

SPECIFICATION



ShenZhen TianDa Communication CO., LTD

The TC1600-11J antenna Product specification

client	Second pass radio	Frequency segment	2400-2500MHz
Antenna name/Model	TC1600-11J	edition	A
Item part number	MC-FT-11-BT-A	complexion	black
RF design	Wang Xinchuang	Structural design	Zhou Luhong
Maximum antenna gain	10dBm	date	2023.06.17

Customer confirmation:

Whether the assembly meets your company's requirements: ☐OK ☐NG

ShenZhen TianDa Communication CO., LTD.

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Shenzhen

catalogue

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一、First, BT antenna

1. Specifications

The admission document mainly provides the test status of BT antenna electrical and structural performance parameters of FT11 project. The picture below

It's a picture of the BT antenna designed by Investec.



1.1 、 electrical specifications

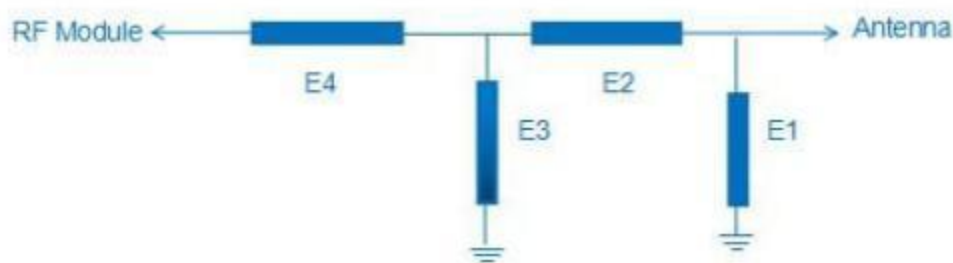
1.1.1. Electrical performance index

The antenna of this project works in the 2400-2500mhz frequency band. The following is the electrical performance of the antenna designed and produced by Investec

Indicators.

WIFI		
Frequency band	frequency (MHz)	VSWR
WIFI	2400~2500	≤ 2.0

1.1.2 、 Match the circuit diagram



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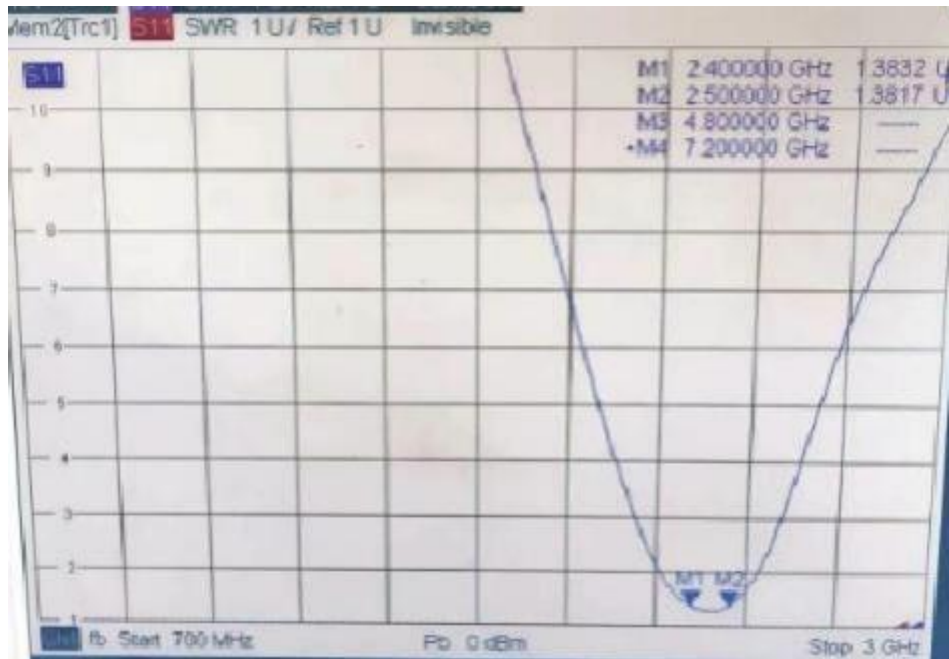
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The matching circuit of the WIFI antenna is seen as a parallel electrostatic tube from the antenna end, with 2.2nH inductors in series and 2.2pF capacitors in parallel.

1.2. Test

1.2.1 Passive test

1.2.1.1 Antenna Standing Wave Test (VSWR)



1.2.2 、 Actual effect of earphone

BT test				
Antenna material: FPC	Test type: Music playback	Model: TC1600-11J		
Mobile phone model	content	distance	remark	
Huawei nova6se	Headphones omnidirectional no interruption maximum distance	≤20m		
	Mobile phone close-up test without interruption			
Apple 12	Headphones omnidirectional no interruption maximum distance	≤20m		

Test site: the roof of our company

Security is required

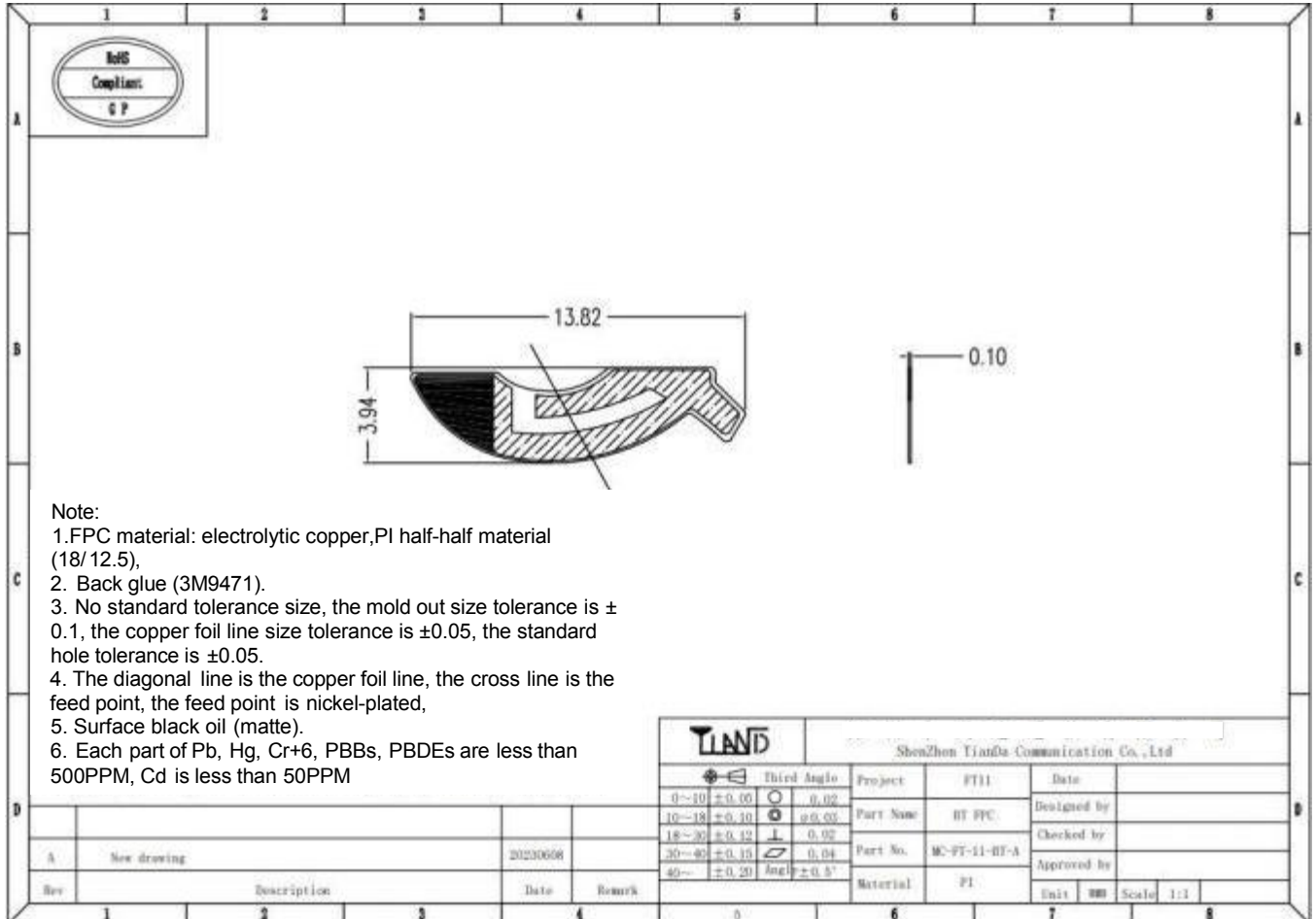
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二、Structural specification

2.1 Antenna composition

The BT antenna is mainly composed of FPC.

2.2. Engineering drawings

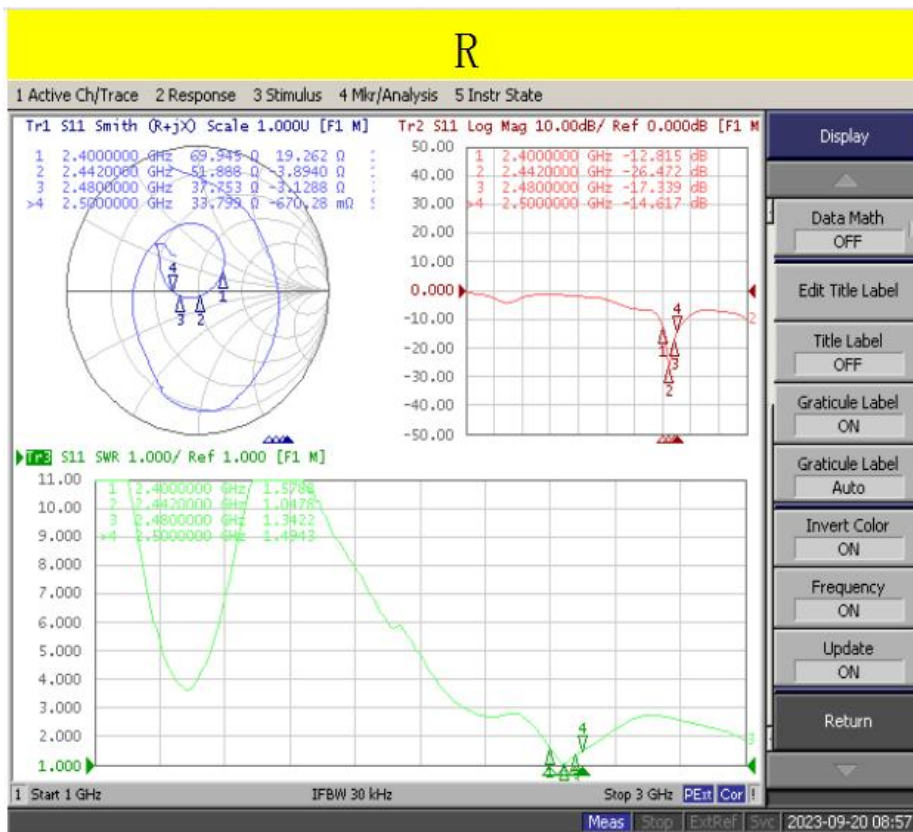
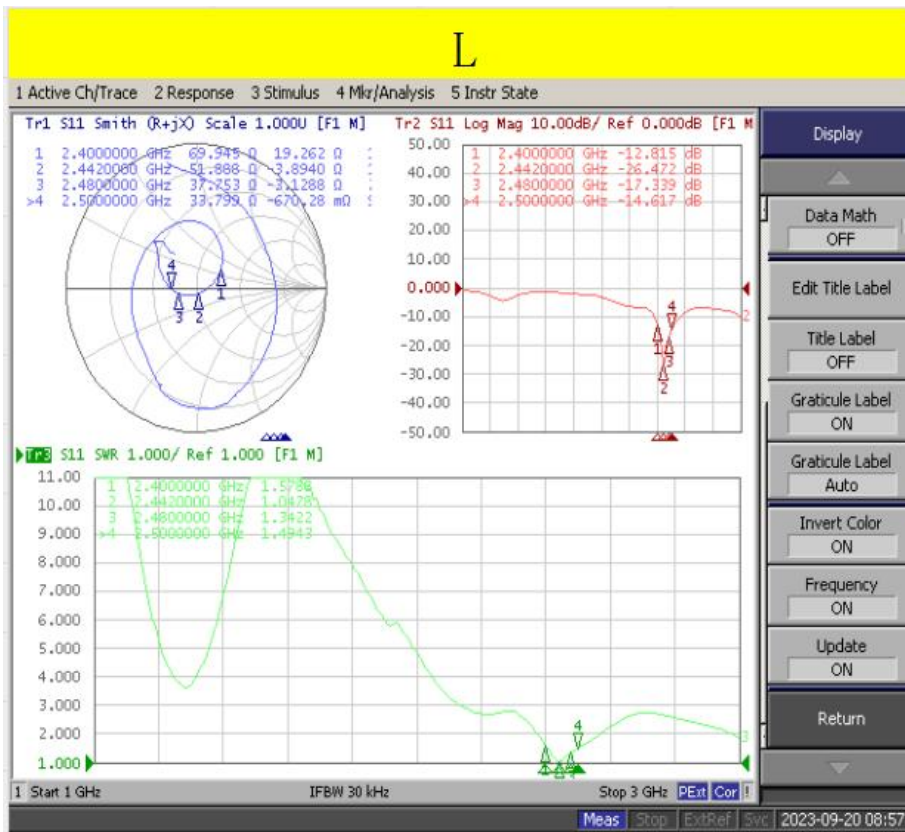


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2.2. Antenna radiation pattern

2.2.1 Antenna impedance parameter test



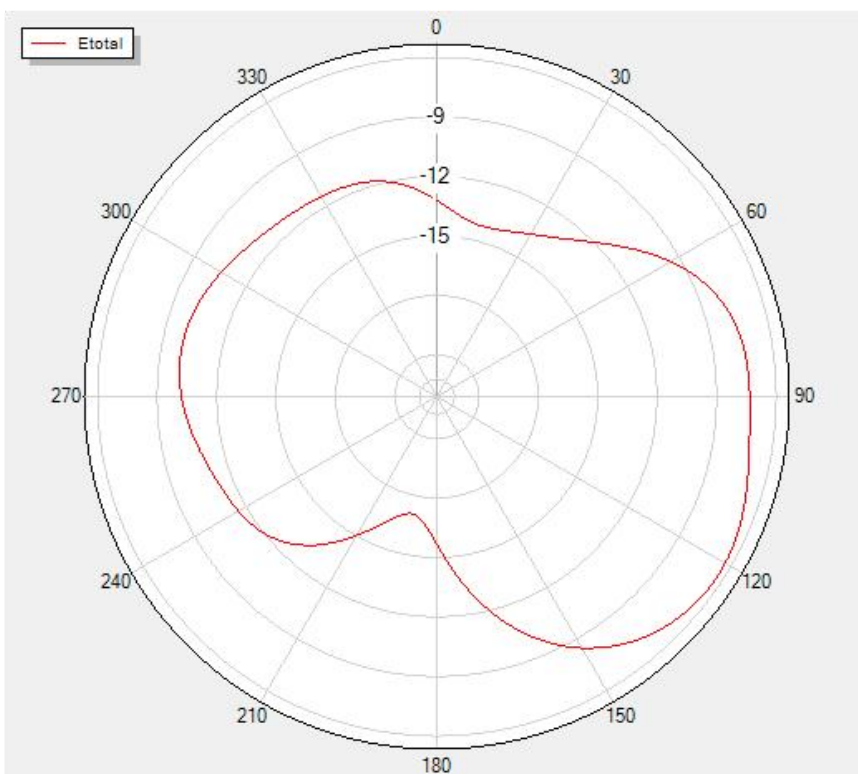
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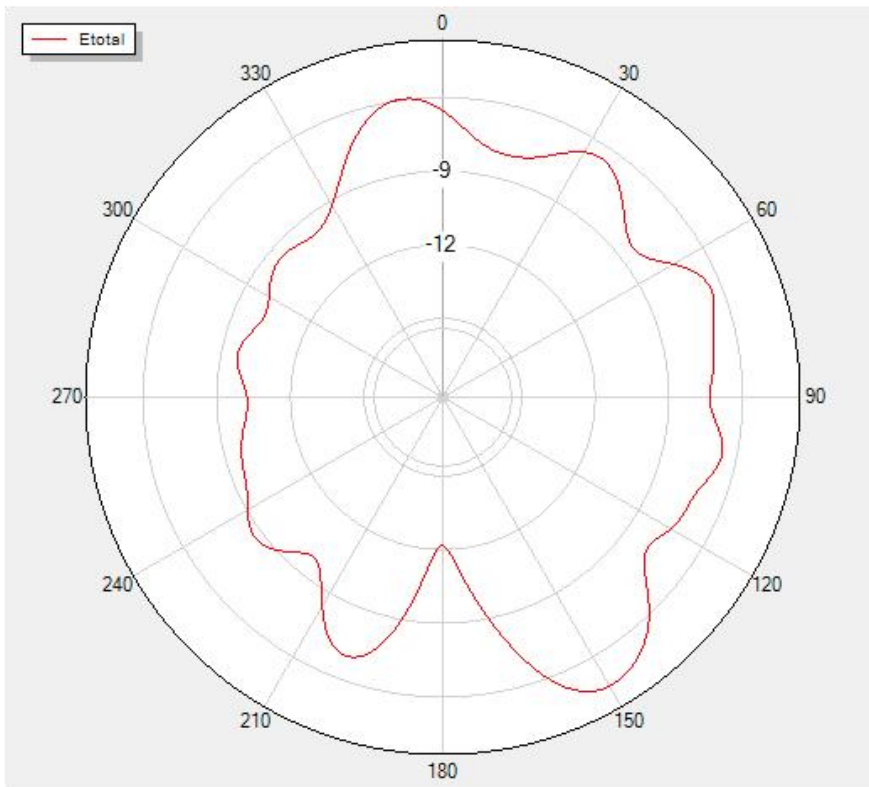
2.2.2 Test of antenna passive efficiency

L			
Frequency point(MHz)	gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-2.45	-8.53	14.03
2410	-2.37	-8.29	14.82
2420	-2.34	-8.14	15.33
2430	-2.34	-8.08	15.57
2440	-2.42	-8.08	15.56
2450	-2.41	-8.05	15.68
2460	-2.42	-7.99	15.88
2470	-2.46	-7.97	15.97
2480	-2.6	-7.95	16.05
Mean value	-2.42	-8.12	15.43

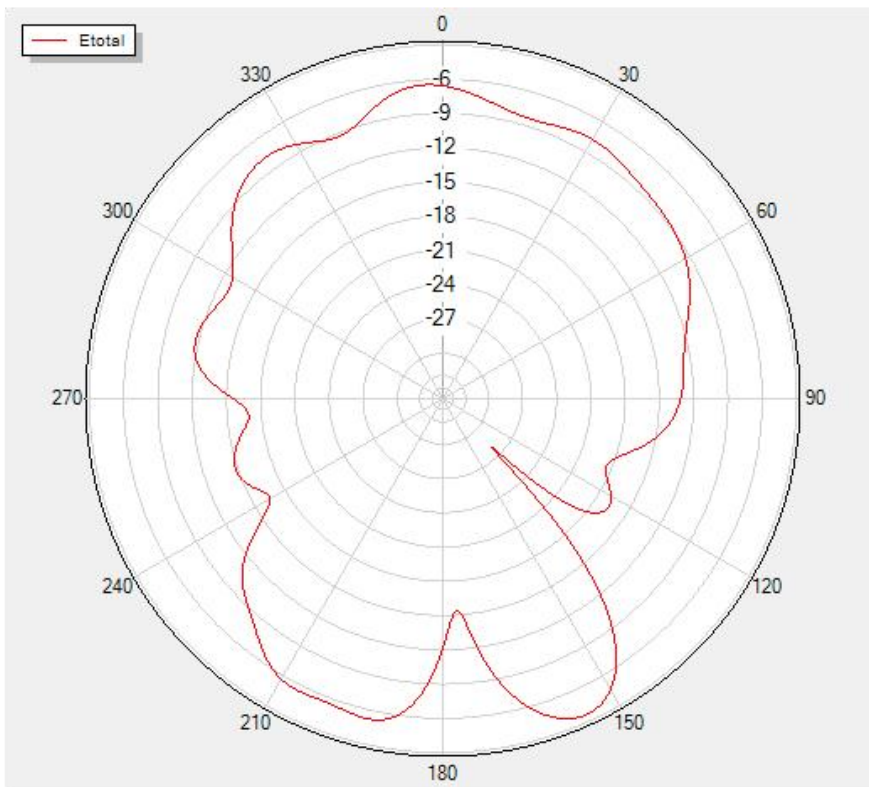
Theta=90 Freq=2440MHz

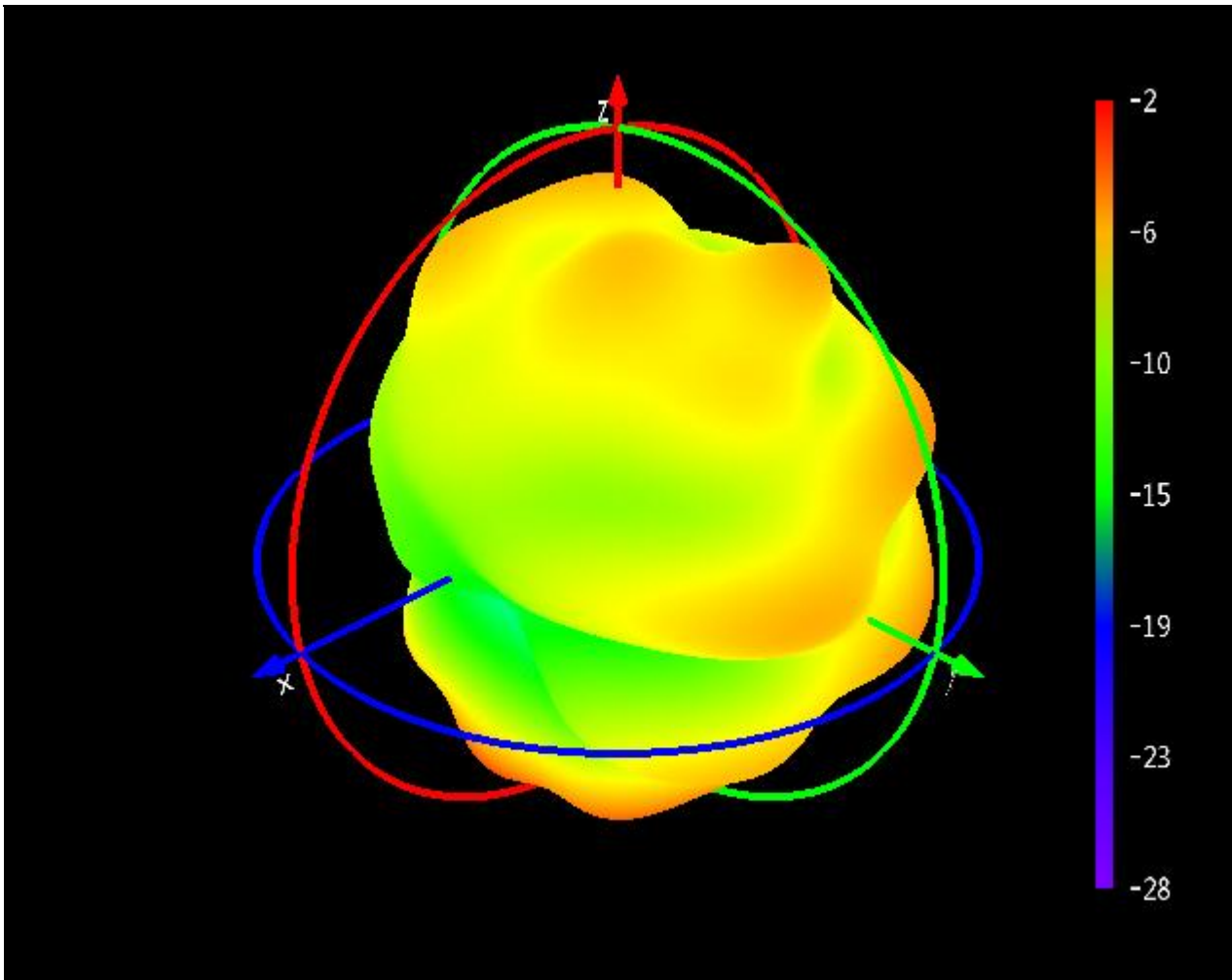


Phi=90 Freq=2440MHz



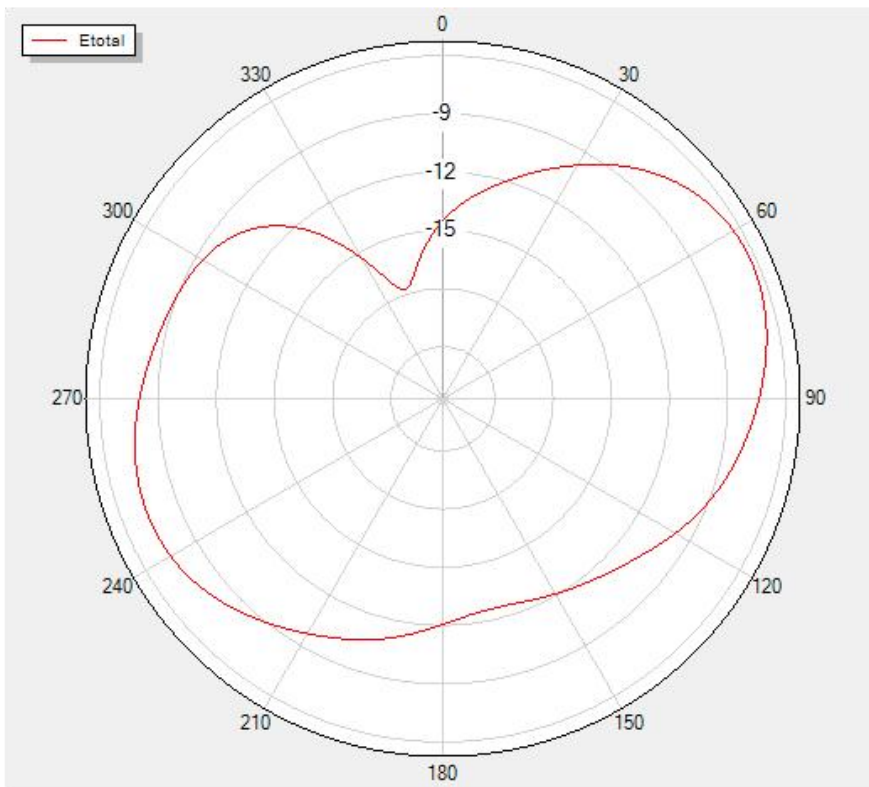
Phi=0 Freq=2440MHz



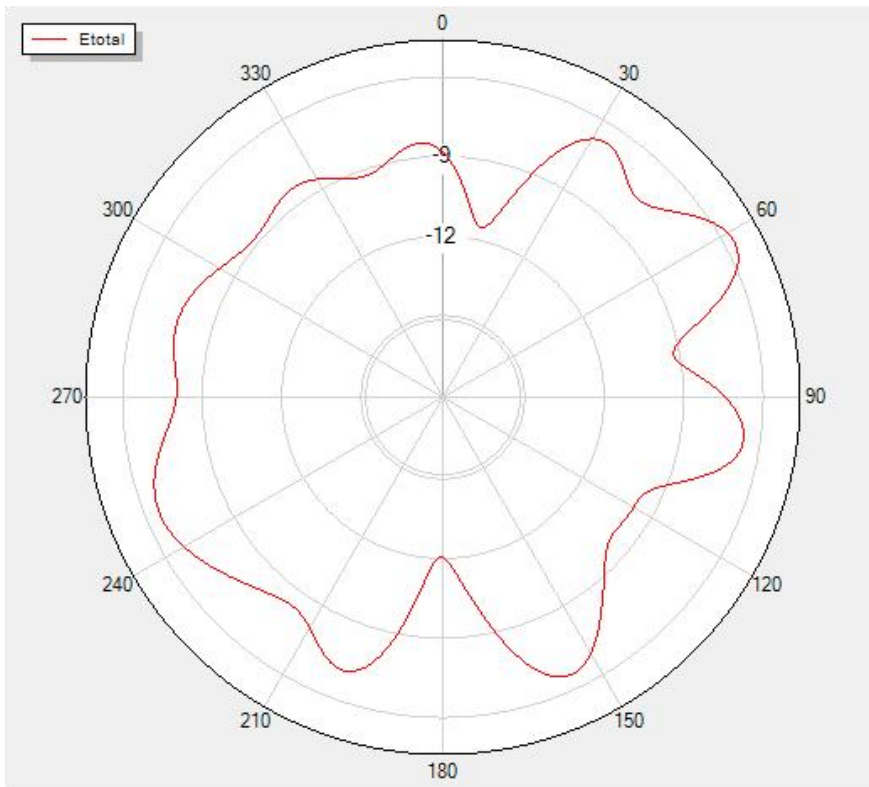


R			
Frequency point(MHz)	gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-3.47	-8.29	14.82
2410	-3.48	-8.09	15.51
2420	-3.48	-8.06	15.62
2430	-3.45	-8.06	15.62
2440	-3.37	-8.09	15.53
2450	-3.19	-8.07	15.59
2460	-3.05	-8.05	15.68
2470	-2.95	-8.03	15.75
2480	-2.9	-8.03	15.74
Mean value	-3.26	-8.09	15.54

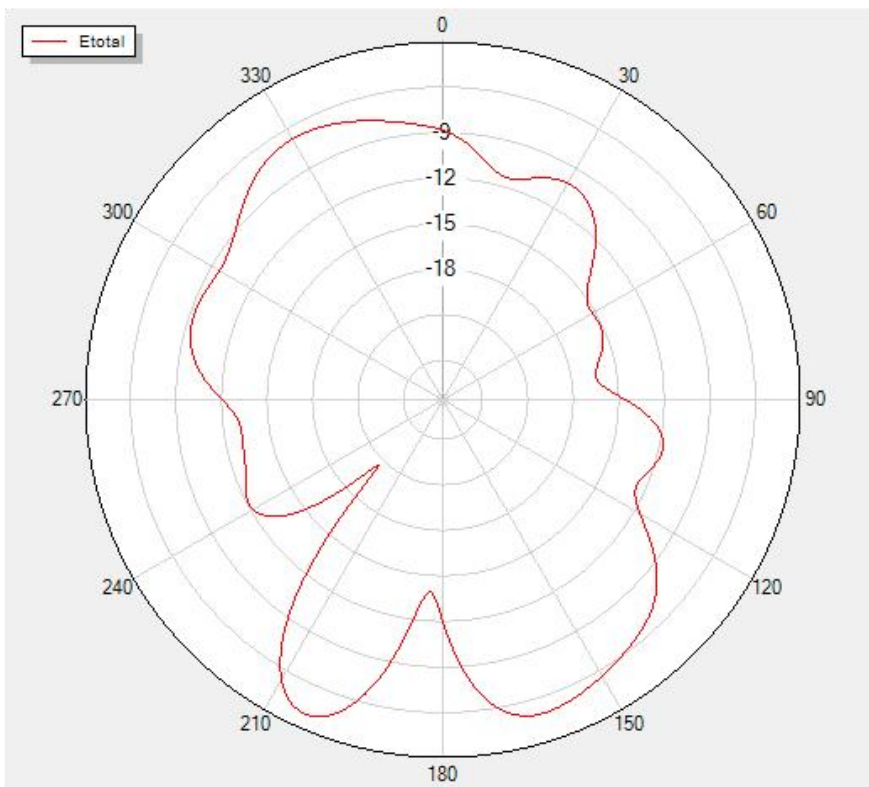
Theta=90 Freq=2440MHz

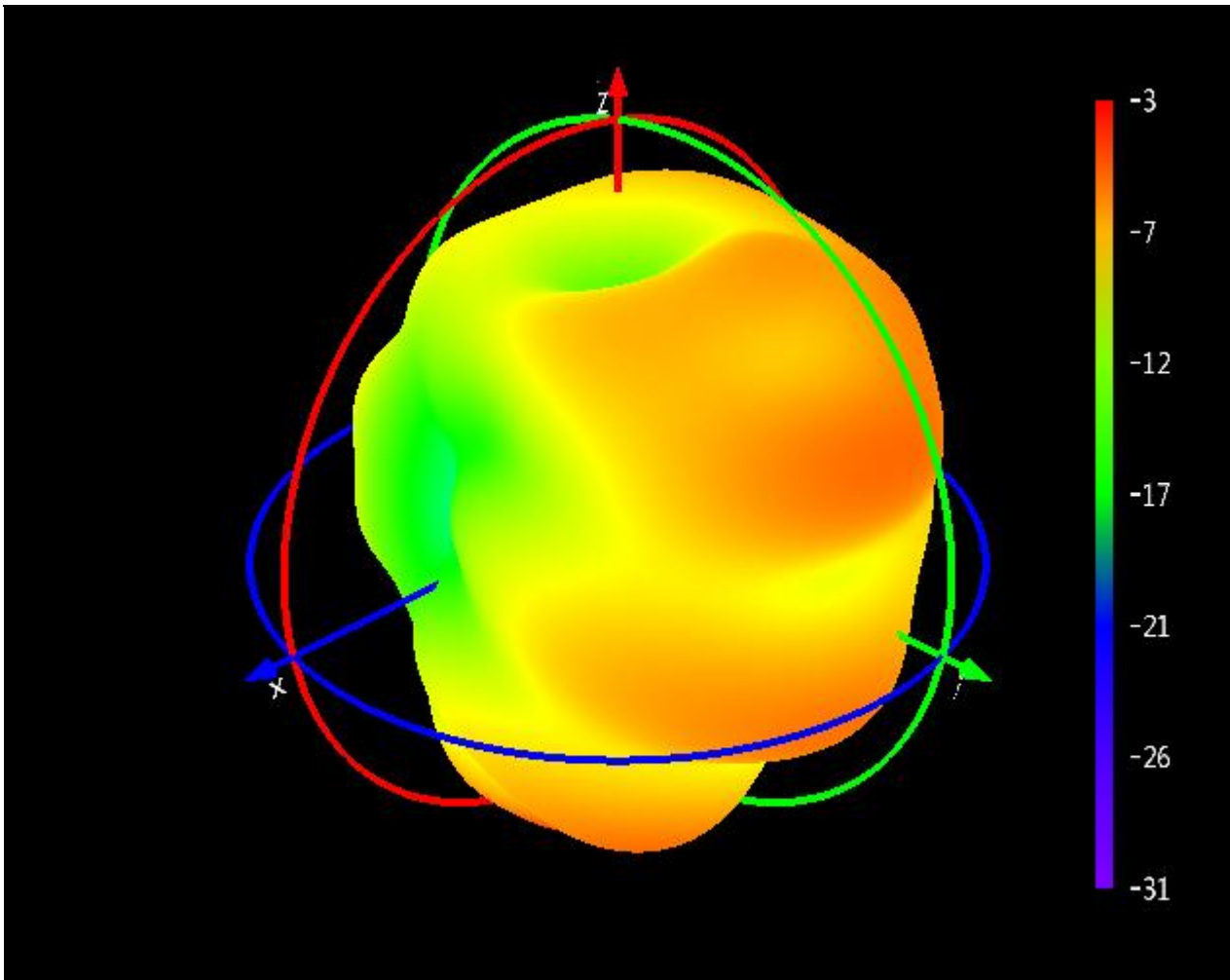


Phi=90 Freq=2440MHz



Phi=0 Freq=2440MHz





2.2.3 Active test data of the whole machine

liberty	Channel	TRP (dBm)	TRP (dBm)
L	CH 0	-2.36	-83.21
	CH 39	-1.51	-84.99
	CH 78	-2.63	-83.31
Head mold	Channel	TRP (dBm)	TIS (dBm)
L	CH 0	-6.39	-78.23
	CH 39	-5.03	-79.47
	CH 78	-6.82	-79.22
liberty	Channel	TRP (dBm)	TRP (dBm)
R	CH 0	-2.43	-83.21
	CH 39	-1.54	-84.46
	CH 78	-2.23	-83.32
Head mold	Channel	TRP (dBm)	TIS (dBm)
R	CH 0	-6.32	-79.45
	CH 39	-5.45	-79.9
	CH 78	-6.45	-79.21

2.2.4 Antenna matching circuit

