

UTMC PRODUCT ADVISORY

BCRT Family Compliance to MIL-HDBK-1335 Section 5.2.2.1.3

UTMC identified the following anomaly in the production revision (UP04L and UP17L) of the UT1553 BCRT/BCRTM:

Background:

The test of Section 5.2.2.1.3 performs two functions; first, characterize the length of a remote terminal's self-test (i.e., self-test time). Second, determine the remote terminals response to messages sent during self-test and observe any effects that messages have on self-test. During the self-time time, the BCRT should not respond to messages. After the self-test time elapses the BCRT should respond to valid messages with clear status.

Anomaly:

Laboratory testing of the BCRTM, Revision L, has confirmed that the BCRT does not meet the remote terminal requirements of MIL-HDBK-1553 Section 5.2.2.1.3. Specifically, the BCRTM asserts the Terminal Flag bit after reception of a superseding command following a Broadcast Initiate Self-Test mode code command. When the superseding command follows the Broadcast Initiate Self-Test command by 4.64 μ S to 6.04 μ S the BCRT asserts it's Terminal Flag (Status Word Terminal Flag Bit). Section 5.2.2.1.3 of MIL-HDBK-1553 requires the remote terminal to have clear status until a minimum of 4 μ S. The anomaly was detected only on Channel B; Channel A met the requirements of MIL-HDBK-1553 Section 5.2.2.1.3. The BCRT complies with the standard when receiving superseding commands following a Non-Broadcast Initiate Self-Test mode code command. Figure 1 is a graphical description of the anomaly and requirements of MIL-HDBK-1553 Section 5.2.2.1.3

Figure 1. Initiate Self-Test

Non-Broadcast Initiate Self-Test
Section 5.2.2.1.3



Broadcast Initiate Self-Test
Section 5.2.2.1.3



Work-Around:

The BCRT should be allowed to complete self-test before the bus controller issues another command or use Non-Broadcast Initiate Self-Test mode code commands.