

Diagnostic Device Hardware & Windows®

Number: AHW-17-01

Subject: VAS 6154 Diagnostic Interface WLAN Infrastructure
Mode – Troubleshooting Guide

Date: Jan. 20, 2017

Supersedes AHW-16-13 due to updated document cross-references

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ATTENTION:

This troubleshooting guide is intended for I.T. Professionals that have:

- Working knowledge of Wireless Local Area Network (WLAN) systems
- Specific knowledge of the dealership WLAN / LAN setup and configuration, and familiarity with VAS 6154 components, initial setup and use
- Access to vehicle and dealership service technician (to assist with VAS 6154 handling)

This information may be revised at any time. Always check ServiceNet for the latest version.



1.0 – Introduction - **MUST READ!**

1.1 – General Information

This guide contains troubleshooting of **VAS 6154 Diagnostic Interface** connectivity and malfunction issues **when used in WLAN Infrastructure mode**. Specifically, use these step-by-step troubleshooting procedures for possible self-resolution of...

- **No connection to the Dealership WLAN**
- **Intermittent connection to the Dealership WLAN**

1.2 – Using This Guide - Overview

- Follow all instructions and procedures, **one after the other in the section or table order given**.
- Be prepared to refer to additional information in the **VAS 6154 User's Guide on CD**, and **Service Information** documents posted on ServiceNet.
- Be prepared to **observe the status of the Light Emitting Diode (LED) Indicators** during troubleshooting.
- If the issue is not resolved after addressing the prerequisites or completion of a troubleshooting topic action step, proceed to the next troubleshooting topic.



2.0 – Prerequisites for Troubleshooting

Successful troubleshooting relies on all prerequisites for troubleshooting being met /addressed prior to proceeding. In many cases, no /intermittent connectivity issues can be resolved simply by addressing the prerequisites.

2.1 – Dealership Network Prerequisites

- ☐ Dealership network type /minimum performance recommended: Business Grade, **6 Mbps** (single franchise) / **8 Mbps** (dual franchise).
- ☐ The type of network in use must be known, e.g.: **DHCP** or **Static IP**, and the network must remain enabled and unrestricted at all times for VAS 6154 use.
- ☐ Connection to an “open” network is not supported.
- ☐ The network's **IP address, name (SSID) and encryption key must all be known or obtainable.**
- ☐ The WLAN must have free IPs available (as applicable) and support WPA2 encryption.
- ☐ Broadcast services cannot be blocked by a network firewall or other security measures.

2.2 – Diagnostic Device Prerequisites

- ☐ Wireless LAN function on diagnostic laptop or tablet device must be turned **ON** (laptop switch etc.):
The Panasonic Wireless Switch Utility must indicate: “Wireless LAN ON” & “802.11a Enabled”

Firewall Setup Requirements:

- ☐ TCP port 4500 (incoming, outgoing) required for diagnostics
- ☐ Multicast on address 239.255.1.1, port 6154 (incoming, outgoing) required for device management.
- ☐ Multicast on address 239.255.1.2, port 6154 (incoming, outgoing) required for device management.
- ☐ TCP port 6154 (incoming, outgoing) required for device management.
- ☐ IP address ranges for the VAS 6154, e.g.: 192.168.1.x, 192.168.13.x, 192.168.61.x, must **not** be routed via a proxy server.

2.3 - VAS 6154 Prerequisites

- ☐ WLAN Module firmly plugged in to the top of the VAS 6154 (with audible “click”).
- ☐ Initial setup performed as per ***Diagnostic Device Hardware & Windows – Service Information*** document: ***VAS 6154 Diagnostic Interface – Initial Setup Guide*** (also posted in ServiceNet).
- ☐ VAS 6154 **User’s Guide on CD** available for reference.
- ☐ VAS 6154 **Docking Station and USB Y-cable** available for web interface access.
- ☐ A VAS 6154 **firmware update is not in process** (check ODIS Service main page r/h lower corner)
- ☐ Note the VAS 6154 **serial number** for reference during troubleshooting.

3.0 – Troubleshooting

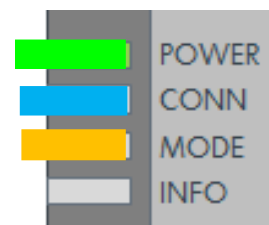
Do not proceed with troubleshooting if the prerequisites above have not been met /addressed.

3.1 – Preparation

1. Plug the VAS 6154 (with connected WLAN module) into a vehicle Data Link Connector (DLC).
2. Turn on the vehicle ignition.
3. Start the Offboard Diagnostic Information System Service (ODIS Service) application.
4. **Wait** for the VAS 6154 module to cycle through an LED self-check
5. Observe the operating status of the LEDs (when stabilized), and proceed through the troubleshooting sections that follow.

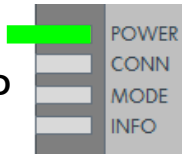
The desired LED status that indicates the VAS 6154 is powered on and connected to the dealership WLAN in Infrastructure mode:

- All illustrated LEDs **ON**. Blue LED **ON /flickering**):



3.2 – Check Power Status

Observe the status of the **green –POWER– LED**



Status	Indications	Actions
On	Normal operation	Proceed to Section 3.3 below
Flashing 1Hz	System Error	Access the web interface and display the user log for error code indications: - Remove VAS 61564 from vehicle DLC - Follow the instructions in Appendix 1 and Appendix 2
Flashing 1Hz <u>simultaneously with blue LED</u>	WLAN Infrastructure mode inactive	Check the WLAN Infrastructure mode activation: - Remove VAS 61564 from vehicle DLC - Follow the instructions in Appendix 1 and Appendix 3a
Off (All LEDs off)	VAS 6154 Module in Power Saving Mode	- Switch ignition off and back on again to reset module. - Refer to the User's Guide on CD - Section 2.5.7 for information on disabling Power Saving mode.
	- No power supply - Module Malfunction	- Remove VAS 6154 from vehicle DLC - Check vehicle DLC power and ground connections - Re-insert VAS 6154 to vehicle DLC with confirmed good power and ground connections If all LEDs remain off with a known good vehicle DLC, contact DSS at 888-896-1298.

3.3 – Confirm WLAN Infrastructure Mode Selection

Observe the status of the **orange –MODE– LED**:

- ☐ Orange LED **ON**: **WLAN Infrastructure** mode is active. Proceed to [Section 3.4](#).
- ☐ Orange LED **NOT ON**: **WLAN Direct** mode is active. In this case, switch from WLAN Direct to **WLAN Infrastructure** mode by pressing and holding button **-1-** until two brief beeps are heard.

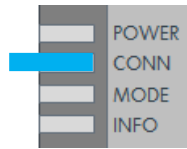


Note:

*If the VAS 6154 always starts up in **WLAN Direct** mode and requires mode switch-over as described above, its startup in **WLAN Infrastructure** mode was not configured during initial setup. In this case configure the VAS 6154 to always start in **WLAN Infrastructure** mode: Access the web interface and configure accordingly. For details refer to [Appendix 1](#) and [Appendix 3b](#).*

3.4 – Check Network Connection

Observe the status of the **blue –CONN– LED**:



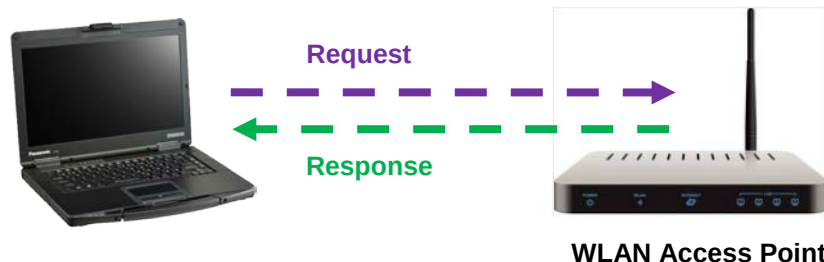
Status	Indications	Actions
On or flickering but the VAS 6154 is not connect to /or is recognized by the diagnostic device	VAS 6154 is communicating with another diagnostic device	- Go to the ODIS Service Operating mode menu - Select Extras > Diagnostic Interface - Confirm that the VAS 6154 serial number displayed as being in use by ODIS Service is the one being diagnosed here
Flashing 1Hz	VAS 6154 in process of connecting to WLAN.	Depending on the WLAN and any security measures in place, the connection routine may take several minutes.
	WLAN Infrastructure connection parameters not configured	If the blue LED continues to flash indefinitely (does not eventually remain on/flicker and be recognized by ODIS Service) check the WLAN Infrastructure configurations: - Remove VAS 61564 from vehicle DLC - Follow the instructions in Appendix 1 and Appendix 3b
	VAS 6154 or WLAN malfunction	Perform connection test: - Remove VAS 61564 from vehicle DLC - Follow the instructions in Appendix 1 and Appendix 3d

Note:

If a large number of Bluetooth® devices routinely transmit within the dealership WLAN environment, try activating the 5 GHz frequency range option in the VAS 6154 web interface to avoid interference. Ref. [Appendix 1](#) > Connectivity > WLAN Infrastructure > WLAN Infrastructure settings.

3.5 – Ping the WLAN Access Point

This procedure tests the ability of the **WLAN access point** to respond to a small data packet request from the **diagnostic laptop or tablet device**.

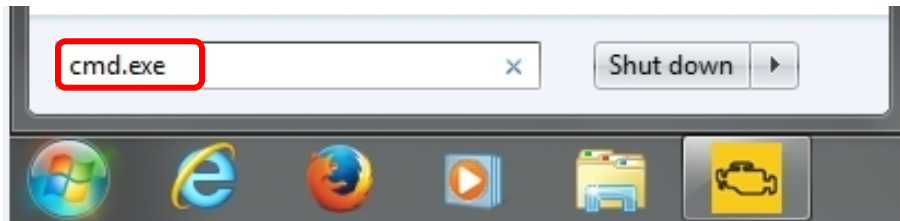


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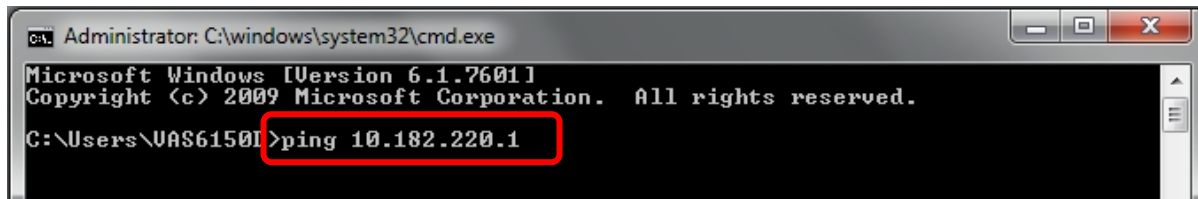
Prerequisite:

- ☐ The **IP address of the dealership's WLAN access point must be known.**

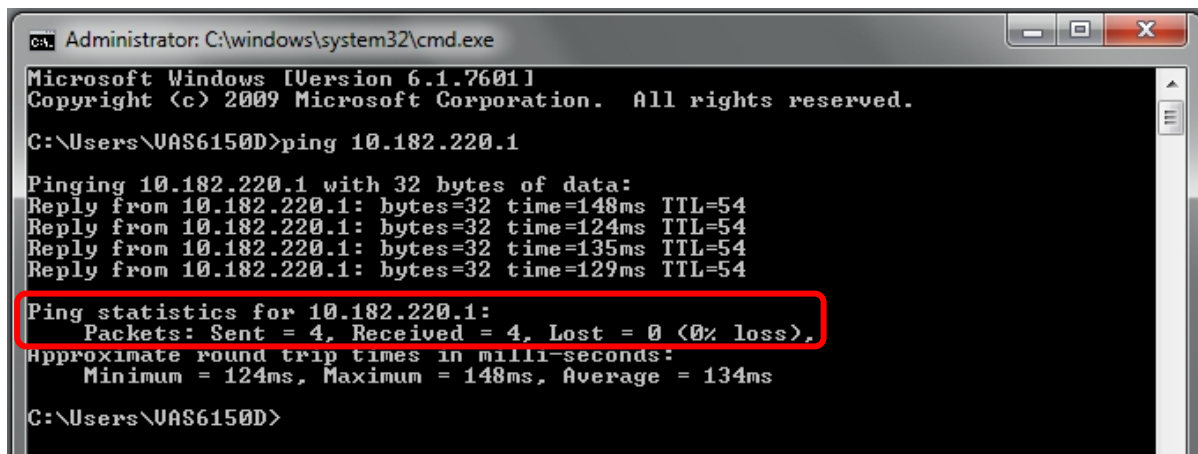
1. From the Windows desktop, click the Windows (Start) icon.
2. In the Search programs and files window, type in: **cmd.exe** (exactly as illustrated below). Then (keystroke) Enter.



3. After the command line prompt, type in: **ping** and the **IP address of the access point**. (Example illustrated below.) Then (keystroke) Enter:



A successful access point ping response will show the same number of packets “Received” as were “Sent” (as illustrated below).



An unsuccessful access point ping response will typically indicate a number of “timed out” requests and the message: **Received = 0**.

In this case, check the access point power state, network configuration (correct IP addresses, subnet masks etc.) and possible access point malfunctions in accordance with the manufacturer instructions.



Appendix 1 – Access the Web Interface

Access the web interface to:

- Display the VAS 6154 User log
- Confirm or perform various configurations

1. Connect single end of USB-Y cable to docking station and double end to available USB ports on diagnostic device:



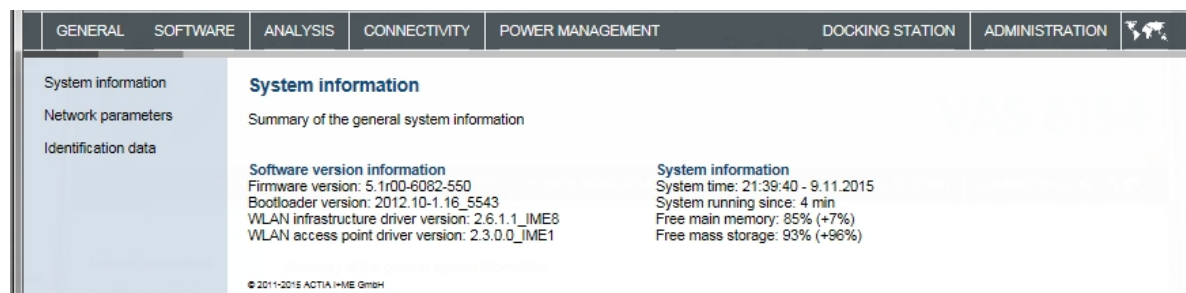
2. Plug the VAS 6154 with WLAN Module into the docking station:
3. **Open Internet Explorer** and **manually enter** the following IP address in the browser's address bar:

http://192.168.1.69

(optional: **http://vas6154-dock**):

A delay before the web interface appears is normal... please be patient! (It may be necessary to repeat the IP address entry if the first attempt fails.)

The **General – System** Information page appears first by default:



Jump To:

[Appendix 2 – Display User Log](#) – Page 8

[Appendix 3a – Check WLAN Infrastructure Mode Activation](#) – Page 9

[Appendix 3b – Check WLAN Infrastructure Connection Parameters](#) – Page 9

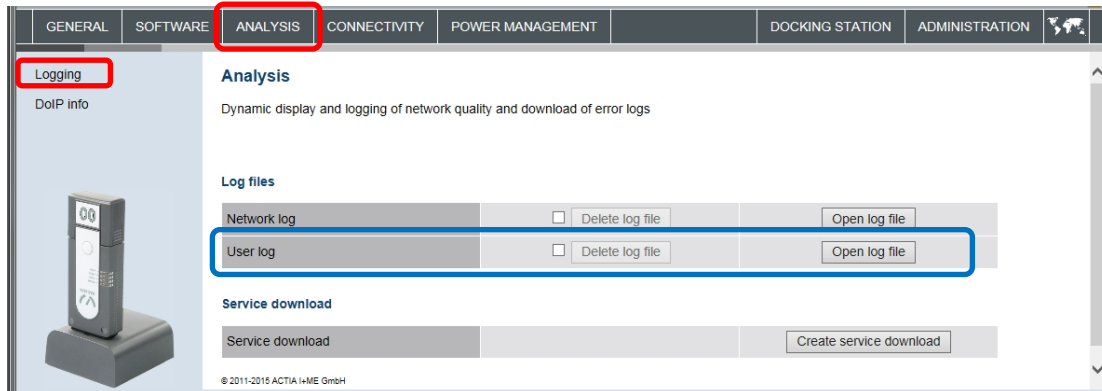
[Appendix 3c – Reboot Module to Save Configurations](#) – Page 10

[Appendix 3d – Connection Test](#) – Page 11

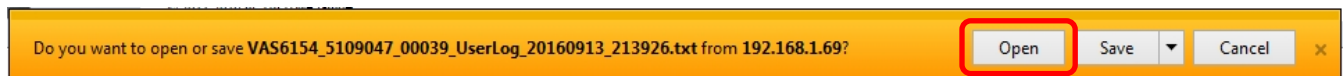


Appendix 2 – Display User Log

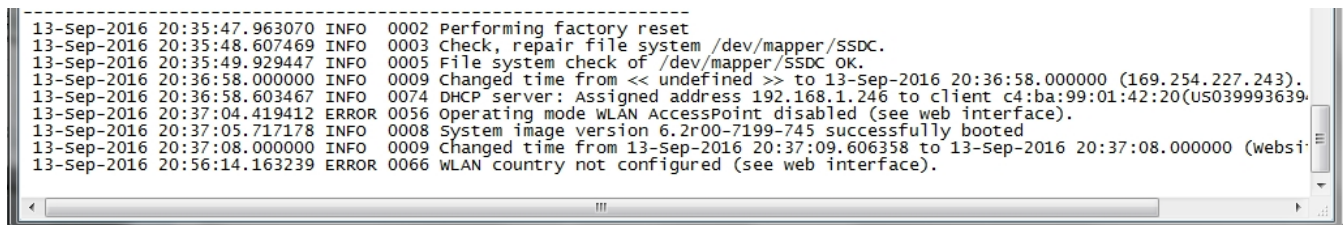
- From the web interface: Select the **ANALYSIS** main category, and then select the **Logging** subcategory:
- In the **Log files** subcategory, select **Open log file** for the **User log**:



- Select **Open**:



- Scroll down to the last (most recent) log entries displayed and evaluate the results. Example:



Evaluating User Log File Entries:

13-Sep-2016 20:56:14 163239	ERROR	0066	WLAN country not configured
Time Stamp	Event Type	Event Number (error code)	Event Text

Event Types:

- INFO (information)
- WARN (warning)
- ERROR (error)
- FATAL (fatal error)

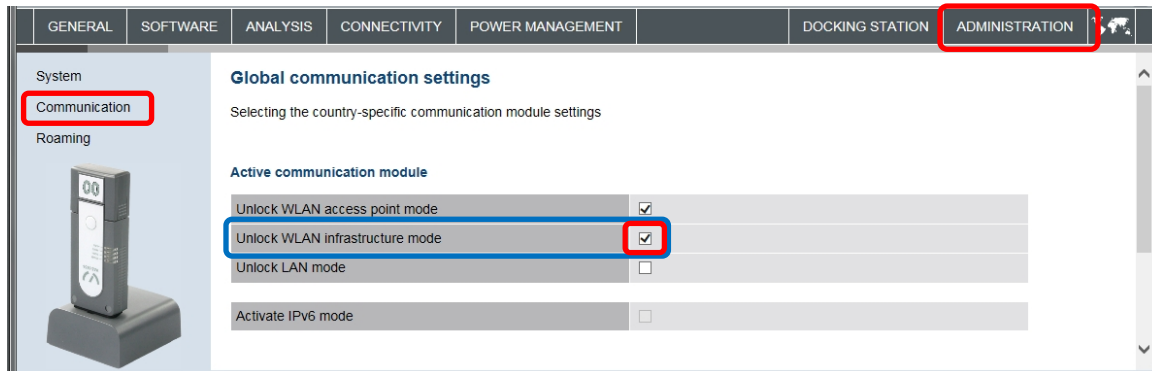
- Note the **event number** (error code) for **WARN**, **ERROR** and **FATAL** event types listed.
- Launch the **VAS 6154 User's Guide on CD**.
- Refer to the **Appendix – List of Error Messages in User Log in the User's Guide on CD**.
- Locate the event number (error code) from the list and follow the recommended action(s).



Appendix 3 – Check VAS 6154 Configurations & Self-Test

Appendix 3a – Check WLAN Infrastructure Mode Activation

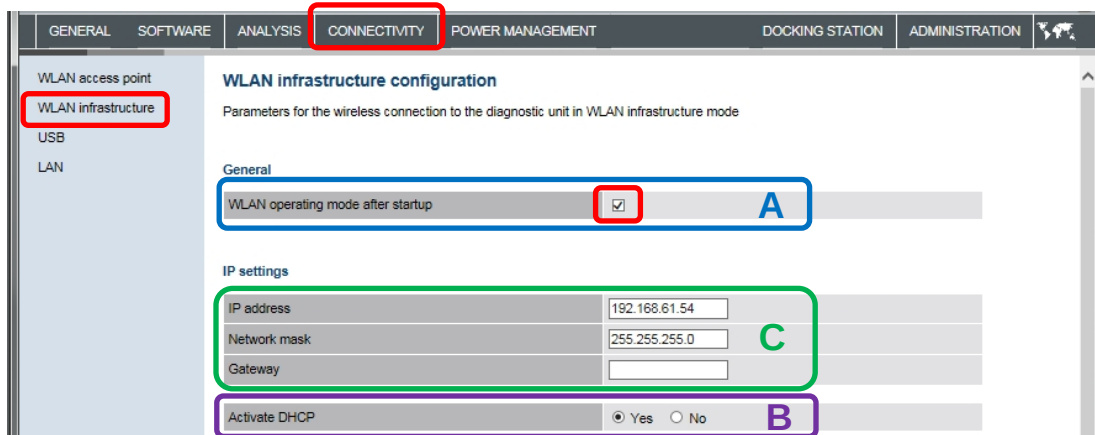
1. From the web interface: Select the **ADMINISTRATION** main category, and then select the **Communication** subcategory:
2. Confirm that the **Unlock WLAN infrastructure mode** selection is checked. If not, check it now.
3. Select **Accept**, and then **wait a moment** while the parameters are written:



4. If parameters were entered or changed, reboot the module. Refer to [Appendix 3c](#).

Appendix 3b – Check WLAN Infrastructure Mode Configurations

1. Select the **CONNECTIVITY** main category, and then select the **WLAN Infrastructure** subcategory:
2. Confirm that the **WLAN operating mode after startup** selection **-A-** is checked. If not, check it now:
 - ☐ **If** the network is set up for **DHCP**: Skip to [Step 5 – Page 10](#). (The default setting is DHCP.)
 - ☐ **If** the network is set up for **Static IP**: Continue with **Steps 3 & 4 below**.
3. **For Static IP Only**: Confirm that **No** is selected to deactivate the DHCP default **-B-**:
4. **For Static IP Only**: Confirm that the correct **dealership-specific IP address /network mask etc.** information is entered **-C-**:





- If necessary, **scroll down the window** to reveal the selection - entry fields illustrated below:
- Confirm that the correct **Dealership WLAN SSID** (network name) appears **-A-**. If not, enter it now:
- Confirm that the correct encryption key for the network appears **-B-**. If not enter it now:
- Select **Accept**, and then **wait a moment** while the parameters are written:

- If parameters were entered or changed, reboot the module to save them. Refer to Appendix 3c below.

Appendix 3c – Reboot Module to Save Configurations

If configuration parameters were entered or changed, they must be saved by rebooting the module:

- Select the **ADMINISTRATION** main category, and then select the **System** subcategory:
- Scroll down** and then check **Reboot system**:
- Select **Accept**, and then **wait a moment** while the parameters are written:

(cont.)



4. **Wait** until the system reboots (the display briefly goes blank) and “**parameters successfully written**” is displayed in the page footer:



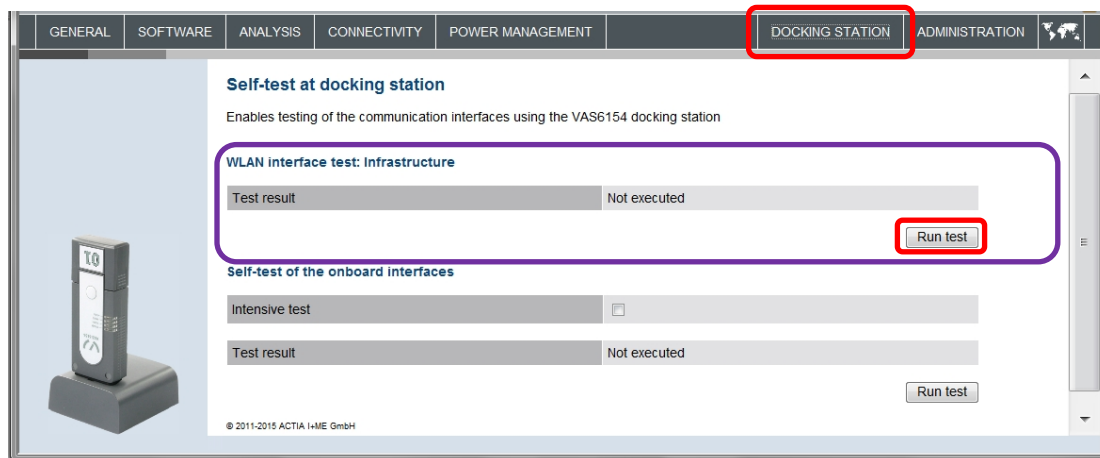
Appendix 3d – Connection Test

The connection test confirms the VAS 6154 WLAN Infrastructure connectivity on the configured WLAN.

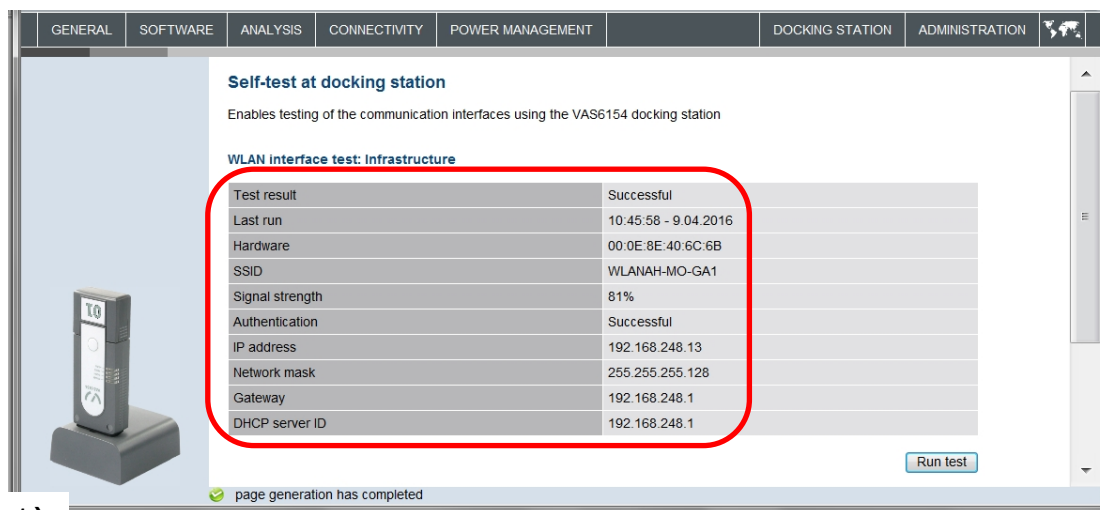
Note:

*The connection test only confirms the ability of the VAS 6154 to connect to the WLAN. The test **does not** confirm the ability of the VAS 6154 to exchange data with the diagnostic device via the WLAN, i.e.: data exchange may be blocked by network security measures.*

1. Select the **DOCKING STATION** main category: Retry selection if no connection is made initially.
2. From the **WLAN interface test: Infrastructure** subcategory, click **Run test**:



The test takes approx. 90 seconds. Successful test result example:



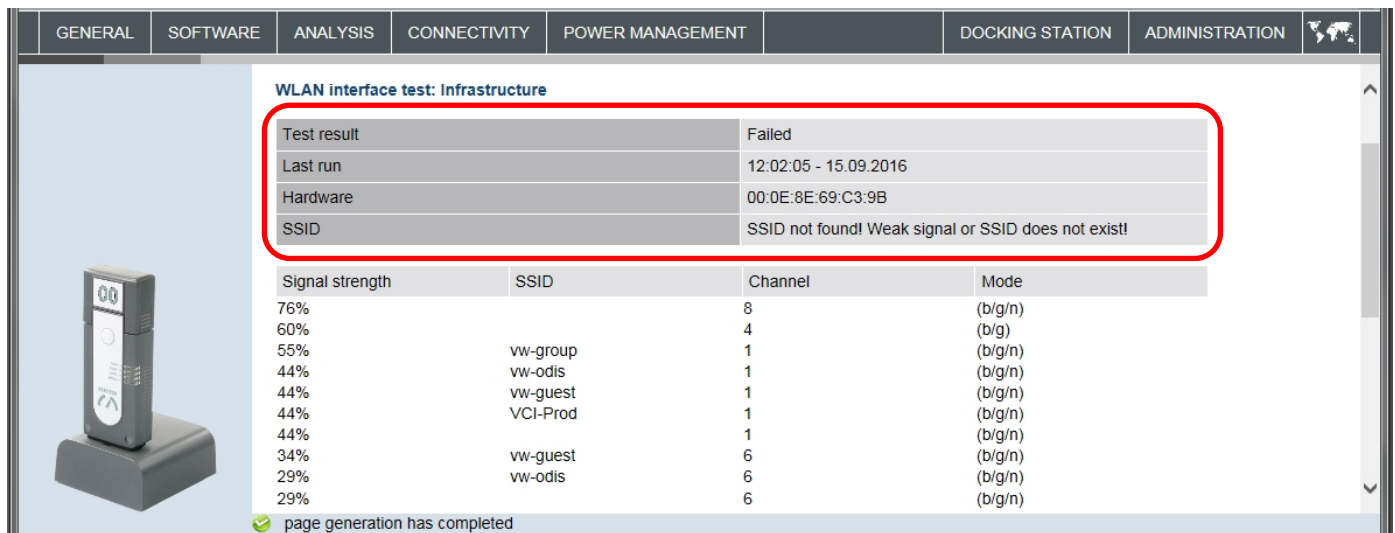
(cont.)

Note:

If the connection test returns a successful result, but the **VAS 6154 is still not recognized by /connects to the diagnostic device when using ODIS service (VAS 6154 connected to vehicle DLC)**, refer to Appendix 4 below.

An unsuccessful test result will specify the affected infrastructure entity and reason for failure. In this case, address and resolve the reason for failure accordingly.

Unsuccessful test result example: No network found, or weak signal with alternative (stronger) networks found.



Signal strength	SSID	Channel	Mode
76%		8	(b/g/n)
60%		4	(b/g)
55%	vw-group	1	(b/g/n)
44%	vw-odis	1	(b/g/n)
44%	vw-guest	1	(b/g/n)
44%	VCI-Prod	1	(b/g/n)
44%		1	(b/g/n)
34%	vw-guest	6	(b/g/n)
29%	vw-odis	6	(b/g/n)
29%		6	(b/g/n)

page generation has completed

Appendix 4 – WLAN Optimizations

If the VAS 6154 is still not recognized by or does not connect to ODIS Service, or established connections are intermittent or lost during a GFF session, issues that are specific to the dealership network may be the cause. In these cases, various optimizations can be applied.

For details, refer to **Diagnostic Device Hardware & Windows – Service Information** document:
VAS 6154 Diagnostic Interface – WLAN Optimizations