

APPROVAL SHEET

PCB Antenna

2.4~2.5GHz Working Frequency

Halogens Free Product

P/N: RFPCA302027IMAB401

Customer : TYMPHANY

Customer 's Part No. :

Production :

Address :

Part Number : RFPCA302027IMAB401

History List

[illegible]

品名：RFPCA302027IMAB401

1. Explanation of part number：

RF	PCA	3020	27	I	M	A	B	4	01
Type Code	Product Code	Dipole Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
RF Device	PCA Antenna	Per 2 digits of length, width e.g.: 3020 Length 30.0, Width 20.0mm	2 digits for cable length e.g.: 27 Cable Length:27.5cm	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 5: 5 GHz 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 3:Ø1.13 4: Ø1.13 Low Loss 6:RG316 7:Ø1.37 8:RG178	01~99 series number

2. Electrical Specification：

Item	Specification
Working Frequency Range	2.4 ~ 2.5GHz (Note-1)
Return Loss	-10dB(Max)
VSWR	2 max.
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50Ω
Operation Temperature	-20℃ ~ +65℃

UNLESS OTHER SPECIFIED TOLERANCES ON：
X=N/A X.X=N/A X.XX=N/A
ANGLES=N/A HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE：N/A

UNIT：mm

DRAWN BY：劉采璇

CHECKED BY：詹惠雯

DESIGNED BY：黃泰進

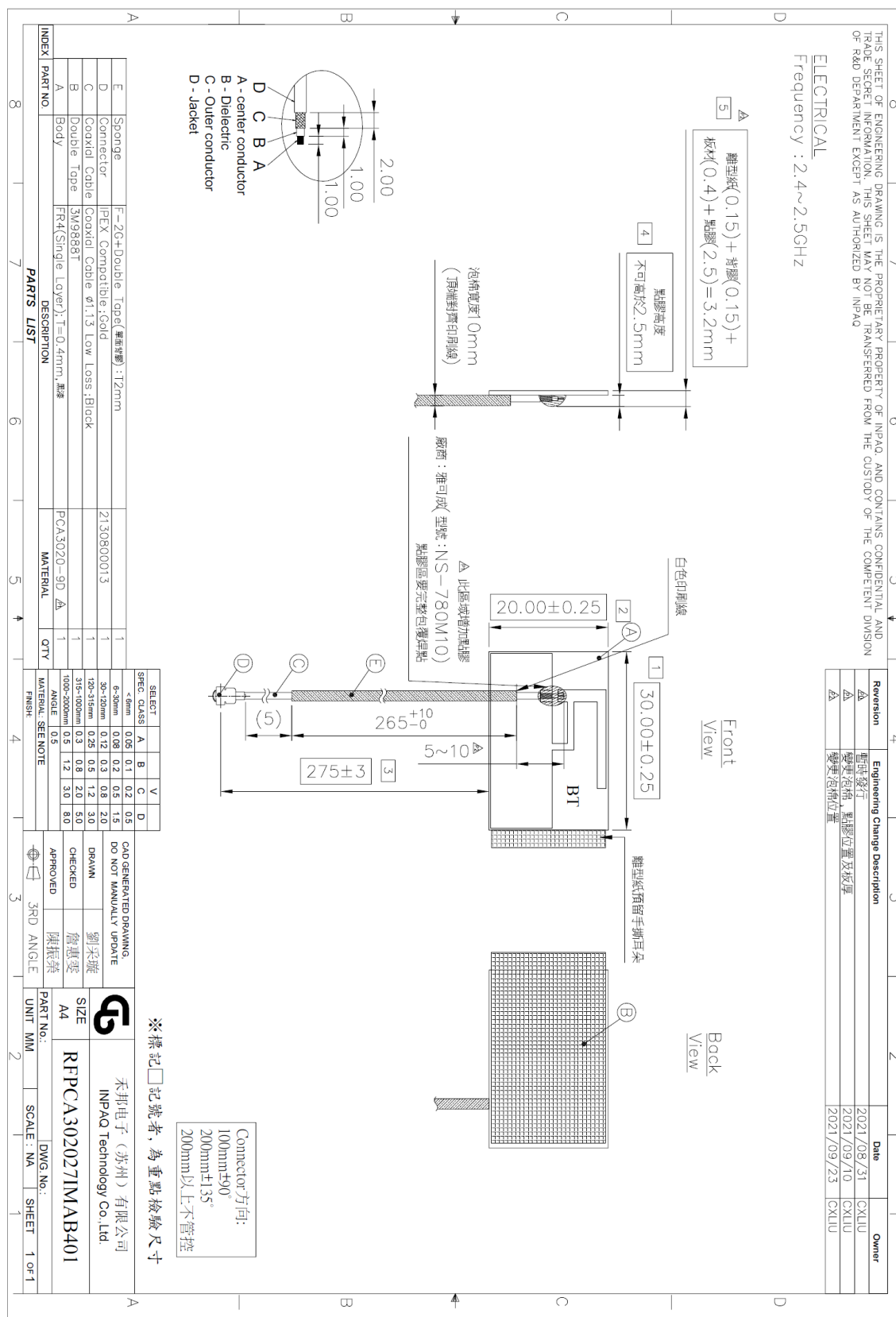
APPROVED BY：陳振榮

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3. Antenna Drawing :



UNLESS OTHER SPECIFIED TOLERANCES ON :
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UNIT : mm

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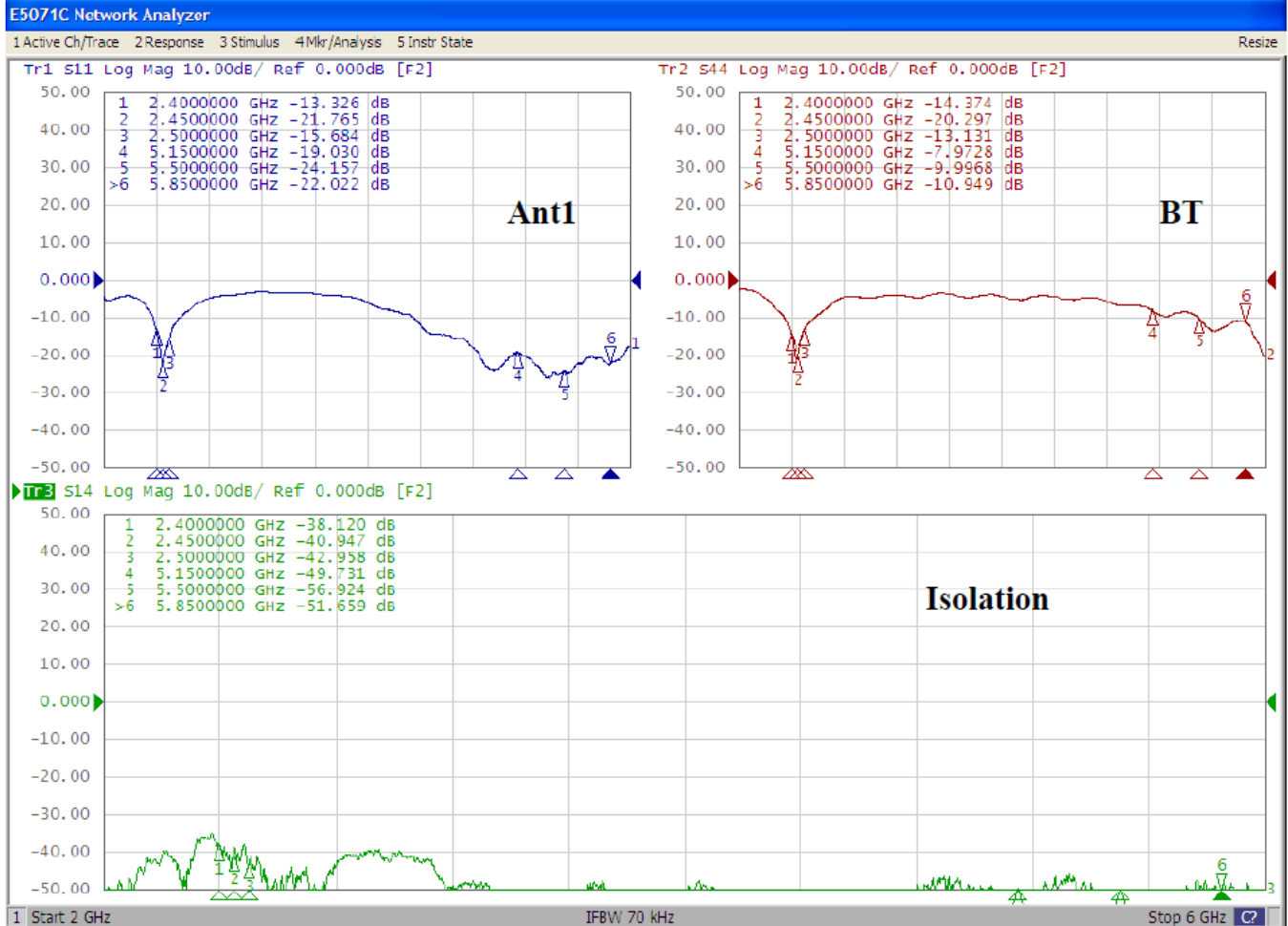
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Antenna Solution Detail

Return Loss & Isolation

Ant1_BT



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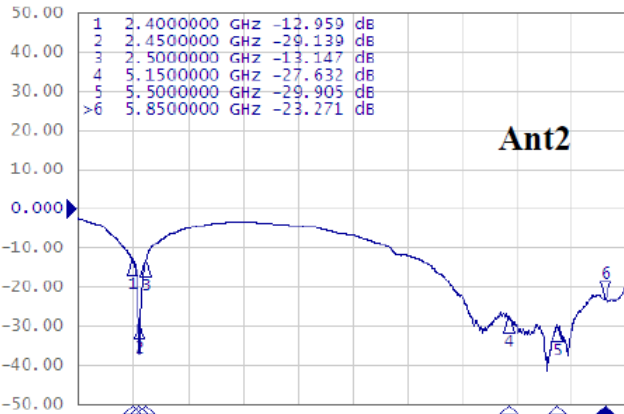
Ant2_BT

E5071C Network Analyzer

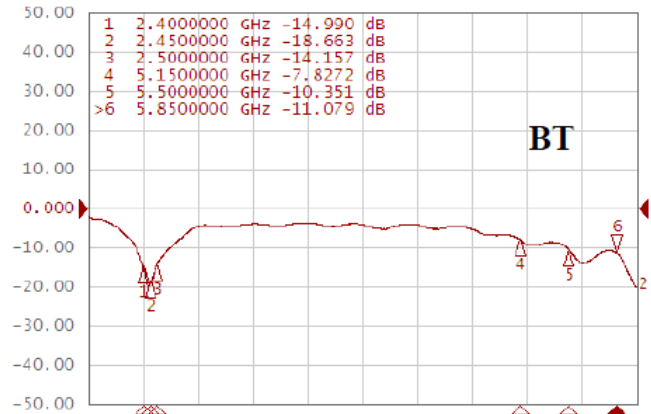
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

Resize

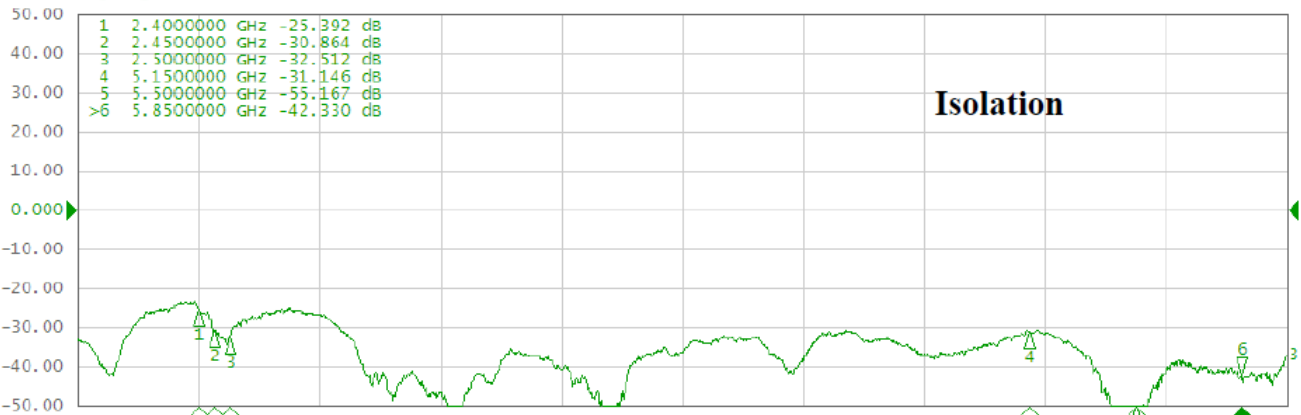
Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F2]



Tr2 S44 Log Mag 10.00dB/ Ref 0.000dB [F2]



Tr3 S14 Log Mag 10.00dB/ Ref 0.000dB [F2]



2 Start 2 GHz

IFBW 70 kHz

Stop 6 GHz C?

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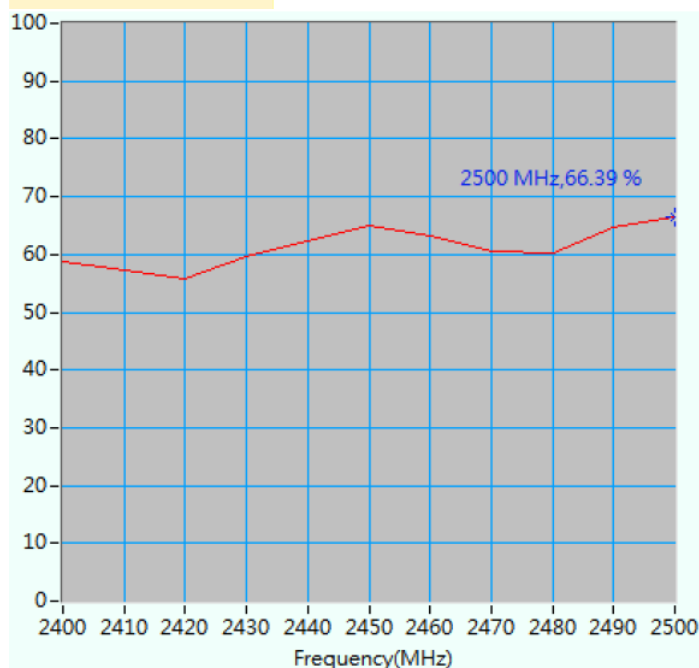
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Antenna Efficiency and Peak Gain

BT



Maximum Efficiency at 2500 MHz : 66.39 %

BT	
Frequency (GHz)	Efficiency (%)
2.4	58.88
2.45	64.85
2.5	66.39
5.15	
5.5	
5.85	

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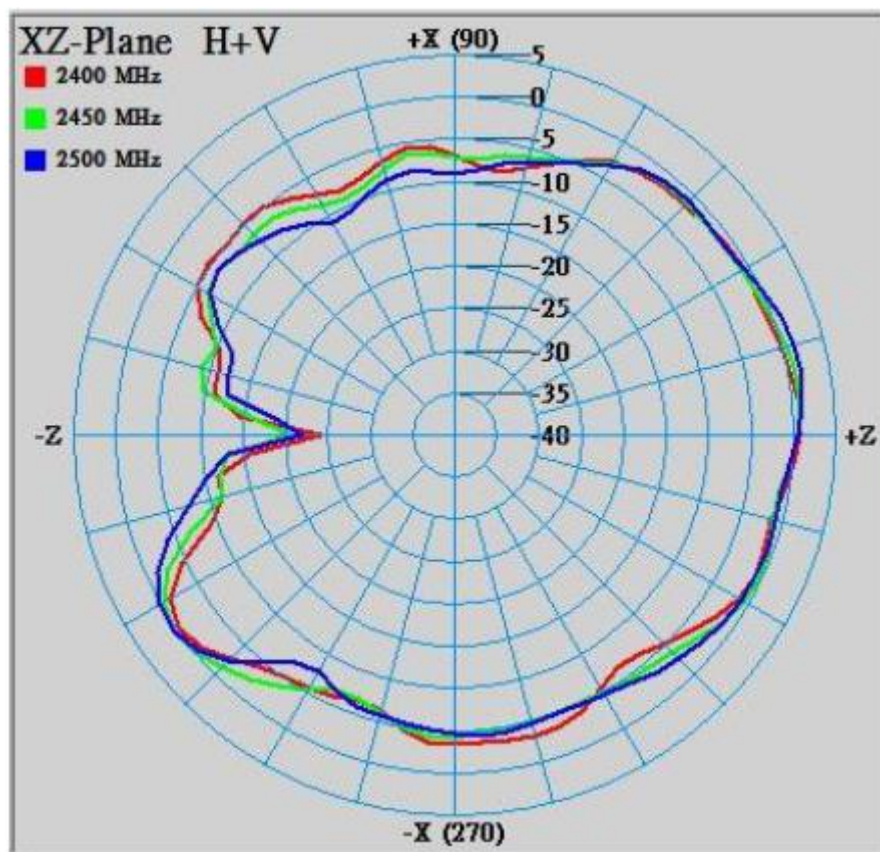
2D Radiation Patterns

BT

X-Z Plane

Phi=0.00deg

Gain . dB



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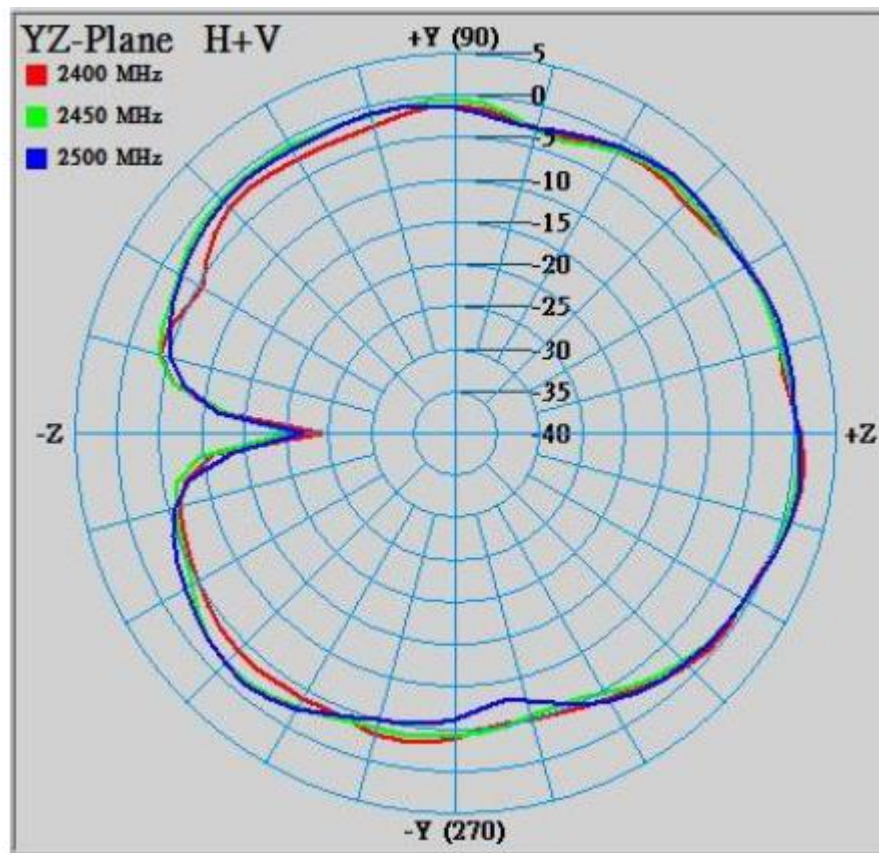
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Y-Z Plane
Phi=90.00deg

Gain . dB



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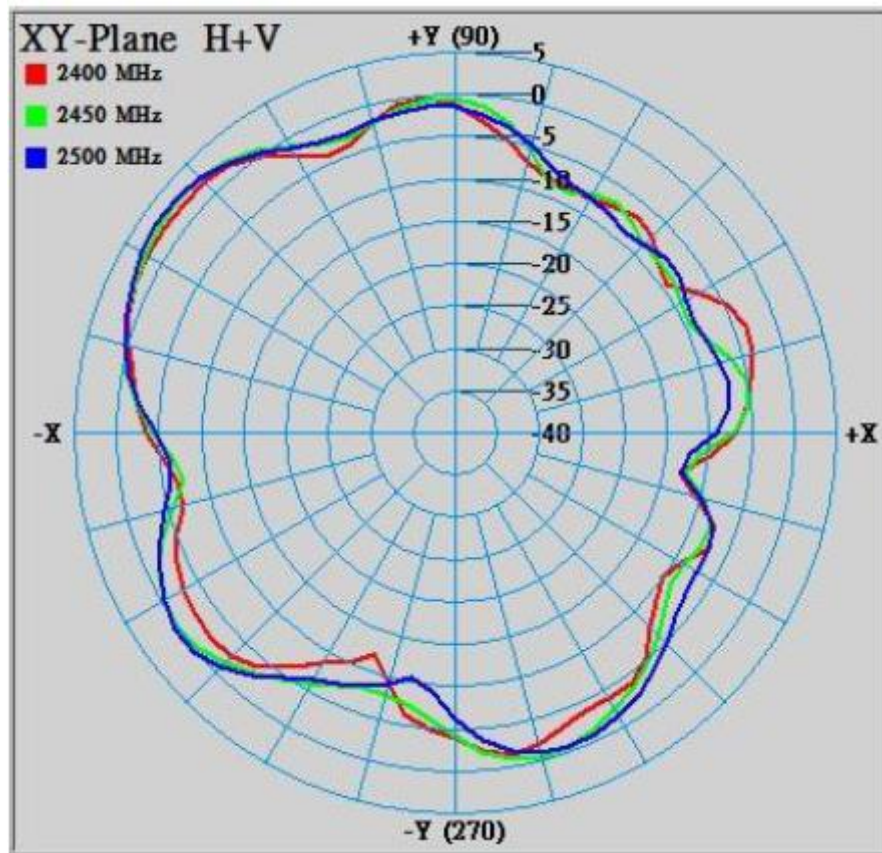
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X-Y Plane

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	0.93	-3.46	1.52	-2.28	2.08	-3.20
2450	0.95	-3.32	0.79	-1.90	2.86	-2.56
2500	1.63	-3.29	1.11	-1.90	3.13	-2.59

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