

OpenLCB Checking Implementor Questionnaire

November 10, 2024

1 Introduction

Some information about construction of the node being checked can't readily be obtained from active checks on the LCC bus. Some information is needed to make those active checks effective. This questionnaire is meant to deal with both of those by getting specific implementation details from the device implementer. It should be filled out with details from the specific device being checked. It's divided into sections corresponding to the specific check plans.

Please feel free to add extra pages as needed.

2 Unique IDs

1. What is the Unique ID(s) of the node being checked?
2. Was the Unique ID(s) assigned from a range under the control of the implementor? Which?
3. Does the implementor assign different Unique IDs to individual nodes?

3 CAN Physical Layer

1. Does the device use standard CAN transceiver(s) from recognized vendors?
2. Does the device use standard CAN controller(s) from recognized vendors?
3. If the device has more than two LCC jacks, how are they to be used?
4. Is the device properly labeled with power sourcing and/or sinking current labels? Are the current values listed on the label(s) correct?
5. Does the device obey the timing constraints listed in the Standard?

6. Does the device use or provide a DCC signal on the optional conductors?

4 CAN Frame Transfer Layer

1. Does the node transmit extended-format remote frames (frames with RTR set)?
2. How does the device signal the detection of a duplicate node ID? (See section 6.2.6 of the Standard)
3. Does the device report changes in the CAN link status? (See section 6.2.7 of the Standard)
4. Does the device use the recommended algorithm for generating alias values?
 - (a) If not, please describe how the node meets the requirements of the CAN Frame Level Standard section 6.3.

5 Message Transport Layer

1. Standard section 3.5.4 requires that "OpenLCB nodes shall indicate an error when they detect an incoming message with a Source Node ID equal to their own". How does this device do that?
2. Does the device meet the timing requirements in section 3.7 Delays and Timeouts?

6 Simple Node Information Protocol

6.1 Simple Node Information Protocol Producers

6.2 Simple Node Information Protocol Consumers

1. Does the device properly decode future versions of the SNIP information? (See Section 5.2 of the Standard.)

7 Event Transport Protocol

1. If there are default values configured for Event IDs in the device, from what range are those allocated? Is that a range that has been allocated to the manufacturer?
2. If there are default values configured for Event IDs in the device, are those different for every device produced? How is uniqueness guaranteed?
3. Does this device produce Events With Payload? If so, when?

4. Does this item consume Events With Payload? If so, when?

8 Datagram Transport Protocol

- 1.

9 Memory Configuration Protocol

1. Does the device implement sections 4.17 and 4.18 of the Standard? If not, what does the device do when it receives a Lock/Reserve Command datagram?

10 Configuration Definition Information (CDI)

10.1 CDI Producers

10.2 CDI Consumers

1. Does the device decode and display all the element types in section 5.1 of the Standard?
2. Does the device properly handle additional, unknown elements? (See Section 6 of the Standard)

11 Firmware Upgrade

1. If the device implements that Firmware Upgrade protocol, please provide a valid upgrade file.

12 Broadcast Time

- 1.

13 Train Control Protocol

1. The Standard section 7.1 says that “A Train Node representing a DCC locomotive ... may, but is not required to provide the last written data upon a read command.”. Does this device provide the data in that case?

14 Train Search Protocol

1. Does this device participate in the Train Search Protocol, either by making search requests or by replying to them?

15 Function Definition Information (FDI)

1. Does the FDI information from this device use the deprecated "space" and "origin" attributes?