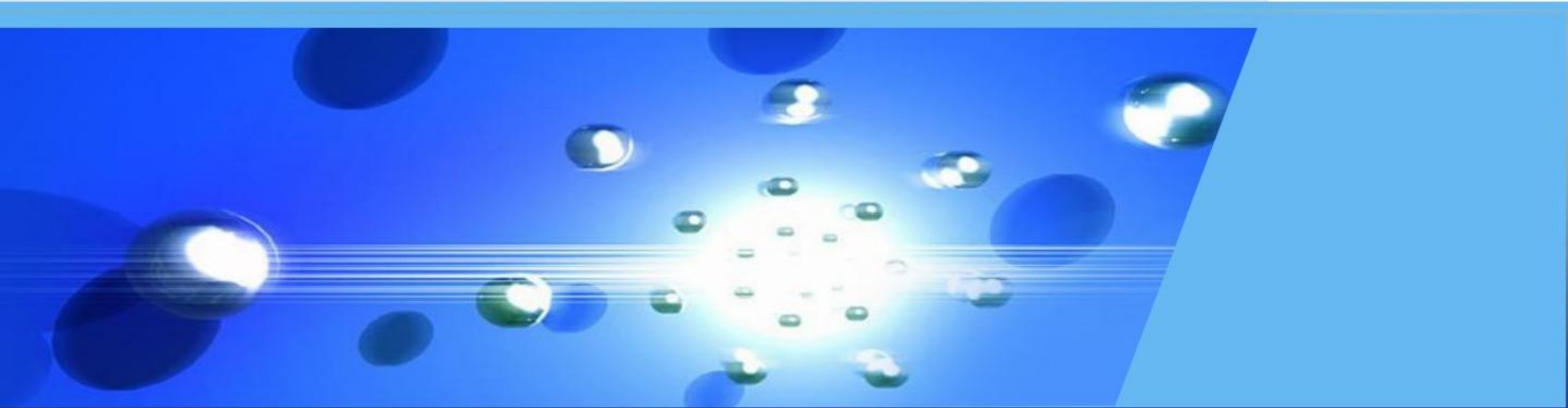


Professional **RF** R&D Institutions



ShenZhen HengXinDa Communication Technology Co., Ltd.

Antenna Design & Test Report

RF Engineer: Lawrence

Mobile: +86-15813853812

ShenZhen R & D Center Laboratory

DATE:2024.09.27

Project Information

1

Customers: 名创

2

Project: M99

3

Frequency range: 2.4-2.48GHZ

4

Remarks:

Test List

Test items

Device

S parameter

Antenna
coupling power
test

Radiation&Gain

ReturnLoss;VSWR;Smith-
Chart

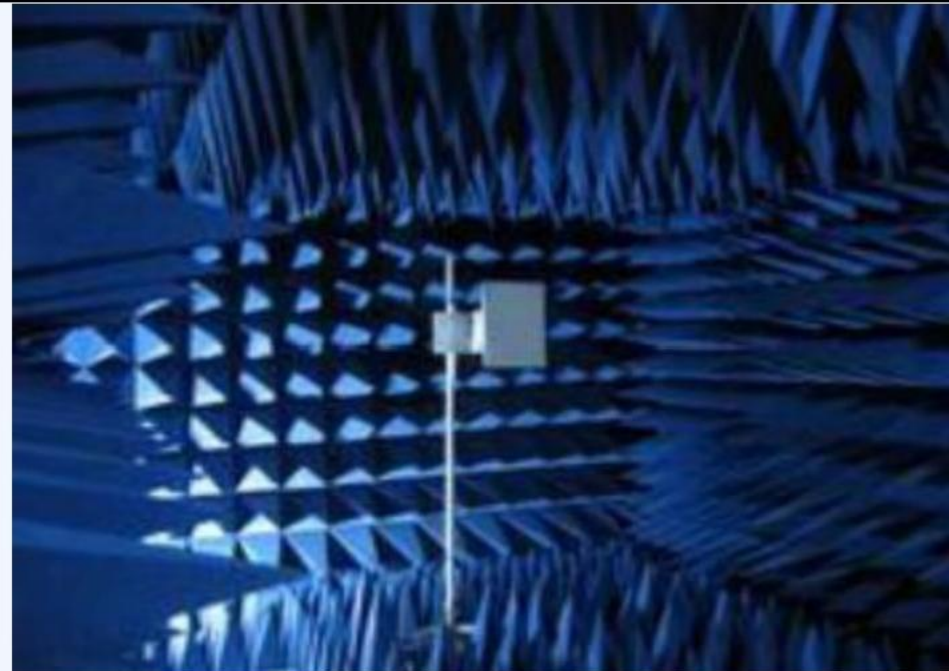
Transmission power and
reception sensitivity

Radiation pattern ; Antenna gain ; 3D data

E5071C Network analyzer

CMW500 Bluetooth tester

1.3D Microwave Chamber7x4x3m(3D)
2.CMW500



Frequency **2.4GHZ-2.48GHZ**

Test Engineer 曾庆雄

Version V1.3

TEST Antenna

13.8919
15.6036
13.9299
15.6435

手撕标签

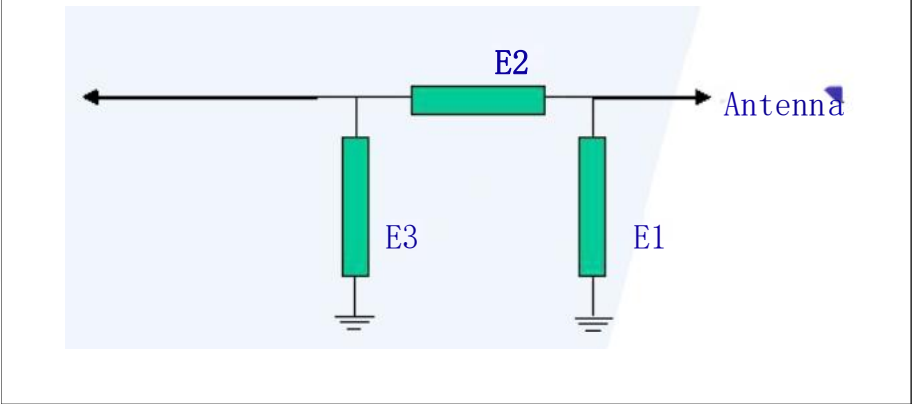
注:

1. 表面处理: 2μ
2. 表面处理
3. 表面处理

规格: □1-12, 表面过锡层, 贴片焊盘无字码

物料名称	规格	数量	备注
PCB	FR4	1	
焊料	60Sn40Pb	1	

Matching Circuit



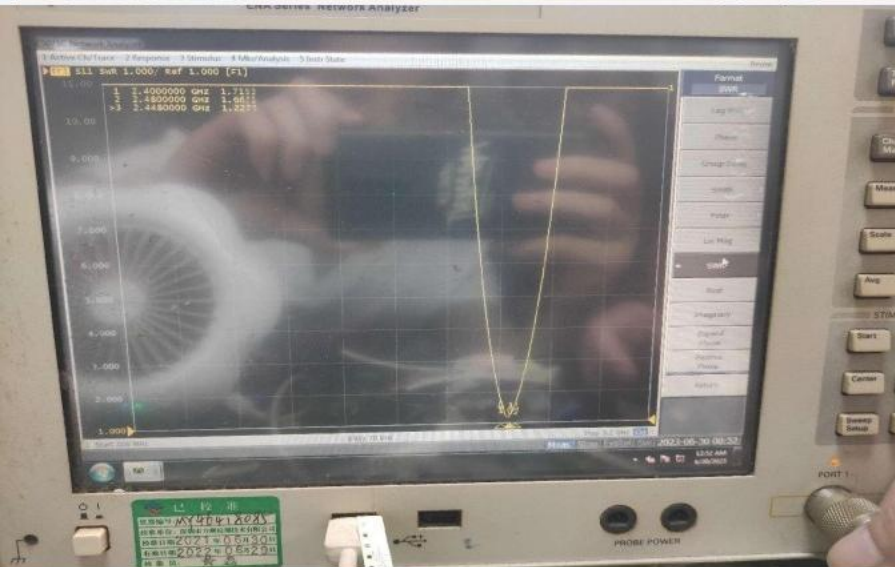
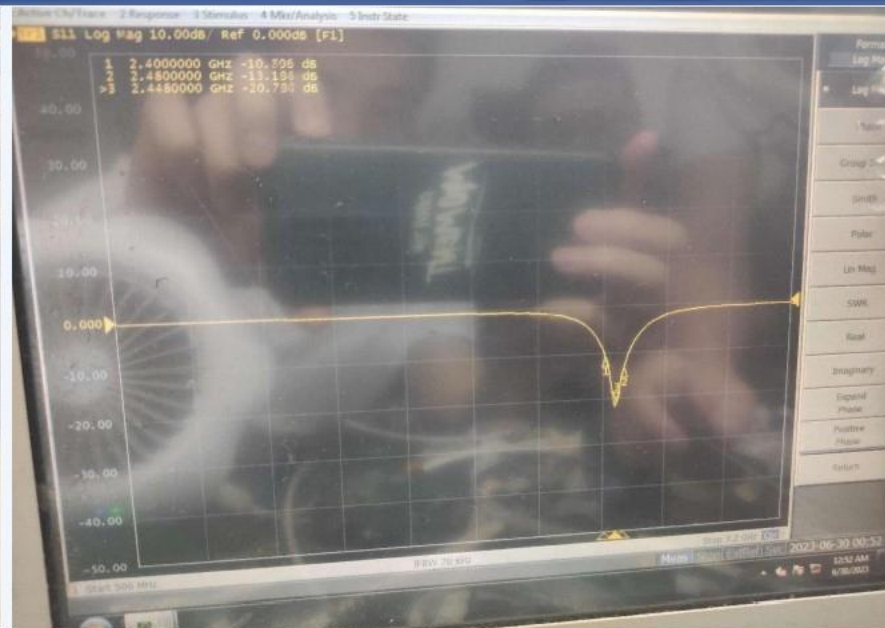
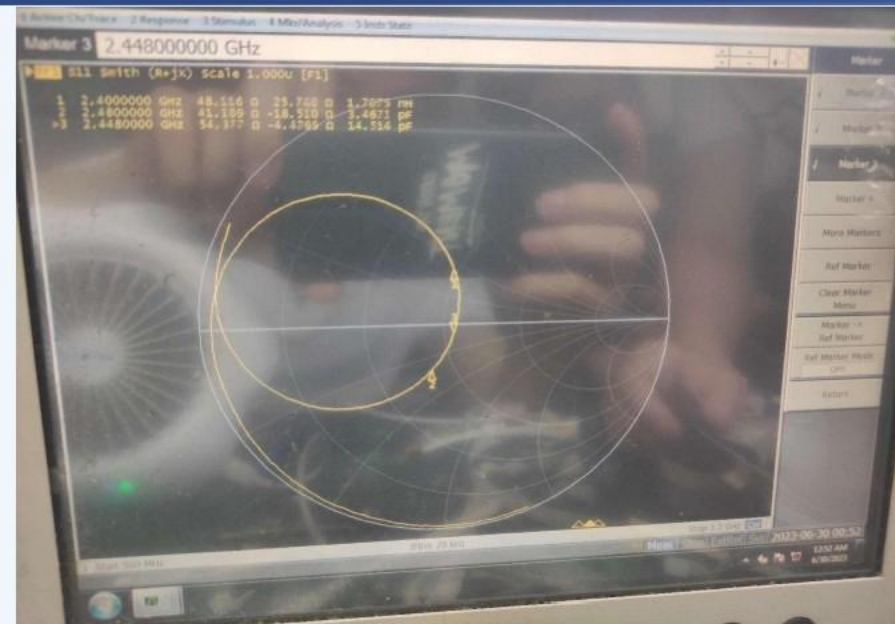
Matching Instructions-L

E1	2NH
E2	1.5NH
E3	NC

Matching Instructions-R

E1	1.8PF
E2	6.8PF
E3	NC

Antenna Passive Dat

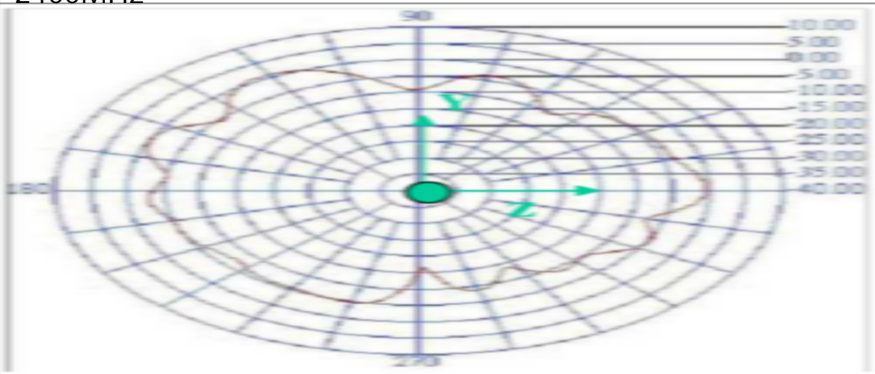


L R

Freq (MHz)	Effi (%)	PeakGain (dBi)		Freq (MHz)	Effi (%)	PeakGain (dBi)
2400	55.16%	0		2400	60.11%	-4.5
2450	53.34%	3.5		2450	52.27%	-5
2500	55.08%	3		2500	50.05%	2.5

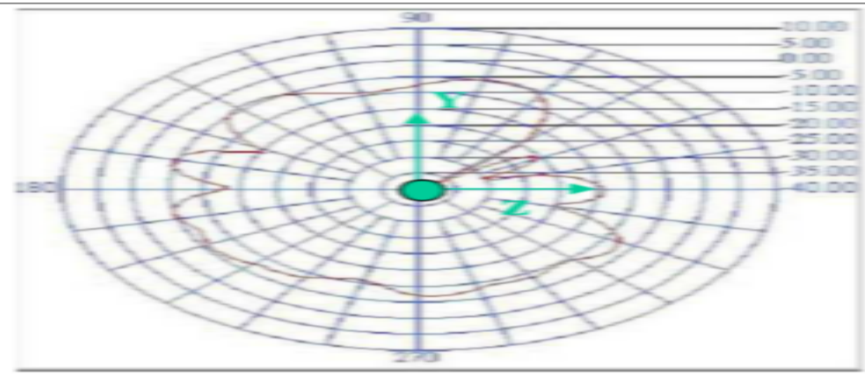
2400MHz

L



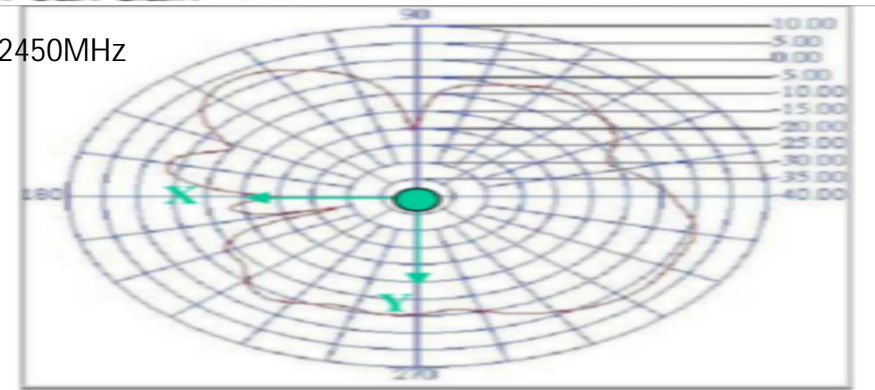
Peak Gain = 0dBi

R

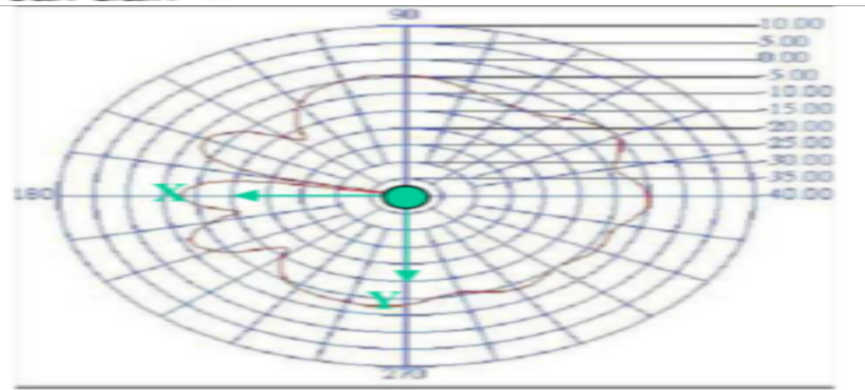


Peak Gain = -4.5dBi

2450MHz

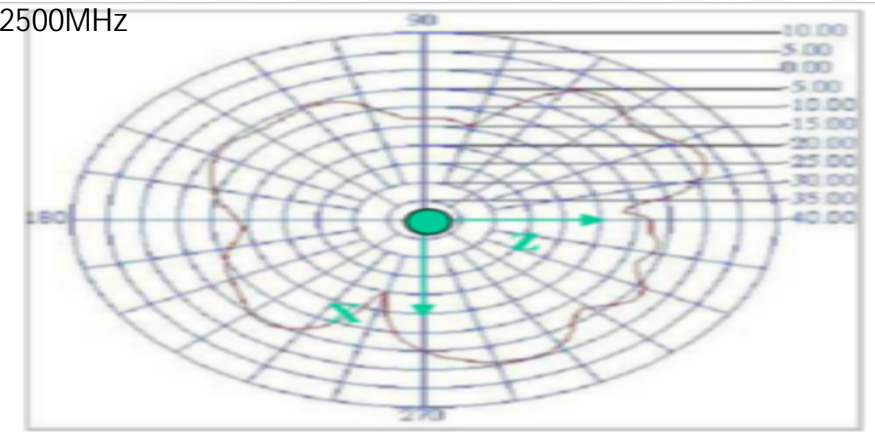


Peak Gain = 3.5dBi

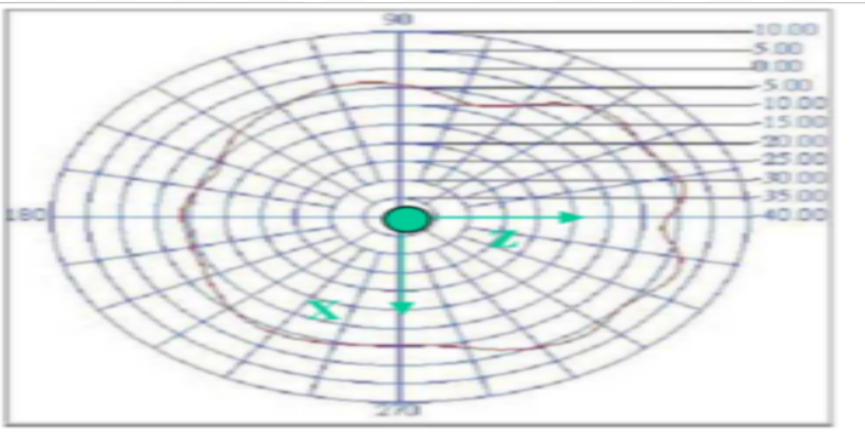


Peak Gain = -5dBi

2500MHz



Peak Gain = 3dBi

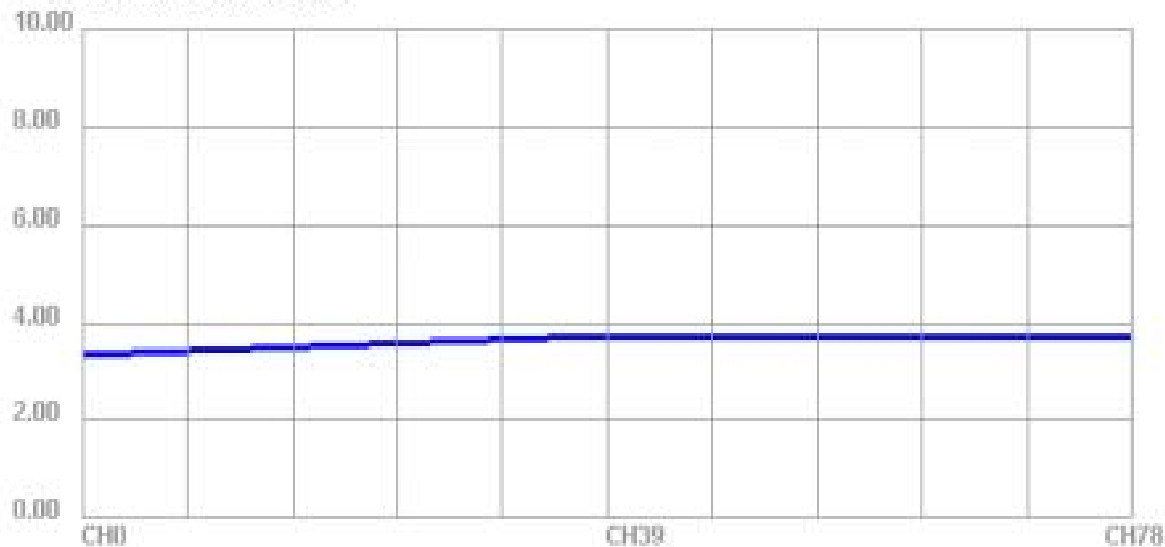


Peak Gain = 2.5dBi

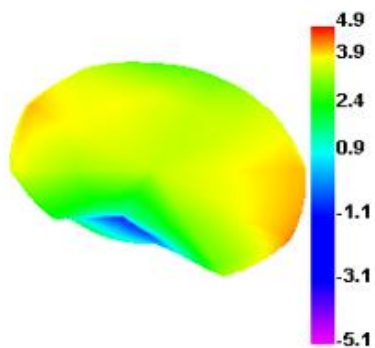
TRP

Test	Bluetooth TRP			Application Information	
Result	0	39	78	04Version	5.256.357
Frequency (MHz)	2402	2441	2480	TotalTime	16m 2s 7ms
TRP (dBm)	3.34	3.74	3.71	AdditionalInfor	BE959F84E82F
NHPRP (dBm) 45	2.04	2.52	2.57		
MAX (dBm)	6.09	6.68	6.58		
EIRP peak	6.09	6.68	6.58		
Min (dBm)	-6.76	-8.12	-6.63		
Attenuation Horiz	43.34	43.34	43.34		
Attenuation Vertic	43.24	43.24	43.24		

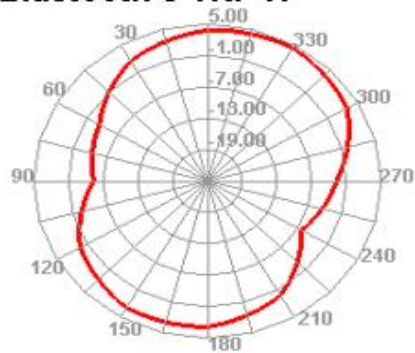
Bluetooth TRP



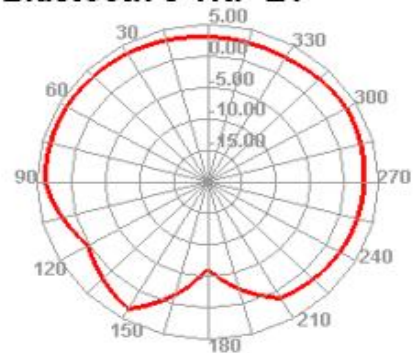
Bluetooth 0 TRP



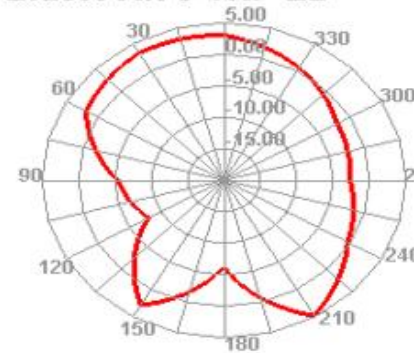
Bluetooth 0 TRP H



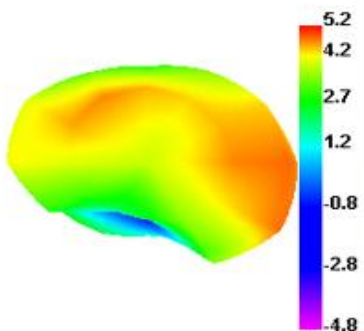
Bluetooth 0 TRP E1



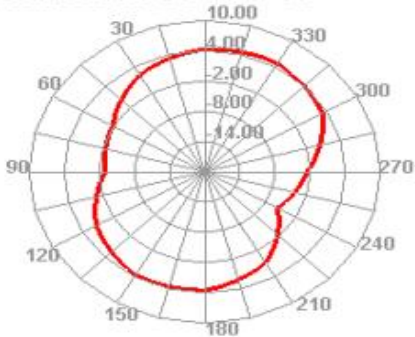
Bluetooth 0 TRP E2



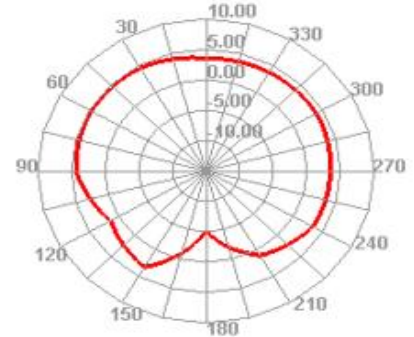
Bluetooth 39 TRP



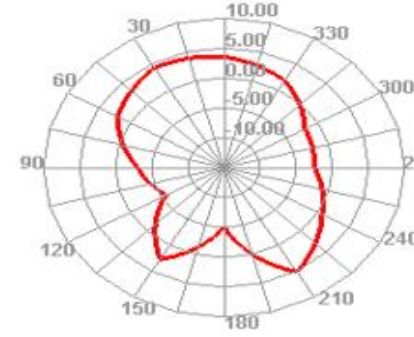
Bluetooth 39 TRP H



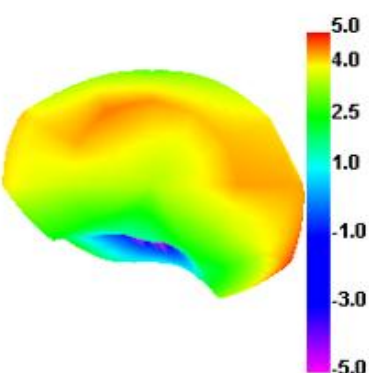
Bluetooth 39 TRP E1



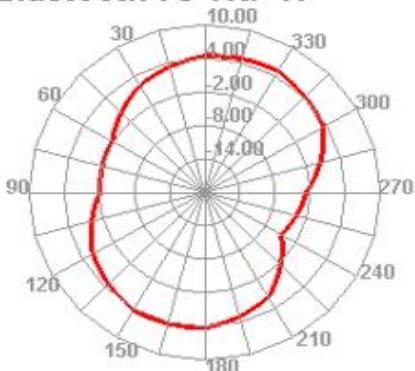
Bluetooth 39 TRP E2



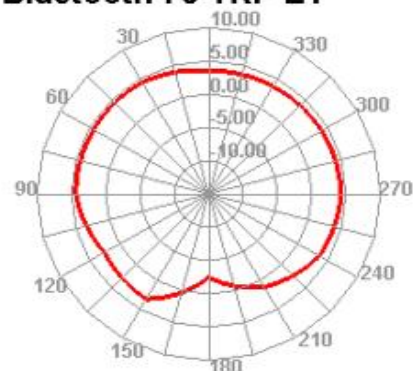
Bluetooth 78 TRP



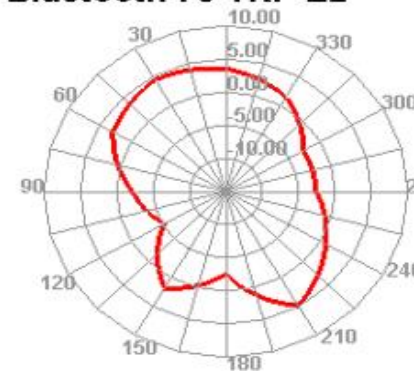
Bluetooth 78 TRP H



Bluetooth 78 TRP E1



Bluetooth 78 TRP E2

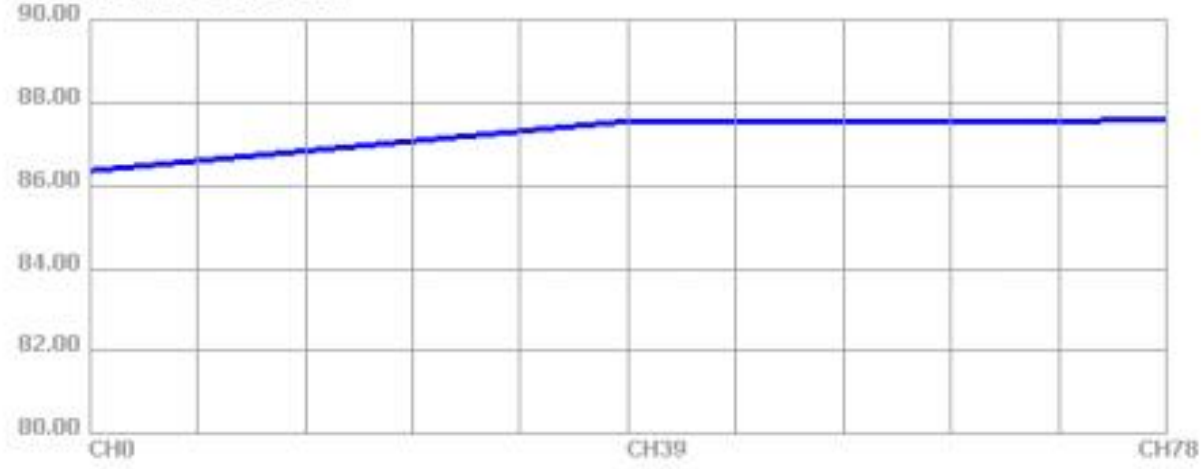


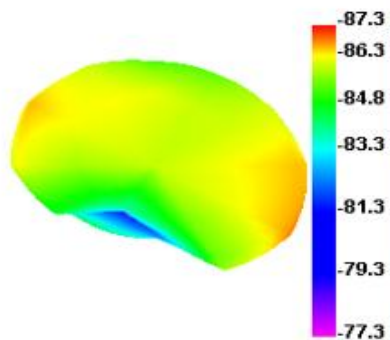
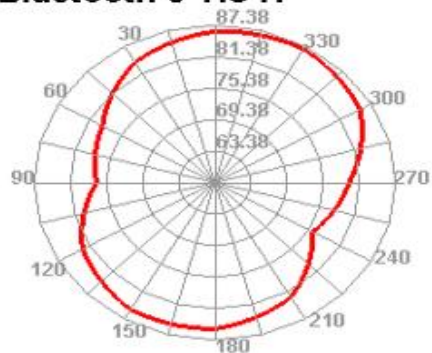
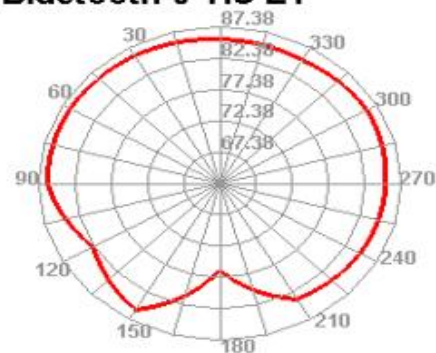
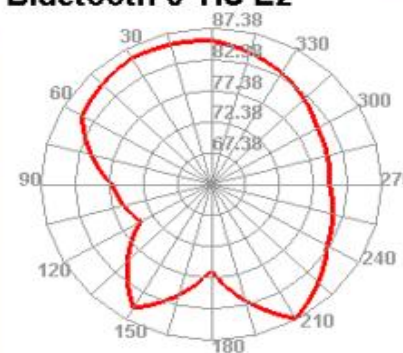
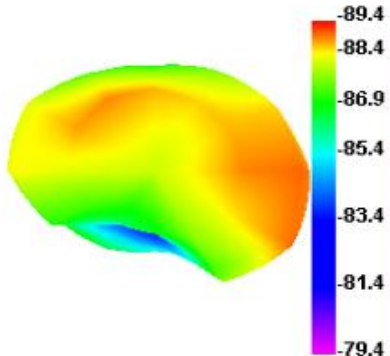
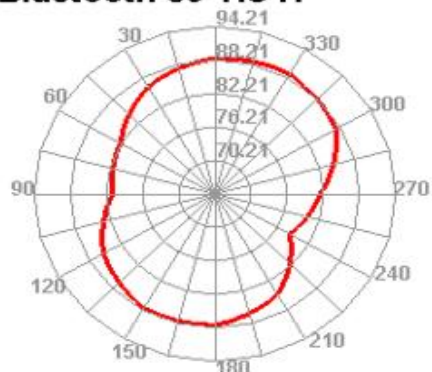
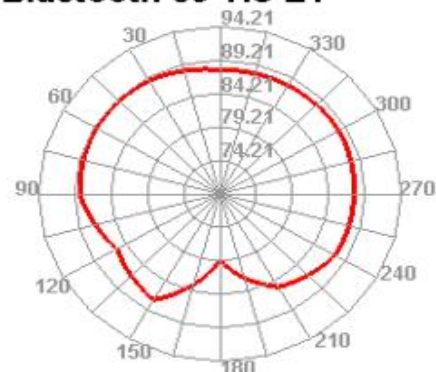
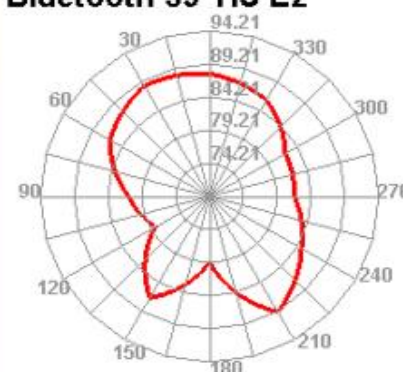
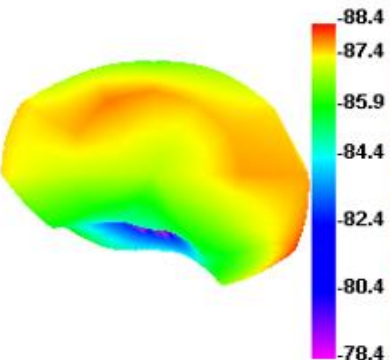
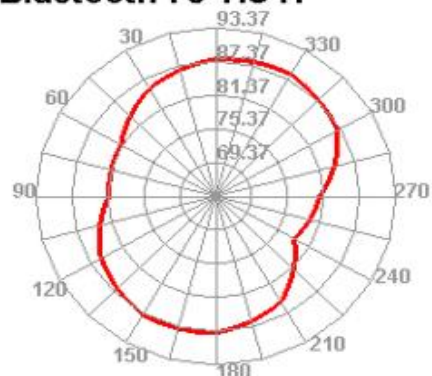
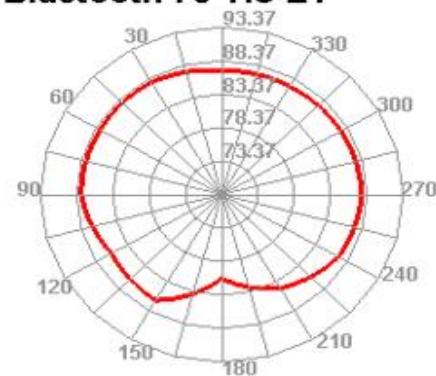
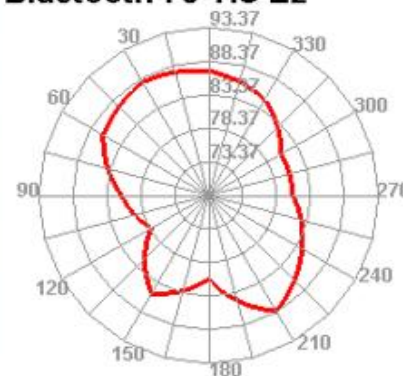
TIS

Test	Bluetooth TIS		
Result	0	39	78
Frequency (MHz)	2402	2441	2480
TIS (dBm)	-86.35	-87.55	-87.57
NHPIS (dBm) 45	-85.05	-86.33	-86.43
RSSIAve	3.34	3.74	3.71
MaxPosRSSI	5.83	6.43	6.18
MaxPosSens	-88.84	-90.24	-90.04
MAX (dBm)	6.09	6.68	6.58
EIS peak	6.09	6.68	6.58
Min (dBm)	-6.76	-8.12	-6.63
Attenuation Horiz	43.34	43.34	43.34
Attenuation Vertic	43.24	43.24	43.24

Application Information	
O4Version	5.256.357
TotalTime	16m 2s 7ms
AdditionalInfor	BE959F84E82F

Bluetooth TIS



Bluetooth 0 TIS**Bluetooth 0 TIS H****Bluetooth 0 TIS E1****Bluetooth 0 TIS E2****Bluetooth 39 TIS****Bluetooth 39 TIS H****Bluetooth 39 TIS E1****Bluetooth 39 TIS E2****Bluetooth 78 TIS****Bluetooth 78 TIS H****Bluetooth 78 TIS E1****Bluetooth 78 TIS E2**

Professional **RF** R&D Institutions



Thank You !

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