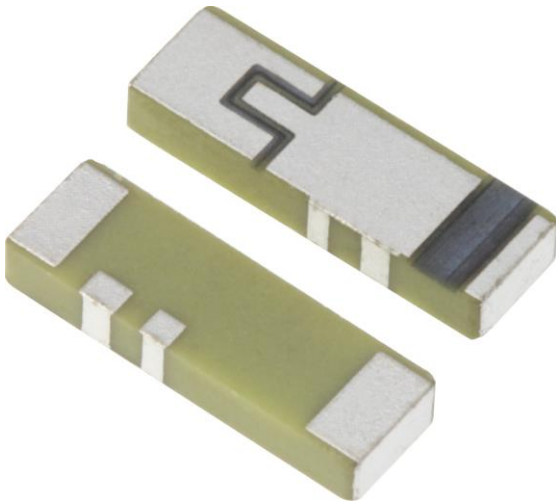


Features:

- 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

Issue: 1837

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

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Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg,4th 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 Ω
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

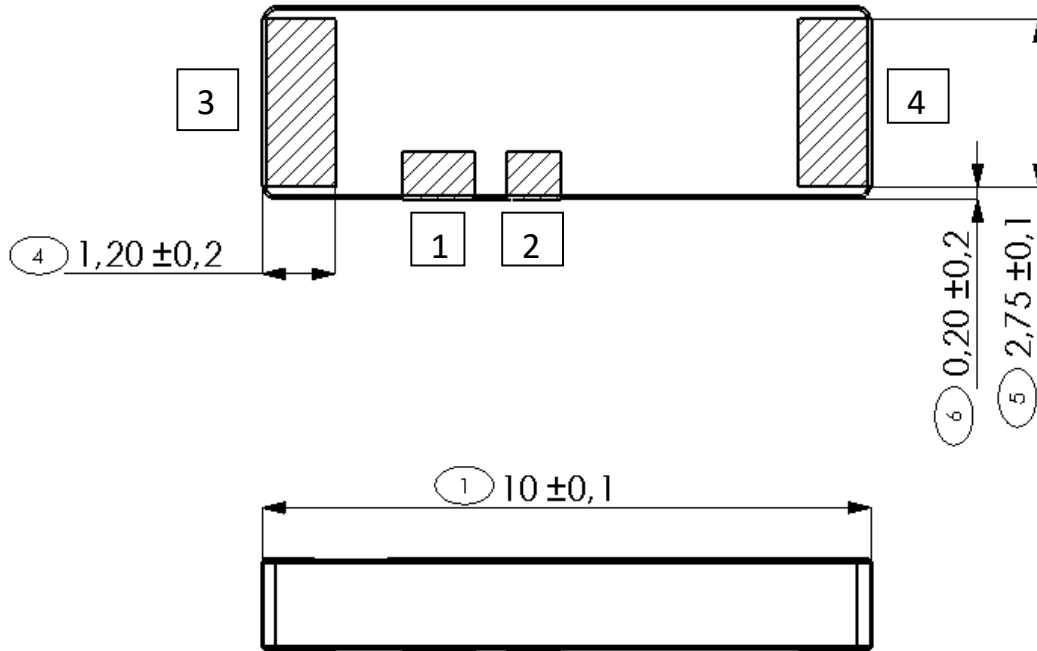
MECHANICAL SPECIFICATIONS

Overall Length	10mm
Weight	0.24g
Antenna Color	White

ENVIRONMENTAL SPECIFICATIONS

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

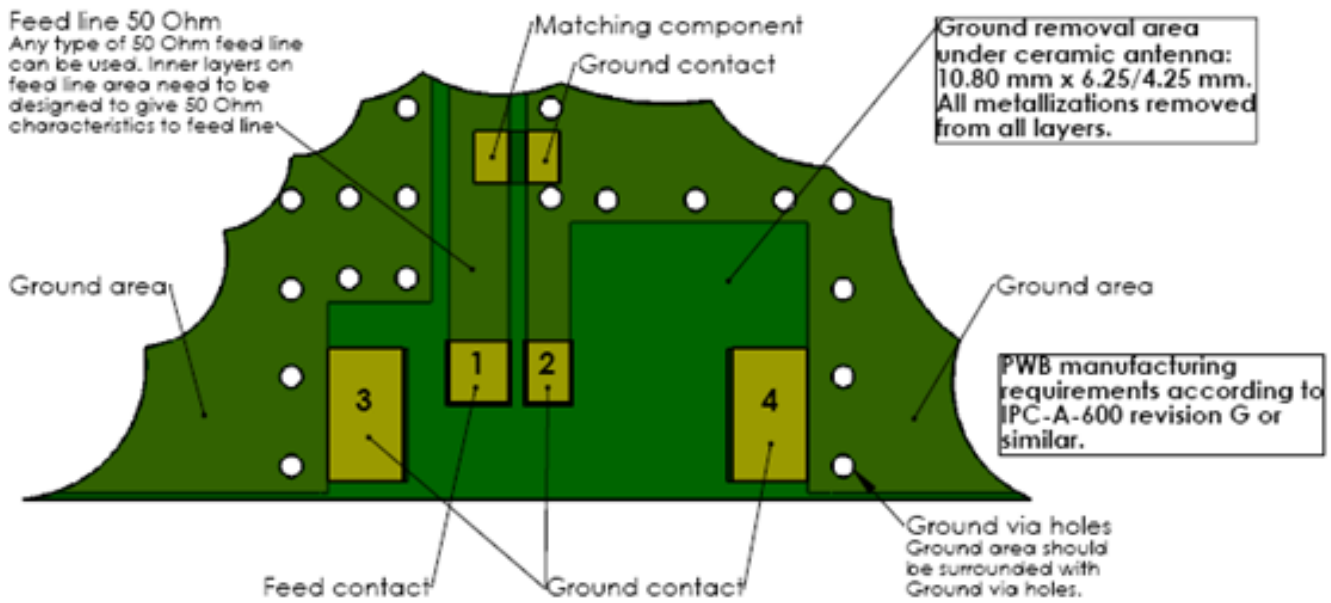
MECHANICAL DRAWING



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



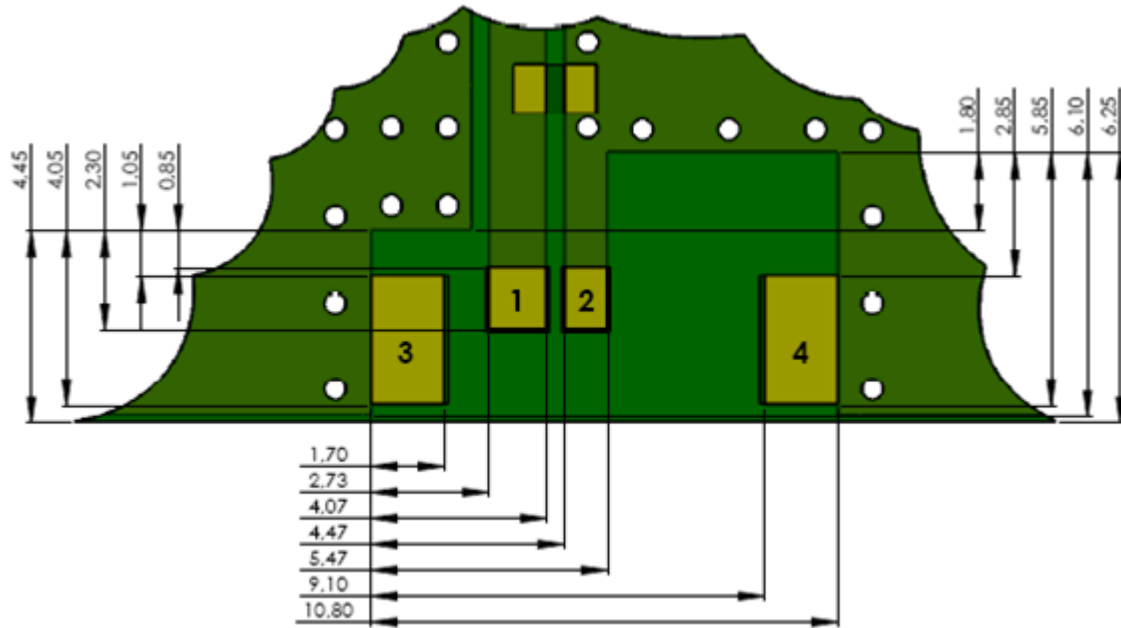
Note: Electrical characteristics are measured on test pwb with matching circuit (2.2 nH shunt matching inductor on feed).

Recommended Antenna Pad Dimensions on PWB Layout (top surface)

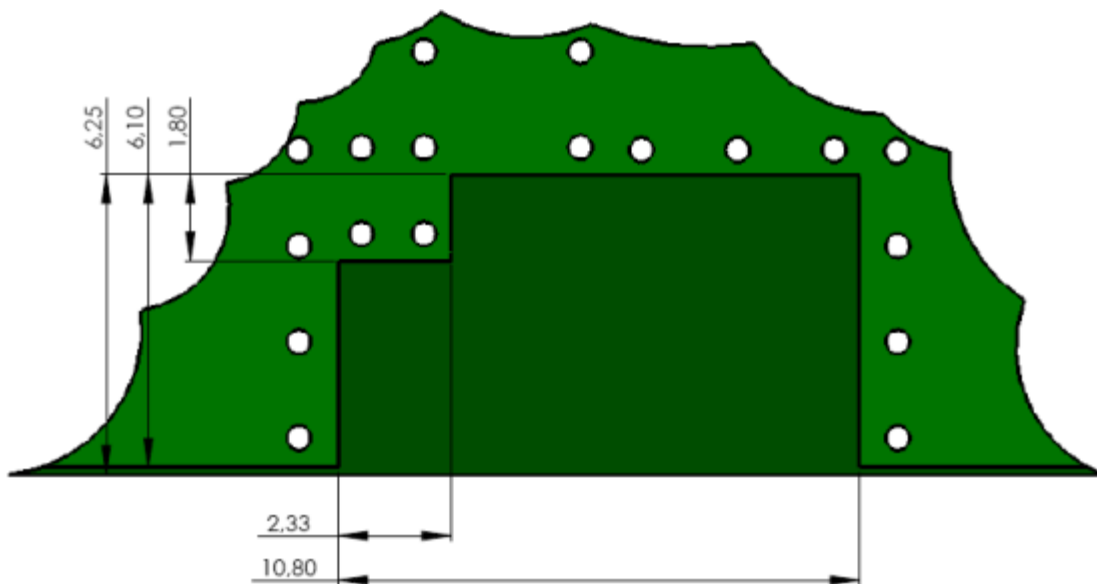
PWB features		
No.	Terminal Name	Terminal Dimensions
1	Feed	1.45 x 1.34 mm
2	GND	1.45 x 1.00 mm
3	GND	3.00 x 1.70 mm
4	GND	3.00 x 1.70 mm

TEST SETUP

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

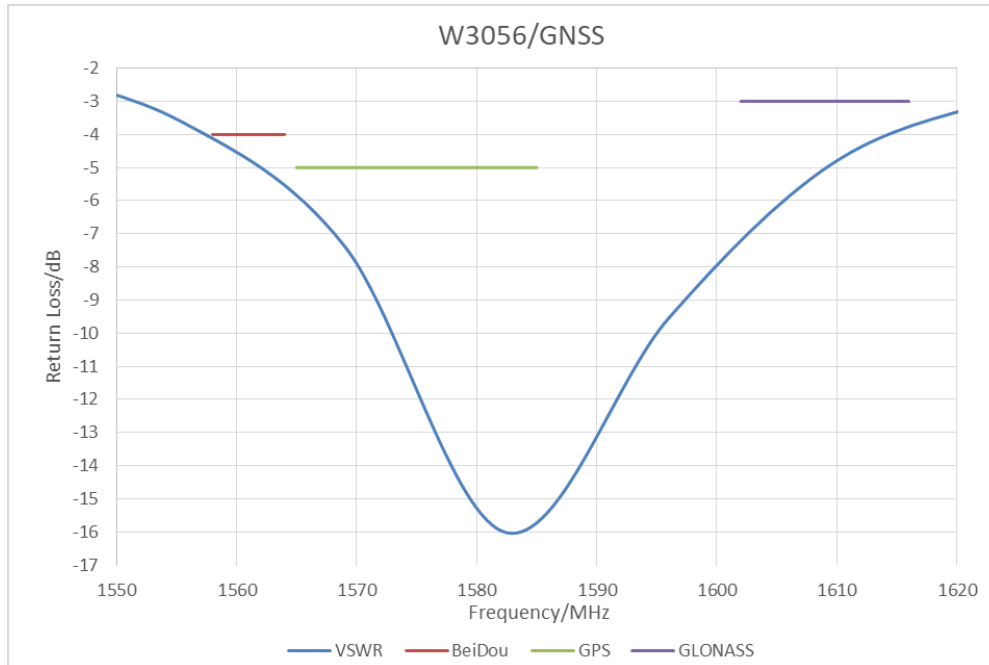


Recommended ground clearance area under antenna on PWB (bottom surface)

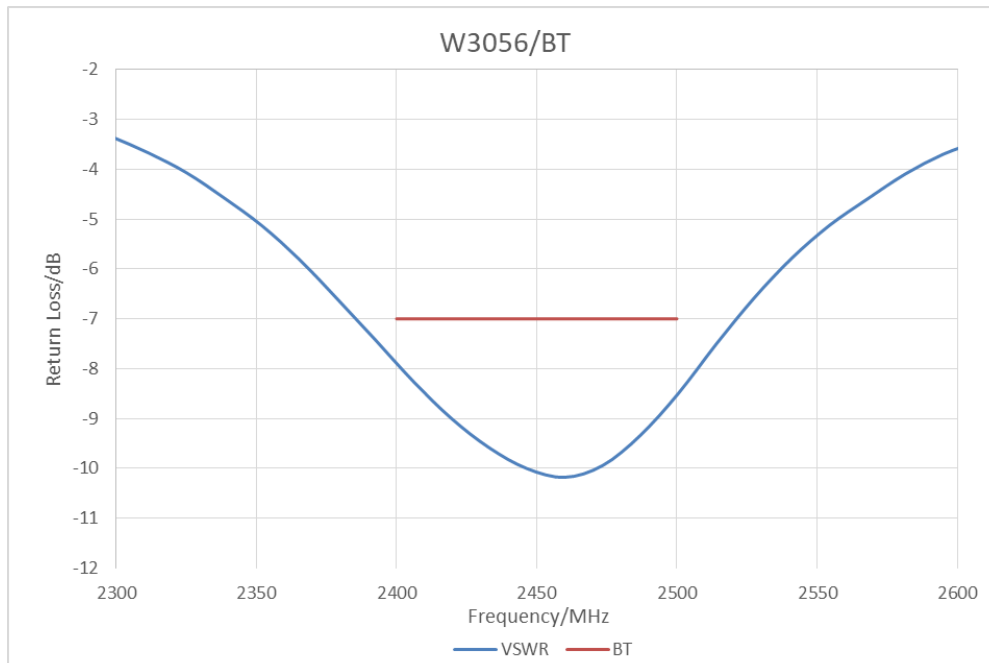


CHARTS

Return Loss/GNSS



Return Loss/ BT



Issue: 1837

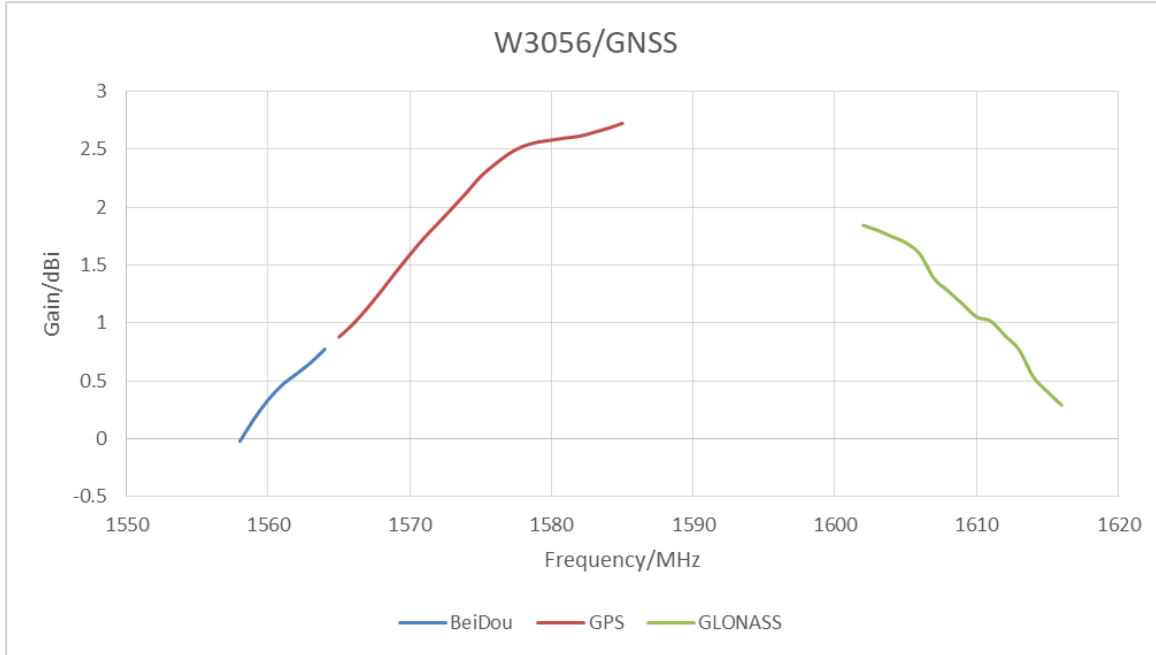
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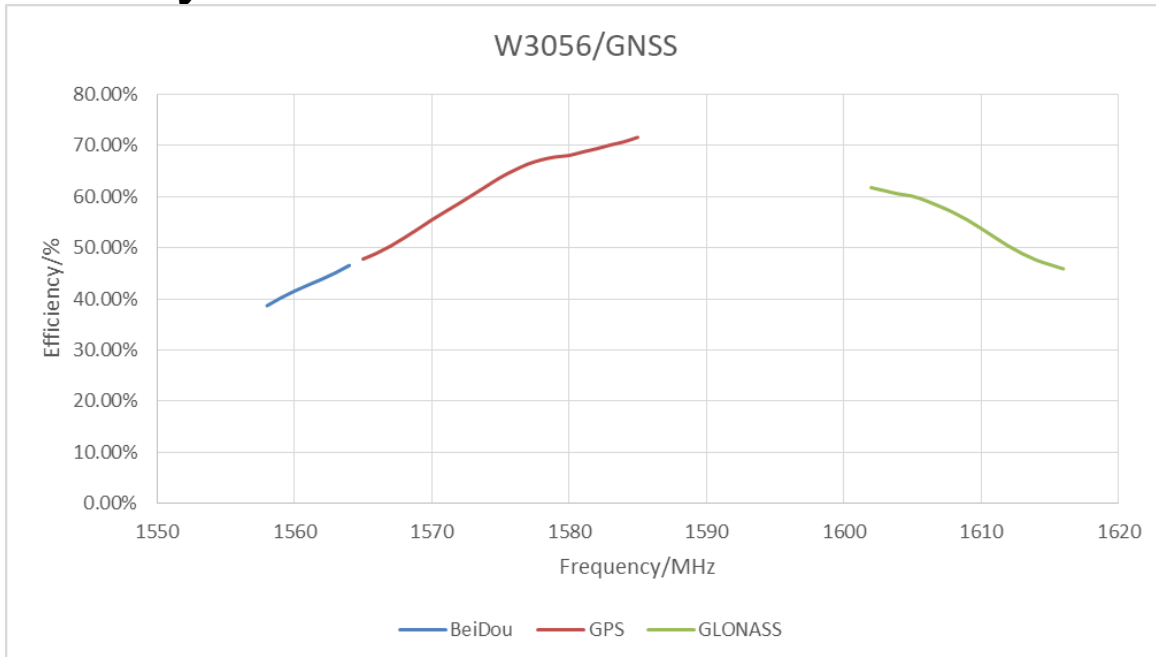
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CHARTS

Peaking Gain/ GNSS



Rad Efficiency/ GNSS



Issue: 1837

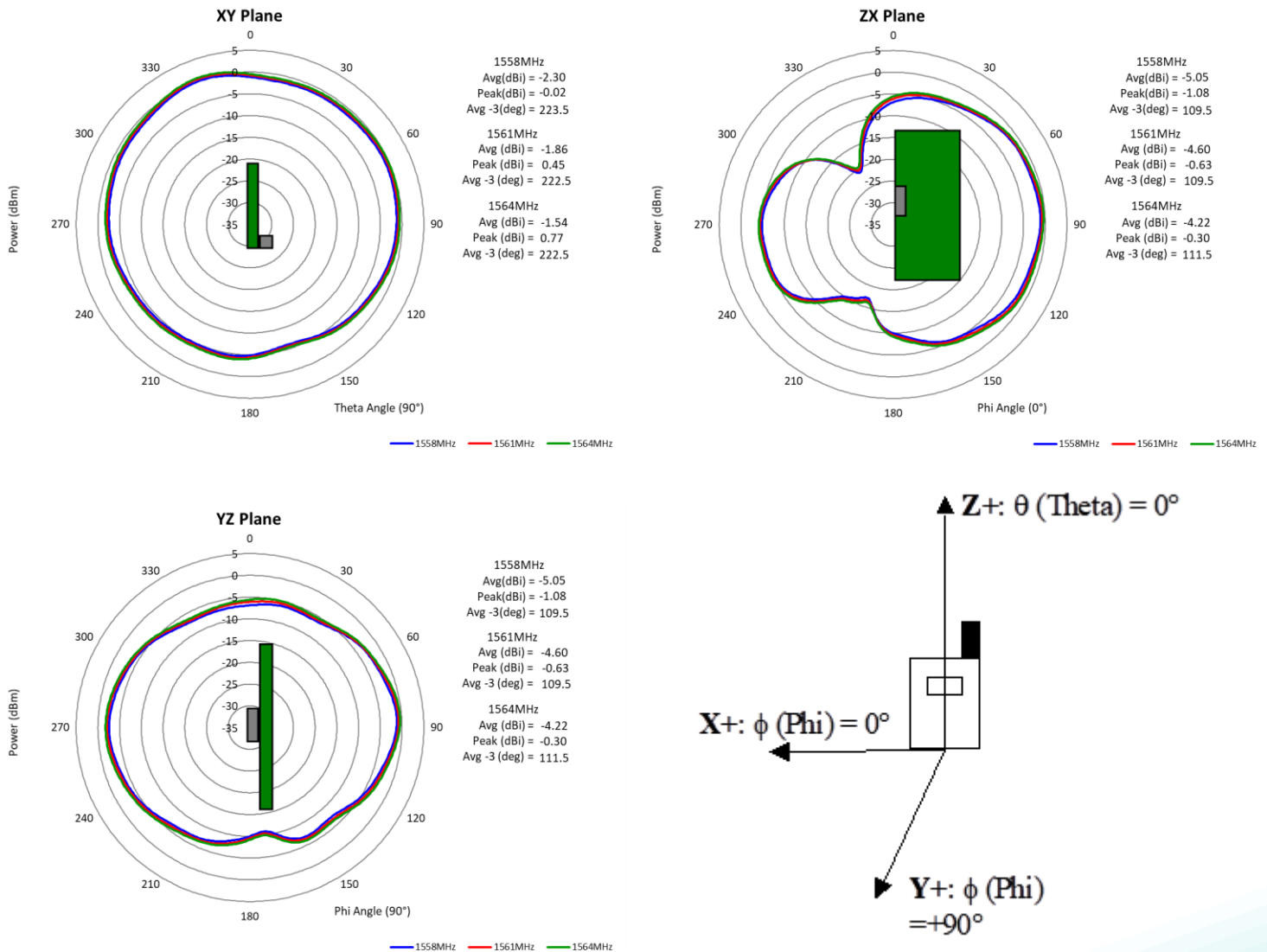
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CHARTS

Typical Free Space Radiation Patterns / BeiDou



Issue: 1837

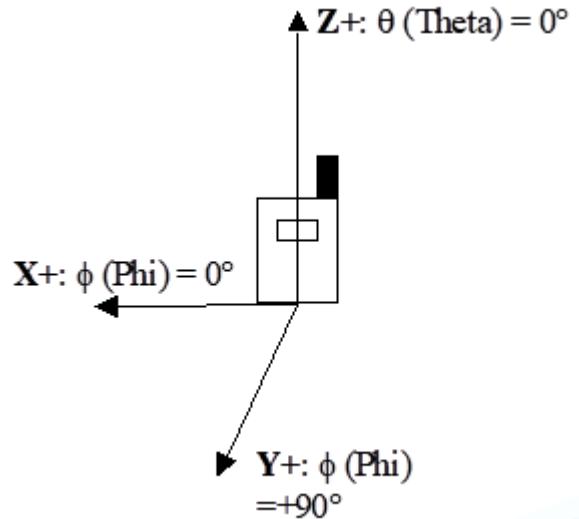
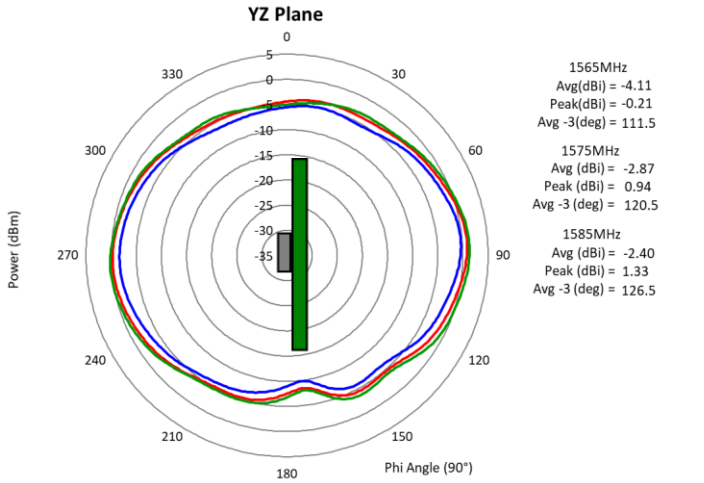
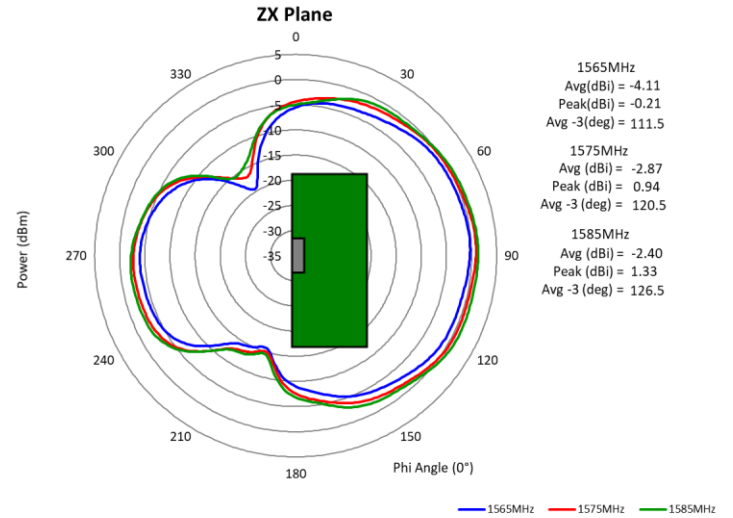
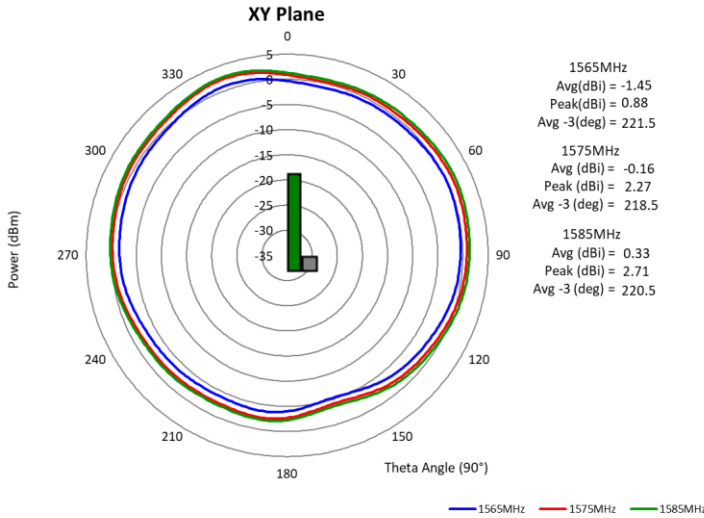
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CHARTS

Typical Free Space Radiation Patterns / GPS



Issue: 1837

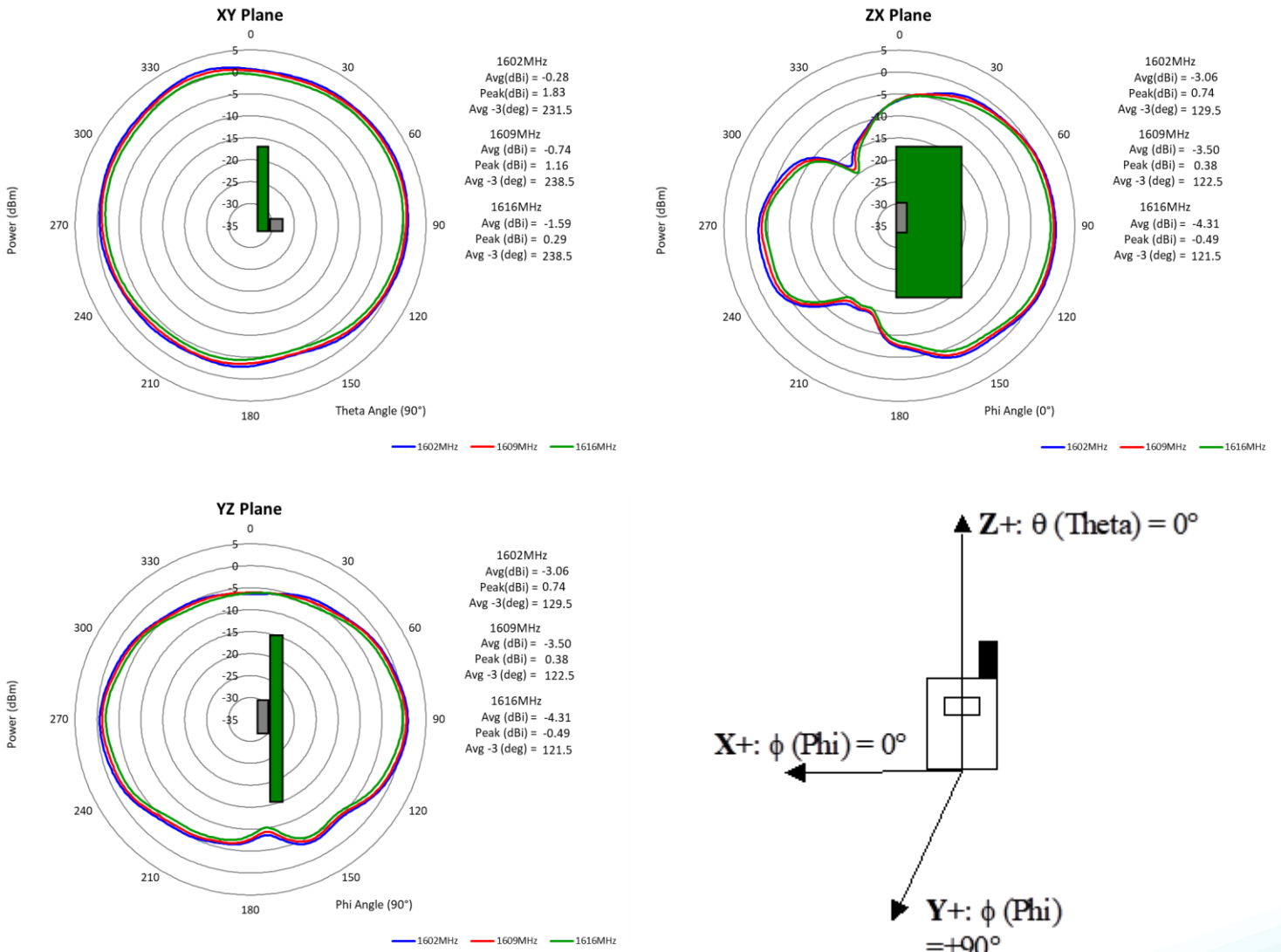
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CHARTS

Typical Free Space Radiation Patterns / GLONASS



Issue: 1837

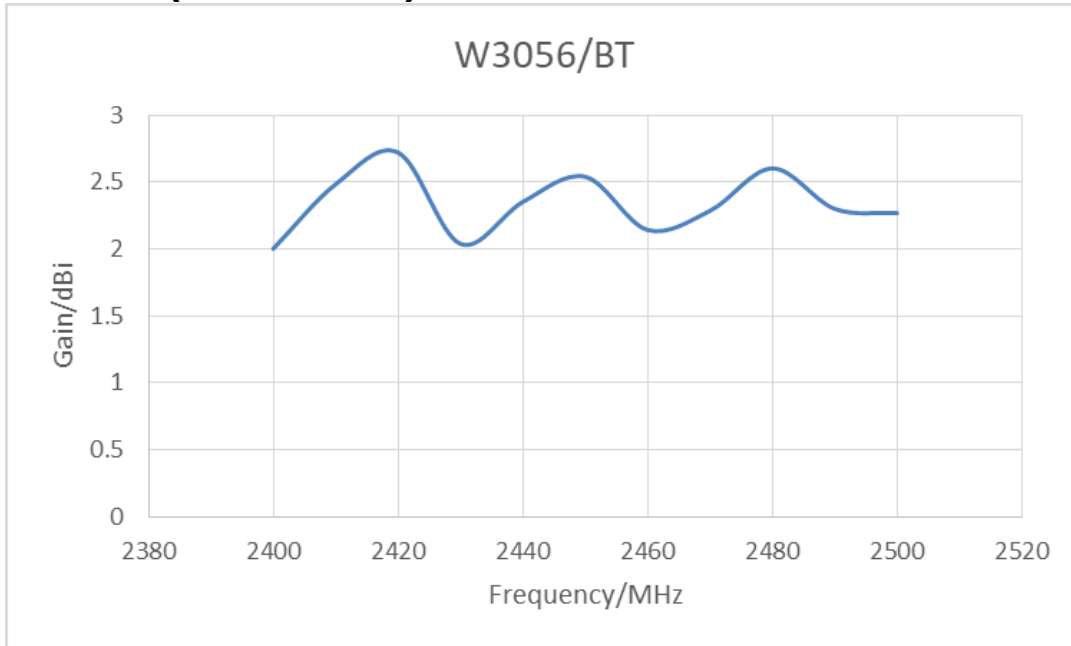
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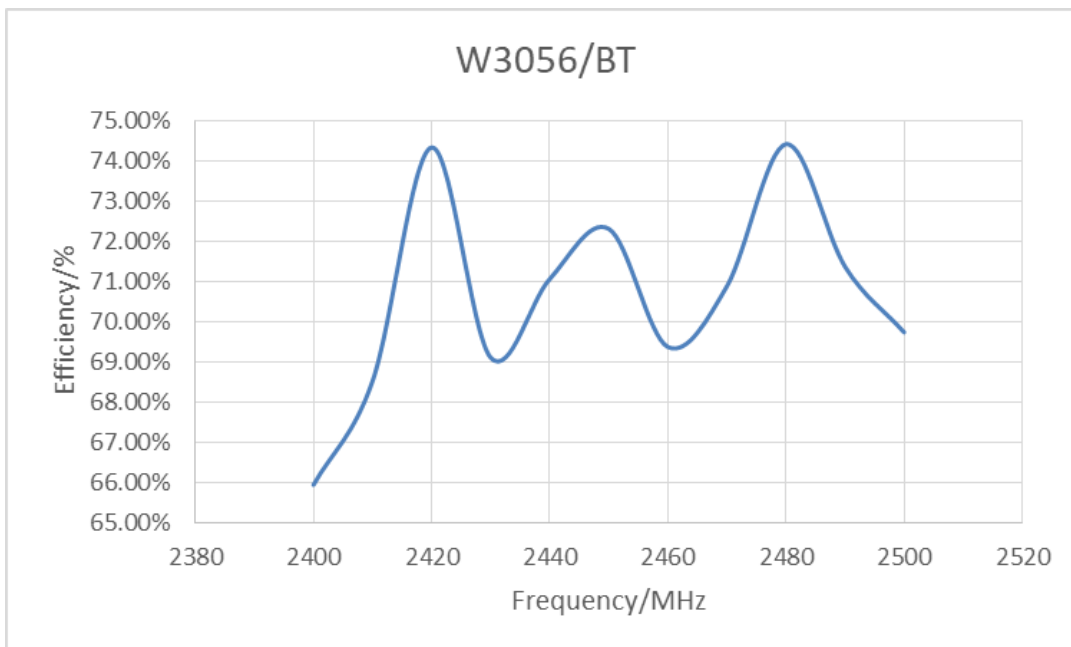
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CHARTS

Peaking Gain/ BT(2.4G-2.5G)



Rad Efficiency/ BT(2.4G-2.5G)



Issue: 1837

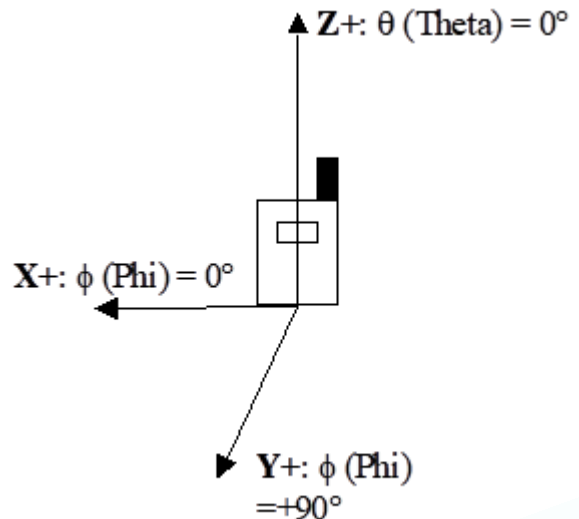
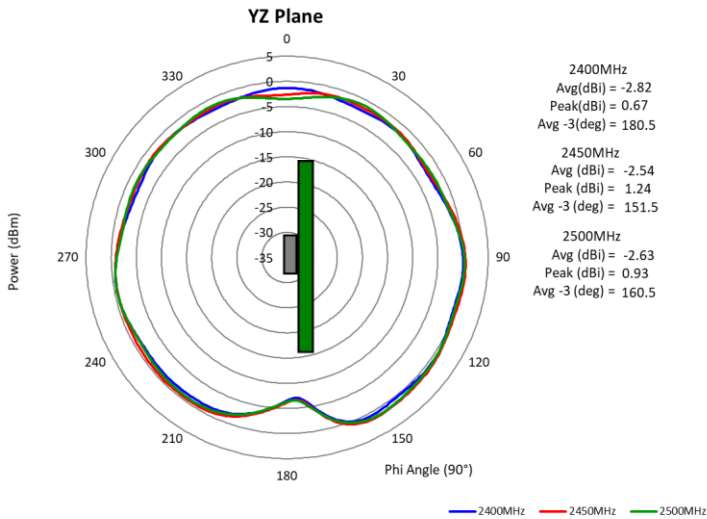
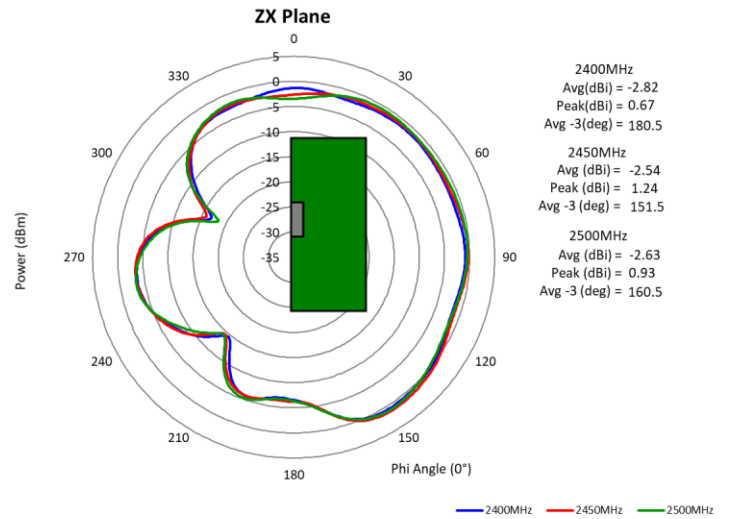
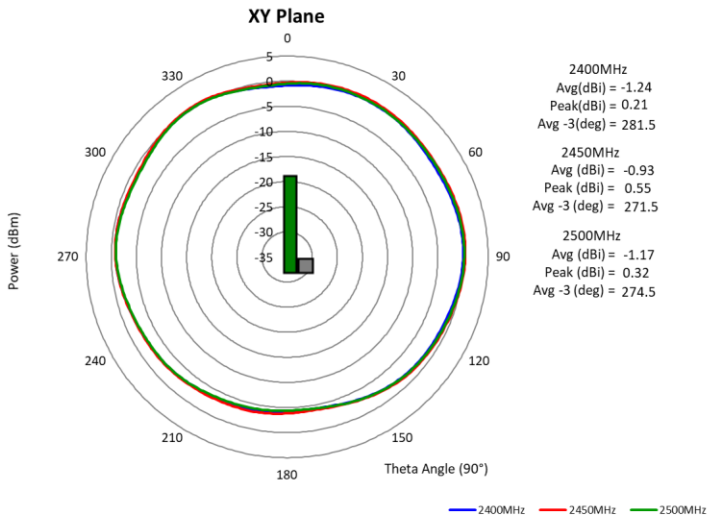
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CHARTS

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



Issue: 1837

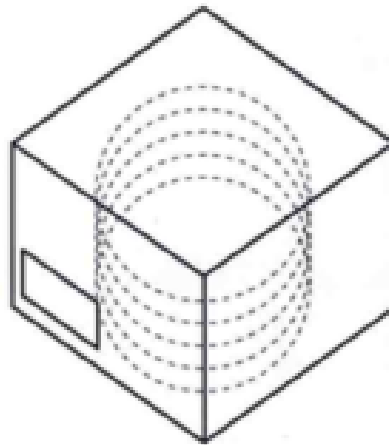
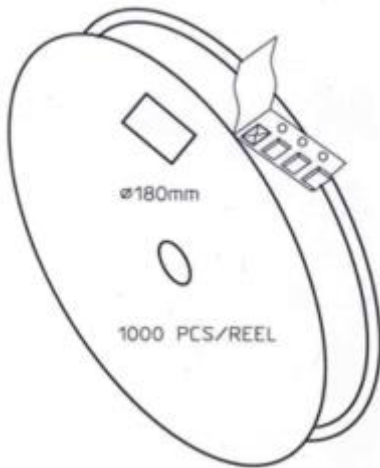
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PACKAGING

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°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 $125\sim 130^{\circ}\text{C}$