



The product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Therefore, TE Connectivity (TE) makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, TE may change these requirements based on the results of additional testing and evaluation. Contact TE Engineering for further details.

Title Qualification Plan for L001256-01

1. SCOPE

1.1. Content

This specification covers the performance, test and quality requirements for L001256-01.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Successful qualification testing on the subject product line has not been completed. The Qualification Test Report number will be issued upon successful qualification testing.

2. APPLICABLE DOCUMENTS AND FORMS

The following documents and forms constitute a part of this specification to the extent specified herein. Unless otherwise indicated, the latest edition of the document applies.

2.1. TE Documents

- Production Drawing of L001256-01
- 501-162040: Qualification Test Report

2.2. Industry Documents

- IEC 68-2-14
- MIL-STD-810G
- IEC 60068-2-64
- IEC 60068-2-27
- IEC 60529

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction, materials and physical dimensions specified on the applicable product drawing.

3.2. Test Requirements and Procedures Summary

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

Para.	TEST DESCRIPTION	REQUIREMENT	PROCEDURE
3.2.1.	Initial examination of product	Meets requirements of product drawing.	Visual, dimensional and electrical function per applicable inspection plan.
3.2.2	Final examination of product	Meets visual requirements.	Visual, dimensional and functional per applicable inspection.
ELECTRICAL			
3.2.3.	VSWR Data Collection	It should be in range of product drawing specification.	Measured VSWR with dedicated network analyzer.
MECHANICAL			
3.2.4.	Examination of product	Meets requirements of product drawings admit of appearances and their section to be not occurred the antennas performance damages as a special case.	No physical damage to cause antenna performance degradation.
ENVIRONMENTAL			
3.2.5.	Temperature cycling	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	IEC 68-2-14 40°C to 85°C, 2 hour soak, 2°/min ramp, 15 Cycles, ramp up from ambient at beginning of cycle.
3.2.6.	Humidity	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	MIL-STD-810G, 507.5 95%±4% relative humidity, 5 cycles. ***1 Cycle: Ramp up from ambient temperature (23°C) to 60°C in 2 hours period. Remain at 60°C for 6 hours. Ramp down to 30°C in 8 hours. Remain at 30°C for 8 hours. 24 hours total per cycle.
3.2.7.	Random Vibration	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	IEC 60068-2-64 Stationary Installation, Category 3 (externally induced) 10-500Hz, Breaks 10, 30, 200, 500Hz Acceleration Grms 7.0m/s ² , 1hr per axis, 3 axis total
3.2.8.	Mechanical Shock	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	IEC 60068-2-27 Structural Integrity of Mountings 100 shocks each direction (+/-) per axis. Accel: 30m/s ² (3G), Half sine, 11ms per shock, 600 total.

3.2.9.	Thermal Shock	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	IEC 68-2-14 -25°C to +70°C, 1 hour soak, 5°/min minimum ramp, 5 Cycles, ramp up from ambient at beginning of cycle.
3.2.10.	Water Ingress IPX7	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	per IEC 60529 Pre-Condition: Thermal cycle using operational temperature range limits, 1 hour soak, 2°C/min ramp, 5 cycles. Test per IEC 60529, IPx7, submerge 1 meter deep, 30 minute duration.
3.2.11.	Dust Ingress IP6X	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	per IEC 60529 Talc Powder, Vacuum ***Provisions needed on antenna for vacuum inlet****
3.2.12.	Pull Test	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	Apply axial force (pull) of 20lbs on connector/cable for a duration of 30 seconds.
3.2.13.	Corrosive atmosphere (Salt Fog/Mist)	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	MIL-STD-810G, Method 509.5 (Alternating 24 wet/24 dry for 2 cycles (total 96 hours))
3.2.14.	Wind Operational	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	100 MPH, Physical loading of 0° orientation and 90° orientation
3.2.15.	Wind Survival	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	136 MPH Physical loading of 0° orientation and 90° orientation
3.2.16.	Unpackaged Drop	No physical damage allowed. (Meet 3.2.2) Meet VSWR (item 3.2.3)	Drop freely from a height of 1 meter to tile floor. Omni: 1 drop on top end, 4 drops on side, 5 drops total.


NOTE

Must meet visual inspection requirements, show no physical damage, and meet any of additional test requirements per specified in the Product Qualification and Requalification Test Sequence order shown in Figure 2.

3.3. Product Qualification and Requalification Test Sequence order

TEST OR EXAMINATION	TEST (a)						
	1	2	3	4	5	6	7
	SEQUENCE ORDER OF TEST PROCESS (b)						
Initial Examination of Product	1	1	1	1	1	1	1
VSWR Data Collection	2,4	2,4	2,4	2,4	2,4	2,4	2,4
Temperature cycling	3						
Water Ingress		3					
Dust Ingress			3				
Humidity				3			
Corrosive atmosphere					3		
Random Vibration						3	
Mechanical Shock							3
Final Examination of Product	5	5	5	5	5	5	5
Test Sample Qty	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs

TEST OR EXAMINATION	TEST (a)						
	8	9	10	11	12		
	SEQUENCE ORDER OF TEST PROCESS (b)						
Initial Examination of Product	1	1	1	1	1		
VSWR Data Collection	2,4	2,4	2,4	2,4	2,4		
Wind Operational	3						
Wind Survival		3					
Unpackaged Drop			3				
Thermal Shock				3			
Pull Test					3		
Final Examination of Product	5	5	5	5	5		
Test Sample Qty	2 pcs	2 pcs	2 pcs	2 pcs	2 pcs		

NOTE



(b) Number in table indicates the sequence order of the test process.

4. HISTORY

LTR	REVISION RECORD	PREPARED BY	APPROVED BY	DATE
A	Initial release	Tan, Lay Chin	Teoh, Yih Jia	07Jul 2025