

承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): U222-2921-161018

品名规格 (PronameSpec): USB AF90 度弯脚 SMT 黑铜带双耳

送样日期 (Delivery Date): 2023/08/09

承认日期 (Acknowledge Date): 2023/08/09

Approved No:		客 户 Customer	
采 购 部 Purchasing Dept	品 质 部 QC Dept	工 程 部 Engineering Dept	确 认 Approved By
深 圳 市 华 联 威 电 子 科 技 有 限 公 司 SHEN ZHEN SHI HUA LIAN WEI ELECTRONICS TECHNOLOGY CO; LTD.			
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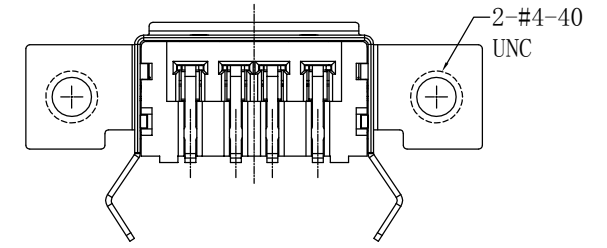
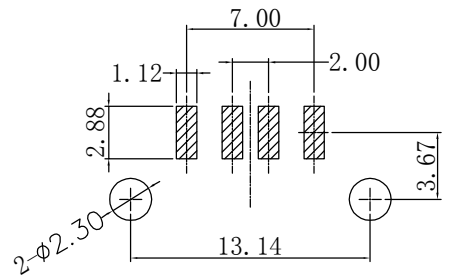
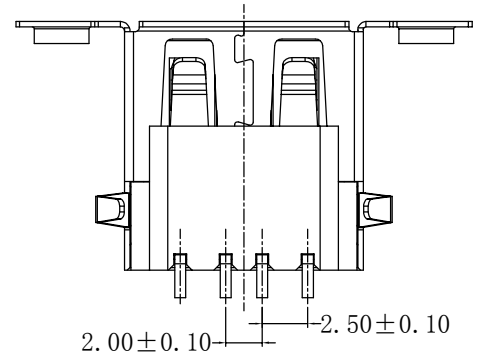
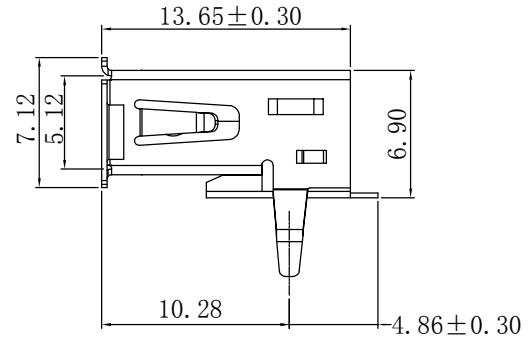
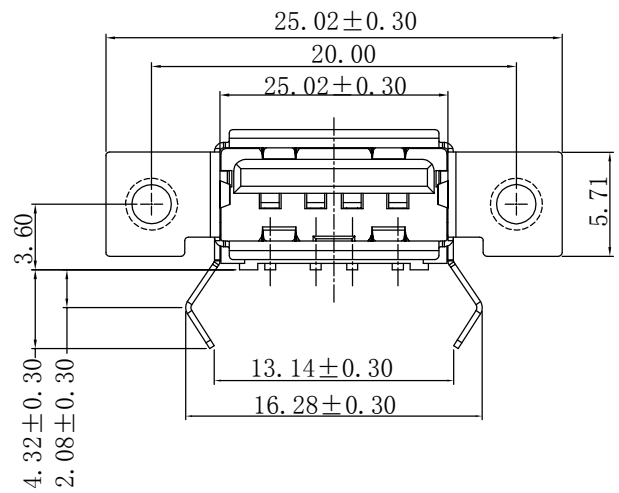
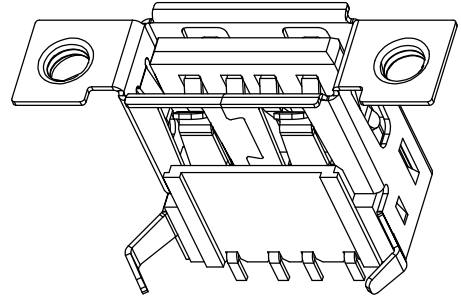
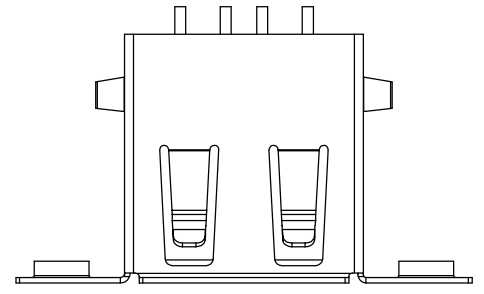
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REV.	ECN.NO.	APPD.
A0	/	/

- 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

U222-292X-XXX0X8

1:铜壳镀镍
1:吸塑盒
1:黑色
1:半金1u"
6:LCP



TOLERANCE UNLESS OTHERWISE SPECIFIED		FLW 深圳市华联威电子科技有限公司			
.XXX ±0.10 .XX ±0.20 .X ±0.30		HUA LIAN WEI TECHNOLOGY ELECTRONICS CO;LTD.			
APPROVED		PART NAME:	USB AF 90度带双耳		
CHECKED		PART No:	U222-2921-161018	C	
DRAWN	weihong	PROJECTION:	UNIT:	SCALE:	SHEET:
DATE	2023.03.15		mm	1:1	10F1
					REV. A0

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 performance, tests and quality requirements for the Electronics USB2.0 Connector.

(此份产品规格适用于USB2.0连接器的产品功能, 测试方法及质量要求)

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. Operation Temperature Range(操作温度范围):0°C to +50°C

3. Test Condition(测试条件):

3.1 Temperature range(温度范围):-+15°C to +35°C

3.2 Humidity range (湿度范围):25% to 85%

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	Visual 目视	No peeling off the plating deformation of the base or damage. 不得有电镀层剥落, 塑料变形或破损
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4.2. Electrical Performance(电气性能)

4.2.1	Contact Resistance 接触阻抗	(EIA-364-06B) Mated connectors, Contact: measure by dry circuit, 30 m Volts maximum,20 mA 配对的连接器, 端子: 测试端子在回路中施加直流最大30mV 20mA的电流再测端子的电阻值	Initial Contact resistance Excluding conductor Resistance:30 mΩ max (Target design value) 接触电阻初始值最大不能超过30 mΩ (目标设计值)
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4.2.2	Dielectric Withstanding Voltage (耐电压)	(EIA-364-20C) Unmated connectors, apply 500V AC (RMS.) for 1 minute between adjacent terminals of ground. 没有配对的连接器在相邻的端子或接地之间通上500V的交流电压1分钟	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
4.2.3	Insulation Resistance 绝缘阻抗	(EIA-364-21C) Unmated connectors, apply 500V DC for 1 minute between adjacent terminals of ground. 没有配对的连接器在相邻的端子或接地之间通上500V的直流电压1分钟	1000MΩ min (unmated) 没有配对需大于1000 MΩ
4.3 Mechanical Performance(机械性能)			
4.3.1	Insertion/Withdrawal Force 插入力/拔出力	(EIA-364-13) Insertion and withdrawal speed: 25mm/minute. 插入和拔出的速度为25mm/分	Maximum insertion force 35N 插入力不超过35N(3.57kg) Withdrawal force 9.8N min 10N max 拔出力最小10N (1.02kg)
4.3.2	Durability 寿命测试	(EIA-364-09) Measure contact and shell resistance after the Following. Automatic cycling:1500 cycles at 100±5 Cycles per hour. 以每小时100±5插拔次数测试1500循环后测量端子的接触阻抗	Contact Resistance 接触阻抗 Contact: Change from initial Value: 30 milliohms maximum. 端子: 从初始值开始变化量小于30mΩ Maximum insertion force 35N 插入力不超过35N(3.57kg) Withdrawal force 9.8N min 8N max 拔出力最小8N (1.02kg)
4.3.3	Vibration 振动	(EIA-364-28条件3) Amplitude:1.52mm P-P or 147m/s ² {15G} Sweep time: 50-2000-50Hz in 20 minutes. Duration: 12 times in each (total of 36 times) X, Y, Z, axes. Electrical load DC 100mA current shall be flowed during the test.(ANSI/EIA-364-28 Condition III) 在直流100毫安通电状态下测试, 在X,Y,Z垂直3方向上, 频率50-2000-50赫兹(加速度往复20分钟), 全振幅1.52mm P-P或147 m/s ² {15G}, 每轴12回计36回	Appearance: No damage 外观: 无损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value:30mΩ Max. 端子: 从初始值开始变化量小于30mΩ Shell Part: Change from initial Value:50mΩ Max. 间断性: 不超过1微秒

4.3.4	Physical shock 冲击性	(EIA-364-27条件A) Pulse width: 11msec Waveform: Half-sine 490m/s ² (50G) 3 strokes in each X, Y, Z axes. (ANSI/EIA-364-27 condition A) 周期: 11msec 冲击波形: 正弦半波490m/s ² (50G) 3 循环 在X, Y, Z 轴	Appearance: No damage 外观: 无损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max 端子: 从初始值开始变化量小于 30mΩ Discontinuity: 1μ sec Max. 间断性: 不超过1微秒
4.4 Environmental Performance			
4.4.1	Thermal shock test 冷热冲击	EIA-364-32C条件1) 10 cycles of: a)-55±3°C for 30 minutes b) +85±3°C for 30 minutes 10个循环, a)-55±3°C 30 分钟 b) +85±3°C 30 分钟	Appearance: No Damage. 外观: 没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max 端子: 从初始值开始变化量小于 30mΩ
4.4.2	Solder ability 焊锡性	(EIA-364-52) To be sipped in the solder bath 245±5°C Coverage for 3 seconds. 将焊锡脚浸在260±5°C的锡炉中<3秒	The inspected area of each lead must have 90% solder coverage minimum
4.4.3	Humidity 恒温恒湿	(EIA-364-31B) (A) Mate connectors together and perform the test as follows 配对的连接器测试条件 Temperature: +25°C to +85°C(温度: +25°C到 +85°C) Relative Humidity: 90% to 95%(相对湿度: 90% 到95%) Duration:4 cycles(96 hours) (持续时间: 4个循 环共96小时) Upon completion of the test, specimens shall be conditioned ambient room conditions for 24 hours, after which the specified measurements shall be performed. 试验完成后, 样品放置于室温条件中24小时 后再进行测试	Appearance: No Damage 外观, 没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max 端子: 从初始值开始变化量小于 30mΩ

		<p>(EIA-364-31B)</p> <p>(B) Unmated each connector and perform the test as follows. 没有配对的连接器测试条件 Temperature: +25°C to +85°C(温度: +25°C到+85°C) Relative Humidity: 90% to 95%(相对湿度: 90%到95%) Duration:4 cycles(96 hours) (持续时间: 4个循环共96小时)</p> <p>Upon completion of the test, specimens shall be conditioned ambient room conditions for 24 hours, after which the specified measurements shall be performed. 试验完成后, 样品放置于室温条件中24小时后再进行测试</p>	<p>Appearance: No Damage 外观, 没有损坏</p> <p>Conform to item of dielectric withstanding Voltage and Insulation Resistance. 符合耐电压及绝缘阻抗要求</p>
4.4..4	Salt Spray 盐水喷雾	<p>EIA-364-26B)</p> <p>Temperature: 35±2°C 温度: 35±2°C Concentration for salt: 50g±10g/1L 盐水浓度: 50±10g/L (1)Duration: 24H 持续时间: 24小时 Condition(条件): Contact plated gold more than 15u" (include 15 u"),and the material of shell for copper alloy, or stainless. 端子镀金厚度大于等于15 u" 且壳体材质是铜合金或是不锈钢 (2) Duration: 12H 持续时间: 12小时 Condition(条件): Contact plated gold less than 15 u" ,and/or the material of shell for steel 端子镀金厚度小于15u" 且/或壳体材质是铁材</p>	<p>No detrimental corrosion(Terminal solder tail unrequested) 产品无氧化, 锈蚀 (端子焊脚镀锡处不作要求)</p> <p>Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子: 从初始值开始变化量小于30mΩ 外壳: 从初始值开始变化量小于50mΩ</p>
4.4..5	Cold resistance (Unmated) 冷阻抗	<p>(EIA-364-17B)</p> <p>Unmated connectors and expose to -25±3°C for 250 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 没配对的连接器放置于-25±3°C温度中250小时, 当完成实验后, 样品放置一般环境中1到2小时后, 在进行测试</p>	<p>Appearance: No Damage. 外观: 没有损坏</p> <p>Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子: 从初始值开始变化量小于30mΩ 外壳: 从初始值开始变化量小于50mΩ</p>

4.4..6	Heat resistance (Unmated) 热阻抗	<p>(EIA-364-17B)</p> <p>Mated connectors and expose to 85±2°C for 250 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed.</p> <p>配对的连接器放置于85±2°C温度中250小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试</p>	<p>Appearance: No Damage. 外观：没有损坏</p> <p>Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子：从初始值开始变化量小于30mΩ 外壳：从初始值开始变化量小于50mΩ</p>
4.4..7	Thermal Aging 高温老化	<p>(EIA-364-31B, Condition 4, Method A)</p> <p>Unmated connectors and expose to +85±2°C for 250 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed.</p> <p>没配对的连接器放置于+85±2°C温度中250小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试</p>	<p>Appearance: No Damage. 外观：没有损坏</p> <p>Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子：从初始值开始变化量小于30mΩ 外壳：从初始值开始变化量小于50mΩ</p>
4.4.8	Resistance to Soldering Heat	<p>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</p> <p>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。</p>	<p>No physical damage shall occur. 不可有损坏</p>

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



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

说明1: 测试要求不能有物理损坏, 测试依据表格二的顺序进行

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

Test or Examination	Test Group													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Test Sequence														
4.1.1.Examination of Product 产品外观	1,9	1,3	1,5	1	1,5	1,5	1,5	1,3	1,5	1,5	1,5	1,5	1,5	1
4.2.1.Contact Resistance 接触阻抗	2,8		2,4		2,4	2,4	2,4		2,4	2,4	2,4	2,4	2,4	

4.2.2.Dielectric Withstanding Voltage	3,7													
4.2.3.Insulation Resistance 绝缘阻抗	4,6													
4.3.1.Insertion/Withdrawal force 插拔力	2													
4.3.2.Durability 寿命测试		3												
4.3.3.Vibration 振动性			3											
4.3.4.Physical shock 冲击性				3										
4.4.1.Thermal shock test 冷热冲击					3									
4.4.2.Solderability 焊锡性						2								
4.4.3.Humidity 恒温恒湿	5						3							
4.4.4.Salt Spray 盐水喷雾								3						
4.4.5.Cold resistance 冷阻抗									3					
4.4.6.Heat resistance 热阻抗										3				
4.4.7.Thermal Aging 高温老化												3		
4.4.8.IR-reflow 回流焊测试														2
NO. of Test samples(Min.) 测试样	5	5	5	5	5	5	5	5	5	5	5	5	5	5

NOTE 2: (a) Numbers indicate sequence in which tests are performed.

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

说明 2: (a)测试依照矩阵要求数量进行。

(b)在测试中，群组测试不能间断

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	AF 90° 弯脚 SMT 黑铜带双耳	測試日期 Date of Testing	2023.08.03 2023.08.05	報告編號 Report NO.	MD20230805-01
產品型號 Part Name	U222-2921-161018	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	30 mΩ Max	14.36 mΩ	15.32 mΩ	16.33 mΩ	15.42 mΩ	15.46 mΩ	P	
2	Insulation resistance	Test voltage:500VDC Operation stated:1min	ULTRA HIGH RESISTANCE METER	1000 MΩ 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	
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

深圳市华联威电子科技有限公司

检验报告

首件检验 入库检验 出货检验 客退检验 退料检验 其他

2023年8月07日 版次:A1

料号	U222-2921-161018	制令单号	/					送检单位	工程部	首件制作者	装配		
品名	AF 90度弯脚 SMT 黑铜带双耳	客户代号	/					批 量	/	送检时间	/		
								数 量	5PCS	确认时间	/		
抽样标准		<input checked="" type="checkbox"/> 单次 <input type="checkbox"/> 双次 <input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加严 <input type="checkbox"/> 减量					抽样数 (5PCS)	AQL ACC/REJ	CRI:0 MAJ:0.40 /	MIN:0.65 /			
MIL-STD-105E(II)									0	/	/		
不良数:		CRI (/) MAJ (/) MIN (/)							不良率(%)		/		
NO.	检验项目	检测 仪器	检 验 记 录					品管判定		CRI	MAJ	MIN	备注
	单位:MM/G		1	2	3	4	5	AC	RE				
	25.02±0.30	D	25.06	25.07	25.07	25.06	25.06	√					
	20.00±0.20	D	20.04	20.05	20.04	20.05	20.04	√					
	25.02±0.30	D	25.00	25.02	25.03	25.00	25.01	√					
	5.71±0.20	D	5.72	5.73	5.71	5.70	5.72	√					
	16.28±0.30	D	16.32	16.30	16.31	16.32	16.31	√					
	4.32±0.30	D	4.35	4.34	4.32	4.31	4.32	√					
	13.65±0.30	D	13.68	13.65	13.67	13.68	13.65	√					
	7.12±0.20	D	7.16	7.15	7.14	7.15	7.16	√					
	10.28±0.20	D	10.29	10.27	10.28	10.28	10.27	√					
	4.86±0.30	D	4.89	4.86	4.88	4.87	4.86	√					
	6.90±0.20	D	6.93	6.95	6.97	6.93	6.94	√					
检验依据: <input checked="" type="checkbox"/> 《工程图纸》 <input type="checkbox"/> 《检验规范》 <input type="checkbox"/> 《承认书》 <input type="checkbox"/> 样品 <input type="checkbox"/> 其它													
检测仪器:A游标卡尺 B千分尺 C厚薄仪 D投影镜 E放大镜 F显微镜 G锡炉 H插拔力器 I间位尺 J其它													
品保判定:													
核 准 APP		欠必锋			审 核 CHK		/		检 验 员 INSPBY		但 芬		

保存期限:三年

保存部门:品保部

QR-M-003

品名: USB AF 90度弯脚带双耳(端子)		版次:A.0			
电镀规格:Ni30u", Sn100u", Au G/Fu"		日期:2023/05/21			
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	33.1u"	OK	2023/5/21	10:20:15
2	30u"MIN	36.3u"	OK	2023/5/21	10:20:17
3	30u"MIN	36.5u"	OK	2023/5/21	10:20:19
4	30u"MIN	41.4u"	OK	2023/5/21	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	109.3u"	OK	2023/5/21	10:25:10
2	100u"MIN	106.7u"	OK	2023/5/21	10:25:12
3	100u"MIN	105.9u"	OK	2023/5/21	10:25:14
4	100u"MIN	106.4u"	OK	2023/5/21	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	0.57u"	OK	2023/5/21	10:30:32
2	0.5u"MIN	0.54u"	OK	2023/5/21	10:30:34
3	0.5u"MIN	0.55u"	OK	2023/5/21	10:30:36
4	0.5u"MIN	0.61u"	OK	2023/5/21	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 90度弯脚带双耳(外壳)		版次:A.0																														
电镀规格:Cu:40u",Ni:50u"	日期:2023/4/27	页次:1/1																														
厂商:同华																																
测试设备:CMI X-射线膜厚测试仪																																
1、表层电镀测试(Ni)																																
<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>50u"min</td><td>55.6u"</td><td>OK</td><td>2023/4/27</td><td>11:35:05</td></tr><tr><td>2</td><td>50u"min</td><td>59.3u"</td><td>OK</td><td>2023/4/27</td><td>11:35:07</td></tr><tr><td>3</td><td>50u"min</td><td>56.8u"</td><td>OK</td><td>2023/4/27</td><td>11:35:09</td></tr><tr><td>4</td><td>50u"min</td><td>51.9u"</td><td>OK</td><td>2023/4/27</td><td>11:35:11</td></tr></tbody></table>			数据	测试标准	实测值	判定	测试日期	测试时间	1	50u"min	55.6u"	OK	2023/4/27	11:35:05	2	50u"min	59.3u"	OK	2023/4/27	11:35:07	3	50u"min	56.8u"	OK	2023/4/27	11:35:09	4	50u"min	51.9u"	OK	2023/4/27	11:35:11
数据	测试标准	实测值	判定	测试日期	测试时间																											
1	50u"min	55.6u"	OK	2023/4/27	11:35:05																											
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3	50u"min	56.8u"	OK	2023/4/27	11:35:09																											
4	50u"min	51.9u"	OK	2023/4/27	11:35:11																											
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>45.5u"</td><td>OK</td><td>2023/4/27</td><td>11:40:22</td></tr><tr><td>2</td><td>40u"min</td><td>42.3u"</td><td>OK</td><td>2023/4/27</td><td>11:40:24</td></tr><tr><td>3</td><td>40u"min</td><td>44.7u"</td><td>OK</td><td>2023/4/27</td><td>11:40:26</td></tr><tr><td>4</td><td>40u"min</td><td>43.1u"</td><td>OK</td><td>2023/4/27</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	45.5u"	OK	2023/4/27	11:40:22	2	40u"min	42.3u"	OK	2023/4/27	11:40:24	3	40u"min	44.7u"	OK	2023/4/27	11:40:26	4	40u"min	43.1u"	OK	2023/4/27	11:40:28
数据	测试标准	实测值	判定	测试日期	测试时间																											
1	40u"min	45.5u"	OK	2023/4/27	11:40:22																											
2	40u"min	42.3u"	OK	2023/4/27	11:40:24																											
3	40u"min	44.7u"	OK	2023/4/27	11:40:26																											
4	40u"min	43.1u"	OK	2023/4/27	11:40:28																											

核准: 欠必锋

审核: 李娟

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-1345
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	
客户		试验起始日期	2023年08月05日 08:00 时起
		DATE	2023年08月05日 20:00 时止
样品名称	USB AF 90度弯脚带双耳	试验数量	5PCS
P/N	U222-2921-161018	QTY	

试验条件 (TEST CONDITION)

- 1、盐水溶解 (SALT SOLUTION: 浓度 50 ± 10 g/L, PH值6.5-7.2).
- 2、试验室温度 (TEMP. IT THE SPRAY DHAMBR): 35 ± 1 °C.
- 3、盐水桶温度 (TEMP. OF SALE SOL' N TANK): 35 ± 1 °C.
- 4、压力桶温度 (TEMP. OF SAR SUPPLIERY): 47 ± 1 °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 ± 0.01 Kg/cm².
- 7、样品放置位置 (SPECIMEN SUPPORTED ANGLE): 尼龙绳吊挂70° -90° .
- 8、喷雾收集量 (COLLECT RATE OF SALT SOL' N) 1-2mL/(8 cm²hr).
- 9、盐雾测试时间: 12 (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 (不包含折弯处), 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: 李娟

试验员: 但芬



产品质量证明书

INSPECTION CERTIFICATE

QIAN YI

DONGGUAN QIANYI METAL MATERIAL CO., LTD

客户 CUSTOMER: 华联威

牌号: C2680 R 状态: EH 规格 (mm): 0.18

化学成分 CHEMICAL COMPOSITION% 化学标准 GB/T5231-2001

成份	Cu	Pb	Fe	Zn	杂质
标准值	63.5-68.0	max0.03	max0.10	rem
实测值	64.36	0.0067	0.0276	rem

物理性能 PHYSICAL PROPERTY 性能标准 GB/T5231-2001

性能	抗拉 (Mpa)	延伸率 (%)	维氏硬度 (HV)	厚度公差 (mm)	宽度公差 (mm)
	Tensile strength	Elongation	Hardness Test	Thickness	Width
标准值	530-620	≥4	160-190	+0	+0
实测值	558.4	good	178.4	-0.01	-0.05

发货日期: 2023-07-11



Materials Information

PRODUCT NAME: LCP M-401 BK

COMPOSITION/INFORMATION OF LCP M-401 BK

SUBSTANCE/MIXTURE: Mixture

SYNONYM(S): Aromatic Liquid Crystal Polymer(LCP)

品名	比例	用途
德众泰 LCP 树脂	0.565	构成材料主要成分
抗氧化剂	0.002	抗氧化
科莱恩热稳定剂	0.003	增加高温稳定性
黑色母	0.01	着色
滑石粉	0.2	增强剂, 增加流动性
玻纤	0.22	增强

NAME OF COMPANY: DZT Engineering Plastics Tech. Co.,Ltd

ADDRESS: Building 2 Zhichong Industrial Park, Hi-Tech Zone, Jiangmen City,
Guangdong Province, China

SECTION IN CHARGE: Quality Assurance Department

TEL/FAX: +86-750-3689920/+86-750-3689921

EMERGENCY TEL: +86-750-3689708



佛山市顺德区天硕贸易有限公司

Foshan Shunde Tianshuo Trade Company Limited

日期: 2023-03-25

编号: FB098748

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 ‰	Al ‰	抗拉强度T.S Mpa	延伸率EL (%)	屈服强度Y.S Mpa	杯突 (mm)	硬度 (HV)
0.30*1000	DL082157	SPCC-SD	8079	99	0.035	0.17	0.09	0.25	0.25		388	31	262		144

质量控制中心:

审核: 谢和钢

制表人: 胡万银

