Pulse
a YAGEO company

TECHNICAL DATA SHEET

Series: Chip Antenna

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

PART NUMBER: W3006

All dimensions are in inches/mm

Features:

- 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

RoHS COMPLIANT

For more information:

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

Pulse/Larsen Antennas
18110 SE 34th St Bldg 2 Suite 250
Vancouver, WA 98683
USA
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Herrenberg, Germany
Tel: 49 7032 7806 0

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

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
Efficiency (typical)	60 / 80 %
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

RoHS COMPLIANT

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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^2
Shocks	0.5 ms
Salt mist	96 hours

RoHS COMPLIANT

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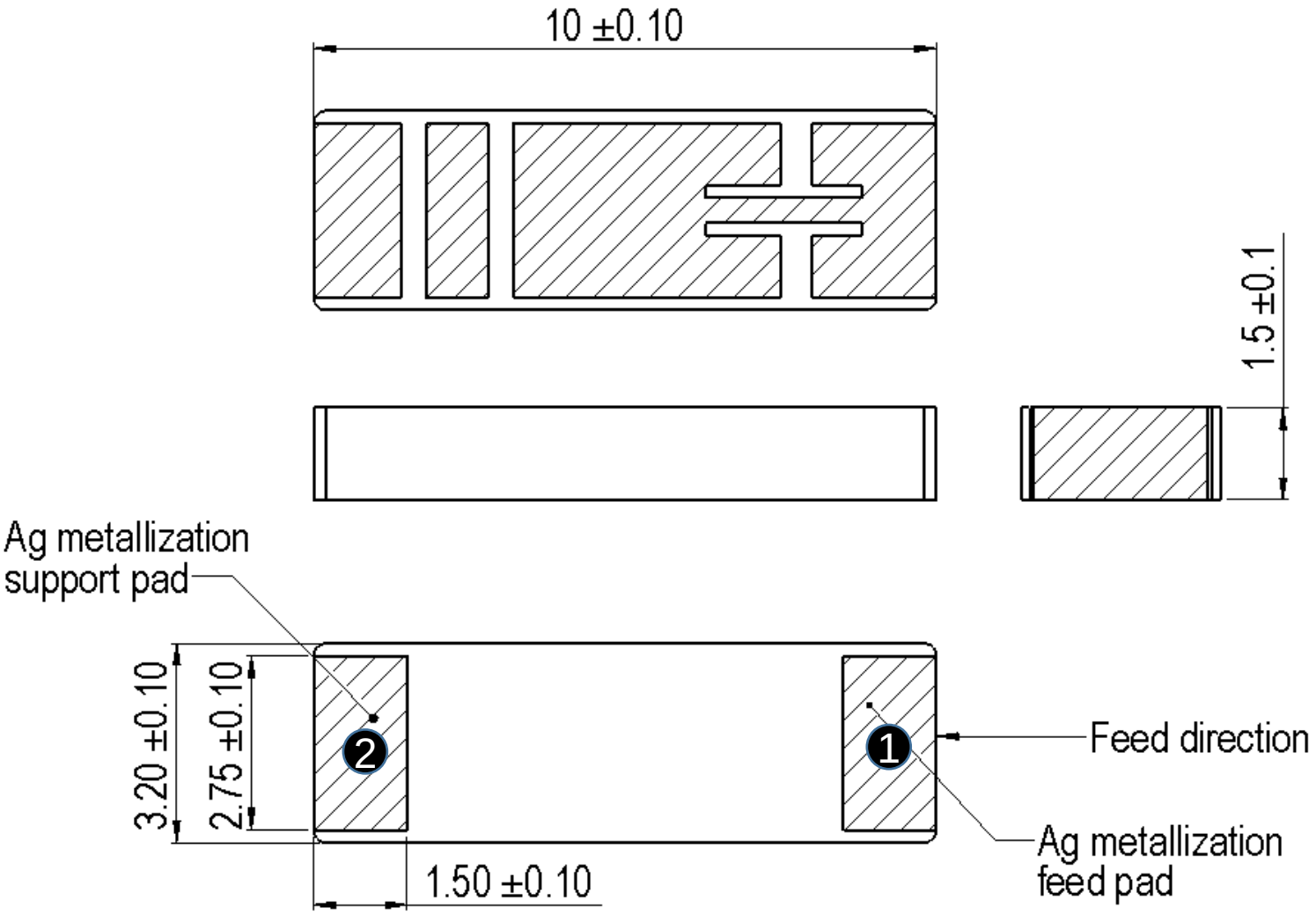
MECHANICAL DRAWING AND TERMINAL CONFIGURATION



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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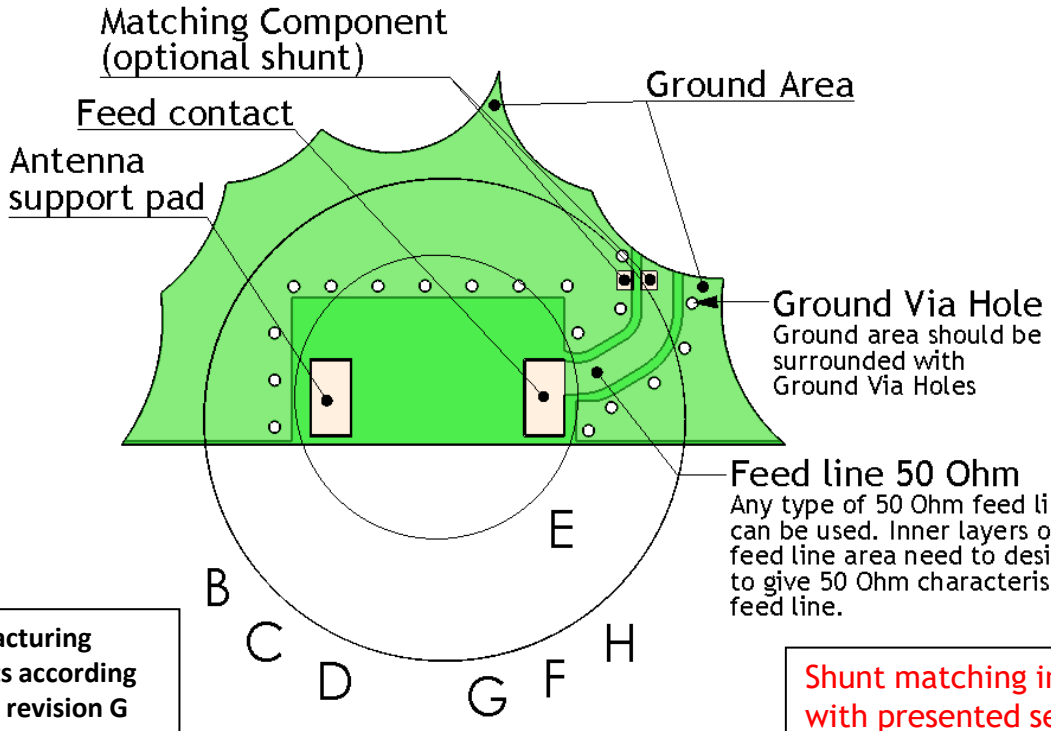
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

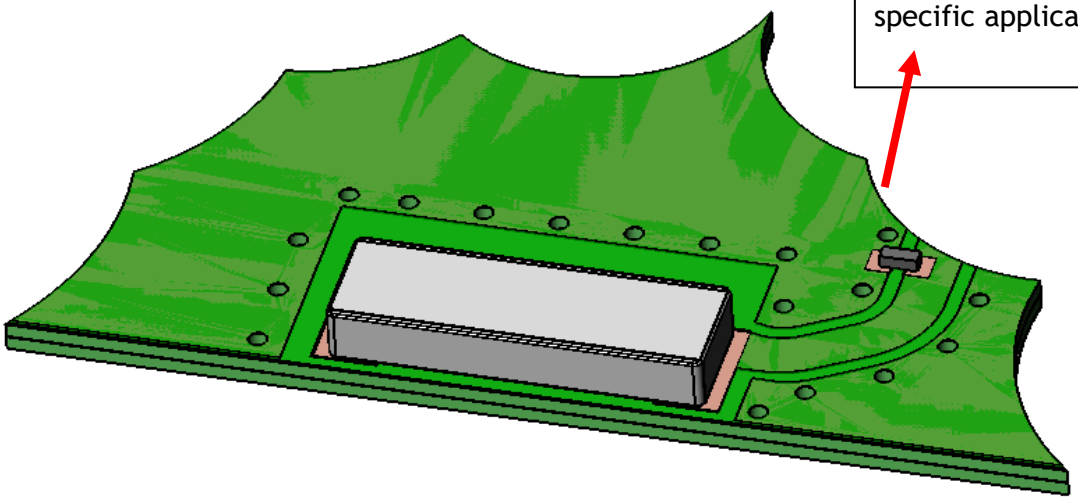
Ground cleared under antenna



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

Shunt matching inductor, 1.5nH with presented setup. Same value for layout 1 and 2 reference boards.

Exact inductor value depends on specific application.



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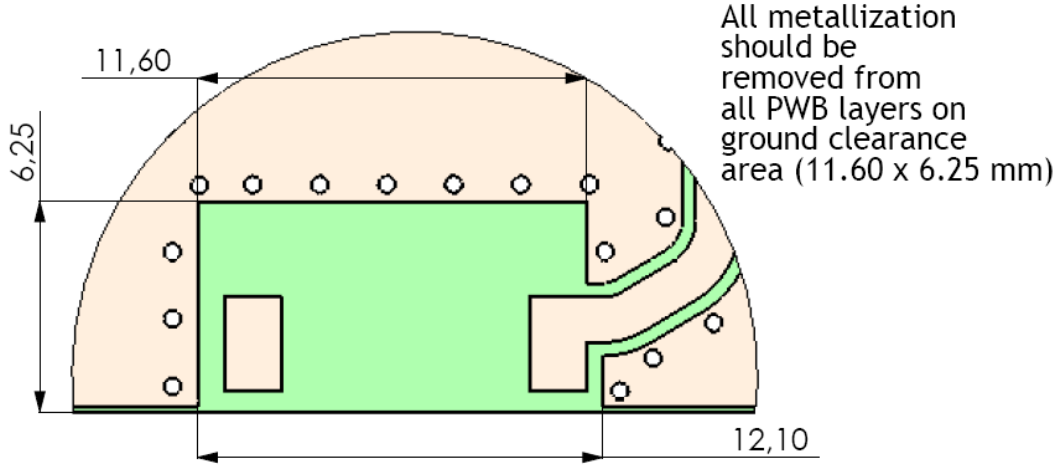
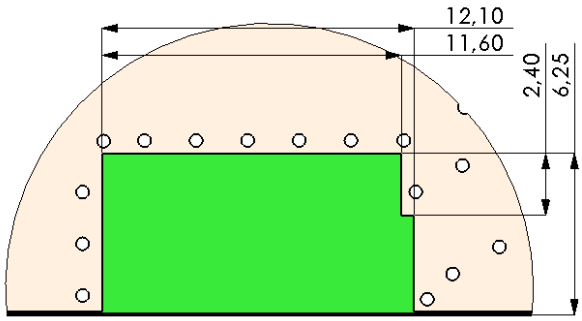
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

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

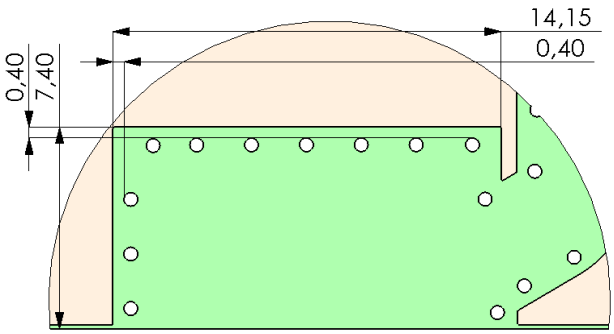
Ground clearance area (11.60 x 6.25 mm)



Opening in bottom/inner ground layers



Opening in other layers (no ground/ RF)



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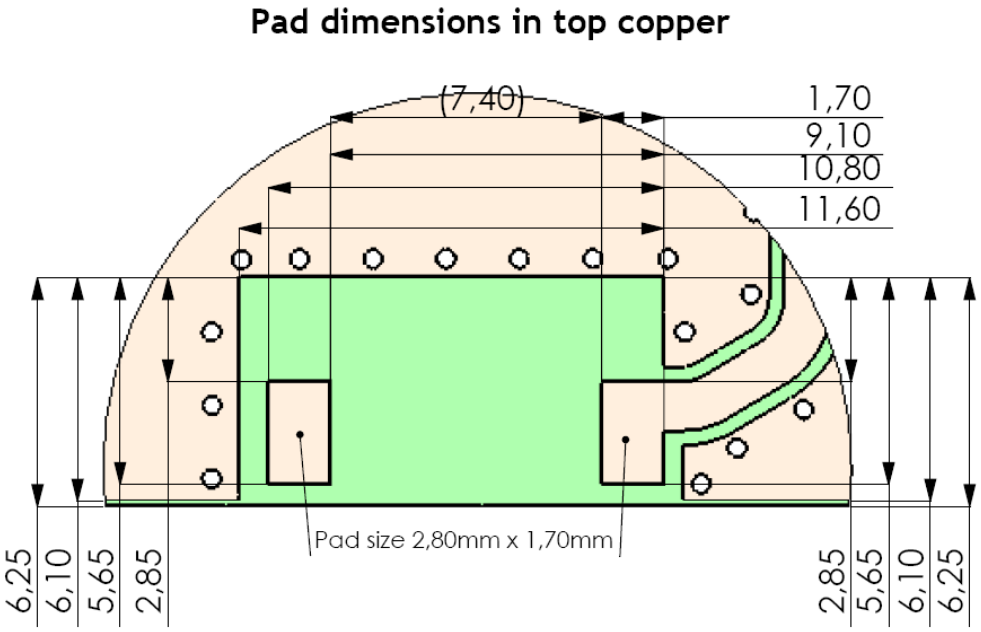
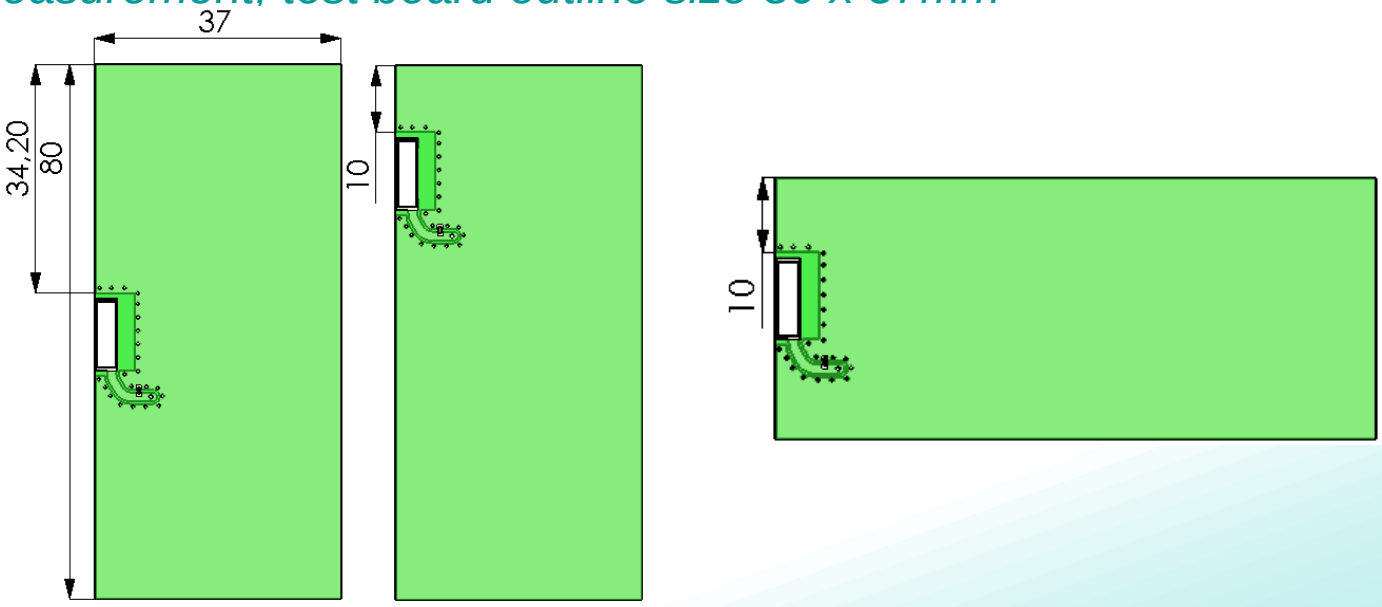
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended Antenna Pad Dimensions on PWB Layout (top surface)



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



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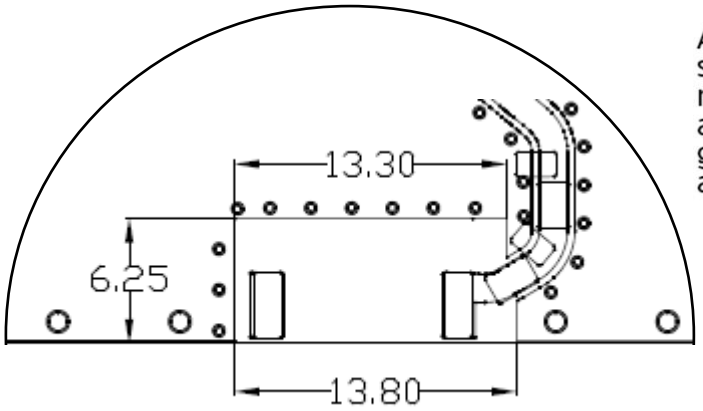
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

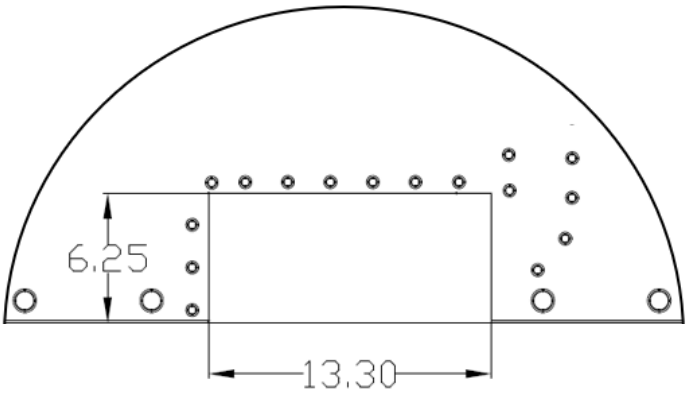
2.Layout and Matching for 2.4-2.5/5.15-7.125GHz

Ground clearance area (13.3 x 6.25 mm)

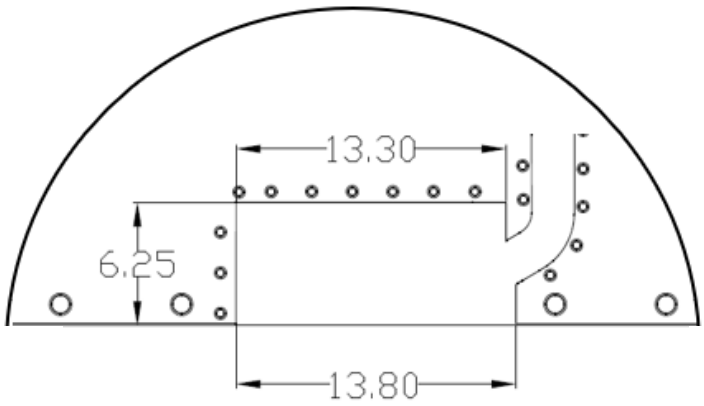


All metallization should be removed from all PWB layers on ground clearance area **(13.3 x 6.25mm)**

Opening in bottom/inner ground layers



Opening in other layers (no ground/RF)



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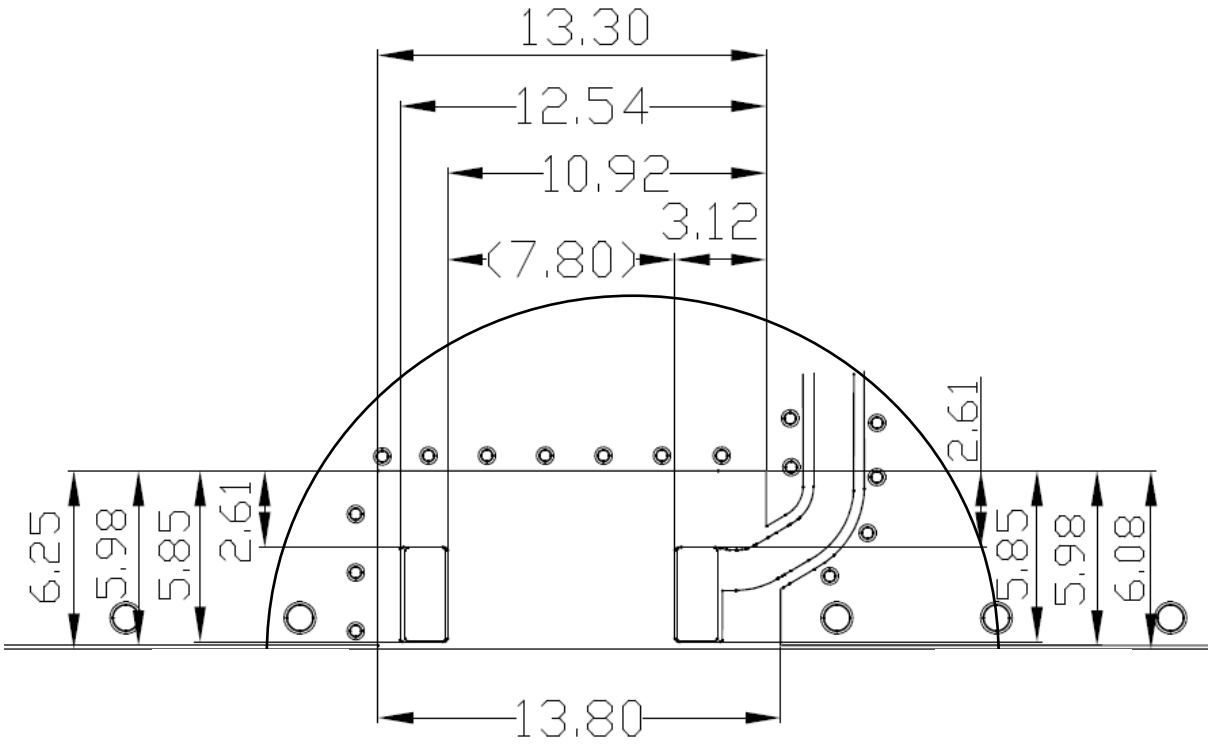
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended Antenna Pad Dimensions on PWB Layout (top surface)

Pad dimensions in top copper



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

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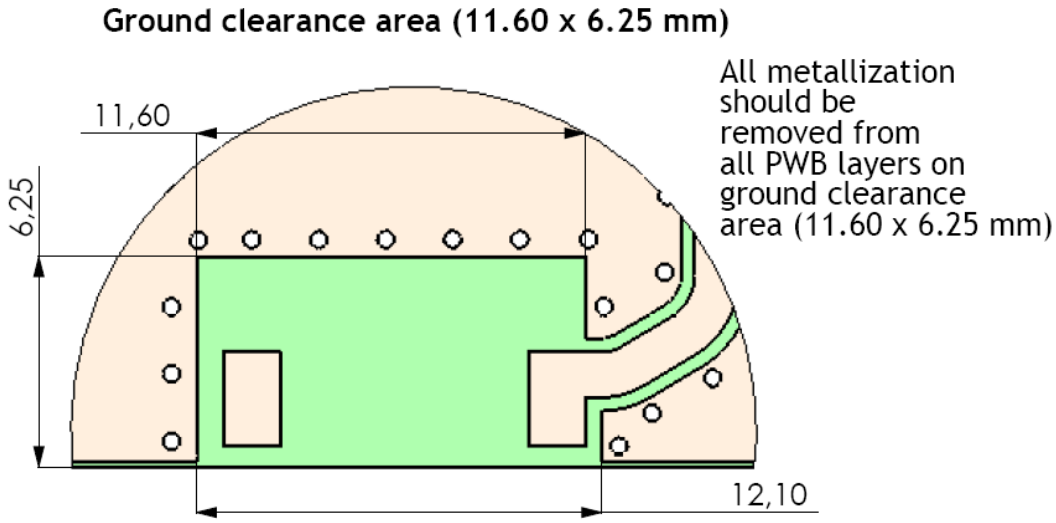
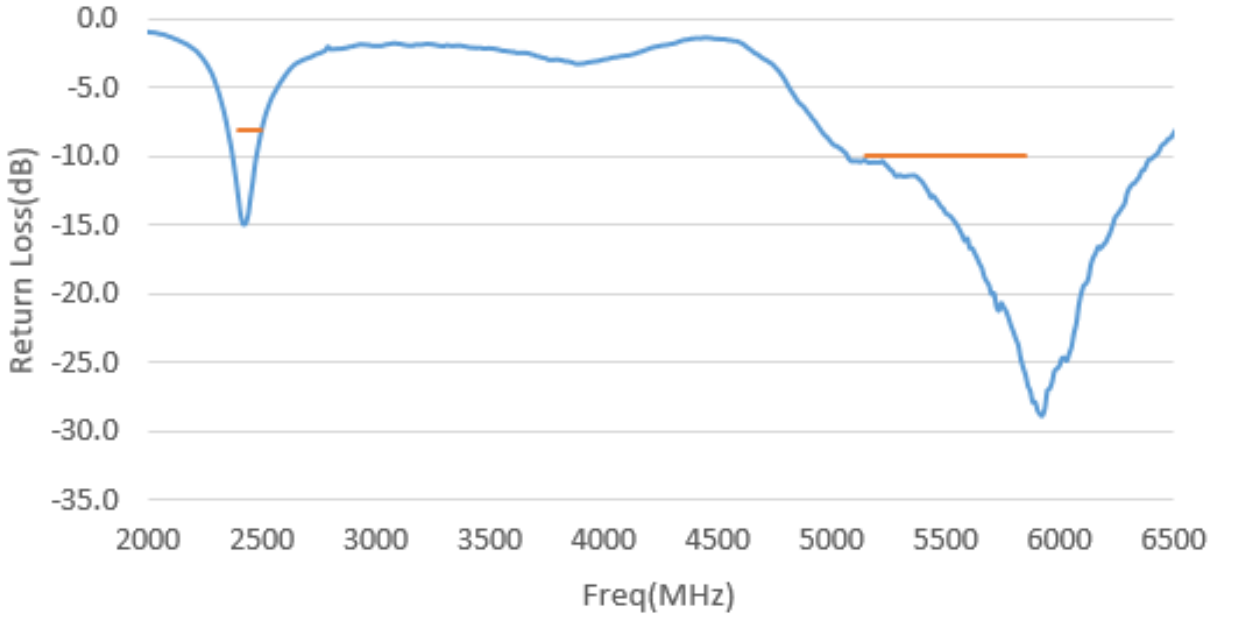
Test setup

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



Return Loss



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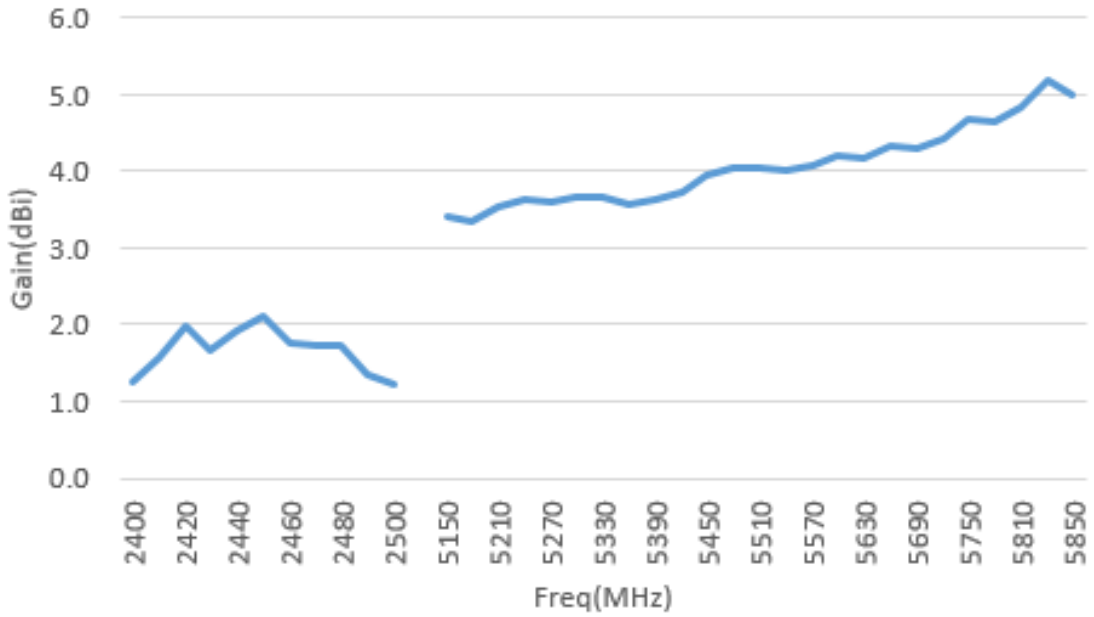

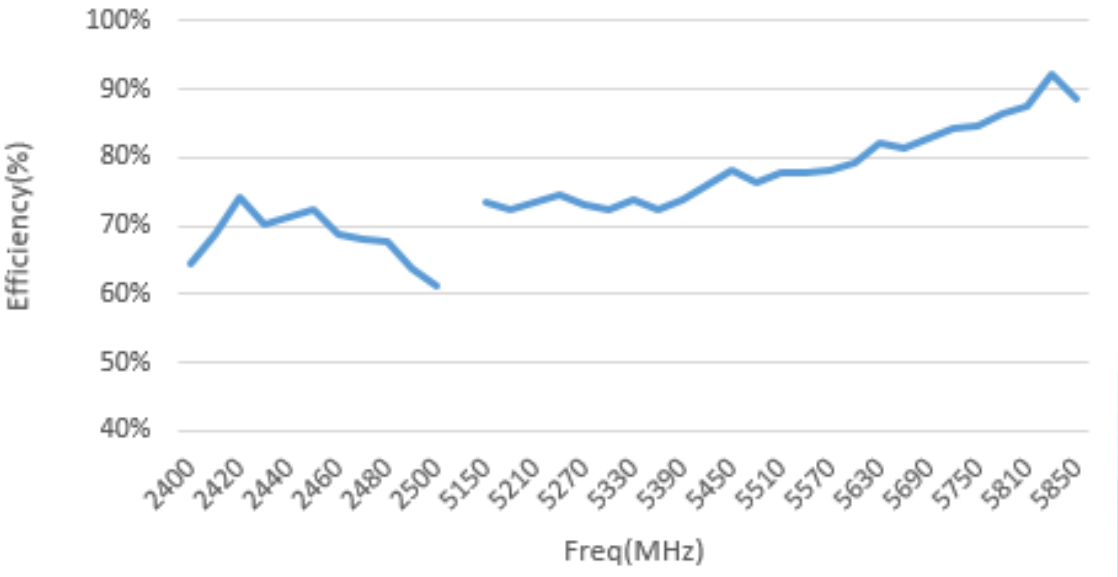

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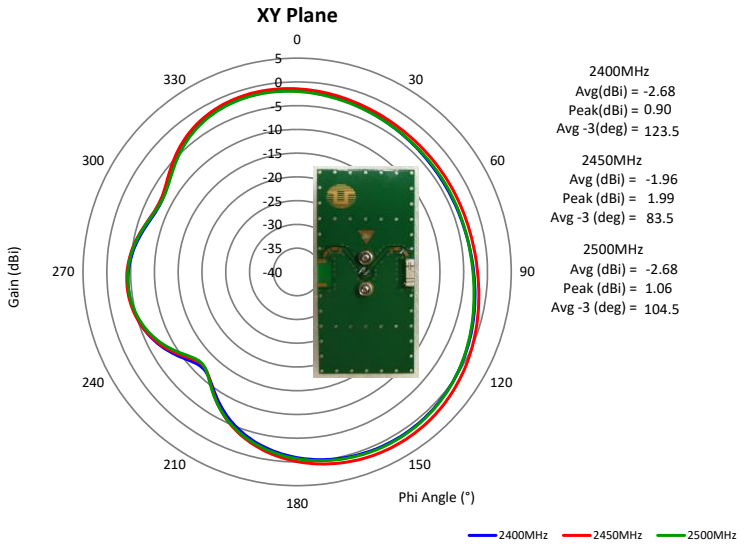

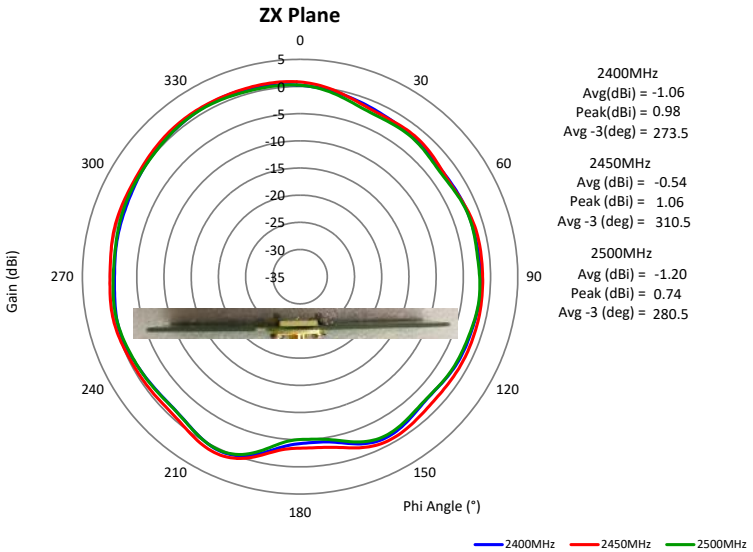

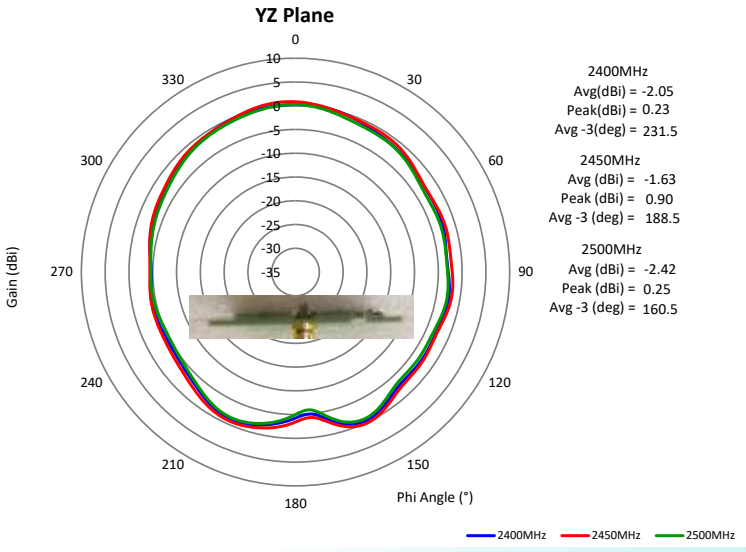

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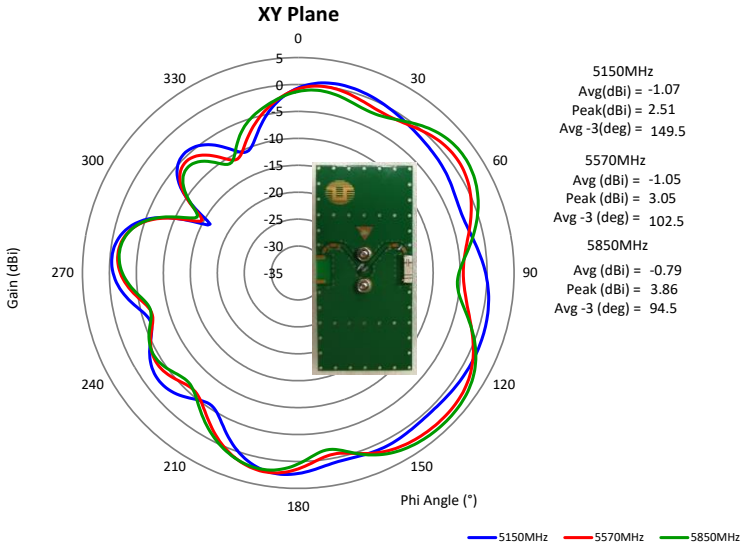

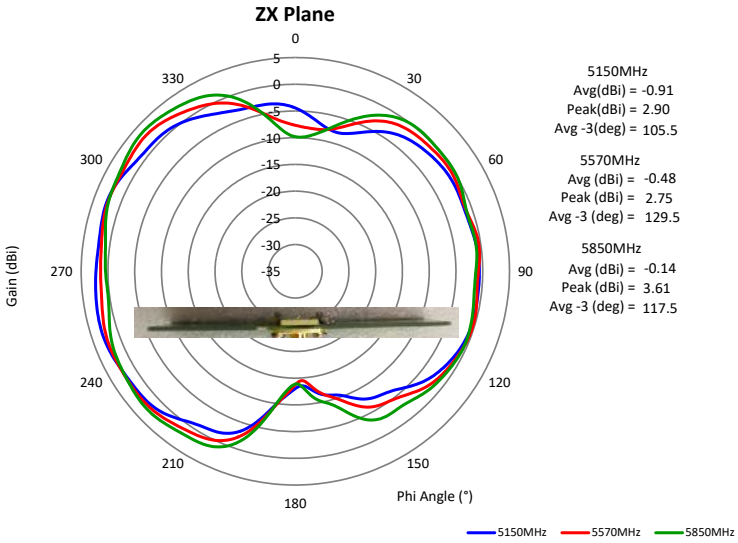

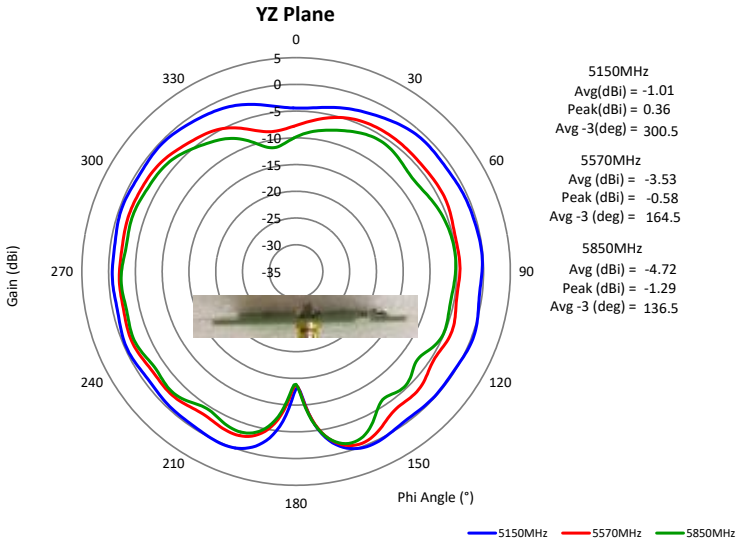

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Test setup

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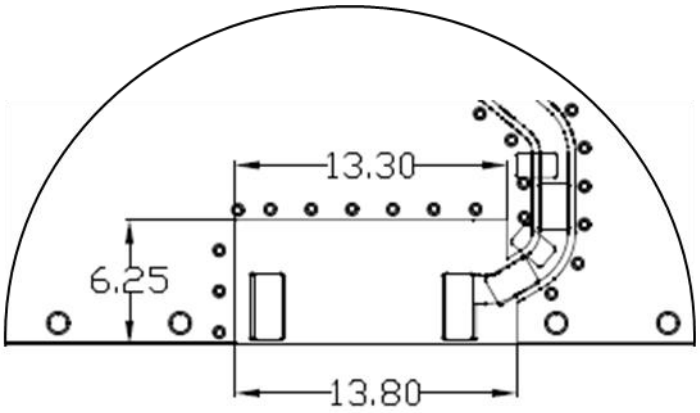
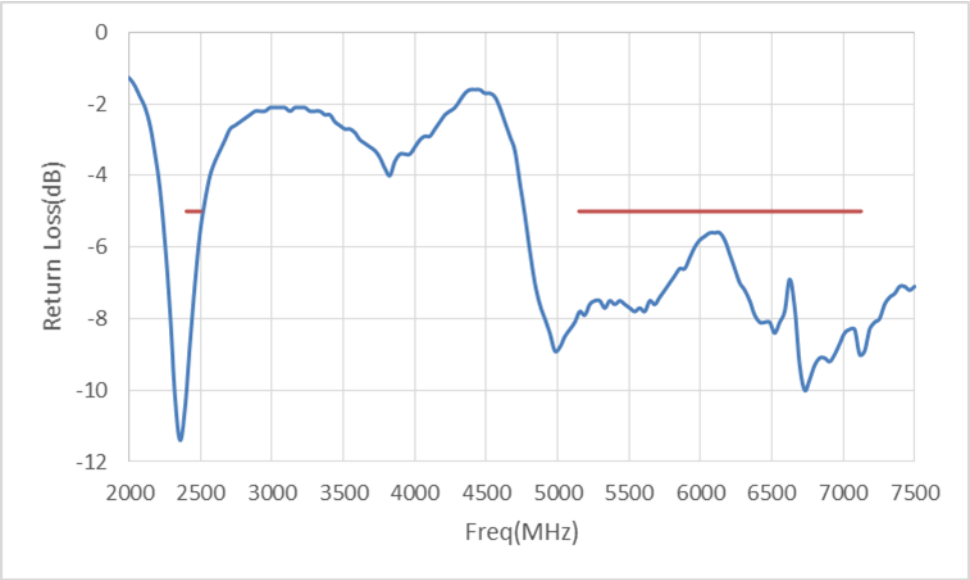


Return Loss



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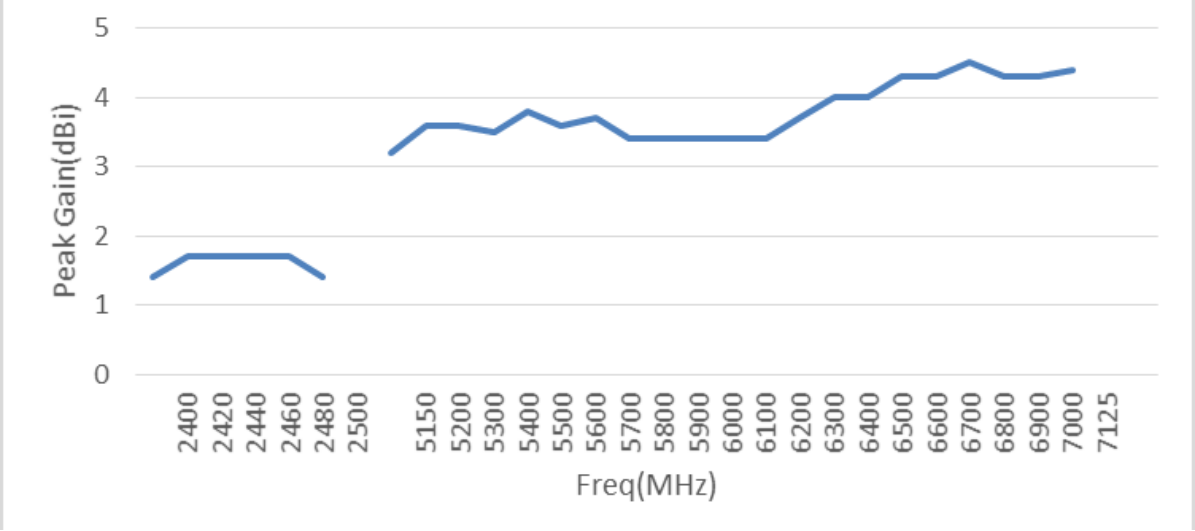

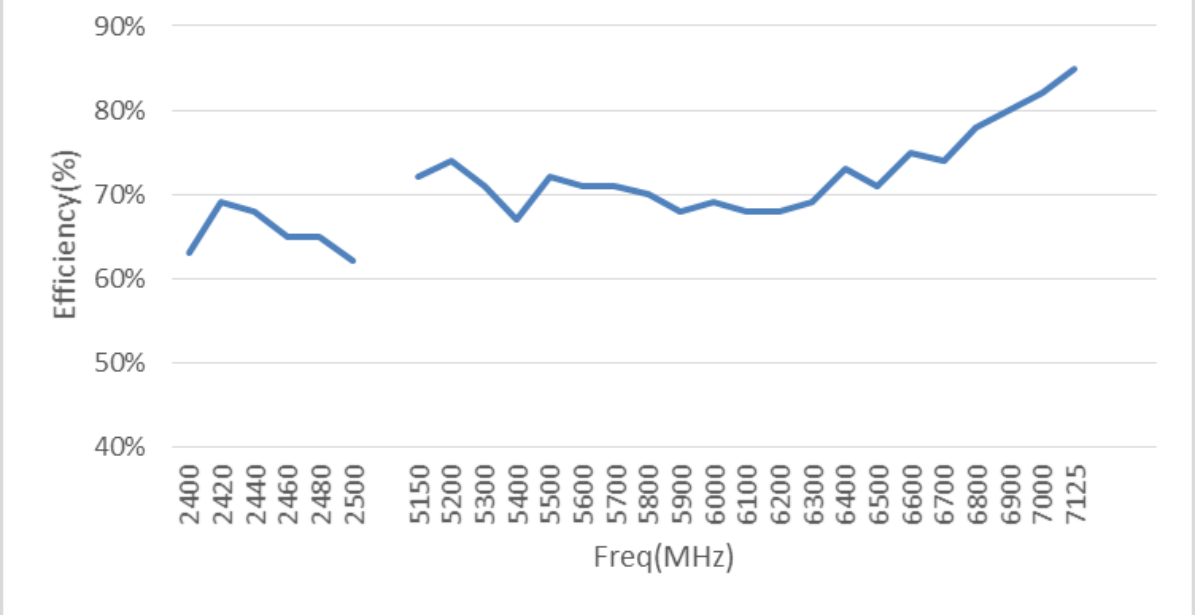

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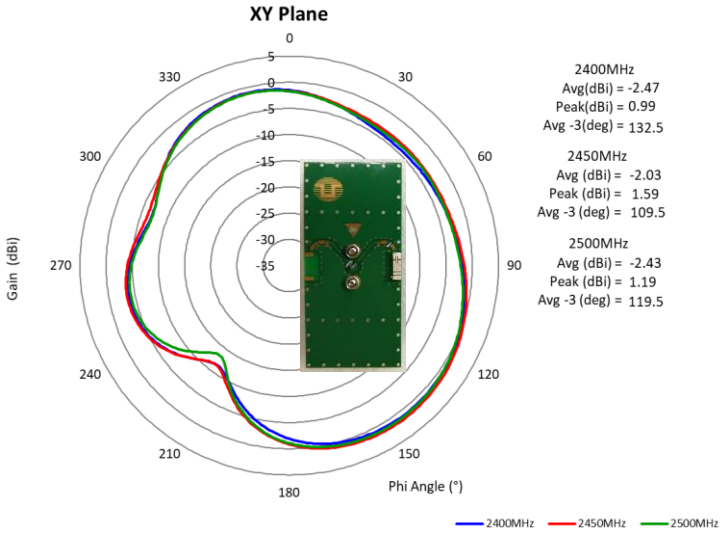

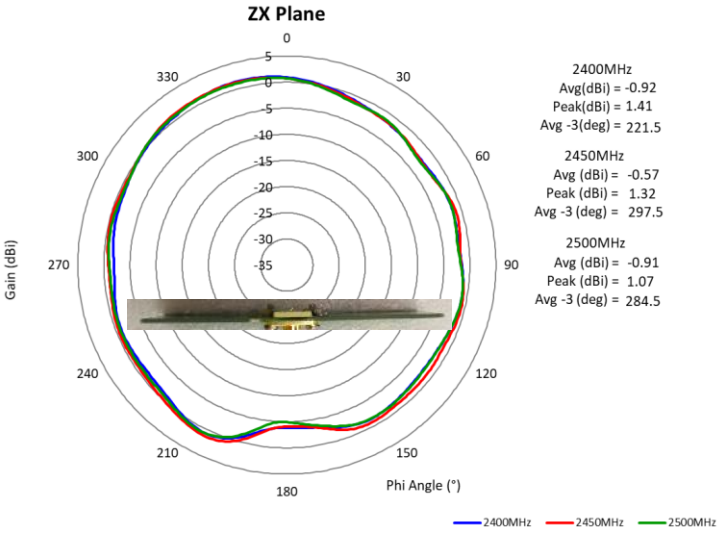

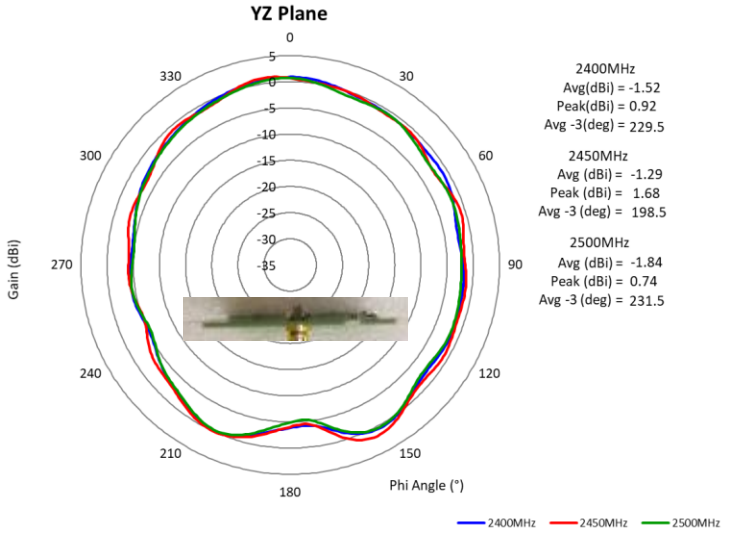

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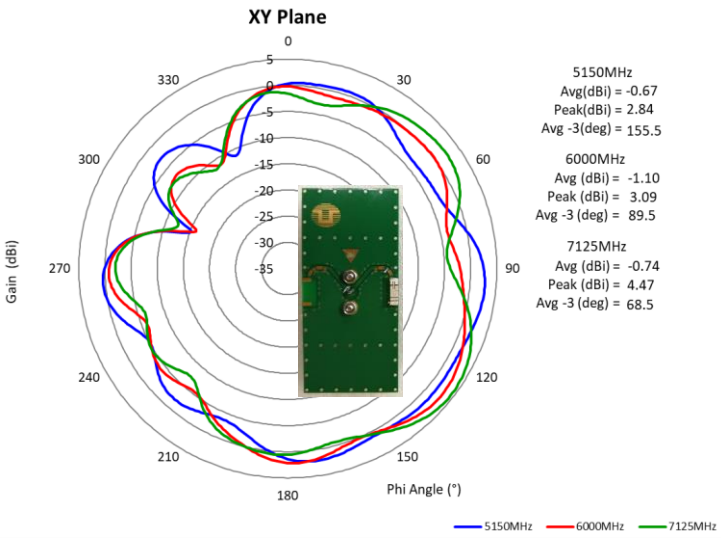

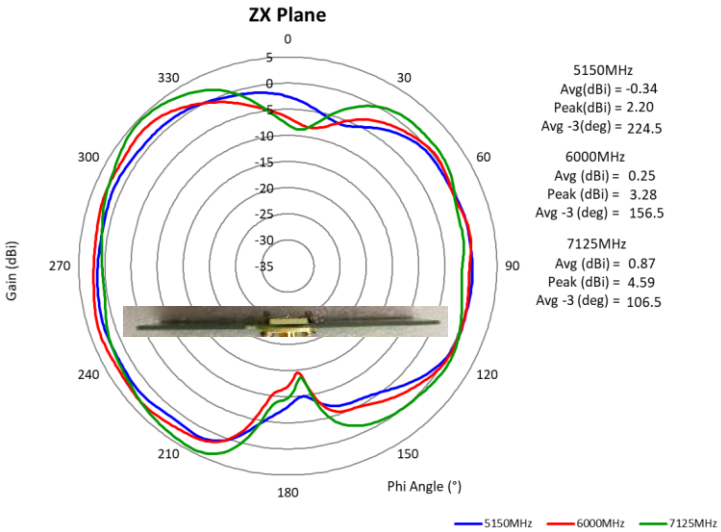

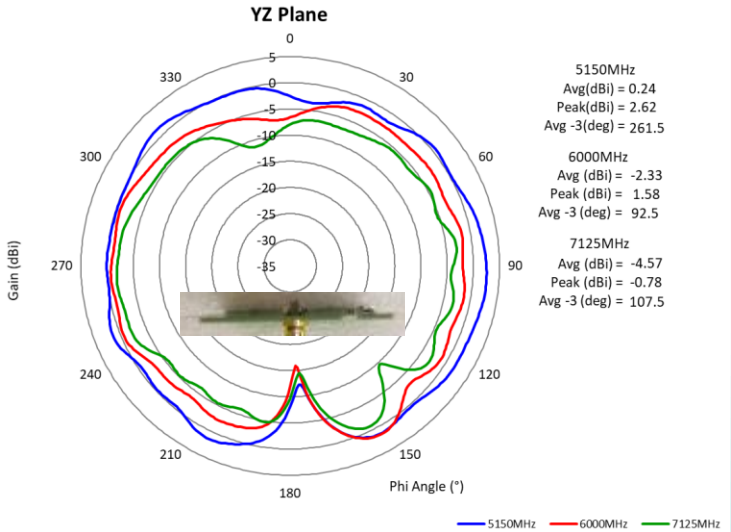

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PACKAGING

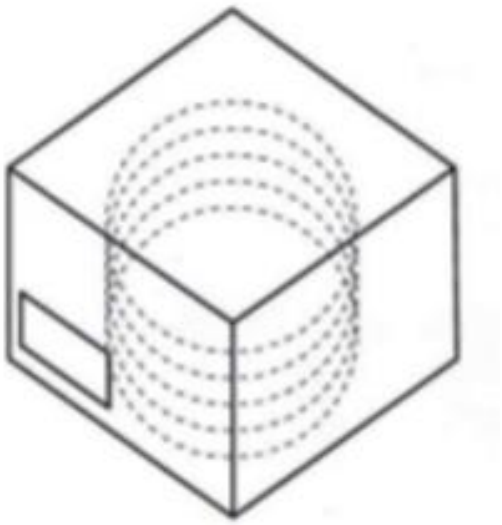
1000pcs antennas per 7” reel

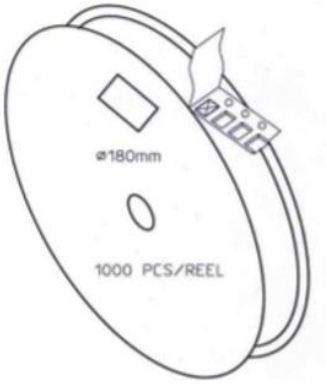
3pcs 7” reel per inner package box

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℃ and 85% RH.
2. They are solder reflowed at a peak body temperture which does not exceed 260℃.

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

RoHS COMPLIANT