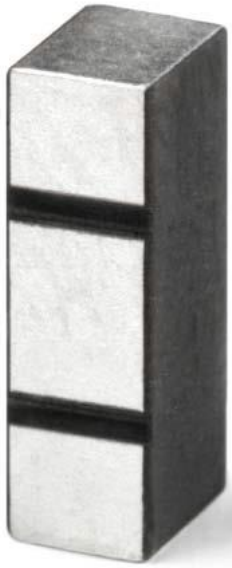
2.4 GHz WIFI Ceramic Antenna

Pulse Part Number CW3001



Features

-Omni directional radiation (Azimuthal plane)
-Low profile
-Compact size W x L x H (10 x 3.2 x 4 mm)
-Low weight (600 mg)
-Lead free materials
-Fully SMD compatible
-Lead free soldering compatible
-Tape and reel packing
-RoHS Compliant Product

Applications

-Bluetooth
- 2.4 GHz WLAN
- 2.4 GHz ISM Band System

Electrical specifications @ +25 ° C

Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

Typical performance (testboard size 80x37 mm, PWB ground clearance area 10.8 x 6.25 mm)

Frequency Range [MHz]	Max Gain [dBi]	Return loss min. [dB]	Efficiency [%]/[dB]	Impedance [Ω]	Operating Temperature [° C]
2400 – 2483.5	1.5 (peak) 0.5 (band edges)	-6	75 / -1.25(peak) 60 / -2.25(band edges)	50	-40 to +85

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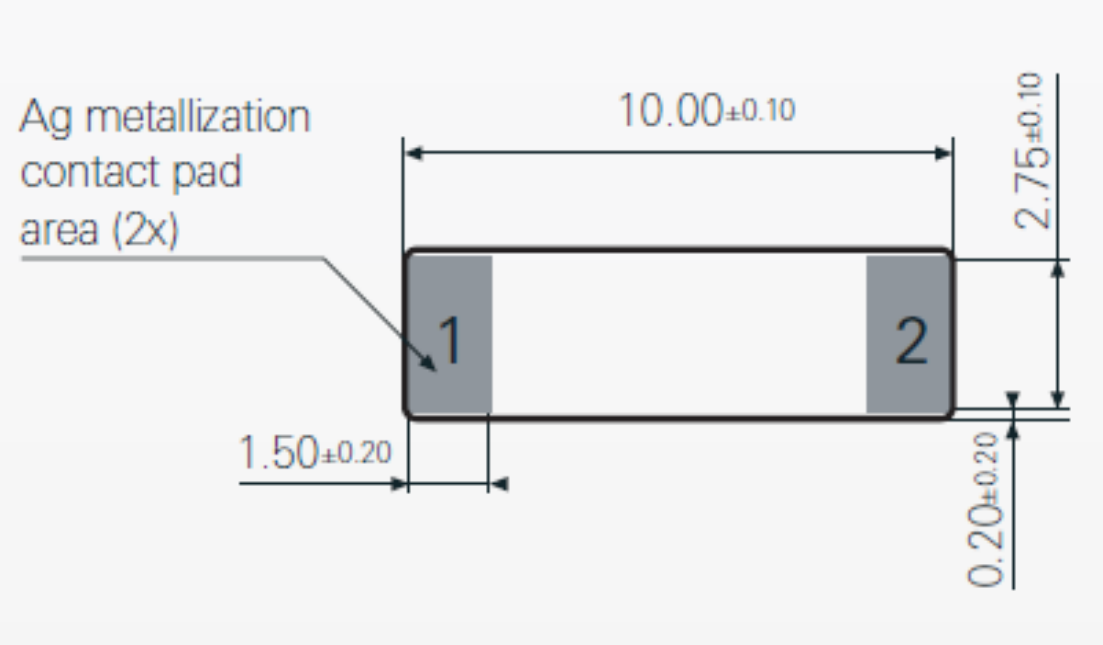
Terminal Configuration and antenna dimensions

On Ground type, Top surface ground removal area 10.80 x 6.25 mm



No.	Terminal Name	Terminal Dimensions
1	Feed / GND	1.5 x 2.75 mm
2	Feed / GND	1.5 x 2.75 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

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Antenna PWB Layout

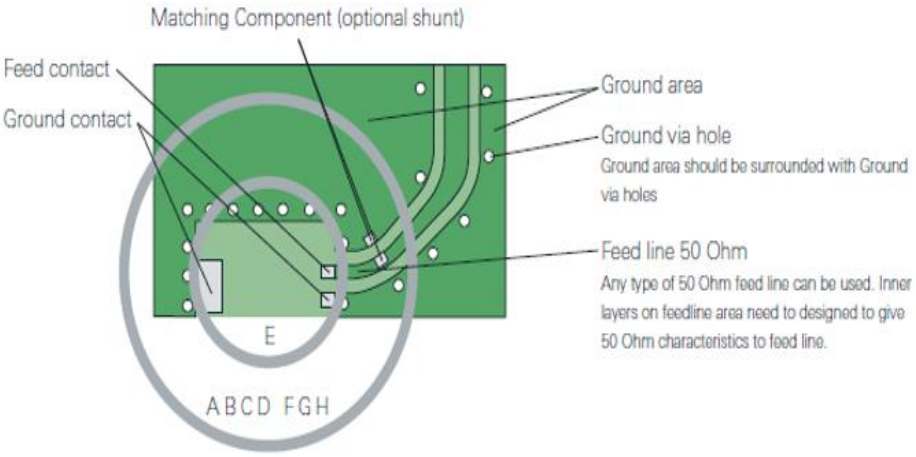
On Ground type, Top surface ground removal area 10.80 x 6.25 mm

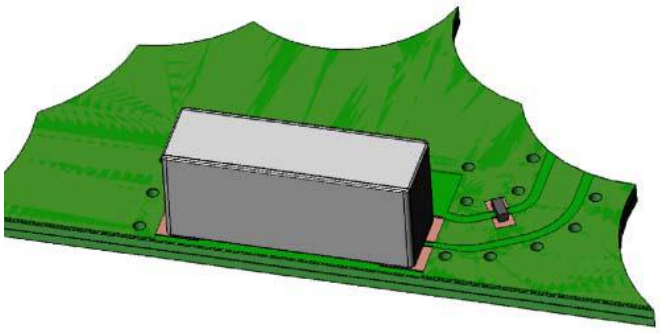
Matching and tuning component values depend on application and surrounding mechanics / materials.

Feed line should be designed to match 50 Ω characteristic impedance, depending on PWB material and thickness.

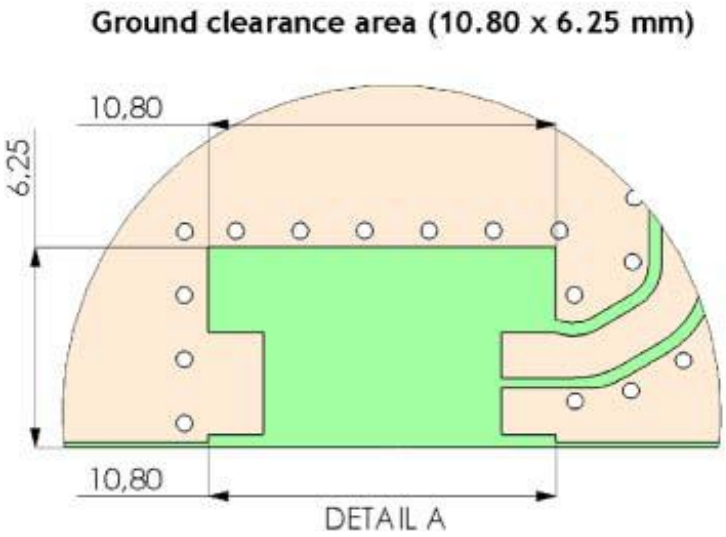
Recommended test board layout for electrical characteristic measurement, test board outline size 80 x 37 mm.

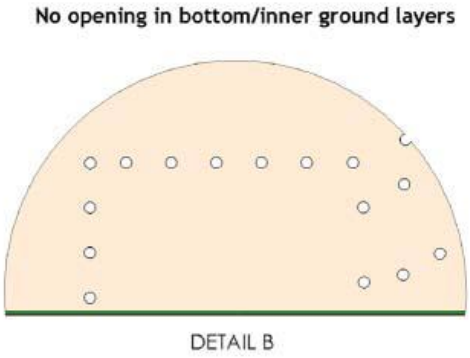
Note: All dimensions are in metric system.

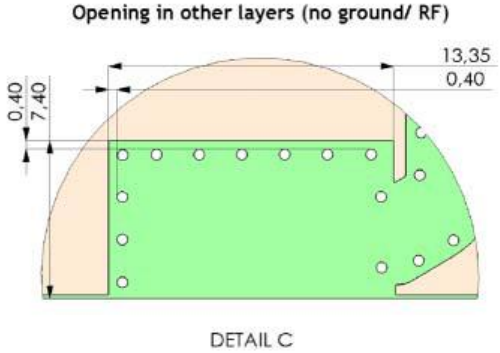




Ground clearance area







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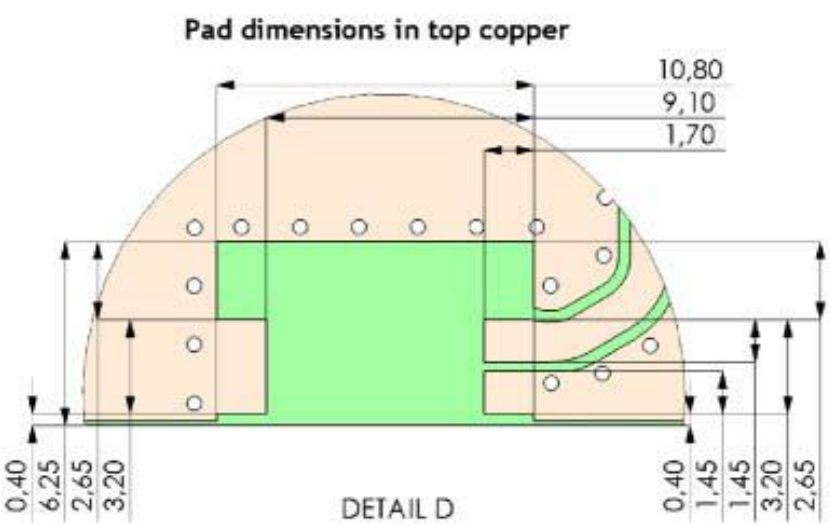
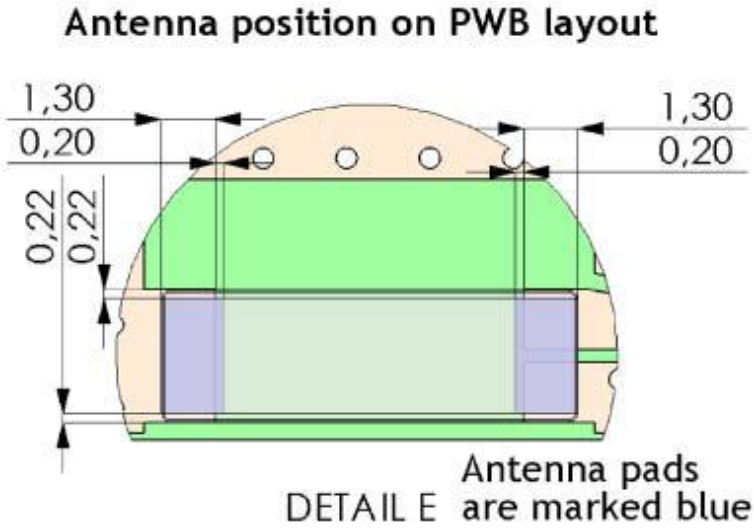
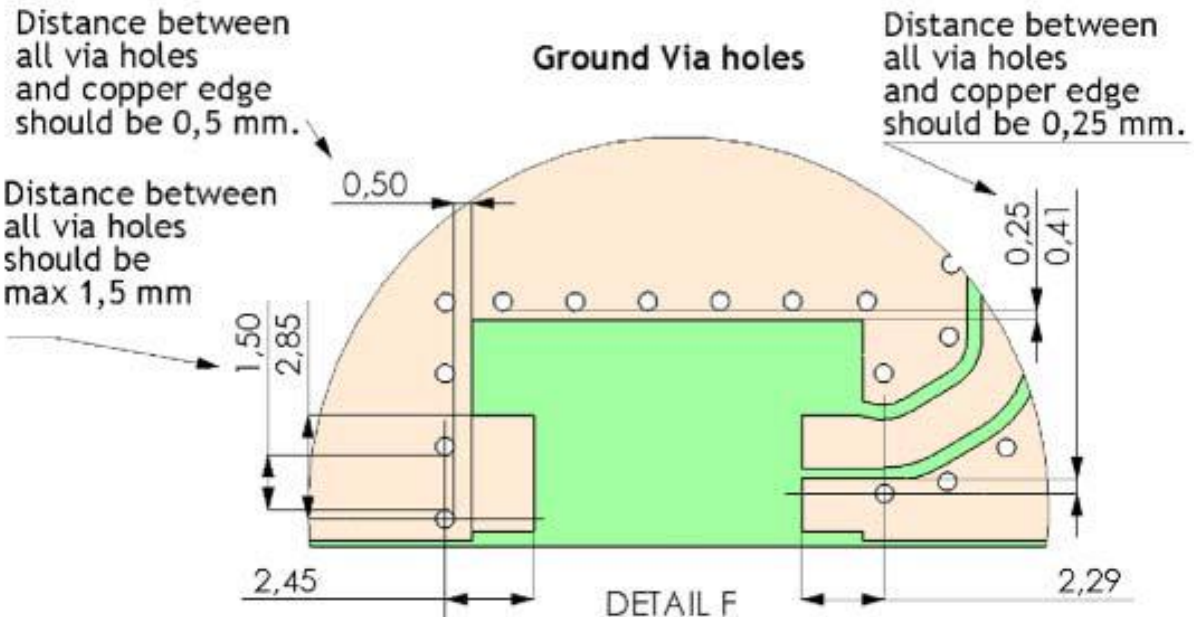
PWB pad dimensions and antenna position





Typical Ground via hole placement in PWB layout



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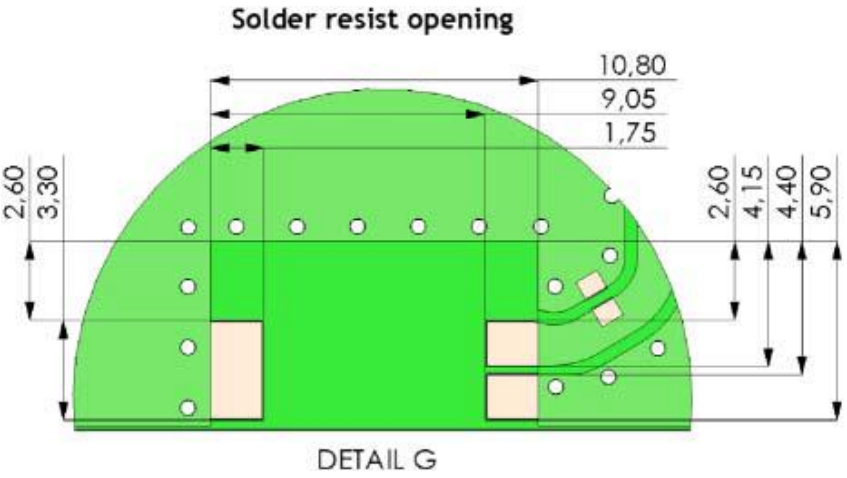
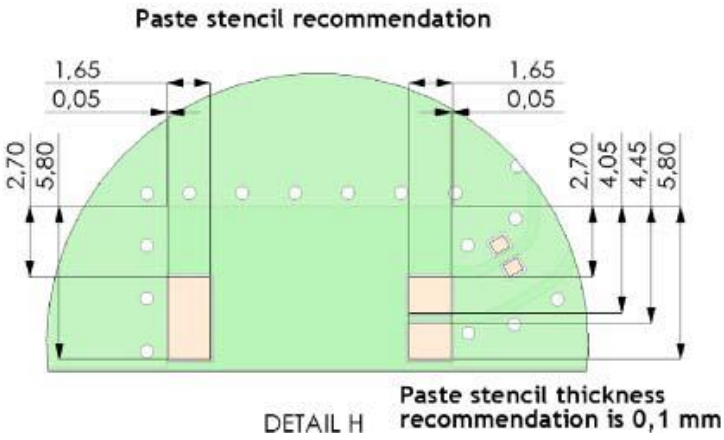
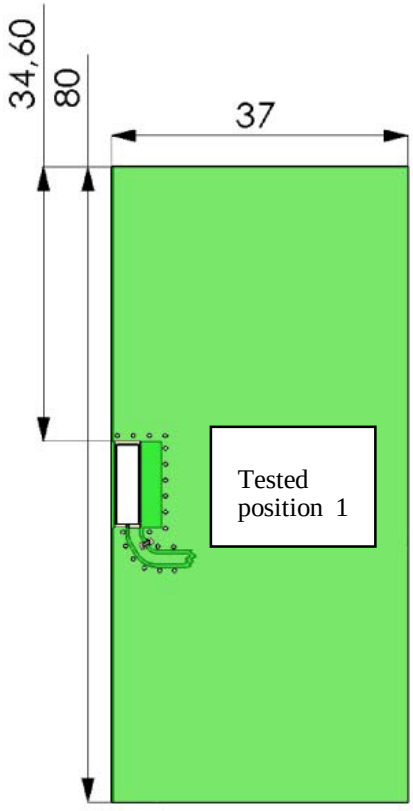
Solder resist opening and paste stencil recommendations

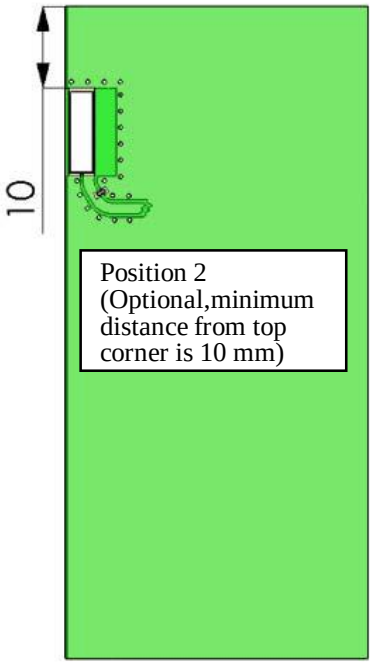


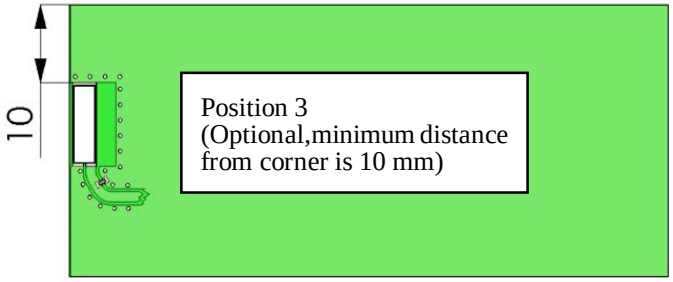


Recommended antenna position on PWB

Our test PWB size is 37 x 80 mm, other sized boards can be used depending on customer device size (minimum 35 x 35 mm)







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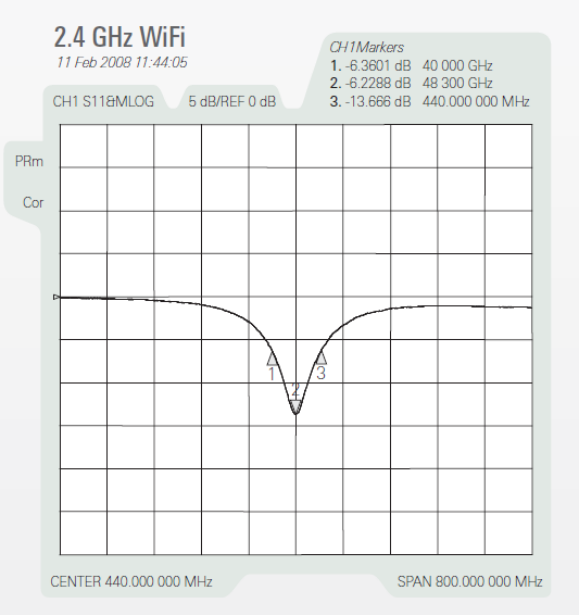
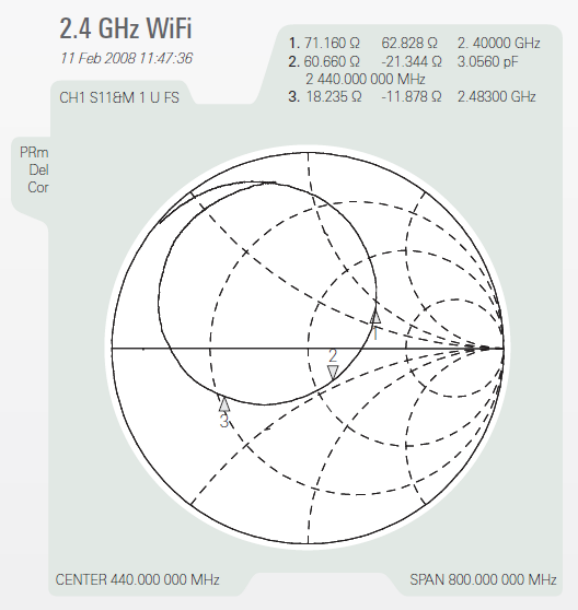
Typical Electrical Characteristics (T=25 °C)

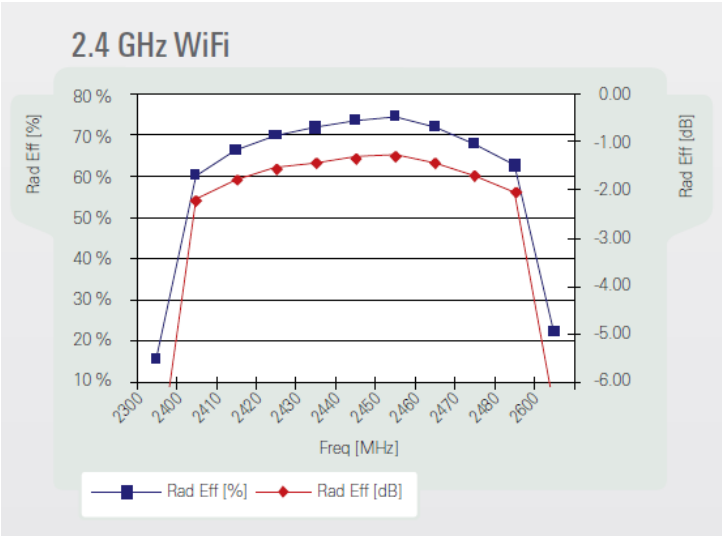
Measured on the 80 x 37 mm test board with matching circuit (1.2 pF shunt matching capacitor on feed).

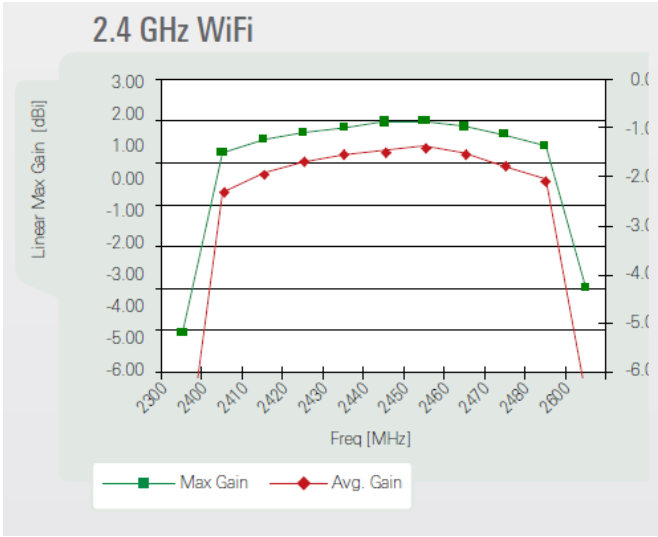
Typical Return Loss S11/ impedance





Typical free space efficiency and maximum gain





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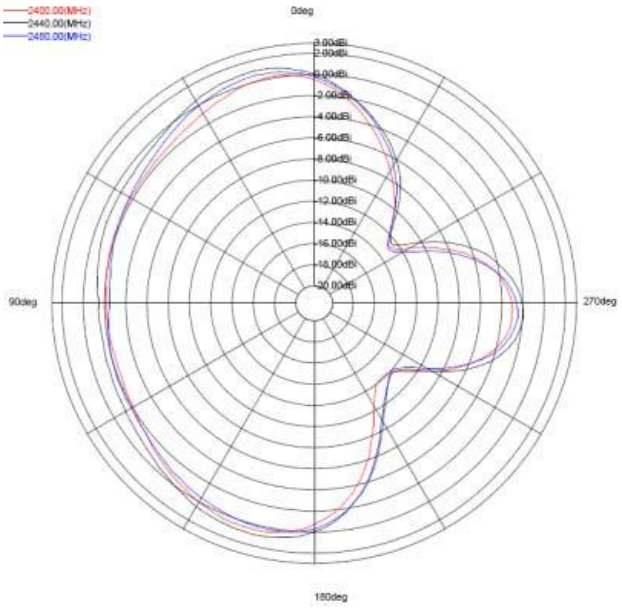
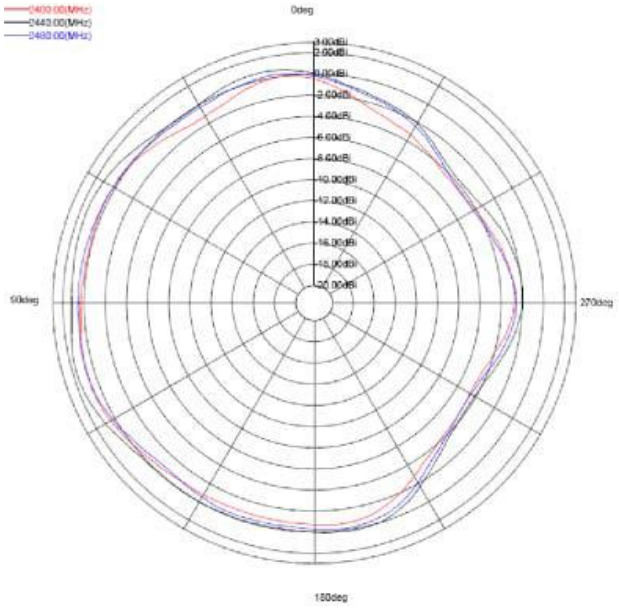
Typical Free Space Radiation Patterns

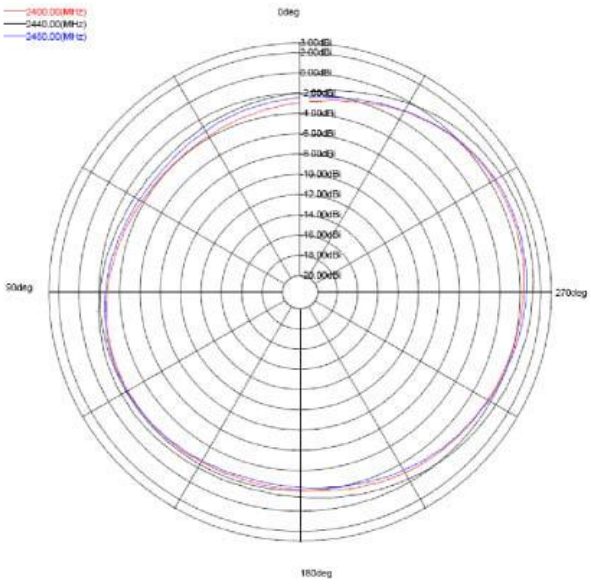
XZ-PLAN

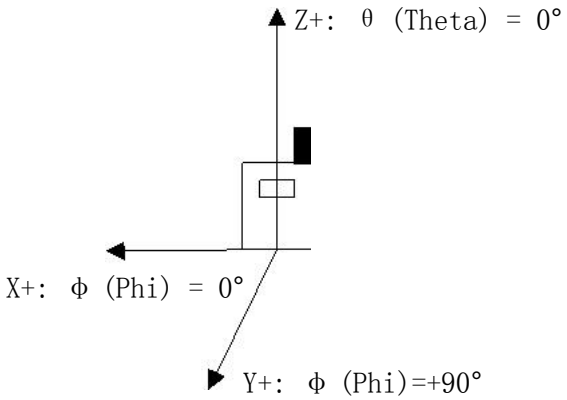


ZY-PLANE



XY-PLANE





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