



SMA Plug to Plug R/A Adapter-2477465-1

1 SCOPE

1.1 Content

This specification covers performance, tests and quality requirements for TE Connectivity (TE) SMA plug to plug R/A adapter 2477465-1.

1.2 Qualification

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

2 APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 TE Connectivity (TE) Documents

- 109-1: General Requirement for Test Specification.
- 109-197: Test Specification (TE Test Specification vs EIA and IEC Test Methods)
- 109 Series: Test Specifications as indicated in Table 2

2.2 Industry Document

- MIL-PRF-39012: Performance Specification for Radio Frequency Coaxial Connectors
- MIL-STD-202H: Test Method Standard Electronic and Electrical Component Parts

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 Materials

Materials used in the construction of this product shall be as specified on the applicable product drawing.

3.3 Ratings

- Temperature Range: -65°C to +165 °C
- Nominal Impedance: 50 ohms

PRELIMINARY

3.4 Qualification Test

3.4.1 General Test

No.	Test Item	Test Requirement	Test Condition & Instrument
1	Product Examination	According to the drawing	Visual, dimensional and functional per applicable quality inspection plan

3.4.2 Electrical Test

No.	Test Item	Test Requirement	Test Condition & Instrument
1	Nominal Impedance	50 ohm	MIL-PRF-39012, paragraph 3.1 Milliohm meter
2	Voltage Standing Wave Ratio (VSWR)	1.3 Max. DC – 18GHz	IEC 61169-1, paragraph 9.2.1 Network Analyzer
3	Return Loss	17.69 dB Min. DC–18GHz	IEC 61169-1, paragraph 9.2.1 Network Analyzer
4	Contact Resistance	Center Conductor : 3 mΩ Max.	IEC 61169-1, paragraph 9.2.3 Milliohm meter
		Outer Conductor : 2 mΩ Max.	IEC 61169-1, paragraph 9.2.3 Milliohm meter

3.4.3 Mechanical Test

No.	Performance item	Test Specification	Test Condition & Instrument
1	Durability	500 cycles Min.	IEC 61169-1, paragraph 9.3.15 No evidence of damage
2	Engagement and Disengagement Force	Engagement: 2 in-lbs Max.	MIL-PRF-39012, paragraph 3.5.1
		Disengagement: 2 in-lbs Max..	

3.4.4 Environmental Test

No.	Performance items	Test Specification	Test Condition & Instrument
1	Salt Spray Test	<ol style="list-style-type: none"> No evidence of corrosion and pitting. No exposure of the base metal on the interface or mating surface. 	MIL-STD-202, Method 101, Test Condition B Temp:35±1°C Humidity:95~98%, Total testing time: 48 hours
2	Shock	<ol style="list-style-type: none"> No evidence of damage No discontinuities of 1 μs or longer duration “Contact Resistance” should meet the spec. specified 	MIL-STD-202, Method 213, Test Condition B
3	Thermal Shock	<ol style="list-style-type: none"> No evidence of damage “Contact Resistance” and “Insulation Resistance”, should meet the spec. specified. The high temperature resistance should follow each cable type specifications. 	MIL-STD-202, Method 107, Test Condition : -65°C to 165°C 5 minutes @ each extreme, 5 cycles
4	Moisture Resistance	<ol style="list-style-type: none"> No evidence of damage “Dielectric Withstanding Voltage” and “Insulation Resistance” meet the spec. specified. 	MIL-STD-202, Method 106. 50°C 24hrs (25°C 3hrs, 65°C & 95% 3hrs,total 10 cycles)

4 QUALITY ASSURANCE PROVISIONS

4.1 Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. All test groups shall each consist of a minimum of 3 specimens.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified.

4.2 Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.3 Acceptance

Acceptance is based on verification that the product meets the requirements. Failures attributed to

equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4 Quality Conformance Inspection

The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

Changed list

REV	DATE (DD-MM-YY)	CATEGORY	ADDITIONS, DELETIONS, CHANGES
1	30-MAY-2024	All	Preliminary version