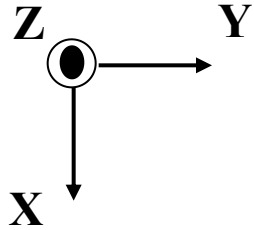


PCB Antenna Simulation

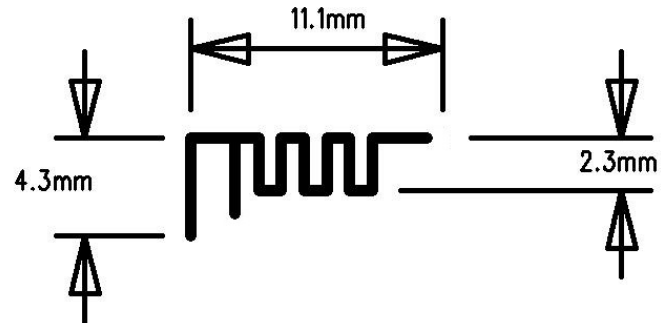
Manufacturer: Shenzhen BELON SOLUTIONS Co. Ltd.

Address: Langshan Road, North District, High-tech Park, Nanshan District, Shenzhen Room 1206-07,
Scientific Research Building, Tsinghua Information Harbor, China

PCB Antenna pattern



| ITEM | SPE. |
|----------------------|------------------|
| MAX.GAIN | 1.03dBi |
| Polarization | Horizontal |
| Azimuth Beam Pattern | Omni-directional |
| Impedance | 50 Ω |
| Antenna Length | 2.92CM |

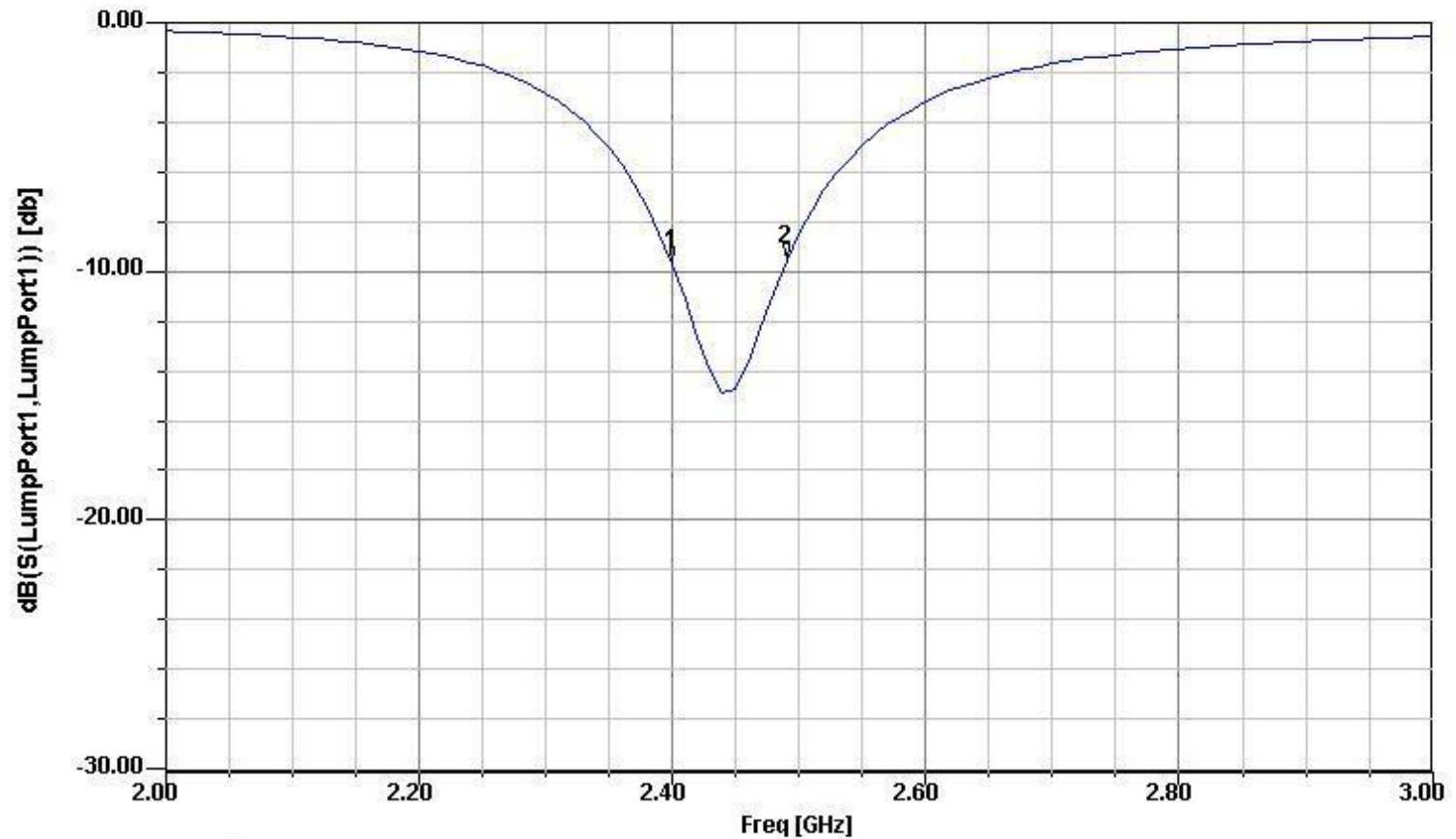


PCB Antenna Simulation

(S11)

Ansoft Corporation
XY Plot 1
HFSSDesign1

BW(RL<10dB): 90 MHz

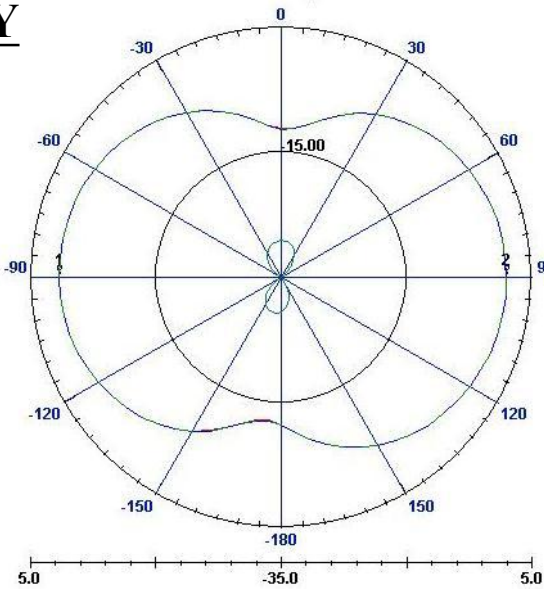


| | |
|-------------|-------------|
| X1= 2.40GHz | X2= 2.49GHz |
| Y1= -9.70 | Y2= -9.58 |

PCB Antenna Simulation

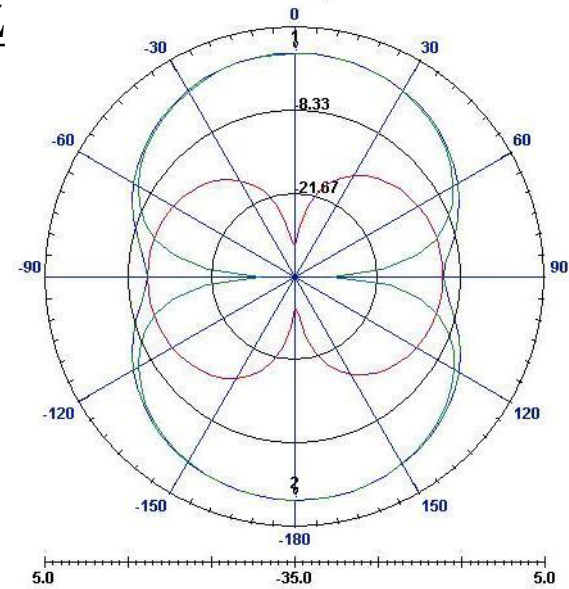
(Radiation)

XY



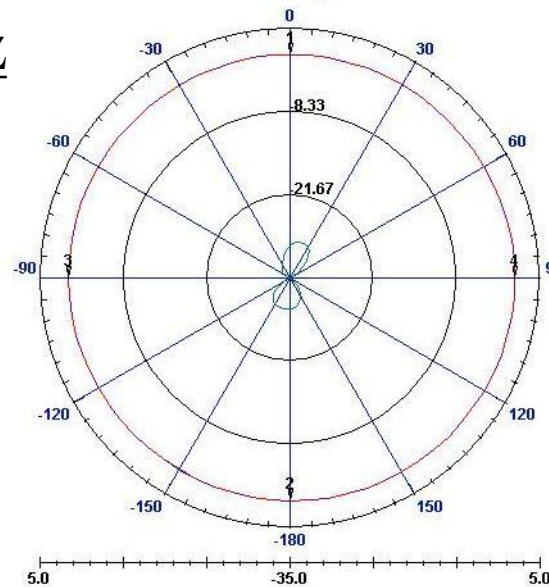
| |
|-------------|
| M1= 0.458 |
| P1= 270.000 |
| 270.000deg |
| M2= 0.944 |
| P2= 90.000 |
| 90.000deg |

XZ



| |
|-------------|
| M1= 0.753 |
| P1= 0.000 |
| 0.000deg |
| M2= 0.655 |
| P2= 180.000 |
| 180.000deg |

YZ



| |
|-------------|
| M1= 0.753 |
| P1= 360.000 |
| 360.000deg |
| M2= 0.655 |
| P2= 180.000 |
| 180.000deg |
| M3= 0.458 |
| P3= 270.000 |
| 270.000deg |
| M4= 0.944 |
| P4= 90.000 |
| 90.000deg |

Efficiency: 76%

MAX.Gain:1.03dBi

Avg. Gain: -1.2 dBi Min. Gain: -30.7 dBi