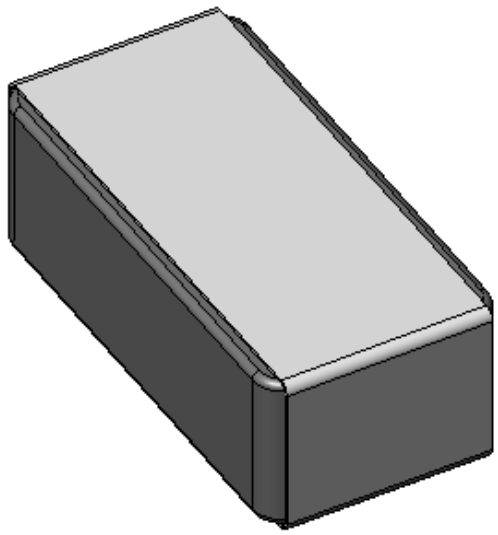
Dualband WLAN Ceramic Chip Antenna

Pulse Part Number CW3078



Features

- Omni directional radiation
- Low profile
- Compact size W x L x H (3.2 x 1.6 x 1.1 mm)
- Low weight (33 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product

Applications

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

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 11.15 x 6.40 mm)
One shunt and one serial inductors are used for impedance matching.

Frequency Range [MHz]	Max Gain [dBi]	Return loss min. [dB]	Efficiency [%]/[dB]	Impedance [Ω]	Operating Temperature [° C]
2400-2483.5	1.7(peak) 1.0(band edges)	-10	65 / -1.9(peak) 55 /-2.5(band edges)	50	-40 to +85
4950-5850	4.3(peak) 3.7(band edges)	-6	80 / -0.95(peak) 55 /-2.5(band edges)	50	-40 to +85

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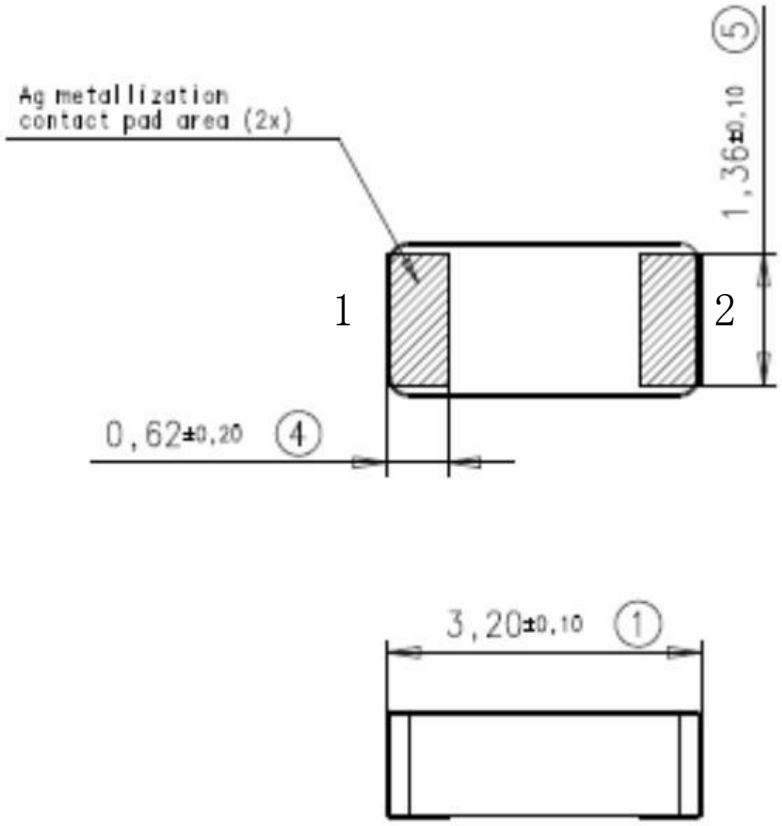
Terminal Configuration and antenna dimensions



No.	Terminal Name	Terminal Dimensions
1	Feed /GND	0.62 x 1.36 mm
2	Feed /GND	0.62 x 1.36 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

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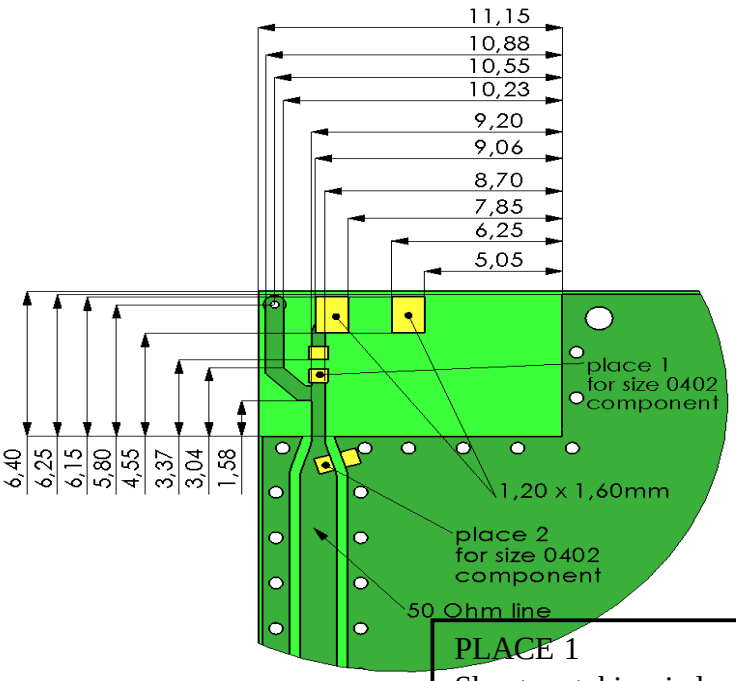
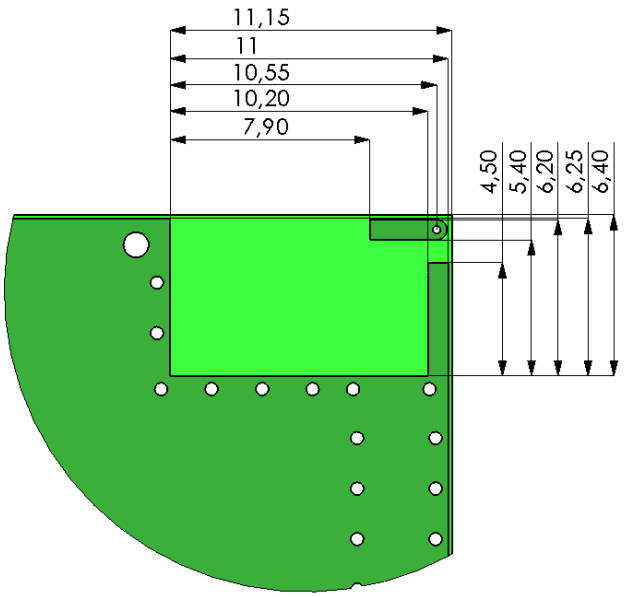
Recommended test board layout

TOP VIEW

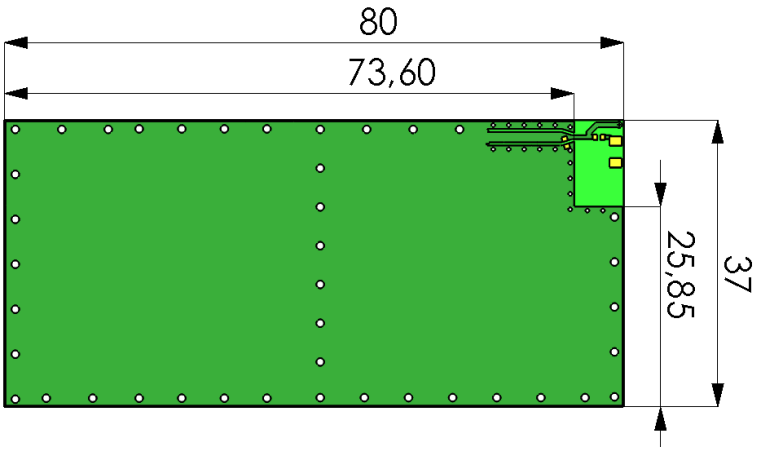


BOTTOM VIEW



PLACE 1
Shunt matching inductor,2.2nH with presented setup.
PLACE 2
Serial matching inductor,6.8nH with presented setup. Exact inductor value depends on specific application.

LAYOT PLACEMENT ON PCB



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

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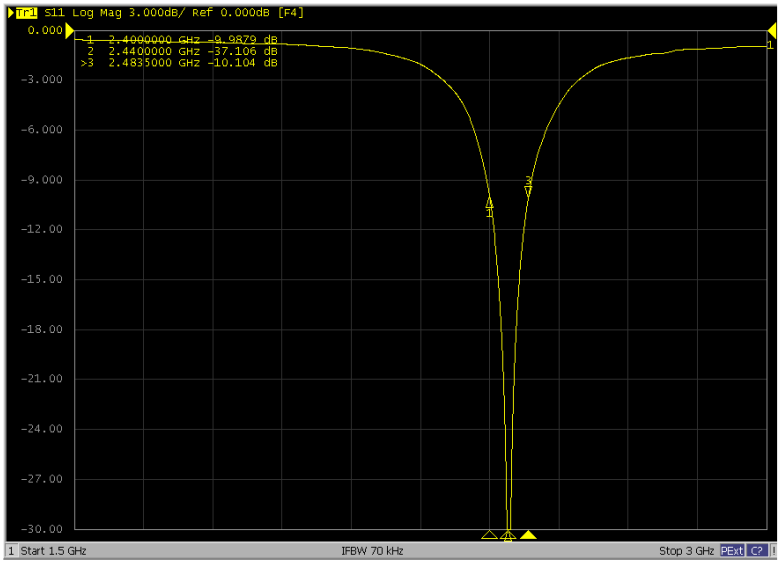
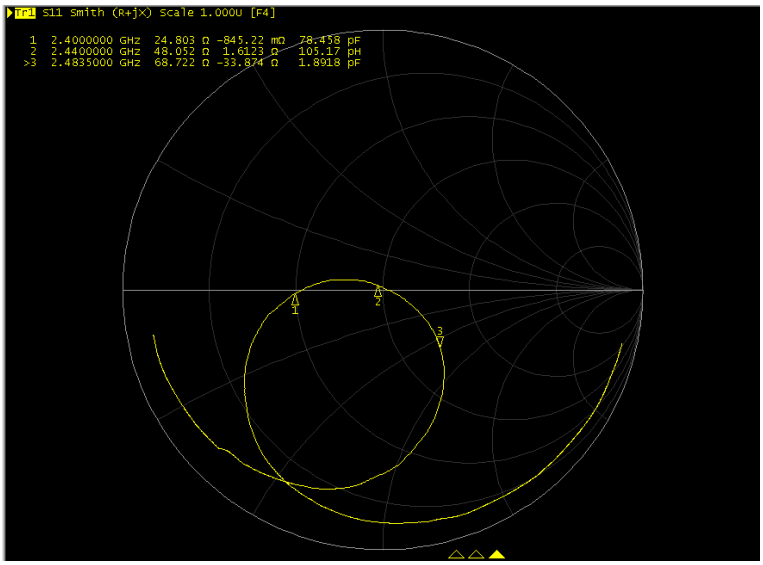
Typical Electrical Characteristics (T=25 °C)

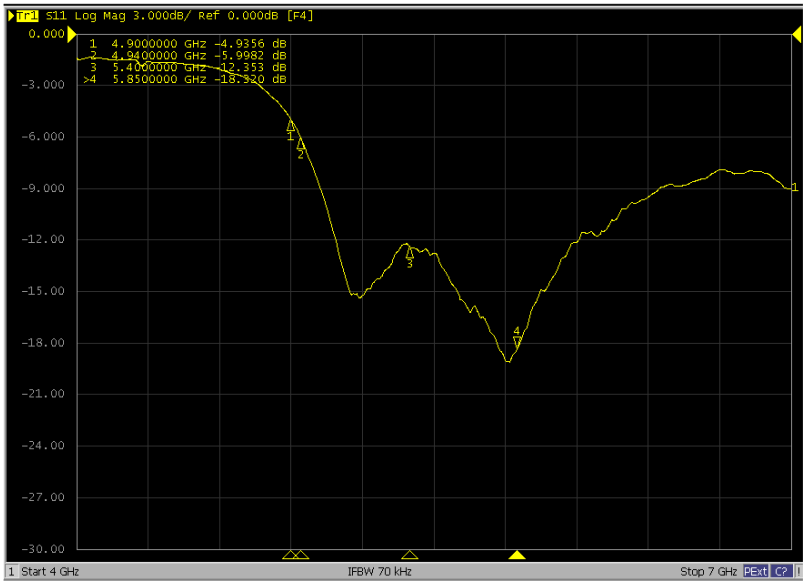
Measured on the 80 x 37 mm test board, PWB ground clearance area 11.15 x 6.40 mm.

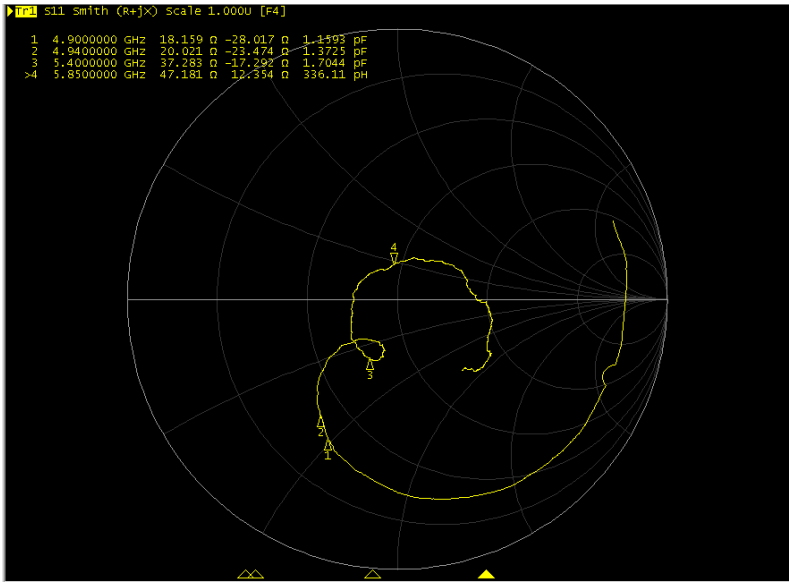
2.4 GHz Typical Return Loss S11/ impedance





5 GHz Typical Return Loss S11/ impedance





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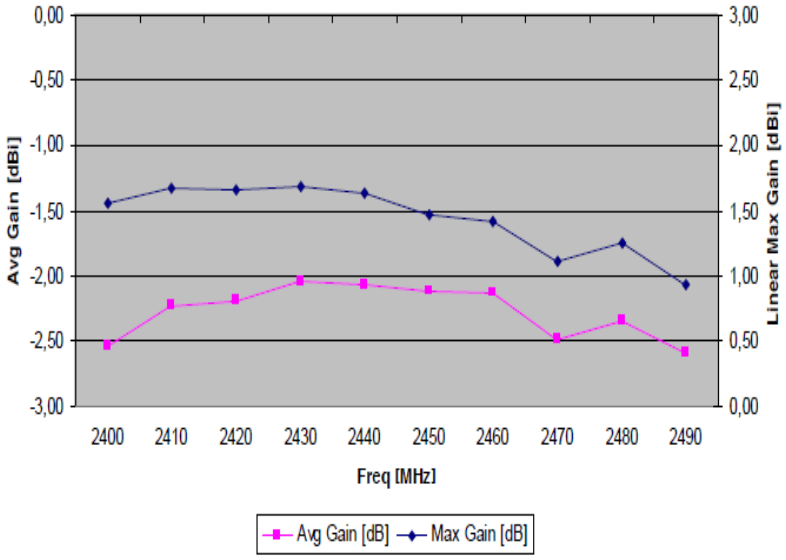
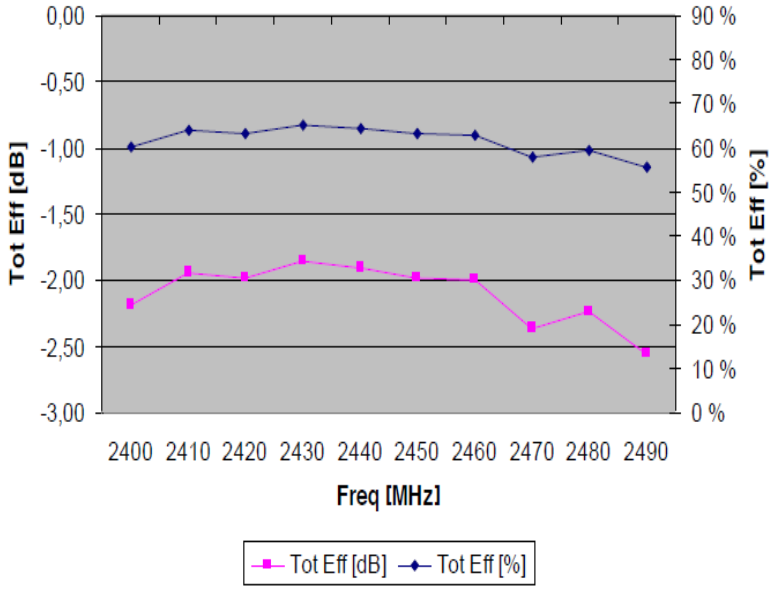
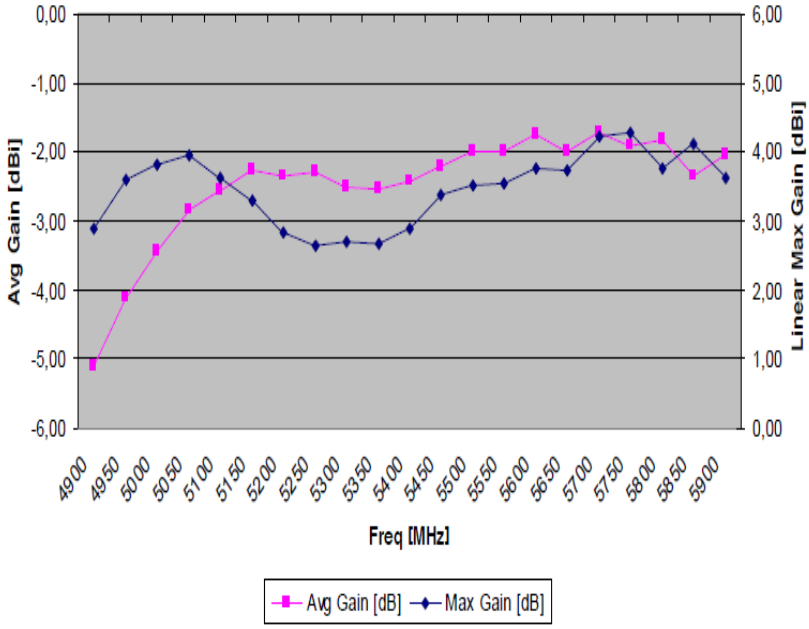
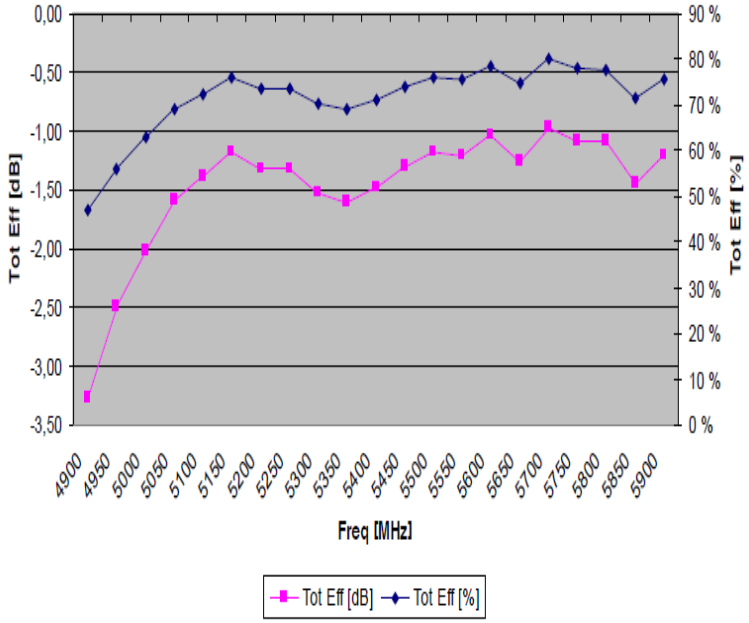
2.4 GHz Typical free space efficiency and maximum gain





5 GHz Typical free space efficiency and maximum gain





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Dualband WLAN Ceramic Chip Antenna

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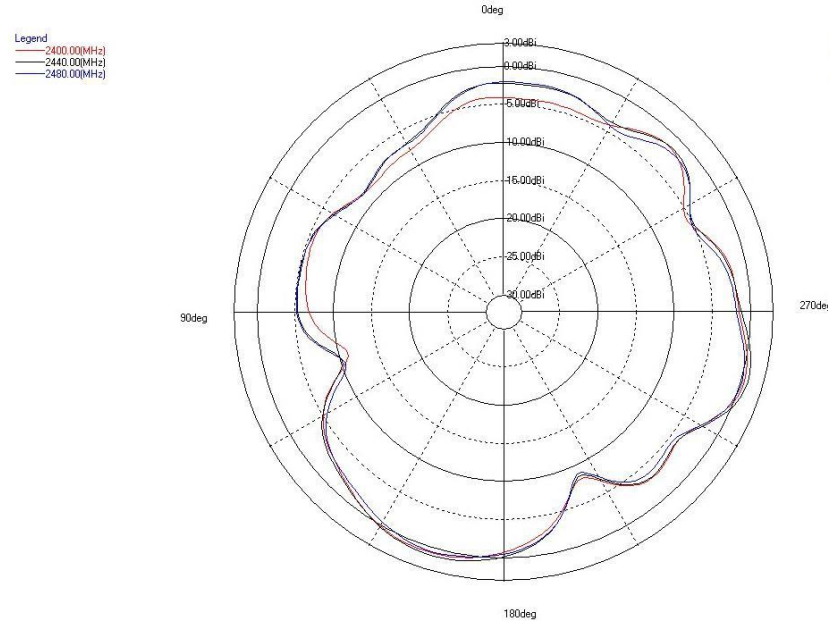
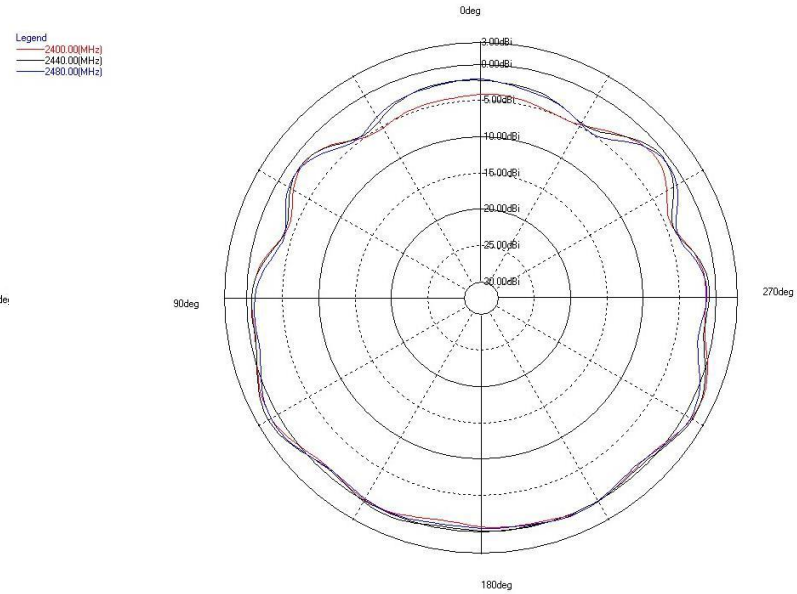
2.4 GHz Typical Free Space Radiation Patterns

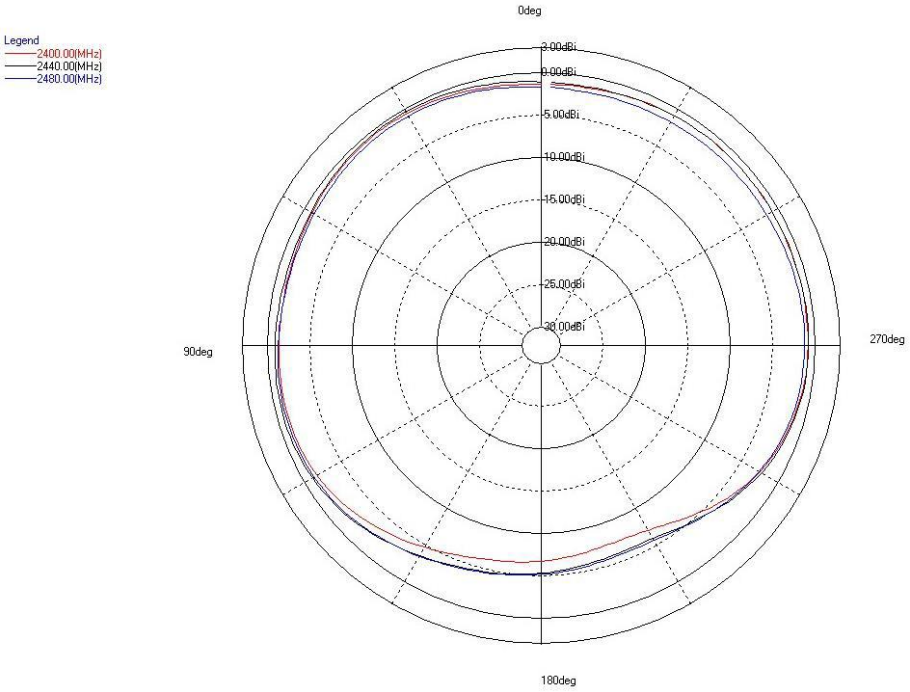
XZ-PLANE

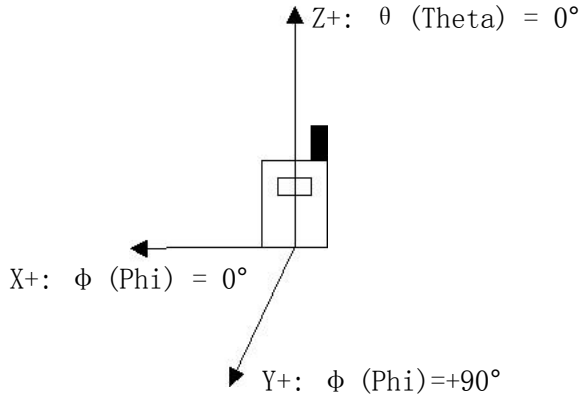


ZY-PLANE



XY-PLANE





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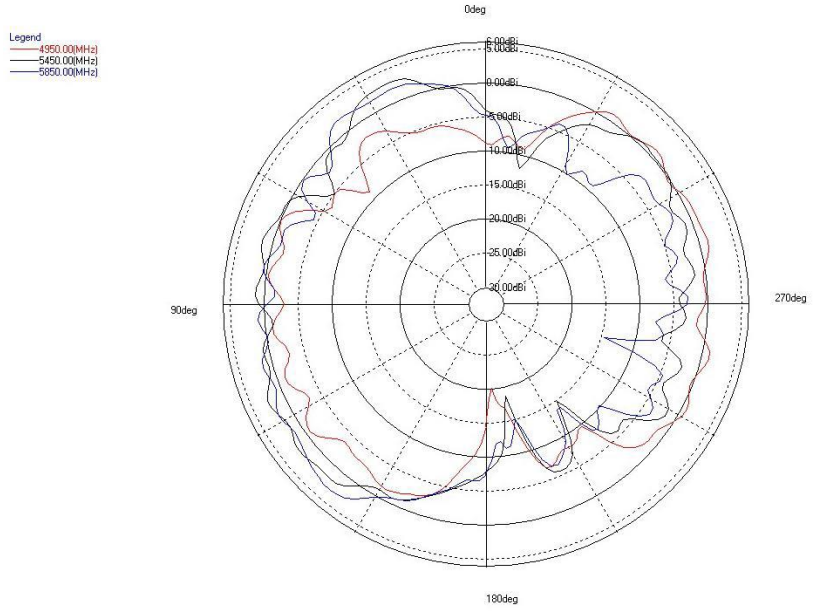
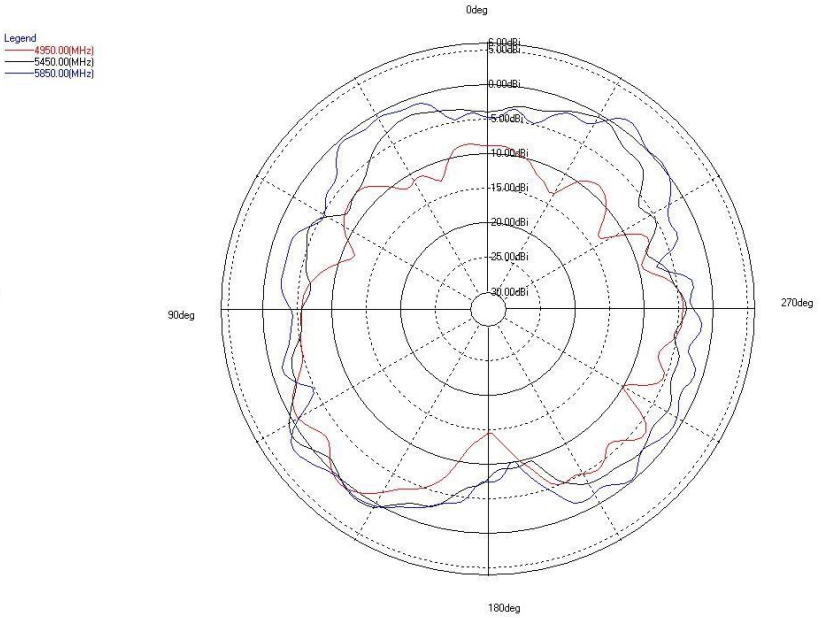
5 GHz Typical Free Space Radiation Patterns

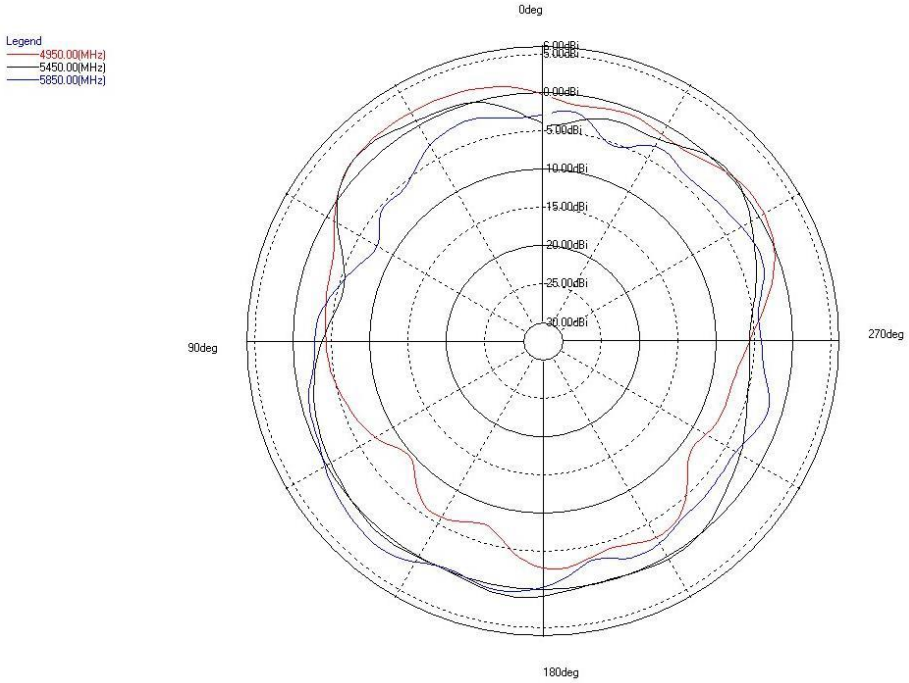
XZ-PLANE

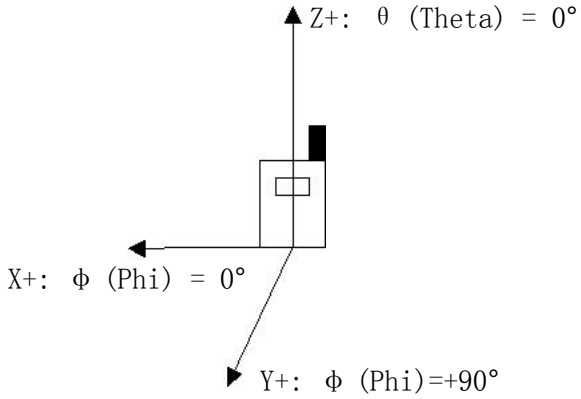


ZY-PLANE



XY-PLANE





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