The test cases here are described using Gherkin syntax, a non-technical, human readable language

The tests are ordered by opcode

# 0x71: Test\_NVRD

|  |  |
| --- | --- |
| **NVRD** | **Node Variable Read** |
| Given: | The node number of the unit under test, a valid node variable index number, and a valid service index number |
| When: | The cbus message NVRD is sent |
| Then: | **If the node variable index is 0:**  Expect a number of NVANS messages from the unit under test, the number corresponding to the number of node variables reported in the Node Parameters  **If the node variable index is non-zero:**  Expect a single NVANS message for the specified node variable index |
| Additional: | The node variables values received are stored against the corresponding service index |

# 0x71: Test\_NVRD\_INVALID\_INDEX

|  |  |
| --- | --- |
| **NVRD** | **Node Variable Read – Invalid node variable index** |
| Given: | The node number of the unit under test, a non-valid node variable index number, and a valid service index number |
| When: | The cbus message NVRD is sent |
| Then: | Expect both  a CMDERR message with a errorNumber of ‘Invalid Node Variable Index’ (10)  and a GRSP message with a result of ‘Invalid Node Variable Index’ (10) |
| Additional: |  |

# 0x71: Test\_NVRD\_SHORT

|  |  |
| --- | --- |
| **NVRD** | **Node Variable Read – message short** |
| Given: | The node number of the unit under test, a valid service index number and a node variable index number  (although the mode variable index number isn’t actually used) |
| When: | A NVRD cbus message is sent that is missing the node variable index |
| Then: | Expect a GRSP message with a result of ‘Invalid Command’ (?) |
| Additional: |  |

# 0x73: Test\_RQNPN

|  |  |
| --- | --- |
| **RQNPN** | **Read Node Parameter By Index** |
| Given: | The node number of the unit under test, and a valid parameter number |
| When: | The cbus message RQNPN is sent |
| Then: | Expect a PARAN message from the unit under test  And if the parameter has previously been seen (e.g. from PNN), it hasn’t changed  And if the module descriptor file has an expected value for the parameter, then it matches |
| Additional: |  |

# 0x73: Test\_RQNPN\_INVALID\_INDEX

|  |  |
| --- | --- |
| **RQNPN** | **Read Node Parameter By Index – invalid index** |
| Given: | The node number of the unit under test, and a non-valid parameter number |
| When: | The cbus message RQNPN is sent |
| Then: | Expect both  a CMDERR message with a errorNumber of ‘Invalid Parameter Index’ (9)  and a GRSP message with a result of ‘Invalid Parameter Index’ (9) |
| Additional: |  |

# 0x73: Test\_RQNPN\_SHORT

|  |  |
| --- | --- |
| **RQNPN** | **Read Node Parameter By Index – message short** |
| Given: | The node number of the unit under test, and a parameter index |
| When: | A NVRD cbus message is sent that is missing the parameter index |
| Then: | Expect a GRSP message with a result of ‘Invalid Command’ (?) |
| Additional: |  |

# 0x75: Test\_CANID

|  |  |
| --- | --- |
| **CANID** | **Set CANID** |
| Given: | The node number of the unit under test, and a valid CANID number |
| When: | The cbus message CANID is sent |
| Then: | Expect a GRSP OK message and a WRACK message from the unit under test |
| Additional: |  |

# 0x75: Test\_CANID\_INVALID\_VALUE

|  |  |
| --- | --- |
| **CANID** | **Set CANID – invalid CANID value** |
| Given: | The node number of the unit under test, and an invalid CANID number |
| When: | The cbus message CANID is sent |
| Then: | Expect a CMDERR Invalid Event message and a GRSP Invalid Parameter message from the unit under test |
| Additional: |  |

# 0x75: Test\_CANID\_SHORT

|  |  |
| --- | --- |
| **CANID** | **Set CANID – short message** |
| Given: | The node number of the unit under test, and a valid CANID number |
| When: | The cbus message CANID is sent, missing the last data byte |
| Then: | Expect a GRSP Invalid Command message from the unit under test |
| Additional: |  |

# 0x76: Test\_MODE

|  |  |
| --- | --- |
| **MODE** | **Set Operating Mode** |
| Given: | The node number of the unit under test, and a valid MODE number |
| When: | The cbus message MODE is sent |
| Then: | Expect a GRSP OK message from the unit under test |
| Additional: |  |

# 0x78: Test\_RQSD

|  |  |
| --- | --- |
| **RQSD** | **Request Service Discovery** |
| Given: | The node number of the unit under test, and a valid Service Index number |
| When: | The cbus message RQSD is sent |
| Then: | **If the service index is 0:**  Expect multiple SD messages from the unit under test  And expect the number of messages to be consistent with the service count returned  **If the service index is non-zero:**  Expect a single ESD message from the unit under test |
| Additional: |  |

# 0x78: Test\_RQSD\_INVALID\_SERVICE

|  |  |
| --- | --- |
| **RQSD** | **Request Service Discovery – invalid service index** |
| Given: | The node number of the unit under test, and a non-valid Service Index number |
| When: | The cbus message RQSD with the invalid service index is sent |
| Then: | Expect a GRSP message with a result of ‘Invalid Service’ (252) |
| Additional: |  |

# 0x78: Test\_RQSD\_SHORT

|  |  |
| --- | --- |
| **RQSD** | **Request Service Discovery – message short** |
| Given: | The node number of the unit under test, and a valid Service Index number |
| When: | The cbus message RQSD with the service index missing is sent |
| Then: | Expect a GRSP message with a result of ‘Invalid Command’ (?) |
| Additional: |  |