



规格书

SPECIFICATION

CUSTOMER NAME	客户名称:	
CUSTOMER NO.	客户编号:	
SERIES	系 列:	BNC射频连接器
MODEL NO.	型 号:	XB-series
DRAWING NO.	图 形 号:	BNC RF CONNECTOR

If specification of this product meets your request, please confirm all the items of it and return to us with signature and stamp, it will be basis of our production and record. Thanks your cooperation in advance!

若此产品规格符合贵司要求，敬请确认此规格书内所有项目
并签名和盖章后回传给我司，以作我司产品制作之

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2022. 06. 08	2022. 06. 08	2022. 06. 08	2022. 06. 08

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Quality core! Afterburner for Made in China!

产品规格书

BNC RF CONNECTOR BNC射频连接器

1.SCOPE 范围

1.1. CONTENTS 内容

This specification covers the performance, tests and quality requirements for the MICRO RF IV BOARD SMT TYPE CONNECTOR.

此标准包括对第 4 代微型板端射频连接器的功能性测试及品质要求。

1.2. QUALIFICATION 限定

All inspections shall be performed using the applicable inspection plan and product drawing.

所有的检验须按照检查规范及产品图进行。

1.3. APPLICABLE DOCUMENT 适用资料

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

以下文件所规定的标准发生冲突时，如果没有明确规定，以最新版本为准。如果产品规格书同图面有冲突时，应该依图面为准。如果规格书同其他参考资料有冲突时，应该依规格书为准。

1.4. SPECIFICATIONS 规范

- A. EIA-364-06B Contact resistance test procedure for electrical connectors.
EIA-364-06B 端子接触阻抗测试程序
- B. EIA-364-20B Withstanding voltage test procedure for electrical connectors, sockets and coaxial contacts.
EIA-364-20B 耐电压测试程序
- C. EIA-364-21C Insulation resistance test procedure for electrical connectors, sockets and coaxial contacts.
EIA-364-21C 绝缘阻抗测试程序
- D. EIA-364-13B Unmating forces test procedure for electrical connectors.
EIA-364-13B 插拔力测试程序
- E. EIA-364-09C Durability test procedure for electrical connectors and contacts.
EIA-364-09C 寿命测试程序
- F. EIA-364-28E Vibration test procedure for electrical connectors and sockets.
EIA-364-28E 振动测试程序
- G. EIA-364-27B Mechanical shock(specified pulse) test procedure for electrical connectors and sockets.
EIA-364-27B 机械冲击测试程序
- H. EIA-364-32D Thermal shock(temperature cycling) test procedure for electrical connectors and

东莞市溪榜电子有限公司

DONG GUAN XI BANG ELECTRONICS CO., LTD

Product Specification

产品规格书

BNC RF CONNECTOR

射频连接器

- sockets.
- EIA-364-32D 热冲击测试程序
- I. EIA-364-17B Temperature life with or without electrical load test procedure for electrical connectors and sockets.
- EIA-364-17B 温度寿命测试程序
- J. EIA-364-26B Salt spray test procedure for electrical connectors, contacts and sockets.
- EIA-364-26B 盐雾测试程序
- K. EIA-364-31B Humidity test procedure for electrical connectors and sockets.
- EIA-364-31B 湿气测试程序
- L. EIA-364-108 Impedance, reflection coefficient, return loss, and VSWR measured in the time and frequency domain test procedure for electrical connectors, cable assemblies or interconnection systems.
- EIA-364-108 特性阻抗、反射率、回波损耗、电压驻波比测试程序

2 REQUIREMENTS 要求

2.1 DESIGN AND CONSTRUCTION 设计和结构

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing. 产品的设计结构及尺寸在产品要明确标示。

2.2. MATERIALS 材料

- 1.Housing: Thermoplastic High Temp., UL94V-0.
塑胶: 热塑性高温材料, 防火等级: UL94V-0
- 2.Contact: Copper Alloy, Gold plating, Nickel underplating overall.
端子: 铜合金, 镍底, 表层镀金。
- 3.Shell: Copper Alloy, Gold, Nickel underplating overall.
外壳; 铜合金, 镍底, 表层镀金。

2.3. RATINGS 额定值

1. Voltage: 60 V AC
电压: 60VAC
2. Nominal characteristic impedance: 50 Ohm
特性阻抗: 50 Ohm
3. Applicable frequency: DC ~ 6GHz
4. 适用频率: DC~ 6GHz.
5. VSWR: 1.3 MAX. (DC~3GHz), 1.4 MAX. (3~6GHz)
电压驻波比: 1.3 MAX. (DC~3GHz), 1.4 MAX. (3~6GHz)
6. Temperature: - 40 °C to 85 °C 温度: - 40 °C to 85 °C

东莞市溪榜电子有限公司

DONG GUAN XI BANG ELECTRONICS CO., LTD

Product Specification

产品规格书

BNC RF CONNECTOR

射频连接器

2.4. PERFORMANCE REQUIREMENT AND TEST DESCRIPTION

功能性要求及测试描述

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig.1.

产品设计必须满足表格 1 中所规定的电气、机械、环境方面的要求。

2.5. TEST REQUIREMENTS AND PROCEDURES SUMMARY

测试要求和程序摘要

Test Item 测试项目		Requirement 要求	Procedure 程序
1	Examination of Product 外观检查	Meets requirements of product drawing. No physical damage. 符合产品图，外观无损伤。	Visual inspection 目视检查
ELECTRICAL REQUIREMENT 电气要求			
2	Contact Resistance 接触阻抗	Ground Contact, 接地端子 Initial:10m Ohm Max 初始:10m Ohm Max Final: 30m Ohm Max 最后: 30m Ohm Max Center Contact 中心端子 Initial:20m Ohm Max 初始:20m Ohm Max Final:40m Ohm Max 最后: 40m Ohm Max	Subject mated contacts assembled in housing to 20mV Max open circuit at 10mA Max. EIA-364-06B. Refer to Fig.3 参考图片 3，将端子组装在塑胶中接触，施加 20mV 的电压，电流 10mA。EIA-364-06B
3	Dielectric withstanding Voltage 耐电压	No creeping discharge or flashover shall occur.无表面放电及火花产生 Current leakage: 0.5mA MAX 漏电流: 0.5mA MAX	200 VAC for 1minute Test between adjacent circuits of mated connector. EIA-364-20B 在相邻的端子间施加电压 200VAC，1 分钟。
4	Insulation Resistance 绝缘阻抗	500 M Ohm Min.(Initial) 初始: 500 M Ohm Min. 100 M Ohm Min.(Final) 最后: 100 M Ohm Min	Impressed voltage 100 VDC. Test between adjacent circuits of mated connector. EIA-364-21C. 相邻端子施加 100VDC 电压。
5	Insertion Loss (for plug only) 插入损耗(针对线端)	-6db Min.(DC~6GHz)	Mate the connector and SMA connector together, then measure the Insertion loss by the network analyzer. Refer to Fig.4 将产品同 SMA 连接在一起，用网络分析仪进行测试,参考图片 4.
6	VSWR 电压驻波比	1.3 MAX. (DC~3GHz); 1.4 MAX. (3~6GHz)	Mate the connector and SMA connector together, Then measure the VSWR by the network analyzer. EIA-364-108, Refer to Fig.4 将产品同 SMA 连接在一起，用网络分析仪进行测试，参考图片 4.

BNC RF CONNECTOR

射频连接器

MECHANICAL REQUIREMENT			
7	Connector Mating Force 插入力	17.6N Max. 最大:17.6N	Operation Speed: 25 mm/min. Measure the force required to mate connector. EIA-364-13B 速度: 25mm/分钟。
8	Connector Unmating Force 拔出力	4 N Min.(Initial) 初始: 4N 最小 2 N Min.(Final) 最后:2N 最小	Operation Speed: 25 mm/min. Measure the force required to unmate connector. EIA-364-13B 速度: 25mm/分钟。
9	Durability 耐久性	No physical damage 不可以有损伤	Operation Speed: 2~3 cycle/min. Durability Cycles: 30 Cycles. EIA-364-09C 速度: 2-3 循环/分钟 寿命:30 循环
10	Vibration 振动	No electrical discontinuity greater than 1 microsecond shall occur. See Note.瞬断不能超过 1 毫秒。	Subject mated connectors to 10-100-10 Hz traversed in 1minutes at 1.52mm amplitude 2 Hours each of 3 mutually perpendicular planes.100mA Max. Applied. EIA-364-28E 沿相互垂直的平面,振动频率由 10-100-10HZ 进行循环。连接器施加 100mA 电流。
11	Mechanical Shock 机械冲击	No electrical discontinuity greater than 1 microsecond shall occur. See Note. 瞬断不能超过 1 毫秒。	Accelerate Velocity: 735m/s ² (75G) 加速度: 735m/s ² (75G) Waveform: Half-sine shock plus 波形: 正弦波。 Duration: 11msec 持续时间: 11msec No. of Drops: 3 drops each to normal and reversed directions of X,Y and Z axes, totally 18 drops, passing DC 1mA current during the test. EIA-364-27B 沿 XYZ 轴正反向进行 3 次, 共计: 18 次。
ENVIRONMENTAL REQUIREMENTS			
环境要求			
12	Thermal Shock 热冲击	See Note	Mated Connector 将连接器配合后进行温度冲击循环, 共 5 个循环。 -40℃(30 minutes),+25℃(5 minutes) +85℃(30 minutes) ,+25℃(5 minutes) Perform this 1 cycle, repeat 5 cycles EIA-364-32D
13	Humidity 湿气	See Note	Mated Connector 40±2℃, 90~95% RH, 96 Hours 将连接器配合后进行湿气测试, 40+/-2 度, 湿度: 90~95%, 96 小时。
14	Temperature Life (Heat Aging) 热老化	See Note	Mated Connector 85℃, 96 hours, EIA-364-17B. 将连接器配合后进行湿气测试,85 度,96 小时。

15	Salt Spray 盐雾	No detrimental corrosion allowed in contact area and base metal exposed.接触区不可以氧化	Mated connectors to 35+/-2 °C and 5+/-1% salt condition for 24 hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. EIA-364-26B. 35+/-2 度, 盐水浓度: 5+/-1%, 24 小时。试验后用清水清洗, 室温情况下放置 1 小时。
16	Resistance to Cold 耐冷性	See Note	Mated connector -40±2℃ 96hours -40±2℃, 96 小时
17	Solder Ability	Dip the solder tine of the contacts in the solder bathe ant 245+/-5 °C, for 5 seconds after immersing the tine in the flux .	More than 95% of the dipped surface shall be wet and less than 5% of the pinhole than shall not gather at a point
18	Soldering Heat Resistance	No deformed affecting the performance shall not occurred.	Refer to Fig.5. 参考图片 5。

Fig.1

NOTE: Shall meet visual requirements, show no damage, and meet requirement of additional tests as specified in the test sequence in Fig.2

3. Product Qualification and test

Test or Examination	Test Group										
	A	B	C	D	E	F	G	H	I	J	
	Test Sequence										
Examination of Product	1,6	1,4	1,11	1,9	1,9	1,9	1,9	1,9	1,9	1,3	
Contact Resistance	2		2,8	2,6	2,6	2,6	2,6	2,6	2,6		
Dielectric withstanding Voltage	4		4,10	4,8	4,8	4,8	4,8	4,8	4,8		
Insulation Resistance	3		3,9	3,7	3,7	3,7	3,7	3,7	3,7		
VSWR		2									
Insertion Loss		3									
Mating Force			5								
Unmating Force			6								
Durability			7								
Vibration				5							
Mechanical Shock					5						
Thermal Shock						5					
Humidity	5										
Temperature Life							5				
Resistance to Cold								5			
Salt Spray									5		
Soldering Heat Resistance										2	
Sample Q'ty	5	5	5	5	5	5	5	5	5	5	

Fig.2

NOTE: (a) Numbers indicate sequence in which tests are performed.

(b) Discontinuities shall not take place in this test group, during tests.

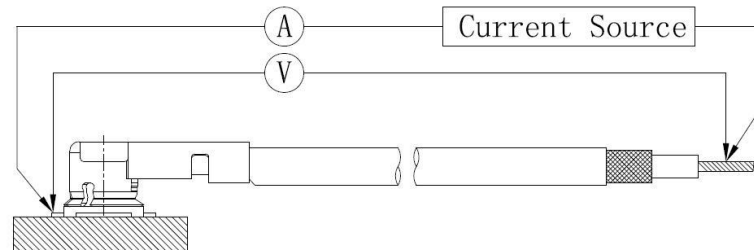


Fig.3 Contact Resistance

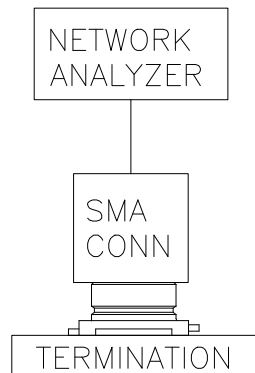


Fig.4 VSWR

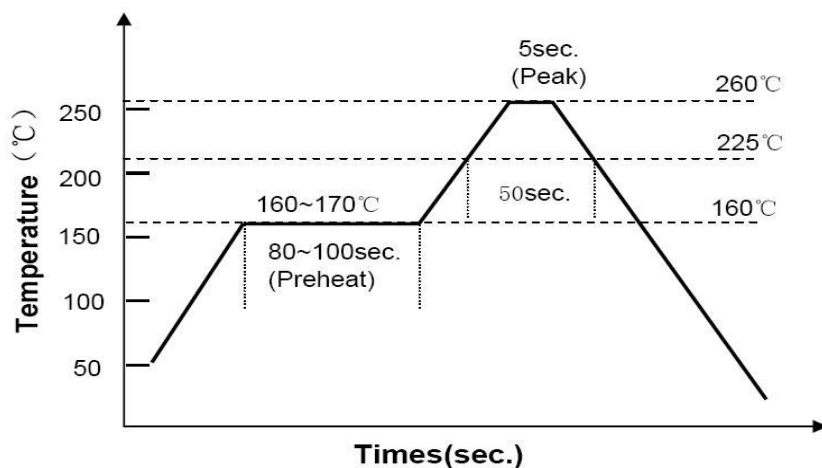


Fig.5 Soldering Heat Resistance

BNC RF CONNECTOR BNC射频连接器

1.1 Specifications

型号 Antennas Type	
阻抗 Impedence (Ω)	50 Ω 75 Ω
电压驻波比 V.S.W.R	<1.2+0.02f (GHZ)
频率范围 Frequenc Range(MHz)	DC~3GHz (软电缆)
工作电压 DC Voltage (V)	500Vr. m. s
介质耐压 Withstand Voltage(V)	1500Vr. m. s
接触电阻 Contact resistance()	内导体 5mOhm 外导体 2.5mOhm
绝缘电阻 Insulation resistance	1000 兆欧
插入损耗 Insert Loss	0. 20dB/3GHz
射频泄漏 RF leakage	-60dB/-90dB (软电缆/半刚电缆) @2-3GHz
耐用性 Durability(mating)	500 次
壳体 shell	磷铜镀硬金
插针 contact pin	黄铜镀硬金
插孔 socket	铍青铜镀硬金
绝缘体 insulator	聚四氟乙烯
重量 Weight(g)	None
工作温度 OperatingTemperature(°C)	-55~+155 C (PE Cable -40~+85° C)

*注:因天线功能较为敏感。主体周边机构有变更请通知我们评估。

BNC RF CONNECTOR

BNC射频连接器

2. Electrical Specification

2.1 Test Equipment

- A. VSWR and input impedance: Agilent 8753/E5071 Network Analyzer
- B. Antenna gain and efficiency: ETS three-dimensional anechoic chamber

2.2 Test Setup

2.2.1 Frequency Range

2.2.2 VSWR

Step 1: The antenna is arranged on the customer provided test fixture.

Step 2: The VSWR of the antenna is measured via Agilent 8720/8753 Network Analyzer (see figure. 1).



Figure.1

2.2.3 Radiation pattern and Gain

- A. The 3D chamber provides less than -40dB reflectivity from 800MHz to 6GHz and a 40cm diameter spherical quiet zone. The measurement results are calibrated using both dipoles and standard gain horns (see figure. 2).
- B. The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 3).
- C. The measured results of the radiation patterns and antenna gain are obtained from the control system and showed on the monitor (see figure. 4 and 5).



Figure.2



Figure.3

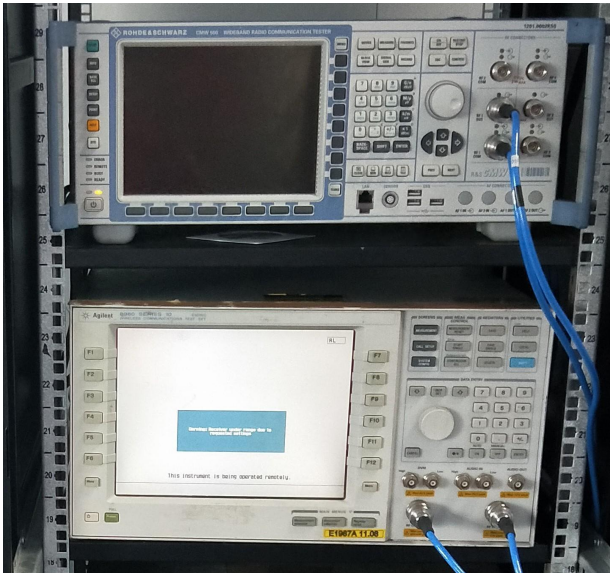


Figure.4

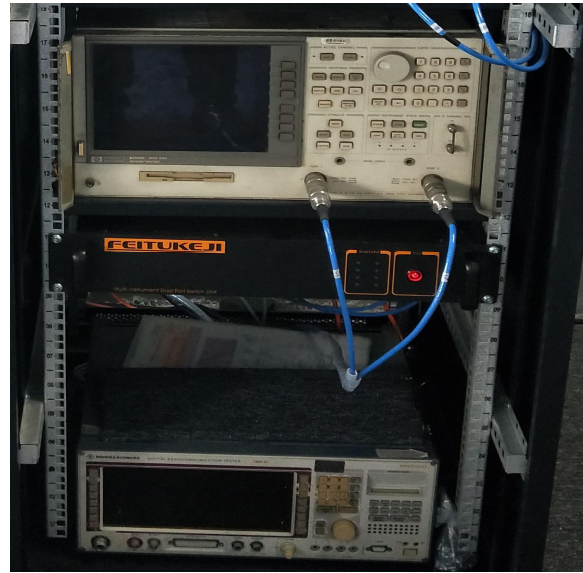


Figure.5



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DONG GUAN XI BANG ELECTRONICS CO., LTD

Product Specification

产品规格书

BNC RF CONNECTOR

BNC射频连接器

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

Revision	Date	Descriptions	Notes
A0	2023-06-8	New Release	