AMPTRAC* 7_AS Upgrade Kit

1. INTRODUCTION

1.1 Purpose

Qualification tests were performed on AMPTRAC* 7_AS Upgrade Kit to determine its conformance to the requirements of TE AMP Product Specification 108-93033, Rev. B.

1.2 Scope

This report covers the electrical and environmental performance of the AMPTRAC* 7_AS Upgrade Kit, manufactured by Tyco Electronics. The testing was performed between January 16, 2009 and February 17, 2009.

1.3 Conclusion

The AMPTRAC* 7_AS Upgrade Kit meets the electrical and environmental performance requirements of TE AMP Product Specification 108-93033, Rev. B.

1.4 Product Description

The AMPTRAC* 7_AS Upgrade Kit is used to connect building wiring for data and voice network systems. The AMPTRAC SYSTEM is used as an Intelligent Infrastructure Management.

1.5 Test Samples

The test samples were randomly selected from normal current production lot, and the following part numbers were submitted to the tests:

Test Group	Qty	Part Number	Description
1	1	1711749-1	Upgrade Kit AMPTRAC AMP-TWIST 7_AS
2	1	1711742-1	AMPTRAC AMP-TWIST 7_AS Patch Panel
3	2	1711749-1	Upgrade Kit AMPTRAC AMP-TWIST 7_AS
4	2	1711742-1	AMPTRAC AMP-TWIST 7_AS Patch Panel

1.6 Qualification Test Sequence

	Test Group	
	1,2	3,4
	Test Sequence (a)	
Examination of product	1, 6, 9	1, 5
ELECTRICAL		
Input-output Resistance	2, 8	2, 4
Insulation resistance	3	
Voltage proof	5 (b), 7 (c)	
ENVIRONMENTAL		
Stress relaxation, (dry heat)	4	
Flowing mixed gas corrosion		3

(a) Numbers indicate sequence in which tests are performed
(b) 100 hours
(c) 400 hours

2. SUMMARY OF TESTING

2.1 Examination of product – All Groups

All samples submitted for testing were selected from normal current production lot. They were inspected and accepted by the product Assurance Department.

All samples showed no physical damages both initially and after stress relaxation or flowing mixed gas corrosion test and they were still functional.

2.2 Input-Output Resistance – All Groups

All termination resistance measured values with low level method were lower than 20 Ohms (maximum specified value).

2.3 Insulation Resistance – Group 1 & 2

All insulation resistance measured values were higher than $5 \cdot 10^8$ Ω (minimum specified value).

2.4 Voltage proof – Group 1 & 2

No dielectric breakdown or flashover occurred during the test, having applied 1000 VAC peak between contact to contact and 1500 VAC peak between contact to screen and test panel.

2.5 Stress Relaxation (dry heat) – Group 1 & 2

All tested samples met visual requirements, show no physical damages and met the requirements of additional tests specified in test sequence, after stress relaxation.

2.6 Flowing mixed gas corrosion – Group 3 & 4

All tested samples met visual requirements, show no physical damages and met the requirements of additional tests specified in test sequence, after exposition to corrosion test.

3. TESTS METHODS

Unless otherwise is detailed, tests were performed at a temperature of 21ºC±1ºC and a Relativity humidity of 49%.
Auxiliary material used for some of these tests were plugs from patch cord AMPTRAC (PN: 1711755 and 1711757) and 2 AMPTRAC I/O cable DB25 to PCB plugs (PN: 1435845-4).

3.1 Examination of product (Reference Standard: IEC 60512, test 1a, 1b).

Product drawings and inspections plans were used to examine the samples. They were examined visually and functionally.

3.2 Input-Output Resistance (Reference Standard: IEC 60512, test 2a).

Input-Output resistance was measured as shows figure 1, with a micro-ohmmeter using low level method (20mV max. open circuit).
Test equipment: E1-053.

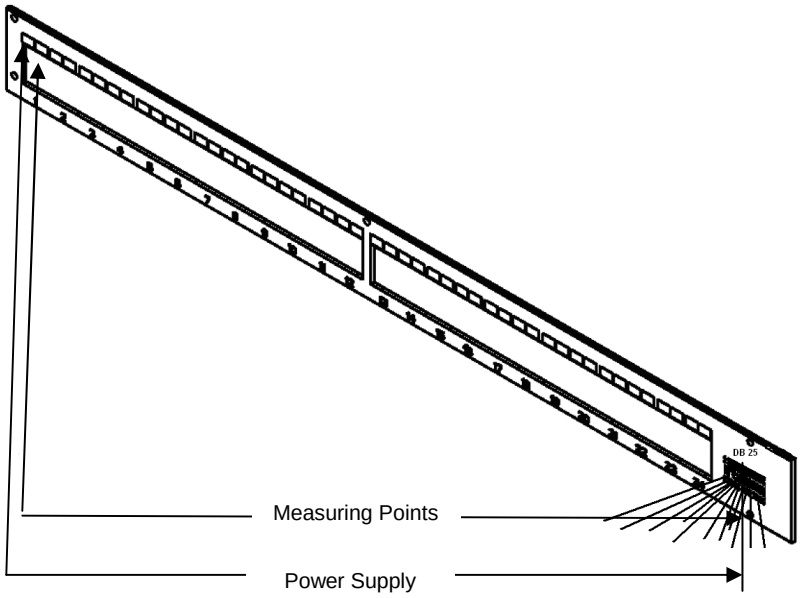

Figure 1. Input output Resistance Measuring Points

3.3 Insulation Resistance (Reference Standard: IEC 60512, test 3a).

Insulation Resistance was measured between adjacent contacts and between contacts and shield using a megaohmmeter applying 100 V DC.
Test equipment: E1-028.

3.4 Voltage Proof (Reference Standard: IEC 60512, test 4a).

A 1000 V DC or AC peak voltage was applied between contact to contact during 60 s.
A 1500 V DC or AC peak voltage was applied between contact to screen and test panel during 60 s.
Maximum leakage current allowed was set to 5 mA.
Test equipment: E2-057.

3.5 Stress Relaxation (dry heat) (Reference Standard: IEC 60068-2-2, Test method Ba).

Samples were placed into an oven at 70º C for 500 h. (half of samples connected to 0.5 A and the other half not connected).
Test equipment: C1-017, E1-043.

3.6 Flowing mixed gas corrosion. (Reference Standard: IEC 60068-2-60 Test method C).

Samples were placed during 4 days in a chamber with:
SO_2 = 0.5 ppm (Volume),
H_2S = 0.1ppm (Volume),
T = 25º C +/-2º C, HR = 75 % +/-3 %.
Test equipment: Test performed at the Tyco Electronics Netherlands B.V. Laboratory.