

Shenzhen Yosong Communication Technology Co., Ltd

Antenna specification

Customer : _____ softwin _____

Project Name : _____ FPC _____

Material name : _____ PC2-YS-WIFI-AUX/cable_L 95mm_gray _____

Material Part Number : _____ YSWINDOWSWF1FBV1 _____

Maximum Gain : _____ 3.2 dBi for 2.4G; 2.6dBi for 5G _____

Prepared Date : _____ 2021 11 21 _____

Yosong Technology				Customer			
RF	MD	QE	Approved by	Engineering	PM	Quality	Approved by
ChenChao qing	Heye	Yaoxuechun	Zhouhao				

Content

- 1. RF performance test**
 - 1.1 . Photo of the physical terminal product sample
 - 1.2 . Test equipment and environment
 - 1.3 . S11 Measurement
 - 1.4 . Diagram reference
 - 1.5 . Antenna Return Loss(RL) and SWR
 - 1.6 . Antenna passive test data
- 2. Physical dimensions inspection report**
- 3. Reliability test report**
 - 3.1. Bending test
 - 3.2. Salt fog test
 - 3.3. Thermal shock test
 - 3.4. High temp. and high humidity test
 - 3.5. Adhesive test
 - 3.6. Golden finger peel-off performance test
- 4. Regulation report**
- 5. Engineering drawing**
- 6. Packaging**
- 7. Others**

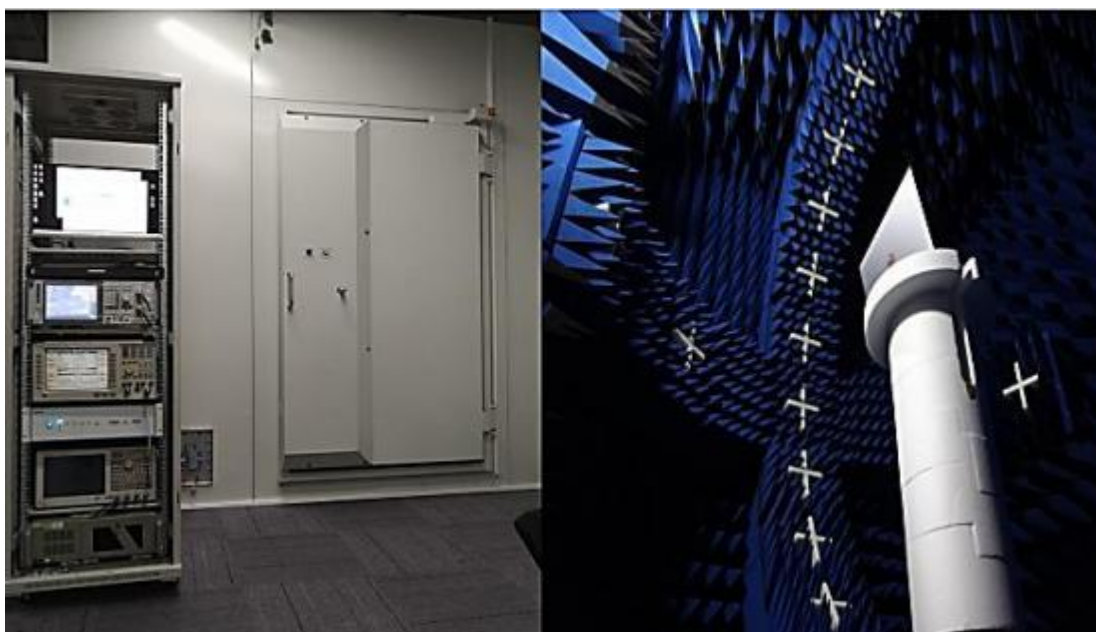
1. RF performance test

1.1 Photo of the physical terminal product sample



1.2 Test equipment and environment

RF test equipment	CMW500 ,ANRITSU MT8820C,AGILENT E5071C
Cabinet	Atenlab M3
Test Engineer	Chen Chaoqing
Temp,	25°C
Humidity	60% (RH)



1.3 S11 Measurement

The S11 parameter was performed using a Hewlett Packard 5071B Network Analyzer and YoSong' s test fixture that was using customer-providing device. We use a 30cm long ferrite de-coupling sleeve to mitigate surface currents on the outside of the testing cable.

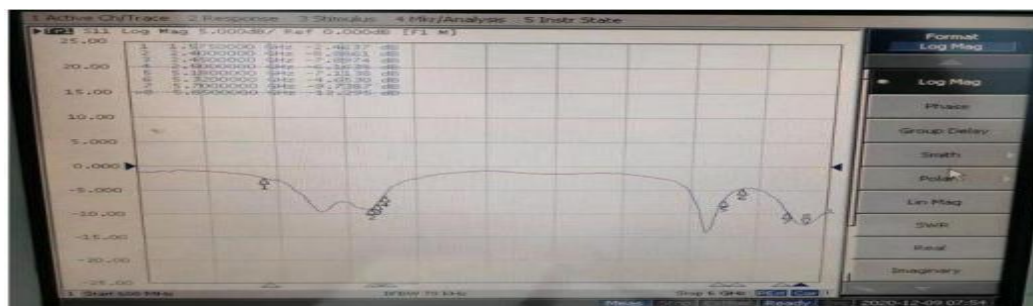
The matching circuit was shown below:

Material	FPC
Matched Circuit	No change

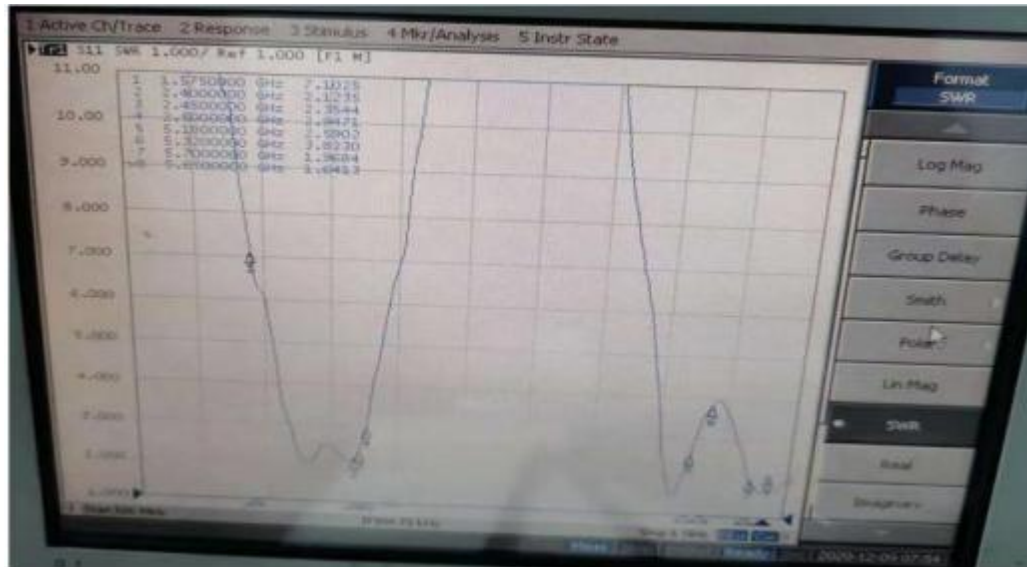
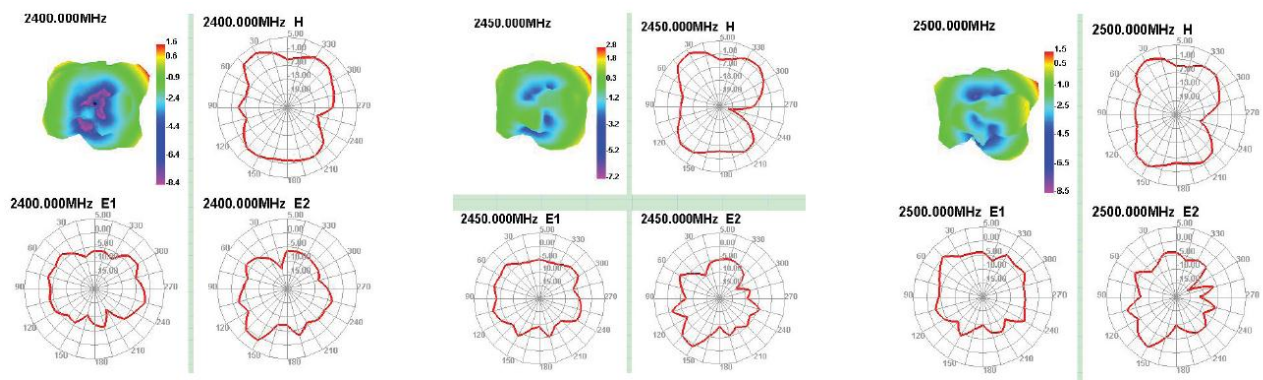
1.4 Diagram reference



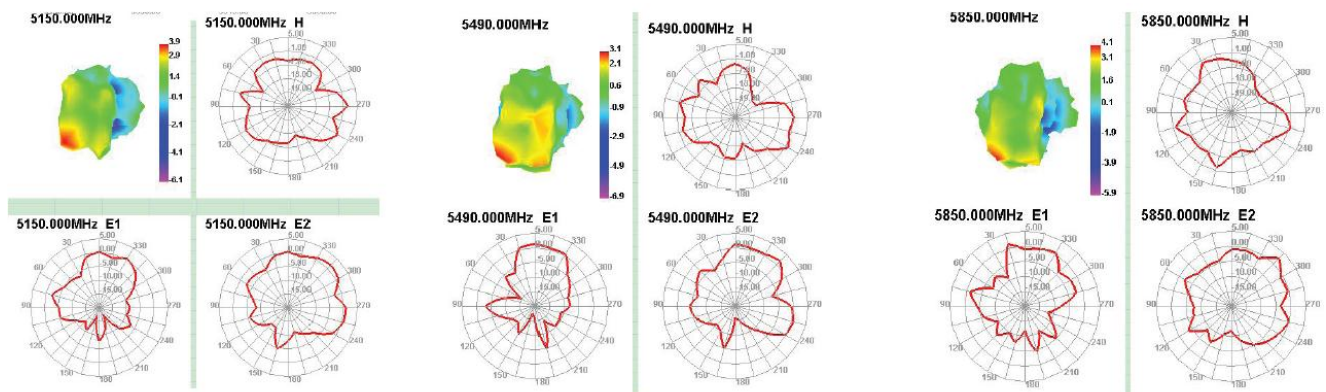
1.5 Antenna Return Loss(RL) and SWR



Center Frequency	Horizontal			Vertical		
	2400MHz	2400MHz	2500MHz	2400MHz	2400MHz	2500MHz
	2.73	2.84	3.2	2.65	2.70	2.92
MAX. Gain	3.2					
Polarization	Horizontal and Vertical					
Azimuth Beam Pattern	Omni-directional					
Impedance	50 Ohm					



Center Frequency	Horizontal			Vertical		
	5150MHz	5490MHz	5850MHz	5150MHz	5490MHz	5850MHz
	1.75	1.48	2.6	1.59	1.43	2.35
MAX. Gain	2.6					
Polarization	Horizontal and Vertical					
Azimuth Beam Pattern	Omni-directional					
Impedance	50 Ohm					



1.6 Antenna passive test data

Passive Test For WIFI			Passive Test For 5G		
Freq	Effi	Effi	Freq	Effi	Effi
(MHz)	(%)	(dB)	(MHz)	(%)	(dB)
2400	36.32	-4.40	5000	29.35	-5.32
2450	35.45	-4.50	5100	29.88	-5.25
2500	33.64	-4.73	5200	30.25	-5.19
			5300	31.54	-5.01
			5400	31.87	-4.97
			5500	32.51	-4.88
			5600	33.34	-4.77
			5700	32.19	-4.92
			5800	31.92	-4.96

2. Physical dimensions inspection report

Project			Material		Date				
Wifi -1			FPC		2021.11.20				
Inspection item		Criteria	Inspection data					Result	Remarks
			1	2	3	4	5		
Appearance	Scratch	Refer to the internal inspection standard	OK	OK	OK	OK	OK	OK	
	Damaged		OK	OK	OK	OK	OK	OK	
	Contamination		OK	OK	OK	OK	OK	OK	
	Deformed		OK	OK	OK	OK	OK	OK	
	Others		OK	OK	OK	OK	OK	OK	
Physical MD dimension	A1	38.57±0.2	38.58	38.57	38.56	38.58	38.57	OK	
	A2	7.52±0.2	7.55	7.52	7.52	7.52	7.58	OK	
	A3								
	A4								
	A5								
	A6								

3. Reliability test report

Test Item	Test condition	Test result	Test date	Result
Bending test	Bending times : 20times ; Bending angle : Left-right at 180 degree ; Pivot diameter : 0.8-1.0mm ; Bending Frequency : 45 次/min	Test OK No open-short circuit after test	20/11/2021	OK
Salt fog test	a.35±2℃ , H.D. >85%,PH=6.5~7.2 , 5% ± 1% NaCl salt fog sprayed for 48 H ; b. Recover to ambient Temp. after test to check the golden finger and soldering pad	Test OK No rust cosmetic issue	20/11/2021	OK
Thermal Shock test	a. (1) -40 ℃ (30min) ;(2)25℃ (30min) ; (3)85℃ (30min) ; (4)25℃ (30min) ; b. Recover to ambient Temp. after test to check the appearance	Test OK No layer peeling off	20/11/2021	OK
Golden finger peel-off performance test	a. Use the specialized equipment b. Stiffener : >1.0 Kgf/cm ² ; c.Cover film : >0.65 Kgf/cm ² ; d.Base material : >1.0 Kgf/cm ² ;	Stiffener :1.2 Kgf/cm ² Cover film : 0.7 Kgf/cm ² 以上 ; Base material : 1.2 Kgf/cm ²	20/11/2021	OK
Adhesive test	a. 3M600# tape; b.Printing character test: No peeling off; c.Golden pad test : No metal layer peeling off ;	Test OK	20/11/2021	OK
High Temp. test	a.Baking Temp.:155℃ ~165℃ ; b.Duration : 60min ; c.Oven Temp. : 260°± 5°; d.Still duration : 10sec ; No layer or bubble after test	Test OK	20/11/2021	OK
Soldering test	a. Baking Temp : 260°± 5°; b.Still duration : 3-5sec ; c.Soldering area≥95% ;	Test OK Soldering area>95%	20/11/2021	OK

4. Regulation report

Enclose the material RosH/MSDS documents and report(Within expiration)

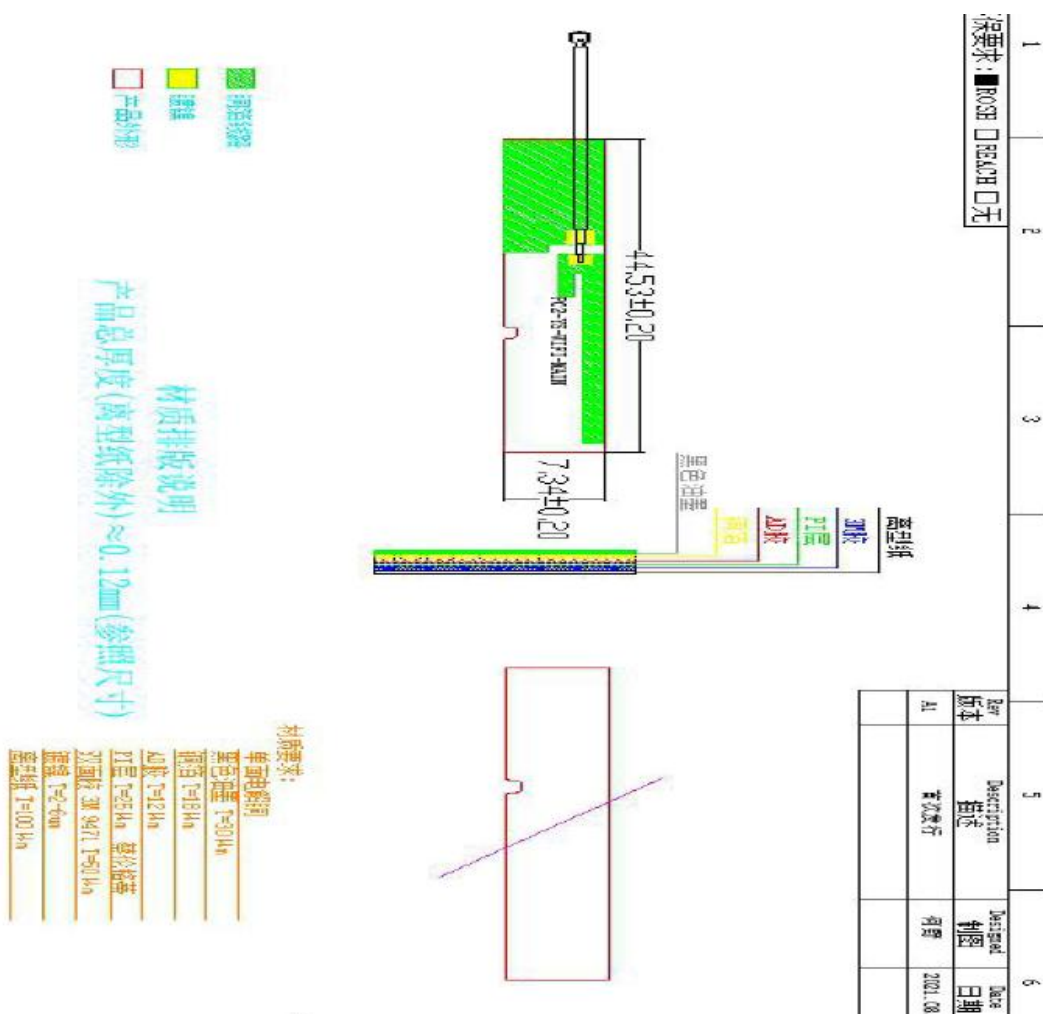
MSDS		
材料名称	ROHS	MSDS
CVL	 Adobe Acrobat Document	 Adobe Acrobat Document
CCL	 Adobe Acrobat Document	 Adobe Acrobat Document
PI	 Adobe Acrobat Document	 Adobe Acrobat Document

5. Engineering drawing

注:

1. 图中所标注尺寸均为公称尺寸, 加工尺寸为配合尺寸;
2. 接头采用闪光工艺;
3. 管子采用闪光工艺, 无毛刺;
4. 包装方式 (整件出售);
5. 外表面应光滑平整, 且不能焊到内部线路;
6. 产品表面不能有污点、疤痕、裂纹等不良现象。

黑色同轴电缆 72MM $\phi 0.81$ 四代端子 焊接端子朝下			
深圳粤讯通信科技有限公司			
备注及公差标准	规格	品种	品名
0-10 ± 0.05	$\phi 0.2$	料号	日期
10-18 ± 0.05	$\phi 0.10$	材料	材料
18-20 ± 0.05	± 0.02	特殊工艺	RF
20-40 ± 0.05	± 0.04	共3页 第1页 次期号	审核
40-100 ± 0.05	± 0.05	第一页角	单位 mm 比例 1:20 版本 A



6. Packaging

Follow the customer packaging requirement, if not conduct Yosong internal standard.

7. Others

FPC 使用说明 Instruction of FPC

S/N	注意事项 Note
1	严禁裸手接触镀层，易使产品镀层变色 No touching the plating with naked hand for it may easily destroys it's color.
2	FPC 拿放须保持平整、轻拿、轻放，搬运中严禁折弯 Lightly handle and no bend in the delivery.
3	FPC 镀层及根部不能作为弯折点，易使镀层断裂 No bend on the plating surface or the end of the plating area or the plating is easily broken
4	贮存期限：<6 个月，建议 3 个月内完成上线使用，以达到最佳效果 Storage Period: No more than six months and has the best effect with three months.
5	品质保证期限：FPC 品质从出货日期起保证期限 < 6 个月。 Quality Assurance Period: Less than six months from the delivery.
6	贮存要求：温度 $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ，相对湿度 $\leq 70\%$ ， Storage: :Temp $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Relative Humidity $\leq 70\%$