# Test Report For Antenna1

Tested Products.

- Antenna1: integrated antenna.
  - Frequency = 2.402GHz.
  - Frequency = 2.441GHz.
  - Frequency = 2.480GHz.

Antenna1 Photo & Length (mm)

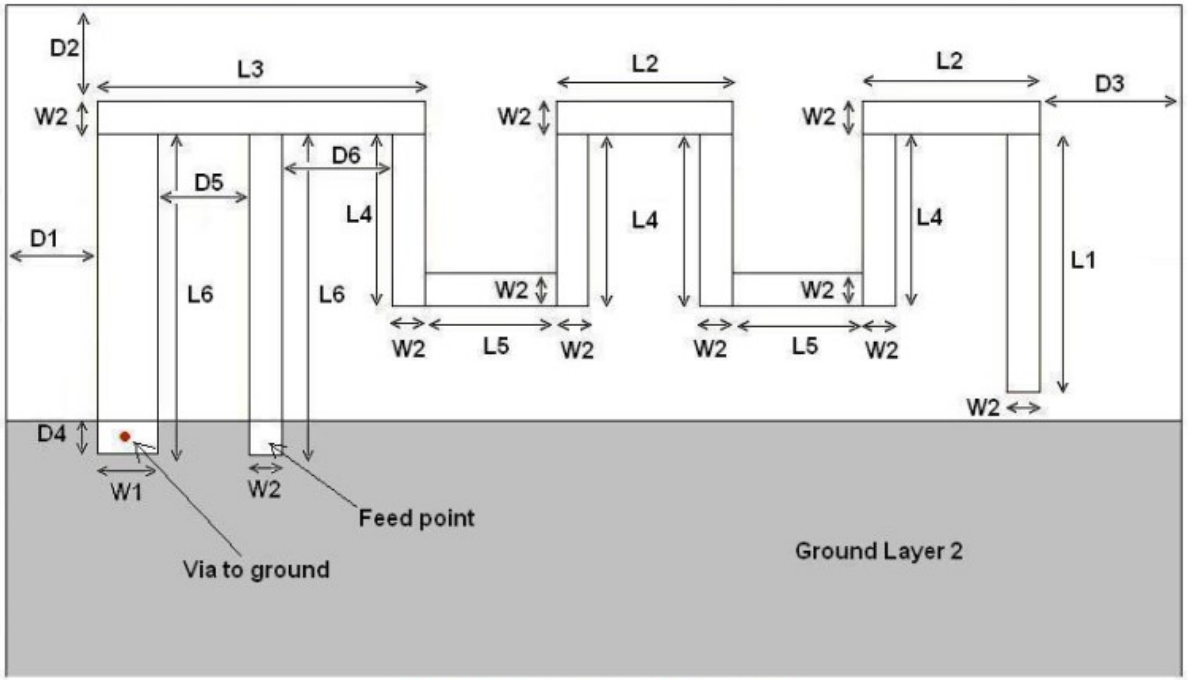
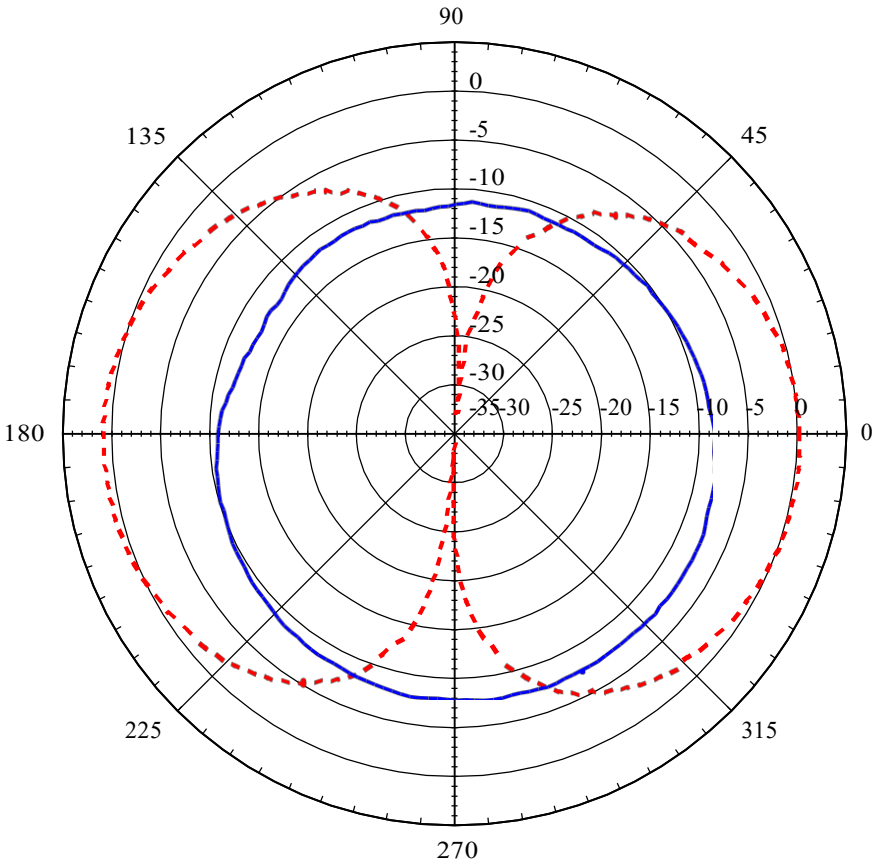



**Figure 3: Antenna Dimensions**

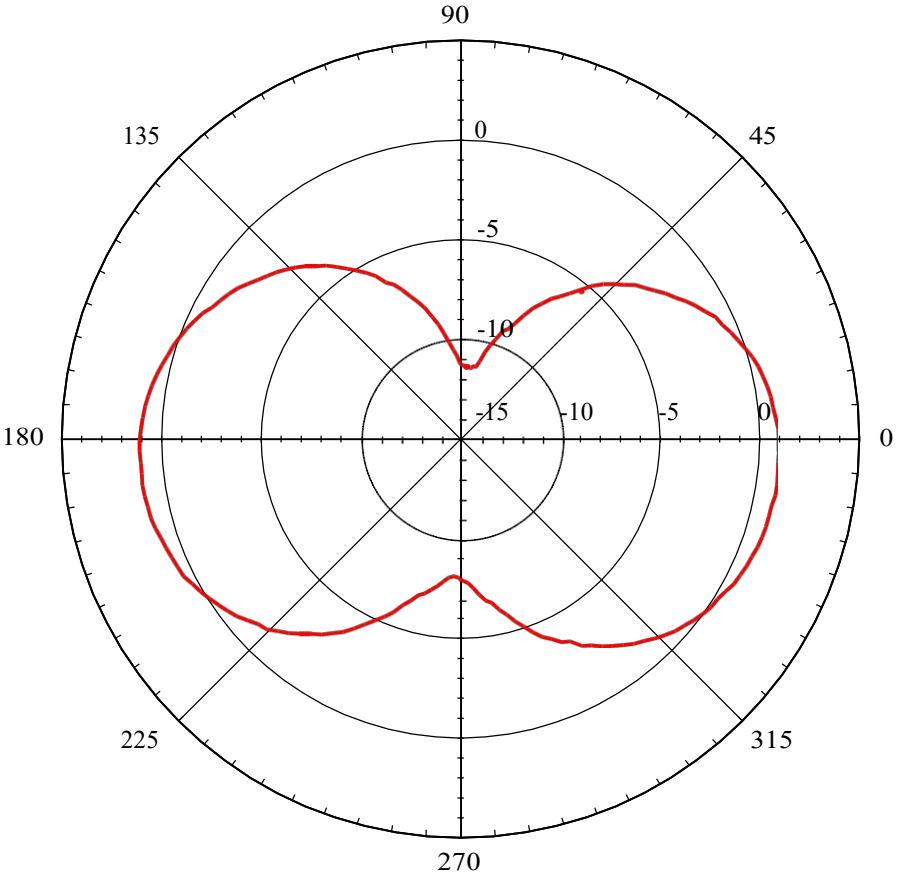
| | |
|---|---|
| L1 | 3.94 mm |
| L2 | 2.70 mm |
| L3 | 5.00 mm |
| L4 | 2.64 mm |
| L5 | 2.00 mm |
| L6 | 4.90 mm |
| W1 | 0.90 mm |
| W2 | 0.50 mm |
| D1 | 0.50 mm |
| D2 | 0.30 mm |
| D3 | 0.30 mm |
| D4 | 0.50 mm |
| D5 | 1.40mm |
| D6 | 1.70 mm |

**Table 1: Antenna Dimensions**

# Radiation pattern: Antenna 1. XZ Plane at f = 2.402GHz



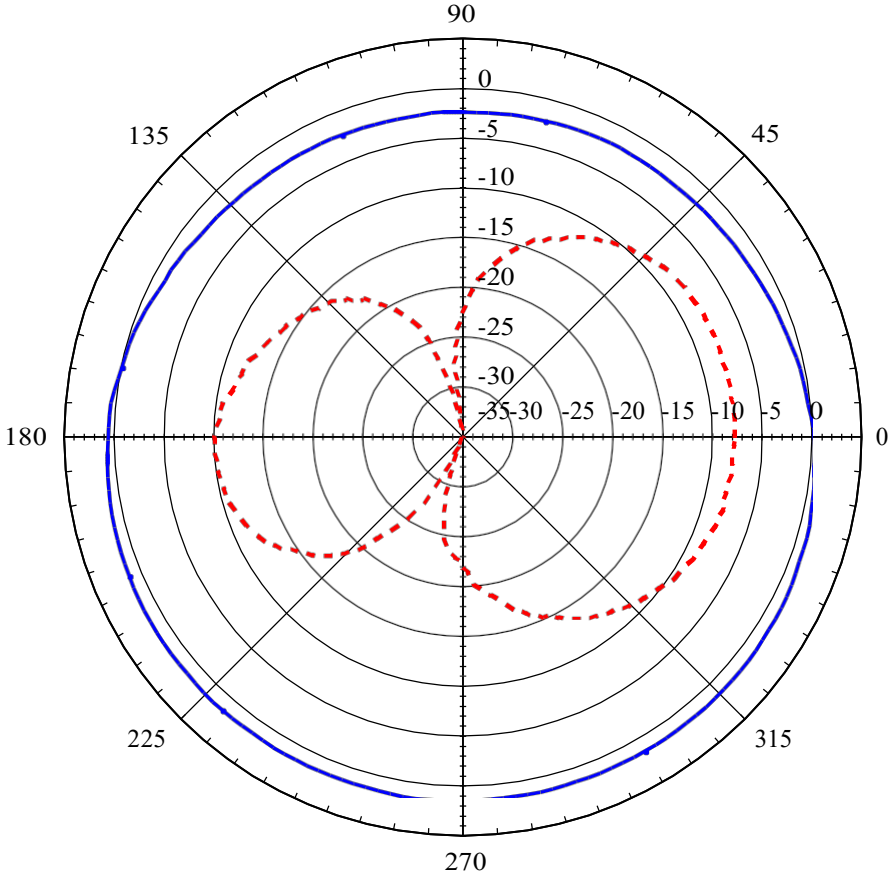

Co-cross polarization field (dBi)



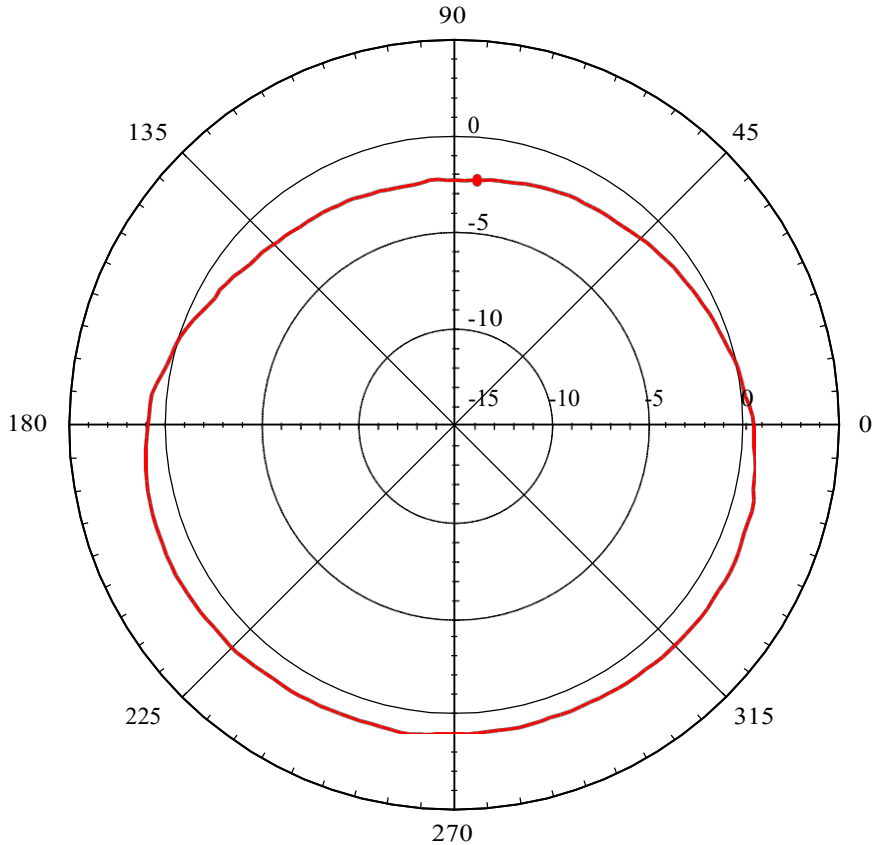

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. YZ Plane at f = 2.402GHz



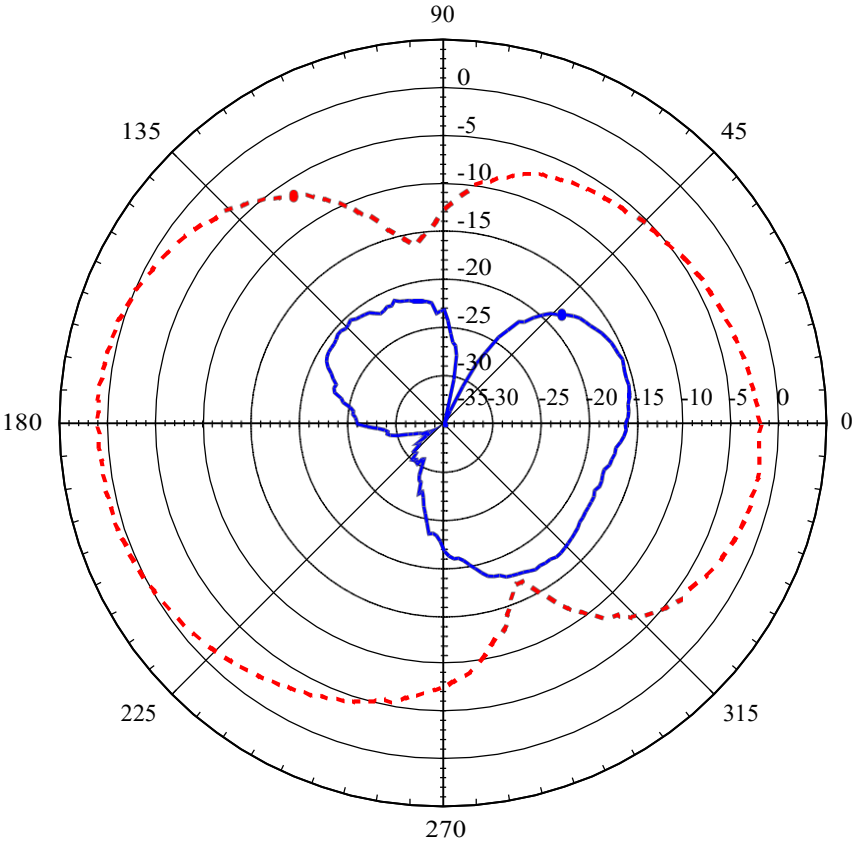

Co-cross polarization field (dBi)



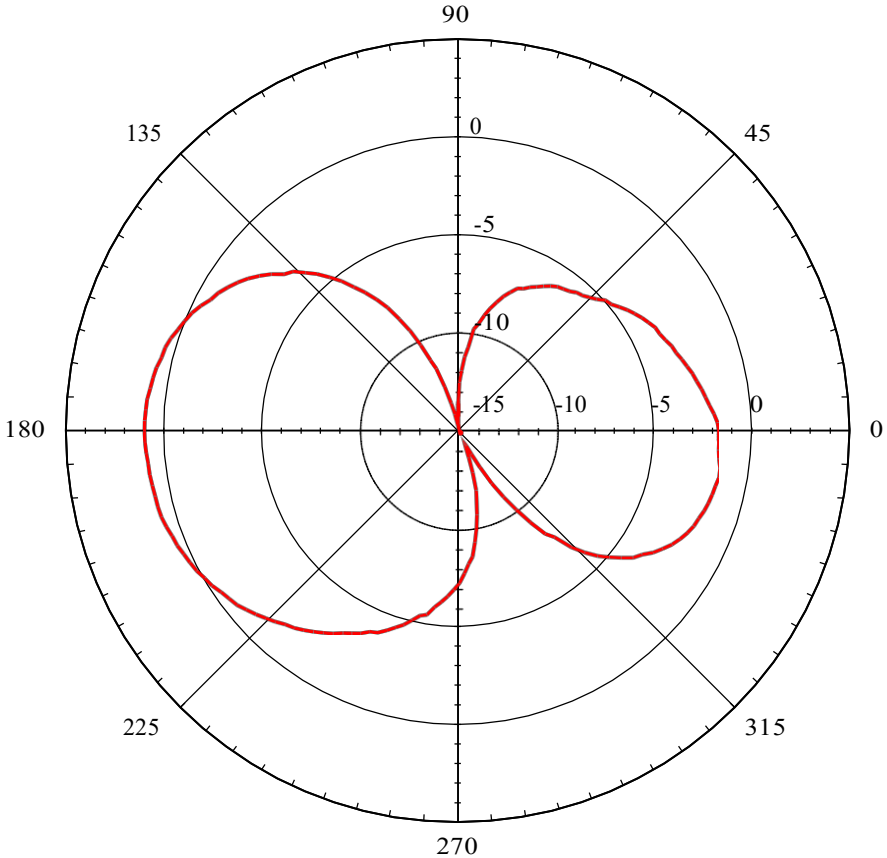

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. XY Plane at f = 2.402GHz



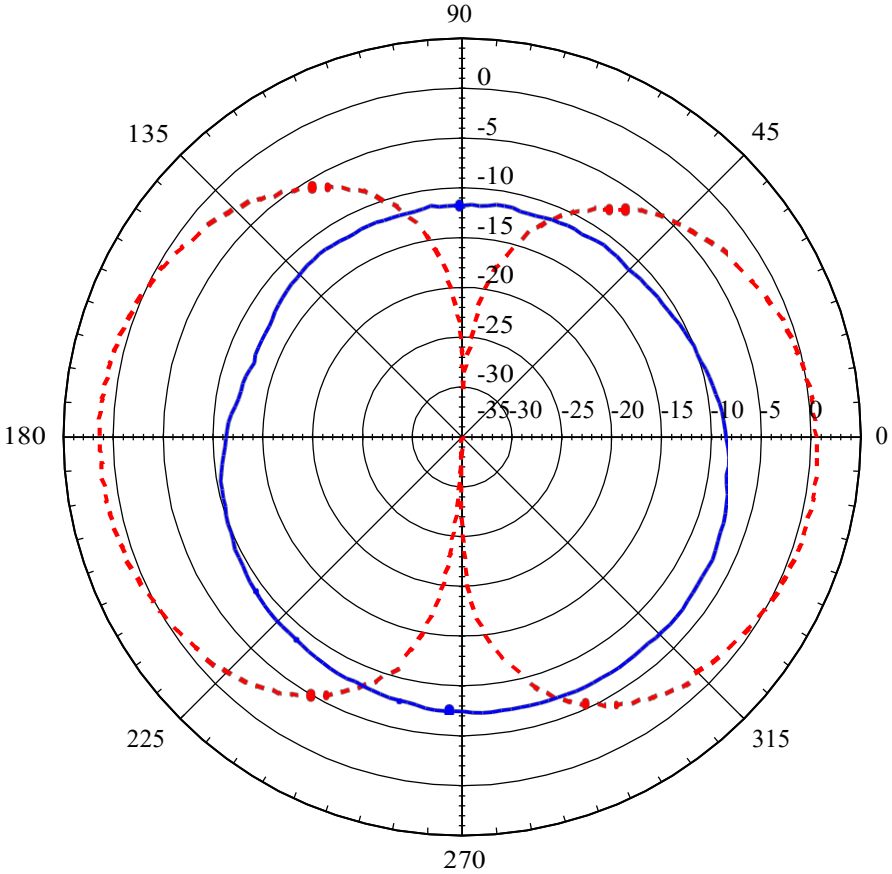

Co-cross polarization field (dBi)



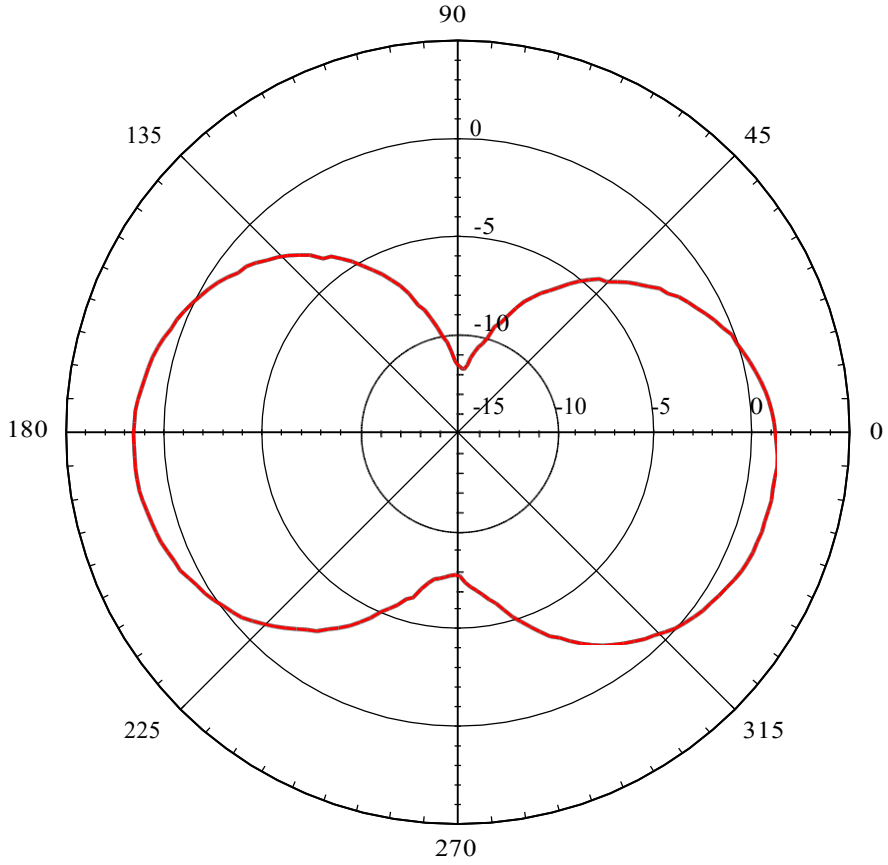

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. XZ Plane at f = 2.441GHz



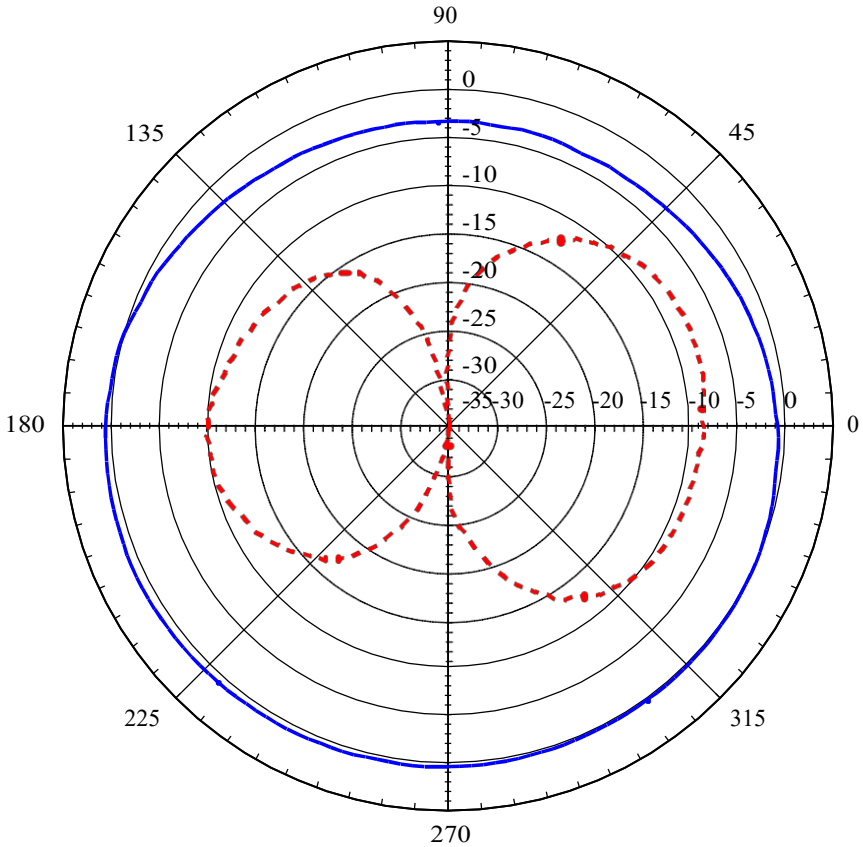

Co-cross polarization field (dBi)



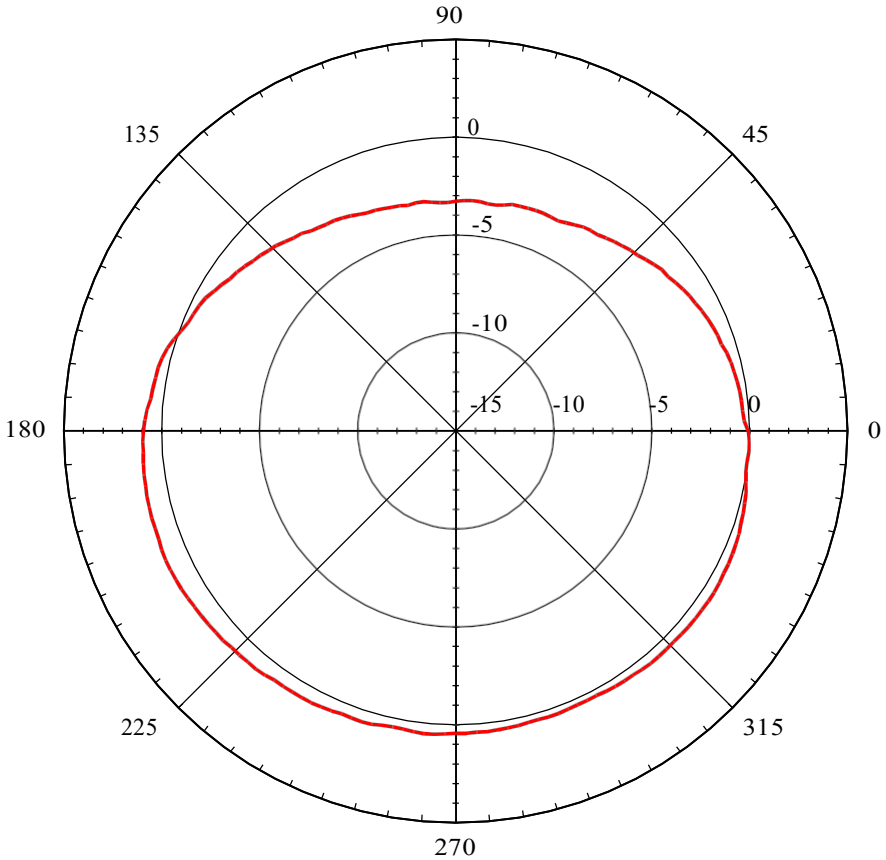

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. YZ Plane at f = 2.441GHz



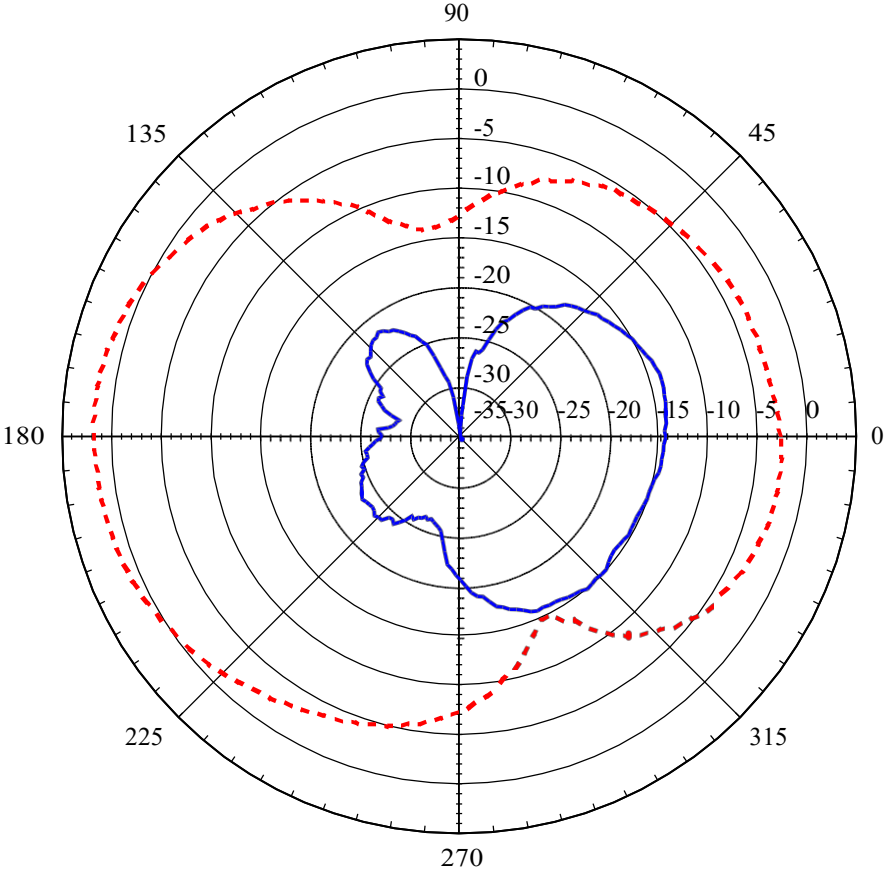

Co-cross polarization field (dBi)



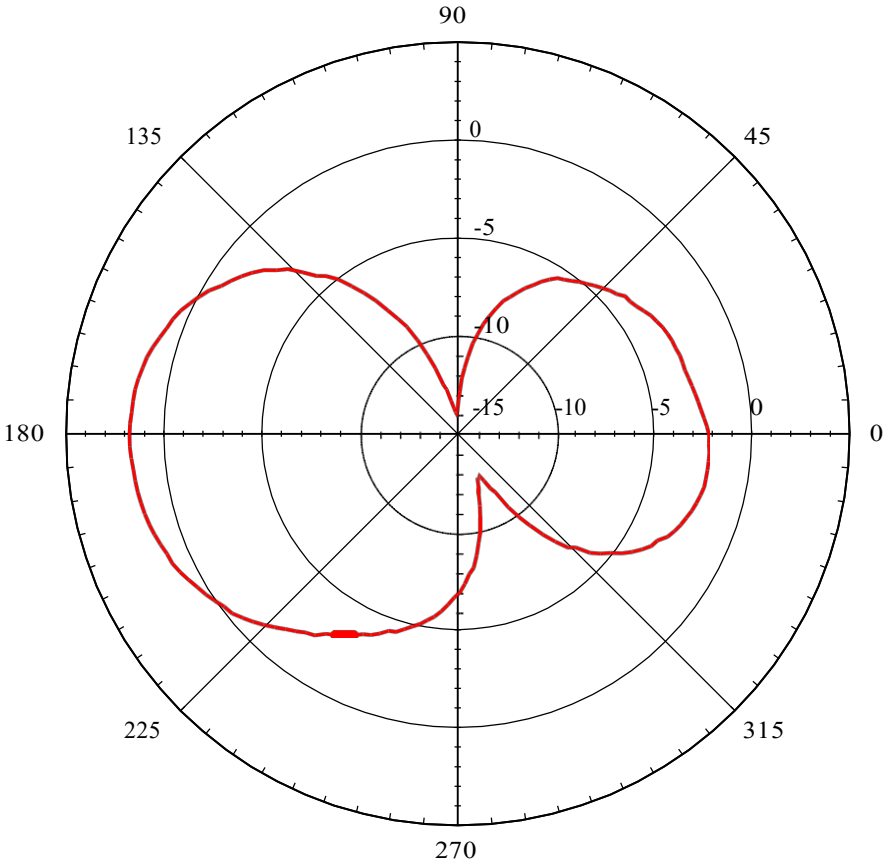

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. XY Plane at f = 2.441GHz



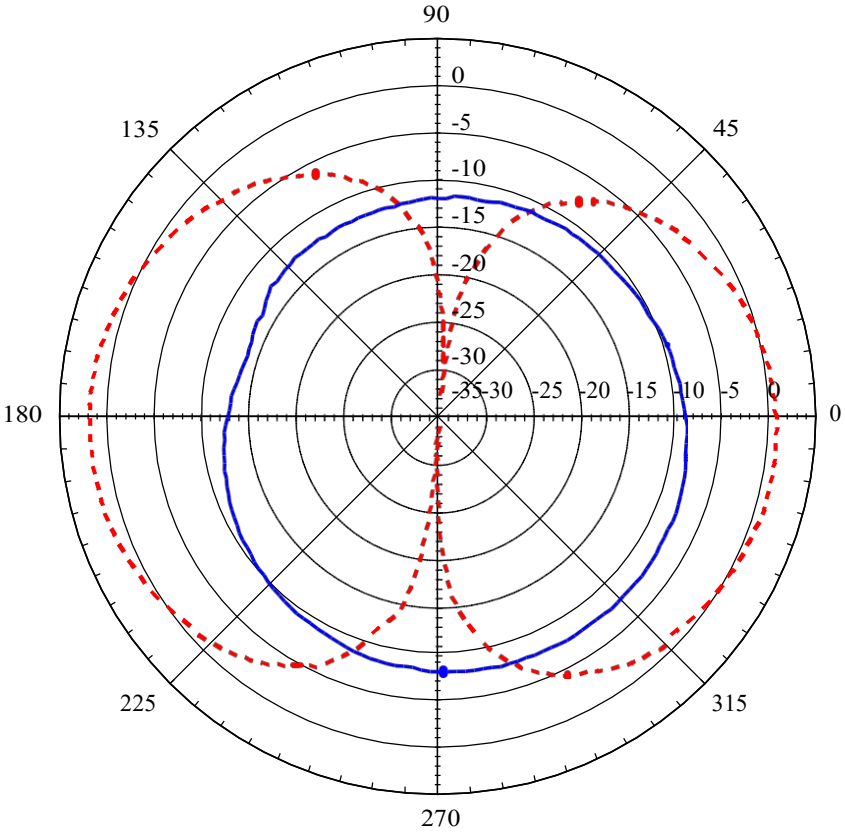

Co-cross polarization field (dBi)



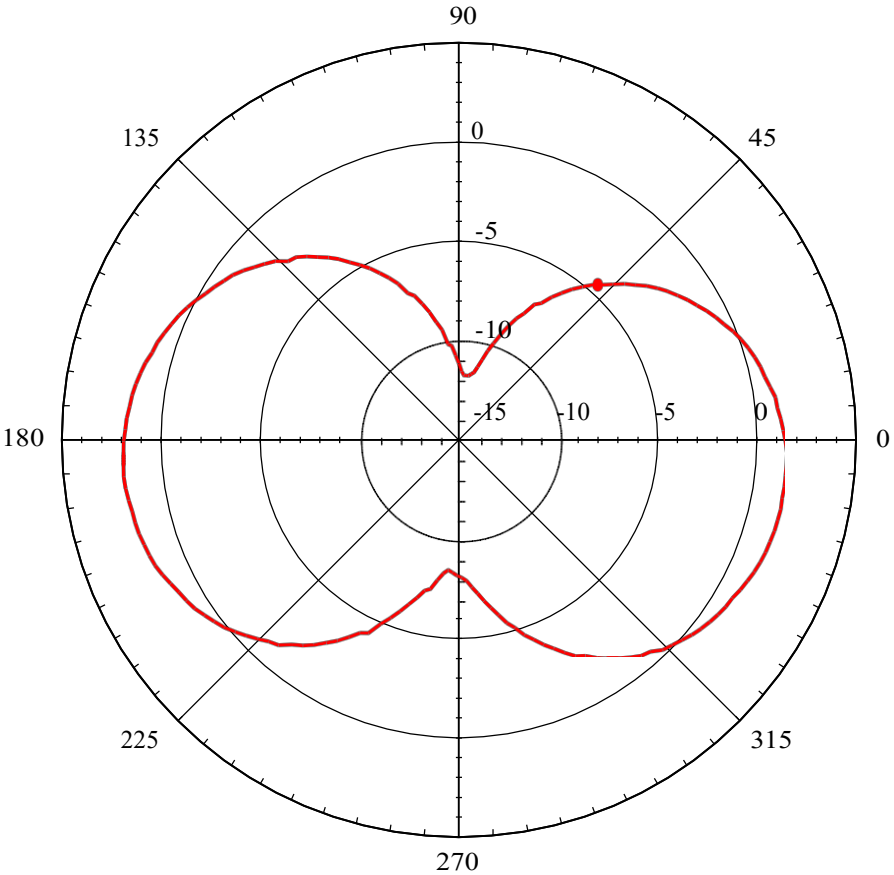

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. XZ Plane at f = 2.480GHz



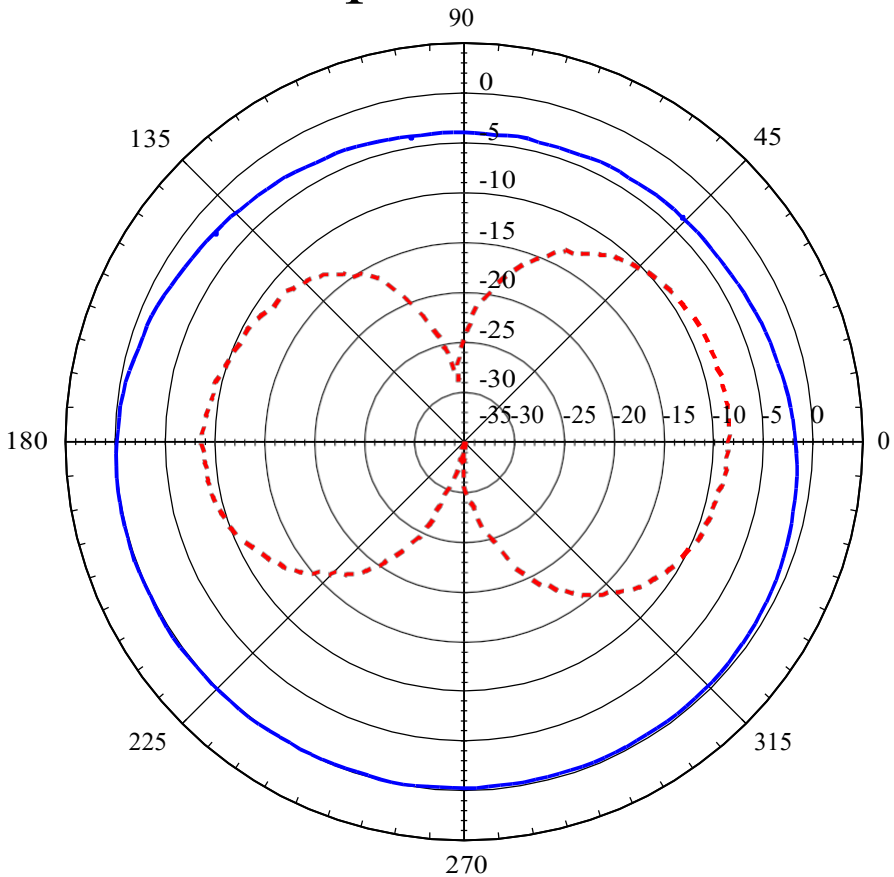

Co-cross polarization field (dBi)



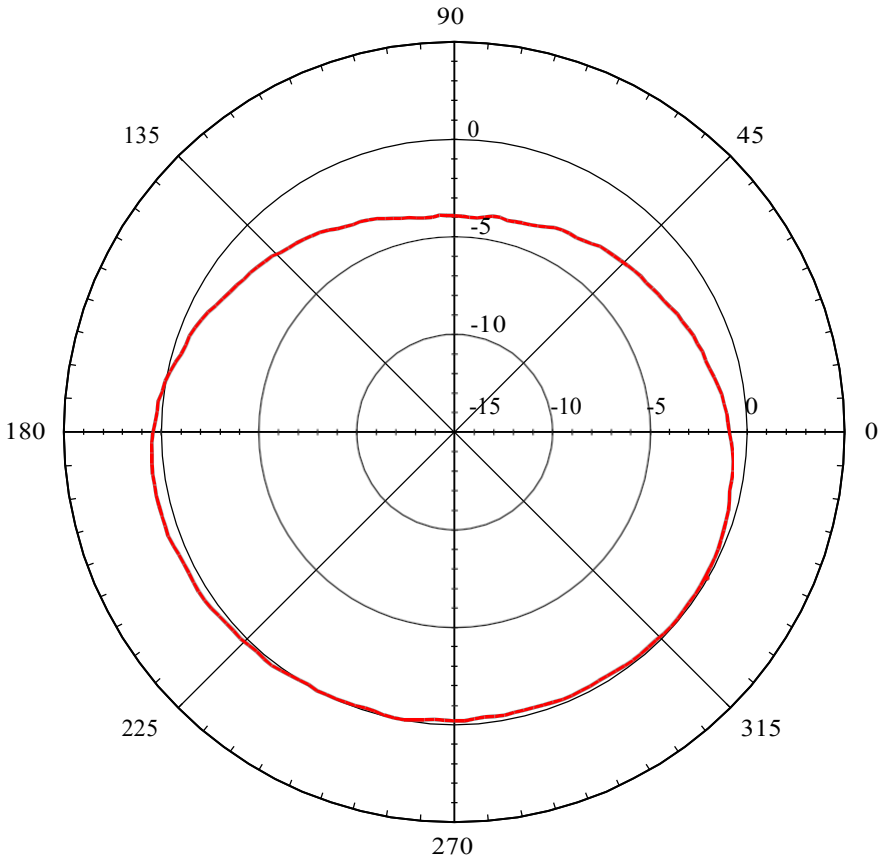

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. YZ Plane at f = 2.480GHz



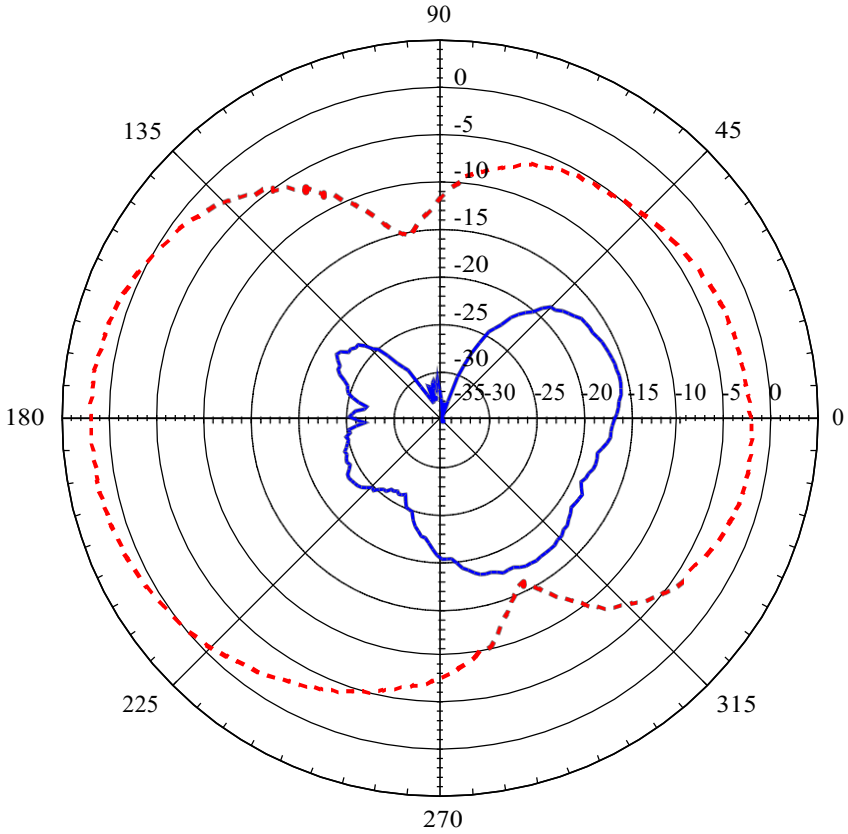

Co-cross polarization field (dBi)



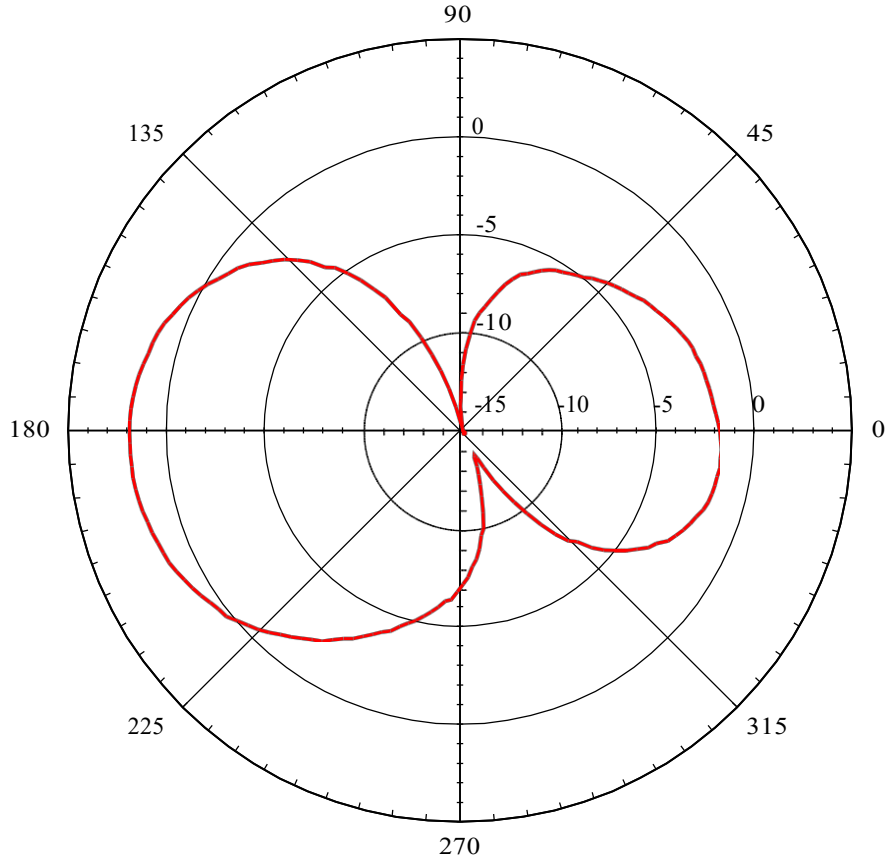

Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Radiation pattern: Antenna 1. XY Plane at f = 2.480GHz



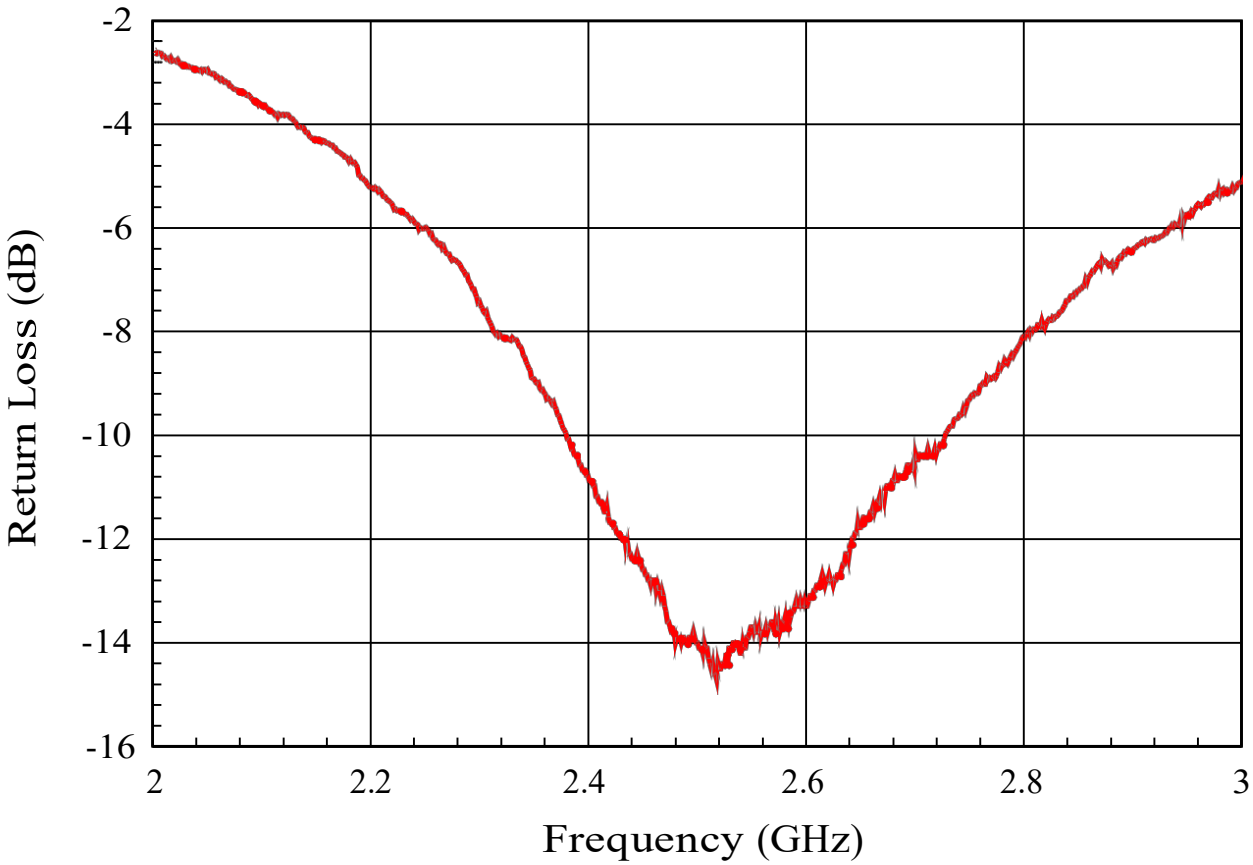

Co-cross polarization field (dBi)




Total field (dBi)

Solid line: vertical polarization
Dash line: horizontal polarization

# Return Loss: Antenna 1




BW(-10dB) 13.48%

# Measurements summary

| | Frequency (GHz) | Plane | Return Loss (dB) | Polarization | Gain max. (dBi) | θ for Gain max. | φ for Gain max. |
|---|---|---|---|---|---|---|---|
| Antenna 1 | | | | | | | |
| | 2.402 | XZ | -10.90 | Vertical | -7.8 | 290 | |
| | 2.402 | XZ | -10.90 | Horizontal | -0.786 | 182 | |
| | 2.402 | YZ | -10.90 | Vertical | -1.21 | 226 | |
| | 2.402 | YZ | -10.90 | Horizontal | -7.75 | 10 | |
| | 2.402 | XY | -10.90 | Vertical | -15.4 | | 20 |
| | 2.402 | XY | -10.90 | Horizontal | -0.93 | | 180 |
| | 2.441 | XZ | -12.20 | Vertical | -7.36 | 318 | |
| | 2.441 | XZ | -12.20 | Horizontal | -1.32 | 180 | |
| | 2.441 | YZ | -12.20 | Vertical | -0.981 | 204 | |
| | 2.441 | YZ | -12.20 | Horizontal | -8.23 | 24 | |
| | 2.441 | XY | -12.20 | Vertical | -14.1 | | -14 |
| | 2.441 | XY | -12.20 | Horizontal | -1.74 | | 180 |
| | 2.48 | XZ | -13.80 | Vertical | -7.95 | 312 | |
| | 2.48 | XZ | -13.80 | Horizontal | -1.81 | 186 | |
| | 2.48 | YZ | -13.80 | Vertical | -0.204 | 214 | |
| | 2.48 | YZ | -13.80 | Horizontal | -8.38 | 8 | |
| | 2.48 | XY | -13.80 | Vertical | -15.8 | | 12 |
| | 2.48 | XY | -13.80 | Horizontal | 0.0 | | 180 |