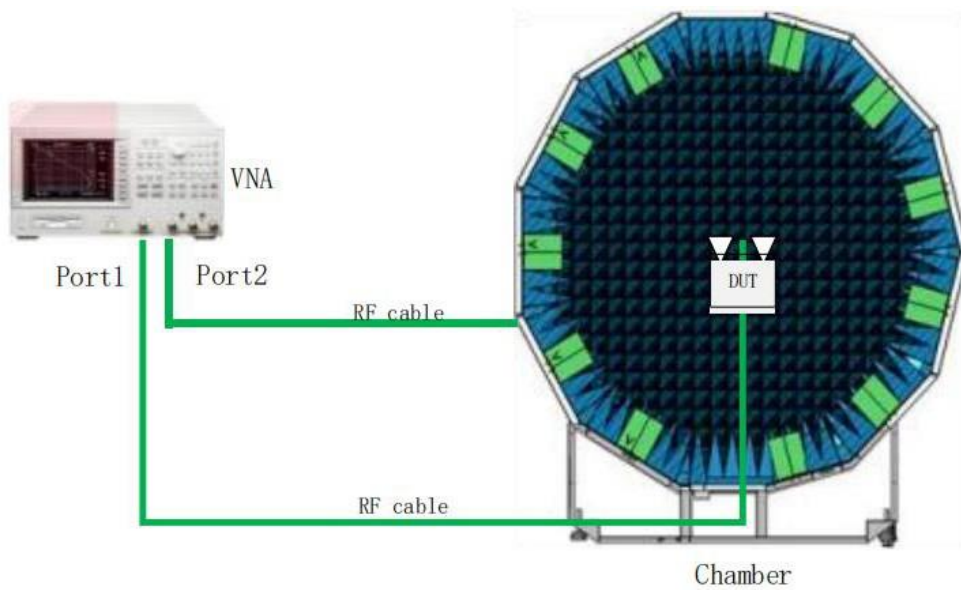


Type and shape of antenna	IFA Antenna/LOOP Antenna
Directional characteristics	Omni-directional
Deflection Characteristics of Antenna	Linear
Type of connection with transmitter	antenna shrapnel
Manufacturer	Welletronics Communication Technology Co., LTD Kunshan Innwave Communication Technology Co., LTD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

1.EUT Reference Setup

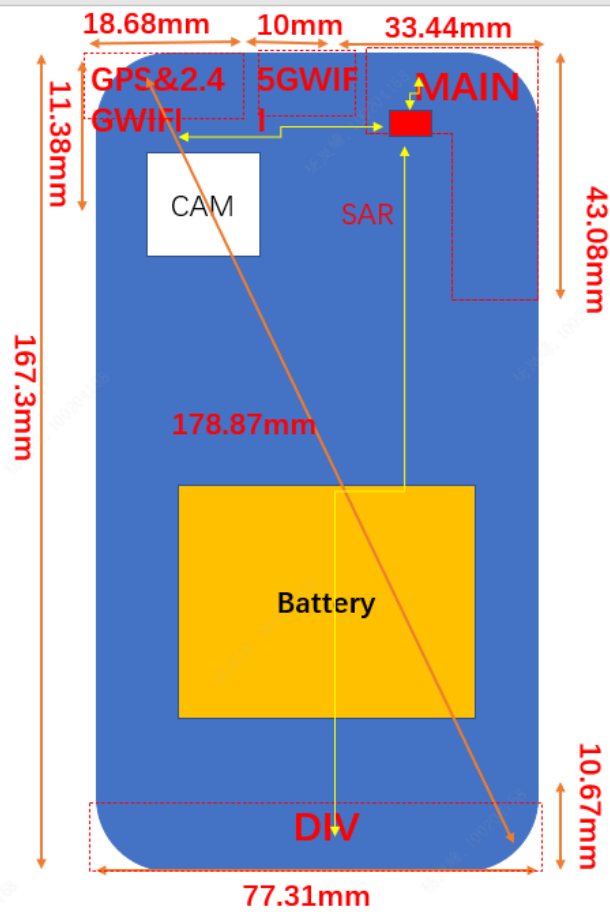


Tester	gengyuting/chenwang
Actual date of testing	2024-06-25
Test description	Use an anechoic chamber to measure the radiation pattern and antenna gain. The GTS laboratory operates at 0.6-5.9GHz. The chamber's reflection level in the range of 0.6GHz to 5.9 GHz is typically ≤ 25 dB. Standard dipoles are 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

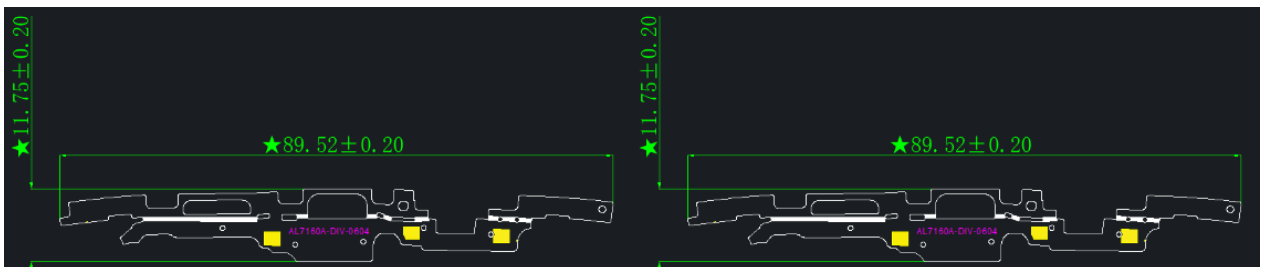
Name of test equipment	Model	Manufacturer	Cal.Due Date	Calibation Interval
Pattern Measurement Software	General Test	Ray Zone 1800	NA	NA
Network Analyzer	Agilent	E5071C	2024-06-25	One year

2. Antenna distribution (Unit:mm)

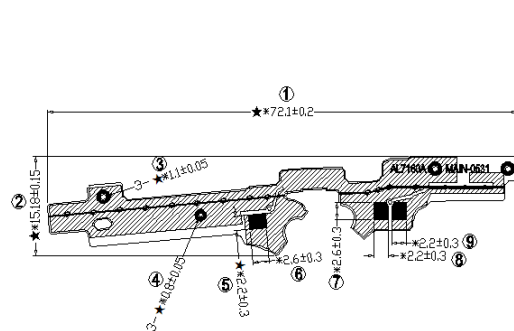


3. Antenna Pattern

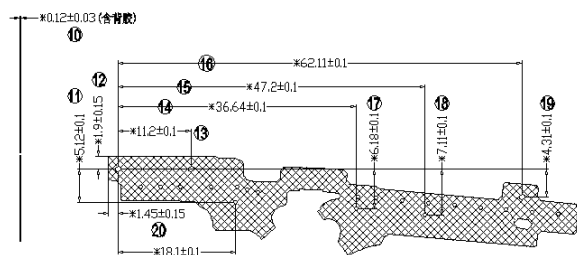
ANT1



ANT2

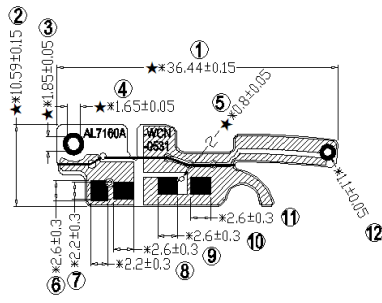


Front

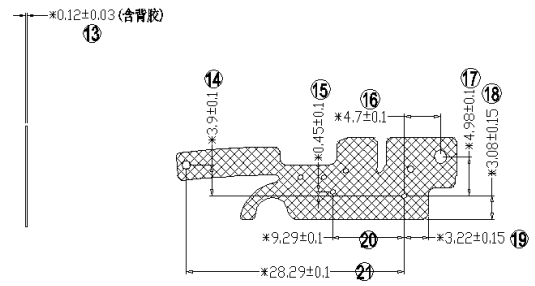


Back

ANT3



Front



Back

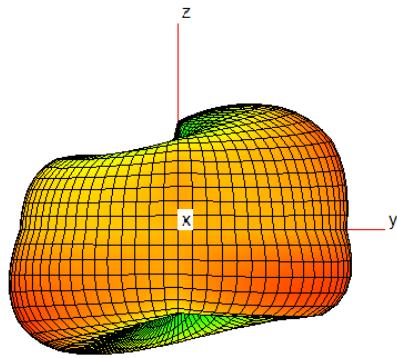
Antenna Gain :

MAIN GSM		
	850	-4dBi
	1900	-0.9dBi
MAIN UMTS		
	2	-0.9dBi
	4	-1.1dBi
	5	-4dBi
	8	-3.8dBi
MAIN LTE		
	2	-0.9dBi
	4	-1.1dBi
	5	-4dBi
	7	-1.1dBi
	12	-3.9dBi
	17	-4dBi
	13	-4.1dBi
	26	-3.9 dBi
	38	-0.7 dBi
	40	-0.6 dBi
	41	-0.8 dBi
	66	-1.1dBi
gps		-0.7dBi
WiFi 2.4G/BT		-0.9dBi
WiFi 5G		-0.8dBi
DIV GSM		
	850	-4.3dBi
	1900	-1.5dBi
DIV UMTS		
	2	-1.5dBi
	4	-1.7dBi
	5	-4.3dBi
	8	-4.1dBi
DIV LTE		
	2	-1.5dBi
	4	-1.7dBi
	5	-4.3dBi
	7	-1.8dBi
	12	-4.2dBi
	17	-4.2dBi
	13	-4.1 dBi

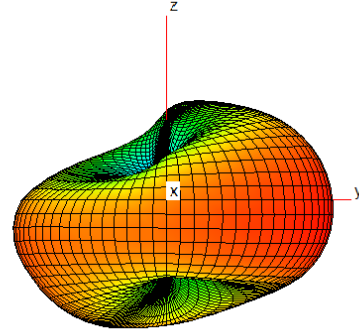
Regards NFC , all measurements were performed radiated and therefore additional antenna gain documentation is not required.

5.3D map

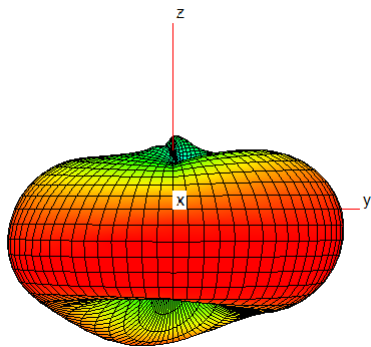
ANT1



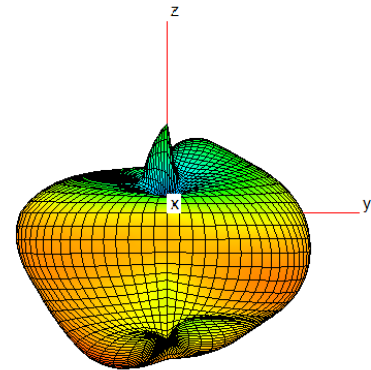
700MHZ



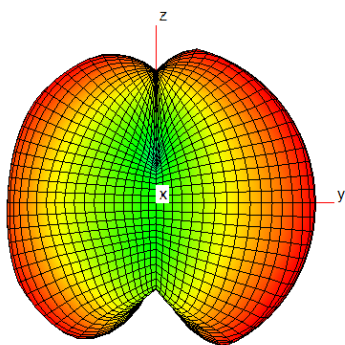
790MHZ



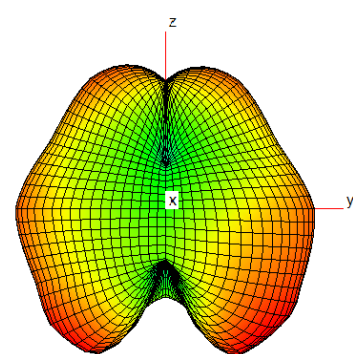
870MHZ



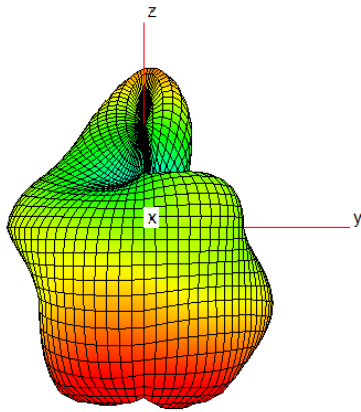
960MHZ



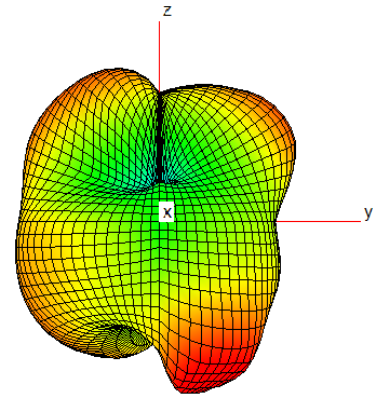
1710MHZ



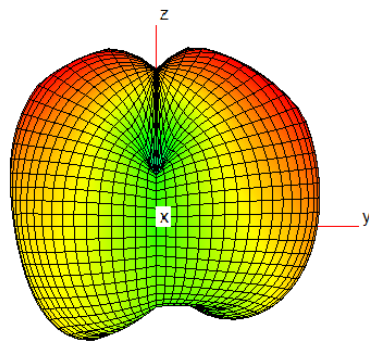
1990MHZ



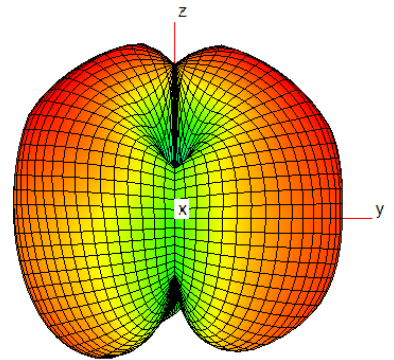
2170MHZ



2300MHZ

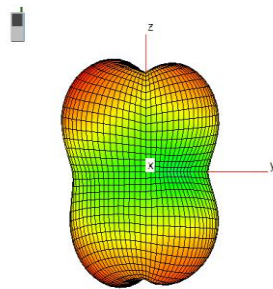


2500MHZ

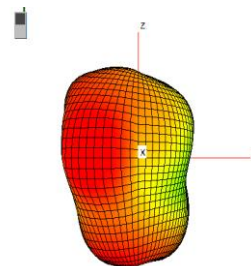


2700MHZ

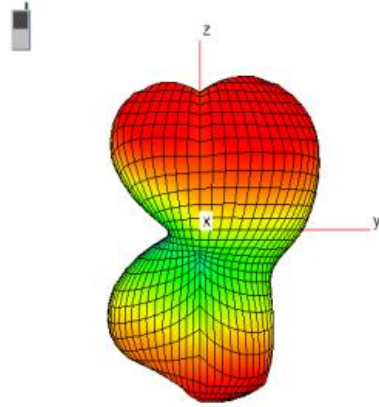
ANT2



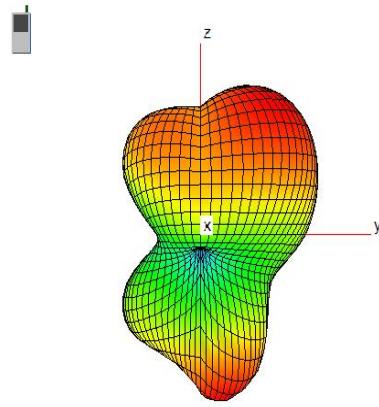
700MHZ



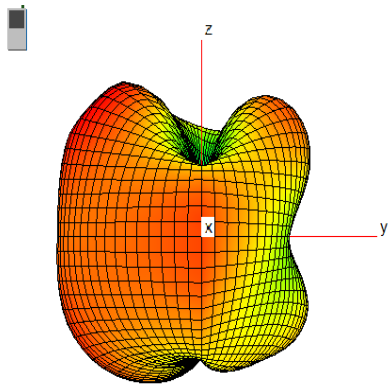
790MHZ



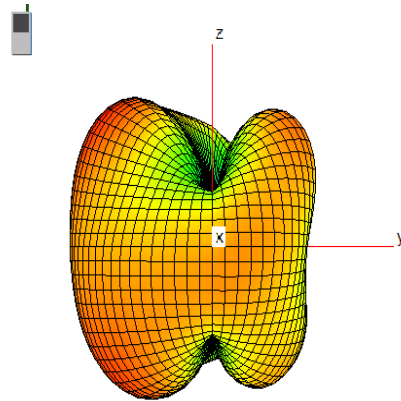
870MHZ



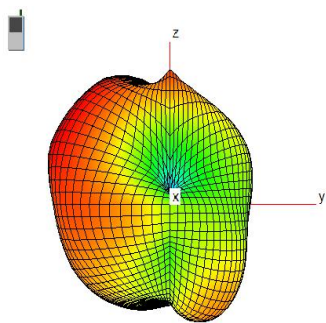
960MHZ



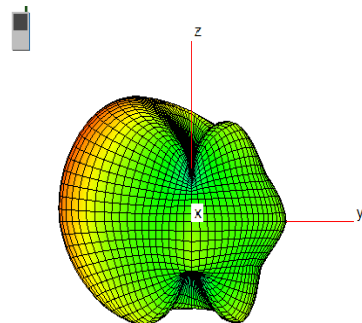
1710MHZ



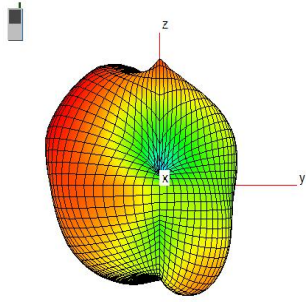
1990MHZ



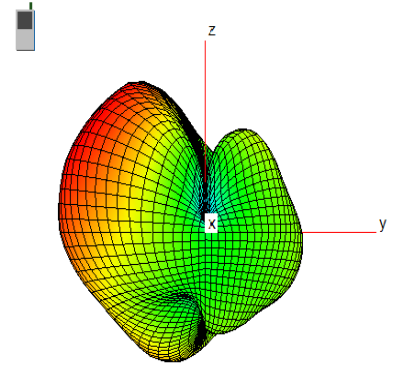
2300MHZ



2170MHZ

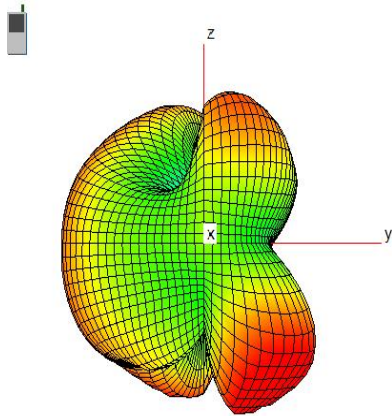


2500MHZ

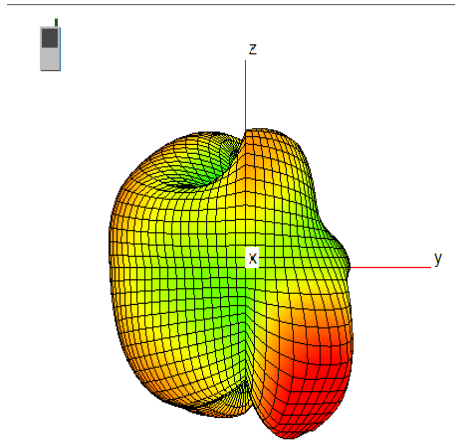


2700MHZ

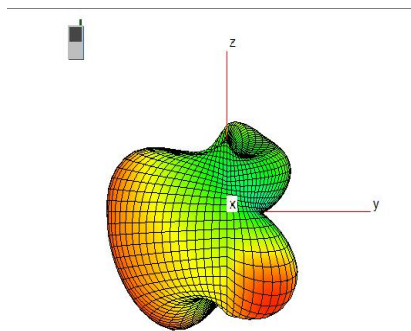
ANT3



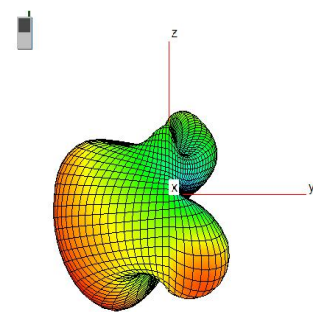
1575MHZ



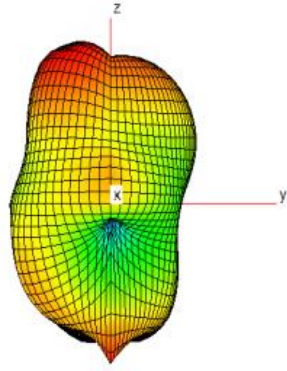
1550MHZ



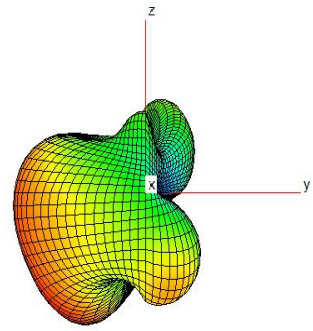
2400MHZ



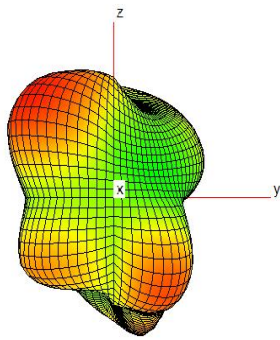
2450MHZ



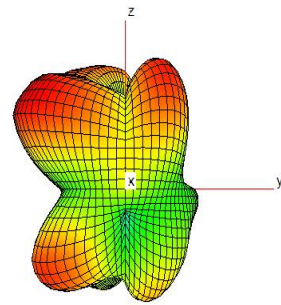
5150MHZ



2500MHZ



5550MHZ



5850MHZ