

PSA

PASSIVE SYSTEM ALLIANCE
WALSIN TECHNOLOGY CORPORATION

迪芬尼_Dalmore

Presented by

Abel

Walsin Technology Corporation

2021/09/17

Version	Date	Description	Author
V01	2020/12/24	New Release	Kerry
V02	2021/05/18	實機調測	Abel
V03	2021/09/17	客戶提供新實機，驗證工廠樣品	Abel

OUTLINE

1. Measurement Information

1. Experimental Setup
2. Antenna Solution Detail

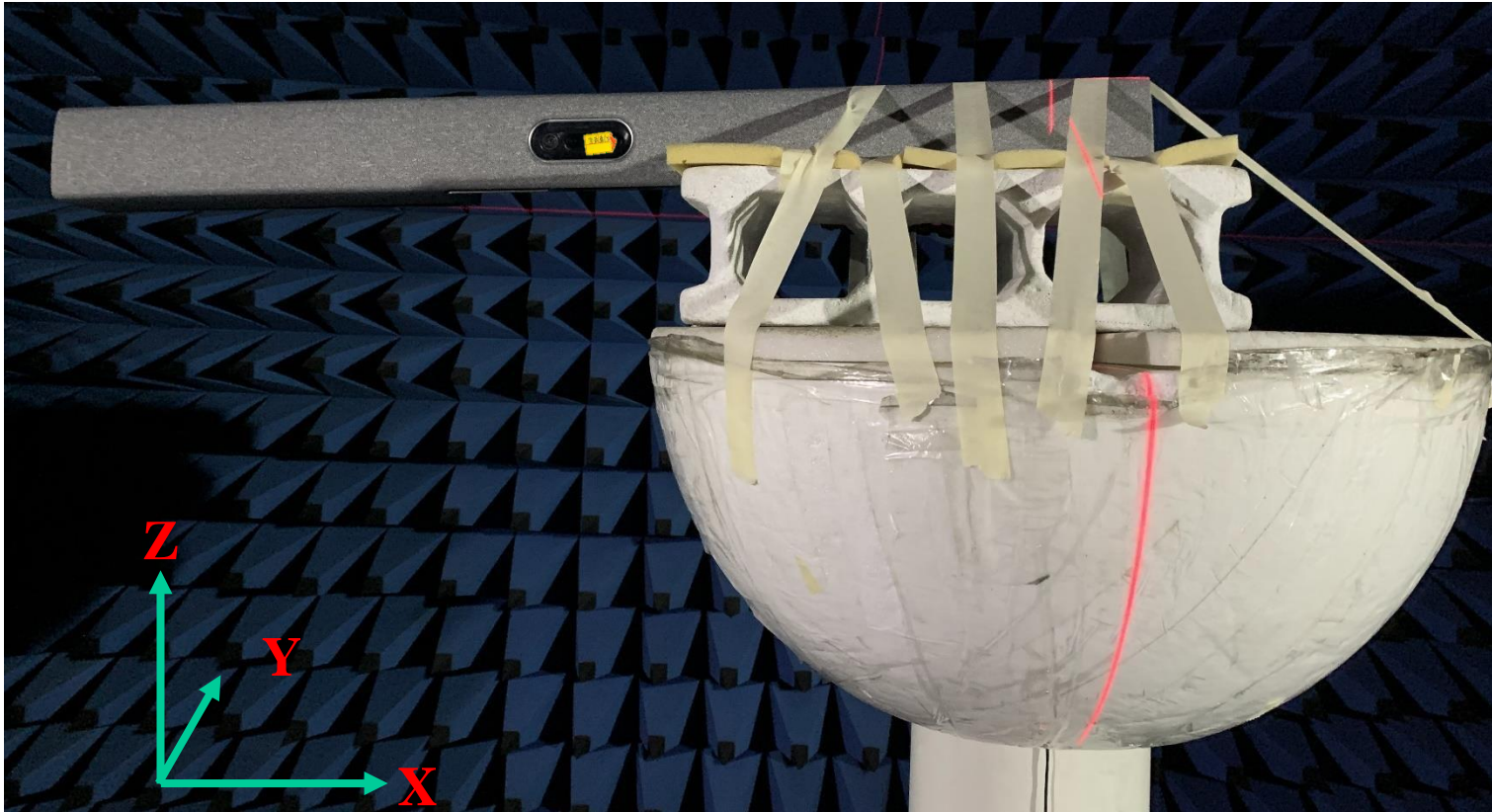
2. Antenna Characteristics

1. Return Loss & Isolation
2. Antenna Efficiency and Peak Gain
3. 3 views of antenna & 2D Radiation Patterns

3. Summary

1. Measurement Information

1.1 Experimental Setup



1. Measurement Information

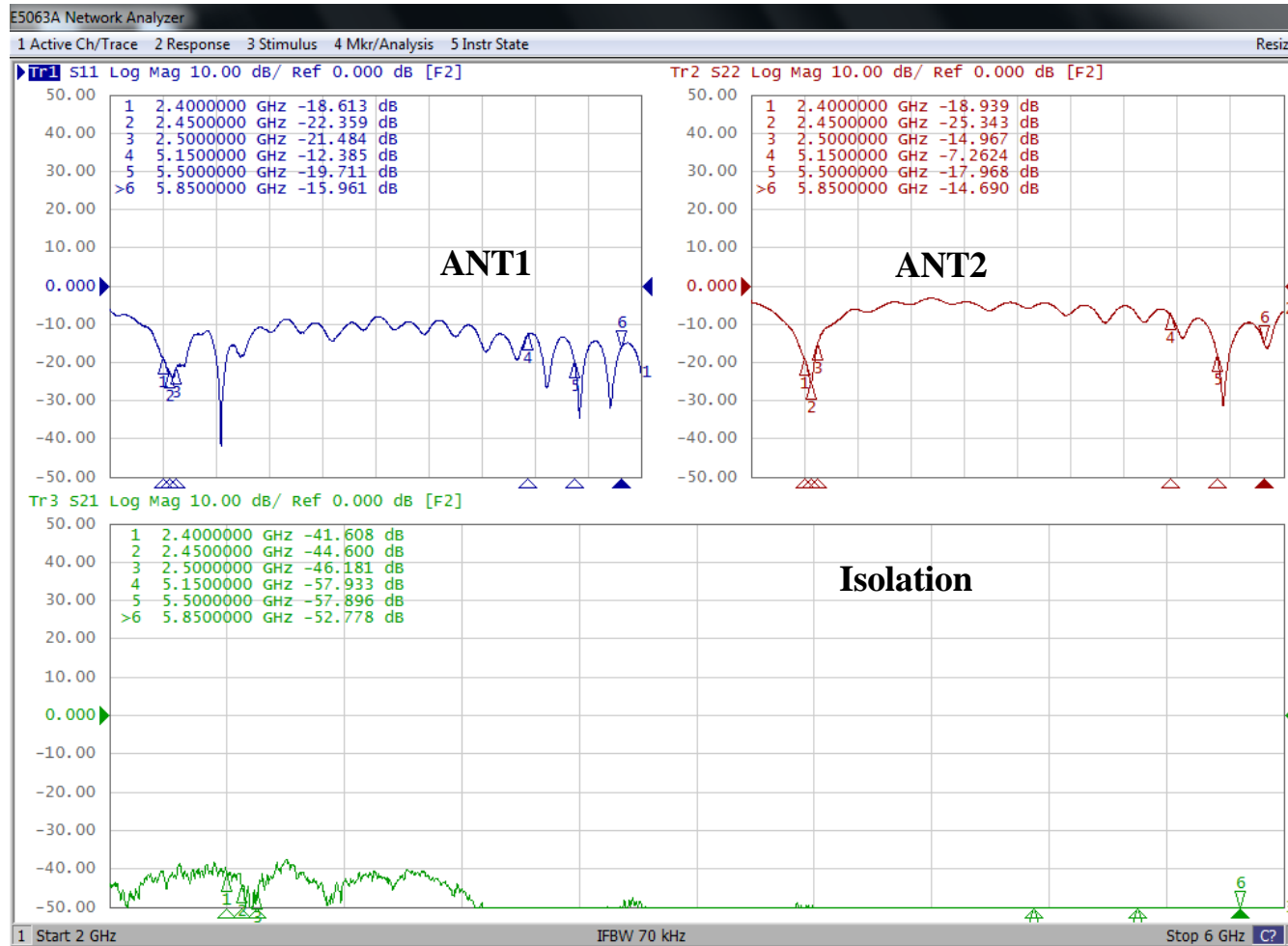
1.2 Antenna Solution Detail

	Ant1	Ant2
Dimensio	40*11*0.6mm	31.4*7.5*0.6mm
Cable	450mm low loss	400mm low loss



2. Antenna Characteristics

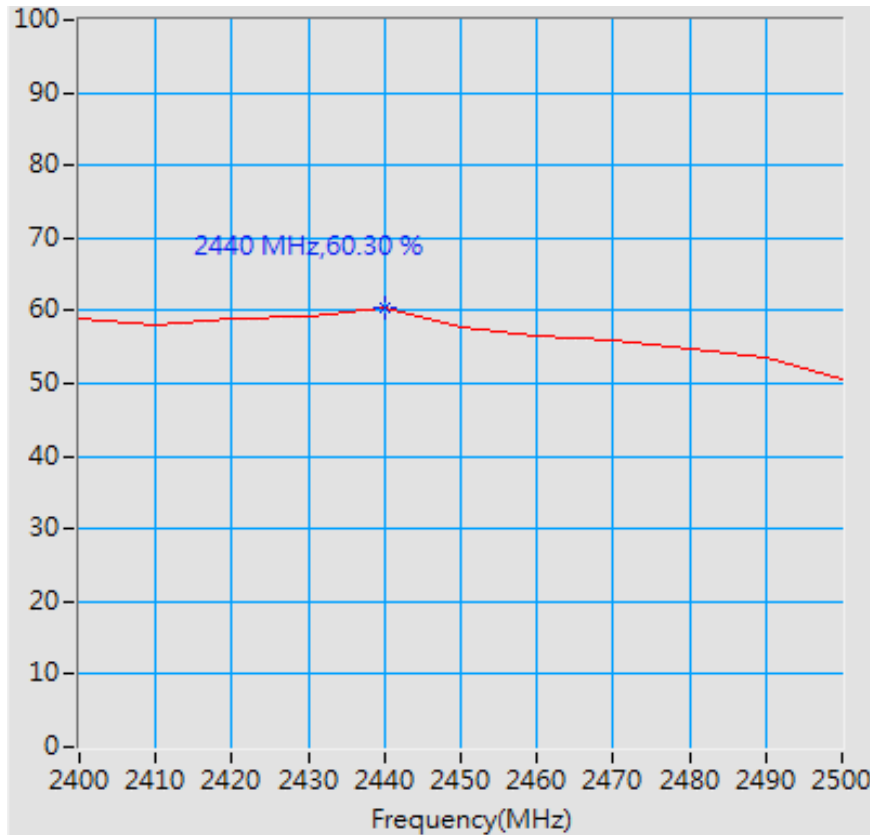
2.1 Return Loss & Isolation



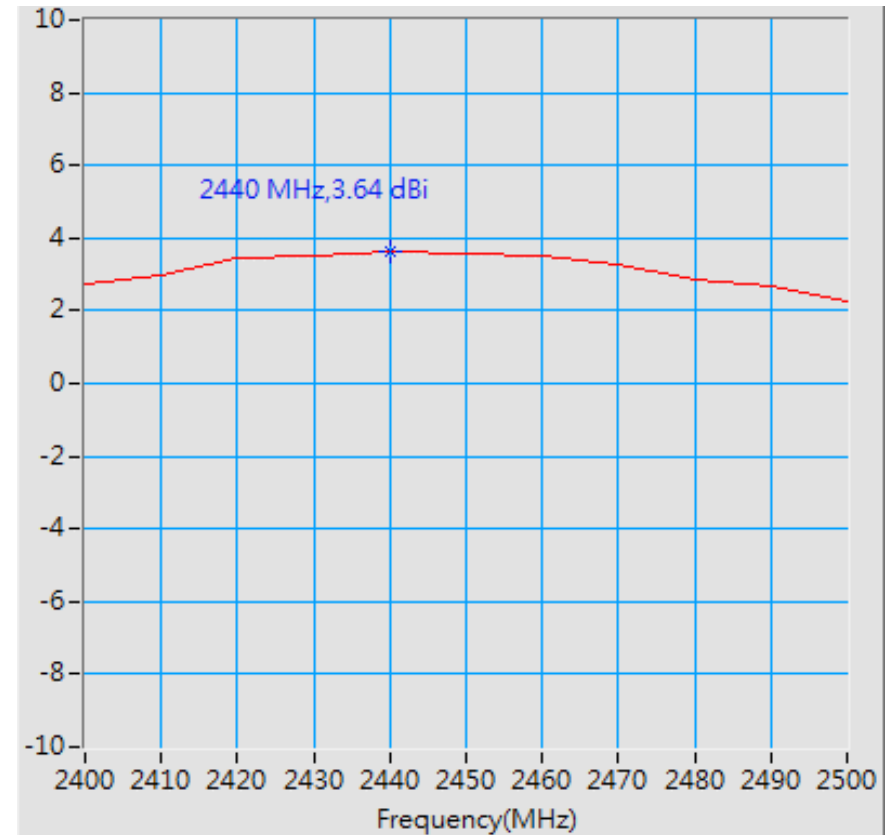
2. Antenna Characteristics

Ant1_2G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2440 MHz : 60.30 %

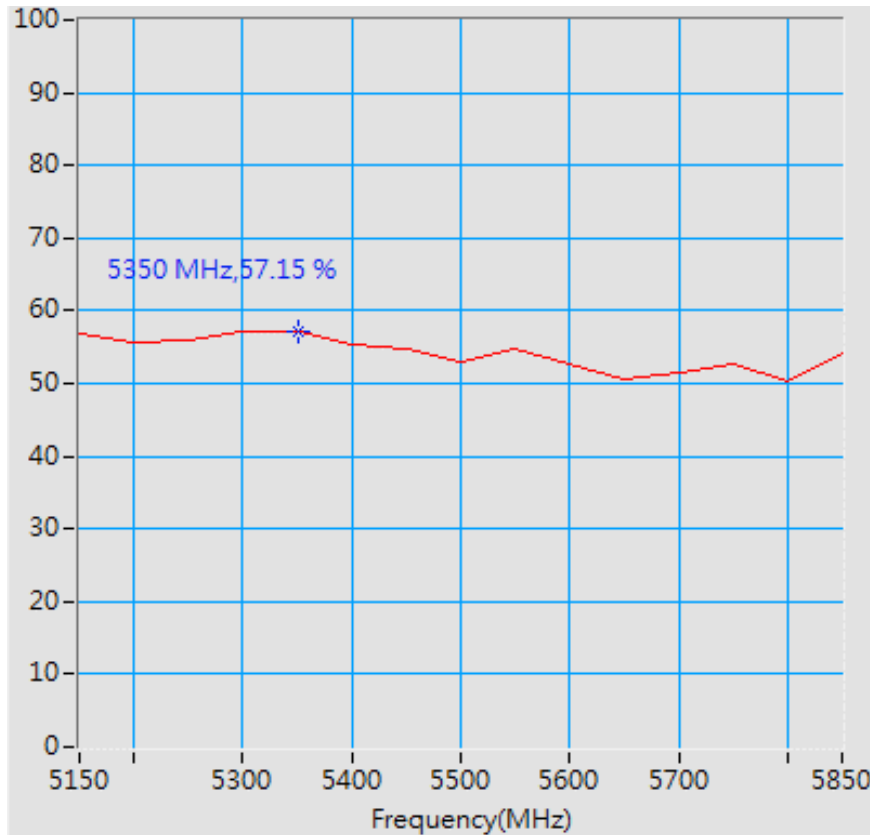


Maximum Peak Gain at 2440 MHz : 3.64 dBi

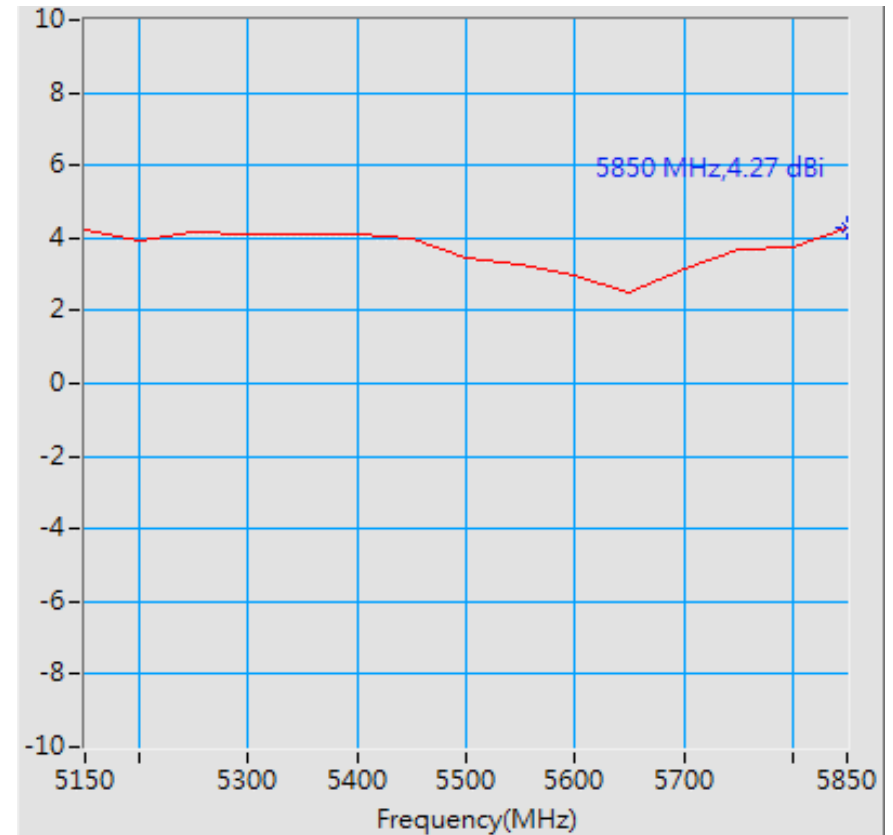
2. Antenna Characteristics

Ant1_5G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5350 MHz : 57.15 %

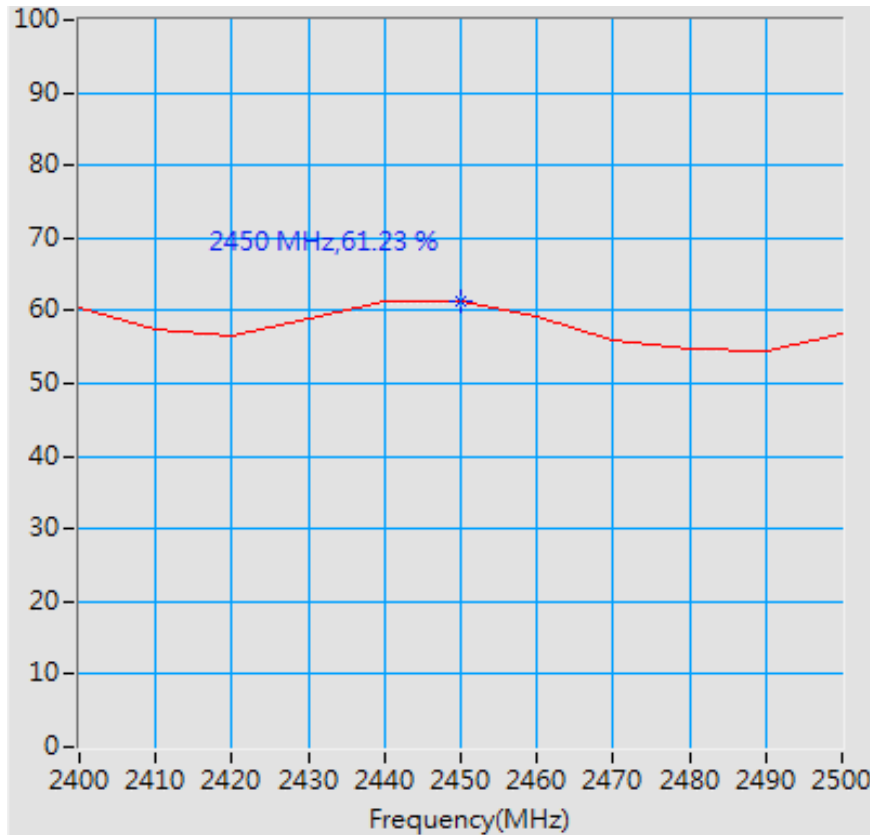


Maximum Peak Gain at 5850 MHz : 4.27 dBi

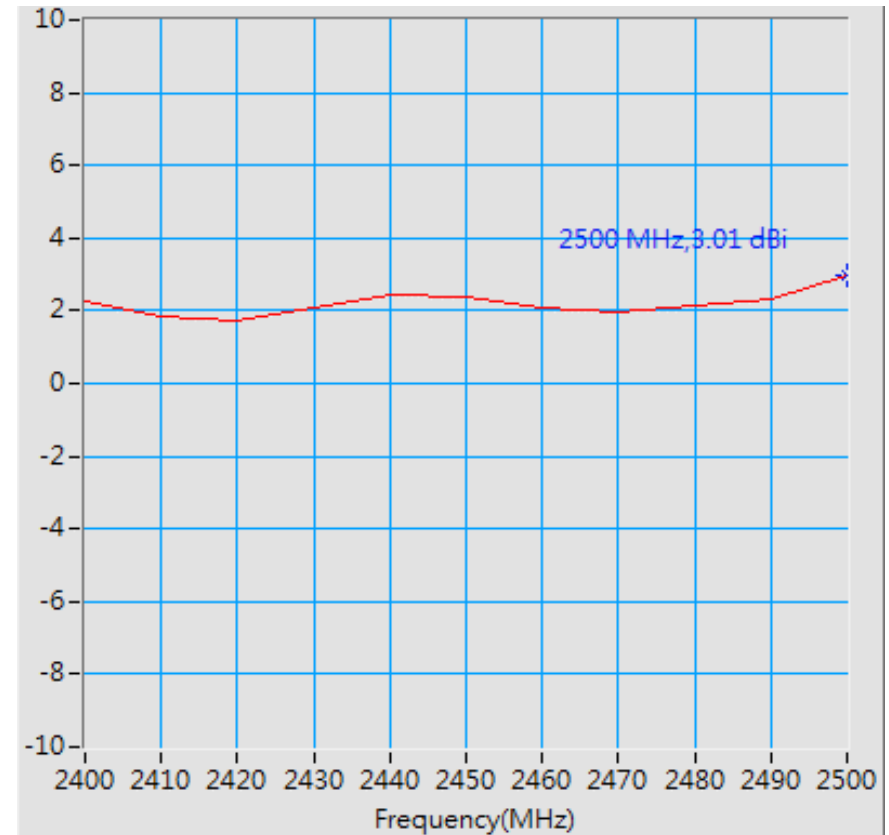
2. Antenna Characteristics

Ant2_2G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 2450 MHz : 61.23 %

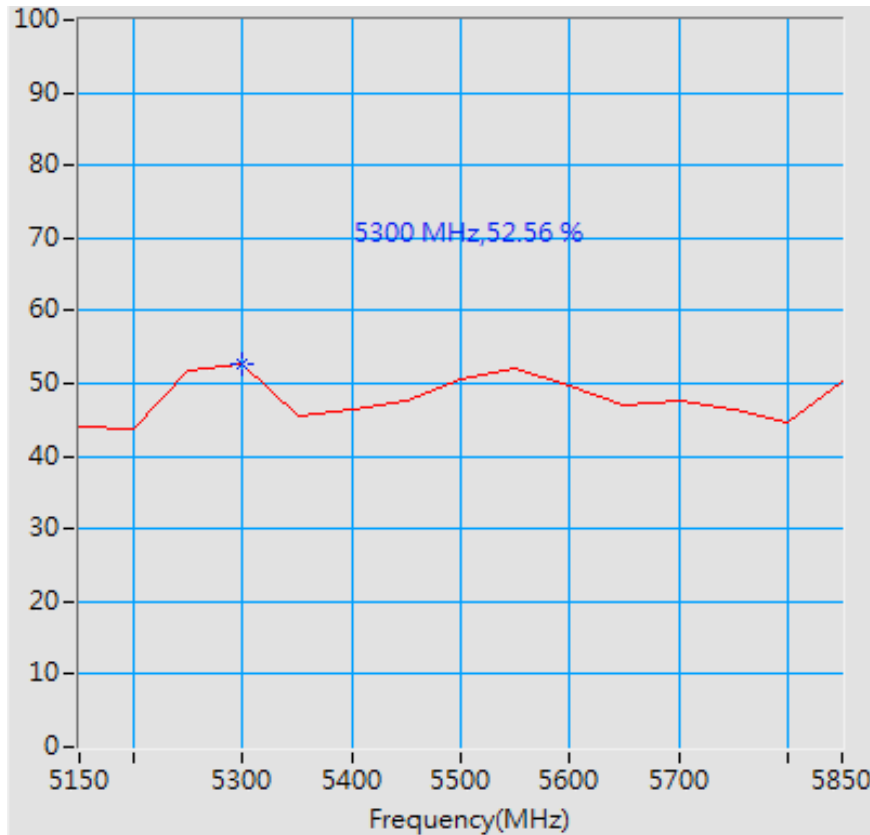


Maximum Peak Gain at 2500 MHz : 3.01 dBi

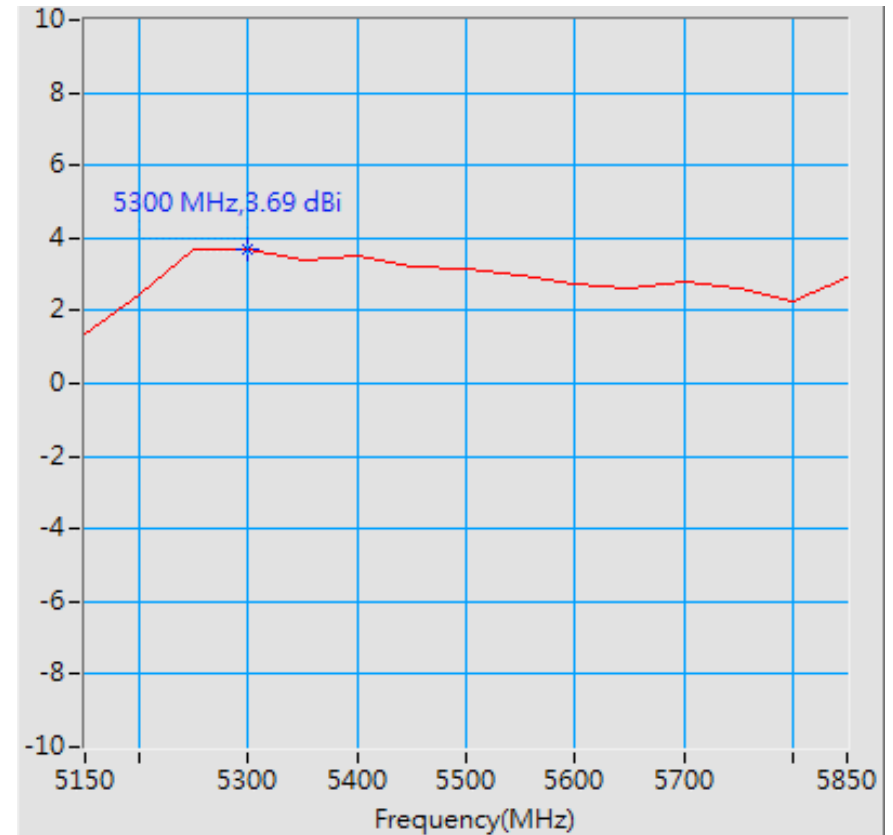
2. Antenna Characteristics

Ant2_5G

2.2 Antenna Efficiency and Peak Gain



Maximum Efficiency at 5300 MHz : 52.56 %



Maximum Peak Gain at 5300 MHz : 3.69 dBi

2. Antenna Characteristics

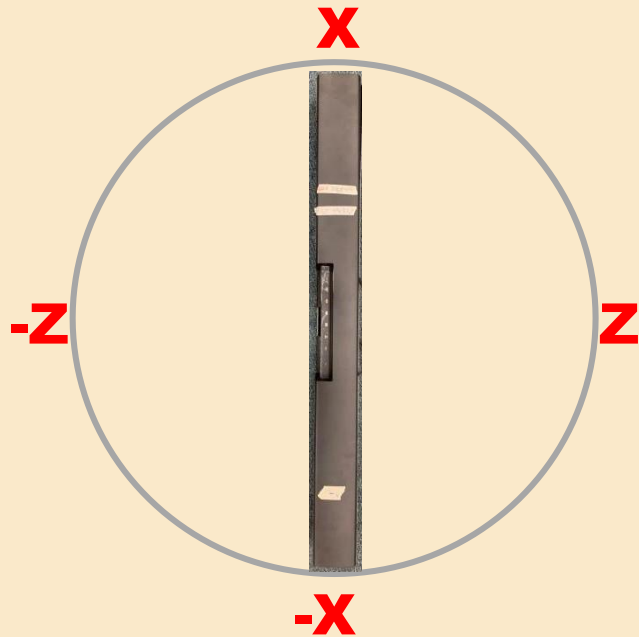
2.2 Antenna Efficiency and Peak Gain

	Ant1		Ant2	
Frequency (GHz)	Efficiency (%)	Peak gain (dBi)	Efficiency (%)	Peak gain (dBi)
2.4	58.99	2.76	60.39	2.26
2.45	57.88	3.56	61.23	2.40
2.5	50.69	2.24	56.91	3.01
5.15	56.82	4.22	44.09	1.40
5.5	53.10	3.48	50.51	3.17
5.85	54.20	4.27	50.30	2.94

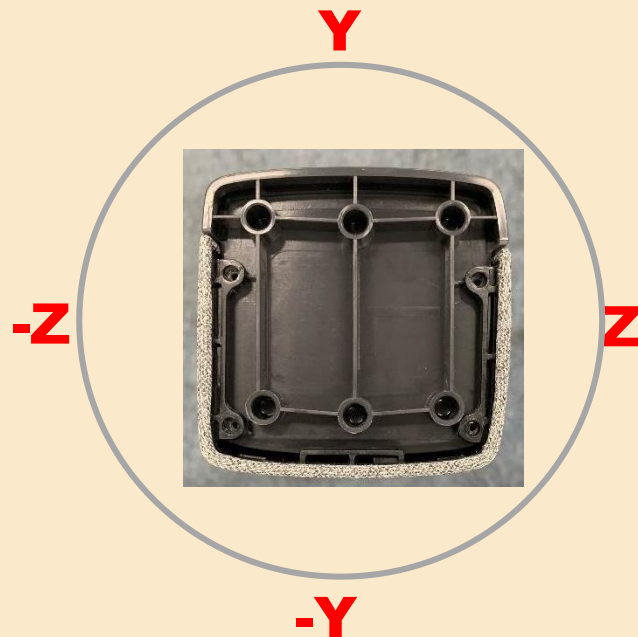
2. Antenna Characteristics

2.3 3 views of antenna

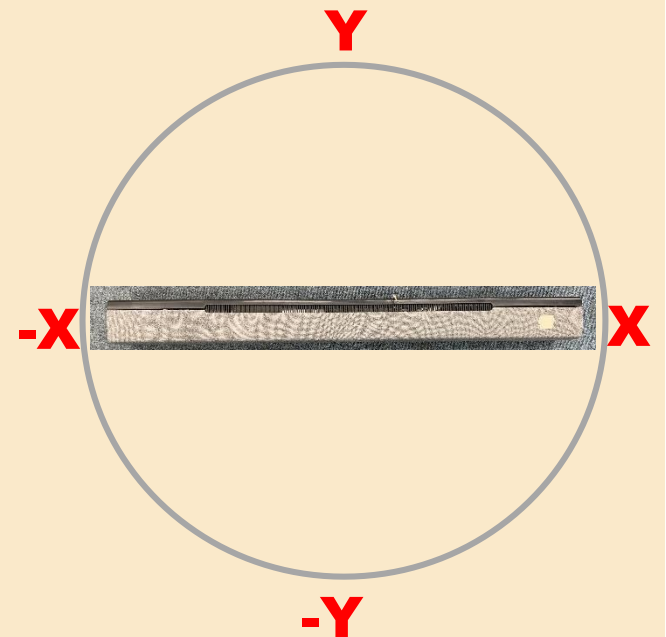
X-Z plane



Y-Z plane



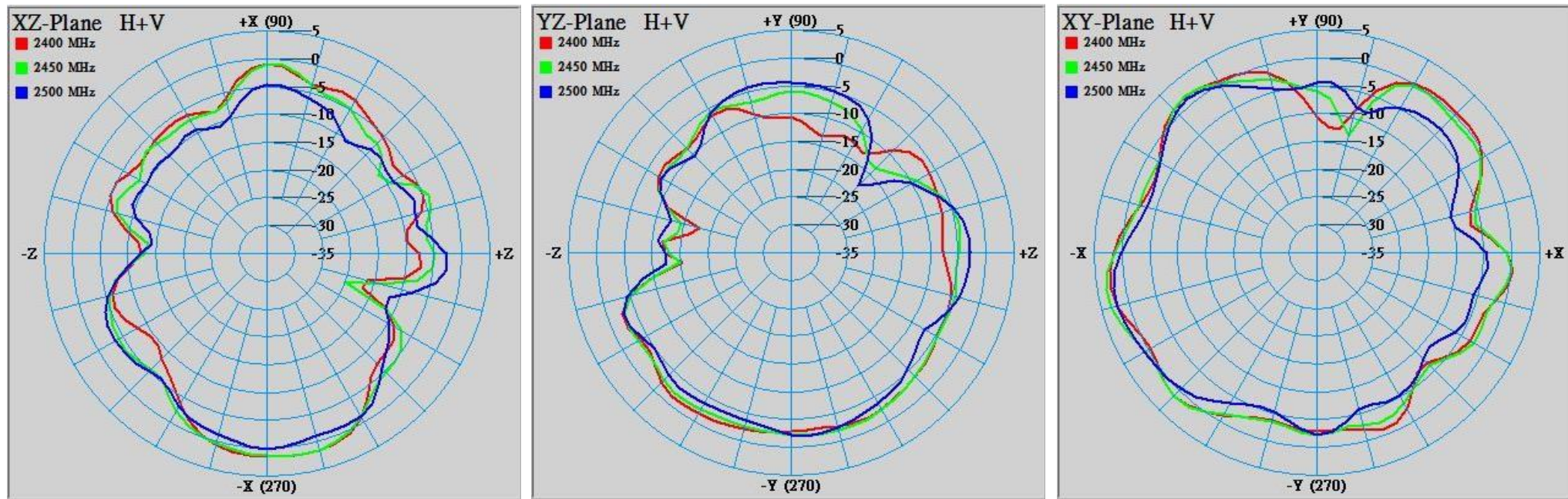
X-Y plane



2. Antenna Characteristics

Ant1_2G

2.3 2D Radiation Patterns

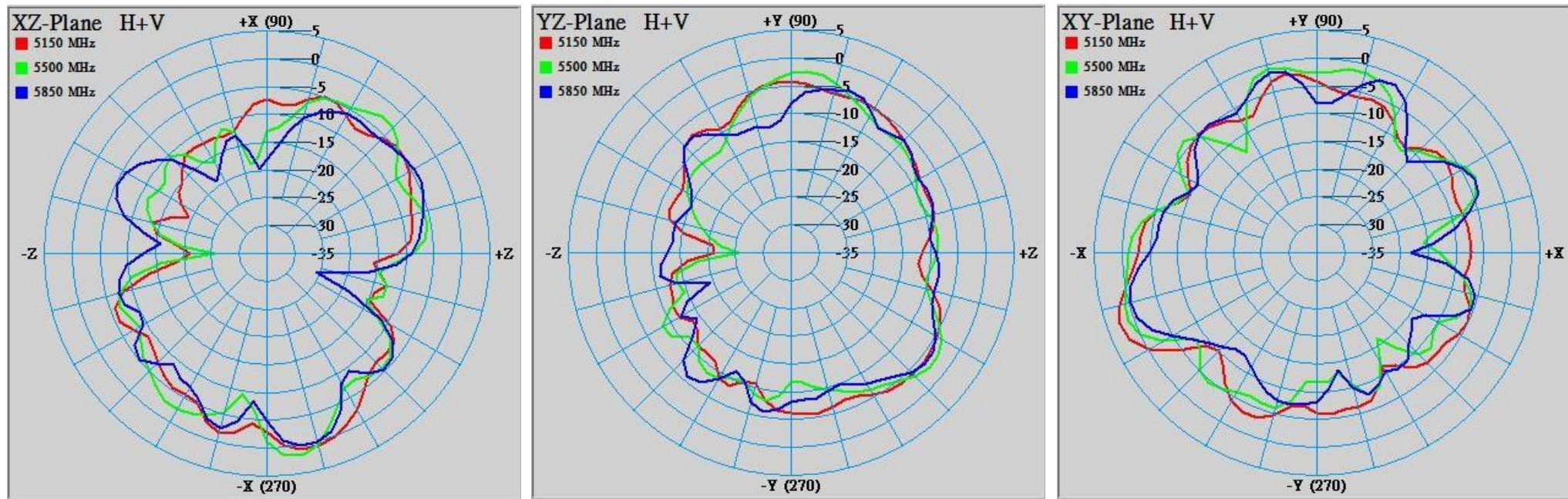


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	1.68	-3.84	-1.47	-5.36	2.59	-1.21
2450	1.59	-3.74	-1.93	-5.05	3.37	-1.25
2500	0.14	-5.02	-2.00	-5.22	2.06	-2.77

2. Antenna Characteristics

Ant1_5G

2.3 2D Radiation Patterns

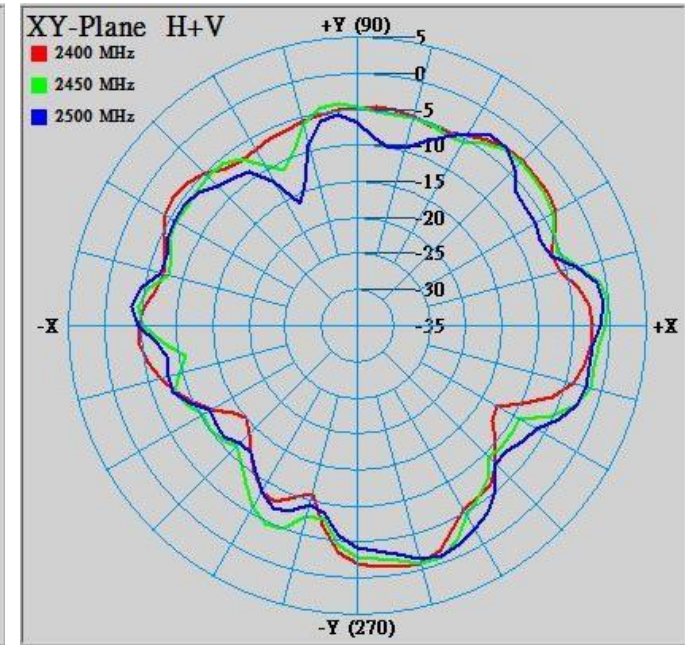
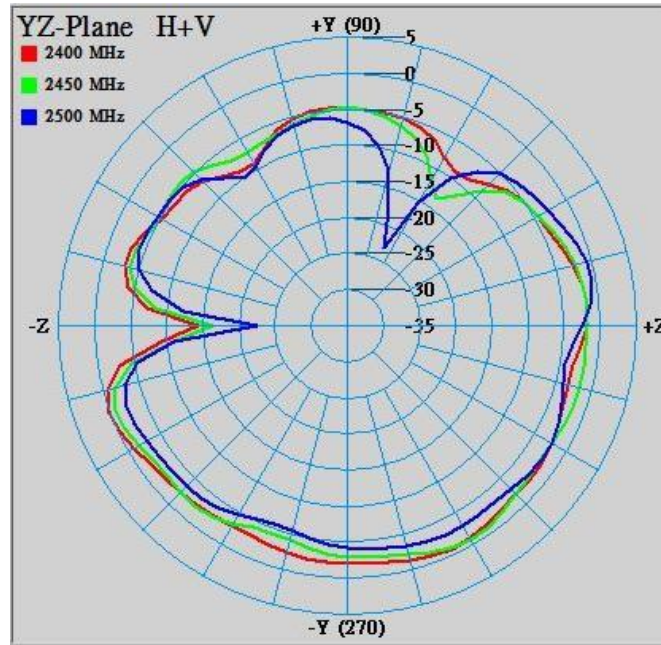
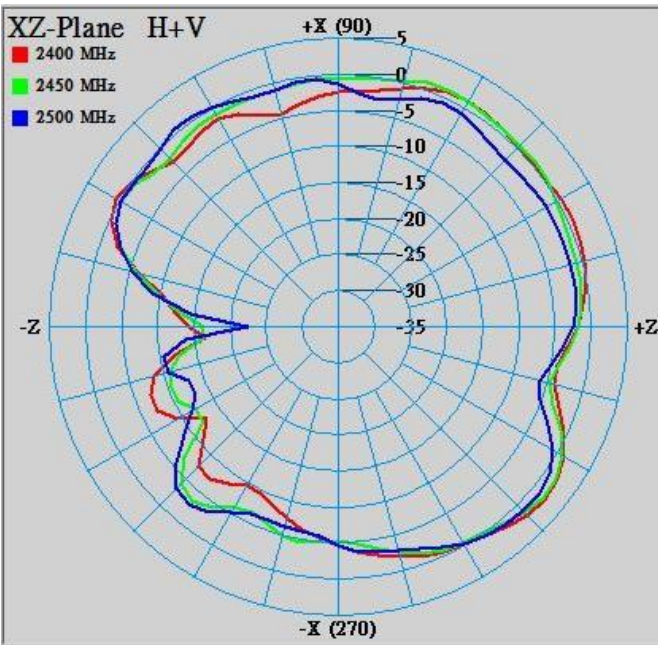


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	0.85	-6.25	-4.08	-7.52	2.56	-4.89
5500	1.84	-6.19	-2.29	-7.76	1.05	-4.88
5850	0.20	-6.78	-3.69	-8.21	-0.35	-6.07

2. Antenna Characteristics

Ant2_2G

2.3 2D Radiation Patterns

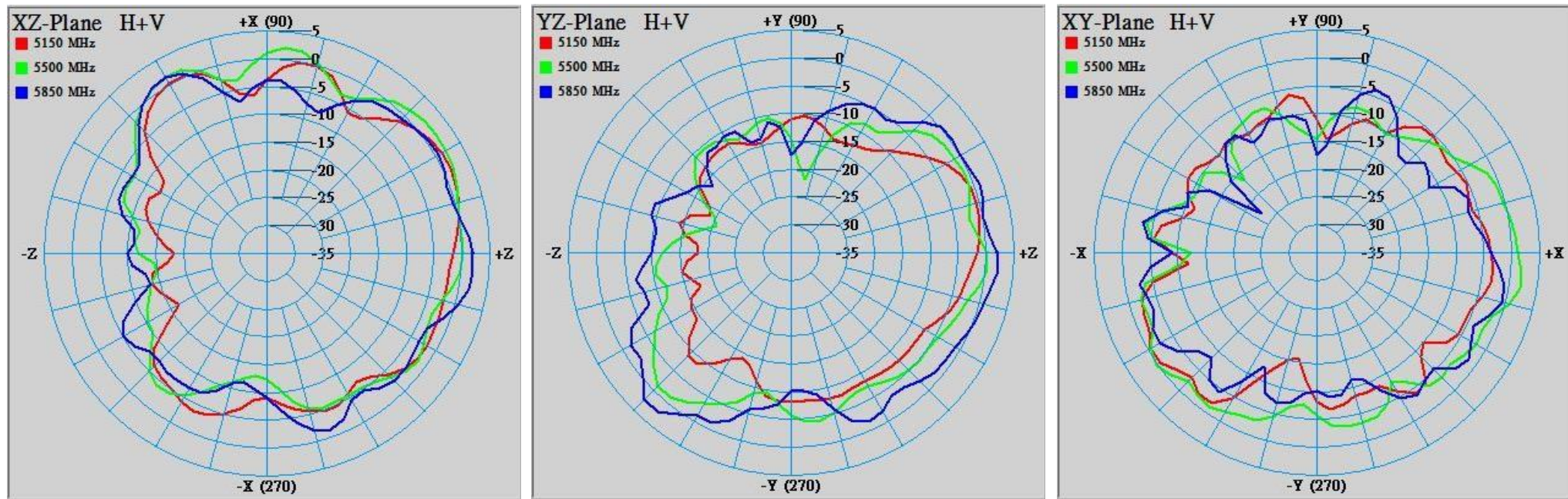


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	2.24	-1.96	0.14	-3.34	-0.91	-5.17
2450	1.99	-1.77	-0.81	-3.61	-0.13	-4.84
2500	1.21	-2.37	-0.64	-4.48	-0.70	-5.40

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	1.28	-3.44	-0.54	-7.64	-0.35	-6.05
5500	2.15	-2.36	0.44	-5.34	2.13	-3.67
5850	2.12	-2.94	2.56	-2.92	-0.48	-6.02

3. Summary

- The performance of antennas is shown in table

	Maximum Efficiency (%)	Maximum Gain (dBi)
Ant1_2G	60.30	3.64
Ant1_5G	57.15	4.27
Ant2_2G	61.23	3.01
Ant2_5G	52.56	3.69

Antenna Vendor :PSA

Test date: 2021/9/17

Test Engineer: Abel Huang

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

Measurement Setup:

Reflection Coefficient Measurement:

- Instrument : Keysight Network Analyzer

- Setup:

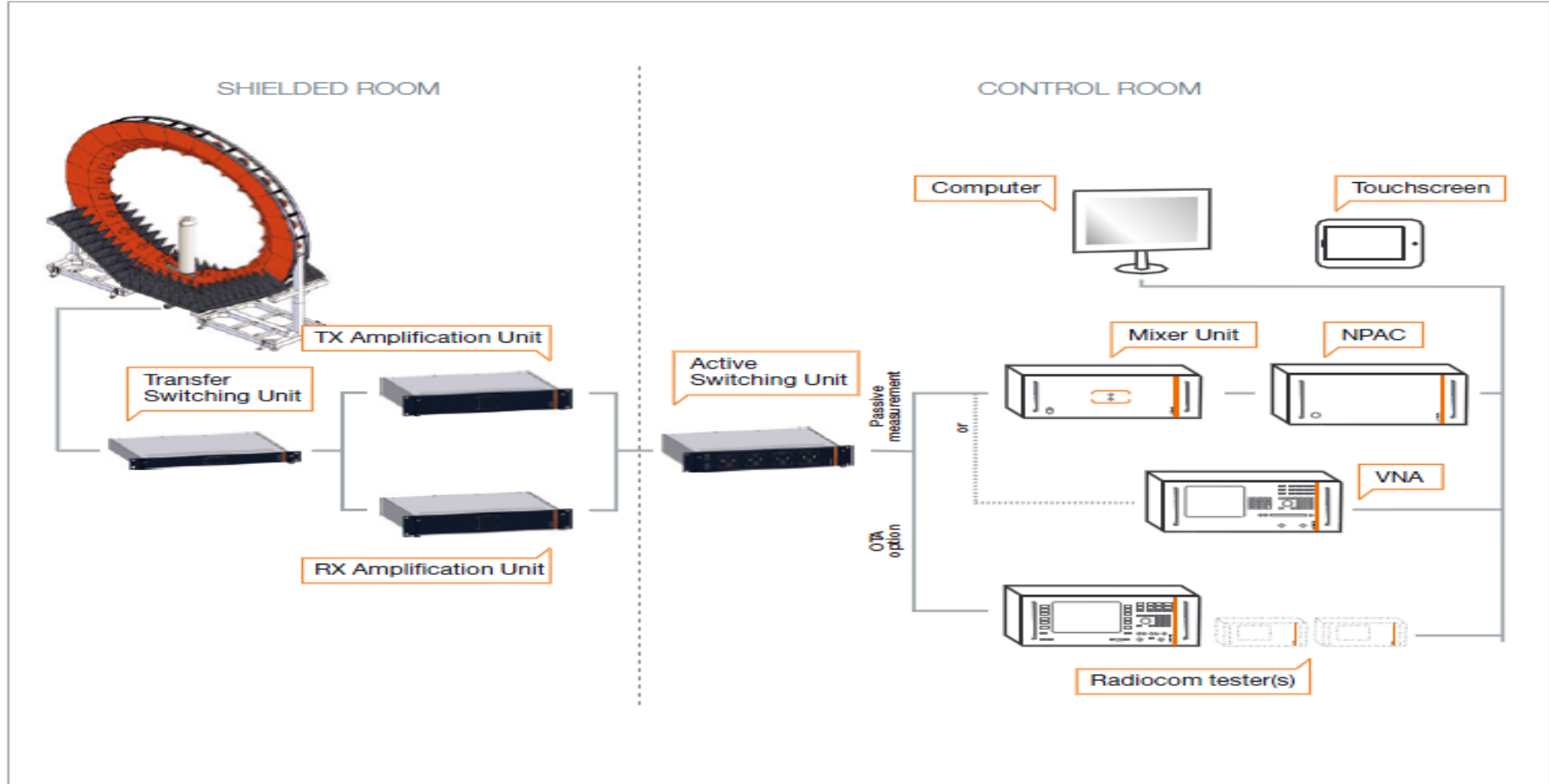
- Pattern Measurement:

- Chamber : Satimo

- Test Program: SPM V15

-Setup Photo:
Put the antenna into the chamber and test

System overview



The antenna gain of the antenna model:

ANT1--3.64 dBi@2.4~2.5GHz

ANT1-- 4.27 [dBi@5.15~5.85GHz](#)

ANT2--3.01 dBi@2.4~2.5GHz

ANT2-- 3.69 [dBi@5.15~5.85GHz](#)

Test instrument calibration information:

Vender	Model No.	Calibrated Date	Calibrated Until
Satimo	SG24	2021/3/17	2022/11/29
Keysight Network Analyzer	E5071C	2020/3/3	2023/3/3

Thank you

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