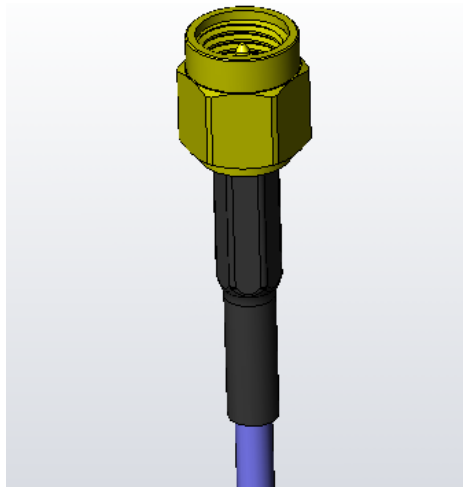
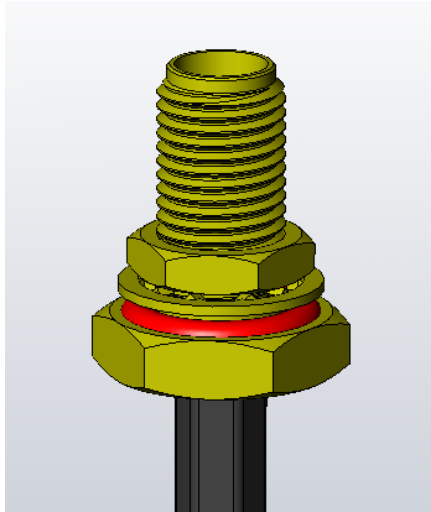




Project Number: Design Verification Test Report		Tracking Code: 107044_Report_Rev_2	
Requested by: Tori Meek		Date: 11/3/2010	Product Rev: 0
Part #:SMA-J-C-XX-ST-SB1/SMA-P-C-XX-ST-CA1		Lot #: na	Tech: Gary Lomax Eng: Eric Mings
Part description: SMA			Qty to test: 40
Test Start: 10/12/2010	Test Completed: 10/26/2010		



Dust & Water Test Report

SMA

SMA-J-C-XX-ST-SB1/SMA-P-C-XX-ST-CA1

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: Design Verification Test ,See test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

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) Any additional preparation will be noted in the individual test sequences.

Tracking Code: 107044_Report_Rev_2	Part #: SMA-J-C-XX-ST-SB1/SMA-P-C-XX-ST-CA1
Part description: SMA	

FLOWCHARTS

IP67 Dust & Water

TEST STEP	GROUP A1 (6) MATED	GROUP A2 (6) MATED	GROUP A3 (6) UNMATED	GROUP A4 (6) UNMATED
01	Dust Test	Submersion Water Test	Dust Test	Submersion Water Test
02	Check for Dust	Check for Water	Check for Dust	Check for Water

Dust/Water Testing = Per CE/IEC 60529 Code IP67

IP66 Dust & Water

TEST STEP	GROUP B2 (6) MATED	GROUP B4 (6) UNMATED
01	Stream of Water Test	Stream of Water Test
02	Check for Water	Check for Water

Dust/Water Testing = Per CE/IEC 60529 Code IP66

* It is not necessary to perform the dust portion of this test if IP67 testing has been performed

FLOWCHARTS CONTINUED**IP68 Dust & Water**

TEST STEP	GROUP C1 2 Mated Connectors For Each Depth Tested (27 Total Mated Connectors)
01	2M for 30 Minutes
02	Check for Water
03	3M for 30 Minutes
04	Check for Water
05	4M for 30 Minutes
06	Check for Water
07	5M for 30 Minutes
08	Check for Water
09	6M for 30 Minutes
10	Check for Water
11	7M for 30 Minutes
12	Check for Water
13	8M for 30 Minutes
14	Check for Water
15	9M for 30 Minutes
16	Check for Water
17	10M for 30 Minutes
18	Check for Water

Dust/Water Testing = Per CE/IEC 60529 Code IP68

For this test you have to use the pressure chamber

New parts should be used for each depth tested

Stop testing once parts fail

* It is not necessary to perform the dust portion of this test if IP67 testing has been performed

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES (IP Code)

The extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and/or against ingress of water and verified by standardized test methods

The object is to give:

- 1) Protection of persons against access to hazardous parts inside the enclosure;
- 2) Protection of the equipment inside the enclosure against ingress of solid foreign objects;
- 3) Protection of the equipment inside the enclosure against harmful effects due to the ingress of water.

WATER TESTING:

- 1) Reference document: CEI/IEC 60529 Code IP66, IP67, and IP68
- 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

IP67 Dust &Water

Dust test:

- Mated----- **PASS**
- Unmated ----- **PASS**

Submersion Water Test:

- Mated----- **PASS**
- Unmated ----- **PASS**

IP66 Dust &Water

Stream of Water Test

- Mated----- **PASS**
- Unmated ----- **PASS**

IP68 Dust &Water

Depth immersion Test:

- Mated----- **7 m Max.**

DATA SUMMARIES**IP67 Dust test****Mated:***Visual Inspection after Dust Test*

<u>Sample #</u>	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

Unmated:*Visual Inspection after Dust Test*

<u>Sample #</u>	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

IP67 Submersion Water Test**Mated:***Visual Inspection after Water Test*

<u>Sample #</u>	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

Unmated:***Visual Inspection after Water Test***

<u>Sample #</u>	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

IP66 Stream of Water Test**Mated:*****Visual Inspection after Water Test***

<u>Sample #</u>	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

Unmated:***Visual Inspection after Water Test***

<u>Sample #</u>	Visual Inspection
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass

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Part description: SMA	

IP68 Depth immersion Test:

Visual Inspection after Water Test

<u>Sample #</u>	Visual Inspection
1 (2M)	Pass
2 (3M)	Pass
3 (4M)	Pass
4 (5M)	Pass
5 (6M)	Pass
6 (7M)	Pass
7 (8M)	Fail

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** Dust-01**Description:** IP-X6 Dust Tester**Manufacturer:** Samtec Machine**Model:****Serial #:** N/A**Accuracy:**

... Last Cal: No Calibration Required

Equipment #: Water-02**Description:** IP-68 Water Depth Chamber**Manufacturer:** Samtec Machine**Model:****Serial #:** N/A**Accuracy:**

... Last Cal: No Calibration Required

Equipment #: Water-01**Description:** IP-67 1.0 Meter Water Column Chamber**Manufacturer:** Samtec Machine**Model:****Serial #:** N/A**Accuracy:**

... Last Cal: No Calibration Required

Equipment #: Water-03**Description:** IP-66 Water Nozzle Spray Chamber**Manufacturer:** Samtec Machine**Model:****Serial #:** N/A**Accuracy:**

... Last Cal: No Calibration Required