

# APPROVAL SHEET

**Metal Antenna**  
**2.4/5.x GHz Working Frequency**  
**P/N: RFMTA170900NNLB003**

Customer : Sichuan AI-Link Technology Co.,Ltd.  
Customer 's Part No. : \_\_\_\_\_  
Approval No. : \_\_\_\_\_  
Issue Date : \_\_\_\_\_

Version	Date	Description	Author
V01	2020 Feb.	New Release	HWCHAN

## ELECTRICAL CHARACTERISTICS

Item	Specification
Working Frequency Range	2.4 ~ 2.5 / 5.15 ~ 5.85 GHz (Note-1)
Return Loss	-10dB(Max)
Peak Gain	3.68 dBi(@2.4 ~ 2.5 GHz) 2.88 dBi(@5.15 ~ 5.85 GHz)
VSWR	< 2.0
Polarization	Linear Vertical
Admitted Power	1W
Operation Temperature	-20°C ~ +65°C

\*Note 1. Central Frequency should be defined after customers' application approval.

## MATERIAL TABLE

Items	Description
Metal	SUS 430 T=0.4mm(鍍鎳)

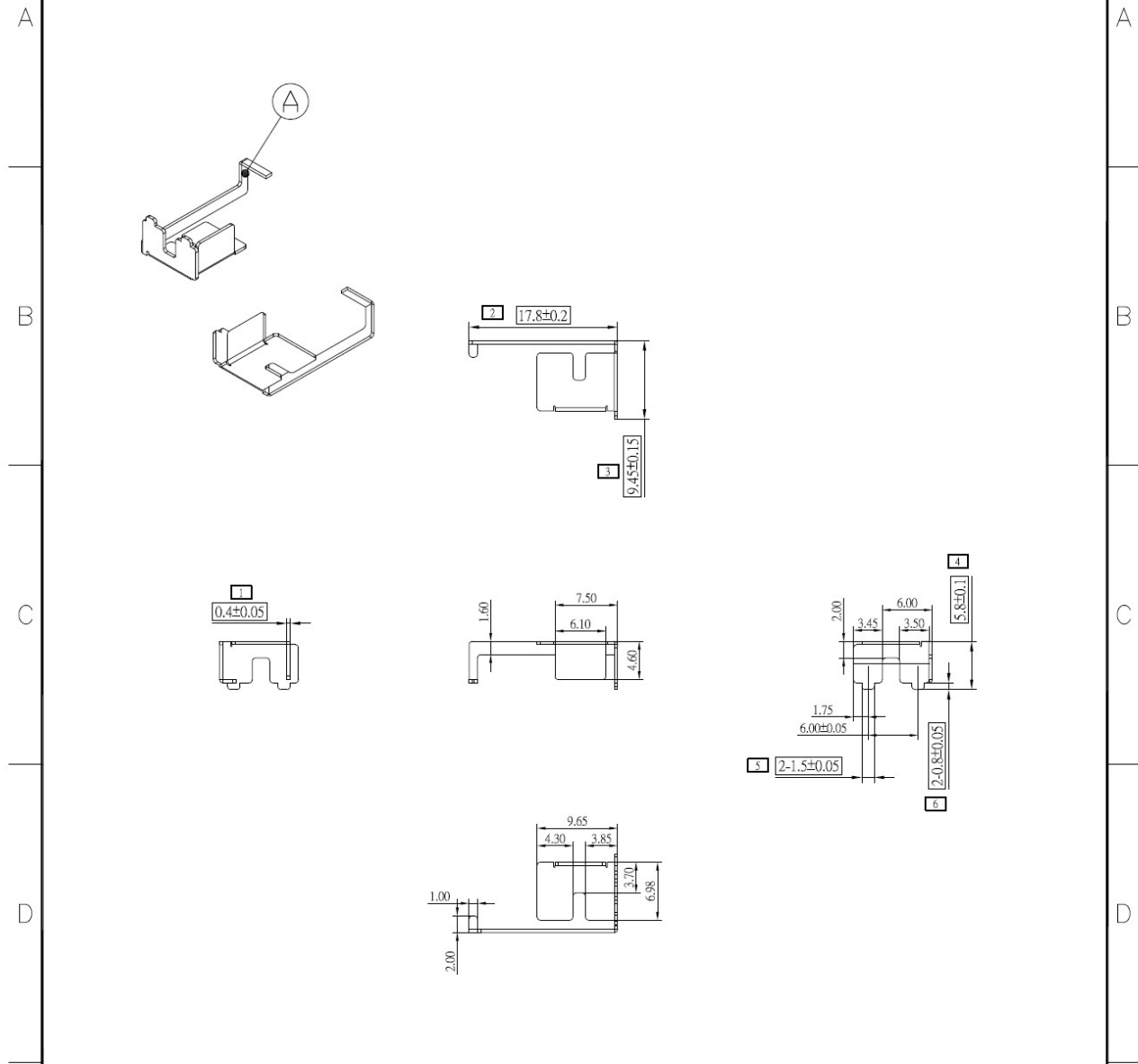
## ORDERING RULE

RF	MTA	1709	00	N	N	L	B	0	03
Type Code	Product Code	Metal Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
Walsin RF Device	Metal Antenna	Per 2 digits of length, width e.g.:1709 Length 17.80mm, Width9.45mm	2 digits for cable length e.g.: 00 None Cable	A: N C:MCX D:IPEX III E: IPEX IV F: IPEX A13 H: Hirose I: IPEX M: MMCX S: SMA T: TNC U:MURATA N: None	A: Reverse Female B: Reverse Male F: Female M: Male N: None	0: 0GHz 3: 3GHz 6: 6GHz A: 2.4GHz ISM band B: GSM 900/1800 dual band G: GPS band L: 2.4/5.2/5.8 GHz tri-band N: NFC T: LTE band W: WCDMA band	B: MP T:During Test X: Pile Run	0:None 1:∅ 0.81 2:∅ 1.32 3:∅ 1.13 4:Low Loss ∅ 1.13 5:∅ 0.5 6:RG316 7: ∅ 1.37 8:RG178 9:Low Loss ∅ 1.37	01~99 series number

DIMENSIONS

ELECTRICAL  
Frequency: 2.4 / 5. x GHz

No.	DESCRIPTION	MAT'L	Finish	Q'TY
A	Antenna(RFMTA1709-04)	SUS430 T=0.4mm	鍍鎳	1



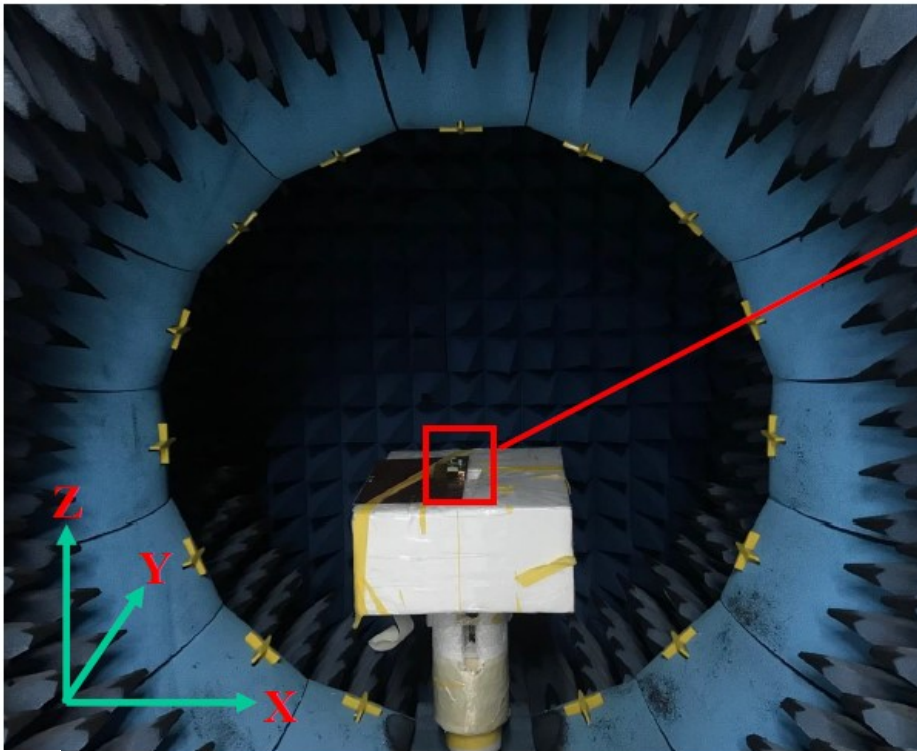
※標記□記號者, 為重點檢驗尺寸

				設計 DR. HWCHAN 2019.01.30	品名		版本 REV.
				核准 APP. Marco	ARTICLE		A
				容許公差 TOLERANCE	RFMTA170900NNLB003		
LTR	DESCRIPTION	DATE	REQ. BY	6以下.....±0.2	單位 UNIT	比例 SCALE	張數 SHEET
				6以上~30.....±0.5	mm	****	1
				30以上~120.....±0.8			
				120以上~315.....±1.2			
				315以上~1000.....±2.0			
				1000以上~2000.....±3.0			

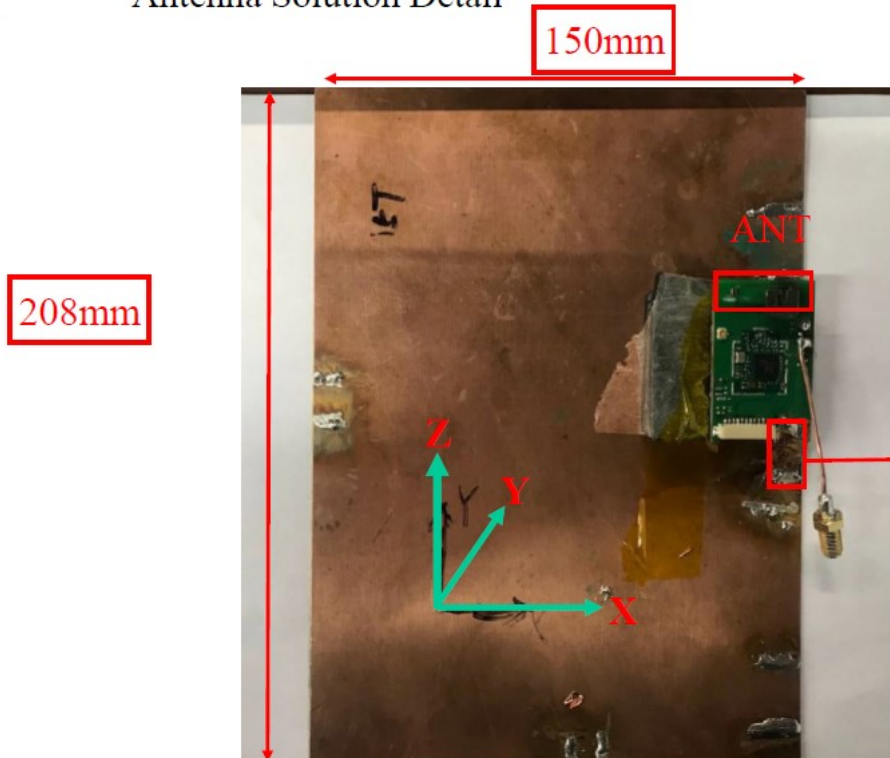
PSA 華新科技股份有限公司  
WALSIN TECHNOLOGY CORPORATION

# Test Report

## Experimental Setup



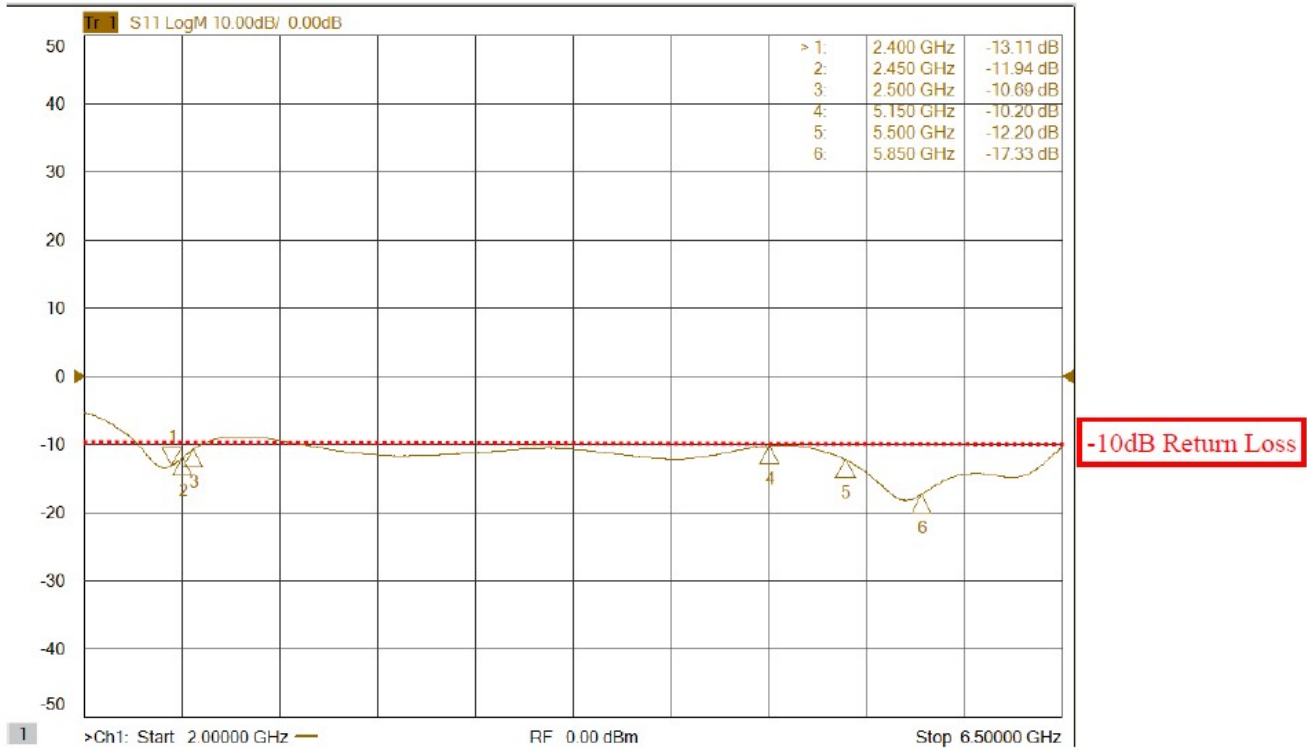
Antenna Solution Detail



模块与金属板通过金属铜箔连接, 模块距离金属板高度为10mm.

# ELECTRICAL CHARACTERISTICS

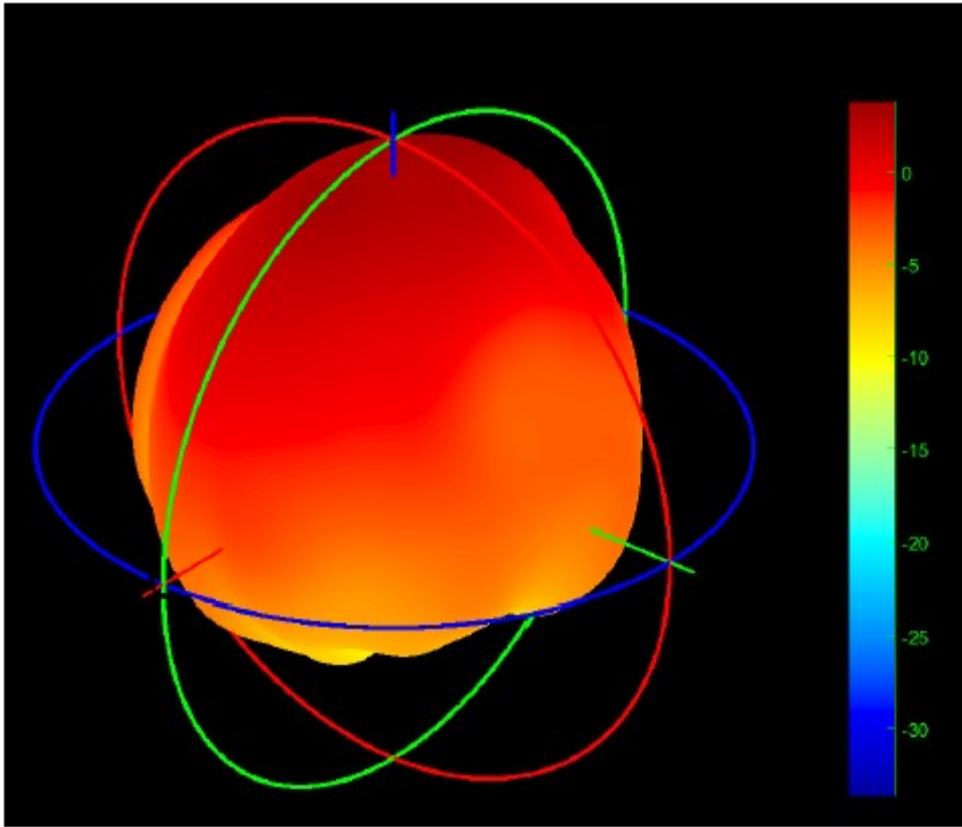
## Return Loss



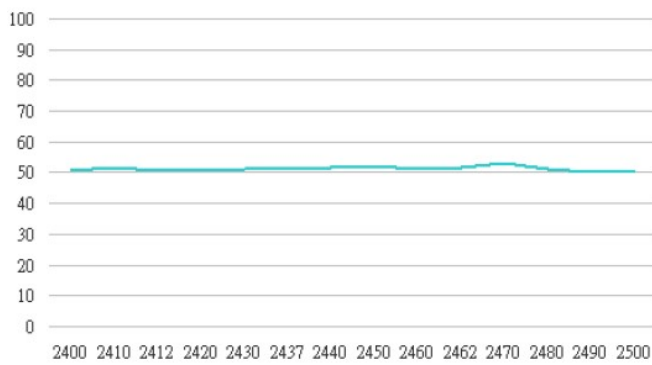
### ■ Antenna Efficiency and Peak Gain

## ANTENNA\_2G

2450 MHz

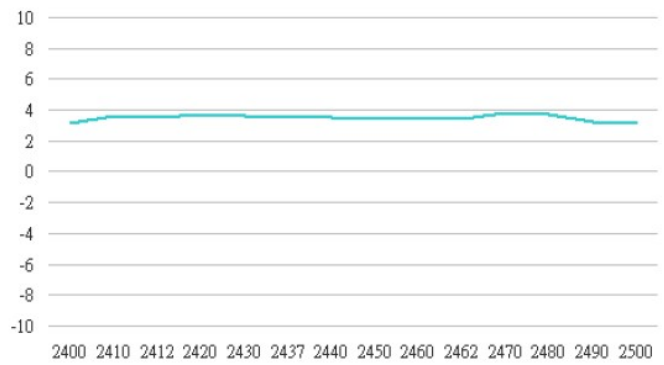


Efficiency



Maximum Efficiency at 2470 MHz : 52.94 %

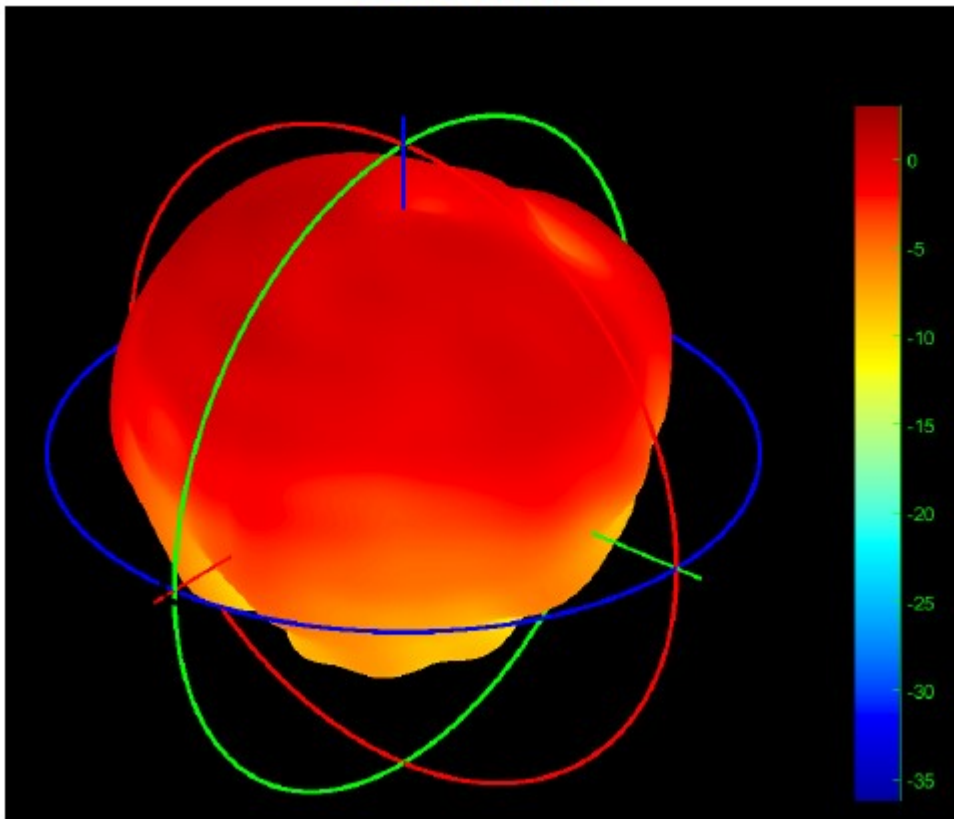
PeakGain



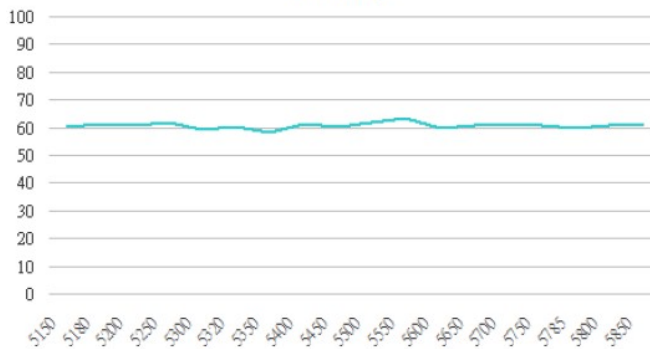
Maximum Peak Gain at 2470 MHz : 3.79 dBi

# ANTENNA\_5G

## 5500 MHz

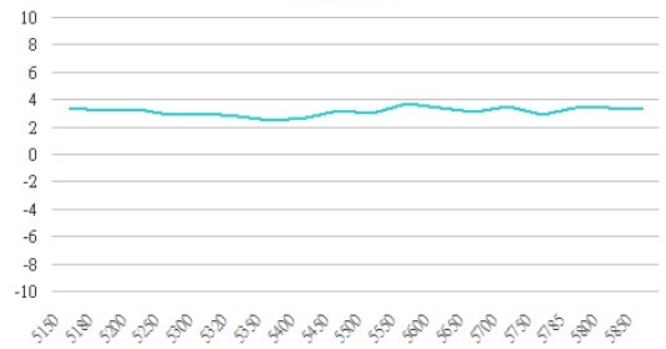


Efficiency



Maximum Efficiency at 5550 MHz : 63.53 %

PeakGain



Maximum Peak Gain at 5550 MHz : 3.68 dBi



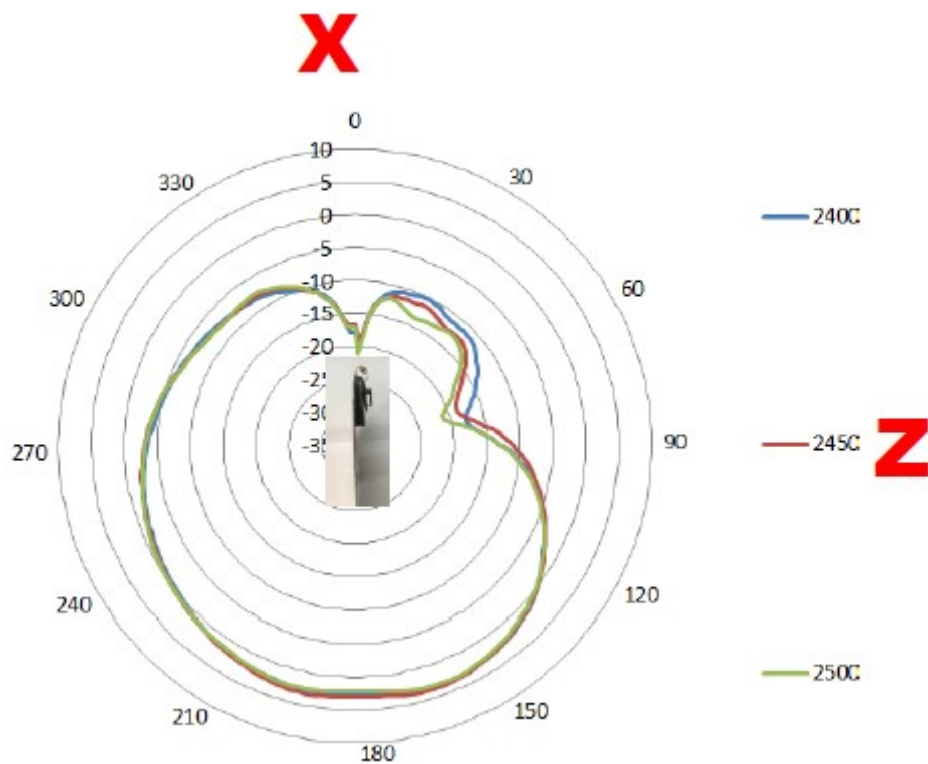
# RADIATION PATTERN

## ANTENNA\_2G

X-Z Plane

Phi=0.00deg

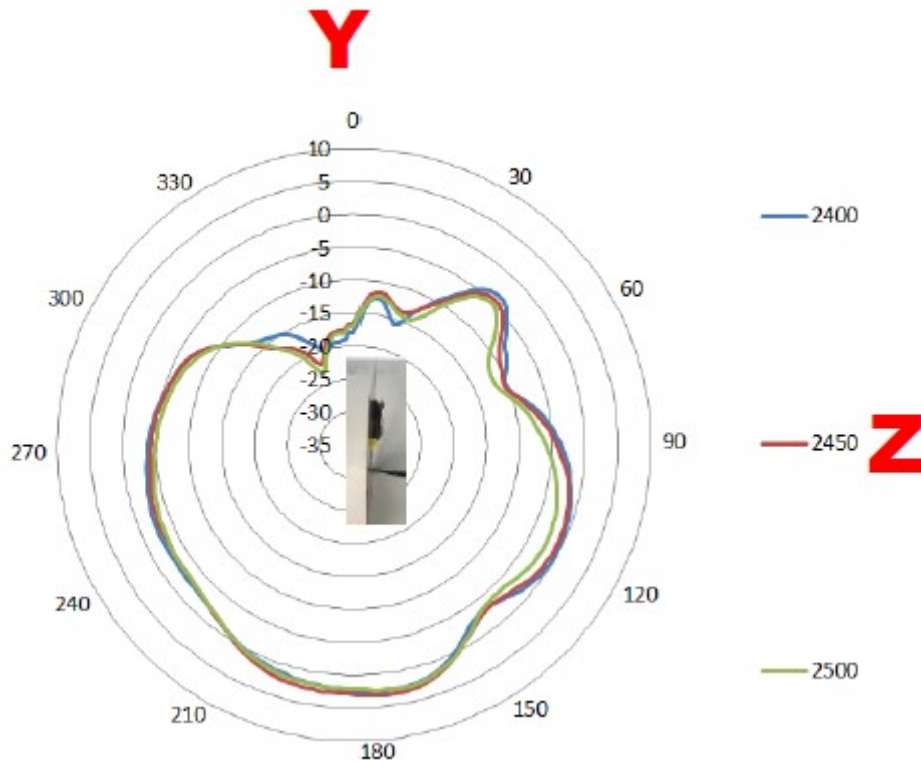
Gain . dB



### Y-Z Plane

Phi=90.00deg

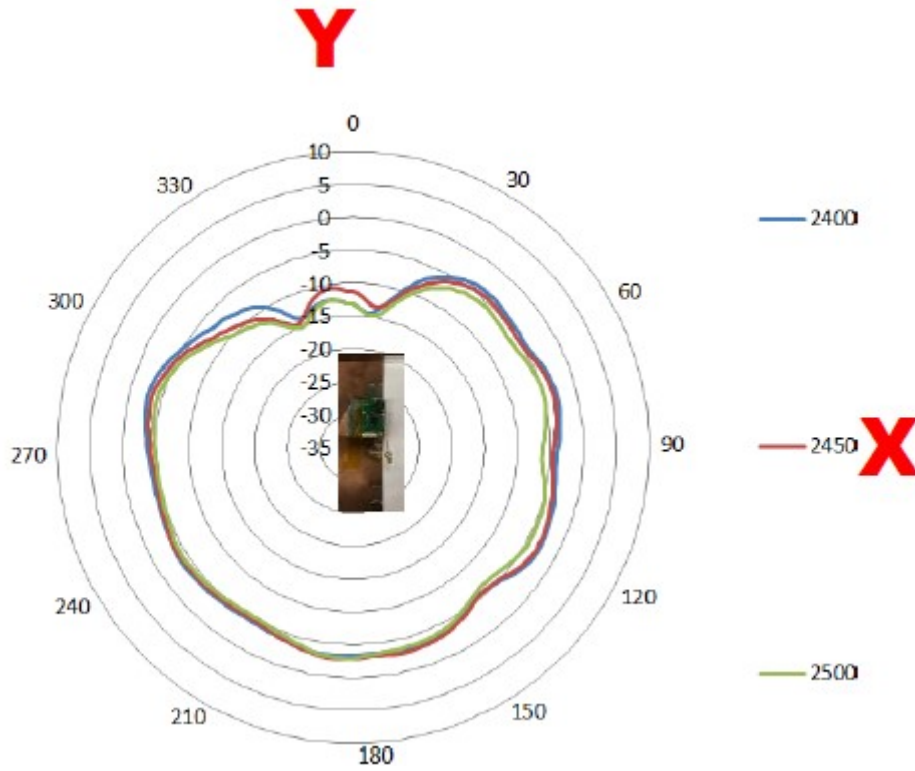
Gain . dB



**X-Y Plane**

**Theta=90.00deg**

**Gain . dB**



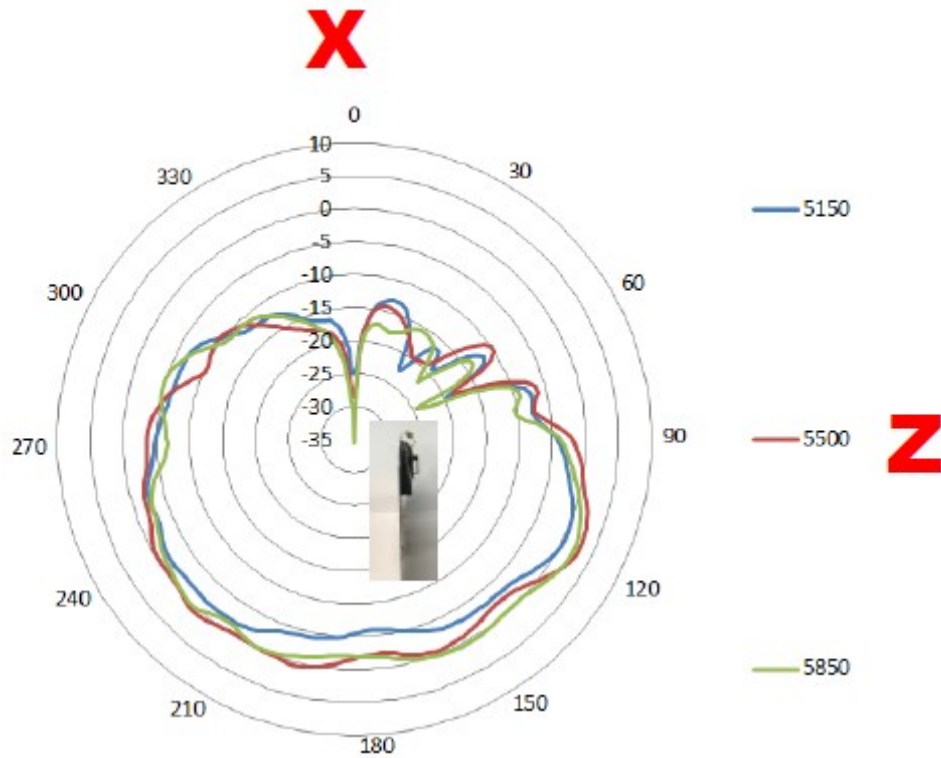
Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	3.57	-1.78	2.75	-2.71	-2.69	-4.61
2450	3.68	-1.56	3.25	-2.59	-2.73	-4.90
2500	3.25	-1.91	2.67	-3.27	-2.91	-5.73

# ANTENNA\_5G

X-Z Plane

Phi=0.00deg

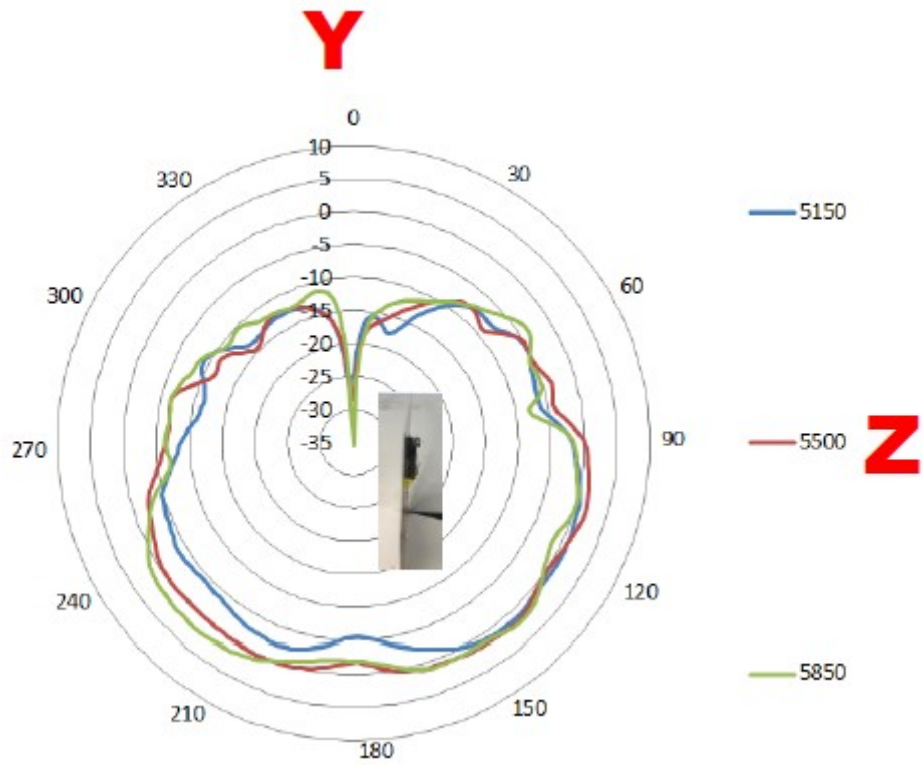
Gain . dB



### Y-Z Plane

Phi=90.00deg

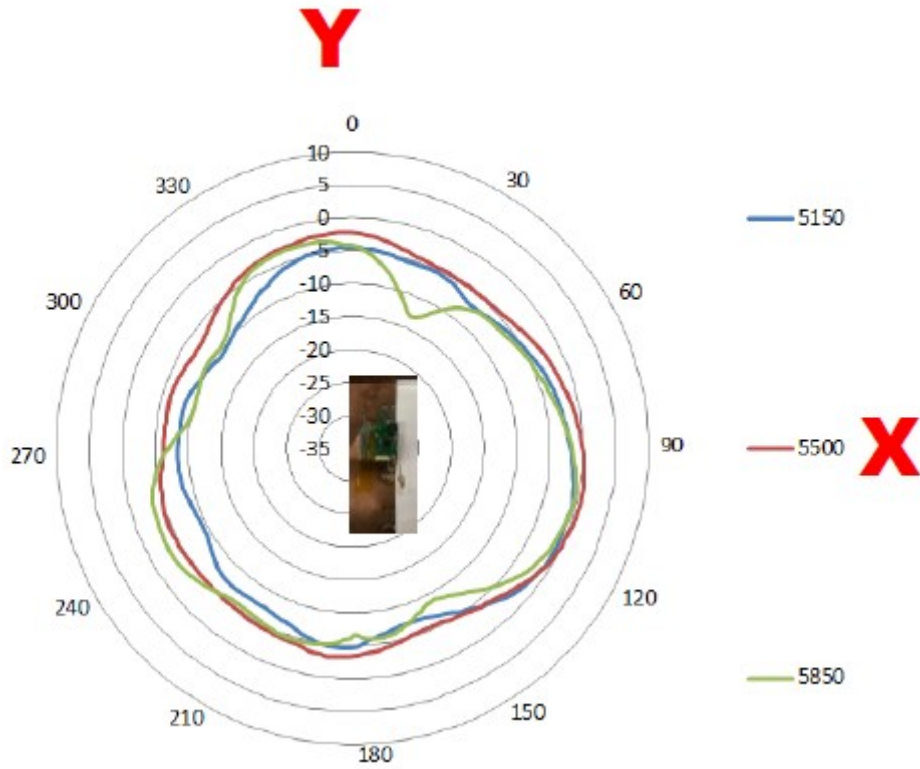
Gain . dB



**X-Y Plane**

**Theta=90.00deg**

**Gain . dB**



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	0.37	-14.93	1.24	-13.98	-0.54	-15.05
5500	2.88	-12.86	1.87	-12.30	0.65	-13.31
5850	2.25	-13.19	2.18	-12.27	-0.38	-14.79