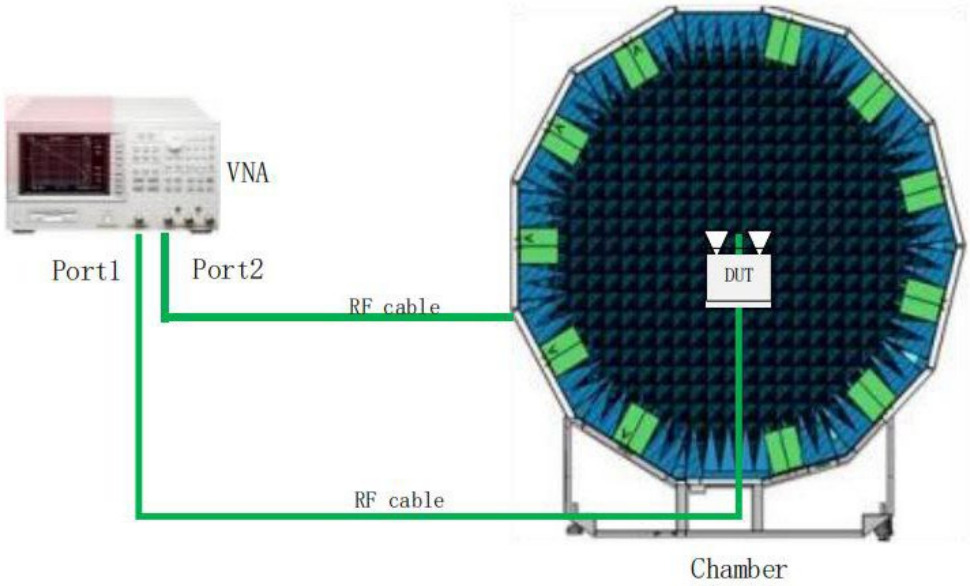
Type and shape of antenna	IFA Antenna/LOOP Antenna
Directional characteristics	Omni-directional
Deflection Characteristics of Antenna	Linear
Type of connection with transmitter	antenna shrapnel
Manufacturer	ZHEJIANG HAITONG COMMUNICATION ELECTRONICS Co., LTD Kunshan Innowave Communication Technology Co., LTD
Measuring Organization	ZHEJIANG HAITONG COMMUNICATION ELECTRONICS Co., LTD Kunshan Innowave Communication Technology Co., LTD

1. EUT Reference Setup

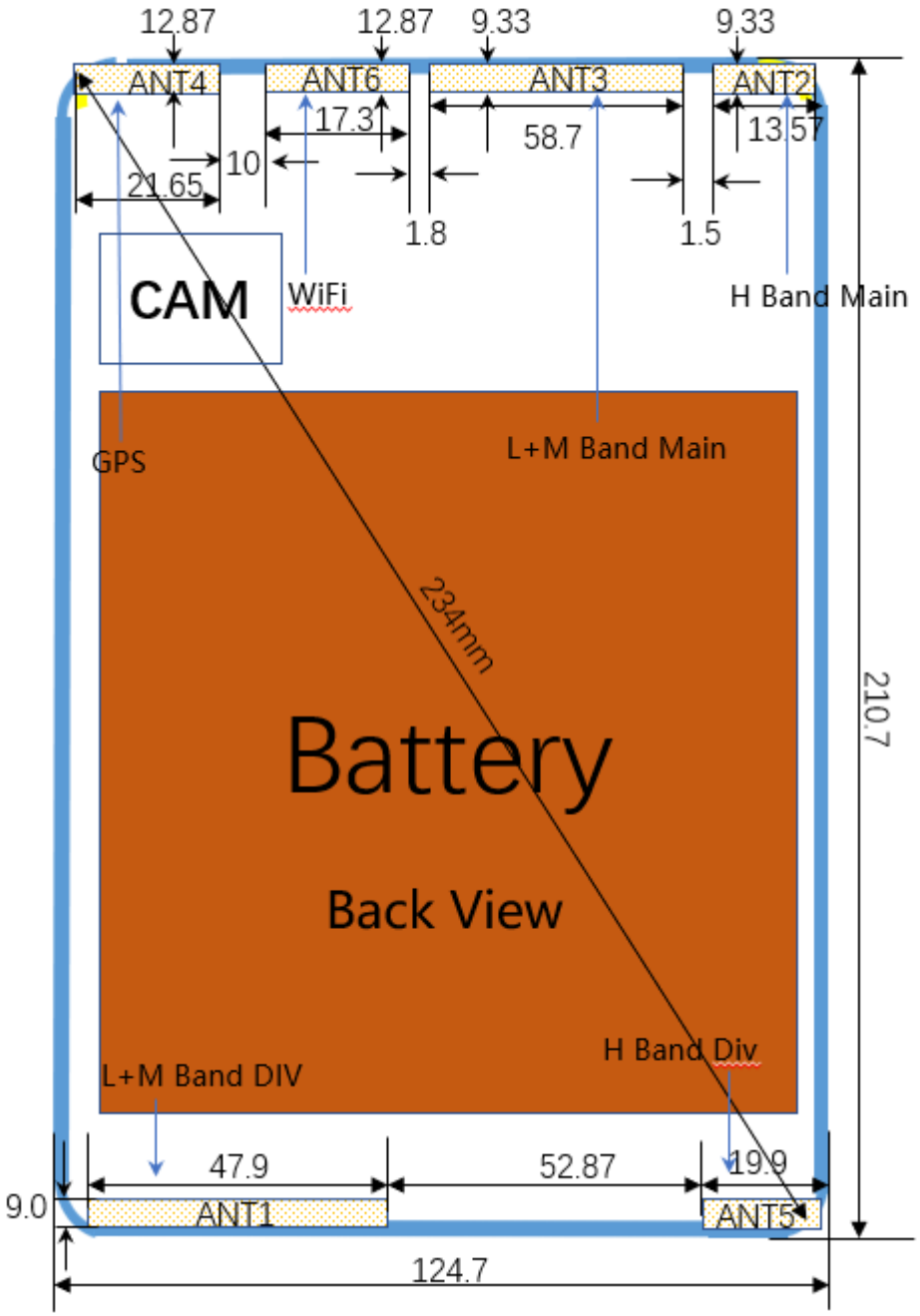


Tester	Zhangkanning/Hufabo
Actual date of testing	2023-07-05
Test description	Use an anechoic chamber to measure the radiation pattern and antenna gain. The GTS laboratory operates at 0.6-5.9GHz. The chamber's reflection level in the range of 0.6GHz to 5.9 GHz is typically ≤ 25 dB. Standard dipoles are used to calibrate for path loss and magnetic ring lines are used to suppress feeder emissions, so we can measure antenna gain.

Test Equipment List

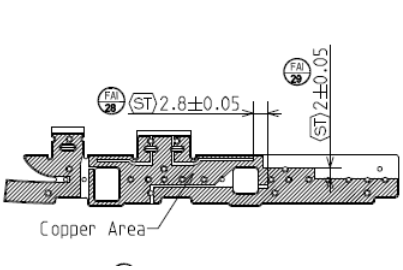
Name of test equipment	Model	Manufacturer	Cal.Due Date	Calibtation Interval
Pattern Measurement Software	General Test	Ray Zone 1800	NA	NA
Network Analyzer	Agilent	E5071B	2023-07-05	One year

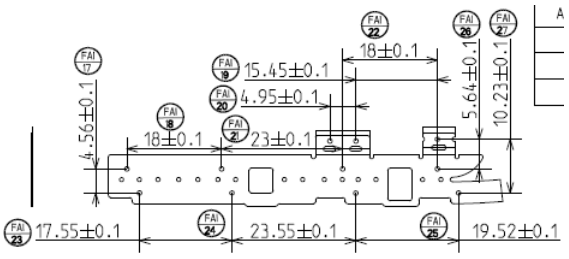
2. Antenna distribution



3. Antenna Pattern

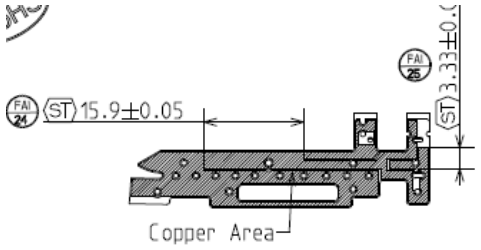
MAIN

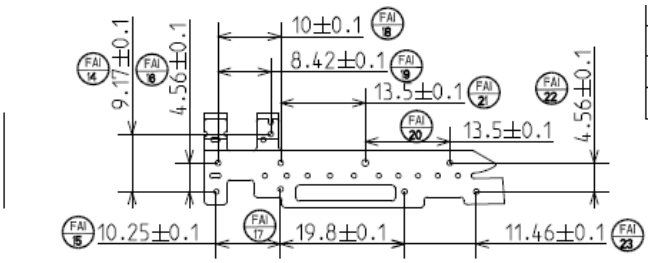




Front Back

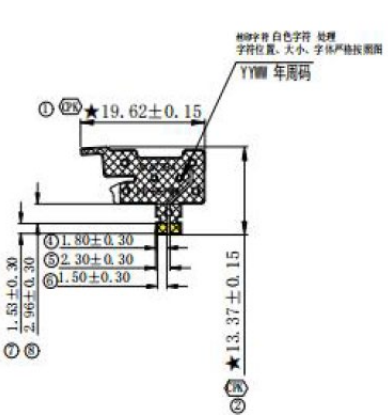
DIV-LM

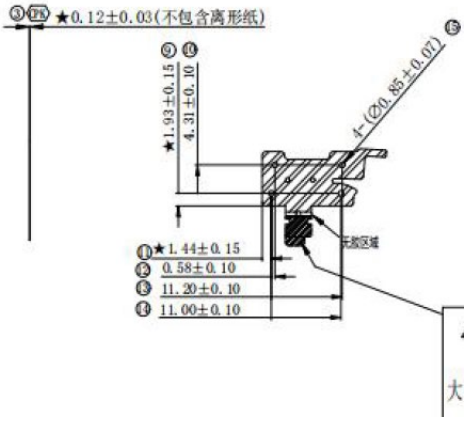




Front Back

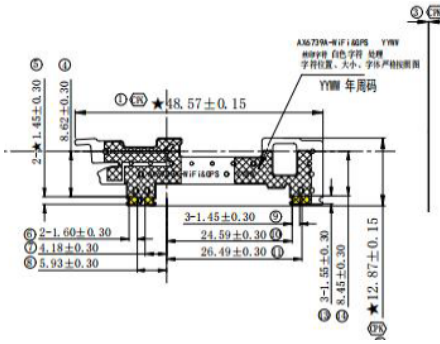
DIV-H

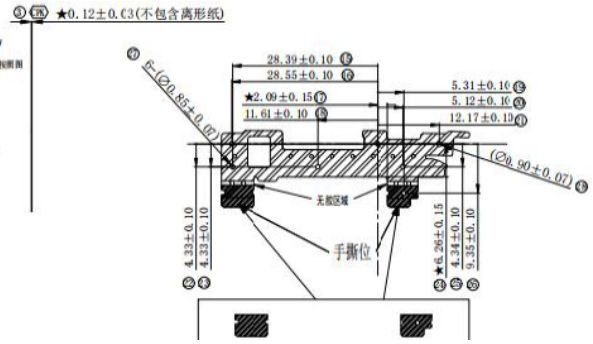




Front Back

GPS/WiFi/BT





Front Back

Antenna Gain：

MAIN

BAND	Frequency(MHz)	Peak Gain(dBi)
WCDMA B1	1922.4~1977.6	-2.0
LTE B1	1921.58~1978.42	-2.0
LTE B5	829~844	-1.4
LTE B7	2501.58~2568.42	-1.0
LTE B8	881.58~913.42	-1.4
LTE B3	1711.58~1783.42	-1.8

DIV

BAND	Frequency(MHz)	Peak Gain(dBi)
WCDMA B1	2112.4~2167.6	-1.9
LTE B1	2115~2165	-1.9
LTE B5	874~889	-3.2
LTE B7	2625~2685	-2.3
LTE B8	930~955	-2.7
LTE B3	1810~1875	-2.2

GPS/WIFI/BT

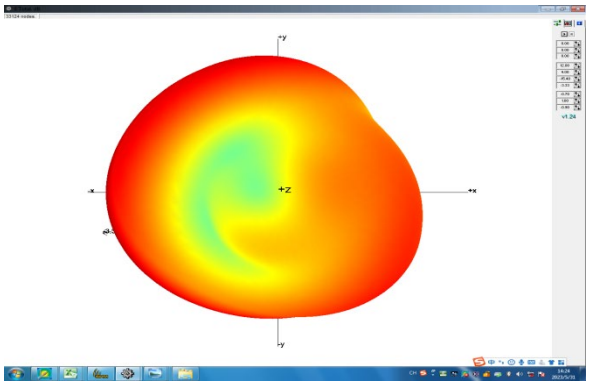
Frequency (MHz)	Peak Gain(dBi)
2400	-1.1
2410	-0.9
2420	-0.8
2430	-0.7
2440	-0.6
2450	-0.5
2460	-0.8
2470	-0.7
2480	-1.0
2490	-1.1
2500	-1.3
Frequency (MHz)	Peak Gain(dBi)
5150	-1.4
5200	-1.2
5250	-1.2
5300	-1.3
5350	-1.0
5400	-1.2
5450	-1.1
5500	-1.3
5550	-1.1
5600	-1.3
5650	-1.4
5700	-1.6
5750	-1.3
5800	-1.2
5850	-1.5

Frequency (MHz)	Peak Gain(dBi)
1550	-1.1
1555	-0.9
1560	-0.8
1565	-0.9
1570	-0.8
1575	-0.7
1580	-0.6
1585	-0.8
1590	-0.7
1595	-0.8
1600	-0.9

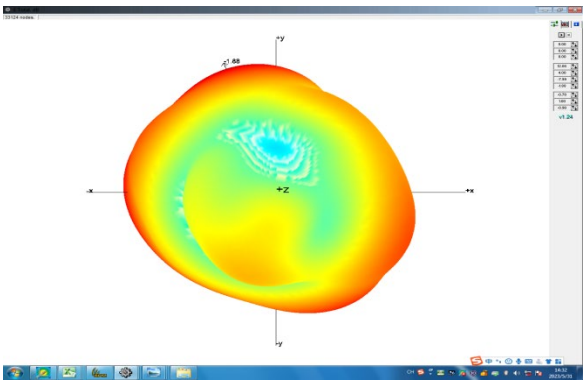
5.3D map

MAIN

700 MHZ



790MHZ



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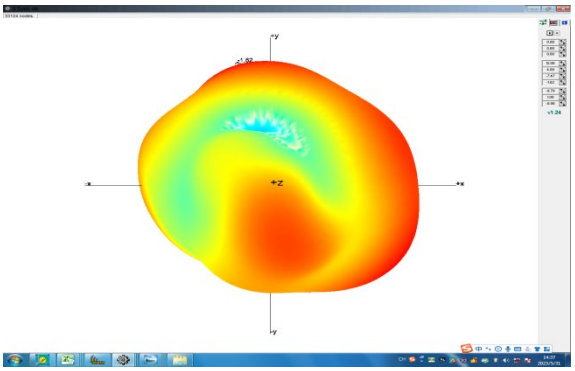
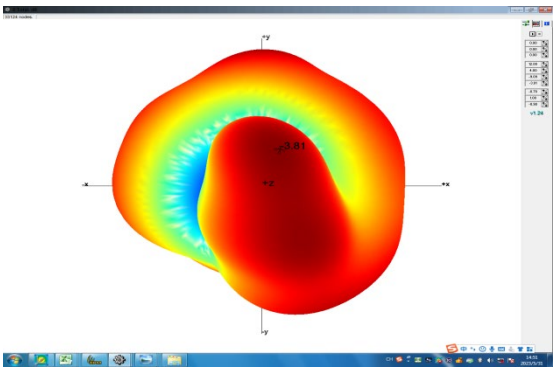
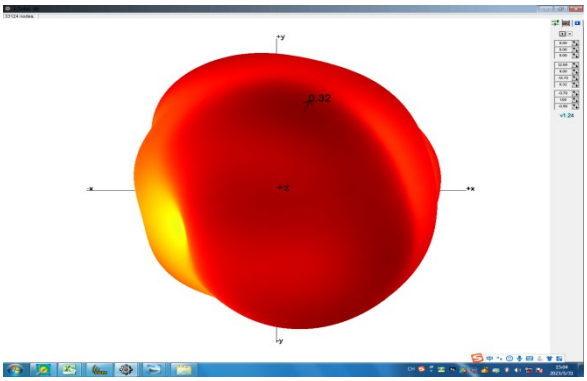


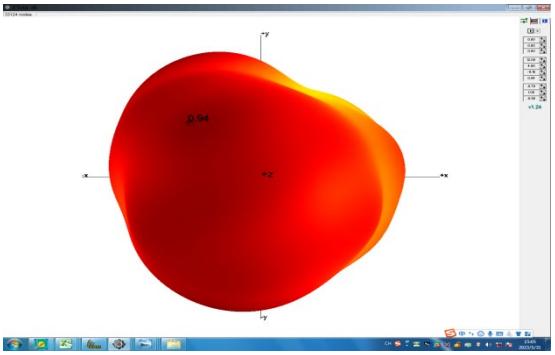
960MHZ



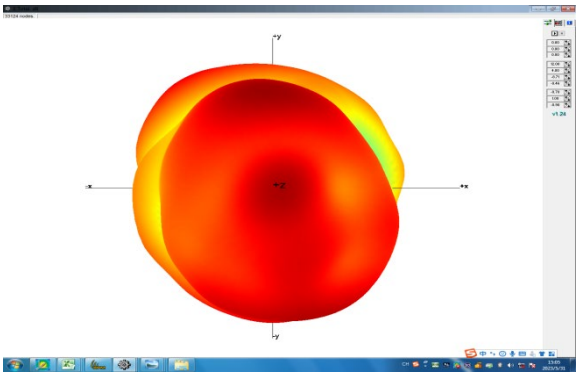
1710 MHZ



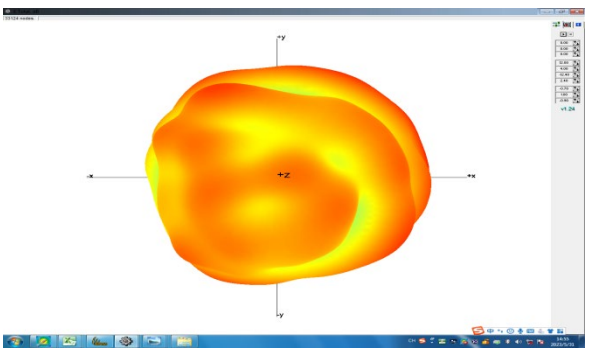
1990MHZ



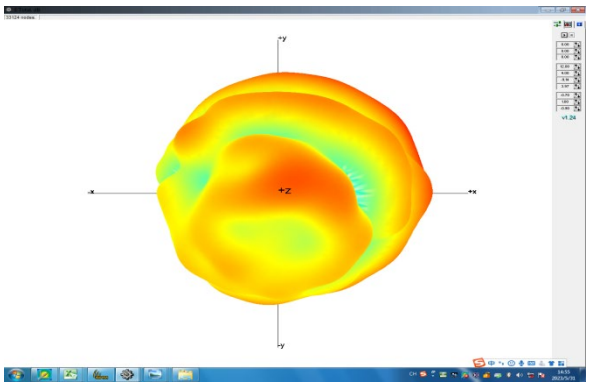
2170 MHZ



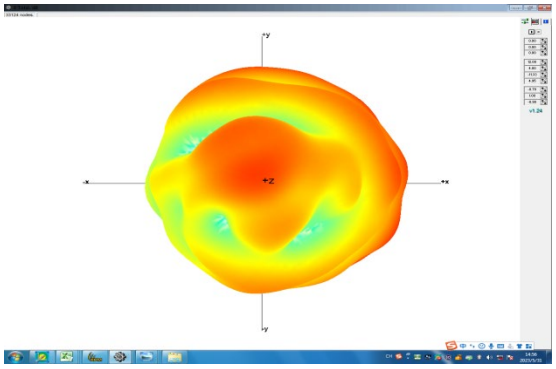
2300MHZ



2500MHZ

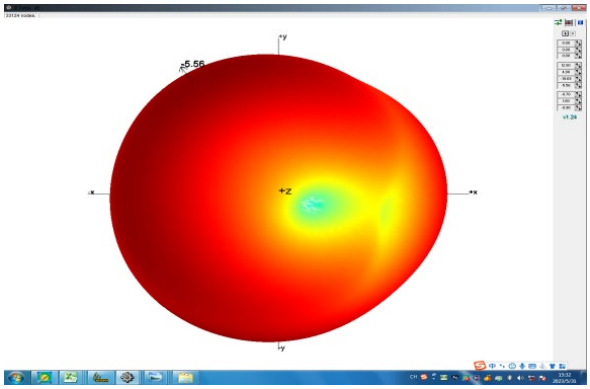


2700MH

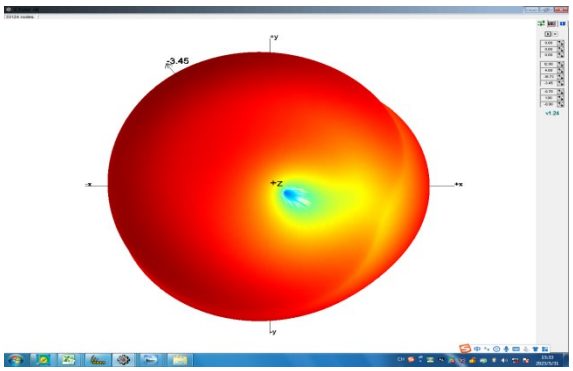


DIV ANT 3D

730MHZ



760MHZ



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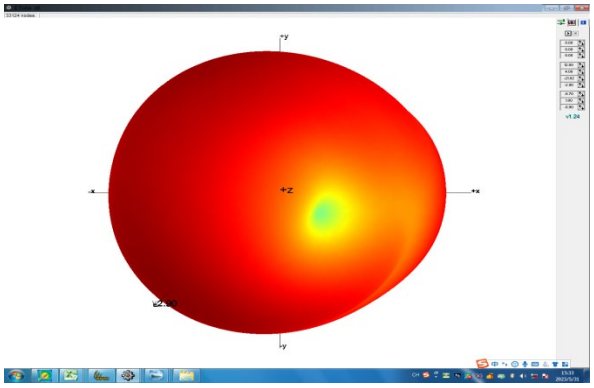

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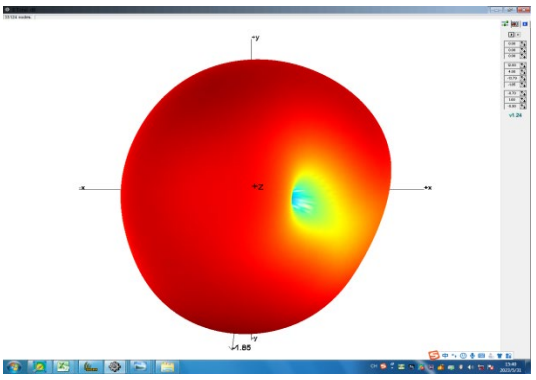
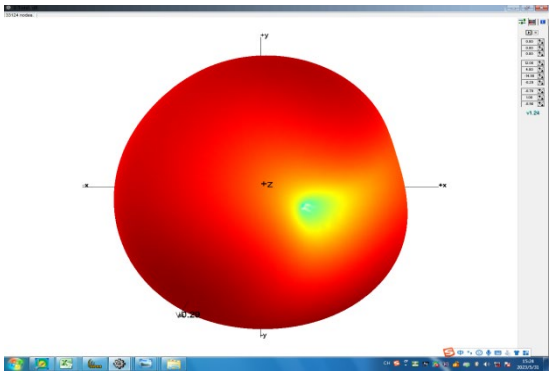


960MHZ



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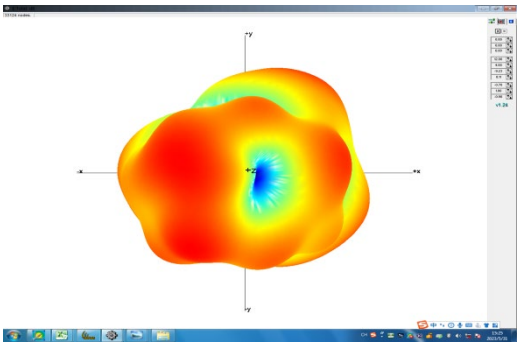

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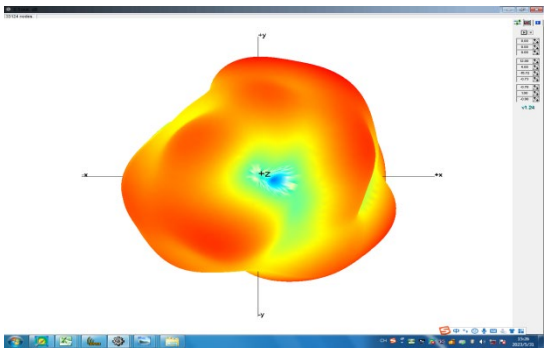

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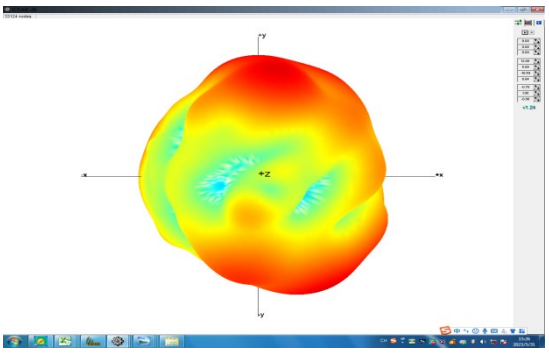
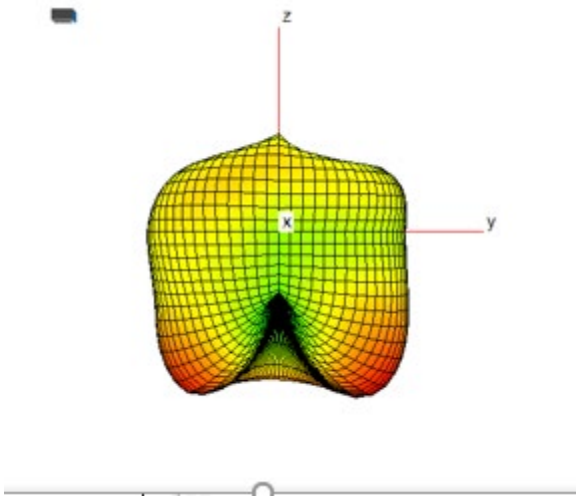


2300MHZ



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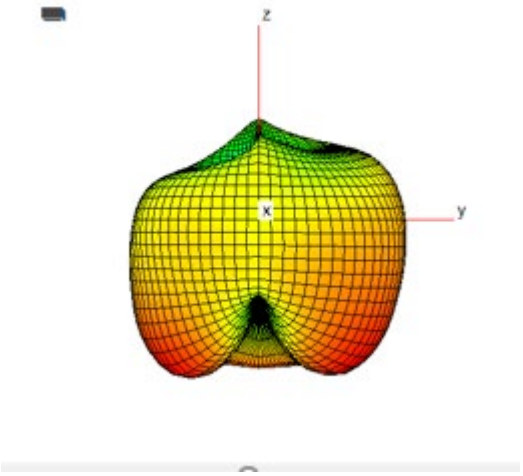
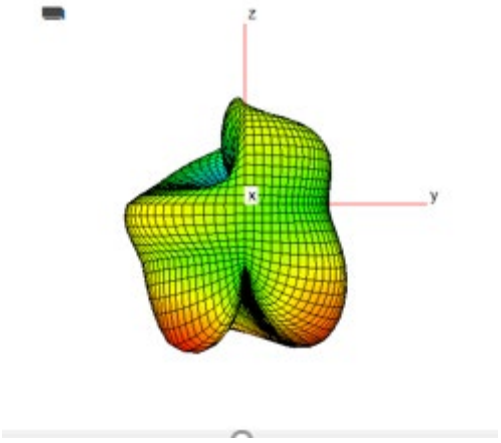
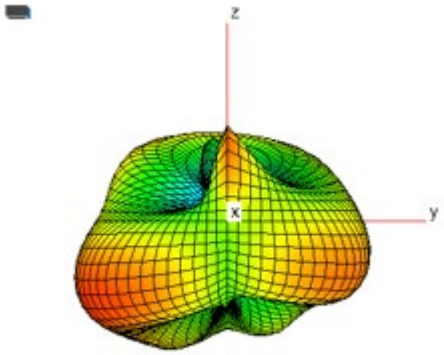


2700 MHZ



WiFi Ant 3D

2400MHz



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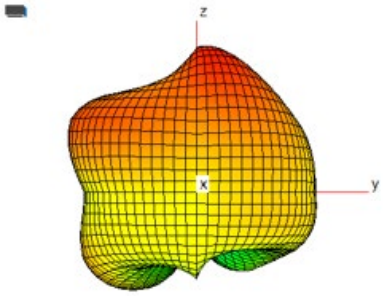

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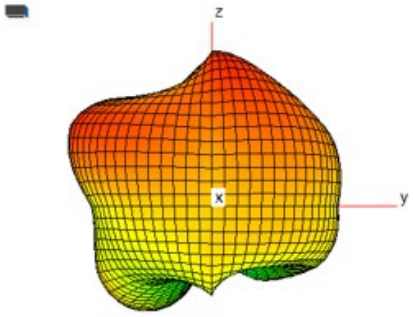

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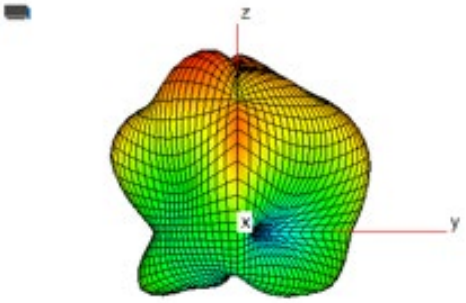
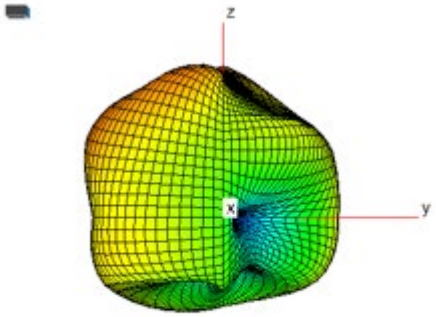


5550MHz



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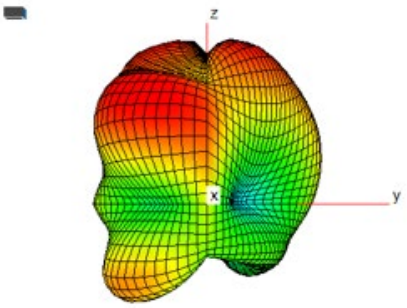
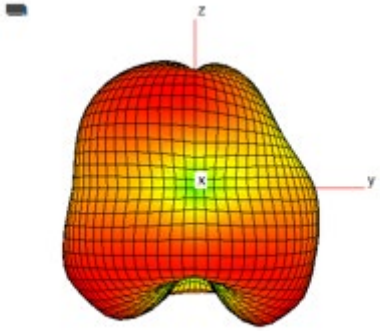
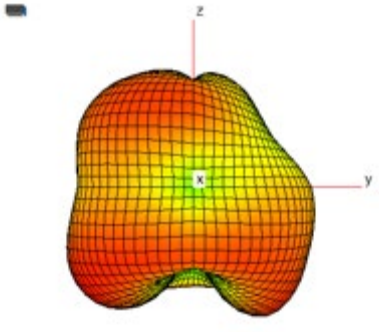


GPS ANT 3D

1550MHZ



1575MHZ



1600MHZ