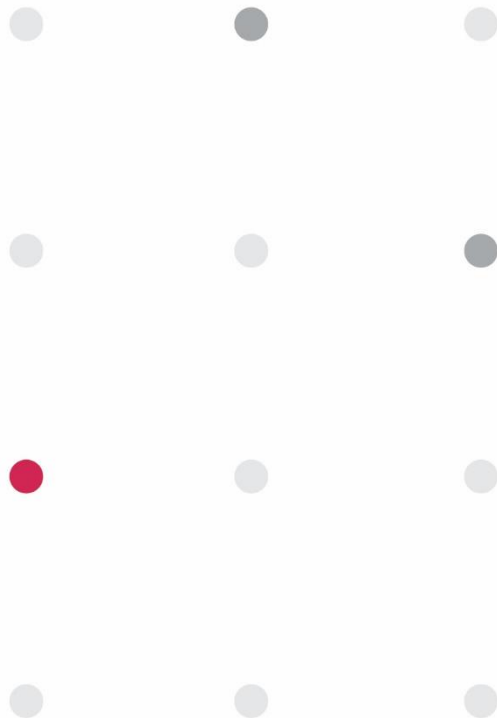


PSA

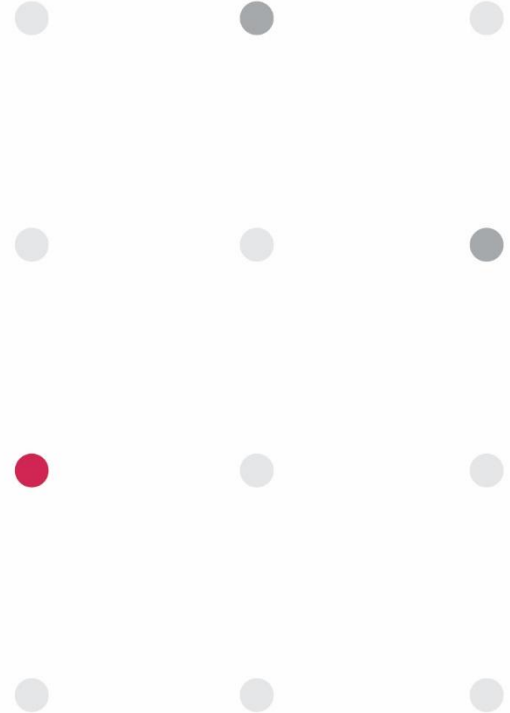
佳邦科技股份有限公司

INPAQ TECHNOLOGY CO., LTD.



PSA

PASSIVE SYSTEM ALLIANCE
INPAQ TECHNOLOGY CO., LTD.



迪芬尼_TC Bar M

Presented by

Peter.Hou

2023/02/08

Version	Date	Description	Author
V01	2021/08/23	New Release	Monkey
V02	2021/09/28	樣機主板模擬環境，加入天線並調測	Peter
V03	2022/03/16	樣機加入天線並調測	Peter
V04	2022/06/08	樣機天線驗證	Peter
V05	2023/02/08	改變天線，重新調測	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

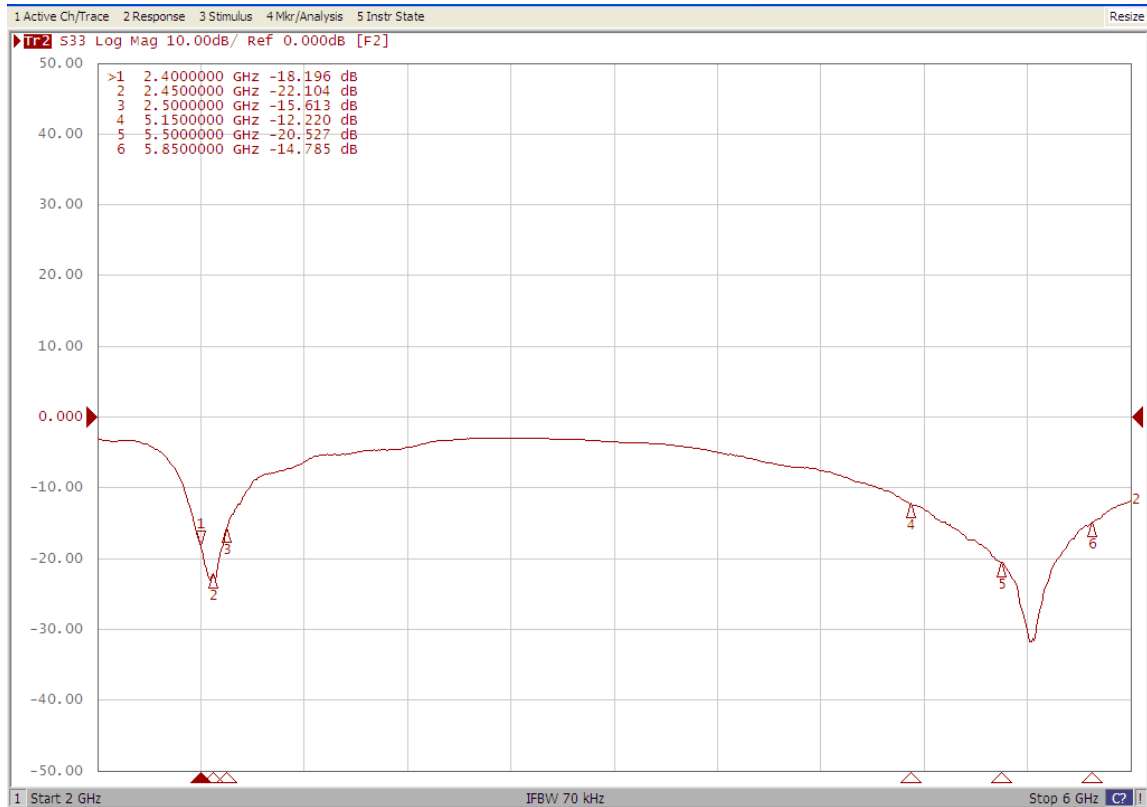
2.3 3 views of antenna & 2D Radiation Patterns

2.4 3D Radiation Patterns

3. Summary

2. Antenna Characteristics

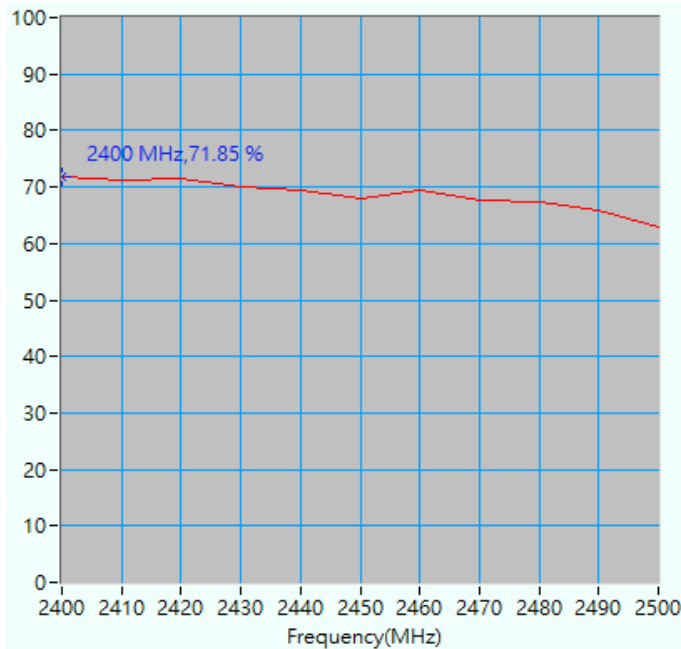
2.1 S-Parameter



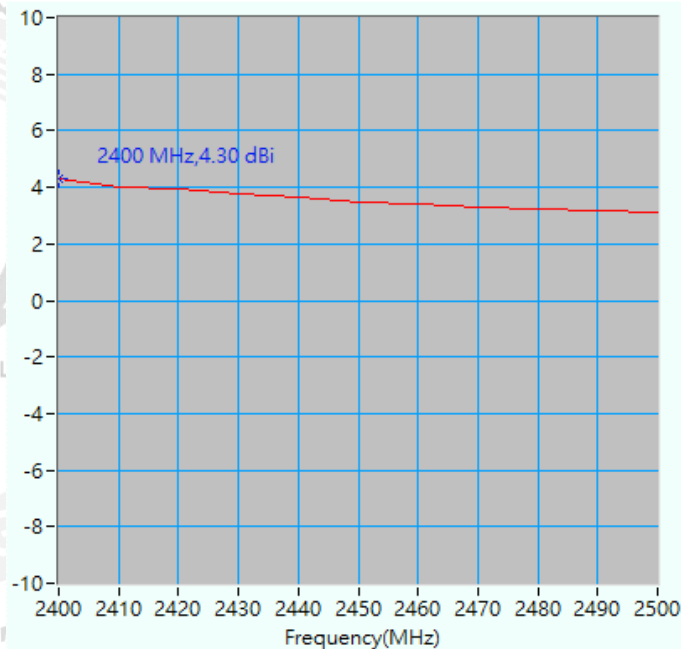
2. Antenna Characteristics

2G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2400 MHz : 71.85 %

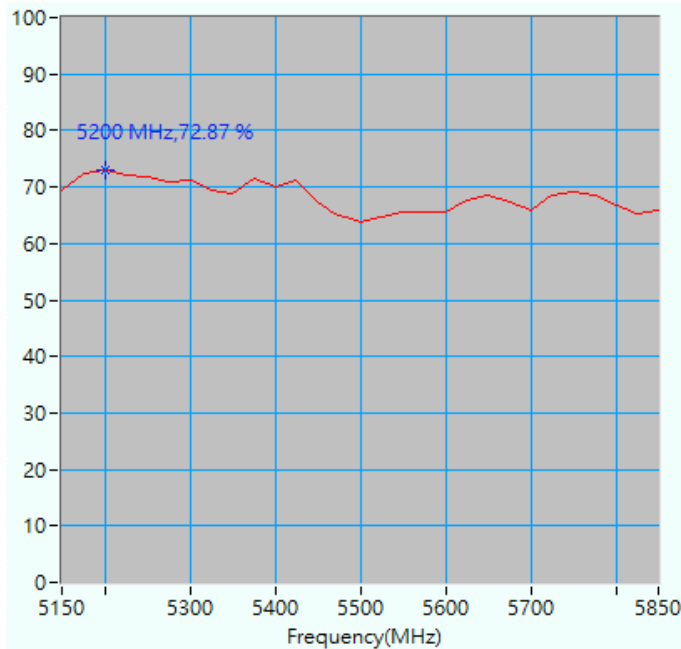


Maximum Peak Gain at 2400 MHz : 4.30 dBi

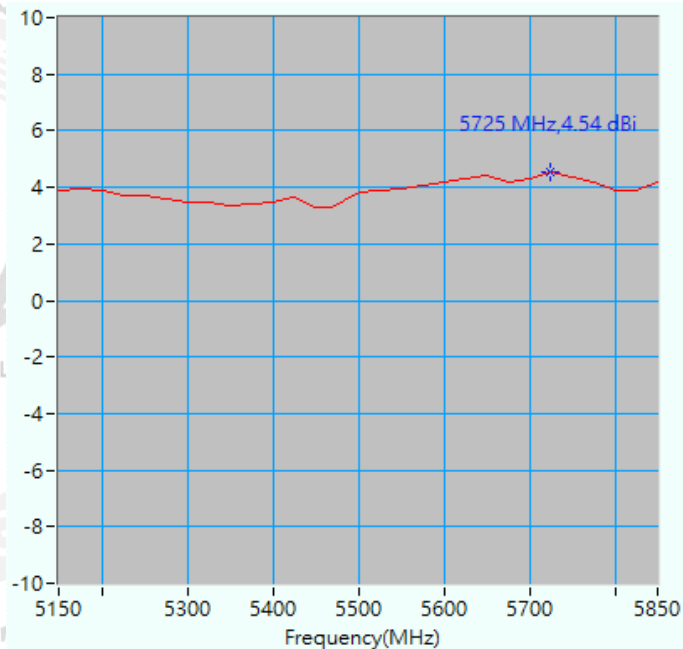
2. Antenna Characteristics

5G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5200 MHz : 72.87 %



Maximum Peak Gain at 5725 MHz : 4.54 dBi

2. Antenna Characteristics

2.2 Antenna Efficiency and Peak Gain

Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	71.85	4.30
2450	68.02	3.49
2500	62.89	3.14
5150	69.37	3.90
5500	63.89	3.82
5850	65.97	4.19

2. Antenna Characteristics

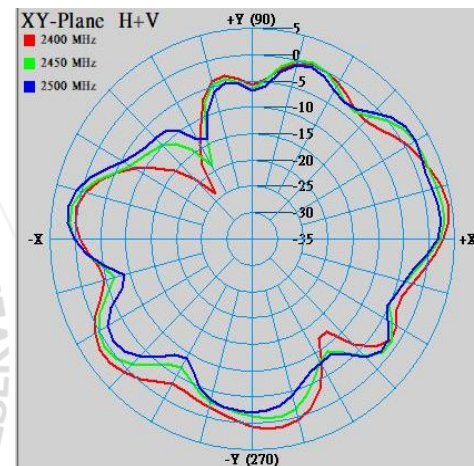
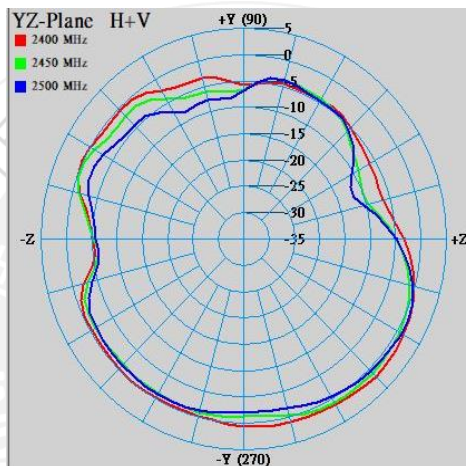
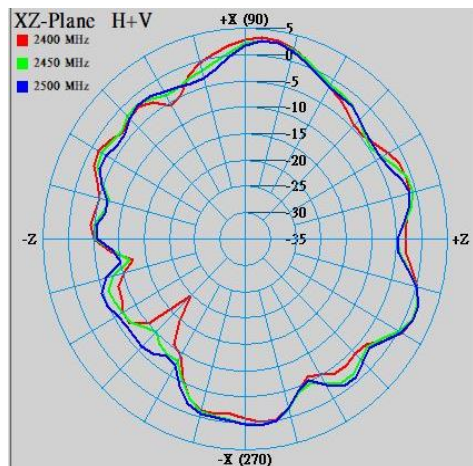
2.2 Antenna Efficiency and Peak Gain

	Frequency (MHz)	Peak Gain (dBi)
2.4G	2400	4.30 (Max.)
	2480	3.25 (Min.)
5G Band1	5175	3.97 (Max.)
	5225	3.70 (Min.)
5G Band2	5250	3.72 (Max.)
	5350	3.33 (Min.)
5G Band3	5725	4.54 (Max.)
	5470	3.31 (Min.)
5G Band4	5725	4.54 (Max.)
	5825	3.88 (Min.)

2. Antenna Characteristics

2G

2.3 2D Radiation Patterns

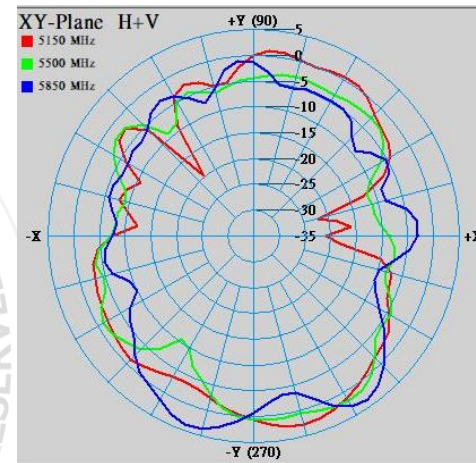
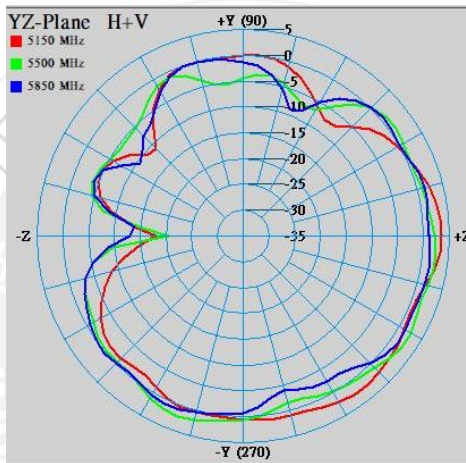
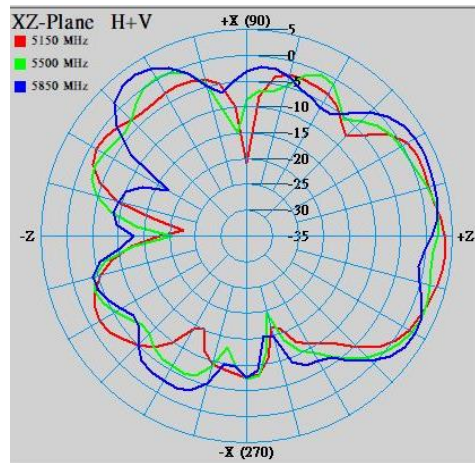


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	3.37	-2.04	1.90	-1.24	4.29	-1.30
2450	2.91	-2.05	1.00	-2.19	3.29	-1.77
2500	2.76	-2.09	0.93	-2.80	2.56	-2.24

2. Antenna Characteristics

5G

2.3 2D Radiation Patterns

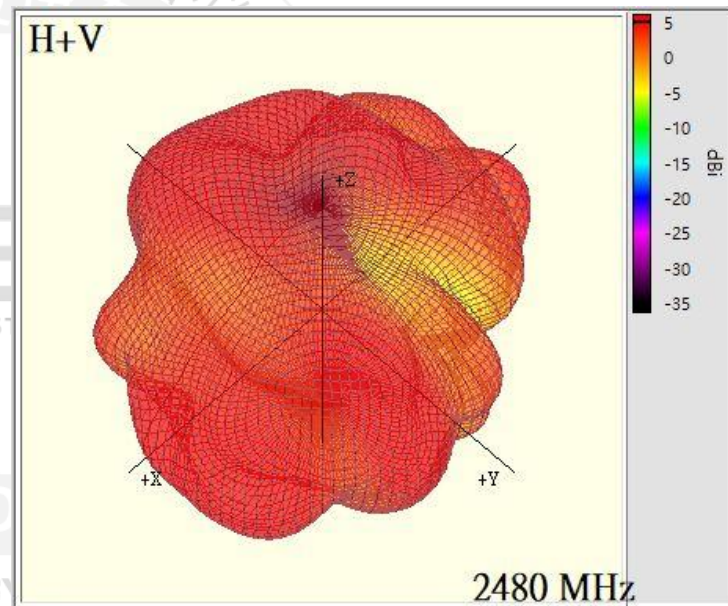
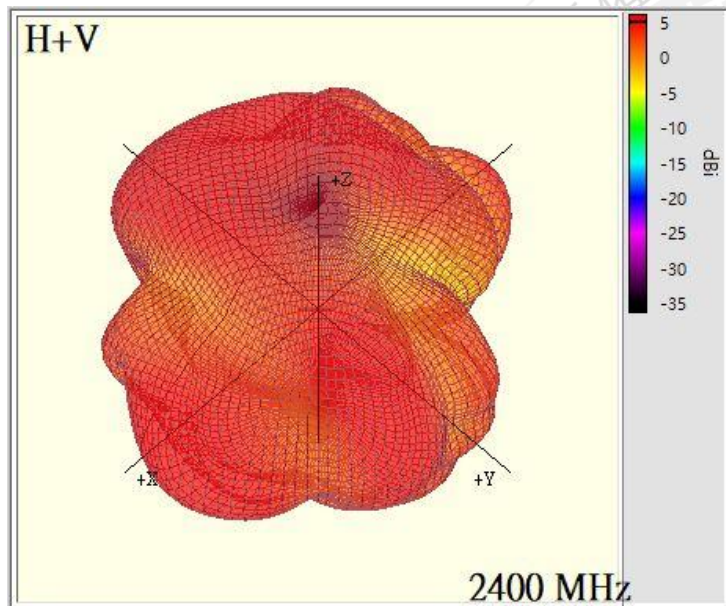


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5150	3.83	-2.36	3.55	-0.58	2.76	-2.26
5500	2.53	-2.45	2.72	-0.68	1.90	-3.36
5850	3.09	-1.61	1.52	-1.20	3.91	-2.45

2. Antenna Characteristics

2.4 3D Radiation Patterns

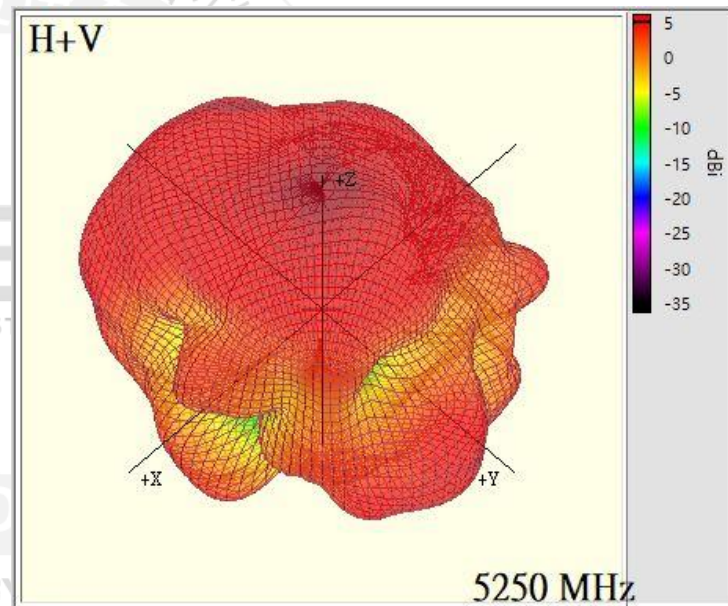
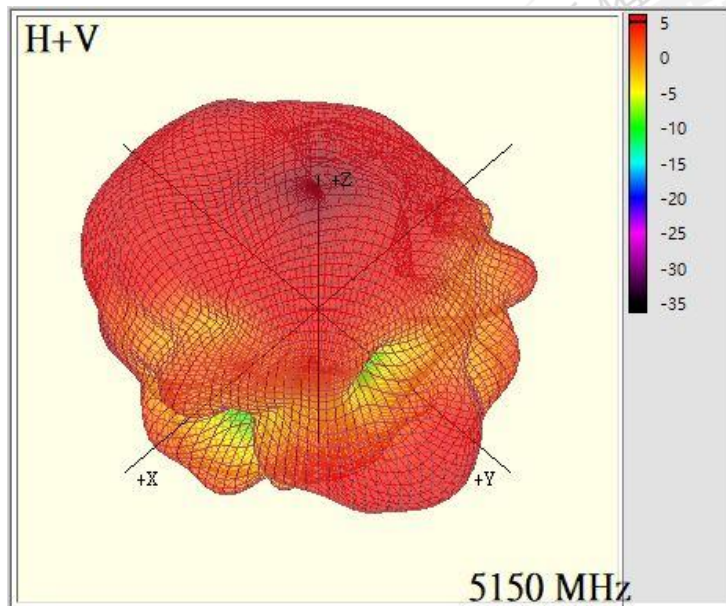
2.4G
(2400-2483.5 MHz)



2. Antenna Characteristics

2.4 3D Radiation Patterns

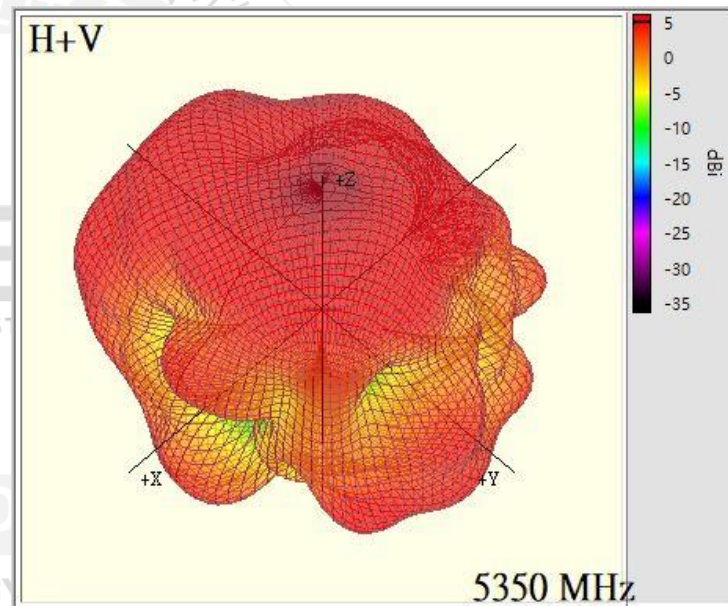
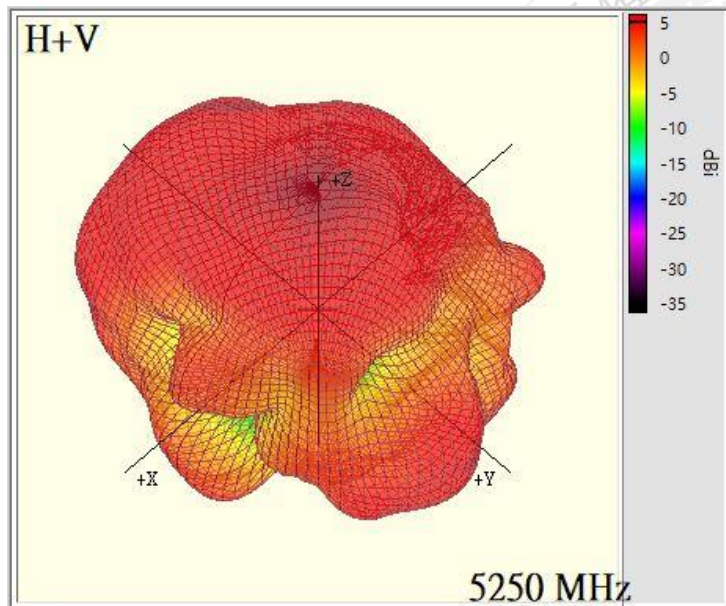
5G Band1
(5150-5250 MHz)



2. Antenna Characteristics

2.4 3D Radiation Patterns

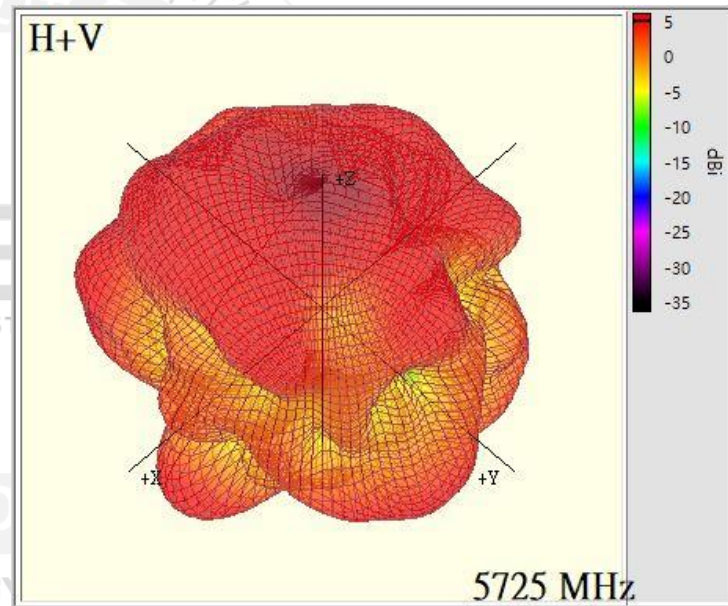
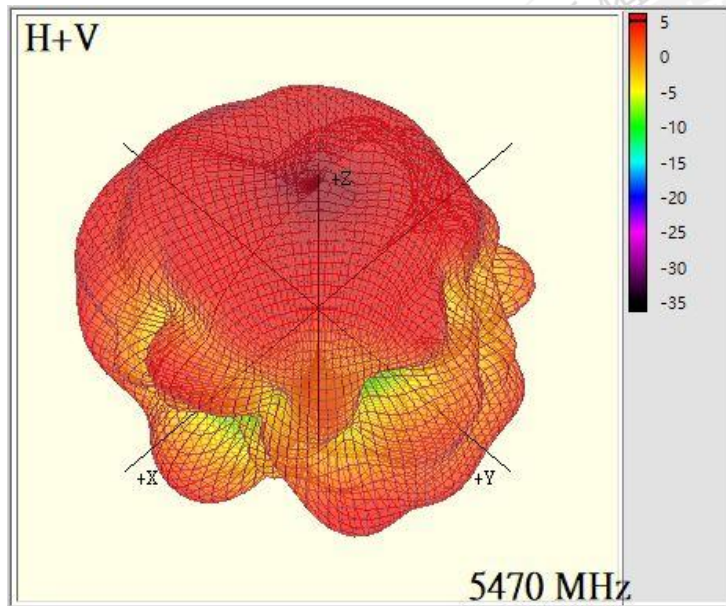
5G Band2
(5250-5350 MHz)



2. Antenna Characteristics

2.4 3D Radiation Patterns

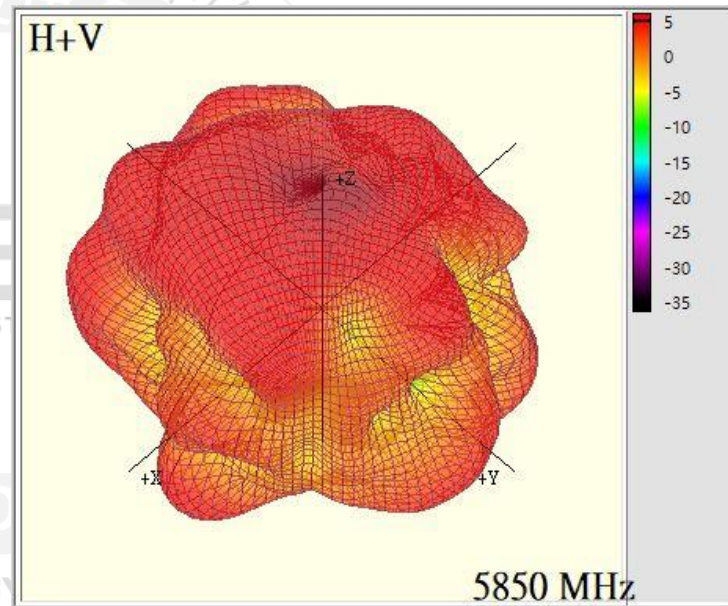
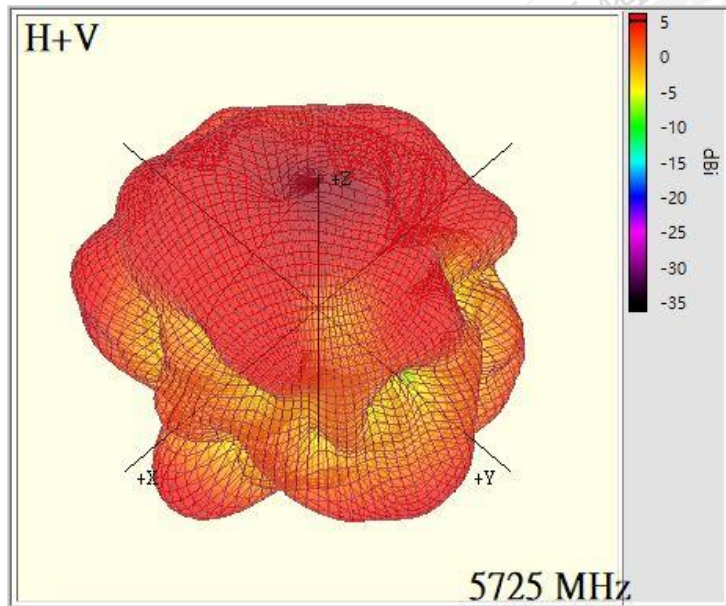
5G Band3
(5470-5725 MHz)



2. Antenna Characteristics

2.4 3D Radiation Patterns

5G Band4
(5725-5850 MHz)



3. Summary

- The performance of antennas is shown in table

	2G	5G
Maximum Efficiency (%)	71.85	72.87
Maximum Gain (dBi)	4.30	4.54

	Maximum Gain (dBi)	Minimum Gain (dBi)
2.4G (2400MHz~2483.5MHz)	4.30	3.25
5G Band1(5150MHz~5250MHz)	3.97	3.70
5G Band2(5250MHz~5350MHz)	3.72	3.33
5G Band3(5470MHz~5725MHz)	4.54	3.31
5G Band4(5725MHz~5850MHz)	4.54	3.88

3. Summary

Antenna Vendor : INPAQ TECHNOLOGY CO., LTD.

Test date: 2023/02/08

Test Engineer: Peter

Address of test site: 566-1, Ko-Shi Road , Yang-Mei, Tao-Yuan, 32668, Taiwan

Measurement Setup:

Reflection Coefficient Measurement:

-Instrument : Keysight Network Analyzer

Test instrument calibration information:

Vender	Model No.	Calibrated Date	Calibrated Until
Satimo	SG24	2022/11/29	2023/11/29
Keysight Network Analyzer	E5071C	2020/3/3	2023/3/3

-Setup:

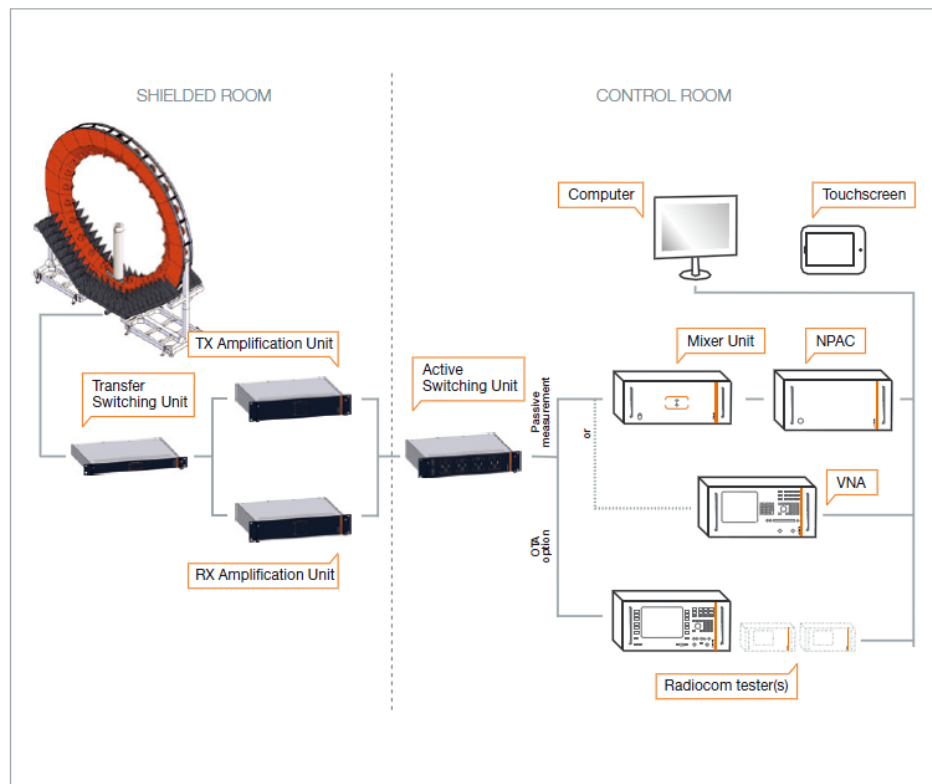
Pattern Measurement:

-Chamber : Satimo

-Test Program: SPM V15

-Setup Photo:

System overview



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.

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.