Subsystem Specific

Diagnostic Specification (Part 2)

**Cockpit Infotainment System Module**

Ford Motor Company

Document Number: DSMB6T-18D668-AA014

MDX version #: 4

Part2 Human-Readable Creation Tool - NG

Tool Version #: 1.8.0.0

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Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Author | Date | Modification | SSDS Part Number |
| Chen XiuJing | 2020-09-01 11:59:27+08:00 | First Draft | DSMB6T-18D668-AA001 |
| Chen XiuJing | 2020-09-02 18:41:46+08:00 | Create First Version for CD542 project. | DSMB6T-18D668-AA002 |
| Wang Fin | 2020-09-02 18:42:30+08:00 | 1. DID $ DE01 "MC Seat" parameter value increased by 0x09, 0x0A; 2. DID $ DE04 "APNURL" parameter changed to "AR Navigation" 3. DID $ DE04 "Navi Features" parameter value 2 changed its name from "With Adas map" to "GPS from TCU" 4. DID $ DE05 "DSO chime" parameter value definition update 0: "Disable", 1: "Enable DSO", 2: "Duplicating DNA Chime" 5. DID $ DE05 "High Mode AM Dynamic Search Sensitivity" parameter changed to "Audio Delay time" 6. DID $ DE06 "727 unique" parameter changed to "Reserved" 7. DID $ DE07 Added "Soft Camera / Parking Key", "Display Mode", "Number of PADIs", "Manual Mode" parameters 8. DID $ DE07 “DSM” parameter changed to Onboard Scales 9. DID $ DE07 adds 10th to 16th byte parameters 10. DID $ DE08 changed "Tone Touch" parameter to "Reserved" Reason: Customer update requirement of "Config bits" on 2020-03-19. | DSMB6T-18D668-AA002 |
| Wang Fin | 2020-09-02 18:44:00+08:00 | Update DID and DTC detail description. | DSMB6T-18D668-AA002 |
| Wang Fin | 2020-09-02 18:44:34+08:00 | Add "Test Run Criteria" and "Pass / Fail Criteria" to some new DTCs. | DSMB6T-18D668-AA002 |
| Chen XiuJing | 2020-09-02 18:45:06+08:00 | 1. Delete DID$D03B, $D03F and$F109; 2. Update information of DID$D111,$D700,$D701,$FD1A,$FD1B,$FD1C,$8003,$8022,$8024,$8047, and $8049. | DSMB6T-18D668-AA002 |
| Chen XiuJing | 2020-09-02 18:45:41+08:00 | Update DID$DE06 and $DE07 Config bits define. | DSMB6T-18D668-AA002 |
| Chen XiuJing | 2020-09-02 18:46:54+08:00 | 1. Update $DE02,$DE06,and $DE07 config bits. 2. Update DID$FD11-$FD14 to DID$FD21-FD24. 3. Add DID$0x8068 | DSMB6T-18D668-AA002 |
| Chen XiuJing | 2020-09-02 18:47:29+08:00 | 1. Add 4 tweeter DTC to dectect circuit open, DTC number as 0x9A0713,0x9A0813,0x9A0913,and 0x9A1013. 2. Add DID$FD12,FD15, and $D027. | DSMB6T-18D668-AA002 |
| Tian Yuan | 2020-09-02 18:48:02+08:00 | 1. Delete NRC26 without service used. 2. Add "supplier usage" text to comment field. 3. Add Flash driver and application memory area. 4. Add entry/exit critia for 0x2F service. 5. Fix DTC$93F501 and $908EB error description. 6. Add special Procedures. | DSMB6T-18D668-AA002 |
| Tian Yuan | 2020-09-02 18:48:40+08:00 | Update ECU Configration DIDS. | DSMB6T-18D668-AA003 |
| Wang Fin | 2020-09-02 18:49:16+08:00 | Add AR and Face camera DTC. | DSMB6T-18D668-AA004 |
| Wang Fin | 2020-09-02 18:49:48+08:00 | 1. Update DE02 config bits. 2. Update pass fail criteria of DTC E10100 configuration mismatch. 3. Modify "0x40 EOLExtendedDiagnosticSession" to "0x60 EOLExtendedDiagnosticSession". | DSMB6T-18D668-AA005 |
| Chen XiuJing | 2020-09-02 18:50:14+08:00 | 1. Add Reset VMCU for E100-00 Routine (F002). 2. Delete DTCs 0x966B for Camera “A" and 0x966C for Camera “B”, and replaced with 0x8200 for Camera “A” and 0x8201 for Camera “B”. 3. Add DE06 Byte8 Bit7 for Rear Lamp Animation. 4. Change DE07“IPD-Off-Road #2”to“IOD-Off-Road #2. 5. Change the length of DID 0xFD21/0xFD22/0xFD23/0xFD24 to 1846bytes; and add security L3 protect. 6. Add illumination related DID$FDC5/FDC6/FDC7/FDB2/FDB3/FDB5 7. Deactive routine 0xFA61. 8. add write subservice for DID 0xF17F/0xF18C. 9. Update DE05 byte3 bit7~4 “Sound Mode: Stereo/Surround 10. Update DE07 byte6 bit1 Charge Port Light Type 11. Add "SDM Max Response Timer" and "SDM Max Feedback Errors" config bit. | DSMB6T-18D668-AA006 |
| Wang Fin | 2020-09-02 18:50:43+08:00 | 1. Add DE07 B6b5 Multi Camera Strategy config bit. 2. did 0x8060 packet definition 3. Add DE06 B10b7 HDRVC Overlay sets config bit. 4. Set DE08 B6b1/B6b0 to reserved. 5. Update DE08 B7b7 as Driver Warning Data Collection Type Configuration confit bit. | DSMB6T-18D668-AA007 |
| Lijun Xi | 2020-09-02 18:51:21+08:00 | 1.Fix DID session error; 2. Deactive unsupport DID; 3. add FD06/FD10/FD11/FD13; 4. modify DID F18C with 8bytes; FD1B with 1byte; | DSMB6T-18D668-AA008 |
| Lijun Xi | 2020-09-02 18:51:52+08:00 | 1. Update DID session according to FIN modification. 2. Move routine 0xDC00 from type2 to type1; deactive routine 0x0210, 0x0213 and 0xFA62; 3. Add DE07 B10 bit7 "Highway assist, modify “Message Center HMI” from Disabled/Enabled to Off/On,modify “WACM” from Disabled/Enabled to Not Present/Present; 4. Modify DE00~DE09 name according to PartII spec; 5. Add 0x919F15, Display2 relevant DTCs and delete unused DTCs; 6. Fix some warning, modify MDX validation report errors. 7. Add 0x02 session for F17F/F18C and active 0xD04F for pass MDX validation. 7. Add 0xBA services for audio EQ Tuning; 8. Add EVSE required service 0x23/0x3d ,routine 0xFEFE/FEFD,InputOutputControl 0xFE60; 9. Fix DTC PIN error; | DSMB6T-18D668-AA008 |
| Lijun Xi | 2020-09-02 18:52:29+08:00 | 1. Modify DTC from 0xE10B04/0xE10B54/0xE10B57 to 0xE01B04/0xE01B54/0xE01B57; 2. Fix Routine DC00 response data " Routine Info (ww)" with type1 and status1(fix "Entry Conditions" and "Exit Codintion" place in error position), change "Maximum Routine Run Time" with 150ms for MDX validation check; 3. Delete unused illumination DID: 0xFDB8/FDB9/FDBD/FDD0/FDCF/FDD1/FDCE; 4. Add security L3 for 0xEE02/EE03, update illumination DIDs security protect; 5. Modify 0xFD01/0xFD04 length with 40 bytes; 5. Delete DE05 byte4 bit3~0 reserved; Fix DE01 MCM length error; | DSMB6T-18D668-AA008 |
| Lijun Xi | 2020-09-02 18:52:57+08:00 | 1. Modify all "reserved" confitbits parameter with "(reserve)" formate in cdd; 2. Adjust DTC "Continuous Monitoring" and "Control Routines"; 3. Add "FHEV" for "Fuel type"; | DSMB6T-18D668-AA008 |
| Lijun Xi | 2020-09-08 17:01:08+08:00 | 1. modify P4 can max time, 14hex from 1000ms to 1500ms, 27hex from 50 to 150ms, 19hex from 50 to 200ms. 2. modify DE06 B5 bit7~4 "Facial Recognition" content. 3. add read for DID 0xFE60. 4. add "DTC Fault Detection Counter" support for 0xC16200 and 0xF00043. 5. fix routine 0x3008/0x0304/0xFF01 security setting error. 6. fix DE05 Stereo/Surround configuration conent. | DSMB6T-18D668-AA009 |
| Lijun Xi | 2020-09-22 15:20:38+08:00 | 1. Add “ANC only ” and “ESE P702 Variant” value for 0xDE05 “ANC/ESE; 2. Update 0xC12100 Pass / Fail Criteria; 3. Update 0x500101/0x500181/0x500102/0x50011C/0x50014B/0x500155/0x500187 Test Run Criteria; | DSMB6T-18D668-AA010 |
| Lijun Xi | 2020-11-04 08:58:04+08:00 | 1.Update DE06 "Facial Recognition" data define. 2.Add 0x60 session for 0x3008,0x601C and 0xF002; 3.Update EE02 parameters name and length with 53 bytes; 4.Fix 0xEEE2 length with 64 bytes, 0xFD13 with 1 byte, 0xFD21/FD22/FD23/FD24 with 1846 bytes; 5.add value "CD764 low" and "CD764 High" for DE01 Ambient Light; 6.modify routine 0x203A timeout time with 200ms; 7.update 0xDE07 parameter "Eco-Idle","Advanced HUD","IOD-Off-Road #2" and "Trail Turn Assist" value with "Disable" and "Enable" text; 8.add security L3 for configuration DIDs; 9.add "0x4 Revel" in "Smart DSP"; | DSMB6T-18D668-AA011 |
| Lijun Xi | 2020-11-19 09:11:30+08:00 | 1. add security for routine 0xFF02; 2. update DTC 0xC15100 and 0xC45200 "Pass / Fail Criteria", "Fault Symptom Recognized by Vehicle Occupants" and "Special Considerations"; 3. update 0x02/0x03/0x60 session entry and exit criteria; 4. Delete 0xDE08 "Parameter 164", add "Parameter 165 - Clear Exit Assist"; 5. Update 0xDE06 "Sunroof control" and "HDRVC Overlay sets" values; 6. Rename 0xDE05 "Audio Delay time" with "DSP VR Audio Delay time"; 7. Update 0xDE01 "Ambient Light" 8. For DTC 0xC10000 - Lost Communication With ECM/PCM "A" No Sub Type Information, add detect message 0x27A timeout; 9. Deactive routine 0xDC00; 10. add DID 0xFE00~0xFE04; 11. modify 0xFD02 with 0xFD07; 12. modify 0xFD04 with 0xFD02 and modify lenght with 32bytes; | DSMB6T-18D668-AA012 |
| Lijun Xi | 2020-11-27 09:12:25+08:00 | 1. update services NRC 2. delete service 11 NRC7E 3. Fix 0xFE60 length with 2 bytes 4. update 0x9A0412 and 0x94FD01 aging counter with 80 5. add "PAAK Lite" for parameter "Keypad/PAAK" | DSMB6T-18D668-AA012 |
| Lijun Xi | 2020-12-17 14:43:48+08:00 | 1. update AM/FM unit; 2. delete routine 0x601C DTC entry/exit condition; 3. update DE00 "welcome farewell animation" content, modify "Speed Limit Menu" with "Speed Limit Assist Menu"; 4. add routine 0x6021 and 0x6035(deactive because of mdx validation report error); 5. add "Defective ECU DTC" in extended DTC description for 0xF000XX; 6. add description for Calibrations and update calibrations start address. 7. modify DE05 "BT tuning" paramter and add DE05 "Chime Tuning for DSP"; 8. Add "FaceID Variant 2 " for 0xDE06 parameter "Facial Recognition"; 9. Add Entry/Exit Criteria for FE03,FE02,FE01 and FE60; 10.Update Camrea DTCs PIN; 11.Update "Special Procedures"; 12.Add "Rocket Setup" for 0xDE07. add "U554 RACM" for 0xDE01 "Rear EFP"; | DSMB6T-18D668-AA013 |
| Lijun Xi | 2020-12-24 13:56:18+08:00 | 1. Add 0xFDD2~0xFDD4; 2. Modify 0xFE60 length with 1 byte; 3. Add 0xF16D and 0xF16E; | DSMB6T-18D668-AA014 |

Contents

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# Document Overview

**ECU information**

|  |  |
| --- | --- |
| ECU Name | Cockpit Infotainment System Module |
| ECU Acronym | CISM |

**Referenced Specifications**

|  |  |
| --- | --- |
| Title | Version |
| Generic Global Diagnostic Specification | 005 |
| Software Download Specification | 007 |
| ECU Configuration Specification | 004 |

**Auto Validation Summary**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MDX Validator Version | Validation Date | Schema Consistency Passed | MDX Consistency Passed | GMRDB Consistency Passed |
| Mdx Validator 9.4.0.0 | 1/8/2021 3:37:57 PM | Yes | Yes | Yes |

**Other General Information**

|  |  |
| --- | --- |
| CANDELA\_TEMPLATE | 5.1.0b |
| CANDELA\_VARIANT | Common Diagnostics |

# Communication Parameters

## CAN Parameters:

|  |  |  |
| --- | --- | --- |
| Name | Value | Description |
| CAN ID Size | 11 | 11 or 29 bit CAN IDs used for diagnostics |
| Baudrate | 500000 | CAN bus data rate (bps) |
| DIAG\_PROTOCOL | CLASSICAL\_CAN | Supported in all sessions |
| DIAG\_PROTOCOL | CAN\_FD | Not Supported |
| ECU Diagnostic Reception ID | 0x07D0 | CAN ID for physically addressed diagnostic requests.This parameter is only relevant, if a 11 bit identifier (=> normal addressing) is used |
| ECU Diagnostic Transmission ID | 0x07D8 | CAN ID for physically addressed diagnostic responses.This parameter is only relevant, if a 11 bit identifier (=> normal addressing) is used. |
| Functional Diagnostic Reception ID | 0x07DF | CAN ID for functionally addressed diagnostic requests |
| Legislated OBD Supported | No | Yes indicates that the ECU supports one or more legislated diagnostic services (e.g., services $01 - $0F) on this communication link. |
| Bootloader Supported | Yes | Yes indicates that the ECU supports diagnostic communication within the bootloader on this communication link. |
| Application Diagnostics Supported | Yes | Yes indicates that the ECU supports diagnostic communication within the application on this communication link. |
| Diagnostic Gateway | no | Yes if ECU serves as a diagnostic gateway to other ECUs |
| Diagnostic Sub-node | no | Sub-node address of ECU if diagnostic communication is provided through a gateway |
| Delta P2 | 25 (ms) | Additional time allowed for messages passing through gateways |

# Diagnostic Content

## Diagnostic Sessions

### Supported Diagnostic Sessions

|  |  |
| --- | --- |
| Diagnostic Session | Description |
| 0x01 | defaultSession |
| 0x02 | programmingSession |
| 0x03 | extendedDiagnosticSession |
| 0x60 | EOLExtendedDiagnosticSession |

#### defaultSession (0x01) Specific Information

|  |  |
| --- | --- |
| Description | This diagnostic session enables the default diagnostic session in the server(s) and does not support any diagnostic application timeout handling provisions (e.g., TesterPresent service is not necessary to keep the session active). A server shall always start the default diagnostic session when powered up. If no other diagnostic session is started, then the default diagnostic session shall be running as long as the server is powered. |
| P2 CAN\_SERVER\_MAX | 50 (ms) |
| P2\* CAN\_SERVER\_MAX | 5000 (ms) |
| Session Entry Criteria | Items used in session entry criteria: (1) Receipt of diagnosticSessionControl with subfunction value of $01 (defaultSession) (2) Automatically entered 180ms after Reset Session Entry Criteria: (1 or 2) |
| Session Exit Criteria | Items used in session exit criteria: (1) Receipt of diagnosticSessionControl with an ECU supported subfunction value other than $01 (assuming all entry conditions are met for the requested session). (2) Power is removed from the ECU Session Exit Criteria: (1 or 2) |
| Maximum Length Diagnostic Message Capable of Being Received | 4095 byte(s) |
| STmin | 10 |
| BlockSize | 0 |
| N\_Bs | 1000 |
| N\_Cr | 1000 |

#### programmingSession (0x02) Specific Information

|  |  |
| --- | --- |
| Description | This diagnosticSession enables all diagnostic services required to support the memory programming of a server. Regardless of whether the programmingSession runs in boot software or not, the ECU shall automatically suspend logging of DTCs and suspend transmission of non-diagnostic frames when entering the programmingSession. |
| P2 CAN\_SERVER\_MAX | 25 (ms) |
| P2\* CAN\_SERVER\_MAX | 5000 (ms) |
| S3 SERVER\_TIMEOUT | 5000 (ms) |
| Session Entry Criteria | Items used in session entry criteria: (1) Receipt of diagnosticSessionControl with subfunction value of $02 (programmingSession) Session Entry Criteria: (1 ) |
| Session Exit Criteria | Items used in session exit criteria: (1) Receipt of diagnosticSessionControl with an ECU supported subfunction value of $01 (2) Receipt of ECUReset with a subfunction of $01 (hardReset) (3) Power is removed from the ECU (4) S3server timeout Session Exit Criteria: (1 or 2 or 3 or 4) |
| Maximum Length Diagnostic Message Capable of Being Received | 4095 byte(s) |
| STmin | 0 |
| BlockSize | 0 |
| N\_Bs | 1000 |
| N\_Cr | 1000 |

#### extendedDiagnosticSession (0x03) Specific Information

|  |  |
| --- | --- |
| Description | This diagnosticSession is used to enable timed diagnostic service functionality (e.g., I/O control). The diagnostic functionality in this session shall also include all supported diagnostic functionality supported in the defaultSession. |
| P2 CAN\_SERVER\_MAX | 50 (ms) |
| P2\* CAN\_SERVER\_MAX | 5000 (ms) |
| S3 SERVER\_TIMEOUT | 5000 (ms) |
| Session Entry Criteria | Items used in session entry criteria: (1) Receipt of diagnosticSessionControl with subfunction value of $03 (extendedDiagnosticSession) Session Entry Criteria: (1) |
| Session Exit Criteria | Items used in session exit criteria: (1) Receipt of diagnosticSessionControl with an ECU supported subfunction value other than $03 (assuming all entry conditions are met for the requested session). (2) Receipt of ECUReset with a subfunction of $01 (hardReset) (3) Power is removed from the ECU (4) S3server timeout Session Exit Criteria: (1 or 2 or 3 or 4) |
| Maximum Length Diagnostic Message Capable of Being Received | 4095 byte(s) |
| STmin | 10 |
| BlockSize | 0 |
| N\_Bs | 1000 |
| N\_Cr | 1000 |

#### EOLExtendedDiagnosticSession (0x60) Specific Information

|  |  |
| --- | --- |
| Description | This session is used for any ECU that needs to grant special privileges to a vehicle manufacturer's End of Line test tool. For example, an ABS module that normally exits to the defaultSession when vehicle speed is greater than a given value may maintain the EOLExtendedDiagnosticSession (despite the vehicle speed). Diagnostic session 40H shall be reserved only for use by End of Line test tools in assembly plants and shall be implemented only when needed to verify communication with an End of Line tester. This EOLExtendedDiagnosticSession shall grant access to all functionality (e.g., diagnostic services, privileges, input/output control, etc.) that is necessary during the assembly testing and shall contain a superset of the diagnostic functionality supported in the extendedDiagnosticSession (03H). |
| P2 CAN\_SERVER\_MAX | 50 (ms) |
| P2\* CAN\_SERVER\_MAX | 5000 (ms) |
| S3 SERVER\_TIMEOUT | 5000 (ms) |
| Session Entry Criteria | Items used in session entry criteria: (1) Receipt of diagnosticSessionControl with subfunction value of $60 (EOLSupplierDiagnosticSession) Session Entry Criteria: (1) |
| Session Exit Criteria | Items used in session exit criteria: (1) Receipt of diagnosticSessionControl with an ECU supported subfunction value other than $60 (assuming all entry conditions are met for the requested session). (2) Receipt of ECUReset with a subfunction of $01 (hardReset) (3) Power is removed from the ECU (4) S3server timeout Session Exit Criteria: (1 or 2 or 3 or 4) |
| Maximum Length Diagnostic Message Capable of Being Received | 4095 byte(s) |
| STmin | 10 |
| BlockSize | 0 |
| N\_Bs | 1000 |
| N\_Cr | 1000 |

## Diagnostic Services

### Supported Services

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Service ID | Name | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x10 | DiagnosticSessionControl | X | X | X | X |
| 0x11 | EcuReset | X | X | X | X |
| 0x14 | ClearDiagnosticInformation | X |  | X | X |
| 0x19 | ReadDTCInformation | X |  | X | X |
| 0x22 | ReadDataByIdentifier | X | X | X | X |
| 0x23 | ReadMemoryByAddress | X |  | X | X |
| 0x27 | SecurityAccess |  | X | X | X |
| 0x2E | WriteDataByIdentifier |  |  | X | X |
| 0x2F | InputOutputControlByIdentifier |  |  | X | X |
| 0x31 | RoutineControl |  | X | X | X |
| 0x34 | RequestDownload |  | X |  |  |
| 0x36 | TransferData |  | X |  |  |
| 0x37 | RequestTransferExit |  | X |  |  |
| 0x3D | WriteMemoryByAddress | X |  | X | X |
| 0x3E | TesterPresent | X | X | X | X |
| 0x85 | ControlDTCSetting |  |  | X | X |
| 0xBA | Supplier | X | X | X | X |

### General Description and Entry / Exit Criteria per Service

This section lists any additional comments and any general entry (prerequisite) and/or exit conditions that apply to each particular service. For additional detailed entry and/or exit criteria on a particular service (e.g., additional criteria for performing I/O control on a specific dataIdentifier) refer to the section of this specification where the service is described in detail. If a supported service does not appear in the table below, then no general description or general entry / exit conditions have been documented for that service.

### Supported Negative Response Codes

#### Negative Response Codes Overview

The following negative response codes are utilized when the control unit cannot successfully process a received diagnostic request (depending on the type of the error). Specific negative response codes are defined at each service individually.

#### Negative Response Codes Supported

|  |  |
| --- | --- |
| Negative Response Code (Hex) | Name |
| 0x10 | generalReject |
| 0x11 | serviceNotSupported |
| 0x12 | subFunctionNotSupported |
| 0x13 | incorrectMessageLengthOrInvalidFormat |
| 0x14 | responseTooLong |
| 0x21 | busyRepeatRequest |
| 0x22 | conditionsNotCorrect |
| 0x24 | requestSequenceError |
| 0x25 | noResponseFromSubnetComponent |
| 0x31 | requestOutOfRange |
| 0x33 | securityAccessDenied |
| 0x35 | invalidKey |
| 0x36 | exceedNumberOfAttempts |
| 0x37 | requiredTimeDelayNotExpired |
| 0x70 | uploadDownloadNotAccepted |
| 0x71 | transferDataSuspended |
| 0x72 | generalProgrammingFailure |
| 0x73 | wrongBlockSequenceCounter |
| 0x78 | requestCorrectlyReceived-ResponsePending |
| 0x7E | subFunctionNotSupportedInActiveSession |
| 0x7F | serviceNotSupportedInActiveSession |
| 0x81 | rpmTooHigh |
| 0x82 | rpmTooLow |
| 0x83 | engineIsRunning |
| 0x84 | engineIsNotRunning |
| 0x85 | engineRunTimeTooLow |
| 0x86 | temperatureTooHigh |
| 0x87 | temperatureTooLow |
| 0x88 | vehicleSpeedTooHigh |
| 0x89 | vehicleSpeedTooLow |
| 0x8A | throttle/PedalTooHigh |
| 0x8B | throttle/PedalTooLow |
| 0x8C | transmissionRangeNotInNeutral |
| 0x8D | transmissionRangeNotInGear |
| 0x8F | brakeSwitch(es)NotClosed |
| 0x90 | shifterLeverNotInPark |
| 0x91 | torqueConverterClutchLocked |
| 0x92 | voltageTooHigh |
| 0x93 | voltageTooLow |

#### Supported Negative Response Codes per Service

The following table describes which negative response codes are supported by each particular service as well as an optional description describing under which conditions the negative response would be used for that service.

**Service 0x10**

|  |  |
| --- | --- |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |

**Service 0x11**

|  |  |
| --- | --- |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |

**Service 0x14**

|  |  |
| --- | --- |
| NRC 0x11 | serviceNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x31 | requestOutOfRange |
| NRC 0x78 | requestCorrectlyReceived-ResponsePending |

**Service 0x19**

|  |  |
| --- | --- |
| NRC 0x11 | serviceNotSupported |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x31 | requestOutOfRange |

**Service 0x22**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x22 | conditionsNotCorrect |
| NRC 0x31 | requestOutOfRange |

**Service 0x23**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x31 | requestOutOfRange |

**Service 0x27**

|  |  |
| --- | --- |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x24 | requestSequenceError |
| NRC 0x35 | invalidKey |
| NRC 0x7E | subFunctionNotSupportedInActiveSession |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x2E**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x22 | conditionsNotCorrect |
| NRC 0x31 | requestOutOfRange |
| NRC 0x72 | generalProgrammingFailure |
| NRC 0x78 | requestCorrectlyReceived-ResponsePending |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x2F**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x22 | conditionsNotCorrect |
| NRC 0x31 | requestOutOfRange |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x31**

|  |  |
| --- | --- |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x21 | busyRepeatRequest |
| NRC 0x22 | conditionsNotCorrect |
| NRC 0x24 | requestSequenceError |
| NRC 0x31 | requestOutOfRange |
| NRC 0x33 | securityAccessDenied |
| NRC 0x72 | generalProgrammingFailure |
| NRC 0x78 | requestCorrectlyReceived-ResponsePending |
| NRC 0x7E | subFunctionNotSupportedInActiveSession |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x34**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x22 | conditionsNotCorrect |
| NRC 0x31 | requestOutOfRange |
| NRC 0x33 | securityAccessDenied |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x36**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x24 | requestSequenceError |
| NRC 0x73 | wrongBlockSequenceCounter |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x37**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x24 | requestSequenceError |
| NRC 0x7F | serviceNotSupportedInActiveSession |

**Service 0x3D**

|  |  |
| --- | --- |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x31 | requestOutOfRange |
| NRC 0x33 | securityAccessDenied |

**Service 0x3E**

|  |  |
| --- | --- |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |

**Service 0x85**

|  |  |
| --- | --- |
| NRC 0x11 | serviceNotSupported |
| NRC 0x12 | subFunctionNotSupported |
| NRC 0x13 | incorrectMessageLengthOrInvalidFormat |
| NRC 0x22 | conditionsNotCorrect |
| NRC 0x7F | serviceNotSupportedInActiveSession |

### P4max Information

#### P4max Information per Service

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Service ID | Name | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x10 | DiagnosticSessionControl | 50 (ms) | 25 (ms) | 50 (ms) | 50 (ms) |
| 0x11 | EcuReset | 50 (ms) | 25 (ms) | 50 (ms) | 50 (ms) |
| 0x14 | ClearDiagnosticInformation | 1500 (ms) |  | 1500 (ms) | 1500 (ms) |
| 0x19 | ReadDTCInformation | 200 (ms) |  | 200 (ms) | 200 (ms) |
| 0x22 | ReadDataByIdentifier | 50 (ms) | 25 (ms) | 50 (ms) | 50 (ms) |
| 0x23 | ReadMemoryByAddress | 50 (ms) |  | 50 (ms) | 50 (ms) |
| 0x27 | SecurityAccess | 150 (ms) | 25 (ms) | 150 (ms) | 150 (ms) |
| 0x2E | WriteDataByIdentifier | 5000 (ms) | 5000 (ms) | 5000 (ms) | 5000 (ms) |
| 0x2F | InputOutputControlByIdentifier | 50 (ms) |  | 50 (ms) | 50 (ms) |
| 0x31 | RoutineControl | 200 (ms) | 60000 (ms) | 200 (ms) | 200 (ms) |
| 0x34 | RequestDownload |  | 1000 (ms) |  |  |
| 0x36 | TransferData |  | 5000 (ms) |  |  |
| 0x37 | RequestTransferExit |  | 5000 (ms) |  |  |
| 0x3D | WriteMemoryByAddress | 5000 (ms) |  | 5000 (ms) | 5000 (ms) |
| 0x3E | TesterPresent | 50 (ms) | 25 (ms) | 50 (ms) | 50 (ms) |
| 0x85 | ControlDTCSetting | 200 (ms) |  | 200 (ms) | 200 (ms) |
| 0xBA | Supplier | 50 (ms) | 50 (ms) | 50 (ms) | 50 (ms) |

## Security Access

**Supported Security Access Sub-Functions per Session**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sub-Function | Description | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x01 | requestSeed |  | X |  |  |
| 0x02 | sendKey |  | X |  |  |
| 0x03 | requestSeed |  |  | X | X |
| 0x04 | sendKey |  |  | X | X |

### Security Level (0x01) Specific Information

|  |  |
| --- | --- |
| Security Level Name | Send Key (Security Level 0x01) |
| Security Level Usage Description | The SecurityAccess service shall be implemented in all programmable ECUs to restrict access from unapproved tools and to unlock the ECU for download and upload of data. |
| Supported in Session | 0x02 |
| Security Level Entry Criteria |  |
| Security Level Exit Criteria |  |
| Encryption Algorithm | Ford\_Production\_Encryption\_Prg\_2012 |
| Security Challenge Bytes | 0479C1DCB48B6C1E9D5739F64784B693 |  |
| Number of False Access Attempts | 0 |
| False Access Delay Time | 0 (ms) |

### Security Level (0x03) Specific Information

|  |  |
| --- | --- |
| Security Level Name | Send Key (Security Level 0x03) |
| Security Level Usage Description |  |
| Supported in Session | 0x03,0x60 |
| Security Level Entry Criteria |  |
| Security Level Exit Criteria |  |
| Encryption Algorithm | Ford\_Production\_Encryption\_App\_2012 |
| Security Challenge Bytes | CE33A7B8E98C90D9C1F08A729590C290 |  |
| Number of False Access Attempts | 0 |
| False Access Delay Time | 0 (ms) |

## DataIdentifiers

This section documents all statically defined DataIdentifiers supported by the ECU. Refer to section 3.11 for the support of any dynamically defined DataIdentifiers.

### Supported DataIdentifiers

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DID | Type | Size(Byte) | Name | 0x01 | 0x02 | 0x03 | 0x60 | Audience | Dependencies |
| 0x0202 | UN | 1 | Number of Trouble Codes Set due to Diagnostic Test | R |  | R | R |  |  |
| 0x1505 | UN | 2 | Vehicle Speed - High Resolution | R |  | R | R |  |  |
| 0x411F | SED | 1 | Key Position | R |  | R | R |  |  |
| 0x419E | SED | 1 | Embedded Consumer Application Download Status | R |  | R | R |  |  |
| 0x61A1 | UN | 1 | Channel Frequency | R |  | RC | RC |  |  |
| 0x7215 | SED | 1 | ECU Status | R |  | RC | RC |  |  |
| 0x8003 | BM | 4 | Speaker Status | R |  | RC | RC |  |  |
| 0x8004 | ASC | 128 | Supported Bluetooth Profiles | R |  | R | R |  |  |
| 0x8023 | ASC | 128 | Active Bluetooth Profiles | R |  | R | R |  |  |
| 0x8024 | SED | 1 | Bluetooth Status | R |  | R | R |  |  |
| 0x8033 | ASC | 24 | Embedded Consumer Operating System Part Number | R |  | R | R |  |  |
| 0x8047 | SED | 1 | Bezel Diagnostics Status | R |  | RC | RC |  |  |
| 0x804A | SED | 1 | APIM Internal Fault | R |  | R | R |  |  |
| 0x804B | BM | 4 | ECU CCPU Fault | R |  | R | R |  |  |
| 0x8055 | UN | 2 | Automobile Audio Bus (A2B) Master Error Counter | R |  | R | R |  |  |
| 0x8060 | PKT | 384 | Embedded Consumer Applications Part Numbers 1 | R |  | R | R |  |  |
| 0x8068 | ASC | 24 | Embedded Consumer Boot Software Part Number | R |  | R | R |  |  |
| 0x8304 | UN | 1 | Radio Frequency Field Strength | R |  | R | R |  |  |
| 0x8321 | UN | 2 | Antenna Current 1 | R |  | R | R |  |  |
| 0x833B | UN | 1 | Audio Volume Level | R |  | RC | RC |  |  |
| 0xC006 | UN | 2 | VIN Missing counter | R |  | R | R |  |  |
| 0xD021 | SED | 1 | Authorization State | R |  | R | R |  |  |
| 0xD027 | ASC | 24 | Embedded Consumer Boot Software Part Number 2 | R |  | R | R |  |  |
| 0xD03D | ASC | 40 | Security Package ID | R |  | R | R |  |  |
| 0xD04F | BM | 4 | OTA ProgrammingSession Entry And A/B Swap Precondition Status | R |  | R | R |  |  |
| 0xD076 | PKT | 1 | Authorization State 2 | R |  | R | R |  |  |
| 0xD100 | SED | 1 | Active Diagnostic Session | R | R | R | R |  |  |
| 0xD111 | UN | 1 | ECU Power Supply Voltage | R |  | R | R |  |  |
| 0xEE00 | PKT | 3 | ANC ESE Error Status | R |  | R | R |  |  |
| 0xEE01 | PKT | 6 | ESE Last Received Data | R |  | R | R |  |  |
| 0xEE02 | PKT | 53 | ANC and or ESE Profile Data | R |  | RW\* | RW\* |  |  |
| 0xEE03 | SED | 1 | ESE Activation Status | R |  | RW\* | RW\* |  |  |
| 0xEE21 | HEX | 1 | AM Seek\_Stop Sensitivity | R |  | RC | RC |  |  |
| 0xEE22 | HEX | 1 | FM Seek\_Stop Sensitivity | R |  | RC | RC |  |  |
| 0xEEE2 | PKT | 64 | Token Removal Reason | R |  | R | R |  |  |
| 0xEEFE | ASC | 24 | APIM VMCU Recover Partition Image | R |  | R | R |  |  |
| 0xEEFF | ASC | 24 | APIM CCPU Recover Partition Image | R |  | R | R |  |  |
| 0xF10A | ASC | 24 | ECU Cal-Config Part Number | R |  | R | R |  |  |
| 0xF110 | ASC | 24 | Subsystem Specific Diagnostic Specification Part Number | R |  | R | R |  |  |
| 0xF111 | ASC | 24 | ECU Core Assembly Number | R | R | R | R |  |  |
| 0xF113 | ASC | 24 | ECU Delivery Assembly Number | R | R | R | R |  |  |
| 0xF15F | PKT | 10 | NOS Generation Tool Version Number | R |  | R | R |  |  |
| 0xF162 | SED | 1 | Software Download Specification Version |  | R |  | R |  |  |
| 0xF163 | SED | 1 | Diagnostic Specification Version | R |  | R | R |  |  |
| 0xF166 | PKT | 4 | NOS Message Database #1 Version Number | R |  | R | R |  |  |
| 0xF16B | ASC | 24 | ECU Cal-Config #2 Part Number | R |  | R | R |  |  |
| 0xF16C | ASC | 24 | ECU Cal-Config #3 Part Number | R |  | R | R |  |  |
| 0xF16D | ASC | 24 | ECU Cal-Config #4 Part Number | R |  | R | R |  |  |
| 0xF16E | ASC | 24 | ECU Cal-Config #5 Part Number | R |  | R | R |  |  |
| 0xF17F | ASC | 8 | Ford Electronic Serial Number | R | R | R | R |  |  |
| 0xF180 | PKT | 25 | Boot Software Identification | R | R | R | R |  |  |
| 0xF188 | ASC | 24 | Vehicle Manufacturer ECU Software Number | R |  | R | R |  |  |
| 0xF18C | ASC | 16 | ECU Serial Number | R | R | R | R |  |  |
| 0xF190 | ASC | 24 | Vehicle Identification Number | R |  | R | R |  |  |
| 0xF1D0 | HEX | 6 | ECU MAC Address 1 | R |  | R | R |  |  |
| 0xF1D1 | HEX | 6 | ECU MAC Address 2 | R |  | R | R |  |  |
| 0xF1E1 | HEX | 6 | ECU MAC Address 3 | R |  | R | R |  |  |
| 0xF40C | UN | 2 | Engine RPM | R |  | R | R |  |  |
| 0xF411 | UN | 1 | Absolute Throttle Position | R |  | R | R |  |  |
| 0xFD01 | ASC | 40 | VMCU Software Version | R |  | R | R |  |  |
| 0xFD02 | ASC | 32 | Operating System Version | R |  | R | R |  |  |
| 0xFD03 | HEX | 1 | Normal Speaker Walkaround Volume | R |  | RW | RW |  |  |
| 0xFD05 | ASC | 10 | Display Software Version | R |  | R | R |  |  |
| 0xFD06 | SED | 1 | EOL status of Desay supplier production line | R |  | R | RW\* |  |  |
| 0xFD07 | ASC | 10 | Supplier ECU AHU Hardware Number | R |  | R | R |  |  |
| 0xFD10 | PKT | 5 | Config Bits code condition | R |  | R | R |  |  |
| 0xFD11 | ASC | 19 | Desay Internal Serial Number | R |  | R | R |  |  |
| 0xFD12 | ASC | 50 | Firmware Version | R |  | R | R |  |  |
| 0xFD13 | SED | 1 | Desay Internal Hardware Type | R |  | R | R |  |  |
| 0xFD15 | ASC | 50 | Firmware Version 2 | R |  | R | R |  |  |
| 0xFD1A | BM | 3 | Display Parameters | R |  | R | R |  |  |
| 0xFD1B | BM | 1 | RVC Digital Faults | R |  | R | R |  |  |
| 0xFD1C | BM | 1 | Digital RVC Power Control | R |  | R | R |  |  |
| 0xFD20 | HEX | 1 | Averaged Signal Strength Measured in AM/FM Antenna Test | R |  | R | R |  |  |
| 0xFD21 | ASC | 1846 | Baidu Security Certificate1 | R |  | R | RW\* |  |  |
| 0xFD22 | ASC | 1846 | Baidu Security Certificate2 | R |  | R | RW\* |  |  |
| 0xFD23 | ASC | 1846 | Baidu Security Certificate3 | R |  | R | RW\* |  |  |
| 0xFD24 | ASC | 1846 | Baidu Security Certificate4 | R |  | R | RW\* |  |  |
| 0xFD26 | ASC | 17 | Wi-Fi Mac Address | R |  | R | R |  |  |
| 0xFDB0 | HEX | 1 | VMCU Low PWM Rotary BL | R |  | R | RC\* |  |  |
| 0xFDB1 | HEX | 1 | VMCU High PWM Rotary BL | R |  | R | RC\* |  |  |
| 0xFDB2 | HEX | 1 | VMCU\_Low\_PWM\_ButtonB | R |  | R | RC\* |  |  |
| 0xFDB3 | HEX | 1 | VMCU\_High\_PWM\_ButtonB | R |  | R | RC\* |  |  |
| 0xFDB5 | HEX | 144 | VMCU\_WeightFactorBL | R |  | R | RC\* |  |  |
| 0xFDBA | HEX | 1 | CCP Low PWM Display Button BL | R |  | R | RC\* |  |  |
| 0xFDBB | HEX | 1 | CCP High PWM Display Button BL | R |  | R | RC\* |  |  |
| 0xFDBE | HEX | 144 | CCPU Weight Factor Backlight | R |  | R | RC\* |  |  |
| 0xFDC5 | HEX | 216 | CCPU Weight Factor Display SDM13 | R |  | R | RC\* |  |  |
| 0xFDC6 | HEX | 2 | CCP\_Low\_PWM\_SDM13 | R |  | R | RC\* |  |  |
| 0xFDC7 | HEX | 2 | CCP\_High\_PWM\_SDM13 | R |  | R | RC\* |  |  |
| 0xFDC8 | HEX | 216 | CCPU Weight Factor SDM27 | R |  | R | RC\* |  |  |
| 0xFDC9 | HEX | 2 | CCP\_Low\_PWM\_SDM27 | R |  | R | RC\* |  |  |
| 0xFDCA | HEX | 2 | CCP\_High\_PWM\_SDM27 | R |  | R | RC\* |  |  |
| 0xFDD2 | UN | 1 | CCP\_Threshold\_to\_Night | R |  | R | RC\* |  |  |
| 0xFDD3 | UN | 1 | CCP\_DayToNightTime | R |  | R | RC\* |  |  |
| 0xFDD4 | UN | 1 | CCP\_NightToDayTime | R |  | R | RC\* |  |  |
| 0xFDDF | HEX | 216 | CCPU Weight Factor Display SDM12L | R |  | R | RC\* |  |  |
| 0xFDE0 | HEX | 2 | CCP\_Low\_PWM\_SDM12L | R |  | R | RC\* |  |  |
| 0xFDE1 | HEX | 2 | CCP\_High\_PWM\_SDM12L | R |  | R | RC\* |  |  |
| 0xFDEA | HEX | 216 | CCPU Weight Factor Display SDM15\_5 | R |  | R | RC\* |  |  |
| 0xFDEB | HEX | 2 | CCP\_Low\_PWM\_SDM15\_5 | R |  | R | RC\* |  |  |
| 0xFDEC | HEX | 2 | CCP\_High\_PWM\_SDM15\_5 | R |  | R | RC\* |  |  |
| 0xFE00 | SED | 1 | Sunroof Status | R |  | R | R |  |  |
| 0xFE01 | HEX | 1 | SelDrvMdeHmi04\_D\_Rq | R |  | RC | RC |  |  |
| 0xFE02 | HEX | 1 | ActvDrvMde\_D2\_Stat | R |  | RC | RC |  |  |
| 0xFE03 | HEX | 1 | AutoTowActv\_B\_Stat | R |  | RC | RC |  |  |
| 0xFE04 | HEX | 1 | EngExhMdeQuiet\_D2\_Stat | R |  | RC | RC |  |  |
| 0xFE60 | HEX | 1 | ANC Audio signals mute control | R |  | RC | RC |  |  |

**Note 1:**

The value in the session shall contain between 0 to 4 characters, indicating whether or not each DID supports the following services in each session. If the value is blank for a given DID in a particular session, then this DID is not supported via any of the following services in that session.

R = DID is readable (i.e., supports diagnostic service $22 – ReadDataByIdentifier)

W = DID is writeable (i.e., supports diagnostic service $2E – WriteDataByIdentifier)

C = DID is controllable (i.e., supports diagnostic service $2F – InputOutputControlByIdentifier)

S = DID supports scaling information (i.e., supports diagnostic service $24 – ReadScalingDataByIdentifier)

RP = DID is readable periodically (i.e., supports diagnostic service $2A -ReadDataByPeriodicIdentifier)

\* = The functionality indicated by the preceding letter is locked by security access.

### General DataIdentifier Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | 0x01 | 0x02 | 0x03 | 0x60 |
| Max Number of DIDs Readable in Single Service 0x22 Request | 5 | 1 | 5 | 5 |

### Supported I/O Control Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Value | Name | 0x01 | 0x02 | 0x03 | 0x60 |
| 3 | shortTermAdjustment |  |  | X | X |
| 0 | returnControlToECU |  |  | X | X |

### Details For Supported DataIdentifiers

#### DID 0x0202 - Number of Trouble Codes Set due to Diagnostic Test

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x0202 |
| DataIdentifier Name | Number of Trouble Codes Set due to Diagnostic Test |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |
| DataIdentifier Comments | This dataIdentifier shall be used to report the DTC number after On-Demand Self-Test. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Number of Trouble Codes Set due to Diagnostic Test | 0 | 1 | Undefined / Not Used | 0 | 255 |

#### DID 0x1505 - Vehicle Speed - High Resolution

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x1505 |
| DataIdentifier Name | Vehicle Speed - High Resolution |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | unsigned |
| DataIdentifier Comments | This dataIdentifier shall be used to report the vehicle speed from VehicleSpeed\_St CAN signal. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Vehicle Speed - High Resolution | 0 | 0.0078125 (1/128) | Kph | 0 | 511.9921875 |

#### DID 0x411F - Key Position

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x411F |
| DataIdentifier Name | Key Position |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |
| DataIdentifier Comments | This dataIdentifier shall be used to report the key position from Ignition\_Status CAN signal. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Key Position |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Key out |
| 0x01 | Key in |
| 0x02 | Accessory |
| 0x03 | Ignition |
| 0x04 | Crank |
| 0x05 | Key in OFF position |
| 0x06 | Key In and Accessory Position |
| 0x07 | Key In and Run Position |
| 0x08 | Key In and Start Position |
| 0x09 | Key In and Off Position |
| 0x0A | Key Out and Accessory Position |
| 0x0B | Key Out and Run Position |
| 0x0C | Key Out and Start Position |
| 0x0D | Key Out and Off Position |
| 0x0E | Unknown |
| 0x0F | Invalid |

#### DID 0x419E - Embedded Consumer Application Download Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x419E |
| DataIdentifier Name | Embedded Consumer Application Download Status |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Embedded Consumer Application Download Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Installation Not Started |
| 0x01 | Installation In Progress |
| 0x02 | Installation Complete |
| 0x03 | Installation Complete with Errors |

#### DID 0x61A1 - Channel Frequency

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x61A1 |
| DataIdentifier Name | Channel Frequency |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.Tuner Application is run. Test is Run if 1 and 2 and 3 are true. |
| I/O Control Exit Criteria | 1. Power Off or Tuner Apllication Exit. 2. 2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Channel Frequency | 87.5 | 0.1 (1/10) | MHz | 87.5 | 113 |

#### DID 0x7215 - ECU Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x7215 |
| DataIdentifier Name | ECU Status |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | ECU Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |
| 0x02 | Malfunction |
| 0xFF | Invalid/Error |

#### DID 0x8003 - Speaker Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8003 |
| DataIdentifier Name | Speaker Status |
| DataIdentifier Size (bytes) | 4 |
| DataIdentifier Type | bitmapped |
| DataIdentifier Comments | This is an 8 byte DID. The first 4 bytes are mirrored in the second 4 bytes. The second 4 bytes are Mask bytes. This command mutes and unmutes speakers in a currently active output configuration. Speakers that were not previously enabled in the currently active output configuration cannot be unmuted. For the Release command, it requires 4 bytes of 0x00 to be sent as Data. When finished, the tester should 0x00:Return Control to ECU using the 2F command to allow other diagnostics to execute without issues. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Byte | Bit | Parameter Info | 0 Meaning | 1 Meaning |
| 1 | 7 | Subwoofer | Enabled | Disabled |
| 1 | 6 | Center Speaker | Enabled | Disabled |
| 1 | 5 | Third Row Left Speaker | Enabled | Disabled |
| 1 | 4 | Third Row Right Speaker | Enabled | Disabled |
| 1 | 3 | Left Rear Speaker | Enabled | Disabled |
| 1 | 2 | Right Rear Speaker | Enabled | Disabled |
| 1 | 1 | Left Front Speaker | Enabled | Disabled |
| 1 | 0 | Right Front Speaker | Enabled | Disabled |
| 2 | 7 | Center 2 Speaker | Enabled | Disabled |
| 2 | 6 | Right Front Mid Range Speaker | Enabled | Disabled |
| 2 | 5 | Left Front Mid Range Speaker | Enabled | Disabled |
| 2 | 4 | Center Tweeter | Enabled | Disabled |
| 2 | 3 | Left Rear Tweeter | Enabled | Disabled |
| 2 | 2 | Right Rear Tweeter | Enabled | Disabled |
| 2 | 1 | Left Front Tweeter | Enabled | Disabled |
| 2 | 0 | Right Front Tweeter | Enabled | Disabled |
| 3 | 7 | Rear Center Speaker | Enabled | Disabled |
| 3 | 6 | Subwoofer 2 | Enabled | Disabled |

#### DID 0x8004 - Supported Bluetooth Profiles

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8004 |
| DataIdentifier Name | Supported Bluetooth Profiles |
| DataIdentifier Size (bytes) | 128 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Supported Bluetooth Profiles |

#### DID 0x8023 - Active Bluetooth Profiles

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8023 |
| DataIdentifier Name | Active Bluetooth Profiles |
| DataIdentifier Size (bytes) | 128 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Active Bluetooth Profiles |

#### DID 0x8024 - Bluetooth Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8024 |
| DataIdentifier Name | Bluetooth Status |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Bluetooth Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled (No Pairings Exist) |
| 0x02 | Paired (No Pairings Connected) |
| 0x03 | Connected (Device Paired and Connected) |
| 0xFF | Fault (Bluetooth not available, permanent fault) |

#### DID 0x8033 - Embedded Consumer Operating System Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8033 |
| DataIdentifier Name | Embedded Consumer Operating System Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Embedded Consumer Operating System Part Number |

#### DID 0x8047 - Bezel Diagnostics Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8047 |
| DataIdentifier Name | Bezel Diagnostics Status |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Bezel Diagnostics Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Bezel Diagnostics Inactive |
| 0x01 | Bezel Diagnostics Active |

#### DID 0x804A - APIM Internal Fault

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x804A |
| DataIdentifier Name | APIM Internal Fault |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | APIM Internal Fault |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Fault |
| 0x01 | ROM Checksum Error |
| 0x02 | RAM Error |
| 0x03 | EEPROM Checksum Error |
| 0x04 | IPC Link Down |

#### DID 0x804B - ECU CCPU Fault

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x804B |
| DataIdentifier Name | ECU CCPU Fault |
| DataIdentifier Size (bytes) | 4 |
| DataIdentifier Type | bitmapped |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Byte | Bit | Parameter Info | 0 Meaning | 1 Meaning |
| 1 | 7 | Bluetooth Error | No Fault | Fault |
| 1 | 6 | USB #1 System Error Description: Indicates that the software is unable to communicate with the Bluetooth module. The flag is set when Coral BT initialization fails in 3 consecutive ignition cycles. | No Fault | Fault |
| 1 | 5 | USB #2 System Error Description: Indicates that an USB core error or initialization error is detected. | No Fault | Fault |
| 1 | 4 | ECC System Error Description: Indicates a 2-bit flash error has been detected.This is a non-recoverable error and cannot be cleared once set. | No Fault | Fault |
| 1 | 3 | WiFi System Error Description: Indicates that the software is unable to communicate with the WiFi module. The flag is set when WiFi driver and supplicant initialization fails in 3 consecutive ignition cycles. | No Fault | Fault |

#### DID 0x8055 - Automobile Audio Bus (A2B) Master Error Counter

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8055 |
| DataIdentifier Name | Automobile Audio Bus (A2B) Master Error Counter |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Automobile Audio Bus (A2B) Master Error Counter | 0 | 1 | Count | 0 | 65535 |

#### DID 0x8060 - Embedded Consumer Applications Part Numbers 1

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8060 |
| DataIdentifier Name | Embedded Consumer Applications Part Numbers 1 |
| DataIdentifier Size (bytes) | 384 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - ascii (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 1 |

Parameter 2 - ascii (Start byte = 25, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 2 |

Parameter 3 - ascii (Start byte = 49, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 3 |

Parameter 4 - ascii (Start byte = 73, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 4 |

Parameter 5 - ascii (Start byte = 97, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 5 |

Parameter 6 - ascii (Start byte = 121, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 6 |

Parameter 7 - ascii (Start byte = 145, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 7 |

Parameter 8 - ascii (Start byte = 169, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 8 |

Parameter 9 - ascii (Start byte = 193, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 9 |

Parameter 10 - ascii (Start byte = 217, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 10 |

Parameter 11 - ascii (Start byte = 241, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 11 |

Parameter 12 - ascii (Start byte = 265, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 12 |

Parameter 13 - ascii (Start byte = 289, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 13 |

Parameter 14 - ascii (Start byte = 313, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 14 |

Parameter 15 - ascii (Start byte = 337, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 15 |

Parameter 16 - ascii (Start byte = 361, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Embedded Consumer Application Part Number 16 |

#### DID 0x8068 - Embedded Consumer Boot Software Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8068 |
| DataIdentifier Name | Embedded Consumer Boot Software Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Embedded Consumer Boot Software Part Number |

#### DID 0x8304 - Radio Frequency Field Strength

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8304 |
| DataIdentifier Name | Radio Frequency Field Strength |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Radio Frequency Field Strength | 0 | 1 | dBuV | 0 | 255 |

#### DID 0x8321 - Antenna Current 1

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x8321 |
| DataIdentifier Name | Antenna Current 1 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Antenna Current 1 | 0 | 1 | mA | 0 | 65535 |

#### DID 0x833B - Audio Volume Level

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0x833B |
| DataIdentifier Name | Audio Volume Level |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Audio Volume Level | 0 | 1 | Undefined / Not Used | 0 | 255 |

#### DID 0xC006 - VIN Missing counter

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xC006 |
| DataIdentifier Name | VIN Missing counter |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| VIN Missing counter | 0 | 1 | Count | 0 | 65535 |

#### DID 0xD021 - Authorization State

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD021 |
| DataIdentifier Name | Authorization State |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Authorization State |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Factory Mode (Default) |
| 0x01 | Unprovisioned Mode |
| 0x02 | Waiting for Provisioning Ack Mode |
| 0x03 | Waiting for Home URL |
| 0x04 | Connecting to Home URL |
| 0x05 | Waiting for Auth Mode |
| 0x06 | Authorized Mode |
| 0x10 | Connected Device - Factory Mode (Default) |
| 0x11 | Connected Device - Request Certificate |
| 0x12 | Connected Device - Waiting For Client Certificate |
| 0x13 | Connected Device - Connecting To Operational Server |
| 0x14 | Connected Device - Provisioned |
| 0x20 | ECG Authorization State - Factory Mode (Default) |
| 0x21 | ECG Authorization State - Unprovisioned Mode |
| 0x22 | ECG Authorization State - Waiting for ECG Provisioning Response Mode |
| 0x23 | ECG Authorization State - Waiting for TCU Provisioning Response Mode |
| 0x24 | ECG Authorization State - Waiting for Home URL |
| 0x25 | ECG Authorization State - Connecting to Home URL |
| 0x26 | ECG Authorization State - Provisioned Mode |
| 0x30 | TCU Authorization State - Factory Mode (Default) |
| 0x31 | TCU Authorization State - Unprovisioned Mode |
| 0x32 | TCU Authorization State - Provisioned Mode |
| 0x38 | Peripheral Authorization State - Factory Mode (Default) |
| 0x39 | Peripheral Authorization State - Unprovisioned Mode |
| 0x3A | Peripheral Authorization State - ECUProvAlertACK |
| 0x3B | Peripheral Authorization State - Provisioned Mode |

#### DID 0xD027 - Embedded Consumer Boot Software Part Number 2

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD027 |
| DataIdentifier Name | Embedded Consumer Boot Software Part Number 2 |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This dataIdentifier shall be used to report the part number for VMCU software. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Embedded Consumer Boot Software Part Number 2 |

#### DID 0xD03D - Security Package ID

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD03D |
| DataIdentifier Name | Security Package ID |
| DataIdentifier Size (bytes) | 40 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | periheriial provisioning required |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Security Package ID |

#### DID 0xD04F - OTA ProgrammingSession Entry And A/B Swap Precondition Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD04F |
| DataIdentifier Name | OTA ProgrammingSession Entry And A/B Swap Precondition Status |
| DataIdentifier Size (bytes) | 4 |
| DataIdentifier Type | bitmapped |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Byte | Bit | Parameter Info | 0 Meaning | 1 Meaning |
| 1 | 7 | No Preconditions Supported | True | False |
| 1 | 6 | Vehicle Speed Too High | False | True |
| 1 | 5 | Voltage Out of Range | False | True |
| 1 | 4 | Charging in Progress | False | True |
| 1 | 3 | PRNDL Out of Range | False | True |
| 1 | 2 | Hazards On | False | True |
| 1 | 1 | Ignition Off / Acc Functionality Active | False | True |
| 1 | 0 | ESCL Lock Pending | False | True |
| 2 | 7 | Alarm Actively Sounding | False | True |
| 2 | 6 | Steering Pinsion Torque Out of Range | False | True |
| 2 | 5 | Diagnostic Self-Test Active | False | True |
| 2 | 4 | Engine RPM Too High (or Torque Available) | False | True |
| 2 | 3 | Charging Fault | False | True |
| 2 | 2 | Ignition Status Out of Range | False | True |
| 2 | 1 | Liftgate Ajar | False | True |
| 2 | 0 | Park Lamps On | False | True |
| 3 | 7 | Limp Home Active | False | True |
| 3 | 6 | Illuminated Exit Active | False | True |
| 3 | 5 | Door Ajar | False | True |
| 3 | 4 | Motor Movement Active | False | True |
| 3 | 3 | Brake Pedal Pressed | False | True |
| 3 | 2 | Park Brake Out of Range or Activation in Progress | False | True |

#### DID 0xD076 - Authorization State 2

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD076 |
| DataIdentifier Name | Authorization State 2 |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Provisioning Error State |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Success (No Fault) |
| 0x01 | Get Local Parameters Failed (ESN,VIN) |
| 0x02 | network not available |
| 0x03 | request to server timeout |
| 0x04 | Invalid Parameters Returned By Server (ESN, VIN) |
| 0x05 | Unexpected Errors Returned By Server |
| 0x06 | Start Apk Failed |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Provisioning state |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Factory Mode (Not Configured) |
| 0x01 | Normal Mode (Configured, Ready for Provisioning) |
| 0x03 | Activating (Waiting for UUID) |
| 0x07 | Activated |

#### DID 0xD100 - Active Diagnostic Session

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD100 |
| DataIdentifier Name | Active Diagnostic Session |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |
| DataIdentifier Comments | This dataIdentifier shall be used to report the active diagnostic session. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x02 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Active Diagnostic Session |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x01 | Default Session |
| 0x02 | Programming Session |
| 0x03 | Extended Diagnostic Session |
| 0x60 | EOL Extended Diagnostic Session |

#### DID 0xD111 - ECU Power Supply Voltage

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xD111 |
| DataIdentifier Name | ECU Power Supply Voltage |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| ECU Power Supply Voltage | 0 | 0.1 (1/10) | V | 0 | 25.5 |

#### DID 0xEE00 - ANC ESE Error Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEE00 |
| DataIdentifier Name | ANC ESE Error Status |
| DataIdentifier Size (bytes) | 3 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Parameter1 Default Value (Raw): 0x00 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Initialisation Error |
| 0x01 | Internal DSP Error |
| 0x02 | Internal ESE Algorithm Error |

Parameter 2 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Parameter2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No ANC/ESE Configuration Error |
| 0x01 | No ANC/ESE Profiles Installed |
| 0x02 | Selected ANC/ESE profile in DE03 not present |
| 0x03 | Reserved |
| 0x04 | Selected ANC/ESE profile has CRC error |
| 0x05 | Selected ANC/ESE profile has wrong data version |
| 0x06 | Selected ANC/ESE profile has wrong HW/SW Version |

Parameter 3 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Parameter3 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No CAN Error |
| 0x01 | Internal CAN error detected (Not Used) |
| 0x02 | Excessive missed messages |
| 0x03 | Resolved External CAN Error, but ESE still muted until conditions to unmute ESE are satisfied |

#### DID 0xEE01 - ESE Last Received Data

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEE01 |
| DataIdentifier Name | ESE Last Received Data |
| DataIdentifier Size (bytes) | 6 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - unsigned (Start byte = 1, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 16 | Parameter1 | 0 | 2 | RPM | 0 | 131070 |

Parameter 2 - unsigned (Start byte = 3, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 16 | Parameter2 | -500 | 1 | NM | -500 | 65035 |

Parameter 3 - unsigned (Start byte = 5, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 16 | Parameter3 | 0 | 0.1 (1/10) | % | 0 | 6553.5 |

#### DID 0xEE02 - ANC and or ESE Profile Data

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEE02 |
| DataIdentifier Name | ANC and or ESE Profile Data |
| DataIdentifier Size (bytes) | 53 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - Hex (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Max ESE Profile |

Parameter 2 - Hex (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Active ESE Profile |

Parameter 3 - ascii (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 128 | ESE Profile Name |

Parameter 4 - Hex (Start byte = 19, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 160 | ESE Profile GUID |

Parameter 5 - Hex (Start byte = 39, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 32 | ESE Profile Dataset |

Parameter 6 - Hex (Start byte = 43, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Profile HW Version |

Parameter 7 - Hex (Start byte = 44, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | AHU HW Version |

Parameter 8 - Hex (Start byte = 45, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 72 | Reserved |

#### DID 0xEE03 - ESE Activation Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEE03 |
| DataIdentifier Name | ESE Activation Status |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | ESE Activation Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Deactivated |
| 0x01 | Activated |

#### DID 0xEE21 - AM Seek\_Stop Sensitivity

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEE21 |
| DataIdentifier Name | AM Seek\_Stop Sensitivity |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.Tuner Application is run. Test is Run if 1 and 2 and 3 are true. |
| I/O Control Exit Criteria | 1. Power Off or Tuner Apllication Exit. 2. 2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info AM Seek\_Stop Sensitivity |

#### DID 0xEE22 - FM Seek\_Stop Sensitivity

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEE22 |
| DataIdentifier Name | FM Seek\_Stop Sensitivity |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.Tuner Application is run. Test is Run if 1 and 2 and 3 are true. |
| I/O Control Exit Criteria | 1. Power Off or Tuner Apllication Exit. 2. 2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info FM Seek\_Stop Sensitivity |

#### DID 0xEEE2 - Token Removal Reason

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEEE2 |
| DataIdentifier Name | Token Removal Reason |
| DataIdentifier Size (bytes) | 64 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 1 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 2 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 1 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 3 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 4 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 5 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 3 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 6 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 3 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 7 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 4 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 8 - State Encoded (Start byte = 8, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 4 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 9 - State Encoded (Start byte = 9, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 5 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 10 - State Encoded (Start byte = 10, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 5 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 11 - State Encoded (Start byte = 11, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 6 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 12 - State Encoded (Start byte = 12, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 6 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 13 - State Encoded (Start byte = 13, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 7 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 14 - State Encoded (Start byte = 14, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 7 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 15 - State Encoded (Start byte = 15, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 8 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 16 - State Encoded (Start byte = 16, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 8 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 17 - State Encoded (Start byte = 17, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 9 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 18 - State Encoded (Start byte = 18, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 9 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 19 - State Encoded (Start byte = 19, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 10 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 20 - State Encoded (Start byte = 20, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 10 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 21 - State Encoded (Start byte = 21, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 11 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 22 - State Encoded (Start byte = 22, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 11 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 23 - State Encoded (Start byte = 23, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 12 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 24 - State Encoded (Start byte = 24, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 12 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 25 - State Encoded (Start byte = 25, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 13 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 26 - State Encoded (Start byte = 26, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 13 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 27 - State Encoded (Start byte = 27, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 14 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 28 - State Encoded (Start byte = 28, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 14 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 29 - State Encoded (Start byte = 29, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 15 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 30 - State Encoded (Start byte = 30, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 15 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 31 - State Encoded (Start byte = 31, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 16 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 32 - State Encoded (Start byte = 32, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 16 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 33 - State Encoded (Start byte = 33, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 17 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 34 - State Encoded (Start byte = 34, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 17 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 35 - State Encoded (Start byte = 35, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 18 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 36 - State Encoded (Start byte = 36, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 18 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 37 - State Encoded (Start byte = 37, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 19 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 38 - State Encoded (Start byte = 38, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 19 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 39 - State Encoded (Start byte = 39, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 20 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 40 - State Encoded (Start byte = 40, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 20 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 41 - State Encoded (Start byte = 41, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 21 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 42 - State Encoded (Start byte = 42, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 21 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 43 - State Encoded (Start byte = 43, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 22 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 44 - State Encoded (Start byte = 44, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 22 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 45 - State Encoded (Start byte = 45, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 23 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 46 - State Encoded (Start byte = 46, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 23 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 47 - State Encoded (Start byte = 47, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 24 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 48 - State Encoded (Start byte = 48, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 24 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 49 - State Encoded (Start byte = 49, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 25 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 50 - State Encoded (Start byte = 50, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 25 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 51 - State Encoded (Start byte = 51, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 26 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 52 - State Encoded (Start byte = 52, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 26 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 53 - State Encoded (Start byte = 53, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 27 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 54 - State Encoded (Start byte = 54, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 27 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 55 - State Encoded (Start byte = 55, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 28 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 56 - State Encoded (Start byte = 56, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 28 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 57 - State Encoded (Start byte = 57, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 29 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 58 - State Encoded (Start byte = 58, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 29 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 59 - State Encoded (Start byte = 59, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 30 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 60 - State Encoded (Start byte = 60, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 30 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 61 - State Encoded (Start byte = 61, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 31 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 62 - State Encoded (Start byte = 62, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 31 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

Parameter 63 - State Encoded (Start byte = 63, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Name 32 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default Value |
| 0x01 | Sync\_ap\_dev\_sign |
| 0x02 | Sync\_ap\_dev\_unsign |
| 0x03 | Sync\_ap\_debug |
| 0x04 | Sync\_ap\_logging |
| 0x05 | Sync\_cp\_debug |
| 0x06 | Analytics override |

Parameter 64 - State Encoded (Start byte = 64, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Token Update 32 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | Unknown Removal |
| 0x02 | Unknown Loading |
| 0x03 | Master Reset |
| 0x04 | Removal Routine |
| 0x05 | Console App Removal |
| 0x06 | Console App Loading |
| 0x07 | Token Content Invalid Removal |
| 0x08 | Token File Access Error Removal |
| 0x09 | Token Expiry Removal |
| 0x0A | Token Status Service Removal |
| 0x0B | Token Status Service Loading |

#### DID 0xEEFE - APIM VMCU Recover Partition Image

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEEFE |
| DataIdentifier Name | APIM VMCU Recover Partition Image |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | periheriial provisioning required |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info APIM VMCU Recover Partition Image |

#### DID 0xEEFF - APIM CCPU Recover Partition Image

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xEEFF |
| DataIdentifier Name | APIM CCPU Recover Partition Image |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | Retrieve APIM CCPU Recover Partition Image from CCPU. Note: Since communication with the CCPU is required to obtain the response, this DID should not be part of a multi-PID (Service $22) request. If communication is not possible (see DID 804A "APIM Internal Fault" to verify that the IPC link is up) or if the IPC request to the CCPU does not indicate success, the VMCU will return Negative-Response-Code $22 (Conditions-Not-Correct). |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info APIM CCPU Recover Partition Image |

#### DID 0xF10A - ECU Cal-Config Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF10A |
| DataIdentifier Name | ECU Cal-Config Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Cal-Config Part Number |

#### DID 0xF110 - Subsystem Specific Diagnostic Specification Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF110 |
| DataIdentifier Name | Subsystem Specific Diagnostic Specification Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is used to report the ECU's Part 2 Spec WERS Part Number (e.g., DS-1234-ABCD-AA). |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Subsystem Specific Diagnostic Specification Part Number |

#### DID 0xF111 - ECU Core Assembly Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF111 |
| DataIdentifier Name | ECU Core Assembly Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This number shall identify the combination of the ECU hardware (e.g., circuit board, micro-controller, memory, etc.) and any non-replaceable software (bootloaders and other fixed software). |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x02 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Core Assembly Number |

#### DID 0xF113 - ECU Delivery Assembly Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF113 |
| DataIdentifier Name | ECU Delivery Assembly Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This number shall identify the complete ECU at the point of deliver to the assembly plant or the service bay. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x02 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Delivery Assembly Number |

#### DID 0xF15F - NOS Generation Tool Version Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF15F |
| DataIdentifier Name | NOS Generation Tool Version Number |
| DataIdentifier Size (bytes) | 10 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | NOS Generation Tool Supplier |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x08 | Vector |

Parameter 2 - Hex (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 72 | NOS Generation Tool Version Number |

#### DID 0xF162 - Software Download Specification Version

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF162 |
| DataIdentifier Name | Software Download Specification Version |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |
| DataIdentifier Comments | This dataIdentifier shall be used to report the software download specification an ECU is compliant with. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x02 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Software Download Specification Version |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x07 | SWDL 00.06.15.002-007 |

#### DID 0xF163 - Diagnostic Specification Version

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF163 |
| DataIdentifier Name | Diagnostic Specification Version |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |
| DataIdentifier Comments | A value that uniquely identifies which diagnostic specification and version level an ECU is compliant to. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Diagnostic Specification Version |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x05 | GGDS 00.06.15.001-005 |

#### DID 0xF166 - NOS Message Database #1 Version Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF166 |
| DataIdentifier Name | NOS Message Database #1 Version Number |
| DataIdentifier Size (bytes) | 4 |
| DataIdentifier Type | packeted |
| DataIdentifier Comments | A value identifying the implemented message database. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - bcd (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Year |

Parameter 2 - bcd (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Month |

Parameter 3 - bcd (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Day |

Parameter 4 - bcd (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Release Version |

#### DID 0xF16B - ECU Cal-Config #2 Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF16B |
| DataIdentifier Name | ECU Cal-Config #2 Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Cal-Config #2 Part Number |

#### DID 0xF16C - ECU Cal-Config #3 Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF16C |
| DataIdentifier Name | ECU Cal-Config #3 Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Cal-Config #3 Part Number |

#### DID 0xF16D - ECU Cal-Config #4 Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF16D |
| DataIdentifier Name | ECU Cal-Config #4 Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Cal-Config #4 Part Number |

#### DID 0xF16E - ECU Cal-Config #5 Part Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF16E |
| DataIdentifier Name | ECU Cal-Config #5 Part Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Cal-Config #5 Part Number |

#### DID 0xF17F - Ford Electronic Serial Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF17F |
| DataIdentifier Name | Ford Electronic Serial Number |
| DataIdentifier Size (bytes) | 8 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | Ford-specific ECU serial number used for FNV2 IVI. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x02 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Ford Electronic Serial Number |

#### DID 0xF180 - Boot Software Identification

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF180 |
| DataIdentifier Name | Boot Software Identification |
| DataIdentifier Size (bytes) | 25 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x02 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - unsigned (Start byte = 1, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 8 | Number Of Modules (ISO14229 compatibility - always set to 01h) | 0 | 1 | Count | 0 | 255 |

Parameter 2 - ascii (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 192 | Boot Software Identifcation Data (Part no. of the bootloader) |

#### DID 0xF188 - Vehicle Manufacturer ECU Software Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF188 |
| DataIdentifier Name | Vehicle Manufacturer ECU Software Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This dataIdentifier shall be used to report the part number for VMCU software. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Vehicle Manufacturer ECU Software Number |

#### DID 0xF18C - ECU Serial Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF18C |
| DataIdentifier Name | ECU Serial Number |
| DataIdentifier Size (bytes) | 16 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This dataIdentifier shall be used to report a unique serial number for the ECU. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x02 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU Serial Number |

#### DID 0xF190 - Vehicle Identification Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF190 |
| DataIdentifier Name | Vehicle Identification Number |
| DataIdentifier Size (bytes) | 24 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Vehicle Identification Number |

#### DID 0xF1D0 - ECU MAC Address 1

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF1D0 |
| DataIdentifier Name | ECU MAC Address 1 |
| DataIdentifier Size (bytes) | 6 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | BT MAC Address |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU MAC Address 1 |

#### DID 0xF1D1 - ECU MAC Address 2

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF1D1 |
| DataIdentifier Name | ECU MAC Address 2 |
| DataIdentifier Size (bytes) | 6 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | Wifi MAC Address |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU MAC Address 2 |

#### DID 0xF1E1 - ECU MAC Address 3

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF1E1 |
| DataIdentifier Name | ECU MAC Address 3 |
| DataIdentifier Size (bytes) | 6 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | Ethernet MAC Address |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ECU MAC Address 3 |

#### DID 0xF40C - Engine RPM

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF40C |
| DataIdentifier Name | Engine RPM |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Engine RPM | 0 | 0.25 (1/4) | Rpm | 0 | 16383.75 |

#### DID 0xF411 - Absolute Throttle Position

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xF411 |
| DataIdentifier Name | Absolute Throttle Position |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| Absolute Throttle Position | 0 | 0.392156862745098 (100/255) | % | 0 | 100 |

#### DID 0xFD01 - VMCU Software Version

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD01 |
| DataIdentifier Name | VMCU Software Version |
| DataIdentifier Size (bytes) | 40 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info VMCU Software Version |

#### DID 0xFD02 - Operating System Version

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD02 |
| DataIdentifier Name | Operating System Version |
| DataIdentifier Size (bytes) | 32 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Operating System Version |

#### DID 0xFD03 - Normal Speaker Walkaround Volume

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD03 |
| DataIdentifier Name | Normal Speaker Walkaround Volume |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Normal Speaker Walkaround Volume |

#### DID 0xFD05 - Display Software Version

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD05 |
| DataIdentifier Name | Display Software Version |
| DataIdentifier Size (bytes) | 10 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Display Software Version |

#### DID 0xFD06 - EOL status of Desay supplier production line

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD06 |
| DataIdentifier Name | EOL status of Desay supplier production line |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | EOL status of Desay supplier production line |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | EOL ON |
| 0x01 | EOL OFF |

#### DID 0xFD07 - Supplier ECU AHU Hardware Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD07 |
| DataIdentifier Name | Supplier ECU AHU Hardware Number |
| DataIdentifier Size (bytes) | 10 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Supplier ECU AHU Hardware Number |

#### DID 0xFD10 - Config Bits code condition

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD10 |
| DataIdentifier Name | Config Bits code condition |
| DataIdentifier Size (bytes) | 5 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE00 Byte6 Bit3-0: HMI variants |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE01 Byte1 Bit7-4: SWC |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 3 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE02 Byte3 Bit3-0: MT/AT |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 4 - State Encoded (Start byte = 1, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE03 Byte4 Bit7-4: heated windshield |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 5 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE04 Byte1 Bit3-0: Navi Features |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 6 - State Encoded (Start byte = 2, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE05 Byte8 Bit7-4: Chime Strategy |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 7 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE04 Byte4 Bit7-4: Emmc |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 8 - State Encoded (Start byte = 2, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE02 B1b3 camera =3; HW mismatch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 9 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE02 B1b3 = 360 offset view; camera!=360 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 10 - State Encoded (Start byte = 3, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE04 B2b3 = A2B; HW mismatch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 11 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE07 B4b1 CRM-DSMC =Present; DE06 B5b7 = Full function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 12 - State Encoded (Start byte = 3, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE04 B5b7 AR Navigation =1,2; HW mismatch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

Parameter 13 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | DE05 B3b3 DSO Chime =1,2; HW mismatch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Correct |
| 0x01 | Parameter Out Of Range |
| 0x02 | Parameter mismatch with Hardware |
| 0x03 | Parameters mismatch |

#### DID 0xFD11 - Desay Internal Serial Number

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD11 |
| DataIdentifier Name | Desay Internal Serial Number |
| DataIdentifier Size (bytes) | 19 |
| DataIdentifier Type | ascii |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Desay Internal Serial Number |

#### DID 0xFD12 - Firmware Version

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD12 |
| DataIdentifier Name | Firmware Version |
| DataIdentifier Size (bytes) | 50 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Firmware Version |

#### DID 0xFD13 - Desay Internal Hardware Type

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD13 |
| DataIdentifier Name | Desay Internal Hardware Type |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Desay Internal Hardware Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x01 | N2RT-18D668-PA |
| 0x02 | MB6T-18D668-LA |
| 0x03 | MB6T-18D668-KA |
| 0x04 | MB6T-18D668-PA |
| 0x05 | MZ8T-18D668-MA |
| 0x06 | MZ8T-18D668-LA |
| 0x07 | M2DT-18D668-NA-Cancel |
| 0x08 | M2DT-18D668-RA-Cancel |
| 0x09 | ML3T-18D668-MA |
| 0x0A | NL7T-18D668-LA |
| 0x0B | MB6T-18D668-KA |
| 0x0C | N2AT-18D668-PA |
| 0x0D | N2RT-18D668-MA |
| 0x0E | N2RT-18D668-PA |
| 0x0F | N2RT-18D668-RA |

#### DID 0xFD15 - Firmware Version 2

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD15 |
| DataIdentifier Name | Firmware Version 2 |
| DataIdentifier Size (bytes) | 50 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Firmware Version 2 |

#### DID 0xFD1A - Display Parameters

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD1A |
| DataIdentifier Name | Display Parameters |
| DataIdentifier Size (bytes) | 3 |
| DataIdentifier Type | bitmapped |
| DataIdentifier Comments | Supplier Use Only. Current display type as retrieved from the Display Module. This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Byte | Bit | Parameter Info | 0 Meaning | 1 Meaning |
| 1 | 7 | Spurious Interrupt | Interrupts Not Present | Interrupts Present |
| 1 | 6 | Touch Circuit Fault Description: Set during Self-Test [0202] only | Fault Not Present | Fault Present |
| 1 | 5 | Touch Panel Fault Description: Set during Self-Test [0202] only | Fault Not Present | Fault Present |
| 1 | 4 | Lost Communication with Display Microprocessor | Fault Not Present | Fault Present |
| 1 | 3 | Display Micro Reset | Reset Not Requested | Reset Requested |
| 1 | 2 | Over Temperature | Over Temperature Condition Does Not Exist | Reset Requested |
| 1 | 1 | Lost Communication with Touch Controller | Fault Not Present | Fault Present |
| 1 | 0 | Touch Panel Range / Performance Description: Set during Self-Test [0202] only. | Fault Not Present | Fault Present |
| 2 | 7 | Backlight Circuit Fault | Fault Not Present | Fault Present |
| 2 | 6 | Loss of Lock Fault | Fault Not Present | Fault Present |
| 2 | 5 | Unexpected Reset (INIT) | Fault Not Present | Fault Present |
| 2 | 4 | Mismatched Electronic Identifier | Fault Not Present | Fault Present |
| 2 | 3 | Failure to Enable (Gen1) | Fault Not Present | Fault Present |
| 2 | 2 | Loss of LVDS Lock | Fault Not Present | Fault Present |
| 2 | 1 | Unsupported Display (Gen2) | Fault Not Present | Fault Present |
| 2 | 0 | LVDS Link Detect Fault | Fault Not Present | Fault Present |

#### DID 0xFD1B - RVC Digital Faults

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD1B |
| DataIdentifier Name | RVC Digital Faults |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | bitmapped |
| DataIdentifier Comments | 4 Bytes Bitmap Encoding (Supplier Use Only). This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Byte | Bit | Parameter Info | 0 Meaning | 1 Meaning |
| 1 | 7 | Unexpected Reset | Not Present | Present |
| 1 | 6 | Reset Request | Not Present | Present |
| 1 | 5 | LVDS Link Detect Fault | Not Present | Present |
| 1 | 4 | General Electrical Fault | Not Present | Present |
| 1 | 3 | Loss of Lock Description: Indicates if the Loss of Lock issue was last seen as present. | Not Present | Present |
| 1 | 2 | Loss of communication for 5 (five) seconds Description: Indicates if the Loss of communication issue was last seen as present. | Not Present | Present |
| 1 | 1 | Over Temperature Description: Indicates if the Over Temperature issue was last seen as present. | Not Present | Present |

#### DID 0xFD1C - Digital RVC Power Control

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD1C |
| DataIdentifier Name | Digital RVC Power Control |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | bitmapped |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Byte | Bit | Parameter Info | 0 Meaning | 1 Meaning |
| 1 | 7 | Power Control Description: Indicates if the Power Control was Enabled. | Enabled | Disabled |

#### DID 0xFD20 - Averaged Signal Strength Measured in AM/FM Antenna Test

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD20 |
| DataIdentifier Name | Averaged Signal Strength Measured in AM/FM Antenna Test |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Averaged Signal Strength Measured in AM/FM Antenna Test |

#### DID 0xFD21 - Baidu Security Certificate1

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD21 |
| DataIdentifier Name | Baidu Security Certificate1 |
| DataIdentifier Size (bytes) | 1846 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Baidu Security Certificate1 |

#### DID 0xFD22 - Baidu Security Certificate2

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD22 |
| DataIdentifier Name | Baidu Security Certificate2 |
| DataIdentifier Size (bytes) | 1846 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Baidu Security Certificate2 |

#### DID 0xFD23 - Baidu Security Certificate3

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD23 |
| DataIdentifier Name | Baidu Security Certificate3 |
| DataIdentifier Size (bytes) | 1846 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Baidu Security Certificate3 |

#### DID 0xFD24 - Baidu Security Certificate4

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD24 |
| DataIdentifier Name | Baidu Security Certificate4 |
| DataIdentifier Size (bytes) | 1846 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Baidu Security Certificate4 |

#### DID 0xFD26 - Wi-Fi Mac Address

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFD26 |
| DataIdentifier Name | Wi-Fi Mac Address |
| DataIdentifier Size (bytes) | 17 |
| DataIdentifier Type | ascii |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info Wi-Fi Mac Address |

#### DID 0xFDB0 - VMCU Low PWM Rotary BL

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDB0 |
| DataIdentifier Name | VMCU Low PWM Rotary BL |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info VMCU Low PWM Rotary BL |

#### DID 0xFDB1 - VMCU High PWM Rotary BL

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDB1 |
| DataIdentifier Name | VMCU High PWM Rotary BL |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info VMCU High PWM Rotary BL |

#### DID 0xFDB2 - VMCU\_Low\_PWM\_ButtonB

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDB2 |
| DataIdentifier Name | VMCU\_Low\_PWM\_ButtonB |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria |
| I/O Control Exit Criteria |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info VMCU\_Low\_PWM\_ButtonB |

#### DID 0xFDB3 - VMCU\_High\_PWM\_ButtonB

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDB3 |
| DataIdentifier Name | VMCU\_High\_PWM\_ButtonB |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria |
| I/O Control Exit Criteria |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info VMCU\_High\_PWM\_ButtonB |

#### DID 0xFDB5 - VMCU\_WeightFactorBL

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDB5 |
| DataIdentifier Name | VMCU\_WeightFactorBL |
| DataIdentifier Size (bytes) | 144 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria |
| I/O Control Exit Criteria |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info VMCU\_WeightFactorBL |

#### DID 0xFDBA - CCP Low PWM Display Button BL

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDBA |
| DataIdentifier Name | CCP Low PWM Display Button BL |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP Low PWM Display Button BL |

#### DID 0xFDBB - CCP High PWM Display Button BL

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDBB |
| DataIdentifier Name | CCP High PWM Display Button BL |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP High PWM Display Button BL |

#### DID 0xFDBE - CCPU Weight Factor Backlight

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDBE |
| DataIdentifier Name | CCPU Weight Factor Backlight |
| DataIdentifier Size (bytes) | 144 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCPU Weight Factor Backlight |

#### DID 0xFDC5 - CCPU Weight Factor Display SDM13

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDC5 |
| DataIdentifier Name | CCPU Weight Factor Display SDM13 |
| DataIdentifier Size (bytes) | 216 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCPU Weight Factor Display SDM13 |

#### DID 0xFDC6 - CCP\_Low\_PWM\_SDM13

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDC6 |
| DataIdentifier Name | CCP\_Low\_PWM\_SDM13 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_Low\_PWM\_SDM13 |

#### DID 0xFDC7 - CCP\_High\_PWM\_SDM13

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDC7 |
| DataIdentifier Name | CCP\_High\_PWM\_SDM13 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_High\_PWM\_SDM13 |

#### DID 0xFDC8 - CCPU Weight Factor SDM27

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDC8 |
| DataIdentifier Name | CCPU Weight Factor SDM27 |
| DataIdentifier Size (bytes) | 216 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCPU Weight Factor SDM27 |

#### DID 0xFDC9 - CCP\_Low\_PWM\_SDM27

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDC9 |
| DataIdentifier Name | CCP\_Low\_PWM\_SDM27 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_Low\_PWM\_SDM27 |

#### DID 0xFDCA - CCP\_High\_PWM\_SDM27

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDCA |
| DataIdentifier Name | CCP\_High\_PWM\_SDM27 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_High\_PWM\_SDM27 |

#### DID 0xFDD2 - CCP\_Threshold\_to\_Night

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDD2 |
| DataIdentifier Name | CCP\_Threshold\_to\_Night |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |
| DataIdentifier Comments | Supplier Use Only. Lower threshold for the night color set trigger. Value is derived from Byte-1141 of Illumination Calibration file. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| CCP\_Threshold\_to\_Night | 0 | 1 | units | 0 | 255 |

#### DID 0xFDD3 - CCP\_DayToNightTime

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDD3 |
| DataIdentifier Name | CCP\_DayToNightTime |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |
| DataIdentifier Comments | Supplier Use Only. Hysteresis to switch from day to night color set. Value is derived from Byte-1142 of Illumination Calibration file |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| CCP\_DayToNightTime | 0 | 1 | Seconds | 0 | 255 |

#### DID 0xFDD4 - CCP\_NightToDayTime

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDD4 |
| DataIdentifier Name | CCP\_NightToDayTime |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | unsigned |
| DataIdentifier Comments | Supplier Use Only. Hysteresis to switch from night to day color set. Value is derived from Byte-1143 of Illumination Calibration file. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| CCP\_NightToDayTime | 0 | 1 | Seconds | 0 | 255 |

#### DID 0xFDDF - CCPU Weight Factor Display SDM12L

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDDF |
| DataIdentifier Name | CCPU Weight Factor Display SDM12L |
| DataIdentifier Size (bytes) | 216 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCPU Weight Factor Display SDM12L |

#### DID 0xFDE0 - CCP\_Low\_PWM\_SDM12L

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDE0 |
| DataIdentifier Name | CCP\_Low\_PWM\_SDM12L |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_Low\_PWM\_SDM12L |

#### DID 0xFDE1 - CCP\_High\_PWM\_SDM12L

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDE1 |
| DataIdentifier Name | CCP\_High\_PWM\_SDM12L |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_High\_PWM\_SDM12L |

#### DID 0xFDEA - CCPU Weight Factor Display SDM15\_5

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDEA |
| DataIdentifier Name | CCPU Weight Factor Display SDM15\_5 |
| DataIdentifier Size (bytes) | 216 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCPU Weight Factor Display SDM15\_5 |

#### DID 0xFDEB - CCP\_Low\_PWM\_SDM15\_5

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDEB |
| DataIdentifier Name | CCP\_Low\_PWM\_SDM15\_5 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_Low\_PWM\_SDM15\_5 |

#### DID 0xFDEC - CCP\_High\_PWM\_SDM15\_5

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFDEC |
| DataIdentifier Name | CCP\_High\_PWM\_SDM15\_5 |
| DataIdentifier Size (bytes) | 2 |
| DataIdentifier Type | hex |
| DataIdentifier Comments | This DID is meant for supplier usage only. |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| Security Levels Required to Write | 0x03 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info CCP\_High\_PWM\_SDM15\_5 |

#### DID 0xFE00 - Sunroof Status

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFE00 |
| DataIdentifier Name | Sunroof Status |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | State Encoded |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| DataIdentifier Format Information |

|  |  |
| --- | --- |
| Parameter Info | Sunroof Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Closed |
| 0x01 | Up to 10% |
| 0x02 | Up to 60% |
| 0x03 | Up to 99% |
| 0x04 | Ignored |

#### DID 0xFE01 - SelDrvMdeHmi04\_D\_Rq

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFE01 |
| DataIdentifier Name | SelDrvMdeHmi04\_D\_Rq |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info SelDrvMdeHmi04\_D\_Rq |

#### DID 0xFE02 - ActvDrvMde\_D2\_Stat

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFE02 |
| DataIdentifier Name | ActvDrvMde\_D2\_Stat |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ActvDrvMde\_D2\_Stat |

#### DID 0xFE03 - AutoTowActv\_B\_Stat

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFE03 |
| DataIdentifier Name | AutoTowActv\_B\_Stat |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info AutoTowActv\_B\_Stat |

#### DID 0xFE04 - EngExhMdeQuiet\_D2\_Stat

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFE04 |
| DataIdentifier Name | EngExhMdeQuiet\_D2\_Stat |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met. |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info EngExhMdeQuiet\_D2\_Stat |

#### DID 0xFE60 - ANC Audio signals mute control

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xFE60 |
| DataIdentifier Name | ANC Audio signals mute control |
| DataIdentifier Size (bytes) | 1 |
| DataIdentifier Type | hex |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Control Information (Service InputOutputControlByIdentifier - 0x2F |

|  |  |
| --- | --- |
| Controllable in Sessions | 0x03 0x60 |
| InputOutputControlParameters Supported | 0x03 0x00 |
| I/O Control Entry Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| I/O Control Exit Criteria | 1.Power Off. 2.2F return control service execution. I/O Control exit when 1 or 2 conditions are met |

|  |
| --- |
| DataIdentifier Format Information |

|  |
| --- |
| Parameter Info ANC Audio signals mute control |

## DTC and Related Information

This section documents all supported DTCs, extended data records, snapshot data records, and other DTC related information supported by the ECU.

### ReadDTCInformation Sub-Functions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SF | Name | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x01 | reportNumberOfDTCByStatusMask | X |  | X | X |
| 0x02 | reportDTCByStatusMask | X |  | X | X |
| 0x06 | reportDTCExtDataRecordByDTCNumber | X |  | X | X |
| 0x0A | reportSupportedDTC | X |  | X | X |

### GroupOfDTC Parameters

|  |  |
| --- | --- |
| GroupOfDTCParameter | Description |
| 0xFFFFFF | All DTC's |

### Supported DTC Status Bits

|  |  |
| --- | --- |
| Bit | Name |
| 1 | testFailedThisOperationCycle |
| 3 | confirmedDTC |
| 6 | testNotCompletedThisOperationCycle |
| 7 | warningIndicatorRequested |

### Supported Extended Data Records

|  |  |  |  |
| --- | --- | --- | --- |
| Value (Hex) | Name | Type | Description |
| 0x02 | Operation cycle counter #2 | unsigned | Number of operation cycles since the DTC fault detection counter last reached its maximum value of +127 (since DTC information was last cleared). The operation cycles during which the test was not completed shall be excluded |
| 0x10 | DTC Fault Detection Counter | signed | The purpose of this counter is to provide a mechanism for filtering the results of a low-level fault detection process so that test results (pass and fail) can be qualified before setting any DTC status bits. |

### Supported Snapshot Data Records

Snapshot data records are not supported by this ECU.

### Freeze Frame Data Records

ECU supports 0 freeze frame data records

### DTCs

The following table contains a summary of all DTCs supported by the ECU.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DTC (Hex) | DTC (display) | DTC Type | Root Description | Failure Type Byte Description |
| 0x500101 | C1001-01 | CD | Vision System Camera | General Electrical Failure |
| 0x500102 | C1001-02 | C | Vision System Camera | General Signal Failure |
| 0x50011C | C1001-1C | C | Vision System Camera | Circuit Voltage Out of Range |
| 0x50014B | C1001-4B | C | Vision System Camera | Over Temperature |
| 0x500155 | C1001-55 | C | Vision System Camera | Not Configured |
| 0x500181 | C1001-81 | C | Vision System Camera | Invalid Serial Data Received |
| 0x500187 | C1001-87 | CD | Vision System Camera | Missing Message |
| 0x820001 | B0200-01 | C | Camera "A" | General Electrical Failure |
| 0x820002 | B0200-02 | C | Camera "A" | General Signal Failure |
| 0x82004B | B0200-4B | C | Camera "A" | Over Temperature |
| 0x820101 | B0201-01 | CD | Camera "B" | General Electrical Failure |
| 0x820102 | B0201-02 | C | Camera "B" | General Signal Failure |
| 0x82011C | B0201-1C | C | Camera "B" | Circuit Voltage Out of Range |
| 0x82014B | B0201-4B | C | Camera "B" | Over Temperature |
| 0x820181 | B0201-81 | C | Camera "B" | Invalid Serial Data Received |
| 0x820187 | B0201-87 | CD | Camera "B" | Missing Message |
| 0x908701 | B1087-01 | CD | LIN Bus "A" | General Electrical Failure |
| 0x908E01 | B108E-01 | C | Display | General Electrical Failure |
| 0x908E02 | B108E-02 | C | Display | General Signal Failure |
| 0x908E4A | B108E-4A | C | Display | Incorrect Component Installed |
| 0x908E4B | B108E-4B | C | Display | Over Temperature |
| 0x908E87 | B108E-87 | C | Display | Missing Message |
| 0x915D09 | B115D-09 | C | Camera LED | Component Failure |
| 0x915D15 | B115D-15 | C | Camera LED | Circuit Short To Battery or Open |
| 0x916A01 | B116A-01 | CD | Handset Microphone | General Electrical Failure |
| 0x916A15 | B116A-15 | CD | Handset Microphone | Circuit Short To Battery or Open |
| 0x917A01 | B117A-01 | CD | Backup Microphone | General Electrical Failure |
| 0x917A15 | B117A-15 | CD | Backup Microphone | Circuit Short To Battery or Open |
| 0x919F11 | B119F-11 | C | GPS Antenna | Circuit Short To Ground |
| 0x919F15 | B119F-15 | C | GPS Antenna | Circuit Short To Battery or Open |
| 0x919F19 | B119F-19 | C | GPS Antenna | Circuit Current Above Threshold |
| 0x925202 | B1252-02 | C | USB Port | General Signal Failure |
| 0x92BD02 | B12BD-02 | CD | Rear Camera | General Signal Failure |
| 0x92BD12 | B12BD-12 | CD | Rear Camera | Circuit Short To Battery |
| 0x93F501 | B13F5-01 | CD | Microphone 3 | General Electrical Failure |
| 0x93F515 | B13F5-15 | CD | Microphone 3 | Circuit Short To Battery or Open |
| 0x940011 | B1400-11 | CD | Microphone 4 | Circuit Short To Ground |
| 0x940015 | B1400-15 | CD | Microphone 4 | Circuit Short To Battery or Open |
| 0x94FD01 | B14FD-01 | C | External Media Control Connectivity | General Electrical Failure |
| 0x951101 | B1511-01 | CD | Automobile Audio Bus (A2B) Master Node | General Electrical Failure |
| 0x951111 | B1511-11 | C | Automobile Audio Bus (A2B) Master Node | Circuit Short To Ground |
| 0x951112 | B1511-12 | C | Automobile Audio Bus (A2B) Master Node | Circuit Short To Battery |
| 0x951113 | B1511-13 | CD | Automobile Audio Bus (A2B) Master Node | Circuit Open |
| 0x956D54 | B156D-54 | C | TCU Customer Connectivity Settings Synchronization With HMI | Missing Calibration |
| 0x956D89 | B156D-89 | C | TCU Customer Connectivity Settings Synchronization With HMI | Data Transfer Failure |
| 0x958911 | B1589-11 | C | Antenna #3 | Circuit Short To Ground |
| 0x958915 | B1589-15 | C | Antenna #3 | Circuit Short To Battery or Open |
| 0x958919 | B1589-19 | C | Antenna #3 | Circuit Current Above Threshold |
| 0x958921 | B1589-21 | D | Antenna #3 | Signal Amplitude < Minimum |
| 0x969102 | B1691-02 | C | Display #2 | General Signal Failure |
| 0x969111 | B1691-11 | C | Display #2 | Circuit Short To Ground |
| 0x969113 | B1691-13 | C | Display #2 | Circuit Open |
| 0x96914A | B1691-4A | C | Display #2 | Incorrect Component Installed |
| 0x96914B | B1691-4B | C | Display #2 | Over Temperature |
| 0x969187 | B1691-87 | C | Display #2 | Missing Message |
| 0x9A0101 | B1A01-01 | D | Speaker #1 | General Electrical Failure |
| 0x9A0111 | B1A01-11 | CD | Speaker #1 | Circuit Short To Ground |
| 0x9A0112 | B1A01-12 | CD | Speaker #1 | Circuit Short To Battery |
| 0x9A0113 | B1A01-13 | D | Speaker #1 | Circuit Open |
| 0x9A0201 | B1A02-01 | D | Speaker #2 | General Electrical Failure |
| 0x9A0211 | B1A02-11 | CD | Speaker #2 | Circuit Short To Ground |
| 0x9A0212 | B1A02-12 | CD | Speaker #2 | Circuit Short To Battery |
| 0x9A0213 | B1A02-13 | D | Speaker #2 | Circuit Open |
| 0x9A0301 | B1A03-01 | D | Speaker #3 | General Electrical Failure |
| 0x9A0311 | B1A03-11 | CD | Speaker #3 | Circuit Short To Ground |
| 0x9A0312 | B1A03-12 | CD | Speaker #3 | Circuit Short To Battery |
| 0x9A0313 | B1A03-13 | D | Speaker #3 | Circuit Open |
| 0x9A0401 | B1A04-01 | D | Speaker #4 | General Electrical Failure |
| 0x9A0411 | B1A04-11 | CD | Speaker #4 | Circuit Short To Ground |
| 0x9A0412 | B1A04-12 | CD | Speaker #4 | Circuit Short To Battery |
| 0x9A0413 | B1A04-13 | D | Speaker #4 | Circuit Open |
| 0x9A0713 | B1A07-13 | D | Speaker #7 | Circuit Open |
| 0x9A0813 | B1A08-13 | D | Speaker #8 | Circuit Open |
| 0x9A0913 | B1A09-13 | D | Speaker #9 | Circuit Open |
| 0x9A1013 | B1A10-13 | D | Speaker #10 | Circuit Open |
| 0x9D7911 | B1D79-11 | CD | Microphone Input | Circuit Short To Ground |
| 0x9D7915 | B1D79-15 | CD | Microphone Input | Circuit Short To Battery or Open |
| 0xC10000 | U0100-00 | C | Lost Communication With ECM/PCM "A" | No Sub Type Information |
| 0xC12100 | U0121-00 | C | Lost Communication With Anti-Lock Brake System (ABS) Control Module "A" | No Sub Type Information |
| 0xC12155 | U0121-55 | C | Lost Communication With Anti-Lock Brake System (ABS) Control Module "A" | Not Configured |
| 0xC14000 | U0140-00 | C | Lost Communication With Body Control Module | No Sub Type Information |
| 0xC15100 | U0151-00 | C | Lost Communication With Restraints Control Module | No Sub Type Information |
| 0xC15500 | U0155-00 | C | Lost Communication With Instrument Panel Cluster (IPC) Control Module | No Sub Type Information |
| 0xC15900 | U0159-00 | C | Lost Communication With Parking Assist Control Module "A" | No Sub Type Information |
| 0xC16200 | U0162-00 | CD | Lost Communication With Navigation Display Module | No Sub Type Information |
| 0xC19800 | U0198-00 | C | Lost Communication With Telematic Control Module "A" | No Sub Type Information |
| 0xC20800 | U0208-00 | C | Lost Communication With "Seat Control Module A" | No Sub Type Information |
| 0xC20900 | U0209-00 | C | Lost Communication With "Seat Control Module B" | No Sub Type Information |
| 0xC20C00 | U020C-00 | C | Lost Communication with Wireless Accessory Charging Module "A" | No Sub Type Information |
| 0xC21200 | U0212-00 | C | Lost Communication With Steering Column Control Module | No Sub Type Information |
| 0xC21400 | U0214-00 | C | Lost Communication With Remote Function Actuation Module | No Sub Type Information |
| 0xC23200 | U0232-00 | C | Lost Communication With Side Obstacle Detection Control Module "A" | No Sub Type Information |
| 0xC23300 | U0233-00 | C | Lost Communication With Side Obstacle Detection Control Module "B" | No Sub Type Information |
| 0xC23800 | U0238-00 | C | Lost Communication With Digital Audio Control Module "D" | No Sub Type Information |
| 0xC23B00 | U023B-00 | C | Lost Communication With Image Processing Module B | No Sub Type Information |
| 0xC24B00 | U024B-00 | C | Lost Communication with Seat Control Module "G" | No Sub Type Information |
| 0xC24C00 | U024C-00 | C | Lost Communication with Seat Control Module "H" | No Sub Type Information |
| 0xC25600 | U0256-00 | C | Lost Communication With Front Controls Interface Module "A" | No Sub Type Information |
| 0xC29300 | U0293-00 | C | Lost Communication With Hybrid/EV Powertrain Control Module | No Sub Type Information |
| 0xC41500 | U0415-00 | C | Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A" | No Sub Type Information |
| 0xC41594 | U0415-94 | C | Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A" | Unexpected Operation |
| 0xC42200 | U0422-00 | C | Invalid Data Received From Body Control Module | No Sub Type Information |
| 0xC45200 | U0452-00 | C | Invalid Data Received From Restraints Control Module | No Sub Type Information |
| 0xC56500 | U0565-00 | C | Invalid Data Received From Camera Module-Rear | No Sub Type Information |
| 0xE01B04 | U201B-04 | C | Control Module Calibration Data #2 | System Internal Failure |
| 0xE01B54 | U201B-54 | C | Control Module Calibration Data #2 | Missing Calibration |
| 0xE01B57 | U201B-57 | C | Control Module Calibration Data #2 | Invalid / Incompatible Software Component |
| 0xE10000 | U2100-00 | CD | Initial Configuration Not Complete | No Sub Type Information |
| 0xE10100 | U2101-00 | CD | Control Module Configuration Incompatible | No Sub Type Information |
| 0xE40081 | U2400-81 | C | Ethernet Failure With Gateway Module A (GWM) | Invalid Serial Data Received |
| 0xE40092 | U2400-92 | C | Ethernet Failure With Gateway Module A (GWM) | Performance or Incorrect Operation |
| 0xF00004 | U3000-04 | C | Control Module | System Internal Failure |
| 0xF00009 | U3000-09 | C | Control Module | Component Failure |
| 0xF00041 | U3000-41 | CD | Control Module | General Checksum Failure |
| 0xF00043 | U3000-43 | C | Control Module | Special Memory Failure |
| 0xF00088 | U3000-88 | C | Control Module | Bus off |
| 0xF00316 | U3003-16 | CD | Battery Voltage | Circuit Voltage Below Threshold |
| 0xF00317 | U3003-17 | CD | Battery Voltage | Circuit Voltage Above Threshold |

DTC Type is decoded as follows:

C = Continuous DTC

D = On-Demand DTC

CD = Continuous and On-Demand DTC

#### DTC 0x500101 - Vision System Camera General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x500101 (C1001-01 ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 1or2or3or4or5. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | 1s |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when RVC has an FPD Link Detect Fault or General Electrical Failure for 5 seconds when vehicle is in Reverse. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x500102 - Vision System Camera General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x500102 (C1001-02 ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | General Signal Failure |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 3. 4. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | 1s |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when RVC has an Unexpected Reset or Reset Request for 5 seconds when vehicle is in Reverse. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x50011C - Vision System Camera Circuit Voltage Out of Range

|  |  |
| --- | --- |
| DTC Number | 0x50011C (C1001-1C ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | Circuit Voltage Out of Range |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 3. 4. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | 1s |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when nine volt power (to Digital RVC) has been below 9V for 500ms. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x50014B - Vision System Camera Over Temperature

|  |  |
| --- | --- |
| DTC Number | 0x50014B (C1001-4B ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | Over Temperature |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 3. 4. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | 1s |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when RVC hasn’t received configuration for 5 seconds when vehicle is in Reverse. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x500155 - Vision System Camera Not Configured

|  |  |
| --- | --- |
| DTC Number | 0x500155 (C1001-55 ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | Not Configured |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 3. 4. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | 1s |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when RVC hasn’t received configuration for 5 seconds when vehicle is in Reverse. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x500181 - Vision System Camera Invalid Serial Data Received

|  |  |
| --- | --- |
| DTC Number | 0x500181 (C1001-81 ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | Invalid Serial Data Received |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 3or4or5. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | Determined by CCPU |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when Digital RVC or 360 has a loss of lock for 5 seconds when vehicle is in Reverse. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x500187 - Vision System Camera Missing Message

|  |  |
| --- | --- |
| DTC Number | 0x500187 (C1001-87 ) |
| Root Description | Vision System Camera |
| Failure Type Byte Description | Missing Message |
| Extended DTC Description | HD RVC Camera |
| ECU Connector Pin | J15-1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run. 2. Voltage is between 10 and 16 volts. 3 .DE02 Byte1 Bit3-0(Camera) == 3. 4. Gear is in Reverse. Test is performed if 1 and 2 and 3 and 4 are true. |
| Test Period | Determined by CCPU |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when Digital RVC has lost IIC communication for 500 miliseconds when vehicle is in Reverse. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x820001 - Camera "A" General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x820001 (B0200-01 ) |
| Root Description | Camera "A" |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | Face Camera |
| ECU Connector Pin | J15-2 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The face camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When MCU detects General Electrical Failure more then 5s.. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost face camera. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x820002 - Camera "A" General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x820002 (B0200-02 ) |
| Root Description | Camera "A" |
| Failure Type Byte Description | General Signal Failure |
| Extended DTC Description | Face Camera |
| ECU Connector Pin | J15-2 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The face camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When MCU detects General signal failure more then 5s.. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost face camera. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x82004B - Camera "A" Over Temperature

|  |  |
| --- | --- |
| DTC Number | 0x82004B (B0200-4B ) |
| Root Description | Camera "A" |
| Failure Type Byte Description | Over Temperature |
| Extended DTC Description | Face Camera |
| ECU Connector Pin | J15-2 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The face camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When MCU detects Over Temperature more then 5s.. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost face camera. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x820101 - Camera "B" General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x820101 (B0201-01 ) |
| Root Description | Camera "B" |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | AR Camera |
| ECU Connector Pin | J15-4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The AR camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dectect General Electrical Failure more then 5s. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | AR navigation not work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x820102 - Camera "B" General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x820102 (B0201-02 ) |
| Root Description | Camera "B" |
| Failure Type Byte Description | General Signal Failure |
| Extended DTC Description | AR Camera |
| ECU Connector Pin | J15-4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The AR camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dectect General Signal Failure more then 5s. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | AR navigation not work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x82011C - Camera "B" Circuit Voltage Out of Range

|  |  |
| --- | --- |
| DTC Number | 0x82011C (B0201-1C ) |
| Root Description | Camera "B" |
| Failure Type Byte Description | Circuit Voltage Out of Range |
| Extended DTC Description | AR Camera |
| ECU Connector Pin | J15-4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The AR camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dectect Circuit Voltage Out of Range more then 5s. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | AR navigation not work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x82014B - Camera "B" Over Temperature

|  |  |
| --- | --- |
| DTC Number | 0x82014B (B0201-4B ) |
| Root Description | Camera "B" |
| Failure Type Byte Description | Over Temperature |
| Extended DTC Description | AR Camera |
| ECU Connector Pin | J15-4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The AR camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dectect Over Temperature more then 5s. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | AR navigation not work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x820181 - Camera "B" Invalid Serial Data Received

|  |  |
| --- | --- |
| DTC Number | 0x820181 (B0201-81 ) |
| Root Description | Camera "B" |
| Failure Type Byte Description | Invalid Serial Data Received |
| Extended DTC Description | AR Camera |
| ECU Connector Pin | J15-4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The AR camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dectect Invalid Serial Data Received more then 5s. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | AR navigation not work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x820187 - Camera "B" Missing Message

|  |  |
| --- | --- |
| DTC Number | 0x820187 (B0201-87 ) |
| Root Description | Camera "B" |
| Failure Type Byte Description | Missing Message |
| Extended DTC Description | AR Camera |
| ECU Connector Pin | J15-4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The AR camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dectect Missing Message more then 5s. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | AR navigation not work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x908701 - LIN Bus "A" General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x908701 (B1087-01 ) |
| Root Description | LIN Bus "A" |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | Lost Communication With ICP(LIN) |
| ECU Connector Pin | J2-40 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. 3. ICP(EFP) Network (DID DE01, Byte-1, Bit-3) is set to "LIN" (1). Test is run if 1, 2, and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when missing LIN signals for greater than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Buttons will not work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x908E01 - Display General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x908E01 (B108E-01 ) |
| Root Description | Display |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | General Electrical Failure |
| ECU Connector Pin | J3 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x908E02 - Display General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x908E02 (B108E-02 ) |
| Root Description | Display |
| Failure Type Byte Description | General Signal Failure |
| Extended DTC Description | General Signal Failure |
| ECU Connector Pin | J3 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When dispaly unit report general error. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x908E4A - Display Incorrect Component Installed

|  |  |
| --- | --- |
| DTC Number | 0x908E4A (B108E-4A ) |
| Root Description | Display |
| Failure Type Byte Description | Incorrect Component Installed |
| Extended DTC Description | Incorrect Component Installed |
| ECU Connector Pin | J3 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: Display size mismatch with DE00.Display variants value. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x908E4B - Display Over Temperature

|  |  |
| --- | --- |
| DTC Number | 0x908E4B (B108E-4B ) |
| Root Description | Display |
| Failure Type Byte Description | Over Temperature |
| Extended DTC Description | Over Temperature |
| ECU Connector Pin | J3 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: The display unit report over temperature fault. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x908E87 - Display Missing Message

|  |  |
| --- | --- |
| DTC Number | 0x908E87 (B108E-87 ) |
| Root Description | Display |
| Failure Type Byte Description | Missing Message |
| Extended DTC Description | Lost Communication With Display Module via FPDLINK |
| ECU Connector Pin | J3 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Determined by CCPU |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Communication with Display microprocessor is lost for greater than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault |
| Fault Symptom Recognized by Vehicle Occupants | Loss of Display |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x915D09 - Camera LED Component Failure

|  |  |
| --- | --- |
| DTC Number | 0x915D09 (B115D-09 ) |
| Root Description | Camera LED |
| Failure Type Byte Description | Component Failure |
| Extended DTC Description | Face recognition Camera LED malfunction |
| ECU Connector Pin | J2-7 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The face camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When face camera LED malfunction |
| Action Taken By ECU in Response To Fault | Report the fault |
| Fault Symptom Recognized by Vehicle Occupants | The face camera LED cannot open. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x915D15 - Camera LED Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x915D15 (B115D-15 ) |
| Root Description | Camera LED |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | Face recognition Camera Power/LED connector disconnected |
| ECU Connector Pin | J2-7 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.The face camera is Assembled. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When face camera circuit open for greater than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | The face camera LED cannot open. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x916A01 - Handset Microphone General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x916A01 (B116A-01 ) |
| Root Description | Handset Microphone |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | ANC Microphone 1 Circuit Short To Ground |
| ECU Connector Pin | J2-35,J2-36 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. Test is Run if 1 and 2 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Pass: Microphone Input+ is NOT short to ground for 1000ms. Fail: Microphone Input+ is short to ground for 1000ms. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No ANC function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x916A15 - Handset Microphone Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x916A15 (B116A-15 ) |
| Root Description | Handset Microphone |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | ANC Microphone 1 |
| ECU Connector Pin | J2-35,J2-36 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC, (2)ANC Microphone 1 is Enabled(DE05 byte10 Bit7-4 != 0) (3)ANC is Enabled. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Pass: Microphone Input+ is NOT shorted to Battery or Open for 1000ms. Fail: Microphone Input+ is shorted to Battery or Open for 1000ms. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No ANC function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x917A01 - Backup Microphone General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x917A01 (B117A-01 ) |
| Root Description | Backup Microphone |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | ANC Microphone 2 Circuit Short To Ground |
| ECU Connector Pin | J2-16,J2-34 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC, (2)ANC Microphone 2 is Enabled(DE05 byte10 Bit3-0 != 0) (3)ANC is Enabled. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Pass: Microphone Input+ is NOT shorted to GND for 1000ms. Fail: Microphone Input+ is shorted to GND for 1000ms. |
| Action Taken By ECU in Response To Fault | ANC function is disable |
| Fault Symptom Recognized by Vehicle Occupants | No ANC function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x917A15 - Backup Microphone Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x917A15 (B117A-15 ) |
| Root Description | Backup Microphone |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | ANC Microphone 2 |
| ECU Connector Pin | J2-16,J2-34 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC, (2)ANC Microphone 2 is Enabled(DE05 byte10 Bit3-0 != 0) (3)ANC is Enabled. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Pass: Microphone Input+ is NOT shorted to Battery or Open for 1000ms. Fail: Microphone Input+ is shorted to Battery or Open for 1000ms. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No ANC function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x919F11 - GPS Antenna Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x919F11 (B119F-11 ) |
| Root Description | GPS Antenna |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | GPS antenna |
| ECU Connector Pin | J9 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL:When MCU detects the GPS\_ANT\_PWR voltage is lower than 0.14V for 1s. |
| Action Taken By ECU in Response To Fault | Loss of GPS information. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of GPS information. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x919F15 - GPS Antenna Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x919F15 (B119F-15 ) |
| Root Description | GPS Antenna |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | GPS antenna |
| ECU Connector Pin | J9 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL:When MCU detects the GPS\_ANT\_PWR voltage is lower than 0.14V for 1s. |
| Action Taken By ECU in Response To Fault | Loss of GPS information. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of GPS information. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x919F19 - GPS Antenna Circuit Current Above Threshold

|  |  |
| --- | --- |
| DTC Number | 0x919F19 (B119F-19 ) |
| Root Description | GPS Antenna |
| Failure Type Byte Description | Circuit Current Above Threshold |
| Extended DTC Description | GPS antenna |
| ECU Connector Pin | J9 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL:When MCU detects the GPS\_ANT\_PWR voltage is higher than 1.09V for 1s. |
| Action Taken By ECU in Response To Fault | Loss of GPS information. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of GPS information. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x925202 - USB Port General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x925202 (B1252-02 ) |
| Root Description | USB Port |
| Failure Type Byte Description | General Signal Failure |
| Extended DTC Description | USB1 port Lost Communication Error |
| ECU Connector Pin | J4 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. 3. SOC2USB2\_VBUS\_EN pin set as low level. Test is run when 1 and 2 and 3 are true. |
| Test Period | Once every 1000ms. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when missing USB bus signals for greater than five (5) seconds. |
| Action Taken By ECU in Response To Fault | No USB1 relevant function |
| Fault Symptom Recognized by Vehicle Occupants | No USB1 relevant function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x92BD02 - Rear Camera General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x92BD02 (B12BD-02 ) |
| Root Description | Rear Camera |
| Failure Type Byte Description | General Signal Failure |
| Extended DTC Description | Rear camera Video Signal |
| ECU Connector Pin | J2-14,J2-15 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Vbatt= 10-16V. 2. Ign=RUN/ACC/Delayed ACC.3. 3.DE02 Byte1 Bit3-0(RVC) != 0 or DE02 Byte1 Bit7-4(360) != 0. Test is run if 1 and 2 and 3 are true. |
| Test Period | 1sec |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL: When RVC+ or RVC- pin short to Gnd or Open load for greater than five(5) seconds. |
| Action Taken By ECU in Response To Fault | No Rear camera display |
| Fault Symptom Recognized by Vehicle Occupants | No Rear camera display |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x92BD12 - Rear Camera Circuit Short To Battery

|  |  |
| --- | --- |
| DTC Number | 0x92BD12 (B12BD-12 ) |
| Root Description | Rear Camera |
| Failure Type Byte Description | Circuit Short To Battery |
| Extended DTC Description | Rear camera Video Signal |
| ECU Connector Pin | J2-14,J2-15 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Vbatt= 10-16V. 2. Ign=RUN/ACC/Delayed ACC.3. 3.DE02 Byte1 Bit3-0(RVC) != 0 or DE02 Byte1 Bit7-4(360) != 0. Test is run if 1 and 2 and 3 are true. |
| Test Period | 1sec |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL: When RVC+ or RVC- pin short to battery for greater than five(5) seconds. |
| Action Taken By ECU in Response To Fault | No Rear camera display. |
| Fault Symptom Recognized by Vehicle Occupants | No Rear camera display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x93F501 - Microphone 3 General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x93F501 (B13F5-01 ) |
| Root Description | Microphone 3 |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | ANC Microphone 3 Circuit Short To Ground |
| ECU Connector Pin | J2-51,J2-52 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC, (2)ANC Microphone 3 is Enabled(DE05 byte11 Bit7-4 != 0) (3)ANC is Enabled. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Pass: Microphone Input+ is NOT shorted to GND for 1000ms. Fail: Microphone Input+ is shorted to GND for 1000ms. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No ANC function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x93F515 - Microphone 3 Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x93F515 (B13F5-15 ) |
| Root Description | Microphone 3 |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | ANC Microphone 3 |
| ECU Connector Pin | J2-51,J2-52 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC, (2)ANC Microphone 3 is Enabled(DE05 byte11 Bit7-4 != 0) (3)ANC is Enabled. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Pass: Microphone Input+ is NOT shorted to Battery or Open for 1000ms. Fail: Microphone Input+ is shorted to Battery or Open for 1000ms. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No ANC function |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x940011 - Microphone 4 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x940011 (B1400-11 ) |
| Root Description | Microphone 4 |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | Microphone2 Input |
| ECU Connector Pin | J2-29 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt = 10 -16V,Ign = RUN/ACC/Delayed ACC. |
| Test Period | It is confirmed at intervals 50ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when microphone2(MIC\_P) is short to ground for greater than one (3) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Microphone2 doesn't work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x940015 - Microphone 4 Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x940015 (B1400-15 ) |
| Root Description | Microphone 4 |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | Microphone2 Input |
| ECU Connector Pin | J2-29 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt = 10 -16V,Ign = RUN/ACC/Delayed ACC. |
| Test Period | It is confirmed at intervals 50ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when microphone2(MIC\_P) is short to battery or open for greater than one (3) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Microphone2 doesn't work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x94FD01 - External Media Control Connectivity General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x94FD01 (B14FD-01 ) |
| Root Description | External Media Control Connectivity |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | External Media Control Connectivity |
| ECU Connector Pin | J2-8 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,Acc,or Delay Acc. 2.Voltage is between 10 and 16 volts. 3.MCM\_ON voltage is HI. 4.DE00 Byte1 != 0x03(D568). Teat is run if 1 and 2 and 3 are true. |
| Test Period | Once every 100ms. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when TPS2HB35 IC detect MCM power pin short to battery. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No USB1 relevant function. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x951101 - Automobile Audio Bus (A2B) Master Node General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x951101 (B1511-01 ) |
| Root Description | Automobile Audio Bus (A2B) Master Node |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | A2B Bus Short Across |
| ECU Connector Pin | J6 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,Acc,or Delay Acc. 2.Voltage is between 10 and 16 volts. 3.DE05 Byte2 bt3-0 == 0x02(A2B B&O). Teat is run if 1 and 2 and 3 are true. |
| Test Period | Start test when active 0x0202 On-Demand Self-Test |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL: Set when AD2428 IC detect A2B bus short across. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of audio. Chimes revert to cluster. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x951111 - Automobile Audio Bus (A2B) Master Node Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x951111 (B1511-11 ) |
| Root Description | Automobile Audio Bus (A2B) Master Node |
| Failure Type Byte Description | Circuit Short To Ground |
| ECU Connector Pin | J6 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,Acc,or Delay Acc. 2.Voltage is between 10 and 16 volts. 3.DE05 Byte2 bt3-0 == 0x02(A2B B&O). Teat is run if 1 and 2 and 3 are true. |
| Test Period | every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL: Set when AD2428 IC detect A2B bus short to ground. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of audio. Chimes revert to cluster. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x951112 - Automobile Audio Bus (A2B) Master Node Circuit Short To Battery

|  |  |
| --- | --- |
| DTC Number | 0x951112 (B1511-12 ) |
| Root Description | Automobile Audio Bus (A2B) Master Node |
| Failure Type Byte Description | Circuit Short To Battery |
| ECU Connector Pin | J6 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,Acc,or Delay Acc. 2.Voltage is between 10 and 16 volts. 3.DE05 Byte2 bt3-0 == 0x02(A2B B&O). Teat is run if 1 and 2 and 3 are true. |
| Test Period | every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL: Set when AD2428 IC detect A2B bus short to battery. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of audio. Chimes revert to cluster. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x951113 - Automobile Audio Bus (A2B) Master Node Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x951113 (B1511-13 ) |
| Root Description | Automobile Audio Bus (A2B) Master Node |
| Failure Type Byte Description | Circuit Open |
| ECU Connector Pin | J6 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,Acc,or Delay Acc. 2.Voltage is between 10 and 16 volts. 3.DE05 Byte2 bt3-0 == 0x02(A2B B&O). Teat is run if 1 and 2 and 3 are true. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | FAIL: Set when AD2428 IC detect A2B bus circuit open. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of audio. Chimes revert to cluster. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x956D54 - TCU Customer Connectivity Settings Synchronization With HMI Missing Calibration

|  |  |
| --- | --- |
| DTC Number | 0x956D54 (B156D-54 ) |
| Root Description | TCU Customer Connectivity Settings Synchronization With HMI |
| Failure Type Byte Description | Missing Calibration |
| ECU Connector Pin | J19 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Key in Run, ACC, or Delayed Acc. Voltage is between 10 and 16 volts. |
| Test Period | Detect every 100ms and Appears 10 times |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Missing Policy Table: For the current display size and/or feature bundle a policy table is neither available onboard nor received via offboard synchronization |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | CCS Features May Not Work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x956D89 - TCU Customer Connectivity Settings Synchronization With HMI Data Transfer Failure

|  |  |
| --- | --- |
| DTC Number | 0x956D89 (B156D-89 ) |
| Root Description | TCU Customer Connectivity Settings Synchronization With HMI |
| Failure Type Byte Description | Data Transfer Failure |
| ECU Connector Pin | J19 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Key in Run, ACC, or Delayed Acc. Voltage is between 10 and 16 volts. |
| Test Period | Detect every 100ms and Appears 10 times |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 128 |
| Pass / Fail Criteria | The implementing part fails its system memory self test and subsequently initializes the OnBoardPolicyServer, it shall raise the DataStorageError |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | CCS Features May Not Work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x958911 - Antenna #3 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x958911 (B1589-11 ) |
| Root Description | Antenna #3 |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | FM1/AM Antenna |
| ECU Connector Pin | J8 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. (2) after TUNER1\_ON is High. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When MCU detects the FM1/AM\_ANT\_Power&RF short to ground. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No Tunner Signal/Unstable Signal |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x958915 - Antenna #3 Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x958915 (B1589-15 ) |
| Root Description | Antenna #3 |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | FM1/AM Antenna |
| ECU Connector Pin | J8 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. (2) after TUNER1\_ON is High. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When MCU detects the FM1/AM\_ANT\_Power&RF short to battery. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | FM/AM can't lock tuner station. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x958919 - Antenna #3 Circuit Current Above Threshold

|  |  |
| --- | --- |
| DTC Number | 0x958919 (B1589-19 ) |
| Root Description | Antenna #3 |
| Failure Type Byte Description | Circuit Current Above Threshold |
| Extended DTC Description | FM1/AM Antenna |
| ECU Connector Pin | J8 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. (2) after TUNER1\_ON is High. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When MCU detects the FM1/AM\_ANT\_Power&RF Circuit Current above threshold. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No Tunner Signal/Unstable Signal |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x958921 - Antenna #3 Signal Amplitude < Minimum

|  |  |
| --- | --- |
| DTC Number | 0x958921 (B1589-21 ) |
| Root Description | Antenna #3 |
| Failure Type Byte Description | Signal Amplitude < Minimum |
| Extended DTC Description | FM1/AM Antenna |
| ECU Connector Pin | J8 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x969102 - Display #2 General Signal Failure

|  |  |
| --- | --- |
| DTC Number | 0x969102 (B1691-02 ) |
| Root Description | Display #2 |
| Failure Type Byte Description | General Signal Failure |
| ECU Connector Pin | J20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When detect Display2 IIC communication General Signal Failure. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x969111 - Display #2 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x969111 (B1691-11 ) |
| Root Description | Display #2 |
| Failure Type Byte Description | Circuit Short To Ground |
| ECU Connector Pin | J20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When detect Display2 PIN short to GND. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x969113 - Display #2 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x969113 (B1691-13 ) |
| Root Description | Display #2 |
| Failure Type Byte Description | Circuit Open |
| ECU Connector Pin | J20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When detect Display2 PIN Open Load. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x96914A - Display #2 Incorrect Component Installed

|  |  |
| --- | --- |
| DTC Number | 0x96914A (B1691-4A ) |
| Root Description | Display #2 |
| Failure Type Byte Description | Incorrect Component Installed |
| ECU Connector Pin | J20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When detect Display2 Incorrect Component Installed. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x96914B - Display #2 Over Temperature

|  |  |
| --- | --- |
| DTC Number | 0x96914B (B1691-4B ) |
| Root Description | Display #2 |
| Failure Type Byte Description | Over Temperature |
| ECU Connector Pin | J20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When detect Display2 IIC report Over Temperature. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x969187 - Display #2 Missing Message

|  |  |
| --- | --- |
| DTC Number | 0x969187 (B1691-87 ) |
| Root Description | Display #2 |
| Failure Type Byte Description | Missing Message |
| ECU Connector Pin | J20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: When detect Display2 IIC Lost Display Communication With LCD Panel Module via GMSL. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0x9A0101 - Speaker #1 General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x9A0101 (B1A01-01 ) |
| Root Description | Speaker #1 |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | FrontRight |
| ECU Connector Pin | J2-45,J2-46 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0111 - Speaker #1 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x9A0111 (B1A01-11 ) |
| Root Description | Speaker #1 |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | FrontRight |
| ECU Connector Pin | J2-45,J2-46 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to ground for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0112 - Speaker #1 Circuit Short To Battery

|  |  |
| --- | --- |
| DTC Number | 0x9A0112 (B1A01-12 ) |
| Root Description | Speaker #1 |
| Failure Type Byte Description | Circuit Short To Battery |
| Extended DTC Description | FrontRight |
| ECU Connector Pin | J2-45,J2-46 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to battery for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0113 - Speaker #1 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0113 (B1A01-13 ) |
| Root Description | Speaker #1 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | FrontRight |
| ECU Connector Pin | J2-45,J2-46 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0201 - Speaker #2 General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x9A0201 (B1A02-01 ) |
| Root Description | Speaker #2 |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | FrontLeft |
| ECU Connector Pin | J2-41,J2-42 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0211 - Speaker #2 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x9A0211 (B1A02-11 ) |
| Root Description | Speaker #2 |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | FrontLeft |
| ECU Connector Pin | J2-41,J2-42 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to ground for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0212 - Speaker #2 Circuit Short To Battery

|  |  |
| --- | --- |
| DTC Number | 0x9A0212 (B1A02-12 ) |
| Root Description | Speaker #2 |
| Failure Type Byte Description | Circuit Short To Battery |
| Extended DTC Description | FrontLeft |
| ECU Connector Pin | J2-41,J2-42 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to battery for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0213 - Speaker #2 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0213 (B1A02-13 ) |
| Root Description | Speaker #2 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | FrontLeft |
| ECU Connector Pin | J2-41,J2-42 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0301 - Speaker #3 General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x9A0301 (B1A03-01 ) |
| Root Description | Speaker #3 |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | RearRight |
| ECU Connector Pin | J2-47,J2-48 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0311 - Speaker #3 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x9A0311 (B1A03-11 ) |
| Root Description | Speaker #3 |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | RearRight |
| ECU Connector Pin | J2-47,J2-48 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to ground for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0312 - Speaker #3 Circuit Short To Battery

|  |  |
| --- | --- |
| DTC Number | 0x9A0312 (B1A03-12 ) |
| Root Description | Speaker #3 |
| Failure Type Byte Description | Circuit Short To Battery |
| Extended DTC Description | RearRight |
| ECU Connector Pin | J2-47,J2-48 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to battery for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0313 - Speaker #3 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0313 (B1A03-13 ) |
| Root Description | Speaker #3 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | RearRight |
| ECU Connector Pin | J2-47,J2-48 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0401 - Speaker #4 General Electrical Failure

|  |  |
| --- | --- |
| DTC Number | 0x9A0401 (B1A04-01 ) |
| Root Description | Speaker #4 |
| Failure Type Byte Description | General Electrical Failure |
| Extended DTC Description | RearLeft |
| ECU Connector Pin | J2-43,J2-44 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0411 - Speaker #4 Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x9A0411 (B1A04-11 ) |
| Root Description | Speaker #4 |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | RearLeft |
| ECU Connector Pin | J2-43,J2-44 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to ground for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0412 - Speaker #4 Circuit Short To Battery

|  |  |
| --- | --- |
| DTC Number | 0x9A0412 (B1A04-12 ) |
| Root Description | Speaker #4 |
| Failure Type Byte Description | Circuit Short To Battery |
| Extended DTC Description | RearLeft |
| ECU Connector Pin | J2-43,J2-44 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | Test when execute routine 0x0202 - On-Demand Self-Test. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when detect circuit short to battery for greater than five(5) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | speaker can't be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0413 - Speaker #4 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0413 (B1A04-13 ) |
| Root Description | Speaker #4 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | RearLeft |
| ECU Connector Pin | J2-43,J2-44 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0713 - Speaker #7 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0713 (B1A07-13 ) |
| Root Description | Speaker #7 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | FrontRight Tweeter |
| ECU Connector Pin | J2-45,J2-46 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0813 - Speaker #8 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0813 (B1A08-13 ) |
| Root Description | Speaker #8 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | FrontLeft Tweeter |
| ECU Connector Pin | J2-41,J2-42 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A0913 - Speaker #9 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A0913 (B1A09-13 ) |
| Root Description | Speaker #9 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | RearRight Tweeter |
| ECU Connector Pin | J2-47,J2-48 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9A1013 - Speaker #10 Circuit Open

|  |  |
| --- | --- |
| DTC Number | 0x9A1013 (B1A10-13 ) |
| Root Description | Speaker #10 |
| Failure Type Byte Description | Circuit Open |
| Extended DTC Description | RearLeft Tweeter |
| ECU Connector Pin | J2-43,J2-44 |
| Continuous Monitoring Supported | no |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9D7911 - Microphone Input Circuit Short To Ground

|  |  |
| --- | --- |
| DTC Number | 0x9D7911 (B1D79-11 ) |
| Root Description | Microphone Input |
| Failure Type Byte Description | Circuit Short To Ground |
| Extended DTC Description | Microphone1 Input |
| ECU Connector Pin | J2-12 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. |
| Test Period | It is confirmed at intervals 50ms. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when microphone1(MIC\_D) is short to ground for greater than one (3) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Microphone doesn't work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0x9D7915 - Microphone Input Circuit Short To Battery or Open

|  |  |
| --- | --- |
| DTC Number | 0x9D7915 (B1D79-15 ) |
| Root Description | Microphone Input |
| Failure Type Byte Description | Circuit Short To Battery or Open |
| Extended DTC Description | Microphone1 Input |
| ECU Connector Pin | J2-12 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Vbatt = 10-16V,Ign = RUN/ACC/Delayed ACC. |
| Test Period | It is confirmed at intervals 50ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:Set when microphone1(MIC\_D) is short to battery or open for greater than one (3) second. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Microphone doesn't work |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0xC10000 - Lost Communication With ECM/PCM "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC10000 (U0100-00 ) |
| Root Description | Lost Communication With ECM/PCM "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when message 0x202 or 0x38A is missing for more than five (5) seconds. Set when message 0x167 or 0x204 is missing for more than five (5) seconds if DE05 "ANC/ESE" config with "ESE" or "ESE+ANC" . Set when message 0x27A is missing for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Bezel Diagnostics will be disabled for 0x202 and 0x38A. Driving Restrictions will be enabled for 0x202 and 0x38A. Reverse message is lost for 0x20A. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations | For message 0x38A, the signal GearLvrPos\_D\_Actl must have its associated UB bit (GearLvrPos\_D\_Actl\_UB) set to prevent triggering the DTC. |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC12100 - Lost Communication With Anti-Lock Brake System (ABS) Control Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC12100 (U0121-00 ) |
| Root Description | Lost Communication With Anti-Lock Brake System (ABS) Control Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | 1)Set when message 0x216 (\_WheelData) is missing for more than five seconds from the ABS. 2) If "Auto Hold" (DID DE08 Byte-6, Bit-2) = "Enabled" (1): { Set when 0x27A (GWM\_Send\_Signals\_7) is missing for more than five (5) seconds from the GWM. } 3) "Selectable Drive Mode" (DID DE06 Byte-3, Bit-3) = "Enabled "(01): { Set when 0x420 (SelectDriveModeData\_HS3) is missing for more than five (5) seconds. } 4) " ANC/ESE " (DID DE05 Byte-5, Bit-3) = " ESE P702 Variant "(05): { Set when 0x413 (ABS\_BrkData\_HS3) is missing for more than five (5) seconds. } DTC is set if (1 or 2 or 3 or 4) are true. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | If message 0x216 missing for more than five (5) seconds. Loss of Dead Reckoning. If message 0x27A is missing for more than five (5) seconds. Auto hold feature will turn off on the menu. If message 0x420 is missing for more than five (5) seconds. Park Hold Button will be greyed out and will be disabled, and/or Selectable Drive Mode may not function. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations | For message 0x27A, the signal AutoHoldSwMde\_B\_Ind must have its associated UB bit (AutoHoldSwMde\_B\_Ind\_UB) set to prevent triggering the DTC. |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC12155 - Lost Communication With Anti-Lock Brake System (ABS) Control Module "A" Not Configured

|  |  |
| --- | --- |
| DTC Number | 0xC12155 (U0121-55 ) |
| Root Description | Lost Communication With Anti-Lock Brake System (ABS) Control Module "A" |
| Failure Type Byte Description | Not Configured |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Determined by CCPU |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If "Selectable Drive Mode" (DID DE06 Byte-3, Bit-3) = "Enabled" (1) and CCPU has not received configuration for Selectable Drive Mode via message 0x44E (ever). |
| Action Taken By ECU in Response To Fault | Default SDM Menu |
| Fault Symptom Recognized by Vehicle Occupants | Default SDM Menu |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC14000 - Lost Communication With Body Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC14000 (U0140-00 ) |
| Root Description | Lost Communication With Body Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If Ambient-Lighting (DID DE01, Byte-3, Bit-7) !=0: set when message ICAN:0x3E3 is missing for five seconds. Set when message ICAN:0x3B2 is missing for five seconds. Set when message ICAN:0x331 is missing for five seconds. Set when message ICAN:0x40A is missing for five seconds. If Keypad/PAAK (DID DE04, Byte-7, Bit-7) = 2 or 3: set when message ICAN:0x38D is missing for five seconds. If 360 Lighting (DID DE01, Byte-4, Bit-7) != 0: set when message 0x3BA or 0x3C3 is missing for greater than five (5) seconds. set when the signals "ExtLght\_D\_Falt\_UB", "ExtLghtAlrt\_B\_Rq\_UB", "ExtLghtFront\_D\_Stat\_UB", and "ExtLghtRear\_D\_Stat\_UB" have not changed for five seconds. If 360 Lighting (DID DE01, Byte-4, Bit-7) != 0: set when message 0x32A is missing for greater than five (5) seconds. set when the signal "ExtLghtDsply\_B\_StatArb" is missing for five seconds. If 3360 Lighting (DID DE01, Byte-4, Bit-7) = 2 set when the signals "ExtLghtLeft\_D\_Stat\_UB" and "ExtLghtRight\_D\_Stat\_UB" have not changed for five seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | HVAC Personalization will be lost and Ambient Lighting for APIM will be turned off for message 0x3E3. APIM will power down for message 0x3B2. Welcome screens and other welcome strategies may not work properly and farewell strategy might not operate correctly for message 0x331. VIN will not be captured correctly for message 0x40A. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations | For message 0x3E7, the signal FeatConfigHvacActl must have its associated UB bit (FeatConfigHvacActl\_UB) set to prevent triggering the DTC. |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC15100 - Lost Communication With Restraints Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC15100 (U0151-00 ) |
| Root Description | Lost Communication With Restraints Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | set when message 0x4C is missing for five seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ECall will not work properly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC15500 - Lost Communication With Instrument Panel Cluster (IPC) Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC15500 (U0155-00 ) |
| Root Description | Lost Communication With Instrument Panel Cluster (IPC) Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | set when message 0x225 is missing for 5 seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | APIM prompt generator won't know if chimes are active. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC15900 - Lost Communication With Parking Assist Control Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC15900 (U0159-00 ) |
| Root Description | Lost Communication With Parking Assist Control Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If PDC HMI (DID DE02, Byte-1, Bit-7) !=0: set when message 0x3AA or 0x3AB is missing for 5 seconds. If (APA(DID DE02, Byte-2, bit-3) configured as !=0) set when message 0x3A8 is missing for 5 seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | If messages (0x3AA or 0x3AB) missing for more than five (5) seconds. Loss of PDC popups. If messages (0x3A8) missing for more than five (5) seconds. Loss of Parking Aid or functionality. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC16200 - Lost Communication With Navigation Display Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC16200 (U0162-00 ) |
| Root Description | Lost Communication With Navigation Display Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J3 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1.Key in Run,ACC,or Delay Acc. 2.Voltage is between 10 and 16 votls. 3.uP2Center\_PWR\_EN voltage is Low. Test is Run if 1and 2 and 3 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: The same as "Missing Message". |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Lost of display. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0xC19800 - Lost Communication With Telematic Control Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC19800 (U0198-00 ) |
| Root Description | Lost Communication With Telematic Control Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | set when message 0x28B is missing for more than five (5) seconds. Navi Features (DID DE04, Byte-1, Bit-3) is set to "GPS from TCU" (2): set when message 0x21E is missing for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of CPP Functionality. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC20800 - Lost Communication With "Seat Control Module A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC20800 (U0208-00 ) |
| Root Description | Lost Communication With "Seat Control Module A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If (Enhanced Memory (DID DE04 Byte-4, Bit-7) != "Disabled" (0)) AND (DSM (DID DE07,byte-4, Bit-7)= "Present" (1)) set when message 0x3E1 is missing for five seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of Lumbar HMI. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations | For message 0x276, the signal SeatScrnDrvOn\_B\_Rq must have its associated UB bit (SeatScrnDrvOn\_B\_Rq\_UB) set to prevent triggering the DTC. |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC20900 - Lost Communication With "Seat Control Module B" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC20900 (U0209-00 ) |
| Root Description | Lost Communication With "Seat Control Module B" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If (MC Seat (DID DE00 Byte-11, Bit-3-2) configured as 3 or 4 Set when message 0x274 is missing for more than 5 seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of Lumbar HMI. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC20C00 - Lost Communication with Wireless Accessory Charging Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC20C00 (U020C-00 ) |
| Root Description | Lost Communication with Wireless Accessory Charging Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If WACM (DID DE01, Byte-2, Bit-3) = 1: Set for missing messages from the WACM (0x3F6) for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of WACM popups. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC21200 - Lost Communication With Steering Column Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC21200 (U0212-00 ) |
| Root Description | Lost Communication With Steering Column Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set for missing message 0x2A1 for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of SWC controls. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC21400 - Lost Communication With Remote Function Actuation Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC21400 (U0214-00 ) |
| Root Description | Lost Communication With Remote Function Actuation Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If Keypad/PAAK (DID DE04 Byte-7, Bit-7) configured as 2 or 3: Set for Update Bit signals (IgnPsswrdSetup\_B\_Rq\_UB or IgnPsswrdLckout\_B\_Stat\_UB or IgnPsswrdActv\_B\_Stat\_UB) in message 0x281 has not updated for greater than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of LBI functionality. Possible error popup. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC23200 - Lost Communication With Side Obstacle Detection Control Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC23200 (U0232-00 ) |
| Root Description | Lost Communication With Side Obstacle Detection Control Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If Cross-Traffic Alert (DID DE02, Byte-3, Bit-7) = 1 or 2: Set for missing messages from the SODL (0x3A6) for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Cross Traffic Left Signal Icon will not be displayed. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC23300 - Lost Communication With Side Obstacle Detection Control Module "B" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC23300 (U0233-00 ) |
| Root Description | Lost Communication With Side Obstacle Detection Control Module "B" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If Cross-Traffic Alert (DID DE02, Byte-3, Bit-7) = 1 or 2: Set for missing messages from the SODR (0x3A7) for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Cross Traffic Right Signal Icon will not be displayed. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC23800 - Lost Communication With Digital Audio Control Module "D" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC23800 (U0238-00 ) |
| Root Description | Lost Communication With Digital Audio Control Module "D" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If Smart-DSP (DID DE05 Byte-2, Bit-3) configured as 2 or 3: Set for missing messages from the DSP (0x221, 0x224 and 0x228) missing for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | if Smart-DSP configured as Present: { Loss of DSP menus. Loss of SYNC generated prompts. } If AAM configured as Present: { Loss of AAM menus. } |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC23B00 - Lost Communication With Image Processing Module B No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC23B00 (U023B-00 ) |
| Root Description | Lost Communication With Image Processing Module B |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If ( Camera (DID DE02 Byte-2, Bit-3) equals 2 or 4 ) { Set for missing message from the IPMB (0x3EE) for more than five (5) seconds. } |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | For message 0x3EE: If message is missing in non-Reverse gears then the pop-up "Camera is Unavailable" will be shown. If the signal is missing while in Reverse, the image will be shown with no overlays (No Zoom, no please check surroundings text) |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC24B00 - Lost Communication with Seat Control Module "G" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC24B00 (U024B-00 ) |
| Root Description | Lost Communication with Seat Control Module "G" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If MC Seat (DID DE03, Byte-3, Bit-3) = 1 or 2 or 5 or 6 or 7: Set for missing messages from the SCMG (0x34A or 0x34C) missing for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of Multicontoured Seat HMI. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC24C00 - Lost Communication with Seat Control Module "H" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC24C00 (U024C-00 ) |
| Root Description | Lost Communication with Seat Control Module "H" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If MC Seat (DID DE03, Byte-3, Bit-3) = 1 or 2 or 5 or 6: Set when message 0x34B or 0x34D is missing for five seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of Multicontoured Seat HMI. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC25600 - Lost Communication With Front Controls Interface Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC25600 (U0256-00 ) |
| Root Description | Lost Communication With Front Controls Interface Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | f EFP (DID DE01, Byte-1, Bit-3) configured as 2: Set when message 0x2A0 missing for more than 5 seconds. If Climate domain(DID DE03 Byte-1, Bit-7) configured as !=0: Set when message 0x360 or 0x361 missing for more than 5 seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of FCIM functionality for message 0x22C or 0x2A0. See reference 4 (Climate Control System HMI Requirements (Latest Version)) for fault actions and symptoms for message 0x360 or 0x361. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC29300 - Lost Communication With Hybrid/EV Powertrain Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC29300 (U0293-00 ) |
| Root Description | Lost Communication With Hybrid/EV Powertrain Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If Fuel Type (DID DE04, Byte-3, Bits-7) !=0: Set when message 0x365 is missing from the HPCM for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Loss of Battery Monitoring. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC41500 - Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A" No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC41500 (U0415-00 ) |
| Root Description | Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A" |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | 1) Trigger if \_WheelData (0x216) signals (WhlDirFl\_D\_Actl and WhlDirFr\_D\_Actl and WhlDir\_Rl\_D\_Actl and WhlDir\_Rr\_D\_Actl) = Failed (0x03) for more than five seconds. 2) If "Auto Hold" (DID DE00, Byte-12, Bit-6) = "Enabled" (1): { Trigger if APIM\_Send\_Signals1 (0x3F1) signal "AutoHoldSwtch\_D\_Stat3" equals "Not Used" (2) or "Faulty" (3) for 5 seconds. Trigger if APIM\_Send\_Signals1 (0x3F1) signal "AutoHoldSwtch\_D\_Stat3" transitions from "Not Pressed" (0)", "Not Used" (2), or "Faulty" (3) to "Pressed" (1) and GWM\_Send\_Signals\_7 (0x27A) signal "AutoHoldSwMde\_B\_Ind" state does not change within 5 seconds of "AutoHoldSwtch\_D\_Stat3" transition. } 3) If "Selectable Drive Mode" (DID DE06 Byte-3, Bit-3) = "Enabled" (1): { CCPU Sets when receiving Not Used states for Drive Mode for greater than five seconds from the ABS or no HMI mode assigned to requested Drive Mode. } DTC is set if (1 or 2 or 3) is true. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | If pass / fail conditions 1 is TRUE. Loss of Dead Reckoning. If pass / fail condition 2 is TRUE. Auto hold feature will turn off on the menu. If pass / fail condition 3 is TRUE. Selectable drive mode may not work properly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC41594 - Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A" Unexpected Operation

|  |  |
| --- | --- |
| DTC Number | 0xC41594 (U0415-94 ) |
| Root Description | Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A" |
| Failure Type Byte Description | Unexpected Operation |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true (timeout timer is reset when any of the above are false). |
| Test Period | Determined by CCPU |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | If "Selectable Drive Mode" (DID DE06 Byte-3, Bit-3) = "Enabled" (1) and CCPU set when SDM Coutner reaches max number of Errors |
| Action Taken By ECU in Response To Fault | Selectable drive mode may not work correctly |
| Fault Symptom Recognized by Vehicle Occupants | Selectable drive mode may not work correctly |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC42200 - Invalid Data Received From Body Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC42200 (U0422-00 ) |
| Root Description | Invalid Data Received From Body Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when 0x3B2 Litval and Dimming\_Lvl signals invalid for more than five (5) seconds. If 360 Lighting (DID DE01 Byte-4, Bit-7) configured as !=0: Set for Signal after 360 button has been activated, Front or Rear (ExtLghtFront\_D\_Stat, ExtLghtRear\_D\_Status) in message 0x3BA hasn't changed for more than five (5) seconds. 360 Lighting (DID DE01 Byte-4, Bit-7) configured as 2: Set for Signal after 360 button has been activated, Left or Right (ExtLghtLeft\_D\_Stat, ExtLghtRight\_D\_Status) in message 0x3BA hasn't changed for more than five (5) seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | Illumination will be full nighttime brightness. 360 Lighting will no longer function. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC45200 - Invalid Data Received From Restraints Control Module No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC45200 (U0452-00 ) |
| Root Description | Invalid Data Received From Restraints Control Module |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Voltage is between 10 and 16 volts. 2. Last known signal "Ignition\_Status" is RUN. 3. Last known signal "PwPckTq\_D\_Stat" is not PqPckStrtInPrgrss\_TqNotAvail. 4. Last known signal "ElPw\_D\_Stat" (if not "Not\_Supported") is not LV\_Event\_In\_Progress. 5. The signal Ignition\_Status has not changed in last 1000ms. 6. The signal PwPckTq\_D\_Stat has not changed in last 1000ms. 7. The signal ElPw\_D\_Stat (if not "Not\_Supported") has not changed in last 1000ms. 8. ECALL is enabled by download. Test is run when 1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 are true (timeout timer is reset when any of the above are false). |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when RCM message 0x4C Signal RstrnImpactEvntStatus = 0x1 or 0x2 or 0x4 or 0x6 or 0x7 for more than five seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ECall will not work properly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xC56500 - Invalid Data Received From Camera Module-Rear No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xC56500 (U0565-00 ) |
| Root Description | Invalid Data Received From Camera Module-Rear |
| Failure Type Byte Description | No Sub Type Information |
| Extended DTC Description | Face Recognition Camera |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | (1)Vbatt= 10-16V, Ign=RUN/ACC/Delayed ACC. (2) Face recognition camera is power on. |
| Test Period | Once every 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when camera communication data is missing for five seconds. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | No camera video display |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xE01B04 - Control Module Calibration Data #2 System Internal Failure

|  |  |
| --- | --- |
| DTC Number | 0xE01B04 (U201B-04 ) |
| Root Description | Control Module Calibration Data #2 |
| Failure Type Byte Description | System Internal Failure |
| Extended DTC Description | Control Module Calibration Data #2 |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Test on initialization phase |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: Internal fault detected which prevents initializing ESE/ANC |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ESE and/or ANC will not be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xE01B54 - Control Module Calibration Data #2 Missing Calibration

|  |  |
| --- | --- |
| DTC Number | 0xE01B54 (U201B-54 ) |
| Root Description | Control Module Calibration Data #2 |
| Failure Type Byte Description | Missing Calibration |
| Extended DTC Description | Control Module Calibration Data #2 |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:ESE/ANC is missing configuration file or file is corrupted. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ESE and/or ANC will not be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xE01B57 - Control Module Calibration Data #2 Invalid / Incompatible Software Component

|  |  |
| --- | --- |
| DTC Number | 0xE01B57 (U201B-57 ) |
| Root Description | Control Module Calibration Data #2 |
| Failure Type Byte Description | Invalid / Incompatible Software Component |
| Extended DTC Description | Control Module Calibration Data #2 |
| ECU Connector Pin | J2-19,J2-20 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:The installed ESE/ANC configuration is not compatible with config |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ESE and/or ANC will not be heard. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xE10000 - Initial Configuration Not Complete No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xE10000 (U2100-00 ) |
| Root Description | Initial Configuration Not Complete |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 5000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | DTC is triggered when DE00 byte 1 is 0 or DE00 byte 7 bit 3-0 is 0. |
| Action Taken By ECU in Response To Fault | VMCU produces no action. |
| Fault Symptom Recognized by Vehicle Occupants | APIM may not respond correctly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0xE10100 - Control Module Configuration Incompatible No Sub Type Information

|  |  |
| --- | --- |
| DTC Number | 0xE10100 (U2101-00 ) |
| Root Description | Control Module Configuration Incompatible |
| Failure Type Byte Description | No Sub Type Information |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Operation-Cycle RUN |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | DTC is triggered if any of the following are true: 1. DE02 B1b3 camera =3; and HW != CD764(N2RT-18D668-PA); 2. DE02 B2b7 = 360 offset view; and DE02 B1b3 camera != 2 or 4 ; 3. DE04 B2b3 = A2B; HW != CD542(MB6T-18D668-MA/MB6T-18D668-PA) or CX727(MZ8T-18D668-LA) or P702 or U554 or CD764(N2RT-18D668-RA); 4. DE07 B4b1 CRM-DSMC =Present; DE06 B5b7 = Full function 5. DE04 B5b7 AR Navigation =1,2; HW != CD542(MB6T-18D668-PA) 6. DE05 B3b3 DSO Chime =1,2; HW mismatch |
| Action Taken By ECU in Response To Fault | VMCU produces no action. |
| Fault Symptom Recognized by Vehicle Occupants | ACM may not perform as expected. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0xE40081 - Ethernet Failure With Gateway Module A (GWM) Invalid Serial Data Received

|  |  |
| --- | --- |
| DTC Number | 0xE40081 (U2400-81 ) |
| Root Description | Ethernet Failure With Gateway Module A (GWM) |
| Failure Type Byte Description | Invalid Serial Data Received |
| ECU Connector Pin | J19 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Key in Run, ACC, or Delayed Acc. Voltage is between 10 and 16 volts. |
| Test Period | 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: If 50% of the MAC frames received during a 5 second period have invalid CRC from the Gateway Module then set the DTC. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ECG functions may not work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xE40092 - Ethernet Failure With Gateway Module A (GWM) Performance or Incorrect Operation

|  |  |
| --- | --- |
| DTC Number | 0xE40092 (U2400-92 ) |
| Root Description | Ethernet Failure With Gateway Module A (GWM) |
| Failure Type Byte Description | Performance or Incorrect Operation |
| ECU Connector Pin | J19 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | Key in Run, ACC, or Delayed Acc. Voltage is between 10 and 16 volts. |
| Test Period | 1000ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail:If no Ethernet frames are received for greater than five seconds from Gateway Module then the Link Status register of the PHY is read. If the Link Status indicates the link is down, then set the DTC. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | ECG functions may not work. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xF00004 - Control Module System Internal Failure

|  |  |
| --- | --- |
| DTC Number | 0xF00004 (U3000-04 ) |
| Root Description | Control Module |
| Failure Type Byte Description | System Internal Failure |
| Extended DTC Description | Defective ECU DTC |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once at the start of every ignition cycle |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Non-memory failure. See fault DIDs 804B. |
| Action Taken By ECU in Response To Fault | VMCU produces no fault action. |
| Fault Symptom Recognized by Vehicle Occupants | APIM may not function correctly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xF00009 - Control Module Component Failure

|  |  |
| --- | --- |
| DTC Number | 0xF00009 (U3000-09 ) |
| Root Description | Control Module |
| Failure Type Byte Description | Component Failure |
| Extended DTC Description | Defective ECU DTC |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Determined by CCPU |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Gyro has an error for greater than five seconds. |
| Action Taken By ECU in Response To Fault | Dead reckoning may not work properly. |
| Fault Symptom Recognized by Vehicle Occupants | Dead reckoning may not work properly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations | Internal Gyro = Present |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xF00041 - Control Module General Checksum Failure

|  |  |
| --- | --- |
| DTC Number | 0xF00041 (U3000-41 ) |
| Root Description | Control Module |
| Failure Type Byte Description | General Checksum Failure |
| Extended DTC Description | Defective ECU DTC |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set for Flash ROM checksum failure, EEPROM checksum failure, or EEPROM write failure (after retries have failed) If ECU Calibration Data #1 has not been programmed with a valid value via Method 3（SWDL EQ Vbf）, this DTC will be triggered (see Memory Areas::ECU Calibration Data #1). |
| Action Taken By ECU in Response To Fault | APIM will cease to function normally. |
| Fault Symptom Recognized by Vehicle Occupants | APIM will cease to function normally. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations | Non-volatile memory (EEPROM) is uninitialized when the module is powered-up for the first time. Hence the block checksums for each non-volatile data record will be invalid. There is no mechanism to distinguish between an uninitialized block and a corrupted block. As a result this DTC will be set when the conditions to update the DTC are satisfied (see Test run criteria). To avoid setting the DTC after the first power-on, the VMCU should be either allowed to go to sleep or the VMCU should be commanded to Reset (Service $11). In either case, this should take place before placing the ignition in Run (or Accessory) for the first time. Either event will force the checksum (and initial values) for each block to be written to EEPROM. |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0xF00043 - Control Module Special Memory Failure

|  |  |
| --- | --- |
| DTC Number | 0xF00043 (U3000-43 ) |
| Root Description | Control Module |
| Failure Type Byte Description | Special Memory Failure |
| Extended DTC Description | Defective ECU DTC |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 100ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when keymgr is unable to read a key from encrypted storage on the /dps partition. |
| Action Taken By ECU in Response To Fault | Report the fault. |
| Fault Symptom Recognized by Vehicle Occupants | - SOA may not be operational - Cloud communications may not be operational - OBD port may not be operational. - SOA may not be operational - Cloud communications may not be operational - OBD port may not be operational. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xF00088 - Control Module Bus off

|  |  |
| --- | --- |
| DTC Number | 0xF00088 (U3000-88 ) |
| Root Description | Control Module |
| Failure Type Byte Description | Bus off |
| Extended DTC Description | Defective ECU DTC |
| ECU Connector Pin | N/A |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is between 10 and 16 volts. Test is run if 1 and 2 are true. |
| Test Period | Once every 3 ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set for IPC Link Down.（RH850 link with IMX8 error）. |
| Action Taken By ECU in Response To Fault | APIM will not function correctly. |
| Fault Symptom Recognized by Vehicle Occupants | APIM will not function correctly. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines |  |

#### DTC 0xF00316 - Battery Voltage Circuit Voltage Below Threshold

|  |  |
| --- | --- |
| DTC Number | 0xF00316 (U3003-16 ) |
| Root Description | Battery Voltage |
| Failure Type Byte Description | Circuit Voltage Below Threshold |
| ECU Connector Pin | J1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is above 9 volts. Test is run if 1 and 2 are true. |
| Test Period | It is confirmed at intervals 10ms |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Fail: Set when Battery Voltage is Below (<) 10 volts for greater than 10 seconds. Will Set F00316 if below 10 volts during test for greater than 250 ms for On-Demand-Self-Test. Pass： Set when Battery Voltage is above (>) 10.5 volts for greater than 10 seconds. Will Set F00316 if below 10.5 volts during test for greater than 250 ms for On-Demand-Self-Test. |
| Action Taken By ECU in Response To Fault | Normal Operating Conditions begin to shut down. CAN communication will work until voltage drops below 9 volts. |
| Fault Symptom Recognized by Vehicle Occupants | APIM may shutdown. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

#### DTC 0xF00317 - Battery Voltage Circuit Voltage Above Threshold

|  |  |
| --- | --- |
| DTC Number | 0xF00317 (U3003-17 ) |
| Root Description | Battery Voltage |
| Failure Type Byte Description | Circuit Voltage Above Threshold |
| ECU Connector Pin | J1 |
| Continuous Monitoring Supported | yes |
| Monitoring Cycle | Ignition ON->OFF |
| Test Run Criteria | 1. Key in Run, ACC, or Delayed Acc. 2. Voltage is above 9 volts. Test is run if 1 and 2 are true. |
| Test Period | It reads the voltage level in every 10ms. |
| Fault Detection Counter Increment Value | 127 |
| Fault Detection Counter Decrement Value | 255 |
| Pass / Fail Criteria | Set when Battery Voltage is Greater (>) 16 volts for greater than 5.5 seconds. |
| Action Taken By ECU in Response To Fault | Normal Operating Conditions may begin to shut down. |
| Fault Symptom Recognized by Vehicle Occupants | Normal Operating Conditions may begin to shut down. |
| Extended Data Record used for Aging Counter | 0x02 |
| Counter Value when Aged | 80 |
| Special Considerations |  |
| Extended Data Records Supported | 0x02,0x10 |
| Reported via Control Routines | 0x0202 |

## Control Routines

This section documents all control routines supported by the ECU.

**Supported Control Routines per Session**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Identifier | Routine Type | Description | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x0202 | 2 | On-Demand Self-Test |  |  | x | x |
| 0x0301 | 1 | Activate Secondary Boot-loader |  | x\* |  |  |
| 0x0304 | 1 | Check Valid Application |  | x\* |  |  |
| 0x203A | 2 | Configure Private Sub Nodes And Collect Private Sub Node Part Numbers |  |  | x | x |
| 0x3008 | 1 | Trigger process to select calibration |  |  | x\* | x\* |
| 0x6006 | 2 | Test Antenna Connection |  |  | x | x |
| 0x6009 | 2 | Speaker Walkaround Test |  |  | x | x |
| 0x600A | 2 | Display Self Test |  |  | x | x |
| 0x601C | 2 | Tones Test |  |  | x | x |
| 0xF002 | 1 | Reset VMCU for E100-00 Routine |  |  | x\* | x\* |
| 0xFB00 | 1 | Clear All User Data |  |  | x | x |
| 0xFEFD | 2 | Audio update of SupPosB gain |  |  | x | x |
| 0xFEFE | 2 | Audio EOL measurement |  |  | x | x |
| 0xFF00 | 1 | Flash Erase |  | x\* |  |  |
| 0xFF01 | 1 | Check Programming Dependencies |  | x\* |  |  |

**Note 1:**

\* = The functionality indicated by the preceding letter is locked by security access.

### Type 1 Routines

#### Routine 0x0301 - Activate Secondary Boot-loader

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x0301 |
| Control Routine Name | Activate Secondary Boot-loader |
| Control Routine Description | routineIdentifier 0301H shall be used to activate the SBL after download to RAM. |
| Executable in Sessions | 0x02 |
| Security Levels Required to Run | 0x01 |
| Routine Entry Criteria |
| Routine Exit Criteria |
| Maximum Routine Run Time | 10 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

Parameter 1 - Hex (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 32 | Memory Address |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

#### Routine 0x0304 - Check Valid Application

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x0304 |
| Control Routine Name | Check Valid Application |
| Control Routine Description | routineIdentifier 0304H shall be used to detect whether or not the ECU has valid application software programmed and report this determination to the tester. |
| Executable in Sessions | 0x02 |
| Security Levels Required to Run | 0x01 |
| Routine Entry Criteria |
| Routine Exit Criteria |
| Maximum Routine Run Time | 10 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Application Status |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x01 | Valid Application Software is NOT Present |
| 0x02 | Valid Application Software is Present |

#### Routine 0x3008 - Trigger process to select calibration

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x3008 |
| Control Routine Name | Trigger process to select calibration |
| Control Routine Description | This routine is used to Activate the ANC and/or ESE feature. 1.DE05 must be successfully configured for ESE and/or ANC being enabled. 2.Speaker or microphone faults shall not stop this routine from running. 3.After the routine is run successfully, a reset is required to execute the feature. 4.If ( DE05 Byte5 bit3 = 3 ) &&(DE05 Byte10bit7 or Byte10bit3 or Byte11bit7 != 0), than ANC and ESE are Activated Else if DE05 Byte5 bit3 =2 or 3 , than ESE are Activated Else, None are Activated |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run | 0x03 |
| Routine Entry Criteria | 1.Ignition is in the Run or Accessory State 2.Battery Voltage is Between 10-16 volts 3.Extended Diagnostic Session (not programming modes) 4.ESE or ANC/ESE must be configured on in DE05. Trigger process to select calibration Entry Criteria: (1 and 2 and 3 and 4 ) |
| Routine Exit Criteria | 1.Ignition transitions out of Run or Accessory State. 2.Battery Voltage Drops below 9 volts or exceeds 16 volts. 3.Tester does not communicate for more than five (5) seconds. 4.Test is complete. |
| Maximum Routine Run Time | 200 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

#### Routine 0xF002 - Reset VMCU for E100-00 Routine

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0xF002 |
| Control Routine Name | Reset VMCU for E100-00 Routine |
| Control Routine Description | · This is a Type 1 Routine to reset DTC E10000 for engineering use only. The Reset VMCU for E100-00 Routine (F002) shall enter only if all the following criteria are met (if not correct: send conditions not correct message to tester): · Ignition is in the Run or Accessory State · Battery Voltage is Between 10-16 volts · Extended Diagnostic Session (not programming modes) The Reset VMCU for E100-00 Routine (F002) shall exit self-test if any one of the following criteria is met: · Not applicable to Type 1 Routine. |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run | 0x03 |
| Routine Entry Criteria | Entry Criteria: (1) Ignition is in the Run or Accessory State. (2) Battery Voltage is Between 10-16 volts. (3) Extended Diagnostic Session (not programming modes). Reset VMCU for E100-00 Routine Entry Criteria: (1 and 2 and 3) |
| Routine Exit Criteria | Exit Criteria: (1) Battery voltage drops below 9 volts or exceeds 16 volts (DID D111 ECU Power Supply Voltage). (2) Tester does not communicate for more than five seconds. (3) Test is complete. Clear All User Data Exit Criteria: (1 or 2 or 3) |
| Maximum Routine Run Time | 3000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

#### Routine 0xFB00 - Clear All User Data

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0xFB00 |
| Control Routine Name | Clear All User Data |
| Control Routine Description | The routine will clear all user data (including Navigation Parameters) for plant use only. See also Special Procedures "Diagnostic Routines not supported by CCPU". |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | Entry Criteria: (1) Ignition is in the Run or Accessory State (DID 411F Key Position). (2) Battery Voltage is between 10-16 volts (DID D111 ECU Power Supply Voltage). (3) Extended Diagnostic Session (not programming modes) (DID D100 Active Diagnostic Session). (4) IPC Link is up (DID 804A "APIM Internal Fault" will report if IPC Link is down if no other fault is present in the DID). (5) No other diagnostic test is running. (6) Clear All User Data (FB00) is requested by the tester. Clear All User Data Entry Criteria: (1 and 2 and 3 and 4 and 5 and 6) Negative response $22 (Conditions-Not-Correct) will be returned if any criteria is not satisfied. |
| Routine Exit Criteria | Exit Criteria: (1) Battery voltage drops below 9 volts or exceeds 16 volts (DID D111 ECU Power Supply Voltage). (2) Tester does not communicate for more than five seconds. (3) Test is complete. Clear All User Data Exit Criteria: (1 or 2 or 3) |
| Maximum Routine Run Time | 5000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

#### Routine 0xFF00 - Flash Erase

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0xFF00 |
| Control Routine Name | Flash Erase |
| Control Routine Description | routineIdentifier FF00 H shall be used to perform a flash memory erase. If an ECU is delivered to the OEM with the complete programmable memory already erased, the ECU shall include an internal "already erased" detection in order to reduce the overall software download time. If the complete programmable memory already is erased and all other preconditions are met (e.g., SBL is downloaded and activated), the ECU shall send a positive response to a RoutineControl eraseMemory request within P2can\_server timing. Once the ECU has programmed any bytes within the programmable memory area, the internal "already erased" detection shall be blocked and an erase operation shall always be performed. |
| Executable in Sessions | 0x02 |
| Security Levels Required to Run | 0x01 |
| Routine Entry Criteria |
| Routine Exit Criteria |
| Maximum Routine Run Time | 10 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

Parameter 1 - Hex (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 32 | Memory Address |

Parameter 2 - Hex (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 32 | Memory Size |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

#### Routine 0xFF01 - Check Programming Dependencies

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0xFF01 |
| Control Routine Name | Check Programming Dependencies |
| Control Routine Description | routineIdentifier FF01H shall be used to initiate a checksum calculation of an ECU memory block. RoutineControl with routine identifier FF01H is not used during a normal software download or upload operation, but can be used for debugging. The same checksum algorithm as used by the RequestTransferExit service shall be used. |
| Executable in Sessions | 0x02 |
| Security Levels Required to Run | 0x01 |
| Routine Entry Criteria |
| Routine Exit Criteria |
| Maximum Routine Run Time | 10 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

Parameter 1 - Hex (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 32 | Memory Address |

Parameter 2 - Hex (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 32 | Memory Size |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

Parameter 1 - Hex (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 16 | Checksum |

### Type 2 Routines

#### Routine 0x0202 - On-Demand Self-Test

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x0202 |
| Control Routine Name | On-Demand Self-Test |
| Control Routine Description | Max Test Time = 25 seconds (But it is only on the condition that communication with SDARS has a problem. The case except it is max test time 20 seconds.) The On-Demand Self Test (0202) diagnoses ECU Memory, ECU Configurations, CD Mech Communications, SDARS Chip Communications (if applicable), and all possible Inputs / Outputs. EOL Entry Condition DIDs DID 411F - Key Status (Delayed ACC also equals ACC) After the test is complete, the radio shall return to previous operating state. |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | The On-Demand Self Test (0202) shall enter self-test only if all the following criteria are met: 1.Ignition is in the Run or Accessory State 2.Battery Voltage is Between 10-16 volts 3.Normal Diagnostic Session(not programming modes) 4.On-Demand Test is requested by tester. |
| Routine Exit Criteria | The On-Demand Self Test (0202) shall exit self-test if any one of the following criteria is met: 1.Ignition transitions out of Run or Accessory State. 2.Battery Voltage Drops below 9 volts or exceeds 16 volts. 3.A stop routine command is issued. 4.Tester does not communicate for more than five (5) seconds. 5.Test is complete. |
| Maximum Routine Run Time | 25000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x02 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

|  |  |
| --- | --- |
| On-Demand DTCs Reported By Routine | 0x500101,0x500187,0x820101,0x820187,0x908701,0x916A01,0x916A15,0x917A01,0x917A15,0x92BD02,0x92BD12, 0x93F501,0x93F515,0x940011,0x940015,0x951101,0x951113,0x958921,0x9A0101,0x9A0111, 0x9A0112,0x9A0113,0x9A0201,0x9A0211,0x9A0212,0x9A0213,0x9A0301,0x9A0311,0x9A0312,0x9A0313, 0x9A0401,0x9A0411,0x9A0412,0x9A0413,0x9A0713,0x9A0813,0x9A0913,0x9A1013,0x9D7911,0x9D7915, 0xC16200,0xE10000,0xE10100,0xF00041,0xF00316,0xF00317 |

#### Routine 0x203A - Configure Private Sub Nodes And Collect Private Sub Node Part Numbers

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x203A |
| Control Routine Name | Configure Private Sub Nodes And Collect Private Sub Node Part Numbers |
| Control Routine Description | This routine configures the Digital Rear View Camera (RVC) and part/serial numbers. |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | Entry Criteria: (1) Ignition is in the Run State (DID 411F Key Position). (2) Battery Voltage is between 10-16 volts (DID D111 ECU Power Supply Voltage). (3) Extended Diagnostic Session (not programming modes) (DID D100 Active Diagnostic Session). (4) IPC Link is up (DID 804A "APIM Internal Fault" will report if IPC Link is down if no other fault is present in the DID). (5) No other diagnostic test is running. (6) Configure Private Sub Nodes And Collect Private Sub Node Part Numbers (203A) is requested by the tester. Configure Private Sub Nodes And Collect Private Sub Node Part Numbers Entry Criteria: (1 and 2 and 3 and 4 and 5 and 6) Negative response $22 (Conditions-Not-Correct) will be returned if any criteria is not satisfied. |
| Routine Exit Criteria | Exit Criteria: (1) Ignition transitions out of Run State (DID 411F Key Position) (2) Battery Voltage Drops below 9 volts or exceeds 16 volts (DID D111 ECU Power Supply Voltage) (3) A stop routine command is issued (4) Test does not communicate for more than five (5) seconds (5) Test is complete Configure Private Sub Nodes And Collect Private Sub Node Part Numbers Exit Criteria: (1 or 2 or 3 or 4 or 5) |
| Maximum Routine Run Time | 200 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x02 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

#### Routine 0x6006 - Test Antenna Connection

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| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x6006 |
| Control Routine Name | Test Antenna Connection |
| Control Routine Description | This test is to measure a configured AM station signal strength and compare it to a configured value to ensure that the AM/FM Antenna is connected. This test is intended for EOL Only (not intended for Service Tools) EOL Entry Condition DIDs DID 411F - Key Status (Delayed ACC also equals ACC) APIM will switch to AM station configured by EOL(Block DE05 Byte13 Bit7-0). When APIM has verified that tuner is at correct station, the ACM will measure the signal strength for 1.5 seconds (averaging the strength). The measured strength will be compared to acceptable value configured by EOL (DE05 Byte12 Bit7-0). If strength is lower than Configured Value, then DTC 0x958921 will set. FD20 will capture measured value used for during test. |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | The Antenna Connection Self Test (6006) shall enter self-test only if all the following criteria are met(if not correct: send conditions not correct message to tester): 1.Ignition is in the Run or Accessory State. 2.Battery Voltage is Between 10-16 volts. 3.Normal Diagnostic Session (not programming modes). 4.Antenna Connection Self Test (6006) is requested by tester. |
| Routine Exit Criteria | The Antenna Connection Self Test (6006) shall exit self-test if any one of the following criteria is met: 1.Ignition transitions out of Run or Accessory State 2.Battery Voltage Drops below 9 volts or exceeds 16 volts. 3.A stop routine command is issued. 4.Tester does communicate for more than five (5) seconds. 5.Test is complete. |
| Maximum Routine Run Time | 3500 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x02 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

#### Routine 0x6009 - Speaker Walkaround Test

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| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x6009 |
| Control Routine Name | Speaker Walkaround Test |
| Control Routine Description | This test is a manual test of the speakers. Self-Test on APIM check speakers automatically. Volume default is determined by DIDs FD03, but can be adjusted during the test by the volume button. This test will produce tones to the speakers (1kHz, Main Speakers, 5kHz Tweeters) The APIM will cycle the speakers for 1.5 seconds each in the following sequence (LF, LF Tweeter (if front tweeters configured), RF, RF Tweeter (if front tweeters configured), RR (if configured for four speaker system), LR (if configured for four speaker system), RR Tweeter (if configured for rear tweeters), LR Tweeter (if configured for rear tweeters) based on volumes defined in Supplier DID FD03 [Volumn 0x10 by default]. |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | The Speaker Self Test (6009) shall enter self-test only if all the following criteria are met (if not correct: send conditions not correct message to tester): 1.Ignition is in the Run or Accessory State 2.Speed is below or equal to 5kph 3.Battery Voltage is Between 10-16 volts 4.ECU in Extended Diagnostics Mode. 5.Speaker Self Test (6009) is requested by tester. |
| Routine Exit Criteria | The Speaker Self Test (6009) shall exit self-test if any one of the following criteria is met: 1.Ignition transitions out of Run or Accessory State 2.Battery Voltage Drops below 9 volts or exceeds 16 volts 3.A stop routine command is issued. 4.Tester does communicate for more than five (5) seconds. 5.Test is complete. |
| Maximum Routine Run Time | 60000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x02 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

#### Routine 0x600A - Display Self Test

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x600A |
| Control Routine Name | Display Self Test |
| Control Routine Description | This routine is to demonstrate the RGB control lines are correctly connected. The display will fill the entire screen in the sequence of colors red, green, and blue for 3 seconds each. |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | Entry Criteria: (1) Multimedia System is On (DID 411F Key Position). (2) Battery Voltage is between 10-16 volts (DID D111 ECU Power Supply Voltage). (3) Extended Diagnostic Session (not programming modes) (DID D100 Active Diagnostic Session). (4) Not in Phone Call (DID 8032 Accessory Gateway Feature Status). (5) IPC Link is up (DID 804A "APIM Internal Fault" will report if IPC Link is down if no other fault is present in the DID). (6) No other diagnostic test is running. (7) Display Self Test (600A) is requested by the tester. Display Self Test Entry Criteria: (1 and 2 and 3 and 4 and 5 and 6 and 7) Negative response $22 (Conditions-Not-Correct) will be returned if any criteria is not satisfied. |
| Routine Exit Criteria | Exit Criteria: (1) Ignition transitions out of Run or Accessory State (DID 411F Key Position) (2) Battery Voltage Drops below 9 volts or exceeds 16 volts (DID D111 ECU Power Supply Voltage) (3) Phone Call issued during test. (DID 8032 Accessory Gateway Feature Status) (4) A stop routine command is issued (5) Test does not communicate for more than five (5) seconds (6) Test is complete Display Self Test Exit Criteria: (1 or 2 or 3 or 4 or 5 or 6) |
| Maximum Routine Run Time | 20000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x02 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

#### Routine 0x601C - Tones Test

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0x601C |
| Control Routine Name | Tones Test |
| Control Routine Description | This test is meant to test the ESE portion. There is not a Pass/Fail criteria for this routine. There is currently no result returned for this routine. The tones shall come out of the speakers continuously until finished or stopped. If one or more of the Entry conditions are not met, then the AHU shall return the NRC of $22 Note1: This routine is only used to request a tone to be generated If a Stop is issued, the Routine shall stop |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria | 1.Ignition is in the Run or Accessory State 2.Battery Voltage is Between 10-16 volts 3.Extended Diagnostic Session 4.The routine is requested by the tester. 5.DTC F00094 is Not Active 6.DTC E01B04 is Not Active 7.$204:EngineSpeed (EngAout\_N\_Actl) is 0 rpm. 8.The ESE feature must be enabled by DE05. If ANC is enabled, ESE is enabled by default. 9.Feature Activation using the 3008 Tones Test Entry Criteria: (1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 and 9) Negative response $22 (Conditions-Not-Correct) will be returned if any criteria is not satisfied. |
| Routine Exit Criteria | 1.Ignition transitions out of Run or Accessory State 2.Battery Voltage Drops below 9volts or exceeds 16 volts 3.A stop routine command is issued. 4.Tester does not communicate for more than five (5) seconds. 5.Test is complete. 6.$204:EngineSpeed (EngAout\_N\_Actl) is NOT 0 rpm. 7.Door status on change 8.Window status on change Door Signals: - $3B2:BodyInfo\_HS3:DrStatInnrTgate\_B\_Actl - $3B2:BodyInfo\_HS3:DrStatTgate\_B\_Actl - $3B2:BodyInfo\_HS3:DrStatRr\_B\_Actl - $3B2:BodyInfo\_HS3:DrStatRl\_B\_Actl - $3B2:BodyInfo\_HS3:DrStatPsngr\_B\_Actl - $3B2:BodyInfo\_HS3:DrStatDrv\_B\_Actl Window Signals: - $277: GWM\_Send\_Signals\_2:DriverWindowPosition - $277: GWM\_Send\_Signals\_2:DriverWindowPosition\_UB - $277: GWM\_Send\_Signals\_2:PassWindowPosition - $277: GWM\_Send\_Signals\_2:PassWindowPosition\_UB - $277: GWM\_Send\_Signals\_2:RearDriverWindowPos - $277: GWM\_Send\_Signals\_2:RearDriverWindowPos\_UB - $277: GWM\_Send\_Signals\_2:RearPassWindowPos - $277: GWM\_Send\_Signals\_2:RearPassWindowPos\_UB 9.DTC F00094 has become Active 10.DTC E01B04 has become Active |
| Maximum Routine Run Time | 64000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x02 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StopRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

#### Routine 0xFEFD - Audio update of SupPosB gain

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0xFEFD |
| Control Routine Name | Audio update of SupPosB gain |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria |
| Routine Exit Criteria |
| Maximum Routine Run Time | 20000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

#### Routine 0xFEFE - Audio EOL measurement

|  |
| --- |
| Core Control Routine Information |

|  |  |
| --- | --- |
| Control Routine | 0xFEFE |
| Control Routine Name | Audio EOL measurement |
| Executable in Sessions | 0x03,0x60 |
| Security Levels Required to Run |  |
| Routine Entry Criteria |
| Routine Exit Criteria |
| Maximum Routine Run Time | 20000 (ms) |
| Can Restart While Running | no |
| Supported Sub Functions | 0x01 0x03 |

|  |
| --- |
| StartRoutine SubFunction - Request Additional Data |

|  |
| --- |
| StartRoutine SubFunction - Response Additional Data |

|  |
| --- |
| RequestRoutineResults SubFunction - Response Additional Data |

### Type 3 Routines

No RoutineType 3 control routines are supported by this ECU.

## Control DTC Setting Details

**This section documents the ControlDTCSetting sub-functions support by the ECU.**

### ControlDTCSetting Sub-Functions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sub-Function | DTC Setting Type | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x01 | on |  |  | X | X |
| 0x02 | off |  |  | X | X |

## ECU Reset Details

**This section documents the ECUReset sub-functions support by the ECU.**

### EcuReset Sub-Functions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sub-Function | Reset Type | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x01 | hardReset | X | X | X | X |

## Read/Write Memory Areas

In the context of this section, a memory area is an area of memory that can be accessed by either service 0x23 (readMemoryByAddress) or service 0x3D (writeMemoryByAddress). This section documents all memory areas supported by the ECU.

### Supported Memory Ranges

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start Address | Size (Bytes) | Name | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x50000000 | 0x200 | ADDR\_TRANS | RW |  | RW | RW |
| 0x51000000 | 0x200 | ADDR\_TUNING\_IF | RW |  | RW | RW |
| 0x52000000 | 0x200 | ADDR\_DS\_ASD | RW |  | RW | RW |
| 0x53000000 | 0x200 | ADDR\_DS\_ANC | RW |  | RW | RW |

**Note 1:**

The value in the session shall contain between 0 to 2 characters, indicating whether or not each memory areas supports the following services in each session. If the value is blank for a given memory area in a particular session, then this memory area is not supported via any of the following services in that session.

R = Memory area is readable (i.e., supports diagnostic service 0x23 – ReadMemoryByAddress)

W = Memory area is writeable (i.e., supports diagnostic service 0x3D – WriteMemoryByAddress)

\* = The functionality indicated by the preceding letter is locked by security access.

### General Memory Area Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | 0x01 | 0x02 | 0x03 | 0x60 |
| Valid Service 0X23 MemorySize Parameter Length | 2 |  | 2 | 2 |
| Valid Service 0X3D MemorySize Parameter Length | 2 |  | 2 | 2 |

### MemorySize Restrictions for Services 0x23 and 0x3D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | 0x01 | 0x02 | 0x03 | 0x60 |
| Service 0X23 – MemorySize Range [1 - 512] | x |  | x | x |
| Valid Service 0X23 MemoryAddress Parameter Lengths | 4 |  | 4 | 4 |
| Service 0X3D – MemorySize Range [1 - 512] | x |  | x | x |
| Valid Service 0X3D MemoryAddress Parameter Lengths | 4 |  | 4 | 4 |

### Details for Supported Memory Areas

#### Memory Area 0x50000000 (Length: 0x200) - ADDR\_TRANS

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x50000000 |
| Read/Write Area Size (bytes) | 0x200 |
| Read/Write Area Name | ADDR\_TRANS |

|  |
| --- |
| Readable in Sessions0x01;0x03;0x60; |

|  |
| --- |
| Writeable in Sessions0x01;0x03;0x60; |

#### Memory Area 0x51000000 (Length: 0x200) - ADDR\_TUNING\_IF

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x51000000 |
| Read/Write Area Size (bytes) | 0x200 |
| Read/Write Area Name | ADDR\_TUNING\_IF |

|  |
| --- |
| Readable in Sessions0x01;0x03;0x60; |

|  |
| --- |
| Writeable in Sessions0x01;0x03;0x60; |

#### Memory Area 0x52000000 (Length: 0x200) - ADDR\_DS\_ASD

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x52000000 |
| Read/Write Area Size (bytes) | 0x200 |
| Read/Write Area Name | ADDR\_DS\_ASD |

|  |
| --- |
| Readable in Sessions0x01;0x03;0x60; |

|  |
| --- |
| Writeable in Sessions0x01;0x03;0x60; |

#### Memory Area 0x53000000 (Length: 0x200) - ADDR\_DS\_ANC

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x53000000 |
| Read/Write Area Size (bytes) | 0x200 |
| Read/Write Area Name | ADDR\_DS\_ANC |

|  |
| --- |
| Readable in Sessions0x01;0x03;0x60; |

|  |
| --- |
| Writeable in Sessions0x01;0x03;0x60; |

## Upload / Download / Programming Information

This section documents all areas of the ECU which are capable of being programmed according to the Software Download Specification. This section also documents any areas which support upload from the ECU to the test tool.

### Supported Memory Ranges

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start Address | Size (Bytes) | Name | 0x01 | 0x02 | 0x03 | 0x60 |
| 0xFEBD0000 | 0x3000 | Flash Driver |  | D |  |  |
| 0x00048000 | 0x8000 | Audio Calibration |  | D |  |  |
| 0x00068000 | 0x1800 | Lighting Calibration |  | D\* |  |  |
| 0x00070000 | 0x180000 | VMCU Application |  | D |  |  |
| 0x10000000 | 0x20000 | ESE Calibration |  | D\* |  |  |

**Note 1:**

The value in the session shall contain between 0 to 2 characters, indicating whether or not each memory areas supports the following services in each session. If the value is blank for a given memory area in a particular session, then this memory area is not supported via any of the following services in that session.

D = Memory area is downloadable (i.e., supports diagnostic service 0x34 – RequestDownload)

U = Memory area is uploadable (i.e., supports diagnostic service 0x35 – RequestUpload)

\* = The functionality indicated by the preceding letter is locked by security access.

### General Upload/Download Memory Area Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | 0x01 | 0x02 | 0x03 | 0x60 |
| Valid Service 0X34 MemorySize Parameter Lengths |  | 4 |  |  |
| Valid Service 0X34 MemoryAddress Parameter Lengths |  | 4 |  |  |

### Supported DataFormatIdentifier (DFI) Values

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| DFI | Service | Name | Description | 0x01 | 0x02 | 0x03 | 0x60 |
| 0x00 | 0X34 | No Compression Method and No Encryption Method |  |  | x |  |  |

### Details for Supported Memory Areas

#### Memory Area 0xFEBD0000 (Length: 0x3000) - Flash Driver

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0xFEBD0000 |
| Upload/Download Area Size (bytes) | 0x3000 |
| Upload/Download Area Name | Flash Driver |

|  |
| --- |
| Downloadable in Sessions0x02; |

#### Memory Area 0x00048000 (Length: 0x8000) - Audio Calibration

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x00048000 |
| Upload/Download Area Size (bytes) | 0x8000 |
| Upload/Download Area Name | Audio Calibration |
| Upload/Download Area Comments | Audio EQ Tuning, Part number can be read out by DID 0xF10A. |

|  |
| --- |
| Downloadable in Sessions0x02; |

#### Memory Area 0x00068000 (Length: 0x1800) - Lighting Calibration

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x00068000 |
| Upload/Download Area Size (bytes) | 0x1800 |
| Upload/Download Area Name | Lighting Calibration |
| Upload/Download Area Comments | Lighting Tuning, Part number can be read out by DID 0xF16B. |

|  |
| --- |
| Downloadable in Sessions0x02; |

#### Memory Area 0x00070000 (Length: 0x180000) - VMCU Application

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x00070000 |
| Upload/Download Area Size (bytes) | 0x180000 |
| Upload/Download Area Name | VMCU Application |

|  |
| --- |
| Downloadable in Sessions0x02; |

#### Memory Area 0x10000000 (Length: 0x20000) - ESE Calibration

|  |
| --- |
| Core Memory Area Information |

|  |  |
| --- | --- |
| Start Address | 0x10000000 |
| Upload/Download Area Size (bytes) | 0x20000 |
| Upload/Download Area Name | ESE Calibration |
| Upload/Download Area Comments | Audio ESE Tuning, Part number can be read out by DID 0xF16C. |

|  |
| --- |
| Downloadable in Sessions0x02; |

## Memory Parameters

In the context of this section, a memory parameter is a subset of a memory area that can be accessed by either service 0x23 (readMemoryByAddress) or service 0x3D (writeMemoryByAddress). The purpose of documenting a memory parameter is to allow a tool to decode / decipher the contents of a physical memory address. This section provides documentation of any memory parameters which may be of interest to a test tool.

### Details for Supported Memory Parameters

## Dynamically Defined DataIdentifiers

This section documents all dynamically defined DataIdentifiers supported by the ECU. Dynamically defined DataIdentifiers are those which are defined using service 0x2C (dynamicallyDefineDataByIdentifier).

**Capability for dynamically defining DataIdentifiers is not supported by this ECU.**

### Supported Dynamically Defined Non-Periodic DataIdentifiers per Session

**No Dynamically Defined Non-Periodic DataIdentifiers (range of 0xF300 - 0xF3FF) are supported by this ECU.**

### Supported Dynamically Defined Periodic DataIdentifiers per Session

**No Dynamically Defined Periodic DataIdentifiers (range of 0xF200 - 0xF240) are supported by this ECU.**

## Periodic Data Reporting

This section documents additional details for reporting periodic dataIdentifiers (whether they are dynamically or statically defined). Periodic dataIdentifiers are reported by using service 0x2A (reportDataByPeriodicIdentifier)

### General Periodic Data Information

#### Supported Transmission Modes

**No Transmission Modes are supported by this ECU.**

## ECU Configuration Information

This section documents all ECU Configuration DataIdentifiers which are supported by the ECU.

### Supported ECU Configuration DataIdentifiers

### Supported DataIdentifiers per Session

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DID | Type | Size(Byte) | Name | 0x01 | 0x02 | 0x03 | 0x60 | Audience | Dependencies |
| 0xDE00 | PKT | 7 | Config Block DE00 | R |  | RW\* | RW\* |  |  |
| 0xDE01 | PKT | 4 | Config Block DE01 | R |  | RW\* | RW\* |  |  |
| 0xDE02 | PKT | 3 | Config Block DE02 | R |  | RW\* | RW\* |  |  |
| 0xDE03 | PKT | 4 | Config Block DE03 | R |  | RW\* | RW\* |  |  |
| 0xDE04 | PKT | 7 | Config Block DE04 | R |  | RW\* | RW\* |  |  |
| 0xDE05 | PKT | 19 | Config Block DE05 | R |  | RW\* | RW\* |  |  |
| 0xDE06 | PKT | 18 | Config Block DE06 | R |  | RW\* | RW\* |  |  |
| 0xDE07 | PKT | 16 | Config Block DE07 | R |  | RW\* | RW\* |  |  |
| 0xDE08 | PKT | 23 | Config Block DE08 | R |  | RW\* | RW\* |  |  |
| 0xDE09 | PKT | 32 | Config Block DE09 | R |  | RW\* | RW\* |  |  |

**Note 1:**

The value in the session shall contain between 0 to 4 characters, indicating whether or not each DID supports the following services in each session. If the value is blank for a given DID in a particular session, then this DID is not supported via any of the following services in that session.

R = DID is readable (i.e., supports diagnostic service $22 – ReadDataByIdentifier)

W = DID is writeable (i.e., supports diagnostic service $2E – WriteDataByIdentifier)

\* = The functionality indicated by the preceding letter is locked by security access.

### Details for Supported ECU Configuration DataIdentifiers

#### DID 0xDE00 - Config Block DE00

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE00 |
| DataIdentifier Name | Config Block DE00 |
| DataIdentifier Size (bytes) | 7 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Vehicle Nameplate ID |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Default |
| 0x01 | CD542 |
| 0x02 | CX727 |
| 0x03 | U625 |
| 0x04 | P702 |
| 0x05 | U725 |
| 0x06 | U554 |

Parameter 2 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Model Year |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | MY21 |
| 0x01 | MY22 |

Parameter 3 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Body Style |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Sedan |
| 0x01 | SUV |
| 0x02 | Hatchback |
| 0x03 | Wagon |
| 0x04 | Pickup |

Parameter 4 - ascii (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 16 | Series (Trim) |

Parameter 5 - Hex (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Color code |

Parameter 6 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | welcome farewell animation |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | base |
| 0x01 | Variant 1 |
| 0x02 | Variant 2 |
| 0x03 | Variant 3 |

Parameter 7 - State Encoded (Start byte = 6, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | HMI variants |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Ford |
| 0x01 | Lincoln |

Parameter 8 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Display variants |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 13.2L |
| 0x01 | 12.0L |
| 0x02 | 27.0L |
| 0x03 | 15.5P |

Parameter 9 - State Encoded (Start byte = 7, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Connectivity |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | not configured |
| 0x01 | IVI Modem Only |
| 0x02 | Ford Modem Only |
| 0x03 | Dual Modem |
| 0x04 | No Modem |

#### DID 0xDE01 - Config Block DE01

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE01 |
| DataIdentifier Name | Config Block DE01 |
| DataIdentifier Size (bytes) | 4 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | SWC |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Can |
| 0x02 | HW |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | EFP |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | LIN |
| 0x02 | FCIMB |

Parameter 3 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Rear EFP |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | RSEM |
| 0x02 | Rear touch display |
| 0x03 | U554 RACM |

Parameter 4 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | WACM |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 5 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Ambient Light |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Single color |
| 0x02 | Multi-color |
| 0x03 | Multi-color variant 2 |
| 0x04 | CD764 low |
| 0x05 | CD764 High |

Parameter 6 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | MC Seat |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | 11 Bladder Legacy MCS |
| 0x02 | Enhanced MCS |
| 0x03 | 2 way lumbar |
| 0x04 | 4 way lumbar |
| 0x05 | 7 bladder legacy MCS |
| 0x06 | 3 bladder enhanced |
| 0x07 | 3 bladder enhanced driver only |
| 0x08 | 7 bladder enhanced |
| 0x09 | 17 bladder |
| 0x0A | 21 bladder |

Parameter 7 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | 360 lighting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | 2 domain |
| 0x02 | 4 domain |

Parameter 8 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | MCM |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | N/A |
| 0x01 | Y |

#### DID 0xDE02 - Config Block DE02

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE02 |
| DataIdentifier Name | Config Block DE02 |
| DataIdentifier Size (bytes) | 3 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | PDC HMI |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | 4CH |
| 0x02 | 8CH |
| 0x03 | 10CH |
| 0x04 | 12CH |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Camera |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Rear Analog (CVBS) |
| 0x02 | 360 Analog(CVBS) |
| 0x03 | Digital(HD w IIC) |
| 0x04 | 360 Digital(HD) |
| 0x05 | 360 offset view |

Parameter 3 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Camera Views |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | RVC split views |
| 0x02 | 360 offset view |

Parameter 4 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | APA |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Semi Auto U540 |
| 0x02 | EAPA (Semi Auto) |
| 0x03 | FAPA Fully auto |
| 0x04 | FAPA w Repa |
| 0x05 | FAPA w RePA w Deluxe |

Parameter 5 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | CTA |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | CTA |
| 0x02 | CTA & RBA |

Parameter 6 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | MT/AT |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | AT |
| 0x01 | MT |

#### DID 0xDE03 - Config Block DE03

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE03 |
| DataIdentifier Name | Config Block DE03 |
| DataIdentifier Size (bytes) | 4 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Climate domain |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Single Zone |
| 0x02 | Dual Zone |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Rear Hvac |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Fan only |
| 0x02 | Manual |
| 0x03 | Auto |
| 0x04 | 4 Zone |

Parameter 3 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | heat cool seat |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Heat only |
| 0x02 | Heat/cool |
| 0x03 | Cool only |

Parameter 4 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | heated SW |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 5 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Fresh air Cabin |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | AAR |

Parameter 6 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | suppress climate fan speed during VR |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 7 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | heated windshield |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 8 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Climate auto levels |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | 3 Levels |

#### DID 0xDE04 - Config Block DE04

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE04 |
| DataIdentifier Name | Config Block DE04 |
| DataIdentifier Size (bytes) | 7 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | List browser |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Navi |
| 0x02 | Navi+Phone+Audio |
| 0x03 | Phone+Audio |
| 0x04 | Navi+Phone+Audio+HUD |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Navi Features |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | With Gyro |
| 0x02 | GPS from TCU |

Parameter 3 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | 1 Pedal drive |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 4 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Fuel type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Gas |
| 0x01 | PHEV |
| 0x02 | BEV |
| 0x03 | HEV |
| 0x04 | FHEV |

Parameter 5 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Powerflow Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | None |
| 0x01 | MHT |
| 0x02 | PS |
| 0x03 | PS w/ ERAD 4WD |

Parameter 6 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Enhanced Memory |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | 3 person hard key |

Parameter 7 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Battery Pack Size |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 3P |
| 0x01 | 4P |
| 0x02 | 3PDR |

Parameter 8 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | AR Navigation |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | IVI only |
| 0x02 | IVI and cluster |

Parameter 9 - State Encoded (Start byte = 5, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | TPMS |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | with temperature |
| 0x02 | w/o temperature, with digits |

Parameter 10 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | TSR |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | TSR |
| 0x02 | Fusion TSR |

Parameter 11 - State Encoded (Start byte = 6, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | EV Range Ring |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | PHEV |

Parameter 12 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Keypad/PAAK |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | keypad only |
| 0x02 | PAAK with 5 digits |
| 0x03 | PAAK with 7 digits |
| 0x04 | PAAK Lite |

Parameter 13 - State Encoded (Start byte = 7, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Charge Port Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x02 | Type 1 Combo |
| 0x03 | Type 2 |
| 0x04 | Type 2 Combo |
| 0x05 | China AC |
| 0x06 | China DC |

#### DID 0xDE05 - Config Block DE05

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE05 |
| DataIdentifier Name | Config Block DE05 |
| DataIdentifier Size (bytes) | 19 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | BT tuning |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | CD542 6 Speaker |
| 0x01 | CD542 10 Speaker |
| 0x02 | CX727 6 Speaker |
| 0x03 | CX727 10 Speaker |
| 0x04 | U554 20 Speaker |
| 0x05 | U702 18 Speaker |
| 0x06 | U625 6 Speaker |
| 0x07 | U625 10 Speaker |
| 0x08 | CD764 9 Speaker |
| 0x09 | CD764 13 Speaker |

Parameter 2 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Extended play |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | N/A |
| 0x01 | 30min |
| 0x02 | 60min |

Parameter 3 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Smart DSP |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | DSP (analog) |
| 0x02 | A2B B&O |
| 0x03 | Ext Subwoofer |
| 0x04 | Revel |

Parameter 4 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Sound Mode: Stereo/Surround |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Postion selection |
| 0x01 | Stereo/Surround |
| 0x02 | Not support |

Parameter 5 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | DSO chime |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enable DSO |
| 0x02 | Duplicating DNA Chime |

Parameter 6 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | DSP feature: Quantum Logic Surrounding |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Surround |
| 0x02 | 3D Surround |

Parameter 7 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Chime Tuning for DSP |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 0dB |
| 0x01 | -1dB |
| 0x02 | -2dB |
| 0x03 | -3dB |
| 0x04 | -4dB |
| 0x05 | -5dB |
| 0x06 | -6dB |
| 0x07 | -7dB |
| 0x08 | -8dB |
| 0x09 | -9dB |
| 0x0A | -10dB |
| 0x0B | -11dB |
| 0x0C | -12dB |
| 0x0D | -13dB |
| 0x0E | -14dB |
| 0x0F | -15dB |

Parameter 8 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | DSP feature: Revel/THX |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Revel |
| 0x02 | THX |

Parameter 9 - State Encoded (Start byte = 5, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | ANC/ESE |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | EVSE |
| 0x02 | ESE |
| 0x03 | ANC+ESE |
| 0x04 | ANC only |
| 0x05 | ESE P702 Variant |

Parameter 10 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Front Satellite Speakers |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Internal Amplifier |
| 0x01 | External Variable |
| 0x02 | Fixed Line Leve |
| 0x03 | Reserved |

Parameter 11 - State Encoded (Start byte = 6, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Rear Satellite Speakers |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Internal Amplifie |
| 0x01 | External Variable |
| 0x02 | Fixed Line Level |
| 0x03 | Not Used |

Parameter 12 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Front Speakers Detection (exist) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 13 - State Encoded (Start byte = 7, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Rear Speakers Detection (exist) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 14 - State Encoded (Start byte = 8, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Chime Strategy |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | CGEA1.3 (FNA) |
| 0x01 | C1MCA （FOE） |

Parameter 15 - State Encoded (Start byte = 8, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Turn Signal Chimes |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 16 - State Encoded (Start byte = 9, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Front Tweeters Description: (TBD, if at least 6+ speaker, than not use.) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Present |

Parameter 17 - State Encoded (Start byte = 9, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Rear Tweeters |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Present |

Parameter 18 - State Encoded (Start byte = 10, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | ANC Left Front Mixing |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Mixing |
| 0x01 | Power AMP Left |
| 0x02 | Aux1 |
| 0x03 | Reserved |

Parameter 19 - State Encoded (Start byte = 10, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | ANC Right Front Mixing |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Mixing |
| 0x01 | Power AMP Right |
| 0x02 | Aux2 |
| 0x03 | Reserved |

Parameter 20 - State Encoded (Start byte = 11, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | ANC Rear Mixing |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Mixing |
| 0x01 | Power AMP Left and Right |
| 0x02 | Aux1 |
| 0x03 | Power AMP Left and Right Rear and Aux1 |

Parameter 21 - State Encoded (Start byte = 11, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Enable Occupancy Mode Change in Phone |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Enables Occupancy Mode Change In Phone |
| 0x01 | Disables Occupancy Mode Changes In Phone |

Parameter 22 - unsigned (Start byte = 12, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 8 | Antenna Test Acceptance Value | 0 | 1 | dBuV | 0 | 255 |

Parameter 23 - unsigned (Start byte = 13, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 8 | AM Station for Antenna Test | 522 | 9 | Khz | 522 | 2817 |

Parameter 24 - State Encoded (Start byte = 14, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Gain Adjustment in Phone Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Gain Adjustment |
| 0x01 | -1dB |
| 0x02 | -2dB |
| 0x03 | -3dB |
| 0x04 | -4dB |
| 0x05 | -5dB |
| 0x06 | -6dB |
| 0x07 | -7dB |
| 0x08 | -8dB |

Parameter 25 - State Encoded (Start byte = 14, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Graphic EQ |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Slot 0 |
| 0x01 | Slot 1 |
| 0x02 | Slot 2 |
| 0x03 | Slot 3 |

Parameter 26 - State Encoded (Start byte = 15, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | Phone Level in Speed Sensitive Volume |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | SSV level is fixed to Off |
| 0x01 | SSV level is fixed to 1 |
| 0x02 | SSV level is fixed to 2 |
| 0x03 | SSV level is fixed to 3 |
| 0x04 | SSV level is fixed to 4 |
| 0x05 | SSV level is fixed to 5 |
| 0x06 | SSV level is fixed to 6 |
| 0x07 | SSV level is fixed to 7 |
| 0x08 | 0xFF The feature is disabled |

Parameter 27 - unsigned (Start byte = 16, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 8 | FM Seek/Stop Sensitivy | 0 | 1 | db | 0 | 255 |

Parameter 28 - Hex (Start byte = 17, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | ESE profile select |

Parameter 29 - Hex (Start byte = 18, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | DSP VR Audio Delay time |

Parameter 30 - Hex (Start byte = 19, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | A2B slave slots combination |

#### DID 0xDE06 - Config Block DE06

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE06 |
| DataIdentifier Name | Config Block DE06 |
| DataIdentifier Size (bytes) | 18 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Trailer backup assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | P702 |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | V2I features |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 3 - unsigned (Start byte = 2, Start Bit = 7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Size (bits) | Parameter Info | Offset | Resolution | Units | Min Scaled Value | Max Scaled Value |
| 8 | AM Seek/Stop Sensitivy | 0 | 1 | db | 0 | 255 |

Parameter 4 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Power to the Box |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled with 1 Dial |
| 0x02 | Enabled with 2 Dial |
| 0x03 | Reserved |

Parameter 5 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Selectable Drive Modes |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 6 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Seats Hot Key |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Single |
| 0x02 | Double |

Parameter 7 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Battery Pack Size |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 3P |
| 0x01 | 4P |

Parameter 8 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Facial Recognition |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | FaceID |
| 0x02 | DMS |
| 0x03 | FaceID & DMS |
| 0x04 | Multi-Mode |
| 0x05 | FaceID & Multi-Mode |
| 0x06 | DMS & Multi-Mode |
| 0x07 | Full functions |
| 0x08 | FaceID Variant 2 |

Parameter 9 - State Encoded (Start byte = 5, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | ICP Subtype |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Legacy ICP |
| 0x01 | Mini ICP |

Parameter 10 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Massage Pattern |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Pattern Set 1 |
| 0x01 | Pattern Set 2 |
| 0x02 | Pattern Set 3 |
| 0x03 | Pattern Set 4 |
| 0x04 | Pattern Set 5 |
| 0x05 | Pattern Set 6 |
| 0x06 | Pattern Set 7 |
| 0x07 | Pattern Set 8 |
| 0x08 | Pattern Set 9 |
| 0x09 | Pattern Set 10 |
| 0x0A | Pattern Set 11 |
| 0x0B | Pattern Set 12 |
| 0x0C | Pattern Set 13 |
| 0x0D | Pattern Set 14 |
| 0x0E | Pattern Set 15 |
| 0x0F | Reserved |

Parameter 11 - State Encoded (Start byte = 6, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Stop Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Stop Mode follows Sync Strategy |
| 0x02 | Stop Mode follows BCM Strategy |

Parameter 12 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Clear Exit Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled – Egress Warning |
| 0x02 | Enabled – Egress Prevention |
| 0x03 | Enabled – Menu Setting Disabled |

Parameter 13 - State Encoded (Start byte = 7, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Sunroof control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | No Sunroof |
| 0x01 | 1 piece Sunroof |
| 0x02 | 2 piece Sunroof |
| 0x03 | fixed glass |

Parameter 14 - State Encoded (Start byte = 8, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Rear Lamp Animation |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Selectable |
| 0x01 | Mid Series |
| 0x02 | High Series |

Parameter 15 - State Encoded (Start byte = 9, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | SDM Max Response Timer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | None |
| 0x01 | 200ms |
| 0x02 | 500ms |

Parameter 16 - State Encoded (Start byte = 9, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | SDM Max Feedback Errors |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | None |
| 0x01 | 3 |

Parameter 17 - State Encoded (Start byte = 10, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | HDRVC Overlay sets |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Overlay Set 1 |
| 0x02 | Overlay Set 2 |
| 0x03 | Overlay Set 3 |
| 0x04 | Overlay Set 4 |
| 0x05 | Overlay Set 5 |
| 0x06 | Overlay Set 6 |
| 0x07 | Overlay Set 7 |
| 0x08 | Overlay Set 8 |
| 0x09 | Overlay Set 9 |
| 0x0A | Overlay Set 10 |
| 0x0B | Overlay Set 11 |
| 0x0C | Overlay Set 12 |
| 0x0D | Overlay Set 13 |
| 0x0E | Overlay Set 14 |
| 0x0F | Overlay Set 15 |

#### DID 0xDE07 - Config Block DE07

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE07 |
| DataIdentifier Name | Config Block DE07 |
| DataIdentifier Size (bytes) | 16 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Pitch/Roll (Off Road) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Eco Behavior |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 3 - State Encoded (Start byte = 1, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Trip 1/2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 4 - State Encoded (Start byte = 1, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Fuel Economy |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 5 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Zone Lighting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 6 - State Encoded (Start byte = 1, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Bed Camera |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 7 - State Encoded (Start byte = 1, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Navigation |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 8 - State Encoded (Start byte = 1, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - On Board Generator |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 9 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Phone |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 10 - State Encoded (Start byte = 2, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - Audio |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 11 - State Encoded (Start byte = 2, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD - TPMS |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 12 - State Encoded (Start byte = 2, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD – Navigation |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 13 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco-Idle |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 14 - State Encoded (Start byte = 2, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Advanced HUD |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |
| 0x01 | Enabled |

Parameter 15 - State Encoded (Start byte = 2, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | IOD-Off-Road #2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |
| 0x01 | Enabled |

Parameter 16 - State Encoded (Start byte = 2, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trail Turn Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 17 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach - Show In Go Mode Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 18 - State Encoded (Start byte = 3, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach - Eco Advices Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 19 - State Encoded (Start byte = 3, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach - Coasting Support Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 20 - State Encoded (Start byte = 3, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rocket Setup |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 21 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Key Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Push Button Start |
| 0x01 | Key Start |

Parameter 22 - State Encoded (Start byte = 3, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Display Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Night and Day |
| 0x01 | Night Only |

Parameter 23 - State Encoded (Start byte = 3, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Number of PADIs |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 1 PADI |
| 0x01 | 2 PADIs |

Parameter 24 - State Encoded (Start byte = 3, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Manual Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 25 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Onboard Scales |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 26 - State Encoded (Start byte = 4, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TCU Reset |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 27 - State Encoded (Start byte = 4, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Tone Touch HMI |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 28 - State Encoded (Start byte = 4, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | 1 Telephony Button |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 29 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rear Seat Occupant |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 30 - State Encoded (Start byte = 4, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Seats Hot Key - Number of Buttons |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Single |
| 0x01 | Double |

Parameter 31 - State Encoded (Start byte = 4, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | CRM-DSMC |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 32 - State Encoded (Start byte = 4, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | LVDS in cluster |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 33 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Driver Assist Hot Key |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 34 - State Encoded (Start byte = 5, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Parking Hot Key |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 35 - State Encoded (Start byte = 5, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Camera Hot Key |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 36 - State Encoded (Start byte = 5, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Video On Demand |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 37 - State Encoded (Start byte = 5, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Feature Domain Button |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 38 - State Encoded (Start byte = 5, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | eheat |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 39 - State Encoded (Start byte = 5, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Digital Scent |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 40 - State Encoded (Start byte = 5, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Prognostic |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 41 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Front Park Aid Adjustable Chimes |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 42 - State Encoded (Start byte = 6, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rear Park Aid Adjustable Chimes |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 43 - State Encoded (Start byte = 6, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Multi Camera Strategy |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Auto |
| 0x01 | Soft Button Camera Toggle |

Parameter 44 - State Encoded (Start byte = 6, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Window control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 45 - State Encoded (Start byte = 6, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Mixed Mode Presets Conformance |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 46 - State Encoded (Start byte = 6, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Park Brake |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Auto |
| 0x01 | Manual |

Parameter 47 - State Encoded (Start byte = 6, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Charge Port Light Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Variant 1 |
| 0x02 | Variant 2 |

Parameter 48 - State Encoded (Start byte = 10, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Highway assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 49 - State Encoded (Start byte = 10, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | CHMSL Camera |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 50 - State Encoded (Start byte = 10, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | AUX Camera |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 51 - State Encoded (Start byte = 10, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Boundary Alert |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 52 - State Encoded (Start byte = 10, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Front Camera (Off Road) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Available |
| 0x01 | Available |

Parameter 53 - State Encoded (Start byte = 10, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Front Rock Crawl (360 Camera Required) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 54 - State Encoded (Start byte = 10, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rear Rock Crawl (360 Camera Required) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 55 - State Encoded (Start byte = 10, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Camera Soft Button |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 56 - State Encoded (Start byte = 11, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | EcoCoach in Eco Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 57 - State Encoded (Start byte = 11, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Engine Oil Temp Gauge – Cluster menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 58 - State Encoded (Start byte = 11, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Power Gauge – Cluster menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 59 - State Encoded (Start byte = 11, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Tachometer Gauge – Cluster menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 60 - State Encoded (Start byte = 11, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Oil Life |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 61 - State Encoded (Start byte = 11, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Calm Screen – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 62 - State Encoded (Start byte = 11, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trip 1 – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 63 - State Encoded (Start byte = 11, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trip 2 – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 64 - State Encoded (Start byte = 12, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | This Trip – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 65 - State Encoded (Start byte = 12, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Fuel Economy – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 66 - State Encoded (Start byte = 12, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Electric Efficiency – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 67 - State Encoded (Start byte = 12, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Behaviors – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 68 - State Encoded (Start byte = 12, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | EV Coach – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 69 - State Encoded (Start byte = 12, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Auto Start Stop – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 70 - State Encoded (Start byte = 12, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Seatbelt Status – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 71 - State Encoded (Start byte = 12, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TPMS – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 72 - State Encoded (Start byte = 13, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 73 - State Encoded (Start byte = 13, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Now Playing (Audio / Phone) – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 74 - State Encoded (Start byte = 13, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Nav / Compass – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 75 - State Encoded (Start byte = 13, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Average Speed – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 76 - State Encoded (Start byte = 13, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Battery Charge – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 77 - State Encoded (Start byte = 13, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Maps / Augmented Reality – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 78 - State Encoded (Start byte = 13, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Classic View – Cluster IoD config |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 79 - State Encoded (Start byte = 13, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset All values for Trip 1 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 80 - State Encoded (Start byte = 14, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset Trip 1 Odometer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 81 - State Encoded (Start byte = 14, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset Trip 1 Average Speed |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 82 - State Encoded (Start byte = 14, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset Trip 1 Average Fuel |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 83 - State Encoded (Start byte = 14, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Set to Default – configure Cluster Trip 1 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 84 - State Encoded (Start byte = 14, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trip 1 Odometer – configure Cluster Trip 1 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 85 - State Encoded (Start byte = 14, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trip 1 Timer – configure Cluster Trip 1 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 86 - State Encoded (Start byte = 14, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Average Speed – configure Cluster Trip 1 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 87 - State Encoded (Start byte = 14, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Average Fuel – configure Cluster Trip 1 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 88 - State Encoded (Start byte = 15, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Instantaneous Fuel – configure Cluster Trip 1 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 89 - State Encoded (Start byte = 15, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset All values for Trip 2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 90 - State Encoded (Start byte = 15, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset Trip 2 Odometer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 91 - State Encoded (Start byte = 15, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset Trip 2 Average Speed |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 92 - State Encoded (Start byte = 15, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Reset Trip 2 Average Fuel |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 93 - State Encoded (Start byte = 15, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Set to Default – configure Cluster Trip 2 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 94 - State Encoded (Start byte = 15, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trip 2 Odometer – configure Cluster Trip 2 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 95 - State Encoded (Start byte = 15, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trip 2 Timer – configure Cluster Trip 2 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 96 - State Encoded (Start byte = 16, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Average Speed – configure Cluster Trip 2 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 97 - State Encoded (Start byte = 16, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Average Fuel – configure Cluster Trip 2 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 98 - State Encoded (Start byte = 16, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Instantaneous Fuel – configure Cluster Trip 2 view |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

Parameter 99 - State Encoded (Start byte = 16, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Classic View – Cluster Speedo view – Cluster Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disable |
| 0x01 | Enable |

#### DID 0xDE08 - Config Block DE08

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE08 |
| DataIdentifier Name | Config Block DE08 |
| DataIdentifier Size (bytes) | 23 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | AEIS Without Override |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 2 - State Encoded (Start byte = 1, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | AEIS with Override |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 3 - State Encoded (Start byte = 1, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | ACC Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 4 - State Encoded (Start byte = 1, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Head Lamps Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 5 - State Encoded (Start byte = 1, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adjustable Speed Limiter Device |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 6 - State Encoded (Start byte = 1, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | AdvanceTrac Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 7 - State Encoded (Start byte = 1, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Auto High Beam Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 8 - State Encoded (Start byte = 1, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Autolamp Delay |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 9 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Autolock Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 10 - State Encoded (Start byte = 2, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Head Lamps Traffic |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 11 - State Encoded (Start byte = 2, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Auto Relock |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 12 - State Encoded (Start byte = 2, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Autounlock Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 13 - State Encoded (Start byte = 2, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | City Safety |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 14 - State Encoded (Start byte = 2, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Approach Detection Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 15 - State Encoded (Start byte = 2, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Courtesy Wipe After Wash |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 16 - State Encoded (Start byte = 2, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Driver Alert System |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 17 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Easy Entry/Exit |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 18 - State Encoded (Start byte = 3, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Forward Collision Warning |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | None |
| 0x01 | FCW |
| 0x02 | FCW + FDA |
| 0x03 | Unused |

Parameter 19 - State Encoded (Start byte = 3, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Fuel Operated Heater (FOH) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | N/A |
| 0x01 | FCW |

Parameter 20 - State Encoded (Start byte = 3, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Global Window Open |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 21 - State Encoded (Start byte = 3, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Global Window Close |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 22 - State Encoded (Start byte = 3, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Daytime Running Lamps Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 23 - State Encoded (Start byte = 3, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Temporary Mobility Kit |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 24 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Mirrors Autofold |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 25 - State Encoded (Start byte = 4, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Mirrors Reverse Tilt |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 26 - State Encoded (Start byte = 4, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Do Not Disturb |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 27 - State Encoded (Start byte = 4, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Fuel Operated Park Heater |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 28 - State Encoded (Start byte = 4, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | One/Two Stage Unlocking |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 29 - State Encoded (Start byte = 4, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Perimeter Alarm w/ Reduced Guard Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 30 - State Encoded (Start byte = 4, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Power Liftgate Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 31 - State Encoded (Start byte = 4, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rear Reverse Gear Wipe (RRGW) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 32 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Remote Start – Climate Settings |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 33 - State Encoded (Start byte = 5, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Remote Start – Driver Seat |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 34 - State Encoded (Start byte = 5, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Remote Start - Feature |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 35 - State Encoded (Start byte = 5, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Remote Start – Passenger Seat |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 36 - State Encoded (Start byte = 5, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Remote Start – Rear Defrost |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 37 - State Encoded (Start byte = 5, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Remote Start – Steering Wheel |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 38 - State Encoded (Start byte = 5, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Side Detect |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 39 - State Encoded (Start byte = 5, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Intelligent Speed Assistance |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 40 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trailer Sway |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 41 - State Encoded (Start byte = 6, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Front Collision Warning – On Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 42 - State Encoded (Start byte = 6, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Intelligent Access Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 43 - State Encoded (Start byte = 6, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Silent Mode Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 44 - State Encoded (Start byte = 6, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TPMS Reset |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 45 - State Encoded (Start byte = 6, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Auto Hold |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 46 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Driver Warning Data Collection Type Configuration |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Read from CAN Signal TeltalWarnData\_No\_Actl |
| 0x01 | read cluster DIDs 600E&F |

Parameter 47 - State Encoded (Start byte = 7, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Forward Collision Warning – Braking On/Off |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 48 - State Encoded (Start byte = 7, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Locking Feedback Audible |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 49 - State Encoded (Start byte = 7, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Locking Feedback Visual |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 50 - State Encoded (Start byte = 7, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Evasive Steering Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 51 - State Encoded (Start byte = 7, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Lane Assist Haptic Intensity |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 52 - State Encoded (Start byte = 7, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Intelligent Adaptive Cruise Control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 53 - State Encoded (Start byte = 7, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Headlamps Feature |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 54 - State Encoded (Start byte = 8, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Lane Change Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |
| 0x02 | Euro N Cap |
| 0x03 | Reserved |

Parameter 55 - State Encoded (Start byte = 8, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Lane Keeping Sensitivity |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 56 - State Encoded (Start byte = 8, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Advanced Trac Hard Button Control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 57 - State Encoded (Start byte = 8, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Traction Control/IVD/RSC |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | TC |
| 0x02 | IVD |
| 0x03 | RSC |

Parameter 58 - State Encoded (Start byte = 8, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Cruise |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 59 - State Encoded (Start byte = 8, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TSR NCAP Adaptations |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 60 - State Encoded (Start byte = 9, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TSR Overspeed Chime |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 61 - State Encoded (Start byte = 9, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Tow Haul |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 62 - State Encoded (Start byte = 9, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trailer Blind Spot |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 63 - State Encoded (Start byte = 9, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Wrong Way Alert |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 64 - State Encoded (Start byte = 9, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Hill Descent Control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 65 - State Encoded (Start byte = 9, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Snow Plow |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 66 - State Encoded (Start byte = 9, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Select Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 67 - State Encoded (Start byte = 9, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Running Board Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 68 - State Encoded (Start byte = 10, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Park Lock Control Allw |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Less\_Park\_Lock\_Control |
| 0x01 | ALLW\_SUST\_ENBL\_FOR\_PARKING |
| 0x02 | ALLW\_TEMP\_ENBL\_FOR\_TOWING |
| 0x03 | ALLW\_FOR\_EITHER\_PARKING\_OR\_TOWING |

Parameter 69 - State Encoded (Start byte = 10, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Auto Start-Stop |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 70 - State Encoded (Start byte = 10, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Perimeter Alarm Guard Reminder |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 71 - State Encoded (Start byte = 10, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Traffic Sign Recognition |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 72 - State Encoded (Start byte = 10, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TPMS By Location |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 73 - State Encoded (Start byte = 10, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TPMS Placard Pressure Display |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 74 - State Encoded (Start byte = 10, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Centerstack Settings |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 75 - State Encoded (Start byte = 11, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Predictive Lights |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 76 - State Encoded (Start byte = 11, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | LaneAssist NCAP Aid |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled (Aid menu not displayed) |
| 0x01 | Menu 1 (Reduced, Enhanced) |
| 0x02 | Menu 2 (Off, Reduced, Enhanced) |
| 0x03 | Menu 3 (Off, On) |

Parameter 77 - State Encoded (Start byte = 11, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | LaneAssist NCAP Alert |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled (Alert menu not displayed) |
| 0x01 | Menu 1 (High, Normal, Low, Off) |
| 0x02 | Menu 2 (On, Off) |
| 0x03 | Menu 3 (High, Normal, Low) |

Parameter 78 - State Encoded (Start byte = 11, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Key Free |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Intelligent Access |
| 0x01 | Key Free |

Parameter 79 - State Encoded (Start byte = 11, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Grade Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 80 - State Encoded (Start byte = 11, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | One/Two Stage Unlocking – Passenger/Commercial |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Passenger (One/Two State HMI) |
| 0x01 | Commercial (Global Unlock HMI) |

Parameter 81 - State Encoded (Start byte = 12, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Auto High Beam Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Auto High Beams |
| 0x02 | Glare free High Beams |
| 0x03 | Adaptive Driving Beams |

Parameter 82 - State Encoded (Start byte = 12, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Air Suspension SUMA Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 83 - State Encoded (Start byte = 12, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Air Suspension Auto Height SUMA |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 84 - State Encoded (Start byte = 12, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Blindspot Trailer Tow (BTT) Lite |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 85 - State Encoded (Start byte = 12, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Passenger Airbag Settings |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 86 - State Encoded (Start byte = 12, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | mHEV Start Stop Threshold Control Function |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 87 - State Encoded (Start byte = 12, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Air Suspension Cargo Loading SUMA |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 88 - State Encoded (Start byte = 13, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | MyColor |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 89 - State Encoded (Start byte = 13, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | MyColor HMI Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | 12 Inch Cluster HMI |
| 0x02 | 4 Inch Cluster HMI |
| 0x03 | Reserved |

Parameter 90 - State Encoded (Start byte = 13, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | MyColor Green Type |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Green |
| 0x01 | Highland Green |

Parameter 91 - State Encoded (Start byte = 13, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Power Liftgate Handsfree Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 92 - State Encoded (Start byte = 13, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Power Liftgate/Decklid HMI |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Liftgate |
| 0x01 | Decklid |

Parameter 93 - State Encoded (Start byte = 13, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Auto Regen Control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 94 - State Encoded (Start byte = 13, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Steering Manual Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 95 - State Encoded (Start byte = 14, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Steering Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 96 - State Encoded (Start byte = 14, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Steering System Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 97 - State Encoded (Start byte = 14, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive System Comfort Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 98 - State Encoded (Start byte = 14, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Adaptive Drive Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 99 - State Encoded (Start byte = 14, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Drive Control Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 100 - State Encoded (Start byte = 14, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Trailer Brake Controller |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 101 - State Encoded (Start byte = 14, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Tunable Exhausts |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 102 - State Encoded (Start byte = 14, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Engine Rev Match |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 103 - State Encoded (Start byte = 15, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Lap Timer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 104 - State Encoded (Start byte = 15, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Brake Performance |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 105 - State Encoded (Start byte = 15, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Acceleration Timer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 106 - State Encoded (Start byte = 15, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Driver Select Suspension |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 107 - State Encoded (Start byte = 15, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Custom Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 108 - State Encoded (Start byte = 15, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Front Park Aid Long Term Disable |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 109 - State Encoded (Start byte = 15, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rear Park Aid Long Term Disable |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 110 - State Encoded (Start byte = 15, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Park Aid Acessory Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 111 - State Encoded (Start byte = 16, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Vehicle Settings |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 112 - State Encoded (Start byte = 16, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Hill Start Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 113 - State Encoded (Start byte = 16, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | ESP Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 114 - State Encoded (Start byte = 16, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | ESP Hard Button Timer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | FoE |
| 0x01 | FNA |

Parameter 115 - State Encoded (Start byte = 16, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Message Center HMI |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 116 - State Encoded (Start byte = 16, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Electronic Stability Control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Available |
| 0x01 | Available |

Parameter 117 - State Encoded (Start byte = 16, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Rain Sensor |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Available |
| 0x01 | Available |

Parameter 118 - State Encoded (Start byte = 16, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | MyKey Settings |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Available |
| 0x01 | Available |

Parameter 119 - State Encoded (Start byte = 17, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Powerfold Mirrors |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 120 - State Encoded (Start byte = 17, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Lane Change Indicator |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 121 - State Encoded (Start byte = 17, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Deflation Detection System |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 122 - State Encoded (Start byte = 17, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Park Lock Control |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 123 - State Encoded (Start byte = 17, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Information Chimes |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 124 - State Encoded (Start byte = 17, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Warning Chimes |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 125 - State Encoded (Start byte = 17, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Active City Stop |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 126 - State Encoded (Start byte = 17, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Alarm on Exit |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 127 - State Encoded (Start byte = 18, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Moodlight Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 128 - State Encoded (Start byte = 18, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | TPMS |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On |

Parameter 129 - State Encoded (Start byte = 18, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | ECO Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 130 - State Encoded (Start byte = 18, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | PRB Kickswitch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 131 - State Encoded (Start byte = 18, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Power Tailgate |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Not Present |
| 0x01 | Present |

Parameter 132 - State Encoded (Start byte = 18, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | SLIF |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 133 - State Encoded (Start byte = 18, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Blindspot Trailer Tow (BTT) Full |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 134 - State Encoded (Start byte = 18, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | PRB Auto Timer |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | On (only valid if Running Board Control Function is Enabled) |

Parameter 135 - State Encoded (Start byte = 19, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | PRB Max Permissible Speed |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 0 KPH |
| 0x01 | 1 KPH |
| 0x02 | 2 KPH |
| 0x03 | 3 KPH |
| 0x04 | 4 KPH |
| 0x05 | 5 KPH |
| 0x06 | 6 KPH |
| 0x07 | 7 KPH |
| 0x08 | 8 KPH |
| 0x09 | 9 KPH |
| 0x0A | 10 KPH |
| 0x0B | 11 KPH |
| 0x0C | 12 KPH |
| 0x0D | 13 KPH |
| 0x0E | 14 KPH |
| 0x0F | 15 KPH |

Parameter 136 - State Encoded (Start byte = 19, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Park Aid Control Rear |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 137 - State Encoded (Start byte = 19, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Liftgate Softswitch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Off |
| 0x01 | Power Liftgate |
| 0x02 | Manual Liftgate/Decklid |
| 0x03 | Reserved |

Parameter 138 - State Encoded (Start byte = 19, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Frunk Softswitch |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 139 - State Encoded (Start byte = 20, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Speed Limit Assist Menu |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 140 - State Encoded (Start byte = 20, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Cruise Control Variant 2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 141 - State Encoded (Start byte = 20, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Lane Centering |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 142 - State Encoded (Start byte = 20, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Smart Offering |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 143 - State Encoded (Start byte = 20, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Tire Monitor/Pressure Reset Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 144 - State Encoded (Start byte = 20, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Considerate Prompts Border Crossing Reminder Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 145 - State Encoded (Start byte = 20, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach - Show In Go Mode Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 146 - State Encoded (Start byte = 20, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach - Eco Advices Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 147 - State Encoded (Start byte = 21, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Eco Coach - Coasting Support Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 148 - State Encoded (Start byte = 21, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Ambient Light Auto/Manual Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 149 - State Encoded (Start byte = 21, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Drive Control Version Description: (Only used if Drive Control Menu is enabled) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Version 1 (Cluster Middle Man) |
| 0x01 | Version 2 (SDM) |

Parameter 150 - State Encoded (Start byte = 21, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Brake Coach Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 151 - State Encoded (Start byte = 21, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Neutral Tow Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 152 - State Encoded (Start byte = 21, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Nav Repeater in Cluster Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 153 - State Encoded (Start byte = 21, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Maps in Cluster Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 154 - State Encoded (Start byte = 21, Start Bit = 0)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Drive History Reset Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 155 - State Encoded (Start byte = 22, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Low Battery Alert Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 156 - State Encoded (Start byte = 22, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Propulsion Sound Setting |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 157 - State Encoded (Start byte = 22, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Speedometer Unit Setting Description: (Units are based on Country Code) |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 158 - State Encoded (Start byte = 22, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | LCWA |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 159 - State Encoded (Start byte = 22, Start Bit = 3)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 4 | Liftgate Max Permissible Speed |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | 0 KPH |
| 0x01 | 1 KPH |
| 0x02 | 2 KPH |
| 0x03 | 3 KPH |
| 0x04 | 4 KPH |
| 0x05 | 5 KPH |
| 0x06 | 6 KPH |
| 0x07 | 7 KPH |
| 0x08 | 8 KPH |
| 0x09 | 9 KPH |
| 0x0A | 10 KPH |
| 0x0B | 11 KPH |
| 0x0C | 12 KPH |
| 0x0D | 13 KPH |
| 0x0E | 14 KPH |
| 0x0F | 15 KPH |

Parameter 160 - State Encoded (Start byte = 23, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Walk Away Lock |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 161 - State Encoded (Start byte = 23, Start Bit = 6)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Walk Away Lock Feedback |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 162 - State Encoded (Start byte = 23, Start Bit = 5)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Double Lock Reminder |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 163 - State Encoded (Start byte = 23, Start Bit = 4)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Steering Gear Ration |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 164 - State Encoded (Start byte = 23, Start Bit = 2)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 1 | Quiet Time Exhaust Mode |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled |

Parameter 165 - State Encoded (Start byte = 23, Start Bit = 1)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 2 | Clear Exit Assist |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | Disabled |
| 0x01 | Enabled - Egress Warning |
| 0x02 | Enabled - Egress Prevention |
| 0x03 | Enabled - Menu Setting Disabled |

#### DID 0xDE09 - Config Block DE09

|  |
| --- |
| Core DataIdentifier Information |

|  |  |
| --- | --- |
| DataIdentifier Value | 0xDE09 |
| DataIdentifier Name | Config Block DE09 |
| DataIdentifier Size (bytes) | 32 |
| DataIdentifier Type | packeted |

|  |
| --- |
| Read Information (Service ReadDataByIdentifier - 0x22 |

|  |  |
| --- | --- |
| Readable in Sessions | 0x01 0x03 0x60 |

|  |
| --- |
| Write Information (Service WriteDataByIdentifier - 0x2E |

|  |  |
| --- | --- |
| Writeable in Sessions | 0x03 0x60 |
| Security Levels Required to Write | 0x03 |

|  |
| --- |
| DataIdentifier Format Information |

Parameter 1 - State Encoded (Start byte = 1, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde1 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 2 - State Encoded (Start byte = 2, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde2 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 3 - State Encoded (Start byte = 3, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde3 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 4 - State Encoded (Start byte = 4, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde4 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 5 - State Encoded (Start byte = 5, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde5 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 6 - State Encoded (Start byte = 6, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde6 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 7 - State Encoded (Start byte = 7, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde7 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 8 - State Encoded (Start byte = 8, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde8 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 9 - State Encoded (Start byte = 9, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde9 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 10 - State Encoded (Start byte = 10, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde10 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 11 - State Encoded (Start byte = 11, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde11 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 12 - State Encoded (Start byte = 12, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde12 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 13 - State Encoded (Start byte = 13, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde13 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 14 - State Encoded (Start byte = 14, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde14 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 15 - State Encoded (Start byte = 15, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde15 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 16 - State Encoded (Start byte = 16, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde16 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 17 - State Encoded (Start byte = 17, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde17 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 18 - State Encoded (Start byte = 18, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde18 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 19 - State Encoded (Start byte = 19, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde19 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 20 - State Encoded (Start byte = 20, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde20 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 21 - State Encoded (Start byte = 21, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde21 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 22 - State Encoded (Start byte = 22, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde22 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 23 - State Encoded (Start byte = 23, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde23 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 24 - State Encoded (Start byte = 24, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde24 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 25 - State Encoded (Start byte = 25, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde25 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 26 - State Encoded (Start byte = 26, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde26 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 27 - State Encoded (Start byte = 27, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde27 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 28 - State Encoded (Start byte = 28, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde28 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 29 - State Encoded (Start byte = 29, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde29 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 30 - State Encoded (Start byte = 30, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde30 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 31 - State Encoded (Start byte = 31, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde31 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

Parameter 32 - State Encoded (Start byte = 32, Start Bit = 7)

|  |  |
| --- | --- |
| Size (bits) | Parameter Info |
| 8 | SelDrvMde32 |

|  |  |  |
| --- | --- | --- |
| Value | State Description | Dependencies |
| 0x00 | NA |

# Special Procedures

### Summary of Special Procedures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Required for Service | Required for End of Line | Audience | Dependencies |
| Session change does not immediately abort diagnostic operations running on CCPU |  |  |
| Service $85 (Control DTC Setting) NRCs |  |  |
| Service $2F (Input Output Control By Identifier) Subfunction $03 (Short Term Adjust) NRCs |  |  |
| Service $2F (Input Output Control By Identifier) Subfunction $00 (Return control to ECU) NRCs |  |  |
| Service $19 (Read DTC Information) NRCs |  |  |
| Service $14 (Clear Diagnostic Information) NRCs |  |  |
| Routine 0202 On-Demand Self-Test Maximum Duration |  |  |
| Service $11 (Reset) may require greater-than 500ms to complete. |  |  |
| Request to enter Programming-Session (Service $10) may discard non-volatile data. |  |  |
| P4 CAN Timing for Service $2E (Write Data By Identifier) |  |  |
| P4 CAN Max for Service $31 Subfunction $02 (Routine-Control Stop-Routine) for Session $03 (Extended Diagnostic Session) |  |  |
| P4 CAN Max for Service $31 Subfunction $01 (Routine-Control Start-Routine) |  |  |
| P4 CAN Max for Service $22 (Read Data By Identifier) |  |  |
| Enter End-Of-Line (EOL) Mode |  |  |
| Trigger process to select calibration 0x3008 |  |  |
| Digital Rear View Camera LIN Slave Device Configuration Routine 0x203A |  |  |
| Service requirements for EOL to capture data for entry into GiVIS |  |  |

### Special Procedure - Session change does not immediately abort diagnostic operations running on CCPU

|  |
| --- |
| Special Procedure Information |

|  |  |
| --- | --- |
| Name | Session change does not immediately abort diagnostic operations running on CCPU |
| Description | The following operations started using Service $31 or Service $22 do not abort immediately if they are running upon receipt of a Service $10 (Session Control) request, or upon timeout of the session. This occurs because the operation to terminate the diagnostic must be communicated to the remote processor (CCPU) asynchronously to CAN. As a consequence, it may not be possible to start a new routine immediately after changing sessions since the old routine does not immediately terminate. In this case, the Service $31 $01 (Routine Control; Start Routine) request or the Service $22 (Read Data By Identifier) request for a DID below will return NRC $22 (Conditions Not Correct). The VMCU requires up to five (5) seconds to terminate the old routine or DID read. Routines 0202 - On-Demand Self-Test 6009 - Speaker Walkaround Test 600A - Display Test 601B - Rear Tones Test 601C - Tones Test FA61 - Initiate Touch Panel Calibration FA62 - Initiate Touch Panel Activation FB00 - Clear All User Data DIDs 8060 - Embedded Consumer Application Part Number 1 8061 - Embedded Consumer Application Part Number 2 |

### Special Procedure - Service $85 (Control DTC Setting) NRCs

|  |
| --- |
| Special Procedure Information |

|  |  |
| --- | --- |
| Name | Service $85 (Control DTC Setting) NRCs |
| Description | If Service $85 is attempted during Session $02 (Programming Session), the Flash-Bootloader will return NRC $11 (Service Not Supported) instead of NRC $7F (Service Not Supported In Active Session). NRC $22 (Conditions-Not-Correct) for Subfunction $02 (Off) indicates a run-time software error and should never happen. |

### Special Procedure - Service $2F (Input Output Control By Identifier) Subfunction $03 (Short Term Adjust) NRCs

|  |
| --- |
| Special Procedure Information |

|  |  |
| --- | --- |
| Name | Service $2F (Input Output Control By Identifier) Subfunction $03 (Short Term Adjust) NRCs |
| Description | NRC $22 (Conditions-Not-Correct) for the following DIDs indicates a run-time software error and should never happen. 8047 (Bezel Diagnostics Status) FD51 (AM/FM Station) FD52 (Audio Source) FD53 (Backlight PWM Level) FD54 (Live Video Source) FDB8 (CCPU Low PWM Display Backlight) FDB9 (CCPU High PWM Display Backlight) FDBA (CCPU Low PWM Display Button Backlight) FDBB (CCPU High PWM Display Button Backlight) FDBC (CCPU Transition Time) FDBD (CCPU Weight Factor Display) FDBE (CCPU Weight Factor Backlight) FDBF (CCPU Move Up Table) FDC0 (CCPU Move Down Table) FDC5 (CCPU Weight Factor Display SDM4) FDC6 (CCPU Low PWM SDM4) FDC7 (CCPU High PWM SDM4) FDC8 (CCPU Weight Factor Display SDM6) FDC9 (CCPU Low PWM SDM6) FDCA (CCPU High PWM SDM6) FDCB (CCPU Weight Factor Display SDM8) FDCC (CCPU Low PWM SDM8) FDCD (CCPU High PWM SDM8) FDCE (CCPU Transition Time User) FDCF (CCPU Transition Time Ambient Up) FDD0 (CCPU Transition Time Ambient Down) FDD1 (CCPU Transition Time On/Off) FDD2 (CCPU Threshold To Night) FDD3 (CCPU Day To Night Time) FDD4 (CCPU Night To Day Time) FDD7 (CCPU Dimming Level Timer) FDD8 (CCPU Battery Save Timer) FE06 (InputHscanErr) FE07 (InputHscanActivity) FE40 (InputIcanErr) FE41 (IcanActivity) |

### Special Procedure - Service $2F (Input Output Control By Identifier) Subfunction $00 (Return control to ECU) NRCs

|  |
| --- |
| Special Procedure Information |

|  |  |
| --- | --- |
| Name | Service $2F (Input Output Control By Identifier) Subfunction $00 (Return control to ECU) NRCs |
| Description | NRC $22 (Conditions-Not-Correct) for the following DIDs indicates a run-time software error and should never happen. 8047 (Bezel Diagnostics Status) FD51 (AM/FM Station) FD52 (Audio Source) FD53 (Backlight PWM Level) FD54 (Live Video Source) FDB8 (CCPU Low PWM Display Backlight) FDB9 (CCPU High PWM Display Backlight) FDBA (CCPU Low PWM Display Button Backlight) FDBB (CCPU High PWM Display Button Backlight) FDBC (CCPU Transition Time) FDBD (CCPU Weight Factor Display) FDBE (CCPU Weight Factor Backlight) FDBF (CCPU Move Up Table) FDC0 (CCPU Move Down Table) FDC5 (CCPU Weight Factor Display SDM4) FDC6 (CCPU Low PWM SDM4) FDC7 (CCPU High PWM SDM4) FDC8 (CCPU Weight Factor Display SDM6) FDC9 (CCPU Low PWM SDM6) FDCA (CCPU High PWM SDM6) FDCB (CCPU Weight Factor Display SDM8) FDCC (CCPU Low PWM SDM8) FDCD (CCPU High PWM SDM8) FDCE (CCPU Transition Time User) FDCF (CCPU Transition Time Ambient Up) FDD0 (CCPU Transition Time Ambient Down) FDD1 (CCPU Transition Time On/Off) FDD2 (CCPU Threshold To Night) FDD3 (CCPU Day To Night Time) FDD4 (CCPU Night To Day Time) FDD7 (CCPU Dimming Level Timer) FDD8 (CCPU Battery Save Timer) |

### Special Procedure - Service $19 (Read DTC Information) NRCs

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| Special Procedure Information |

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| Name | Service $19 (Read DTC Information) NRCs |
| Description | In the event of a hardware or software implementation error, it is possible for Service $19 to return the following Negative-Response Codes: $10 - General Reject $14 - Response Too Long $22 - Conditions Not Correct These are necessary as the allowed NRCs for this service do not cover the conditions for H/W and S/W errors. If the total length of the response exceeds 512 bytes to sub-functions $02 or $0A, the module will return NRC $14 (Response Too Long). Since the space required to return all DTCs is less than 512 bytes, this NRC should never occur. This condition is allowed per Annex A of ISO-14229-1 (2005-11-02), but is flagged as an error by the MDX Validator. NRC $10 indicates compile-time software configuration error (buffer too small for Service $19, Sub-function $06) and should never happen. NRC $22 indicates run-time software error (Diagnostic-Event-Manager not initialized) and should never happen. If Service $19 is attempted during Session $02 (Programming Session), the Flash-Bootloader will return NRC $11 (Service Not Supported) instead of NRC $7F (Service Not Supported In Active Session). |

### Special Procedure - Service $14 (Clear Diagnostic Information) NRCs

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| Special Procedure Information |

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| Name | Service $14 (Clear Diagnostic Information) NRCs |
| Description | If Service $14 is attempted during Session $02 (Programming Session), the Flash-Bootloader will return NRC $11 (Service Not Supported) instead of NRC $7F (Service Not Supported In Active Session). NRC $22 (Conditions-Not-Correct) indicates a run-time software error and should never happen. |

### Special Procedure - Routine 0202 On-Demand Self-Test Maximum Duration

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| Special Procedure Information |

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| Name | Routine 0202 On-Demand Self-Test Maximum Duration |
| Description | For Routine 0202 (On-Demand Self-Test): Required for Service yes Required for End of Line yes Required at EOL and service to perform On-Demand Self-Test and report DTCs. The VMCU must be powered and active (awake) for at least 220 seconds before running the test in order to complete within the documented maximum duration. If the test is started immediately after power-on or reset, the test may require up to 4 minutes to complete. |

### Special Procedure - Service $11 (Reset) may require greater-than 500ms to complete.

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| Special Procedure Information |

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| Name | Service $11 (Reset) may require greater-than 500ms to complete. |
| Description | Ford requirements specify that a module complete Service $11 (Reset) requests within 500ms. See Section 2.1.1.2 "Prepared for request messages" in "Generic Global Diagnostic Specification" version 003. When Service $11 (Reset) is requested, the VMCU will flush data buffers to non-volatile memory in order to preserve information such as diagnostic events. Normally, only one or two buffers need to be written, and these will complete in under 500ms. However, under some circumstances multiple buffers must be written and may take up to 2500ms. |

### Special Procedure - Request to enter Programming-Session (Service $10) may discard non-volatile data.

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| Special Procedure Information |

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| Name | Request to enter Programming-Session (Service $10) may discard non-volatile data. |
| Description | A Service $10 (Session-Control) request to enter Programming-Session (Session $02) requires the VMCU to reset in order to start the Flash Bootloader. Ford requirements specify that a module resume servicing requests within 500ms of a reset. See Section 2.1.1.2 "Prepared for request messages" in "Generic Global Diagnostic Specification" version 003. In order to insure the 500ms timing is met, the VMCU will finish writing only the "active" non-volatile block before resetting. If multiple blocks are pending write-completion at the time the request to enter Programming-Session is received, then the additional data will be lost. The lost data may be associated with any of the following: DID 8033 (Embedded Consumer Operating System Part Number) DID D700 (Critical Software Parameter Monitoring 1) DID D701 (Critical Software Parameter Monitoring 2) OID 160:008 (PSN) set via Routine $FA52 - Set Provisioning Data DID FD01 (Bluetooth MAC Address) set via Routine $FA52 - Set Provisioning Data DID FD02 (Windows Automotive Version) DID FD03 (Bluetooth Module Firmware) DID D705 (ECU Checksum 2) set via Routine $FA52 - Set Provisioning Data DID 804B (ECU CCPU Fault) DID FE53 (Shutdown Information) Signal-Gateway Calibration Block Diagnostic-Gateway PID Calibration Block Diagnostic-Gateway TAS Calibration Block Diagnostic Event Manager (DTCs) data block |

### Special Procedure - P4 CAN Timing for Service $2E (Write Data By Identifier)

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| Special Procedure Information |

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| Name | P4 CAN Timing for Service $2E (Write Data By Identifier) |
| Description | Service $2E WriteDataByIdentifier The following identifiers may take up to the full P4 CAN Max timing when written with service $2E (5000 ms): $DE00 Config Block DE00 $DE01 Config Block DE01 $DE02 Config Block DE02 $DE03 Config Block DE03 $DE04 Config Block DE04 $DE05 Config Block DE05 $DE06 Config Block DE06 $DE07 Config Block DE07 $DE08 Config Block DE08 $DE08 Config Block DE09 P4 CAN Max for service $2E is 5000 ms according to Generic Global Diagnostic Specification (GGDS) version 003, Section 3.4 "Diagnostic services response times", Table 3.3 "Requirements on maximum value of P4CAN." Any tool which writes one or more of these DIDs using service $2E should be prepared to wait up to 5000 ms for a final response. |

### Special Procedure - P4 CAN Max for Service $31 Subfunction $02 (Routine-Control Stop-Routine) for Session $03 (Extended Diagnostic Session)

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| Special Procedure Information |

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| Name | P4 CAN Max for Service $31 Subfunction $02 (Routine-Control Stop-Routine) for Session $03 (Extended Diagnostic Session) |
| Description | Service $31 routineControl: The following Type 2 and Type 3 routines may violate P4 CAN Max timing when a request with the Stop Routine subfunction is issued: $0202 On-Demand Self Test $6009 Speaker Walkaround Test $600A Display Self Test $601B Rear Tones Test $601C Tones Test $FA61 Touch Panel Calibration $FA62 Touch Panel Activation |

### Special Procedure - P4 CAN Max for Service $31 Subfunction $01 (Routine-Control Start-Routine)

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| Special Procedure Information |

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| Name | P4 CAN Max for Service $31 Subfunction $01 (Routine-Control Start-Routine) |
| Description | Service $31 routineControl: The following Type 1 routines may violate P4 CAN Max timing when a request with the Start Routine subfunction is issued: $0202 On-Demand Self-Test $FB00 Clear All User Data These operations require interaction with CCPU Multi-Media processor via IPC communications and the response time is not controlled. Note that this deviates from requirements defined in Generic Global Diagnostic Specification (GGDS) version 003, Section 3.4 "Diagnostic services response times", Table 3.3 "Requirements on maximum value of P4CAN". The VMCU will periodically send Negative-Response Code 0x78 (Request Correctly Received, Response Pending) until execution is completed. |

### Special Procedure - P4 CAN Max for Service $22 (Read Data By Identifier)

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| Special Procedure Information |

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| Name | P4 CAN Max for Service $22 (Read Data By Identifier) |
| Description | Service $22 ReadDataByIdentifier The following identifiers may violate P4 CAN Max timing when reporting their values: $8060 Embedded Consumer Applications Part Numbers 1 The VMCU will periodically send Negative-Response Code 0x78 (Request Correctly Received, Response Pending) until the value of these DIDs can be returned. Note that this deviates from requirements defined in Generic Global Diagnostic Specification (GGDS) version 003, Section 3.4 "Diagnostic services response times", Table 3.3 "Requirements on maximum value of P4CAN", Note 2 (NRC 0x78 is not allowed for Service $22). |

### Special Procedure - Enter End-Of-Line (EOL) Mode

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| Special Procedure Information |

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| Name | Enter End-Of-Line (EOL) Mode |
| Description | Many Service $31 (Routine-Control) operations require the CCPU to run a special End-Of-Line image. The following procedure describes how to start the EOL program. |

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| Procedure Steps |

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| Step #1 |

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| Step Name | Step 1 |
| Description | Start Session $60 (Run Service $10, session $60). |

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| Step #2 |

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| Step Name | Step 2 |
| Description | Request EOL Mode (Service $31, Routine $FB01). |

### Special Procedure - Trigger process to select calibration 0x3008

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| Special Procedure Information |

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| Name | Trigger process to select calibration 0x3008 |
| Description | Name Trigger process to select calibration 0x3008 Required for Service yes Required for End of Line yes Description After configured to enable ESE or ESE/ANC, Service 0x3008 must be executed at EOL in order to select calibration and enable the feature . |

### Special Procedure - Digital Rear View Camera LIN Slave Device Configuration Routine 0x203A

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| Special Procedure Information |

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| Name | Digital Rear View Camera LIN Slave Device Configuration Routine 0x203A |
| Description | Name LIN Slave Device Configuration Routine 0x203A Required for Service yes Required for End of Line yes Description Service 0x203A must be executed at EOL in order to configure the Digital Rear View Camera ans retrieve Digital Rear View Camera part numbers |

### Special Procedure - Service requirements for EOL to capture data for entry into GiVIS

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| Special Procedure Information |

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| Name | Service requirements for EOL to capture data for entry into GiVIS |
| Description | The agreed list of DIDs to be collected at EOL for modules that are GGDS protocol is laid out below: XXX = Node address YYY = Module Acronym DID Format Node 7xx F108 RP\_XXX\_YYY\_PART#\_F108 All Nodes F10A RP\_XXX\_YYY\_PART#\_F10A All Nodes F110 RP\_XXX\_YYY\_PART#\_F110 All Nodes 41AE RP\_XXX\_YYY\_DID#\_41AE 754 F111 RP\_XXX\_YYY\_PART#\_F111 All Nodes F113 RP\_XXX\_YYY\_PART#\_F113 All Nodes F120 RP\_XXX\_YYY\_PART#\_F120 All Nodes F121 RP\_XXX\_YYY\_PART#\_F121 All Nodes F122 RP\_XXX\_YYY\_PART#\_F122 All Nodes F124 RP\_XXX\_YYY\_PART#\_F124 All Nodes F125 RP\_XXX\_YYY\_PART#\_F125 All Nodes F162 RP\_XXX\_YYY\_PART#\_F162 All Nodes F163 RP\_XXX\_YYY\_PART#\_F163 All Nodes F188 RP\_XXX\_YYY\_PART#\_F188 All Nodes F18C RP\_XXX\_YYY\_PART#\_F18C All Nodes F191 RP\_XXX\_YYY\_PART#\_F191 All Nodes F16B RP\_XXX\_YYY\_PART#\_F16B All Nodes F16C RP\_XXX\_YYY\_PART#\_F16C All Nodes F16D RP\_XXX\_YYY\_PART#\_F16D All Nodes F16E RP\_XXX\_YYY\_PART#\_F16E All Nodes F17D RP\_XXX\_YYY\_PART#\_F17D All Nodes In addition to the above DIDs, CISM requires further data to be collected. These additions are listed below: 8033 RP\_XXX\_YYY\_PART#\_8033 F190 RP\_XXX\_YYY\_DID#\_F190 F1D0 RP\_XXX\_YYY\_DID#\_F1D0 F1D1 RP\_XXX\_YYY\_DID#\_F1D1 8060 RP\_XXX\_YYY\_PART#\_8060-n DExx CFG\_7D0\_WB\_DExx… Note: The "-n" reflects sequential number starting from 1 and incrementing by 1 for each application part number reported within the DID. For example, assume 8060 DID has 3 application parts listed, then EOL must record the application parts in vehicle result files using the following label convention. RP\_7D0\_CISM\_PART#\_8060-1= RP\_7D0\_ CISM \_PART#\_8060-2= RP\_7D0\_ CISM \_PART#\_8060-3= |

# Notes

No Notes are documented as supported by this ECU.

# Deviations

No Documented Deviations are documented as supported by this ECU.

No Automated Detected Deviations are documented as supported by this ECU.

# Dependencies

## Documented Dependencies

A dependency is a set of criteria that evaluates to true or false. A dependency may be specified with just a text description where true/false status must be determined manually (e.g., 'Vehicle Program = P473') or it may refer to certain data item values (e.g. a dependency is true when DID 0x1234 returns a value of 0x01). Dependencies are intended to be referenced by particular diagnostic data items (e.g., DID, DTC, etc.) and/or parameters (e.g., parameter 3 within a bitmapped DID) in order to correctly document when that diagnostic data item or parameter actually exists in the ECU. When a diagnostic data item or parameter references a dependency, the parameter is supported when the dependency evaluates to true. If a diagnostic data item or parameter references more than one dependency, it is supported when any of the referenced dependencies evaluate to true.