********** 目 錄 Content **********

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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 **0.3H MICRO SIM CARD.**产品所定义的产品性能和测试方法。

This product specification defines the product performance and the test methods to ensure the performance of the **0.3H MICRO SIM CARD.,** which is designed and manufactured by Kunshan Jiahua Electronics Co., Ltd.

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:

EIA364

MIL-STD-883B: Methods 2022 solder Testing.

ISO 7816-1:Identification Cards-integrated circuit cards with contact-dimension and location of the contacts.

GSM11.11:IETS subscriber identity module-interface specification

EIA 481-3 ,SMD tapping standard

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.

3. 规格要求 Requirements:

3.1 应用条件 Application Condition:

3.1.1 额定电流：0.5Amps DC Max. per contact
CURRENT RATING：0.5Amps DC Max. per contact

3.1.2 额定电压：100 Volt DC Max.
VOLTAGE RATING：100 Volt DC Max

3.1.3 使用环境Operating Environment:

温度: -25°C to +85°C,相对湿度:25%~85%,此条件下功能不可失效。

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

3.1.4 储存环境 Storage Environment:

温度: -40°C to +85°C,相对湿度:25%~85%或更低,此条件下功能不可失效。

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

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第 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 to 35℃

相对湿度 Relative Humidity: 25% to 75%

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

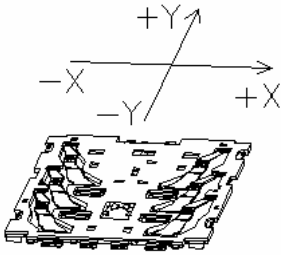
4.测试规范和方法 Test Requirements and Methods

4.1 外观 Appearance

项目 Items	规格要求 Requirements	测试方法 Test Methods
4.1 产品外观和尺寸检查 Appearance	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	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. Visual, functional, and dimensional inspection complies with applicable specification and document.

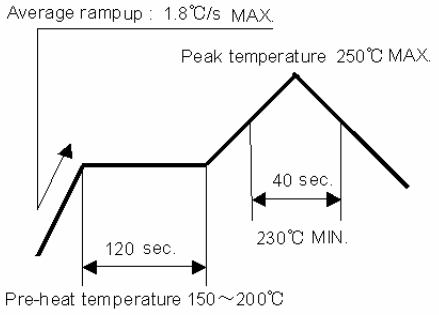
4.2 电气 性能 Electrical Performance :

4.2.1 接触阻抗 Low level contact resistance	初始接触阻抗：100mΩMax; 试验后接触阻抗：150mΩMax; Initial: 100mΩMax; After test: 150mΩMax Change	测量接触阻抗，测试电流：10mA Max. 测试电压：20mV Max . Measure contact resistance of product and test card PCB with less than current of 10 mA Max ;Open circuit voltage: 20mV Max .(exception for the conductor resistance)
4.2.2 绝缘阻抗 Insulation resistance	初始绝缘阻抗：1000 MΩ Min 试验后绝缘阻抗：100 MΩ Min Initial:1000 MΩ Min After test:100 MΩMin	测试电压：直流 500V，测试时间：1 分钟，测试相邻两端子之间的绝缘阻抗 Give DC 500V Voltage for 1 minutes and then measure insulation resistance of contact and contact
4.2.3 耐电压 Dielectric withstanding voltage	产品既无电火花也无气体产生 漏电流最大 0.2mA After the test, Neither creeping discharge nor flashover shall occur. Leakage current 0.5 mA Max	两相邻端子之间加载交流 500V 电压 1 分钟; Give AC 500 V in near contact and insulator for 1 minute

4.3 机械 性能 Mechanical Performance :		
4.3.1 正向力 Normal Force	正向力: 30gf~70gf; Normal Force : 30gf~70gf;	将测试的焊板卡座水平固定在测试台上，如有外壳保护除去外壳露出端子，将弹片端子以 25±3 millimeters/minute 的速度垂直压缩到距离塑胶面 0.1mm 位置工作高度，测量此时的正向力 NF. Level fixation the test weld PCB card socket on the test board. If removing the shell protected terminal exposed,vertical compression the clip terminal to distance of 0.1mm of the plastic surface at the speed of 25+3 millimeters/minute and testing the positive force NF at this time.
4.3.2 抓板力 Shear force	抓板力: 3.5kgf MIN Shear force: 3.5kgf MIN	产品焊板后，测量产品拔出力，测试速度：25±3mm/min,测试如图四个方向 After Soldering of testing product at PCB, Measure pulling force of Plug at 25±3mm/min; 
4.3.3 耐久 Durability	1. 试验后接触阻抗：150mΩMax; 1. 试验后接触阻抗：变化值 50mΩMax; 2. 试验后正向力每 PIN 30gf Min 3. 试验后弹高 0.47mm Min 4. 产品无断裂、无破损; 1.Aftertesting,contact resistance : 150 mΩΩMax; 2.After testing, Normal force : 30gf Min per pin 3.After testing, The height of spring isn't Less than 0.5mm 4.No have fracture, crack;	产品焊板后，用 Micro SD 中值卡重复插拔 5000 次，速度为 10 个循环/分， After Soldering of testing product at PCB, Repeat insert withdrawal of card as 5000 cycle to parallel 1 cycle:10 sec (10times per minute)

4.3.4 振动 Vibration	1 没有物理损坏，端子无变形 2 不产生超过 1 微秒的瞬断 1No have fracture ， crack，terminal contact point shake of product 2 No electrical discontinuity longer than 1 u sec.	半正选波，通以1mA DC电流。 测试频率:10-50-10 Hz; 振幅: 1.5mm 波形完成扫描时间:1 minute；将测试样本配合好之后在X,Y,Z 3个轴向各测试2小时，共6小时。 half-sine wave, apply 1mA DC current。 frequency:10-50-10 Hz; amplitude: 1.5mm sweep time:1 minute the connector condition is PCB mounting and connector& testing board mating ,it must be tested 2 hours in each of the 3 axis(X,Y,Z),total 6 hours. Per EIA-364-28
4.3.4 机械冲击 Mechanical Shock	1 没有物理损坏，端子无变形 2 不产生超过 1 微秒的瞬断 1No have fracture ， crack，terminal contact point shake of product 2 No electrical discontinuity longer than 1 u sec.	产品插卡后依如下条件测试： 半正选波，通以1mA DC电流。 测试的重力加速度:50G(490m/s2) 测试时间：11ms.用焊板的卡座与 SIM 卡配合好之后,在 X,Y,Z 三轴 6 个方向各冲击 3 次，总共 18 次。 Mate card and subjected to the following shock conditions. half-sine wave, apply 1mA DC current Acceleration:50G(490m/s2) duration：11ms. the connector condition is PCB mounting and connector& testing board mating ,shocking apply to 3 times in each of the 6 direction of 3 axis. (Total of 18 shocks) Per EIA-364-27
项目 Items	**规格要求 Requirements**	**测试方法 Test Methods**
4.4 环境 性能 Environmental Performance :		
4.4.1 恒温恒湿 Humidity	1. 产品无损坏，端子无变形 2. 测试后接触阻抗:150mΩMax 1 .No have fracture crack ,terminal contact point deflection and shake of product 2. After testing contact resistance： 150 mΩ Max	配合后的产品在以下条件下测试： 温度：40±2°C; 相对湿度：95±3% 时间：96 hours Mated connectors shall be subjected to the following condition： Temperature：40±2°C Relative humidity：95±3%% Period：96 hours

4.4.2 耐低温 Low Temperature	1. 产品无损坏,端子无变形; 2. 测试后接触阻抗:150 mΩMax 1. No have fracture crack, terminal Contact point deflection and shake of product 2. After testing contact resistance: 150 mΩ Max	配合后的产品在以下条件下测试: 温度：-40±2°C; 时间：96 hours The card shall be mated and exposed to the condition of -40±2℃ for 96 hours. Recovery time 1~2 hours
4.4.3 耐高温 High temperature	1 产品无损坏，端子无变形 2.试验后接触阻抗: 150 mΩMax 1.No have fracture crack ,terminal contact point deflection and shake of product 2.After testing contact resistance：150mΩ Max;	配合后的产品在以下条件下测试: 温度：80±2°C 时间：96h Mated connectors shall be subjected to the following condition： temperature：85±2°C Duration：96h
4.4.4 冷热冲击 Thermal shock	测试后满足相应机械及电气规格; 测试后接触阻抗：150 mΩMax After test: 150mΩ Max	嵌合状态的连接器在以下环境 高温：60℃±2℃； 低温：-30℃±2℃ 每个状态停留时间：30 分钟； 温度变化时间：不超过 5 分钟； 循环次数：5 次 Apply the following environment to the mating connector. High temperature：60℃±2℃； Low Temperature：-30℃±2℃ Exposed time：30min Transition time：5 min. Max. No. of cycles: 5 cycles 参考测试标准：EIA-364-32;
4.4.5 盐雾测试 Salt Spray Test	1.产品无损坏，端子无变形 2.试验后接触阻抗：150 mΩ Max 1. No have fracture crack ,terminal contact point deflection and shake of product 2. After testing contact resistance：150 mΩ Max;	盐水浓度：5±1% 时间：48 小时 温度：35±2°C Mated connector shall be subjected to the following condition Concentration ： 5±1% Spray time ： 48hours Temperature ： 35±2°C

4.4.6 沾锡性测试 Solder ability	焊脚吃锡面积 95%以上 More than 95% of area dipped in molten solder should be coated by solder	温度：250℃±5℃ 粘锡时间：3±0.5 秒 Solder Temperature : 250℃±5℃ Immersion Duration：3±0.5 seconds
4.4.7 耐 Reflow 高温 Resistance to Reflow Soldering Heat	1.无损坏，端子无变形； 2.产品结构无破坏； 1.No have fracture crack ,terminal contact point deflection and shake of product 2.No have break down outer feature/structure	根据下图温度条件测试产品的耐焊接热 The connector shall be tested resistance to soldering heat in the following conditions, The temperature shall be measured on the surface of PCB 

4.5Test Sequence

Group Number	A	B	C	D	E	F	G	H
接触阻抗 Contact Resistance	1,5	1	1,3,5	1,5,7	1,3,5	1,3		
绝缘阻抗 Insulation Resistance				2,8				
耐电压 Dielectric Withstanding Voltage				3,9				
正向力 Normal Force	2,4							
抓板力 Shear force		2						
耐久 Durability	3							
振动 Vibration			2					
机械冲击 Mechanical Shock			4					
恒温恒湿 Humidity				6				
耐低温 Low Temperature Exposure					2			
耐高温 High Temperature Exposure					4			
热冲击 Thermal Shock				4				
盐雾测试 Salt Spray Test						2		
沾锡性测试 Solderability							1	
耐 Reflow 高温 Resistance to Soldering reflow Heat								1

5. Product appearance and dimendion: