

# RFPCA303510EMMB101

## Specification

Part Series

**PIFA Antenna Type**

Version

**RFPCA303510EMMB101**

**V0.1**

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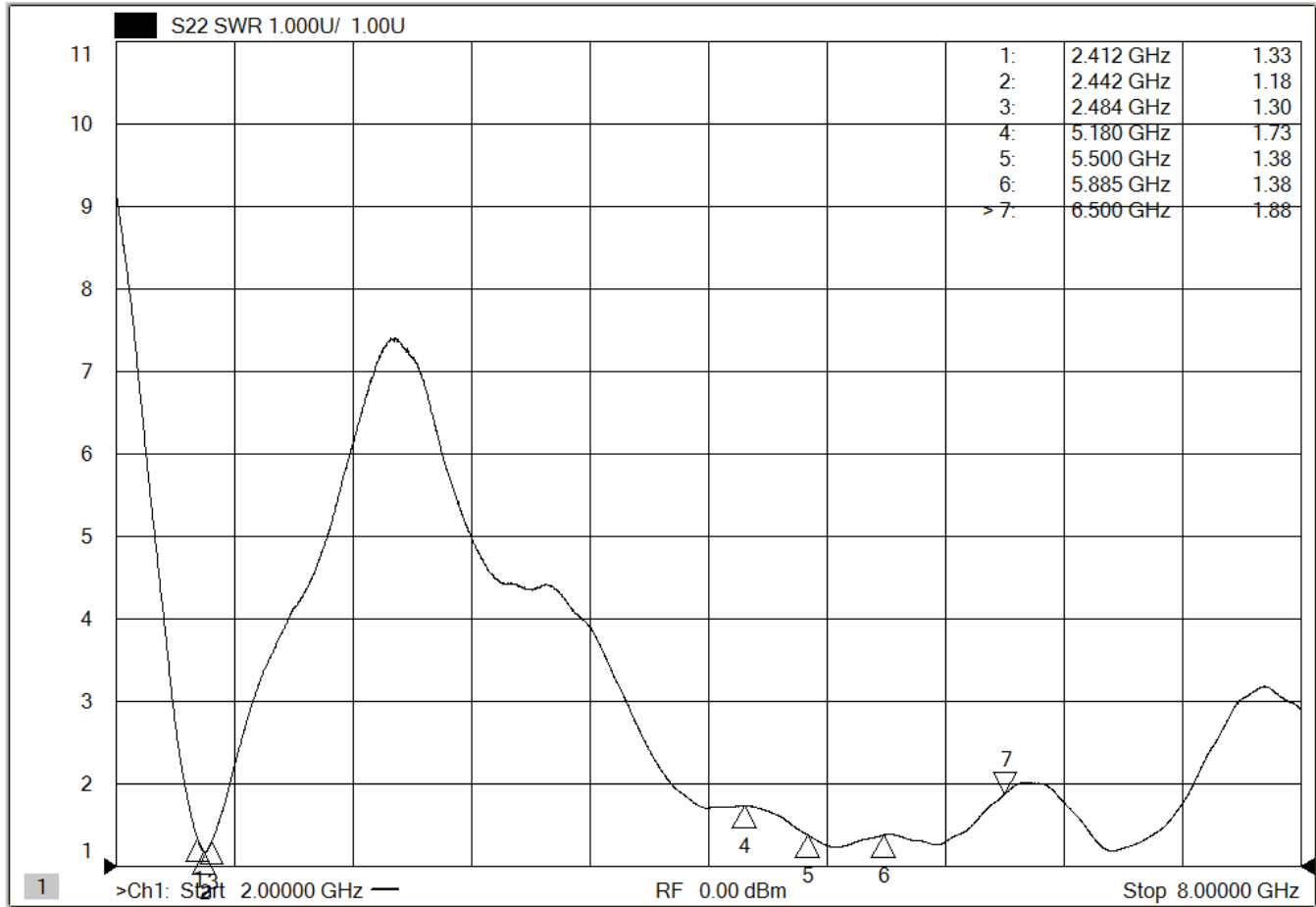
# 1. Performance

## 1.1 Antenna performance

Item	Specification
Frequency Range	2.4 ~ 2.5/5.15 ~ 6.5 GHz
Impedance	50 Ohm Nominal
VSWR	2.0 (Max)
Peak Gain	2.4 ~ 2.5 GHz @3.32 dBi 5.15 ~ 6.5 GHz@3.43 dBi
Radiation	Omni-directional
Polarization	Linear Vertical
Admitted Power	1W
Operation Temperature	-20°C ~ +65°C

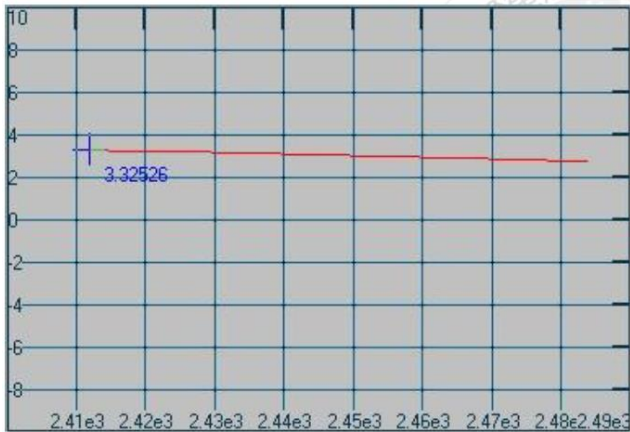
## 1.2 Antenna S-Parameter and matching factor

VSWR

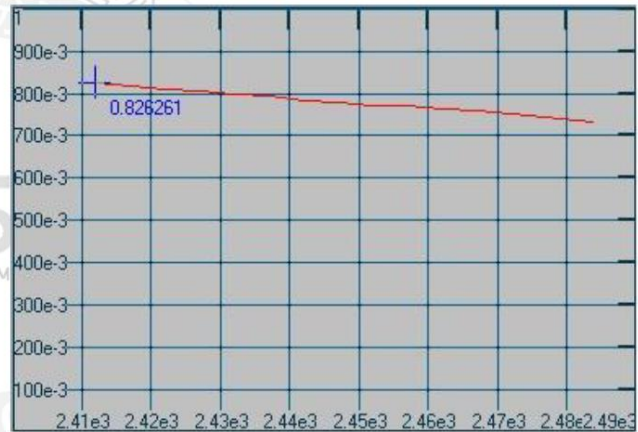


## 1.3 Antenna Efficiency & Peak Gain

### ANT\_2.4G

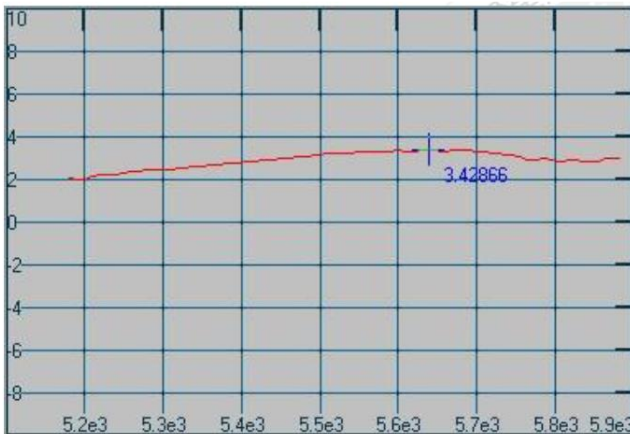


Maximum Peak Gain at 2412 MHz : 3.32 dBi

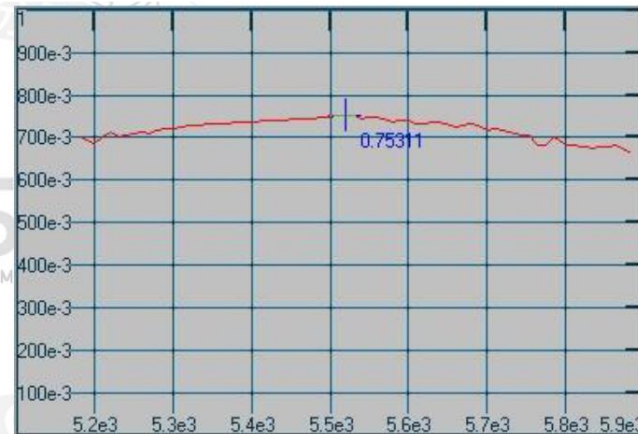


Maximum Efficiency at 2412 MHz : 82.63 %

### ANT\_5G



Maximum Peak Gain at 5640 MHz : 3.43 dBi



Maximum Efficiency at 5520 MHz : 75.31 %

## Antenna Efficiency and Peak Gain

Frequency(MHz)	Efficiency(%)	Peak gain(dBi)
2412	82.63	3.33
2417	81.82	3.30
2422	81.10	3.25
2427	80.61	3.23
2432	79.75	3.18
2437	79.31	3.18
2442	78.19	3.11
2447	77.86	3.11
2452	77.09	3.07
2457	77.18	3.05
2462	76.28	2.99
2467	76.14	2.97
2472	75.16	2.91
2484	73.22	2.79

**ANT\_5G**

Frequency(MHz)	Efficiency(%)	Peak gain(dBi)
5180	70.28	2.08
5190	69.47	2.04
5200	68.70	2.03
5210	70.25	2.17
5220	71.17	2.26
5230	70.20	2.24
5240	70.44	2.27
5260	71.49	2.39
5270	70.98	2.40
5280	71.70	2.47
5290	72.29	2.52
5300	72.29	2.52
5310	72.57	2.53
5320	72.80	2.56

Frequency(MHz)	Efficiency(%)	Peak gain(dBi)
5500	74.67	3.21
5510	75.16	3.26
5520	75.31	3.28
5530	75.05	3.29
5540	74.60	3.28
5550	74.68	3.32
5560	74.73	3.32
5580	73.50	3.31
5590	73.99	3.38
5600	74.07	3.40
5610	73.35	3.35
5620	73.25	3.35
5630	73.54	3.42
5640	73.58	3.43

Frequency(MHz)	Efficiency(%)	Peak gain(dBi)
5660	72.57	3.38
5670	72.77	3.41
5680	73.25	3.42
5690	72.85	3.41
5700	71.90	3.33
5710	72.08	3.32
5720	71.78	3.30

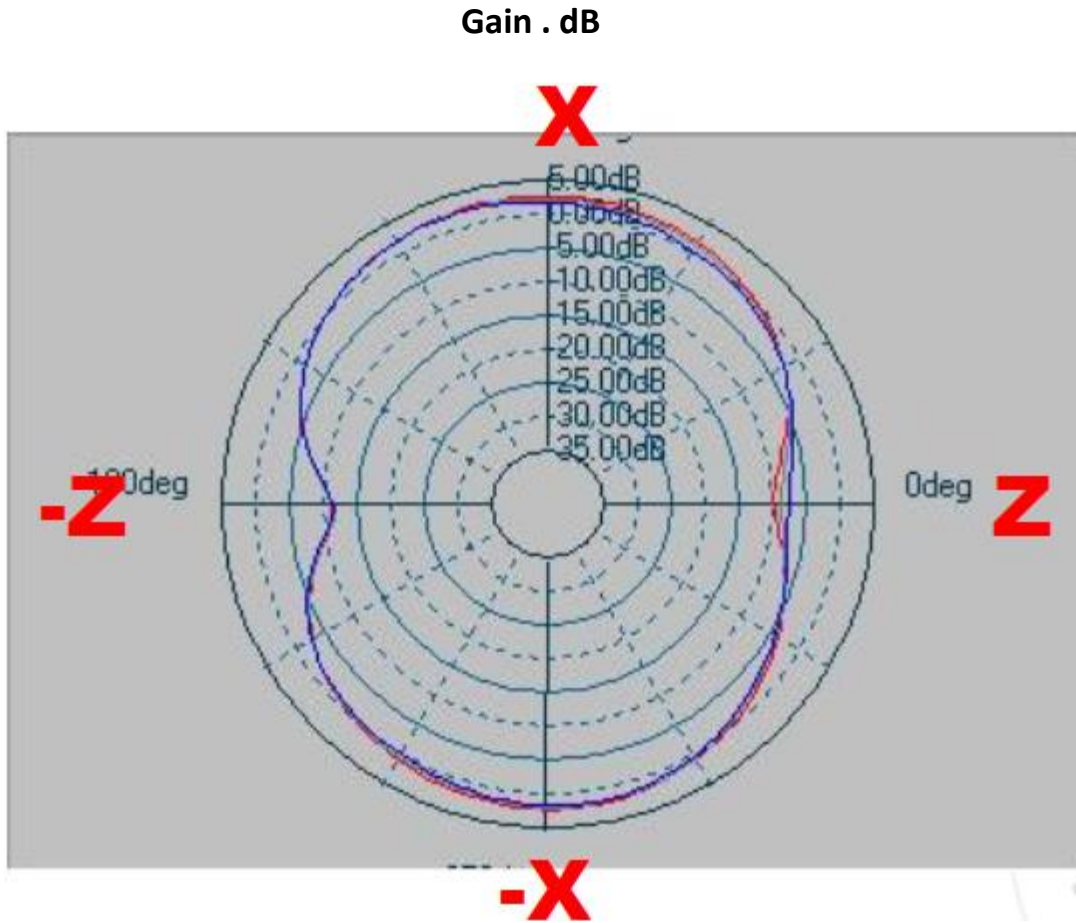
Frequency(MHz)	Efficiency(%)	Peak gain(dBi)
5745	70.74	3.19
5755	70.55	3.12
5765	68.10	2.97
5775	68.40	2.95
5785	70.01	3.05
5795	68.91	2.97
5805	68.08	2.92
5825	68.00	2.95
5835	67.57	2.92
5845	67.69	2.92
5855	67.72	2.88
5865	68.24	3.03
5875	67.19	3.01
5885	66.38	3.02

# 1.4 RADIATION PATTERN

ANT\_2.4G

X-Z Plane

Phi=0.00deg

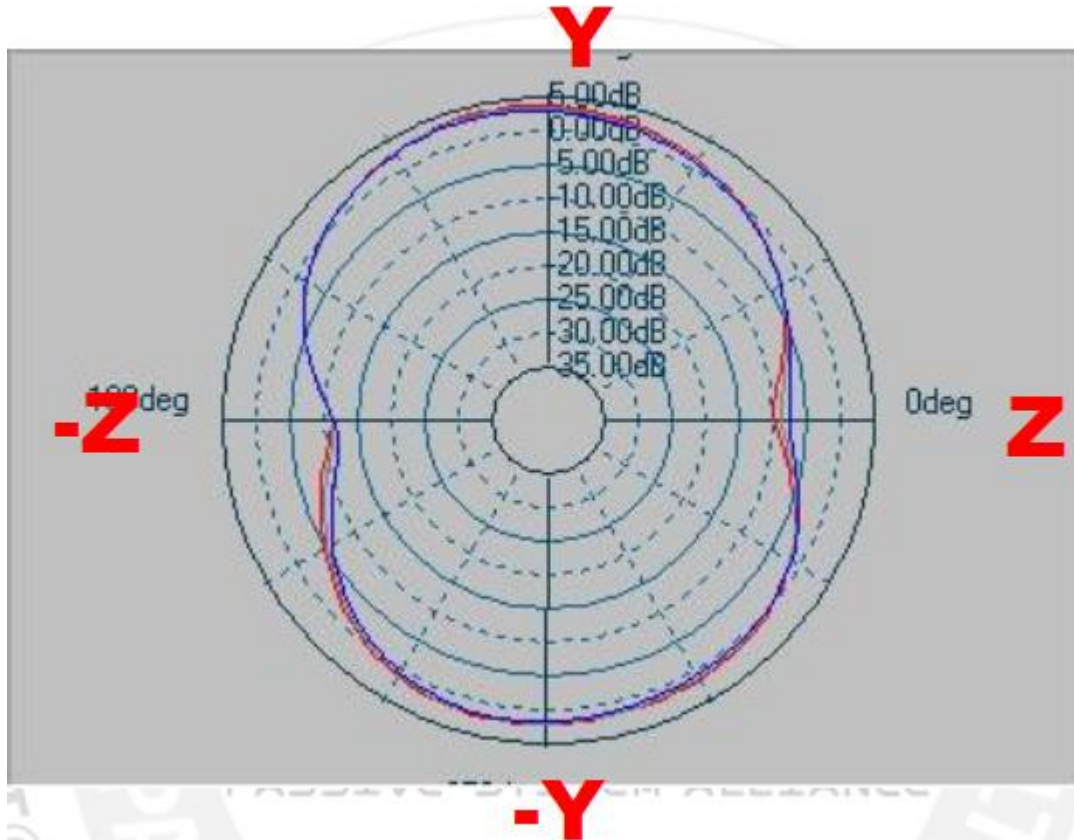




Y-Z Plane

Phi=90.00deg

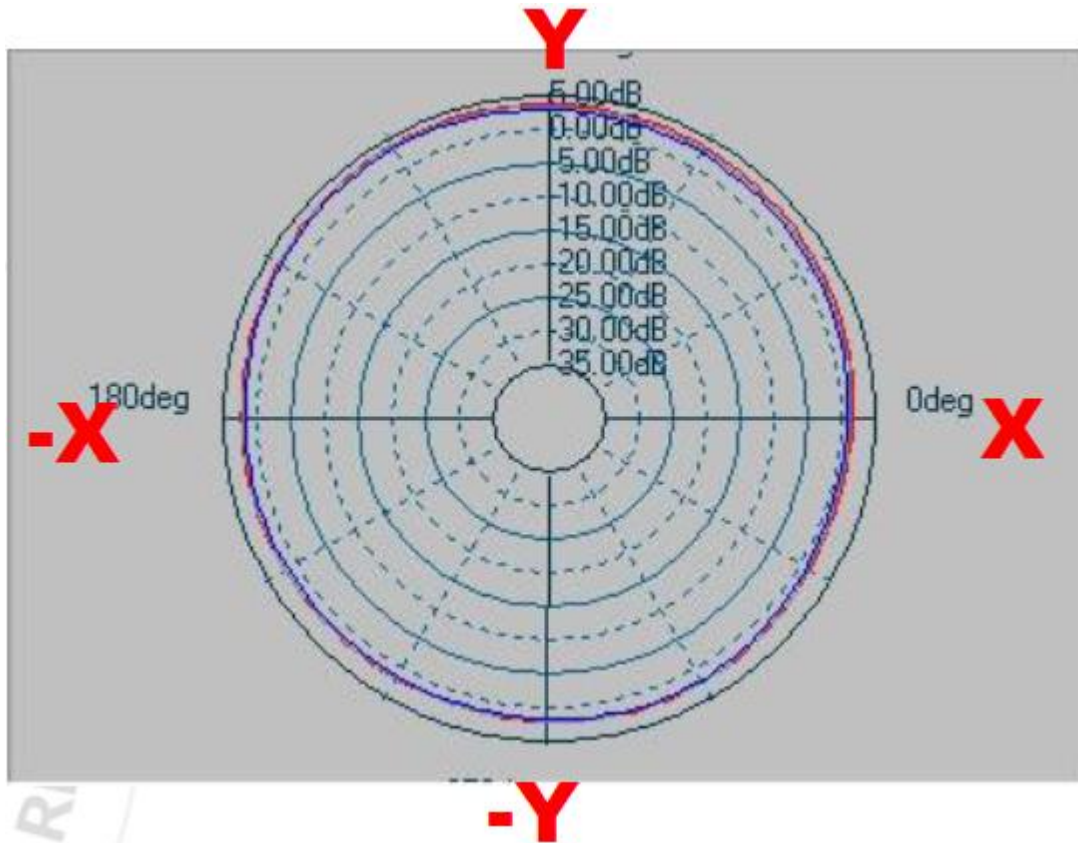
Gain . dB



X-Y Plane

Theta=90.00deg

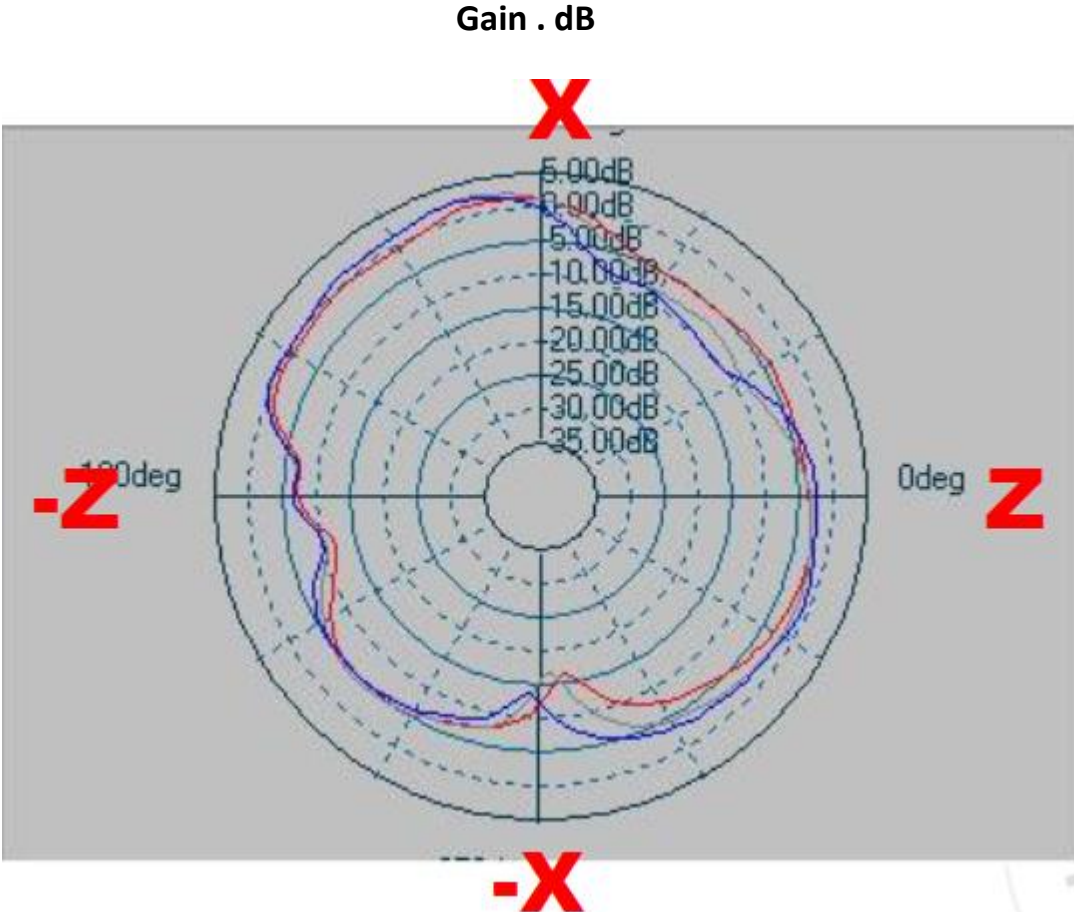
Gain . dB



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2412	2.12	-0.62	3.21	-0.26	3.16	2.33
2442	1.89	-0.86	2.89	-0.48	2.96	2.10
2484	1.65	-1.13	2.46	-0.72	2.62	1.74

X-Z Plane

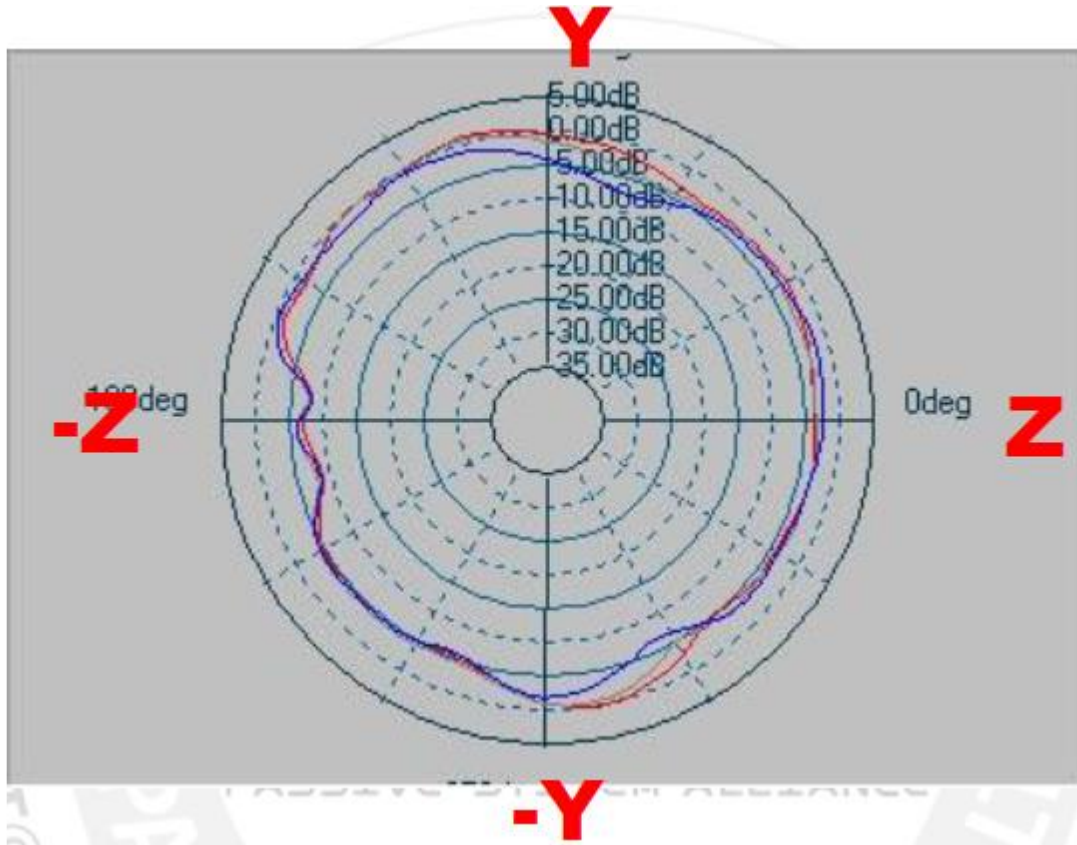
Phi=0.00deg



Y-Z Plane

Phi=90.00deg

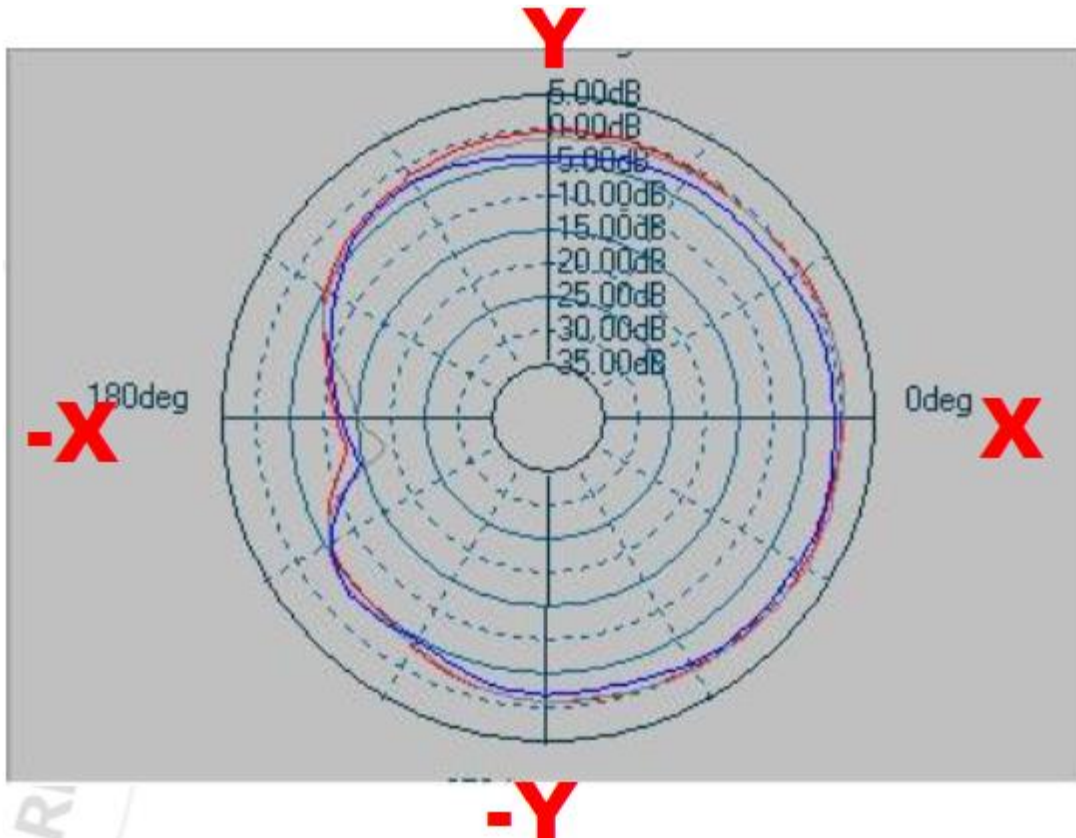
Gain . dB



X-Y Plane

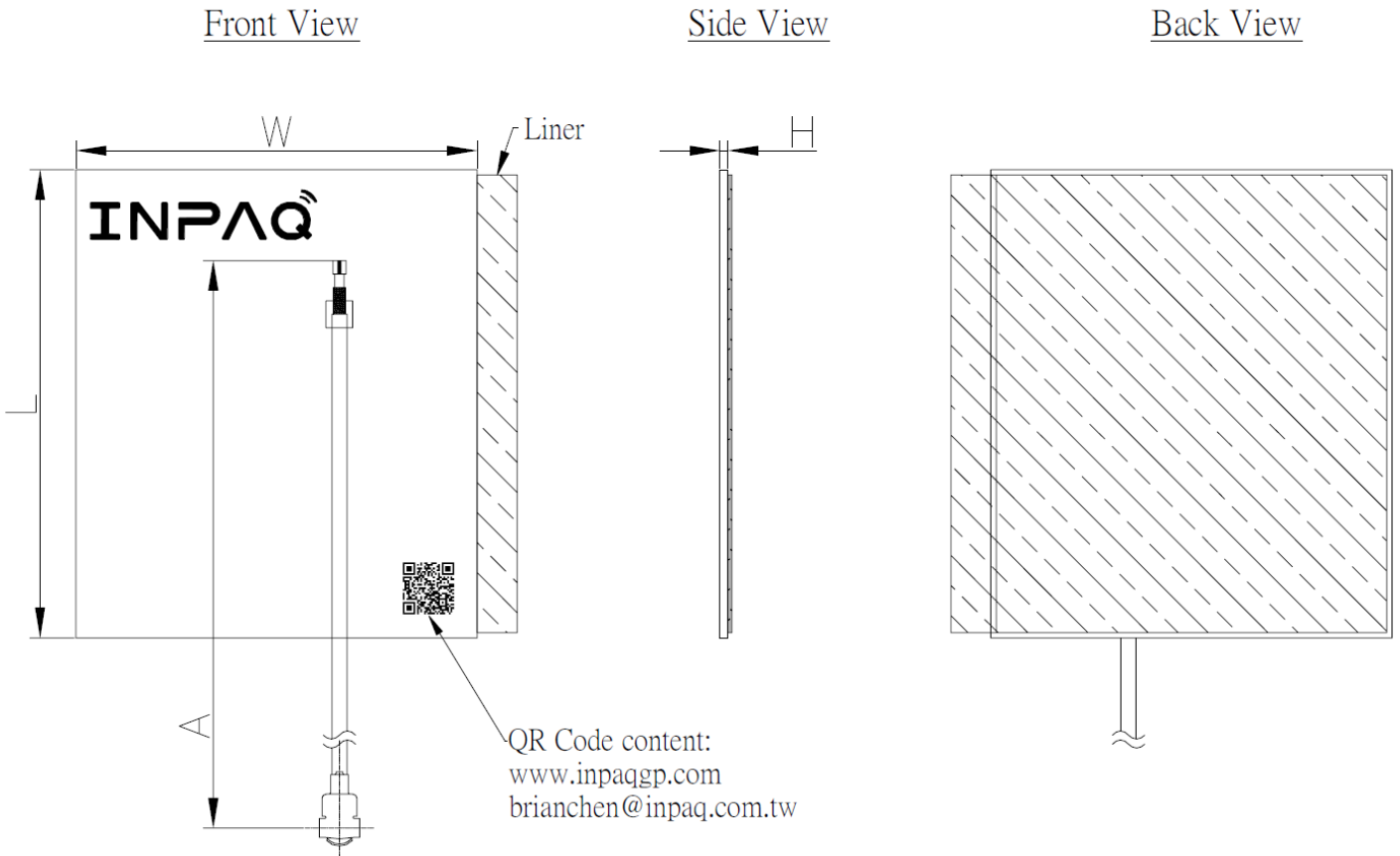
Theta=90.00deg

Gain . dB



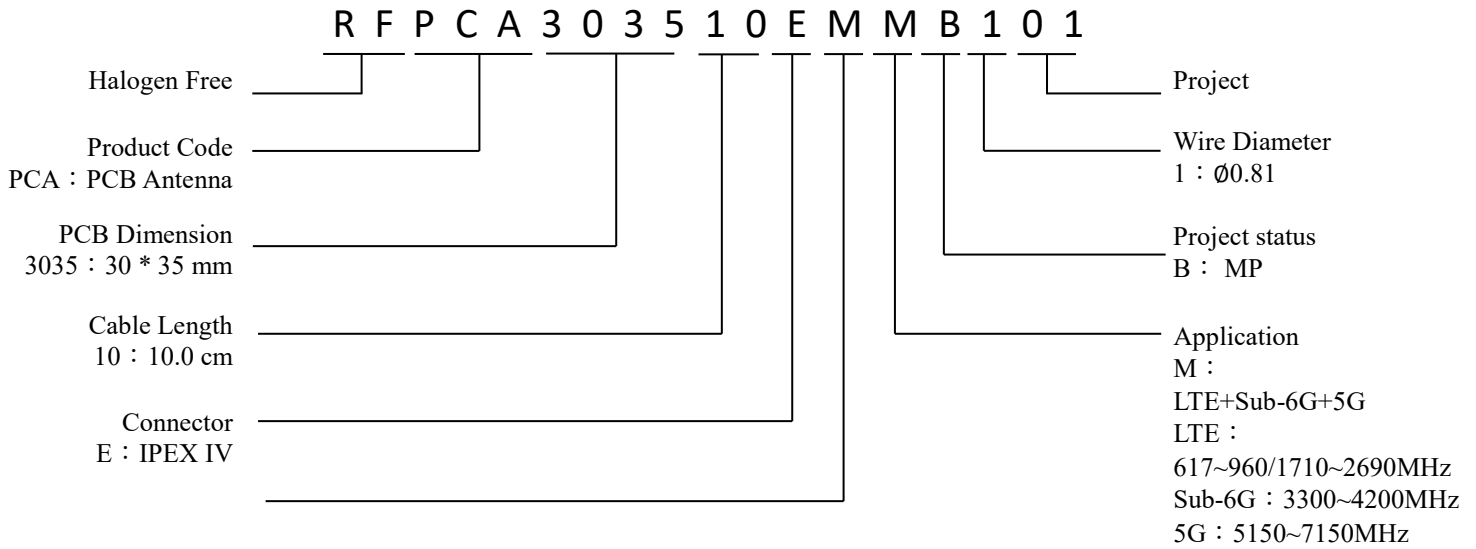
Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
5180	0.80	-3.77	0.16	-2.86	0.89	-1.67
5500	1.83	-3.20	-0.20	-3.04	1.15	-1.82
5885	1.76	-3.16	-1.03	-3.72	0.13	-3.00

## 2. Mechanical Specification



Symbol	Min (mm)	Normal (mm)	Max (mm)
W	29.8	30.0	30.2
L	34.8	35.0	35.2
H	0.5	0.6	0.7
A	97	100	103

### 3. Ordering Information



# 4. Package

RFPCA303510EMMB101包規		PAGE: 1 之 1	
		Version :A0版	
		Revision date:2025/1/9	
<b>Packaged</b>			
<p><b>產品包裝規範：</b></p> <ol style="list-style-type: none"> <li>Put every 1pcs of product into a shielding bag and paste the manufacturing label, and seal it with 400pcs per ziplock bag. As shown in Figure 1</li> <li>Put the foam in the outer box (as shown in Figure 2)</li> <li>Put the finished product (as shown in Figure 3) into the outer box, put 2000pcs of products in each box, put 1 piece of pearl cotton up and down, seal the box and paste the manufacturing label, and seal the box with the "work" font, that is, the six-sided sealing.</li> <li>The filling of mantissa boxes refers to this specification "Y-WI-09-281"</li> </ol>			
<p>Metal Antenna 370625 RFMA370625IMAB301 75B1031604 10</p> <p>RFMA370625IMAB301 75B1031604 0001</p>		<p>First row: 6-11 digits of model + space + Antenna + space + specification                  Second row: specification + space + batch number + space + quantity                  The content of the third row of barcodes: specification + batch number + serial number (the same as the last 4 codes of the fourth row) + quantity (unit is K/PCS)                  Fourth row: "-"+Printer's number+"-Month+Date+Year+Hour+Minute+Second+"+"The "Label Number" of the current print + batch number + 4 yards</p>	
Approval:	He Yaohui	Audit:	Zhao Wenbao
Formulate:			Xu Ruonan



## 5. Version

Version	Date	Description
V01	2025.01.14	Initial release