



**Toyota Motor North America, Inc.**

Vehicle Safety & Compliance  
Liaison Office  
Mail Stop: W4-2D  
6565 Headquarters Drive  
Plano, TX 75024

April 28, 2022

## NONCOMPLIANCE INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Manufacturing, Texas, [“TMMTX”]  
1 Lone Star Pass, San Antonio, TX 78264

Affiliated U.S. Sales Company

Toyota Motor North America, [“TMNA”]  
6565 Headquarters Drive, Plano, TX 75024

Manufacturer of the Parking Assist ECU

Magna Electronics  
2050 Auburn Road, Auburn Hills, MI 48326 USA  
Phone: +1-248-696-6400

2. Identification of Involved Vehicles:

Based on production records, we have determined the involved vehicle population to be the vehicles listed in the table below.

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota / Tundra	2022	TMMTX	May 10, 2021 through April 13, 2022

Applicability	Part Number	Part Name	Component Description
Toyota / Tundra	86792-0C051	COMPUTER, PARKING ASSIST	Parking Assist ECU

Note: (1) Although the involved vehicles are within the above production period range, not all vehicles in this range were sold in the U.S.

(2) The Parking Assist ECU is a component of the Panoramic View Monitor (PVM) system described below.

(3) Only vehicles in the above production range which were equipped with the PVM system of a specific design and supplier are involved in this recall. Other Toyota vehicles, including 2022 model year Tundra vehicles with the base integrated backup camera, are not equipped with this system.

3. Total Number of Vehicles Involved:

Total : 18,101

4. Percentage of Vehicles Estimated to Actually Contain the Noncompliance:

100% of the involved vehicles contain a Parking Assist ECU with the incorrect software programming described in Section 5 below. Whether the issue, in each case, will cause the rearview image to not be displayed to the driver during a backing event depends on whether the rearview camera signal exceeds the allowable voltage threshold during each ignition cycle as described in Section 5 below.

5. Description of Noncompliance:

The subject vehicles are equipped with a Panoramic View Monitor (PVM) system, which consists of multiple individual cameras located around the vehicle, including a rearview camera, and a parking assist ECU. The PVM system uses the parking assist ECU to activate the signals for each of these cameras, as needed, in order to display an image. Due to incorrect programming of the parking assist ECU software, in certain weather conditions (e.g., cold temperatures), one or more of the camera signals may exceed the allowable voltage threshold during system initialization at vehicle startup. If the rearview camera signal exceeds the allowable voltage threshold, the rearview camera signal will not be transmitted to the parking assist ECU and the rearview image will not display to the driver in the multimedia screen. As a result, the subject vehicles will not meet the requirements in FMVSS No. 111, paragraph S6.2(b) which may increase the risk of a crash during a backing event.

6. Test Results and Other Information:

In late-January 2022, Toyota identified three reports from the field describing that there were intermittent instances during cold weather where PVM system-equipped Tundra vehicles did not display the rearview camera image when the vehicles were in reverse. Toyota observed the condition on a side view PVM camera by conducting in-vehicle cold weather testing and sought the further assistance of the PVM system supplier to better understand the reported behavior of the rearview camera. Based on a design review in late-January, Toyota and the PVM system supplier began to focus the investigation on the initialization sequence of the Parking Assist ECU and the PVM cameras. In the course of this testing, it was observed that the camera signal voltage was exceeding the allowable threshold, resulting in the Parking Assist ECU recognizing the camera as being in abnormal status, creating a loss of signal transmission. It was further found that any of the PVM cameras, including the rearview camera, could be subject to the condition.

As a result, Toyota determined on April 26, 2022, it is possible that the involved vehicles could experience a condition in which a rearview image does not display to the driver during a backing event and as such, does not meet the requirements of FMVSS No. 111 S6.2(b).

7. Description of Corrective Repair Action:

All known owners of the involved vehicles will be notified via first class mail to return their vehicles to a Toyota dealer. For all involved vehicles, the dealers will reprogram the Parking Assist ECU at no cost.

Reimbursement Plan for pre-notification remedies

As the owner notification letters will be mailed out well within the active period of the Toyota New Vehicle Limited Warranty (“Warranty”), all involved vehicle owners for this recall would have been provided a repair at no cost under Toyota’s Warranty.

8. Recall Schedule:

Notifications to owners of the affected vehicles will occur by June 27, 2022. A copy of the draft owner notification letter(s) will be submitted as soon as available.

9. Distributor/Dealer Notification Schedule:

Notifications to distributors/dealers will be sent by April 28, 2022. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer's Campaign Number:

Campaign Number: 22TA04