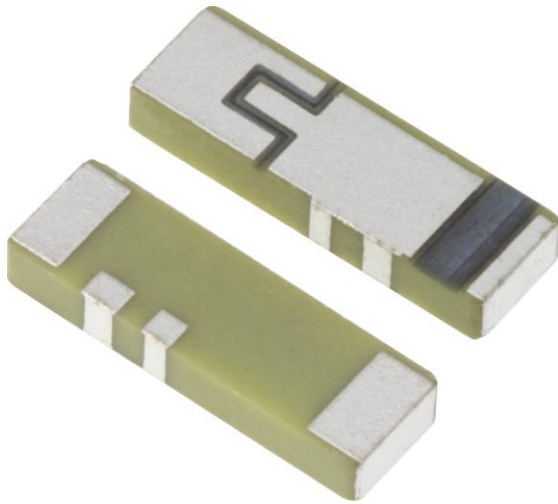


**Features:**

- Frequency: 1558-1616/2400-2500MHz
- Omni directional radiation
- Low profile
- Size W x L x H (10 x 3.2 x 1.5mm)
- Lead free materials
- Fully SMD compatible
- MSL Level 1
- RoHS Compliant

**Applications:**

- Combo 2-in-1 Antenna
- Single feed point
- GNSS L1 band
- Bluetooth, WLAN, WiFi (2.4 – 2.5GHz)

All dimensions are in mm / inches

Issue: 2049

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Tel: 86 512 6807 9998



**Description: Ceramic Single Feed GNSS/BT  
Antenna****Series: Ceramic Antenna****PART NUMBER: W3056****ELECTRICAL SPECIFICATIONS**

Antenna Type	Ceramic Chip
Frequency	1558-1616MHz/2.4-2.5GHz
Nominal Impedance	50 $\Omega$
Return Loss / Max ( BD / GPS / GLONASS / BT)	-4 / -5 / -3 / -7 ( dB )
Radiation Pattern – XY Plane & ZY Plane	Omni
Radiation Pattern – ZX Plane	Directional
Gain / Min ( BD / GPS / GLONASS / BT)	-0.5 / 0.5 / 0 / 2 ( dBi )
Efficiency / Min ( BD / GPS / GLONASS / BT)	35% / 45% / 45% / 65%
Polarization	Linear-Vertical
Power Withstanding	1W

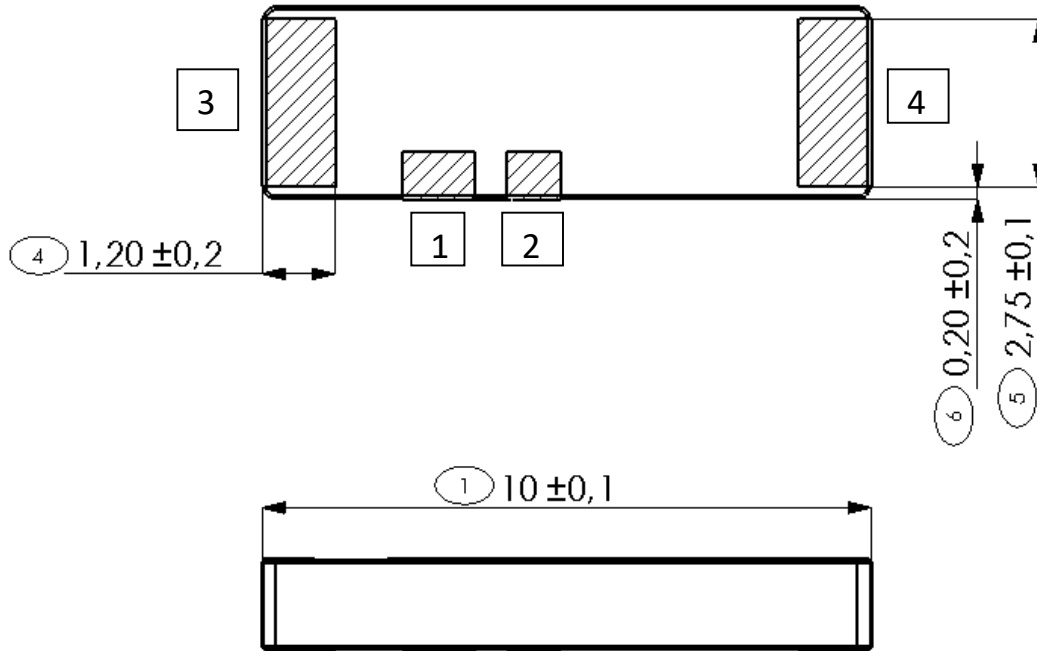
**MECHANICAL SPECIFICATIONS**

Overall Length	10mm
Weight	0.24g
Antenna Color	White

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	-40 ~ +85° C
Storage Temperature	-40 ~ +85° C
RoHS Compliant	Yes

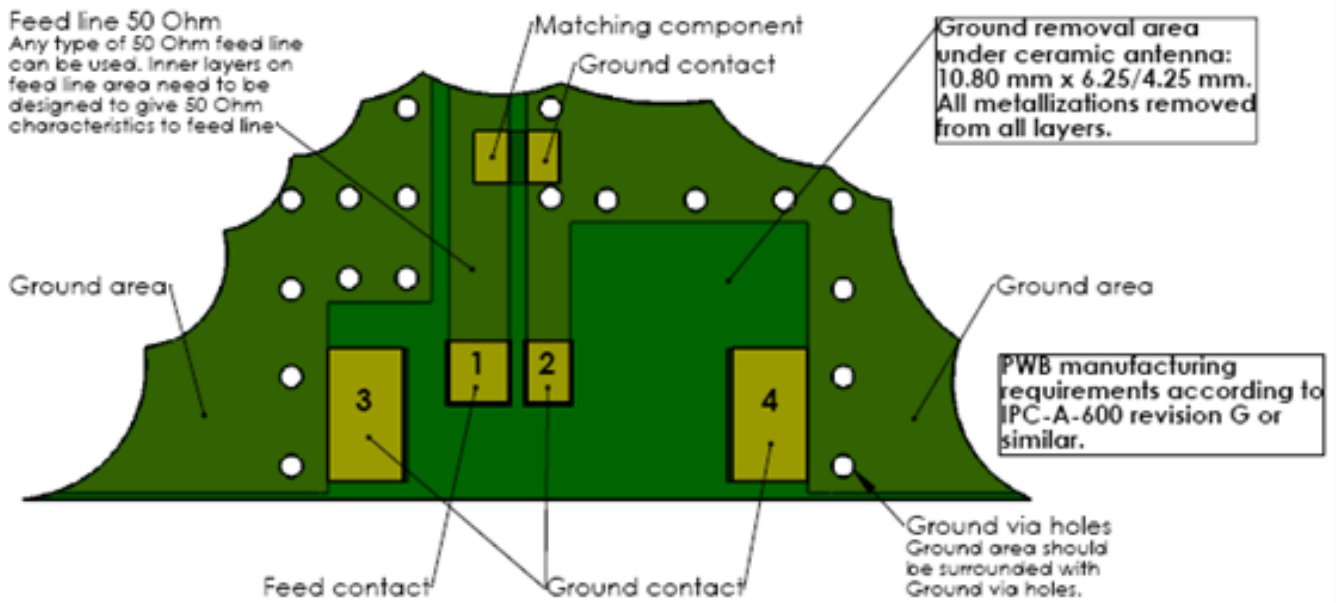
MECHANICAL DRAWING



No.	Terminal Name	Terminal Dimensions
1	Feed	1.34 x 0.80 mm
2	GND	1.00 x 0.80 mm
3	GND	2.75 x 1.20 mm
4	GND	2.75 x 1.20 mm

## TEST SETUP

### Test board information



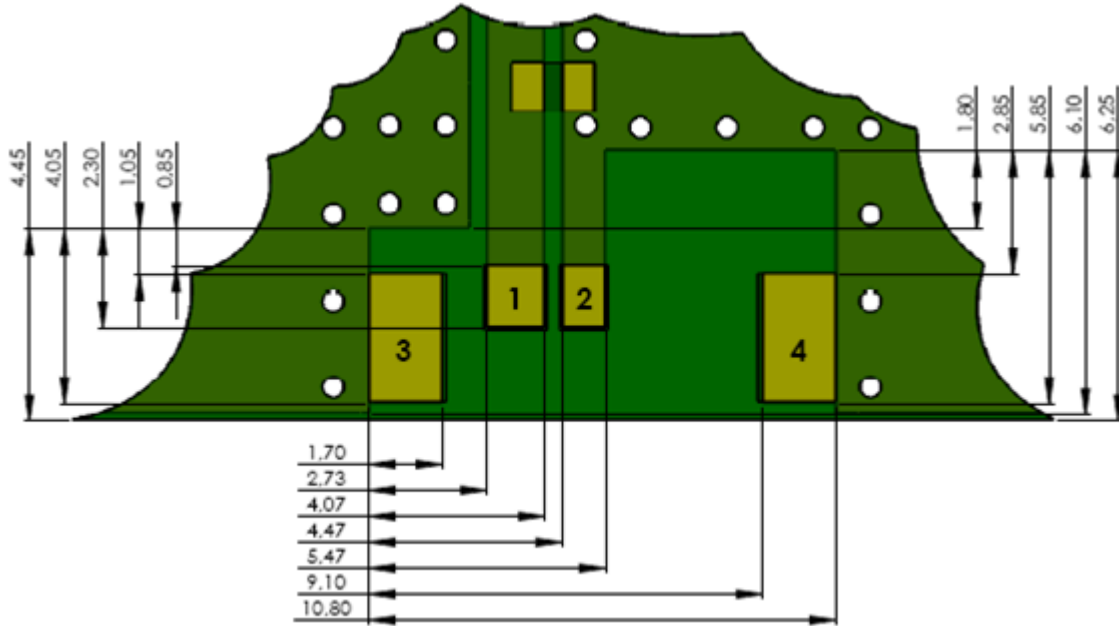
Note: Electrical characteristics are measured on test pwb with matching circuit (2.2 nH shunt matching inductor on feed).

### Recommended Antenna Pad Dimensions on PWB Layout (top surface)

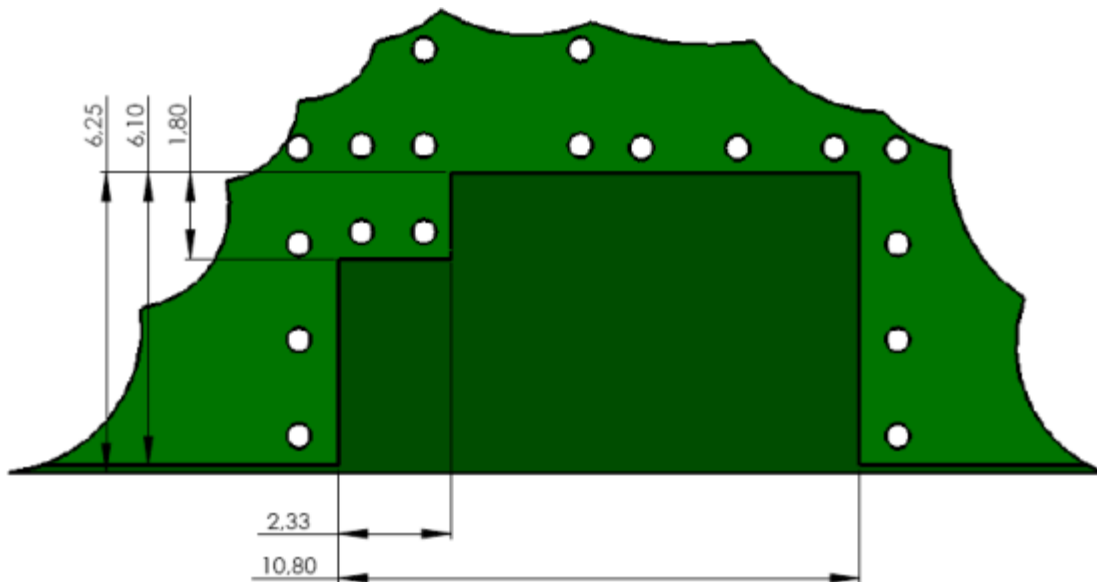
PWB features		
No.	Terminal Name	Terminal Dimensions
1	Feed	1.45 x 1.34 mm
2	GND	1.45 x 1.00 mm
3	GND	3.00 x 1.70 mm
4	GND	3.00 x 1.70 mm

TEST SETUP

*Recommended ground clearance area under antenna on PWB (top surface)*



*Recommended ground clearance area under antenna on PWB (bottom surface)*



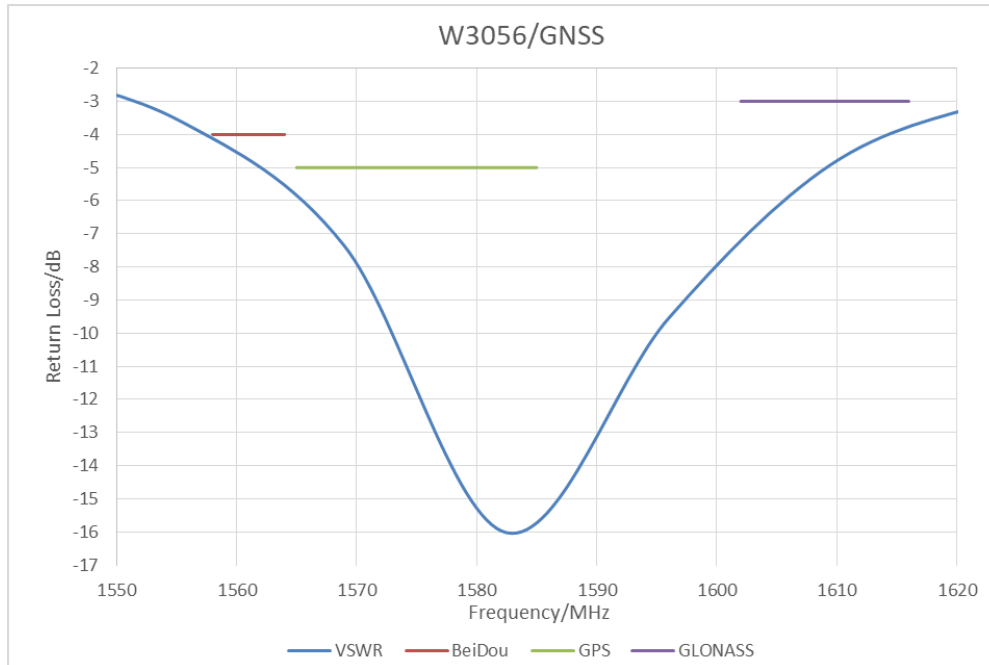
## Description: Ceramic Single Feed GNSS/BT Antenna

Series: Ceramic Antenna

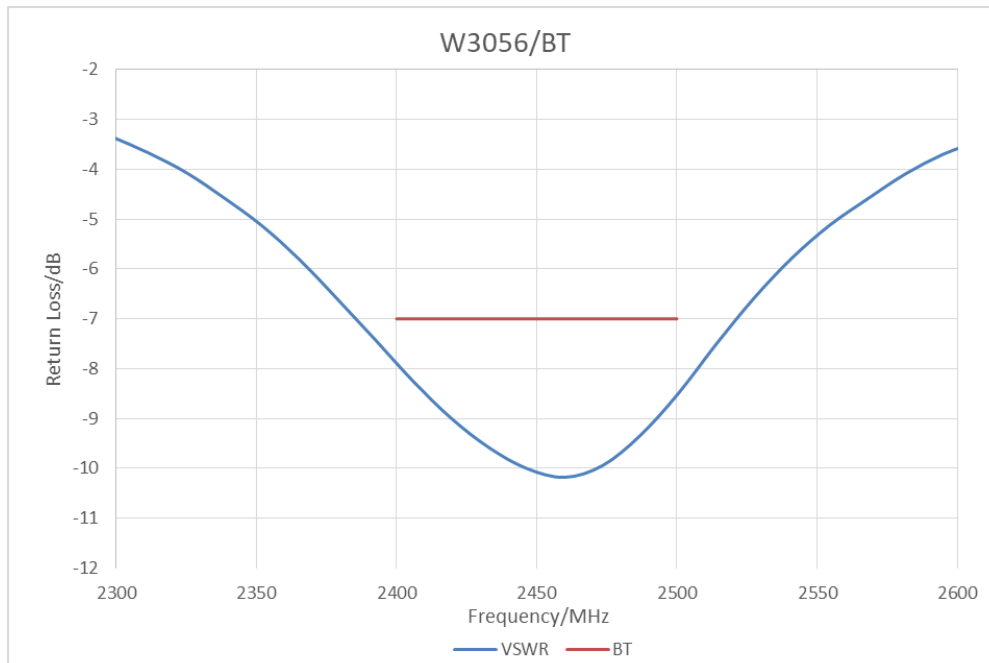
PART NUMBER: W3056

### CHARTS

#### Return Loss/GNSS



#### Return Loss/ BT



Issue: 2049

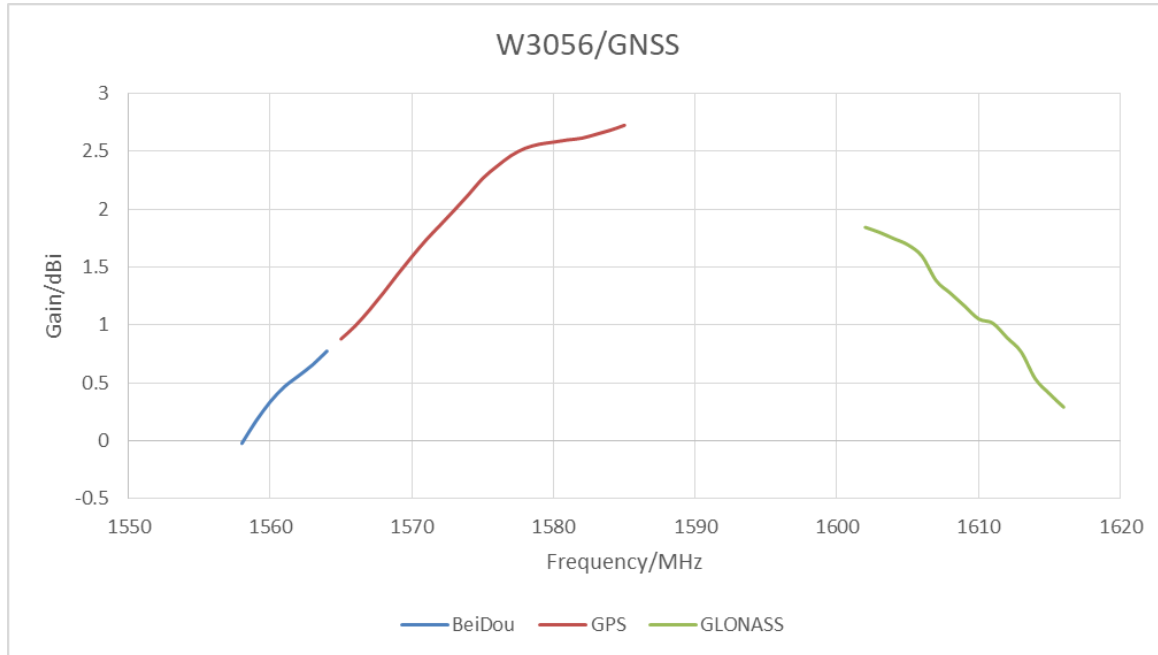
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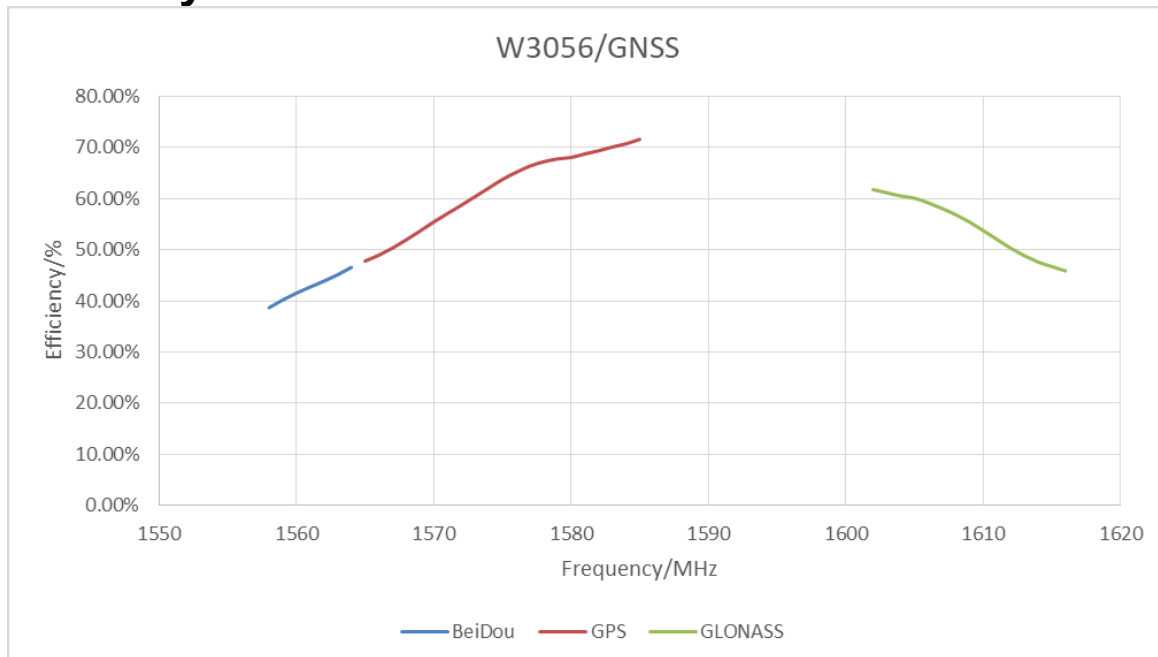
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## CHARTS

### Peaking Gain/ GNSS



### Rad Efficiency/ GNSS



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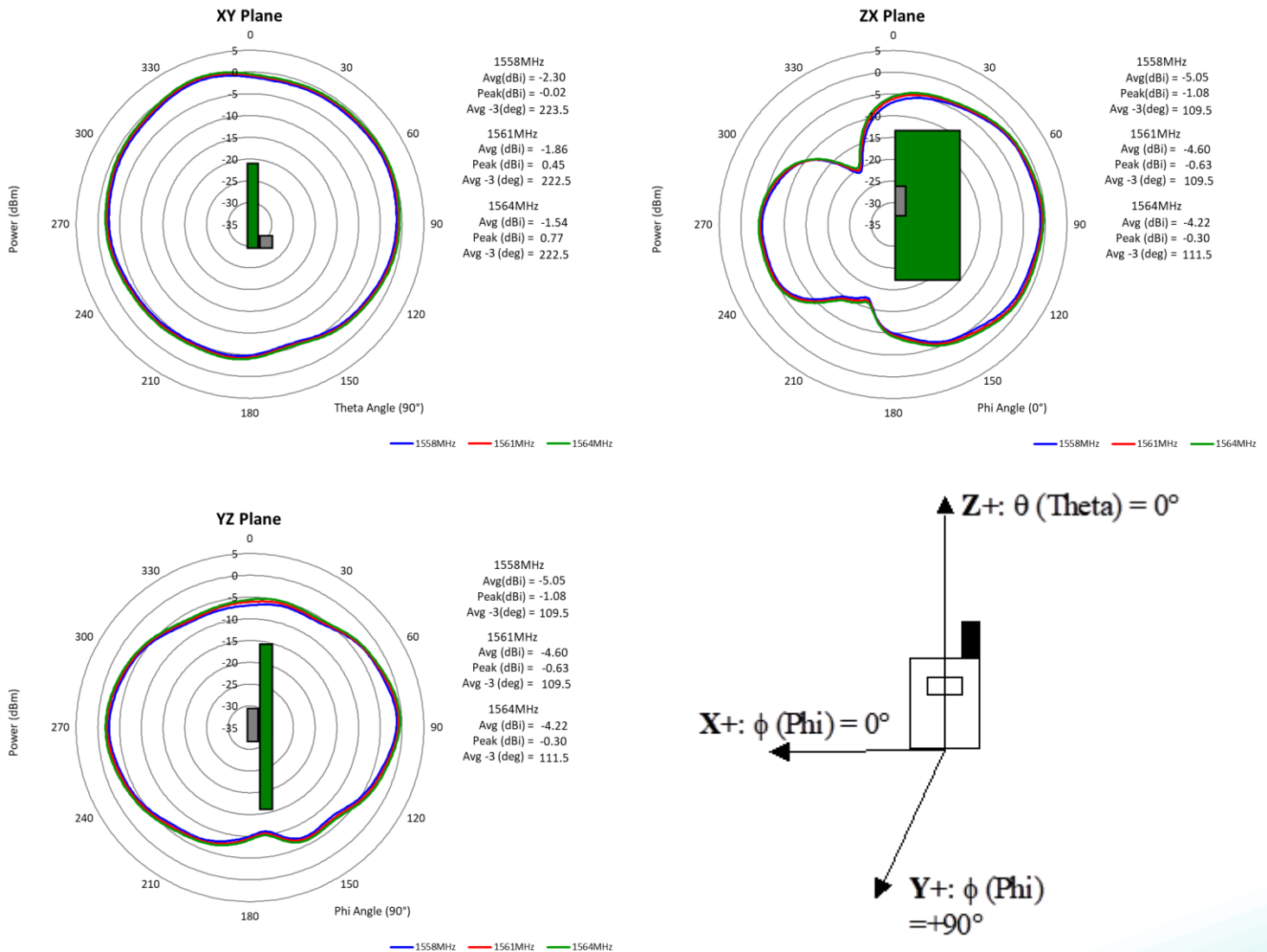
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## CHARTS

### Typical Free Space Radiation Patterns / BeiDou



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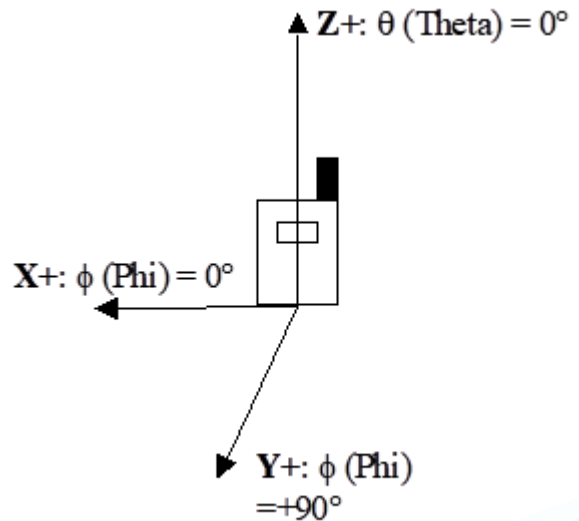
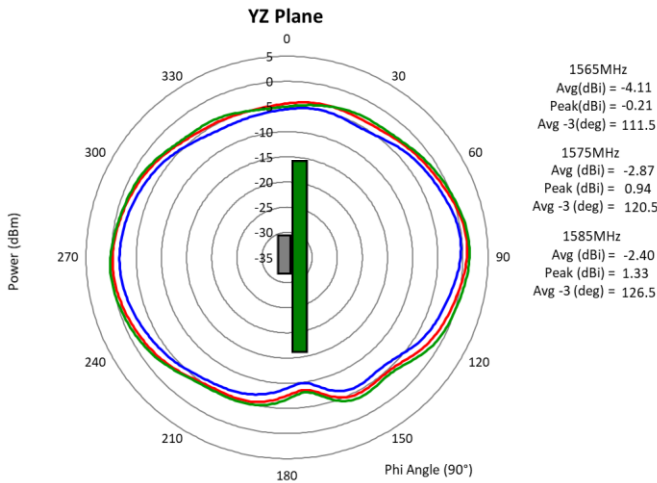
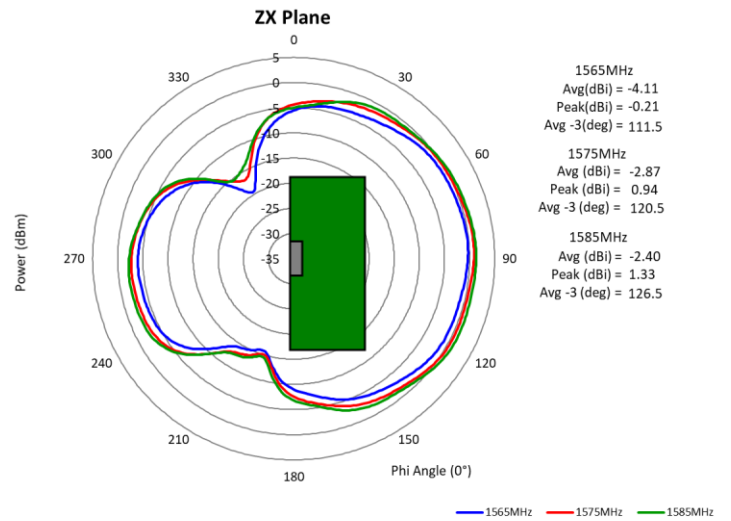
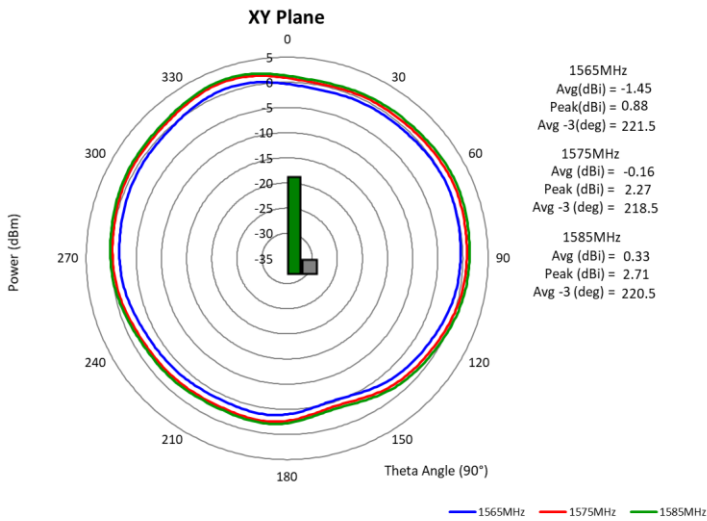
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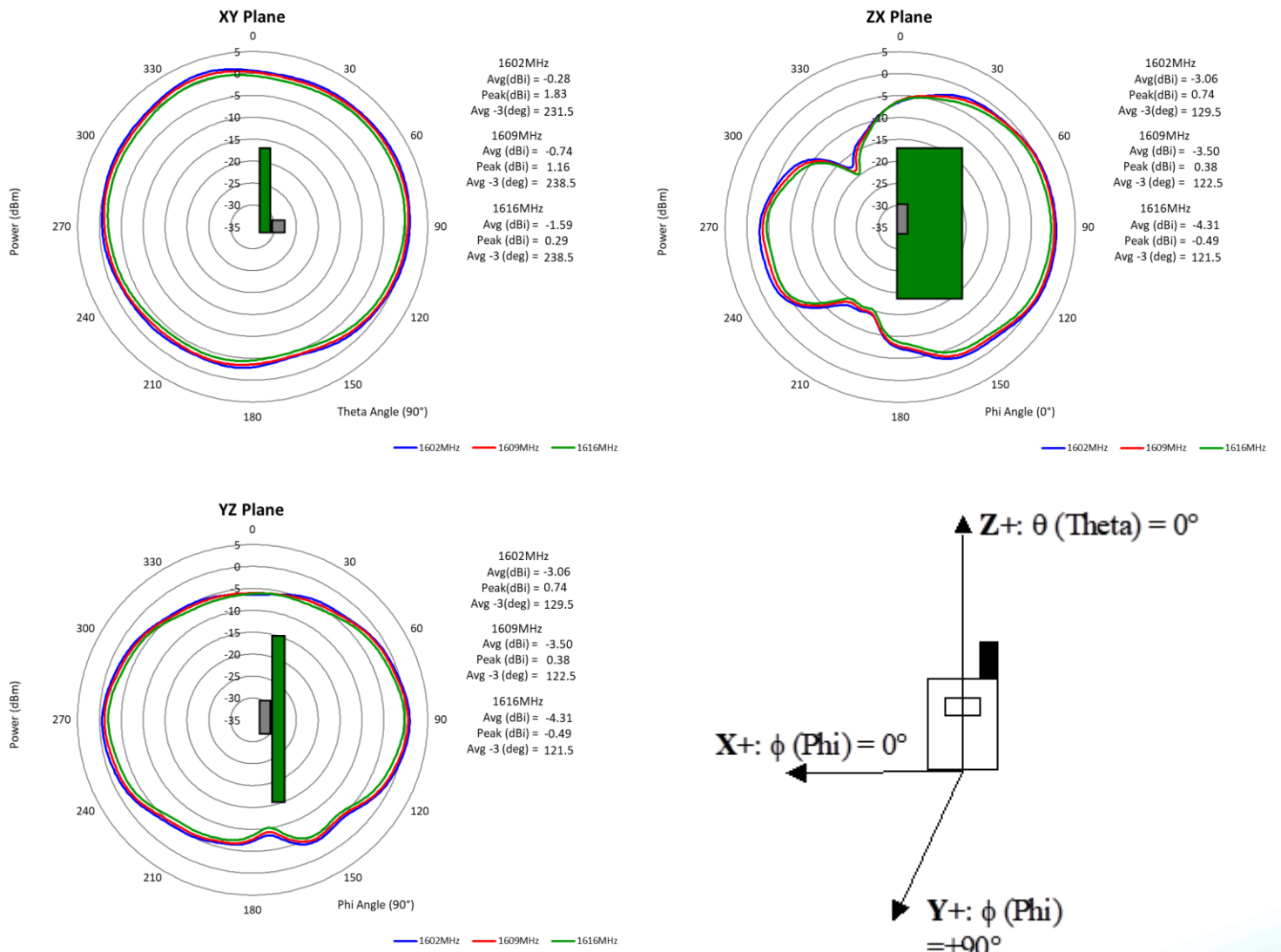
CHARTS

Typical Free Space Radiation Patterns / GPS



## CHARTS

### Typical Free Space Radiation Patterns / GLONASS



Issue: 2049

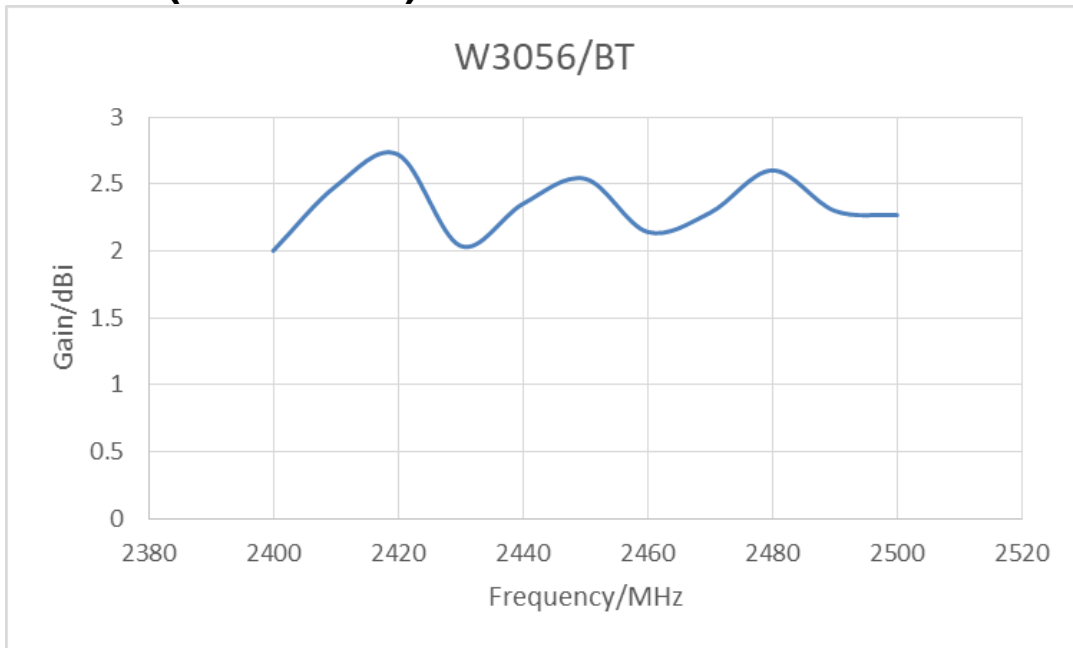
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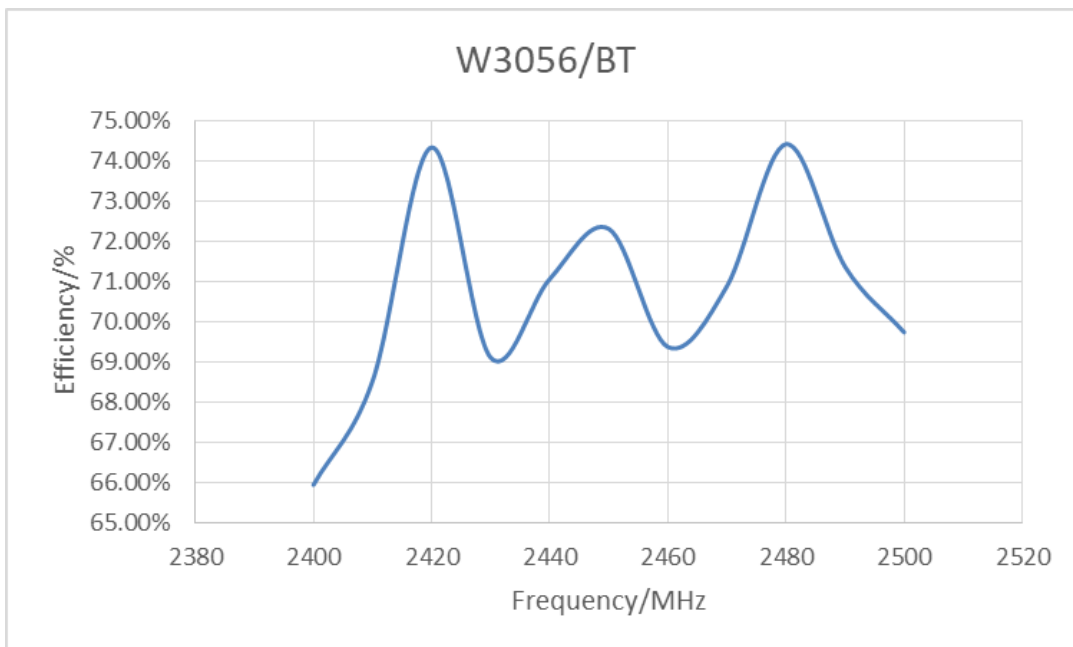
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## CHARTS

### Peaking Gain/ BT(2.4G-2.5G)



### Rad Efficiency/ BT(2.4G-2.5G)



Issue: 2049

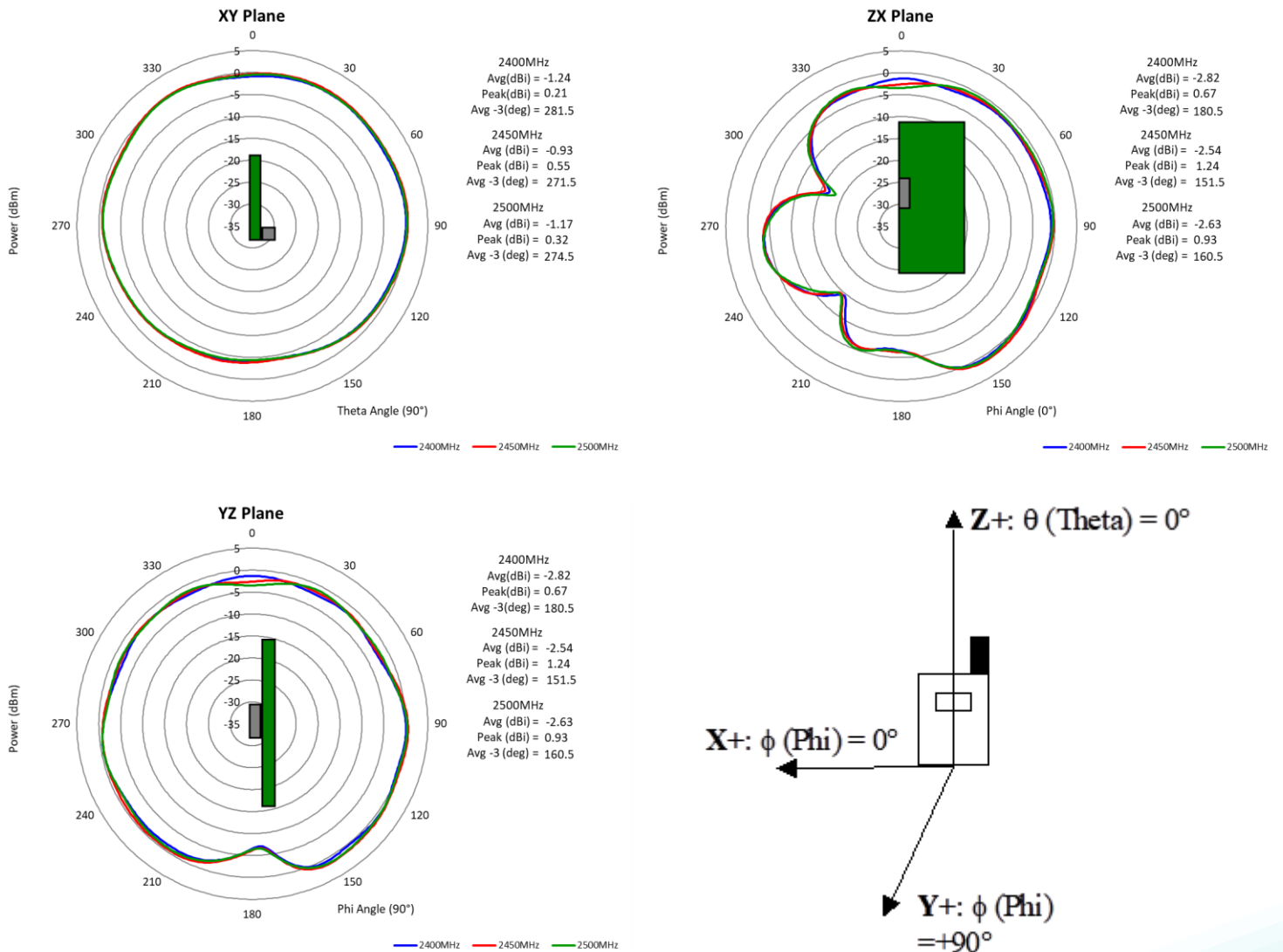
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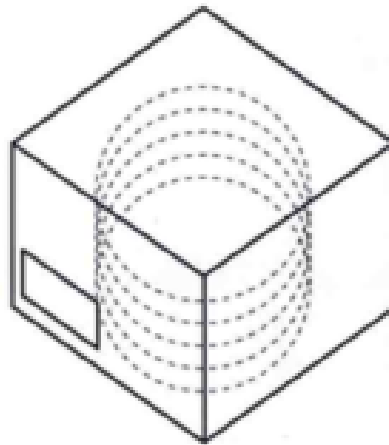
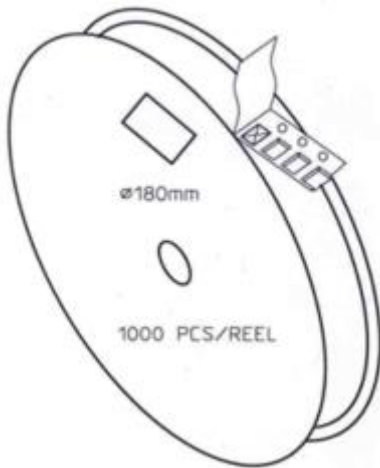
## CHARTS

### Typical Free Space Radiation Patterns / BT(2.4G-2.5G)



**PACKAGING**

1. Tape and reel packing with plastic vacuum bag.  
1000 PCS/ REEL, 4 Reels/ BOX

**2. MSL: Level 1**

These devices do not require special storage conditions provided:

- 1). They are maintained at conditions equal to or less than 30°C and 85% RH.

- 2). They are solder reflowed at a peak body temperature which does not exceed 260°C.

Note: Level and body temperature defined by IPC/JEDEC J-STD-020