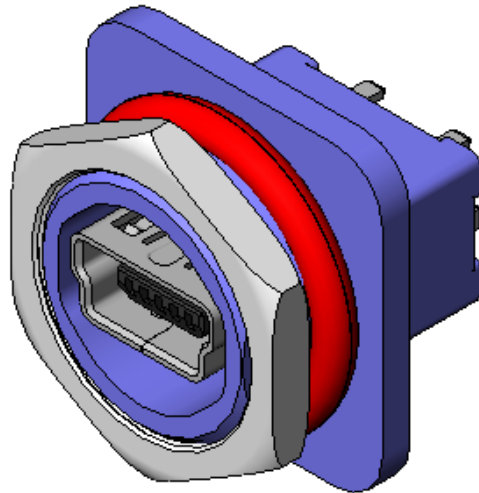




Project Number: SPM-VT1 Dust & Water Test		Tracking Code: TC1011—3275_Report_Rev_2	
Requested by: Brandon Harpenau		Date: 2/19/2014	Product Rev: 2
Part #: SPM-05-S-B-VT1-PF		Lot #: 1	Tech: Gary Lomax Aaron McKim
Part description: Sealed Port Mini USB			Eng: Eric Mings Mark Shireman
			Qty to test: 24
Test Start: 01/07/2010	Test Completed: 4/2/2010		



Dust & Water Test Report

PART DESCRIPTION

SPM-05-S-B-VT1-PF

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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SCOPE

To perform the following tests: Dust and water test per IP66 and IP67. See test plan.

APPLICABLE DOCUMENTS

Standards: IEC 60529

TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 4) The automated procedure is used with aqueous compatible soldering materials.
- 5) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
- 6) Any additional preparation will be noted in the individual test sequences.

FLOWCHARTS

IP67 & IP66 Testing w/o Mate

TEST STEP	GROUP A1 9 Connectors SPM-05-S-B-VT1-PF	GROUP A2 9 Connectors SPM-05-S-B-VT1-PF	GROUP A3 6 Connectors SPM-05-S-B-VT1-PF
01	Dust Test	Submersion Water Test	Stream of Water Test
02	Check for Dust	Check for Water	Check for Water

Dust/Water Testing = Per CEI/IEC 60529 Code IP67
Dust/Water Testing = Per CEI/IEC 60529 Code IP66
*Torque spec on DCN-1532-32 should be 2.5 in-lb min

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

WATER TESTING:

- 1) Reference document: CEI/IEC 60529 Code IP66 and IP67
- 2) Torque requirements for testing:
 - a. DCN-1532-32: 2.5 Inch/Lb Min.
 - b. Machine Screw Torque to Fixture: 15.0 Inch/Lb Min.

DUST TESTING:

- 1) Reference document: CEI/IEC 60529 Code IP67
- 2) Torque requirements for testing:
 - a. DCN-1532-32: 2.5 Inch/Lb Min.
 - b. Machine Screw Torque to Fixture: 15.0 Inch/Lb Min.

RESULTS

IP66 & IP67 Testing w/o Mate (Water & Dust)

	<u>Initial (Before Exposure)</u>	<u>After Exposure</u>
Water	No Water Present	No Water Present
Dust	No Dust Present	No Dust Present

DATA SUMMARIES**IP66 & IP67 Testing w/o Mate (Water & Dust)**

Dust Test	
SPM-05-S-B-VT1-PF	
<i>Visual Inspection after Dust Test (10X Magnification)</i>	
Sample #	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass
7	Pass
8	Pass
9	Pass

1 Meter Submersion Water Test	
SPM-05-S-B-VT1-PF	
<i>Visual Inspection after Water Test (10X Magnification)</i>	
Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS
7	PASS
8	PASS
9	PASS

Stream of Water Test	
SPM-05-S-B-VT1-PF	
<i>Visual Inspection after Water Test (10X Magnification)</i>	
Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS