Hangzhou Hikvision Digital Technology Co., Ltd.

Acoustic Leak Detector
Onboard Antenna Specification V1.0

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1. Antenna Characteristic Specification

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

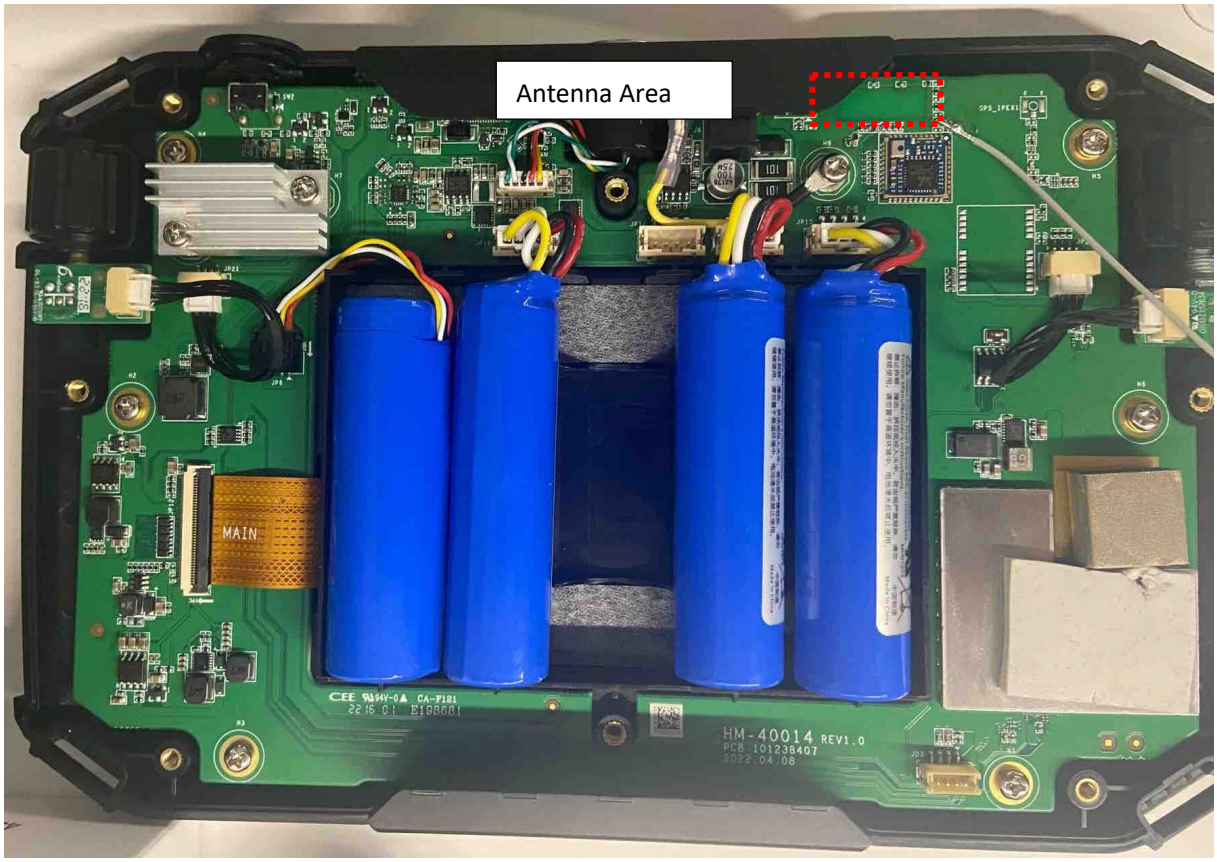


Figure 1.Antenna Actual Effect Picture

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：2.54	dBi
	Medium channel：2.6	dBi
	Low channel：1.74	dBi
Antenna Efficiency	42	%
VSWR	< 10	\
Polarization	Linear Polarization	\
Axial Ratio	\	\

Radiation pattern	Omnibearing	\
impedance	50	ohm
Power handling	33	dBm
Interface	\	\
Overall dimensions	15mm*6mm	\
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

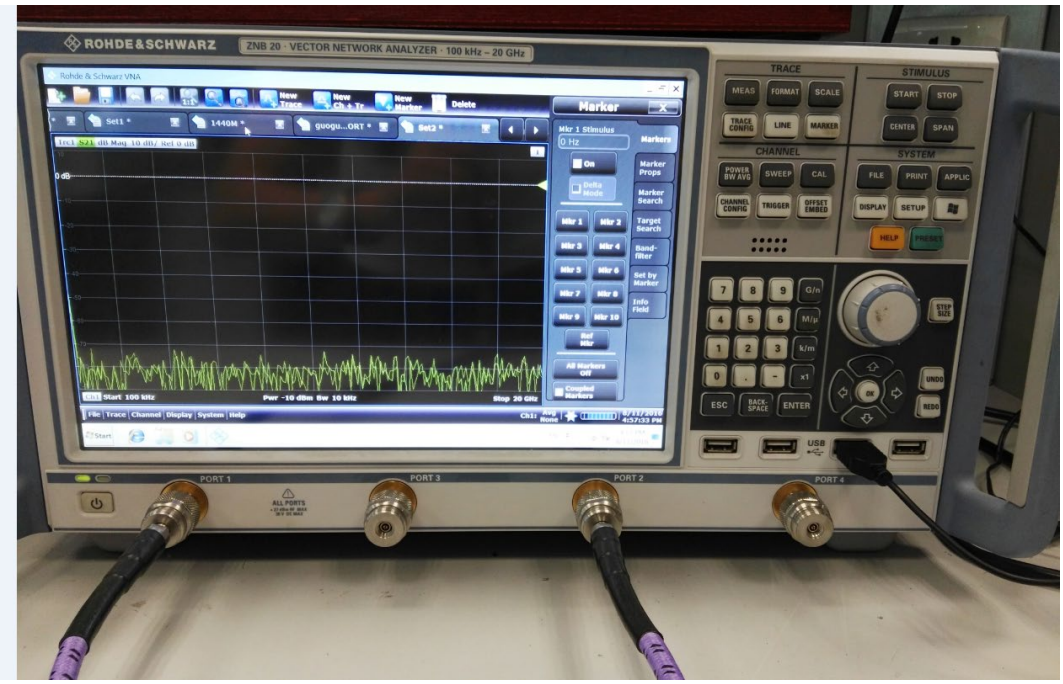


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

Figure 4.Return Loss

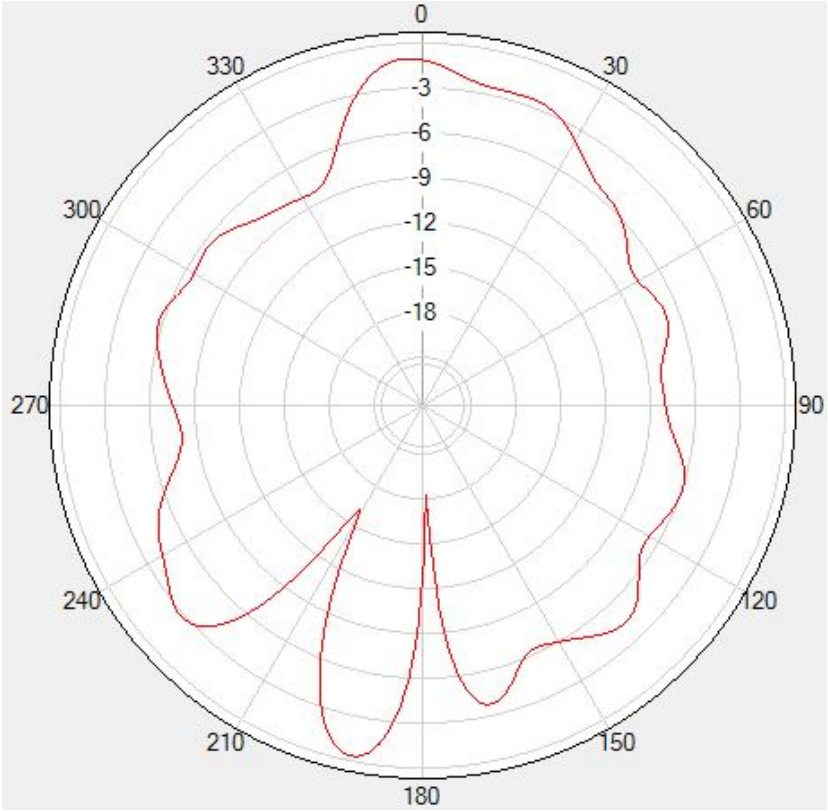
The yellow curve in the figure above shows that the antenna syntony is realized well, and the resistance condition matches well.

Antenna Efficiency

Frequency /MHz	Efficiency /%
2400	48.15
2410	48.05
2420	46.36
2430	44.98
2440	44.40
2450	41.85
2460	40.46
2470	38.92
2480	37.02
2490	35.71
2500	36.05

Antenna 2D Radiation Pattern

2400MHz:



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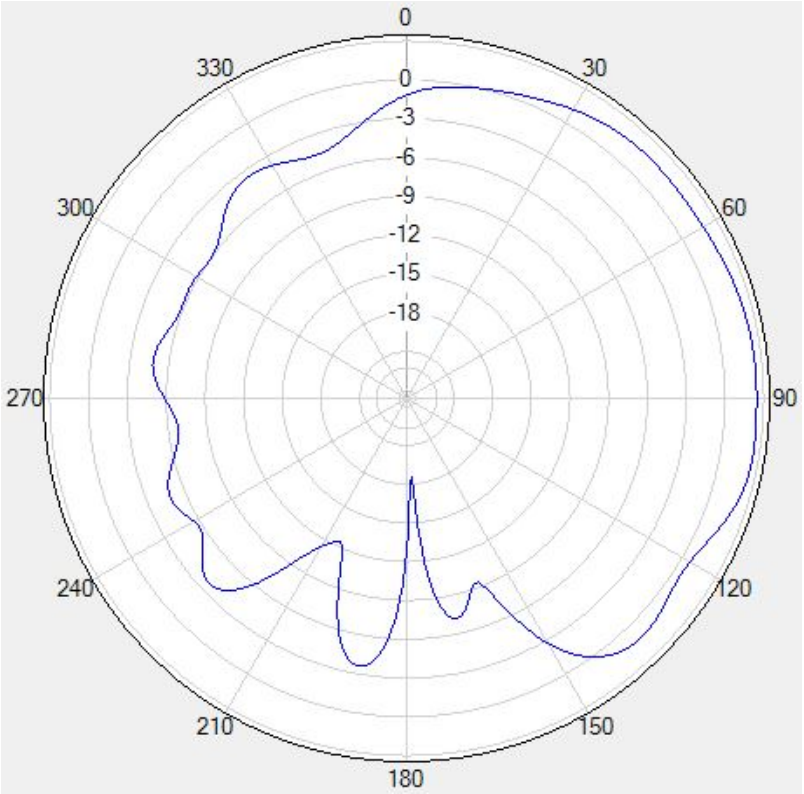

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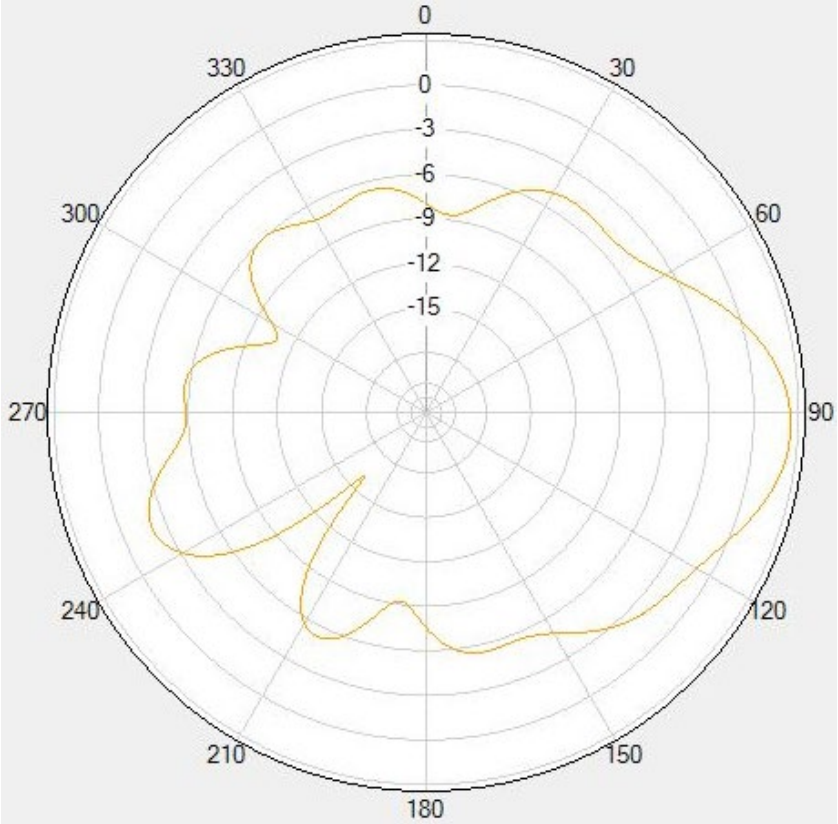
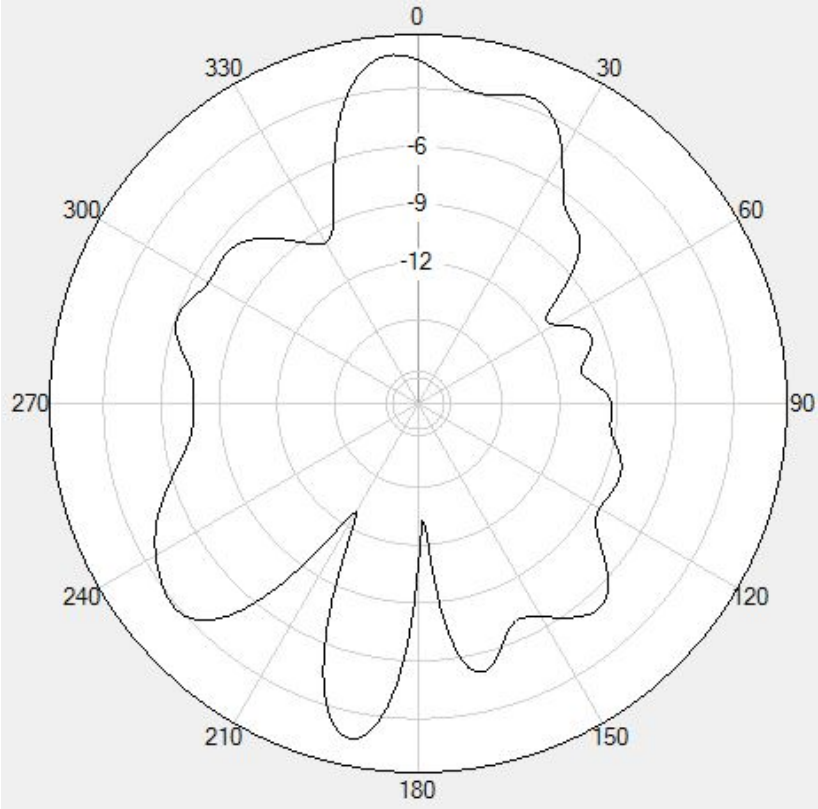


Theta=90 deg

2450MHz:



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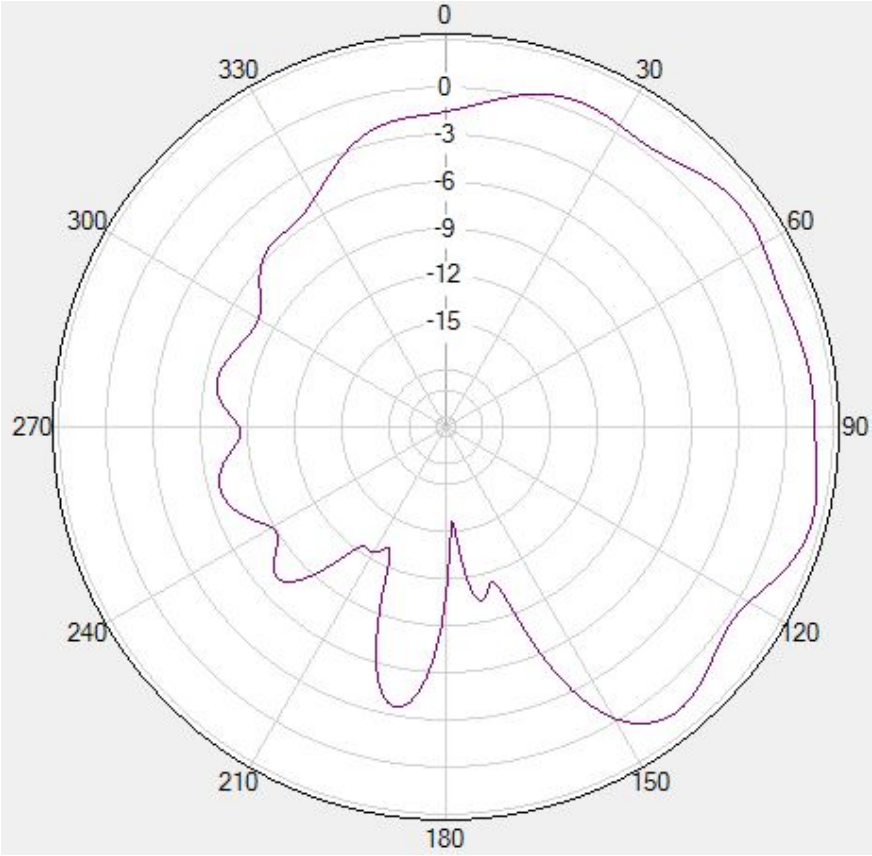

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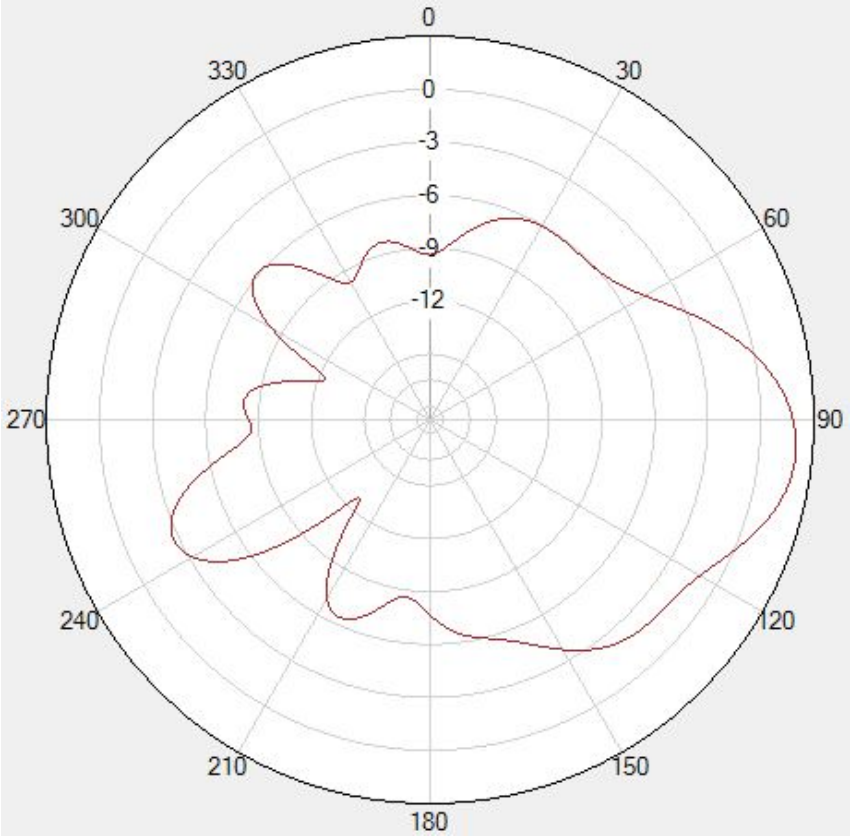

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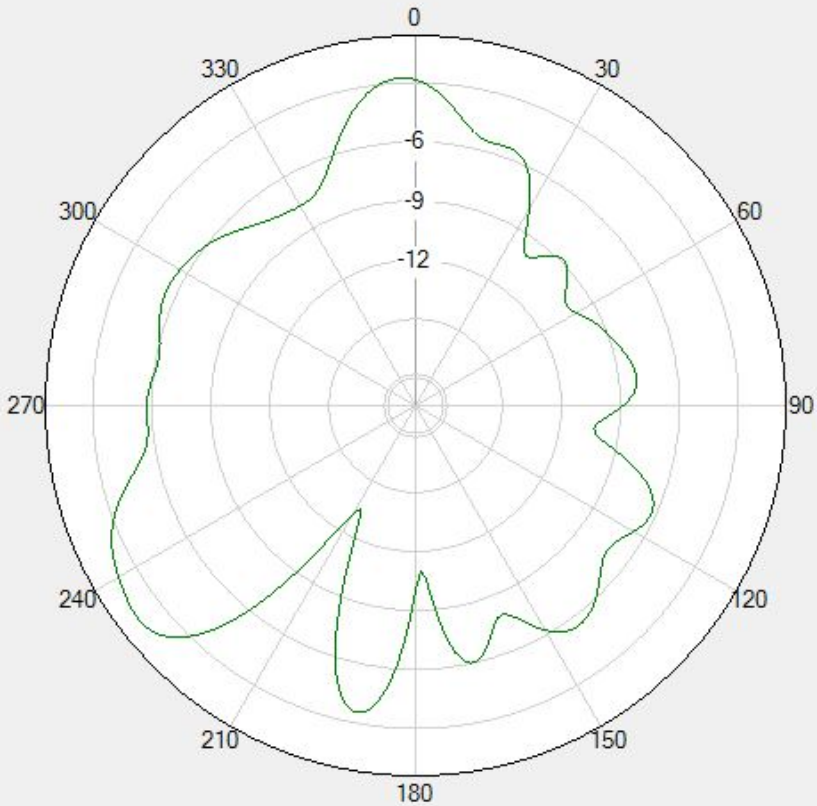
2500MHz:



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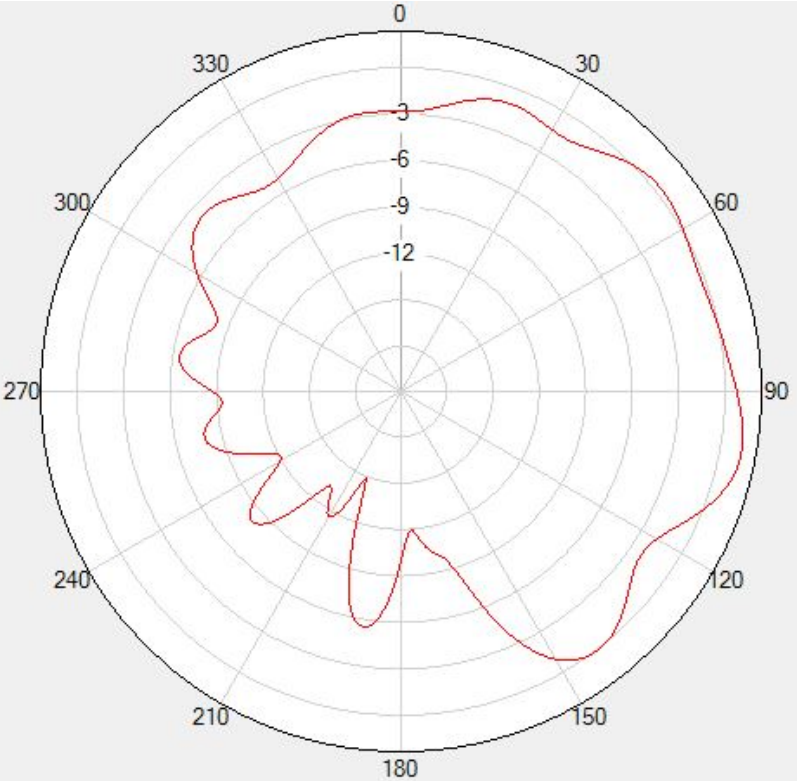

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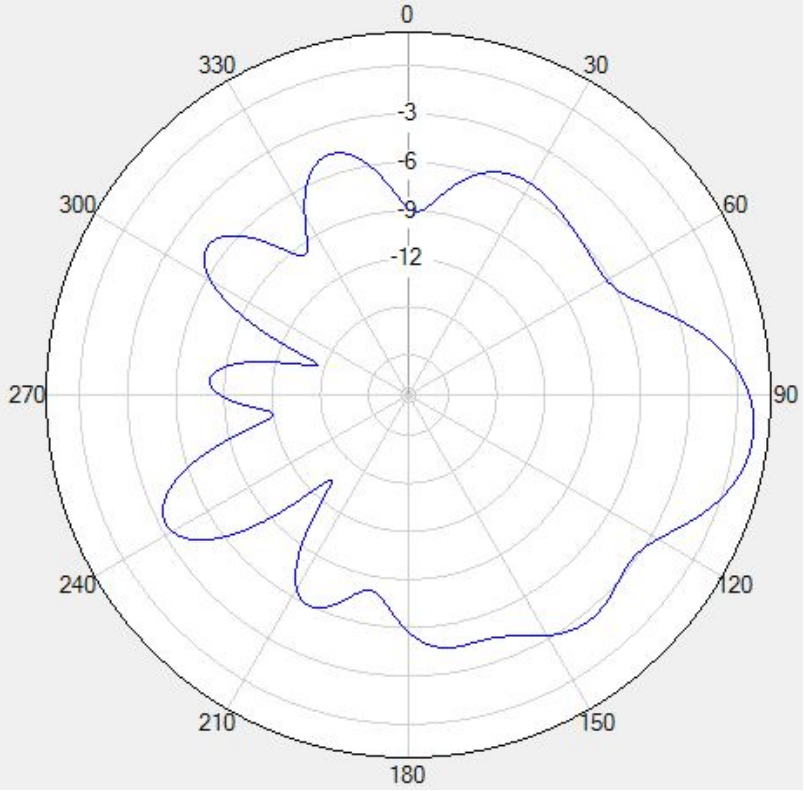

Theta=90 deg

Revision History

Revision	Content	Date	Author
V1.0	First Edition	Sep 7, 2022.	Jiang Nan