Acceptance Test Requirements Matrix for LVT(3)

March 27, 2015

Contents:

SSS Section Reference	Title	Verification Method	Notes
3.2.1.1.1.3.2.2	Normal mode	T	Limited to Mode 1 only.
3.2.1.1.1.3.6.1	Mode 1	T	
3.2.1.1.1.3.7.1	Normal output power mode	T	
3.2.1.1.1.4.7	Loading of cryptovariables	T	Limited to DS-101 interface only
3.2.1.1.1.5.4.3	Initial network entry	T	
3.2.1.1.1.5.5.1	General	T	Passive synchronization needs not be tested.
3.2.1.1.1.5.5.5.2	Type 2 (0) RTT-A interrogation	T	
3.2.1.1.1.5.5.6	Time -of-arrival measurement, RTT interrogation	T	
3.2.1.1.1.15.3.1	Terminal-generated messages	T	Limited to Initial entry and test messages only.
3.2.1.1.1.19.1	General	T	Limited to a subset of the adaptable parameters only.
3.2.1.1.1.19.2.f		T	Limited to verification of terminal entering into a "Load Complete, Valid Data" state.
3.2.1.1.1.19.5	Start-up	T	Limited to verification of terminal entering into a "Load Complete, Valid Data" state.
3.2.1.1.1.19.5.a		T	
3.2.1.1.1.19.7	Prime power interruption	T	Limited to verification of the 10 second sustainment for both synchronization and cryptographic data only.
3.2.1.1.1.20.2	Network information exchange	T	Limited to verification of initialization and status messages via the host bus.
3.2.1.1.1.21.1.b.1		T	Measurement by averaging the peak power of the pulses in a time slot is acceptable. Acceptance is +3 / - 1 dB from nominal.
3.2.1.1.1.21.1.c		T	Each antenna is tested and verified independently against the peak power requirement.
3.2.1.1.1.21.1.d		T	Performed using 50% TSDF P2_DP.
3.2.1.1.1.21.1.1	RF pulse spectrum	T	
3.2.1.1.1.21.1.1.a		T	
3.2.1.1.1.22	TDMA transmission compatibility capability	T	Limited to Exercise and Combat modes only. 100/50 and 100/20 modes not required.
3.2.1.1.1.22.1.2	1030/1090 MHz emissions	T	
3.2.1.1.1.22.1.2.a		T	
3.2.1.1.1.24.2	Error rates	T	Limited to benign RF environment only.
3.2.1.2.1.1	Data retention capability	T	Verification to be performed consistent with ATP testing. Data retention of 30 days or 48 hours not required.

T: Test
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SSS Section Reference	Title	Verification Method	Notes
3.2.1.2.1.3	Cryptovariable erase capability	T	
3.2.3.1	Data bus interface description	T	Limited to only subset of messages.
3.2.3.1.c		T	
3.2.3.1.2	Avionics data bus interface	T	
3.2.3.2	Suppression signal interface description	T	
3.2.3.2.1.b		T	Limited to signal operation only. Timing parameter measurements not required.
3.2.3.2.1.c		T	Limited to signal operation only. Timing parameter measurements not required.
3.2.3.2.2.a		T	
3.2.3.3.c		T	
3.2.3.3.d		T	
3.2.3.6	TACAN interface description	T	
3.2.3.6.c		T	
3.2.3.7.2	Timing signal interface description -mode 2	T	Limited to only input timing signal.
3.2.3.7.2.1	Time synchronization and input interface	T	
3.2.3.13.1	SDU zeroize interface	T	Erasure of cryptovariables via a zeroize command from the MUX bus not required.
3.2.3.13.2	Terminal power on interface	T	
3.2.3.13.3	Terminal standby interface	T	Limited to only capability of holding keys and initialization data.
3.2.3.14.8	IFF emergency switch interface	P	Limited to SRU testing of RTI Discrete at lower level.
3.2.4.3	Weight	T	
3.2.4.5	Mounting provisions	T	
3.2.5.2.6	Built-in tests	T	Verification of "no more than one out of every 100 failures detections shall be false alarm" not required.
3.2.5.2.6.1	Start-up BIT	T	Verification of completion of start-up BIT in fifteen seconds not required.
3.2.5.2.6.2	Operational BIT	T	Verification of the 12 second reporting requirement or the detection requirement not required
3.2.5.2.6.3	Manually initiated BIT	T	
Note 1 supersedes 3.3.1.3	Environmental Stress Screening (ESS)	T	ESS shall be performed in accordance with Note 1: LVT(3) ESS included in this document
3.3.3. a		I	
3.3.3 b		I	
3.3.3 c		I	
3.3.4	Workmanship	I	

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Note 1: LVT(3) ESS

I. 10 Minutes of Random Vibration

A. 6 gRMS

B. 17.8 Hz – 1,000 Hz Spectrum

1. 3 dB/octave increase from 17.8 Hz to 80 Hz

2. .045 g^2Hz from 80 Hz to 500 Hz

3. 3 dB/octave rolloff from 500 Hz to 1,000 Hz

C. Vibration shall, while the LRU is operational, be applied to at least 3 Axes

II. 15 Temperature cycles

A. Chamber Temperature Range (-40 degrees C to + 54 degrees C)

B. Each LRU ESS test cycle shall begin at the ambient temperature of the test facility. The temperature of the test chamber shall then be reduced to -40 degrees C. This temperature shall be maintained until temperature stabilization has occurred. The temperature of the test chamber shall then be increased at 10 degrees C per minute to +54 degrees C. To complete the test cycle, the test chamber temperature shall then be returned to the ambient temperature of the test facility.

C. 15 complete test cycles shall be performed for each LRU. The LRU shall be monitored throughout each test cycle to detect intermittent and enduring failures. The last three test cycles shall be failure free and continuous. If this requirement is not met after 30 cycles, the LRU shall be disposed of in a Government approved manner.

D. Cooling Air follows chamber except for +4 degrees C Max for Hot portion of cycle

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E. If the LRU under test is a main Terminal LRU, it shall operate as specified herein during the LRU ESS. At the beginning of each test cycle, the LRU shall be turned to stand-by state. It shall be switched to the Terminal operational state when temperature stabilization at -40 degrees C is achieved. It shall remain in the state until temperature stabilization at +54 degrees C is achieved. While stabilized at +54 degrees C, the LRU shall be switched to the stand-by state for two minutes, returned to the operational state for at least two more minutes, and then switched back to the stand-by state for the remainder of the test cycle.