

Adapter In-series / Between Series

1. INTRODUCTION

1.1 Purpose

Testing was performed on the TE connectivity (TE) Adapter In-series / Between Series to determine their conformance to the requirements of Product Specification 108-160033 Revision 1.

1.2 Scope

This report covers the electrical, mechanical, and environmental performance of TE the Adapter In-series / Between Series.

1.3 Conclusion

All of the Adapter In-series / Between Series part number listed in paragraph 1.4, conformed to the electrical, mechanical, and environmental performance requirements of Product Specification 108-160033, **Revision 1.0**

1.4 Test Specimens

Table 1 – Test Specimens

Part Number	Description	Qty
2081549-1	1.85mm Male to 1.85 Male	2PCS
2081550-1	1.85mm Female to 1.85 Female	
2081551-1	2.4mm Male to 1:85mm Male	
2081552-1	2.4mm Male to 1:85mm Female	
2081553-1	4.1/9.5 Mini DIN Male to N Female	
2081554-1	4.3-10 Female to 4.3-10 Female Adapter	
2081555-1	7-16 DIN Male to 4.1/9.5 DIN Male	
2081556-1	7-16 DIN Male to 7-16 DIN Female Low PIM	
2081557-1	N Male to 7-16 DIN Male	
2081558-1	N Male to 4.3-10 Male	
2081559-1	N Female to 7-16 DIN Male, low PIM	
2081560-1	N Male to N Male, Right Angle	
2081561-1	N Male to N Female Right Angle	
2081562-1	N Female to N Female	
2081563-1	N Female to N Female 4 Hole Flange-Mounting Hole A05	
2081593-1	2.4mm Female to 2.4 Female	

1.5 Test Sequence

Table 2 - Test Sequences

Test or Examination	Test Group (a)	
	1	2
Initial examination of product	1	1
Contact Resistance	4,8	2,6
Insulation Resistance	5	3,7
Withstanding Voltage	6	4,8
Insertion Loss	2,9	
Return Loss (VSWR)	3,10	
Durability	7	
Corrosion Test/Salt Spray		5
Final examination of product	11	9

NOTE

- (a) See paragraph 1.4
 (b) Numbers indicate sequence in which tests were performed

1.6 Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature: 15°C to 35°C
 Relative Humidity 20% to 80%

2. SUMMARY OF TESTING

2.1 Initial Examination of Product – All Test Group

A Certificate of Conformance stating that all specimens submitted for testing were representative of normal production lots and met the requirements of the applicable product drawing was provided. Where specified, specimens were visually examined, and no evidence of physical damage detrimental to product performance was observed.

The result is pass.

2.2 Insertion Loss – Test Group 1

All insertion loss measurements for all configurations were less than the maximum requirements. The result is pass.

2.3 Return Loss – Test Group 1

All return loss measurements for all configurations were less than the maximum requirements. The result is pass.

2.4 Low Level Contact Resistance (LLCR) – All Test Group

All LLCR measurements of center contacts and outer contact met the maximum. The change in resistance between initially and conditionally didn't exceed 3 milliohm for both center contact and out contact. The result is pass.

2.5 Insulation Resistance – All Test Group

Insulation resistance measurements on all specimens, between the center contacts and outer contacts at 500Vdc for 1 minute, were greater than the requirement both initially and finally. The result is pass.

2.6 Dielectric Withstanding Voltage – All Test Group

There was no dielectric breakdown or flashover occurred between the center contact and outer shell. The result is pass.

2.7 Durability – Test Group 1

No evidence of physical damage detrimental to product performance was visible as a result of mating and unmating the specimens 500 times. The result is pass.

2.8 Corrosion Test – Test Group 2

No evidence of physical damage was visible as a result of exposure to a salt-laden atmosphere. The result is pass.

2.9 Final Examination – All Test Groups

Specimens were visually examined and no evidence of physical damage detrimental to product performance was observed. The result is pass.

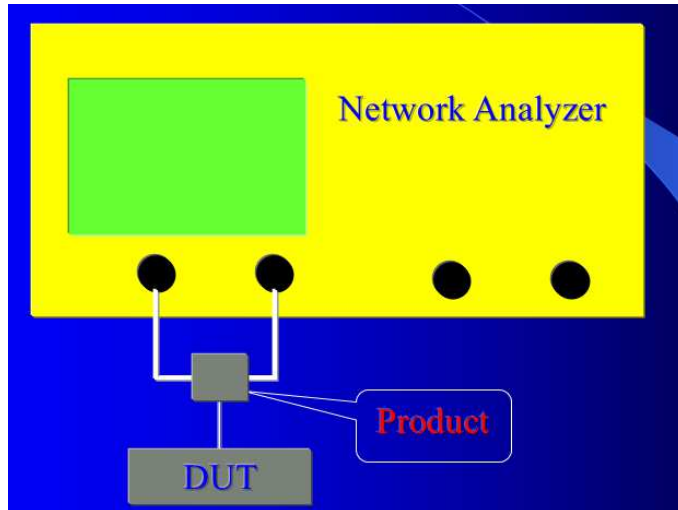
3. TEST METHODS

3.3 Initial Visual Examination

A Certificate of Conformance was issued stating that all specimens have been produced, inspected, and accepted as conforming to product drawing requirements, and made using the same core manufacturing processes and technologies as production parts. Where specified, specimens were visually examined and no evidence of physical damage detrimental to product performance was observed. Testing was performed in accordance with Test Specification EIA-364-18B.

3.2 Return Loss test and Insertion Loss

The return loss and Insertion Loss was performed using an Agilent N5230A PNA Network Analyzer. The network analyzer was set to collect 501 data points across a frequency range of 50.0 MHz to 50.0 GHz with a bandwidth of 1 kHz in step mode.



3.3 Low Level Contact Resistance

Low level contact resistance measurements at low level current were made using a four terminal measuring technique. The test current was maintained at 100.0 milliamperes maximum with a 20 millivolt maximum open circuit voltage. Testing was performed in accordance with Test Specification EIA-364-23C.

3.4 Insulation Resistance

Insulation resistance was measured between the center contact and ground shield of mated unmounted specimens. A test voltage of 500 volts DC was applied for two minutes before the resistance was measured. Testing was performed in accordance with Test Specification EIA-364-21.

3.5 Withstanding Voltage

The test voltage shall be raised from zero to the specified value as uniformly as possible, at a rate of approximately 500 volts (rms or dc) per second.

Dielectric Withstanding voltage was measured separately between the closest adjacent contacts at requirement for 1 minute. Testing was performed in accordance with Test Specification EIA-364-20, Condition I.

3.6 Durability

Specimens were mated and unmated by hand 500 times at a maximum rate of 12 cycles per minute in accordance with EIA-364-9.

3.7 Salt Mist test

1. Execute visual check, and take picture.
2. Fix the test sample to the chamber, and run the test.
3. Test condition:
 - Concentration of salt solution: 5% NaCl (m/m)
 - Volume of salt solution collected: 1.3ml/(80cm²·h)
 - Electrical conductivity of pure water: 3.8 μS/cm
 - pH of salt solution at (20±2)°C: 6.7pH
 - Chamber temperature: 35°C
 - Exposure period: 6cycles (consider 2h spray and 22h 40°C/93%RH as one cycle)
4. Test samples were cleared by 23°C running tap water for 5min, dried for 4h in a 38°C circulating air oven.
5. Execute visual check and then export the test profile.

3.8 Final Examination

Specimens were visually examined and no evidence of physical damage detrimental to product performance was observed.