

**Description: 2.4-2.5/5.15-5.85GHz Dual band  
Ceramic 10x3.2x1.5mm**

**PART NUMBER: W3006**

**Series: Chip Antenna**

**Features:**

- 2.4-2.5 / 5.15-5.85GHz
- Peak gain 2.2 / 5.2 dBi
- Efficiency 60 / 70 %
- Compact size W x L x H (10 x 3.2 x 1.5 mm)
- Low weight: 240 mg
- Fully SMD compatible
- Tape and reel packing
- RoHS Compliant Product
- Moisture Sensitivity Level: MSL1



**Applications:**

- IEEE 802.11a/b/g/n
- 5 GHz WLAN
- 2.4 GHz WLAN
- 2.4 GHz ISM Band Systems
- 5GHz ISM Band Systems
- ZigBee IEEE 802.15.4

All dimensions are in inches/mm

Issue: 1919

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## ELECTRICAL SPECIFICATIONS

Frequency1	2.4-2.5GHz
Frequency2	5.15-5.85GHz
Nominal Impedance	50Ω
Return Loss Frequency1	-8 dB max
Return Loss Frequency2	-10 dB max
Efficiency Frequency1	60 %
Efficiency Frequency2	70 %
Peak Gain Frequency1	2.2dBi
Peak Gain Frequency2	5.2dBi
Polarization	Linear
Interface	SMD mount ceramic antenna

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### MECHANICAL SPECIFICATIONS

Weight	0.24g
Size	10 x 3.2 x 1.5 mm

### ENVIRONMENTAL SPECIFICATIONS

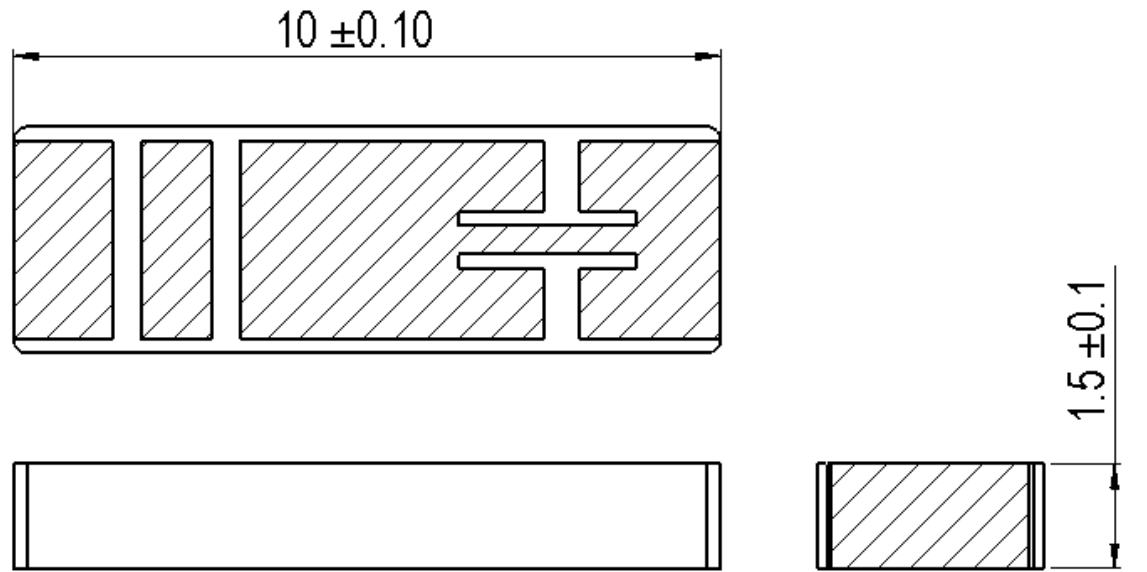
Operating temperature	-40~+85° C
Temperature	-40~+85° C
Humidity	Cyclic 6 +25° C/+55° C 95%
Vibration	
Sinusoidal 2-8Hz	7.5 mm
Sinusoidal 8-200Hz	20 m/s <sup>2</sup>
Shocks	0.5 m/s
Salt mist	96 hours

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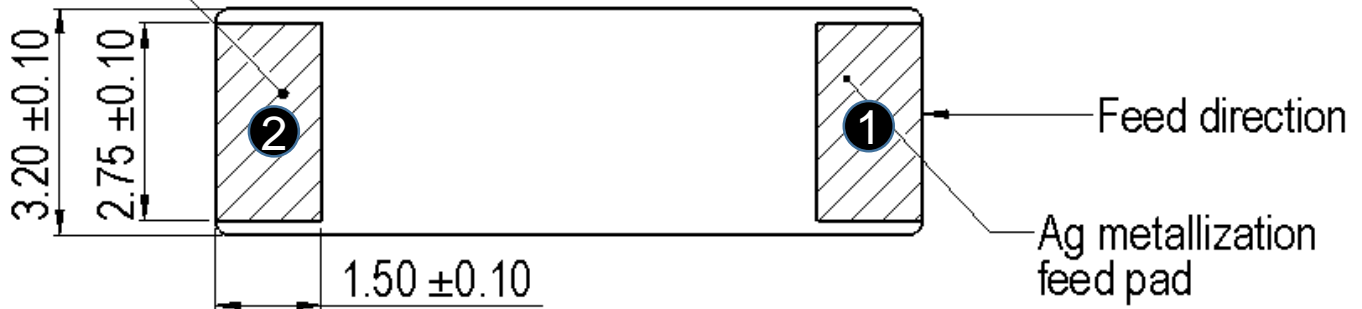
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MECHANICAL DRAWING AND TERMINAL CONFIGURATION



Ag metallization  
support pad



No.	Terminal Name	Terminal Dimensions
1	Feed	1.5 x 2.75 mm
2	Support pad	1.5 x 2.75 mm

Antenna feed pad can be identified by looking top surface metallization pattern

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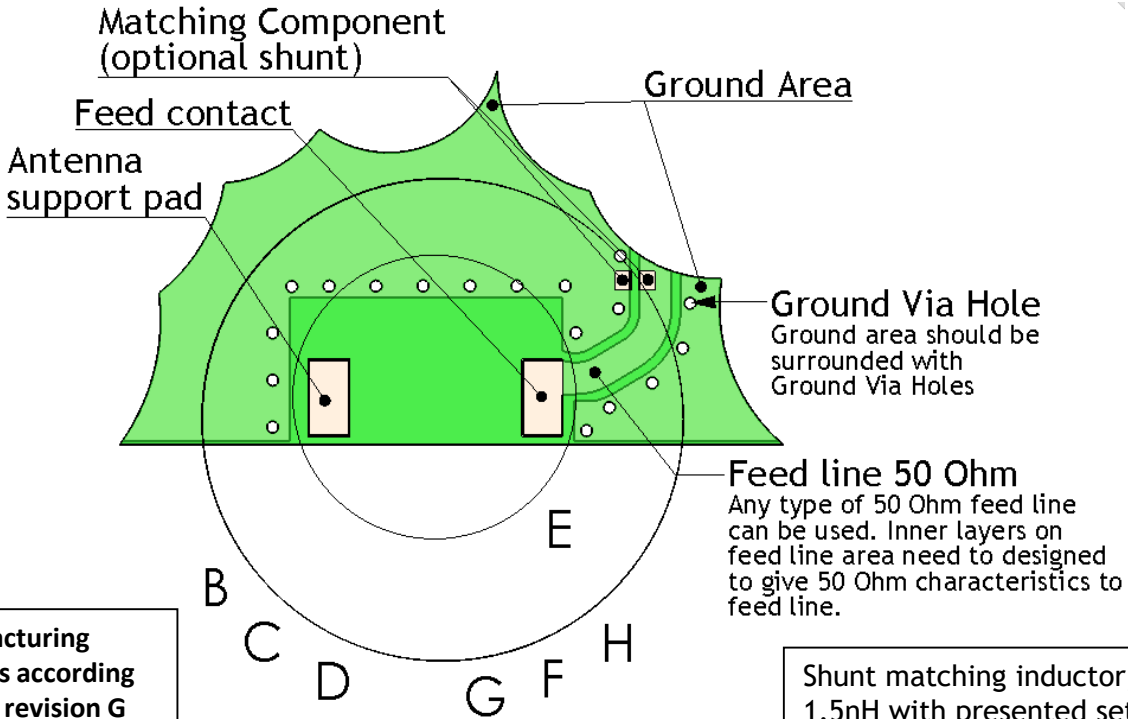
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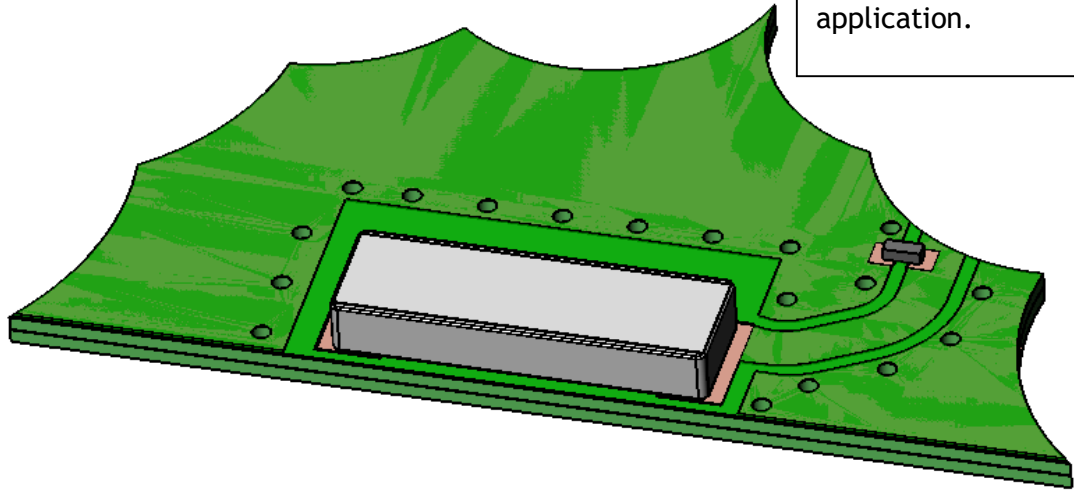
**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

**Ground cleared under antenna, clearance area 11.60 mm x 6.25 mm**



PWB manufacturing requirements according to IPC-A-600 revision G or similar

Shunt matching inductor, 1.5nH with presented setup.  
  
Exact inductor value depends on specific application.



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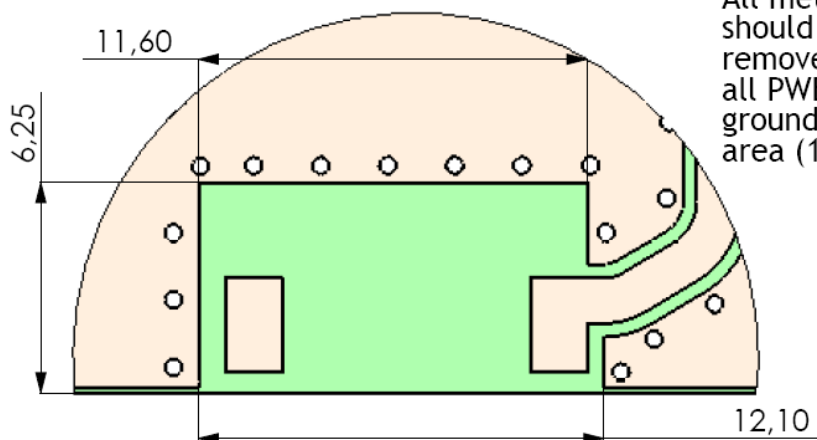
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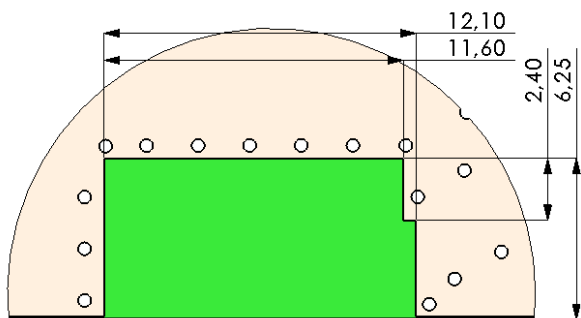
**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

Ground clearance area (11.60 x 6.25 mm)

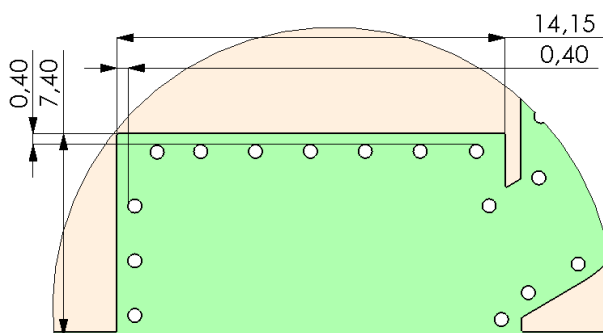


All metallization should be removed from all PWB layers on ground clearance area (11.60 x 6.25 mm)

Opening in bottom/inner ground layers



Opening in other layers (no ground/ RF)



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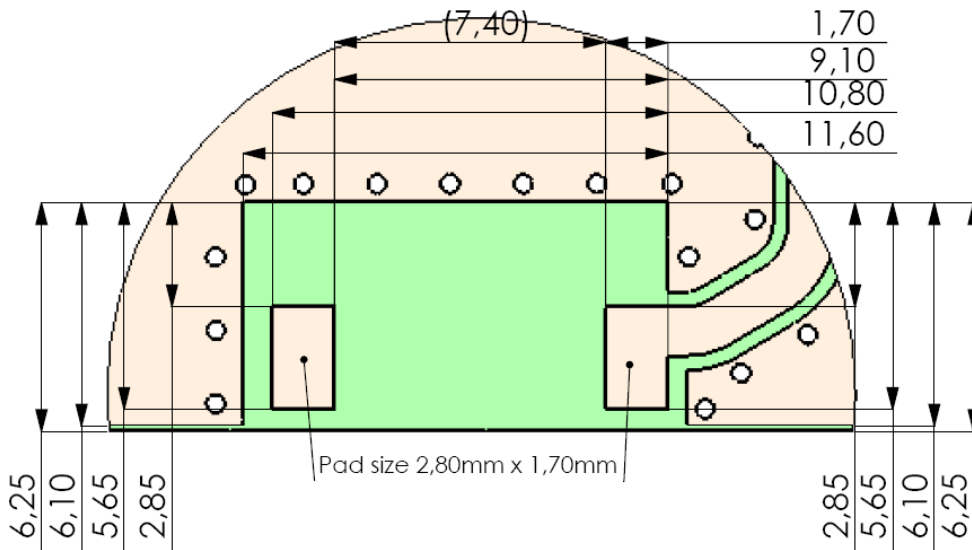
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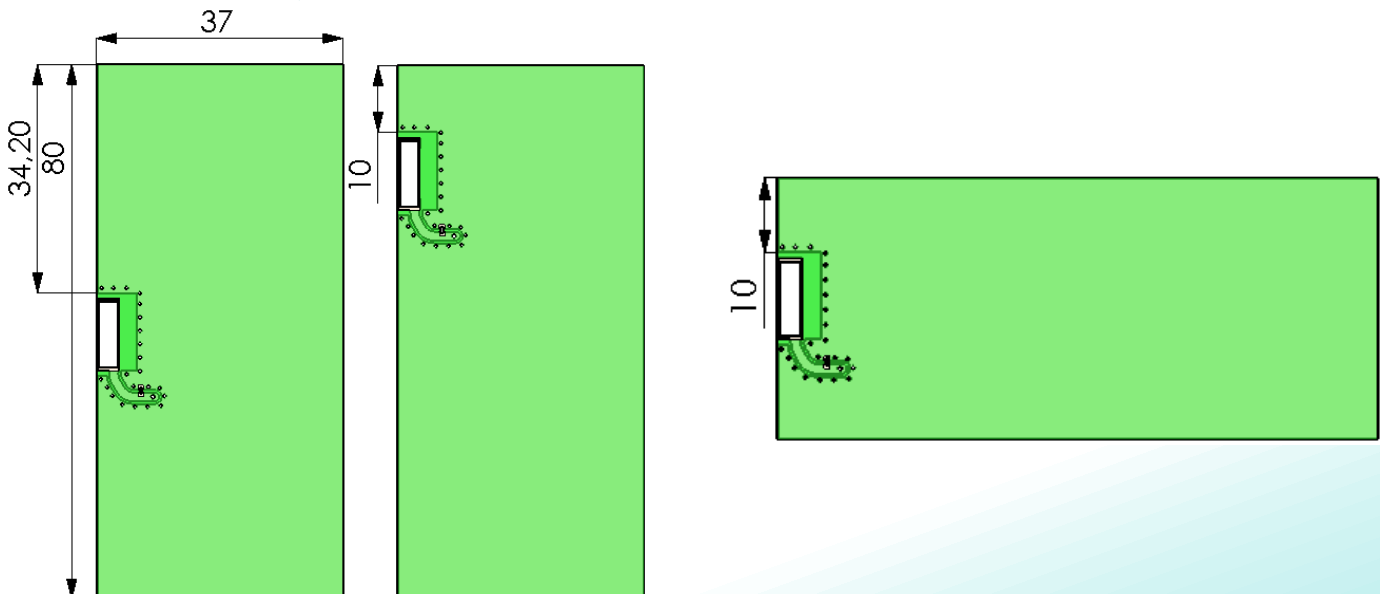
**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

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

Pad dimensions in top copper



Recommended test board layout for electrical characteristic measurement, test board outline size 80 x 37mm



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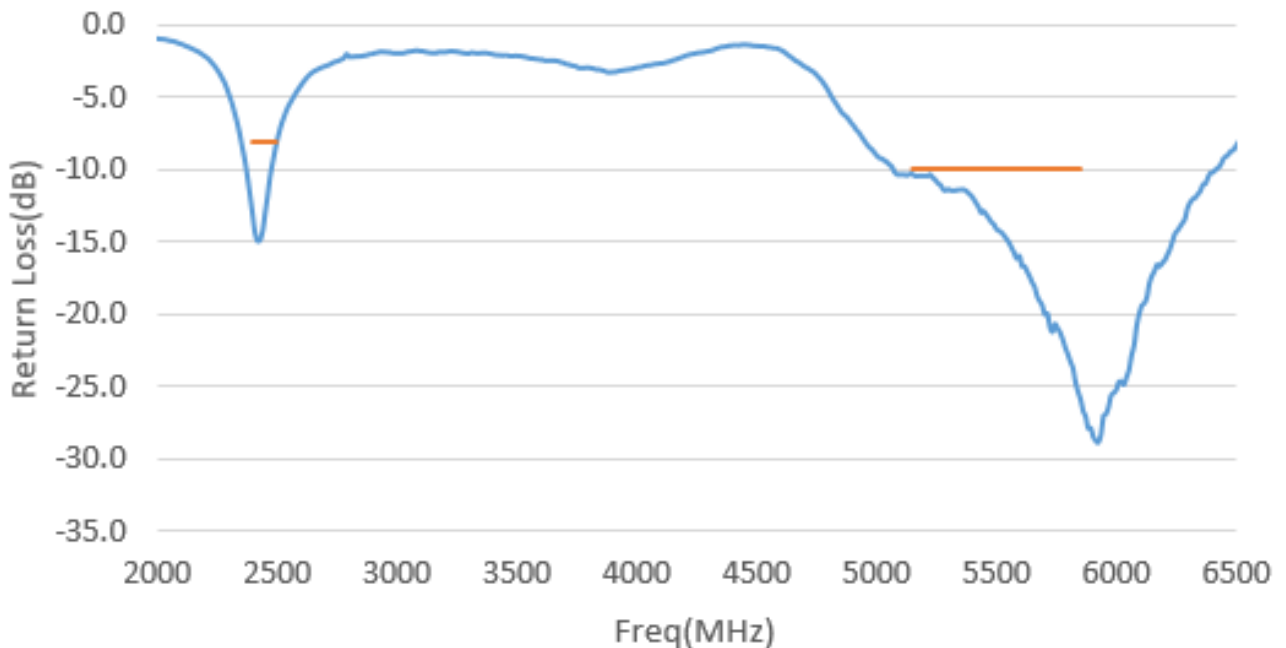
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Test setup



Return Loss



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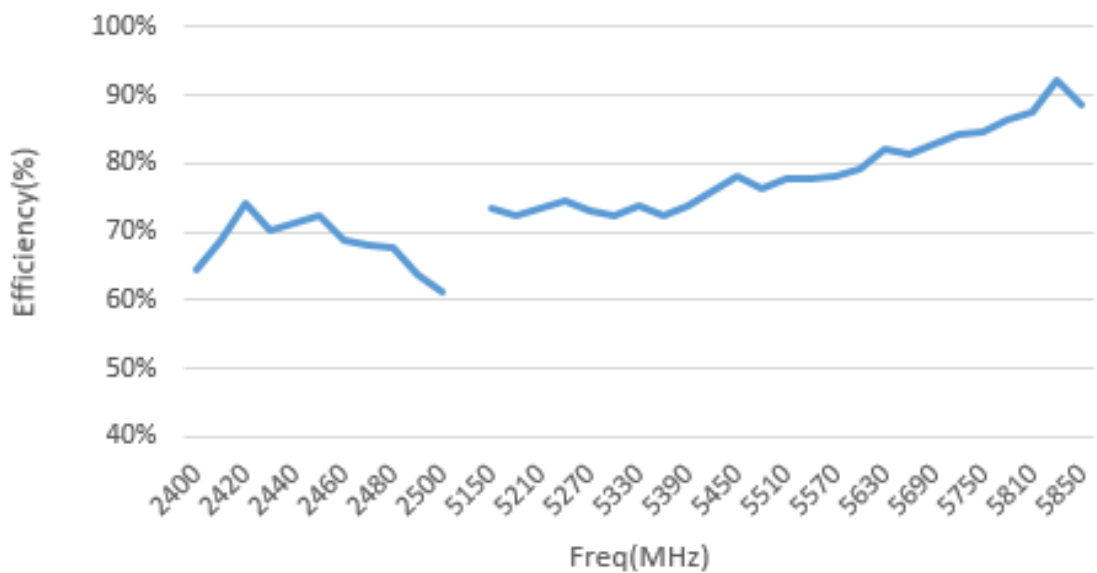
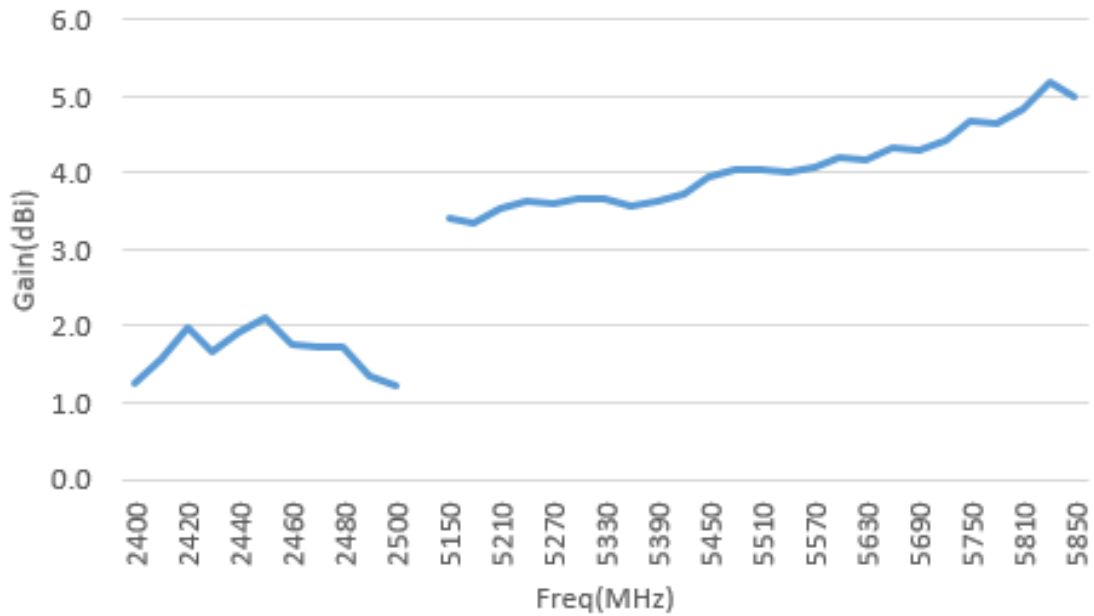


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**CHARTS**



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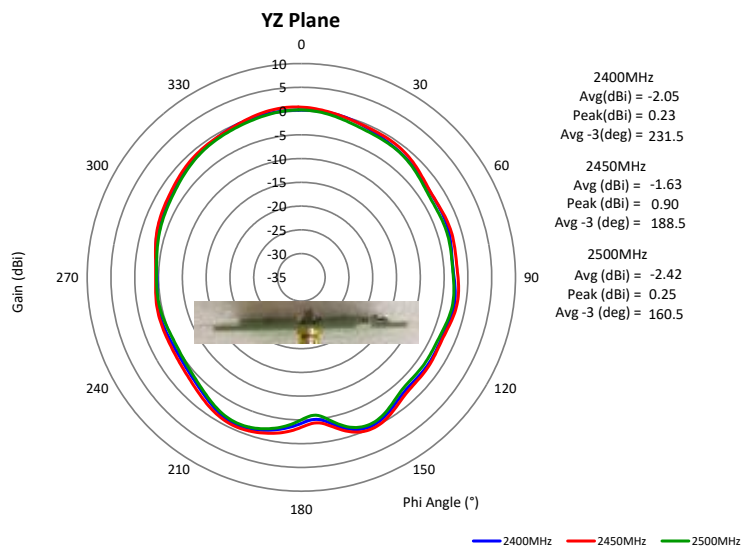
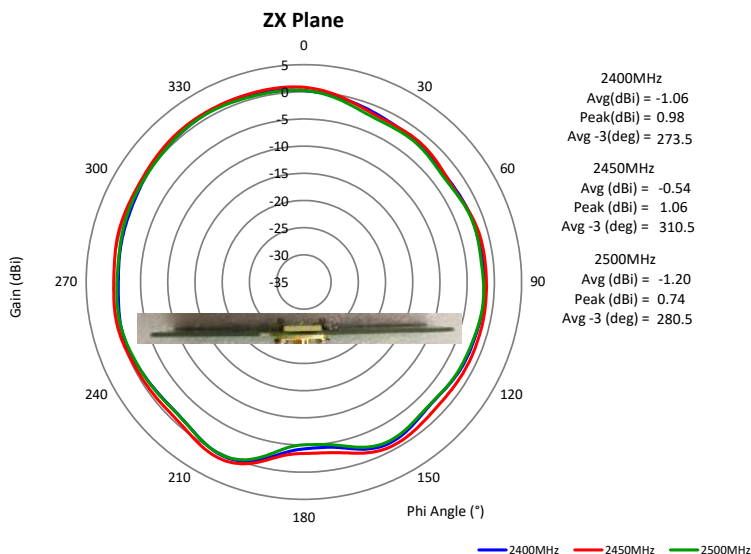
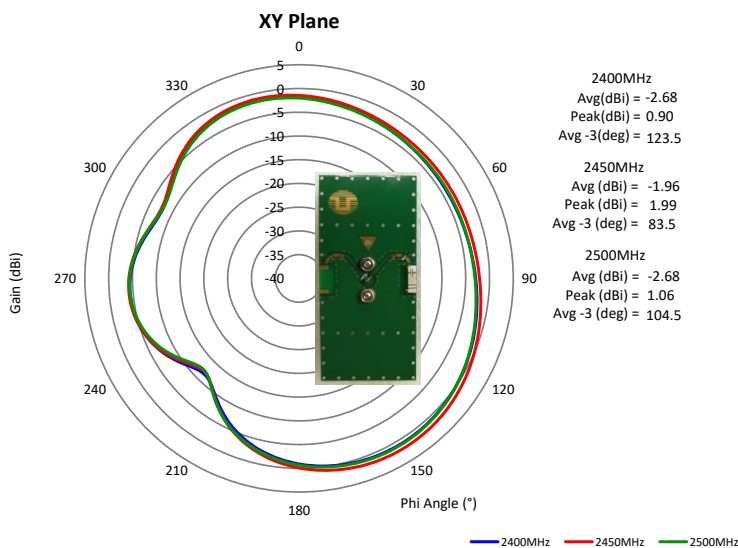
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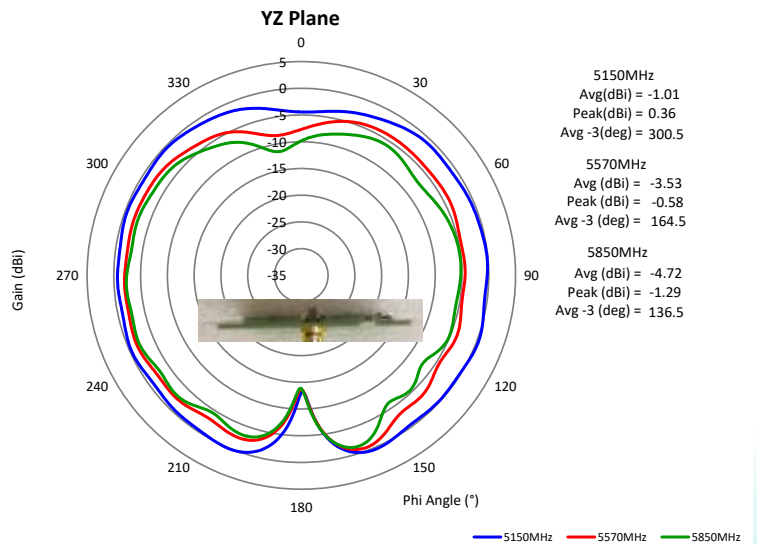
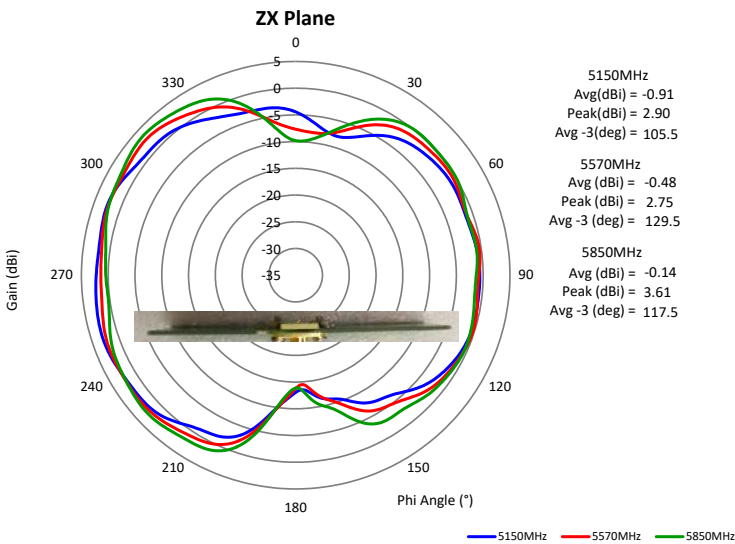
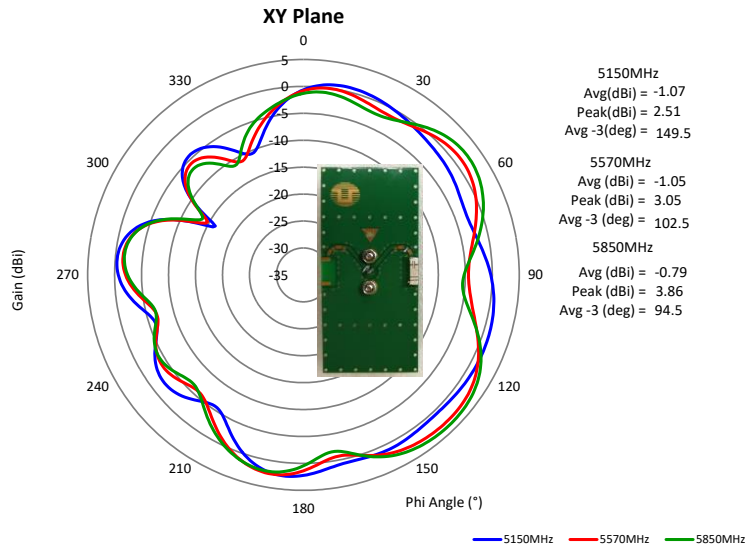
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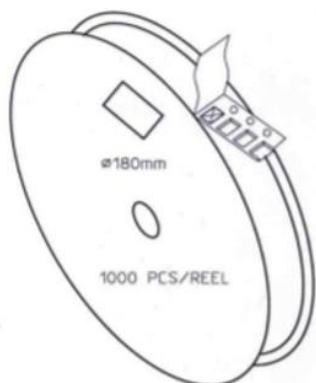
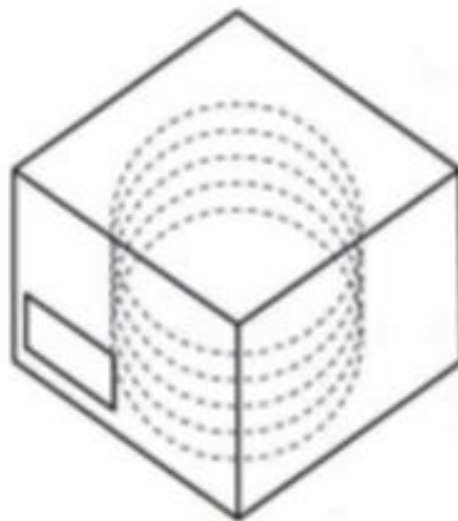
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**PACKAGING**

- 1000pcs antennas per 7" reel
- 3pcs 7" reel per inner package box
- 2pcs inner box per out box
- Total 6000pcs antenna per out box
- Out box size: 390mmx215mmx165mm



**LEVEL**

**NOT MOISTURE SENSITIVE**

**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