

# SPECIFICATION FOR APPROVAL

**CUSTOMER/PROJECT:** \_\_\_\_\_

**CUSTOMER P.N.:** \_\_\_\_\_

**PRODUCT NAME:**     L T E & B L E A N T    

**MODEL NO.:**     24R007C    

**SPECIFICATION:** \_\_\_\_\_

SUPPLIER AUTHORIZED SIGNATURE		
PREPARED	CHECKED	APPROVED
JENNY		

CUSTOMER AUTHORIZED SIGNATURE			
PM		QE	

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with your approved signature.

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## 1 Noun explanation

dBi	Decibel relative isotropic antenna
Tx	Transmit frequency
Rx	Receive frequency
TRP	Total Radiated Power
TIS	Total Isotropic Sensitivity
VSWR	Voltage Standing Wave Ratio
GSM	Global Service for Mobile communication
DCS	Digital Communication System
CDMA	Code Division Multiple Access
WCDMA	Wideband Code Division Multiple Access

## 2 Test equipment

network analyzer  
Agilent8960  
SATIMO64 chamber

## 3 Working frequency band

The yellow Identification is the using band

band	uplink	downlink
NB-B5	824MHz~849MHz	869MHz~894MHz
NB-B3	1715MHz~1780MHz	1810MHz~1875MHz
NB-B8	880MHz~915MHz	925MHz~960MHz
NB-B20	832MHz~862MHz	791MHz~821MHz
NB-B28	703MHz -748MHz	758MHz -803MHz
WCDMA2100	1920MHz~1980MHz	2110MHz~2170MHz
LTE	698MHz ~2690MHz	
BLE(2.4G)	2400MHz~2500MHz	

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## 4 Test project

4.1 VSWR plot

4.2 Smith plot

4.3 Radiation pattern

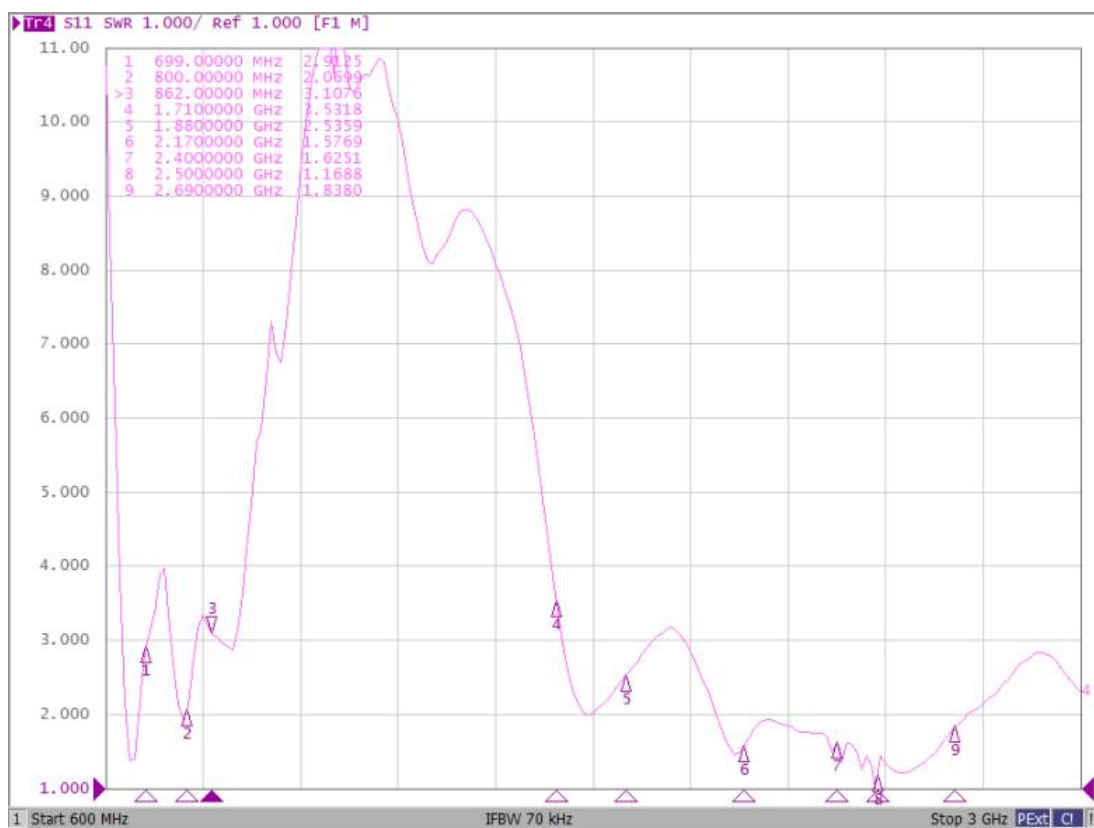
4.4 Gain & Efficiency

4.5 TRP&TIS

## 5 Antenna parameter

5.1 VSWR(LTE)

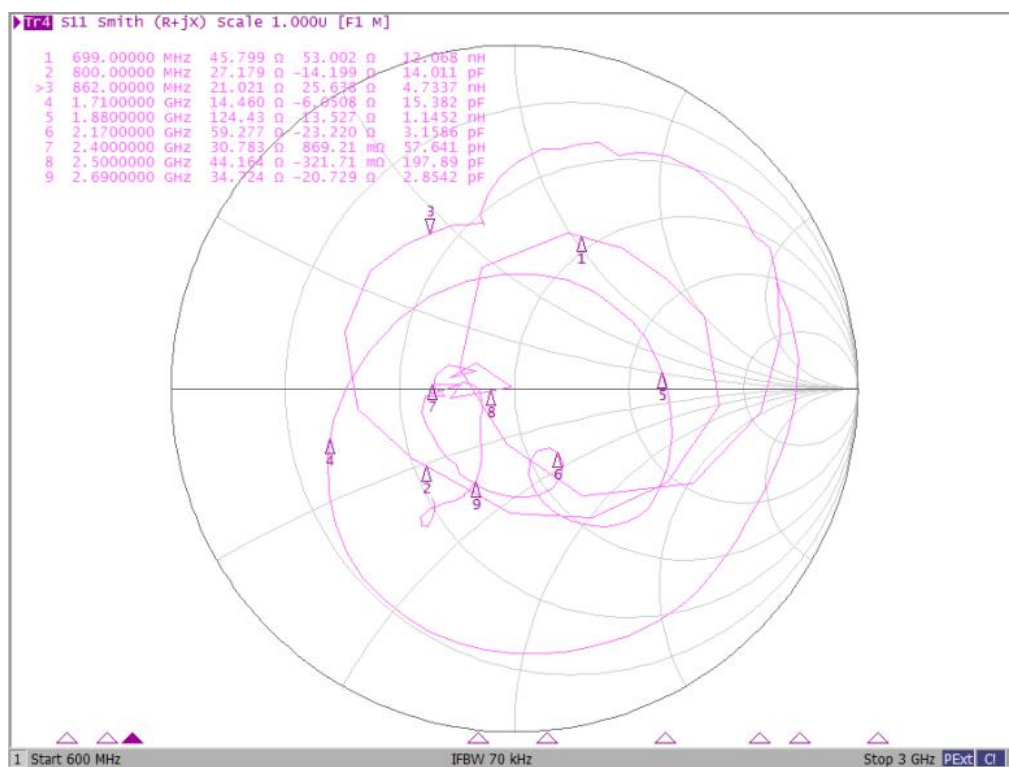
5.1.1 VSWR plot



## 5.1.2 VSWR data

Freq/MHz	699	800	862	1710	1880	2170	2400	2690
VSWR	2.9	2.0	3.1	3.5	2.5	1.5	1.6	1.8

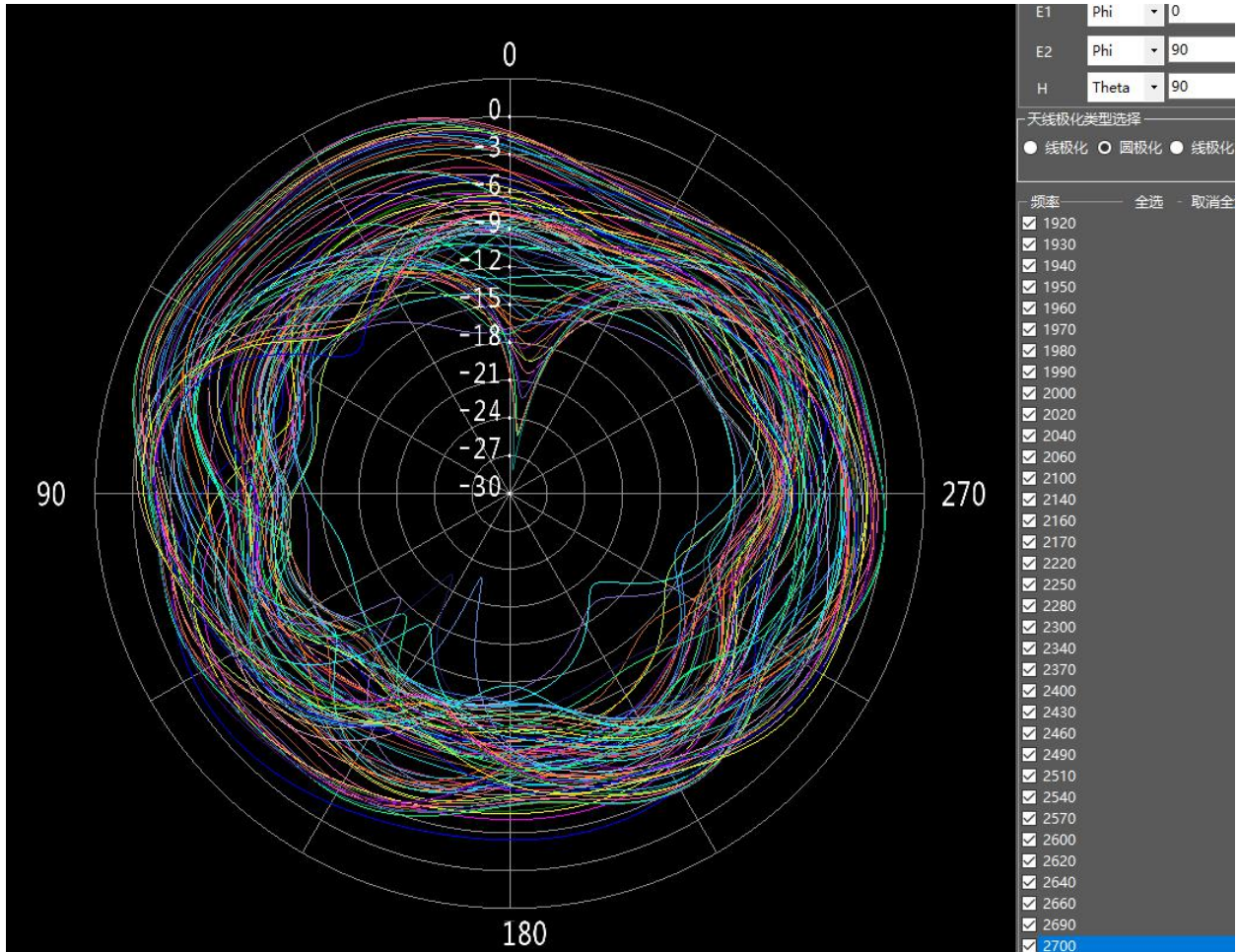
## 5.2 Smith plot



## 5.3 Radiation pattern

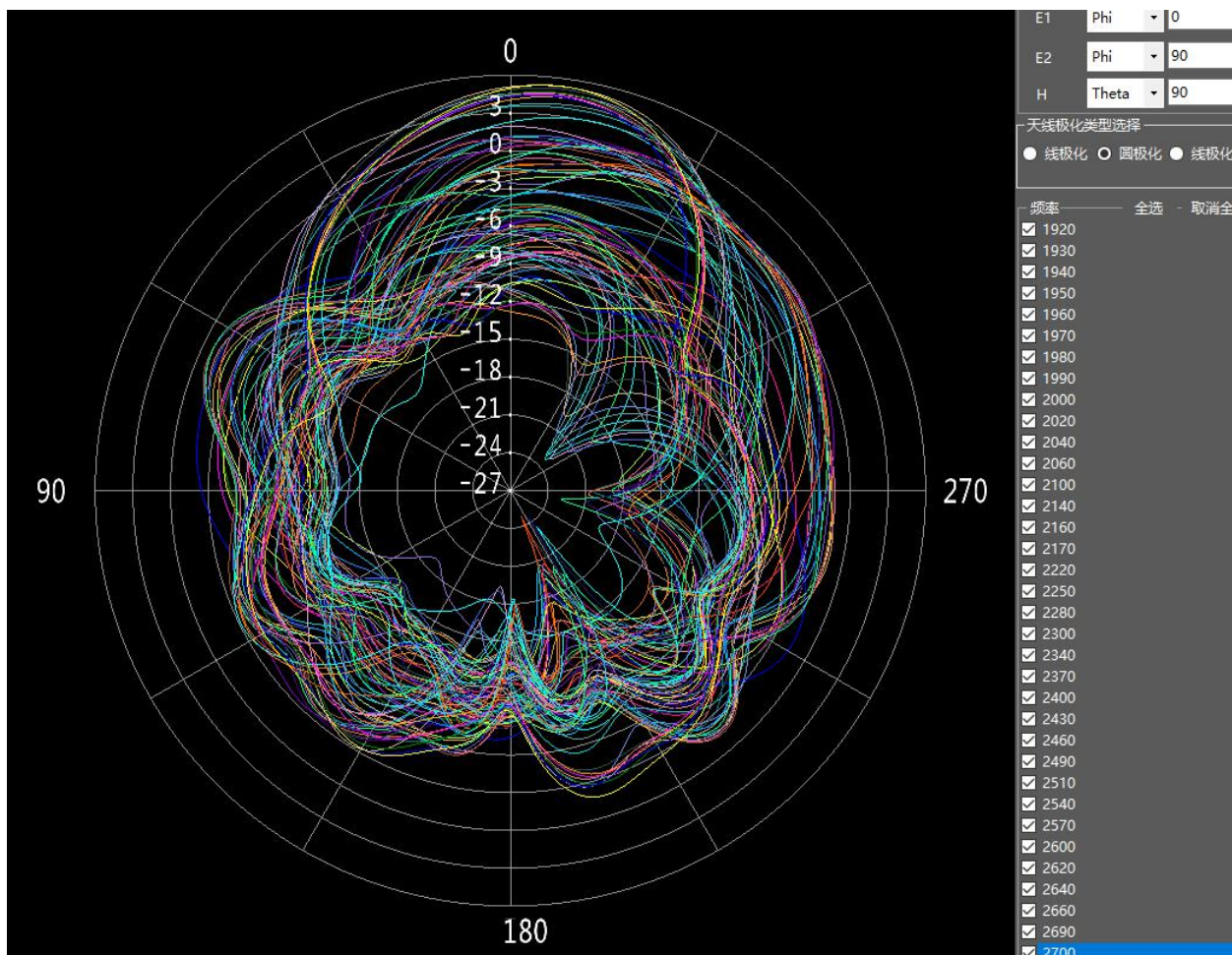
### 5.3.1 H-plane

H



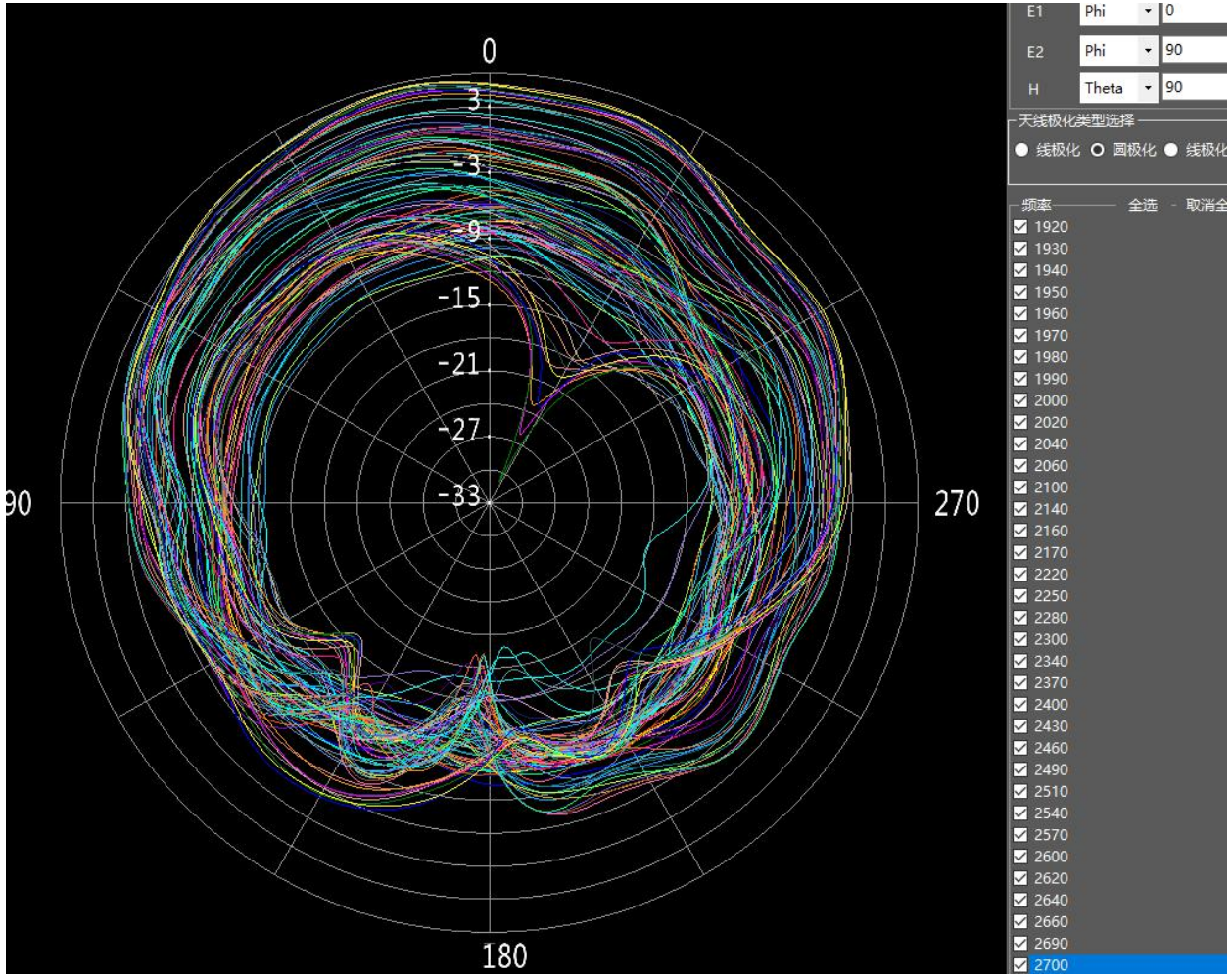
### 5.3.2 E-plane

E1





# E2

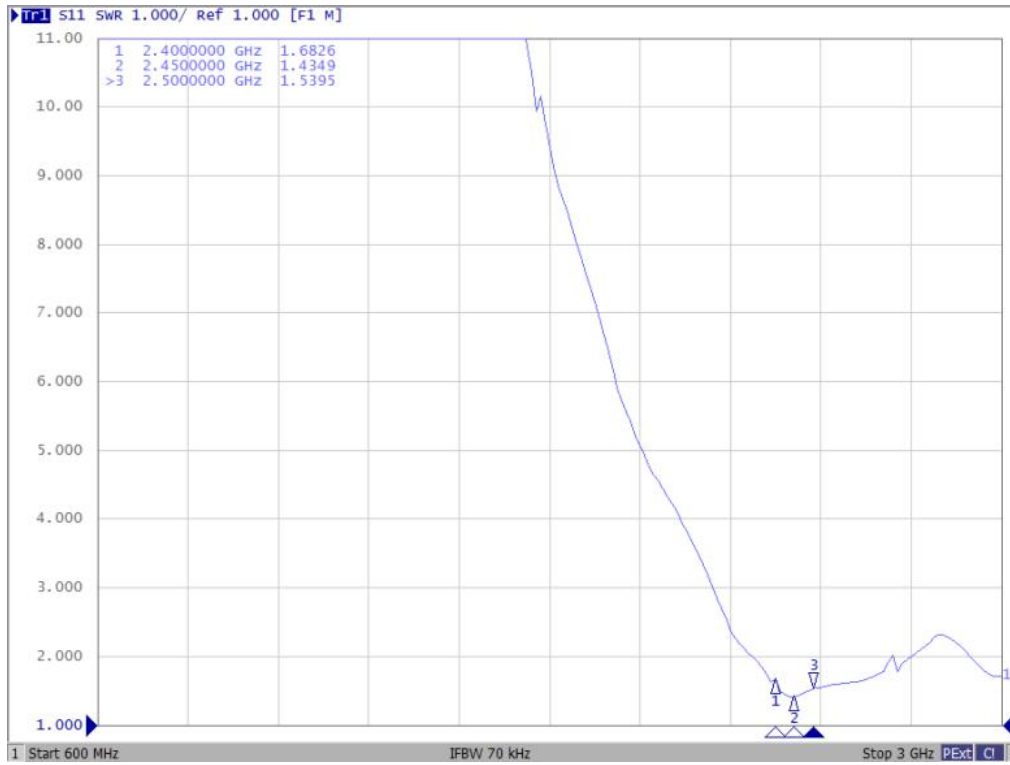


## 5.4 UGain & Efficiency

Frequency [MHz]	Max Gain [dBi]	Efficiency
700	0.91	36.28
740	0.71	36.04
760	1.16	38.71
780	1.26	38.64
800	1.58	38.42
824	1.25	37.08
864	0.93	36.13
880	0.96	36.87
894	0.84	36.41
900	0.88	34.57
920	0.91	35.75
940	0.54	32.92
960	0.25	29.34
1720	0.63	31.2
1740	0.68	33.9
1760	0.77	35.47
1780	0.86	37.57
1800	0.92	39.8
1820	1.12	38.29
1840	0.72	35.36
1860	0.21	33.56
1880	0.55	37.57
1900	0.04	37.69
1920	0.44	42.99
1940	1.57	53.97
1960	2.57	63.83
1980	2.99	64.87
2000	2.57	66.12
2040	2.47	60.79
2060	2.46	58.07
2100	1.62	42.74
2140	1.40	41.26
2170	1.54	38.34
2220	1.19	32.54
2280	0.73	30.86
2340	0.96	35.80
2400	2.64	42.98
2460	3.59	44.07
2510	5.62	65.90
2570	5.53	62.14
2600	5.35	55.69
2640	5.10	53.61
2690	5.14	56.73

## 5.5 VSWR(BLE)

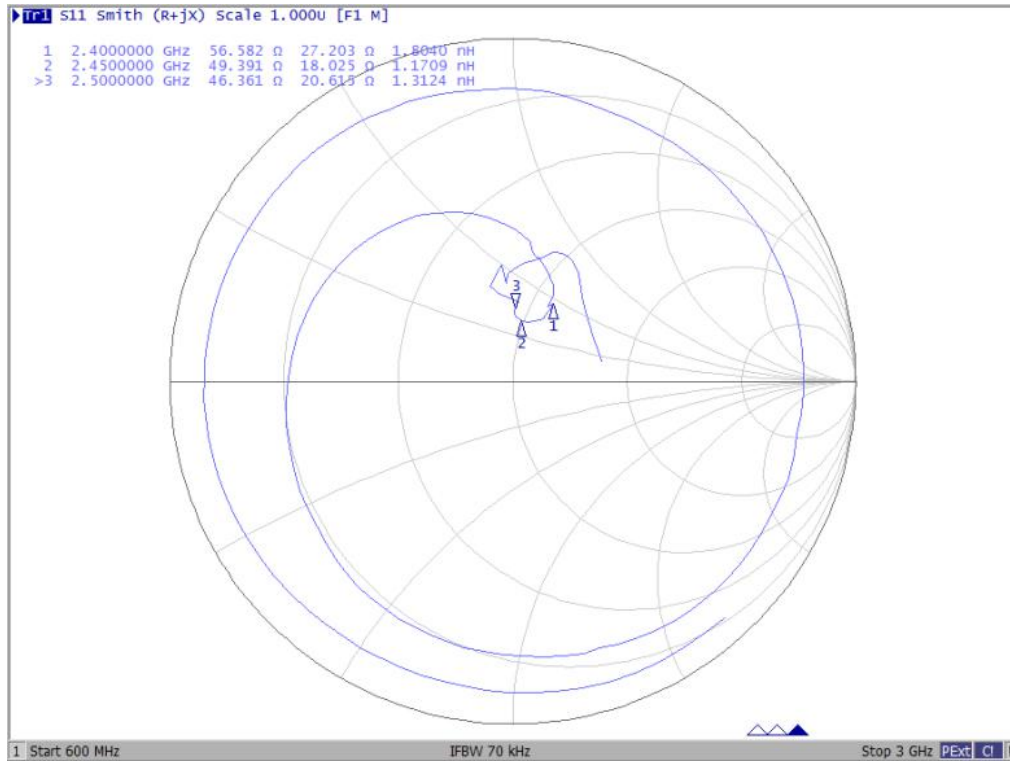
### 5.5.1 VSWR plot



### 5.5.2 VSWR data

Freq/MHz	<b>2400</b>	<b>2500</b>
VSWR	<b>1.6</b>	<b>1.5</b>

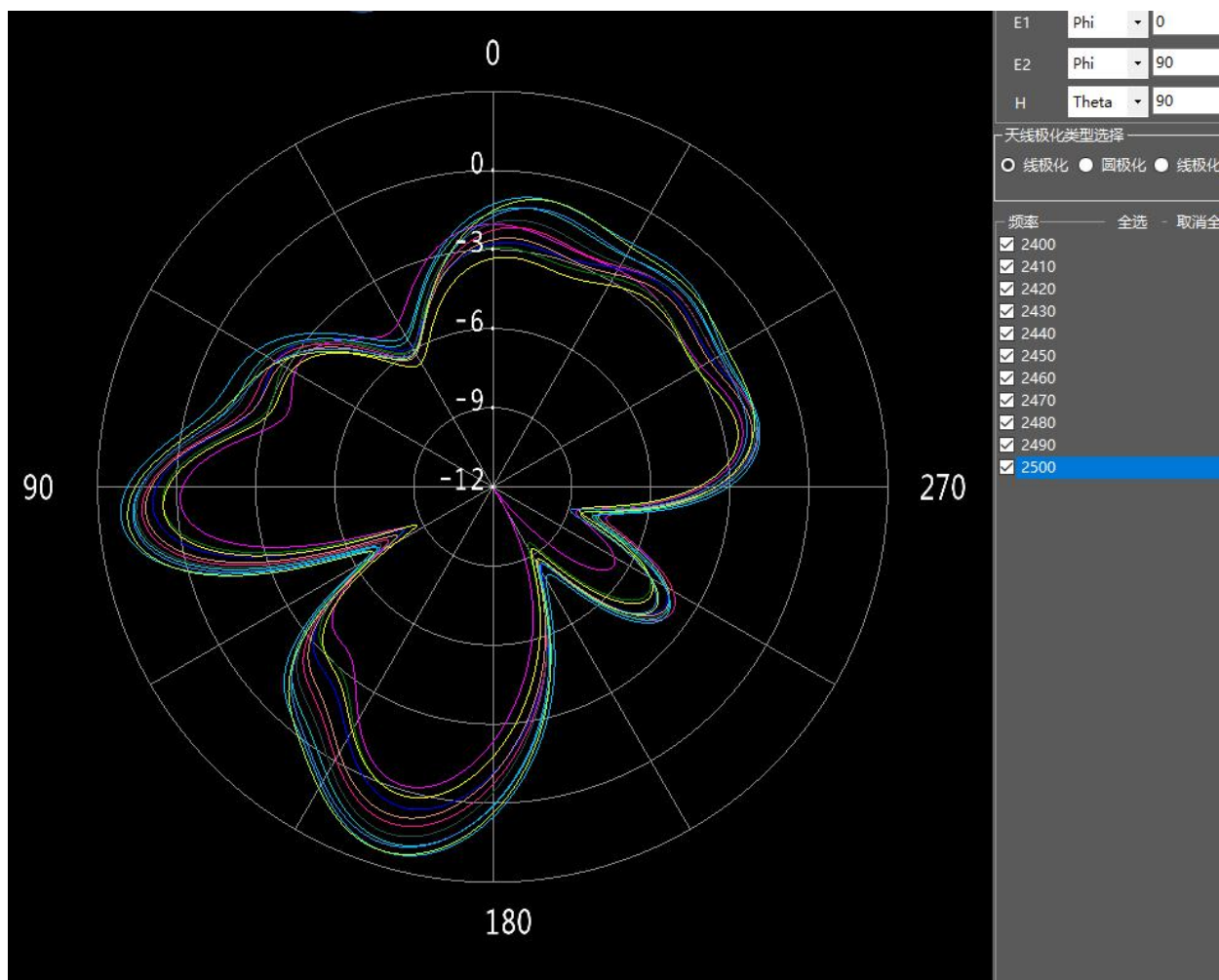
## Smith plot



## 5.6 Radiation pattern

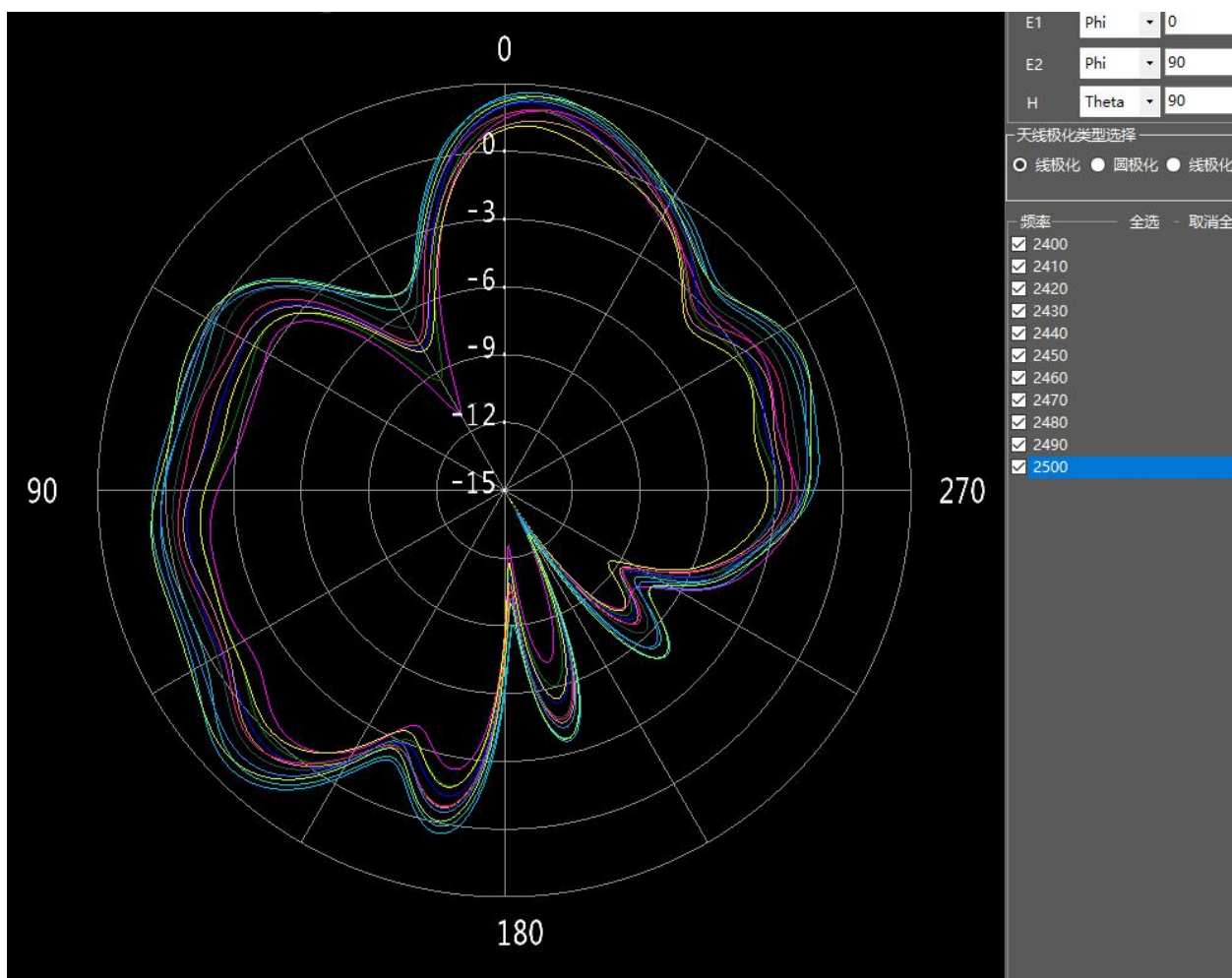
### 5.6.1 H-plane

H

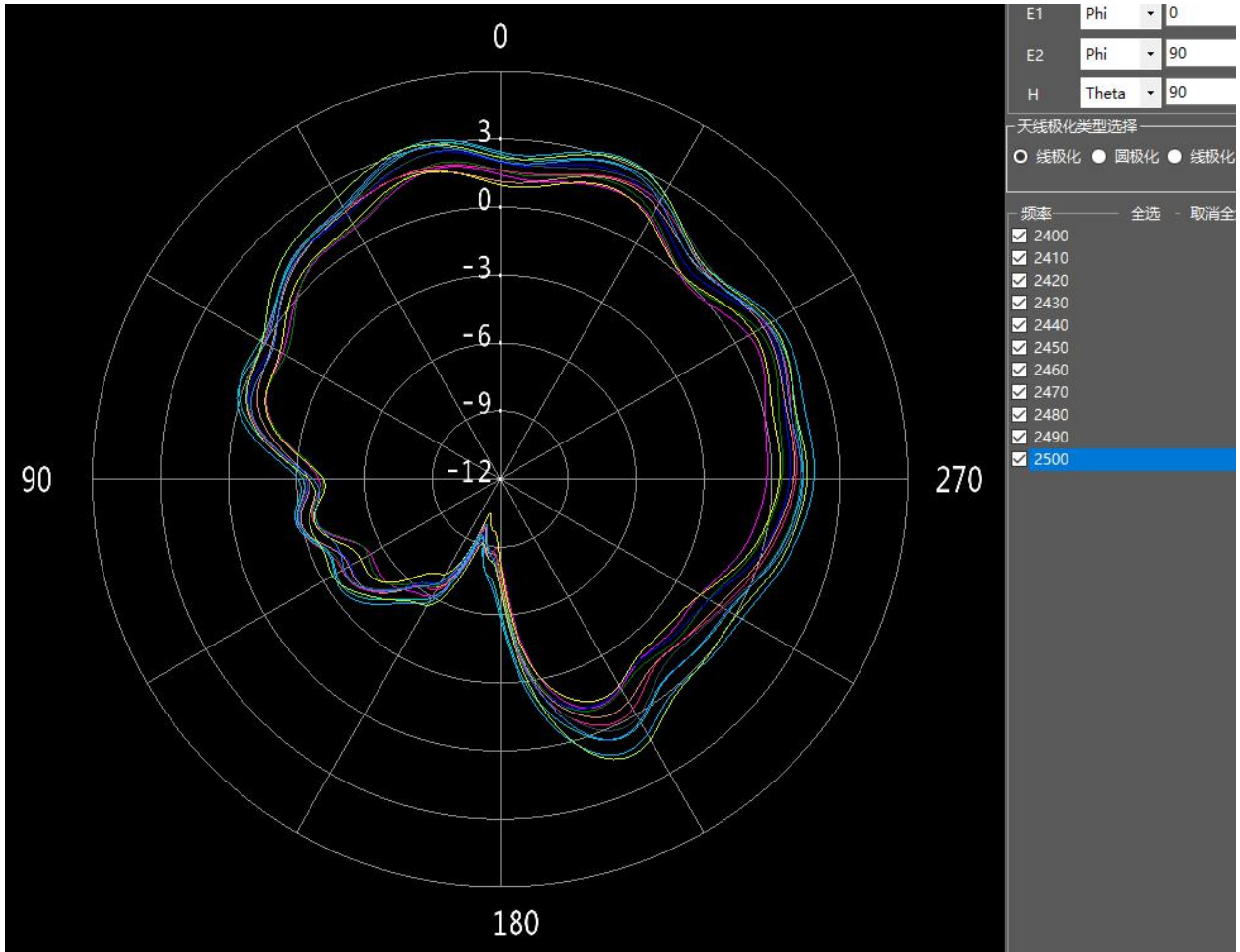


## 5.6.2 E-plane

### E1



## E2



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## UGain & Efficiency

Frequency(MHz)	Gain(dBi)	Efficiency(%)
2400	2.33	50.26
2410	2.40	53.05
2420	2.86	59.52
2430	2.13	52.36
2440	2.49	59.80
2450	2.60	63.12
2460	3.02	66.40
2470	3.10	66.52
2480	3.12	66.88
2490	3.24	69.45
2500	3.31	65.11

## 6 Environmental treatment suggestions

Environment does not need treatment

## 6 Impedance matching

Impedance does not need treatment

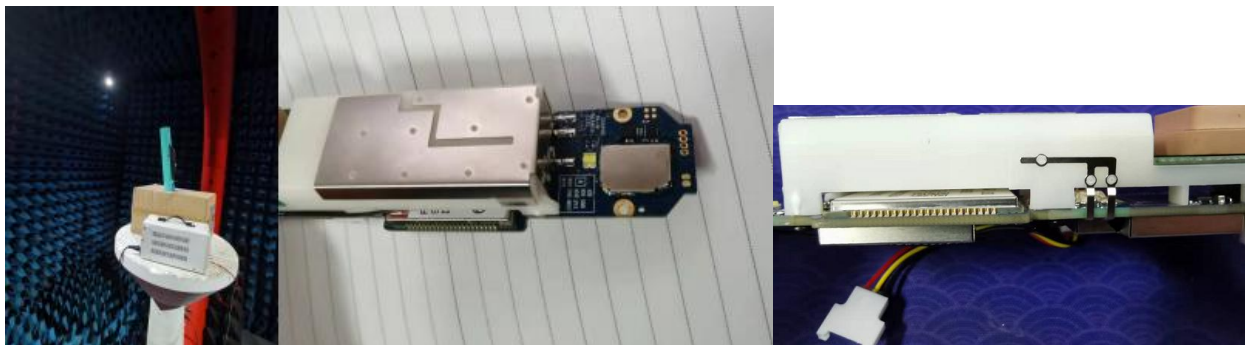


# 7 Antenna plan

A	0	1	2	3	4	5	6	7	8	9			
CAT-M	<p>Technical drawing of CAT-M antenna showing top, side, and perspective views with dimensions and callouts.</p> <p>Top view dimensions: 101.30±0.50, 13.20, 13.14, 2-Ø1.3, 3-Ø1.6, 3-焊脚.</p> <p>Side view dimensions: 16.85±0.50, 2-焊脚.</p> <p>Perspective view callouts: 14R007B-42, 14R007C-41, 14R007B-43.</p> <p>Other dimensions: 24.90±0.30, 1.60, 1.20, 25.25±0.50, 4-Ø1.20.</p>												
K	<p>Notes:</p> <ol style="list-style-type: none"> <li>no bad appearance</li> <li>with * size for the key size.</li> <li>of all related materials and processing technology to meet the requirements of ROHS.</li> </ol>												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Edition</td> <td style="width: 50%; text-align: center;">Modify the content</td> <td style="width: 40%;">Modified Date</td> </tr> </table>											Edition	Modify the content	Modified Date
Edition	Modify the content	Modified Date											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;"> </td> <td style="width: 60%; text-align: center;">                 Name : Antenna                  Model NO: 24R007C                  Edition: T : A                  Material:                  Surface Treatment:                  Color :             </td> <td style="width: 25%; text-align: center;">                 Designer: Steven                  Checked :                  Approved :                  Unit: mm                  Scale : 1:1                  Date : 2021.10.22             </td> </tr> </table>												Name : Antenna Model NO: 24R007C Edition: T : A Material: Surface Treatment: Color :	Designer: Steven Checked : Approved : Unit: mm Scale : 1:1 Date : 2021.10.22
	Name : Antenna Model NO: 24R007C Edition: T : A Material: Surface Treatment: Color :	Designer: Steven Checked : Approved : Unit: mm Scale : 1:1 Date : 2021.10.22											

## 8 Antenna installation guide

### 8.1 Antenna installation instructions



## 9 Other