



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



DONGGUAN AEON TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 康全

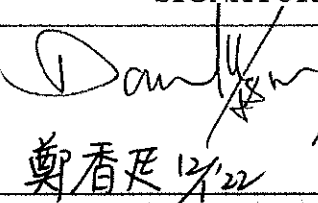
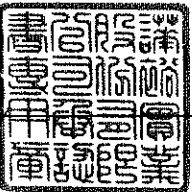
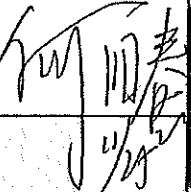
PART NAME: RF Antenna Assembly

PART NO.:

REVISION:

W. Y. P/NO.: C1881-510018-A(SRF20221861)

REV.: X2

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	 鄭香廷 12/22	
DATE :	 何杰 11/25	

WHA YU GROUP

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

譚裕實業股份有限公司

Address: No. 326, Sec. 2, Kung Tao 5 Road, Hsin Chu City, Taiwan, R.O.C.

Tel: +886-3-5714225(REP.) Fax: +886-3-5713853 · +886-3-5723600

DONGGUAN AEON TECH CO., LTD.(CHINA)

東莞台霖電子通訊有限公司

Address: Hupan Industrial District, Tai Ling Shan Town, Dong Guan City, Guangdong, China

Tel: +86-769-85655858 Fax: +86-769-85655258

RF Antenna Assembly

Specification

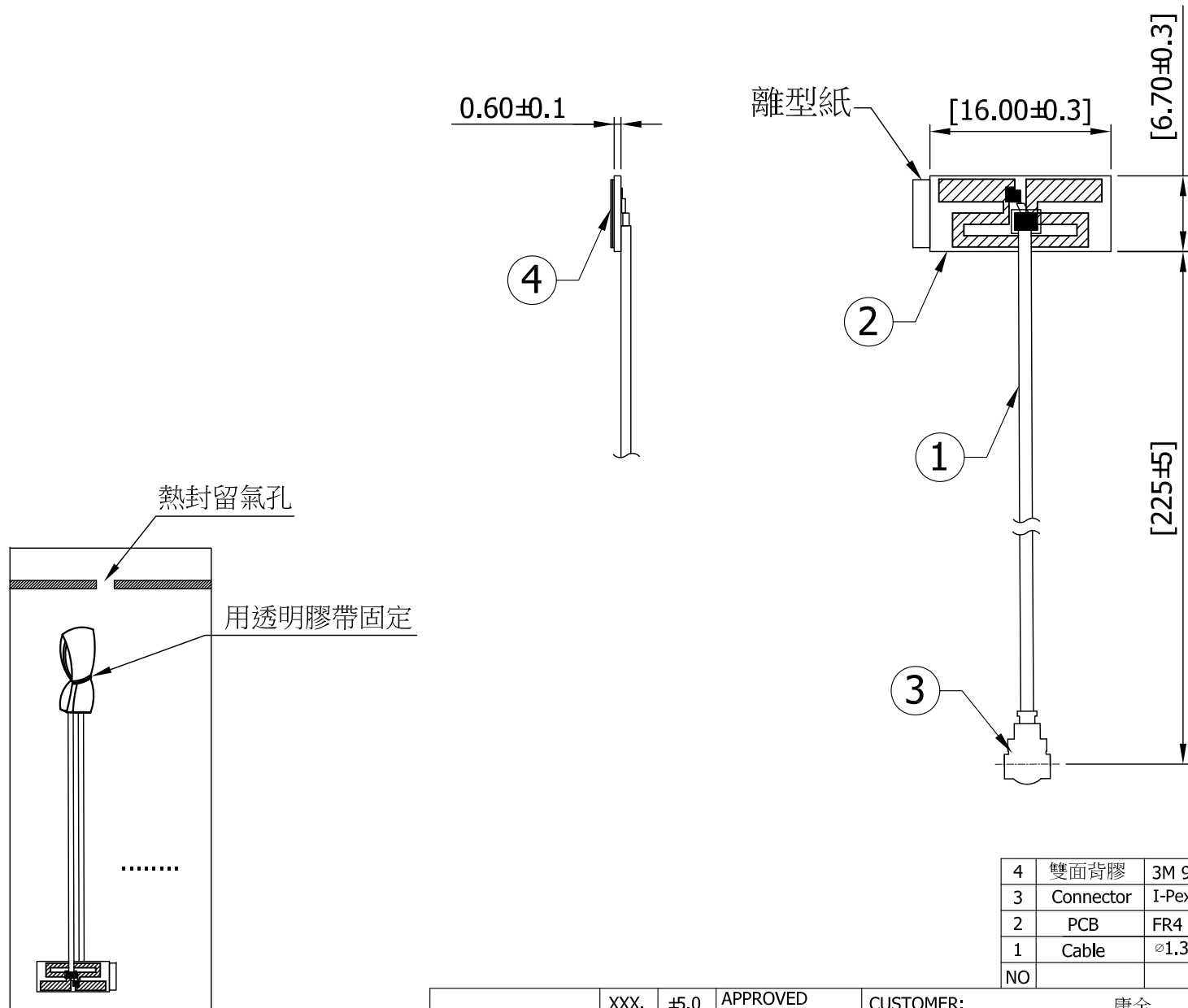
1. Electrical Properties : With housing/With Cable loss(Ant.5)

- 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.....4.92 dBi Max.
- 1.7 Cable Loss.....0.92 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°C ~ +60°C
- 2.2 Storage Temp.-10°C ~ +70°C

F		G	
REV	DATE	DESCRIPTION	
X1	11/01-2022	New Issue	



Packing : 25 pcs/bag

CUSTOMER'S SINGATURE

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	∅1.37mm Low Loss Coaxial Cable; 白色White	1	
NO	DESCRIPTION		Q'TY	REMARK

	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 : C1881-510018-A		
	.XX	±0.2	DRAWING 葉雁麗	REV	UNIT	FILE : SRF20221861
		X1		mm	SHEET : 1/1	

Wha Yu Group

THIS DRAWING, AND IT'S INHERANT DESIGN CONCEPTS, ARE THE PROPERTY OF WHA YU AND AS SUCH MAY NOT BE COPIED, REPRODUCED, OR GIVEN TO THIRD PARTIES WITHOUT THE WRITTEN CONSENT OF WHA YU.

Specification

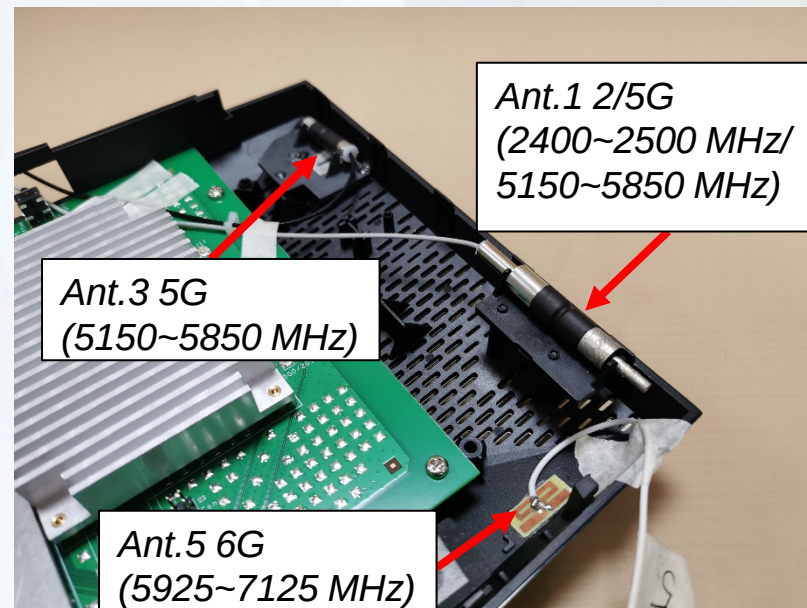
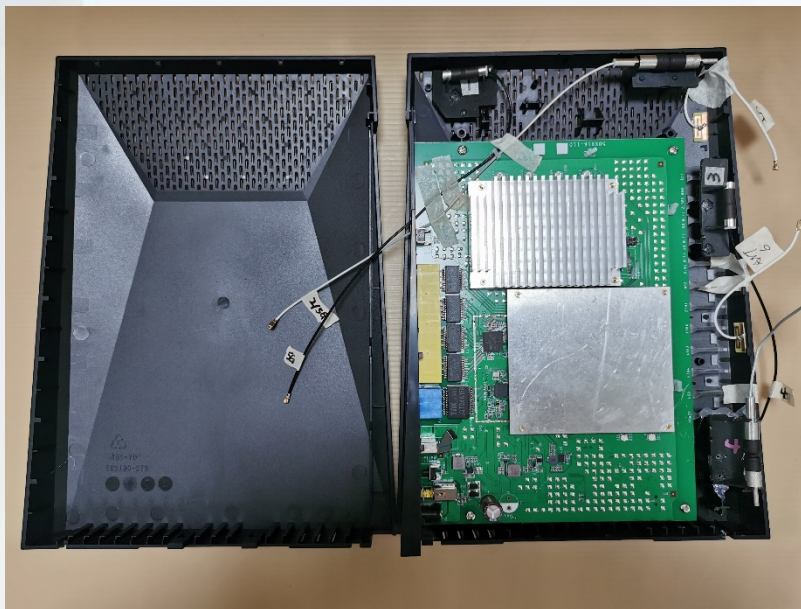
Requirements of Antenna Design

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

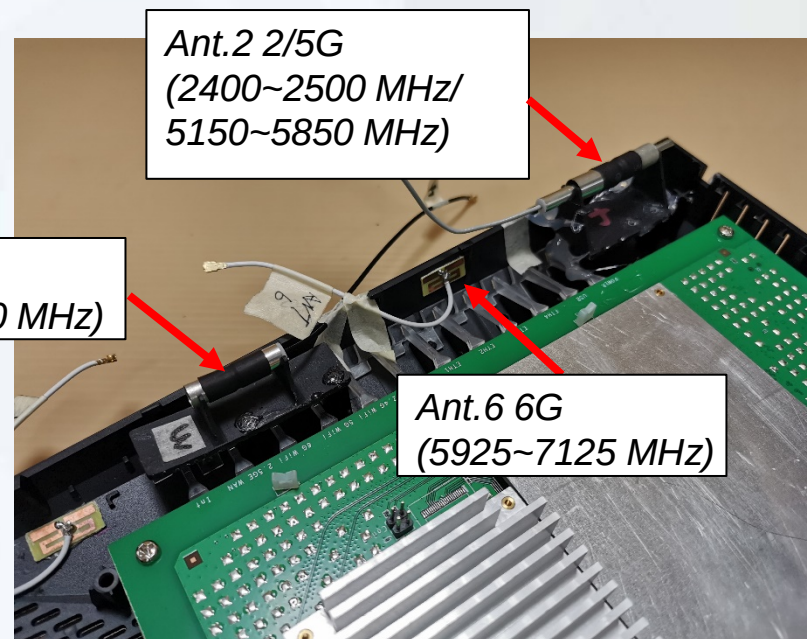
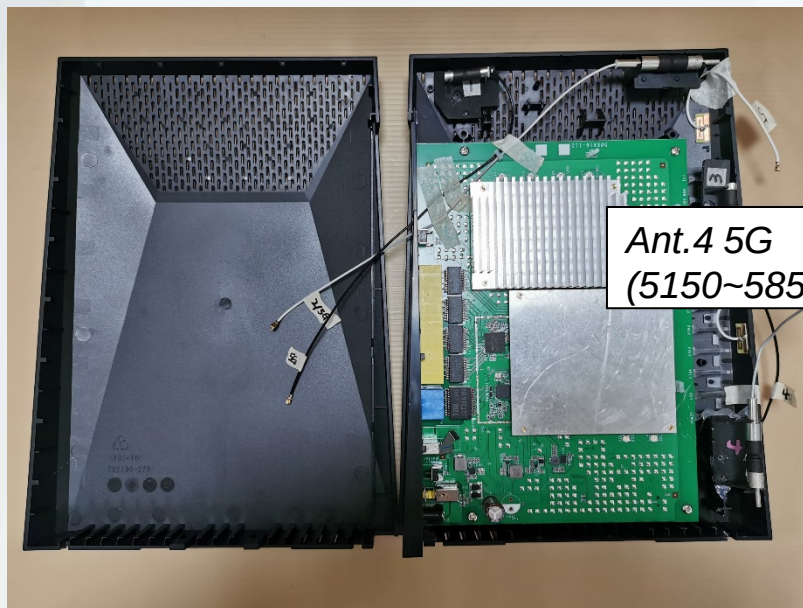
Test Item	Specification	Remark
Return Loss	> 11.5 dB	
Isolation	> 25 dB	
Peak gain	< 6dBi	
Efficiency	>65%	
Radiation pattern	Scale:+10~-40dBi, Angle step size: 2 degree	

Antenna Placement & Solution



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)

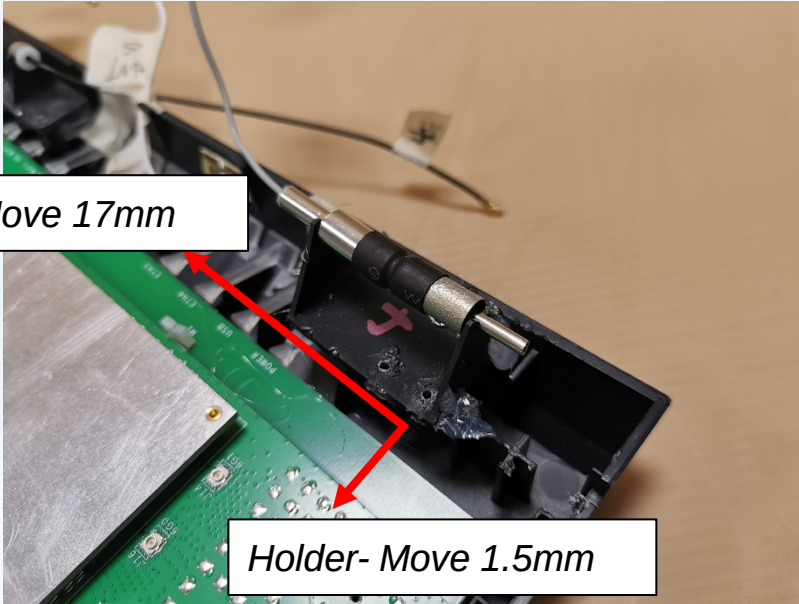
Antenna Placement & Solution



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



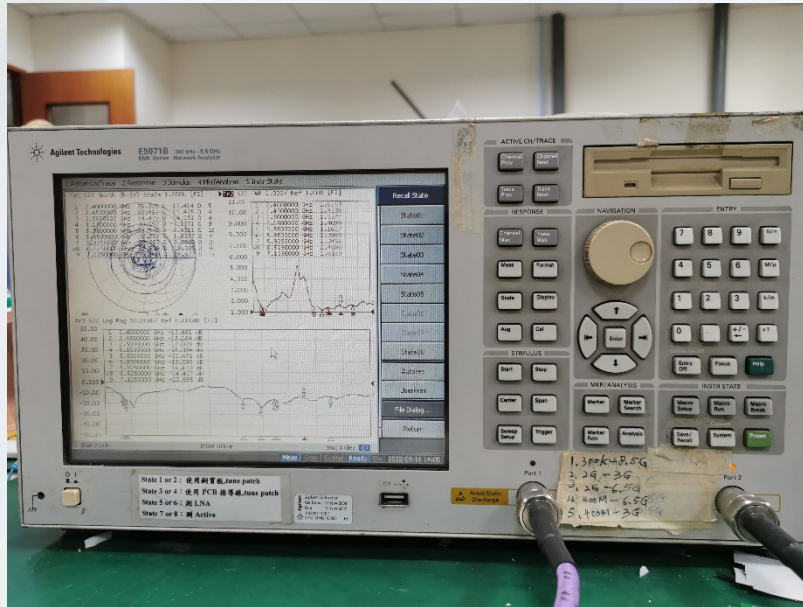
Holder- Move 17mm

Holder- Move 1.5mm

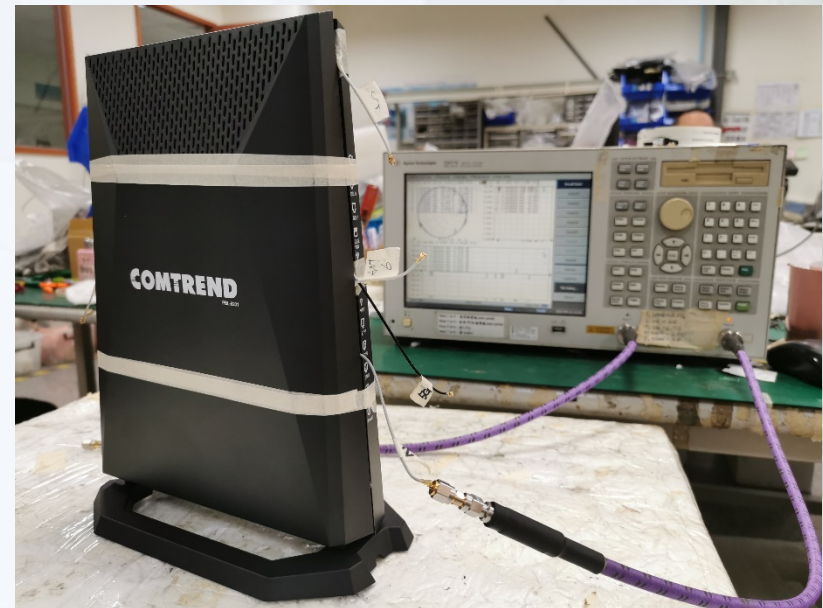
Antenna Placement & Solution

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

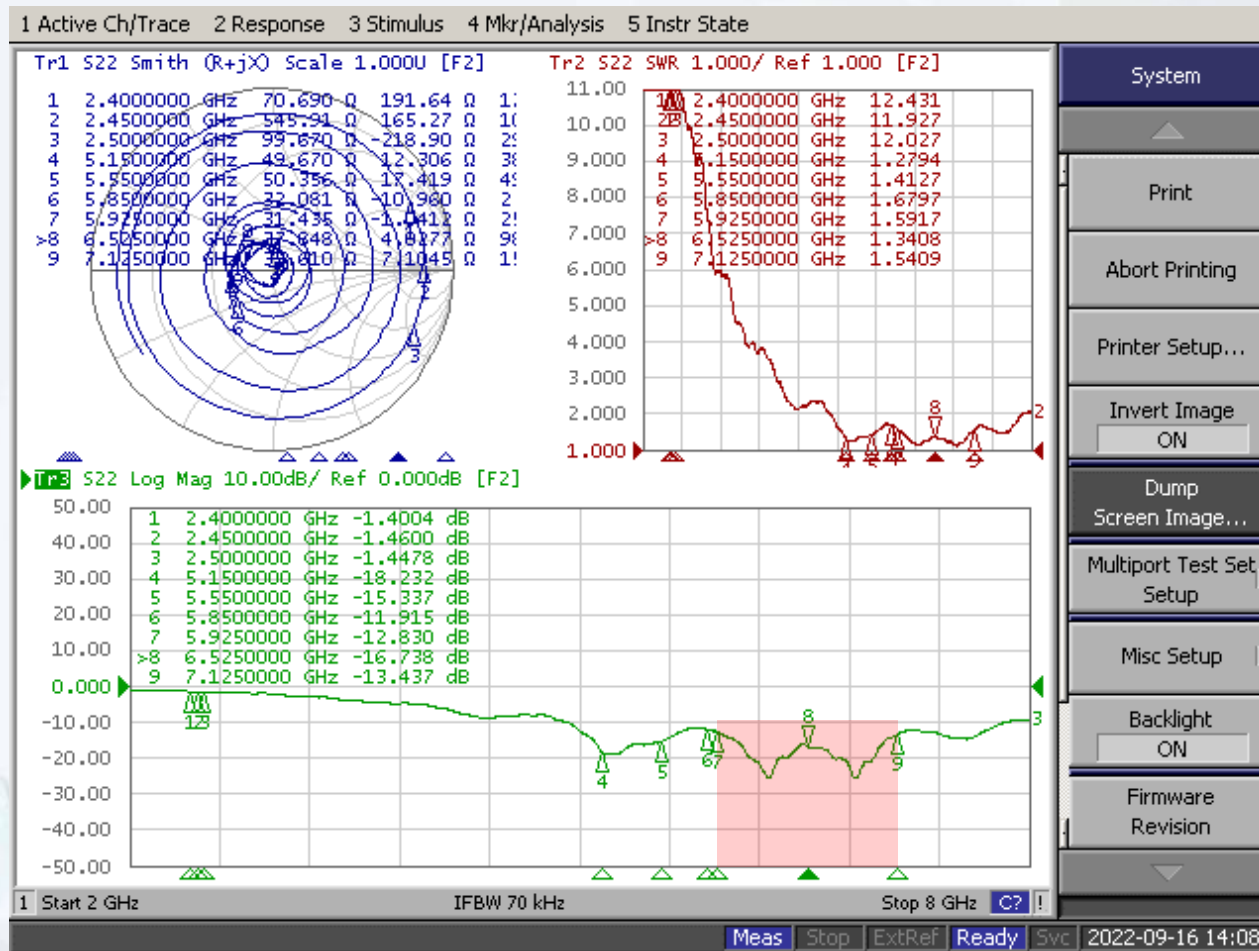


Equipment	Brand	Model	S/N
Network Analyzer	Keysight	E5071B	MY42100388



Return Loss Results

Ant.5 (5925-7125MHz) (Criterion:>11.5 dB)



Test Setup for Radiation Pattern Measurement



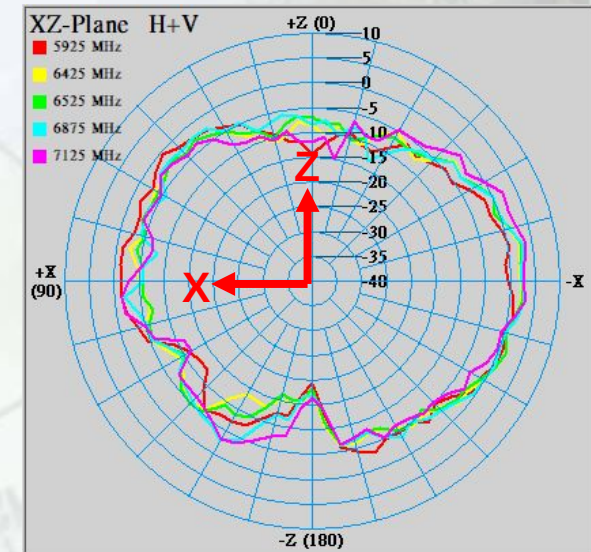
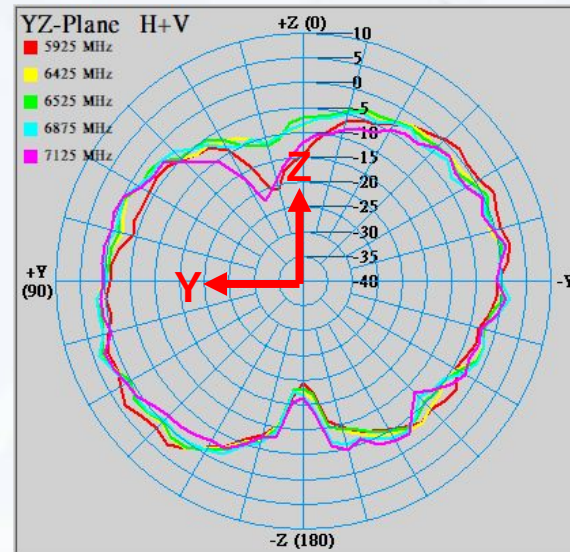
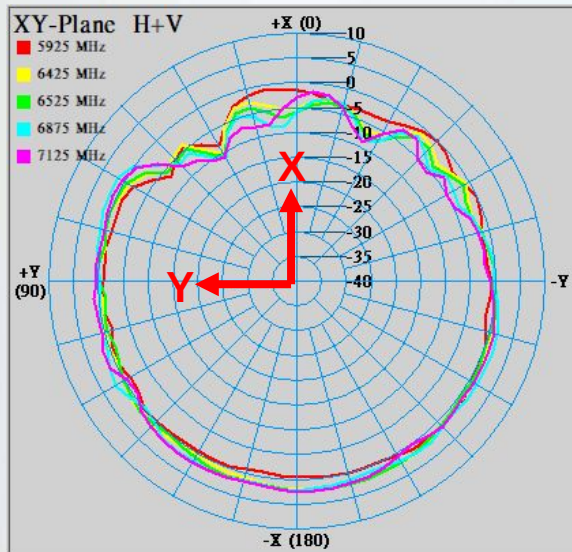
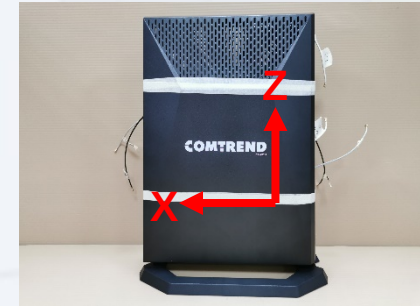
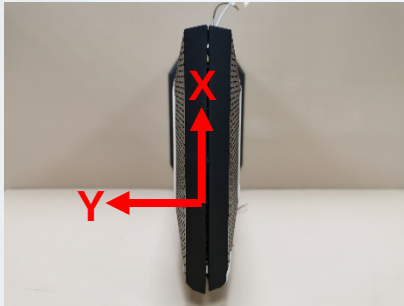
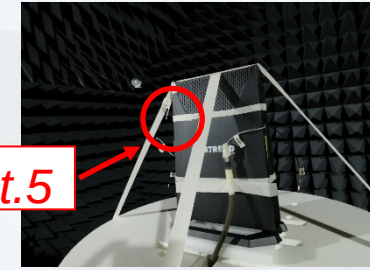
- **SATIMO SG-24L Multi-Probe Antenna Measurement System**
 - Frequency range: 400 MHz – 9 GHz
 - Chamber Room Size: 5m L x 5m W x 5m H

Chamber	Brand	Model	Location
SATIMO	SATIMO	SG-24	Taiwan HsinChu

2D Radiation Pattern Results

Ant.5-6G

Ant.5



Results Summary

Peak gain & Efficiency – Ant.5 (Criterion: Efficiency >65%)

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
5925	4.08	69
6425	4.33	71
6525	4.25	70
6875	4.72	71
7125	4.92	67