

Antenna Gain Test Data

Model: 316000309453、316000309454、316000309455

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1 Antenna describe:

ANT1

Brand name / Model Name	SPEED / 316000309453
Antenna type	FPC Antenna
Antenna Manufacturer	SPEED
Antenna Manufacturer address	No.1043 Huize Street, Huicheng District, Huizhou,Guangzhou, 261031,P.R. China
Frequency range	2400MHZ~7150MHz

ANT2

Brand name / Model Name	SPEED / 316000309454
Antenna type	FPC Antenna
Antenna Manufacturer	SPEED
Antenna Manufacturer address	No.1043 Huize Street, Huicheng District, Huizhou,Guangzhou, 261031,P.R. China
Frequency range	2400MHZ~7150MHz

ANT3

Brand name / Model Name	SPEED / 316000309455
Antenna type	FPC Antenna
Antenna Manufacturer	SPEED
Antenna Manufacturer address	No.1043 Huize Street, Huicheng District, Huizhou,Guangzhou, 261031,P.R. China
Frequency range	2400MHZ~2480MHz

2 Antenna Gain for WIFI/BT

2.1 Test Result

TestMode	Antenna	Antenna Type	Frequency(MHz)	Total Peak Gain(dBi)
SISO	Left WIFI Ant(ANT1)	FPC Antenna	2400	4.63
			2410	4.77
			2420	4.74
			2430	4.84
			2440	4.91
			2450	4.84
			2460	4.69
			2470	4.55
			2480	4.44
			5150~5250	4.11
			5250~5350	4.43
			5470~5725	4.92
			5725~5850	5.12
			5925-6425	4.76
			6425-6525	5.2
			6525-6875	5.29
			6525-6875	4.25

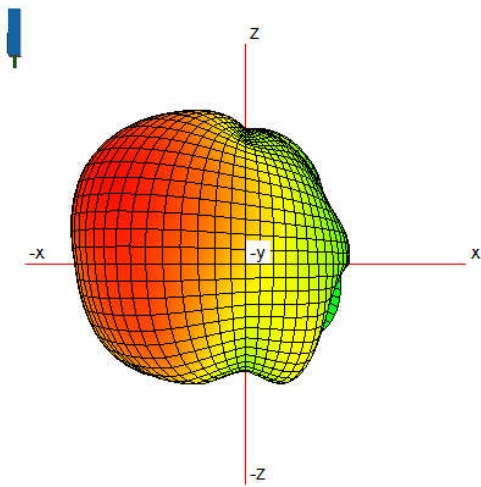
TestMode	Antenna	Antenna Type	Frequency(MHz)	Total Peak Gain(dBi)
SISO	Right WIFI Ant(ANT2)	FPC Antenna	2400	4.03
			2410	4.01
			2420	3.85
			2430	3.86
			2440	3.78
			2450	3.65
			2460	3.42
			2470	3.31
			2480	3.08
			5150~5250	3.12
			5250~5350	3.62
			5470~5725	4.85
			5725~5850	5.76
			5925-6425	7.06
			6425-6525	4.68

			6525-6875	4.07
			6875-7125	4.06

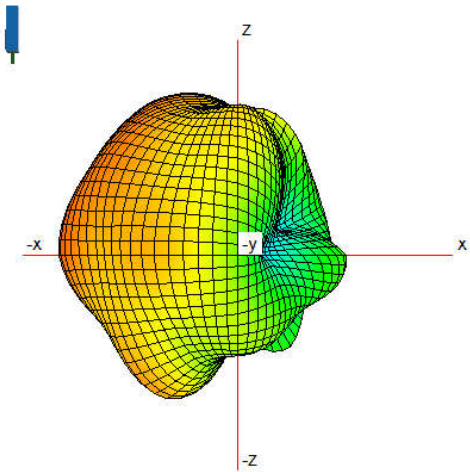
TestMode	Antenna	Antenna Type	Frequency(MHz)	Total Peak Gain(dBi)
SISO	NRF Ant (ANT3)	FPC Antenna	2400	1.62
			2410	1.32
			2420	0.99
			2430	0.44
			2440	-0.08
			2450	-0.4
			2460	-0.54
			2470	-0.37
			2480	-0.14

Note: Peak Gain for Ant is shown in bold letters

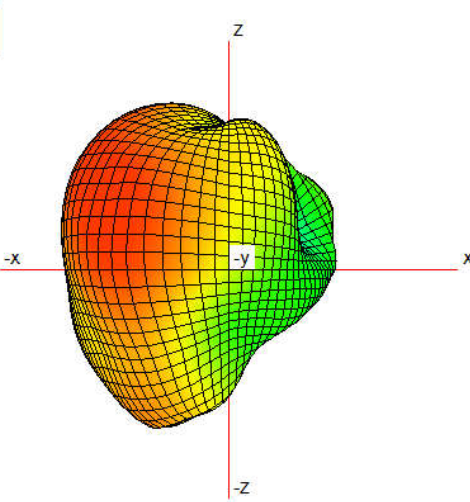
Antenna1 Radiation Pattern



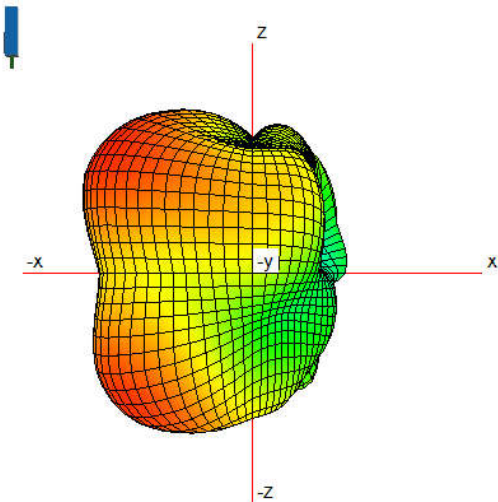
2.4G



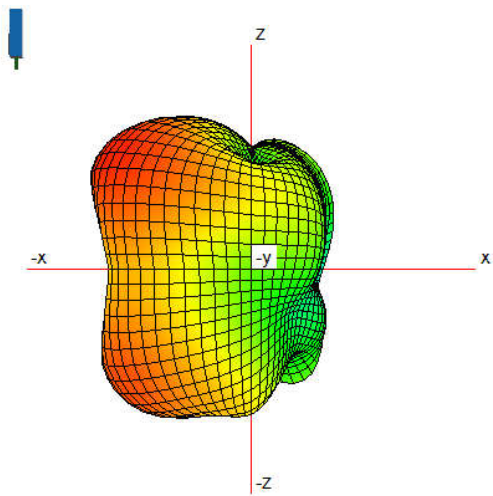
5.18G



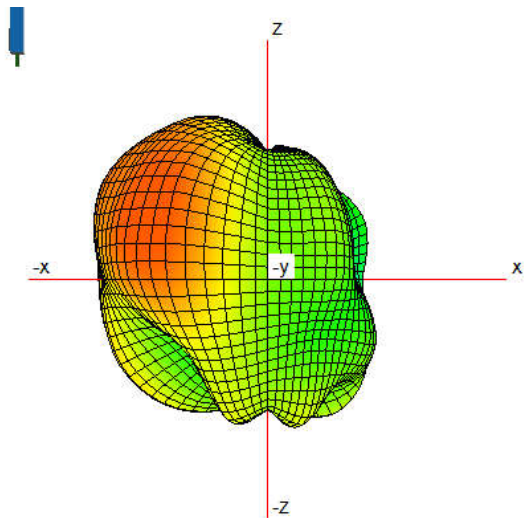
5.5G



5.85G

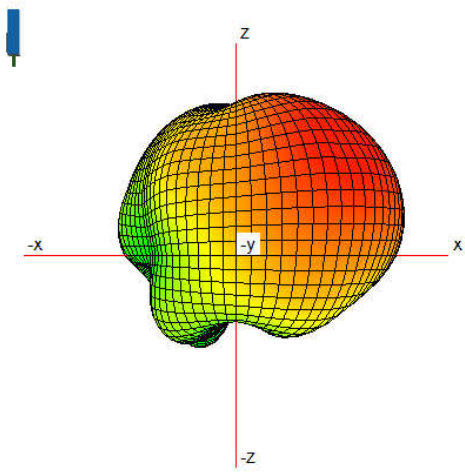


6G

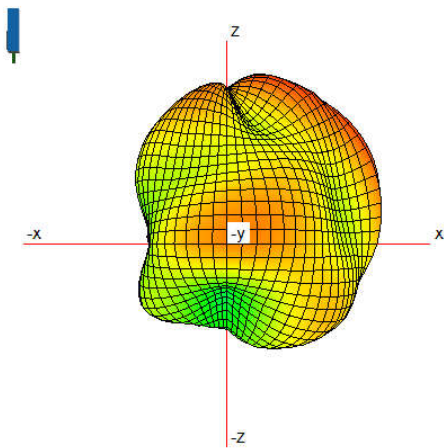


7.125G

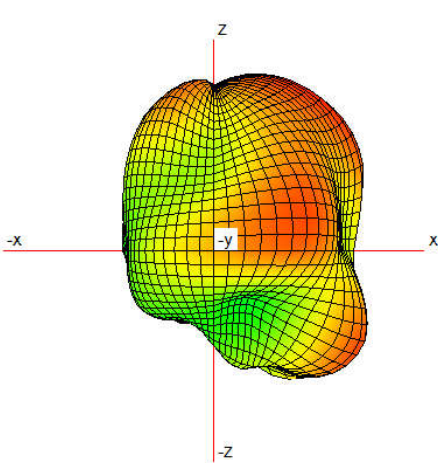
Antenna2 Radiation Pattern



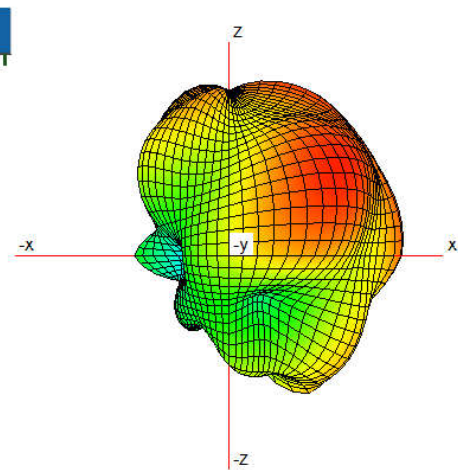
2.44G



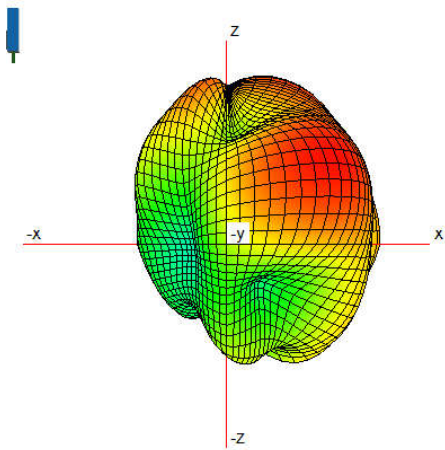
5.18G



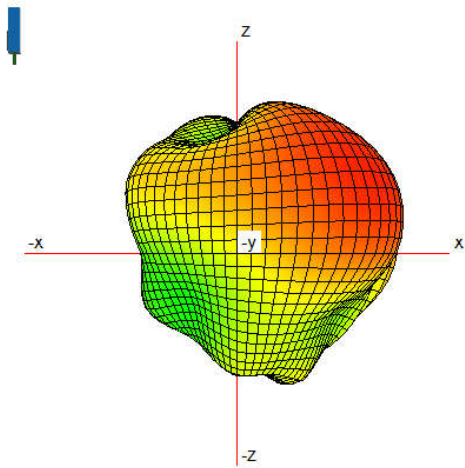
5.5G



5.85G

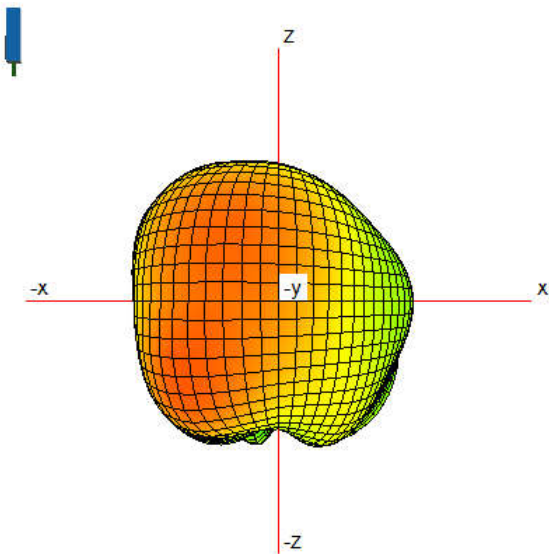


6G

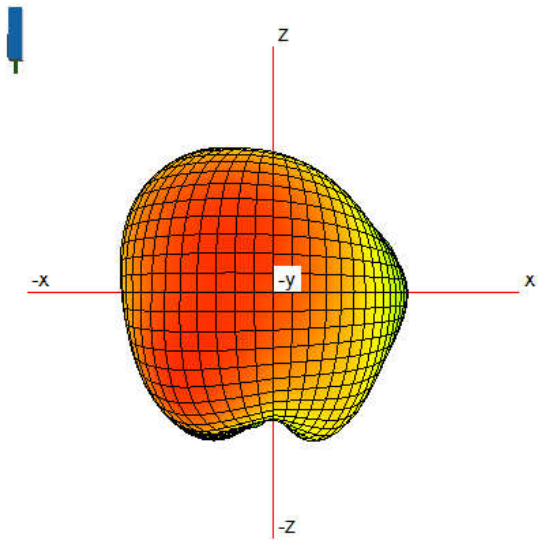


7.125G

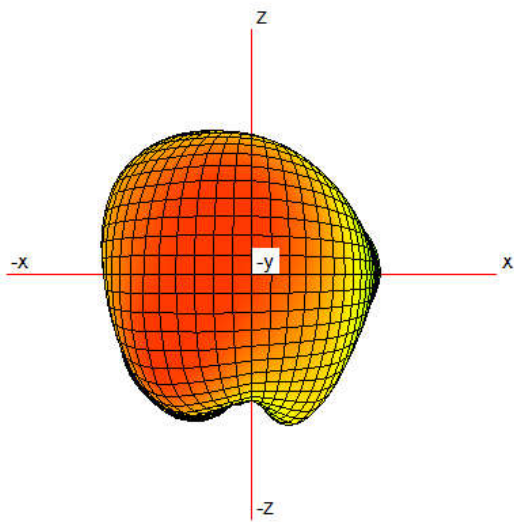
Antenna3 Radiation Pattern



2.4G



2.44G

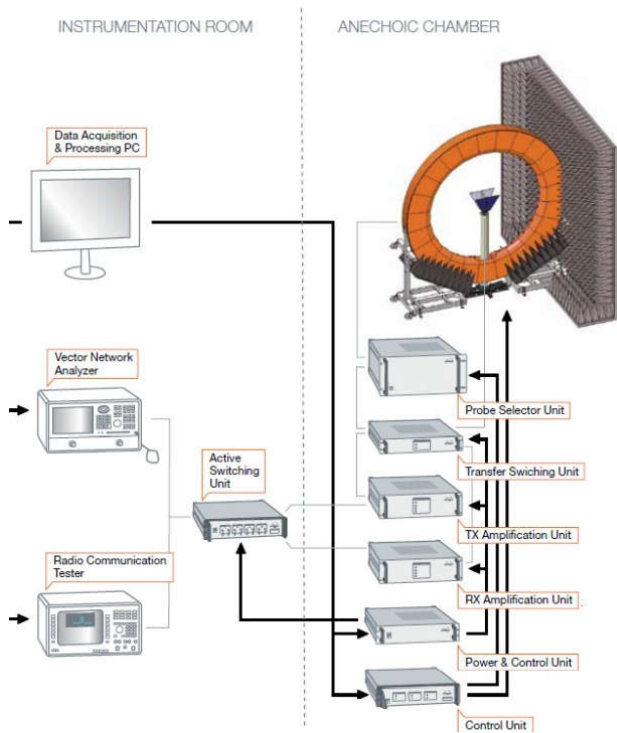


2.48G

3 Description of Radiated measurement

3.1 Test Procedure

Antennas gain measurement are done with the test model fully assembled. A 50 Ohm coaxial cable is connected to the switch in contact with the antenna on the main board. The other end of the 50 Ohm coaxial cable is conneted to a network analyzer. The OTA Chamber is calibrated using dipoles. The diagram of the OTA test system is as follow:



3.2 Test Equipmen

No	Test Equipment	Model	calibration date	Due date
1	OTA Chamber	GTS-RZ1800	2023/10/10	2024.10.09
2	Vector Network Analyzer	E5071C	2023/10/10	2024.10.09

Test software : Maxsign 100

Test engineer : 陈潇杭 Heather.Chen 2024.5.29

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