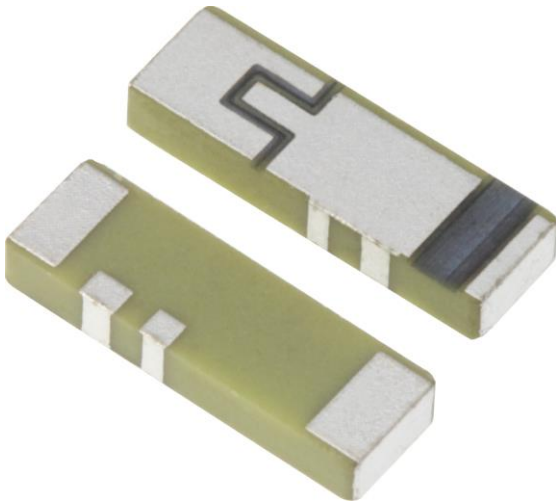


### Features:

- 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 3
- 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

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Pulse (Suzhou) Wireless Products Co, Inc.  
99 Huo Ju Road(#29 Bldg, 4<sup>th</sup> Phase  
Suzhou New District  
Jiangsu Province, Suzhou 215009 PR China  
Tel: 86 512 6807 9998



### 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

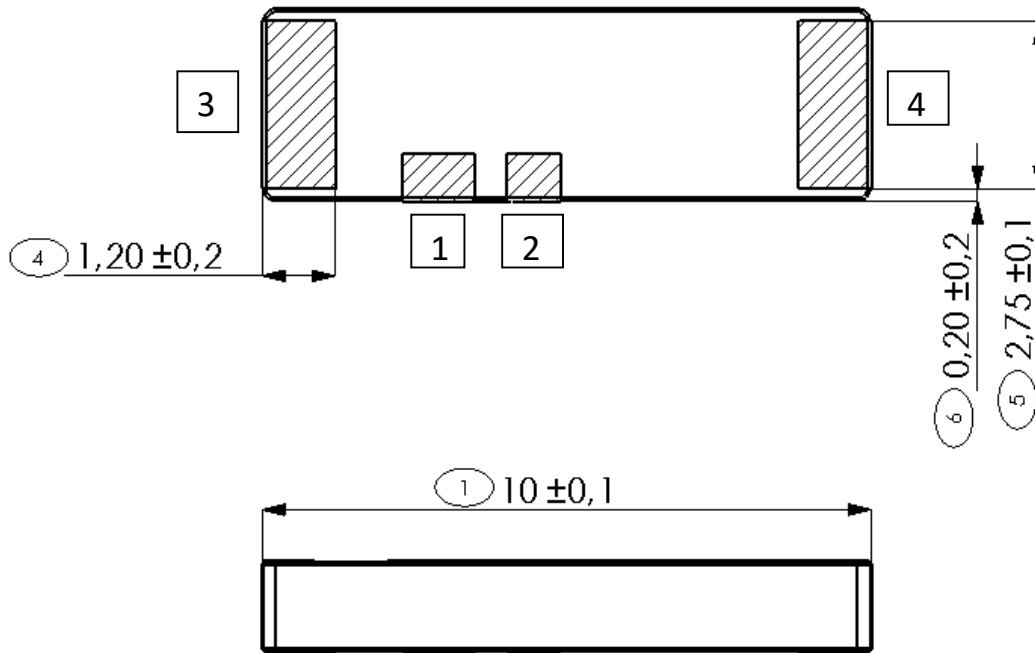
### MECHANICAL SPECIFICATIONS

Overall Length	10mm
Weight	0.24g
Antenna Color	White

### ENVIRONMENTAL SPECIFICATIONS

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

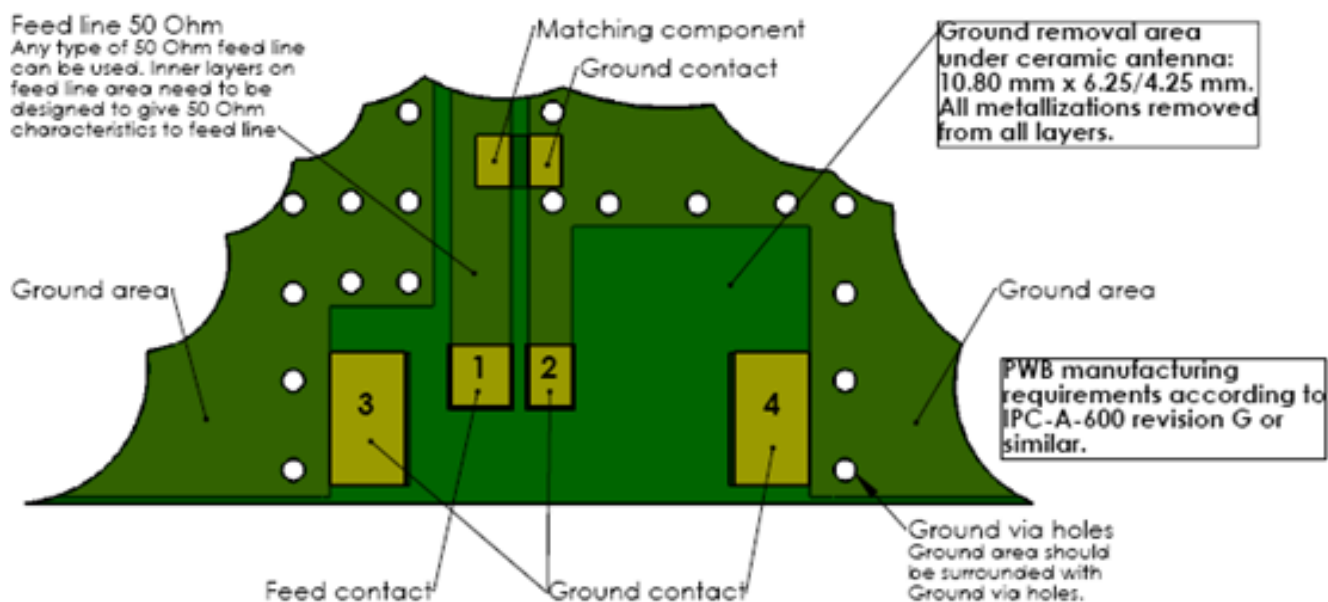
## MECHANICAL DRAWING



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

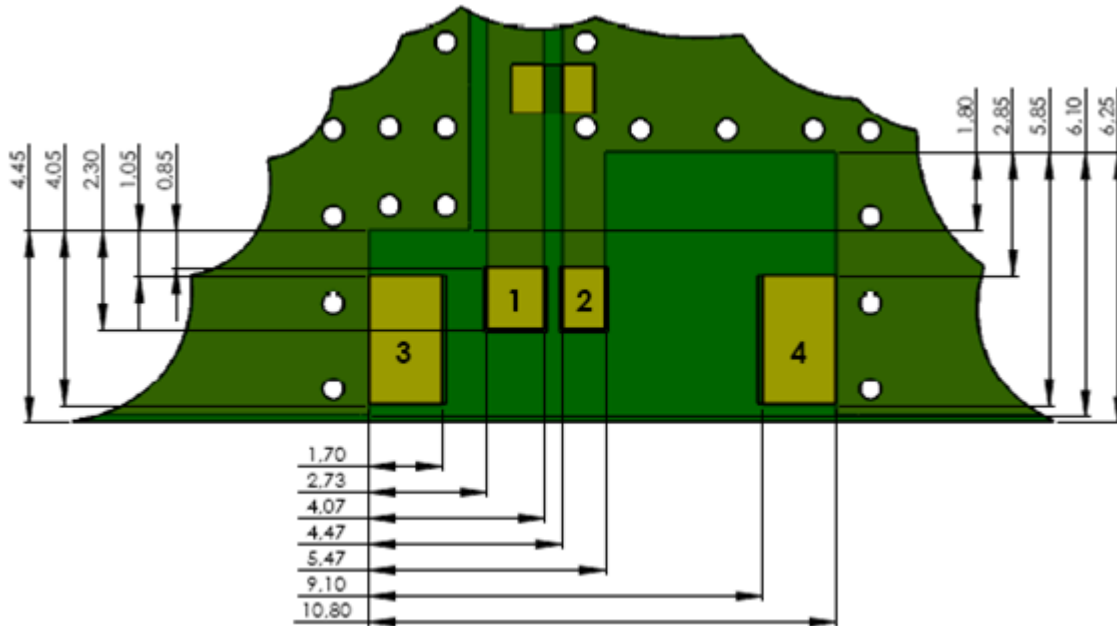
Series: Ceramic Antenna

Description: Ceramic Single Feed GNSS/BT Antenna

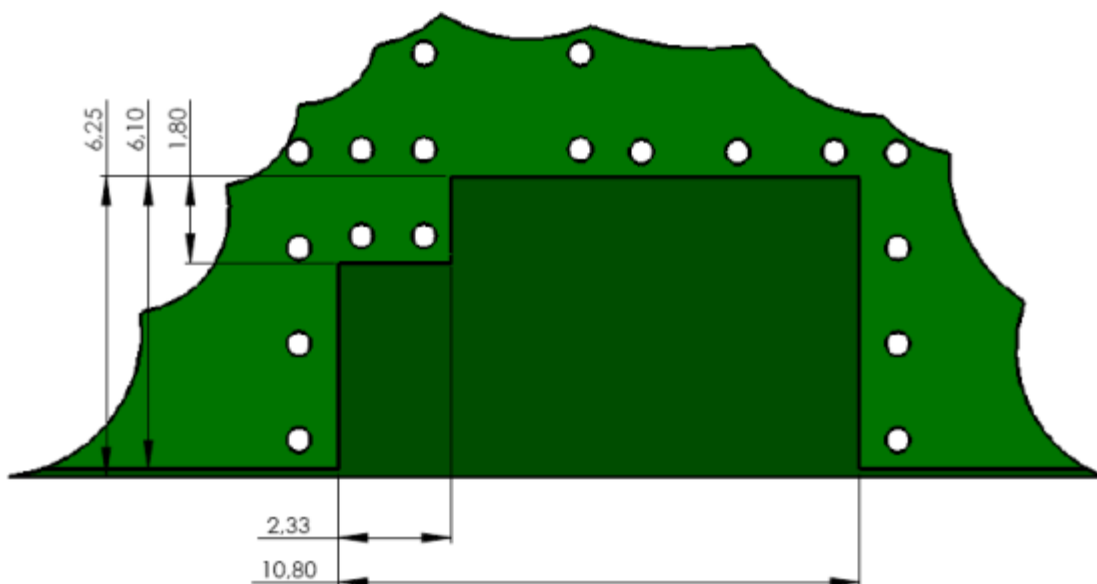
PART NUMBER: W3056

## TEST SETUP

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



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



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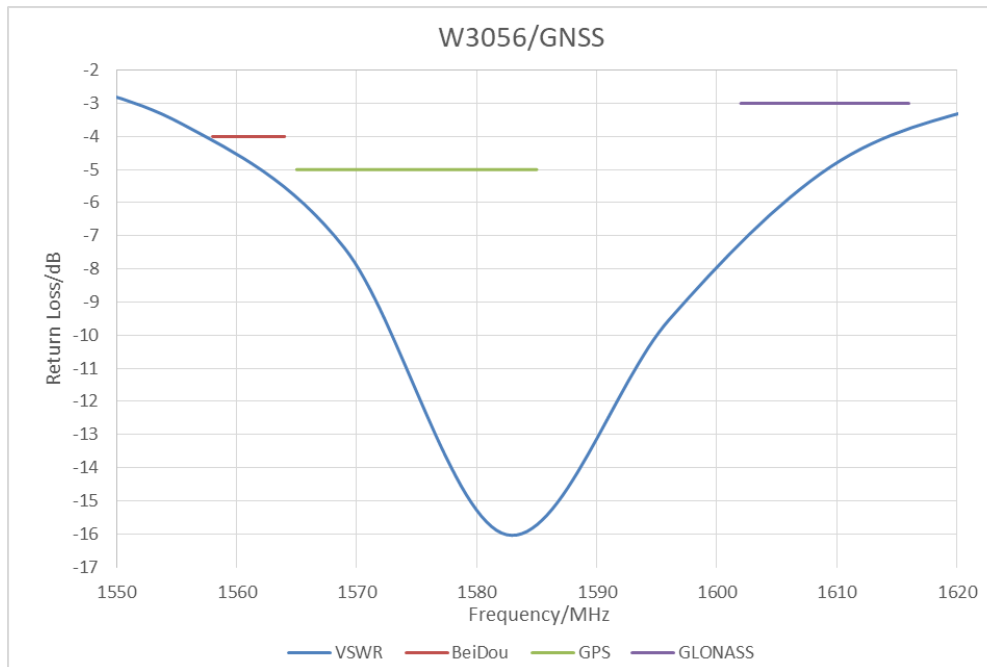
Series: Ceramic Antenna

Description: Ceramic Single Feed GNSS/BT  
Antenna

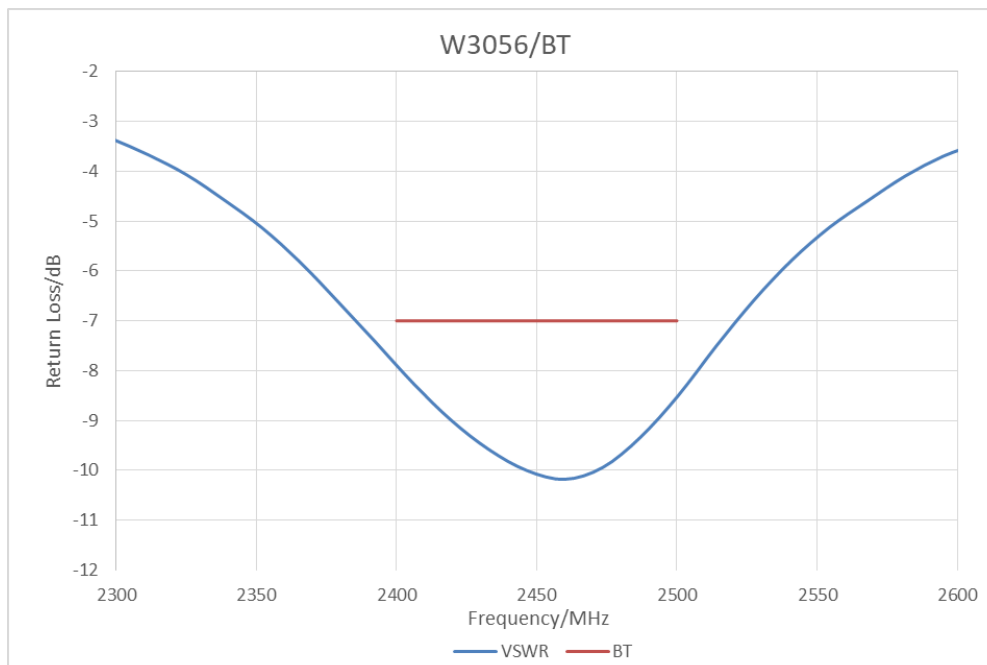
PART NUMBER: W3056

## CHARTS

### Return Loss/GNSS



### Return Loss/ BT



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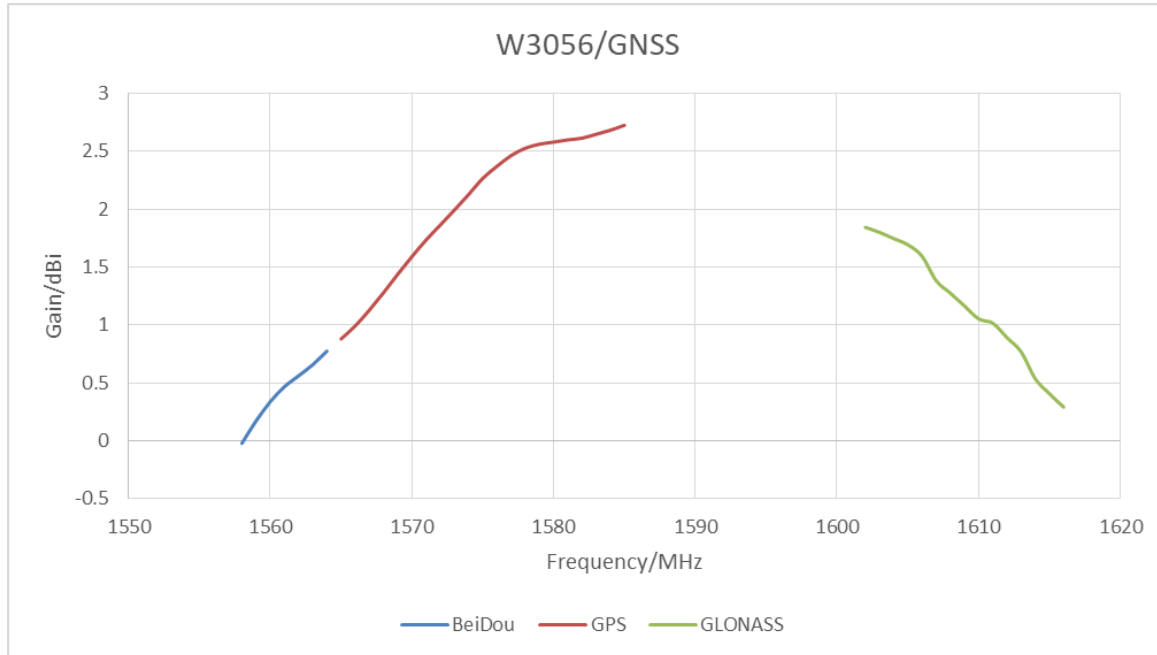
Series: Ceramic Antenna

Description: Ceramic Single Feed GNSS/BT Antenna

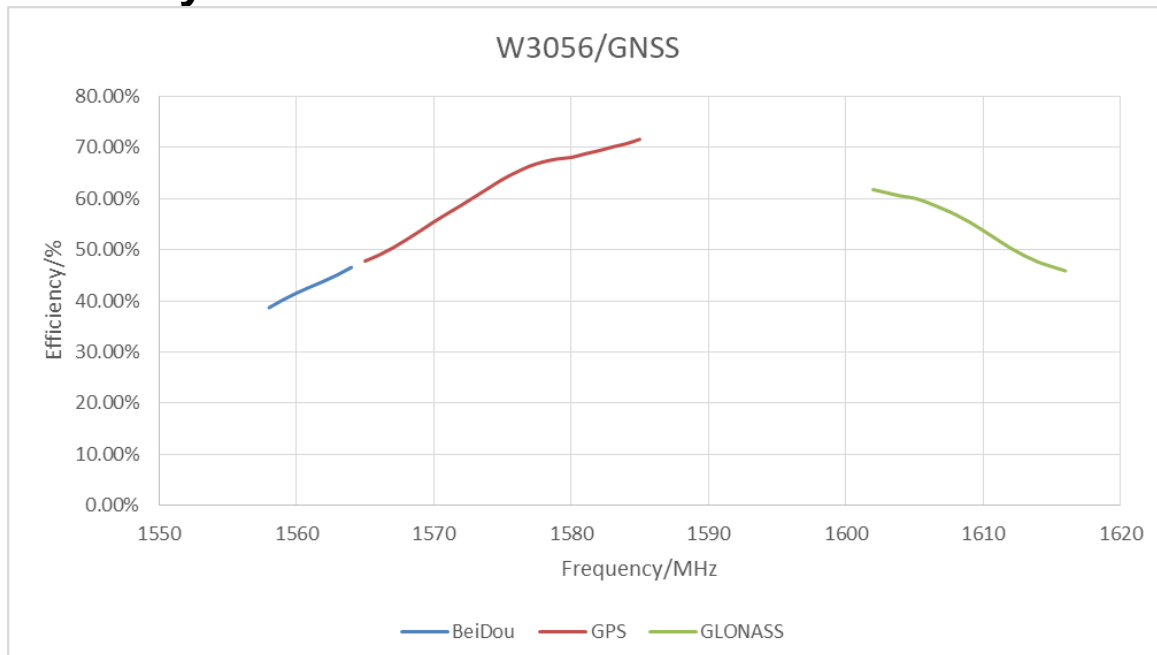
PART NUMBER: W3056

## CHARTS

### Peaking Gain/ GNSS



### Rad Efficiency/ GNSS



Issue: 1837

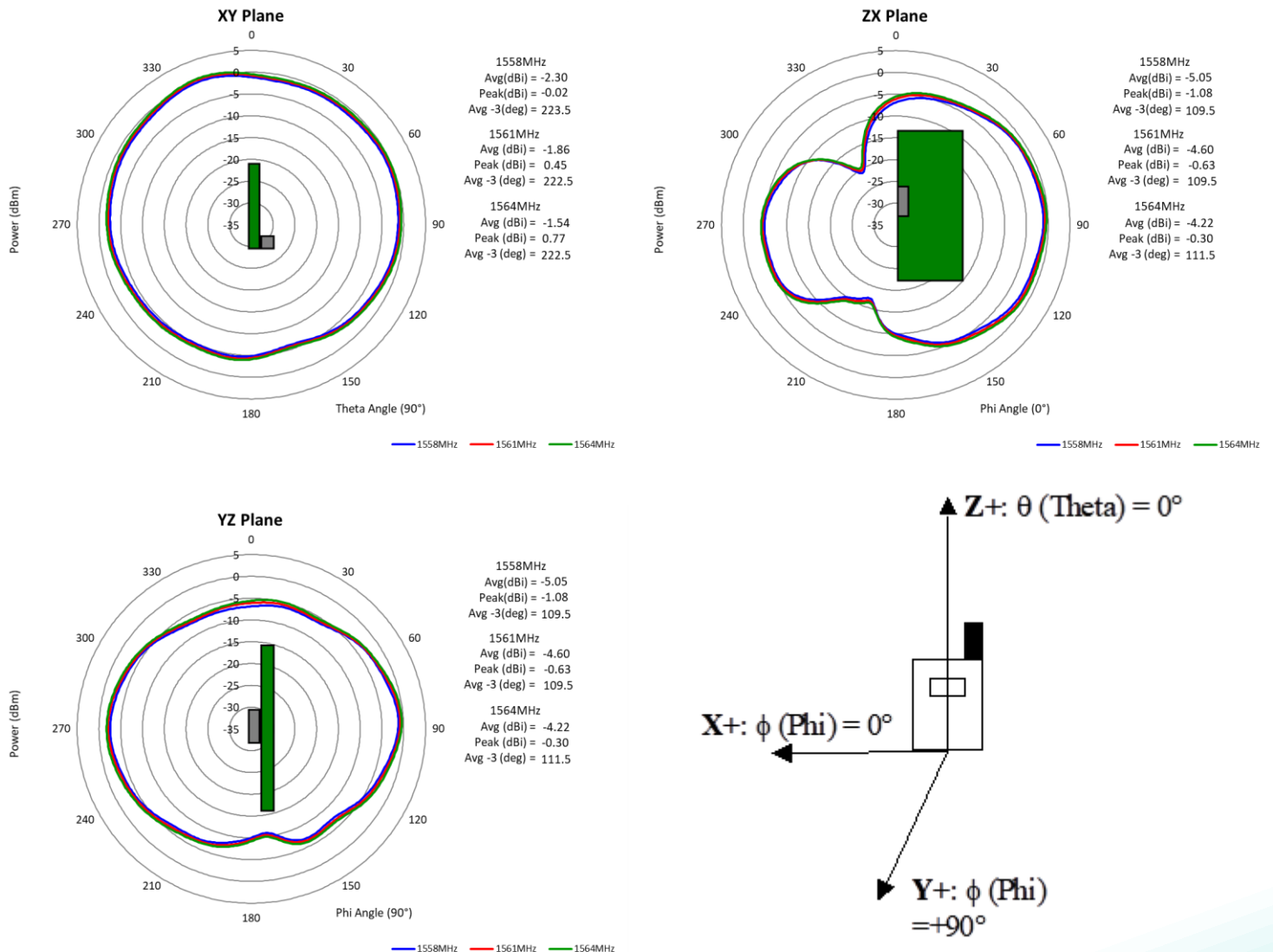
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## CHARTS

### Typical Free Space Radiation Patterns / BeiDou



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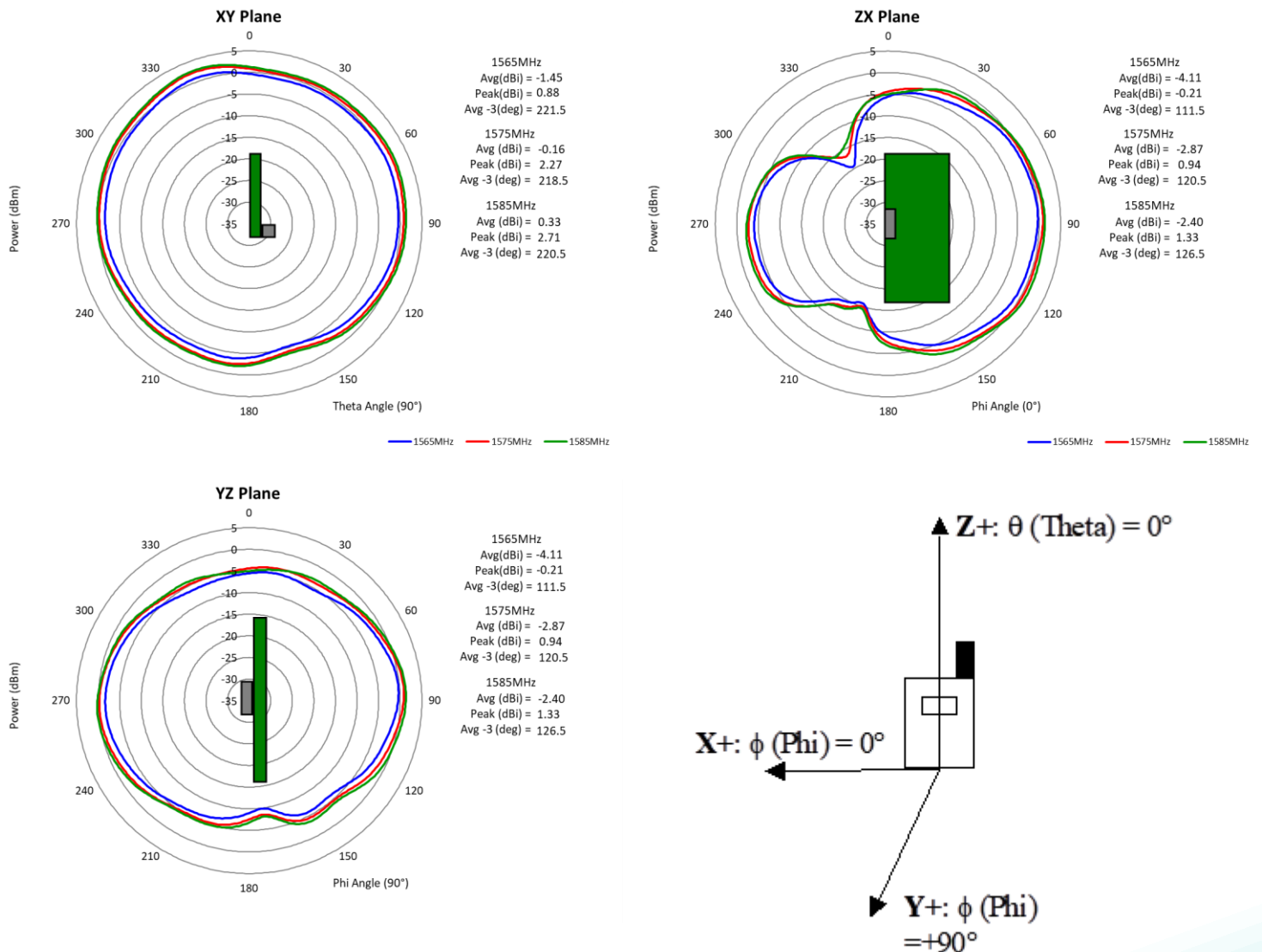
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## CHARTS

### Typical Free Space Radiation Patterns / GPS



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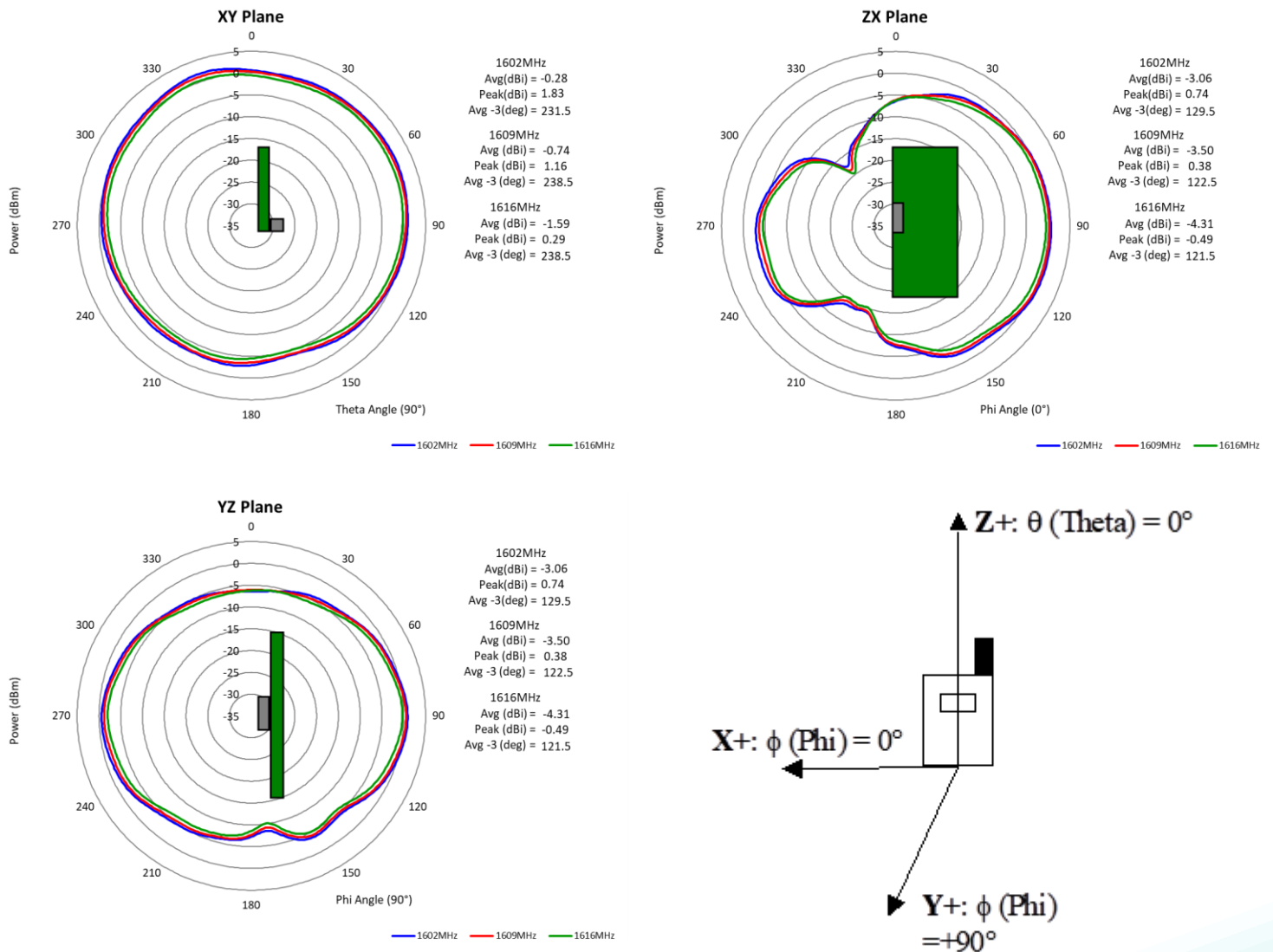
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## CHARTS

### Typical Free Space Radiation Patterns / GLONASS



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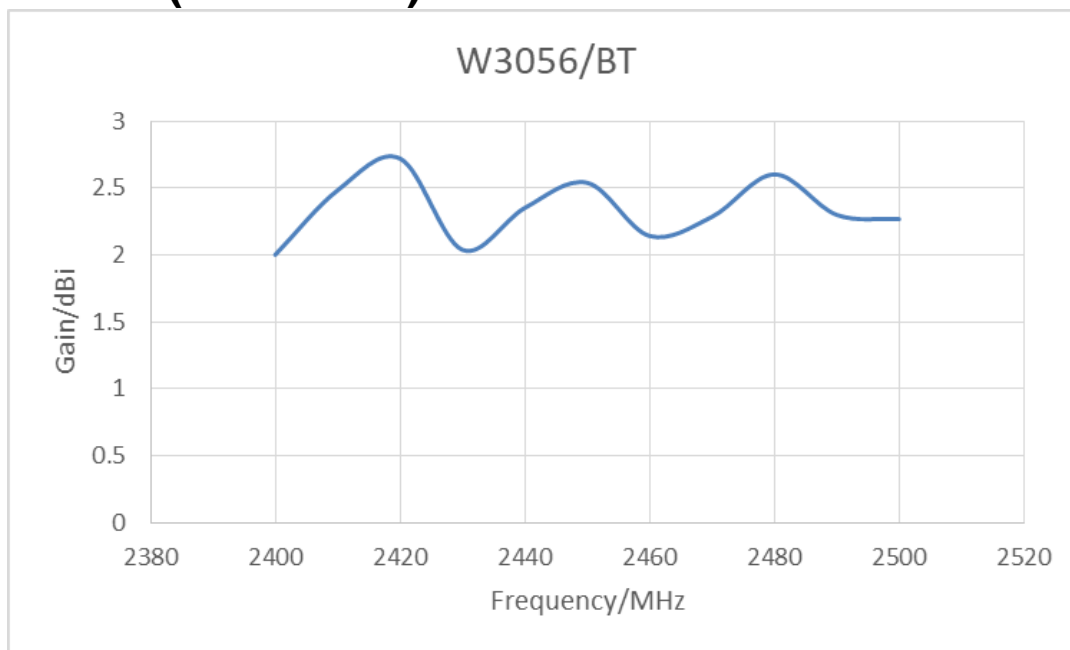
Series: Ceramic Antenna

Description: Ceramic Single Feed GNSS/BT  
Antenna

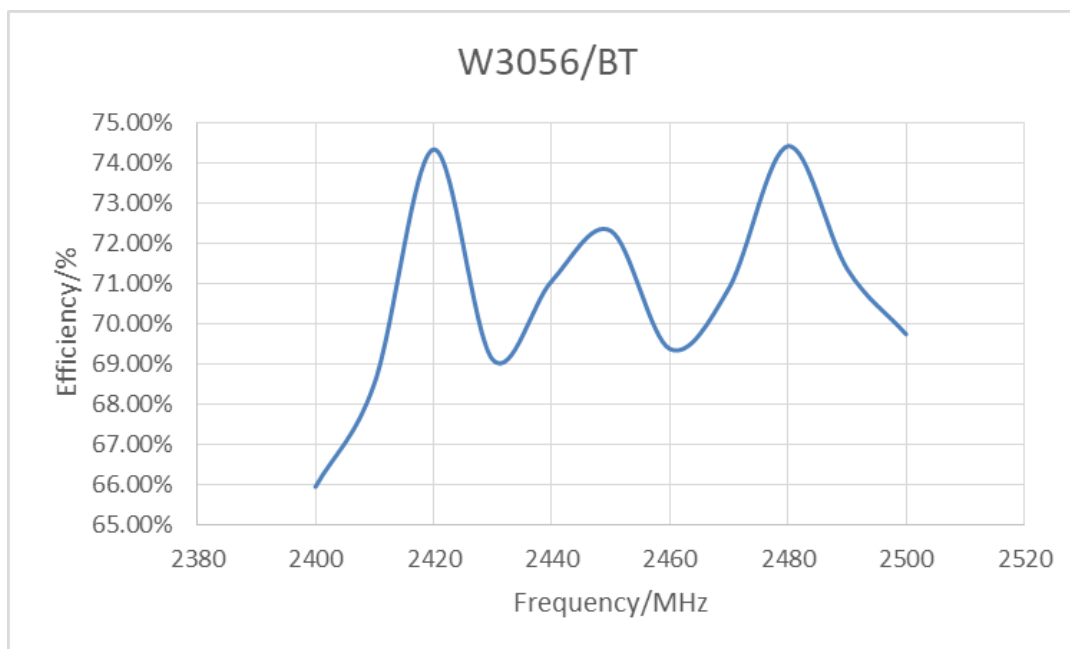
PART NUMBER: W3056

## CHARTS

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



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



Issue: 1837

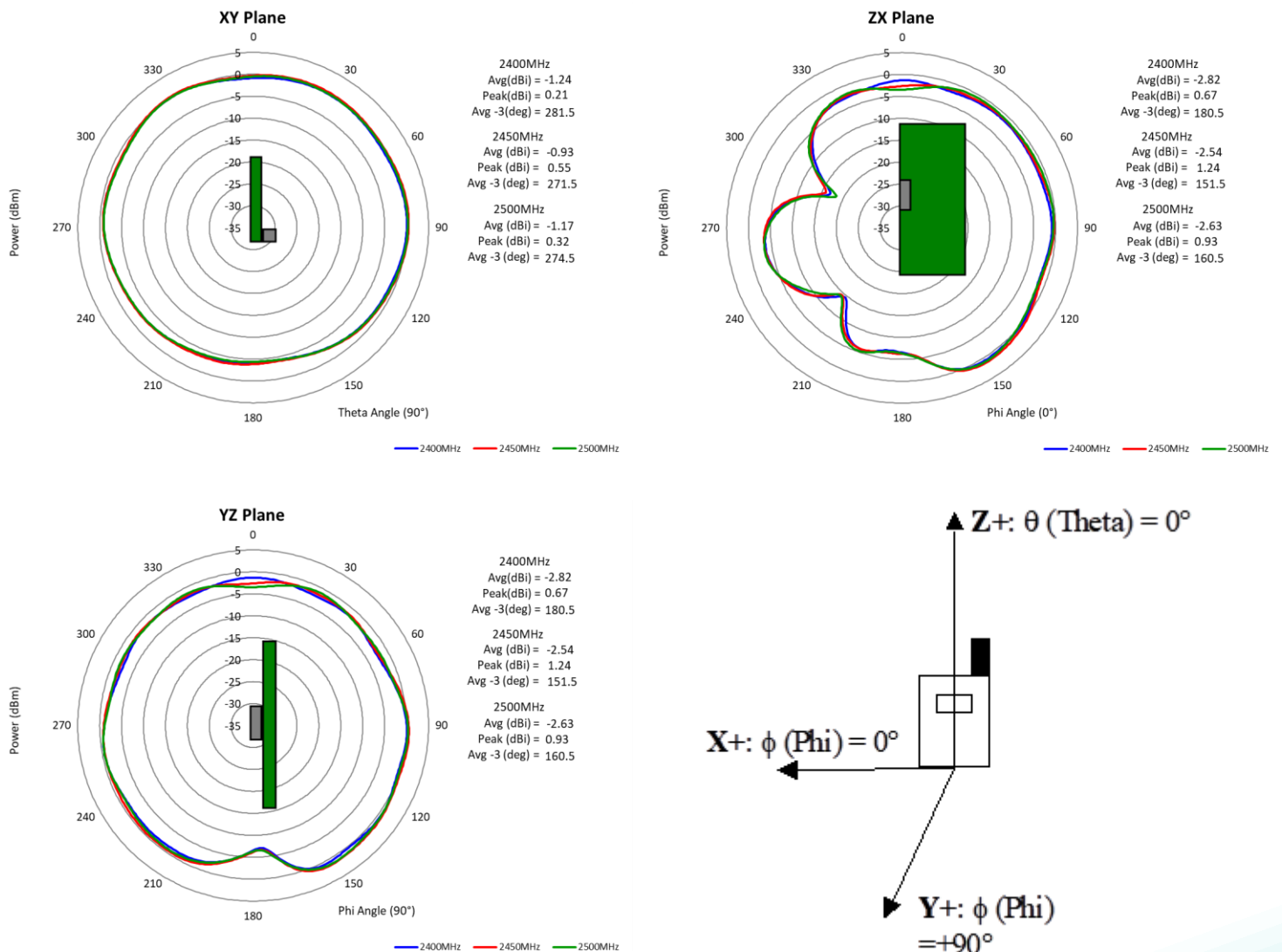
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## CHARTS

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



Issue: 1837

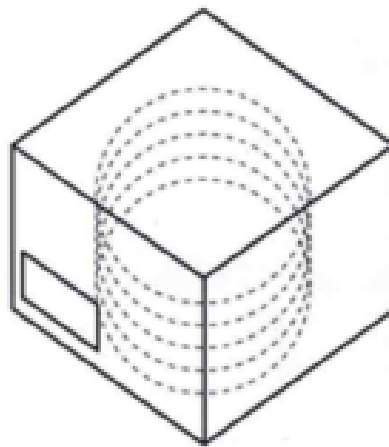
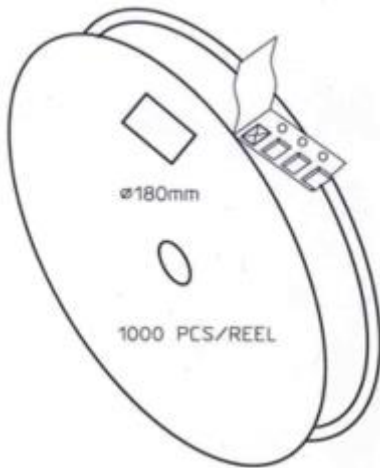
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## PACKAGING

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



## 2. MSL: Level 3

2.1 Calculated shelf life in sealed bag: 12 months at  $< 30^{\circ}\text{C}$  and 60% relative humidity (RH)

2.2 Peak temperature in reflow:  $260^{\circ}\text{C}$

2.3 After bag is opened, devices that will be subjected to reflow solder or other temperature process must:

- a) Mount within: 168 hours of factory conditions  $\leq 30^{\circ}\text{C}/60\%$
- b) stored at  $< 20\%$  RH

2.4 Devices require bake, before mounting, if:

- a) Humidity Indicator Card is  $> 20\%$  when read at  $23 \pm 5^{\circ}\text{C}$
- b) 3a or 3b not met

2.5 If baking is required, devices may be baked for 24 hours at  $125\sim 130^{\circ}\text{C}$



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Электрон  
Связь**

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