

# Description: 2.4-2.5/5.15-7.125GHz Dual band Ceramic 10x3.2x1.5mm PART NUMBER: W3006

# Series: Chip Antenna



- 2.4-2.5 / 5.15-7.125GHz WIFi-6E
- 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:**

- Layout 1 for 2.4-2.5 / 5.15-5.85GHz
- Layout 2 for 2.4-2.5 / 5.15-7.125GHz
- IEEE 802.11a/b/g/n/x
- WiFi-6E
- 5 GHz WLAN
- 2.4 GHz WLAN
- 2.4 GHz ISM Band Systems
- 5GHz ISM Band Systems
- ZigBee IEEE 802.15.4



Issue: 2137

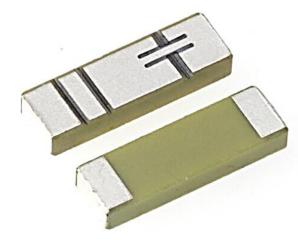
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Pulse Worldwide Headquarters 15255 Innovation Drive #100 San Diego, CA 92128 USA Tel:1-858-674-8100

All dimensions are in inches/mm

Pulse/Larsen Antennas 18110 SE 34<sup>th</sup> St Bldg 2 Suite 250 Vancouver, WA 98683 USA Tel: 1-360-944-7551 Europe Headquarters Pulse GmbH & Do, KG Zeppelinstrasse 15 Herrenberg, Germany Tel: 49 7032 7806 0 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





TECHNICAL DATA SHEET

Description: 2.4-2.5/5.15-7.125GHz Dual band Ceramic 10x3.2x1.5mm

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### **ELECTRICAL SPECIFICATIONS**

Layout and Matching for 2.4-2.5/5.15-5.85GHz Frequency 2.4-2.5 / 5.15-5.85 GHz **Return Loss** -8/-9 dB max 60 / 80 % Efficiency (typical) Peak Gain (typical) 1.8 / 4.5dBi Layout and Matching for 2.4-2.5/5.15-7.125GHz WiFi-6E Frequency 2.4-2.5 / 5.15-7.125 GHz **Return Loss** -5/-5 dB max Efficiency (typical) 65 / 75 % Peak Gain (typical) 1.6 / 4.2dBi Nominal Impedance 50Ω 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/s²
Shocks	0.5 ms
Salt mist	96 hours

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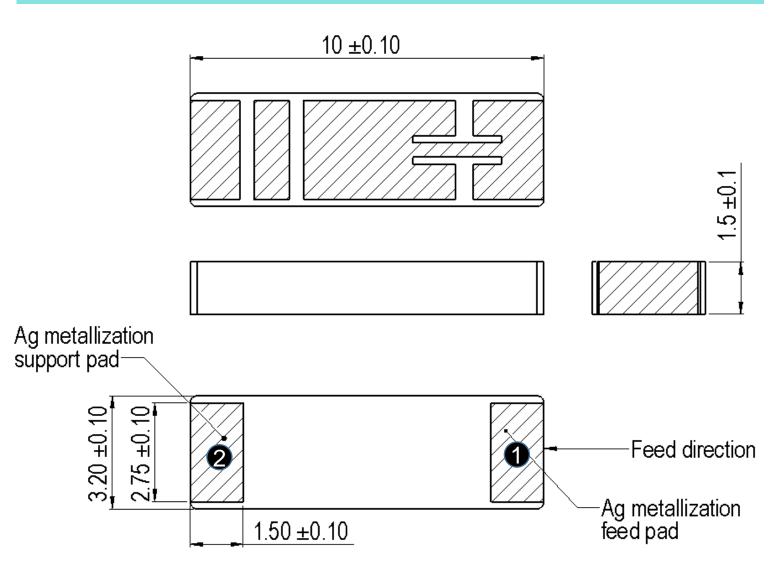


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## **MECHANICAL DRAWING AND TERMINAL CONFIGURATION**



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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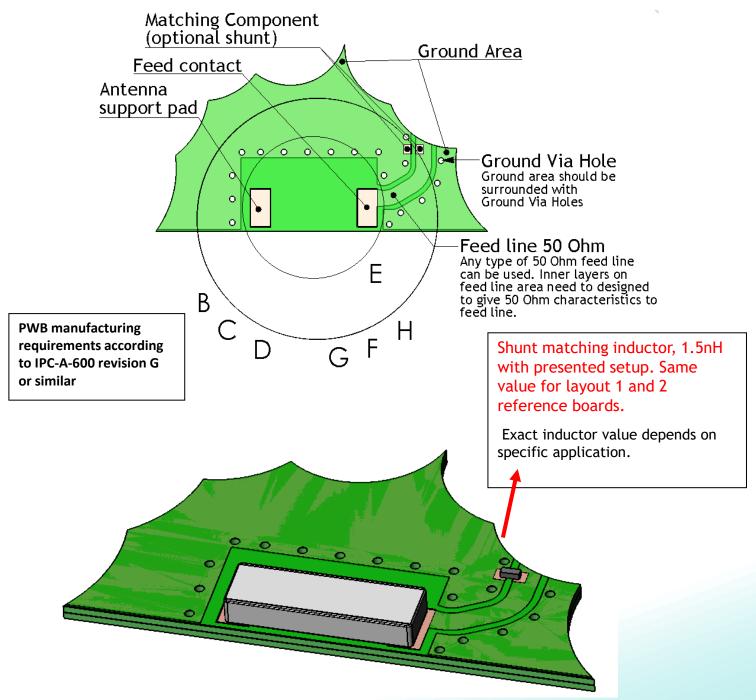
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### **MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

### Ground cleared under antenna



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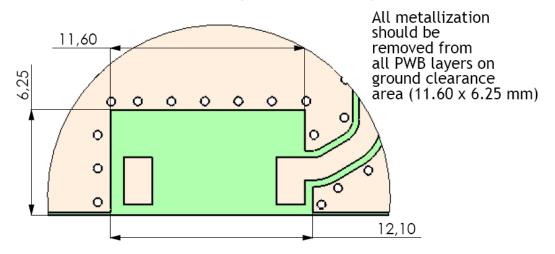
Series: Chip Antenna

PART NUMBER: W3006

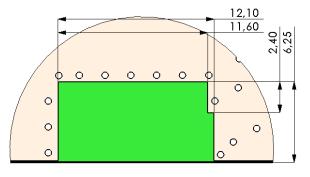
### **MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

1.Layout and Matching for 2.4-2.5/5.15-5.85GHz

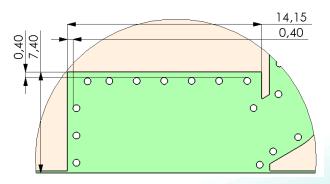
Ground clearance area (11.60 x 6.25 mm)



Opening in bottom/inner ground layers



Opening in other layers (no ground/ RF)



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YAGEO company

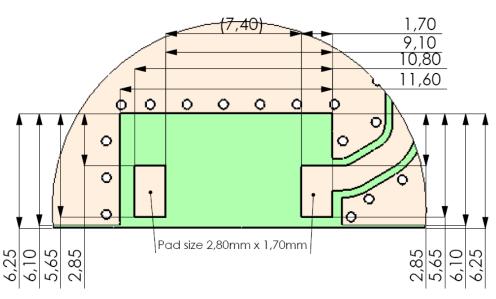
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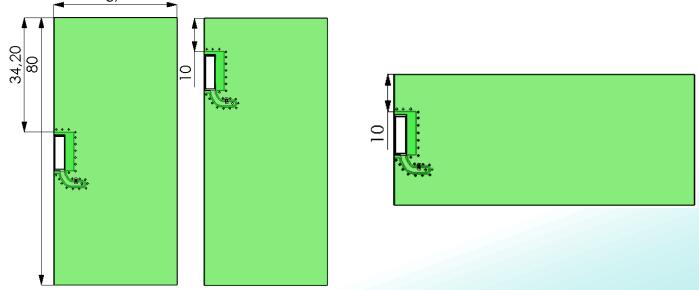
## **MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

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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## **MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

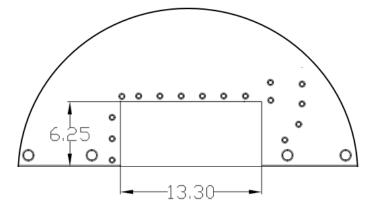
Ground clearance area (13.3 x 6.25 mm)

2.Layout and Matching for 2.4-2.5/5.15-7.125GHz

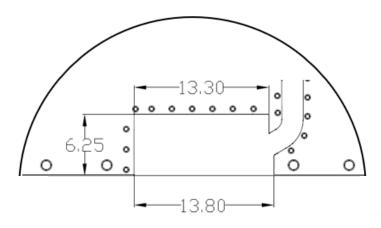
6.2 o О O С 13.80

All metallization should be removed from all PWB layers on ground clearance area (13.3 x 6.25mm)

Opening in bottom/inner ground layers



Opening in other layers (no ground/RF)



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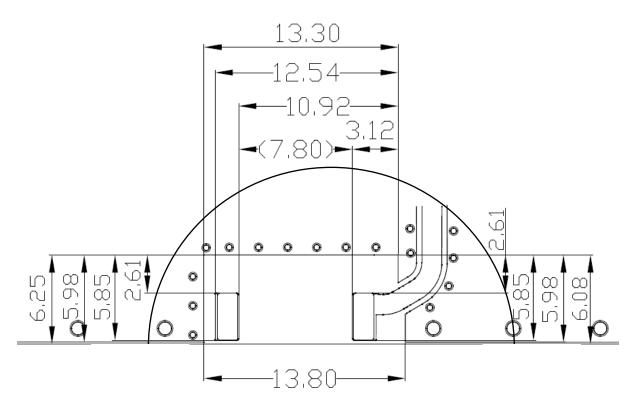
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### **MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

Recommended Antenna Pad Dimensions on PWB Layout (top surface)



Pad dimensions in top copper

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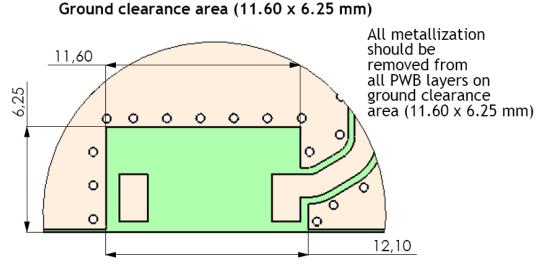
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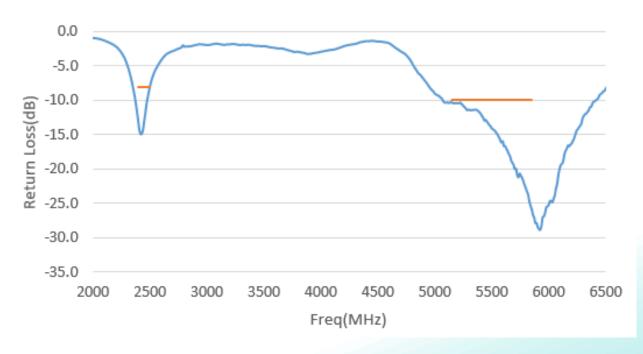
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**Test setup** 

# 1. Layout and Matching for 2.4-2.5/5.15-5.85GHz



# **Return Loss**



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RoHS



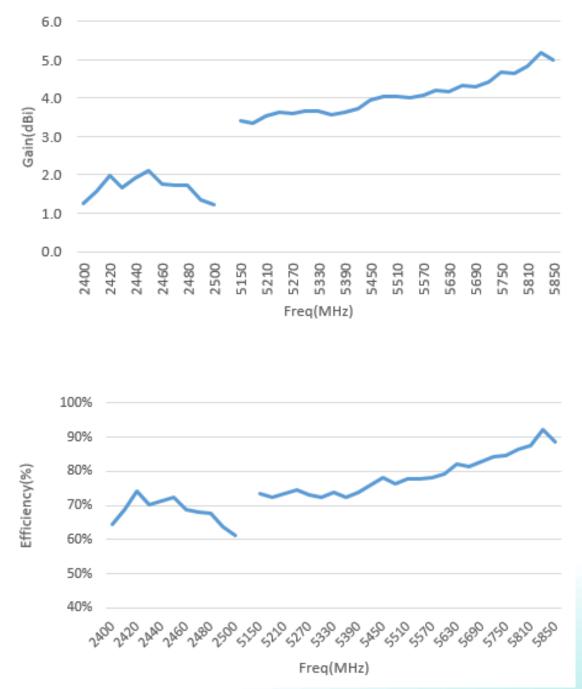
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## CHARTS

1. Layout and Matching for 2.4-2.5/5.15-5.85GHz



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RoHS



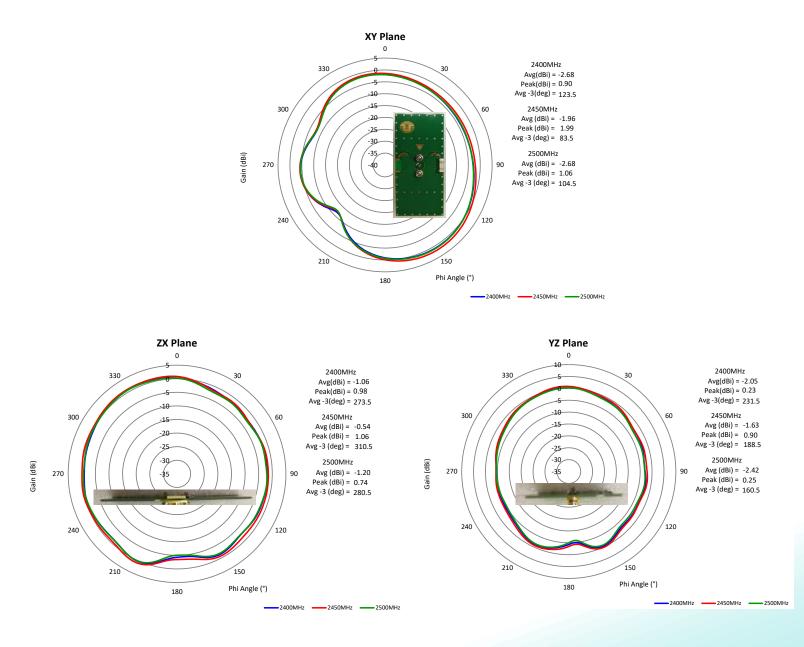
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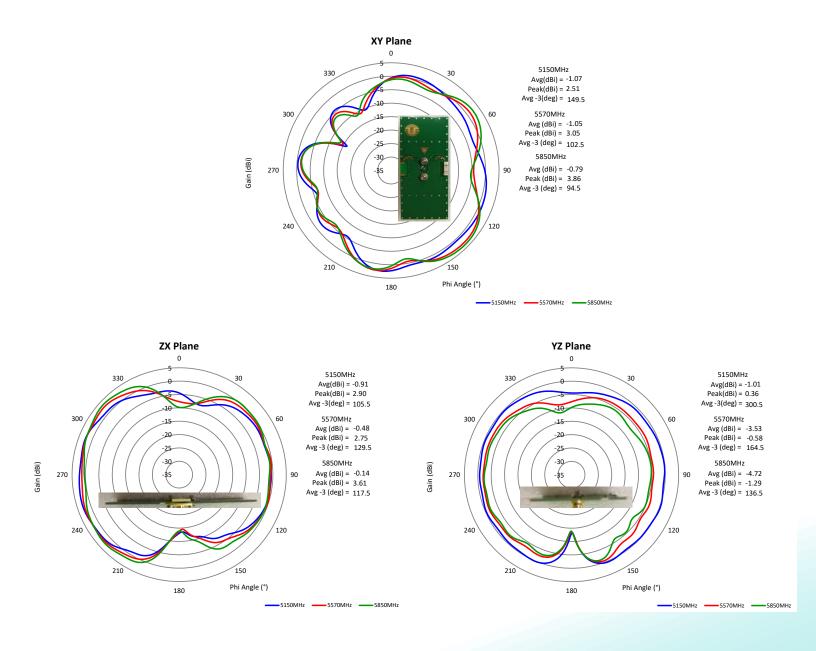
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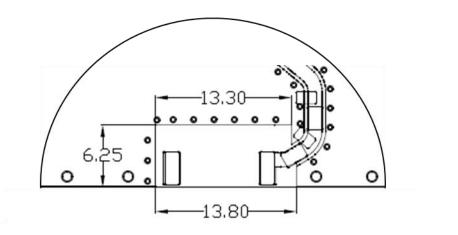
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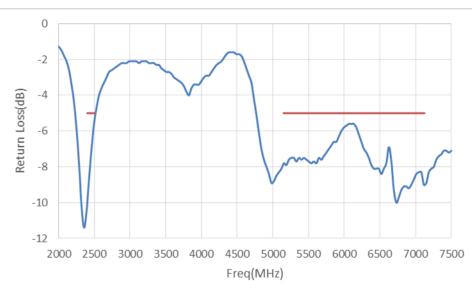
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**Test setup** 

2. Layout and Matching for 2.4-2.5/5.15-7.125GHz



**Return Loss** 



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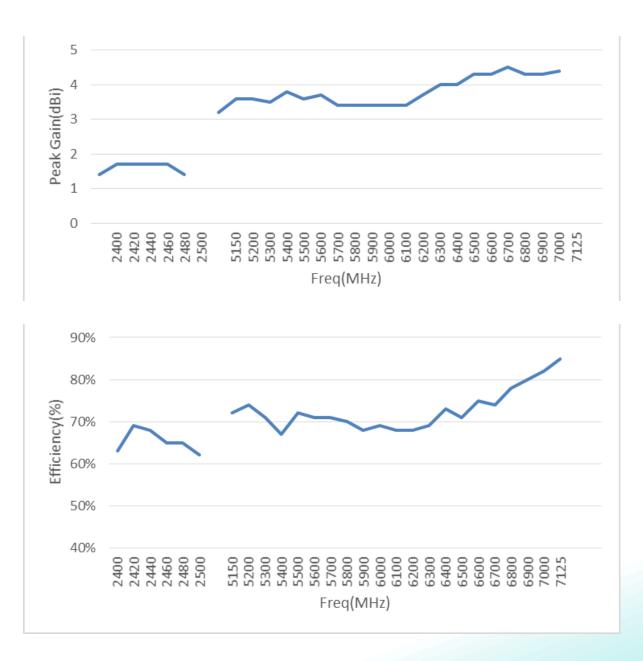
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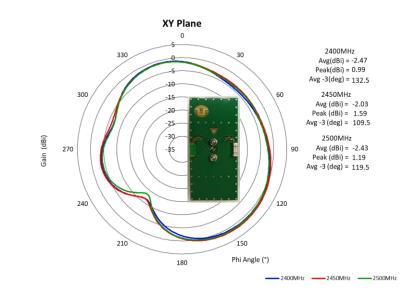
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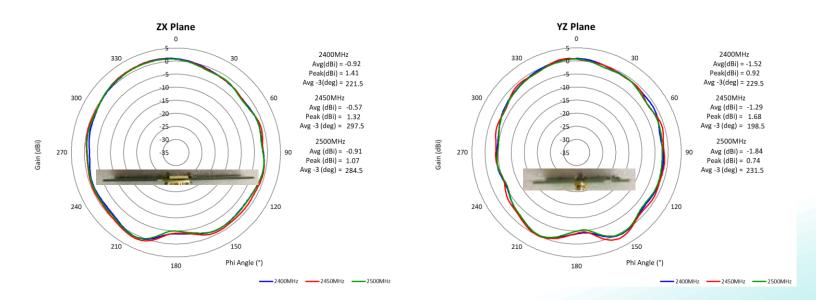
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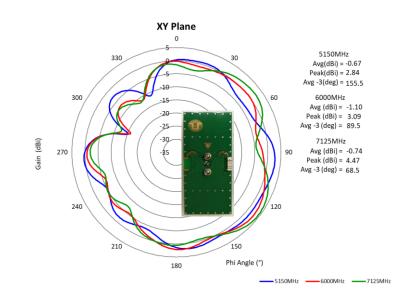
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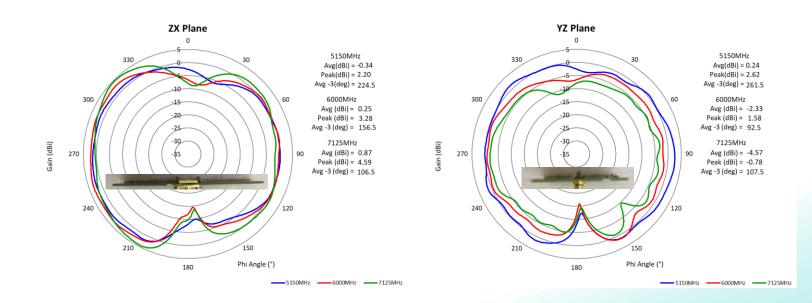
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## PACKAGING

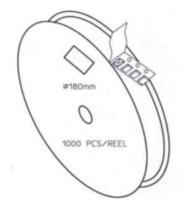
1000pcs antennas per 7" reel

3pcs 7" reel per inner package box

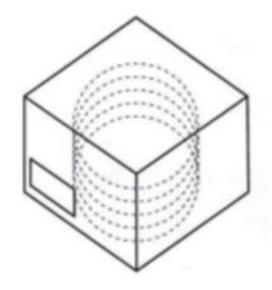
2pcs inner box per out box

Total 6000pcs antenna per out box

Out box size: 390mmx215mmx165mm







## LEVEL

# NOT MOISTURE SENSITIVE

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These Devices do not require special storage conditions provided:

- 1. They are maintained at conditions equal to or less than 30  $^{\circ}\mathrm{C}$  and 85% RH.
- They are solder reflowed at a peak body temperture which does not exceed 260°C.

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

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 66089-2406
 A09-F8NF-M
 A09-F5NF-M
 RGFRA1903041A1T
 W3593B0100
 W3921B0100
 SIMNA-868
 SIMNA 

 915
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 W1044
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