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
ChenChaoqing	Heye	Yaoxuechun	Zhouhao				

Yuexun Communication Technology Co. LTD
URL : www.szyosong.com
ADD : 902, Building B, Shenye Century Industrial Center, No. 743 Zhoushi Road, Bao 'an District, Shenzhen
TEL : 0755-2665 6196 FAX : 0755-8657 6705

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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
Cabinent	Atenlab M3
Test Engineer	Chen Chaoqing
Temp,	25℃
Humidity	60% (RH)

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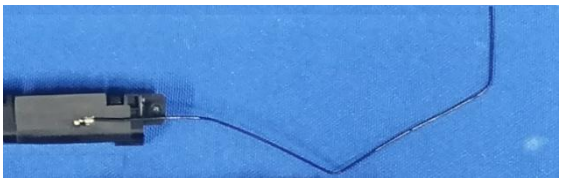
1.3 S11 Measurement

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					

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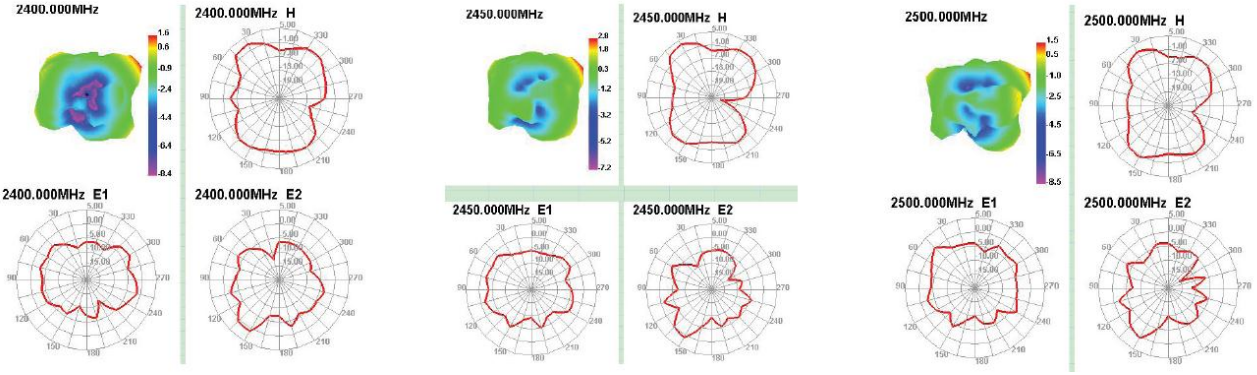
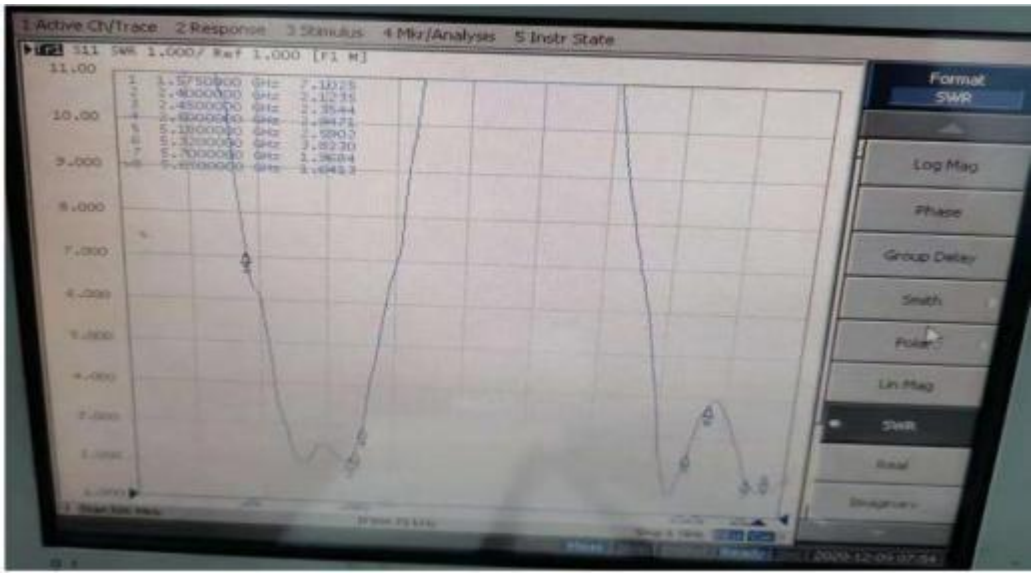
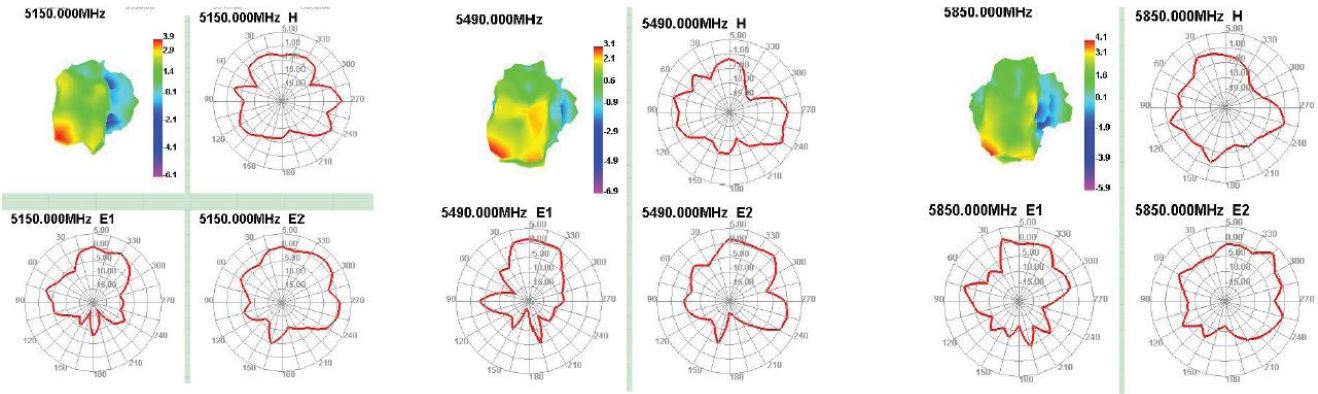




Center Frequency	Horizontal			Vertical		
	5150MHz	5490MHz	5850MHz	5150MHz	5490MHz	5850MHz
	1.75	1.48	2.6	1.59	1.43	2.35
MAX. Gain	2.6					
Polarization	Horizontal and Vertical					
Azimuth Beam Pattern	Omni-directional					
Impedance	50 Ohm					



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1.6 Antenna passive test data

Passive Test For WIFI		
Freq	Effi	Effi
(MHz)	(%)	(dB)
2400	36.32	-4.40
2450	35.45	-4.50
2500	33.64	-4.73

Passive Test For 5G		
Freq	Effi	Effi
(MHz)	(%)	(dB)
5000	29.35	-5.32
5100	29.88	-5.25
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

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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								

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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

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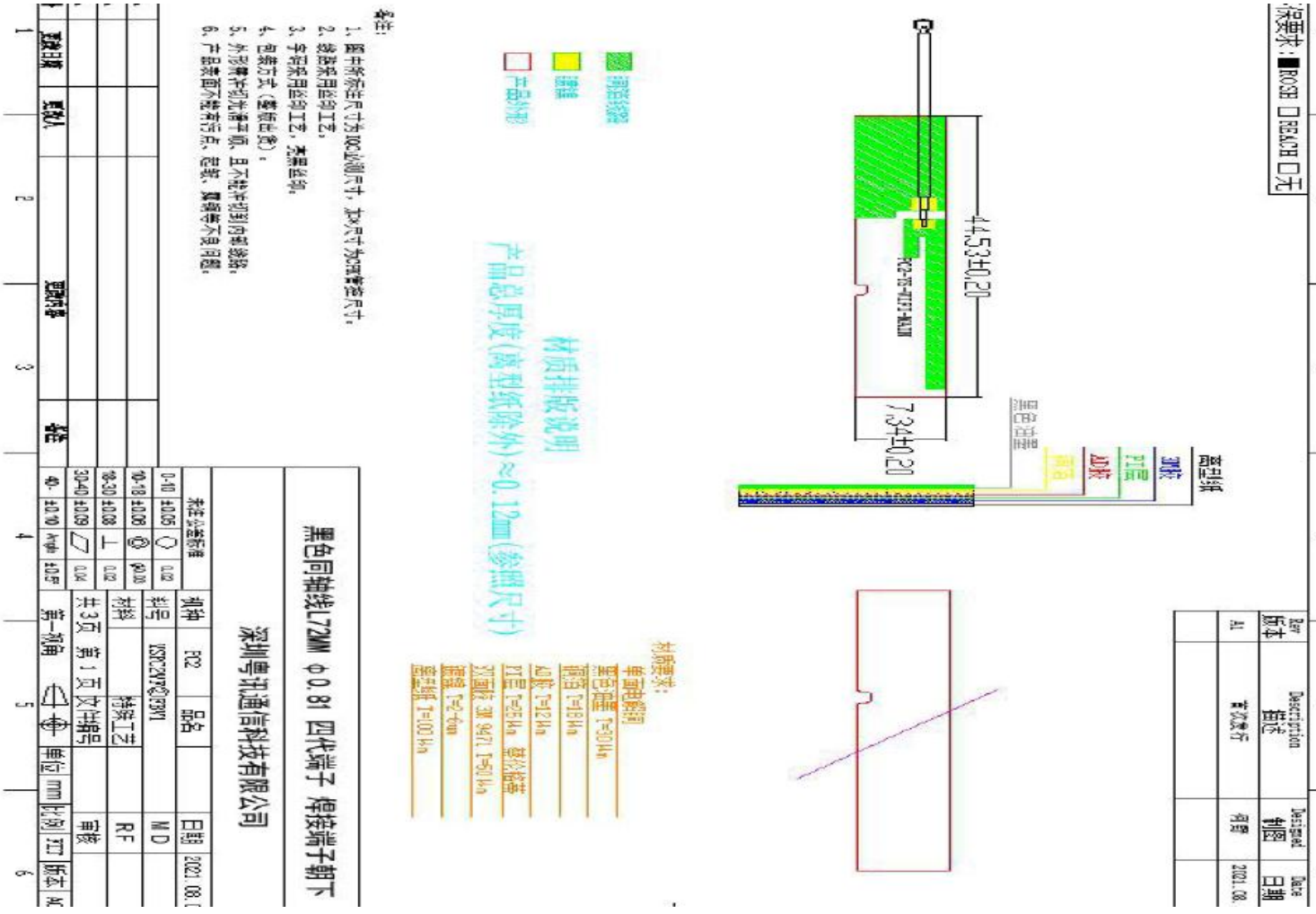
4. Regulation report

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



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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℃±2℃， 相对湿度≤70%， Storage: :Temp20℃±2℃ Relative Humidity≤70%

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