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Antenna Approval sheet

For

RS005 project

Customer	FOXCONN	Project	RS005
Band	WIFI	Color	NA
SCSZ PN	4-2308	Version	R:A

Issued by	Kevin.liang	Checked by	Kevin.chueng
Confirmed by	Leo.chen	Date	2010/06/07
Customer Confirm			

1 Summary

Sample Photo	
	
A.Electrical Characteristics	
Frequency	2400～2500MHz
S.W.R	<=2.5
Efficiency	50～60%
Polarization	Linear
Impedance	50 Ohm
Antenna Type	PIFA
B.Material & Mechanical Characteristics	
Material of Radiator	FR4 PCB
Cable Type	O.D.1.13mm(white)
Connector Type	Mini Connector for O.D.1.13mm Coaxial Cable
Pull Test	>=1.0 Kg
C.Environmental	
Operation Temperature	-40℃～+65℃
Storage Temperature	-40℃～+80℃

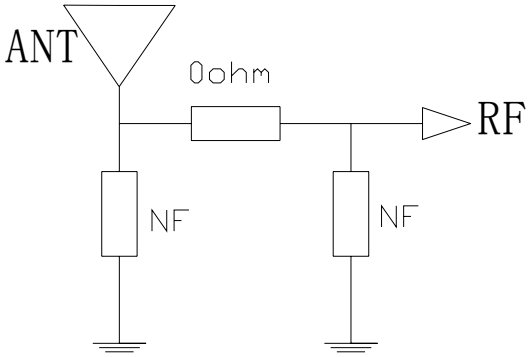
2. Test Result

2.1 RF Performance

2.1.1 S11 Measurement

The S11 parameter was performed using a Hewlett Packard E5071C Network Analyzer and SCSZ'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:

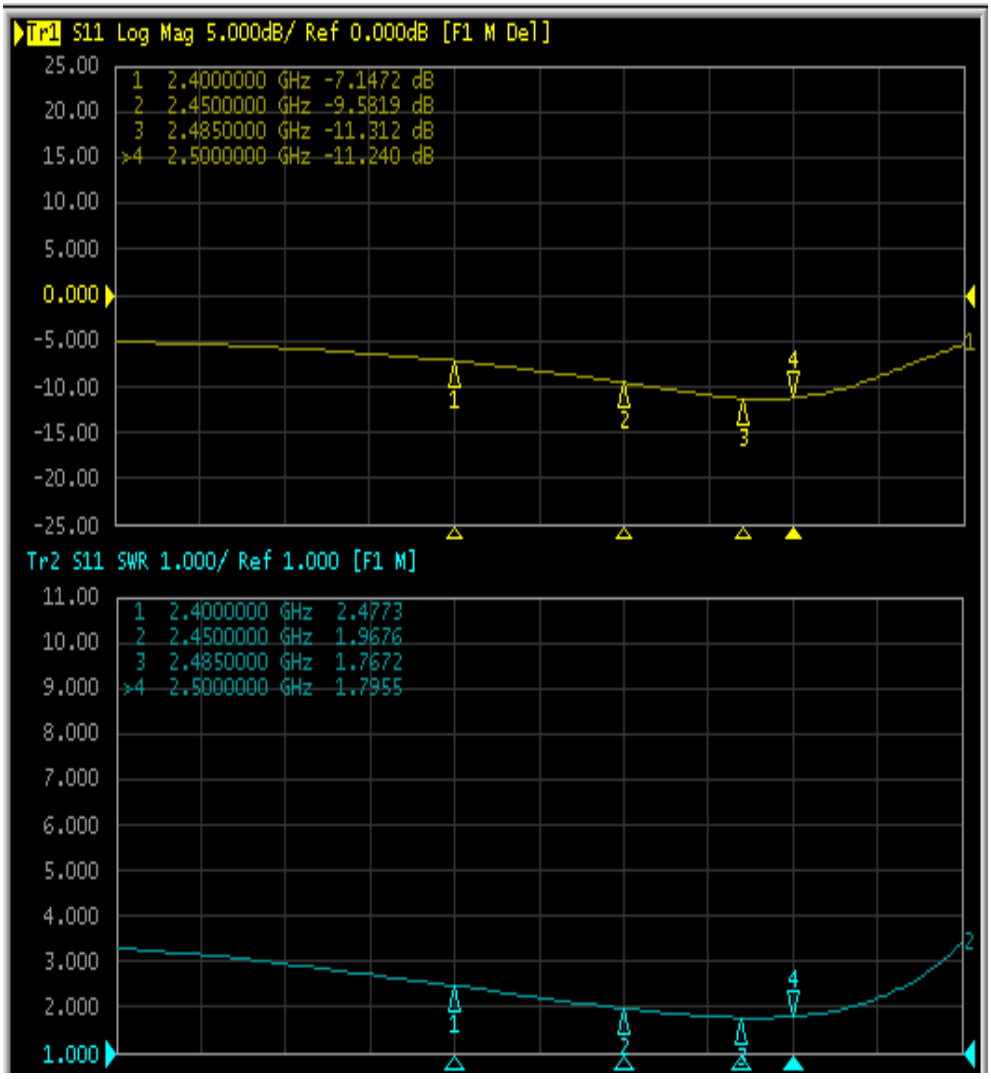


The S11 parameter was shown below, you could check it.

SCSZ ANT S11 parameter Summary of RS005 (free space testing)			
Band	**WIFI**		
	2400	2450	2500
R.L (dB)	-7.14	-9.58	-11.24
VSWR	2.47	1.96	1.79

You could also check in detail in below figures.

S11 parameter of antenna tested in free space



2.1.2 Radiation pattern and Gain Measurement

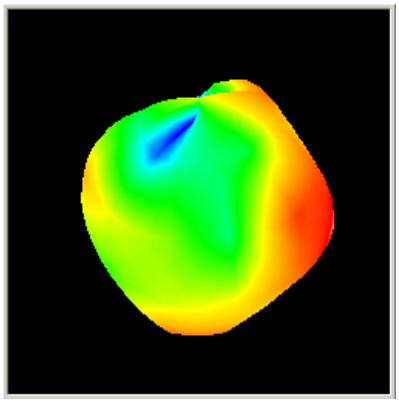
An anechoic chamber was used to measure radiation pattern and antenna Gain. SCSZ's chamber was working from 400MHz to 6GHz. The chamber provides less than –40 dB reflectivity from 400 MHz through 6 GHz. A standard horn was used to calibrate the chamber, and we also use a decoupling sleeve to reduce feed line radiation, so we can measure the antenna gain accurately.

The Efficiency parameter was shown below, you could check it.

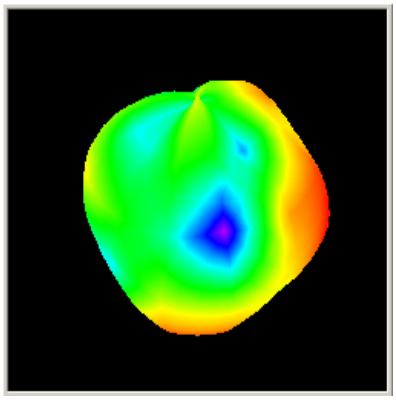
SCSZ ANT Efficiency parameter Summary of RS005			
Band	**WIFI(MHz)**		
	2400	2450	2500
Efficiency (%)	56	58.6	51.6
GAIN	0.65	1.76	1.08

The radiation pattern was shown below, you could check it.

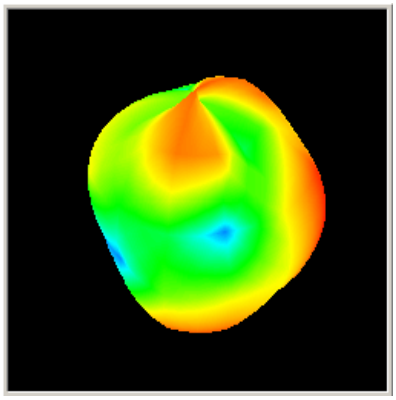
Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
2400.0	0.65	3.17	56.0%	-2.52	0.65	90	60	-10.70	180	30	-2.79	11.35	3.44	-7.92
2450.0	1.76	4.08	58.6%	-2.32	1.76	30	30	-14.07	180	0	-2.41	15.83	4.17	-11.66
2500.0	1.08	3.95	51.6%	-2.87	1.08	30	30	-16.58	180	30	-2.92	17.66	4.00	-13.66



2400MHz



2450MHz



2500MHz

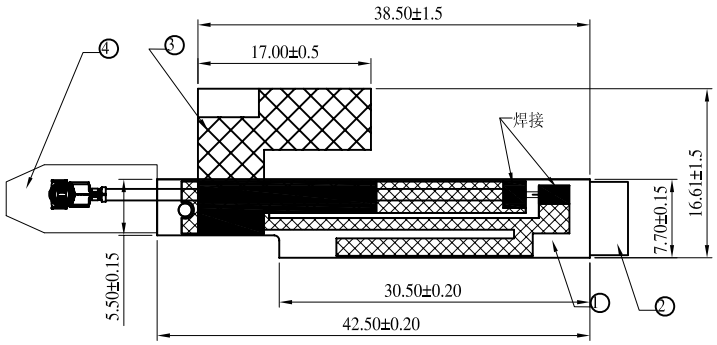
3.0 RF Performance in MP

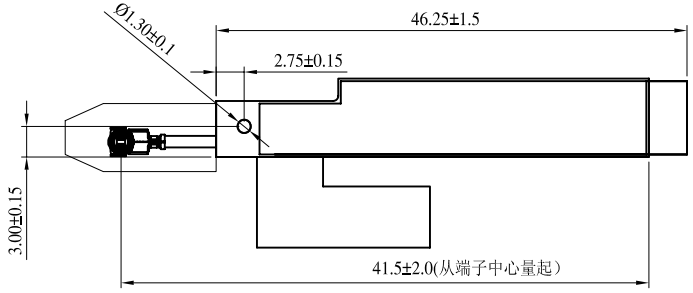
SCSZ ANT SPEC of RS005			
Band	**WIFI**		
Frequency(MHz)	2400	2450	2500
VSWR	⩽3.0	⩽2.5	⩽2.3

3.1 Mechanical Drawing

REVISIONS

REV	DESCRIPTION	DATE	ECN	DONE BY
2	双面胶材料更改			





技术要求：

1. 焊锡不可虚焊、假焊；
2. 焊锡和铝箔等位置准确；
3. 端子保护套管不能脱落；
4. 产品需符合我司《内置天线检验规范》。

*禁止使用一级环境物质，具体要求参见
《禁止和限制使用的环境物质要求(SUC-EW-5.4-05)》

序号	名称	料号	材质	表面处理	颜色
4	Cable+CNNT	4-2310-0	φ1.13,CNNT,套管	上锡	深灰色
3	铝箔	4-2311-0	L14.2*W17	---	N/A
2	双面胶	4-2312-2	3M 300LSE	---	N/A
1	PCB板	4-2309-1	FR4 T=0.60mm	油墨	绿色

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM
1 PLACE DIM X.X ± 0.15 | 2 PLACE DIM X.XX ±0.10 | ANGULAR ±.5

THRID ANGLE PROJECTION

DWN BY	Sunnay
DATE	20100528
CHK BY	
ELEC ENGR	
ENGR	
QA/CONFIG	
DASH NO.	NEXT ASS'Y

Skycross
300 A North Drive
Melbourne, FL
32904
skycross.com

TITLE: WIFI 天线组件

SIZE	DWG NO	REV
B	4-2308	2

SCALE 2:1 SHEET 1 of 1