

承 认 书

Specification For Approval

(客户) CUSTOMER: _____ 8001 _____

(客户料号) CUSTOMER P/N: _____ 301000087177 _____

(内部料号) MD P/N: _____ 8001119800272G _____

(品名) DESCRIPTION: _____ RF CABLE ASSEMBLY _____

(日期): DATE: _____ 2022 年 09 月 29 日 _____

客户承认签章 (CUSTOMER'S SIGNATURE FOR APPROVAL):

批准 (APPROVED)	核对 (CHECKED)	承办 (PREPARED)

厂内签章 (OUR OWN SIGNATURE FOR APPROVAL):

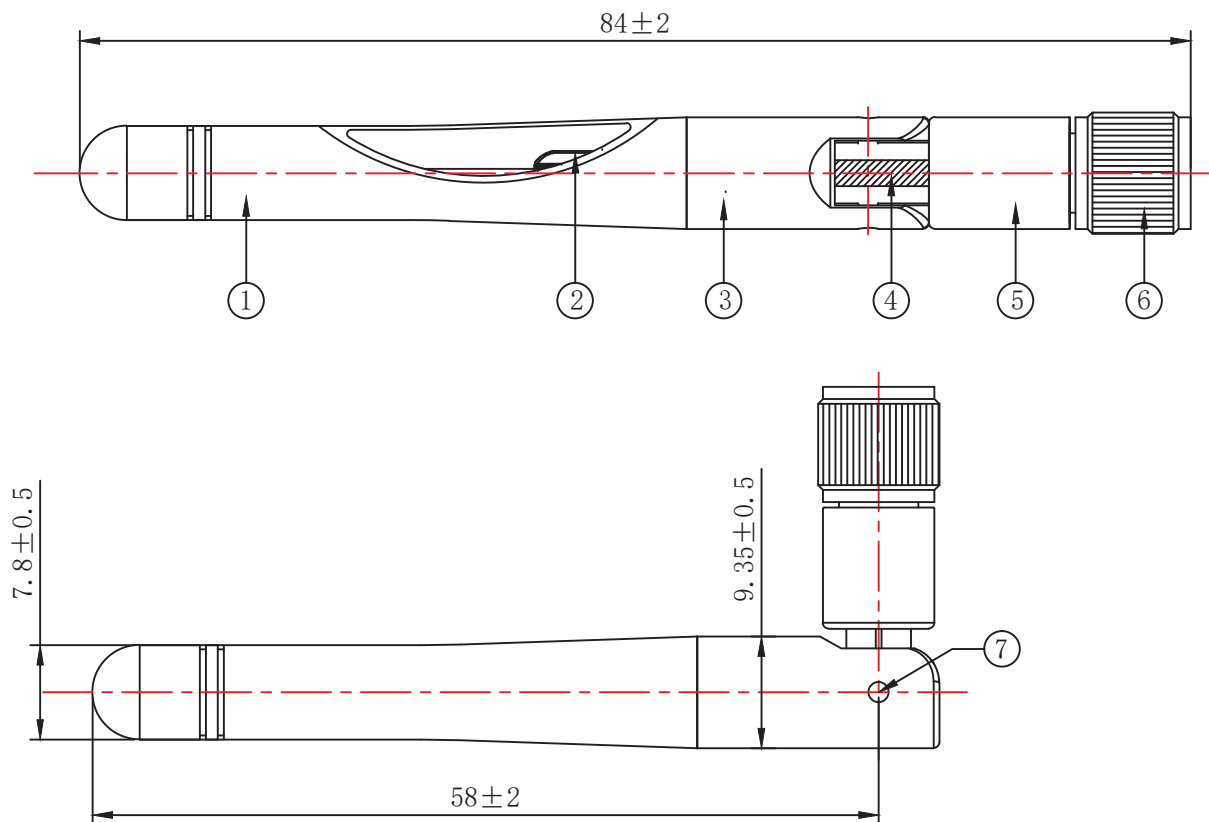
批准 (APPROVED)	核对 (CHECKED)	承办 (PREPARED)
Ken.Wan	Jason.Chen	Peter.Lee

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VERSION			
ISSUE	DESCRIPTION	DATE	NOTE
1.0	NEW ISSUE	18.08.20	

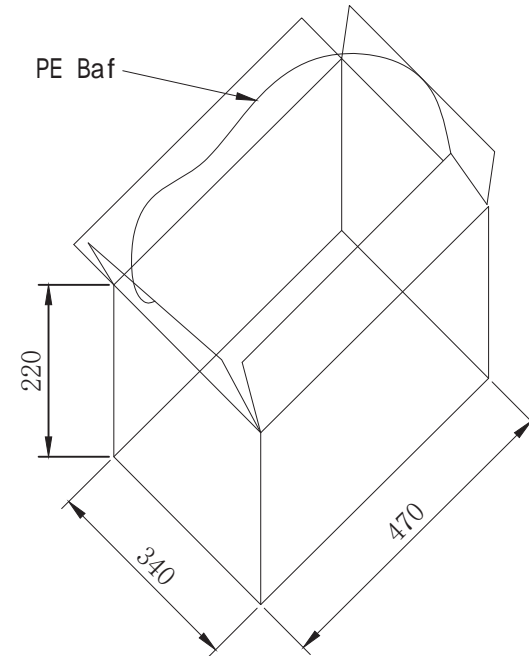
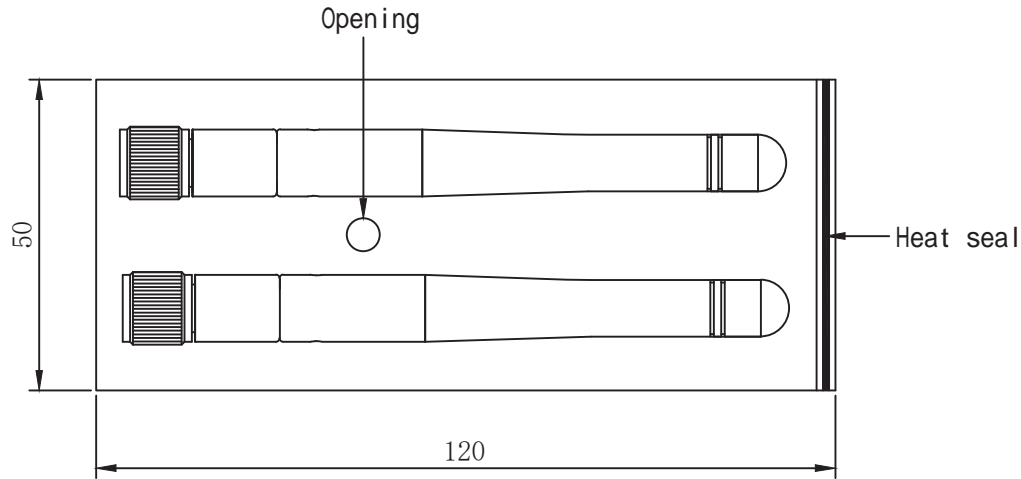


SPECIFICATION:
 FREQUENCY:2.4~2.5GHz
 VSWR:2.0MAX
 GAIN:2.0dBi
 RoHS Compliant

7	RIVET	POM, COLOR:WHITE	2PCS
6	CONNECTOR	SMA P/R FOR RG178 CABLE (WHITE PLASTIC SHELL)	1PCS
5	BOTTOM BASE	PBT, COLOR:WHITE	1PCS
4	CABLE	RG178 CABLE, BROWN, 50 Ω	1PCS
3	UPPER BASE	PC, COLOR:WHITE	1PCS
2	GROUND TUBE	BRASS, TIN-PLATED	1PCS
1	ANTENNA CAP	TPE, COLOR:WHITE	1PCS
NO.	PART NAME	DESCRIPTION	QTY

		TITLE: RF CABLE ASSEMBLY	
CUSTOMER	UNIT:MM 8001		
DRAW	Jason	CUST. MODEL	/
CHECK	Totti	CUST. P/N	301000087177
APPROVE	Peter	MD. P/N	8001119800272G



VERSION			
ISSUE	DESCRIPTION	DATE	NOTE
1.0	NEW ISSUE	18.08.20	



Remark:

1. Pack a small PE bag for every 2PCS, and a large PE bag for every 50 small PE bags.
2. 1PCS waterproof bags and 2PCS flat cards for each box

The specific packing data shall be subject to the actual packing data in production.

			
	UNIT:MM	TITLE: RF CABLE ASSEMBLY	
CUSTOMER	8001	CUST. MODEL	/
DRAW	Jason	CUST. P/N	301000087177
CHECK	Totti	MD. P/N	8001119800272G
APPROVE	Peter		



Sample test record form

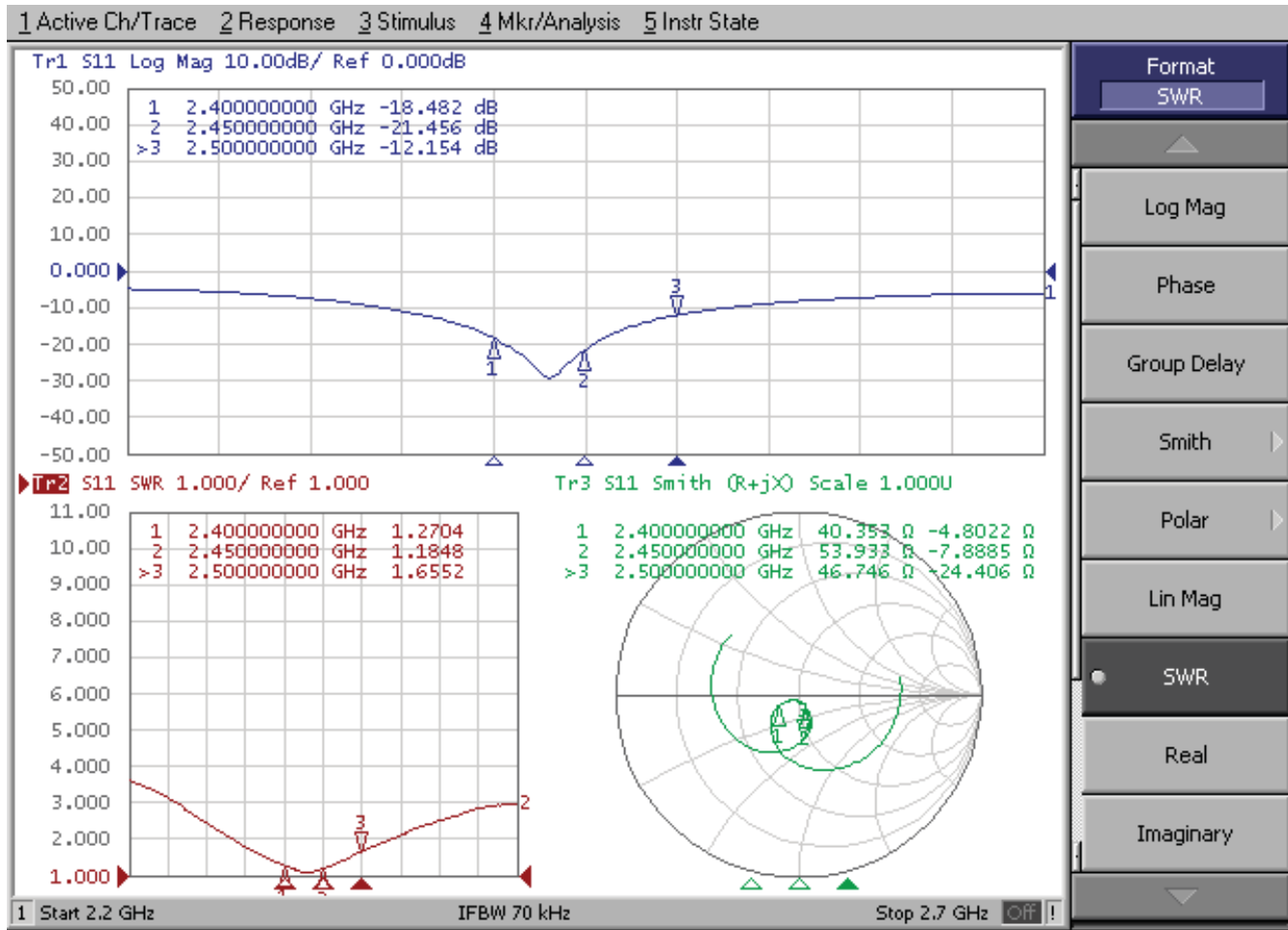
CUST	8001	CUST. P/N	301000087177	MD. P/N	8001119800272G				
QTY	5PCS	DATE	2022. 09. 29	PART NAME	RF CABLE ASSEMBLY				
Test Project		Test condition	Test result					Judgement result	
			Specimen 1	Specimen 2	Specimen 3	Specimen 4	Specimen 5	OK	NG
Size Length	Size 1 Length	84±2	84	84	84.5	84.9	84.1	√	
	Size 2 Length	58±2	57.9	58	58	58	58	√	
	Size 3 Length	7.8±0.5	7.8	7.85	7.8	7.8	7.8	√	
	Size 4 Length	9.35±0.5	9.34	9.35	9.34	9.35	9.35	√	
Electrical Testing	1. Frequency Rang 2. VSWR	1. 2.4~2.5GHz 2. 2.0Max	PASS	PASS	PASS	PASS	PASS	√	
Appearance	Good appearance, no damage.	Visual	PASS	PASS	PASS	PASS	PASS	√	
Final determination:			[<input checked="" type="checkbox"/>]Qualified			[<input type="checkbox"/>]Unqualified			

Audit: Peter

Examine: Jason

电性测试报告 Electrical Test Report

驻波图 STATIONARY WAVE

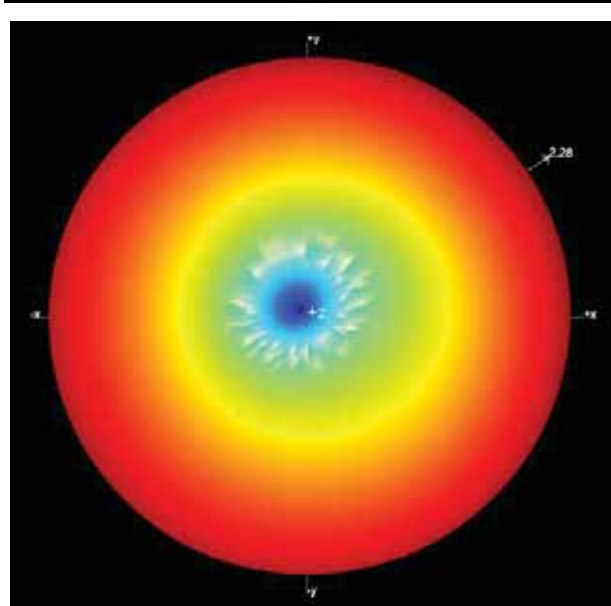
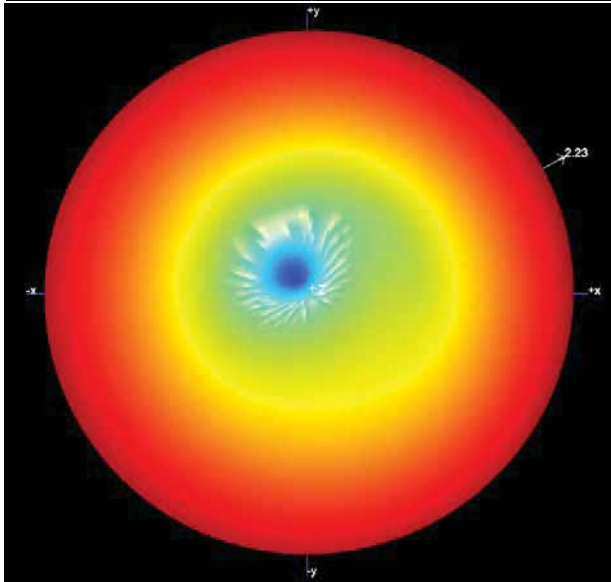
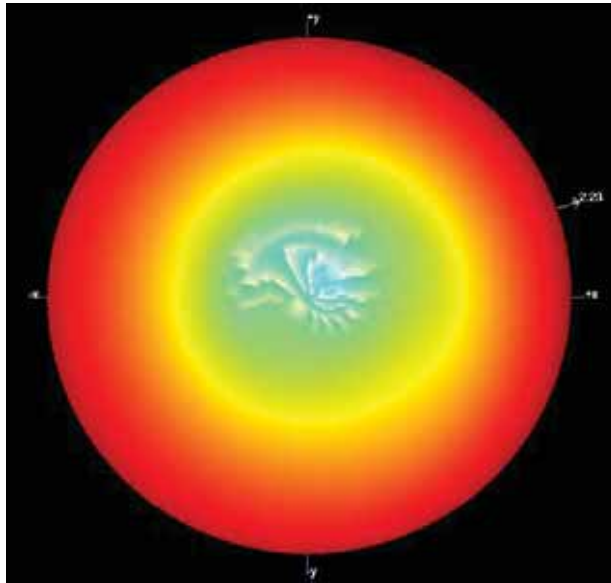


规格表 Specification

A.Electrical Properties	
Frequency Rang 频段范围	2400~2500MHz
Impedance 特性阻抗	50Ω Nominal
VSWR 电压驻波比	2.0 Max.
Gain(peak) 增益（峰值）	2.0 dBi
Out of roundness 不圆度	3.0 dBi (Max.)
Radiation 辐射方式	Omni-Directional 全向
Polarization 极化方式	Linear Vertical 垂直
B.Physical Properties	
Connector Type 连接方式	SMA PLUG REVERSE
Cable Type 线材	RG-178 CABLE
Antenna Plastic 天线塑胶	Body:TPE Hinge:PC Holder:PBT
C.Environmental	
Operating Temp 工作环境	-40℃ ~+ 65℃
Storage Temp 存储环境	-40℃ ~+ 80℃

无源测试数据：
Passive test data

Frequency(MHz)	Peak Gain (dBi)	Efficiency Total (%)
2400MHz	1.1494	66.91%
2410MHz	1.32249	69.92%
2420MHz	1.43687	70.55%
2430MHz	1.45095	71.36%
2440MHz	1.37904	72.54%
2450MHz	1.48581	74.10%
2460MHz	1.43589	74.73%
2470MHz	1.58343	76.55%
2480MHz	1.79003	79.72%
2490MHz	1.90379	80.57%
2500MHz	1.48852	80.29%



环境与可靠性实验 Environmental and reliability experiment

Test Items 测试项目	Test Condition and Procedure 测试方法	Requirements 要求	Test equipment 试验设备
Vibration 震动	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction 振幅 1.5mm; 频率 20~80~20Hz; 3 个方向各 2H	1. No Visual Damage 2. Frequency Tol.≤5% 无明显外观不良;频率偏移≤5%	NA
Random Drop 跌落	GB / T2423.8-1995 Single: Height: 1.0 Meter; 3 directions; 1 time for each direction 单支天线, 高 1m; 3 个方向各 1 次 Packing: Height: 0.76 Meter; 1 corner, 3 edges, 6 surface 包装: 高 0.76m, 一角、三棱、六面各一次 Antenna+Machine: Height: 0.76 Meter; 1 corner, 3 edges, 6 surface. 整机: 高 0.76m, 一角、三棱、六面各一次	1. No parts separated、fracture 2. Frequency Tol.≤5% 产品无脱落、断裂;频率偏移≤5%	NA
Solderability 可焊性	GB / T2423.28-2005 Temp: 260±5°C; Duration: 5 seconds 温度 260±5°C; 持续 5 秒	Tin evenly on full 上锡均匀饱满	NA
Pull Test 拉力	Holding with individual specification; force applied to axis of terminal . 单独定义产品端子拉力	1. Directive DUT specification 2. Frequency Tol.≤5% 符合待测物规范;频率偏移≤5%	Pull Test Machine 拉力计
Torque Test 扭力	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal 单独定义产品端子之顺时针及逆时针扭力	1. Directive DUT specification 2. Frequency Tol.≤ 5% 符合待测物规范;频率偏移≤5%	Torque Test Machine 扭力计
Salt Spray 盐雾	GB / T 2423.17-2008 Temp: 35°C; RH: ≥ 95%; NaCl solution: ≥ 5%; Time: 8H 温度 35°C; 湿度≥95%; 盐水浓度≥5%; 测试 8H	1. No Visual Damage 2. Frequency Tol.≤5% 无明显外观不良;频率偏移≤5%	Salt Spray Machine 盐雾测试机

<p>Temperature and Humidity Chamber 恒温恒湿</p>	<p>GB / T 2423.3-2006 Temp: 80°C / 12 H; -40°C / 12H RH: ≥ 90%; Time: 24H 温度 80°C 测试 12H 转 -40°C 测试 12H; 湿度 ≥ 90%; 时间 24H</p>	<p>After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%</p>	<p>Temperature and Humidity Chamber Container 恒温恒湿试验箱</p>
<p>Thermal Shock 冷热冲击</p>	<p>GB / T 2423.22 - 2008 - 40°C (30 minutes) to + 80°C (30 minutes); Cycles: 24 -4 0°C 测试 30 分转 80°C 测试 30 分为一个周期; 共 24 周期</p>	<p>After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%</p>	<p>Thermal shock Container 冷热冲击试验箱</p>
<p>Aging test 老化</p>	<p>GB / T 2423.2 - 2008 Temp: 80°C; Time: 24 hours 温度 80°C, 测试 24H</p>	<p>After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%</p>	<p>Aging Test Container 老化箱</p>

1. 适用范围:

Scope

本规格书制定了 50 Ω FEP 绝缘射频电缆 YD178 系列的结构和电气特性.

This specification covers the construction and the electrical properties of YD178 series of 50 Ω FEP Insulation Coaxial Cable.

2. 结构/Construction:

单位/Unit:mm

项目/Item		详细资料/Details
导体/Conductor	材料/Material	镀银铜线/Silver-coated Copper Wire
	构成(根/mm) Composition(No./mm)	7/0.102
	标称直径/Nom. O. D (mm)	0.306±0.03
绝缘层 /Insulation	材料/Material	聚全氟乙丙烯(自然色) /FEP(Natural)
	标称绝缘厚度/Nom. Thick(mm)	0.275
	标称外径/Nom. O. D (mm)	0.86±0.03
屏蔽层/Shield	材料/Material	镀锡铜线/Tinned annealed copper wire
	构成/Composition	0.10 单线编织/Single Braid of 0.10
护套/Jacket	材料/Material	聚全氟乙丙烯(*颜色)/FEP(*color)
	标称护套厚度/Nom. Thick(mm)	0.25
	标称外径/Nom. O. D(mm)	1.80±0.08
	颜色/Color	按与客户确认的颜色/According to corresponding have approved by the suppliers and customers

3. 电气特性(20℃时)/Electrical Properties(at 20℃)

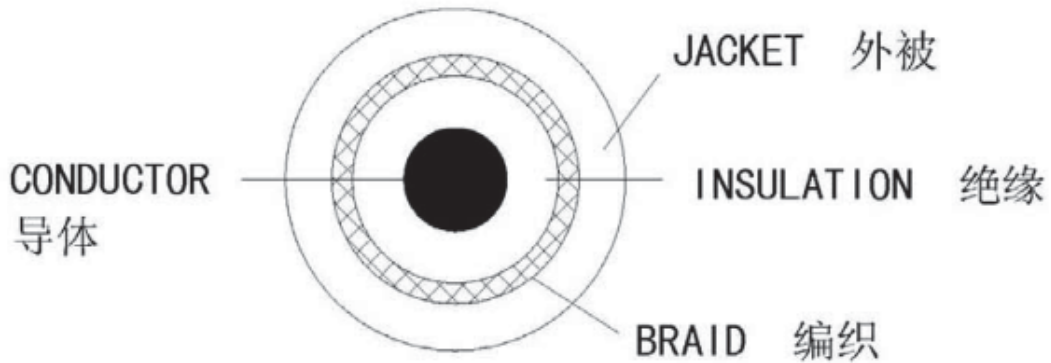
项目/Item	单位/Unit	详细资料/Details	
导体电阻/Conductor Resistance	Ω/km	Max. 320	
绝缘电阻/Insulation Resistance	MΩ.km	Min. 500	
耐压强度/Dielectric Strength	V(AC)/min	1000	
静电容/Capacitance	pF/m	105(1kHz)	
特性阻抗 /Characteristic Impedance	Ω	50±2.0	
衰减/Attenuation	dB/m	1GHz	1.70
		2GHz	2.42

		3GHz	3.08
		4GHz	3.63
		5GHz	4.15
		6GHz	4.80
驻波比/Standing wave (0-6GHz)	/	≤1.35	

4. 包装 Packing

标准单位包装长度为 500 米/盘, 每盘最多允许 3 个接头, 接头最短长度 20 米, 在搬运过程中不能损坏包装.

Standard unit length of finished cable shall be 400m on reel, frequency of joint max. 3/reel, the mini length is 20m. The finished cable shall be packed not be damaged during transportation



本产品有时不适合车载用途的情况也有,所以使用前请先和本公司业务部门进行商谈.

This product is not suitable for automobile application in some cases. Please contact with our sales department before you use this product.

规格书完
End of specification



Certificate of Conformance for Safety Material

符合安規材料證明

To Whom It May Concern,

: 香港米迪实业有限公司 (Supplier Name) as a supplier to Liteon Technology Corp ,this is to certify that the safety parts can conform to all safety requirement of applicable drawings or characteristics in approval sheet. If any deviation with the requirement, the material supplier will be responsible for the cost incurred.(供應商名) 作為光寶科技股份有限公司供應商,這是證明所提供安規材料能符合到承認書中的工程圖面和物質特性描述的安規要求,如果所提供材料與這些安規要求有不一致,供應商是有責任接受由此產生的成本轉嫁.

Purchase Order number: _____

訂單號碼:

Shipment Date: _____

出貨時間:

Molding Date: _____

生產日期:

Supplier Part number: 800119800272G

供應商料號:

Liteon Part number: 301000087177

光寶料號:

Part Name: RF CABLE ASSEMBLY

品名:

Quantity: _____

數量:

Material supplier & material designation : JIANGYIN YUANDA ELECTRICAL MATERIAL CO LTD/11149

物料供應商与 指定物料: (分別原料供應商)

Material Characteristics: Teflon

物料特性: (物質成分及分別之百分比)

Min thickness: 1.80mm

產品主體最小的厚度:

Safety Rating: VW-1

安規等級:

Safety File Number: E529413

安規文件號碼:

Authorized company official Name &Title:

公司授權的人名/職位

Company Chapter:

公司章

Date(Y/M/D):

日期(年/月/日) :2022/09/29



SOP-RD-003-FORM20-C

Process Management Plan
制程管制计划

TITLE:RF CABLE ASSEMBLY						The company: HongKong MDLINK Industrial Limited						Control point:		The file number:	
P/N: 301000087177												A.Incoming inspection			
REV: 1.0												B.process			
OF: 2												C.The final inspection			
Process description						Production testing tools and machine		Control the project		Control method					
NO	Process name Job content	material			Process		process	product	The project specifications	The project specifications	Time and frequency	Record form	Refer to the file		
		material	material	supplier	home work	check									
1	Raw material incoming inspection	The main packing materials	KMk	/		★	A tape measure	Quantity packing/dimensional inspection/appearance inspection/st	Appearance: no damage on the surface, blurred printing; Size and specification,	Dimension tolerance control +/-10mm, harmful substances see our control standards	Printing writing skew below 30 degrees, stored in the normal temperature of 5-35 degrees, shelf life of three years	IQC incoming spot check	Incoming Inspection Record Form and Delivery Note	"Inspection Specification", "Acceptance", "SIP".	
		Plug/connector	Insert core	/		★	caliper	Quantity appearance/packing/size	No scratch and surface rust and plating poor appearance.	Relevant dimensions and hazardous substance control shall be inspected according to the	Reliability is reverified according to the requirements of Inspection Specification and recognition	IQC incoming spot check	Incoming Inspection Record Form and Delivery Note	"Inspection Specification", "Acceptance", "SIP".	
		wire	CABLE	/		★	caliper	Quantity appearance/packing/Size/hazardous substance	The wire is free from scratch, granulation, staining, skin breakage, dirt,	Relevant dimensions and hazardous substance control shall be inspected according to the	Reliability is reverified according to the requirements of Inspection Specification and recognition	IQC incoming spot check	Incoming Inspection Record Form and Delivery Note	"Inspection Specification", "Acceptance", "SIP".	
2	peeling	wire	RF CABLE ASSEMBLY	/		★	The operator	Appearance/Size	The peeling core wires shall not be scratched, pinched, or left. The trimming shall be complete and other core wires shall not be hurt	Peel size and hazardous substance control shall be carried out according to the admission standard and SOP	During peeling, the incision should not be cut off or damage the outer skin of the core wire.	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering Drawing	
3	Richard line	wire	RF CABLE ASSEMBLY	/		★	The operator	Appearance	The scissors should not hurt other core wires when cutting the wire, and the finishing should be	Line management standards and hazardous substances control shall be carried	Pay attention to the method of removing the PVC outer skin, do not damage the core wire and clean it.	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering Drawing	
4	welding	Wires and connectors	RF CABLE ASSEMBLY	/		★	The operator	Appearance	Solder point after welding can not have false welding, welding tin slag	Line management standards and hazardous substances control	Soldering iron temperature control is operated according to SOP. The ring welding	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering	

5	In inspection	Semi-finished product	RF CABLE ASSEMBLY	/	★	The operator	Appearance	Solder point after welding can not have false welding, welding tin slag	Tin inspection standard according to operation SOP	Use fine pliers to remove two adjacent pins in the process of tin detection to reduce	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering
6	In inspection	Semi-finished product	RF CABLE ASSEMBLY	/	★	The operator	Appearance	Push the end by hand, do not bend the wire	The combination criteria are performed according to the operation	Pay attention to the distance between PIN and braid to reduce short circuit and high	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering
7	The finished product testing	The finished product	RF CABLE ASSEMBLY	/	★	The operator	Electrical testing	No short circuit, open circuit, high voltage, insulation and other bad	Test parameter setting and hazardous substance control are	No bad electrical outflow.	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering
8	side inspection	The finished product	RF CABLE ASSEMBLY	/	★	The operator	Appearance/Size	Wire cannot have scrape, break skin, dirty wait for bad.	Relevant dimensions and hazardous substance control shall be inspected according to the recognized standards	There must be no undesirable outflow.	IPQC inspection 2 hours per time	IPQC Inspection record Form	Process Inspection Specification, SOP, Engineering Drawing
9	packaging	The finished product	RF CABLE ASSEMBLY	/	★	The operator	Quantity/labeling/packing/PE bag	The way of packaging should be correct, can not	Packaging standards and hazardous substances control	The reliability verification of cartons is carried out according	IPQC inspection 2 hours per	IPQC Inspection record Form	Process Inspection Specification,
10	QA inspection	The finished product	RF CABLE ASSEMBLY	/	★	Wire tester/steel ruler/caliper	Appearance/size/function	Wire cannot have scrape, break skin, dirty wait for bad. The size meets the requirements of the drawing, and the function test is	The relevant dimension/function test standard and hazardous substance control shall be inspected according to the acceptance standard and SOP	Reliability is reverified according to the requirements of Inspection Specification and recognition requirements (EMI sampling).	IPQC inspection 2 hours per time	OQA Inspection Report	Process Inspection Specification, SOP, Engineering Drawing
11	at in storage	The finished product	RF CABLE ASSEMBLY	/	★	visual	Quantity/labeling/packing	Quantity/labeling/packing	Whether the quantity and package labeling are in accordance with the engineering drawing requirements	Whether the quantity and package labeling are in accordance with the engineering drawing requirements.	Each batch.	Storage Entry List	Inspection and Test Control Procedures
12	shipment	The finished product	RF CABLE ASSEMBLY	/	★	visual	Quantity/labeling/packing	Check the quantity, outward mark and SHIPPING mark of the shipped products to make them consistent with the shipping conditions	The labels on the outer packaging of the shipped products are consistent with the data.	No mistakes, no leaks, no mix-ups.	Each batch.	Outgoing List and Outgoing Inspection Report	Identification and Traceability Control Procedures

AVLV2.E529413 - Appliance Wiring Material - Component

Appliance Wiring Material - Component

Dong Guan Shi V-Link Electronic Ltd

5F Building A 2nd District Dongsheng Science and Technology Park Yangwu Dongpu New Village
Dalingshan Town
Dongguan, Guangdong 523839 China

E529413

Table of Recognized Styles

Single-conductor, thermoplastic insulation							
1007	1095	1208	1500	1589	1691	1773	1942
1015	1107	1354	1533	1631	1719	1777	1998
1056	1174	1365	1569	1640	1729	1792	10043
1061	1185	1478	1571	1647	1731	1809	10064
1071	1195	1497	1581	1685	1741	1866	10113
Multiple-conductor, thermoplastic insulation							
2094	2493	2598	2725	2851	2969	20259	20855
2095	2502	2626	2778	2854	2970	20276	20875
2096	2547	2651	2785	2863	2990	20293	21083
2343	2552	2655	2789	2876	2993	20306	21104
2384	2560	2660	2791	2919	20080	20379	21144
2385	2562	2678	2833	2933	20083	20513	
2448	2571	2704	2835	2935	20084	20522	
2464	2576	2709	2841	2940	20120	20552	
2468	2584	2710	2842	2960	20251	20851	

Marking: Company name, voltage rating, temperature rating, conductor size, conductor material if other than copper,.

Last Updated on 2022-07-29



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