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PRODUCT SPECIFICATION

NO.SPEC-ANB-1001

RF I BOARD END CONNECTOR
(Product NO. ANB0200*-12*)

	APPROVED	CHECKED	PREPARED	ISSUED BY :
By	Wesley.Wang	Roy.Duan	Roy.Duan	
Date	2017-07-18	2017-07-18	2017-07-18	

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***** REVISION HISTORY *****

Rev.	Date	Revision Page No.	Notes
A	2012-06-05	New Reversion	初次发行
B	2017-05-18	Update	更新发行
C			
D			
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1. SCOPE

This product described in this paper is a SMT Type Micro Coaxial RF Receptacle, whose part name in our comply is USS RF REC. It is special for micro strip-to-Coaxial adapter in RF circuit, such as Mobile Phone, Wireless Net, Mini PCI, Bluetooth, PDA, GPS, Electric Measurement Instruments and so on.

2. REQUIREMENT

2.1. PRODUCT DIMENSION

Product shall be intermateable with industry standard product of opposite gender. This connector shall have the dimensions as shown in Drawing .

2.2. PCB/PANEL LAYOUT

The recommended PCB layout are shown in Drawing .

2.3. BILL OF MATERIAL

The bill of material and product number of Connectors are described in Drawing .

2.4. MECHANICAL & ELECTRICAL CHARACTERISTIC

The connector shall have the mechanical and electrical performance as described in **Table I**.

2.5. PACKAGING

Parts shall be packaged according to requirements specified in purchase order for safe delivery. Connector container and the packing specification are shown in Drawing .

2.6. HARMFUL MATERIAL CONTROL

Harmful material controls please follow the **Doc. No. QW-QA-10**.

3. PERFORMANCE AND TEST DESCRIPTION

3.1. REQUIREMENT

Product is designed to meet electrical, mechanical, and environmental performance requirements specified in **Table I**.

3.2. TEST CONDITION

Unless otherwise specified, all tests shall be performed at ambient environmental conditions:

3.2.1 Temperature: **15°C~35°C**

3.2.2 Humidity: **50±2% R**.

3.2.3 Atmospheric Pressure: **650 mmHg to 800 mmHg**.

3.3. SAMPLE SELECTION

Test samples shall be selected at random from current production. No test samples shall be reused.

Each group shall be containing **10** test samples.

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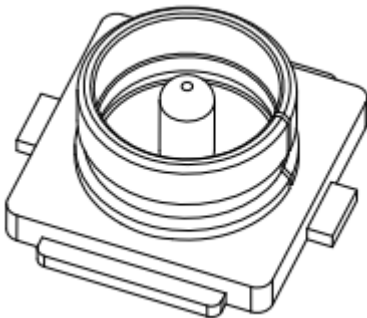
3.4 TEST SEQUENCE

Products qualification test sequence as shown in **Table II**.

4. QUALITY ASSURANCE PROVISIONS

CCT is responsible for the quality of the part as it is delivered to customer. The failing lots will be return or other supplier action.

5. PRODUCT PICTURE



6. Technical Parameters

6.1	Rated Voltage	60VAC (R. M. S)
6.2	Frequency Range	0~6GHz
6.3	Character Impedance	50Ω
6.4	Operate Temperature	-40°C~90°C
6.5	Operate Humidity	90% MAX

7. Electric Performance

7.1	Dielectric Resistance	500MΩ
7.2	Dielectric Withstand Voltage	200VAC 1Min
7.3	Contact Resistance	
7.3.1	Signal Contact	Initial: 20mΩ max
7.3.2	Ground Contact	Initial: 20mΩ max

7.4 VSWR

≦ 3GHz	3~6GHz
1.3max	1.4max

7.4.1 Test Method(Refer to the FIG2):

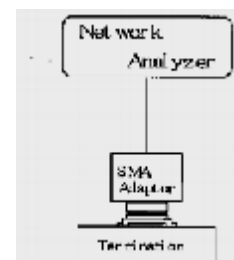


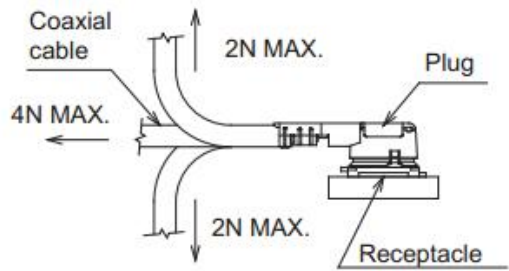
FIG2

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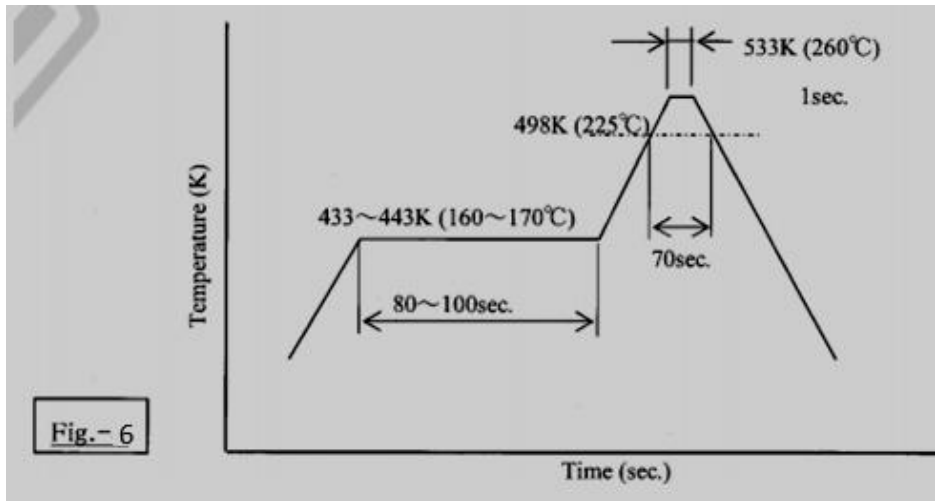
Table I: Performance Requirements

Items	Test Conditions	Specifications
1. Contact Resistance	Solder the receptacle connector to the test board and mate the plug connector together, then measure the contact resistance as shown in Fig3 by the four terminal methods. Apply the low level conditions in accordance with MIL-STD-202G, Method 307. Open circuit voltage : 20 mV MAX Circuit current : 10 mA MAX	[Signal contact] Initial : 20mΩ MAX After testing : ΔR20 mΩ max [Ground contact] Initial : 20mΩ MAX After testing : ΔR20 mΩ MAX
2. Insulation Resistance	Mate the receptacle and plug connector together, and then apply DC 100V between the signal contact and the ground contact in accordance with MIL-STD-202G, Method 302.	Initial :500MΩ MIN After testing :100 MΩ MIN
3. Dielectric Withstanding Voltage	Mate the receptacle and plug connector together, and then apply AC 200V rms between the signal contact and the ground contact for a minute in accordance with MIL-STD-202G, Method 301.	No creeping discharge, flashover, no insulator breakdown shall occur.
4. VSWR	Measure the VSWR as shown in FIG2 by the network analyzer. Frequency: 100M-6GHz	1.3MAX. at 0.1~3GHz 1.4MAX .at 3~6GHz
5. Un-mating force	Solder the receptacle connector to the test board and mate the plug connector, then measure the un-mating force at speed 25 ± 3mm/minutes along by the push-pull machine.	[Total un-mating force] Initial :4N MIN After 30 :2N MIN
6. Receptacle shearing strength	Solder the receptacle connector to the test board, Push the receptacle connector from each directions as Shown in Fig.4. Measure the strength when the connector is broken.	20N MIN

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7. Durability	Mate and un-mate the receptacle connector(soldered to the test board) and plug connector 30 cycles at speed 25 ± 3 mm/minutes along the mating by the push-pull machine.	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1
8. Contact resistance with force on the cable	Apply force on the cable as shown in Fig5 During the testing, run 100mA DC to check electrical discontinuity.  Fig5	[Appearance] No abnormality [Electrical discontinuity] No electrical discontinuity grater than $1 \mu s$ shall occur. [Contact Resistance] Shall meet Table I.1
9. Vibration	Apply the following vibration to the mating connector. During the testing, run 100mA DC to check electrical discontinuity. Frequency: 10Hz → 100 Hz → 10Hz/approx 20 minutes. Half amplitude, Peak value of acceleration : $1.5mm$ or $59m/s^2$ (6G) Directions, cycle: 3 mutually perpendicular direction,3 cycles about each direction.	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1 [Electrical discontinuity] No electrical discontinuity grater than $1 \mu s$ shall occur.
10. Shock	Apply the following vibration to the mating connector. During the testing, run 100mA DC to check electrical discontinuity. Peak value of acceleration: $735 m/s^2$ (75G) Duration :11msec Wave Form :half sinusoidal Direction, cycle :6 mutually perpendicular direction, 3cycle about each direction.	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1 [Electrical discontinuity] No electrical discontinuity grater than $1 \mu s$ shall occur.
11. Humidity (Steady State)	Apply the following environment to the mating connector in accordance with MIL-STD-202G,Method 103, Condition B. Temperature : $313 \pm 2K$ ($40 \pm 2^\circ C$) Humidity : 90~95%RH Duration : 96 hours	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1 [Insulation Resistance] Shall meet Table I.2 [Dielectric Withstanding Voltage] Shall meet Table I.3.
12. Thermal Shock	Apply the following environment to the mating connector in accordance with MIL-STD-202G,Method 107G, Condition A. Temperature : $218K$ ($-55^\circ C$) → $358K$ ($85^\circ C$): 30min Transition time : 5min. MAX No. of cycles : 5 cycles	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1 [Insulation Resistance] Shall meet Table I.2 [Dielectric Withstanding Voltage] Shall meet Table I.3.

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13. High Temperature Life	Apply the following environment to the mating connector Temperature : $363 \pm 2K$ ($90 \pm 2^\circ C$) Duration : 96 hours	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1 [Insulation Resistance] Shall meet Table I.2 [Dielectric Withstanding Voltage]
14. H ₂ S Gas	Apply the following environment to the mating connector Temperature : $313 \pm 2K$ ($40 \pm 2^\circ C$) Relative Humidity : $80 \pm 5\%RH$ Duration : 96 hours	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1 [Insulation Resistance] Shall meet Table I.2 [Dielectric Withstanding Voltage]
15. Salt Water Spray	Apply the following environment to the mating connector in accordance with MIL-STD-202G, Method 101E, Condition B. Temperature : $308 \pm 2K$ ($35 \pm 2^\circ C$) Relative Humidity : $95 \sim 98\%RH$ Salt water density : $5 \pm 1\%$ (by weight) Duration : 48 hours	[Appearance] No abnormality [Contact Resistance] Shall meet Table I.1
16. Solder ability	Dip the solder tine of the contacts in the solder bath at $518 \pm 5K$ ($245 \pm 5^\circ C$) for 5 ± 0.5 seconds after immersing the tine in the flux of RMA type for 5 to 10 seconds.	More than 95% of the dipped surface shall be wet and less than 5% of the pinhole than shall not gather at a point.
17. Soldering Heat Resistance	(1) Reflow part : $533 \pm 0/-5K$ ($260 \pm 0/-5^\circ C$) Peak 498K MIN .($225^\circ C$ MIN) 70sce.MIN (2) Pre-heat part: $433 \sim 443K$ ($160 \sim 170^\circ C$) $80 \sim 100$ sec * Refer to reflow temperature profile.(Fig6) * The number of reflow is within 2 times.	No abnormality adversely affecting the performance shall not occur.
	 <p>Fig.- 6</p>	

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Table II: Test Sequence and Sample Quantity

Test: Measurement or Examination	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.Contact Resistance				1,3	1,3	1,3	1,3	1,5	1,5	1,3	1,3	1,3		
2.Insulation Resistance								2,6	2,6					
3.Dielectric Withstanding Voltage								3,7	3,7					
4.VSWR	1													
5.Un-mating force		1												
6. Receptacle shearing strength			1											
7.Durability				2										
8.Contact resistance with force on the cable					2									
9.Vibration						2								
10.Shock							2							
11.Humidity (Steady State)								4						
12. Thermal Shock									4					
13. High Temperature Life										2				
14.H ₂ S Gas											2			
15. Salt Water Spray												2		
16. Solder ability													1	
17.Soldering Heat Resistance														1
Sample QTY.	10	10	10	10	10	10	10	10	10	10	10	10	10	10