LABORATORY REPORT

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Amphenol Corporation Aerospace Operations Sidney, New York 13838-1395

TITLE: Evaluation of R-VPX connector system to VITA 46 test standard

REPORT TYPE
Engineering Summary Report

PROJECT NO.
798004

Distribution: External

Purpose: To evaluate the performance of Amphenol's R-VPX connector to the requirements of the VITA 46 Connector/Module Test Plan

Samples Tested: Representative 6U modules were assembled with Amphenol R-VPX connectors representative of normal production lots. Intermatability testing was performed in Subgroups A and B, intermatability was tested with VITA 46 compliant connectors.

Summary: Connectors were subjected to the Subgroups outlined in Table 1.

Subgroup	Samples	Environmental / Mechanical Test	Specification / Standard	Verification method	Result
A	RVPX DC / RVPX BP RVPX DC / VITA 46 BP VITA 46 DC / RVPX BP VITA 46 BP / VITA 46 DC	Shock	MIL-STD-1344A, Method 2004.1, Test Condition A	LLCR DWV Safety GND.	Pass
		Random Vibration 1	MIL-STD-1344A, Method 2005.1, Test Condition V, letter D, 1.5 hours/axis	LLCR DWV Safety GND.	Pass
		Random Vibration 2	HALT/step stress (0.125, 0.15, 0.175 g^2/Hz for 15 min. each; 0.2 g2/Hz for 45 min.)	LLCR DWV Safety GND.	Pass
B	RVPX DC / RVPX BP RVPX DC / VITA 46 BP VITA 46 DC / RVPX BP VITA 46 BP / VITA 46 DC	Bench Handling	MIL-STD-810F, Method 516.5, Procedure VI	LLCR DWV Safety GND.	Pass
		Vibration / Temperature	MIL-STD-1344A, Method 2005.1, Test Condition V, letter D, 1.5 hours/axis w/temperature cycle from -40°C to 100°C with 30 minute dwell and 15 minute ramps	LLCR DWV Safety GND.	Pass
C	RVPX DC / RVPX BP	Humidity	MIL-STD-1344A, Method 1002.2, Type III (240 hours)	LLCR DWV Safety GND.	Pass
D	RVPX DC / RVPX BP	Salt Fog + SO_2	ASTM G85, Annex A4 (cycles A4.4.4.1), Two 24 hour cycles	LLCR DWV Safety GND.	Pass
E	RVPX DC / RVPX BP	Dust	MIL-STD-810F, Method 510.4, Procedure I	LLCR DWV Safety GND.	Pass
		Sand	MIL-STD-810F, Method 510.4, Procedure II	LLCR DWV Safety GND.	Pass
F	RVPX DC / RVPX BP	Durability with Misalignment	EIA-364-09, 500 mate/unmate cycles	LLCR DWV Safety GND.	Pass
		Electrostatic Discharge	EN 61000-4-2	ESD	Pass
		Insertion / Extraction Force	MIL-STD-1344A, Method 2013.1	RECORD DATA	89.8lbs / 69.6lbs (initial)
G	RVPX DC / RVPX BP	Current Overload	IEC 60512-3	LLCR DWV Safety Ground	Pass

Notes: LLCR requirement: +10.0mΩ MAX CHANGE, +5.0mΩ MAX AVG. CHANGE
DWV requirement: NO BREAKDOWN, <5.0 mA LEAKAGE
Safety ground: 100.0mΩ MAX

TABLE 1: Test results

Conclusion: Amphenol's R-VPX connector series meets all of the requirements of VITA 46 & the VITA 46 Connector/Module Test Plan*
*The VITA 46 Connector/Module Test Plan was used to qualify the original VITA 46 connector.

References:
ANSI VITA 46
VITA 46 Connector/Module Test Plan (Rev 6)
RVPX VITA 46 Connector/Module Test Plan (Rev 4)

Prepared	Approved:	Approved:	Witnessed:
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Date: 1/15/2016	Date: 2/5/2016	Date:	Date: