PSA

PASSIVE SYSTEM ALLIANCE

WALSIN TECHNOLOGY CORPORATION

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瑞軒_Hariis

Presented by

Kerry Wu

Walsin Technology Corporation

2023/ 05/ 11

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PSA

Version	Date	Description	Author
V01	2022/10/14	New Release	Kerry
V02	2022/11/10	重新測試	Kerry
V03	2023/01/06	天線位置增加平台	Kerry
V03.1	2023/05/11	增加FCC資料	Kerry

OUTLINE

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1. Measurement Information

1.1 Experimental Setup

Operating instructions:

1.Place the DUT at the center of the turntable,
2.Connecting the test cable to the DUT, and use the SPM software for passive measurement.
3.During the measured process, SATIMO SG24 will conduct radiation testing with the DUT through 23 probes by a vertical 360- degree; then the turntable will rotate a horizontal 180- degree.
4. After, a complete measurement of spherical 3D is completed.

Tester : Kerry Wu
Test Data : 2023/01/03

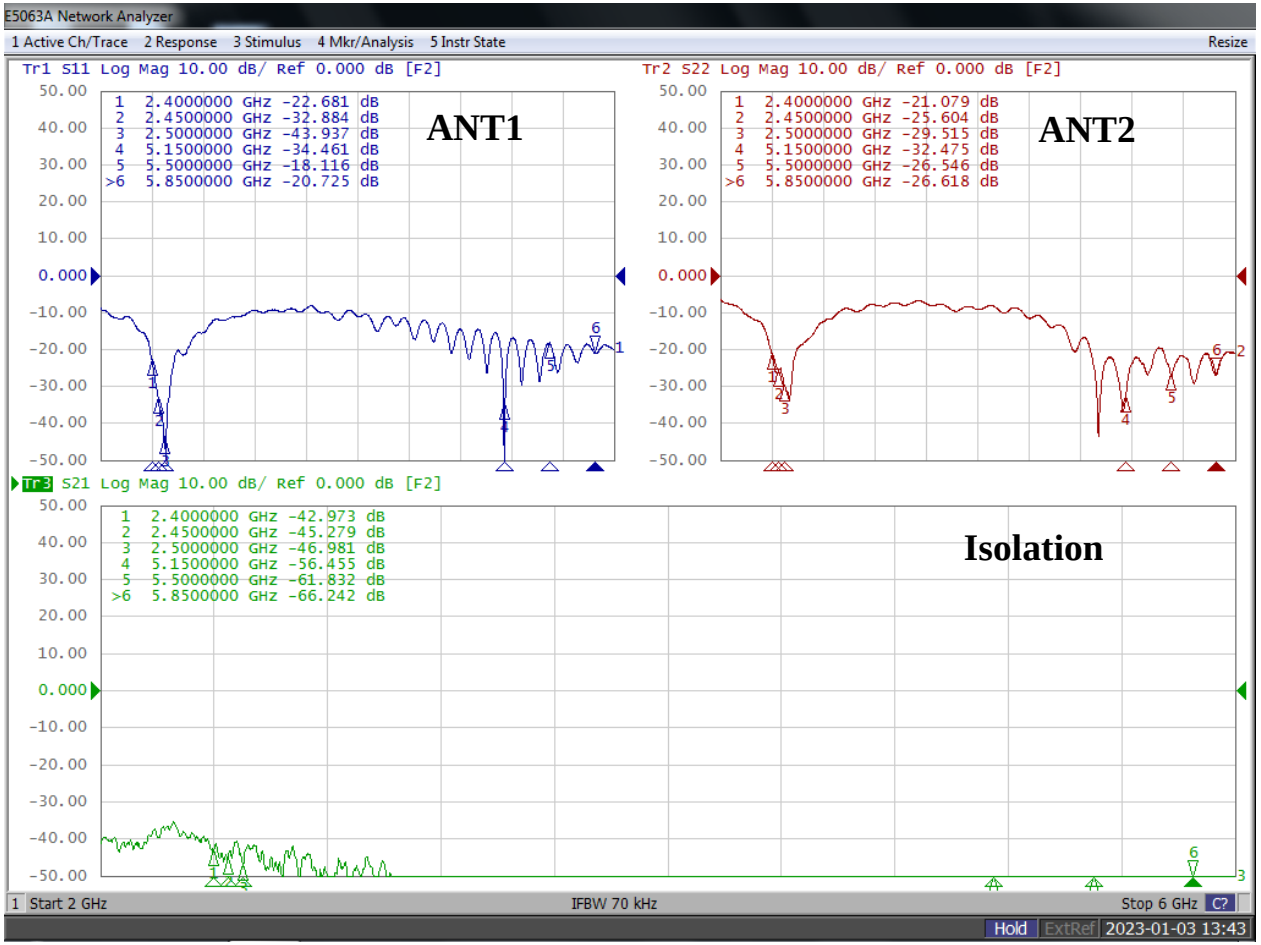
1. Measurement Information

Test equipment calibration information:

Equipment	Model No.	Calibrated Date	Calibrated Until
Satimo	SG24	2022/11/24	2023/11/24
Agilent	E5071C	2021/3/3	2024/3/3

2. Antenna Characteristics

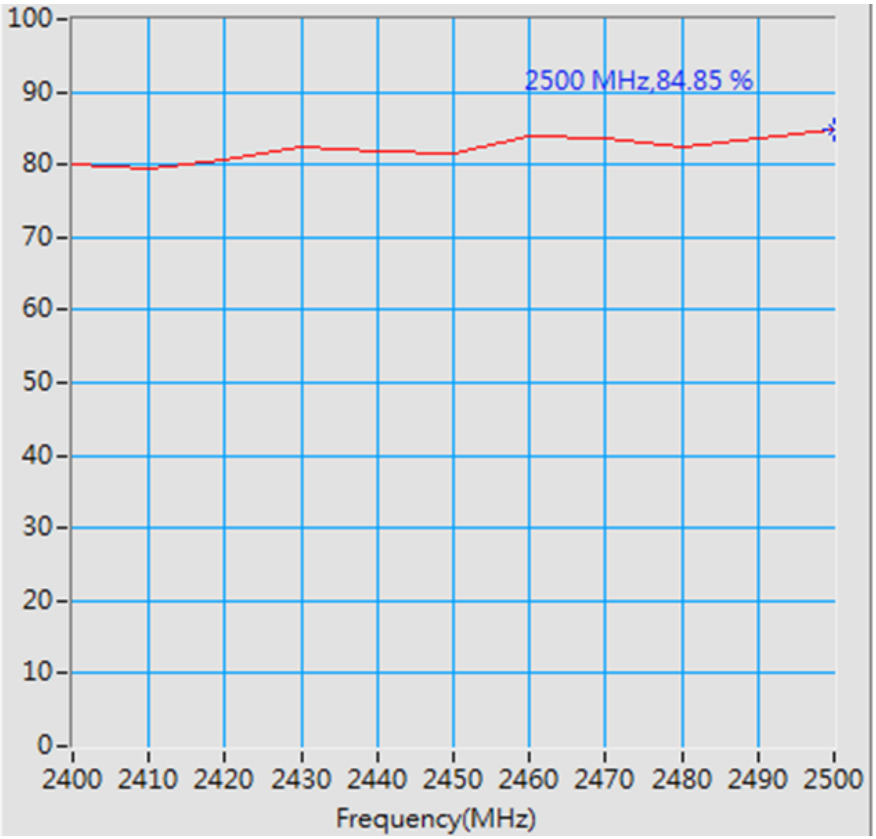
2.1 Impedance



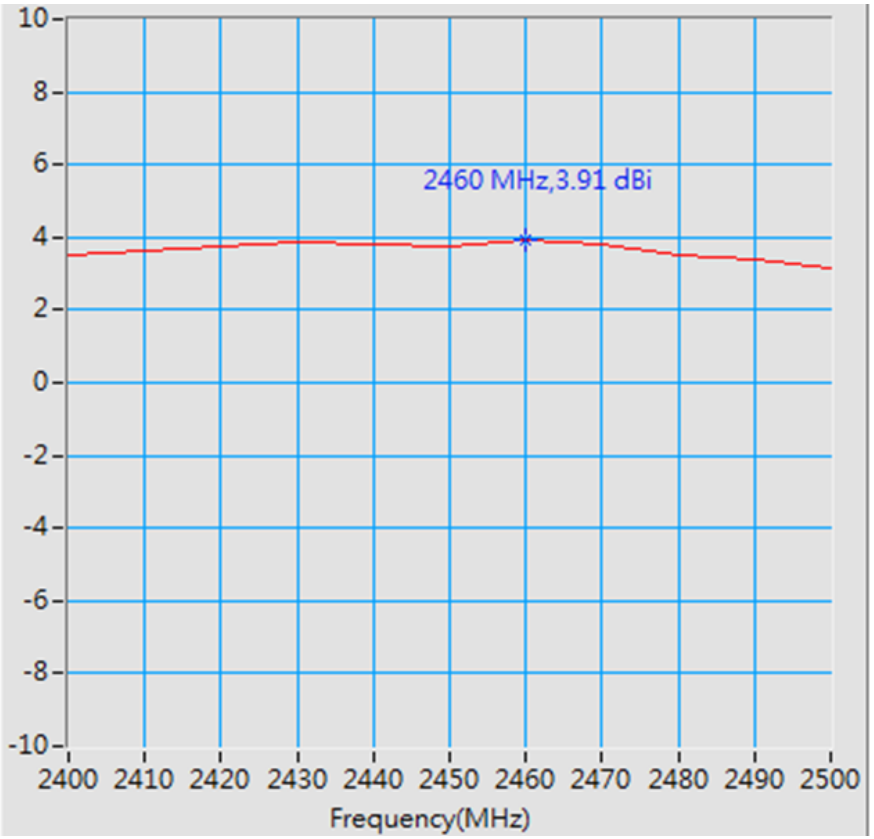
2. Antenna Characteristics

ANT1@2G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2500MHz : 84.85%

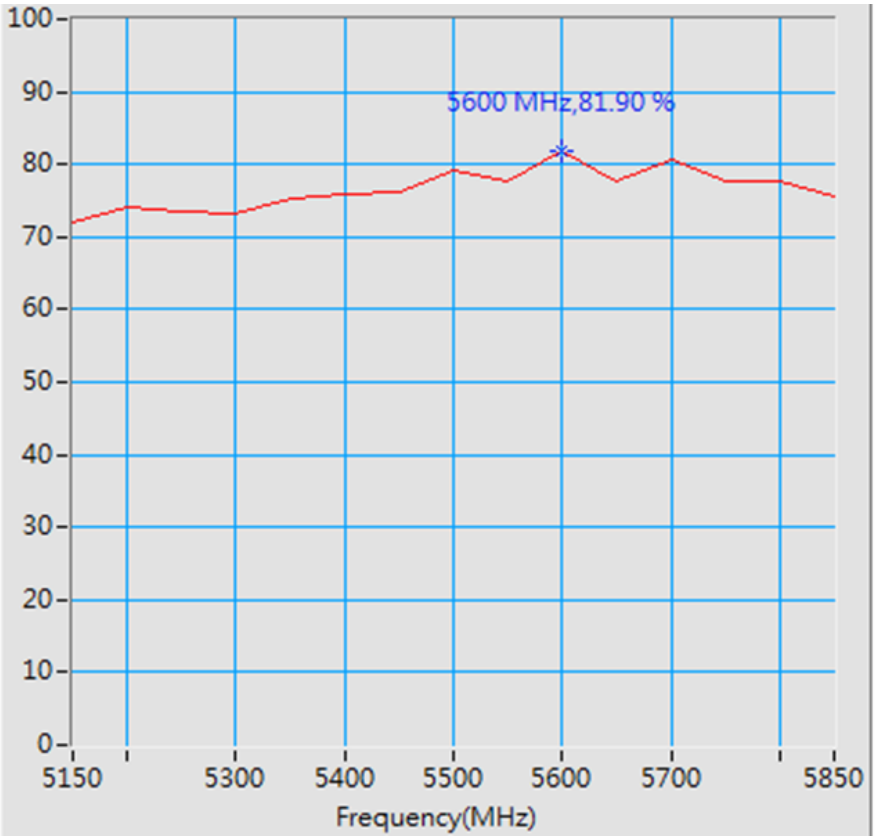


Maximum Peak Gain at 2460MHz : 3.91dBi

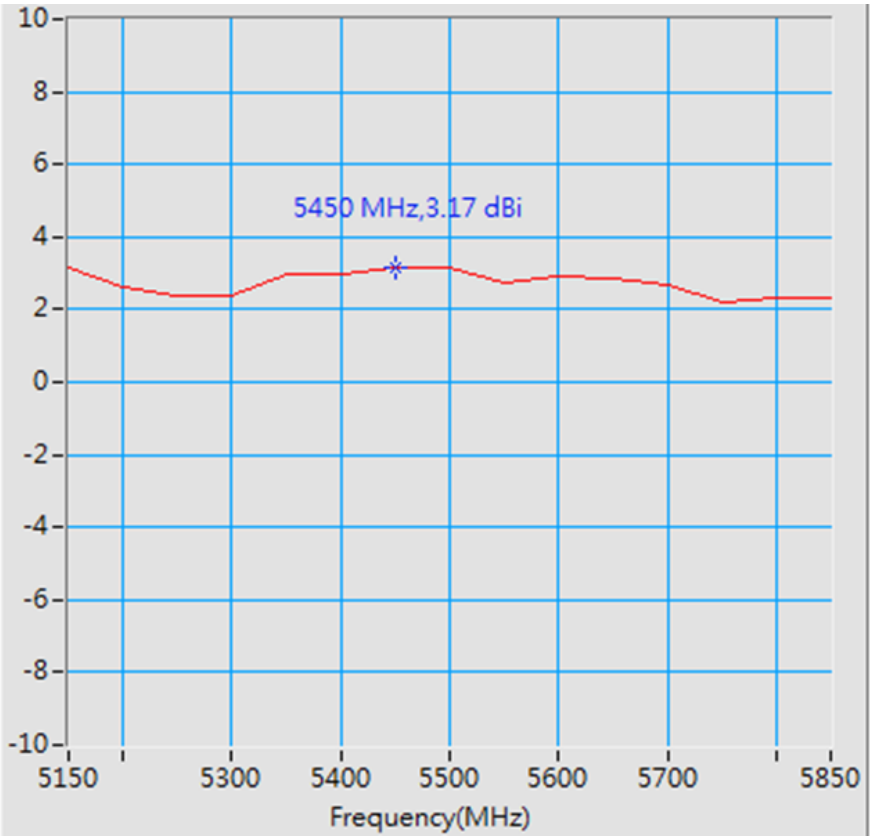
2. Antenna Characteristics

ANT1@5G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5600MHz : 81.90%

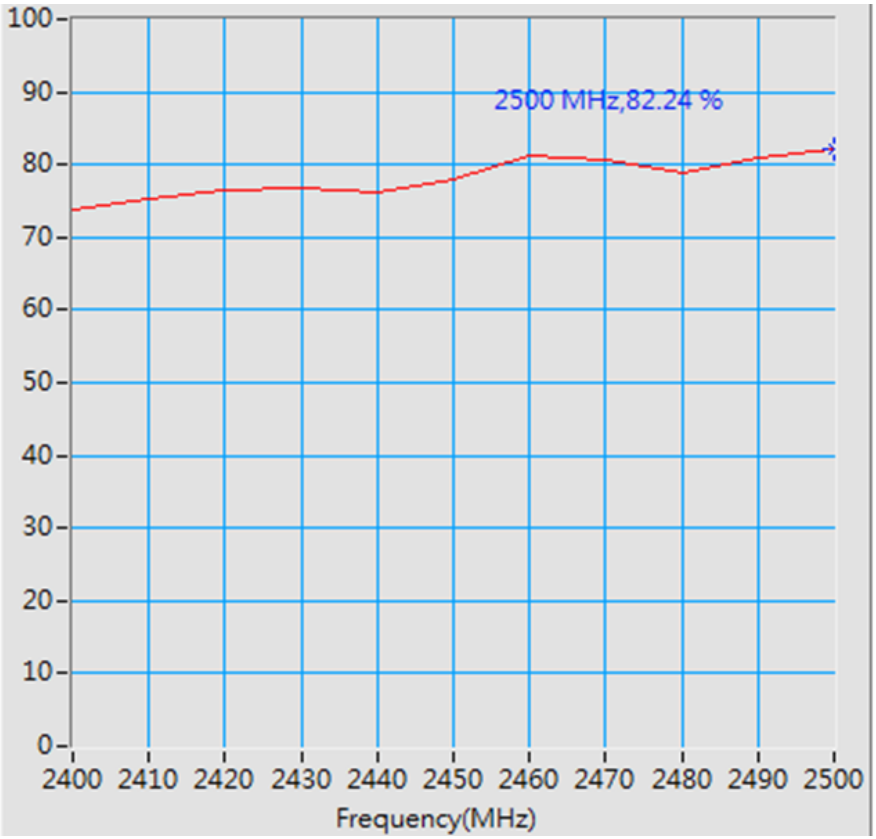


Maximum Peak Gain at 5450MHz : 3.17dBi

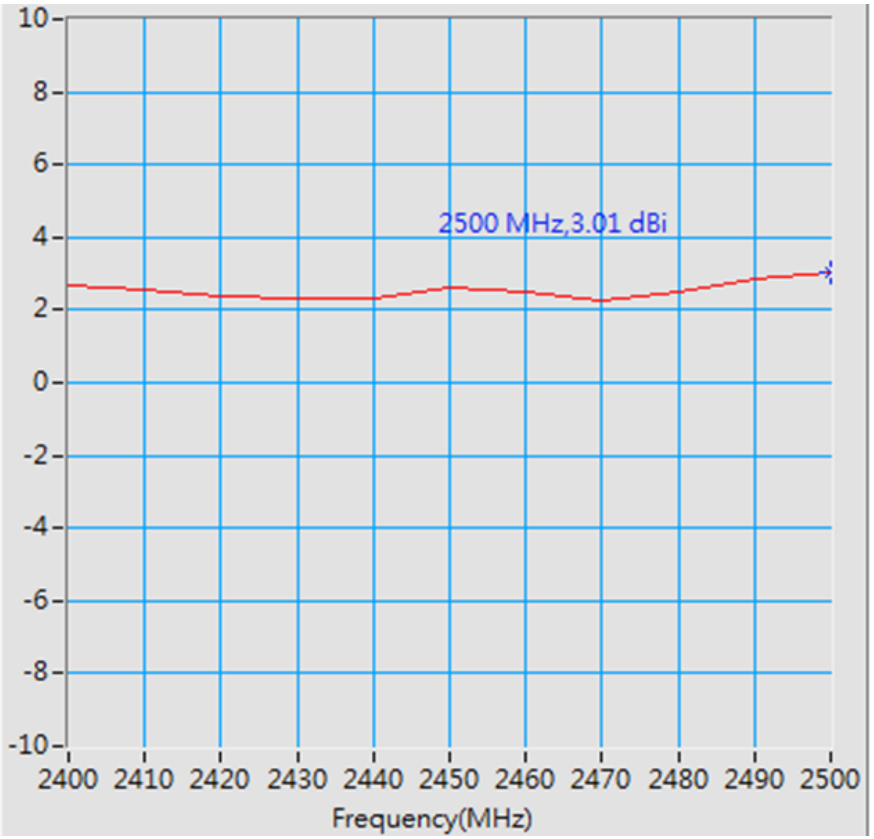
2. Antenna Characteristics

ANT2@2G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2500MHz : 82.24%

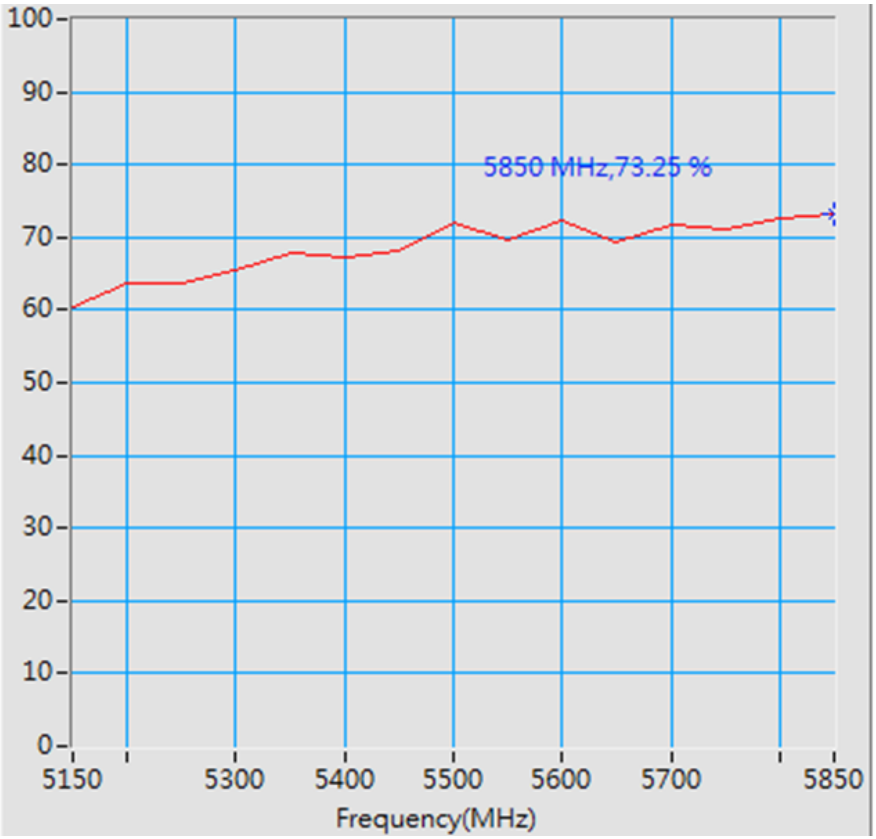


Maximum Peak Gain at 2500MHz : 3.01dBi

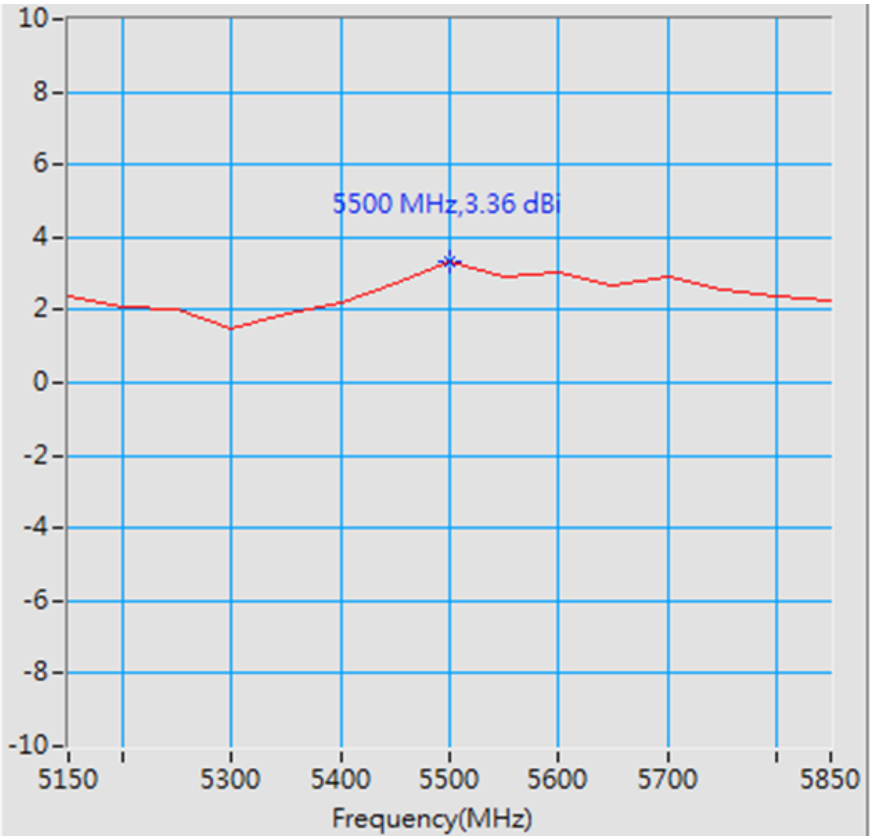
2. Antenna Characteristics

ANT2@5G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5850MHz : 73.25%



Maximum Peak Gain at 5500MHz : 3.36dBi

2. Antenna Characteristics

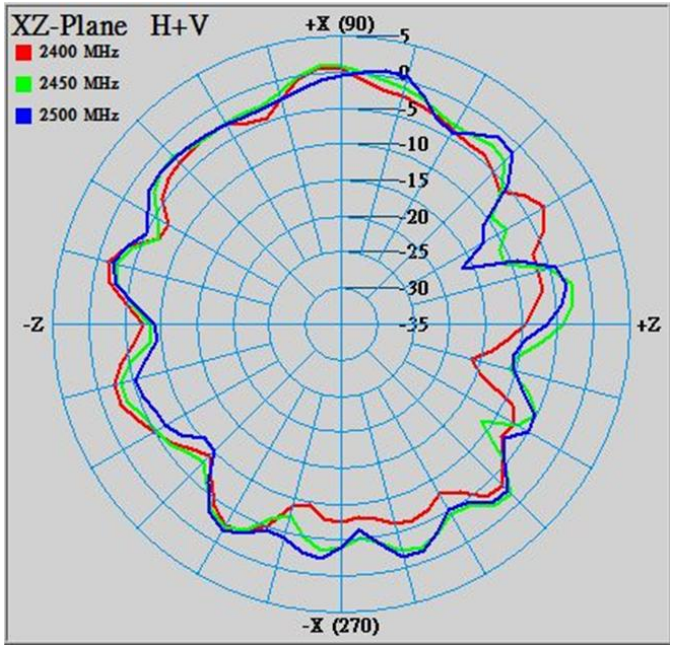
2.2 Antenna Efficiency and Peak Gain

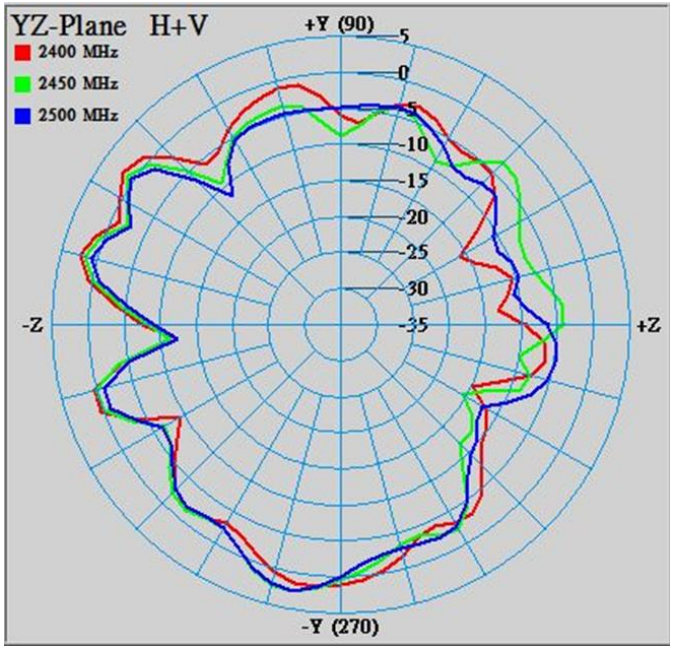
	ANT1		ANT2	
Frequency (GHz)	Efficiency (%)	Peak gain (dBi)	Efficiency (%)	Peak gain (dBi)
2400	80.06	3.53	73.75	2.71
2450	81.57	3.77	78.00	2.63
2500	84.85	3.17	82.24	3.01
5150	72.00	3.13	60.51	2.39
5500	79.26	3.13	72.06	3.36
5850	75.49	2.32	73.25	2.24

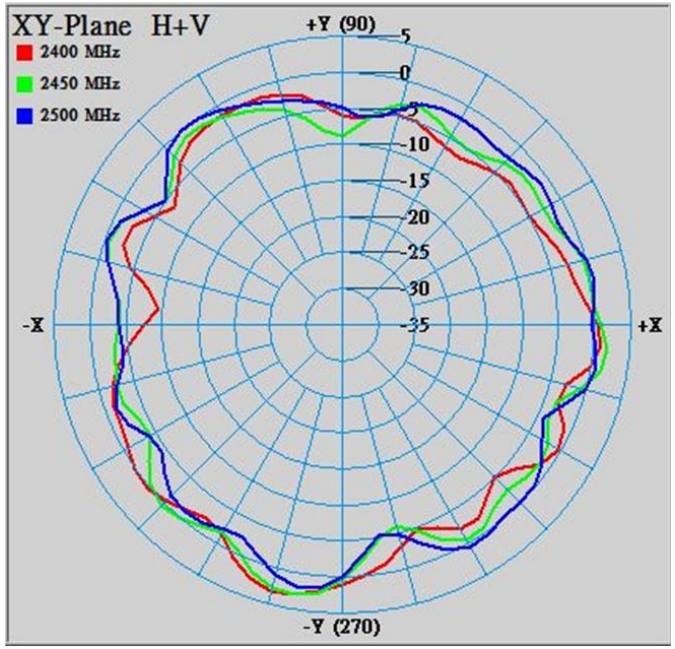
2. Antenna Characteristics

ANT1@2G

2.3 2D Radiation Patterns





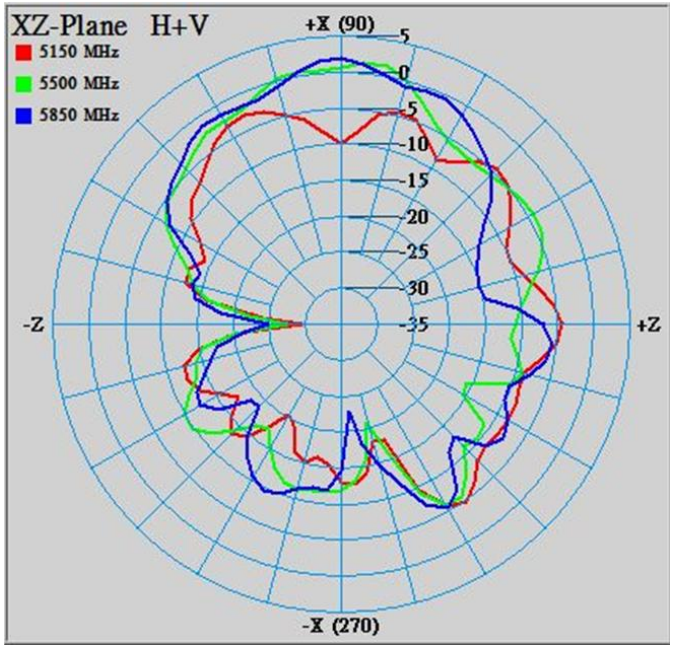


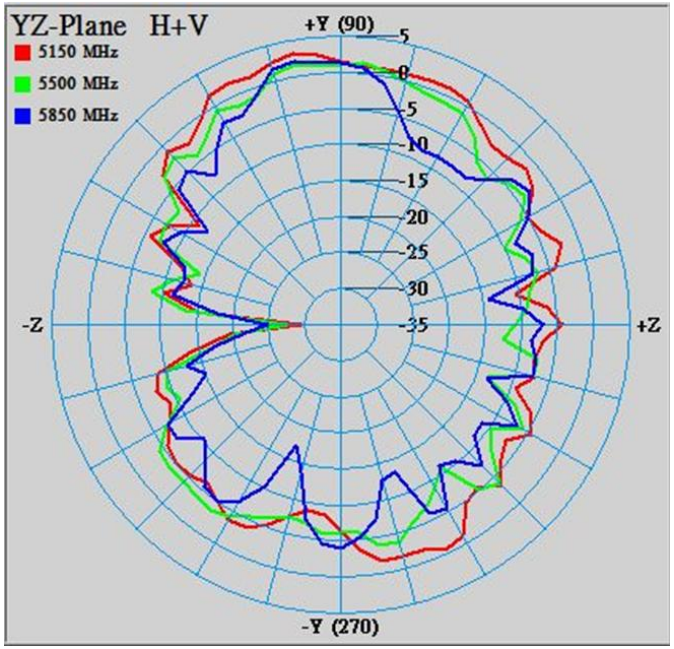
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	0.79	-4.50	2.24	-2.97	3.19	-2.06
2450	1.00	-3.71	2.47	-3.18	3.04	-1.73
2500	0.83	-3.78	2.48	-3.61	1.87	-1.61

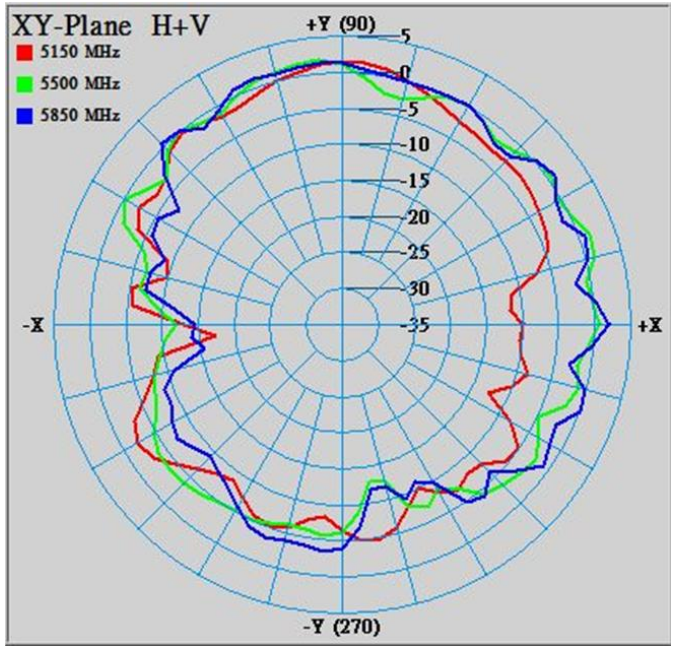
2. Antenna Characteristics

ANT1@5G

2.3 2D Radiation Patterns





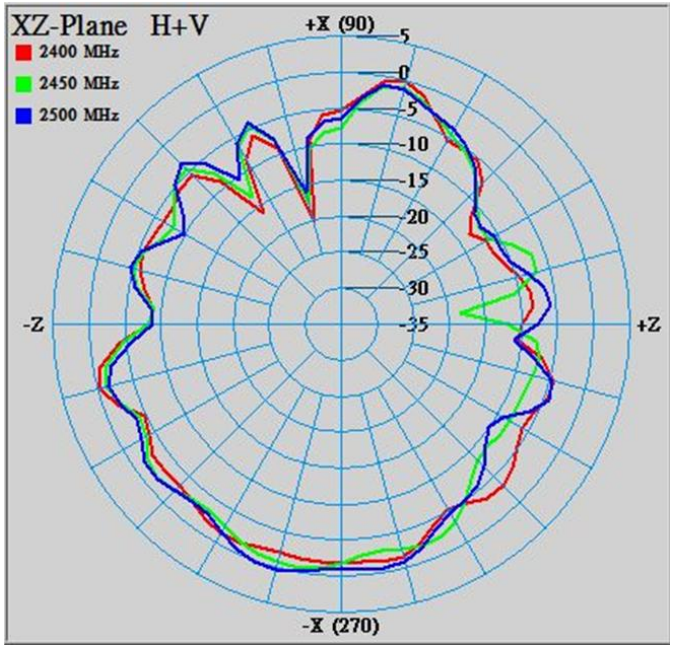


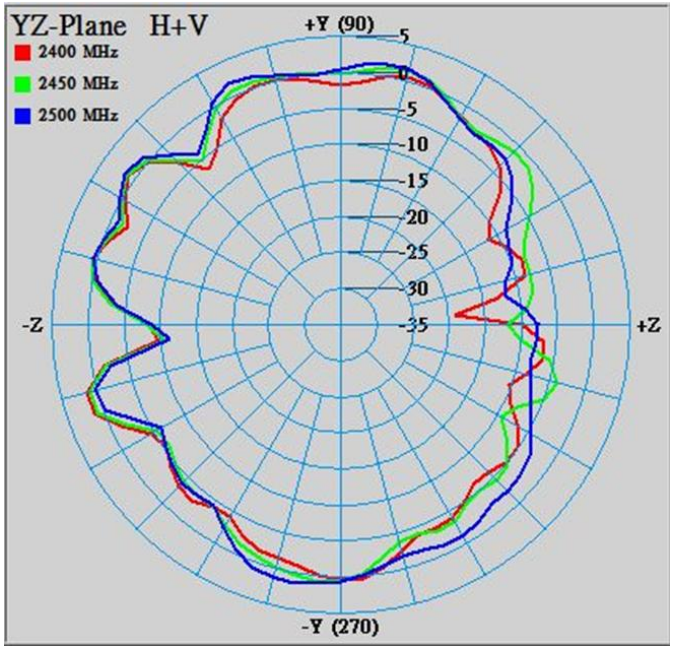
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	-3.03	-8.25	3.13	-2.75	1.42	-3.88
5500	1.47	-5.74	1.62	-4.29	1.79	-2.26
5850	1.91	-5.50	2.06	-5.63	1.91	-2.31

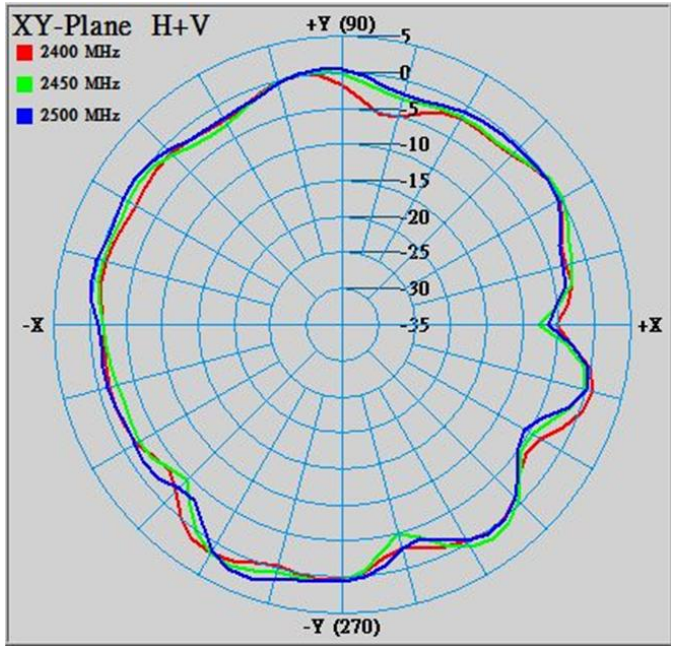
2. Antenna Characteristics

ANT2@2G

2.3 2D Radiation Patterns





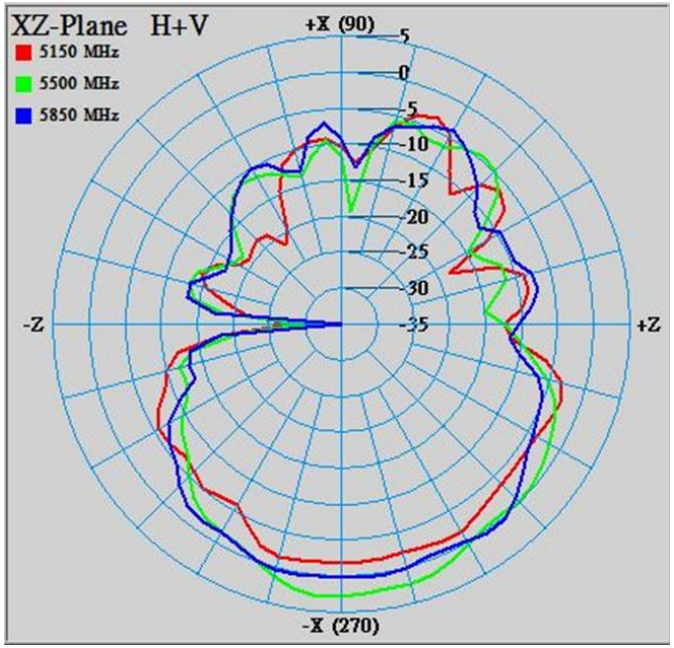


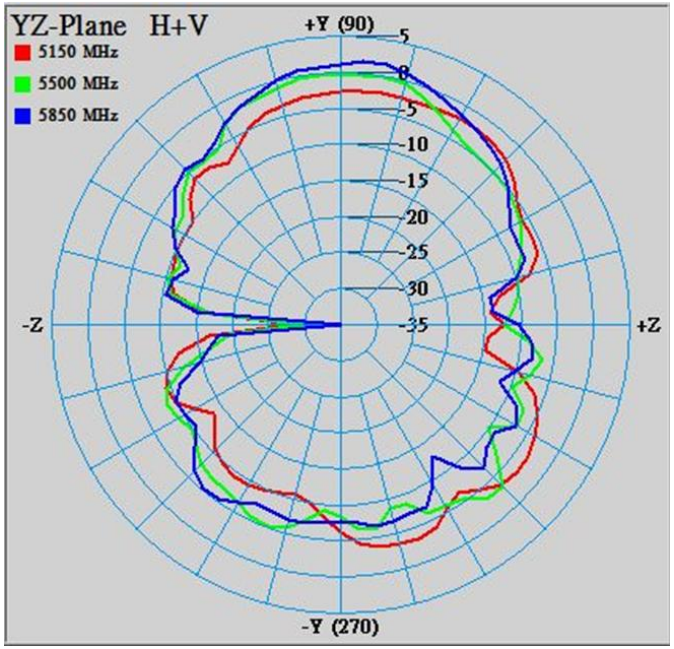
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	-0.11	-4.41	1.62	-2.61	1.65	-1.34
2450	-0.73	-4.66	1.52	-1.95	1.84	-1.27
2500	0.18	-4.16	1.83	-1.65	2.44	-0.93

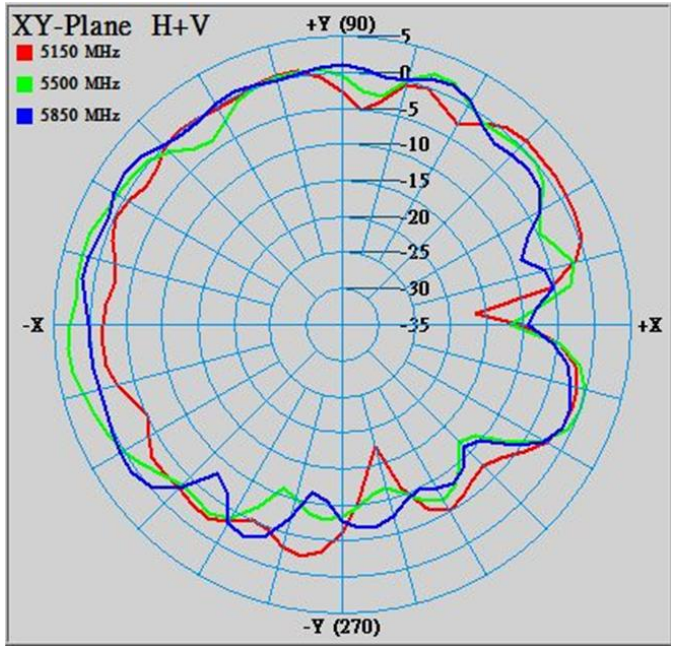
2. Antenna Characteristics

ANT2@5G

2.3 2D Radiation Patterns





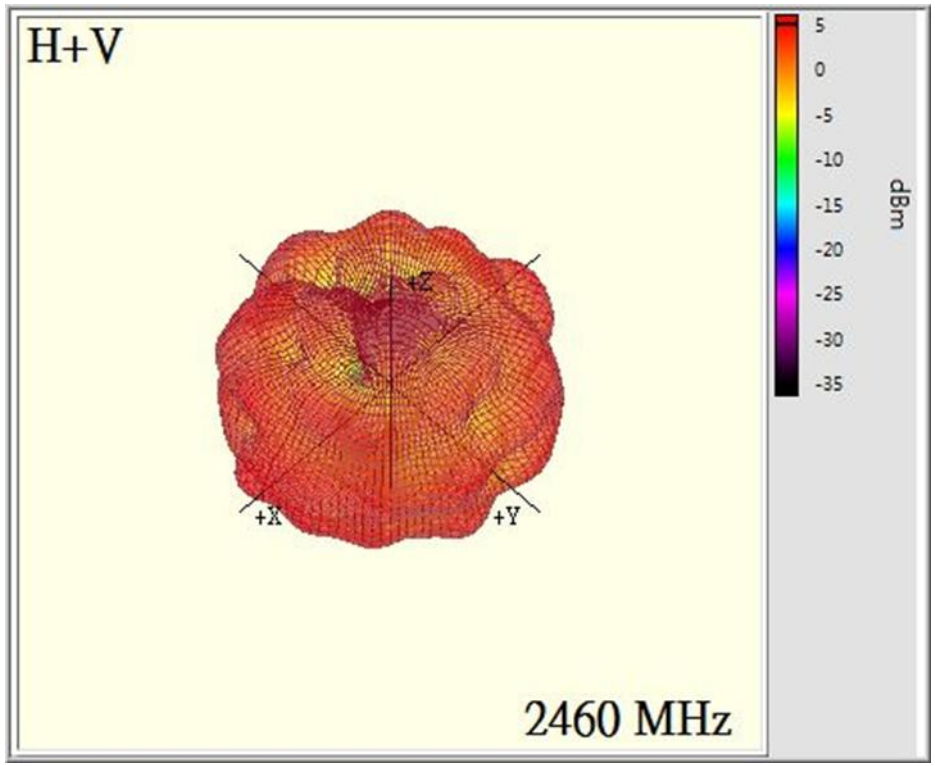


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	-1.55	-6.02	-2.10	-5.91	0.96	-2.11
5500	2.91	-3.70	-0.22	-5.48	3.28	-1.24
5850	0.42	-4.60	1.66	-4.84	1.80	-1.53

2. Antenna Characteristics

2.4 3D Radiation Patterns

Ant1@2G(Peak_Gain)

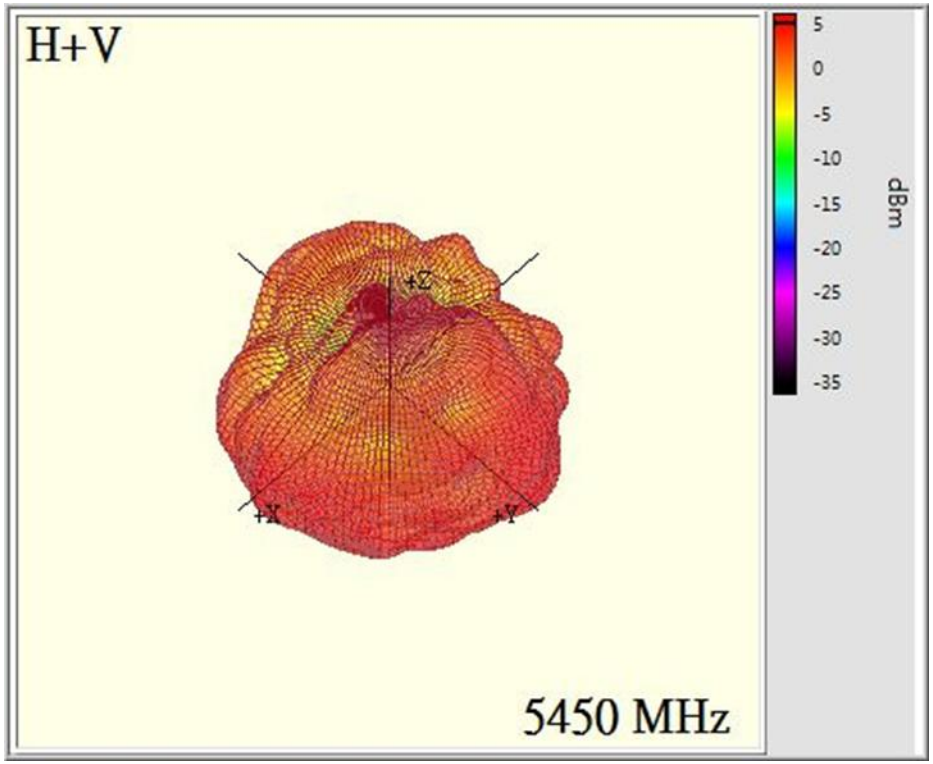


Gain (dBi)	3.91
Peak Phi Angle	262
Peak Theta Angle	98

2. Antenna Characteristics

2.4 3D Radiation Patterns

Ant1@5G(Peak_Gain)

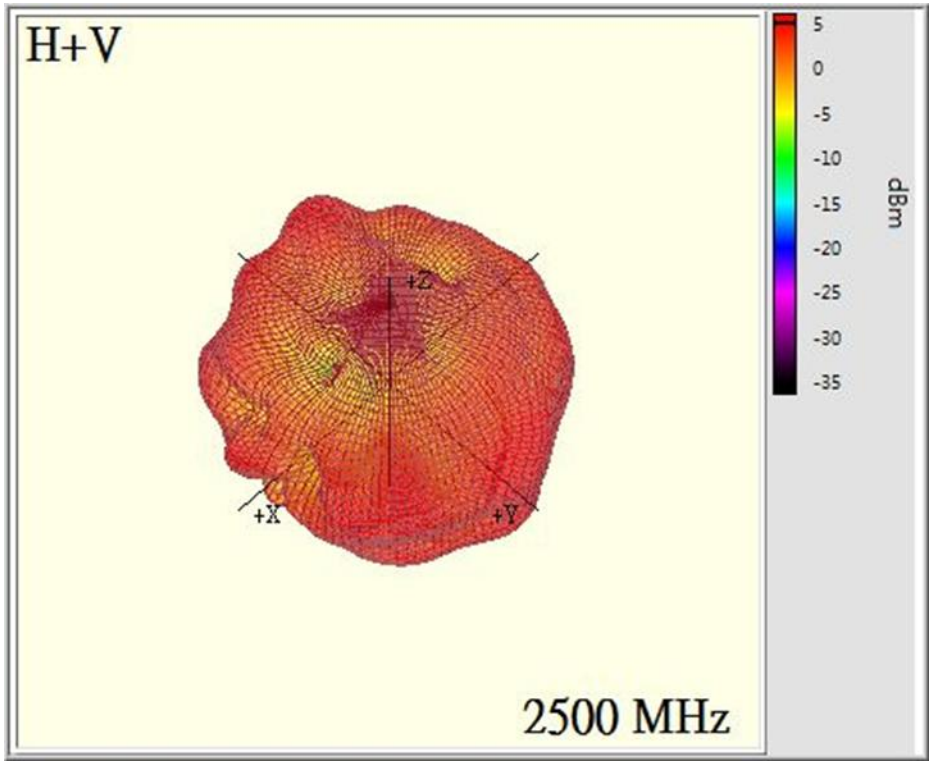


Gain (dBi)	3.17
Peak Phi Angle	102
Peak Theta Angle	100

2. Antenna Characteristics

2.4 3D Radiation Patterns

Ant2@2G(Peak_Gain)

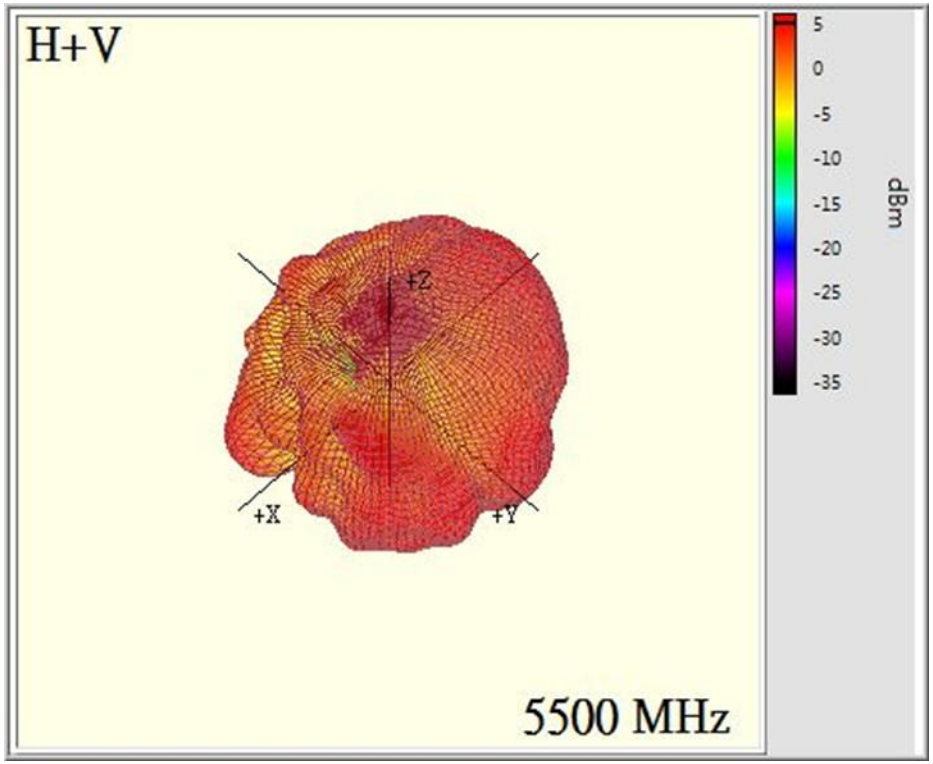


Gain (dBi)	3.01
Peak Phi Angle	252
Peak Theta Angle	62

2. Antenna Characteristics

2.4 3D Radiation Patterns

Ant2@5G(Peak_Gain)



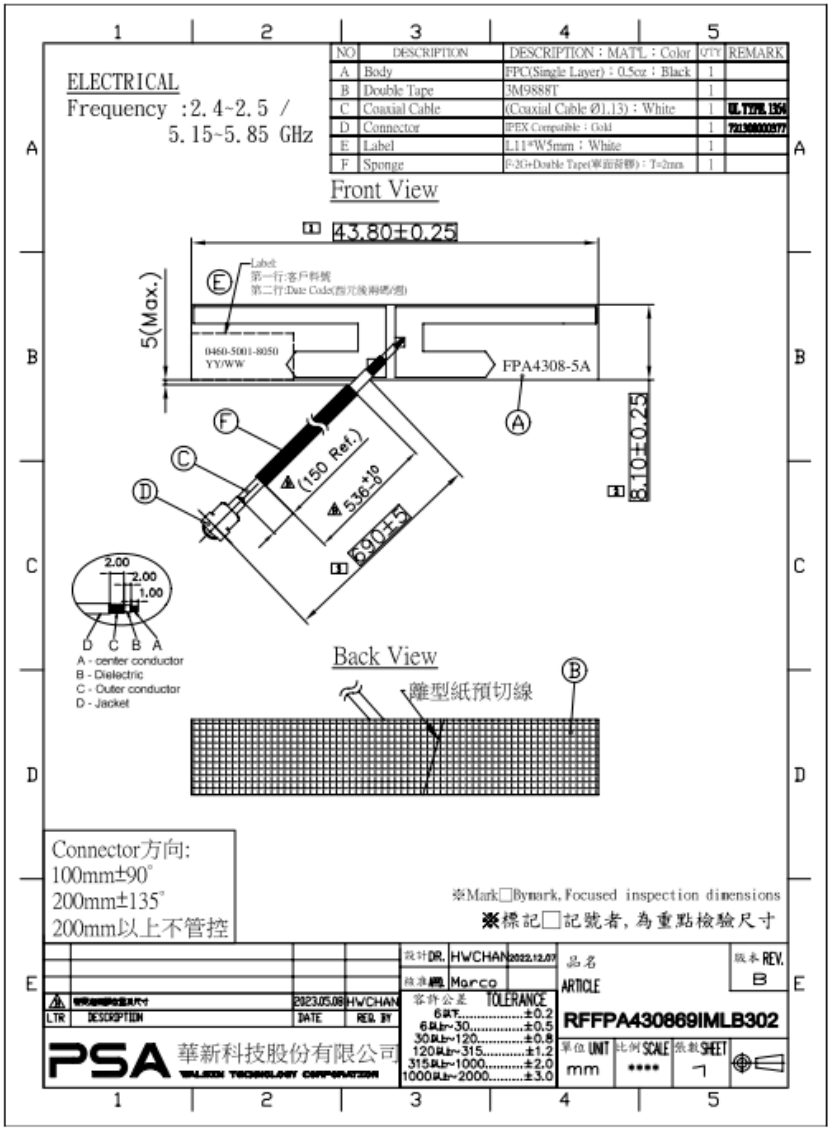
Gain (dBi)	3.36
Peak Phi Angle	186
Peak Theta Angle	92

3. Summary

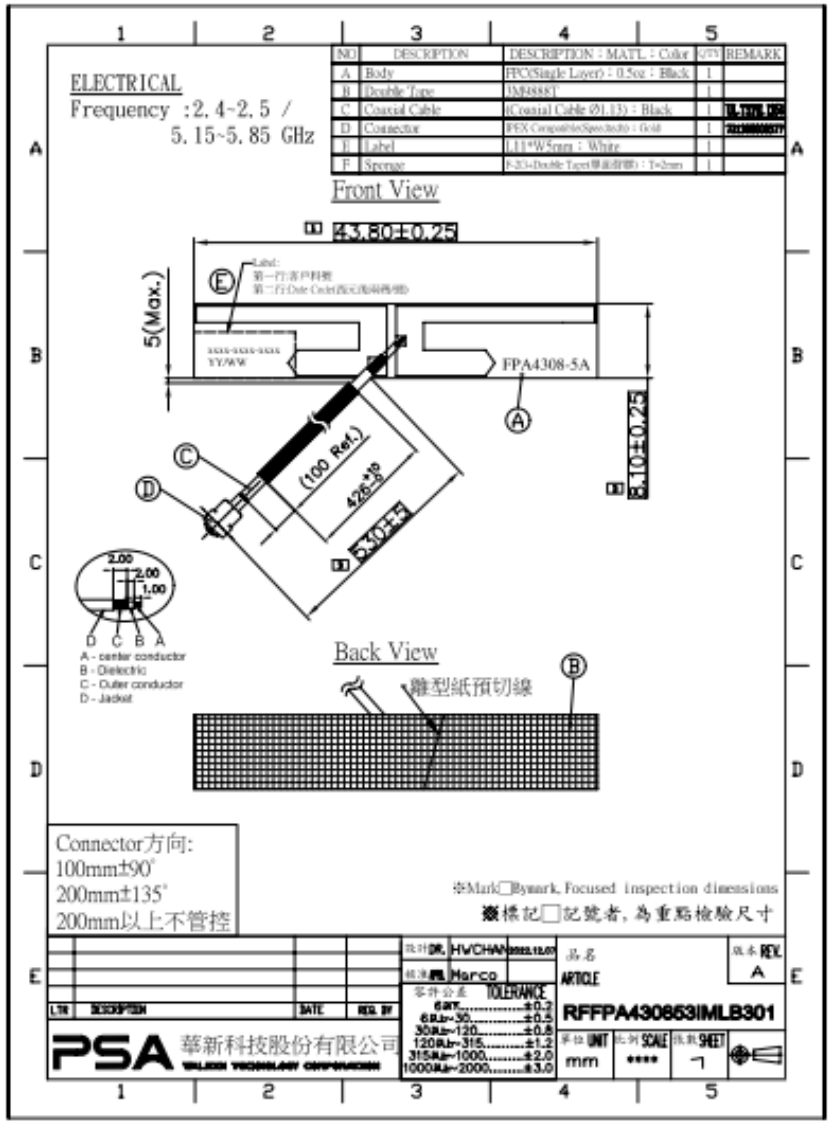
- The performance of antennas is shown in table

	ANT1		ANT2	
	2G	5G	2G	5G
Maximum Efficiency (%)	**84.85**	**81.9**	**82.24**	**73.25**
Maximum Gain (dBi)	**3.91**	**3.17**	**3.01**	**3.36**

4. Antenna Informatiom



4. Antenna Informatiom



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