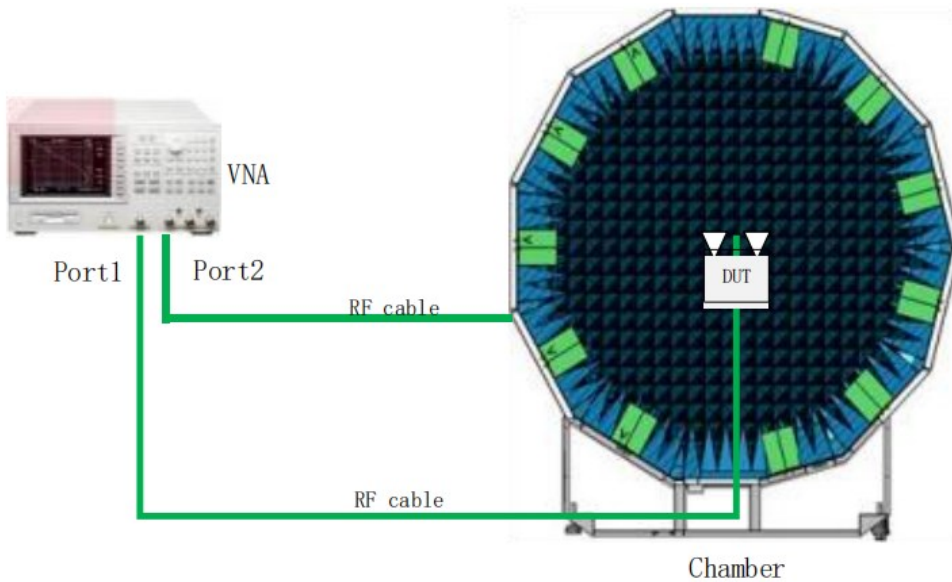


Type and shape of antenna	IFA Antenna
Directional characteristics	Omni-directional
Deflection Characteristics of Antenna	Linear
Type of connection with transmitter	antenna shrapnel
Manufacturer	Welltronics Communication Technology Co.,Ltd
Measuring Organization	Welltronics Communication Technology Co.,Ltd

1.EUT Reference Setup

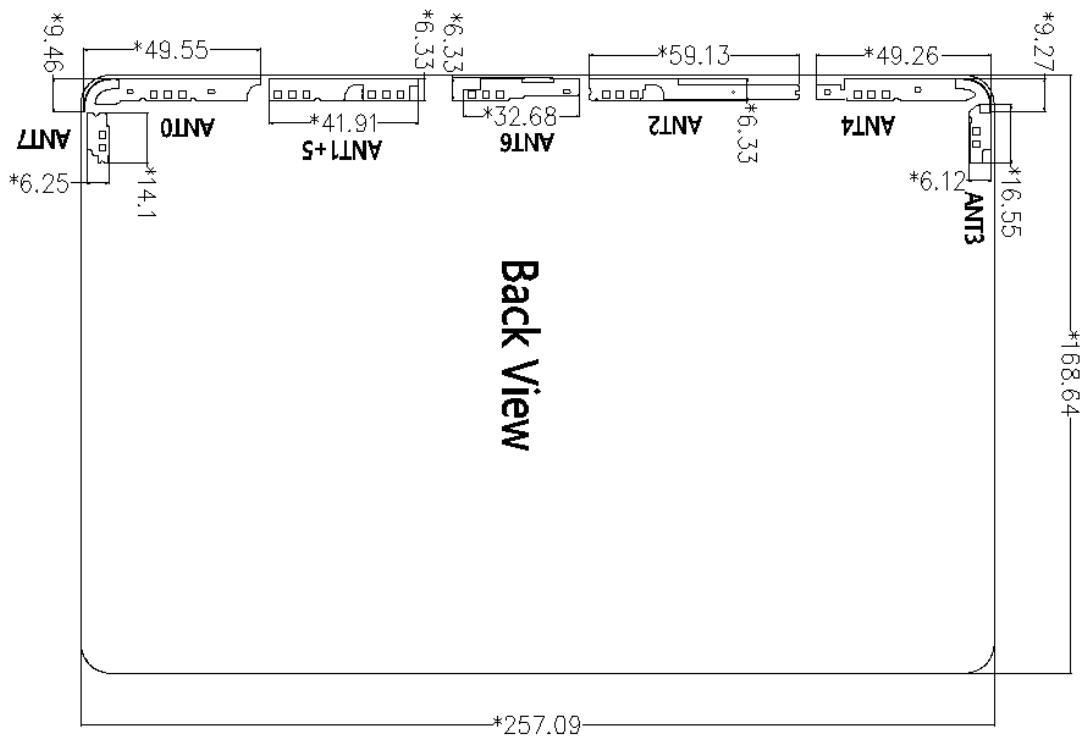


Tester	Lichunyang
Actual date of testing	2023-07-06
Test description	Use an anechoic chamber to measure the radiation pattern and antenna gain. The GTS laboratory operates at 0.6-5.9GHz. The chamber's reflection level in the range of 0.6GHz to 5.9 GHz is typically ≤ 25 dB. Standard dipoles are used to calibrate for path loss and magnetic ring lines are used to suppress feeder emissions, so we can measure antenna gain.

Test Equipment List

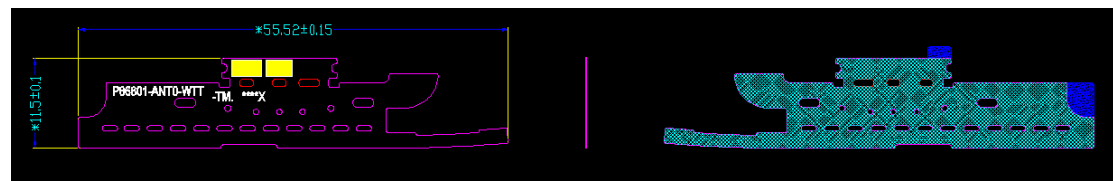
Name of test equipment	Model	Manufacturer	Cal.Due Date	Calibtation Interval
Pattern Measurement Software	General Test	Ray Zone 1800	NA	NA
Network Analyzer	Agilent	E5071B	2023-05-06	One year

2. Antenna distribution



3. Antenna Pattern

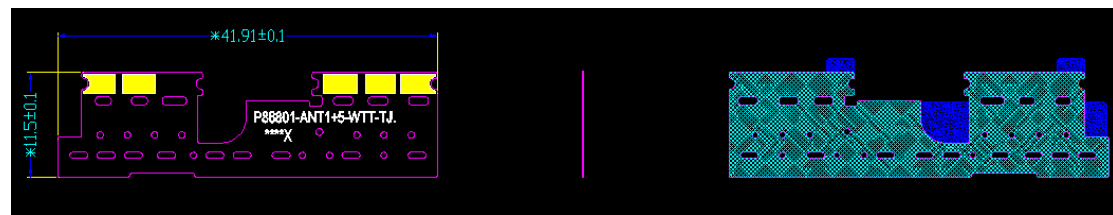
ANT0



Front

Back

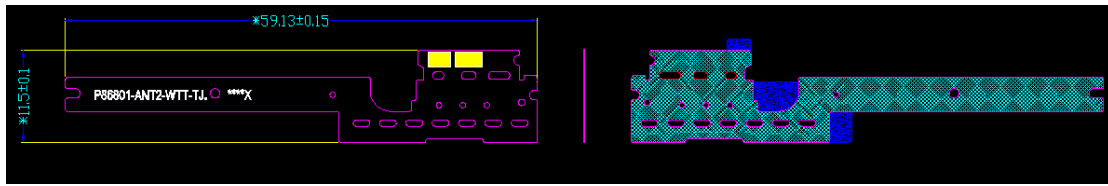
ANT1+5



Front

Back

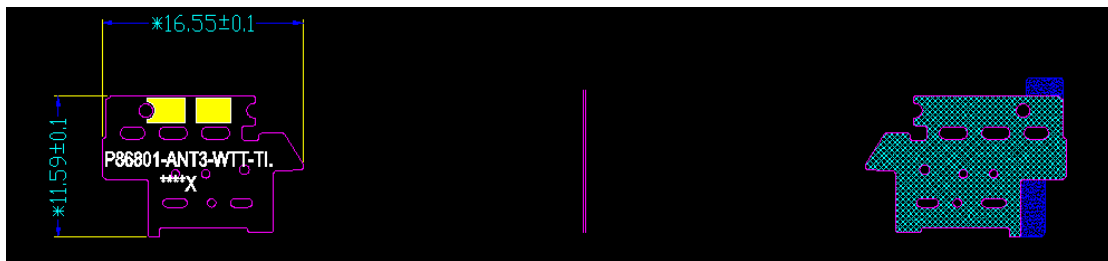
ANT2



Front

Back

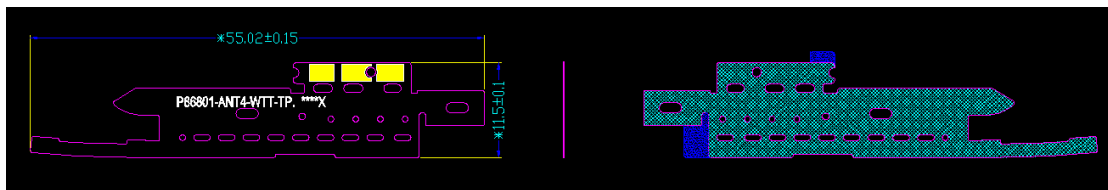
ANT3



Front

Back

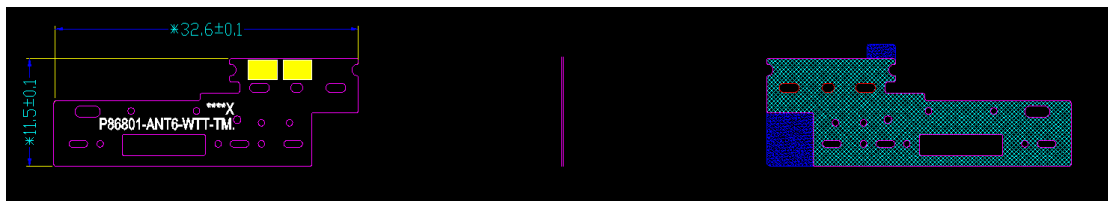
ANT4



Front

Back

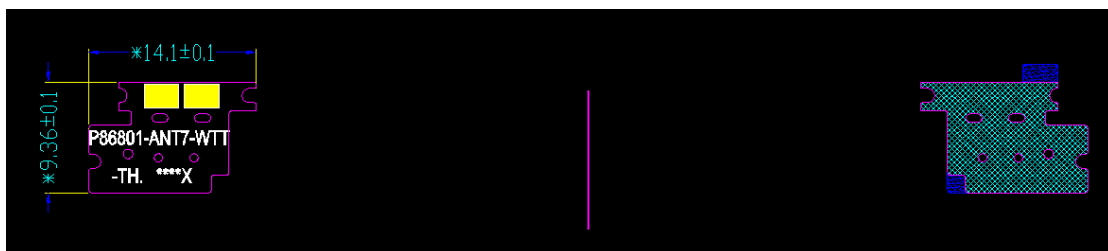
ANT6



Front

Back

ANT7



Front

Back

4. Antenna Gain:

	Test band	Gain(ANT0)	Gain(ANT1)	Gain(ANT2)	Gain(ANT3)	Gain(ANT4)
GSM	B5(850)	0.8	/	/	/	-2.7
	B8(900)	0.0	/	/	/	-1.5
	B3(1800)	0.8	/	/	/	0.0
	B2(1900)	0.0	/	/	/	0.2
WCDMA	B1(W2100)	-0.4	/	/	/	0.2
	B2(W1900)	0.0	/	/	/	0.2
	B4(W1700)	-0.1	/	/	/	0.3
	B5(W850)	0.8	/	/	/	-2.7
	B8(W900)	0.0	/	/	/	-1.5
LTE	B1	-0.4	/	-1.0	-3.8	0.2
	B2	0.0	/	/	/	0.2
	B3	0.8	/	-1.9	-5.9	0.0
	B4	-0.1	/	/	/	0.3
	B5	0.8	/	/	/	-2.7
	B7	/	0.6	-1.5	0.3	-1.2
	B8	0.0	/	/	/	-1.5
	B12	-1.6	/	/	/	-4.6
	B13	-1.6	/	/	/	-4.4
	B17	-1.6	/	/	/	-4.6
	B20	-0.2	/	/	/	-2.0
	B26	0.8	/	/	/	-2.7
	B28	-1.6	/	/	/	-3.5
	B38	/	0.7	-0.2	-0.5	-0.1
	B40	/	0.5	-1.5	-4.5	0.5
B41	/	0.6	0.0	0.0	-0.4	
B66	-0.1	/	/	/	0.3	

	Test band	Gain(ANT0)	Gain(ANT1)	Gain(ANT2)	Gain(ANT3)	Gain(ANT4)
NR	n1	-0.4	/	-1.0	-3.8	0.2

NR	n3	0.8	/	-1.9	-5.9	0.0
	n5	0.8	/	/	/	-2.7
	n7	/	0.6	-1.5	0.3	-1.2
	n8	0.0	/	/	/	-1.5
	n20	-0.2	/	/	/	-2.0
	n28	-1.6	/	/	/	-3.5
	n38	/	0.7	-0.2	-0.5	-0.1
	n40	/	0.5	-1.5	-4.5	0.5
	n41	/	0.6	0.0	0.0	-0.4
	n66	-0.1	/	/	/	0.3

	Test band	Gain(ANT3)	Gain(ANT4)	Gain(ANT5)	Gain(ANT7)
NR	N77	-4.1	-3.3	-0.43	-2.01
	N78	-4.4	-3.3	-0.43	-2.01

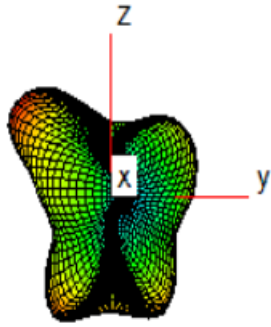
	Test band	Gain(ANT6)
WIFI	2.4G	-1.36
BT	BT	-1.36
WIFI	5G	-1.52
WIFI	5.8G	-1.75
GPS	GPS	1.85

5.3D map

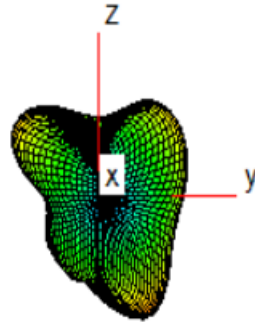
ANT0

740MHz

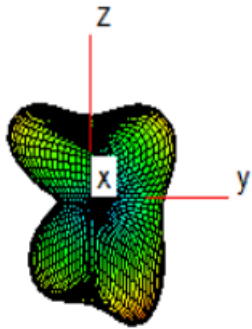
820MHz



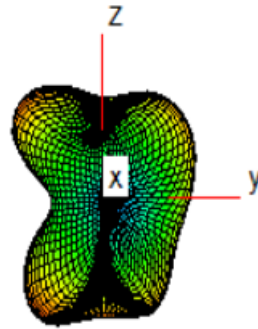
880MHz



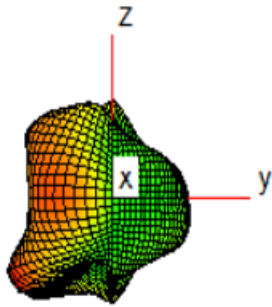
960MHz



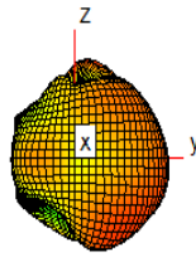
1750MHz



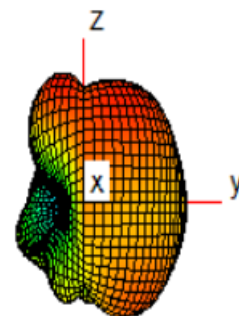
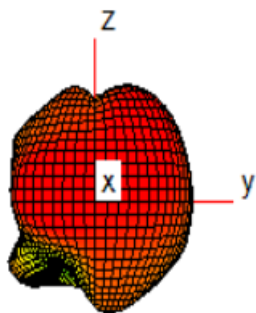
1880MHz



1960MHz

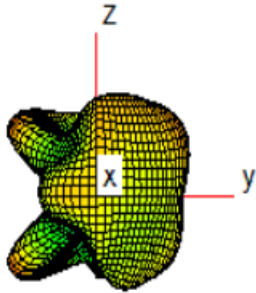


2200MHz

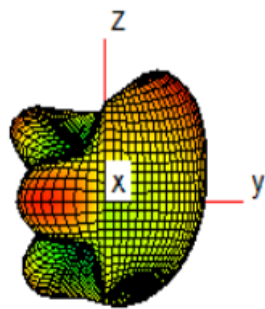


ANT1

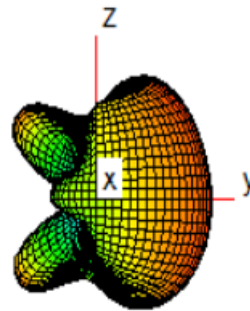
2350MHz



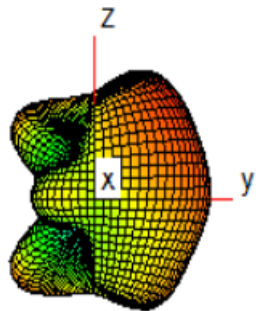
2500MHz



2600MHz



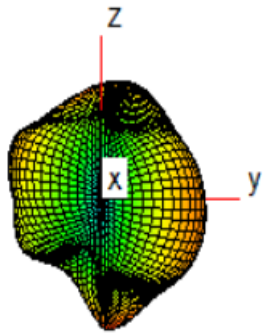
2700MHz



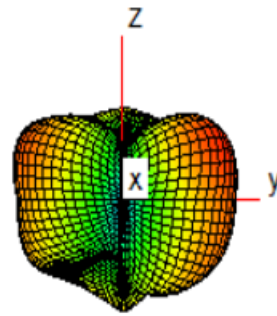
ANT2

1850MHz

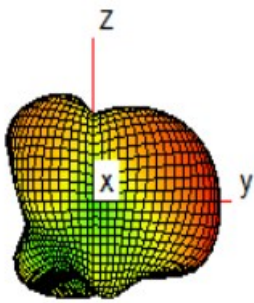
1990MHz



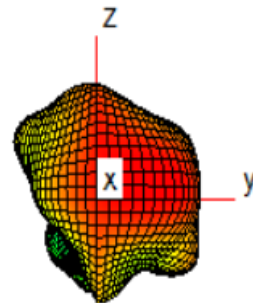
2170MHz



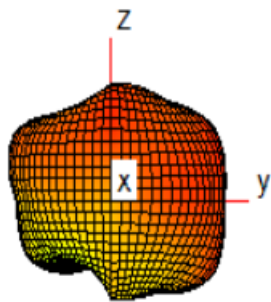
2350MHz



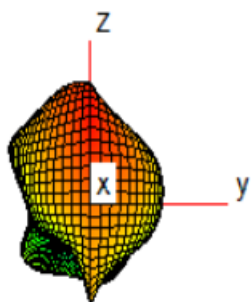
2500MHz



2600MHz

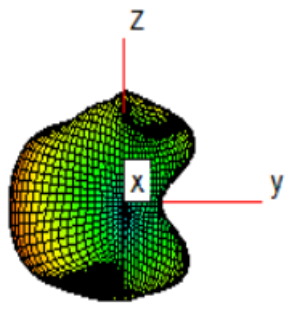


2690MHz

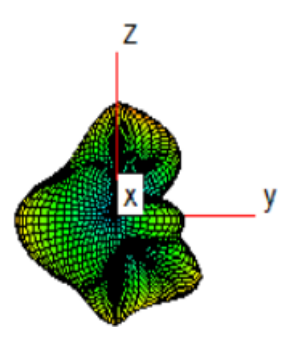


ANT3

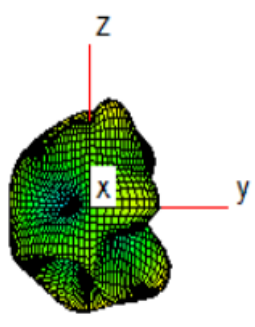
1800MHz



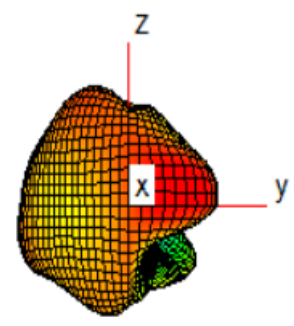
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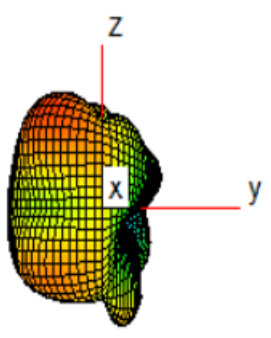
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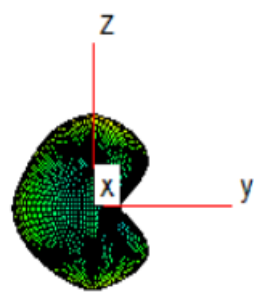
2110MHz



2200MHz

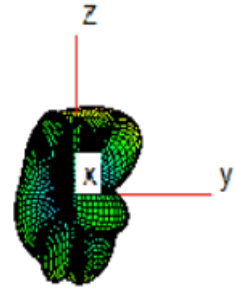
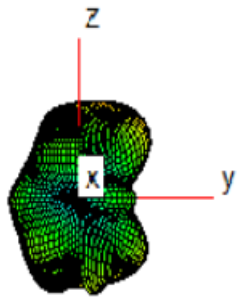


2350MHz



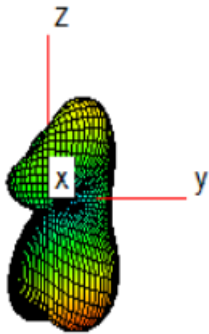
2500MHz

2690MHz



ANT4

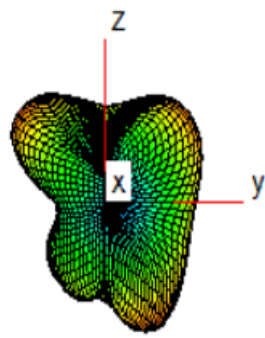
780MHz



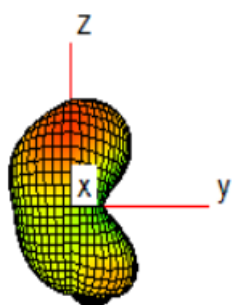
820MHz



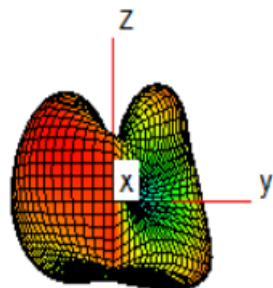
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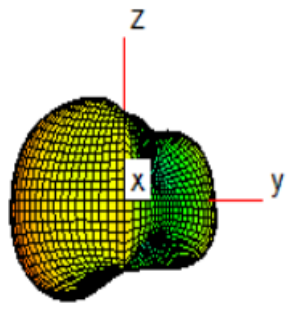
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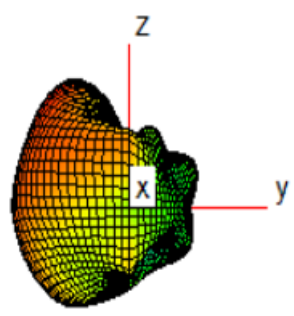
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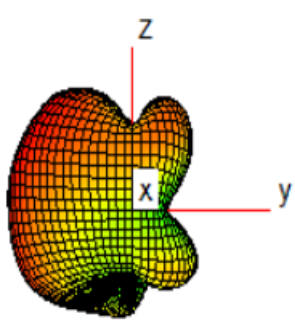
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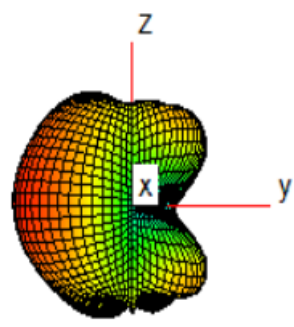
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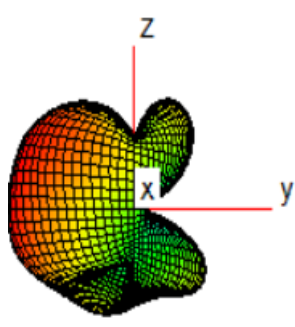
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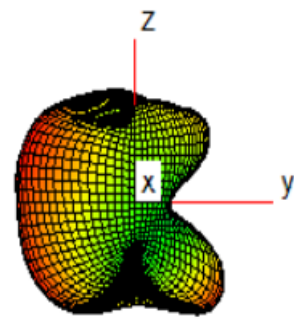
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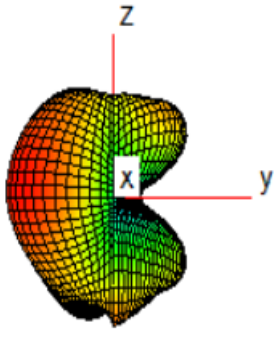
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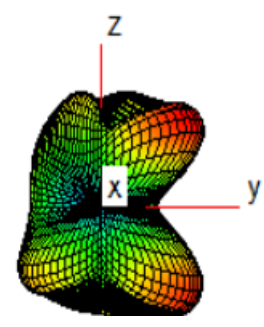
2600MHz



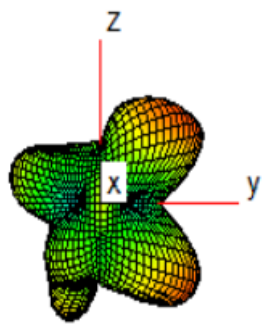
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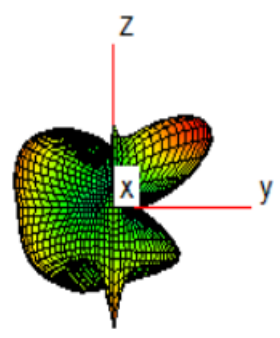
3300MHz



3800MHz

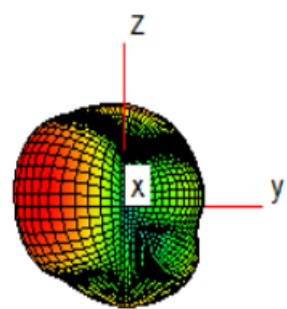


4200MHz

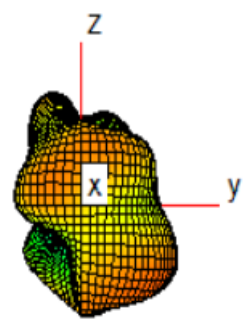


ANT5

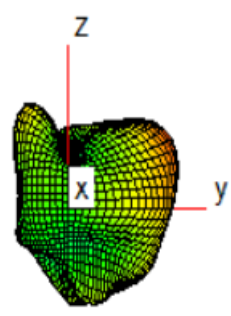
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3800MHz

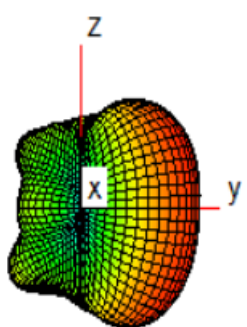


4200MHz

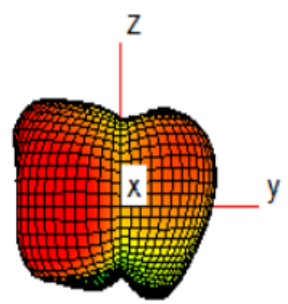


ANT6

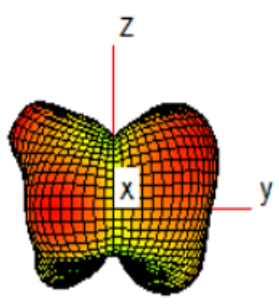
1575MHz



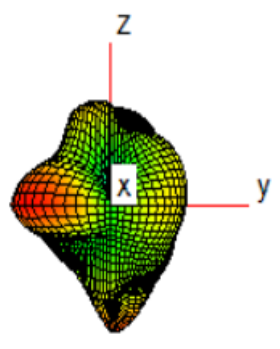
2400MHz



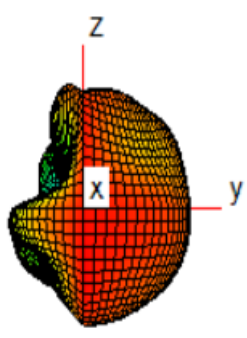
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5150MHz

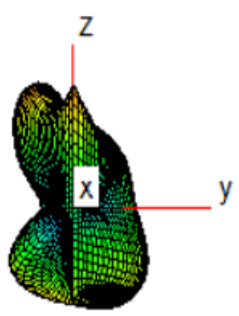


5850MHz

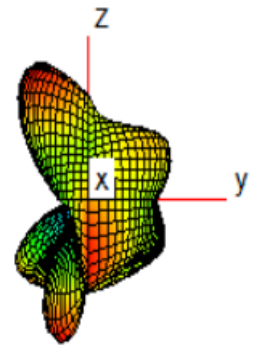


ANT7

3300MHz



3800MHz



4200MHz

