



WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)

DONGGUAN AEON TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 康全

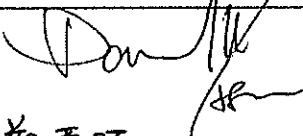
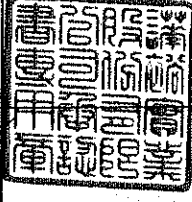
PART NAME: RF Antenna Assembly

PART NO.:

REVISION:

W. Y. P/NO.: C1881-510019-A(SRF20221862)

REV.: X2

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	 鄭香廷 12/22	
DATE :		

WHA YU GROUP

WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)

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RF Antenna Assembly

Specification

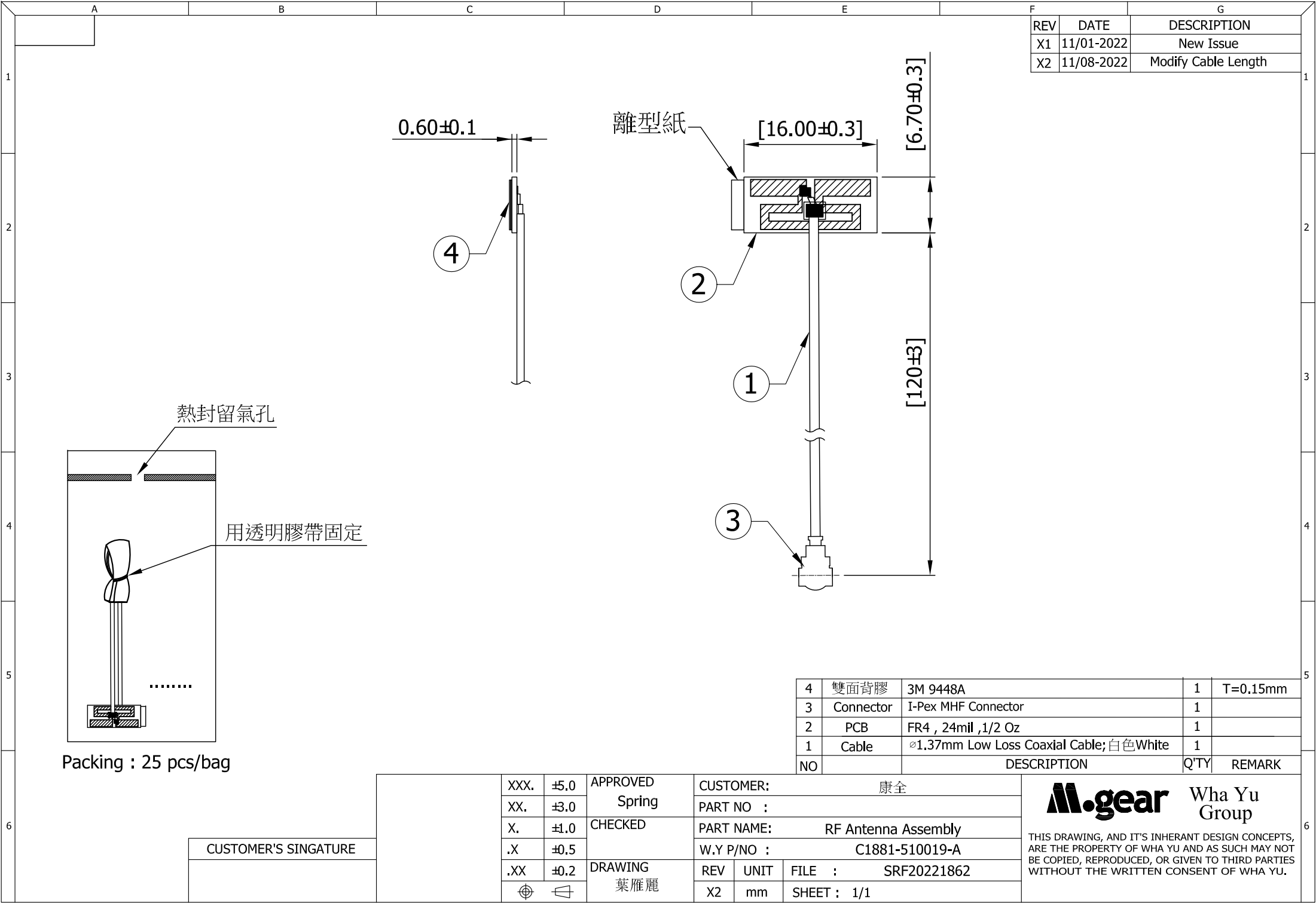
1. Electrical Properties : With housing/With Cable loss(Ant.6)

- 1.1 Frequency Range..... 5.925~7.125 GHz
- 1.2 Impedance 50Ω Nominal
- 1.3 VSWR1.72 : 1 Max.
- 1.4 Return Loss.....11.5 dB Min.
- 1.5 RadiationOmni-directional
- 1.6 Peak Gain.....5.05 dBi Max.
- 1.7 Cable Loss.....0.47 dB Max.
- 1.8 Polarization.....Linear
- 1.9 Cable..... 1.37mm Low Loss Coaxial Cable (White)
- 1.10 Connector.....I-PEX MHF Connector

2. Physical Properties :

- 2.1 Operating Temp.-10℃ ~ +60℃
- 2.2 Storage Temp.-10℃ ~ +70℃

F		G	
REV	DATE	DESCRIPTION	
X1	11/01-2022	New Issue	
X2	11/08-2022	Modify Cable Length	



4	雙面背膠	3M 9448A	1	T=0.15mm
3	Connector	I-Pex MHF Connector	1	
2	PCB	FR4 , 24mil ,1/2 Oz	1	
1	Cable	Ø1.37mm Low Loss Coaxial Cable; 白色White	1	
NO	DESCRIPTION		Q'TY	REMARK

CUSTOMER'S SINGATURE	XXX.	±5.0	APPROVED Spring	CUSTOMER:			康全
	XX.	±3.0		PART NO :			
	X.	±1.0	CHECKED	PART NAME:			RF Antenna Assembly
	.X	±0.5		W.Y P/NO :			C1881-510019-A
	.XX	±0.2	DRAWING 葉雁麗	REV	UNIT	FILE	SRF20221862
				X2	mm	SHEET	1/1

Wha Yu Group

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Specification

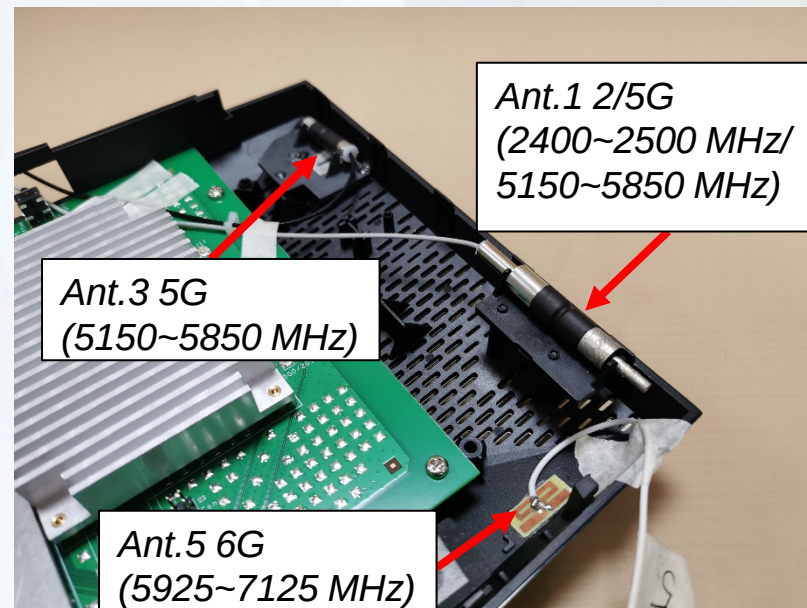
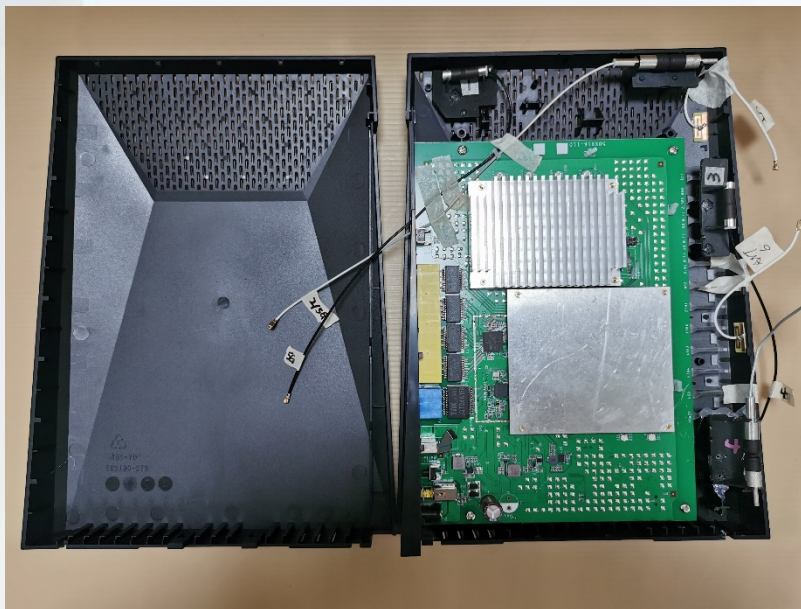
Requirements of Antenna Design

RF Function	Number of ANT	Frequency Band	Remark
WiFi 2/5G	2	2400-2500 MHz / 5150-5850 MHz	Metal Tube
WiFi 5G	2	5150-5850 MHz	Metal Tube
WiFi 6G	2	5925-7125 MHz	PCB

Requirements of Measurement

Test Item	Specification	Remark
Return Loss	> 11.5 dB	
Isolation	> 25 dB	
Peak gain	< 6dBi	
Efficiency	>65%	
Radiation pattern	Scale:+10~-40dBi, Angle step size: 2 degree	

Antenna Placement & Solution



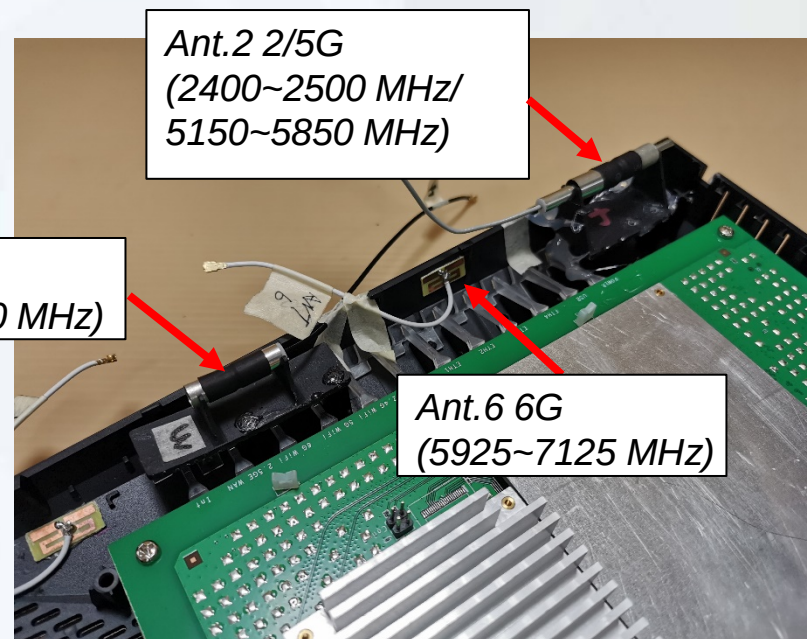
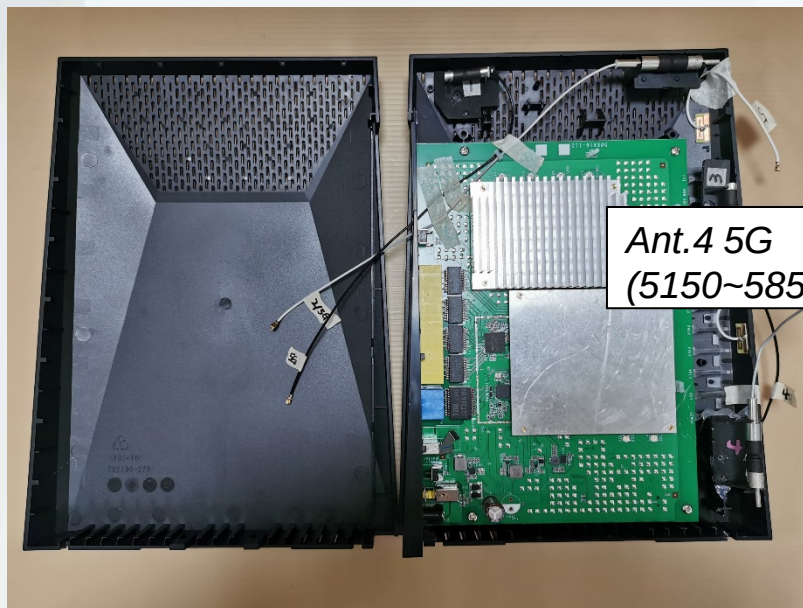
Ant.1 2/5G
(2400~2500 MHz/
5150~5850 MHz)

Ant.3 5G
(5150~5850 MHz)

Ant.5 6G
(5925~7125 MHz)

Antenna	ANT Type	Size (L * W * H* T)	Cable Length (mm)	Cable Type
Ant.1	Metal Dipole	NA	107.5mm (Extend 75mm)	Φ=1.37mm(LL Gray)
Ant.3	Metal Dipole	NA	90mm (Extend 75mm)	Φ=1.37mm(LL Black)
Ant.5	PCB Dipole	16mm*6.7mm*0.6mm	231mm (Extend 225mm)	Φ=1.37mm (LL White)

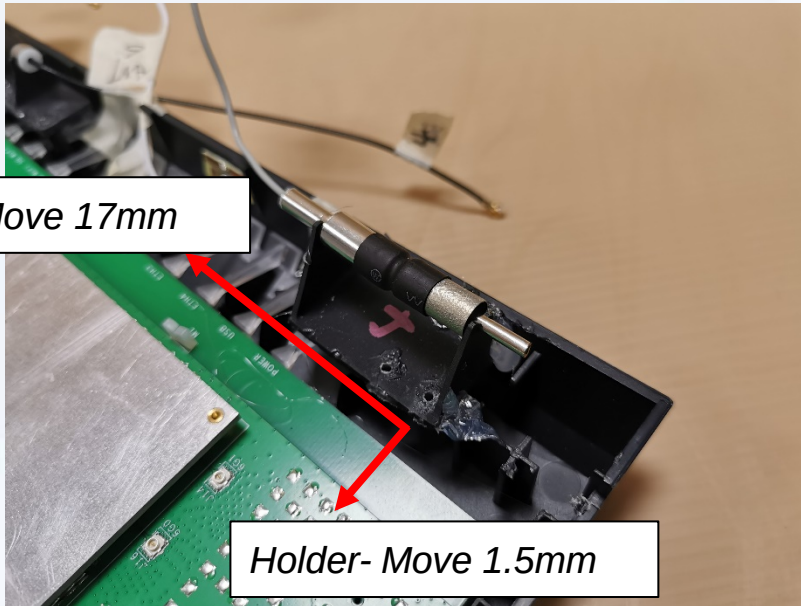
Antenna Placement & Solution



Antenna	ANT Type	Size (L * W * H)	Cable Length (mm)	Cable Type
Ant.2	Metal Dipole	NA	222.5mm (Extend 190mm)	Φ=1.37mm(LL Gray)
Ant.4	Metal Dipole	NA	160mm (Extend 150mm)	Φ=1.37mm(LL Black)
Ant.6	PCB Dipole	16mm*6.7mm*0.6mm	126mm (Extend 120mm)	Φ=1.37mm (LL White)

Antenna Placement & Solution

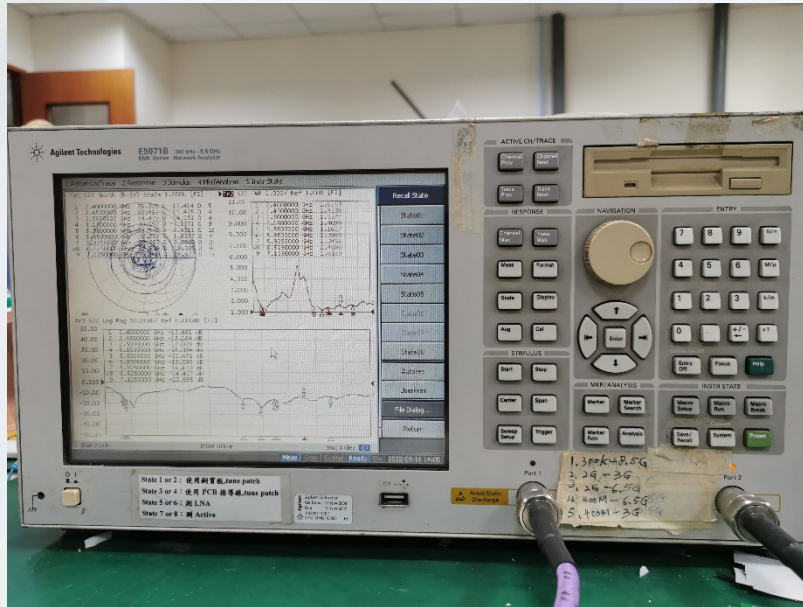
Move Ant.2 Holder



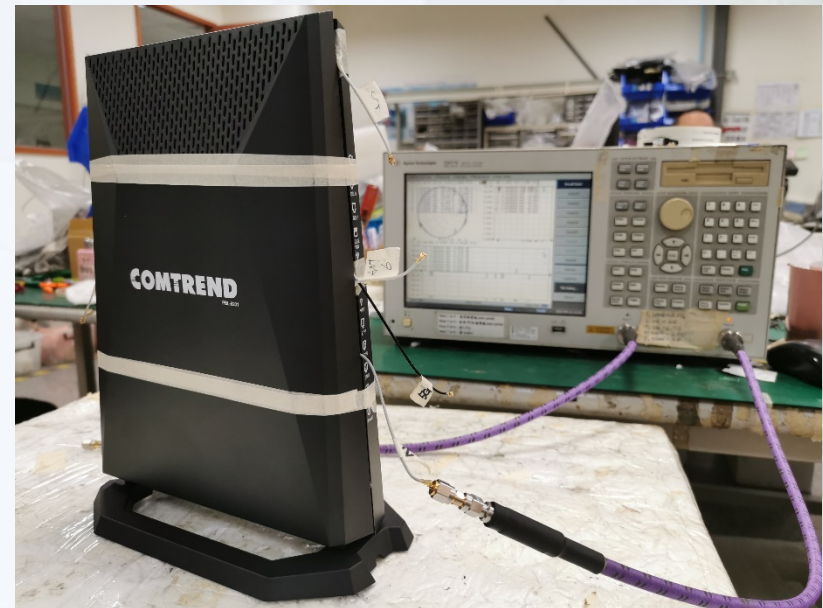
Antenna Placement & Solution

Antenna	Previous Version	Current Version
Ant.1-2/5G Ant.2-2/5G	Ant.1/Ant.2_2/5G_v1.05 	Ant.1/Ant.2_2/5G_v1.06 
Ant.3-5G Ant.4-5G	Ant.3/Ant.4_5G_v1.05 	Ant.3/Ant.4_5G_v1.06 
Ant.5-6G Ant.6-6G	Ant.5/Ant.6_6G_v1.05 	Ant.5/Ant.6_6G_v1.06 

Test Setup for S-parameter Measurement

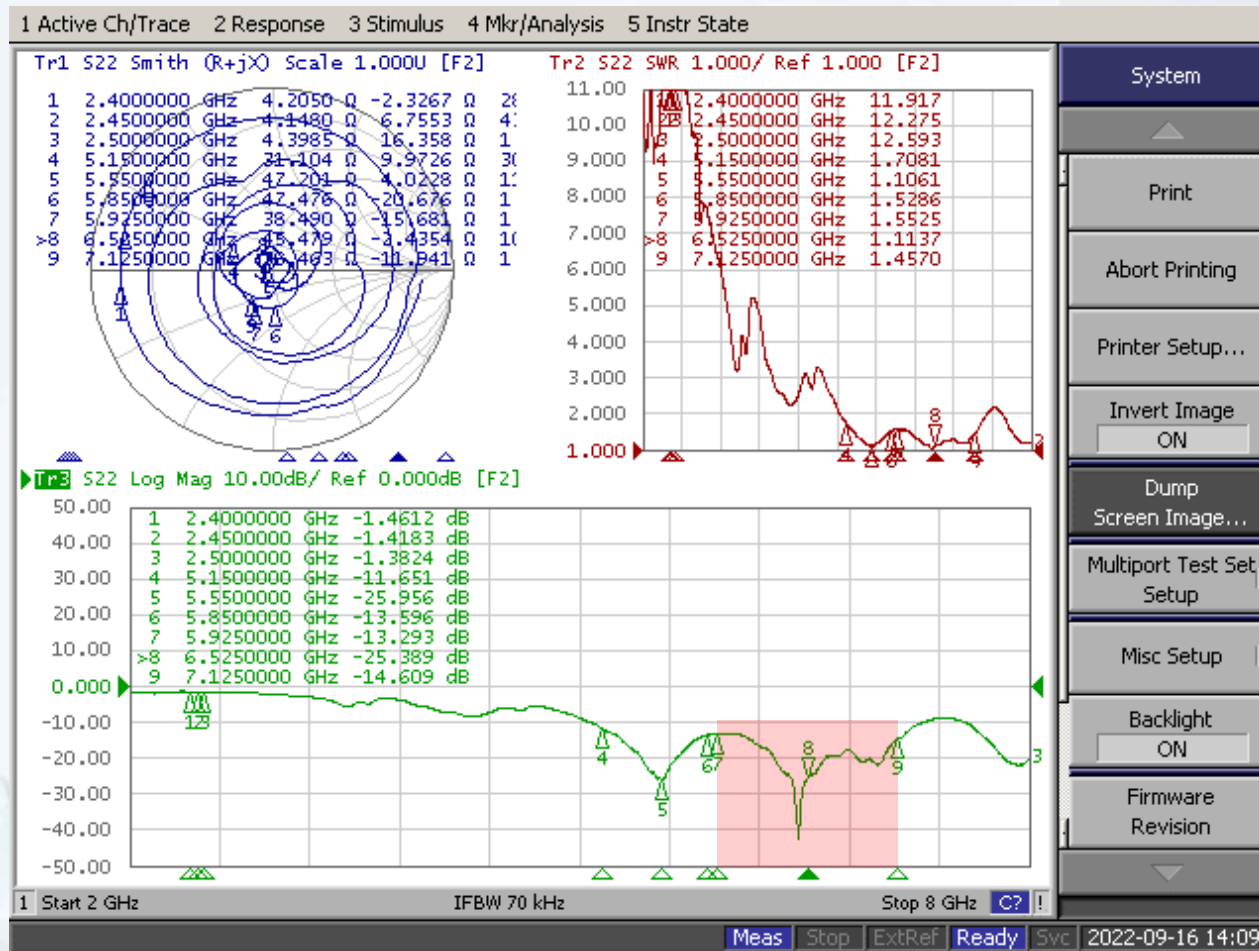


Equipment	Brand	Model	S/N
Network Analyzer	Keysight	E5071B	MY42100388



Return Loss Results

Ant.6 (5925-7125MHz) (Criterion:>11.5 dB)



Test Setup for Radiation Pattern Measurement

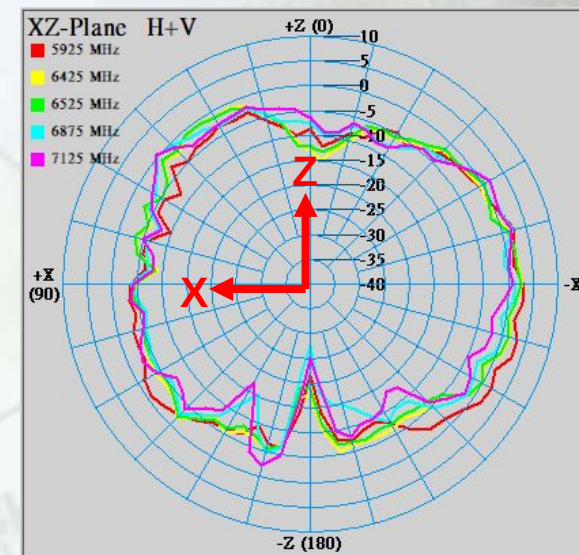
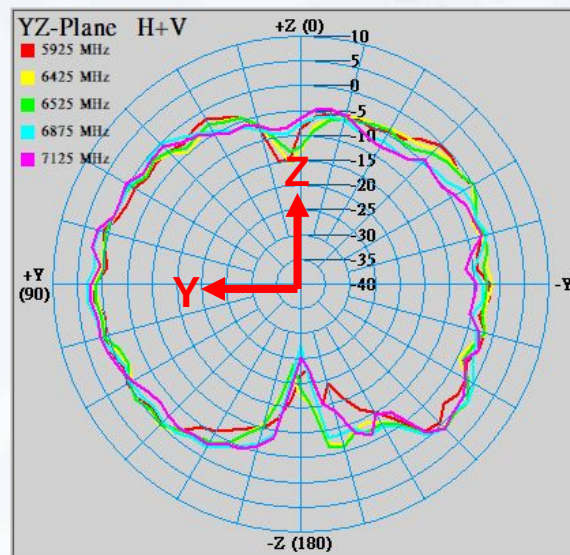
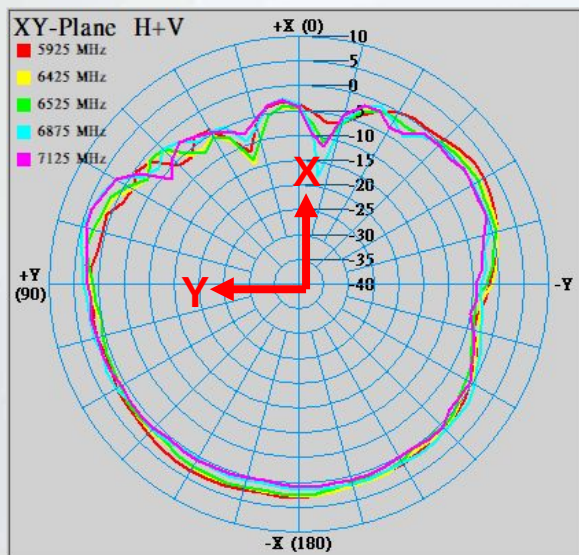
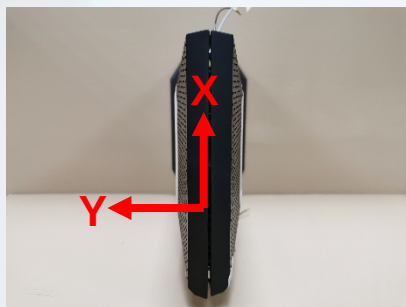
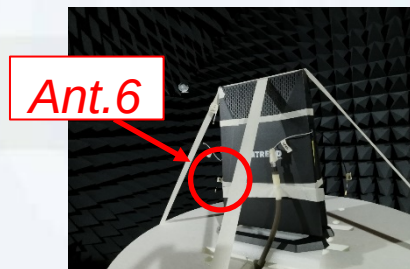


- **SATIMO SG-24L Multi-Probe Antenna Measurement System**
 - Frequency range: 400 MHz – 9 GHz
 - Chamber Room Size: 5m L x 5m W x 5m H

Chamber	Brand	Model	Location
SATIMO	SATIMO	SG-24	Taiwan HsinChu

2D Radiation Pattern Results

Ant.6-6G



Results Summary

Peak gain & Efficiency – Ant.6 (Criterion: Efficiency >65%)

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
5925	4.64	75
6425	4.70	69
6525	4.07	67
6875	5.05	68
7125	4.89	69