Hangzhou Hikvision Digital Technology Co., Ltd.

# Zeiss DTI1 Onboard Antenna Specification V1.0

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|---|---|
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# 1. Antenna Characteristic Specification

This specification describes the physical characteristics and electrical performance of the following 2.4 GHz Wi-Fi antennas.

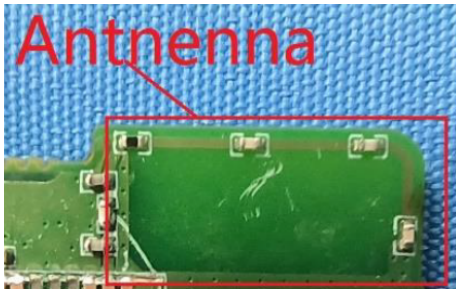



Figure 1.Antenna Actual Effect Picture

## 1.1 Antenna Structure

The antenna is mainly composed of on-board wiring on the PCB.

## 1.2 Antenna Technical Parameters and Interface

| Design Specifications | Typical | Units |
|---|---|---|
| **Form** | On-board PCB | \ |
| **Frequency** | 2400-2500 | MHz |
| **Gain** | High channel：-1.0 | dBi |
| | Medium channel：-1.0 | dBi |
| | Low channel：-1.0 | dBi |
| **Antenna Efficiency** | *28.18* | % |
| **VSWR** | < 10 | \ |
| **Polarization** | Linear Polarization | \ |
| **Axial Ratio** | \ | \ |
| **Radiation pattern** | Omnibearing | \ |
| **impedance** | 50 | ohm |
| **Power handling** | 33 | dBm |
| **Interface** | \ | \ |
| **Overall dimensions** | 5mm*2mm | \ |
| **Weight** | \ | \ |
| **Operation Temp.** | -30-70 | °C |
| **Storing Temp.** | -30-70 | °C |

# 2. Antenna Test Conditions

## 2.1 Test Equipment

Antenna Vector Network Analyzer ROHDE&SCHWARZ ZNB 20

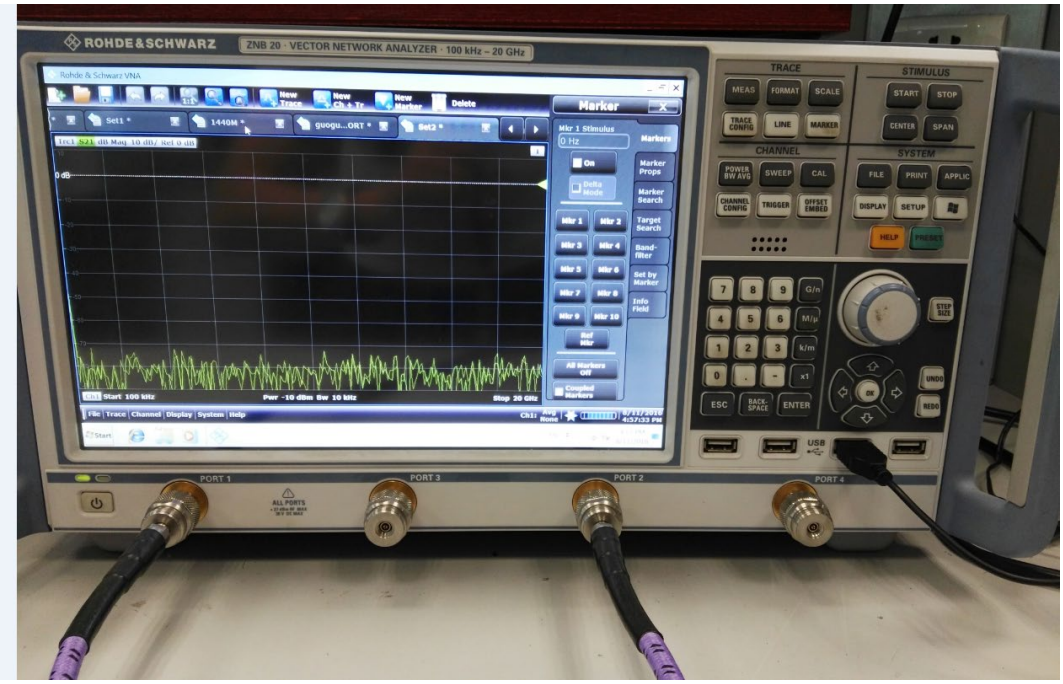



Figure 2.Vector Network Analyzer

## 2.2 Test Result

### Return Loss (S11)

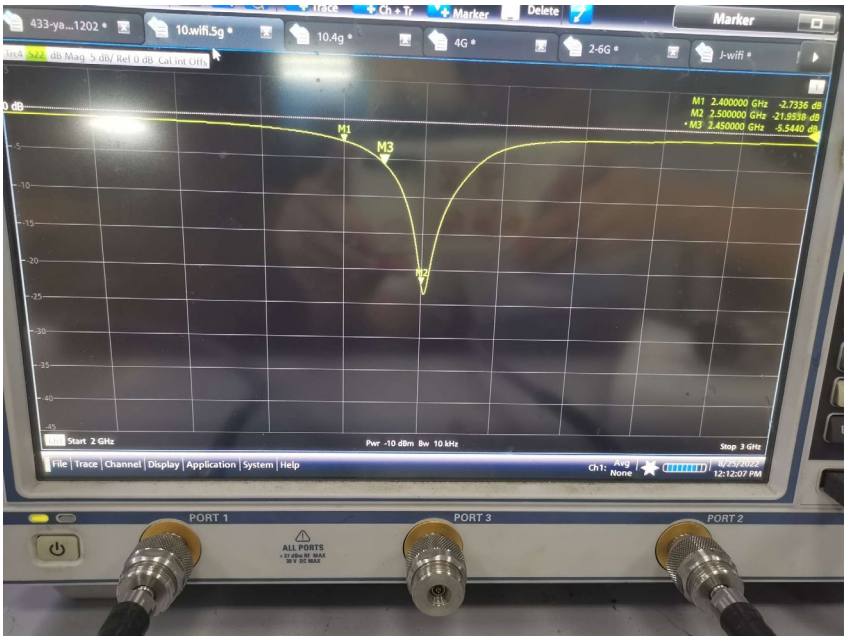



Figure 4.Return Loss

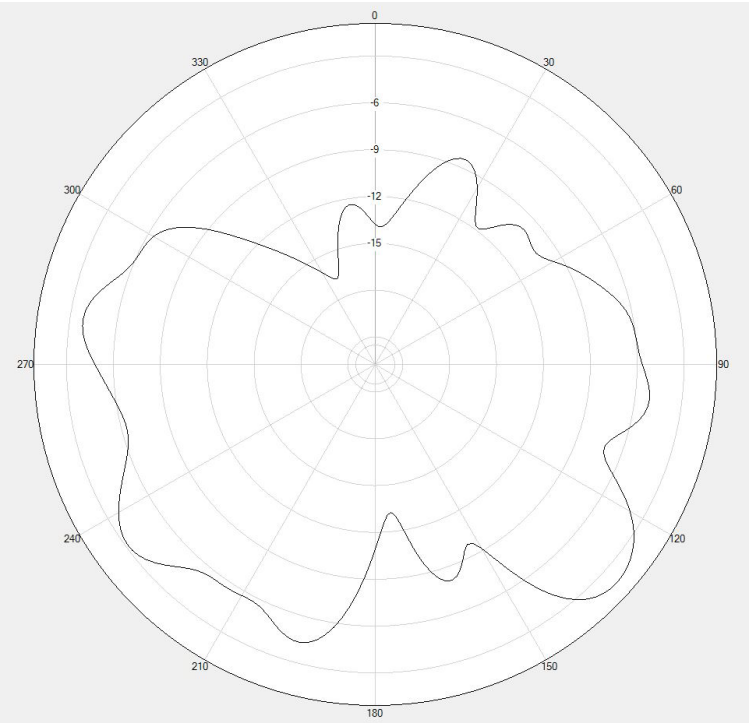
The yellow curve in the figure above shows that the antenna syntony is realized well, and the resistance condition matches well.

**Antenna Efficiency**

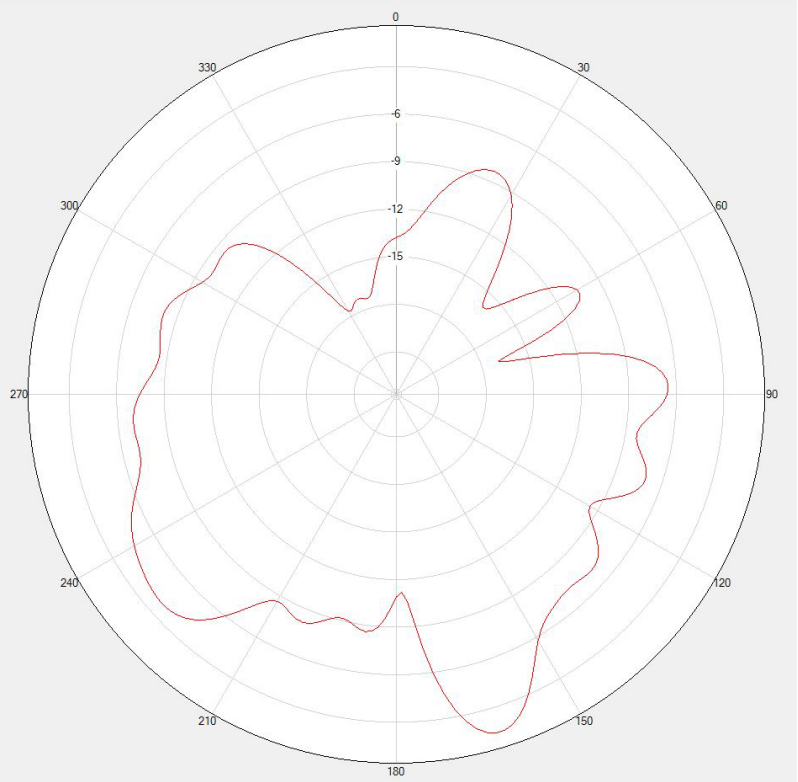
| Frequency /MHz | Efficiency /% |
|---|---|
| 2400 | 17.31 |
| 2410 | 18.77 |
| 2420 | 20.52 |
| 2430 | 23.08 |
| 2440 | 26.80 |
| 2450 | 29.40 |
| 2460 | 33.07 |
| 2470 | 35.27 |
| 2480 | 35.90 |
| 2490 | 35.03 |
| 2500 | 34.80 |

**Antenna 2D Radiation Pattern**

2400MHz:




Phi=0 deg

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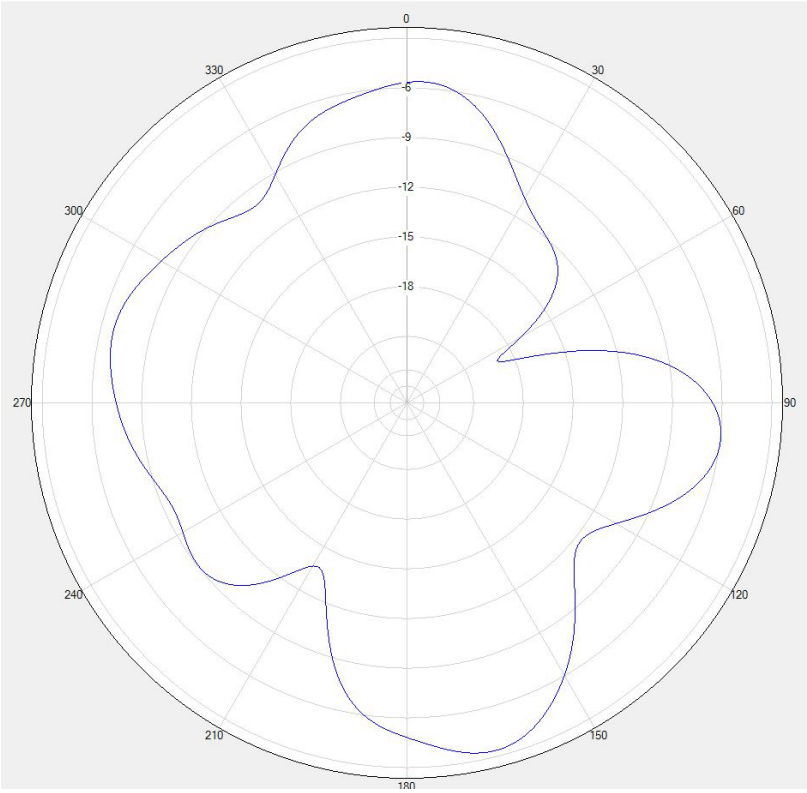
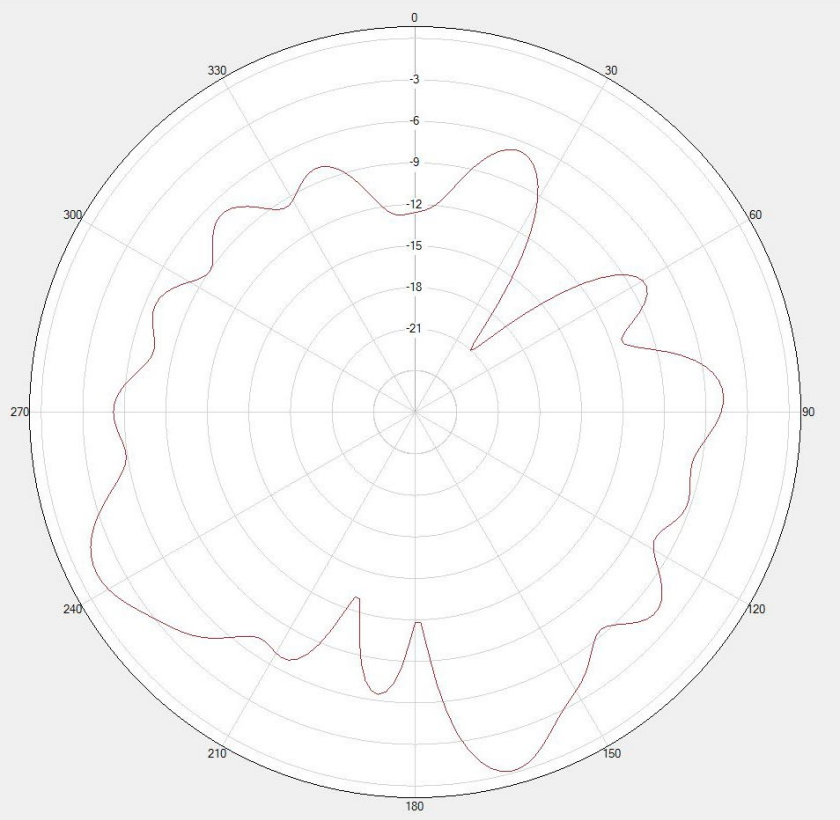
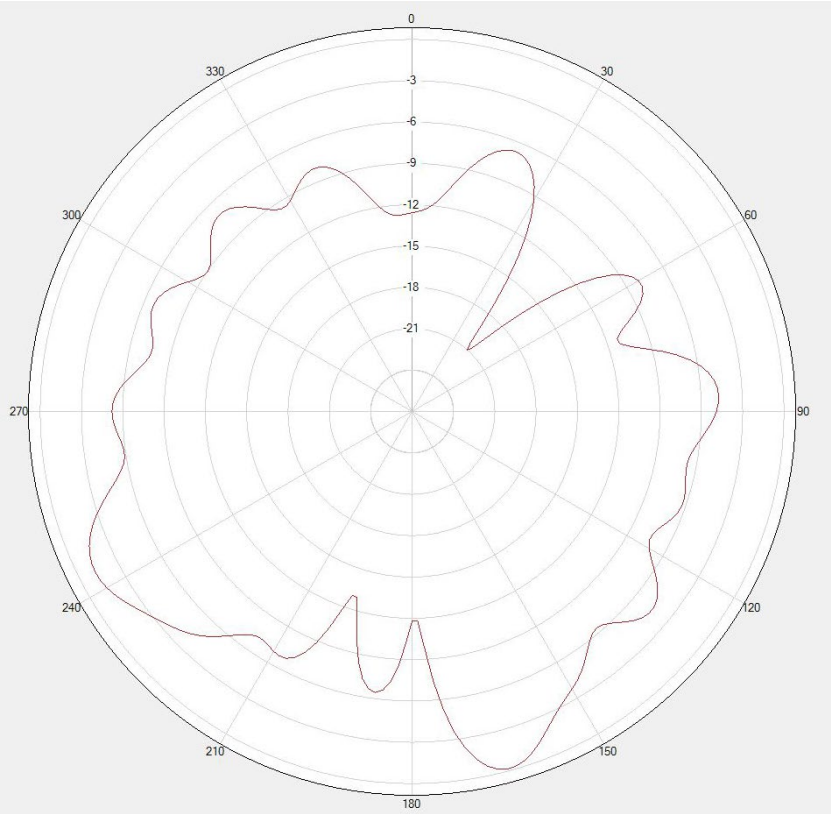



Theta=90 deg

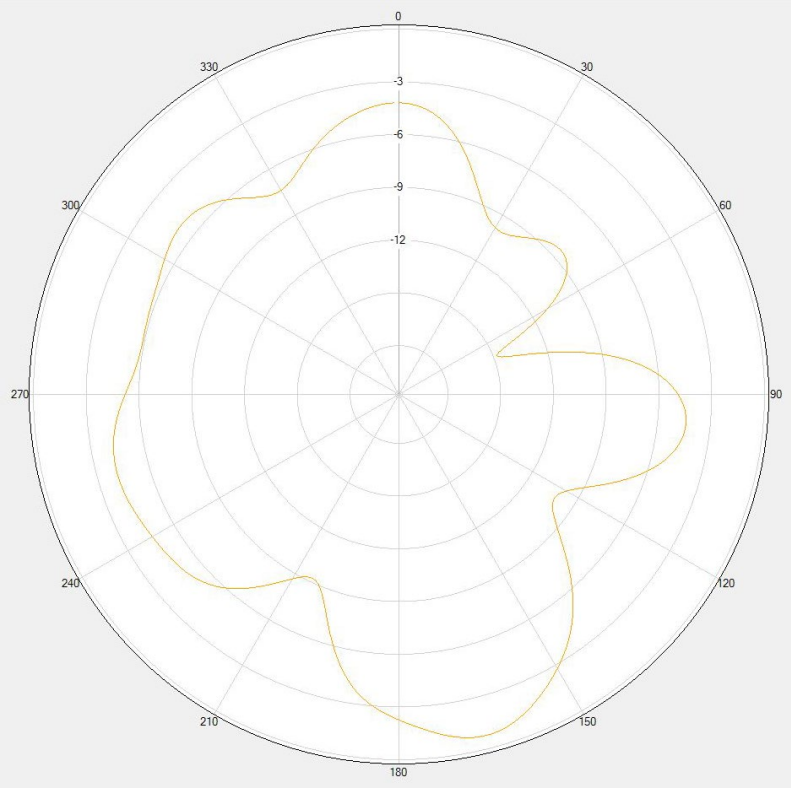
2450MHz:




Phi=0 deg




Phi=90 deg

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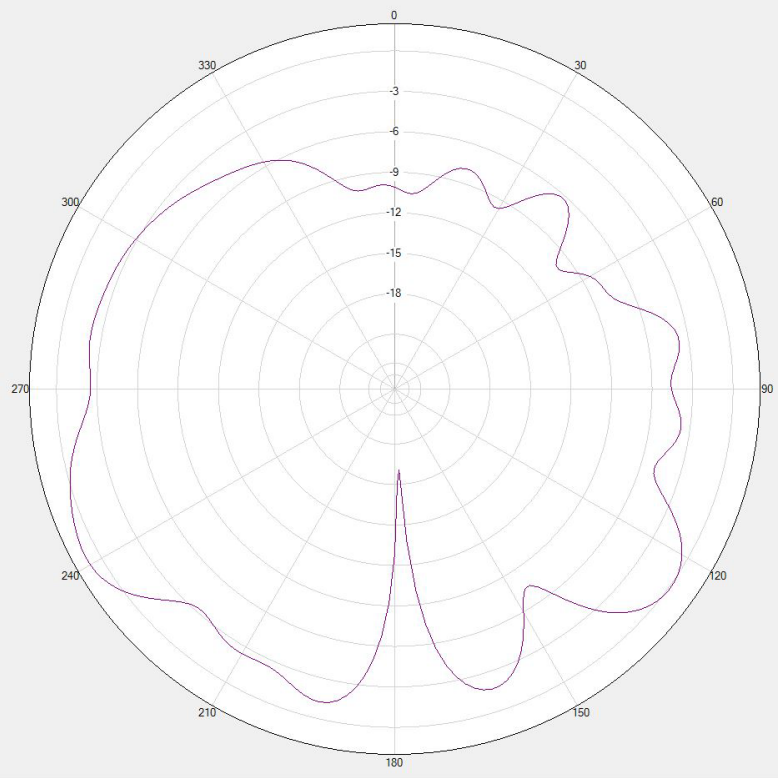
2500MHz:

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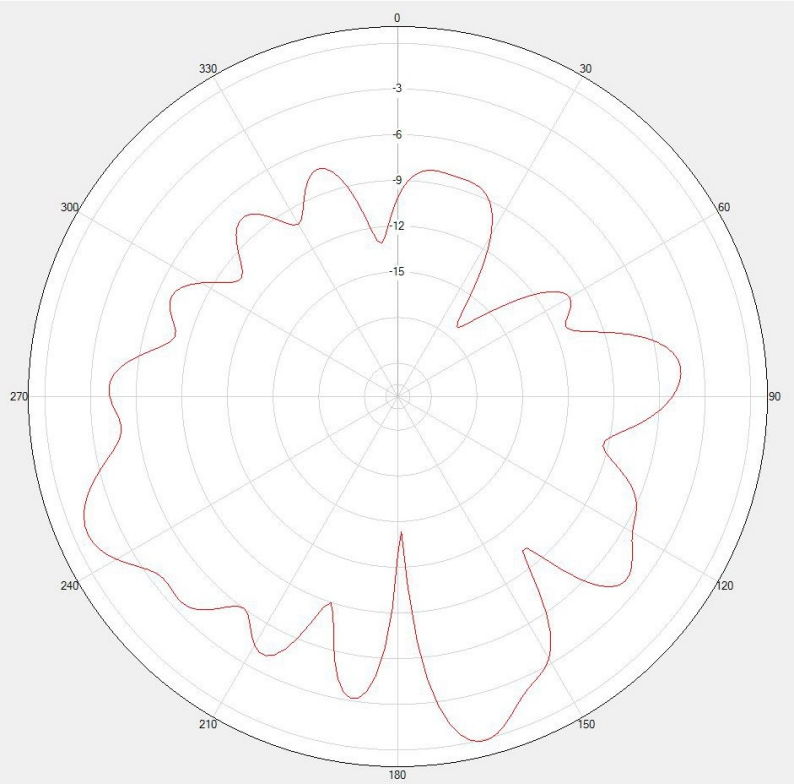


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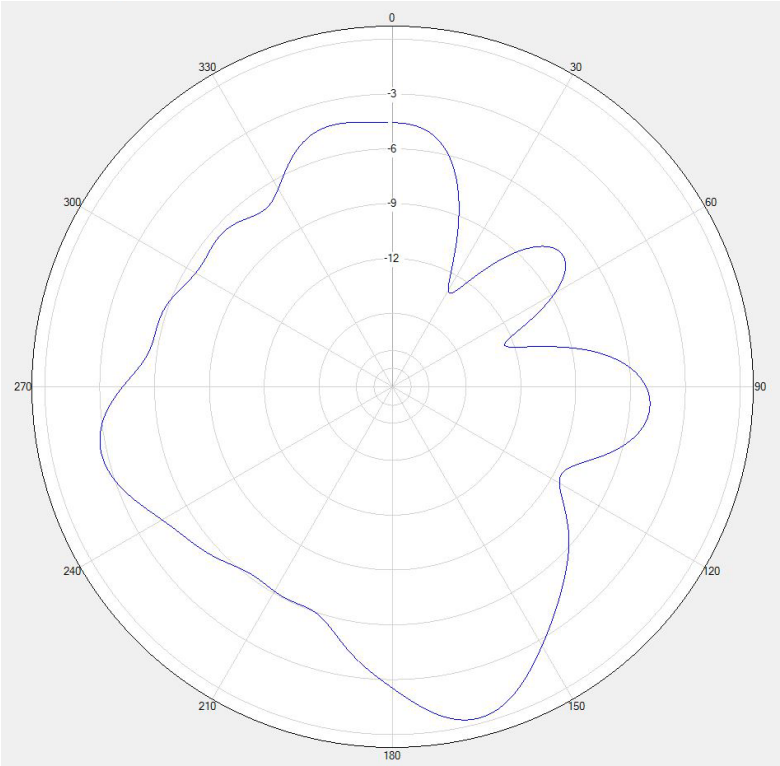


Theta=90 deg

# Revision History

| Revision | Content | Date | Author |
|---|---|---|---|
| V1.0 | First Edition | August 25, 2022. | Hua Lina |