

Description: FPC 2.4G antenna

Series: Internal Antenna

PART NUMBER: W3921XXXXX

**Features:**

- 2400-2500MHz FPC dipole
- Efficiency >50%
- Gain +1dBi
- 100mm cable length and U.FL compatible connector as standard setup, P/N W3921B0100
- Custom configurations upon request

**Applications:**

- Bluetooth, Zigbee, WiFi, BLE
- ISM 2.4GHz band radios
- Set top boxes,
- Security
- Transportation

All dimensions are in mm / inches

Issue: 2235

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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**This document covers all product variants of the following product family:**

W3921B0039	39mm 1.13mm OD cable	U.FL compatible connector
W3921B0050	50mm 1.13mm OD cable	U.FL compatible connector
W3921B0100	100mm 1.13mm OD cable	U.FL compatible connector
W3921T0150	150mm 0.81mm OD cable	W.FL compatible connector
W3921B0150	150mm 1.13mm OD cable	U.FL compatible connector
W3921B0120	120mm 1.13mm OD cable	U.FL compatible connector
W3921B0200	200mm 1.13mm OD cable	U.FL compatible connector

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**ELECTRICAL SPECIFICATIONS**

Frequency	2400-2500MHz
Nominal Impedance	50Ω
VSWR	< 2
Gain	1dBi +/- 1 dB
Efficiency	50%
Radiation Pattern	Omni
Polarization	Linear
Power withstanding	2 W

***(\*) All RF parameters measured on 2mm thick PC plate***

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**MECHANICAL SPECIFICATIONS**

PCB type	Flexible
Radiator size	33[1.3] x 7.7[0.3] mm[inch]
Adhesive	3M467
Total thickness (Radiator + adhesive)	0.15[0.006] mm[inch]
Weight	about 0.37 g
Cable type	OD 1.13mm/0.81mm coaxial cable
Cable length	Optional mm[inch]
Connector	U.FL/W.FL compatible

**ENVIRONMENTAL SPECIFICATIONS**

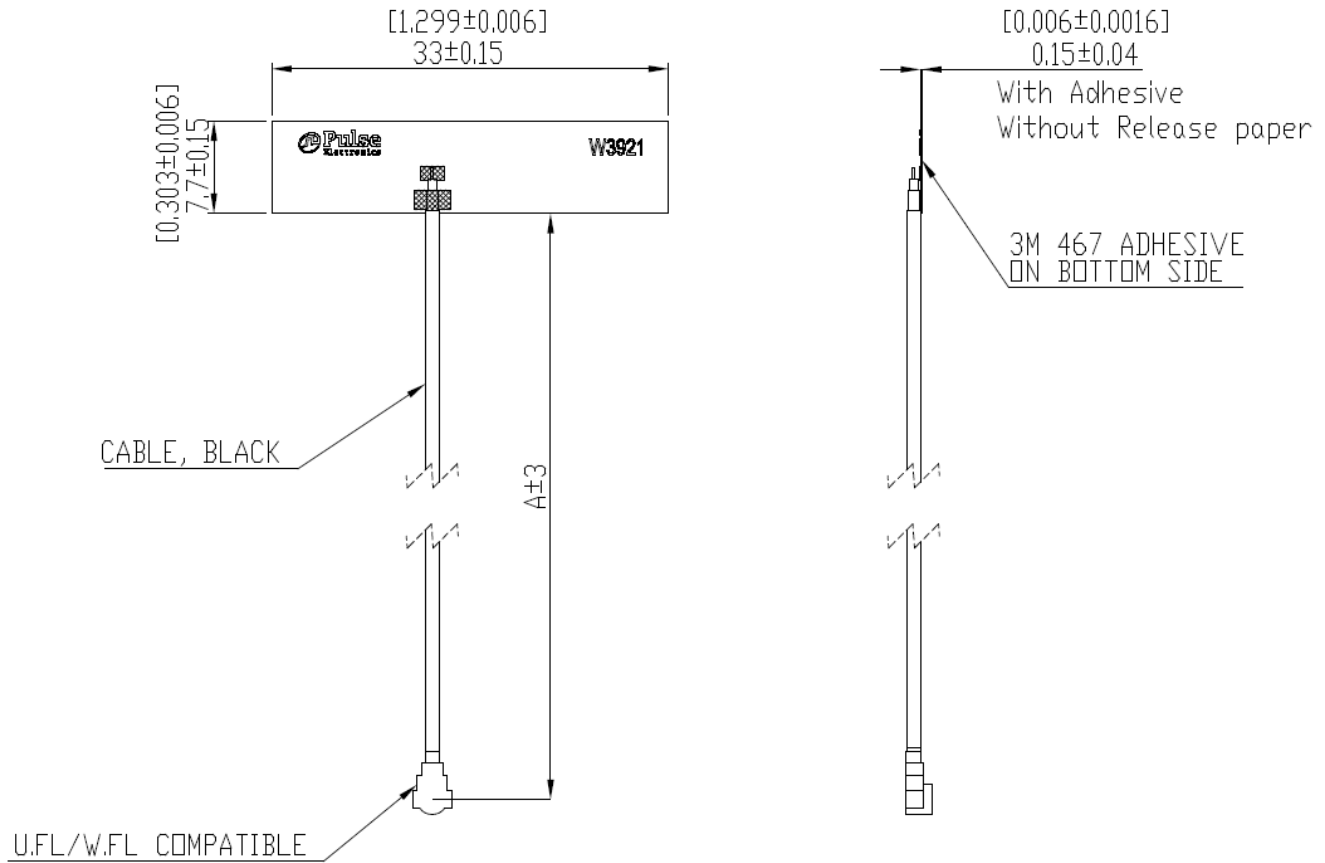
Operating temperature	-40/+85° C
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## MECHANICAL DRAWING



ITEM	PROJECT	A LENGTH	CABLE P/N	Cable Diameter	CONNECTOR
1	W3921B0050	50	055-2248.001	1.13mm	U.FL COMPATIBLE
2	W3921B0100	100	055-2248.002	1.13mm	U.FL COMPATIBLE
3	W3921T0150	150	055-2248.003	0.81mm	W.FL COMPATIBLE
4	W3921B0039	39	055-2248.004	1.13mm	U.FL COMPATIBLE
5	W3921B0150	150	055-2248.005	1.13mm	U.FL COMPATIBLE
6	W3921B0200	200	055-2248.006	1.13mm	U.FL COMPATIBLE
7	W3921B0120	120	055-2248.007	1.13mm	U.FL COMPATIBLE

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Description: FPC 2.4G antenna

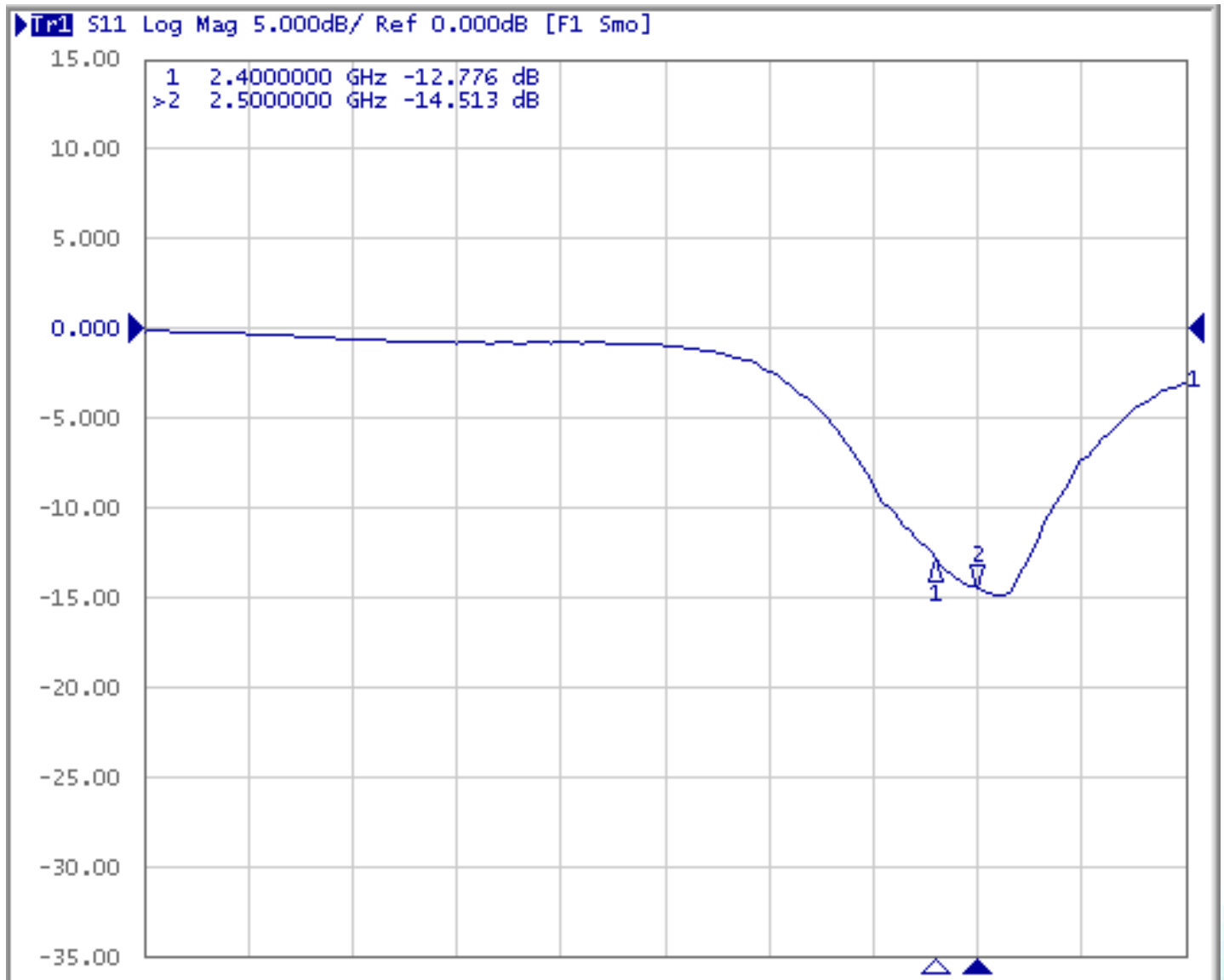
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## CHARTS

(\* All RF parameters measured on 2mm thick PC plate

### Return Loss



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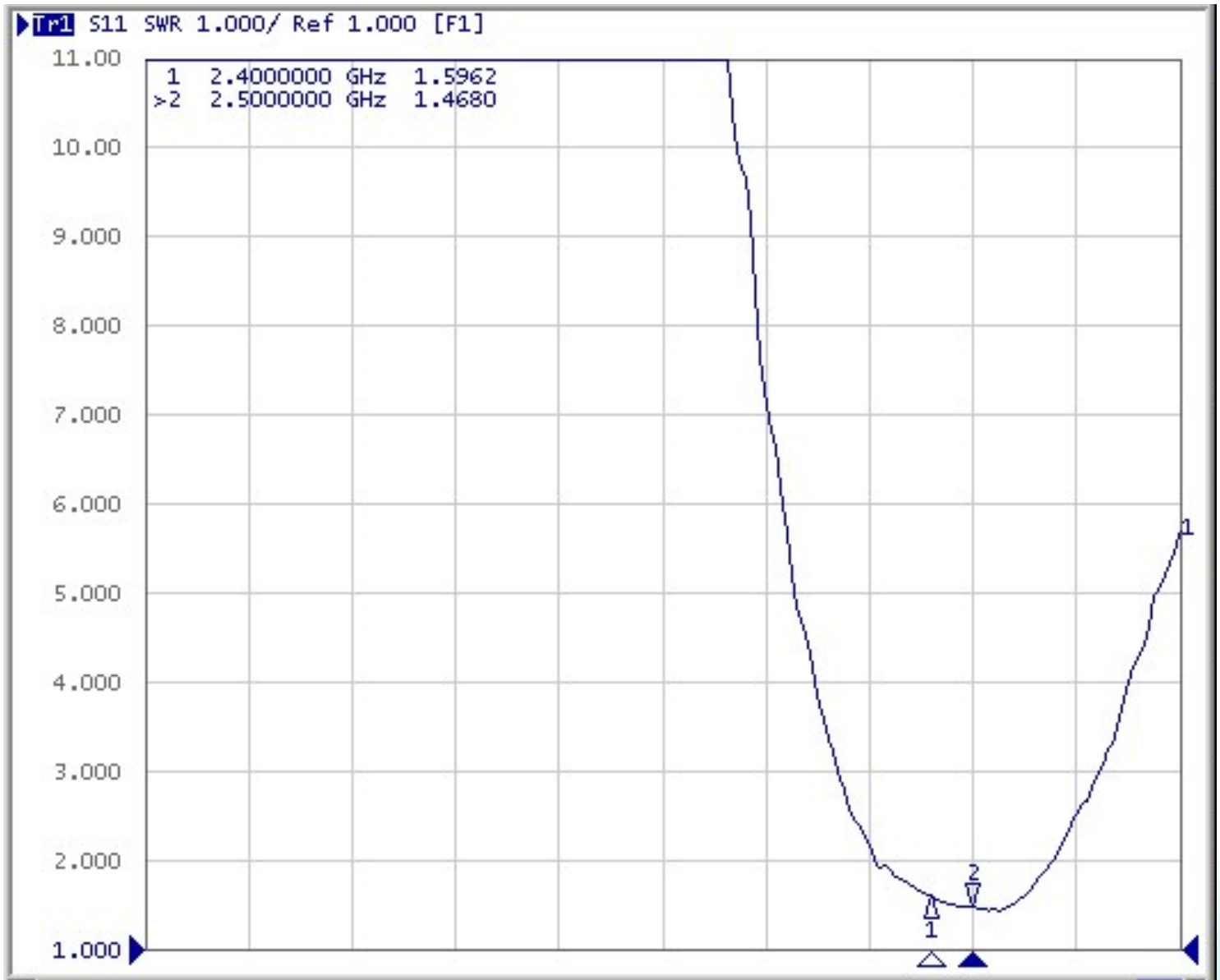
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## CHARTS

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### VSWR



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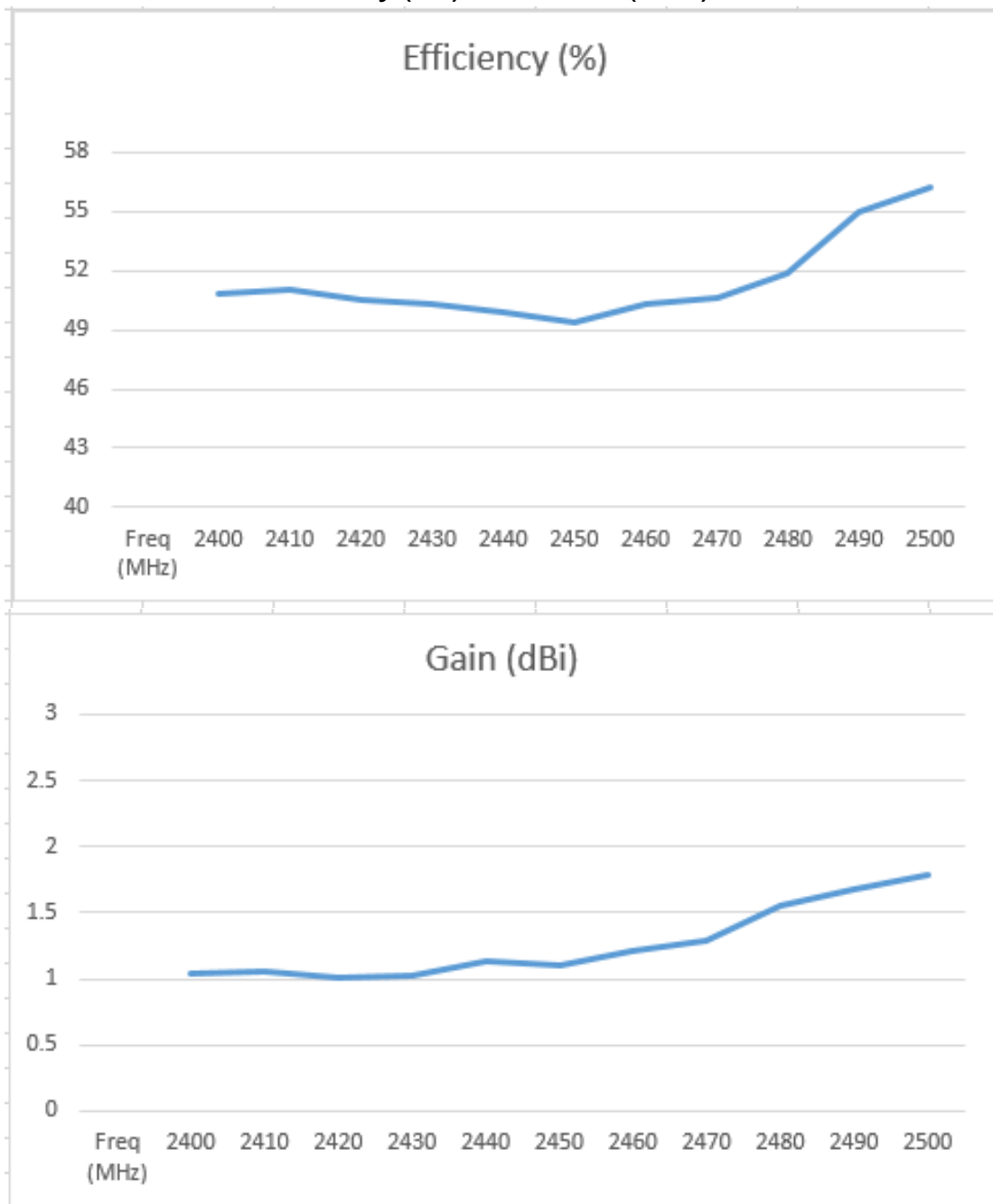
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## CHARTS

(\* All RF parameters measured on 2mm thick PC plate  
Efficiency(%) & Gain (dBi)



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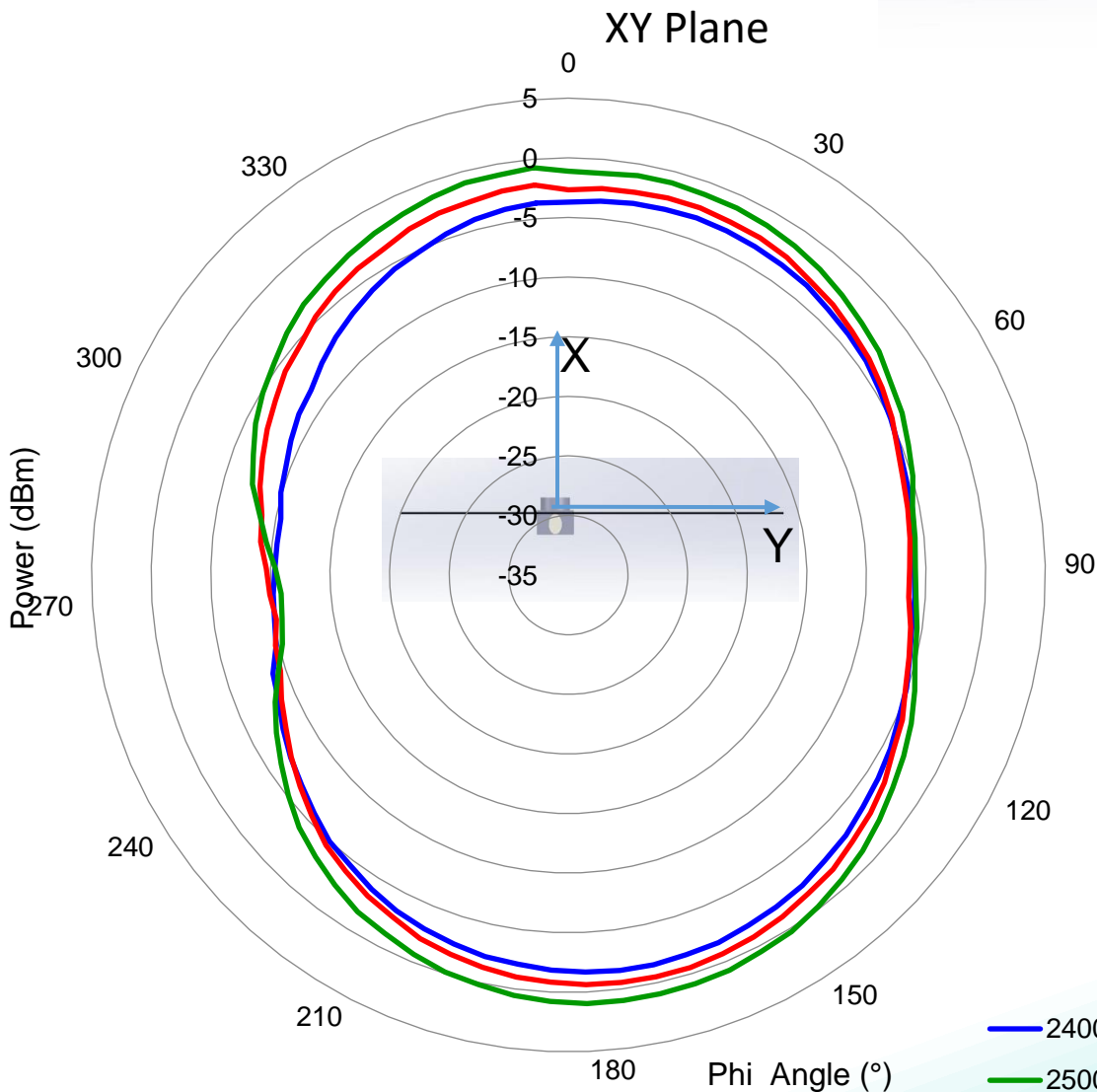
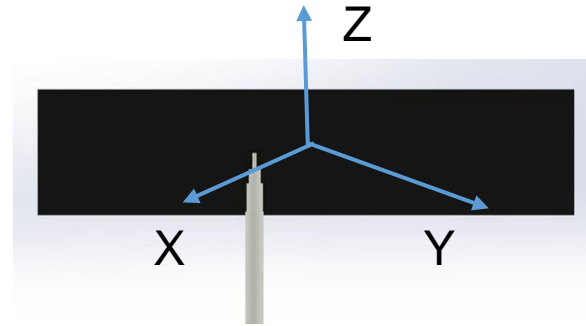
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## CHARTS

Typical free space radiation pattern  
WIFI 2.4GHz

**(\*) All RF parameters measured on 2mm thick PC plate**



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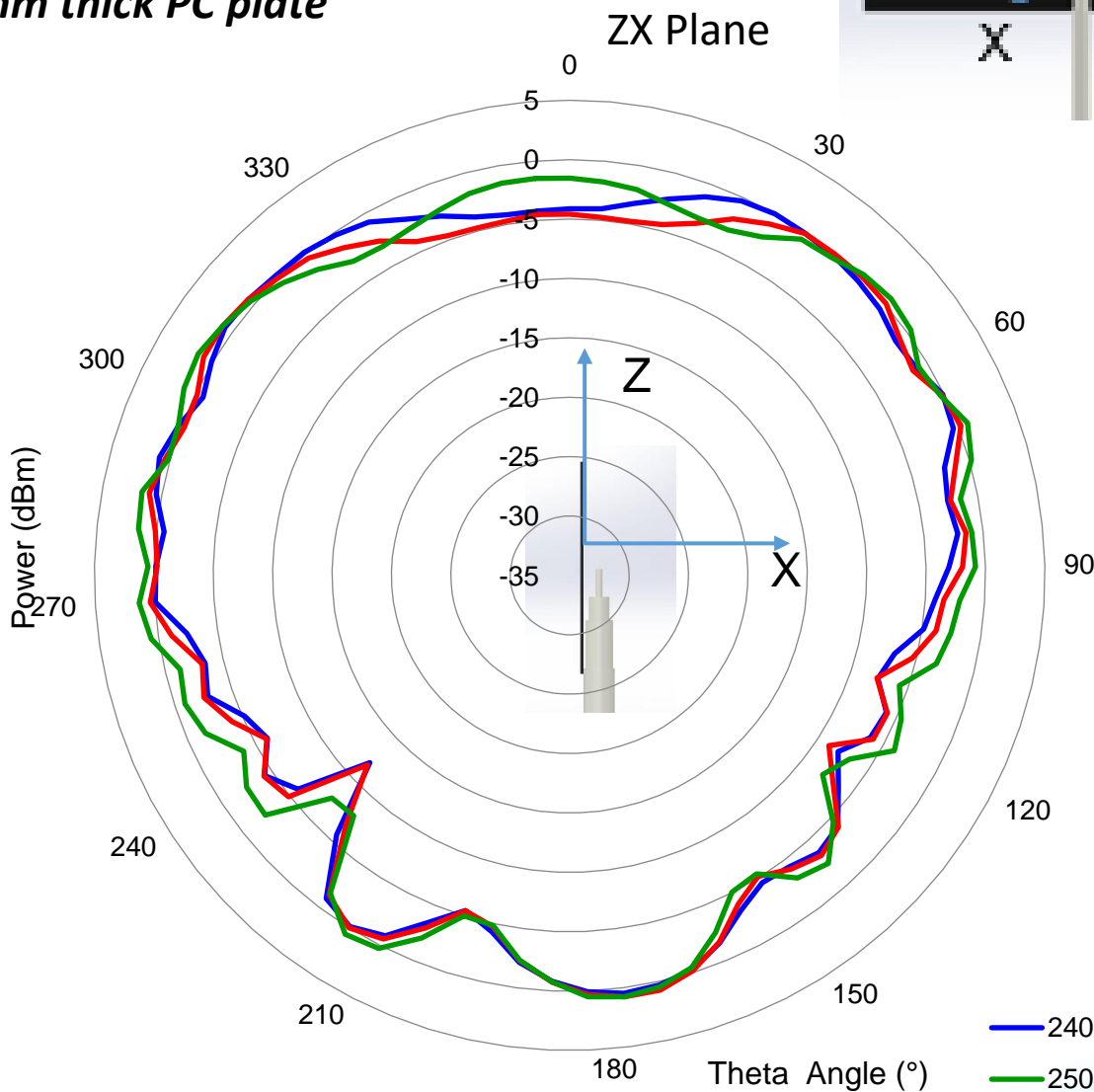
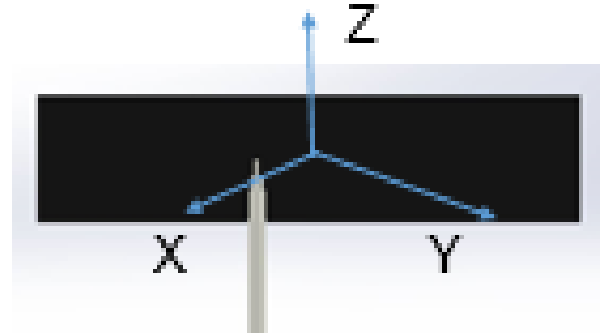
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## CHARTS

Typical free space radiation pattern  
WIFI 2.4GHz

**(\*) All RF parameters measured on  
2mm thick PC plate**



2400MHz  
Avg (dBi) = -2.49  
Peak (dBi) = 0.92  
Avg -3 (deg) = 85

2450MHz  
Avg (dBi) = -2.57  
Peak (dBi) = 1.05  
Avg -3 (deg) = 85

2500MHz  
Avg (dBi) = -1.77  
Peak (dBi) = 1.68  
Avg -3 (deg) = 77.5

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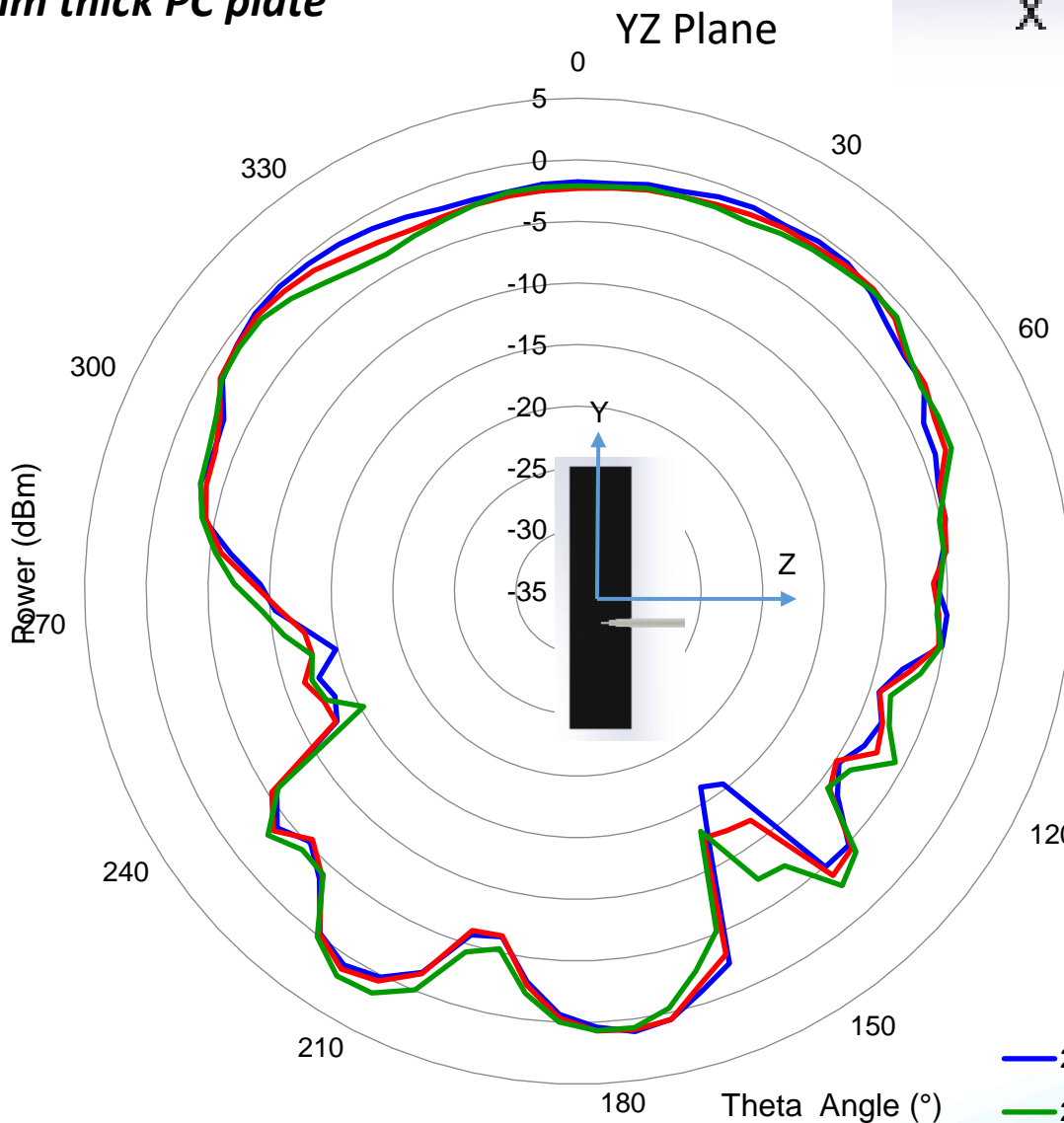
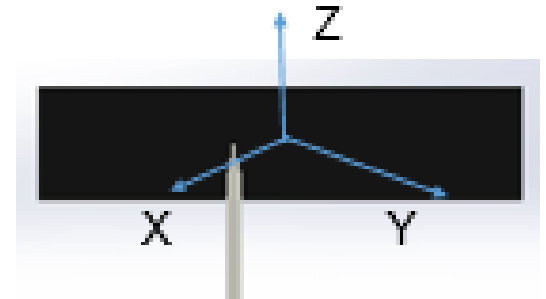
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CHARTS

Typical free space radiation pattern  
WIFI 2.4GHz

(\* All RF parameters measured on  
2mm thick PC plate



2400MHz  
Avg (dBi) = -4.38  
Peak (dBi) = 1.02  
Avg -3 (deg) = 70

2450MHz  
Avg (dBi) = -4.30  
Peak (dBi) = 1.17  
Avg -3 (deg) = 50

2500MHz  
Avg (dBi) = -4.08  
Peak (dBi) = 1.83  
Avg -3 (deg) = 27.5

— 2400MHz — 2450MHz  
— 2500MHz

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**PACKAGING**

10PCS/PE bag

10 PE bag/foam bag

50 foam bag/ carton box

Total 5000PCS/Carton box



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