



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR	PS-0055			
	PLUG+CABLE	Page	1 OF 12	Rev.	B

***** 目 錄 Content *****		
項 目 Item	內 容 Description	頁 次 Page
-----	-----	-----
1.	文件目录 Content	1
2.	变更履历 Revised history	2
3.	概述 Scope	3
4.	参考文件 Referenced Documents	3~4
5.	规格要求 Requirement	5~12

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Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR	PS-0055			
	PLUG+CABLE	Page	3 OF 12	Rev.	B

1. 概述 Scope:

1.1 说明 Content

此份产品规格书是针对由昆山嘉华电子有限公司设计和制造的 **RF 1.5H 连接器** 产品所定义的产品性能和测试方法。

适用产品料号:

Plug:7.018A*-000-1B0

Rec: 7.017A*-000-1R0

This product specification defines the product performance and the test methods to ensure the performance of the **RF 1.5H CONNECTOR**, which is designed and manufactured by Kunshan Jiahua Electronics Co., Ltd.

Parts No. :

Plug:7.018A*-000-1B0

Rec: 7.017A*-000-1R0

1.2 限制 Qualification

所有的测试和检验必须依照本文件中所要求的规格、方法进行。一旦产品的重要制程发生变更，必须立即进行品质验证和测试。

Tests and inspection shall be performed in accordance with the requirements, tests and methods contained herein. A re-qualification test shall be conducted immediately following all major process changes.

2. 参考文件 Referenced Documents:

EIA-364

MIL-STD-202F

MIL-P-81728A

MIL-T-10727B

JIS C 0040

JIS C 0041

若某些项目被发现本规格书中的内容与以上参考文件要求不一致时，一律依本规格书中的内容为测试依据。

In case of any contradiction between this document and referenced documents, this document will take precedence.



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR	PS-0055			
	PLUG+CABLE	Page	4 OF 12	Rev.	B

3. 规格要求 Requirements:

3.1 应用条件 Application Condition:

3.1.1 使用环境 Operating Environment:

温度: -40°C to +85°C,相对湿度:95%MAX,此条件下功能不可失效。

Temperature:-40°C to +85°C, Relative Humidity:25%~85%, Without loss of function.

3.1.2 储存环境 Storage Environment:

温度: -55°C to +100°C,相对湿度:95%或更低,此条件下功能不可失效。

Temperature:-55°C to +100°C, Relative Humidity: 95% or Less, Without loss of function.

3.1.3 额定值 Ratings:

A. 额定电压 Voltage Rating: 60VAC

B. 公称特性 Nominal characteristic impedance:50Ω

C. 周波数 Frequency: DC0.1~6GHz

D. VSWR:

Plug 1.3Max.(100M~3G),1.4Max.(3G~6G)

Rec 1.3Max.(DC0.1~3GHz), 1.4Max.(3~6GHz)

3.2 绿色环保要求 Health, Safety and Environment

此产品中所有涉及环保有关的有害物质管控标准请参考嘉华系统文件:[JH-GP-213](#)

Hazardous substances (Environment related to be controlled substances) contained in this product should comply with the regulations specified by FAF's [JH-GP-213](#).

3.3 测试说明 Test Description

此产品性能须满足本文件 3.4 节中的各项规格要求。除非有特别申明，所有的测试和量测必须在以下条件中进行:

The product is designed to meet the requirements specified in section 3.4. Unless otherwise specified, all tests and measurements are to be performed under the following conditions:

温度 Temperature: 20°C±5°C 相对湿度 Relative Humidity: 40% to 70%

大气压 Atmospheric Pressure: 650 to 800 millimeters (25.6 to 31.5 inches) of Mercury.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR PLUG+CABLE	PS-0055			
		Page	5 OF 12	Rev.	B

3.4 测试规范和方法 Test Requirements and Methods

Table I: 性能要求 Performance Requirements

项目 Items	规格要求 Requirements	测试方法 Test Methods
3.4.1 产品外观 Visual Examination	所有零件必须组装完好, 不能出现毛边, 变形, 刮伤, 以及任何外观破坏等异常; All components shall be properly assembled and free of burrs, warps, scratches, broken chips, and other abnormalities	参考测试标准: EIA 364-18B 依照相应的文件和规格书进行外观, 功能, 及尺寸的检验量测。 Comply with method EIA 364-18B Visual, functional, and dimensional inspection complies with applicable specification and document.
3.4.2 低功率接触阻抗 Low Level Contact Resistance	Inner contact(中心导体): Initial: 20mΩ MAX After: 25mΩ MAX Ground contact(外导体) Initial: 20mΩ MAX After: 25mΩ MAX	将母座焊接在测试板上, 并且将公头插入在焊好的母座上, 采用四种端接方式(如下图1)依次测量电阻值。 Solder the receptacle connector to the test board and mate the plug connector together, then measure the contact resistance as shown in figure 1 by the four terminal method. (EIA 364-23) Open circuit voltage/放电电压: 20mV MAX Circuit current/电流: 10mA MAX
<p><u>Inner Contact/中心导体</u> A - B</p> <p><u>Ground Contact/外导体</u> D - C</p>		
3.4.3 绝缘阻抗 Insulation Resistance	Initial(初始值): 500 MΩ MIN After (测试后): 100 MΩ MIN	按照 EIA364-21, 将公母头配合在一起, 然后在内导体和拉地端之间施加 200V DC 的电压, 然后, 进行相关的测试。 Mate the plug and receptacle connector together, and then, apply DC 200 V Voltage between the inner contact and the ground contact in accordance with EIA 364-21
3.4.4 耐电压	不能有电火花产生, 绝缘不能破坏, 漏电流不能超过 2mA.	按照 EIA364-20 标准, 将公母头配合在一起, 然后在内导体和接地外导体之间施加 200V

Figure 1



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR PLUG+CABLE	PS-0055			
		Page	6 OF 12	Rev.	B

Dielectric Withstanding Voltage	No creeping discharge or flash over shall occur, Current leakage: 2mA Max.	AC的电压，并进行相关测试。 Mate the plug and receptacle connector together, and then apply AC 200 V between the inner contact and the ground contact in accordance with EIA 364-20
3.4.5 电压驻波比 VSWR	Plug: 0.1~3GHz : 1.3MAX, 3GHz~6 GHz : 1.4MAX, Rec: 1.3Max.at 0.1~3GHz, 1.4Max.at 3~6GHz.	通过网络分析仪测试 V.S.W.R, 频率范围为 100M~6GHz. Measure the V.S.W.R shown by the network analyzer Frequency : 100M~6GHz
3.4.6 插入损耗 Insertion loss	Plug: 500M~1.2GHz: 0.6dB Max. 1.5~2.3G: 0.85dB Max.	通过网络分析仪测试 Insertion loss, 频率范围为 500M~2.3GHz. Measure the Insertion loss shown by the network analyzer Frequency : 500M~2.3GHz



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:		
Product specification	RF 1.5H CONNECTOR PLUG+CABLE	PS-0055		
		Page	7 OF 12	Rev. B

项目 Items	规格要求 Requirements	测试方法 Test Methods
3.4.7 拔去力 Un-mating force	Initial(初值): 4N MIN After 30 Cycle (30次插拔后): 2N MIN	将母座焊接在测试板上,并且将公头插入在焊好的母座上,然后用插拔力测试仪以每分钟 25±3 毫米的速度测试拔出力。 Solder the receptacle connector to the test board and mate the plug connector, then measure the un-mating force at a speed of 25±3mm/minutes along by the push-push machine
3.4.8 引张强度 Crimp strength	7N Min.	通过引张试验机以每分 25+/-3 毫米/分钟的速度拉线材部分。 Pull the cable as shown at a speed of 25+/-3mm/minutes by tensile strength machine.
3.4.9 耐插拔 Durability	中心导体接触阻抗:初期 20 mΩ, 以下, 试验后 25 mΩ 以下 Contact resistance of inner contact initial 20 milli-ohm MAX. after testing 25milli-ohm MAX. 外部导体接触阻抗:初期 20 mΩ, 以下, 试验后 25 mΩ 以下 Contact resistance of ground contact initial 20 mille-ohm MAX.after testing 25milli-ohm MAX.	将连接器焊接在板上以每分钟 25±3mm 的速度插拔 30 次 Mate and un-mate the receptacle connector (soldered to the test board)and plug 30 cycles at a speed of 25±3mm/minutes along the mating by the push-on/pull-off machine.
3.4.10 线材保持力 Cable retention force	电不连续性不能超过 1 μs No electrical discontinuity grater than 1 μs shall occur	将公母头配合后。在电缆上施加的载荷不能超过下图4中的载荷值。 After the connectors are mating, do not apply a load to the cable in excess of the values indicated in the diagram below. 水平方向 360 度旋转摇摆测试

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR PLUG+CABLE	PS-0055			
		Page	8 OF 12	Rev.	B

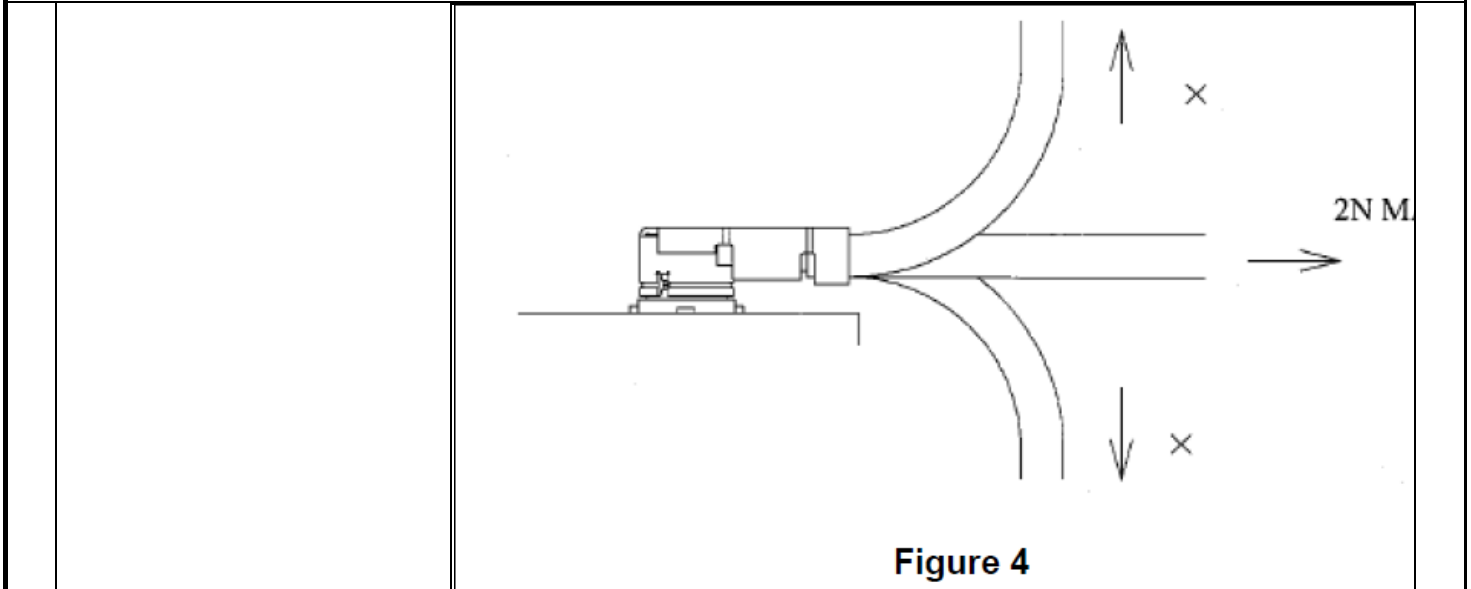


Figure 4

3.4.11	振动	Vibration	<p>外观：无损伤 接触电阻：符合要求， 电不连续性不超过 1 μs Appearance: No abnormality Contact Resistance: Shall meet No discontinuities of 1 μs or longer duration</p>	<p>将公母头配合在一起，并施加如下振动条件测试。 在测试期间,施加 100mA DC 电压,并检验电不连续性。 频率：10Hz→ 100Hz→ 10Hz/约 20minutes. 半振幅、加速度：1.5mm、59 m/s²(6G) 方向和循环次数： 3 个互相垂直方向上，各进行 3 次测量。 Apply the following vibration to the mating connector. During the testing,run 100mA DC to check electrical discontinuity. Frequency:10Hz→ 100Hz→ 10Hz/approx 20minutes. Half amplitude,Peak value of acceleration: 1.5mm or 59m/s²(6G) Directions,cycle:3 mutually perpendicular direction, 3 cycles about each direction 测试期间连接 100mA DC During the testing run 100mA DC 参考测试标准：EIA-364-28E,</p>
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Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR	PS-0055			
	PLUG+CABLE	Page	9 OF 12	Rev.	B

3.4.12 物理冲击 Physical shock	外观：无损伤 接触电阻：满足要求， 电不连续性不超过 1 μ s Appearance: No abnormality Contact Resistance: Shall meet No discontinuities of 1 μ s or longer duration	此测试程序的目的是要作一详细标准以评估连接器能承受特定严格机械冲击的能力。 The object of this test procedure is to detail a standard method to assess the ability of a connector to withstand specified severity of mechanical shock. 振幅峰值：:735m/s ² (75G) 持续时间：11 毫秒 波型：半正弦波 方向和循环次数：每 6 个相互垂直方向上各进次 3 次。 Peak value of acceleration:735m/s ² (75G) Duration :11ms Wave form : half sinusoidal Directions,cycle : 6 mutually perpendicular direction, 3cycles about each direction
3.4.13 耐湿性 Humidity	外观：无损伤 接触电阻：满足要求 绝缘电阻：满足要求 耐电压：满足要求 Appearance: No abnormality Contact Resistance: Shall meet Insulation Resistance: Shall meet Dielectric withstanding voltage Shall meet	根据EIA364-31 测试方法III,对已配合的连接器施加下列条件测试. 温度: 25~65℃ 湿度: 90~95%R.H 持续时间: 96 小时 Apply the following environment to the mating connector in accordance with EIA 364-31 Method III Temperature : 25~65℃ Humidity : 90~95%R.H Duration: 96 hours
3.4.14 热冲击 Thermal shock	外观：无损伤 接触电阻：满足要求 绝缘电阻：满足的要求 耐电压：满足要求 Appearance: No abnormality Contact Resistance: Shall meet Insulation Resistance: Shall meet Dielectric withstanding voltage	根据 EIA364-32 测试方法 III,对已配合的连接器施加下列条件测试. 温度: -55~85℃ 转换时间: 5 min Max. 循环次数: 5 次数 Apply the following environment to the mating connector in accordance with EIA 364-32 Method III

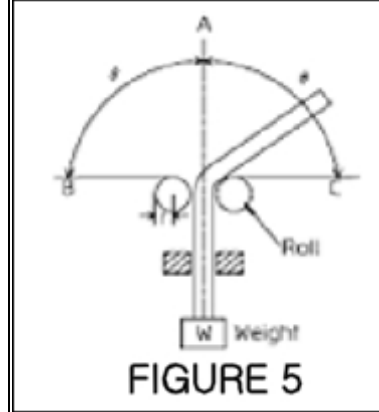


Kunshan Jiahua Electronics Co., Ltd.

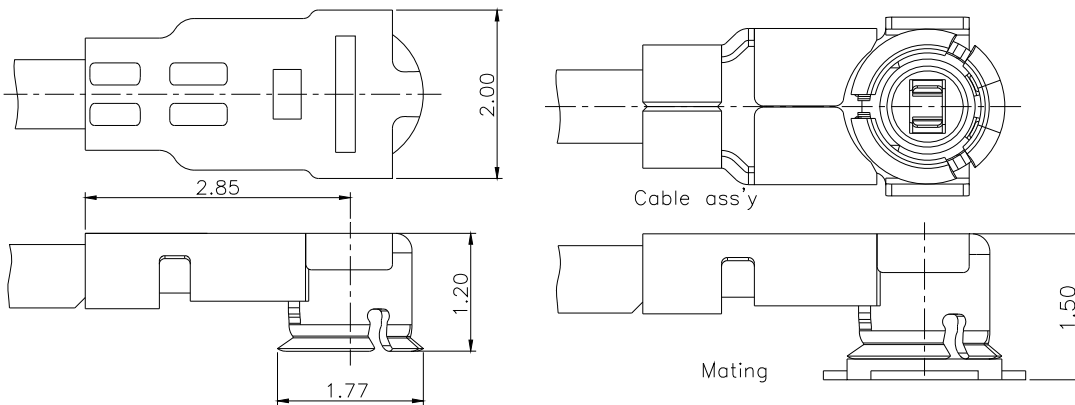
文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR PLUG+CABLE	PS-0055			
		Page	10 OF 12	Rev.	B

	Shall meet	Temperature : -55~85°C Transition time: : 5min. MAX Cycles: 5 Cycles
3.4.15 高温寿命 Temperature Life	外观：无损伤 接触电阻阻： 满足要求 绝缘电阻： 满足要求 Appearance: No abnormality Contact Resistance: Shall meet Insulation Resistance: Shall meet	按下列条件对已配合的连接器进行测试。 温度: 90+/-2°C 持续时间: 96 小时。 Apply the following environment to the mating connector Temperature : 90±2°C Duration : 96 hours
3.4.16 盐雾腐蚀 Salt spray	外观：无损伤 接触电阻： 满足要求 Appearance: No abnormality Contact Resistance: Shall meet	根据 EIA364-26 试验条件 B 中的要求,,对已配合的连接器施加下列条件测试。 温度: 35±2°C 相对湿度: 90~98%R.H 盐水浓度: 5±1% 持续时间: 48 hours Apply the following environment to the mating connector Temperature : 35±2°C Relative Humidity : 90~98%R.H Salt water density: 5±1% Duration : 48 hours EIA 364-26 Test Condition B
3.4.17 90°弯曲试验 90° Bending Test.	外观：无损伤 导通要求： 电子缆组件导通。 Appearance: No abnormality Open&Short Requirement : Short	通过弯曲测试治具将电缆连接器组件吊重 500g 砝码，使其停留 1 分钟，并按上述步骤循环进行 10 次，然后进行导通验证。 Make the cable assembly with 500g load lifted by your hand through a bend testing tool,then,leave it staying for one miniute. finally, repeat the above-mentioned steps for 10cycles ,then conduct a open&short test. Pls see the following figure 5 for details.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR PLUG+CABLE	PS-0055			
		Page	11 OF 12	Rev.	B



Specification (规格)



3.5 产品测试顺序 Test Sequence

Test of Examination	测试群组 Test Group													
	A	B	C	D	E	F	G	H	I	J	K	L		
	测试序列 Test Sequence													
产品细查 Examination of product	1,4	1,5	1	1,5	1,3	1,5	1,5	1,9	1,9	1,5	1,5	1,3		
接触阻抗 Termination resistance				2,4		2,4	2,4	2,6	2,6	2,4	2,4			
绝缘阻抗 Insulation resistance								3,7	3,7					
耐电压 Dielectric withstanding voltage								4,8	4,8					
驻波比 V.S.W.R	2													



Kunshan Jiahua Electronics Co., Ltd.

文件名称 System Name:	产品品名 Description:	文件编号 Document No.:			
Product specification	RF 1.5H CONNECTOR	PS-0055			
	PLUG+CABLE	Page	12 OF 12	Rev.	B

插入损耗 Insertion loss	3													
拔去力 Unmating force		2,4												
引张强度 Crimp strength			2											
耐久性 Durability		3		3										
线缆保持力 able retention force					2									
振动 Vibration						3								
机械冲击 Physical shock							3							
耐湿性 Humidity								5						
热冲击 Thermal Shock									5					
温度寿命 Temperature life										3				
盐水喷雾 Salt spray											3			
90° 弯曲试验 90° Bending Testing												2		
样品数量 Sample QTY(PCS)	5	5	5	5	5	5	5	5	5	5	5	5	5	5