



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 1.2H CONNECTOR	PS-0071		
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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 1.2H 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:7.019A*-000-1R0

Receptacle:7.020A*-000-1R0

This product specification defines the product performance and the test methods to ensure the performance of the **RF 1.2H CONNECTOR**, which is designed and manufactured by Kunshan Jiahua Electronics Co., Ltd.

Parts No. :

Plug:7.019A*-000-1R0

Receptacle:7.020A*-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.



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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 +90°C,相对湿度:25%~85%,此条件下功能不可失效。

Temperature:-40°C to +90°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.(DC0.1~3GHz),1.5Max.(3~6GHz)

Receptacle 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:

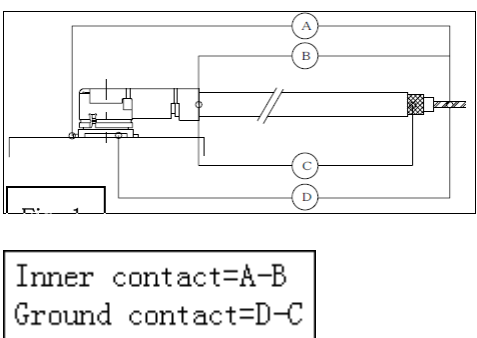
温度 Temperature: 15~35°C

相对湿度 Humidity: 45% ~ 75%

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3.4 测试规范和方法 Test Requirements and Methods

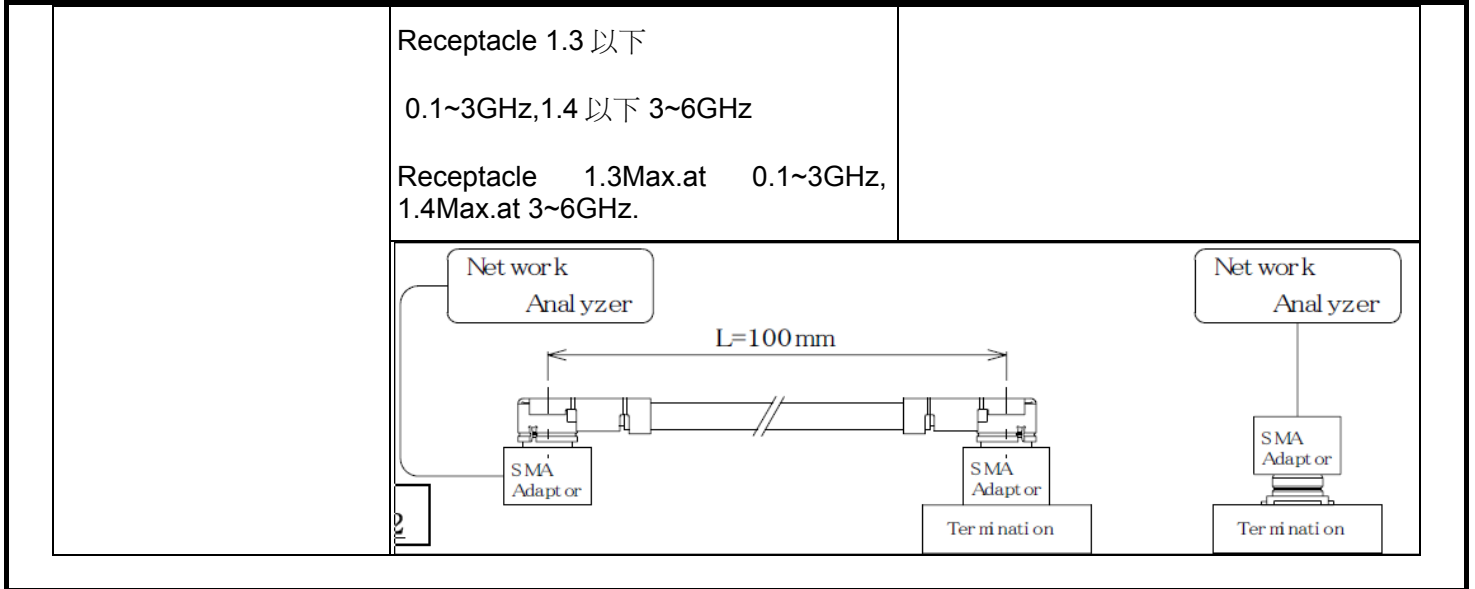
Table I: 性能要求 Performance Requirements

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	初值最大 20mΩ 20mΩ Max Initial 终值最大 40mΩ 40mΩ Max. Final.	
3.4.3 绝缘阻抗 Insulation Resistance	初期最小 500 MΩ 500 MΩ Min Initial 终期最小 100 MΩ 100 MΩ Min Final	参考测试标准: EIA-364-21D. 在相邻两支端子之间加 100V 直流电压并保持 1 分钟, 测出阻抗值. Comply with method EIA-364-21D. Insulation resistance is measured between adjacent contacts after applying 100V DC for 1 minutes.
3.4.4 耐电压 Dielectric Withstanding Voltage	加电压期间漏电流不超过 0.5mA. 同时不能产生电弧以及而产生的短路和破坏产品的绝缘性能. No evidence of breakdown or flash burn. No burn caused by short circuit. No insulation destruction. Current leakage: 0.50 mA Max.	参考测试标准: EIA-364-20D,方法 B; 在产品以及与之配对的 plug 之间加 200V 交流电压保持 1 分钟, 监控漏电流. Comply with method EIA-364-20D, Test Method B. apply 200V AC 1 minute at sea level on tested plug and connectors.
3.4.5 电压驻波比 VSWR	Plug 1.3 以下 0.1~3GHz, 1.5 以下 3~6GHz Plug 1.3Max.at 0.1~3GHz, 1.5Max.at 3~6GHz	周波数:100M~6GHz Measure the VSWR as shown by the network analyzer.Frequency:100M~6GHz



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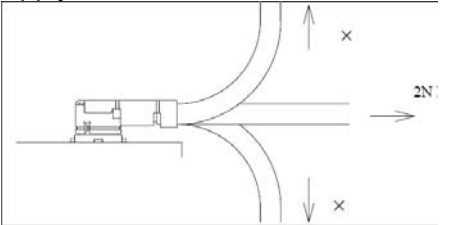


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项目 Items	规格要求 Requirements	测试方法 Test Methods
3.4.6 拔去力 Un-mating force	综合拔去力:初回拔去力 5N 以上, 30 回后拔去力 3N 以上 Total un-mate force: Initial 5N Min. after 30 cycles 3N Min	插拔试验机以每分 25±3mm 的速度进行插拔 Un-mate the receptacle connector(soldered to the test board)and plug at a speed 25±3mm/minutes along the mating by the push-on/pull-off machine
3.4.7 引张强度 Crimp strength	10N 以上 10N 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 25+/-3mm/minutes by tensile strength machine.
3.4.8 耐插拔 Durability	中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下 Contact resistance of inner contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX. 外部导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下 Contact resistance of ground contact initial 20 mille-ohm MAX.after testing 40milli-ohm MAX. 外观无损伤 No abnormality	母头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 25±3mm/minutes along the mating by the push-on/pull-off machine. 参考测试标准: EIA-364-09C;

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3.4.9	线材保持力	Cable retention force	<p>部品无外观及其它异常.</p> <p>Appearance: Looseness between the parts, chipping, breakage or other abnormality shall not occur</p> <p>试验中无 1 微秒的电流中断</p> <p>Electrical discontinuity :No electrical discontinuity grater than 1 micro-sec.shall occur.</p> <p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of inner contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX.</p> <p>外部导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of ground contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX.</p>	<p>施加力于图 Fig.1 方向</p> <p>Apply force on the cable as shown</p>  <p>试验期间工作电流 100mA DC, 检查瞬间电流中断.</p> <p>During the testing, run 100mA DC to check electrical discontinuity.</p>
3.4.10	振动	Vibration	<p>外观无异常</p> <p>Apply the following vibration to the mating connector.</p> <p>试验中不得有超过 1 微秒的漏电流产生</p> <p>Electrical discontinuity: No electrical discontinuity grater than 1micro-sec.shall occur.</p>	<p>嵌合状态下振动, 试检中电流瞬断的确认.</p> <p>Apply the following vibration to the mating connector.</p> <p>周波数: 10Hz-100Hz-10Hz 约 20 分</p> <p>Frequency: 10Hz-100Hz-10Hz/approx 20 minutes.</p> <p>片 振幅, 加速度: 1.5mm or</p>



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	<p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40mΩ 以下</p> <p>Contact resistance of inner contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX.</p> <p>外部导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of ground contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX.</p>	<p>59m/s²(6G)</p> <p>Half amplitude, peak value of acceleration:1.5mm or 59m/s²(6G)</p> <p>方向:三个互相垂直的方向 3 次实施.</p> <p>Directions,cycle:3 mutually perpendicular direction,3 cycles for each direction.</p> <p>测试期间连接 100mA DC</p> <p>During the testing run 100mA DC</p> <p>参考测试标准: EIA-364-28E,</p>
<p>3.4.11</p> <p>物理冲击</p> <p>Physical shock</p>	<p>外观无异常</p> <p>Appearanec:Looseness between the parts,chipping,breakage or other abnormality shall not occur.</p> <p>不得有超过 1 微秒的漏电流产生.</p> <p>Electrical discontinuity: No electrical discontinuity grater than 1 micro-sec.shall occur.</p> <p>中心导体接触阻抗:初期 20 mΩ 以下, 试验后 40 mΩ 以下.</p> <p>Contact resistance of inner contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX.</p> <p>外部导体接触阻抗:初期 20 mΩ 以下, 试验后 40 mΩ 以下.</p> <p>Contact resistance of ground contact initial 20 milli-ohm MAX. after testing 40milli-ohm MAX.</p>	<p>嵌合状态在冲击试验机下冲击,试验中 DC100mA 电流的瞬断确认。参考标准 EIA-364-27B.</p> <p>Apply the following vibration to the mating connector in accordance with MIL-STD-202,Method213,Condition B.During the testing, run 100mA DC to check electrical</p> <p>最大加速度:735m/s²(75G)</p> <p>Peak value of acceleration:735m/s²(75G).</p> <p>Duration:11msec</p> <p>Wave Form: half sinusoidal</p> <p>Diretions,cycle:6 mutually pcrpcndicular,3 cycles about each direction.</p> <p>参考测试标准: EIA-364-27B.</p>



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<p>3.4.12 耐湿性 Humidity</p>	<p>部品无外观及其它异常</p> <p>Appearance: Looseness between the parts, chipping, breakage or other abnormality shall not occur.</p> <p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of inner contact initial 20 milli-ohm MAX.after testing 40milli-ohm MAX.</p> <p>外部导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of ground contact initial 20 mille-ohm MAX.after testing 40milli-ohm MAX</p> <p>绝缘阻抗:初期 500MΩ 以上,试验后 100MΩ 以上.</p> <p>Insulation resistance: initial 500 mega-ohm MIN.after testing 100 mega-ohm MIN.</p> <p>耐电压:沿面放电,空中放电,绝缘破坏无异常发生.</p> <p>D.W.Voltage:No creeping discharge,flashover,nor insulator breakdown shall occur</p>	<p>嵌合状态的连接器在以下环境放置.</p> <p>Apply the following environment to the mating connector in accordance with</p> <p>温度:313+/-2K(40+/-2°) Temperature:313+/-2K(40+/-2°)</p> <p>湿度:90~95%RH Humidity:90~95%RH</p> <p>时间:96 小时 Duration:96 hours</p> <p>参考测试标准: EIA-364-31C 中方法 II,条件 A;</p>
<p>3.4.13 热冲击 Thermal shock</p>	<p>部品无外观及其它异常</p> <p>Appearance: Looseness between the parts, chipping, breakage or other abnormality shall not occur.</p>	<p>嵌合状态的连接器在以下环境</p> <p>Apply the following environment to the mating connector.</p>



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	<p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of inner contact initial 20 milli-ohm MAX.after testing 40milli-ohm MAX.</p> <p>外部导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of ground contact initial 20 mille-ohm MAX. after testing 40milli-ohm MAX</p> <p>绝缘阻抗: 初期 500MΩ 以上, 试验后 100MΩ 以上.</p> <p>Insulation resistance: initial 500 mega-ohm MIN.after testing 100 mega-ohm MIN.</p> <p>耐电压: 沿面放电, 空中放电, 绝缘破坏无异常发生.</p> <p>D.W.Voltage: No creeping discharge, flashover, nor insulator breakdown shall occur</p>	<p>温度 Temperature: 218K(-55°C) :30 min. ↔ 358K(85°C): min.</p> <p>移动时间 Transition time: 5 min. Max.</p> <p>回数 No.of cycles: 5 cycles</p> <p>参考测试标准: EIA-364-32E;</p>
<p>3.4.14 高温寿命 Temperature Life</p>	<p>部品无外观及其它异常</p> <p>Appearance: Looseness between the parts, chipping breakage or other abnormality shall not occur</p> <p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下</p> <p>Contact resistance of inner contact initial 20 milli-ohm</p>	<p>嵌合状态的连接器放置以下环境</p> <p>Apply the following environment to the mating connector in accordance</p> <p>温度 363+/-2K(90+/-2°)</p> <p>Temperature: 363+/-2K(90+/-2°)</p> <p>时间: 96 小时</p> <p>Duration: 96 hours</p>



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	<p>MAX.after testing</p> <p>40milli-ohm MAX</p> <p>外部导体接触阻抗:初期 20 mΩ 以下, 试验后 40 mΩ 以下..</p> <p>Contact resistance of ground</p> <p>contact initial 20 mille-ohm</p> <p>MAX.after testing</p> <p>40milli-ohm MAX</p>	<p>参考测试标准: EIA-364-17B;</p>
<p>3.4.15</p> <p>硫化氢测试</p> <p>H2S Gas</p>	<p>外观无异常,性能良好</p> <p>Appearance no abnormality</p> <p>adversely affecting the performance shall occur</p> <p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下.</p> <p>Contact resistance of inner</p> <p>contact initial 20 milli-ohm</p> <p>MAX.after testing</p> <p>40milli-ohm MAX.</p> <p>外部导体接触阻抗:初期 20 mΩ 以下, 试验后 40 mΩ 以下.</p> <p>Contact resistance of ground</p> <p>contact initial 20 mille-ohm</p> <p>MAX.after testing</p> <p>40milli-ohm MAX</p>	<p>嵌合状态的连接器放置于以下条件 下:</p> <p>Apply the following environment to the mating connector in accordance</p> <p>温度: 313+/-2K(40+/-2°)</p> <p>Temperature:313+/-2K(40+/-2°)</p> <p>湿度: 80+/-5%RH</p> <p>Relative Humidity: 80+/-5%RH</p> <p>气体:H2S 3+/-1ppm</p> <p>Gas:H2S 3+/-1ppm</p> <p>时间:96 小时</p> <p>Duration:96 hours</p>
<p>3.4.16</p> <p>盐雾腐蚀</p>	<p>外观无异常,性能良好</p> <p>Appearance no abnormality</p>	<p>嵌合状态的连接器放置于以下条件 下:</p> <p>Apply the following environment to</p>



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Salt spray	<p>adversely affecting the performance shall occur</p> <p>中心导体接触阻抗: 初期 20 mΩ, 以下, 试验后 40 mΩ 以下.</p> <p>Contact resistance of inner contact initial 20 milli-ohm MAX.after testing 40milli-ohm MAX.</p> <p>外部导体接触阻抗:初期 20 mΩ 以下, 试验后 40 mΩ 以下.</p> <p>Contact resistance of ground contact initial 20 mille-ohm MAX.after testing 40milli-ohm MAX</p>	<p>the mating connector in accordance with MIL-STD-202,Method 101,Condition B</p> <p>温度: 308+/-2K(35+/-2°)</p> <p>Temperature:308+/-2K(35+/-2°)</p> <p>盐水浓度:5+/-1%(重量比)</p> <p>Salt water density by weight:5+/-1%</p> <p>时间:48 小时</p> <p>Duration:48 hours</p> <p>参考测试标准: EIA-364-26B 中方法 101,条件 B;</p>
3.4.17 可焊性 Solder ability	<p>焊锡表面浸渍超过 95%.</p> <p>More than 95%of the dipped surface shall be wet with solder.</p>	<p>将端子沉入 245℃+/-5℃的焊液中 10+/-0.5 秒.</p> <p>Immerse the solder pin of the connector in the solder bath at245℃+/-5℃for 5+/-0.5 seconds</p>
3.4.18 耐焊接热 Soldering Heat Resistance	<p>Appearance shall not be distinct damage.</p> <p>More than 95% of the mounting pin surface shall be wet solder</p>	<p>(1) Reflow part : 533±5K (260±5℃) Peak 503K MIN. (230℃MIN.) 40~50sec.</p> <p>(2) Pre-heat part: 403~473K(130~200℃) 60~120sec.</p> <p>*Refer to reflow temperature profile.</p> <p>*The number of reflow is within 2 times.</p>



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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	M	N
产品外观 Visual Examination	1	1	1	1,5	1,5	1,5	1,5	1,9	1,9	1,5	1,5	1,5	1,3	1,3
接触阻抗(低功率) Termination resistance (Low Level)				2,4	2,4	2,4	2,4	2,6	2,6	2,4	2,4	2,4		
绝缘阻抗 Insulation resistance								3,7	3,7					
耐电压 Dielectric withstanding voltage								4,8	4,8					
电压定在波比 V. S. W. R	2													
拔去力 Unmating force		2												
引张强度 Crimp strength			2											
耐久性 Durability				3										
保持力 Cable retention force					3									
振动 Vibration						3								
物理冲击 Physical shock							3							
耐湿性 Humidity								5						
热冲击 Thermal Shock									5					
温度寿命 Temperature life										3				



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硫化氢测试 H2S Gas												3			
盐水喷雾 Salt spray													3		
可焊性 Solder ability														2	
Soldering Heat Resistance															2
样品数	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5