



Dongguan Tongxun Electronic Technology Co., Ltd.

Customer	Matco Tools
Project	maxliteA
Antenna Revision	X/0
Product Description	FPC
Prepared by	LIDEWEN

Contact number : 15889421381

date : 2021.08.02

Content



- 1: Test environment and antenna location
- 2: Test Result
 - 2.1 Antenna Matching Network
 - 2.2 VSWR
 - 2.3 Gain & Efficiency
 - 2.4 3D Date
- 3: Conclusion

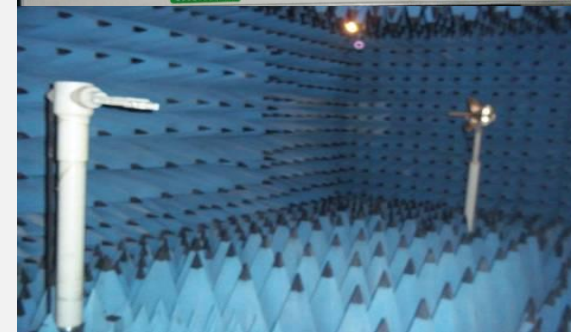
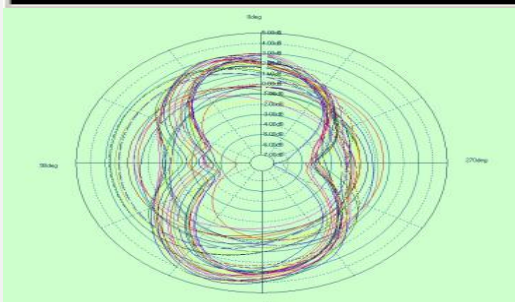
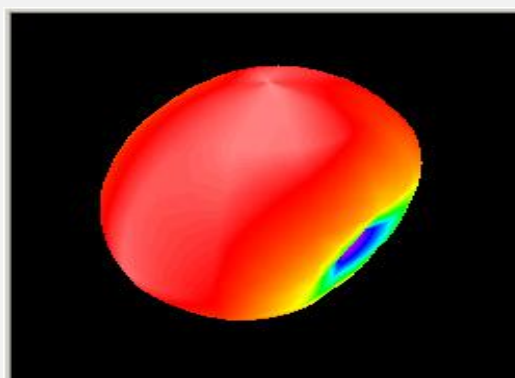
1. Test scenario and antenna locatio



The antenna is attached to the right side along the left bone as a reference.

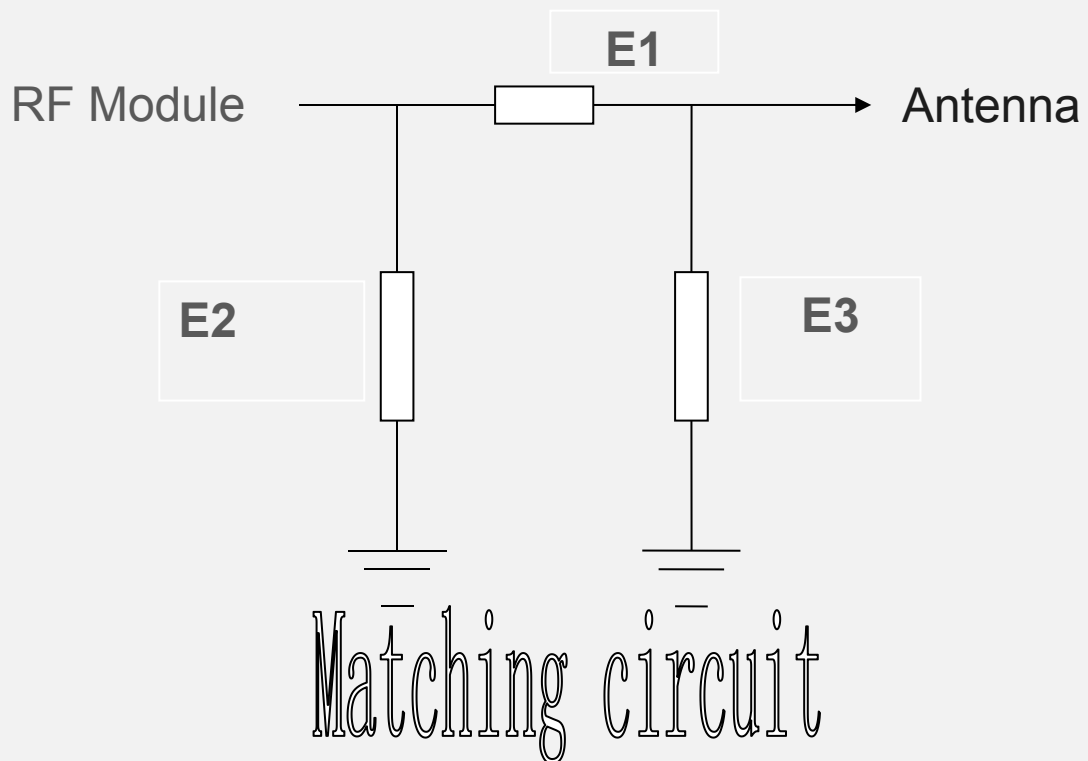
2. Test System

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

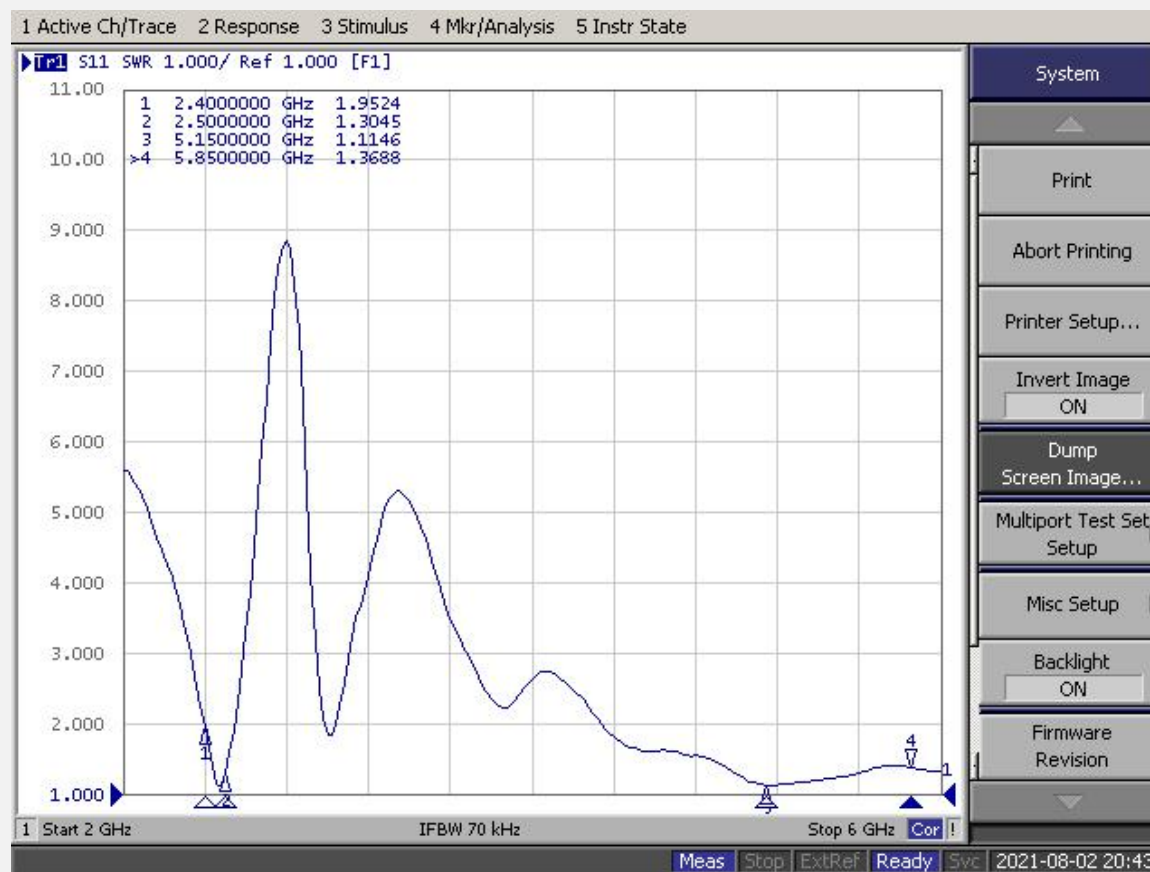


2.1.Antenna Matching Network

Element	Value
E1(0402)	0Ω
E2(0402)	NC
E3(0402)	NC
是否修改匹配	否



2.2.WIFI 2.4G VSWR



Frequency (MHz)	2400	2500	5150	5850
VSWR	1.95	1.30	1.11	1.36

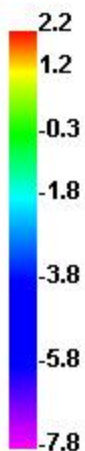
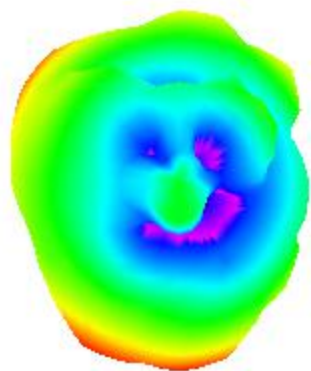
2.3. GAIN & Efficiency

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	46.88	-3.29	2.17
2410	51.48	-2.46	3.87
2420	48.39	-3.15	2.42
2430	63.92	-1.94	3.44
2440	43.86	-3.58	1.84
2450	55.15	-2.58	3.01
2460	47.73	-3.21	2.33
2470	54.85	-2.61	2.96
2480	51.36	-2.89	2.57
2490	52.37	-2.81	2.55
2500	51.9	-2.85	2.5

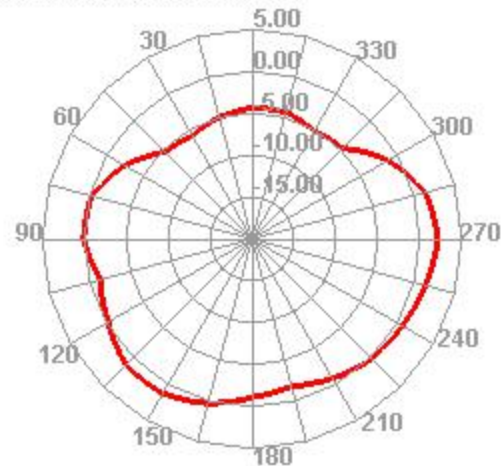
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	72.2	-1.41	3.42
5200	67.63	-1.7	3.19
5250	68.96	-1.61	3.51
5300	65.04	-1.7	4.37
5350	68.18	-1.07	4.18
5400	72.29	-1.35	4.79
5450	67.03	-1.6	4.08
5500	67.73	-1.09	3.59
5550	69.52	-1	4.03
5600	65.93	-1.2	4.18
5650	65.83	-1.66	4.63
5700	65.73	-1.67	4.61
5750	55.59	-1.83	3.6
5800	54.34	-1.92	3.36
5850	62.69	-1.39	3.98

2.4 3D Date

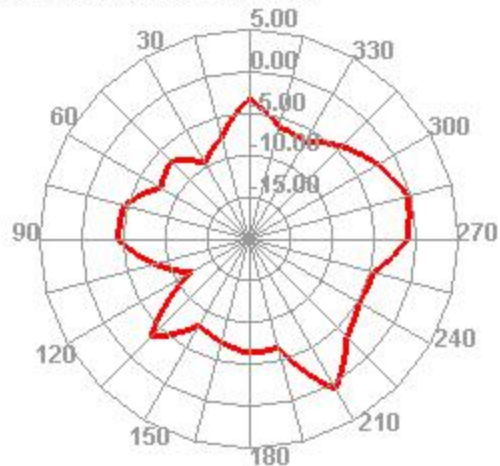
2400.000MHz



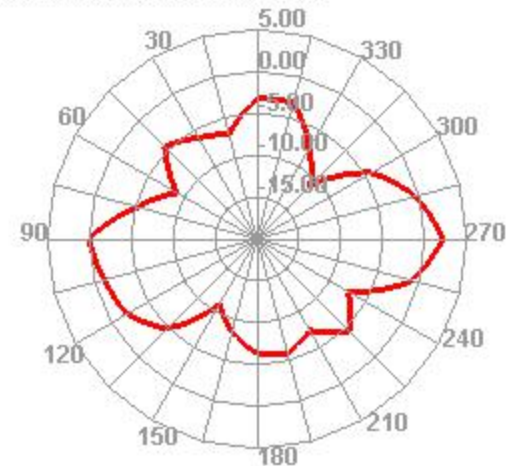
2400.000MHz H



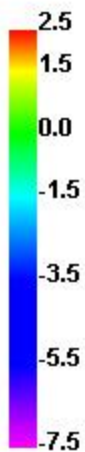
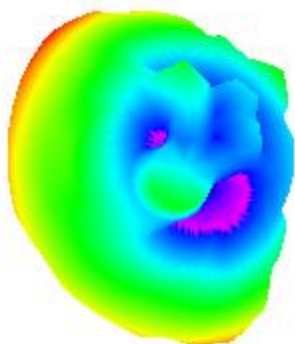
2400.000MHz E1



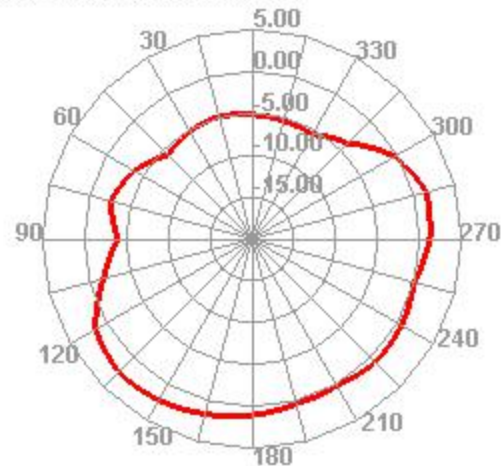
2400.000MHz E2



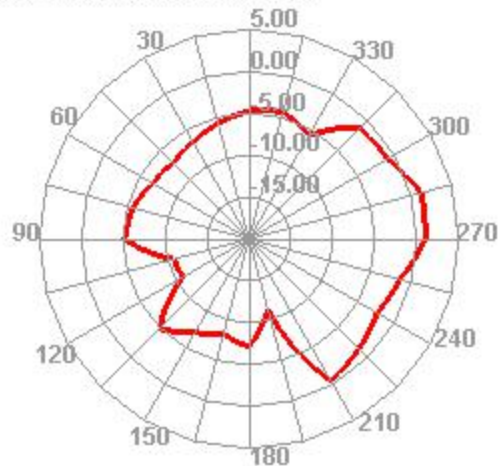
2500.000MHz



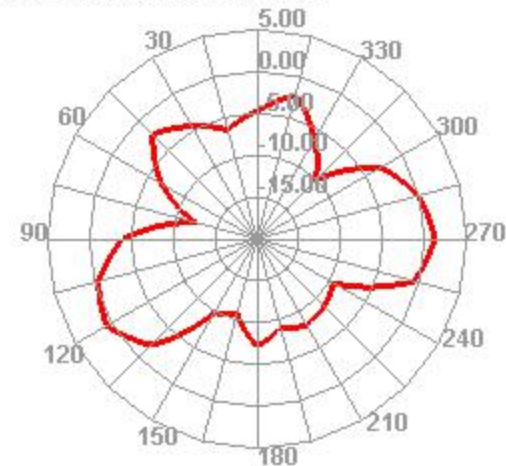
2500.000MHz H



2500.000MHz E1

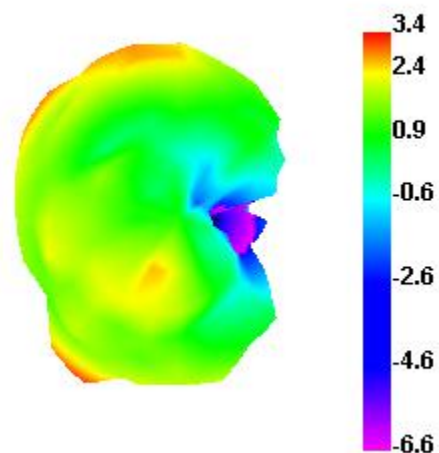


2500.000MHz E2

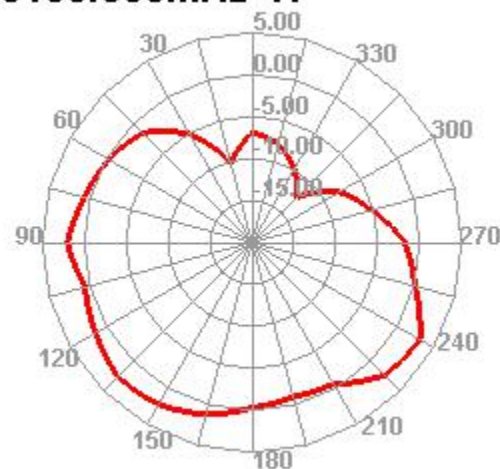


2.4 3D Date

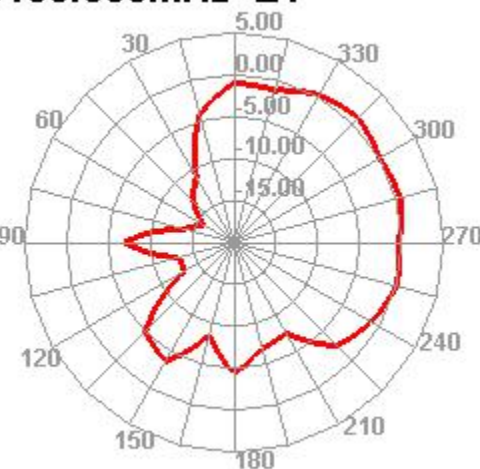
5150.000MHz



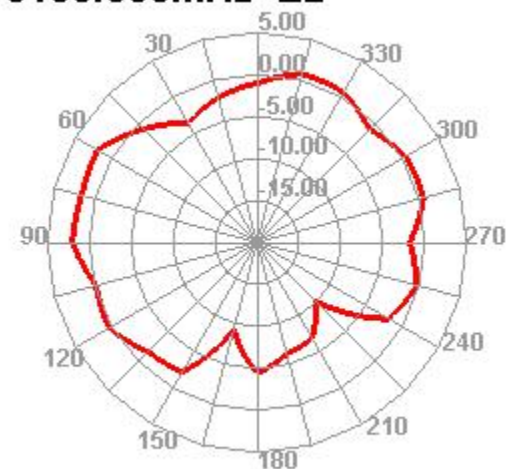
5150.000MHz H



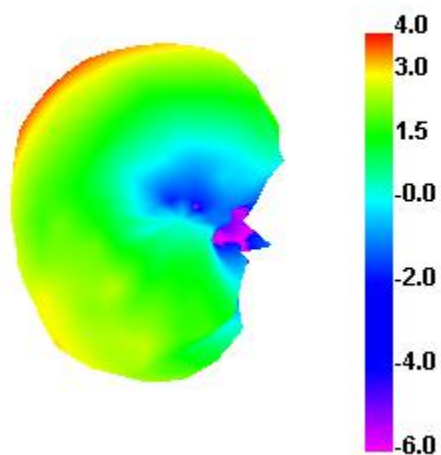
5150.000MHz E1



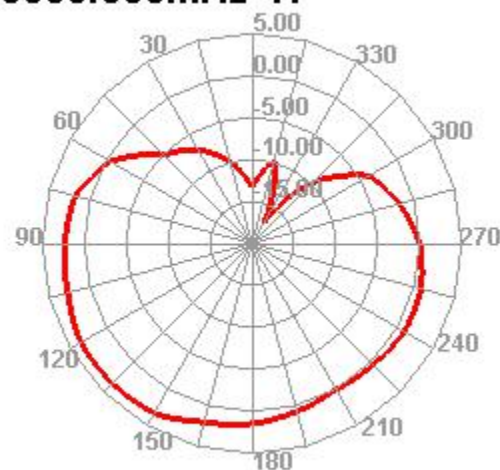
5150.000MHz E2



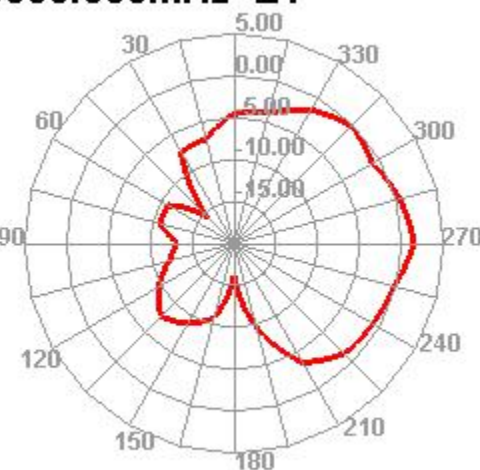
5850.000MHz



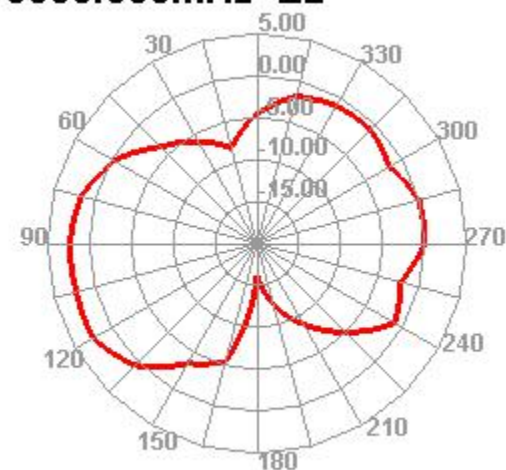
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



3. Conclusion

The matching circuit on the PCB mainboard has not been changed, and the passive standing wave of the antenna has been adjusted to below 2.0. When testing the efficiency and gain in the microwave laboratory, the test efficiency and gain both meet the requirements. Please pay attention to the position of the antenna sticker when installing! If you have any other questions, please contact me by phone, thank you!