

APPROVAL SHEET

Metal Antenna

2.4/5.x GHz Working Frequency

P/N: RFMTA170900NNLB003

Customer : 四川愛聯

Customer 's Part No. :

Approval No. :

Issue Date :

Version	Date	Description	Author
V01	2025 Jun.	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	3.79 dBi(@2.4 ~ 2.5 GHz) 3.68 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.

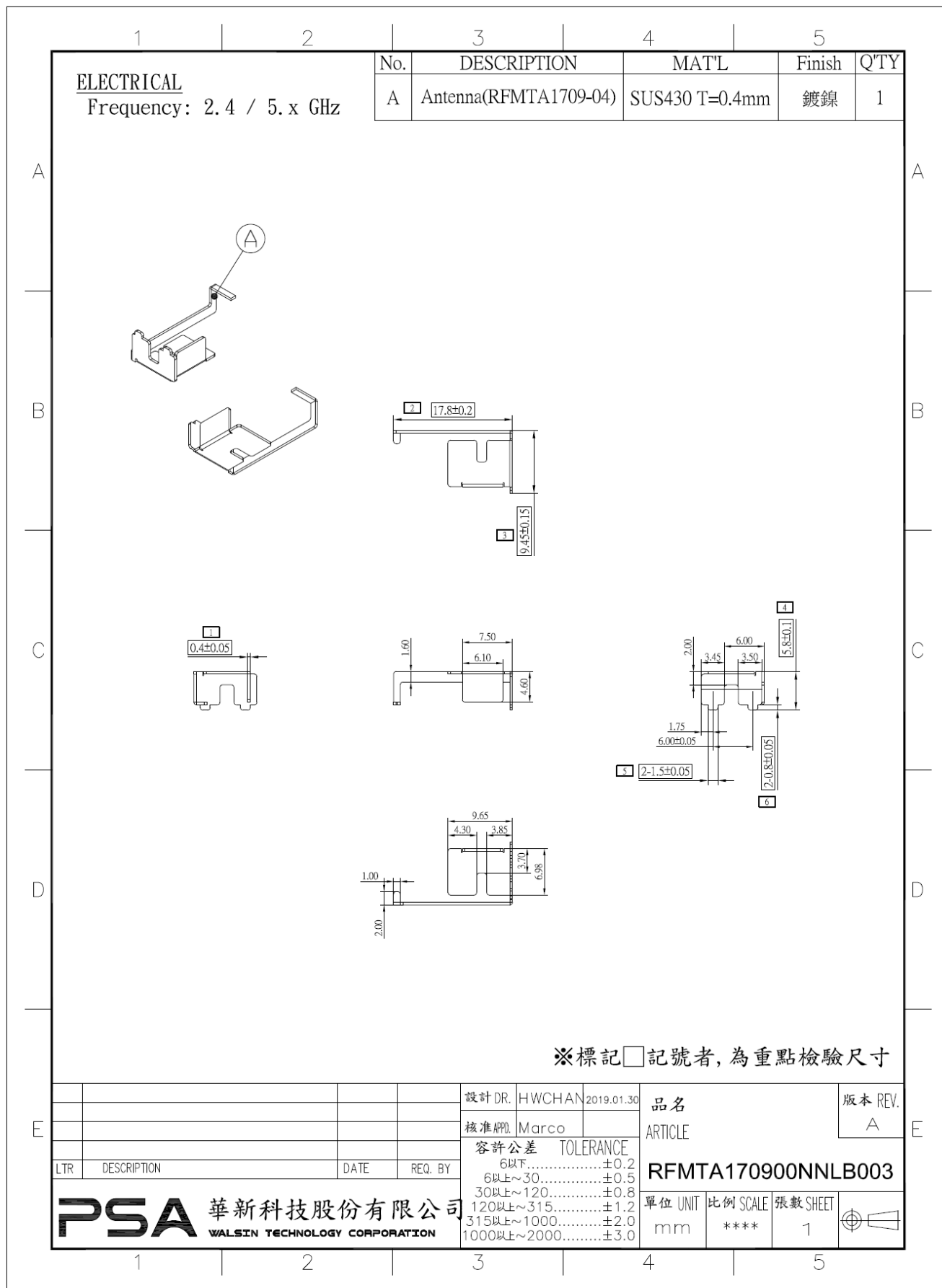
MATERIAL TABLE

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

ORDERING RULE

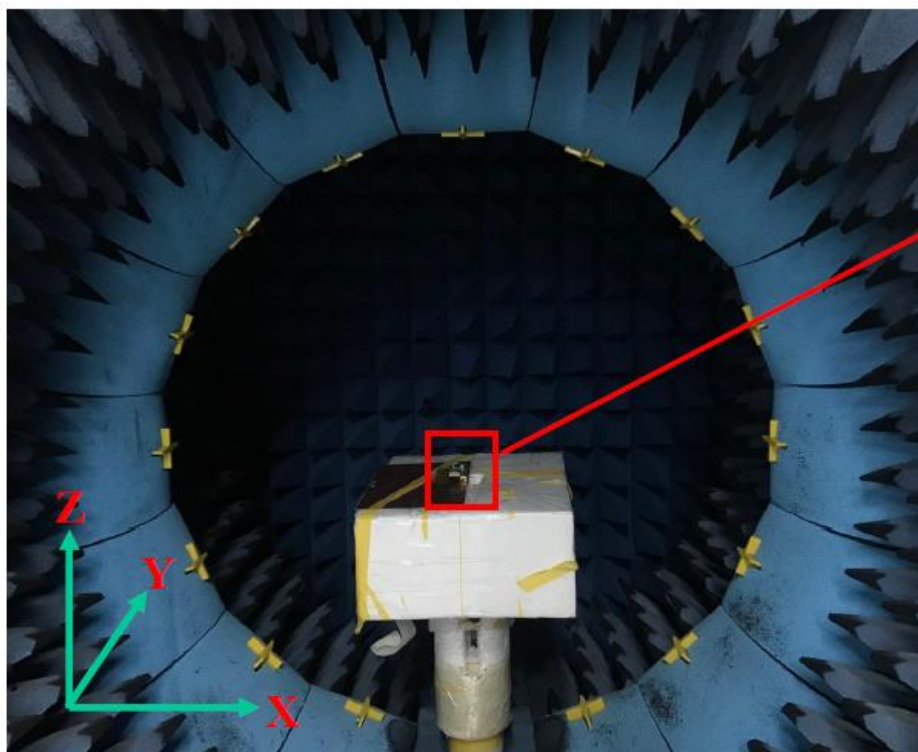
RF	MTA	1709	00	N	N	L	B	0	03
Type Code	Product Code	Metal Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
Walsin RF Device	Metal Antenna	Per 2 digits of length, width e.g.:1709 Length 17.80mm, Width9.45mm	2 digits for cable 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:Ø0.81 2:Ø1.32 3:Ø1.13 4:Low Loss Ø1.13 5:Ø0.5 6:RG316 7: Ø1.37 8:RG178 9:Low Loss Ø1.37	01~99 series number

DIMENSIONS

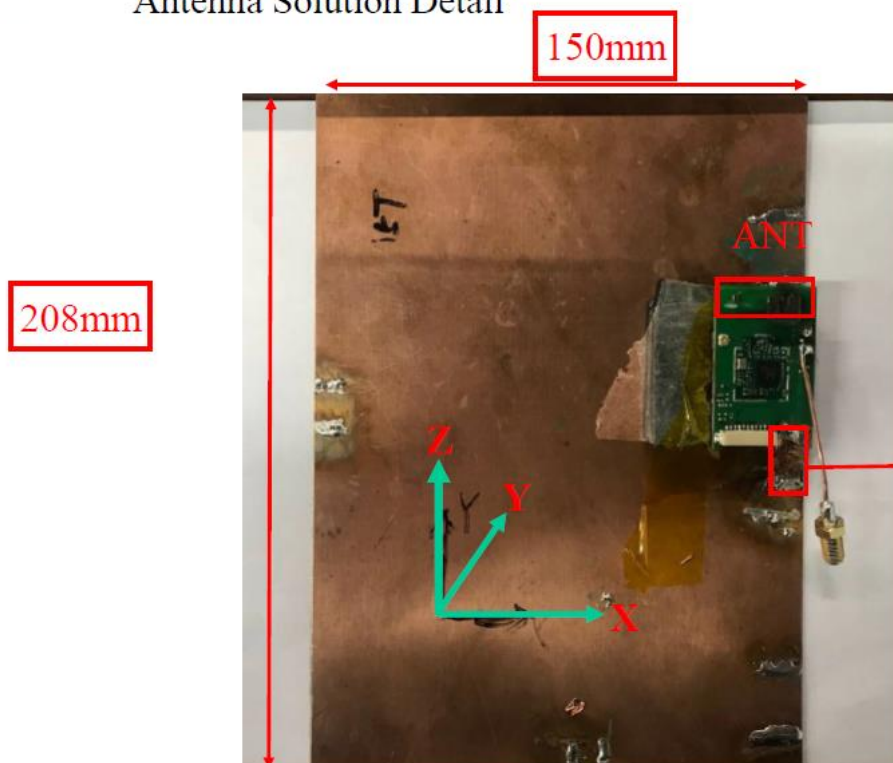


Test Report

Experimental Setup



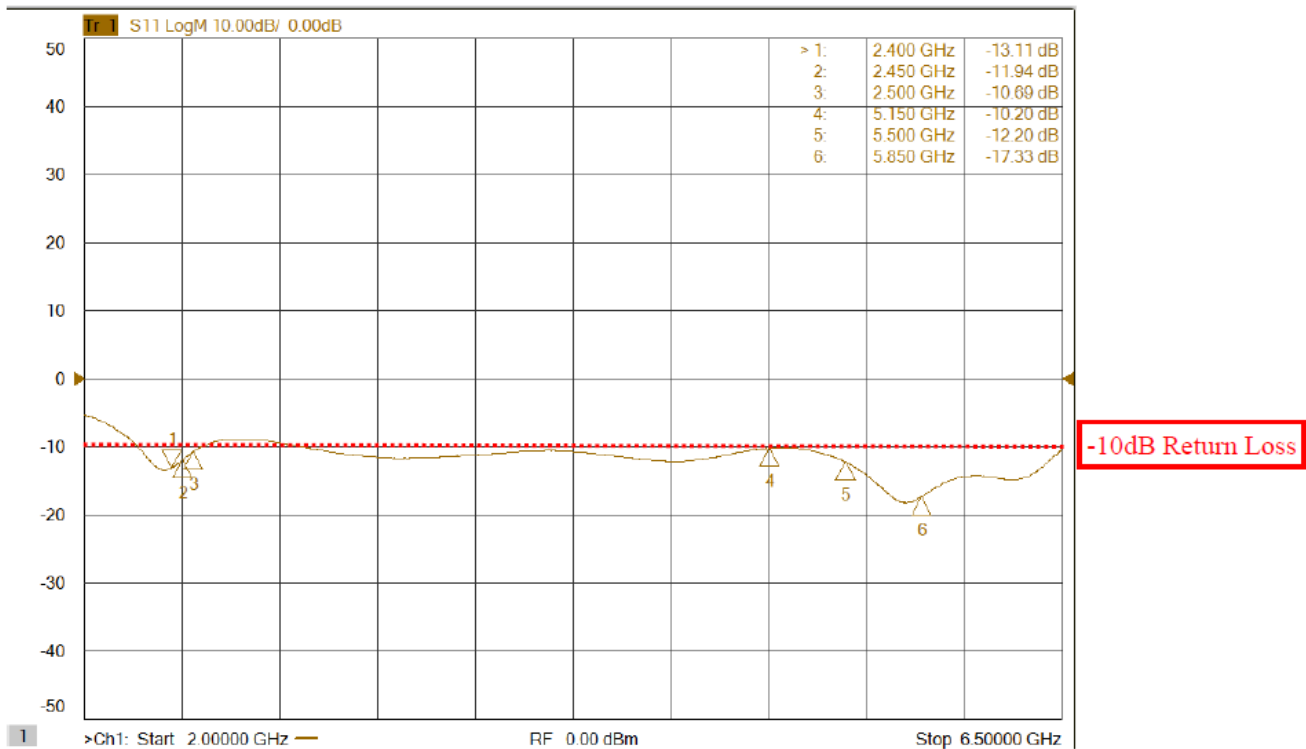
Antenna Solution Detail



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

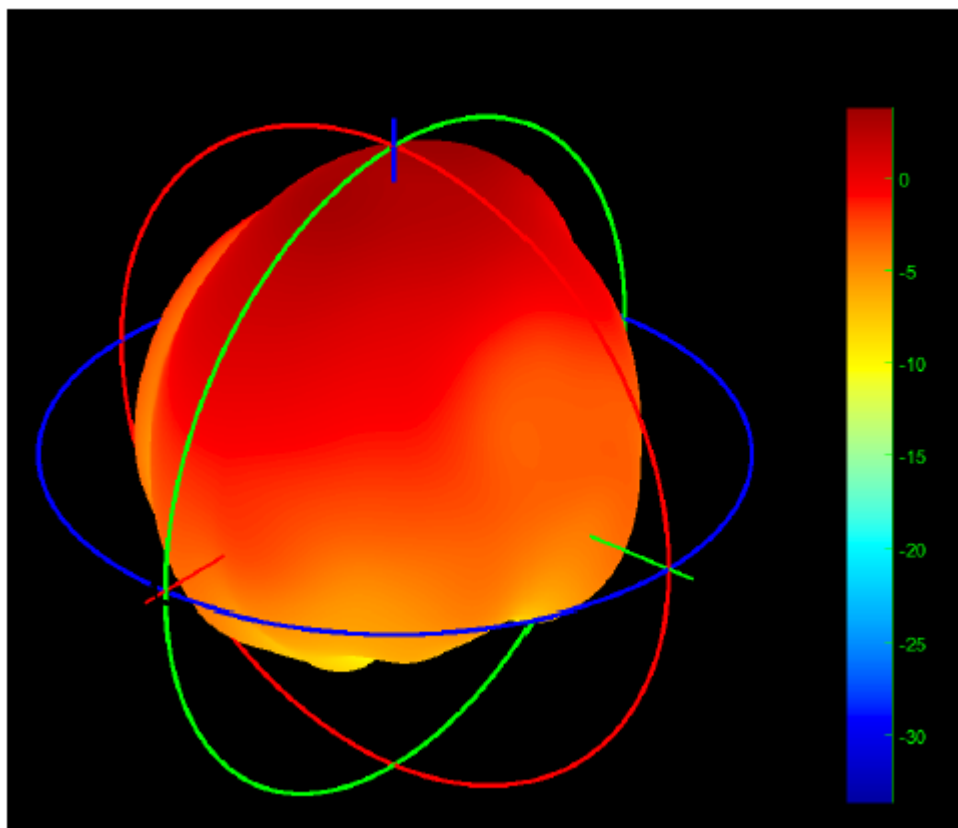
Return Loss



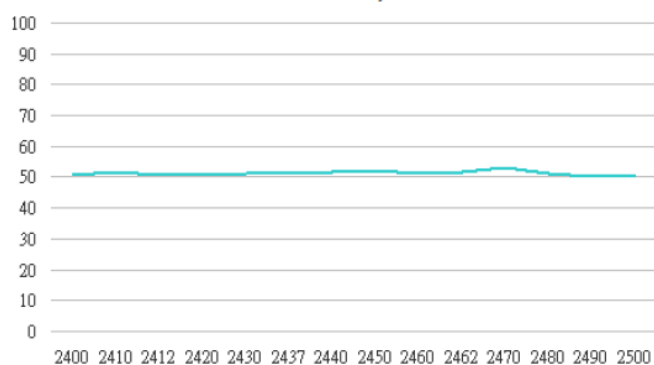
■ Antenna Efficiency and Peak Gain

ANTENNA_2G

2450 MHz

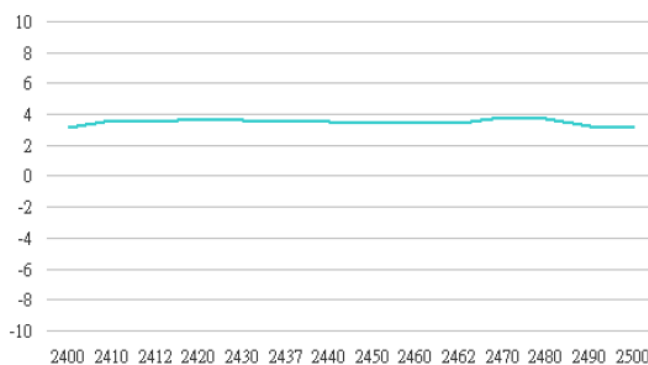


Efficiency



Maximum Efficiency at 2470 MHz : 52.94 %

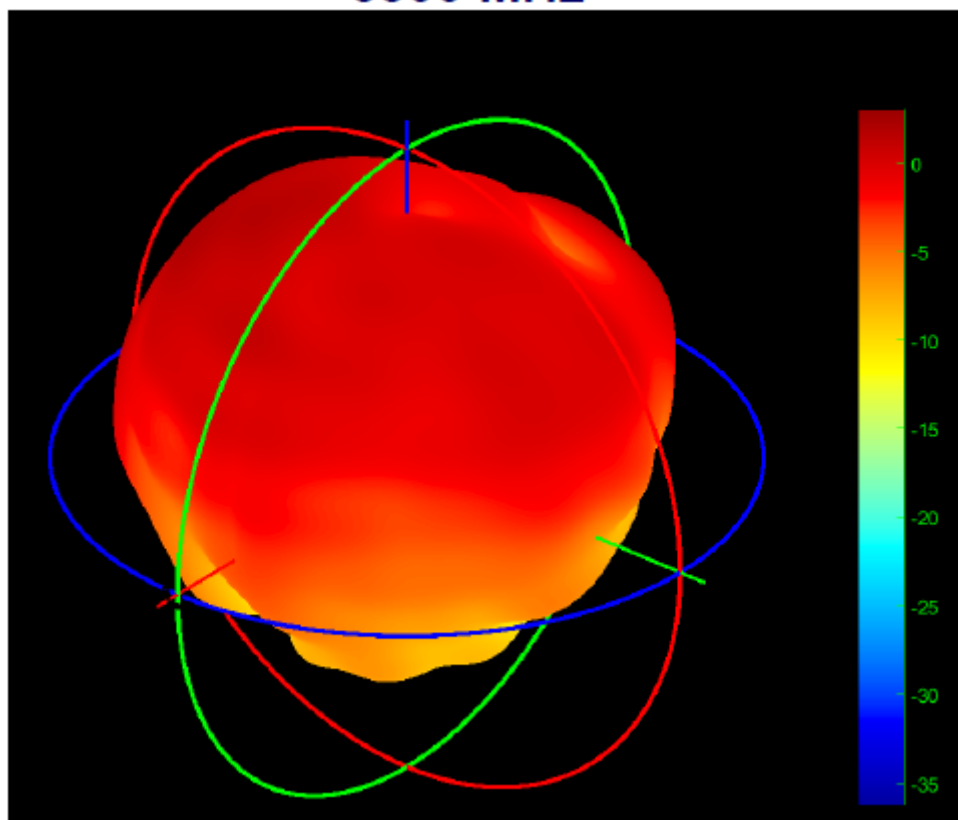
PeakGain



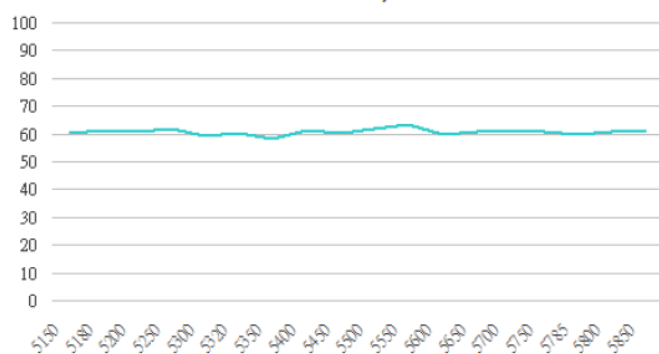
Maximum Peak Gain at 2470 MHz : 3.79 dBi

ANTENNA_5G

5500 MHz

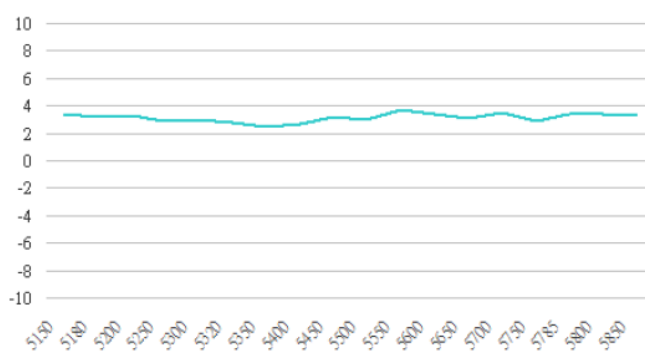


Efficiency



Maximum Efficiency at 5550 MHz : 63.53 %

PeakGain



Maximum Peak Gain at 5550 MHz : 3.68 dBi

ANTENNA_2G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	50.91	-2.93	3.16
2450	52.41	-2.81	3.47
2500	50.35	-2.98	3.17

ANTENNA_5G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	60.46	-2.19	3.41
5500	61.86	-2.09	3.37
5850	60.96	-2.15	3.54

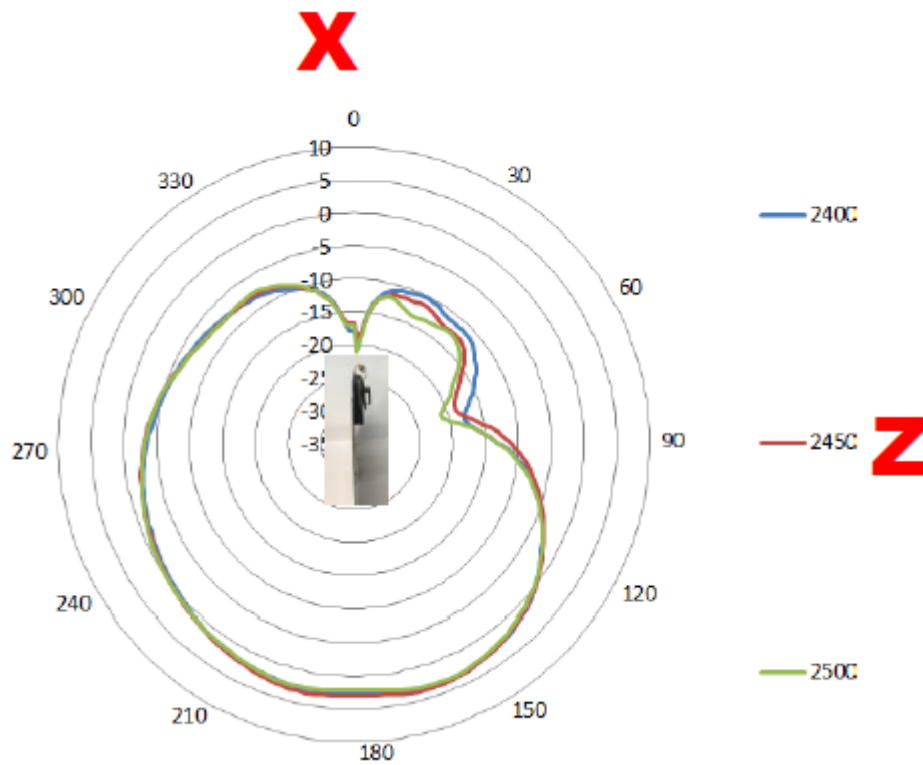
■ RADIATION PATTERN

ANTENNA_2G

X-Z Plane

Phi=0.00deg

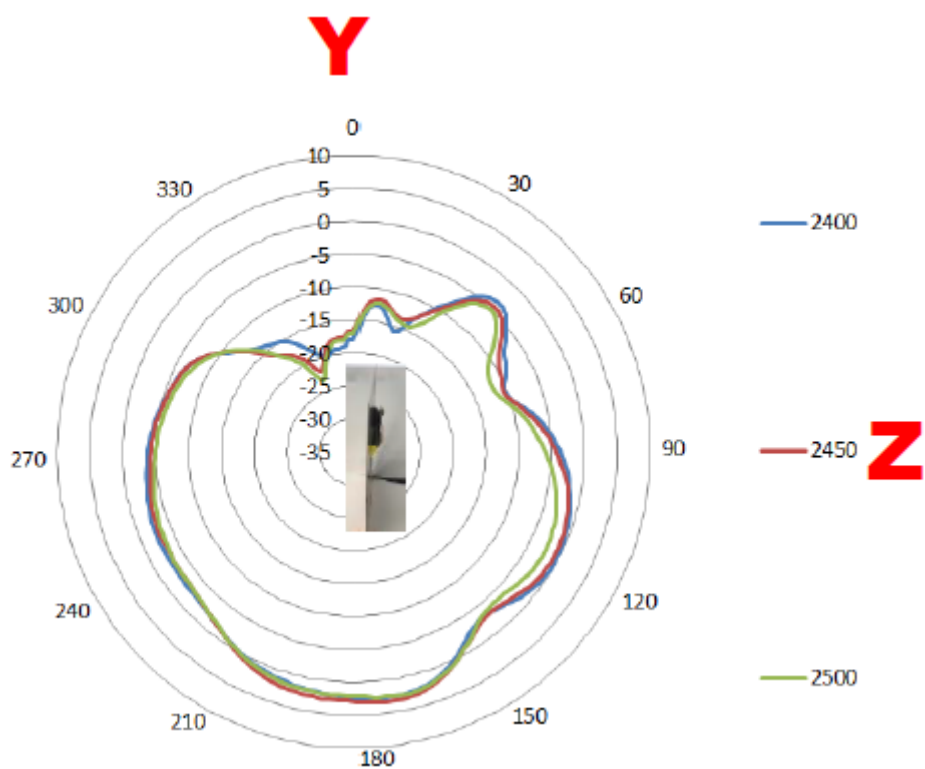
Gain . dB



Y-Z Plane

Phi=90.00deg

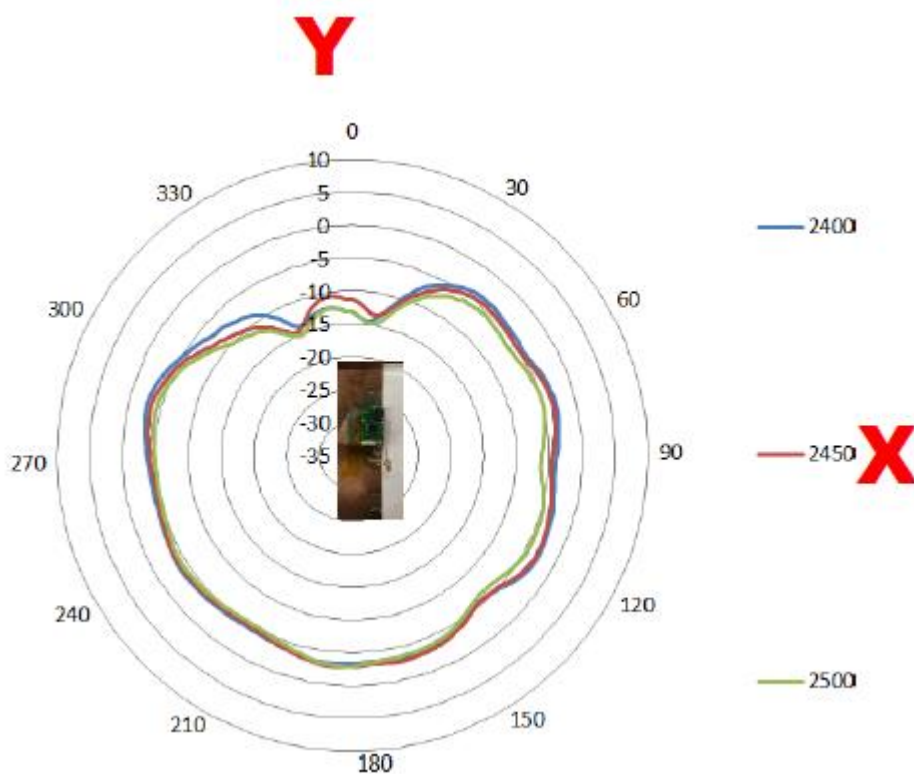
Gain . dB



X-Y Plane

Theta=90.00deg

Gain . dB



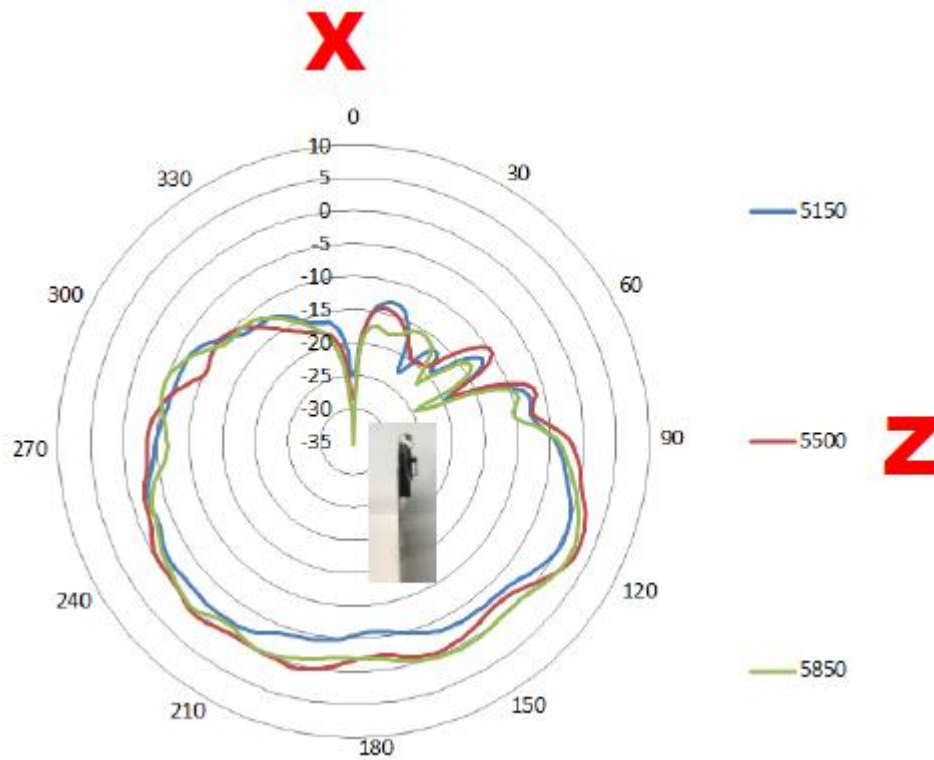
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	3.57	-1.78	2.75	-2.71	-2.69	-4.61
2450	3.68	-1.56	3.25	-2.59	-2.73	-4.90
2500	3.25	-1.91	2.67	-3.27	-2.91	-5.73

ANTENNA_5G

X-Z Plane

Phi=0.00deg

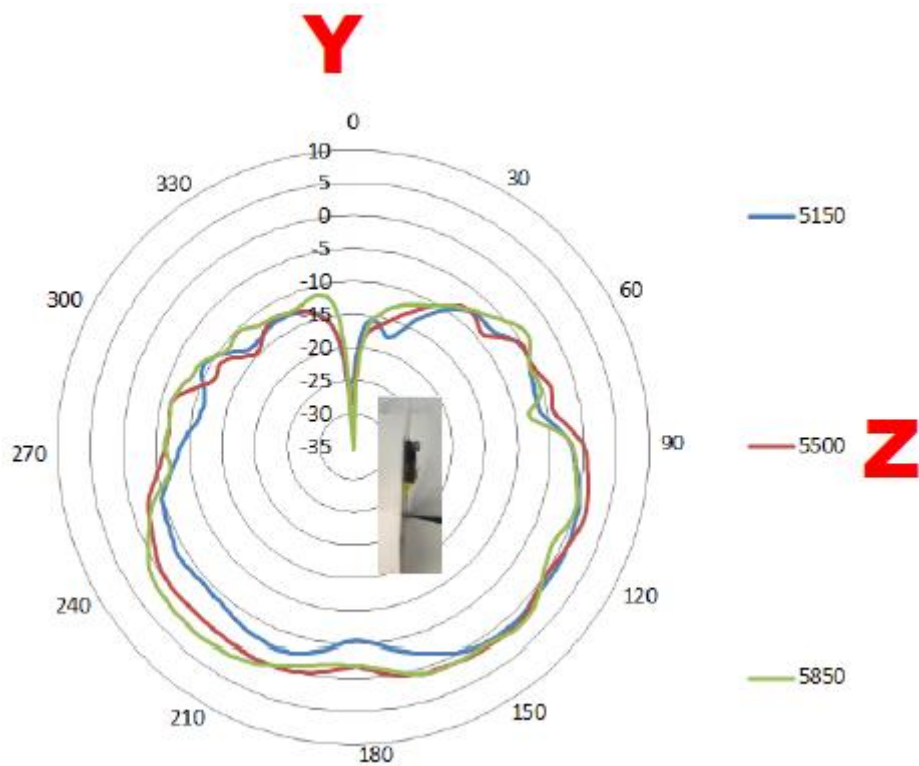
Gain . dB



Y-Z Plane

Phi=90.00deg

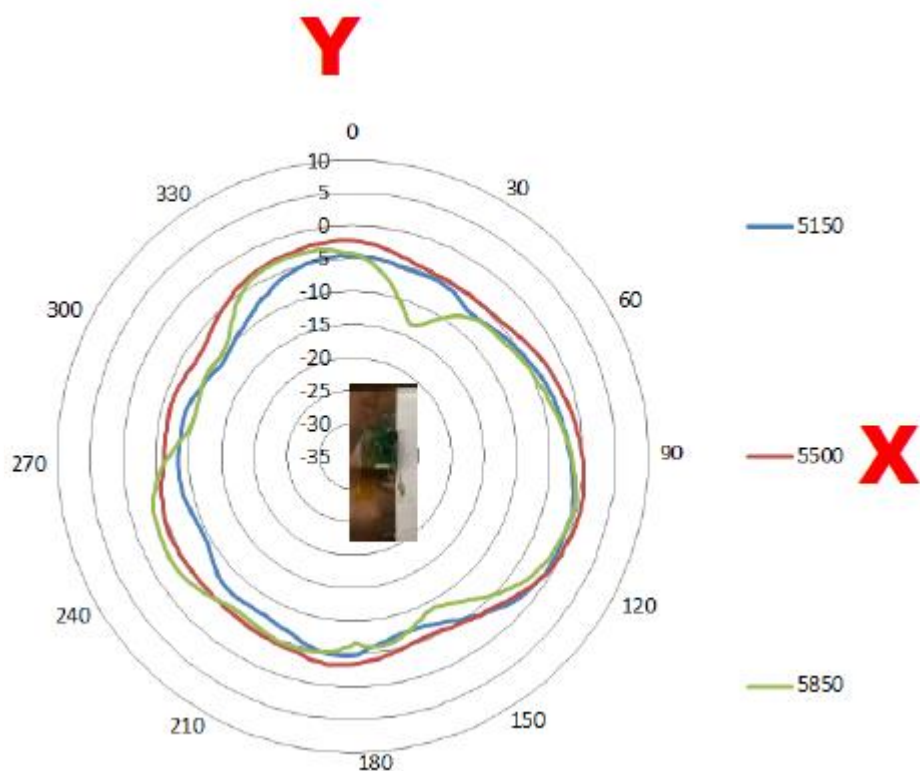
Gain . dB



X-Y Plane

Theta=90.00deg

Gain . dB



	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	0.37	-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

Package

RFMTA170900NNLB003生規	頁 次： 3 之 3	
	規章編號：	版次：A0版
	制修訂日期：2020/02/13	

產品包裝圖示：

圖一





單PCS產品

將單PCS產品放入載帶內,每格1PCS,PIN腳超前下

圖二










900PCS/盤

PS:料帶頭在左面, Reel盤上面為正面, 如圖示

內控標籤, 標籤貼在Reel盤正面且印字朝向Reel盤中心, 位置在光面矩形靠近Reel盤中心邊

裝箱, 每箱裝6盤

圖三





封箱

貼成品標籤

產品包裝規範：

- 將單PCS產品放入載帶內（如圖示一），載帶每格放1PCS，PIN腳超前下，不可有少裝不良。
- 每盤包裝900PCS，載帶頭部空12PCS不裝，用自粘膜在封帶机上封上，尾部也空12PCS不裝，每1盤裝完用美紋膠將帶頭貼在盤中間（如圖示二）
- 將裝盤好的產品放入箱中，每箱裝6盤（5400PCS）（如圖示三）
- 在外箱側面貼成品標籤。紙箱不可有LOGO。

核准：	何耀輝	審核：	童明輝	制定：	程碧琴
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