

WIFI&GPS Antenna Test Report



Customer	桑格爾
Project	A10M
Antenna Revision	A3
Prepared by	XTB18620300278
Checked by	Horace18688949385
Date:	2017. 5. 18

Purpose

This report is to measure the performance of GPS/WIFI antenna for 桑格爾-A10M. The antenna operating frequency at 1575.42±3MHz/2.4-2.5GHz/5.15-5.85GHz, All test data are showed as below.

Content

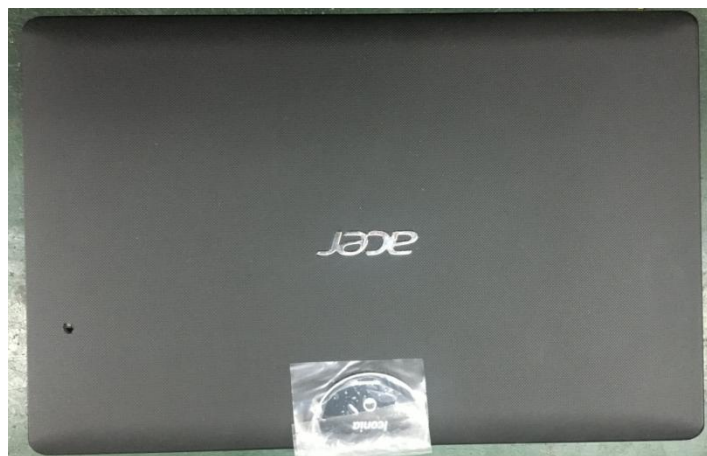
1. Product Overview & Dimension
2. Test system
3. Antenna Matching Network
4. Test Result
 - 4.1 S11 Parameter
 - 4.2 Gain & Efficiency
 - 4.3 Test coordinate
 - 4.4 2D Pattern
 - 4.5 OTA Data
 - 4.6 WIFI Boot measured
 - 4.7 GPS Open Sky C/N Value Test
5. Antenna Assembly & environmental processing

1. Product Overview & Dimension

Front



Back



Antenna

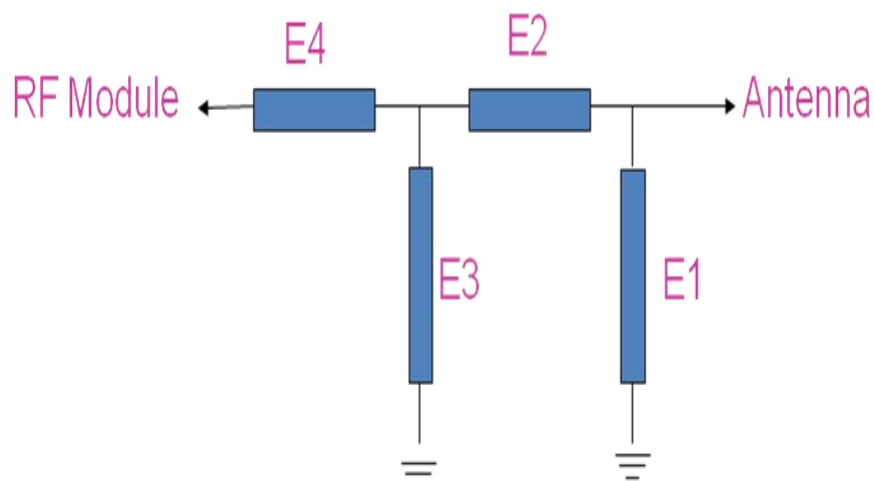


2. Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C



3. Antenna Matching Network

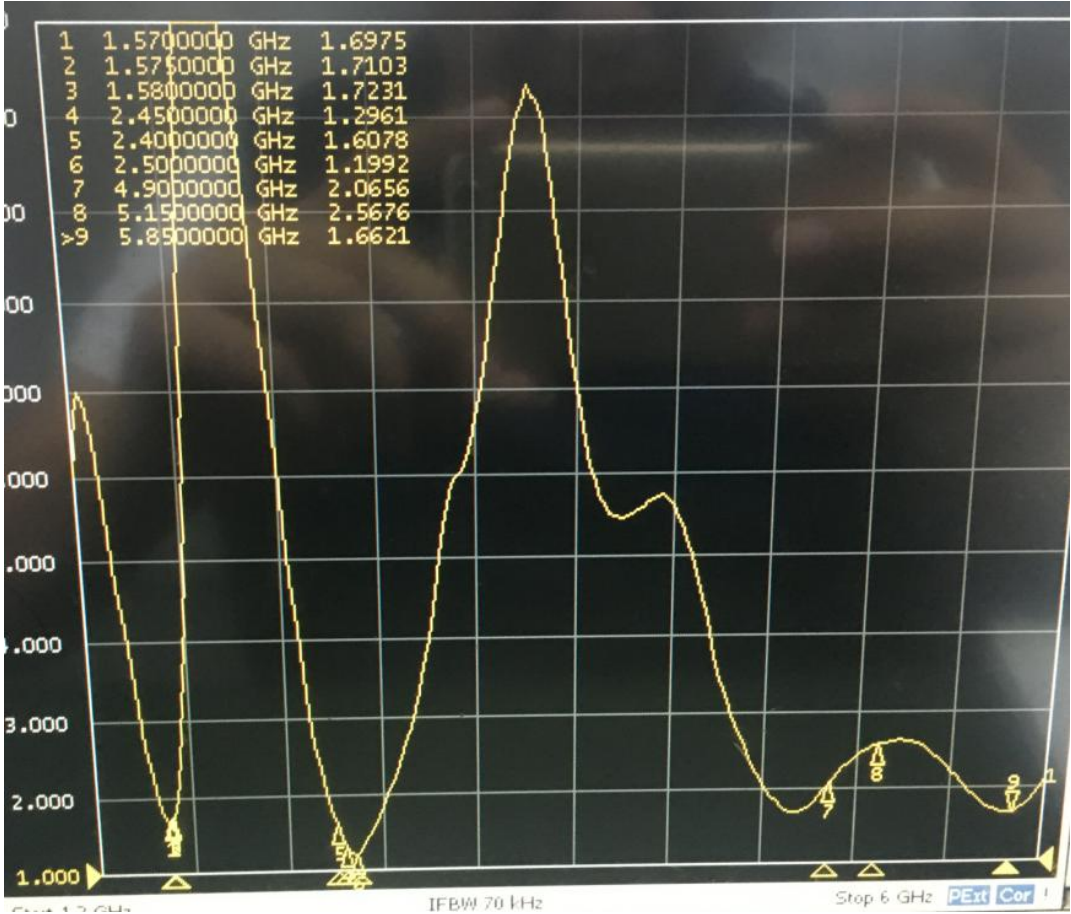


Element	Capacitor	Inductor
E1	N/A	N/A
E2	N/A	N/A
E3	N/A	N/A
E4	N/A	N/A

PCB板端匹配电路未改动

2. Test Result

2.1 WIFI VSWR



Frequency (MHz)	1570	1575	1580	2400	2450	2500	5150	5850
VSWR	1.69	1.71	1.72	1.60	1.29	1.19	2.56	1.66

4. Test Result

4.2 Gain & Efficiency——GPS/WIFI ANT

Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
1570	44.76%	1.82
1575	46.30%	2.11
1580	44.80%	1.99
2400	48.78%	1.70
2450	46.12%	1.61
2500	50.90%	1.81
5500	39.08%	1.34
5600	50.08%	1.98
5700	47.06%	1.79
5800	38.17%	1.40

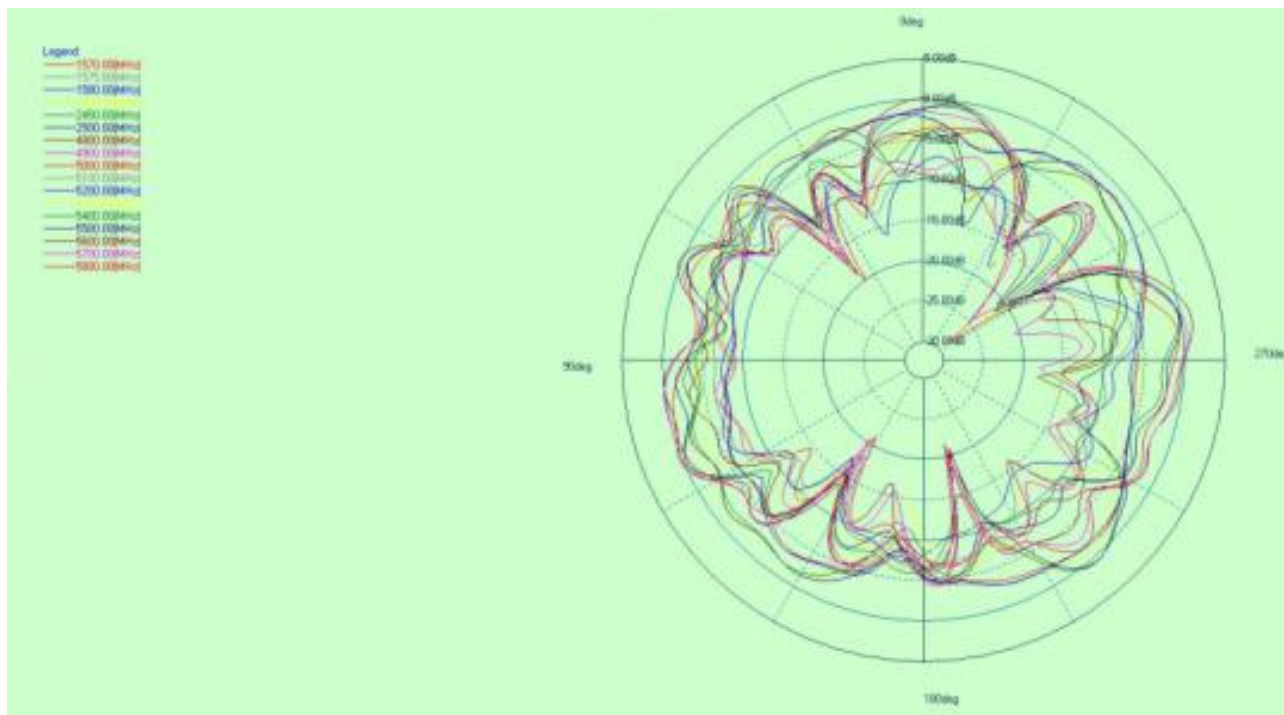
4. Test Result

4.3 Test coordinate



4. Test Result

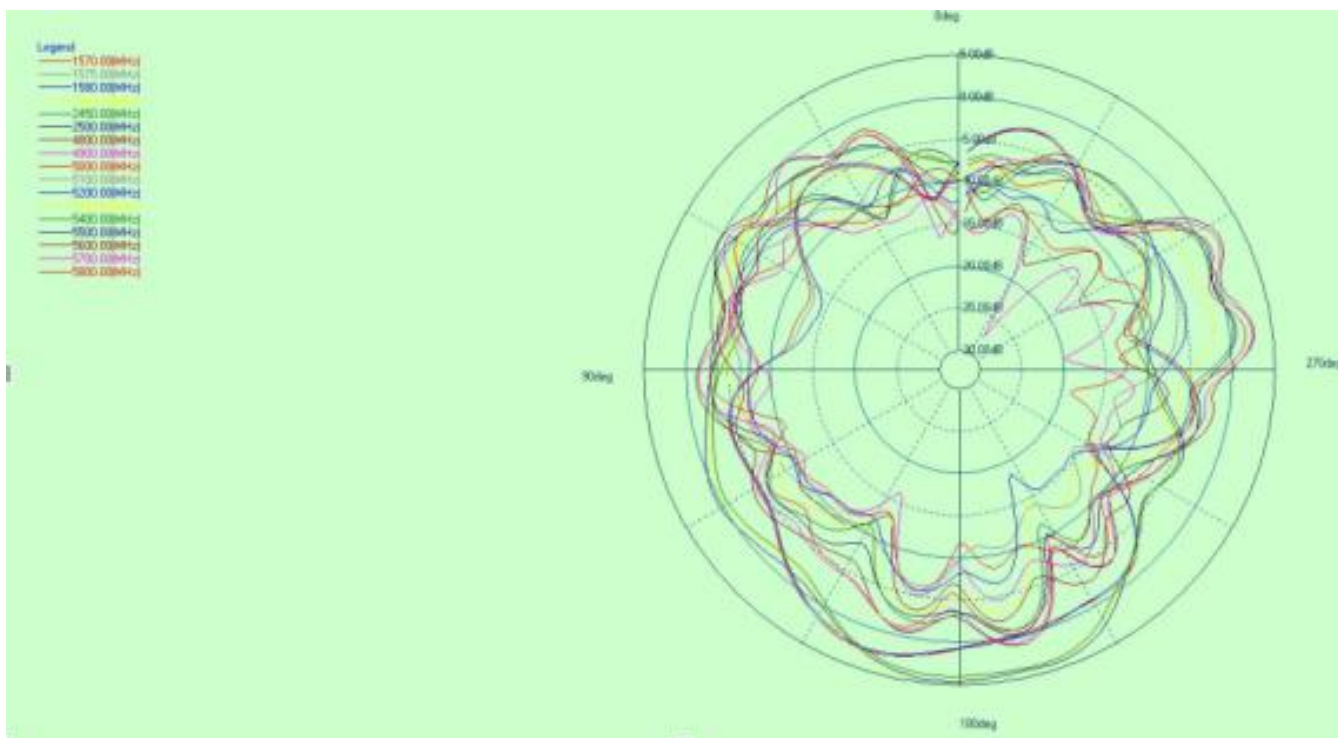
4.4 2D Pattern——GPS&WIFIANT



Y-Z Plane

4. Test Result

4.4 2D Pattern——GPS&WIFIANT



X-Y Plane

4. Test Result

4.7 GPS Open Sky C/N Value Test

Test Location: on the B25 building, Hengfeng Industrial City, Xixiang town, Baoan district Shenzhen, China



4.7 GPS Open Sky C/N Value Test



3. OTA Test Result

OTA數據

Item	802.11b(11Mbps)		
Channel	1	6	11
TRP (dBm)	11.53	12.04	12.11
TIS (dBm)	-79.63	-80.24	-80.36

Item	802.11g(54Mbps)		
Channel	1	6	11
TRP (dBm)	10.76	11.21	11.39
TIS (dBm)	-70.49	-69.85	-69.49

Item	802.11n(65Mbps)		
Channel	1	6	11
TRP (dBm)	9.26	9.86	10.16
TIS (dBm)	-63.52	-64.17	-63.4

Item	802.11a(54Mbps)		
Channel	36	100	165
TRP (dBm)	7.86	8.86	8.92
TIS (dBm)	-69.48	-70.24	-69.58

3. Conclusion

從無緣數據來看，天線性能OK。