

**Description:** 868MHz Monopole SMD  
Antenna

**Series:** Ceramic Chip Antenna

**PART NUMBER:** W3016

**Features:**

- 863-870MHz
- Monopole radiator
- Gain -3dBi
- Size 10 x 3.2 x 4 mm
- Optimized for small PCB
- Easy tuning with matching circuit

**Applications:**

- ISM 868MHz radios
- Sigfox
- LoRa
- IoT, M2M
- Sensors, monitors



All dimensions are in mm

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**ELECTRICAL SPECIFICATIONS**

Antenna Type	Ceramic HTC
Frequency	863-870 MHz
Nominal Impedance	50 Ω
Return Loss	<-15 dB
Radiation Pattern	Omn
Gain	>-3 dBi
Efficiency	>20%
Polarization	Vertical
Power Withstanding	2 W

**MECHANICAL SPECIFICATIONS**

Overall Length	10x3.2x4mm
Weight	0.6g
Antenna Color / Material	Ceramic Grey / Silver
Moisture Sensitivity Level	MSL1

**ENVIRONMENTAL SPECIFICATIONS**

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

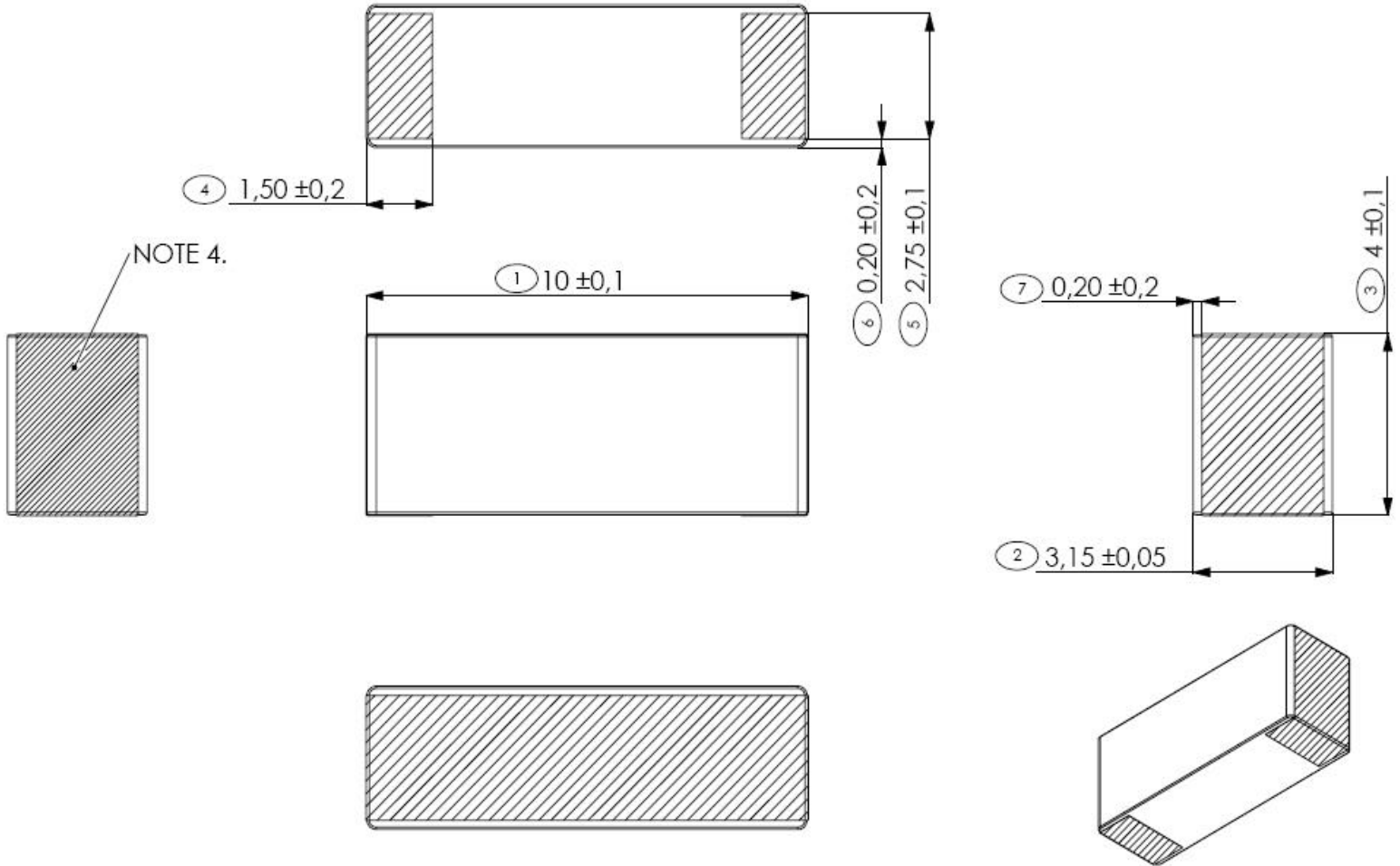
Above electrical specification tested on 25x25mm sized PCB

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**MECHANICAL DRAWING**



c	Terminal Name	Terminal Dimensions
1	Feed	1.5 x 2.75 mm
2	Support pad	1.5 x 2.75 mm

Antenna is symmetrical and orientation on footprint can be rotated 180 degrees without change in performance

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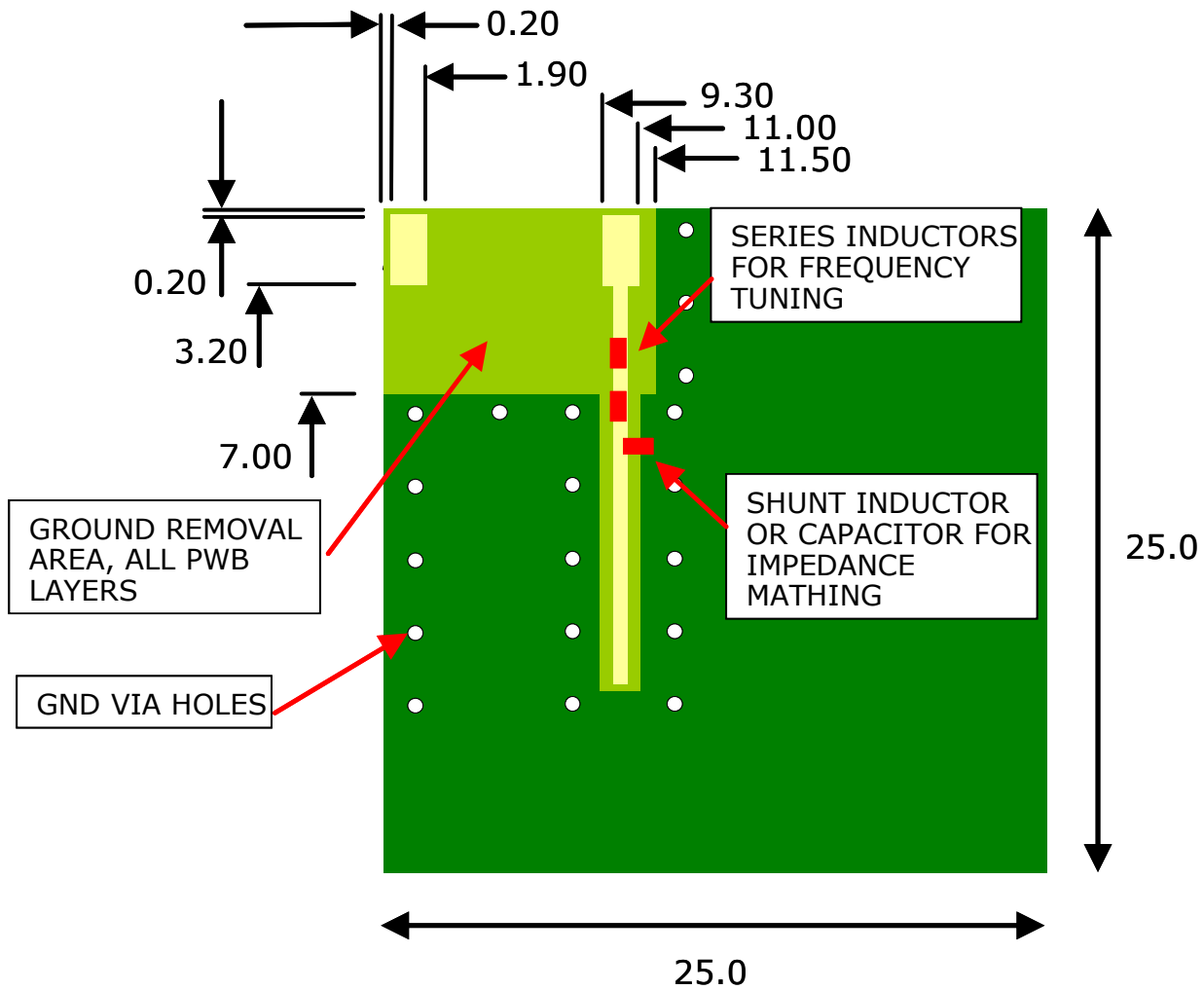
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**MECHANICAL DRAWING**

Test Board Layout



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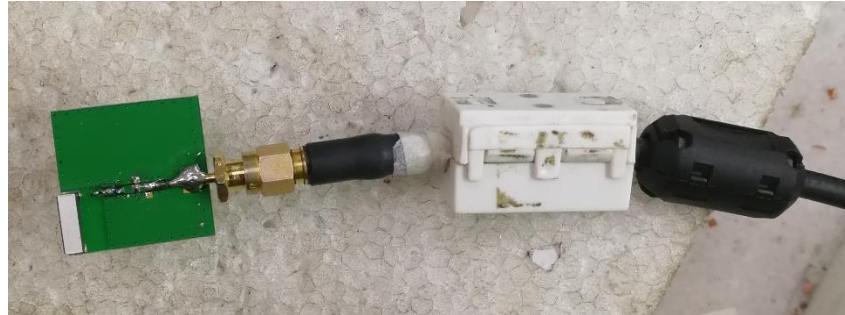
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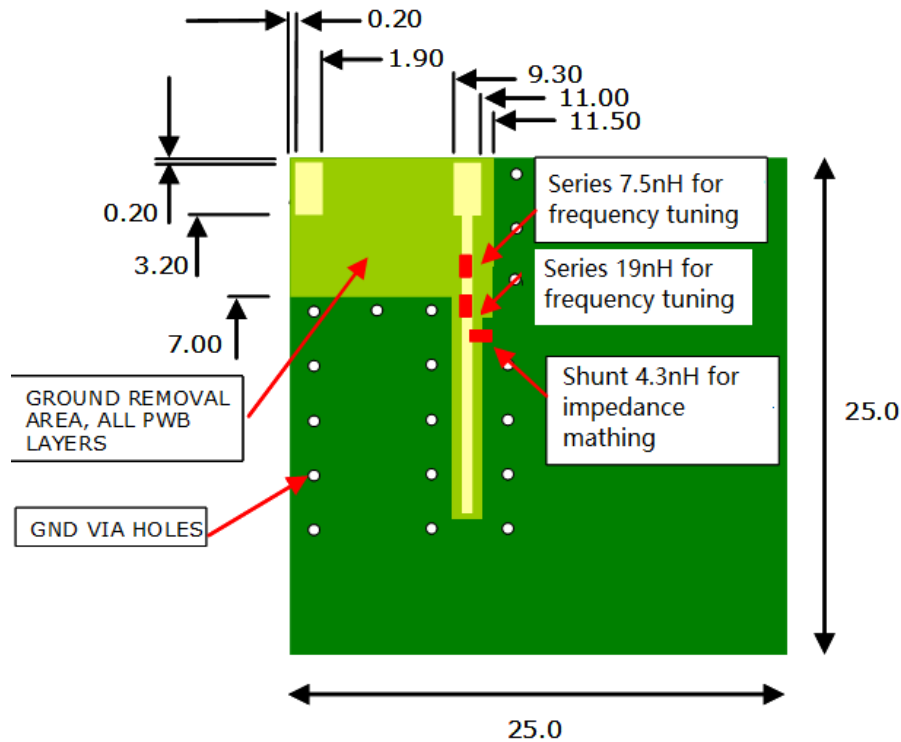
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**TEST SETUP**



Test on Pulse test board with ferrite bead test cable.



Matching circuit for reference

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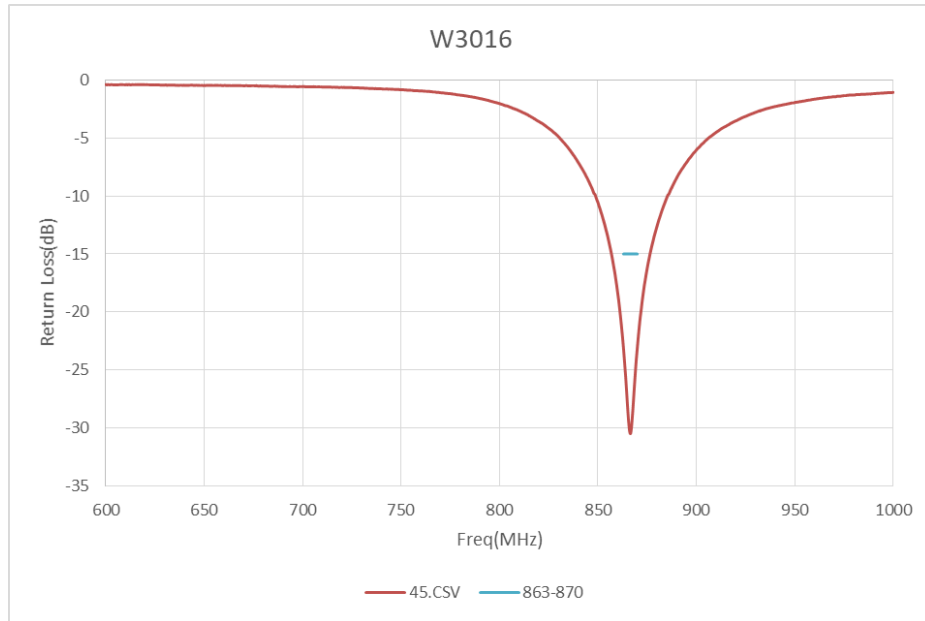
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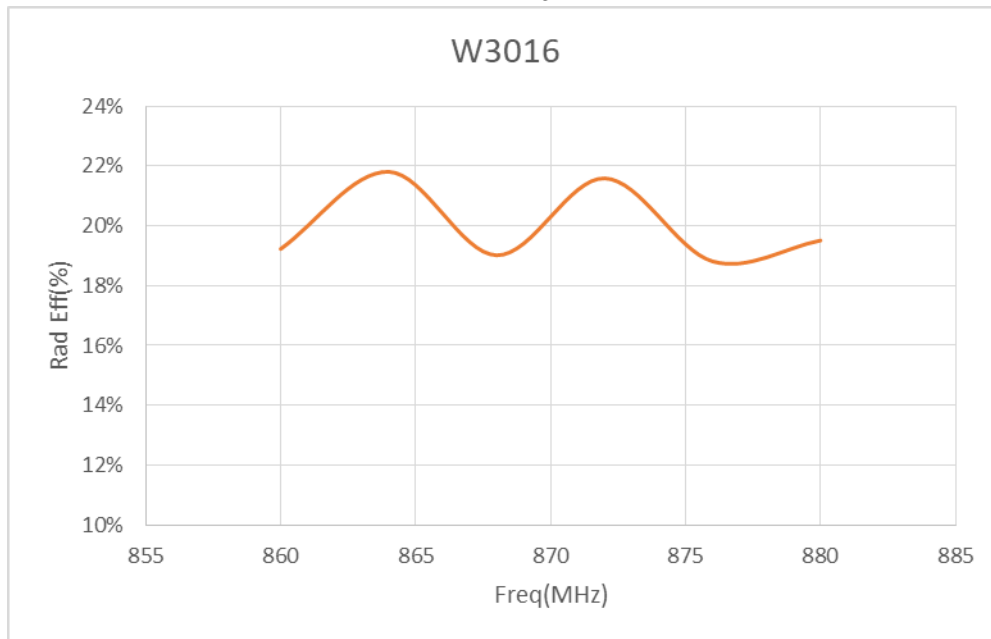
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**CHARTS**

**Return loss on Test board**



**Radiation Efficiency on Test board**



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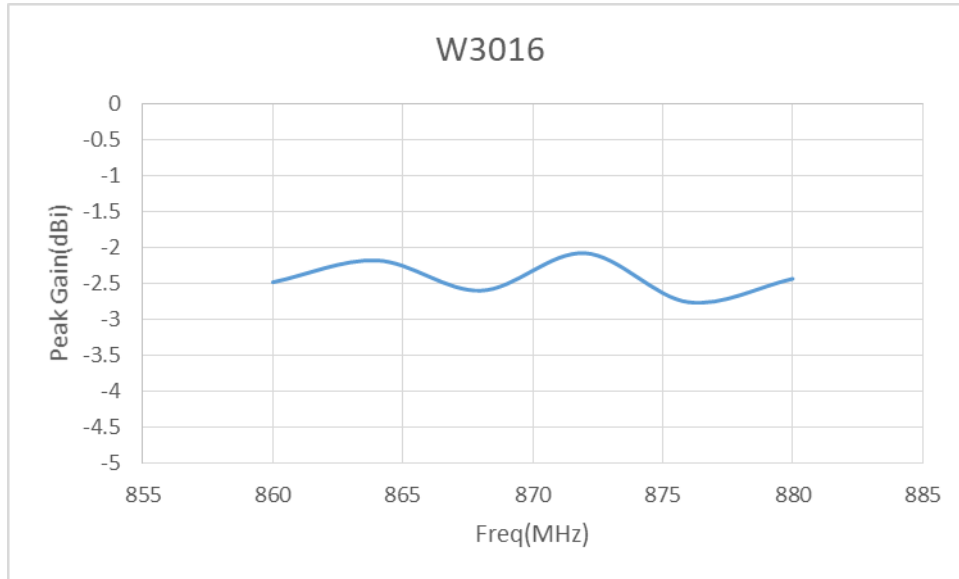
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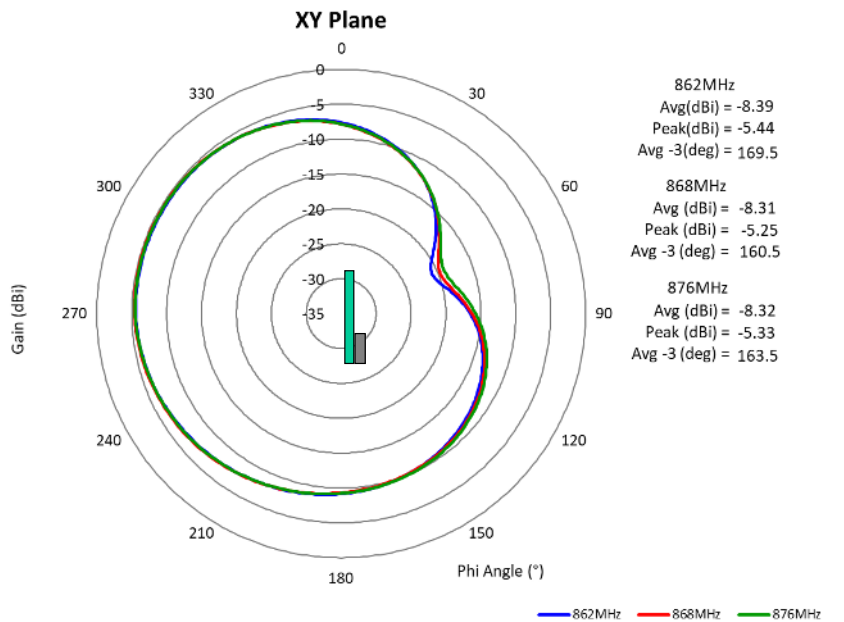
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**CHARTS**

**Peak Gain on Test board**



**Radiation pattern at XY plane**



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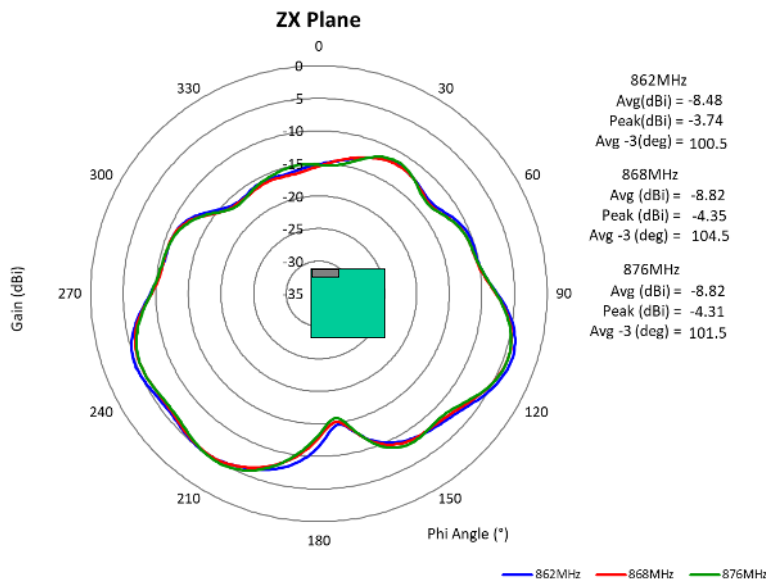
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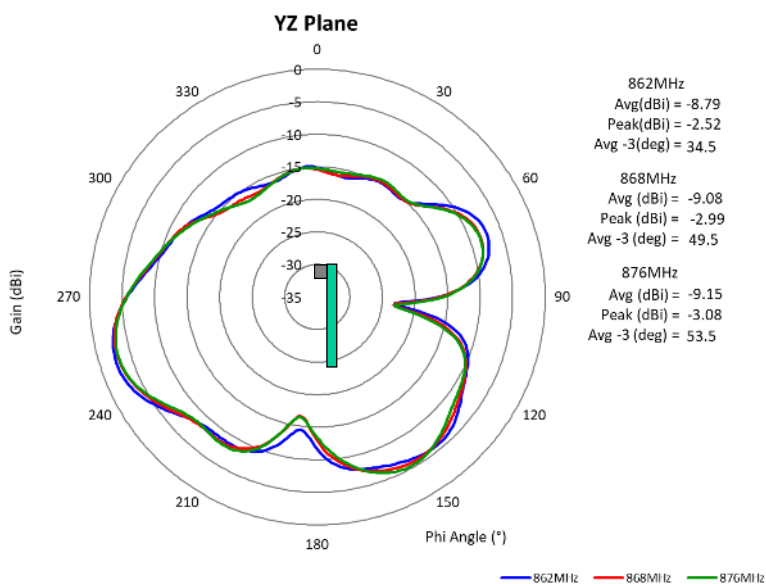
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**CHARTS**

**Radiation pattern at ZX plane**



**Radiation pattern at YZ plane**



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## PACKAGING

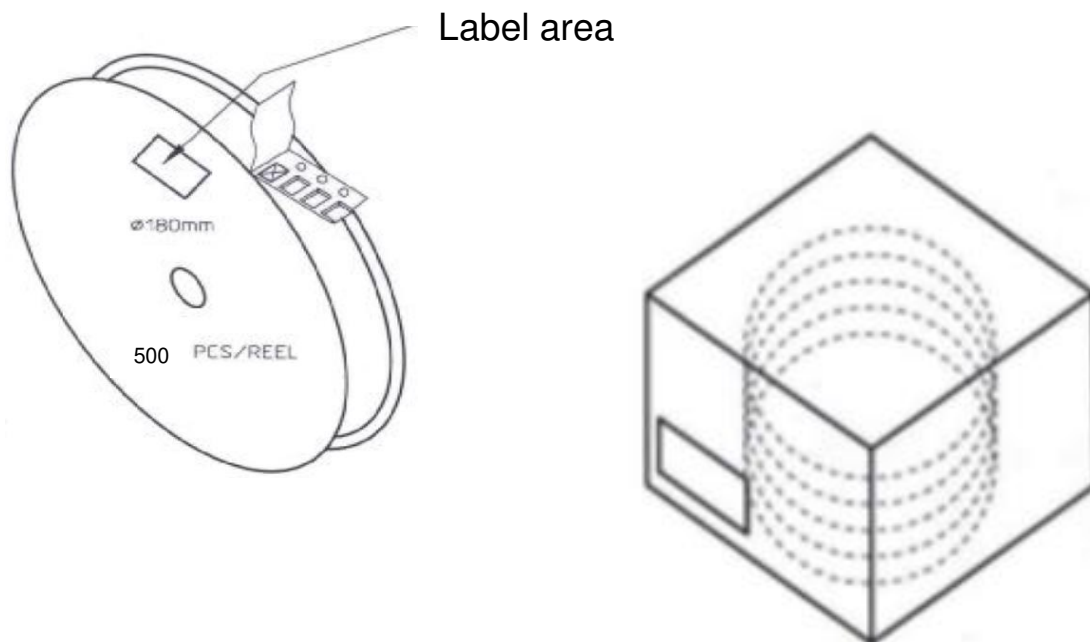
500pcs antennas per 7" reel

3pcs reel per inner box

2pcs inner box per outer box

Total 3000pcs antenna per package box

Package box: 390mm\*215mm\*165mm



According to MSL1 packing requirement, MBB-Moisture Barrel Bag, Desiccant, HIC-Humidity Indicator Card, MSID Label, Caution Label are required.

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