

承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): U227-3531-G21017

品名规格 (PronameSpec): USB AF 短体11.0沉板1.9

送样日期 (Delivery Date): 2021/12/23

承认日期 (Acknowledge Date): 2021/12/23

Approved No:		客 户 Customer	
采 购 部 Purchasing Dept	品 质 部 QC Dept	工 程 部 Engineering Dept	确 认 Approved By
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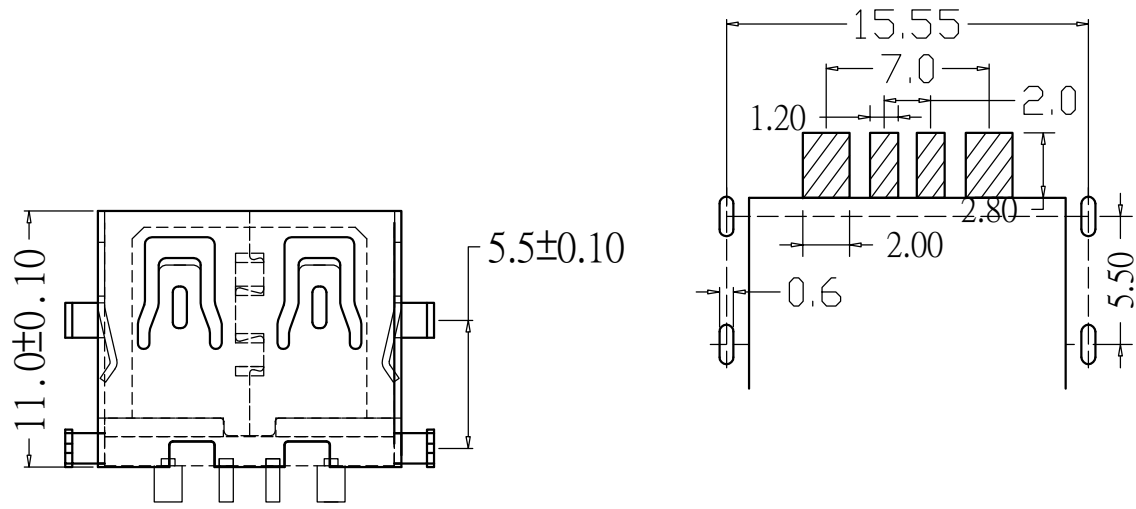
[Http://www.hlwconn.com](http://www.hlwconn.com)

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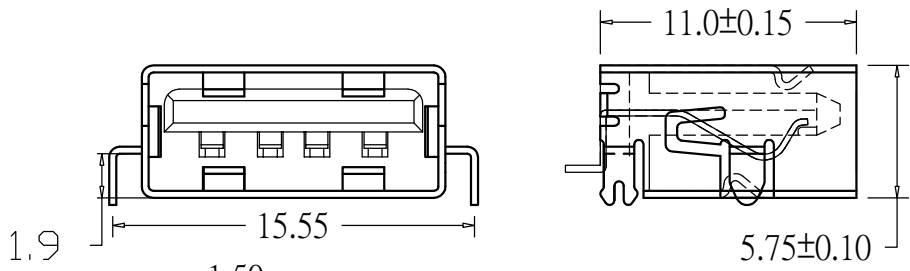
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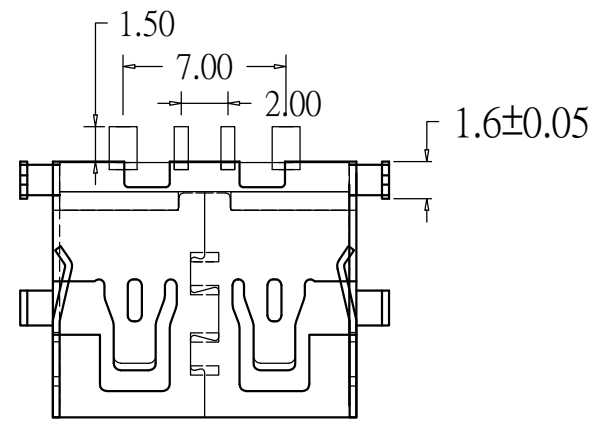
- NOTES:
- MATERIAL:
 - Housing:thermoplastic plastics
 - terminals:Copper Alloy
Gold plated in contact area:
Tin plated in termination
Nickel Plated overall
 - Shell:Steel&Copper Alloy
Nickel Plated overall
 - ELECTRICAL CHARACTERISTICS:
 - Rating Current :1.5 Ampere
 - Rating Voltage :30 V Max
 - Contact Resistance:30 Milli ohms
 - Insulation Resistance:1000 Mega ohms Min.
 - MECHANICAL CHARACTERISTICS:
 - Connector Mating force: 35N MAX(3.57Kgf)
 - Connector Unmating force:10N min(1.02Kgf)
 - Durability:1500Cycles.
 - ENVIRONMENT CHARACTERISTICS:
 - Operating temperature:-0°C to +50°C
 - Storage temperature:-20°C to +60°C



U227-3531-G21017

1:铁壳镀镍
G:半金G/Fu
2:PBT

1:吸塑盒
1:黑色



TOLERANCE UNLESS OTHERWISE SPECIFIED		HUA LIAN WEI TECHNOLOGY ELECTRONICS CO.;LTD.				
.XXX ±0.10	.XX ±0.20	.X ±0.30	.X' ±3'	.XX' ±2'		
APPROVED		PART NAME:	AF 11.0短体 沉板1.9			
CHECKED		PART No:	U227-3531-G21017	C		
DRAWN	chenyiting	PROJECTION:	UNIT:	SCALE	SHEET	REV.
DATE	2023.03.31		mm	1:1	1 OF 1	A

USB2.0系列产品SPEC

版本版次: C

制定日期 20200707

适用范围 通用

1. Scope (范围)

1.1 Contents(内容)

This specification covers the requirements for product performance and test methods of USB 2.0 Connector Product Specification shall be of the design, construction and physical dimensions specified in the applicable product drawing.

(本规范涵盖了USB 2.0连接器产品性能要求和测试方法, 产品规范应按照适用产品图纸规定的设计、构造和物理尺寸进行。)

2. Requirements (要求):

2.1 Rating(额定条件)

A. Voltage rating(额定电压):30V AC

B. Current rating(额定电流):1.5A

C. Storage Temperature Range : -20°C to +60°C ;储存温度范围:-20°C~ +60°C ;

Operating Temperature Range: -35°C to +85°C ;工作温度范围:-35°C~ +85°C ;

Nominal Temperature Range: +30°C标称温度范围:+30°C

3.0 Test Condition: All tests shall be performed as bellow conditions unless otherwise specified.

试验条件:除另有规定外, 所有试验均应在下列条件下进行。

3.1 Temperature range : +15°C ~+35°C 温度范围:+15°C~+35°C

3.2 Humidity range: 25% to 85%湿度范围:25% ~ 85%

3.3 Atmospheric Pressure : 86kPa to 106 kPa (860 to 1060 mber) 大气压力:86kPa至106kpa(860至1060 mber)

4. Test Methods and Requirements:(测试方法及要求)

4.1 Examination of product (产品外观)

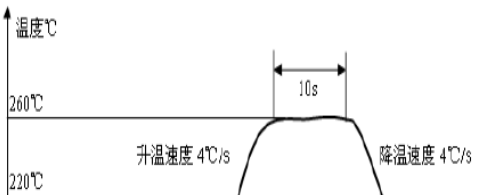
4.1.1	Examination of Product 产品外观	<p>VEIA 364-18 Shall be confirmed with eyes in accordance with each drawing. Shall be confirmed by using proper measuring instruments. 应根据每张图纸用眼睛确认。应使用适当的测量仪器进行确认。</p>	<p>1).Outward appearance shall be good without such injurious problem 外观应该是好的, 没有这样有害的问题 2).Structure shall be meet the design and dimensional requirements of drawing. 2)结构应满足图纸设计和尺寸要求。</p>
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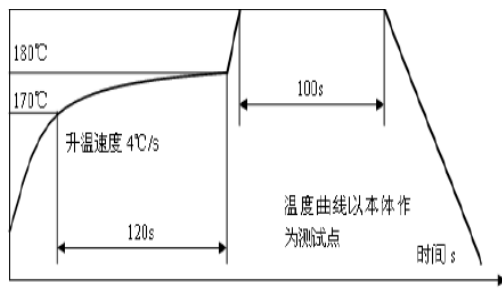
4.2. Electrical Performance(电气性能)

4.2.1	Contact Resistance 接触阻抗	<p>EIA 364-23 The object of this test is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, wll not be broken or asperity melting will not occur. 该测试的目的是详细制定标准方法来测量一对配对接触器的电阻, 以保证绝缘膜(如果存在的话)不会破裂或表面粗糙不会熔化。</p>	<p>Subject mated contacts assembled in housing to 20mV maximum open circuit at 100 mA maximum 1).Initial: 30 mΩ Max 2).After test::40 mΩMax 受检者安装在外壳中, 最大开路电压为20mV, 最大开路电压为100ma 1)初始:30 mΩMax 2)试验后::40 mΩMax</p>
4.2.2	Dielectric Withstanding Voltage (耐电压)	<p>EIA 364-20 Test between adjacent contacts of mated and unmated connector assemblies. The object of this test procedure is to detail a test method to prove that a MICRO USB connector can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and/or other similar phenomena. 配对和未配对连接器组件的相邻触点之间的测试。 该测试程序的目的是详细说明一个测试方法, 以证明一个微型USB连接器可以在其额定电压下安全运行, 并承担由于开关、浪涌和/或其他类似现象造成的瞬时过电位。</p>	<p>1. No Breakdown or flashover 2. Leakage current:0.5mA Max 1. 不能有损坏或跳火花 2. 漏电流<0.5mA</p>
4.2.3	Insulation Resistance 绝缘电阻	<p>EIA 364-21 Test between adjacent contacts of mated and unmated connector assemblies. The object of this test procedure is to detail a standard method to assess the insulation resistance of MICRO USB connectors. This test procedure is used to determine the resistance offered by insulation connector to a DC potential current through or on the suface of the members. 配对和未配对连接器组件的相邻触点之间的测试。 这个测试程序的目的是要详细制定一个标准方法来评估微型USB连接器的绝缘电阻。该测试程序用于确定绝缘连接器对通过或在构件表面的直流电势电流所提供的电阻。</p>	<p>1)。初始:1000 MΩ最小 2)。耐久后:1000 MΩ最小</p>

4.3Mechanical Performance(机械性能)

4.3.1	Connector Mating Force 插入力	EIA 364-13 The object of this test is to detail a standard method for determining the mechanical forces required for inserting a USB 2.0 connector. 这个测试的目的是要详细说明一个标准方法来确定插入一个USB连接器所需的机械力。	Measure force necessary to mate assemblies at maximum rate of 12.5mm (or 0.492") per minute. 1).Initial : 35 Newtons (or 3.57Kgf) Maximum 2).After test: 35 Newtons (or 3.57Kgf) Maximum 测量在最大速率为每分钟12.5毫米(或0.492")时装配组件所需的力。 1)。初始值:35牛顿(或3.57Kgf)最大值 2)。测试后:最大35牛顿(或3.57K
4.3.2	Connector Unmating Force 拔出力	EIA 364-13 The object of this test is to detail a standard method for determining the mechanical forces required for extracting a MICRO USB connector. 该测试的目的是详细的标准方法,以确定机械力量所需的提取USB 2.0连接器。	Measure force necessary to mate assemblies at maximum rate of 12.5mm (or 0.492") per minute. 1).Initial : 10 Newtons (or 1.02Kgf) Minimum 2).After test: 8Newtons (or 0.81Kgf) Minimum 测量在最大速率为每分钟12.5毫米(或0.492")时装配组件所需的力。 1)。初始值:10牛顿(或1.02Kgf)最小值 2)。测试后:最小8牛顿(或0.81Kgf)
4.3.3	Durability 耐久测试	EIA 364-09 The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a USB 2.0 connector to the conditioning action of inserting and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress. 本测试程序的目的是详细制定一套统一的测试方法,以模拟连接器的预期寿命,以确定将微型USB连接器置于插入和提取的条件作用下所产生的影响。带量规的耐用自行车仅用于生产机械应力。配合部件的耐久性是为了产生机械应力和磨损应力。	Mate and unmate Connector assemblies for 1500 cycles at maximum rated of 200 cycles per hour. 1).Shall meet visual requirement, show no physical damage. 连接器组件,最大额定功率为每小时500个循环,可使用1500个循环。 1)。应符合视觉要求,无物理损伤。
4.3.4	Contact Retention Force 端子保持力	EIA 364-35 Shall be measured with tester gauge or tension tester in same direction.应用测试仪或拉力测试器在同一方向进行测量。	1).Initial : 0.4 Kgf minimum 2).After test: 0.4 Kgf minimum 1)。初始值:最小0.4 Kgf 2)。测试后:最小0.4 Kgf
4.3.5	Physical Shock 物理冲击	EIA364-27B The object of this test procedure isto detail a standard method to assess the ability of a USB 2.0 connector to withstand specific severity of mechanical shock.此测试程序的目的是详细制定一个标准方法来评估USB 2.0连接器承受特定严重机械冲击的能力。	No discontinuities of 1 μs or longer duration when mated USB 2.0 connectors are subjected to 11 ms duration 50 Gs half-sine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks. 当配对USB 2.0连接器受到11 ms duration 50gs半正弦冲击脉冲时,没有1个小部件或更长的持续时间。沿三个相互垂直的平面,每个方向施加三次冲击,共施加18次冲击。
4.3.5	Random Vibration 随机振动	EIA 364-28 D This test procedure is applicable USB 2.0 connectors that may, in service, be subjected to conditions involving vibration. Whether USB 2.0 connector has to function during vibration or merely to survive conditions of vibration should be clearly stated by the detailed product specification. In either case, the relevant specification should always prescribe the acceptable 本测试程序适用于使用中的USB 2.0连接器,该连接器可能会受到振动的影响。USB 2.0连接器是否必须在振动中工作,或仅仅是在振动条件下生存,应清楚地说明在详细的产品规格。在任何一种情况下,相关的规范都应该规定可接受的性能公差	Subject mated connectors to 10~55~10Hz traversed in 1 minute at 1.52mm amplitude 2 hours each of 3 mutually perpendicular planes. 1).No discontinuities of 1 受试者将连接器配置为10~55~10Hz,在1分钟内以1.52mm振幅穿过3个相互垂直的平面,每个平面2小时。 1)。不存在1的不连续点
4.4 Environmental Performance			
4.4.1	Thermal Shock 高温老化	EIA 364-32 Test Condition I The object of this test is to determine the resistance of a USB 2.0 connector to exposure at extremes of high and low temperatures and to the shock of alternate exposure to these extremes, simulating the worst	10 cycles -35 °C and +85 °C. for 30minutes. The USB 2.0 connectors under test must be mated. 10次循环-30℃和+80℃。30分钟。被测试的USB 2.0连接器必须被配对。

		case conditions for storage, transportation, and application. 这个测试的目的是确定一个USB 2.0连接器的电阻暴露在极端的高温和低温和冲击交替暴露在这些极端，模拟存储，运输和应用的最坏情况。	
4.4.2	Temperature Life 温升测试	EIA 364-17 Test Condition 3 Method A, The object of this test procedure is to detail a standard method for the evaluation of the properties of materials used in USB 2.0 AM PLUG connectors as these influenced by the effects of high heat EIA 364-17试验条件3 本测试程序的目的是为评估USB 2.0 AM插头连接器中使用的材料的性能，因为这些材料受高温影响而详细制定标准方法	Subject mated connectors to temperature life at 85°C for 250hours 1). Shall meet visual requirement, show no physical damage. 受检者将连接器配置在85°C的温度下使用250小时 1)。应符合视觉要求，无物理损伤。
4.4.3	Solder ability 焊锡性	EIA 364-52 The object of test procedure is to detail a unfirm test methods for determining USB 2.0 AF connector solderability. The test procedure contained here utilizes the solder dip technique. It is not intended to test or evaluate solder cup, solder eyelet, other hand-soldered type or SMT type terminations. 测试程序的目的是详细说明确定usb2.0 AF连接器可焊性的不牢固的测试方法。这里所包含的测试程序使用了浸焊技术。它不打算测试或评估锡杯，锡孔，其他手焊类型或SMT类型端子。	The surface of the portion to be soldered shall at least 95% covered with new solder coating, as specified in Category 按照第2类的规定，待焊接部分的表面至少90%覆盖新焊料涂层。
4.4.4	Humidity 恒温恒湿	EIA 364-31, Test Condition A Method III, The object of this test procedure is to detail a standard method for the evaluation of the properties of materials used in USB 2.0 connectors as these influenced by the effects of high humidity and heat. 本测试程序的目的是为评估USB 2.0连接器中使用的材料的性能，因为这些材料受到高湿度和高温的影响而详细制定标准方法。	Subject samples to temperature of 40 ±2°C and a relative humidity of 90 ~ 95% for a period of 168 hours (seven complete cycles) .The MICRO USB connectors under test must be tested in accordance with EIA364-31. 将样品置于温度为40±2°C、相对湿度为90~95%的环境中168小时(7个完整循环)。
4.4.5	Salt Spray 盐水喷雾	The object of this test procedure is to detail a standard method for the evaluation of the properties of materials used in MICRO USB connectors as these influenced by the effects of salt spray 本测试程序的目的是为评估微USB连接器中使用的材料在盐雾作用下的性能制定标准方法	Subject mated connectors to 12 hours at 35°C with 5%-Salt-solution concentration. LowLevel Contact Resistance: 1). Initial: 30 mΩ Max 2). After test:40 mΩ Max 3). After test:No detrimental corrosion(Terminal solder tail unrequested) 受试者将连接器在35°C、5%盐溶液浓度下使用12小时。 低电平的接触电阻： 1)。初始:30 mΩ Max 2)。试验后:40 mΩ Max 3) 试验后产品无氧化，锈蚀（端子焊脚镀锡处不作要求）
4.4.6	Resistance to Soldering Heat 热耐焊性	for wave soldering : mil-std-202f,method 210 A,test condition B 波峰焊: mil-std-202f, method 210 A, 试验条件B Pre-heat : 80°C, 60 Seconds 预热:80°C, 60秒 Temperature : 260 ± 5 °C 温度:260±5°C Immersion duration : 10 ± 1 sec. 浸泡时间:10±1秒。	No physical damage shall occur. 不可有损坏
		for manual soldering :手动焊接: mil-std-202f,method 210 A,test condition A Pre-heat : No预热:没有 Temperature : 350 ± 10 °C 温度:350±10°C Immersion duration : 3.5±0.5 sec. 浸泡时间:3.5±0.5秒	No physical damage shall occur. 不可有损坏
		Solder Temp: 260±5°C,10±0.5sec 焊锡温度: 260±5°C,10±0.5sec 	No physical damage shall occur. 不可有损坏 Reflow welding is not applicable to PBT 回流焊不适用于PBT



Note 1: Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2
注1:应满足外观要求, 无物理损伤, 并满足图2试验顺序中规定的附加试验要求

3.Product Qualification And Requalification Test:产品测试顺序表 Figure 2

Test or Examination	Test Group测试组											
	A	B	C	D	E	F	G	H	I			
Test Sequence												
Examination of product 产品外观	1,9	1,3	1,7	1,7	1,5, 8	1,5	1,3	1,3	1,3			
Low Level Contact Resistance低接触电阻	2,8				2,4, 7	2,4						
Insulation Resistance绝 缘电阻			2,5	2,5								
Dielectric Withstanding Voltage耐电压强度			3,6	3,6								
Durability耐久测试	5											
Connector Mating Force 插入力测试	3,6											
Contact Unmating Force 拔出力测试	4,7											
Contact Retention Force 端子保持力		2										
Physical Shock物理冲击			4									
Random Vibration随机 振动				4								
Thermal Shock高温老 化	5				6							
Humidity耐湿测试					3							
Salt Spray盐雾测试						3						
Temperature Life(see note c)温度寿命测试							2					
Solderability可焊性测 试								2				
Resistance to Soldering Heat热耐焊性									2			
NO. of Test samples(Min.) 测试样	5	5	5	5	5	5	5	5	5			

Note:
a. Samples shall be prepare in accordance with applicable manufacture's instructions and shall be selected at random from current production.
b. The numbers in the table indicate sequence in which tests are performed.
c. All the tests shall be performed in the sequence, indicated by the number in the columns.
d. Each test groups shall consist of minimum of eight connectors. A minimum of 5 contacts shall be selected and identified. Unless otherwise specified, these contacts shall be used for all measurements.

注意:
a. 一个样品应按照适用制造商的指示准备, 并应从当前生产中随机选择。
b. 表中的数字表示执行测试的顺序。
c. 所有的测试都应该按照顺序进行, 用列中的数字来表示。
d. 每个测试组应该由至少八个连接器组成。至少要选择和识别5个触点。除非另有说明, 这些触点应使用用于所有测量。

核准: 唐竹君

制作人: 魏红

深圳市华联威电子科技有限公司
 SHENZHENHUALIANWEIELECTRONICS CO., LTD.
測試報告

TEST REPORT

品名稱 Part Name	USB AF 短体 11.0 沉板 1.9	測試日期 Date of Testing	2021-12.16 2021-12.19	報告編號 Report NO.	MD20211219-01
產品型號 Part Name	U227-3531-G21017	樣品數量 Quan tity	5PCS	測試環境 Measuring Environment	濕度 Temp:18~21°C 相對 濕度 R.H.:49%~57%

一. 電性測試 ELECTRICAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記 UTesting Result					判定 Judge	
					1	2	3	4	5	Pass	Fail
1	Contact resistance	Test current:100mA max	DIGITAL MICROOHMMETER	30m Ω Max	18.36 m Ω	17.55 m Ω	18.29 m Ω	16.72 m Ω	16.18 m Ω	P	
2	Insulation resistance	Test voltage:500VDC Operation stated:1min	ULTRA HIGH RESISTANCE METER	1000M Ω Min	Pass	Pass	Pass	Pass	Pass	P	
3	Dielectric withstand voltage	Test voltage:500VAC Cut-off current:0.5mA Operation stated:1 min	BREAKDOWN TESTER	No discharge or flashover occur	Pass	Pass	Pass	Pass	Pass	P	

二. 機械特性測試 MECHANICAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記 UTesting Result					判定 Judge	
					1	2	3	4	5	Pass	Fail
1	Durability test	Rate:200cycles/hour Total: 1500cycles	LIFE TESTER FOR CONNECTOR	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Mating Force	35 Newtons maximum at a maximum rare of 12.5mm(0.492") per minute	Insertion force testing machine	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Un-Mating Force	10 Newtons minimum at a maximum rare of 12.5mm(0.492") per minute	Insertion force testing machine	No physical damage	Pass	Pass	Pass	Pass	Pass	P	

三. 環境特性測試 ENVIRONMENTAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記 UTesting Result					判定 Judge	
					1	2	3	4	5	Pass	Fail

1	Humidity-Temperature cycle	Temperature: -30°C to 75°C Humidity: 90-95% Duration: 168H	PROGRAM CONTROLLED TEMP. & HUMIDITY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Heat test	Temperature: -40°C to 85°C Duration: 168H	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Cold test	Temperature: -25±3°C Duration: 168H	PROGRAM CONTROLLED TEMP. & HUMIDITY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
4	Temperature cycling test	Temperature: 70—25°C Duration: 5 cycle	PROGRAM CONTROLLED TEMP. & HUMIDITY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	

四. 物理測試 PHYSICAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄 Testing Result					判定 Judge	
					1	2	3	4	5	Pass	Fail
1	Salt spray test	Temperature: 35±2°C Concentration: 5±1% Duration: 12H	SALT SPRAY TESTER	No Oxidation	Pass	Pass	Pass	Pass	Pass	P	
2	Resistance to soldering heat test	Temperature: 260±5°C Duration: 10 ±1sec	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Solder ability test	Temperature: 260±5°C Duration: 10 ±1 sec	CONTROLLED CONSTANT-TEMP SOLDER POT	Soldering area 295%	Pass	Pass	Pass	Pass	Pass	P	
判定 Result		<input checked="" type="checkbox"/> 合格(ACCEPT) <input type="checkbox"/> 不合格(REJECT)									

核准(Approver): 欠必鋒

測試(Tester): 但芬

檢驗報告

首件檢驗
 入庫檢驗
 出貨檢驗
 客退檢驗
 退料檢驗
 其他

2022年06月23日 版次:A1

料號	U227-3531-G21017	制令單號	/					送檢單位	工程部	首件製作者	裝配		
品名	USB AF 短体11.0沉板1.9	客戶代號	/					批 量	/	送檢時間	/		
								數 量	5PCS	確認時間	/		
抽樣標準		<input checked="" type="checkbox"/> 單次 <input type="checkbox"/> 雙次					抽樣數 (5PCS)	AQL	CRI:0 MAJ:0.40	MIN:0.65			
MIL-STD-105E(II)		<input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加嚴 <input type="checkbox"/> 減量						ACC/REJ	0	/	/		
不良數: CRI (/) MAJ (/) MIN (/)								不良率(%)		/			
NO.	檢驗項目 單位:MM/G	檢測 儀器	檢 驗 記 錄					品管判定		CRI	MAJ	MIN	備注
			1	2	3	4	5	AC	RE				
	11.0±0.10	D	11.03	11.05	11.02	11.03	11.08	√					
	5.5±0.10	D	5.56	5.53	5.54	5.53	5.55	√					
	15.55±0.20	D	15.56	15.54	15.55	15.56	15.57	√					
	11.0±0.15	D	11.05	11.07	11.06	11.05	11.06	√					
	5.75±0.10	D	5.76	5.74	5.73	5.75	5.77	√					
	7.00±0.20	D	7.03	7.05	7.04	7.03	7.04	√					
	2.00±0.20	D	2.03	2.01	2.05	2.03	2.05	√					
檢驗依據: <input checked="" type="checkbox"/> 《工程圖紙》 <input type="checkbox"/> 《檢驗規範》 <input type="checkbox"/> 《承認書》 <input type="checkbox"/> 樣品 <input type="checkbox"/> 其它													
檢測儀器:A游標卡尺 B千分尺 C厚薄儀 D投影鏡 E放大鏡 F顯微鏡 G錫爐 H插拔力器 I間位尺 J其它													
品保判定:													
核 准 APP		欠必鋒			審 核 CHK		/		檢 驗 員 INSPBY		但 芬		

保存期限:三年

保存部門:品保部

QR-M-003

品名: USB AF 短体11.0沉板(端子)				版次:A.0	
电镀规格:Ni30u", Sn100u", Au G/Fu"			日期:2021-12-20		页次:1/1
厂商:同华					
测试设备:CMI X-射线膜厚测试仪					
1、底层电镀测试(Ni)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	30u"MIN	50.5u"	OK	2021/12/20	10:20:15
2	30u"MIN	56.3u"	OK	2021/12/20	10:20:17
3	30u"MIN	67.5u"	OK	2021/12/20	10:20:19
4	30u"MIN	62.4u"	OK	2021/12/20	10:20:21
2、表层电镀测试(Sn)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	100u"MIN	105.3u"	OK	2021/12/20	10:25:10
2	100u"MIN	104.7u"	OK	2021/12/20	10:25:12
3	100u"MIN	105.9u"	OK	2021/12/20	10:25:14
4	100u"MIN	107.4u"	OK	2021/12/20	10:25:16
3、表层电镀测试(Au)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	0.5u"MIN	0.52u"	OK	2021/12/20	10:30:32
2	0.5u"MIN	0.55u"	OK	2021/12/20	10:30:34
3	0.5u"MIN	0.53u"	OK	2021/12/20	10:30:36
4	0.5u"MIN	0.54u"	OK	2021/12/20	10:30:38

核准: 欠必锋

审核: 李娟

检验员: 但芬

电镀报告表

品名:USB AF 短体11.0沉板1.9		版次:A.0																														
电镀规格:Cu:40u"min,Ni:50u"min	日期:2021/10/24	页次:1/1																														
厂商:金和源																																
测试设备:CMI X-射线膜厚测试仪																																
2、底层电镀测试 (Cu)																																
<table border="1"><thead><tr><th>数据</th><th>测试标准</th><th>实测值</th><th>判定</th><th>测试日期</th><th>测试时间</th></tr></thead><tbody><tr><td>1</td><td>40u"min</td><td>52.5u"</td><td>OK</td><td>2021/10/24</td><td>11:40:22</td></tr><tr><td>2</td><td>40u"min</td><td>58.3u"</td><td>OK</td><td>2021/10/24</td><td>11:40:24</td></tr><tr><td>3</td><td>40u"min</td><td>55.7u"</td><td>OK</td><td>2021/10/24</td><td>11:40:26</td></tr><tr><td>4</td><td>40u"min</td><td>58.2u"</td><td>OK</td><td>2021/10/24</td><td>11:40:28</td></tr></tbody></table>			数据	测试标准	实测值	判定	测试日期	测试时间	1	40u"min	52.5u"	OK	2021/10/24	11:40:22	2	40u"min	58.3u"	OK	2021/10/24	11:40:24	3	40u"min	55.7u"	OK	2021/10/24	11:40:26	4	40u"min	58.2u"	OK	2021/10/24	11:40:28
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核准: 欠必锋

审核: 刘联英

检验员: 但芬

盐水喷雾实验报告

试验方法	盐水喷雾腐蚀试验法	参考资料	MIL-STD-1344
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	
客户	/	试验起始日期	2021年 12月22日 20:00 时起
		DATE	2021年12月 23日 08:00 时止
样品名称	USB AF 短体11.0短体	试验数量	5PCS
P/N	U227-3531-G21017	QTY	
试验条件 (TEST CONDITION)			
1、盐水溶解 (SALT SOLUTION: 浓度 $50 \pm 10\text{g/L}$, PH值6.5-7.2.			
2、试验室温度 (TEMP. IT THE SPRAY DHAMBR): $35 \pm 1^\circ\text{C}$.			
3、盐水桶温度 (TEMP. OF SALE SOL' N TANK): $35 \pm 1^\circ\text{C}$.			
4、压力桶温度 (TEMP. OF SAR SUPPLIERY): $47 \pm 1^\circ\text{C}$.			
5、试验室相对湿度 (R. H IN THE CHAMBER) 85%.			
6、压缩空气压力 (COMPRESSED AIR PRESSURE): $1.00 \pm 0.01\text{Kg/cm}^2$.			
7、样品放置位置 (SPECIMEN SUPPORTED ANGLE): 尼龙绳吊挂 $70^\circ - 90^\circ$.			
8、喷雾收集量 (COLLECT RATE OF SALT SOL' N) $1-2\text{mL}/(8 \text{ cm}^2\text{hr})$.			
9、盐雾测试时间: 12小时 (H)			
判定方法 (ADFUSGD METHOD)			
试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象, 即判定合格. (Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)			
样品序号	试验后现象	判定	
	PHENOMENON AFTER TEST	COMMENT	
1	无蓝、绿色腐蚀物之现象	OK	
2	无蓝、绿色腐蚀物之现象	OK	
3	无蓝、绿色腐蚀物之现象	OK	
4	无蓝、绿色腐蚀物之现象	OK	
5	无蓝、绿色腐蚀物之现象	OK	

核准: 欠必锋

审核: 刘联英

试验员: 但芬

材 质 证 明

兹有我司邦奇塑料科技有限公司为贵司所提供的产品不防火增加级原料 PBT 不防火加纤 20%黑色，由以下物质组成：

物品名称：PBT 不防火加纤黑色 20%

组成物质：PBT 环保树脂	60-70%
玻纤	20-25%
增韧剂	7-9%
润滑剂	0.1%
抗氧化剂	0.1%
偶联剂	0.5%
其它	0.3%
黑色母	1-2%

建议成型：

1. 烘干温度 120-140℃
2. 烘干时间 2-4 小时
3. 成型温度 240-260℃

特此证明！

东莞市邦奇塑料科技有限公司



佛山市顺德区天硕贸易有限公司

Foshan Shunde Tianshuo Trade Company Limited

日期: 2021-10-19

编号: FB2110136

收货单位PURCHASER: _____ 检验标准SPECIFICATION: <u>JIS G 3141</u>				产品名称: <u>SPCC-SD</u> 检验情况: <u>合格</u>											
产品规格 SPECIFICATION MM	钢卷号 COIL. NO	材质牌号 SYMBOL OF QUALITY	净重 WEIGHT KG	化学成份CHEMICAL COMPOSITION							力学性能MECHANICAL PROPERTIES				
				Fe %	C %	Mn %	Si %	P %	S %	AI %	抗拉强度T.S Mpa	延伸率EL (%)	屈服强度Y.S Mpa	杯突 (mm)	硬度 (HV)
0.30x1250	DL45657	SPCC-SD	7835	99	0.031	0.17	0.07	0.22	0.24		361	29	259		143
0.30x1250	DL45658	SPCC-SD	7690	99	0.032	0.16	0.07	0.21	0.22		362	30	256		141

质量控制中心:

审核: 谢和钢

制表人: 胡万银



鉅鼎銅材廠檢驗報告單

公司名稱 Customer	鉅鼎銅材廠檢驗報告單				重量 Weight(kg)	1078	出貨日期 Date	2021/11/23		
品名 Article	標準 Standard No				尺寸 Dimension		狀態 Tenper	銅卷編號 Coil No		
C2680	JISH3100:2017				0.18*400		EH	1021-C-08		
化學成分Chemical Compositions(%)										
元素 Element	Cu %	Zn%	Pb%	Fe%	\	\	\	\	化學成分	雜質
規範 Spec	64.0-68.0	餘量	<0.05	<0.05	\	\	\	\	合格	合格
實測 Actual	64.32	餘量	0.0036	0.0136	\	\	\	\	合格	合格
機械性質Mechanical Properties										
項目 Item	結晶粒度 Grain Size Mm	硬度 Hardness Hv	抗拉強度 TensionStrength Mpa	伸長度 Elongation %	導電率 Electrical Conduc %IACS	彎曲試驗 Bending Test 180	表面粗度 Surface Roughness Ra(u m)	彎曲度 Camber mm/n		
規範MAX Spec	\	170-190	490-610	\	\	\	\	\		
實測 Actual	\	178	574	5	\	\	\	\		

品質部

