

[illegible]

Product name : RFFPA281313IMLB303

Customer : Formovie

Customer part number : E22030000154

Factory address : 81 Antai 1st Road, Xishan District,

Wuxi City, Jiangsu Province

1. Explanation of part number :

RF	FPA	2813	13	I	M	L	B	3	03
Type Code	Product Code	PCB Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
RF Device	FPC Antenna	Per 2 digits of length, width e.g.: 2813 Length 28mm, Width 13.1mm	2 digits for cable length e.g.: 13 Length 13.5cm	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: 5GHz 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: $\varnothing$ 0.81 2: $\varnothing$ 1.32 3: $\varnothing$ 1.13 4: Low Loss $\varnothing$ 1.13 5: $\varnothing$ 0.5 6: RG316 7: $\varnothing$ 1.37 8: RG178 9: Low Loss $\varnothing$ 1.37	01~99 series number

2. Electrical Specification :

Item	Specification
Working Frequency Range	2.4 ~ 2.5 / 5.15 ~ 5.85 GHz
Return Loss	-10 dB(Max)
Gain(peak)	2.34 dBi@2.4~2.5 GHz 3.19 dBi@5.15~5.85 GHz
VSWR	< 2.0
Impedance	50 Ohm Nominal
Radiation	Omni-directional
Polarization	Linear Vertical
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



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SCALE : N/A

UNIT : mm

DRAWN BY : SHLEE

CHECKED BY : HWCHAN

DESIGNED BY : Lang Huang

APPROVED BY : Brian Chen

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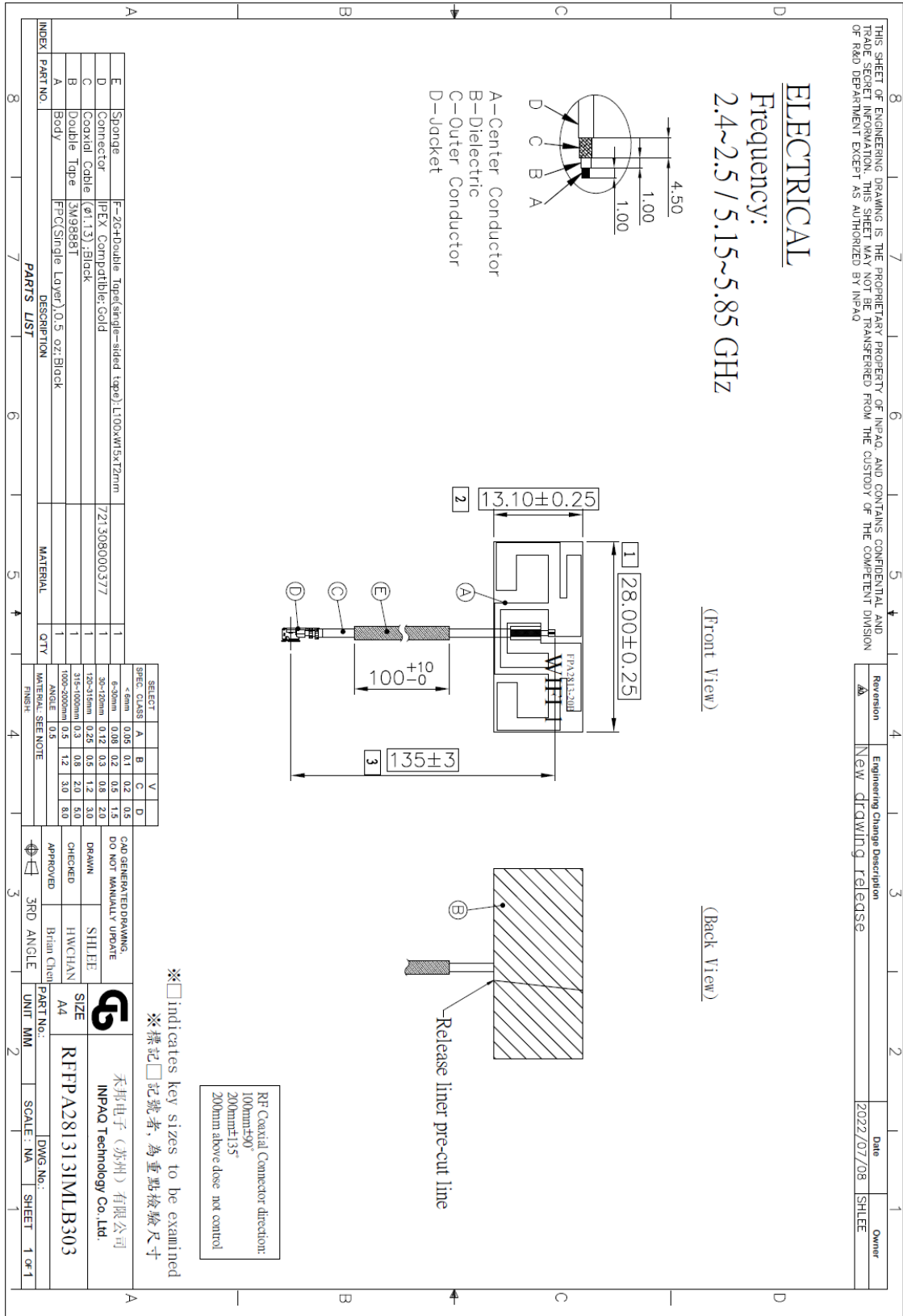
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3. Antenna Drawing :



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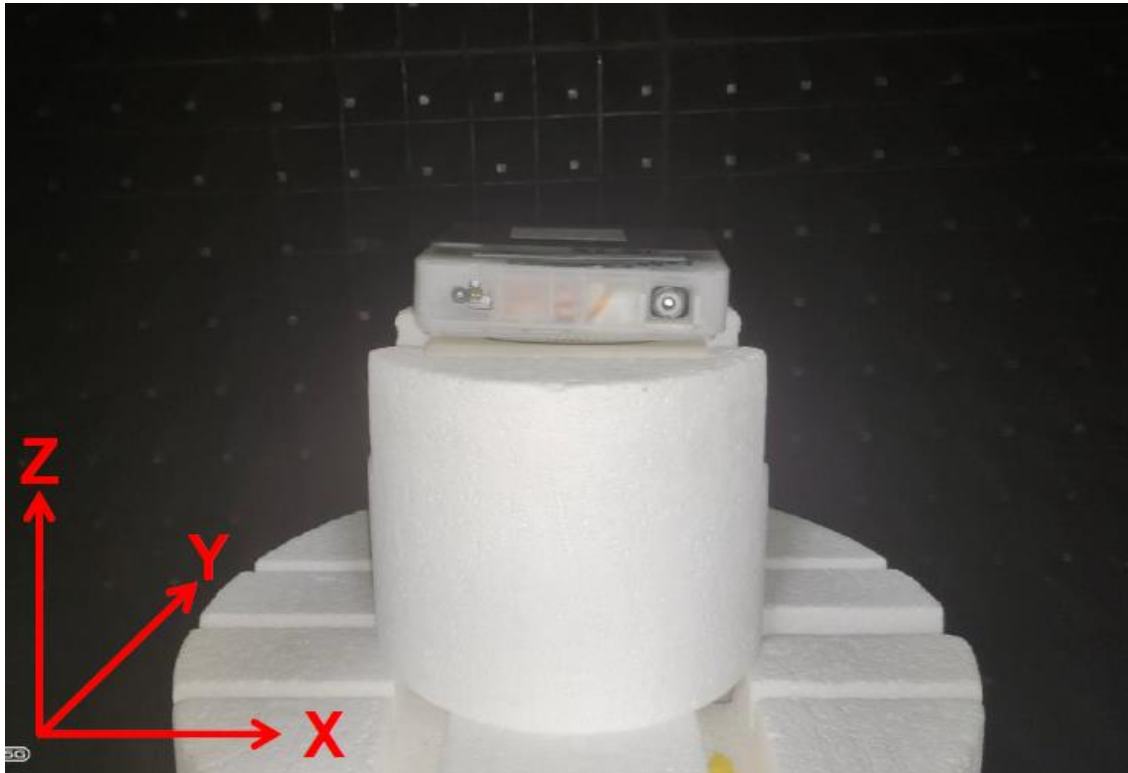
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4. Performance Report :

Test Report

■ Experimental Setup



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SCALE : N/A	UNIT : mm			
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■ Antenna Solution Detail



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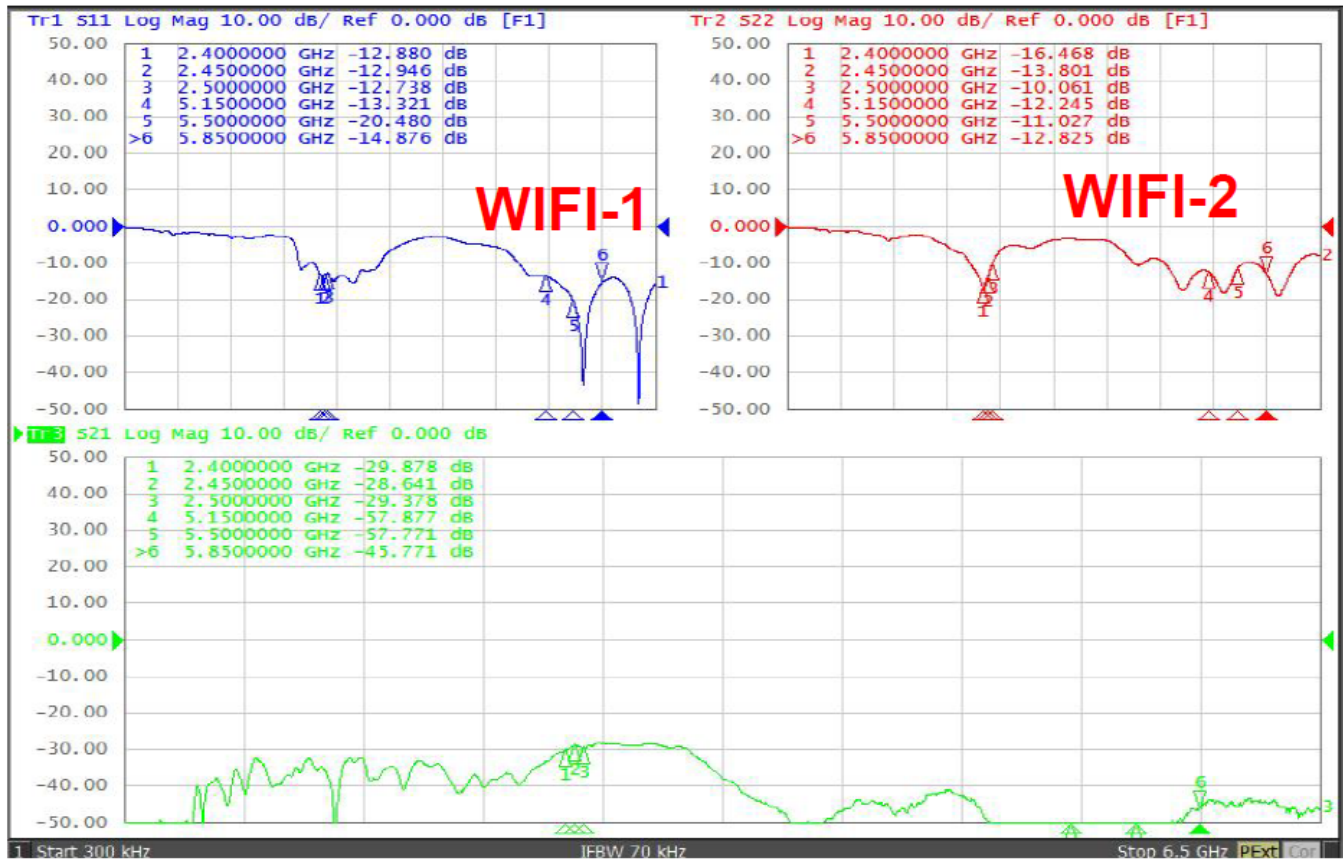
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ELECTRICAL CHARACTERISTICS

Return Loss & Isolation

WIFI-1



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



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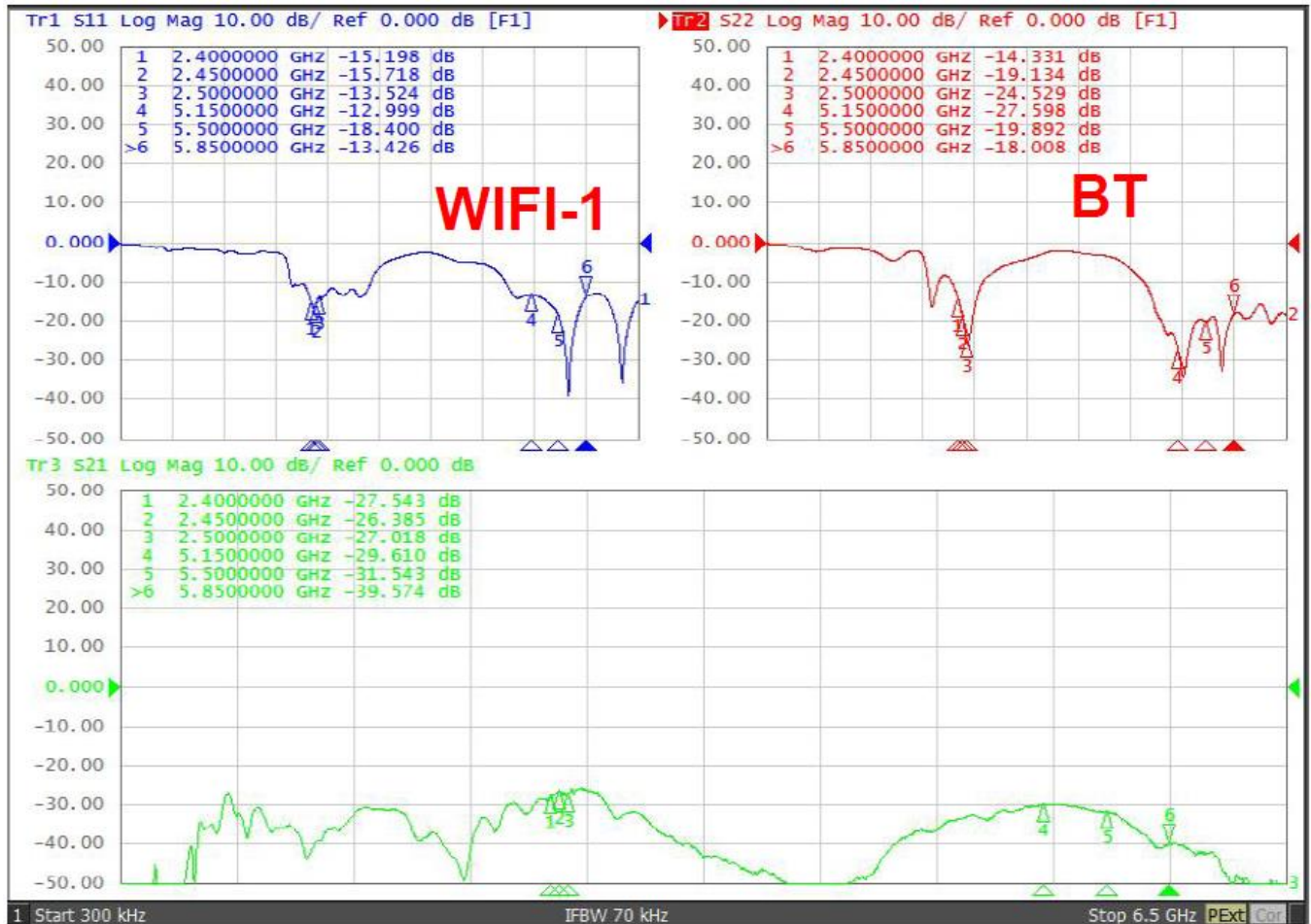
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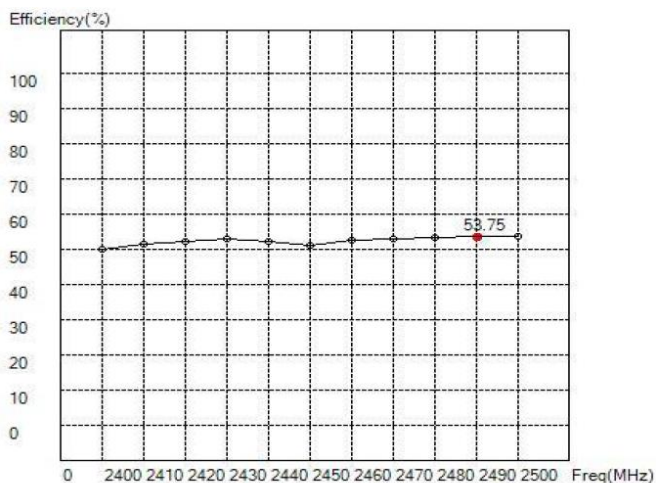
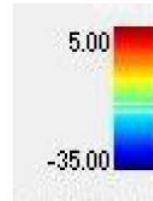
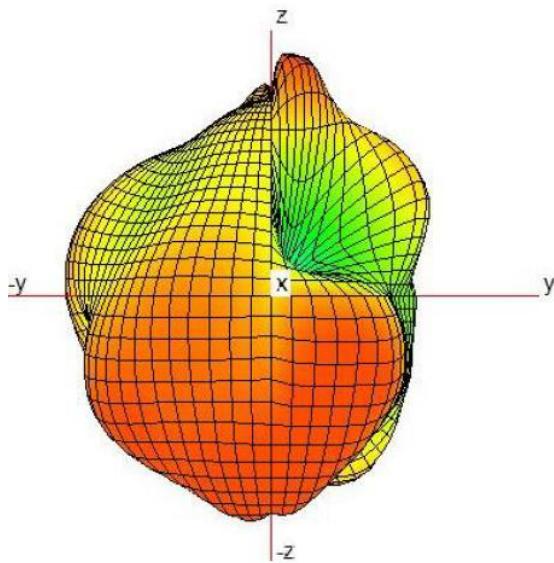
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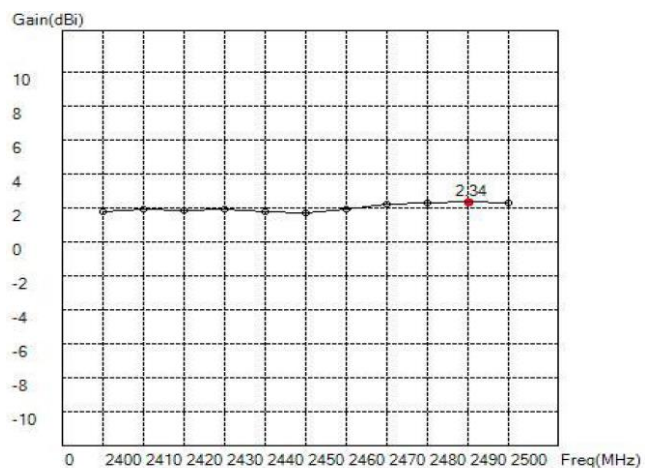
Antenna Efficiency & Peak Gain

2400~2500 MHz

2450 MHz



Maximum Efficiency at 2490MHz :53.75 %



Maximum Peak Gain at 2490 MHz : 2.34dBi

UNLESS OTHER SPECIFIED TOLERANCES ON :
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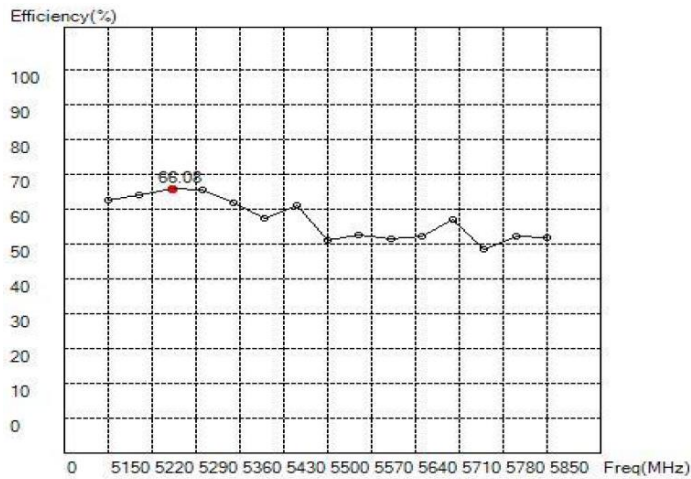
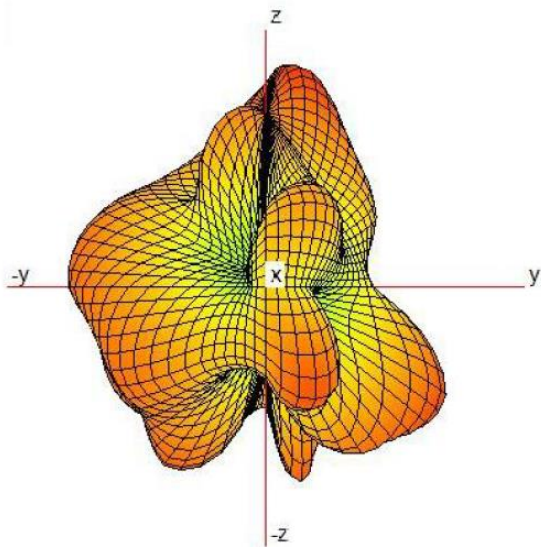
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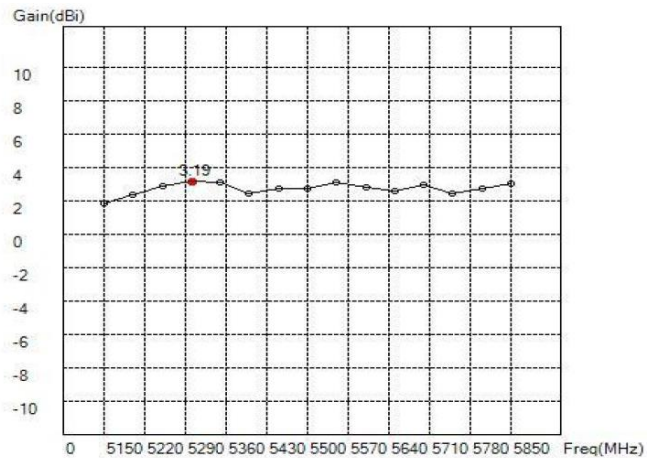
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5150~5850 MHz

5150 MHz



Maximum Efficiency at 5200MHz : 66.08 %



Maximum Peak Gain at 5250MHz : 3.19dBi

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 ANGLES = N/A HOLEDIA = N/A



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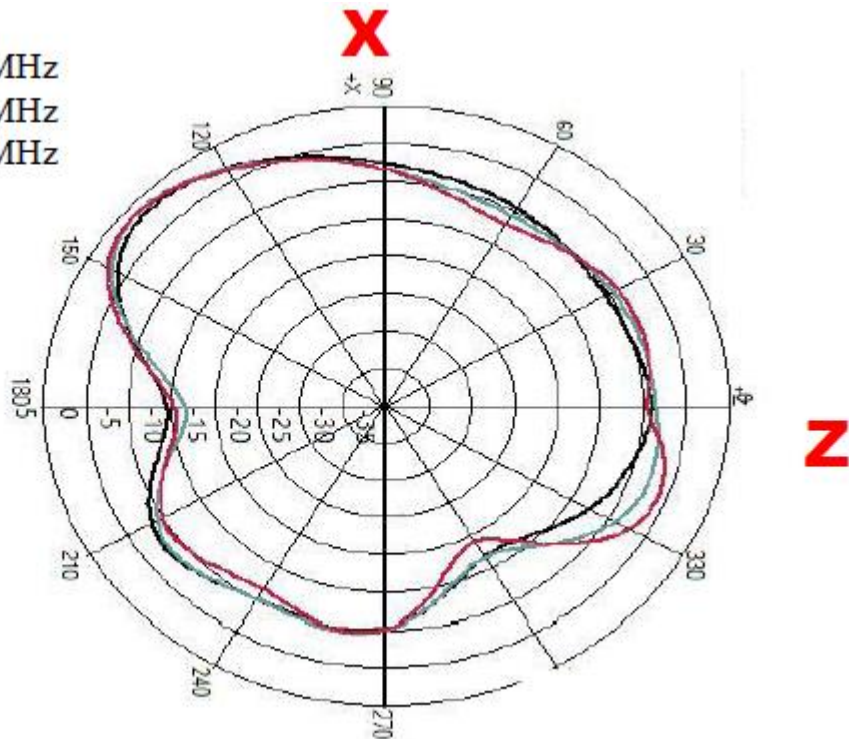
SPEC REV.
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RADIATION PATTERN

2400~2500 MHz

Phi=0.00deg

Gain . dB



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



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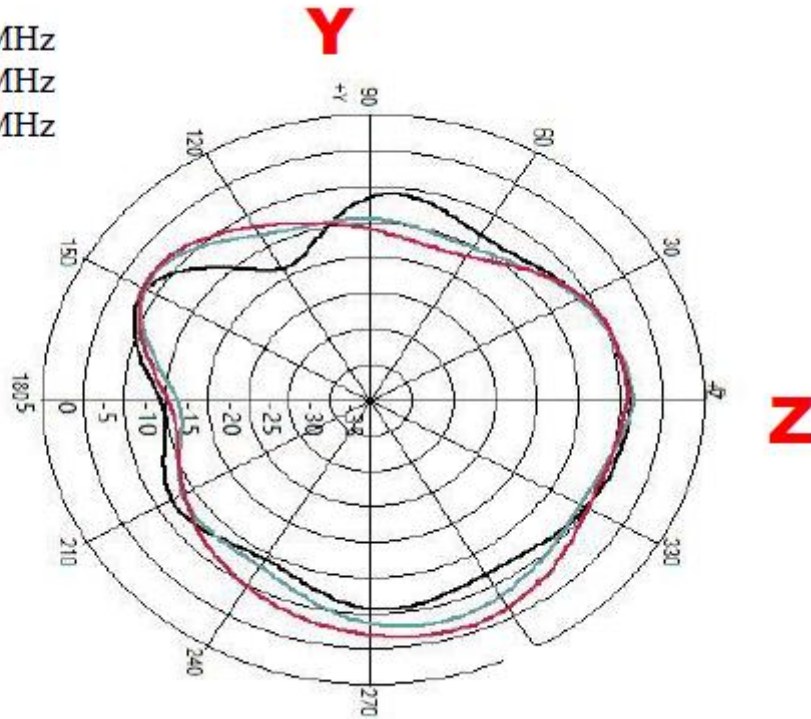
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SPEC REV.
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Phi=90.00deg

Gain . dB



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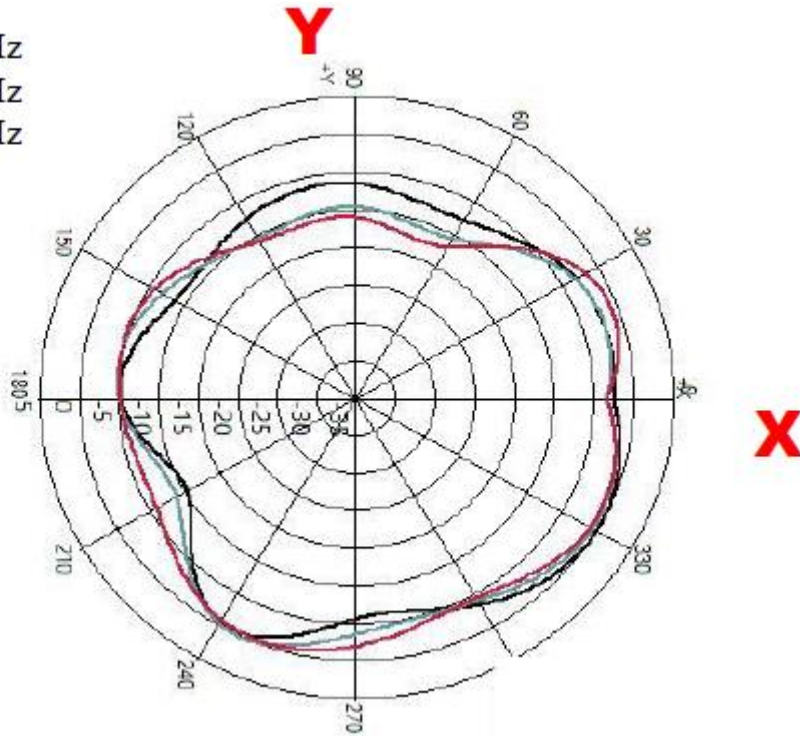
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SPEC REV.
A0

Theta=90.00deg

Gain . dB



	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]	Max Value [dBi]	Average [dBi]
2400	1.78	-2.93	-3.47	-5.94	0.11	-4.04
2450	1.74	-2.71	-3.19	-5.42	-0.46	-4.26
2500	2.28	-2.77	-1.51	-4.82	-0.83	-3.99

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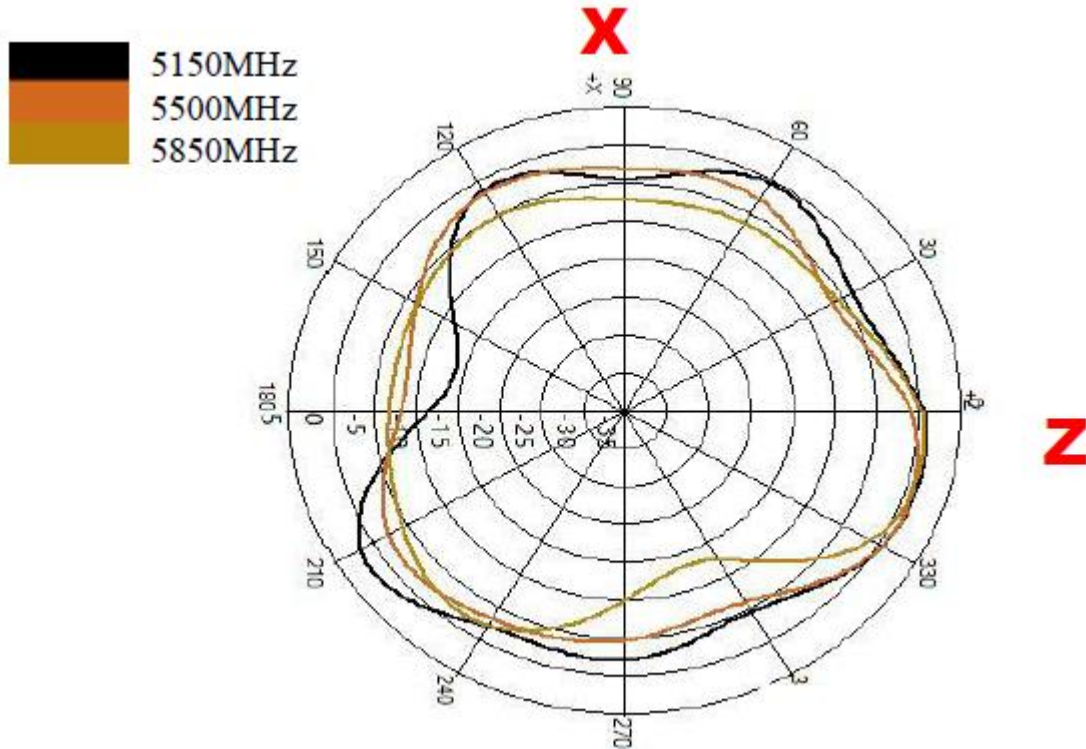
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SPEC REV.
A0

5150~5850 MHz

Phi=0.00deg

Gain . dB



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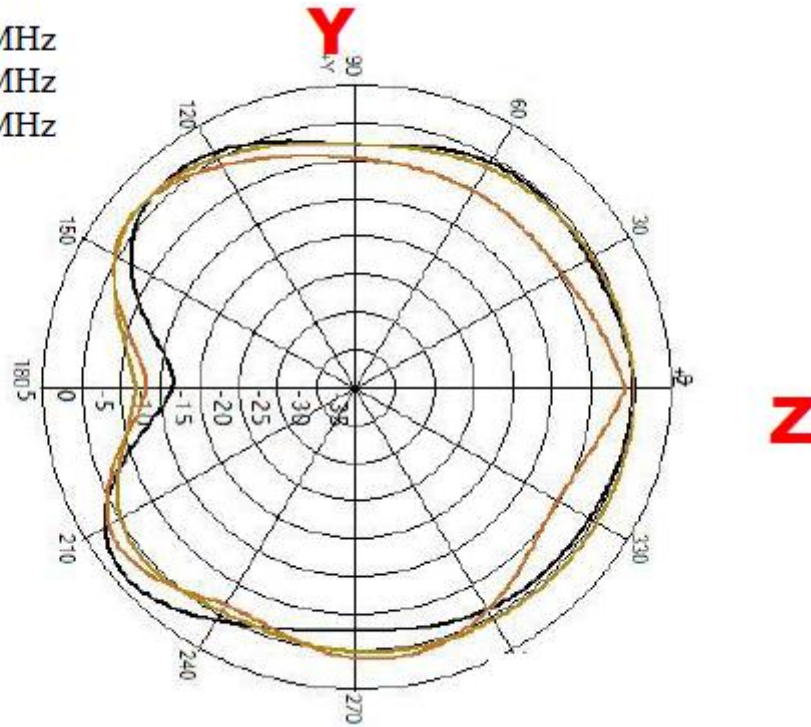
ENS070025480-000803514397

SPEC REV.
A0

Phi=90.00deg

Gain . dB

5150MHz
5500MHz
5850MHz



UNLESS OTHER SPECIFIED TOLERANCES ON :
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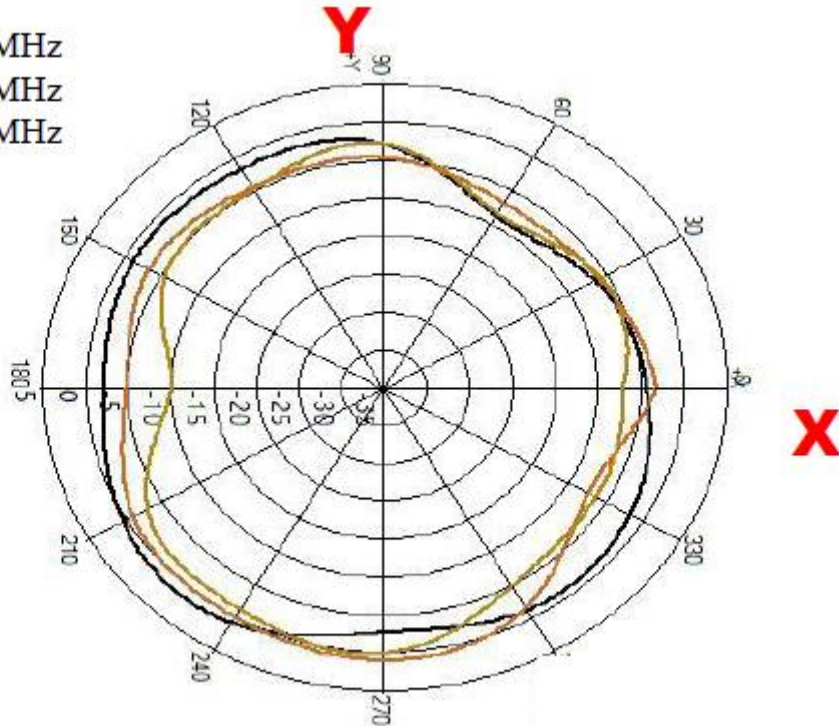
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SPEC REV.
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Theta=90.00deg

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]
5150	1.27	-1.27	1.87	-0.23	0.61	-2.10
5500	0.45	-2.60	1.26	-1.28	0.79	-2.85
5850	0.50	-3.51	0.54	-0.20	-0.09	-4.17

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