pump	Canister	Others
	Rotation 0° 90°	2	None	None	None	None	None	None
	Hold at 90°	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90° 180°	2	None	None	None	None	None	
	Hold at 180°	5	5					
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180° 270°	2	None	None	None	None	None	
Hold at 270°	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270° 360°	2	None	None	None	None	None		
Hold at 360°	5	5						
		1	None	None	None	None	None	
		1	None	None	None	None	None	

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX8F0623 DATE(mm/dd/yy) 02/26/07

TITLE: EPA Part 80, Sec. 80.24/CMVSS 1100

 Leaded Gasoline Fuel and Regulation Conformity Test

MODEL CODE: R51/N50/D40	ISSUER: <i>David Grant</i> <u> 2/26/07 </u> David Grant
MODEL YEAR: 2008	
TEST PERIOD: Carry Over	APPROVAL: <i>Katsumori Ozaki</i> <u> 2/26/07 </u> Katsumori Ozaki <i>Takeshi Yamaguchi</i> <u> 2/26/07 </u> Takeshi Yamaguchi

1. Purpose

This report shows certification test results of EPA Part 80, Sec. 80.24/CMVSS 1100 Leaded Gasoline Fuel and Regulation Conformity Test on 2008 Model Year.

2. Conclusion

As the Fuel System of model year 2008 has no certification related differences from that of model year 2005, we adopt the following report.

Applied Model
R51, N50, D40 All Models By NNA-Smyrna For FED, CAN

Report No.: KC4C-040608

Complied with EPA Part 80, Sec. 80.24/CMVSS 1100, Leaded Gasoline Fuel and Regulation Conformity Test.



CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX8F0624 DATE(mm/dd/yy) 02/26/07

TITLE: California ARB Fuel Fill Pipes and Opening Requirements

MODEL CODE: R51	ISSUER: <u> 2/26/07 </u> David Grant
MODEL YEAR: 2008	
TEST PERIOD: Carry Over	APPROVAL: <u> 2/26/07 </u> Katsunori Ozaki <u> 2/26/07 </u> Takeshi Yamaguchi

1. Purpose

This report shows certification test results of California ARB Fuel Fill Pipes and Opening Requirements on 2008 Model Year.

2. Conclusion

As the Fuel System of model year 2008 has no certification related differences from that of model year 2005, we adopt the following report.

Report No.: KC4C-040607

Complied with California ARB Fuel Fill Pipes and Opening Requirements.

Applied Model
<p>R51 All Models By NNA-Smyrna For FED, CAN</p>

4. Test Conditions

(1) Reason for the selection of test vehicle

The test vehicle was chosen to represent the heaviest applicable VK56 model to evaluate the most severe condition.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2644.0 kg	1284.0 kg	1360.0 kg
Test Weight	2644.0 kg	1284.2 kg	1359.8 kg

*The weight of the test vehicle was set to that of the heaviest applicable model.

*Vehicle Type: R51 with Standard Options

Cargo & Luggage Weight	Loading Position: Data acquisition was secured in the cargo
Weight Adjustment	Front: 40.8 kg shot in engine Rear: 54.7 kg data acquisition system at cargo area 118.8 kg plate behind on the 2 nd row seat

(3) Condition of Dummies

Dummy	Type of Dummy:	HYB III (Subpart E of Part 572)	
	Dummy Position	Front LH and RH Outboard Seating Position	
Restraint System	Driver	Air Bag, Type 2 Seat Belt	
	Passenger	Air Bag, Type 2 Seat Belt	
Seat Position	Seat Back	Driver: (Nominal Design Position)	Nominal design position
		Passenger: (Normal Design Position)	Nominal design position
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	Mid-track
		Passenger: Midpoint, or closest point to the rear of midpoint	Mid-track

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 liters		
	Charged Volume	76 liters		
	Test Fluid	Name	Stoddard Solvent	
		Specific Gravity	0.77 - 0.8	
Ignition Key Position		ON		
Fuel Pump Operation		YES	Type of Pump:	Electric pump
Parking Brake		Disengaged		
Transmission		Neutral		
Tire Pressure	Front	35 psi		
	Rear	35 psi		
Steering Column Position	Tilt:	Mid		
	Telescopic:	N/A		
Adjustable Pedal Position		Full Forward		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69° F		
	Windshield Molding	69° F		
	Test Site	69° F		
Door & Trunk Lid (Rear Gate)		Fully closed and latched, but not locked		
Side Window Glass	Front Right	(Closed)		
	Front Left	(Closed)		
Other Fluid	Radiator	(Drained)		
	Battery	(Drained)		
	Washer	(Drained)		
	Oil	(Drained)		
Tools & Jack		Removed		

5. Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 24 on pages 5 through 16.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 17 through 18



Photo No. 1 PRE-TEST
Subject: Driver Side View



Photo No. 2 POST -TEST
Subject: Driver Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment



Photo No. 6 POST -TEST
Subject: Engine Compartment

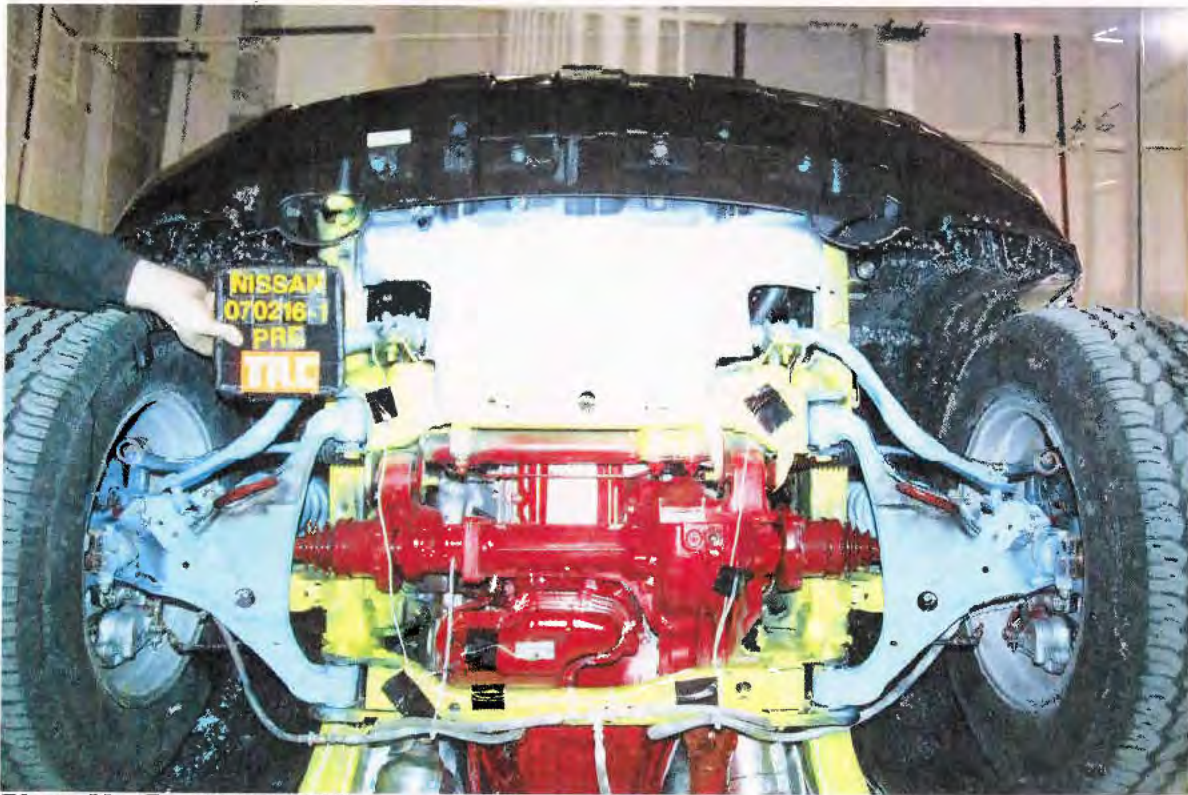


Photo No. 7 PRE-TEST
Subject: Front Underbody View



Photo No. 8 POST-TEST
Subject: Front Underbody View

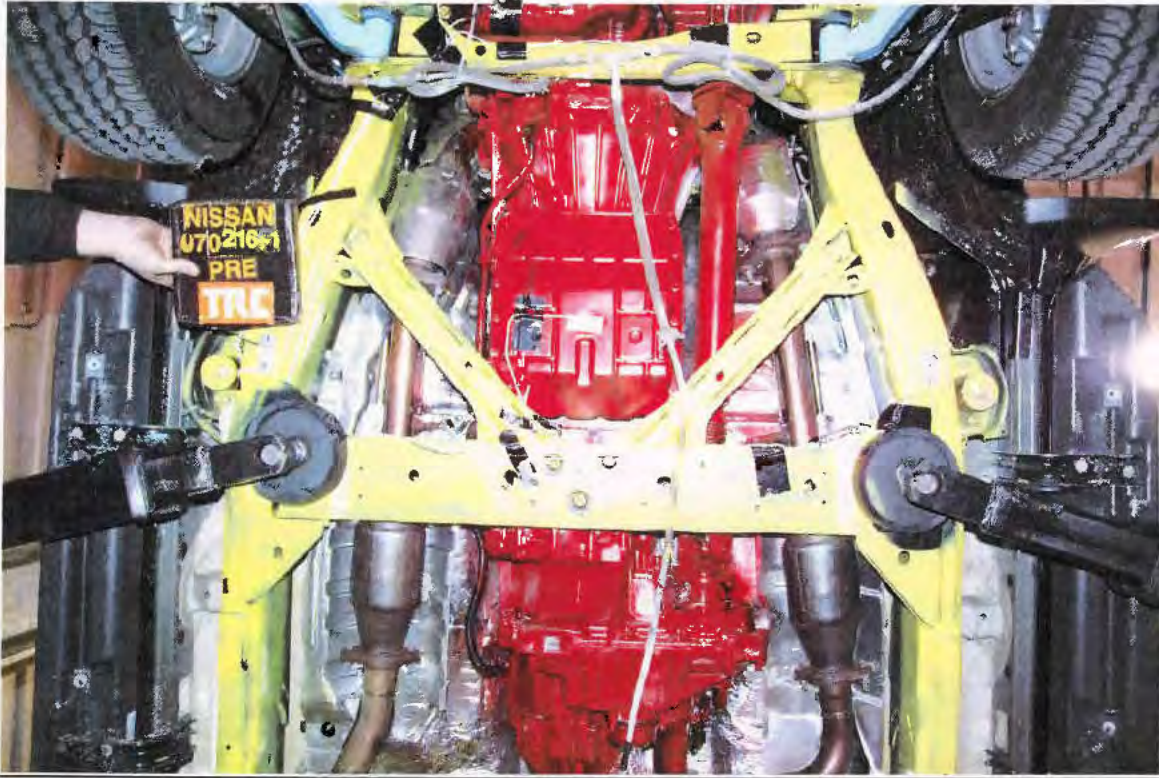


Photo No. 9 PRE-TEST
Subject: Center Front Underbody View

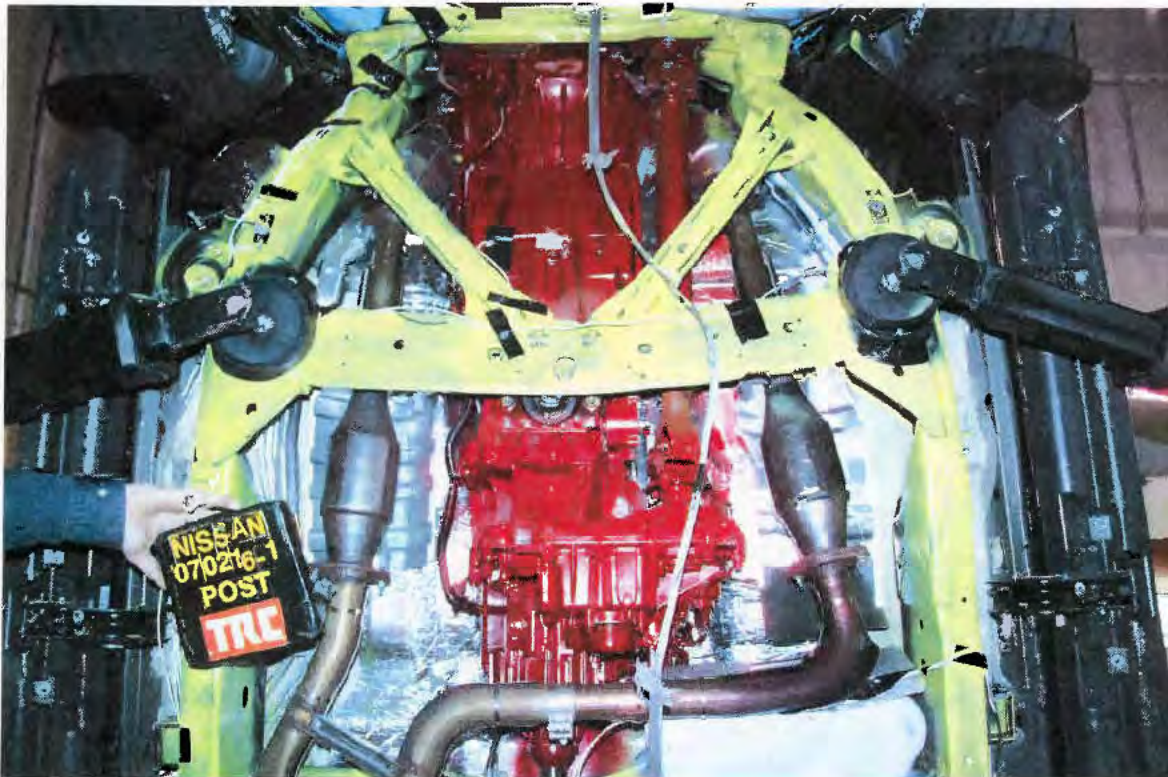


Photo No. 10 POST -TEST
Subject: Center Front Underbody View

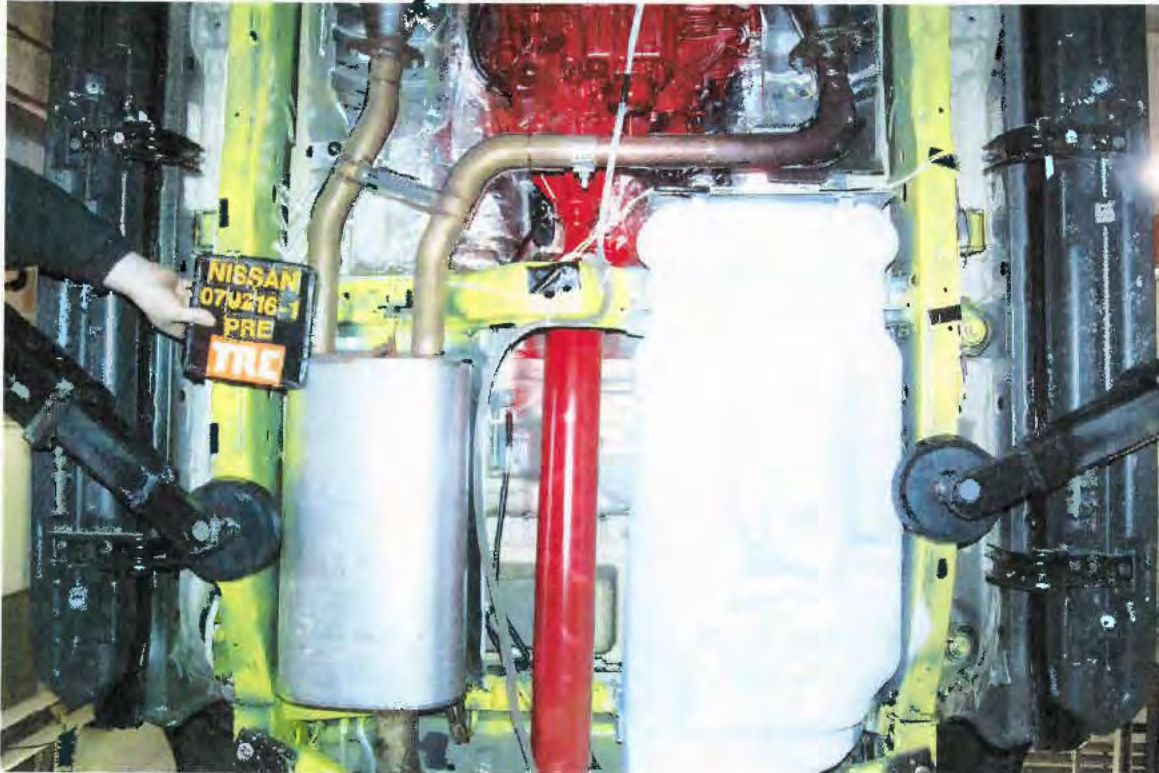


Photo No. 11 PRE-TEST
Subject: Center Middle Underbody View

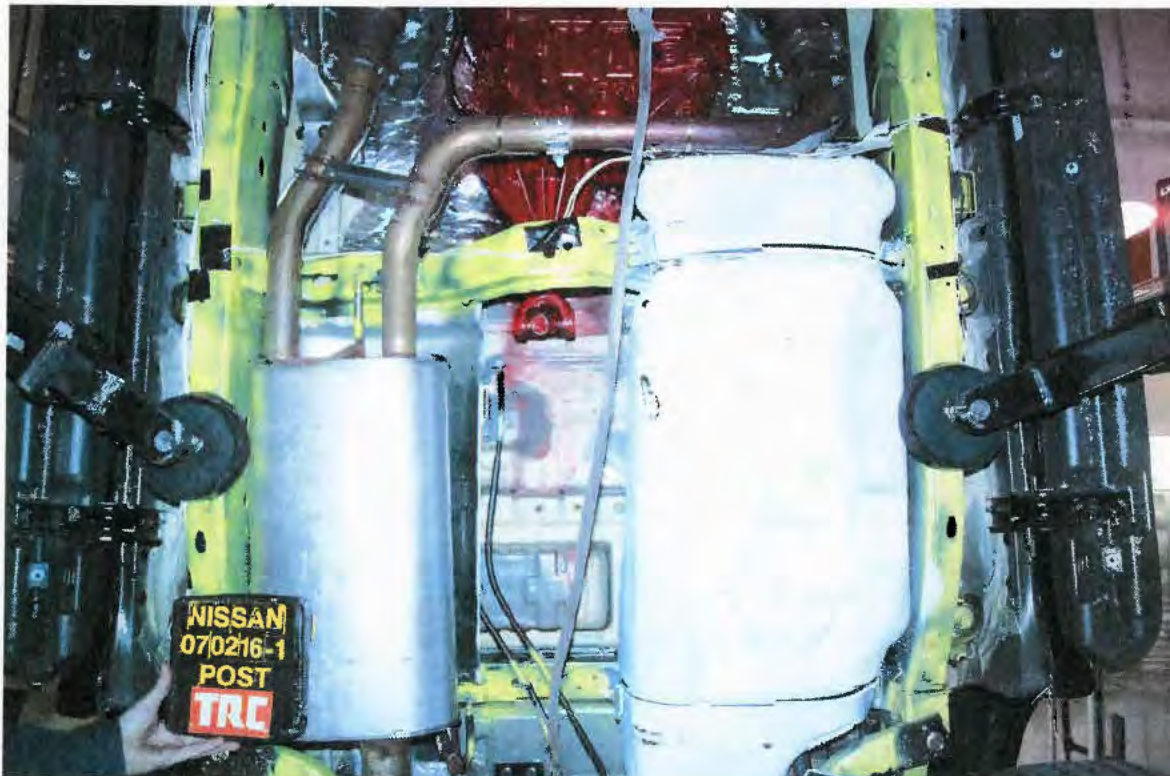


Photo No. 12 POST-TEST
Subject: Center Middle Underbody View

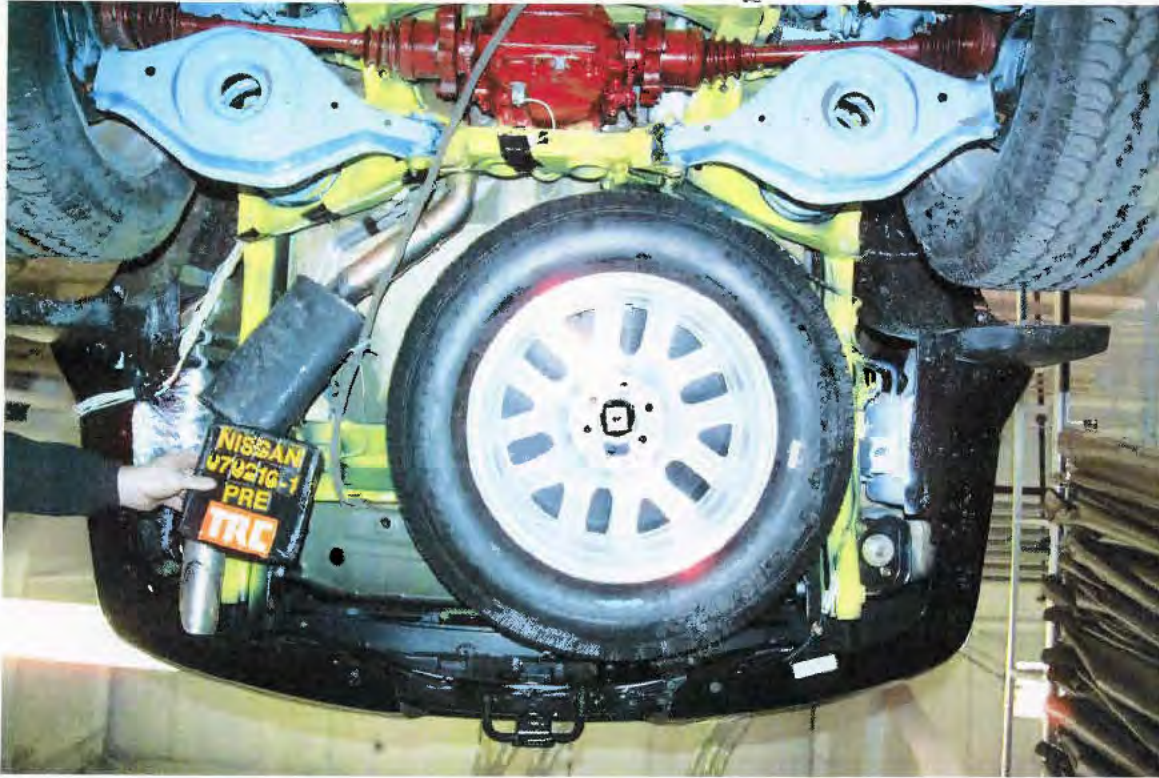


Photo No. 13 PRE-TEST
Subject: Rear Underbody View



Photo No. 14 POST-TEST
Subject: Rear Underbody View



Photo No. 15 PRE-TEST
Subject: Fuel Tank View



Photo No. 16 POST-TEST
Subject: Fuel Tank View

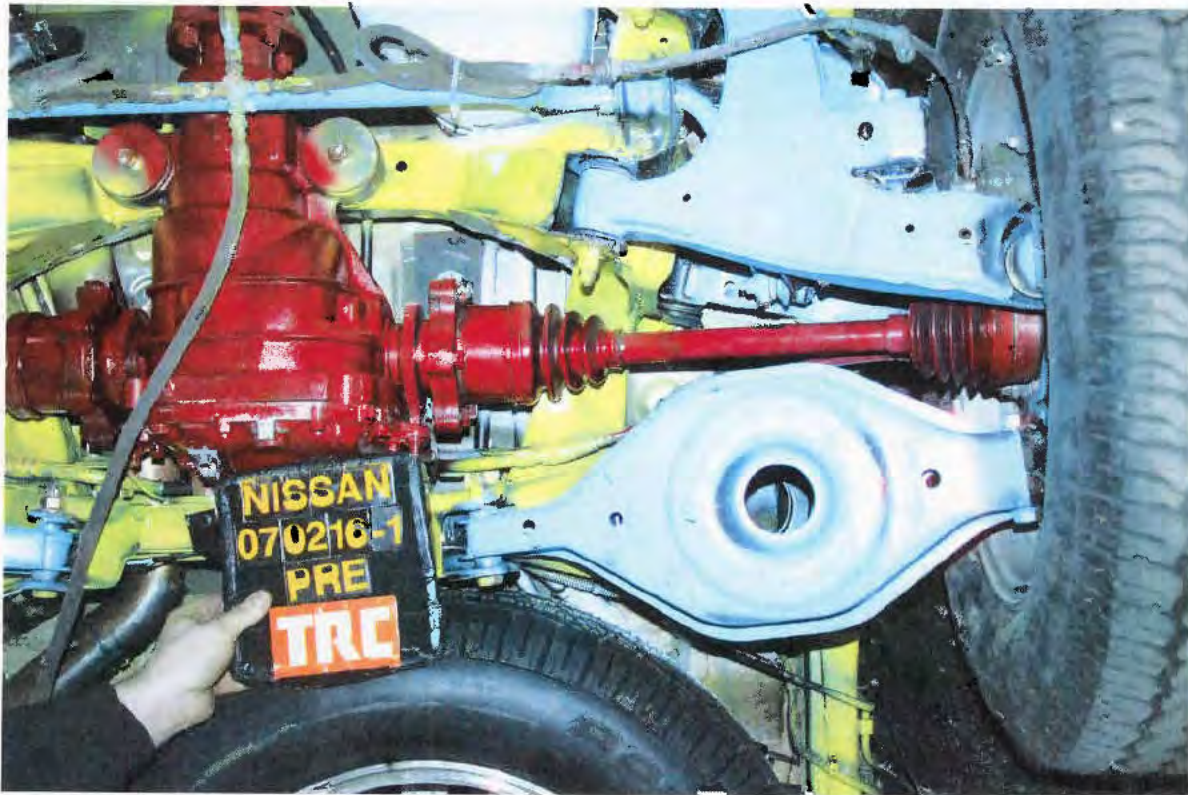


Photo No. 17 PRE-TEST
Subject: Filler Hose View



Photo No. 18 POST-TEST
Subject: Filler Hose View



Photo No. 19 PRE-TEST
Subject: Fuel Filler Cap View



Photo No. 20 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 21
Subject: Static Rollover 0°

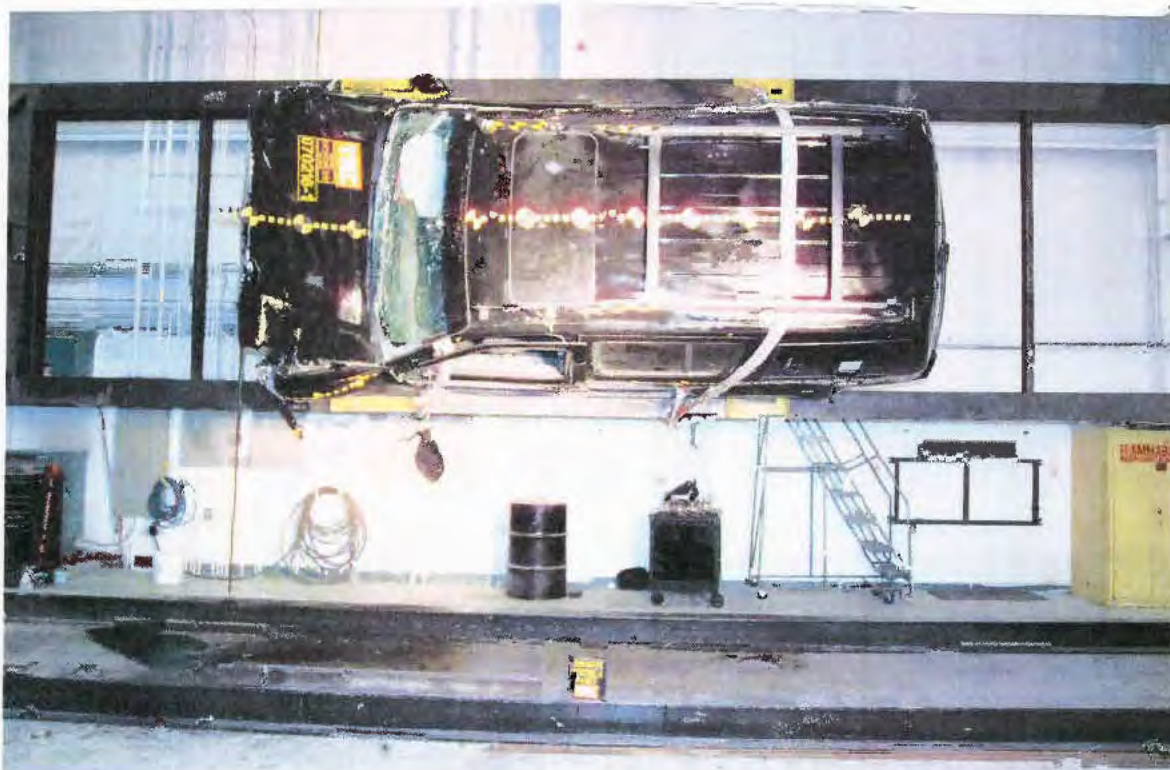


Photo No. 22
Subject: Static Rollover 90°

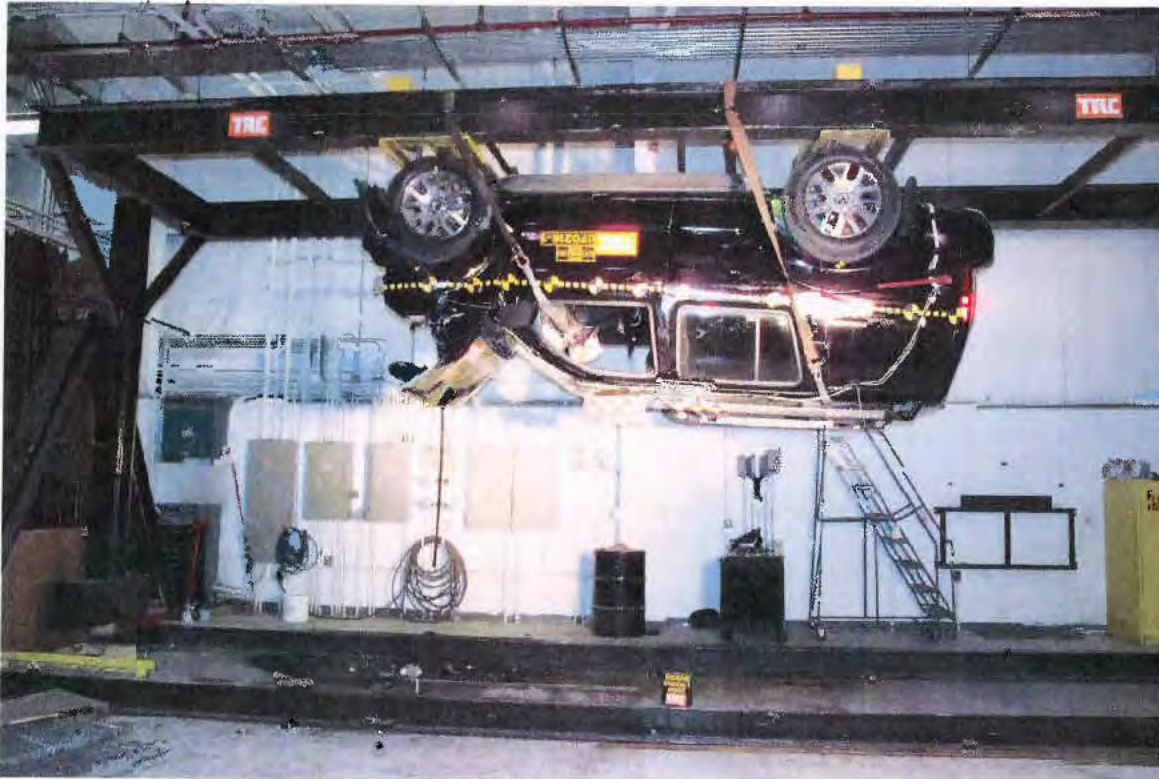


Photo No. 23
Subject: Static Rollover 180°

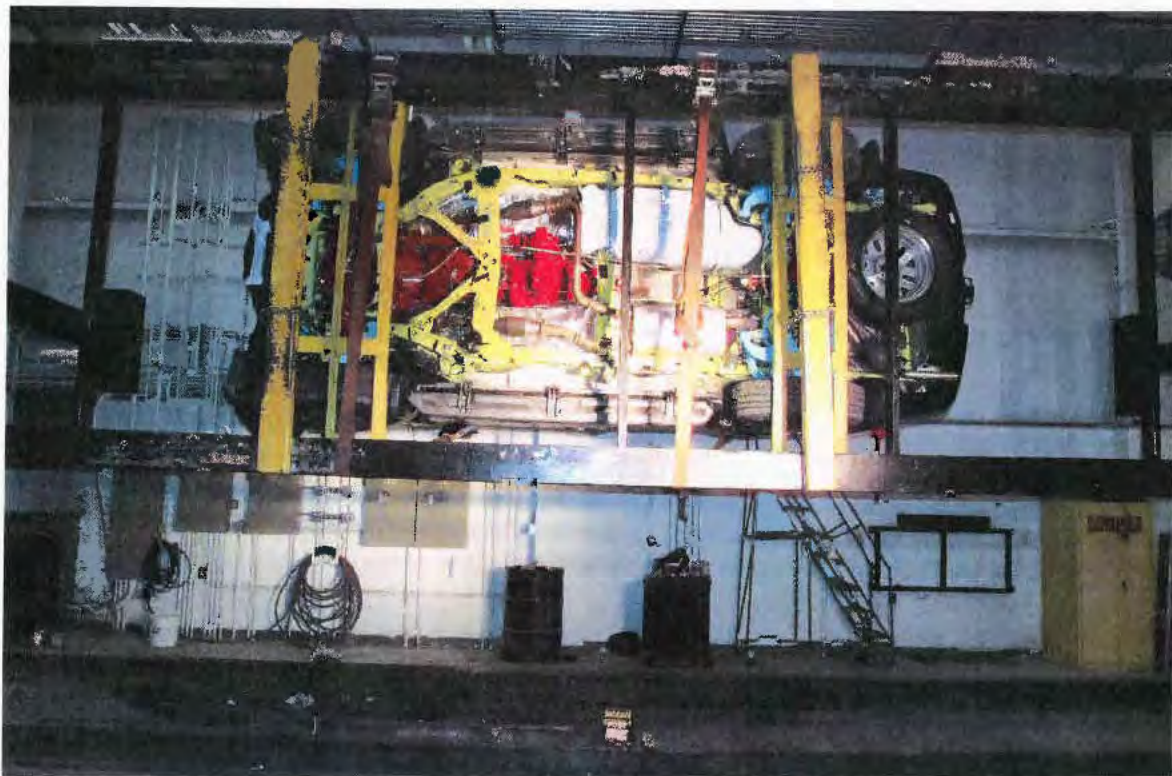


Photo No. 24
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
Front impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2.1 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0 ⁰ 90 ^o	2	No	No	No	No	No	No
	Hold at 90 ⁰	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 90 ⁰ 180 ⁰	2	No	No	No	No	No	No
	Hold at 180 ⁰	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
1			No	No	No	No	No	
Rotation 180 ⁰ 270 ⁰	2	No	No	No	No	No	No	
Hold at 270 ⁰	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	
Rotation 270 ⁰ 360 ⁰	2	No	No	No	No	No	No	
Hold at 360 ⁰	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	

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CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX8F0666 DATE(mm/dd/yy) 03/13/2007

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

Frontal 0° Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <u>H. Yu</u> 3-13-07
MODEL YEAR: 2008	
TEST PERIOD: Carry Over	APPROVAL: <u>T. Katabami</u> for A. Salazar

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2008 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2008 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0049	R51 (VQ40 Only)

Complied with FMVSS/CMVSS No. 301, Frontal Barrier Crash and Static Rollover requirements.



CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX8F0667 DATE(mm/dd/yy) 03/13/2007

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
Front 30° LH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER: <i>H. Yu</i> 3-13-07 H. Yu
MODEL YEAR: 2008	
TEST PERIOD: Carry Over	APPROVAL: <i>T. Katoh</i> for A. Sakai

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2008 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2008 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0034	R51 (VQ40 Only)


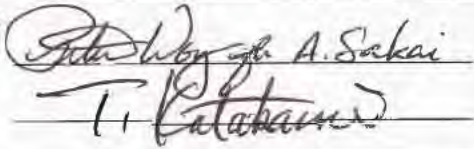
Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° LH Barrier Crash and Static Rollover

CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX8F0668 DATE(mm/dd/yy) 03/13/2007

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"
Front 30° RH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER:  H. Yu
MODEL YEAR: 2008	
TEST PERIOD: Carry Over	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2008 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2008 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 All Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0033	R51 (VQ40 only)

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° RH Barrier Crash and Static Rollover

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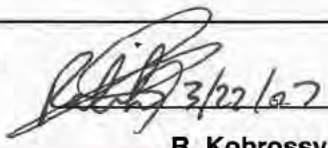
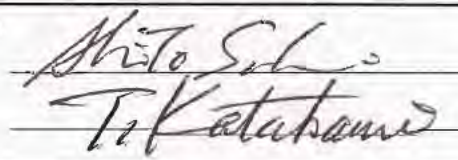
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NX8F0675 DATE(mm/dd/yy) 03/22/2007

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

Rear Moving Deformable Barrier 70% Offset Crash and Static Rollover

MODEL CODE: R51	ISSUER:  3/22/07 R. Kobrossy
MODEL YEAR: 2008	
TEST PERIOD: 01/03/2007	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2008 Model Year.

Applied Model
R51 All Models By NNA-Canton For FED, CAN

1.1 Test Vehicle: 8WS22

VIN: N/A

2. Conclusion

Complied with FMVSS/CMVSS No. 301, Rear Barrier Offset Crash and Static Rollover requirements.

3. Reason for Selection of Test Method

Demonstrates compliance to FMVSS/CMVSS 301 Section 6.2(b) "Fuel System Integrity" (50mph Rear Moving Deformable Barrier Crash Test).

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgement
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one - minute interval shall not exceed 28g.	Complied No spillage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28g.	Complied No spillage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51 SUV

Vin: N/A

Transmission: 5 A/T

Engine: VK56DE (V8)

Impact Velocity: 83.2 kph

(2) Weight of Test Vehicle: Front Weight: 1293.5 kg
 Rear Weight: 1355.5 kg
 Total Weight: 2649.0 kg

(3) Test Method: In Accordance with FMVSS No. 301, S7.3 (b) (Rear Moving Barrier Test Condition)

3.3 Test Conditions

(1) Reason for the selection of test vehicle.

The R51 SUV does not have a significant model difference (e.g. body type) which would influence crash test performance. The body design is symmetrical with exception of the fuel lines which are located on the left side of the vehicle.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2643.7 kg	1242.4 kg	1401.3 kg
**Test Weight	2649.0 kg	1293.5 kg	1355.5 kg

*The weight of the test vehicle was set at the maximum weight among application models

** Difference in test and target weight split between front and rear has no effect on test results.

*Vehicle Type: R51 SUV with Full Options

Cargo & Luggage Weight	Loading Position: Data acquisition (36.7 kg) was secured on top of the hood.
Weight Adjustment	181.0 kg steel shot bags strapped to the second row seats, 90.7 kg steel plates mounted to the second row floorboard. The headlamps and grill were removed.

(3) Condition of Dummies

Dummy	Type of Dummy:	Hybrid II (non-instrumented)		
	Dummy Position	Mid Seat Track Position		
	Restraint System	Driver	Front Air Bag and Type 2 seat belt	
Passenger		Front Air Bag and Type 2 seat belt		
Position of Seats	Seat Back	Driver: (Nominal Design Position)	6 notches from full forward, first notch is 0.	
		Passenger: (Normal Design Position)	6 notches from full forward, first notch is 0.	
	Seat Slide	Driver: Midpoint, or closest point to the rear of midpoint	Mid seat track	
		Passenger: Midpoint, or closest point to the rear of midpoint	Mid seat track	

(4) Vehicle Condition

Fuel Tank	Usable capacity:	80 Liters		
	Charged volume:	76 Liters		
	Test Fluid:	Name:	Stoddard Solvent	
Specific Gravity		0.764		
Ignition Key Position		ON		
Fuel Pump Operatton		YES	Type of Pump:	Electric: pump
Parking Brake		Disengage		
Transmission		Neutral		
Adjustable Pedal Position		Full Forward		
Steering Column Position	Tilt:	Mid position		
	Telescopic:	N/A		
Hood		Fully closed and latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69° F		
	Windshield Molding	69° F		
	Test Site	69° F		
Tire Pressure	Front:	241 kPa		
	Rear:	241 kPa		
Door & Trunk lid (Rear Gate)		Fully closed and latched but not locked.		
Side Window Glass	Front Right	(Opened)		
	Front Left	(Opened)		
Other Fluid	Radiator	(Drained)		
	Battery	(Drained)		
	Washer	(Drained)		
	Oil	(Drained)		

3.4 Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No.1 through 28 on pages 5 through 18.
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 19 through 20.



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST-TEST
Subject: Side View

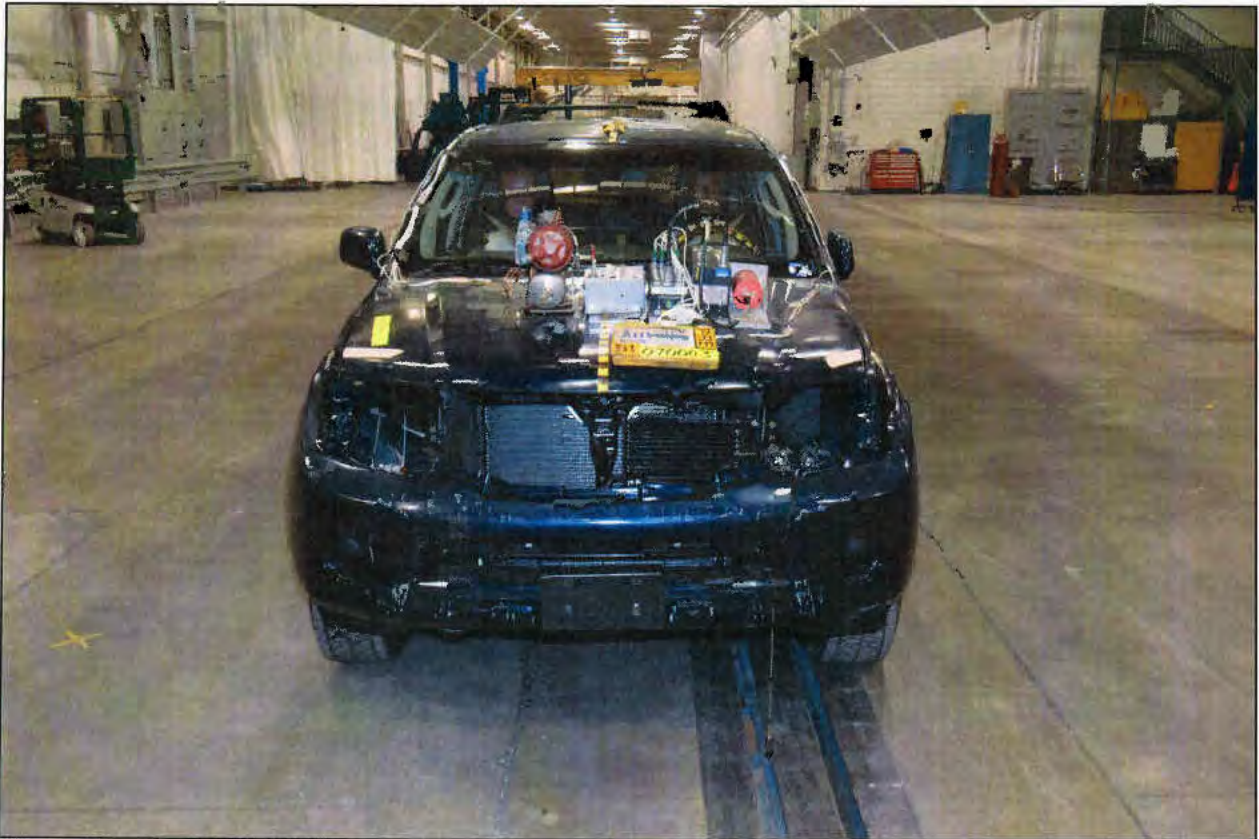


Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST -TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Rear View



Photo No. 6 POST-TEST
Subject: Rear View

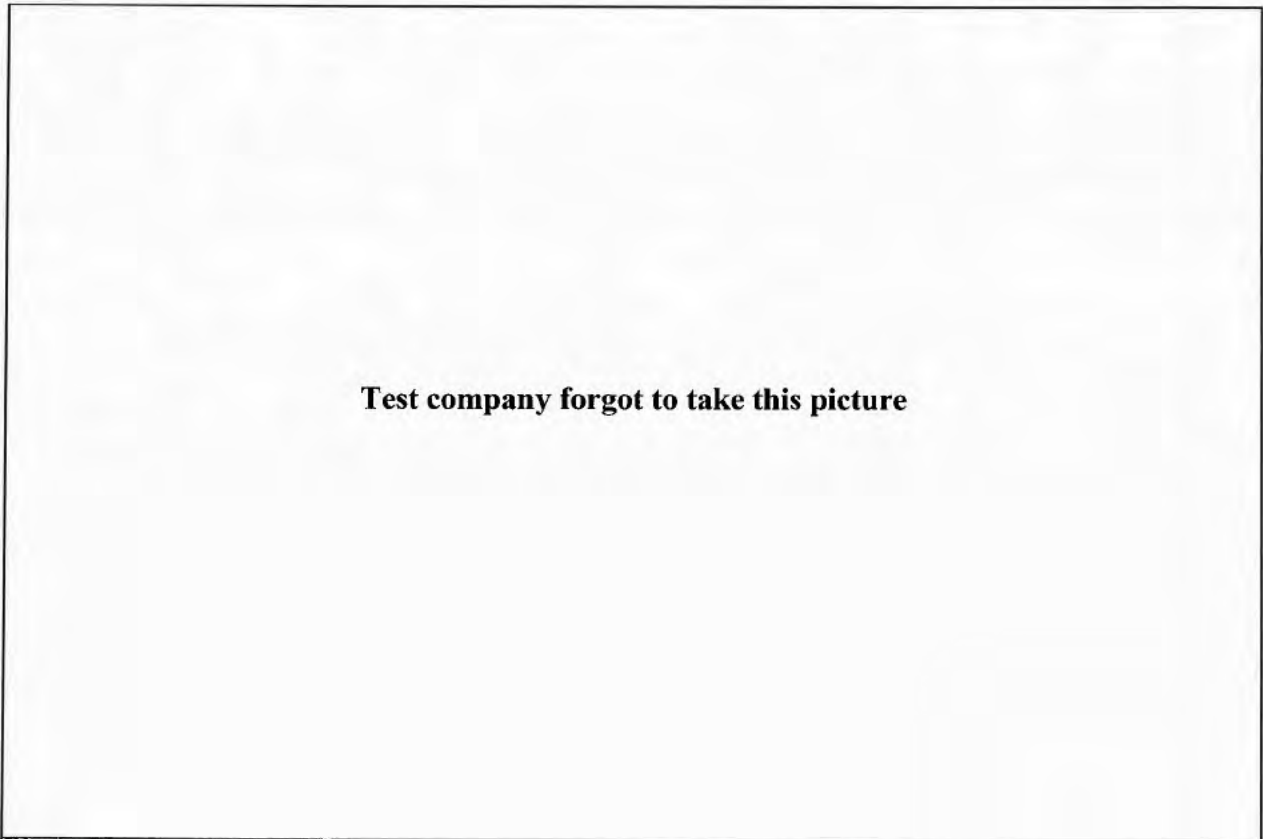


Photo No. 7 PRE-TEST

Subject: Engine Compartment



Photo No. 8 POST -TEST

Subject: Engine Compartment



Photo No. 9 PRE-TEST
Subject: Front Underbody View

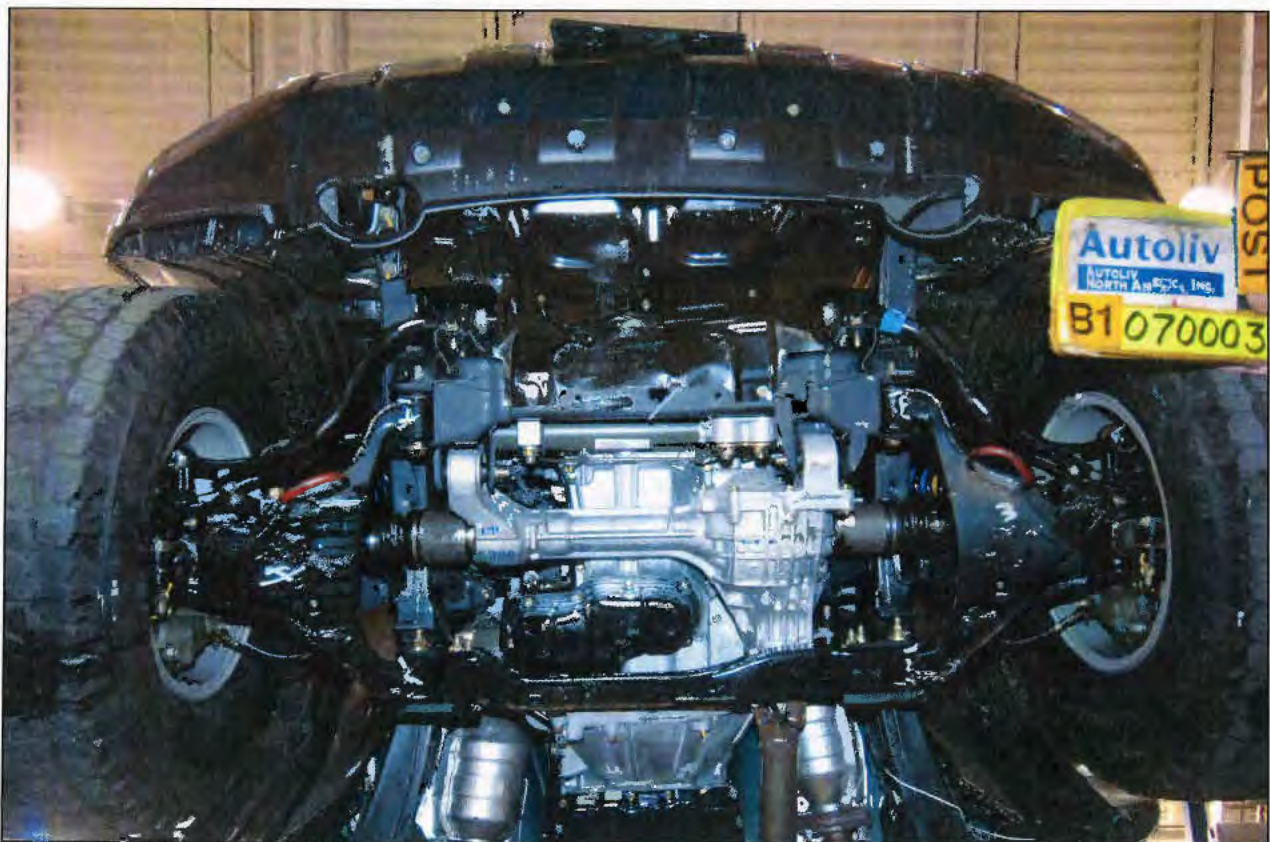


Photo No. 10 POST-TEST
Subject: Front Underbody View

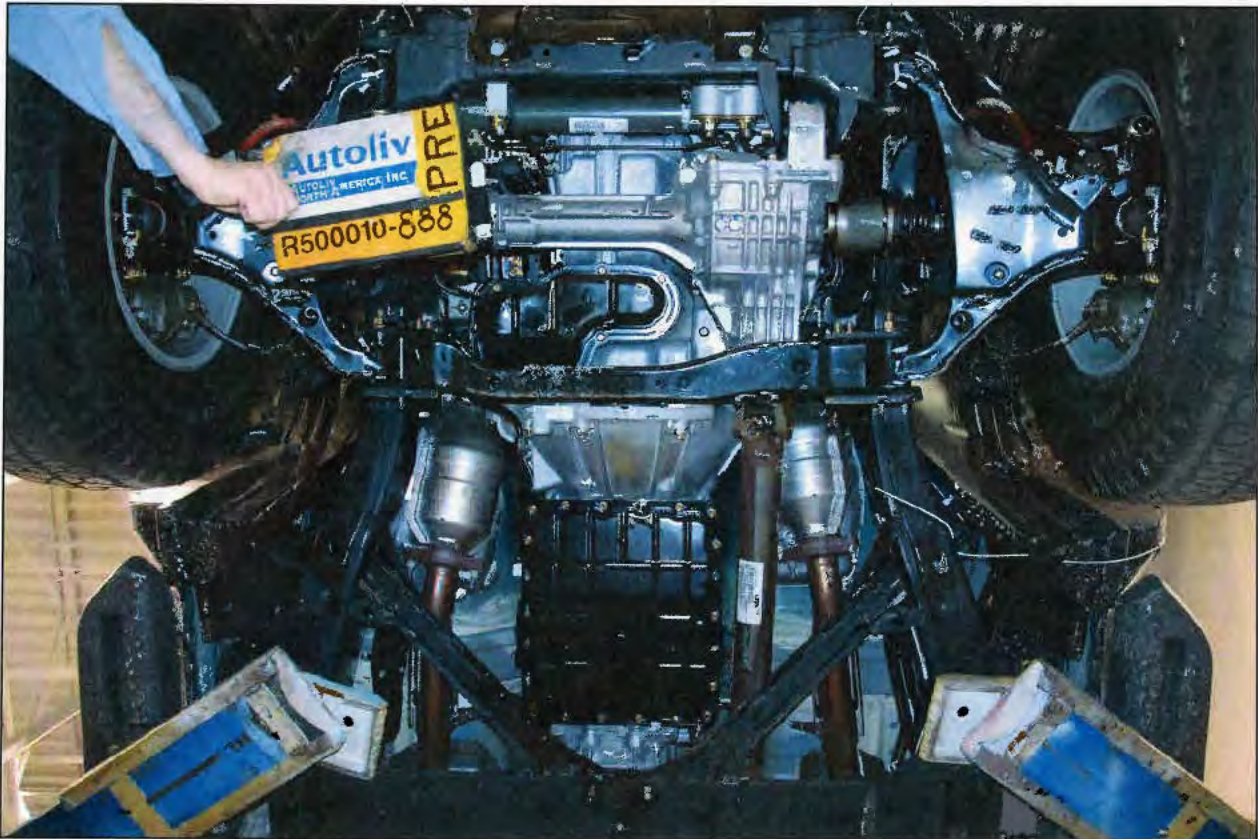


Photo No. 11 PRE-TEST
Subject: Center-1 Underbody View



Photo No. 12 POST-TEST
Subject: Center-1 Underbody View

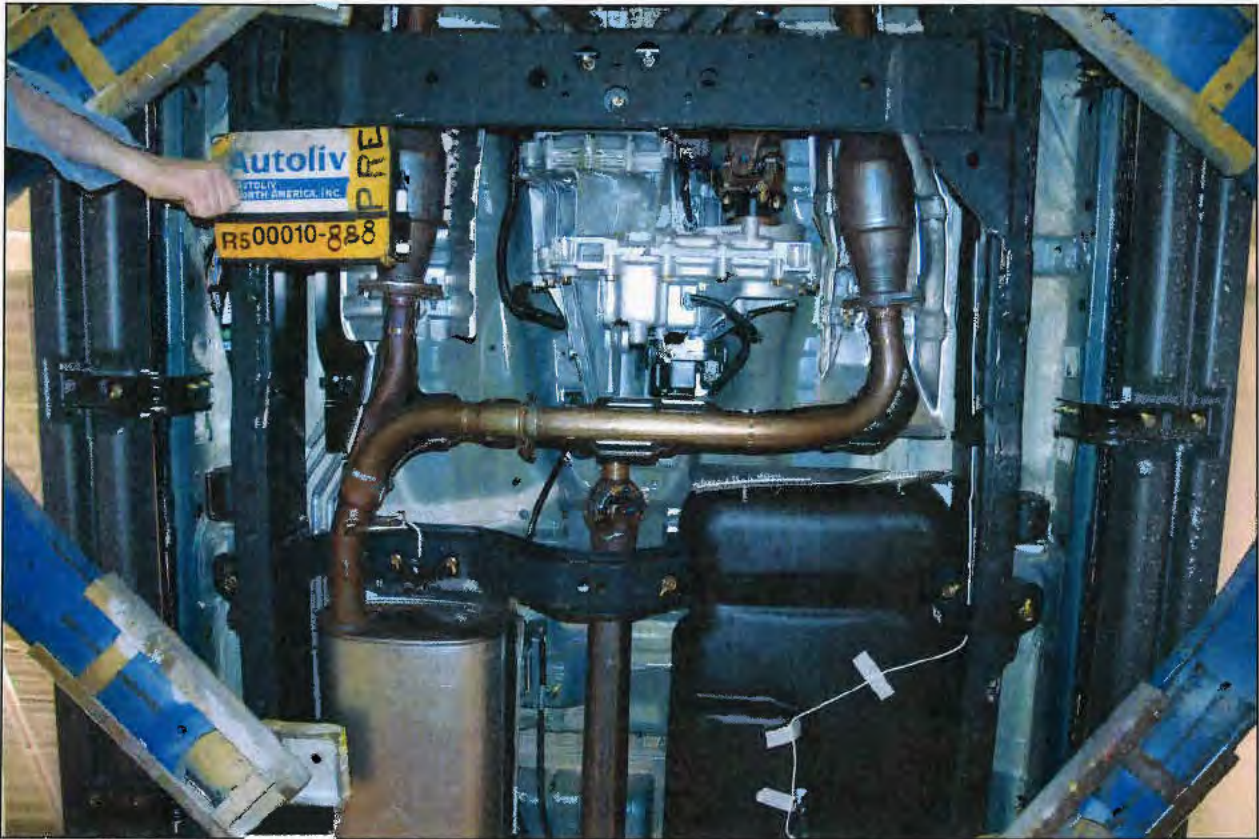


Photo No. 13 PRE-TEST
Subject: Center-2 Underbody View

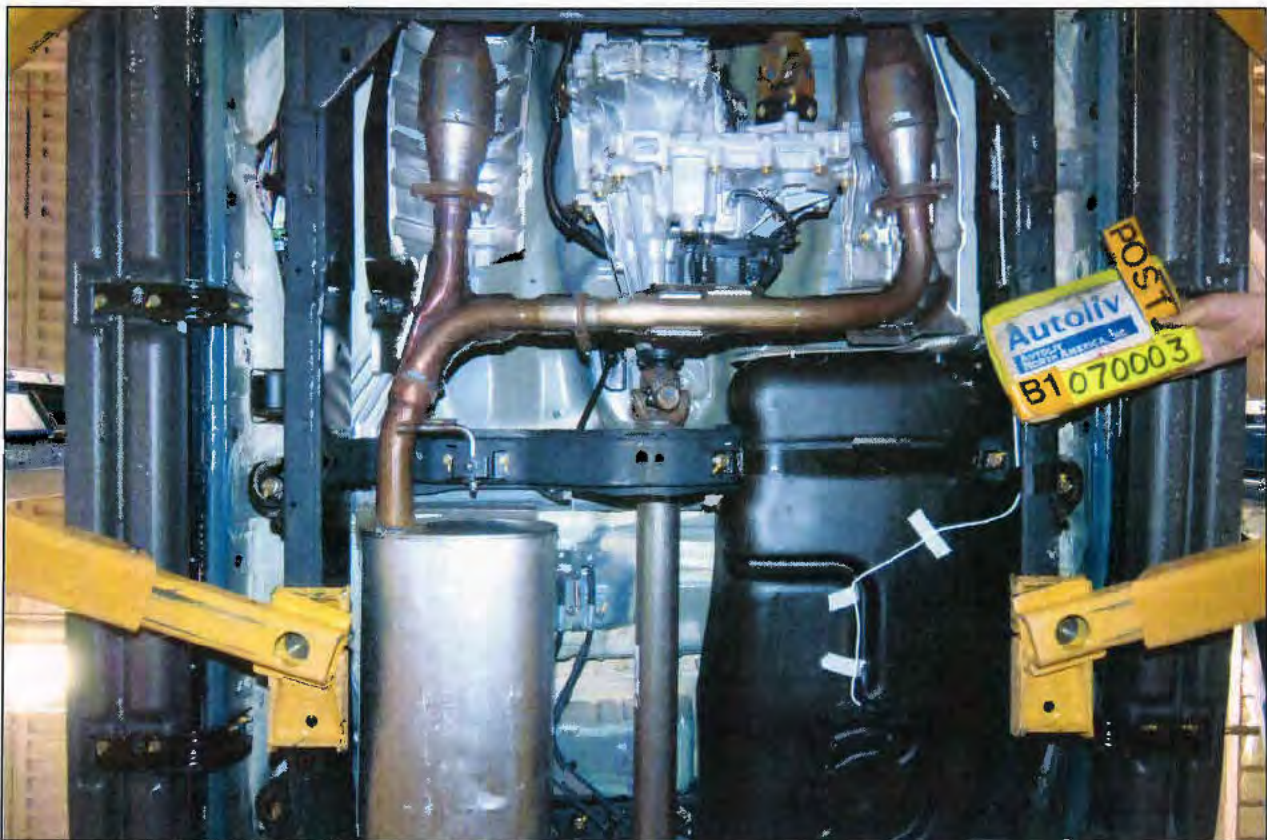


Photo No. 14 POST-TEST
Subject: Center-2 Underbody View

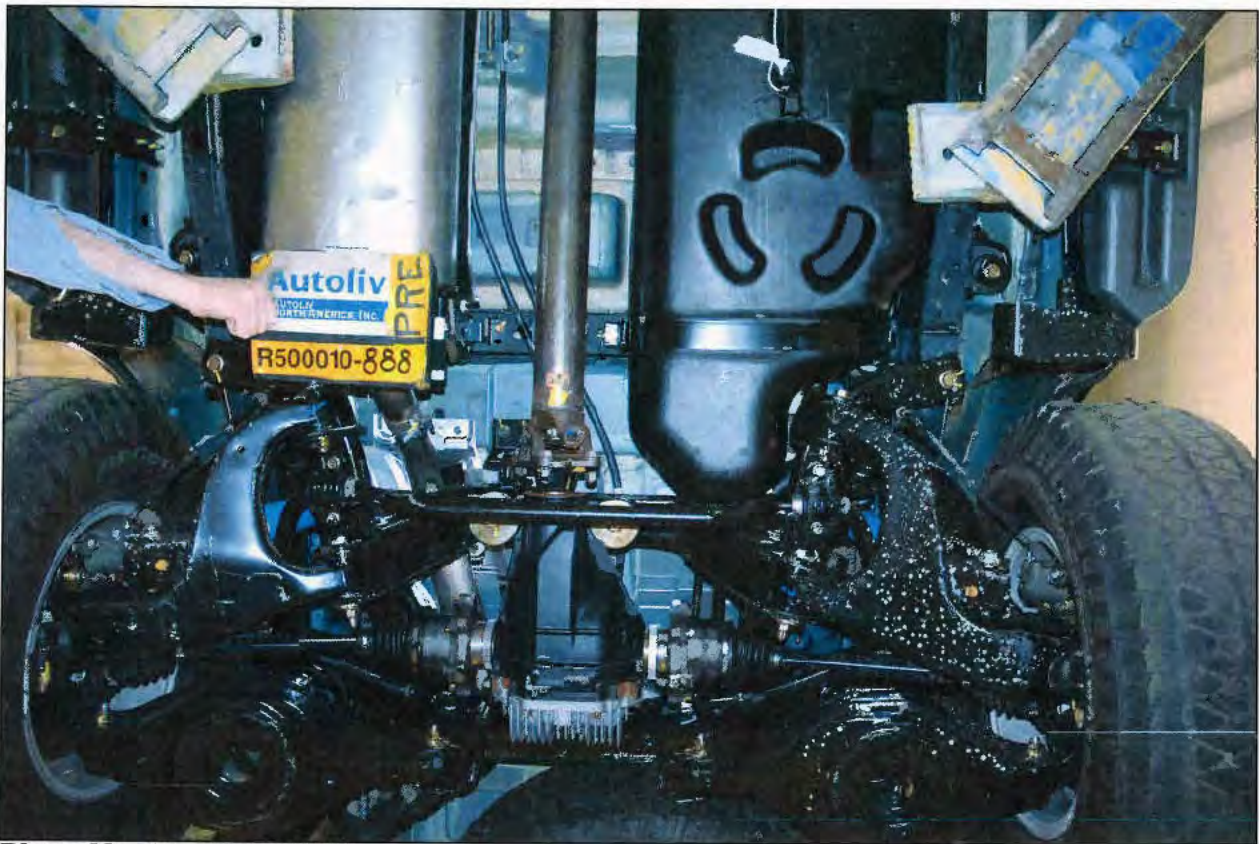


Photo No. 15 PRE-TEST
Subject: Center-3 Underbody View



Photo No. 16 POST-TEST
Subject: Center-3 Underbody View

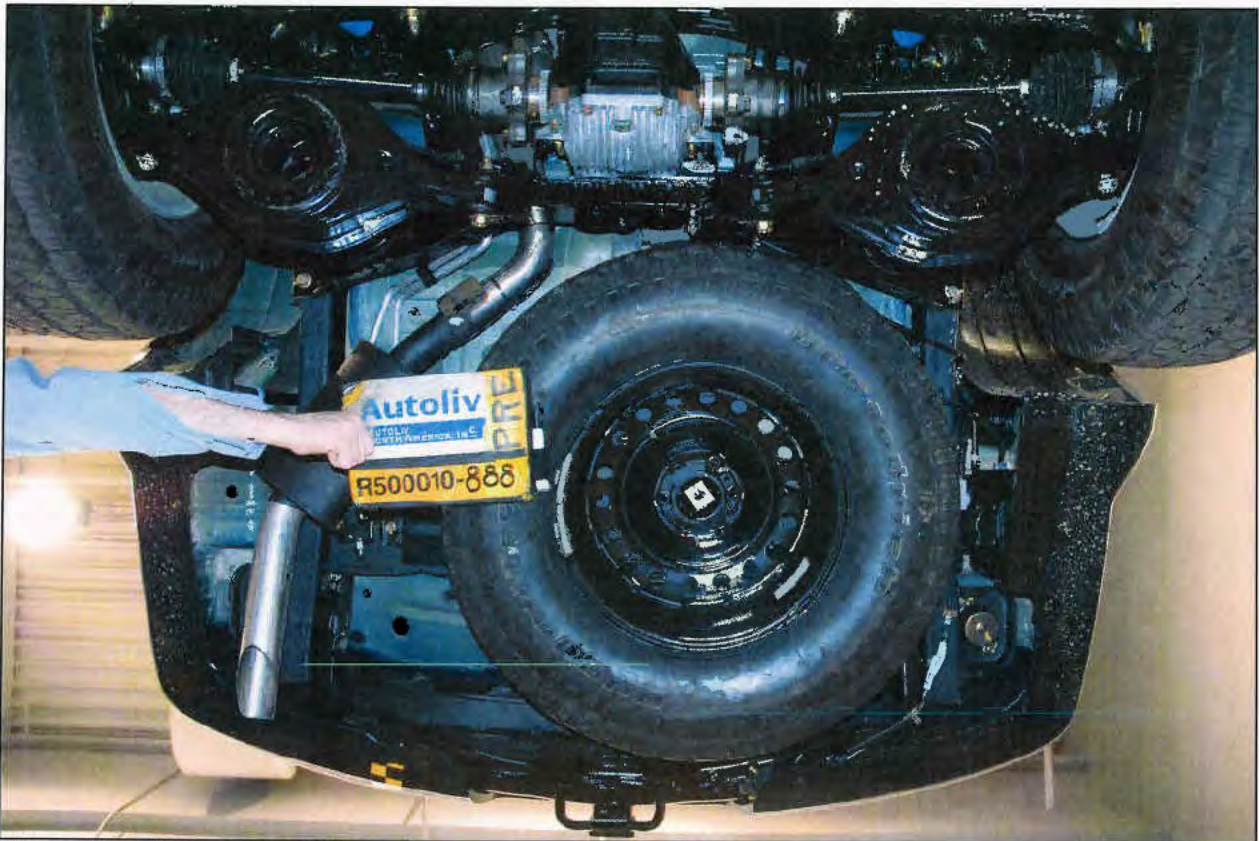


Photo No. 17 PRE-TEST
Subject: Rear Underbody View

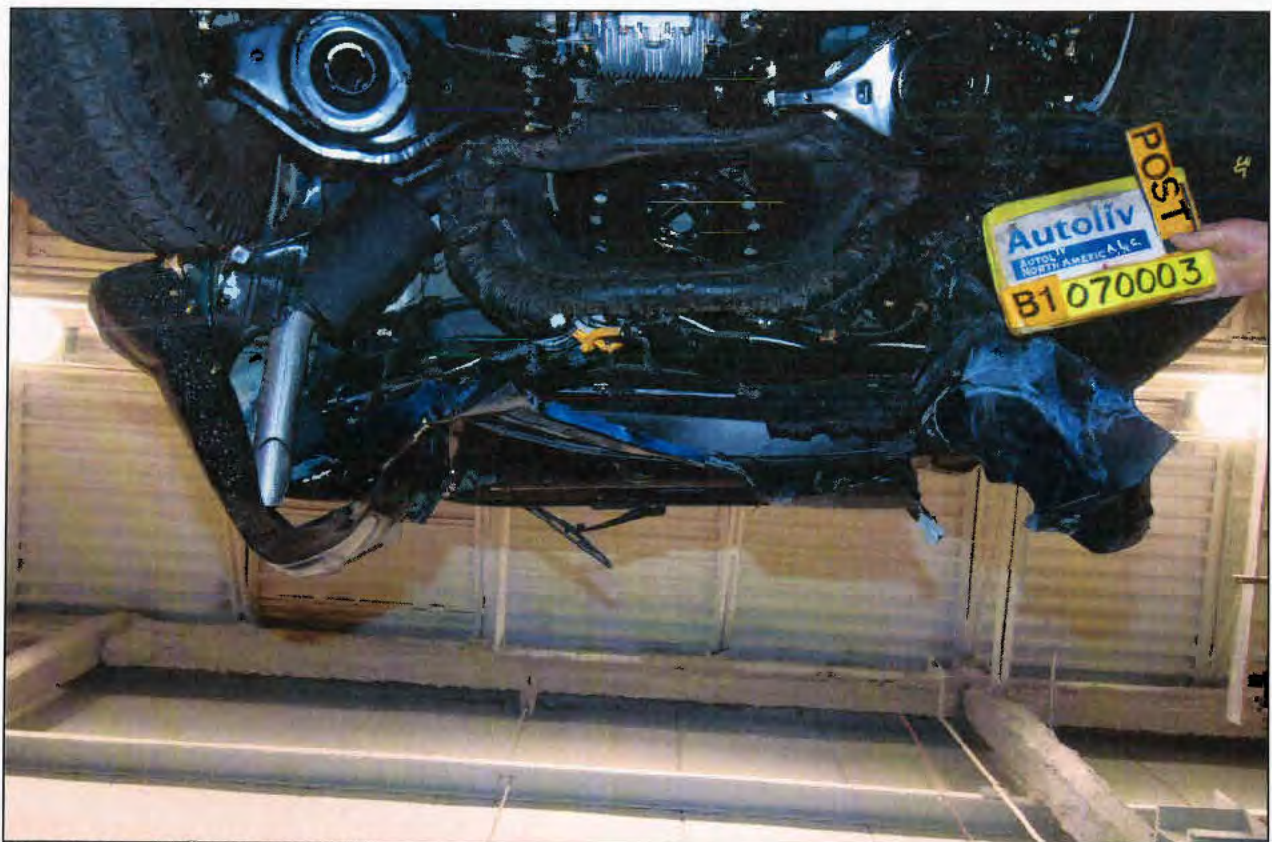


Photo No. 18 POST-TEST
Subject: Rear Underbody View

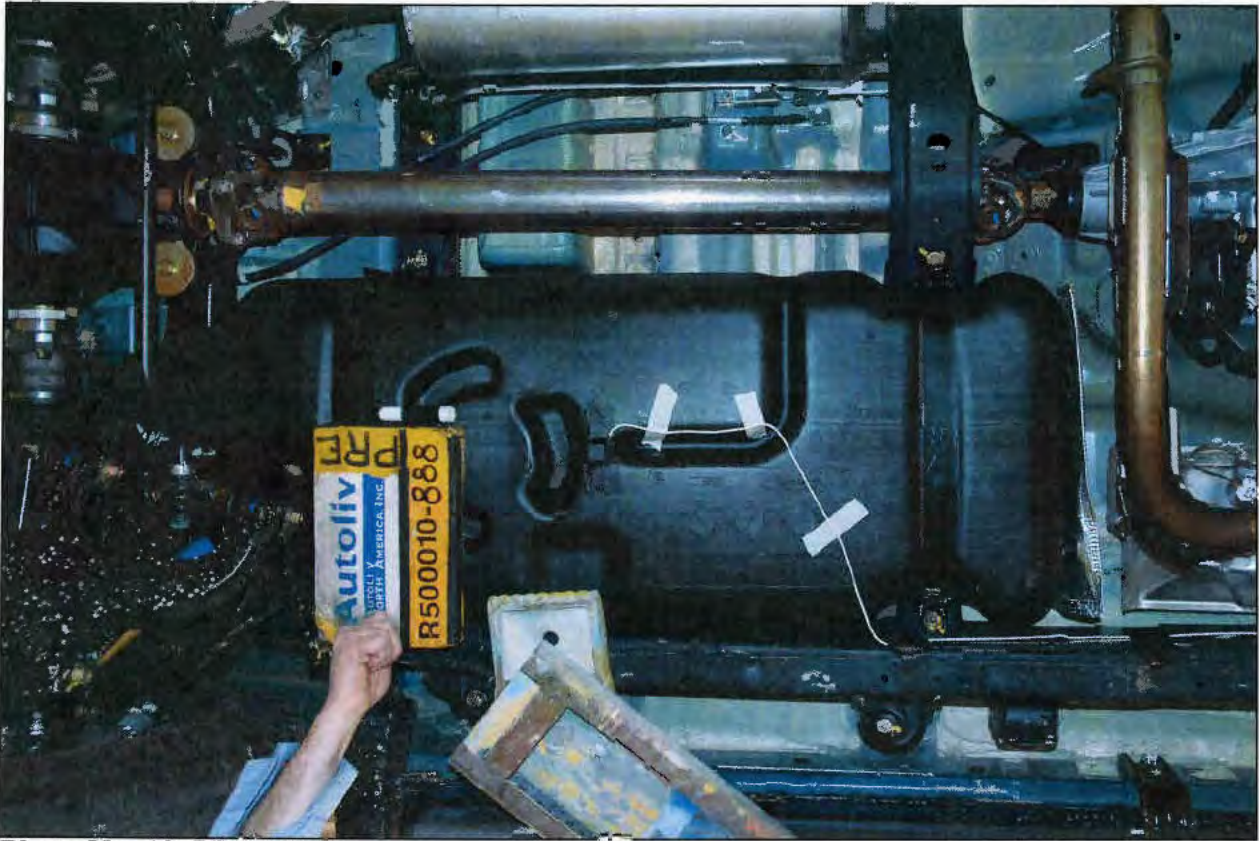


Photo No. 19 PRE-TEST
Subject: Fuel Tank View



Photo No. 20 POST-TEST
Subject: Fuel Tank View



Photo No. 21 PRE-TEST
Subject: Filler Hose View

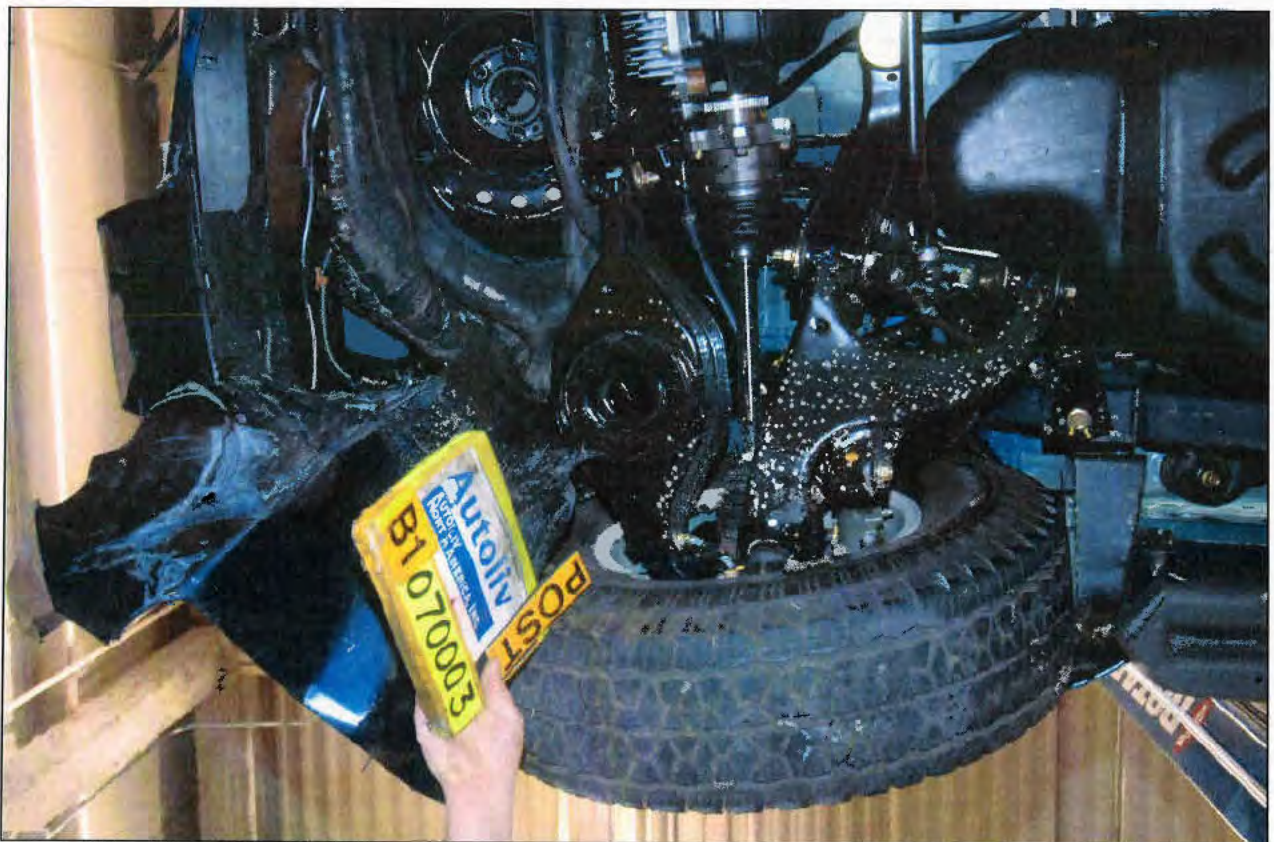


Photo No. 22 POST-TEST
Subject: Filler Hose View



Photo No. 23 PRE-TEST
Subject: Fuel Filler Cap View

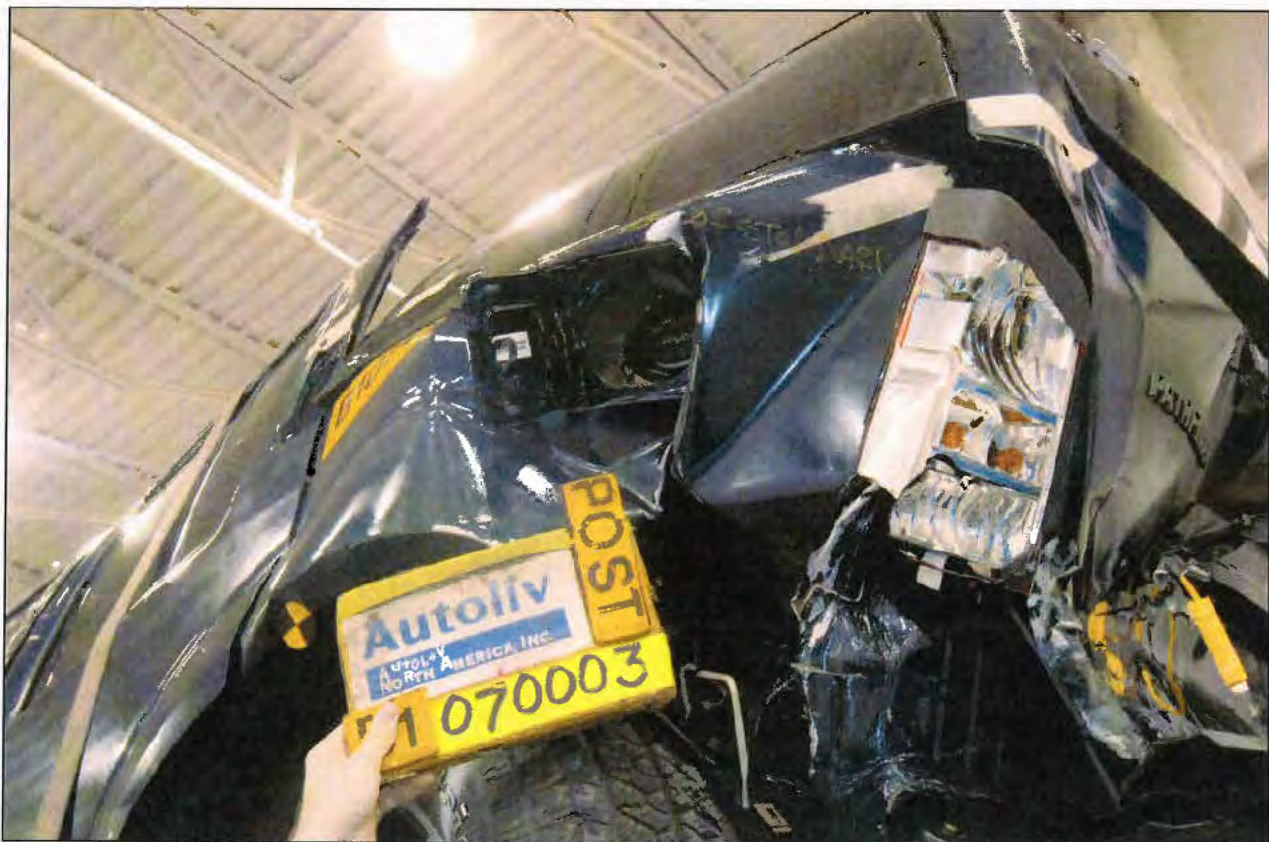


Photo No. 24 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 25
Subject: Static Rollover 0°



Photo No. 26
Subject: Static Rollover 90°



Photo No. 27
Subject: Static Rollover 180°

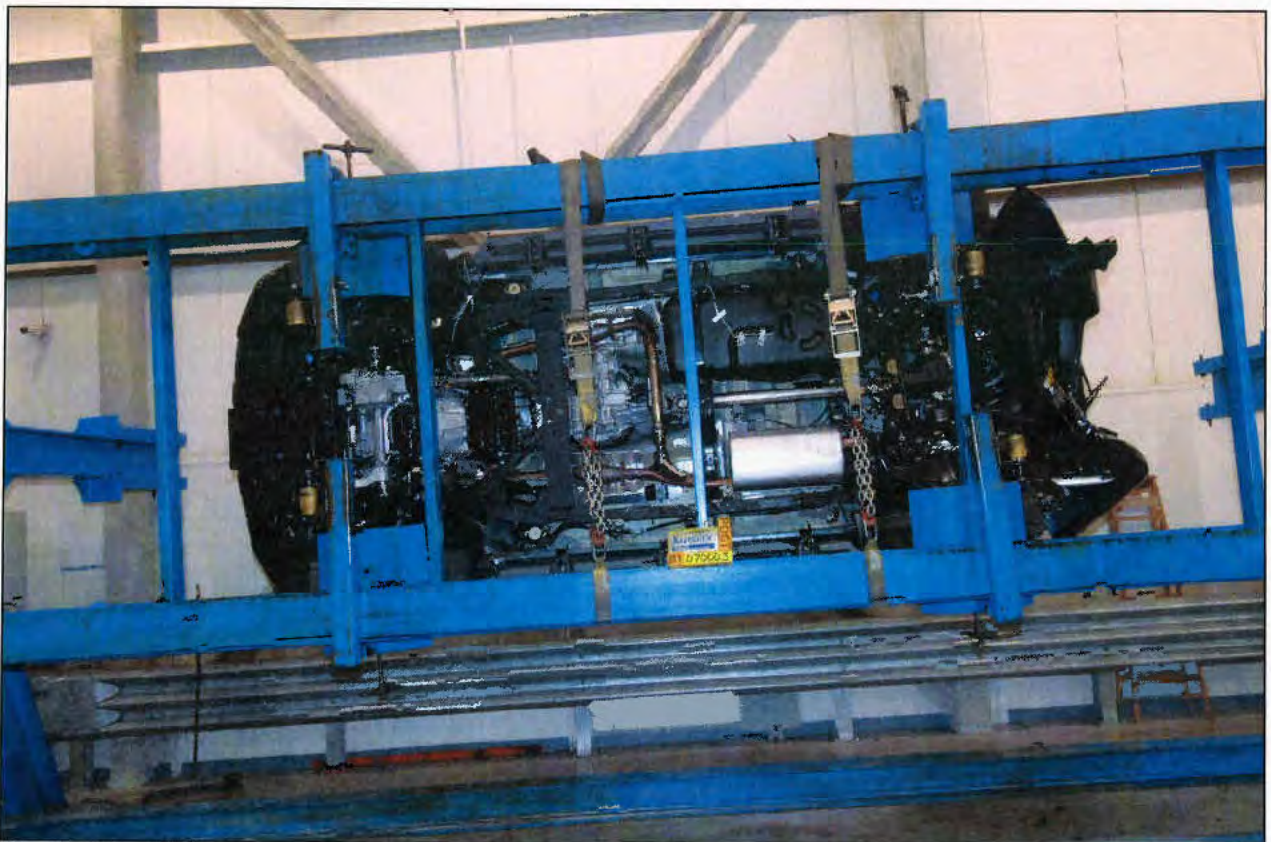


Photo No. 28
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Forward Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
From time of impact until vehicle motion ceases.	No	No	No	No	No	No
In the five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Forward Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0° 90°	2						
	Hold at 90°	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 90° 180°	2						
	Hold at 180°	5	5	None	None	None	None	None
			1	None	None	None	None	None
			1	None	None	None	None	None
	Rotation 180° 270°	2						
Hold at 270°	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	
Rotation 270° 360°	2							
Hold at 360°	5	5	None	None	None	None	None	
		1	None	None	None	None	None	
		1	None	None	None	None	None	

**Reference Attachment
General Vehicle Evaluation**

General Vehicle Evaluation

Test Date: 01/03/2007	Vehicle No. 8WS22	R51 SUV
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Item	Requirement	Result	Judgment
Seat Integrity	The seat slide and reclining device shall not release or fracture and hold its adjusted position.	The seat slide and reclining device did not release or fracture and held its adjusted position	OK
Door Openability	At least half of the doors must open after the test.	Front and rear doors opened after test without the use of tools.	OK
Door Opening During Test	Door must not open during test.	All doors remained closed during test.	OK
Occupant Kinematics	The ATD shall be restrained in the seat after collision and remain in the seat.	The ATD was restrained and remained in the seat after collision	OK

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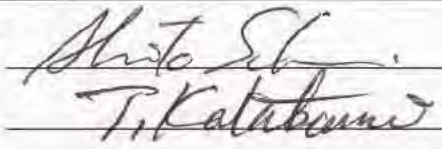
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA.

REPORT NO.: NX8F0677 DATE(mm/dd/yy) 03/22/2007

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Lateral Moving Barrier Crash and Static Rollover –Left Hand and Right Hand

MODEL CODE: R51	ISSUER:  R. Kobrossy
MODEL YEAR: 2008	
TEST PERIOD: 01/04/2007	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2008 Model Year.

Applied Model
R51 All Models by NNA-Smyrna For FED, CAN

2. Conclusion

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" LH Side Lateral Moving Barrier Crash and Static Rollover requirement.

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" RH Side Lateral Moving Barrier Crash and Static Rollover requirement by engineering judgment.

3. Test Results

3.1 Summary of Test Results

Item FMVSS [CMVSS]	Requirement	Results	Judgement
S5.5 [2]	Fuel spillage in any fixed or moving barrier crash test shall not exceed 28g from impact until motion of the vehicle has ceased, and shall not exceed a total of 142g in the five-minute period following cessation of motion. For the subsequent 25-minute period, fuel spillage during any one - minute interval shall not exceed 28g.	Complied No Leakage	OK
S5.6 [3]	Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 142g for the first five minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90°, fuel spillage during any one minute interval shall not exceed 28g.	Complied No Leakage	OK

3.2 Summary of Test Conditions

(1) Test Vehicle

Model: R51 SUV

VIN: N/A

Engine: VK56DE (V8)

Transmission: 5 A/T

Wheel Base: 2850 mm

Impact Velocity 61.6 kph

Weight of Test Vehicle: 2640.0 kg

Weight of Moving Barrier: 1367.6 kg

(2) Test Method: In Accordance with FMVSS No. 301, S6.3 (b) (Lateral Barrier Crash), and S6.4 (Static Rollover).

4. Test Conditions

(1) Reason for the selection of test vehicle

The R51 SUV does not have a significant model difference (e.g. body type) which would influence crash test performance. The LH side is selected because of the fuel filler location.

(2) Weight Condition

	Total	Front	Rear
*Target Weight	2643.7 kg	1242.4 kg	1401.3 kg
**Test Weight	2640.0 kg	1242.5 kg	1397.5 kg

*The weight of the test vehicle was set at the lightest weight among application models.
 ** Difference in test and target weight split between front and rear has no effect on test results.

Vehicle Type: R51 SUV with Standard Option

Cargo & Luggage Weight	Data collection equipment located in the cargo area: 53.9 kg
Weight Adjustment	The following weights were added: 27 kg in cameras on the hood, 45.5 kg in cameras on the RH doors, 52 kg steel plates attached to the hitch. The following items were removed to achieve target test weight: Head lamps, front bumper, grill, 3 rd row seat.

(3) Condition of Dummies

Dummy	Type of Dummy:	SID (Subpart M of Part 572)	
	Dummy Position	Front and Rear Outboard of Struck Side	
	Restraint System	Driver: Front Air Bag and Type 2 Seat Belt	
Passenger: Type 2 Seat Belt			
Position of Seats	Seat Back	Front LH	Nomtnal design position, 9.3 degree at head rest post.
		Rear LH	Nomtnal design position, 24 degree at head rest post.
	Seat Slide	Front LH	Mid Track
		Rear LH	Fixed

(4) Vehicle Condition

Fuel Tank	Usable Capacity	80 Liters		
	Charged Volume	76 Liters		
	Test Fluid	Name	Stoddard Solvent	
		Specific Gravity	0.764	
Ignition Key Position		ON		
Fuel Pump Operation		YES	Type of Pump:	Electric pump
Parking Brake		Engaged		
Transmission		Neutral		
Tire Pressure	Front	241 kPa		
	Rear	241 kPa		
Steering Column Position	Tilt:	MID		
	Telescopic:	N/A		
Adjustable Pedal Position		Full Forward		
Hood		Closed and Latched		
Wiper		Not operated		
Temperature	Inside of the Vehicle	69°F		
	Windshield Molding	69°F		
	Test Site	69°F		
Door & Trunk Lid (Rear Gate)		Fully closed and latched, but not locked		
Side Window Glass	Front Right	Opened		
	Front Left	Closed		
	Center Right	Opened		
	Center Left	Closed		
	Rear Right	Closed		
	Rear Left	Closed		
Other Fluid	Radiator	Drained		
	Battery	Drained		
	Washer	Drained		
	Oil	Drained		
Tools & Jack		Removed		

5. Test Data.

- (1) Photographs of the test vehicle pre-test and post-test.
See photographs No. 1 through 26 on pages 6 through 18
- (2) Detailed data of fuel leakage test.
See Tables 1 & 2 on pages 19 through 20



Photo No. 1 PRE-TEST
Subject: Side View



Photo No. 2 POST-TEST
Subject: Side View



Photo No. 3 PRE-TEST
Subject: Front View



Photo No. 4 POST-TEST
Subject: Front View



Photo No. 5 PRE-TEST
Subject: Engine Compartment

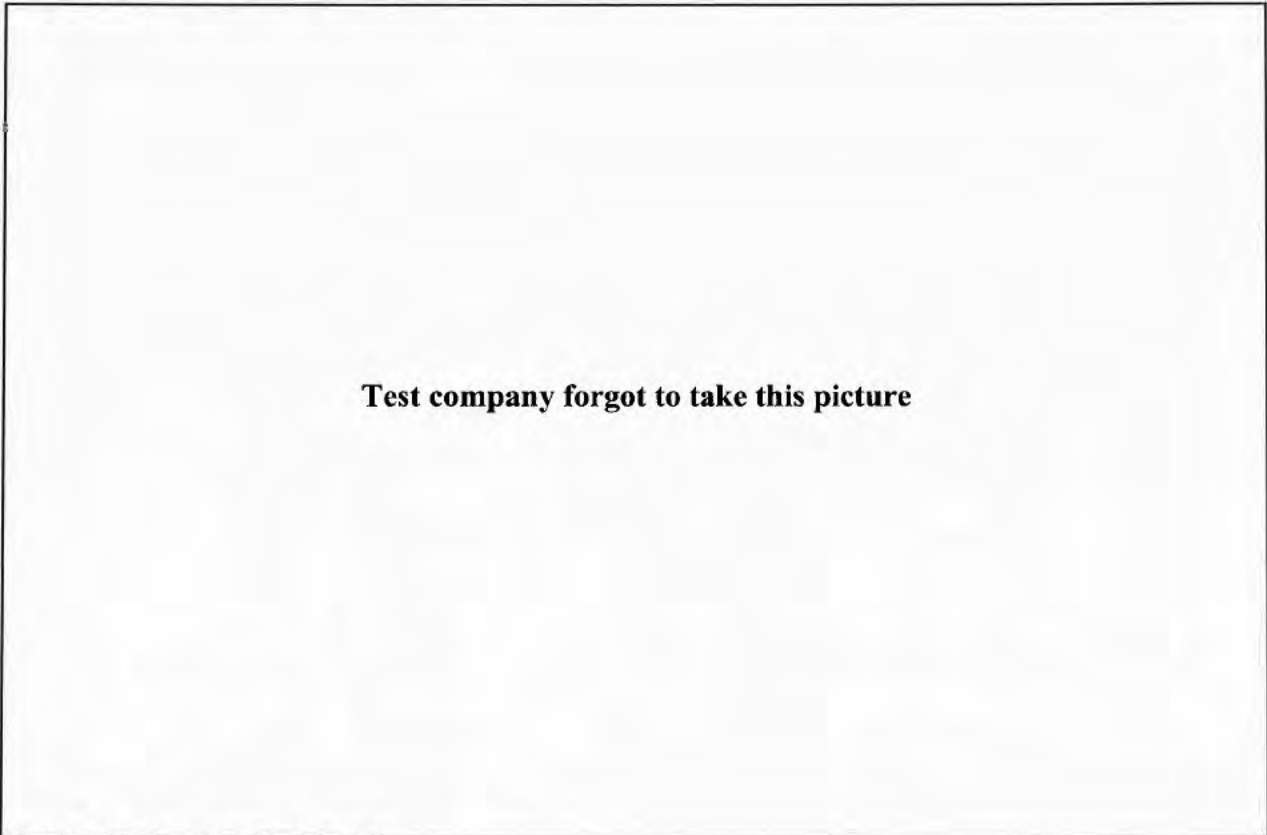


Photo No. 6 POST-TEST
Subject: Engine Compartment



Photo No. 7 PRE-TEST
Subject: Front Underbody View



Photo No. 8 POST-TEST
Subject: Front Underbody View

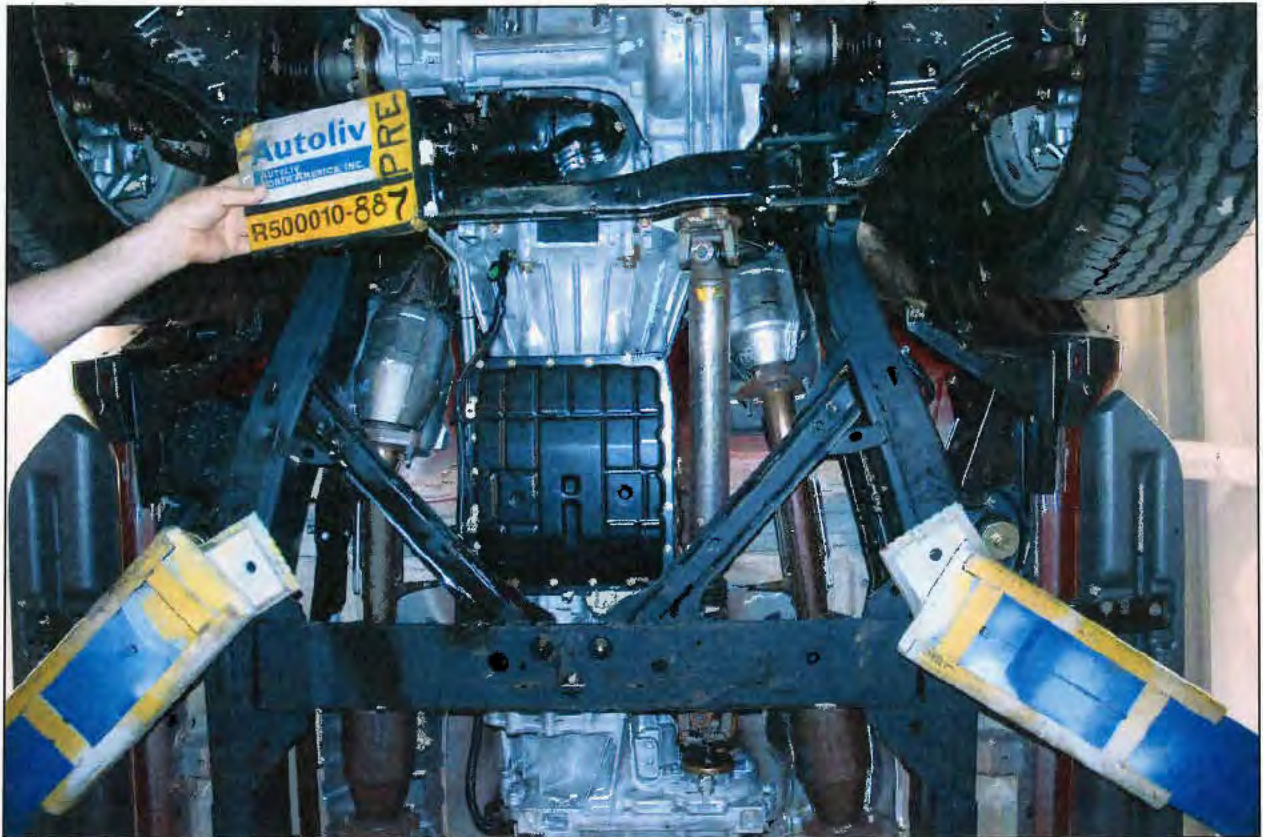


Photo No. 9 PRE-TEST
Subject: Center-1 Underbody View

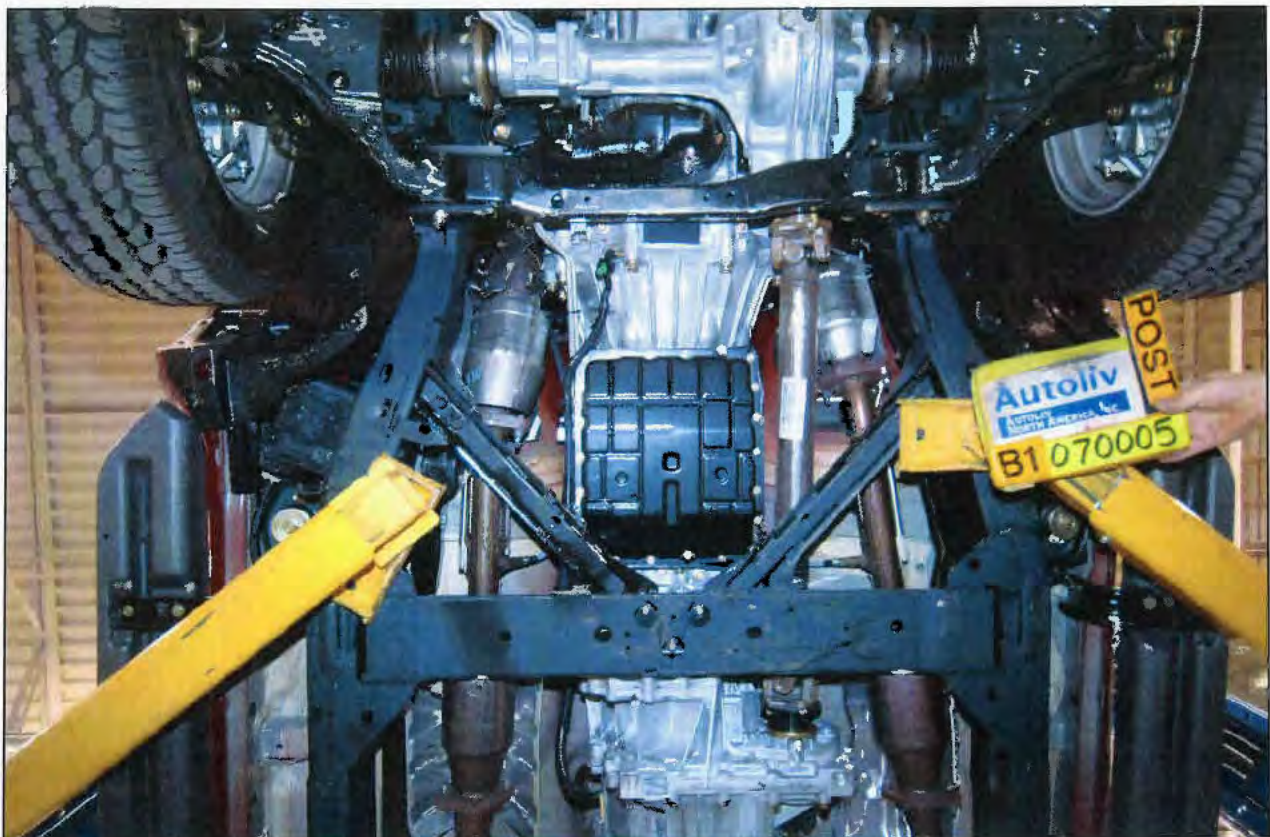


Photo No. 10 POST-TEST
Subject: Center-1 Underbody View



Photo No. 11 PRE-TEST
Subject: Center-2 Underbody View

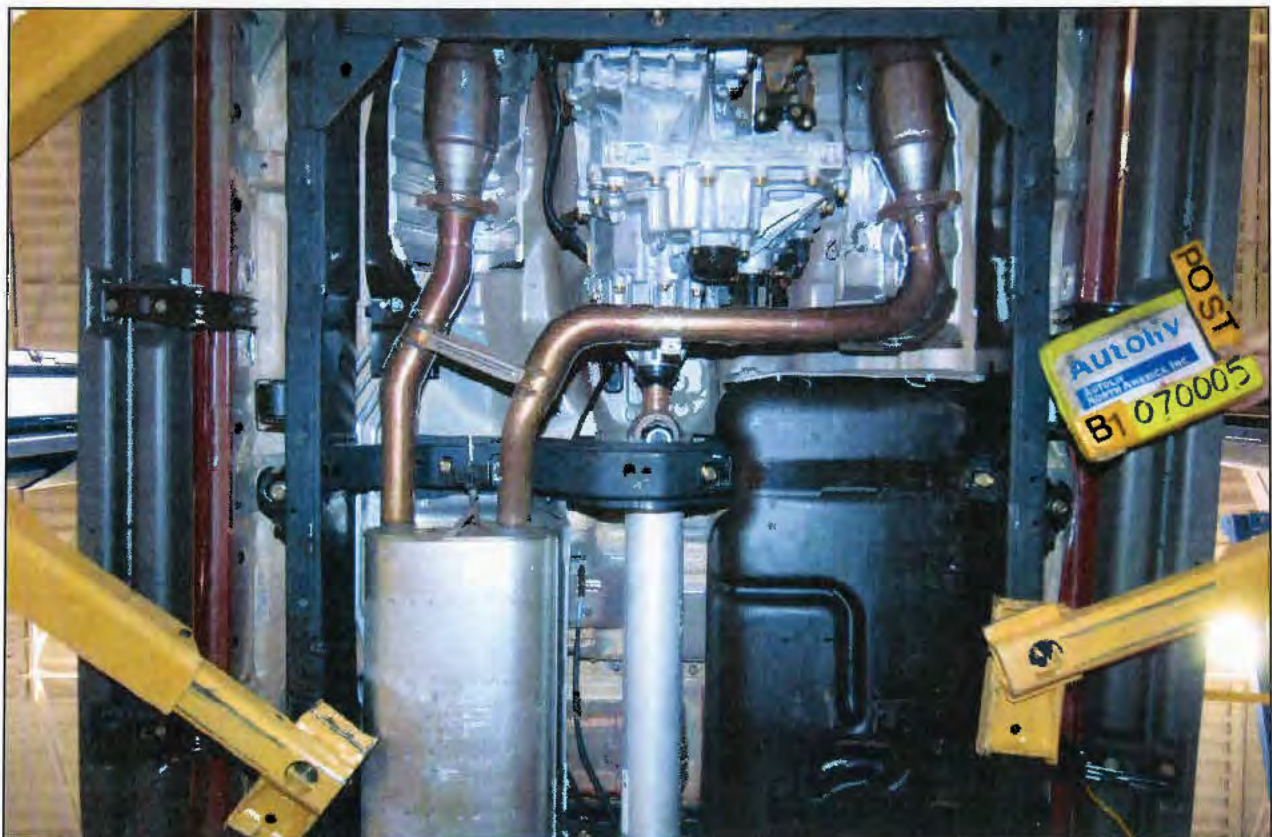


Photo No. 12 POST-TEST
Subject: Center-2 Underbody View

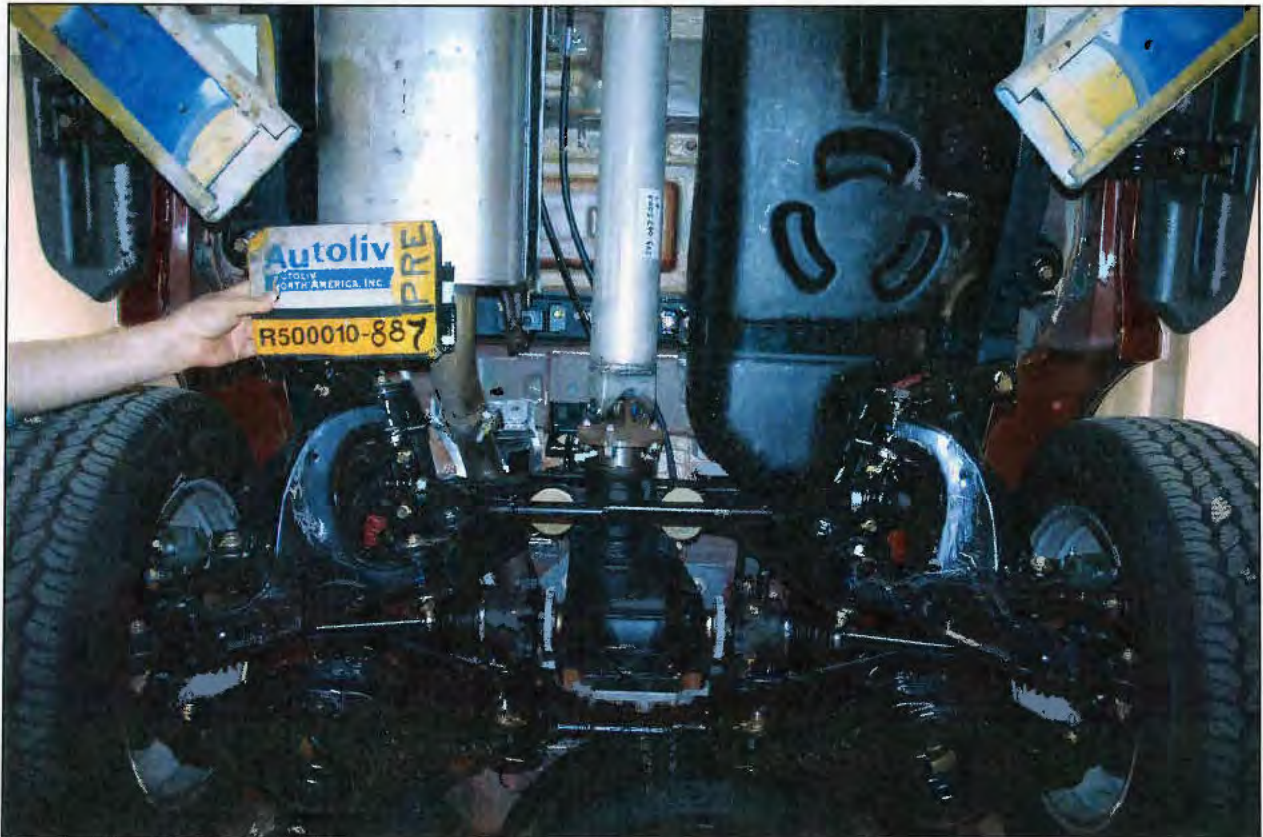


Photo No. 13 PRE-TEST
Subject: Center-3 Underbody View



Photo No. 14 PRE-TEST
Subject: Center-3 Underbody View



Photo No. 15 PRE-TEST
Subject: Rear Underbody View



Photo No. 16 POST-TEST
Subject: Rear Underbody View



Photo No. 17 PRE-TEST
Subject: Fuel Tank View



Photo No. 18 POST-TEST
Subject: Fuel Tank View



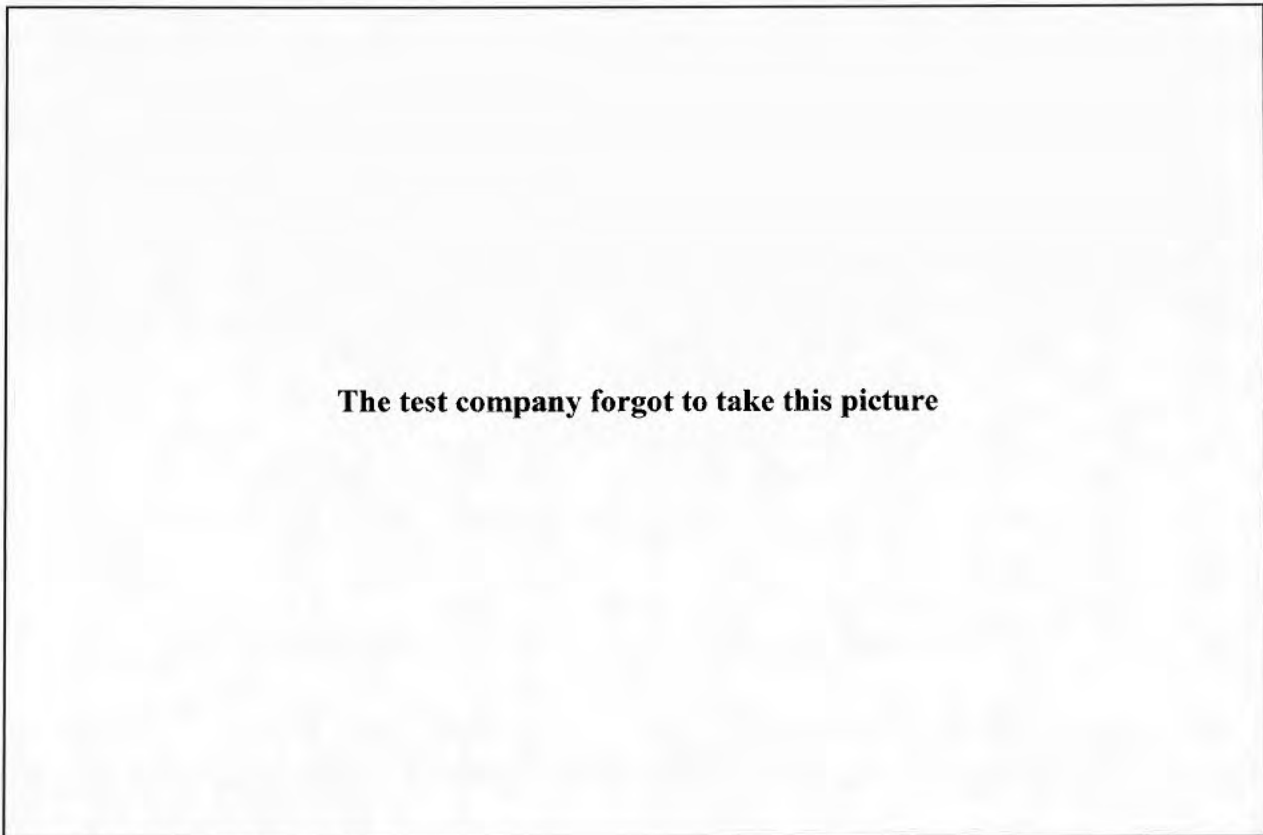
Photo No. 19 PRE-TEST
Subject: Filler Hose View



Photo No. 20 POST-TEST
Subject: Filler Hose View



Photo No. 21 PRE-TEST
Subject: Fuel Filler Cap View



The test company forgot to take this picture

Photo No. 22 POST-TEST
Subject: Fuel Filler Cap View



Photo No. 23
Subject: Static Rollover 0°



Photo No. 24
Subject: Static Rollover 90°



Photo No. 25
Subject: Static Rollover 180°

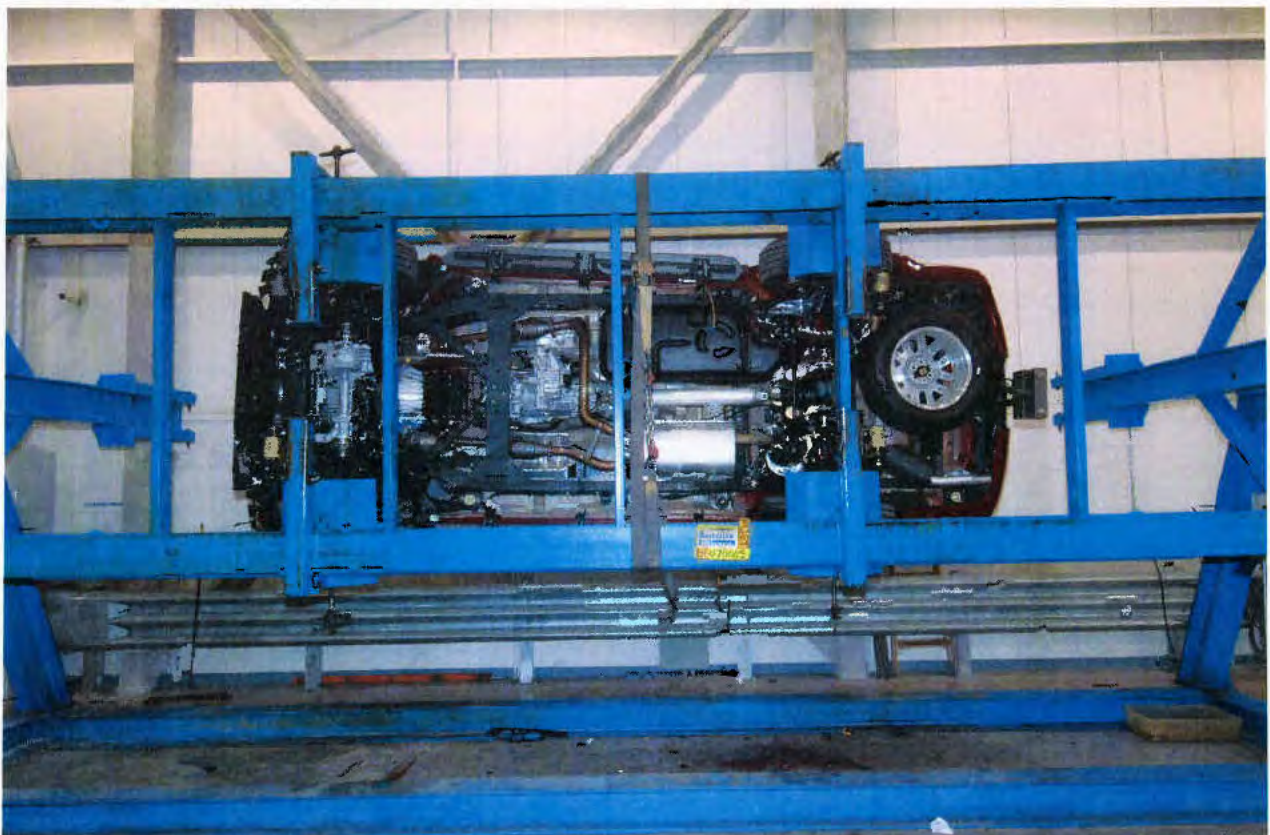


Photo No. 26
Subject: Static Rollover 270°

Table 1 Fuel Leakage Measurement in Lateral Barrier Crash Test

Location Item	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
Damage to component. If yes, describe.	No	No	No	No	No	No
From time of impact until vehicle motion ceases.	No	No	No	No	No	No
For five (5) minutes period after vehicle motion ceases.	No	No	No	No	No	No
For next 25 minutes.	No	No	No	No	No	No

Table 2 Fuel Leakage Measurement in Static Rollover Test After Lateral Barrier Test

Rotate to the filler side	Phase of Rotation	Time Period (min)	Fuel Tank	Fuel Piping	Fuel Filter	Fuel Pump	Canister	Others
	Rotation 0° 90°	2	No	No	No	No	No	No
	Hold at 90°	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 90° 180°	2	No	No	No	No	No	No
	Hold at 180°	5	5	No	No	No	No	No
			1	No	No	No	No	No
			1	No	No	No	No	No
	Rotation 180° 270°	2	No	No	No	No	No	No
Hold at 270°	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	
Rotation 270° 360°	2	No	No	No	No	No	No	
Hold at 360°	5	5	No	No	No	No	No	
		1	No	No	No	No	No	
		1	No	No	No	No	No	



CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX8F0830 DATE(mm/dd/yy) 01/08/08

TITLE: California ARB Fuel Fill Pipes and Opening Requirements

MODEL CODE: R51	ISSUER: <u>Carrie Newsome 01/08/08</u> Carrie Newsome
MODEL YEAR: 2008 (Running Change 1/15/08)	
TEST PERIOD: 4/16/2007 to 4/19/2007	APPROVAL: <u>Katsunori Ozaki 02/4/08</u> Katsunori Ozaki <u>Takashi Yamaguchi 02/4/08</u> Takashi Yamaguchi

1. Purpose

This report shows certification test results of California ARB Fuel Fill Pipes and Opening Requirements on 2008 (Running Change 1/15/08) Model Year.

Applied Model
R51 All Models by NNA-Smyrna for FED,CAN

2. Conclusion

Amount of Test Nozzle Passing was retested due to a design change. The remaining items are carryover from 2005 report no. KC4C-040607.

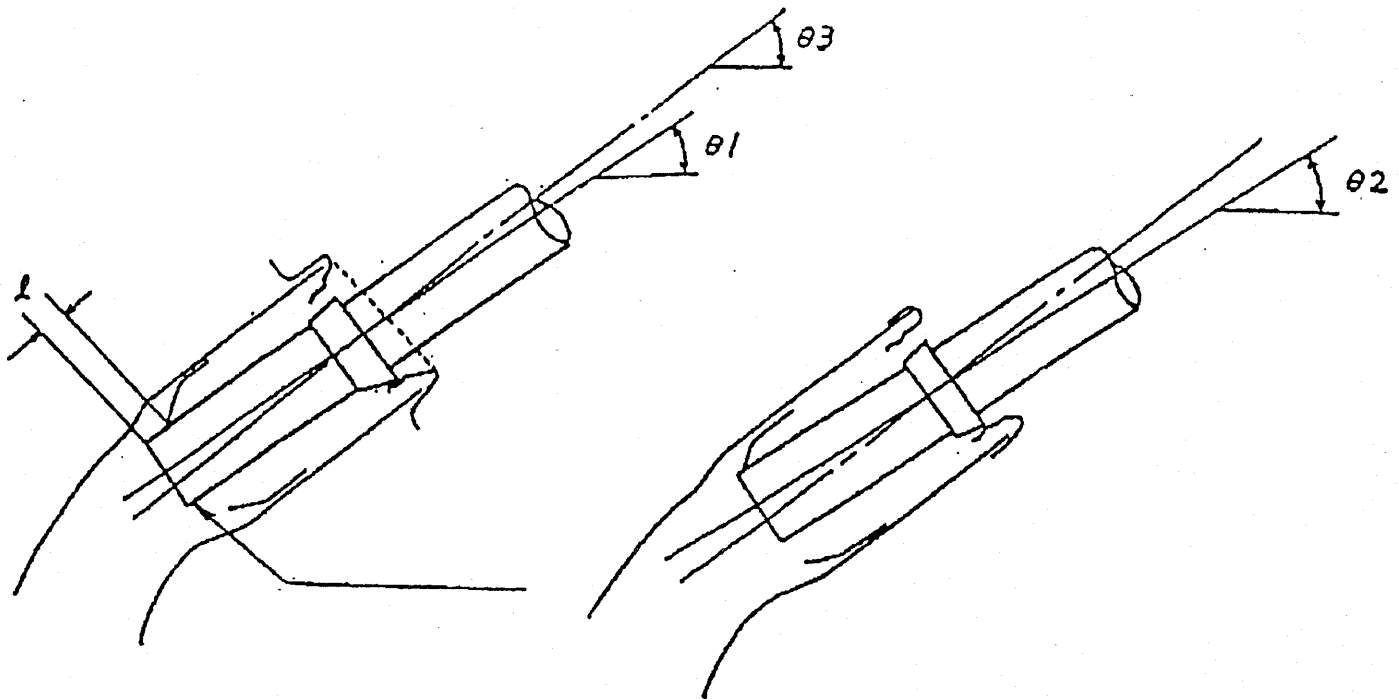
Meets the requirements of California ARB Fuel Fill Pipes and Openings and CMVSS No. 1101 provisions.

3. Test Results

3.1 Summary of Test Results

	Requirement	Results
1	The fill pipe and fuel tank opening should comply with design specifications.	OK
2	Fill pipe shall accept a fill rate of 10 gallons per minute.	OK
	There shall be no premature nozzle shut-off in 90 percent of the test repetitions.	OK
	There shall be no more than 1 milliliter liquid gasoline loss per test in 90 percent of the test.	OK
	There shall be no unlatching of the vapor recovery nozzle during dispensing or upon nozzle shut-off.	OK
3	There shall be no sharp projections or edges within the fill pipe access zone, along the surface of the fill pipe access zone, or along the surface of adjacent zone outside of the fill pipe access zone.	OK
4	Any restriction device shall be sufficiently durable to withstand simple tampering and to prevent expansion of the restriction device diameter to 2.4 centimeters or removal of the restriction device without extraordinary effort.	OK
5	The fill pipe assembly including fuel tank cap shall not expel liquid gasoline during normal driving maneuvers or parking attitudes.	OK
6	The manufacturer of motor vehicle shall warrant that the vehicle conforms to specifications in Sections 2, 3, 4 and 5 herein for the useful life of the vehicle.	OK

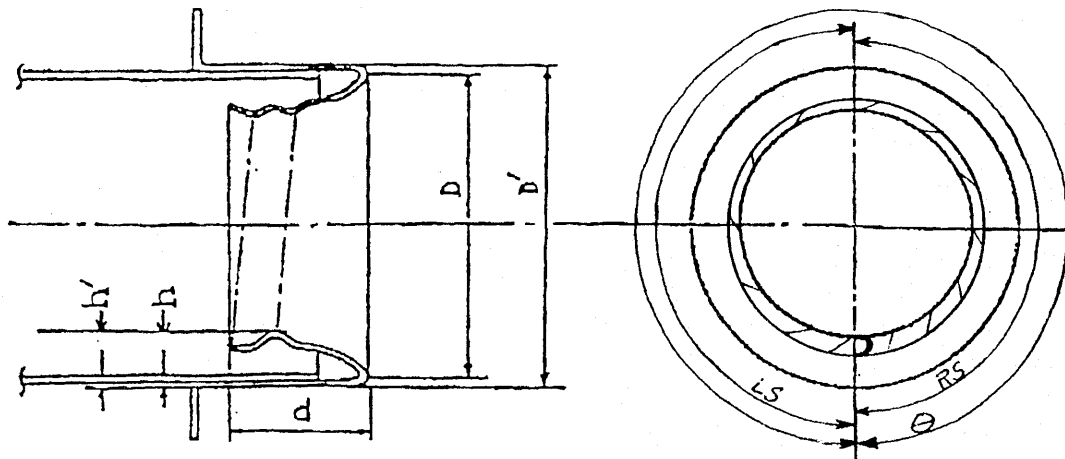
3.2 Design Specifications



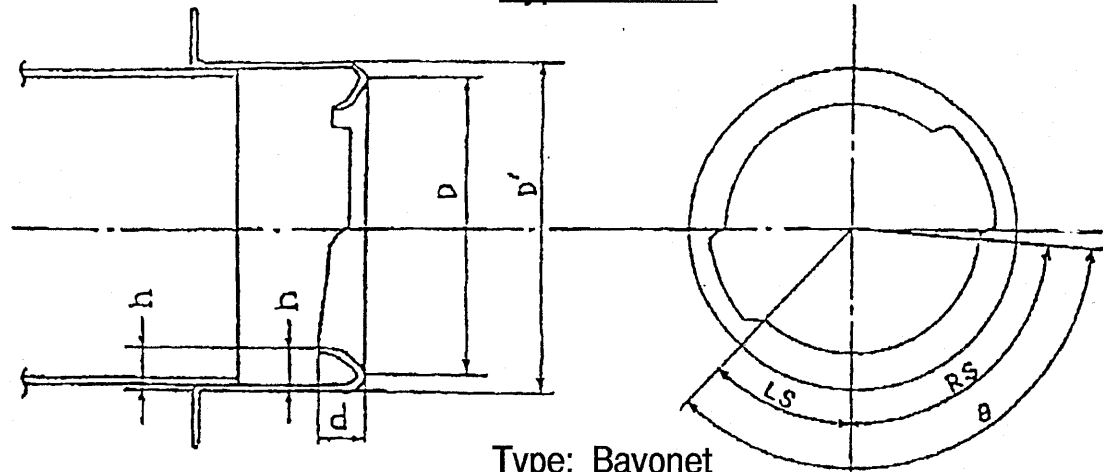
Normal Resting Position

Unlatched Position

	Standard	Design	Results	Judgement
Angle α ($\theta 1 - \theta 3$)	$-10^\circ \leq \alpha \leq +20^\circ$	-5.6°	-5.4°	OK
Angle β ($\theta 2 - \theta 3$)		-1.2°	-3.8°	-
Angle $\theta 1$	$\theta 1 \geq 30^\circ$	41.9°	40.4°	OK
Angle $\theta 2$		46.3°	42.0°	-
Angle $\theta 3$		47.5°	45.8°	-
Amount of Test Nozzle Passing (l)	$l \geq 2.25$ cm	2.5 cm	2.5 cm	OK
Access Zone	There shall be no sharp edges within the fill pipe access zone.	There are no sharp edges.	There are no sharp edges	OK



Type: Screw



Type: Bayonet

	Standard	Design	Results	Judgement
Fill Piper Face Surface	0.025cm TIR ⁽¹⁾	0.025cm	0.009cm	OK
Fill Piper Face: D	$D \leq 5.75 \text{ cm}$	5.24cm	5.42cm	OK
Angle of Locking Lip: θ	$\theta \geq 100^\circ$	150°	141°	OK
Angle of Locking Lip: RS	$RS \geq -35^\circ$	61°	59°	OK
Angle of Locking Lip: LS	$LS \geq 35^\circ$	89°	82°	OK
Height of Locking Lip: $h(h')$	$h \geq 0.25 \text{ cm}$ $h \geq 0.85 \text{ cm}$	0.3cm	0.25cm 0.85cm	OK
Depth of Locking Lip: d	$0.4 \leq d \leq 1.3 \text{ cm}$ on RP ⁽²⁾ as $0.4 \text{ cm} > d$, Depth through \leq 0.006cm/degree	1.3cm	1.29cm	OK

(1) Total Indicated Reading

(2) Reference Plan

3.3 Specifications to Reduce Damage to Vapor Recovery Nozzles

Requirements	Results	Judgement
There shall be no sharp projections or edges within the fill pipe access zone, along the surface of the fill pipe access zone, or along the surface of adjacent zone outside of the fill pipe access zone.	Complied	OK

3.4 Fill Pipe Assembly and Restriction Device Durability and Other Specifications

Requirements	Results	Judgement
(1) Any restriction device shall be sufficiently durable to withstand simple tampering and to prevent expansion of the restriction device diameter to 2.4 centimeters or removal of the restriction device without extraordinary effort.	Complied	OK
(2) The fill pipe assembly including fuel tank cap shall not expel liquid gasoline during normal driving maneuvers or parking attitudes.	Complied	OK
(3) The manufacturer of motor vehicle shall warrant that the vehicle conforms to specifications in Sections 2, 3, 4 and 5 herein for the useful life of the vehicle.	Complied	OK

3.5 Result of Refueling Test

Model: R51
 Nominal Tank Capacity V0: 80(L)

Nozzle: OPW11-VF4.7								
Amount of Filling	Test Item	Test No.					Judgement Standard	Judgement
		1	2	3	4	5		
10 GPM (37.9 l/min)	Amount of filling at Auto Shut-Off: V1 (l)	71.1	71.0	71.1	71.1	71.1		
	Amount of filling after Auto Shut-Off: V2 (l)	0.9	1.0	1.0	1.0	0.9	V2 ≤ 7.57 l or γ ≥ 90%	OK
	*1 Filling Rate at Shut-Off	98.9	98.8	98.8	98.8	98.9		OK
	Outflow at Shut-Off (ml)	0	0	0	0	0	No more than 1 ml at liquid gasoline loss per test in 90% of tests	OK
	Amount of gasoline at the start of test V3 (l) (V3=V0-V1-V2)	8	8	8	8	8	The fuel tank level shall be approximately 10% of the nominal tank capacity	OK
	V3/V0 (%)	10	10	10	10	10		OK
	Unlatching	NO	NO	NO	NO	NO	There shall be no unlatching	OK

Nozzle: EMCO WHEATON A4015								
Amount of Filling	Test Item	Test No.					Judgement Standard	Judgement
		1	2	3	4	5		
10 GPM (37.9 l/min)	Amount of filling at Auto Shut-Off: V1 (l)	71.0	71.0	71.0	71.0	71.1		
	Amount of filling after Auto Shut-Off: V2 (l)	1.1	1.0	1.1	1.1	0.9	V2 ≤ 7.57 l or γ ≥ 90%	OK
	*1 Filling Rate at Shut-Off	98.6	98.8	98.6	98.6	98.9		OK
	Outflow at Shut-Off (ml)	0	0	0	0	0	No more than 1 ml at liquid gasoline loss per test in 90% of tests	OK
	Amount of gasoline at the start of test V3 (l) (V3=V0-V1-V2)	8	8	8	8	8	The fuel tank level shall be approximately 10% of the nominal tank capacity	OK
	V3/V0 (%)	10	10	10	10	10		OK
	Unlatching	NO	NO	NO	NO	NO	There shall be no unlatching	OK

$$*1 \quad \gamma = \frac{V0 - V2}{V0} \times 100 (\%)$$

Vehicle Position:	Level	Temperature:	21 ±5°C
Hose Load:	4.5 kg	Pressure drop from the	13 mm Aq.
Gasoline used as fuel:	R.V.P. over 0.68 kg/cm ²	Nozzle fill pipe:	

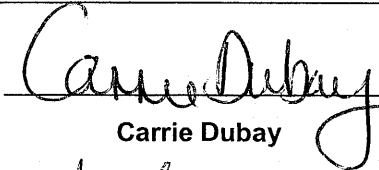
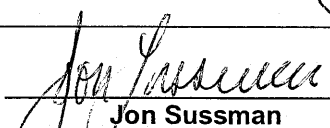
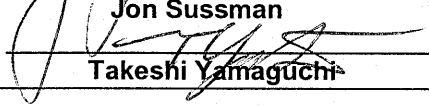


CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0926 DATE(mm/dd/yy) 04/30/08

TITLE: California ARB Fuel Fill Pipes and Opening Requirements

MODEL CODE: R51	ISSUER:  Carrie Dubay
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL:  Jon Sussman  Takeshi Yamaguchi

1. Purpose

This report shows certification test results of California ARB Fuel Fill Pipes and Opening Requirements on 2009 Model Year.

2. Conclusion

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

As the Fuel System of model year 2009 has no certification related differences from that of model year 2005 and updated in 2008 we adopt the following reports:

Report No: NX8F0830	Title: Amount of Test Nozzle Passing	Date: 1/15/08
Report No: KC4C-040607	All of California ARB Fuel Fill Pipes and Openings except report no. NX8F0830	2005

Meets the requirements of California ARB Fuel Fill Pipes and Openings and CMVSS No. 1101 provisions.

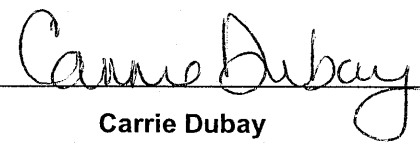
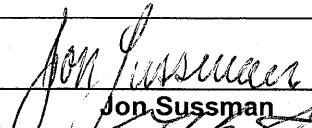



CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0932 DATE(mm/dd/yy) 04/30/08

TITLE: EPA Part 80 Sec. 80.24/CMVSR1101 (5)

MODEL CODE: R51, D40, N50	ISSUER:  Carrie Dubay
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL:  Jon Sussman  Takeshi Yamaguchi

1. Purpose

This report shows certification test results of EPA Part 80 Sec. 80.24/CMVSR1101(5) on 2009 Model Year.

2. Conclusion

As the Fuel System of model year 2009 has no certification related differences from that of model year 2005, we adopt the following report:

Report No.: KC4C-040608

Complied with EPA Part 80 Sec. 80.24/CMVSR1101(5)

Applied Model
R51, D40, N50 All Models By NNA-Smyrna For FED, CAN

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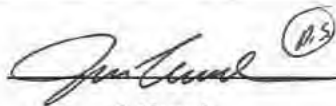
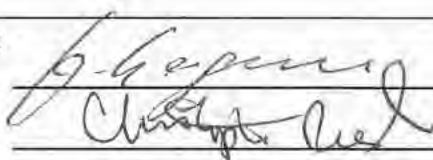
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0956 DATE (mm/dd/yy): 05/14/2008

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Rear Moving Deformable Barrier 70% Offset Crash and Static Rollover

MODEL CODE: R51	ISSUER:  J. Ruud
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2009 Model Year.

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

2. Conclusion

As the Fuel System Integrity of model year 2009 has no certification related differences from that of model year 2008, we adopt the following reports.

Report Number	Application
NX8F0675	R51 All Models

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Rear Moving Barrier Crash and Static Rollover

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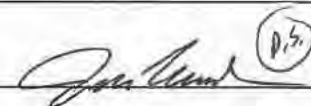
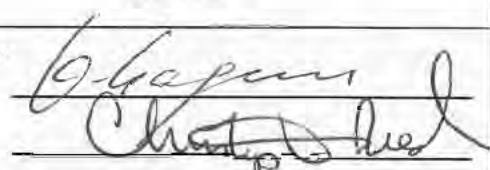
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0957 DATE (mm/dd/yy): 05/14/2008

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

 Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

MODEL CODE: R51	ISSUER:  J. Ruud
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No.301 on 2009 Model Year.

Applied Model
R51 All Models By NNA-Smyrna For FED, CAN

2. Conclusion

As the Fuel System Integrity of model year 2009 has no certification related differences from that of model year 2008, we adopt the following reports.

Report Number	Application
NX8F0677	R51 All Models

Complied with FMVSS/CMVSS No. 301 "Fuel System Integrity." Lateral Moving Barrier Crash and Static Rollover – Right Hand and Left Hand

③ CONFIDENTIAL



CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0973 DATE (mm/dd/yy): 05/14/2008

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

Frontal 0° Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER:  J. Ruud
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2009 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2009 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0049	R51 VQ40 Models

Complied with FMVSS/CMVSS No. 301, Frontal Barrier Crash and Static Rollover requirements.

③ CONFIDENTIAL

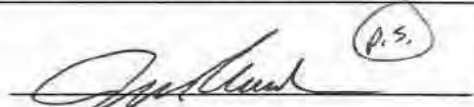
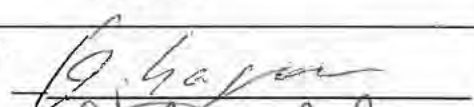
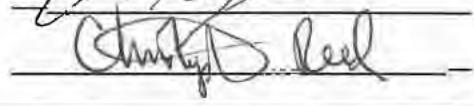
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0974 DATE (mm/dd/yy): 05/14/2008

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

Front 30° LH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER:  (P.S.) J. Ruud
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL:  

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2009 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2009 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0034	R51 VQ40 Models

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° LH Barrier Crash and Static Rollover

③ CONFIDENTIAL

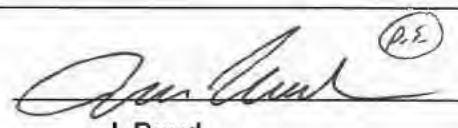
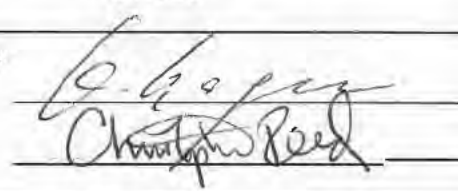
CERTIFICATION REPORT

NISSAN TECHNICAL CENTER NORTH AMERICA

REPORT NO.: NX9F0975 DATE (mm/dd/yy): 05/14/2008

TITLE: FMVSS/CMVSS No. 301, "Fuel System Integrity"

Front 30° RH Barrier Crash and Static Rollover

MODEL CODE: R51	ISSUER:  J. Ruud
MODEL YEAR: 2009	
TEST PERIOD: Carry Over	APPROVAL: 

1. Purpose

This report shows certification test results of FMVSS/CMVSS No. 301 on 2009 Model Year.

2. Conclusion

As the Fuel System Integrity of model year 2009 has no certification related differences from that of model year 2005, we adopt the following reports.

Applied Model
R51 VQ40 Models By NNA-Smyrna For FED, CAN

Report Number	Application
NX5F0033	R51 VQ40 Models

Complied with FMVSS/CMVSS No. 301, "Fuel System Integrity" Front 30° RH Barrier Crash and Static Rollover