



Over the Air Remote Reflash Test Procedure for Third Party Testers

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. To identify the subsystem level test procedures to be performed by third party testers to verify Over the Air (OTA) Remote Reflash (RR) capability. The test procedures that verify these requirements are contained in CG5432, CG5433, CG5434, CG5435, CG5436, CG5437, CG5438, CG5439, CG5440, CG5441, CG5442, CG5443, CG5444, and CG5445.

1.2 Applicability. Vehicles equipped with OTA RR capability.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References.

- CG5432 Infotainment (Info) Info 3 Center Stack Module (CSM) OTA RR Test Procedure
- CG5433 Bring Your Own Media Second Version (BYOM2) OTA RR Test Procedure
- CG5434 Global B Communication Gateway Module (CGM) OTA RR of External Electronic Control Units (ECUs) Test Procedure
- CG5435 Global B CGM OTA RR Test Procedure
- CG5436 Global B CSM I3L OTA RR Test Procedure
- CG5437 Global B Transmission Control Protocol (TCP) OTA RR of External ECUs Test Procedure
- CG5438 Advanced Driver Assist System Map Module (AMM) OTA RR Test Procedure
- CG5439 Human Machine Interface Second Version (HM2) OTA RR Test Procedure
- CG5440 Vehicle Communication Processor (VCP) OTA RR Test Procedure
- CG5441 Info 3 Low Radio OTA RR Test Procedure
- CG5442 TCP OTA RR of External ECUs Test Procedure
- CG5443 TCP OTA RR Test Procedure
- CG5444 VCP OTA RR of External ECUs Test Procedure
- CG5445 Global B TCP OTA RR Test Procedure

3 Resources

3.1 Facilities. An electrical test laboratory with a subsystem or system test bench or a vehicle with RR capability.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

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May 2018

Page 1 of 3

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment. A serial data monitoring tool and test computer with the supporting software and a network connection to the RR test tool servers.

3.3 Test Vehicle/Test Piece. A test bench or vehicle with latest (production intent) RR capable modules.

3.4 Test Time. The individual CGs (CG5432, CG5433, CG5434, CG5435, CG5436, CG5437, CG5438, CG5439, CG5440, CG5441, CG5442, CG5443, CG5444, and CG5445) are comprehensive, i.e., contain instructions to test all RR features/functions. Test time is dependent on program content.

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. One (1) Infotainment Subsystem Engineer is required to perform the test. Knowledge of General Motors Local Area Network (GMLAN) is required. The test engineer must be able to transmit functional and diagnostic messages with the test tool and record and analyze GMLAN serial data communications. Additionally, the knowledge of Ethernet data monitoring is required.

4 Procedure

4.1 Preparation. Verify that the correct hardware and software levels are being used with the correct calibration.

4.2 Conditions. As found in the individual CGs (CG5432, CG5433, CG5434, CG5435, CG5436, CG5437, CG5438, CG5439, CG5440, CG5441, CG5442, CG5443, CG5444, and CG5445).

4.2.1 Environmental Conditions.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions. Follow the instructions found in the individual CGs (CG5432, CG5433, CG5434, CG5435, CG5436, CG5437, CG5438, CG5439, CG5440, CG5441, CG5442, CG5443, CG5444, and CG5445). The individual CGs are comprehensive, some portions may not be applicable to the configuration and/or calibration being tested.

5 Data

5.1 Calculations. Not applicable.

5.2 Interpretation of Results. The test engineer is to compare the actual results to the expected results and determine if the subsystem does/does not meet the requirements.

5.3 Test Documentation. For each requirement tested, the test engineer is to document "Pass", Not applicable ("N/A") or "Failed". A copy of all test procedures with results shall be included with the evaluation report as supporting documentation.

All failures or unusual observations are to be documented in the Electrical and Software Issue Management System (ESIMS), or in the Problem Resolution Tracking System (PRTS). Complete bus log files are to be collected and included with the ESIMS, PRTS. Contact the GM Release Engineer for details regarding which system to document failures or unusual observations.

6 Safety

This Engineering Standard may involve safety requirements for hazardous materials, the method of operations and equipment. This standard does not propose to address all the safety issues associated with its use. It is the responsibility of the user of this standard to ensure compliance with all appropriate safety and health practices. This would include any specific training that may be required. The safety and health standards include site specific rules and procedures, company rules and procedures, and Government Standards. Contact shall be made with the appropriate site Safety and Health personnel for further direction and guidance in these matters.

7 Notes

7.1 Glossary. Not applicable.

7.2 Acronyms, Abbreviations, and Symbols.

AMM Advanced Driver Assist System Map Module

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May 2018

Page 2 of 3