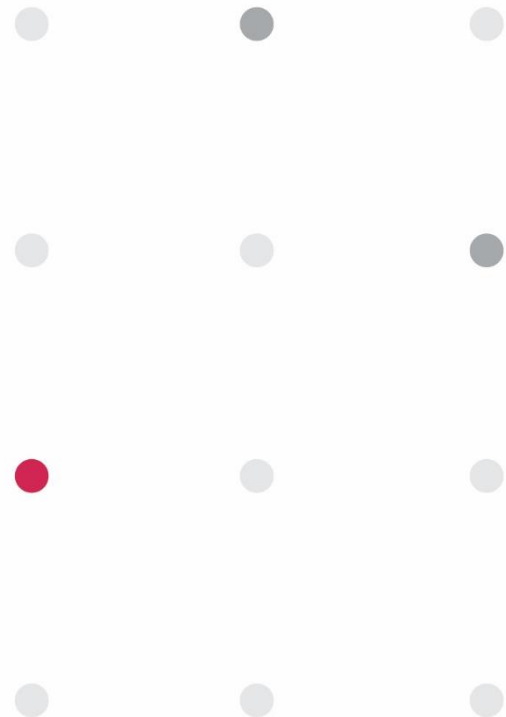


PSA

PASSIVE SYSTEM ALLIANCE
INPAQ TECHNOLOGY CO., LTD.



MitraStar_GPT-2841GX2X2v10

Presented by

Peter.Hou

2025/04/16

Version	Date	Description	Author
V01	2025/02/13	Simulation	Peter
V02	2025/04/16	Mackup機台驗證天線	Peter

OUTLINE

1. Measurement Information

1.1 Experimental Setup

1.2 Antenna Solution Detail

2. Antenna Characteristics

2.1 S-Parameter

2.2 Antenna Efficiency and Peak Gain

2.3 3 views of antenna & 2D Radiation Patterns

2.4 2D Combine Gain

3. Summary

Antenna Part No.

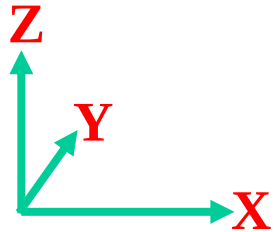
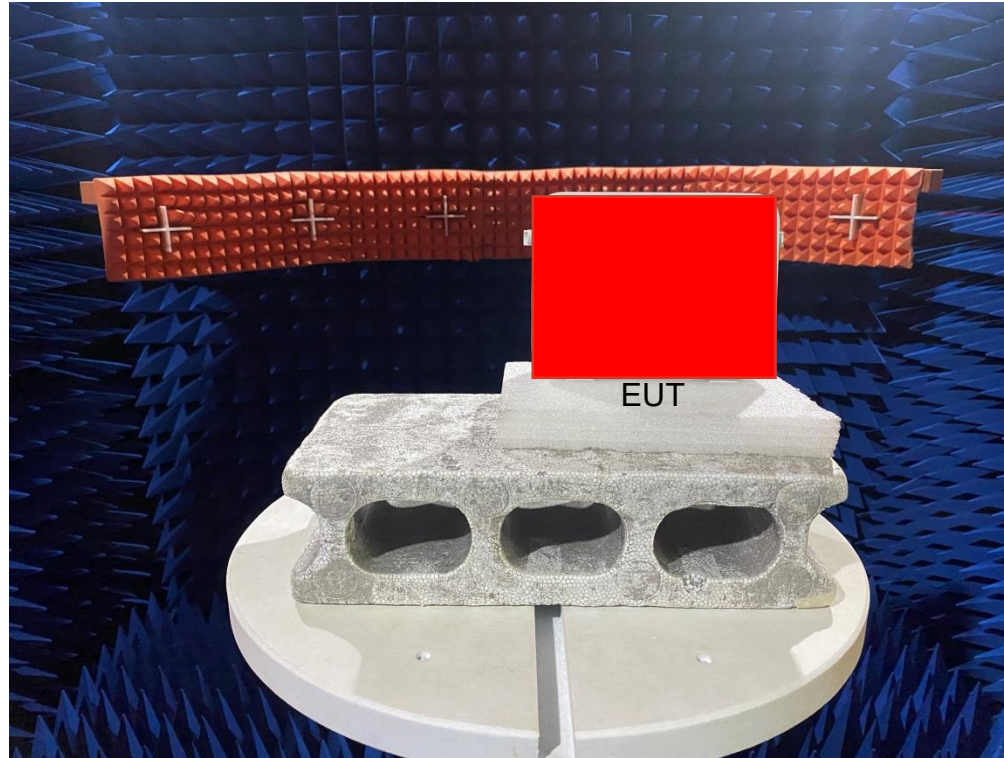
Antenna Vendor : INPAQ TECHNOLOGY CO., LTD.

Address:NO.11, KE-YI ST., CHUNAN TOWN, MIAOLI COUNTY 350402,
TAIWAN, R.O.C.

MitraStar P/N	Antenna P/N
56-001-000714Z	RFPCA120909IMAB401
56-001-000715Z	RFPCA470626IMAB401
56-001-000716Z	RFPCA241123IM5B402
56-001-000717Z	RFPCA180909IM5B404

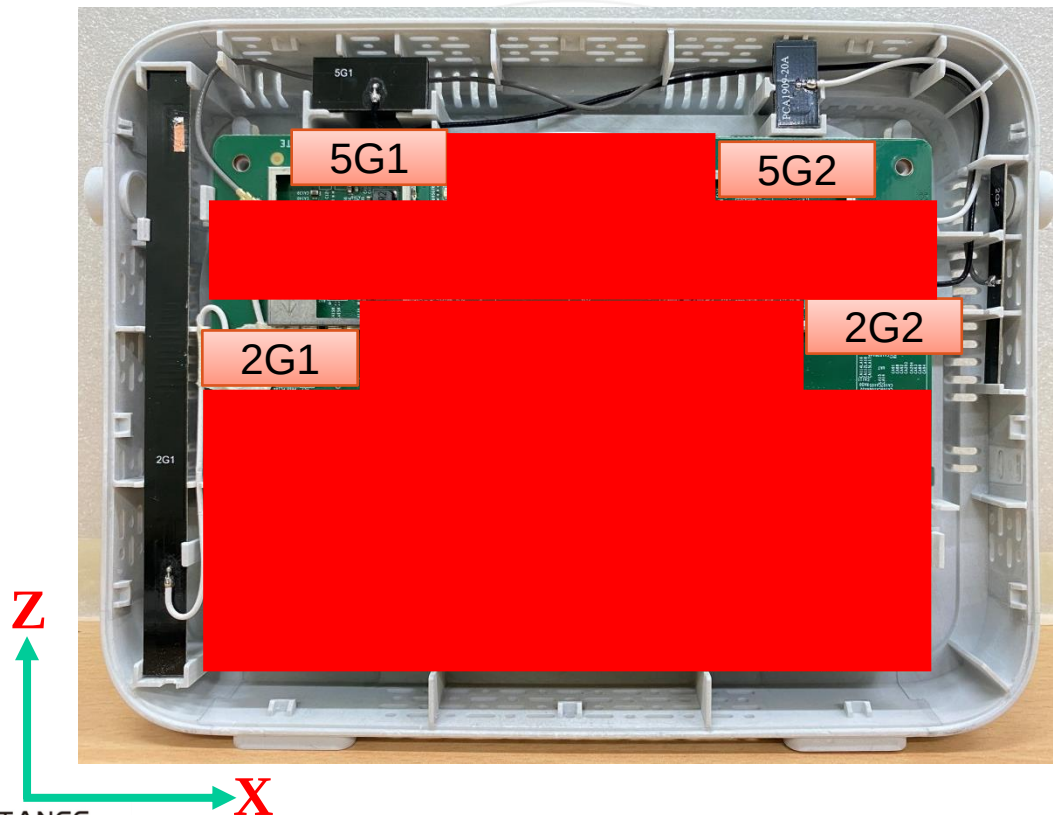
1. Measurement Information

1.1 Experimental Setup



1. Measurement Information

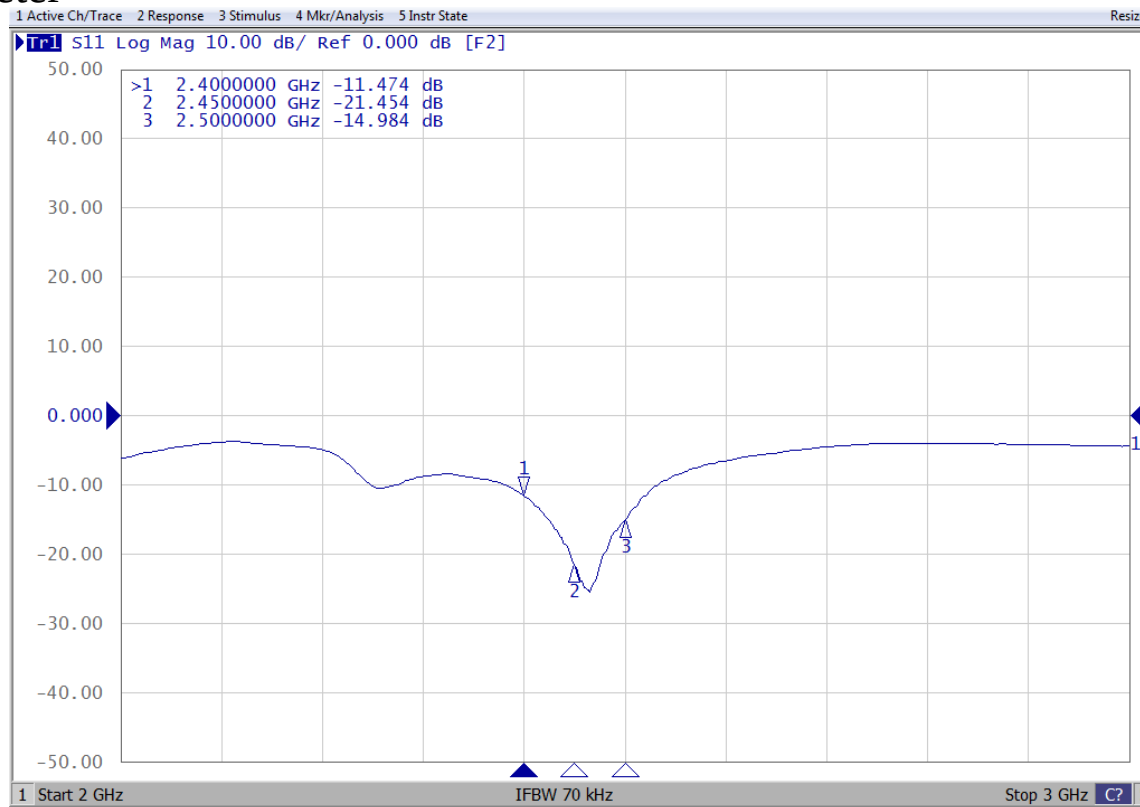
1.2 Antenna Solution Detail



2. Antenna Characteristics

2G1

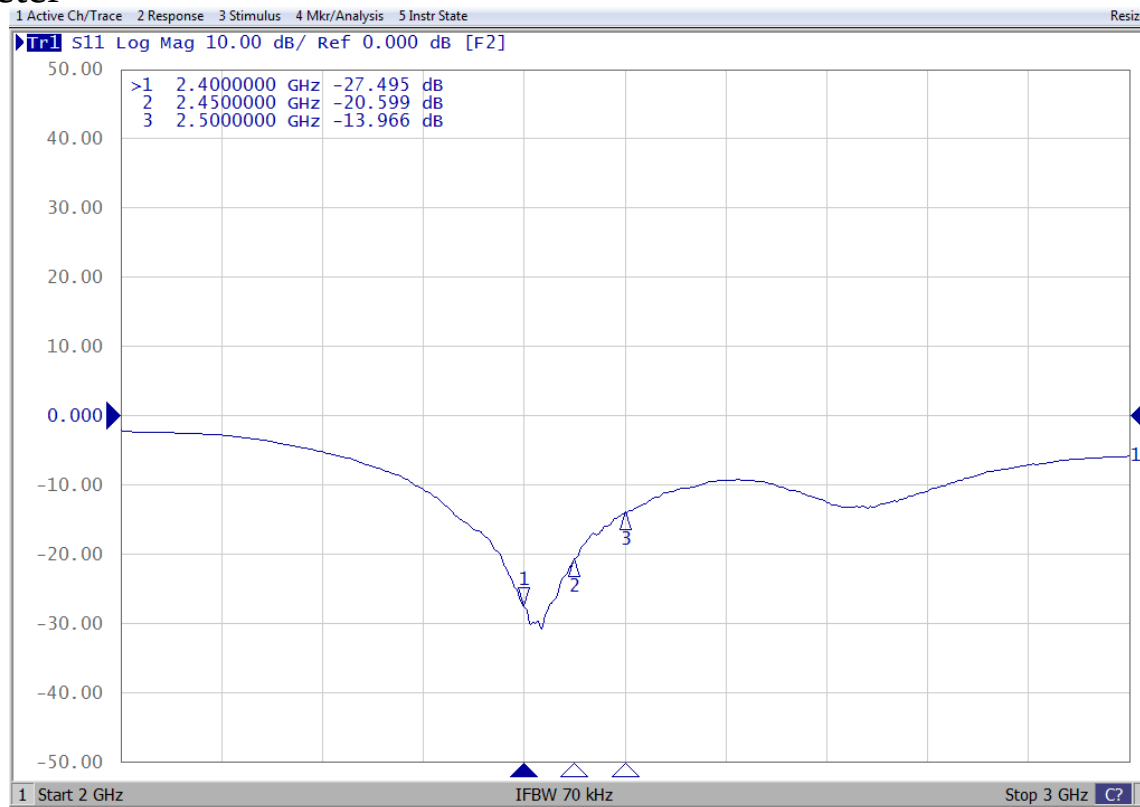
2.1 S-Parameter



2. Antenna Characteristics

2G2

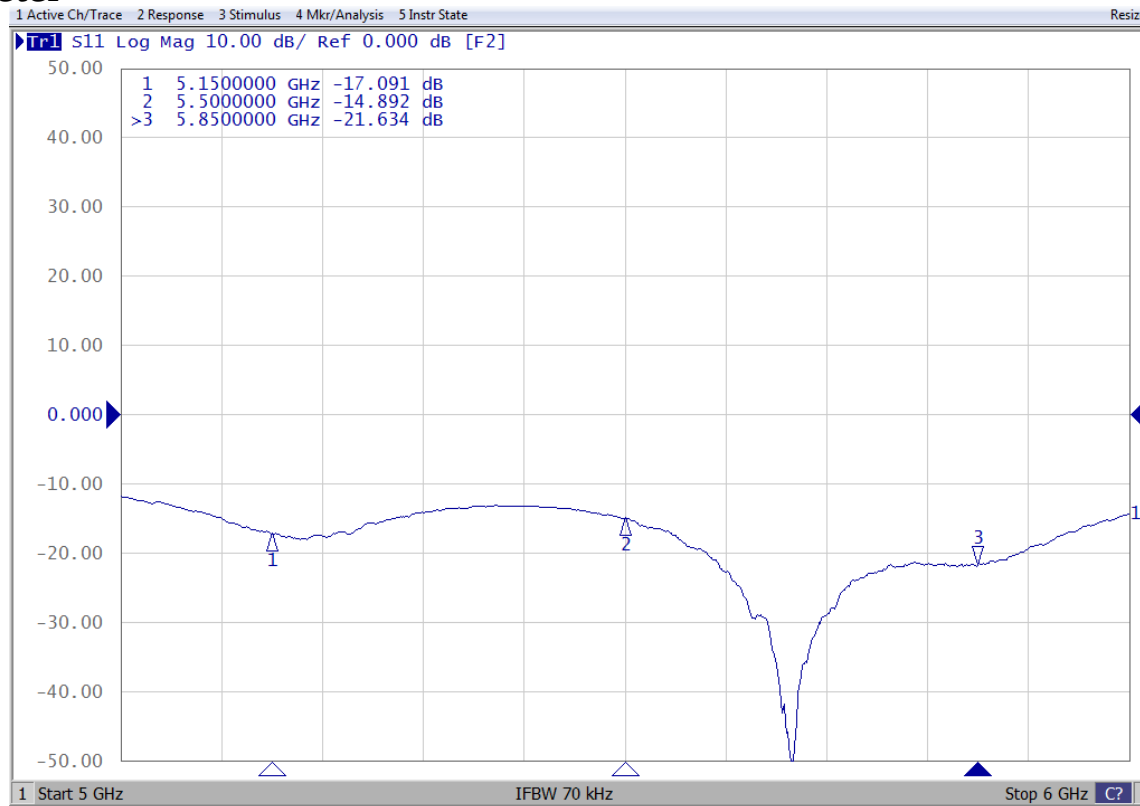
2.1 S-Parameter



2. Antenna Characteristics

5G1

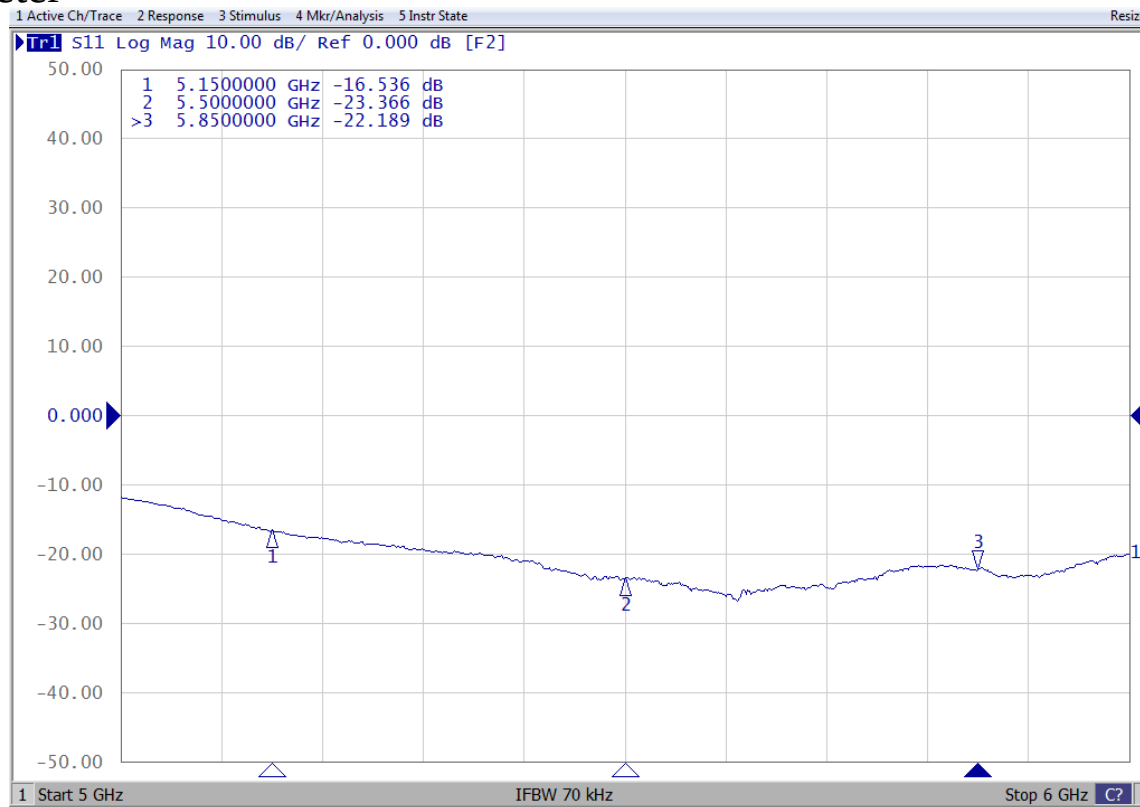
2.1 S-Parameter



2. Antenna Characteristics

5G2

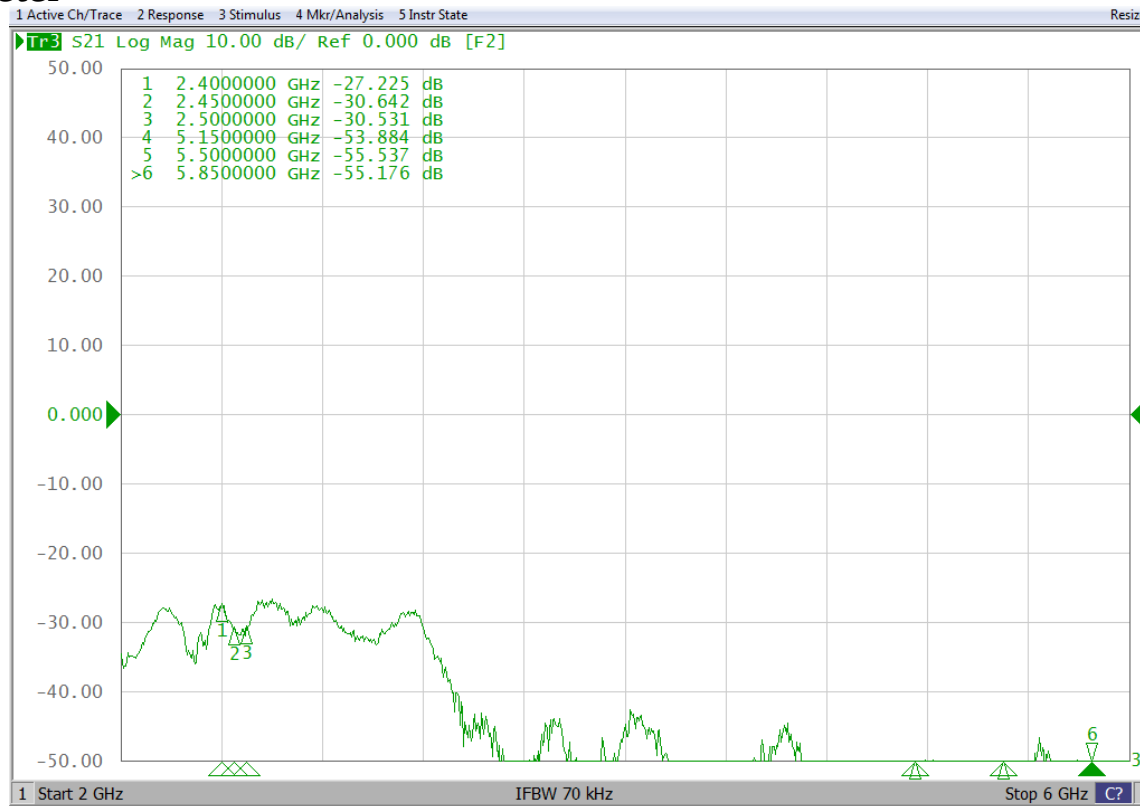
2.1 S-Parameter



2. Antenna Characteristics

2G1 to 2G2

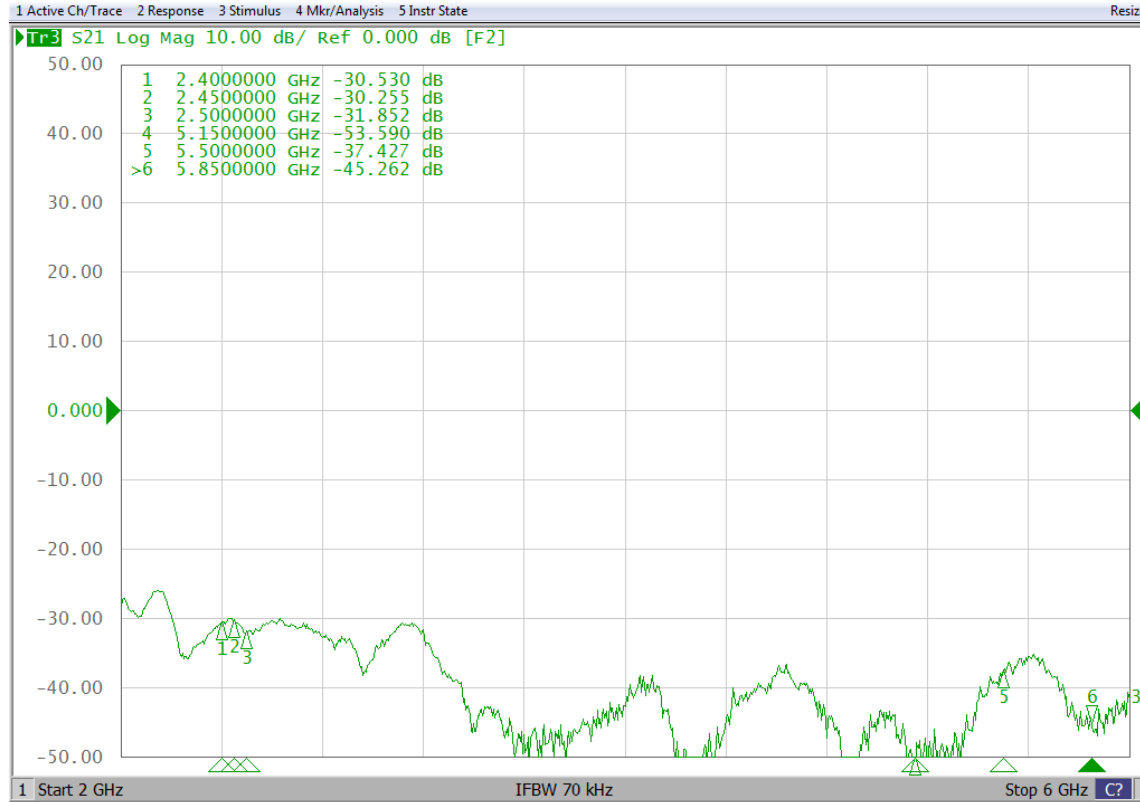
2.1 S-Parameter



2. Antenna Characteristics

2G1 to 5G1

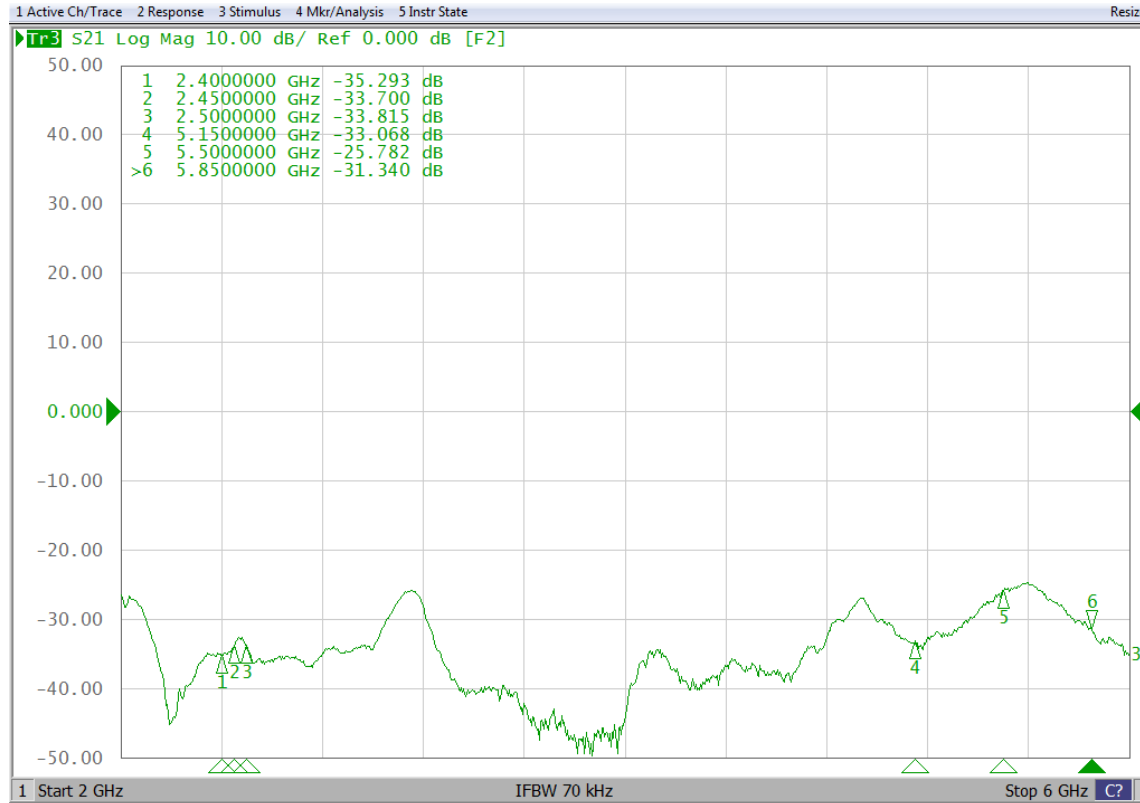
2.1 S-Parameter



2. Antenna Characteristics

2G1 to 5G2

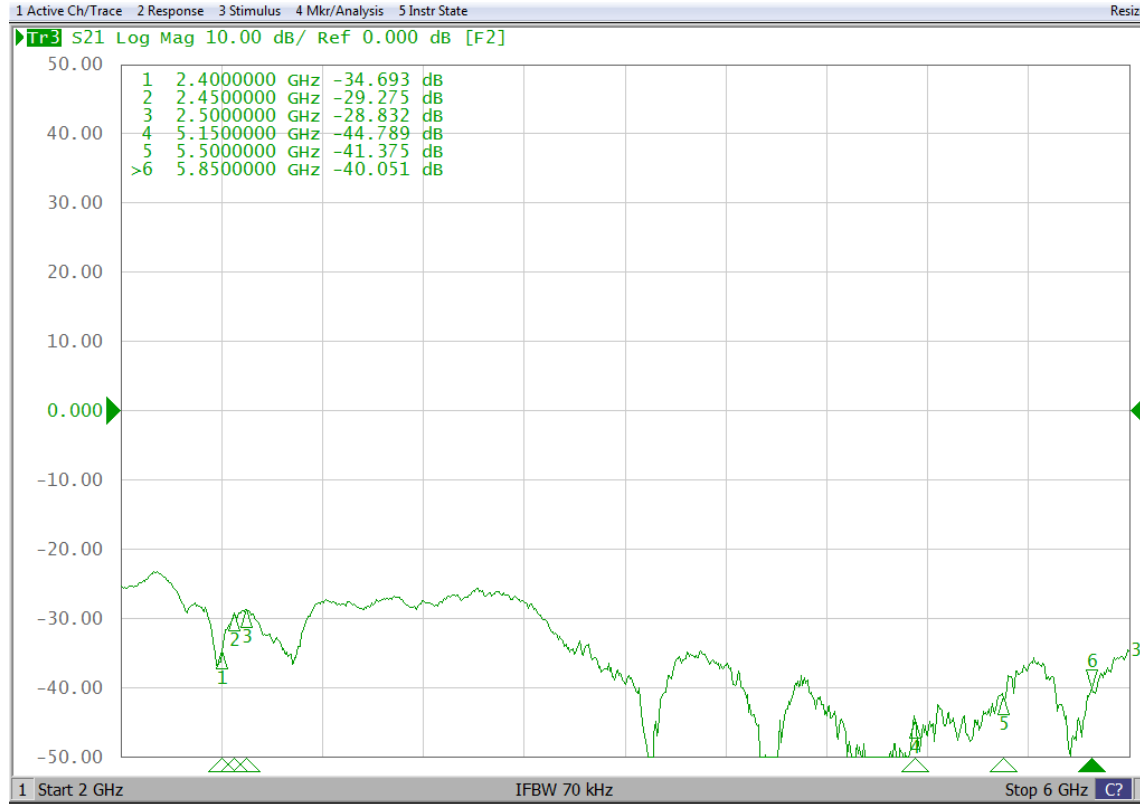
2.1 S-Parameter



2. Antenna Characteristics

2G2 to 5G1

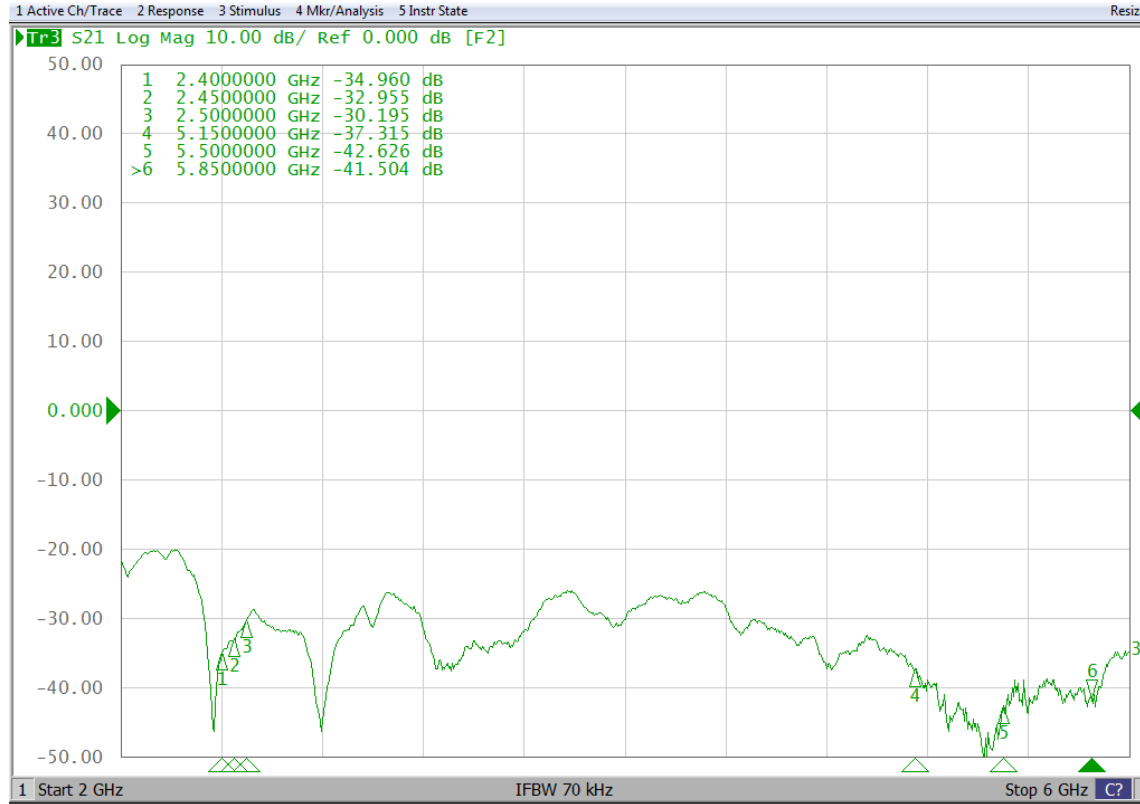
2.1 S-Parameter



2. Antenna Characteristics

2G2 to 5G2

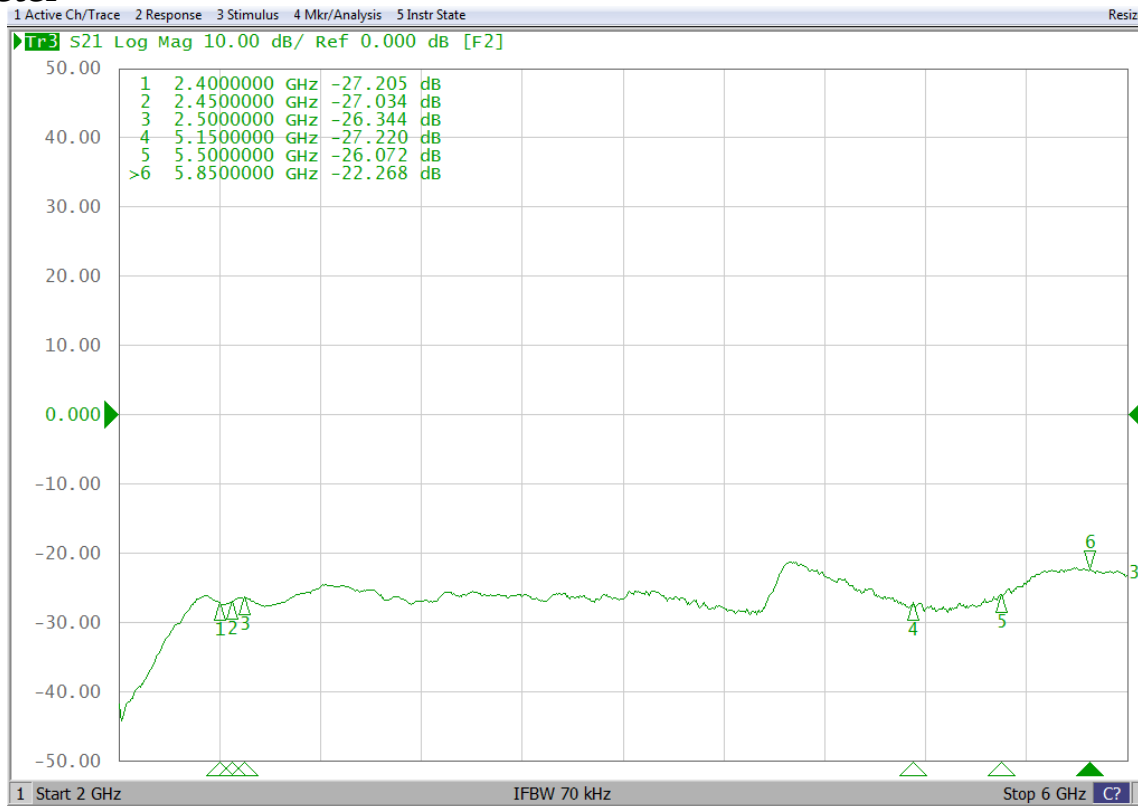
2.1 S-Parameter



2. Antenna Characteristics

5G1 to 5G2

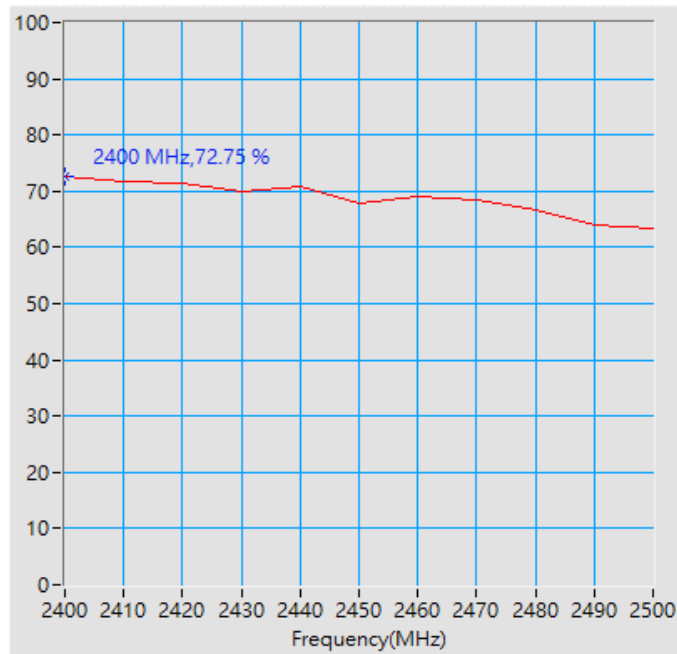
2.1 S-Parameter



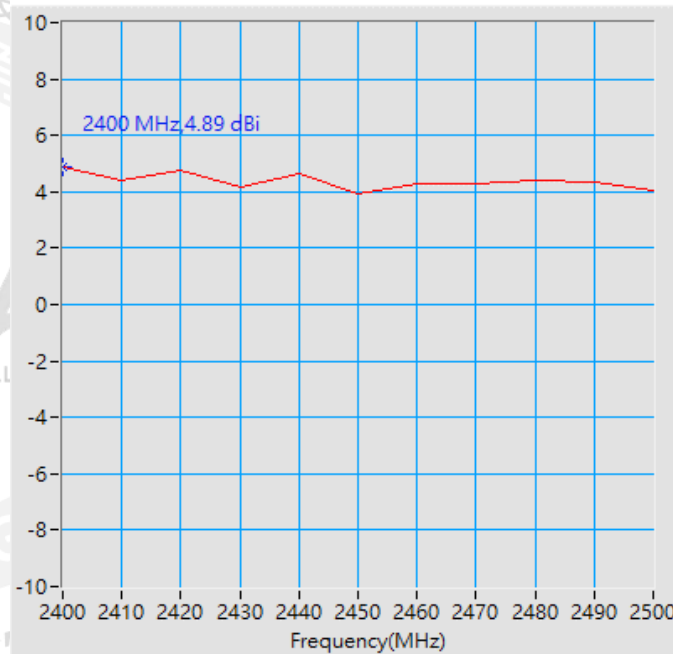
2. Antenna Characteristics

2G1

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2400 MHz : 72.75 %

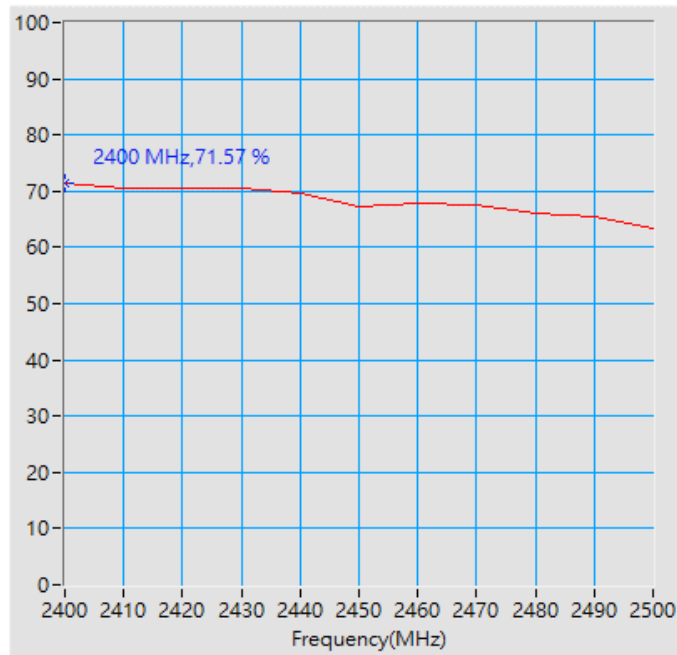


Maximum Peak Gain at 2400 MHz : 4.89 dBi

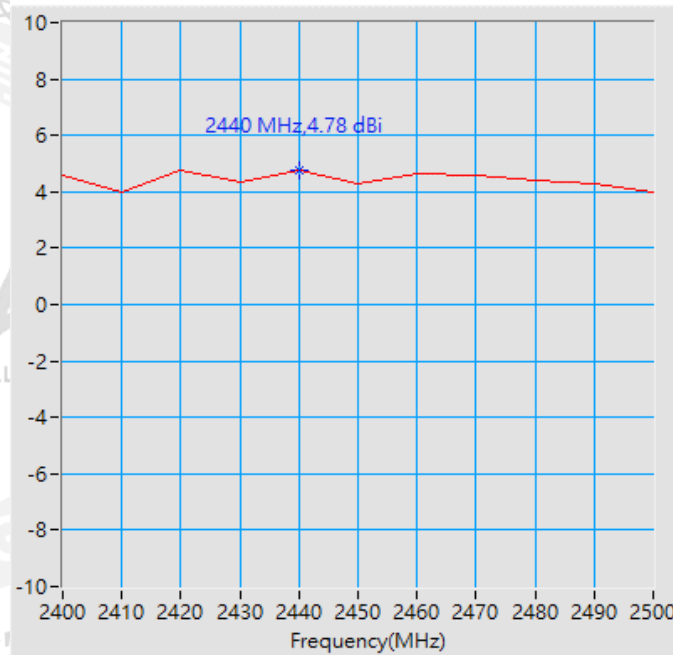
2. Antenna Characteristics

2G2

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2400 MHz : 71.57 %

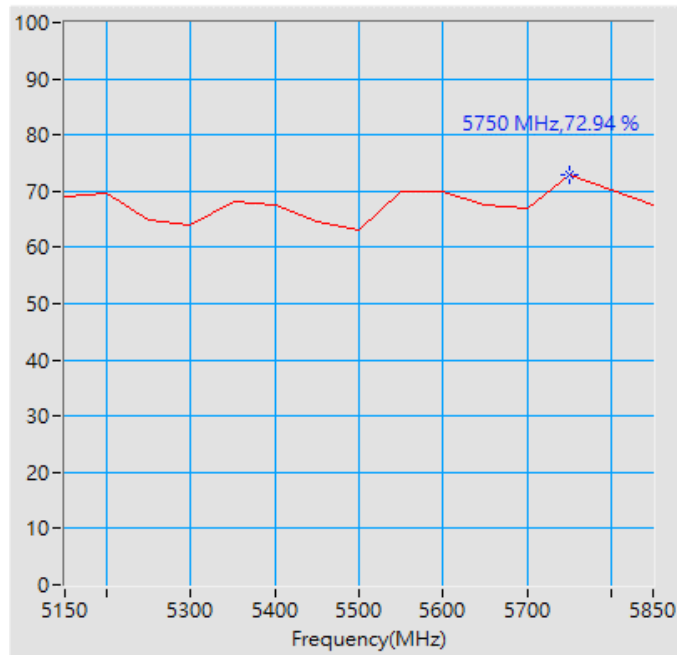


Maximum Peak Gain at 2440 MHz : 4.78 dBi

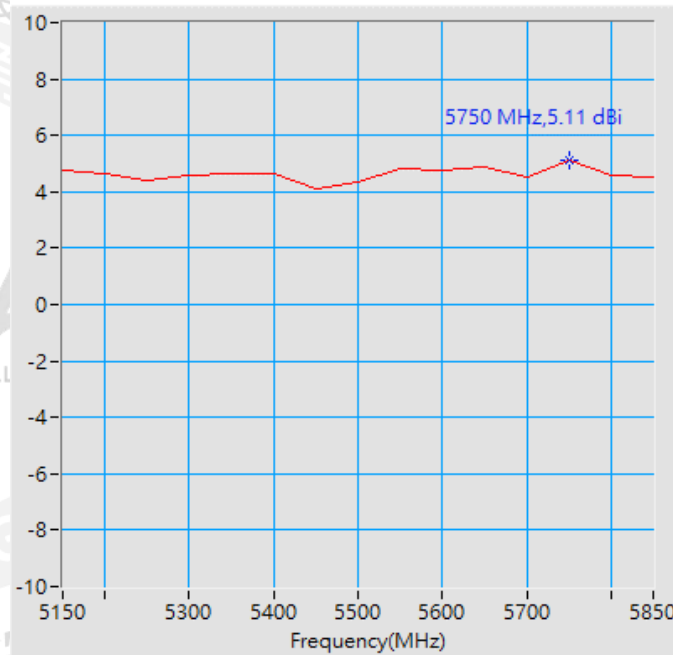
2. Antenna Characteristics

5G1

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5750 MHz : 72.94 %

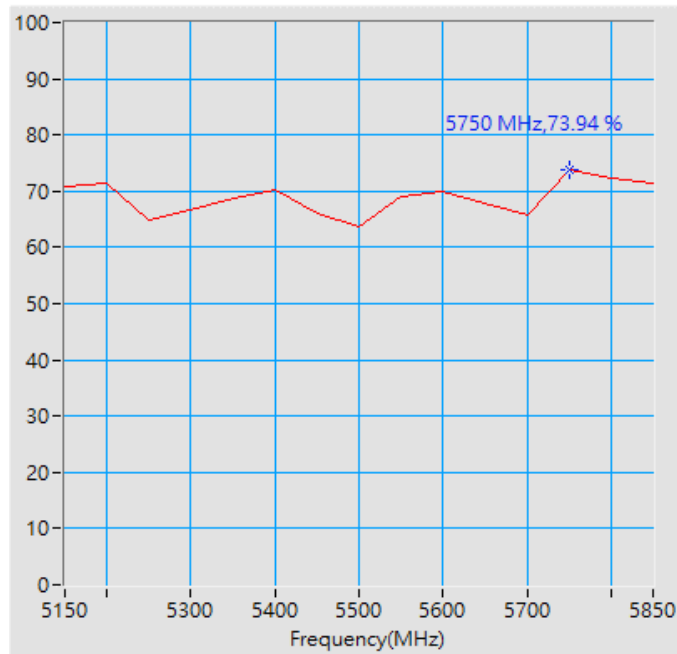


Maximum Peak Gain at 5750 MHz : 5.11 dBi

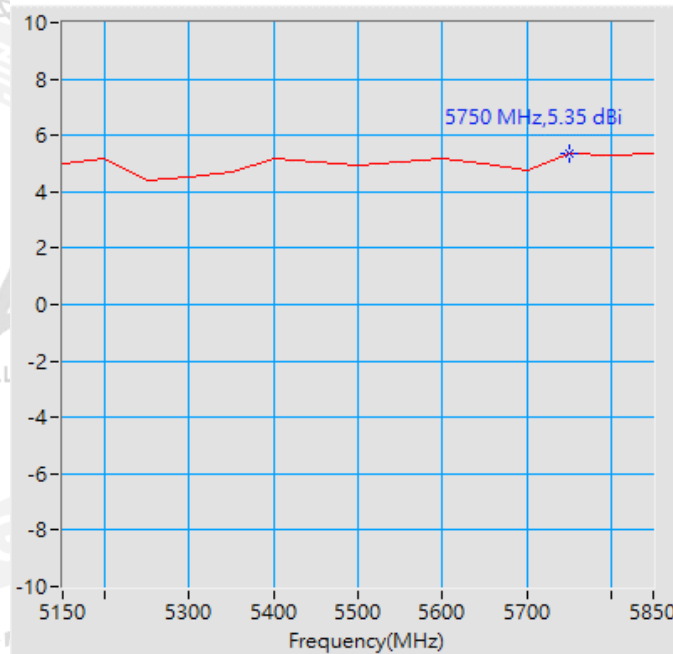
2. Antenna Characteristics

5G2

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5750 MHz : 73.94 %



Maximum Peak Gain at 5750 MHz : 5.35 dBi

2. Antenna Characteristics

2.2 Antenna Efficiency and Peak Gain

	2G1	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	72.75 (Max.)	4.89 (Max.)
2450	68.00	3.92
2500	63.30	4.05

2. Antenna Characteristics

2.2 Antenna Efficiency and Peak Gain

	2G2	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	71.57 (Max.)	4.58
2440	69.52	4.78 (Max.)
2450	67.26	4.31
2500	63.44	3.97

2. Antenna Characteristics

2.2 Antenna Efficiency and Peak Gain

	5G1	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
5150	69.18	4.77
5500	63.02	4.36
5750	72.94 (Max.)	5.11 (Max.)
5850	67.64	4.55

	5G1	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
5300	63.99	4.61

2. Antenna Characteristics

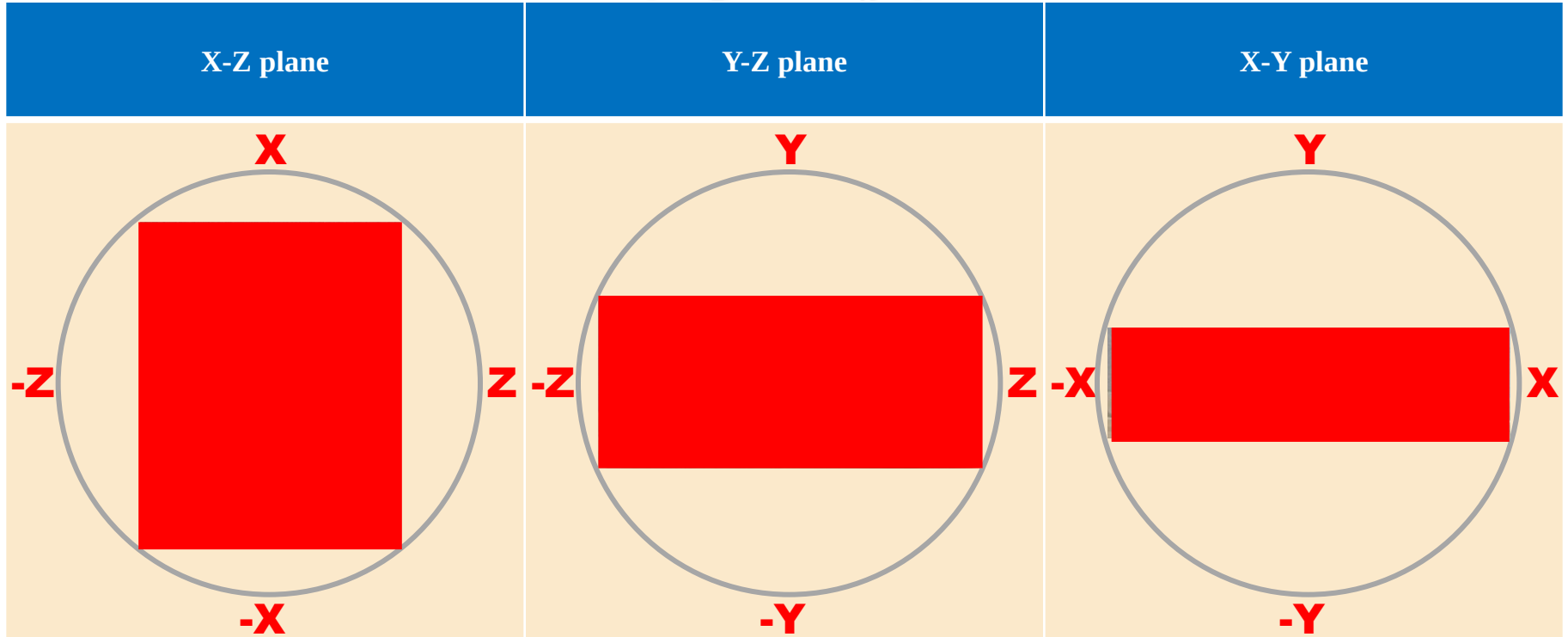
2.2 Antenna Efficiency and Peak Gain

	5G2	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
5150	70.83	5.03
5500	63.61	4.92
5750	73.94 (Max.)	5.35 (Max.)
5850	71.34	5.33

	5G2	
Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
5300	66.71	4.54

2. Antenna Characteristics

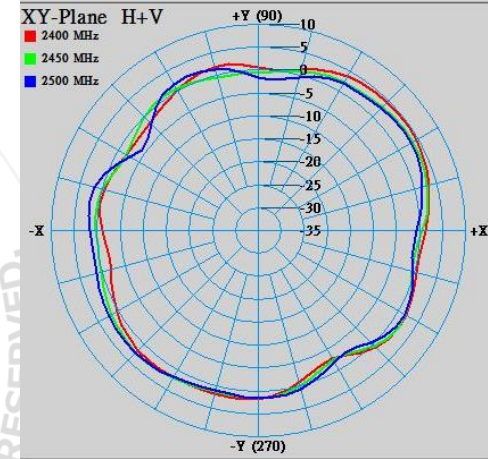
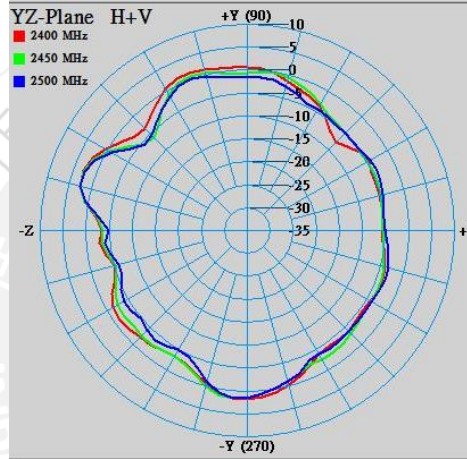
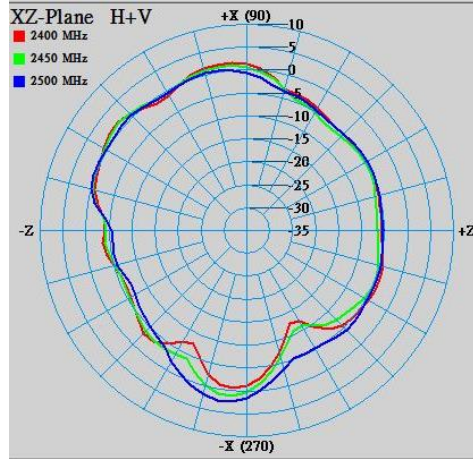
2.3 3 views of antenna



2. Antenna Characteristics

2G1

2.3 2D Radiation Patterns

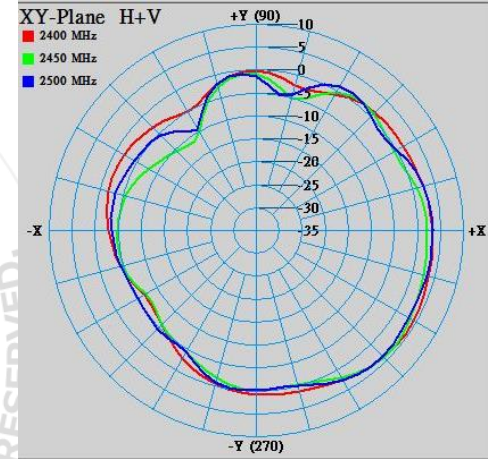
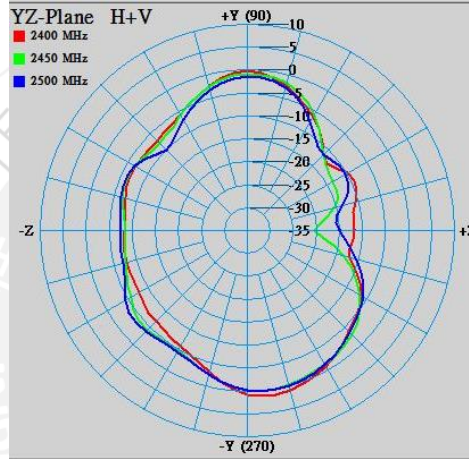
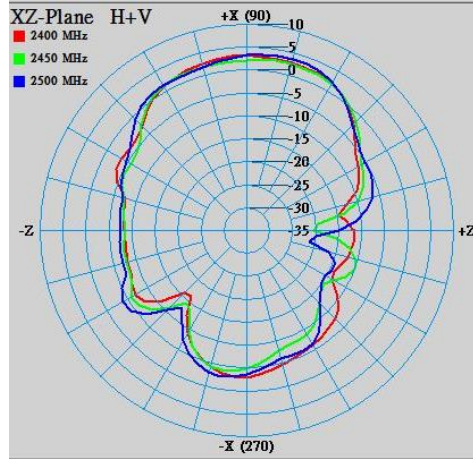


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	1.75	-2.60	2.96	-1.50	4.74	1.42
2450	1.43	-2.50	3.00	-1.80	3.80	1.17
2500	2.63	-2.18	2.85	-2.34	3.39	1.13

2. Antenna Characteristics

2G2

2.3 2D Radiation Patterns

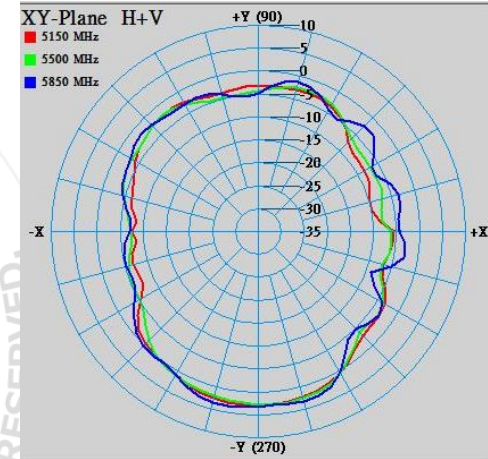
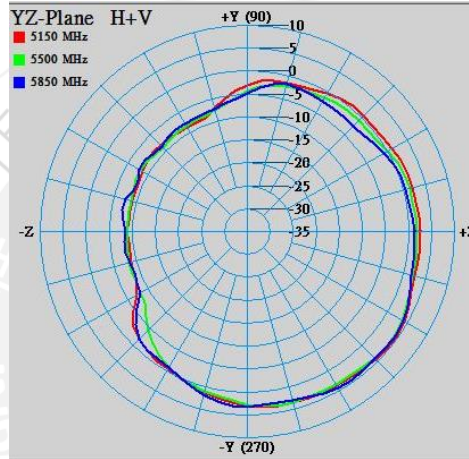
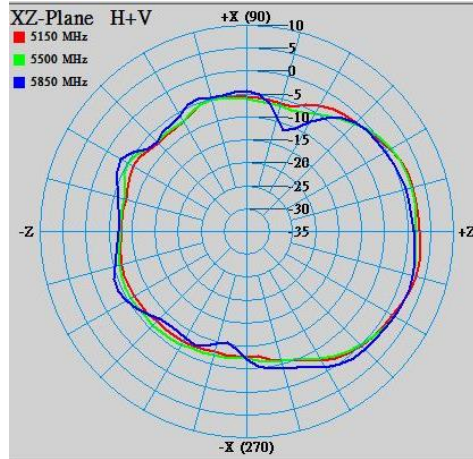


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	3.23	-2.58	1.32	-4.30	4.50	0.50
2450	2.58	-3.04	0.19	-4.45	4.30	-0.64
2500	3.76	-2.27	0.27	-4.54	3.88	-0.10

2. Antenna Characteristics

5G1

2.3 2D Radiation Patterns

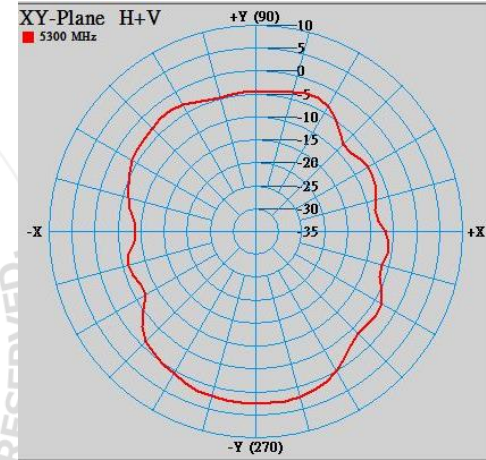
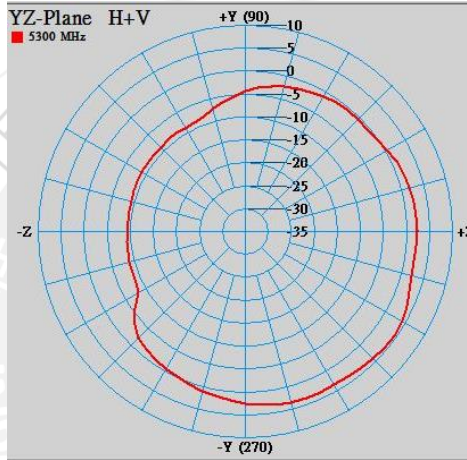
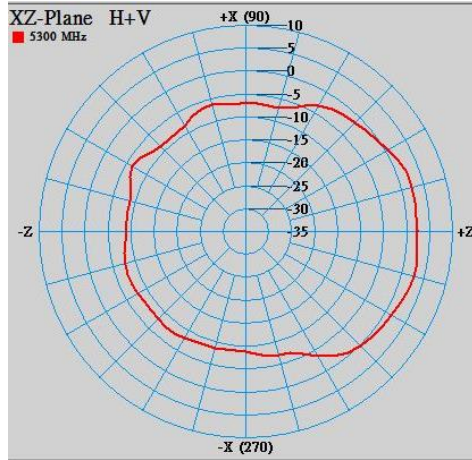


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5150	3.24	-2.23	4.72	0.38	3.00	-2.05
5500	2.53	-2.40	4.29	-0.16	2.83	-2.10
5850	2.53	-2.39	4.49	-0.08	3.72	-1.39

2. Antenna Characteristics

5G1

2.3 2D Radiation Patterns

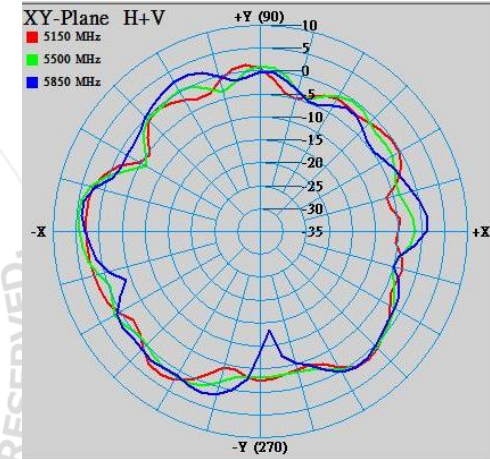
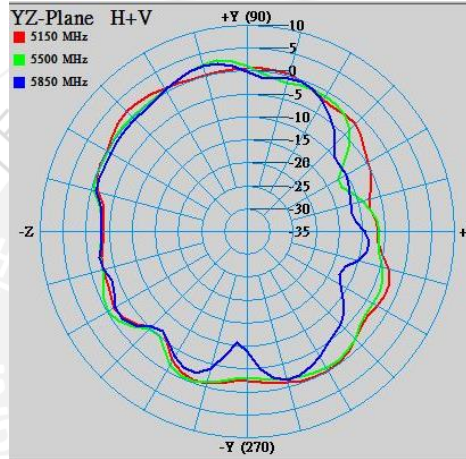
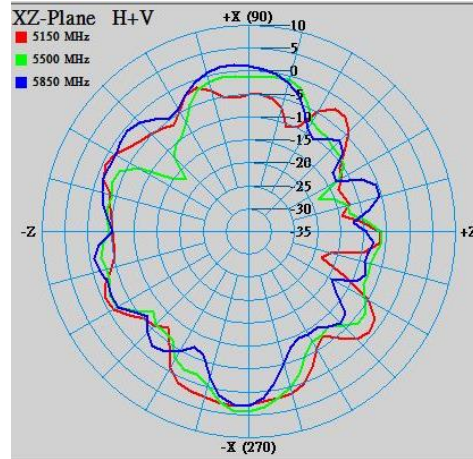


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5300	2.98	-2.58	4.59	0.06	2.60	-2.42

2. Antenna Characteristics

5G2

2.3 2D Radiation Patterns

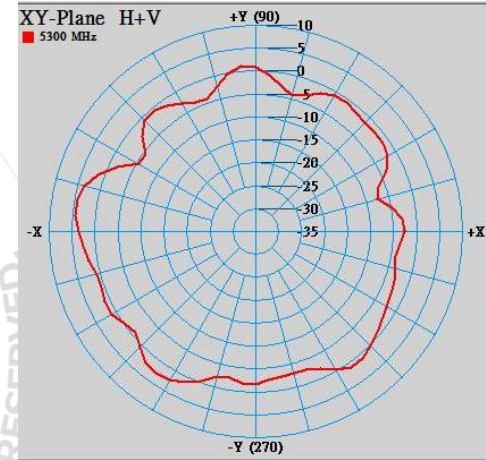
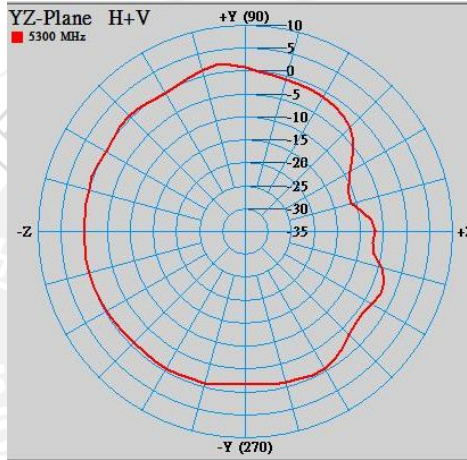
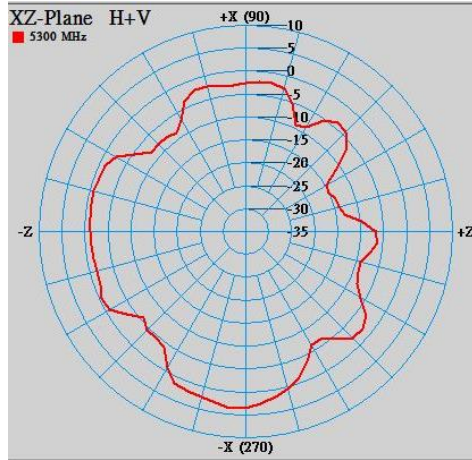


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5150	3.11	-2.72	2.04	-1.39	3.08	-0.55
5500	4.49	-3.12	2.89	-1.50	4.79	-0.27
5850	3.16	-2.93	2.44	-2.78	4.14	-0.18

2. Antenna Characteristics

5G2

2.3 2D Radiation Patterns

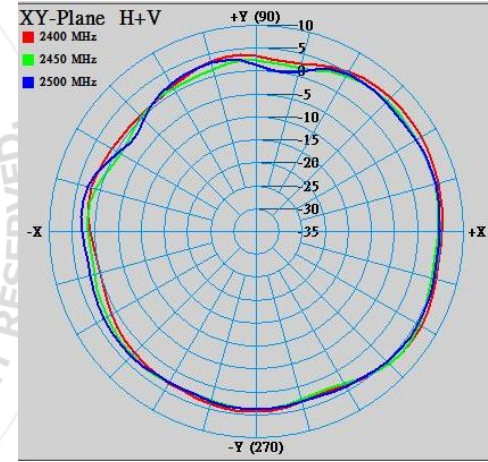
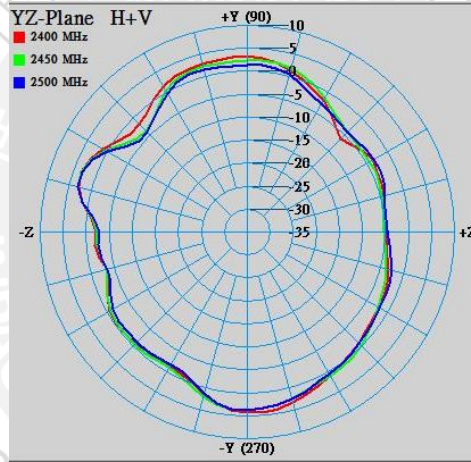
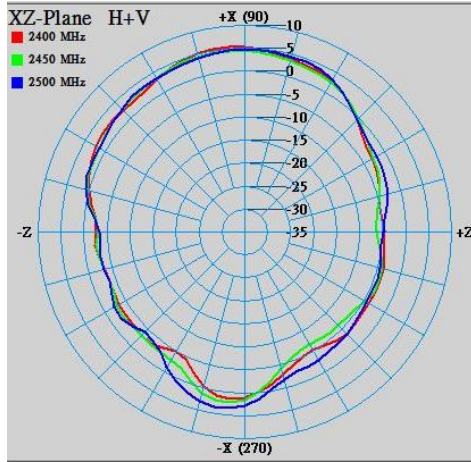


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5300	3.74	-2.36	1.78	-1.11	4.53	-0.44

2. Antenna Characteristics

2G

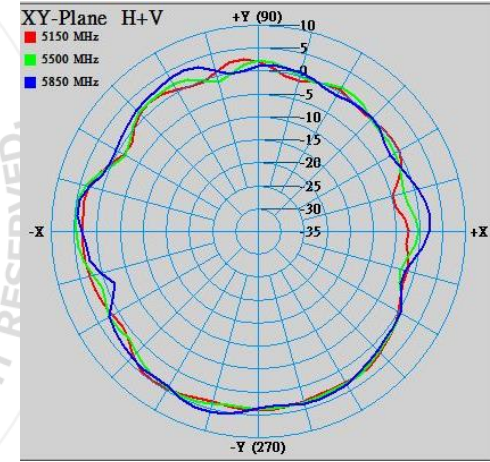
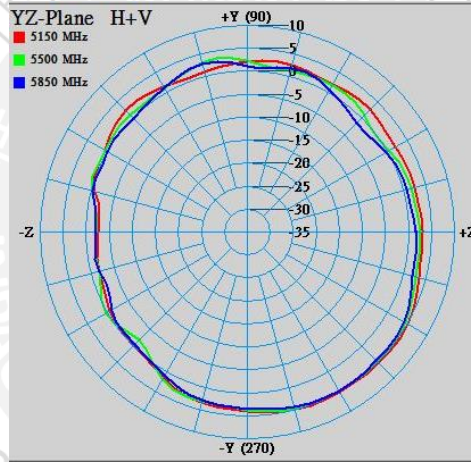
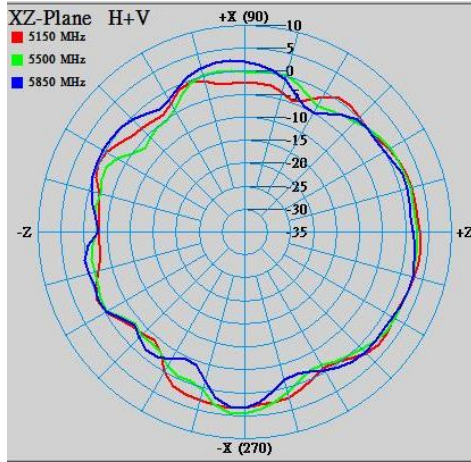
2.4 2D Combine Gain



2. Antenna Characteristics

5G

2.4 2D Combine Gain



3. Summary

- The performance of antennas is shown in table

	2G1	2G2
Maximum Efficiency (%)	72.75	71.57
Maximum Gain (dBi)	4.89	4.78

	5G1	5G2
Maximum Efficiency (%)	72.94	73.94
Maximum Gain (dBi)	5.11	5.35

Thank you

本資料均屬機密，僅供指定之收件人使用，未經寄件人許可不得揭露、複製或散佈本信件。

This message and any attachments are confidential and may be legally privileged. Any unauthorized review, use or distribution by anyone other than the intended recipient is strictly prohibited. If you are not the intended recipient, please immediately notify the sender, completely delete this documents, and destroy all copies. Your cooperation will be highly appreciated.