

Test Report

Entrusting Company: Shenzhen Xinwu Technology Co., Ltd

Product name: DS78-M Module

一、Testing institute information

Name	Shenzhen Huilian Technology Co., Ltd
Address	Room 610, Spring Valley, Meisheng Huigu Science and Technology Innovation Park, No. 83 Dabao Road, Xin'an Street, Bao'an District, Shenzhen
Telephone	0755-27784247
E-mail	zhengchen@xw-chip.com
Test Device	16 probe microwave anechoic chamber Network Analyzer
测试	叶沐兴 2026.3.15
审核	钟学胜 2026.3.15
批准	邓江林 2026.3.16

二、Test environment:

Temperature	24℃
Humidity	55%RH
Atmospheric pressure	100.04kPa

三、Sample information:

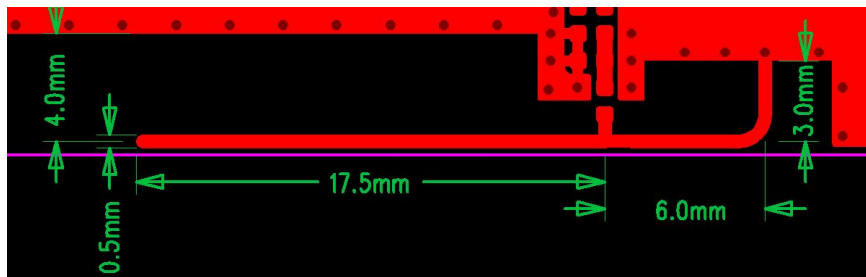
Product Name	DS78-M Module
Specification Size	126mm x 30mm x 1.6mm
Test Project	Standing Wavebie: Gain; Radiation efficiency; Radiation pattern
Frequency Band Range	2400-2480MHZ
Test Data	2026.3.15

四、Test Results

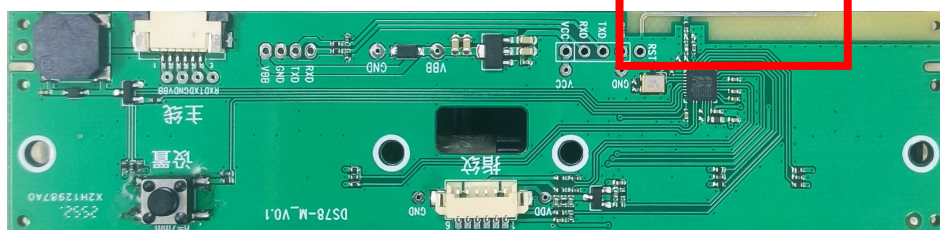
1. Antenna Specification

ITEM	SPEC	
Center Frequency	2402 MHZ	1.85 dBi
	2441 MHZ	1.82 dBi
	2479 MHZ	1.80 dBi
MAX. GAIN	1.85 dBi	
Polarization	Horizontal	
Azimuth Beam Pattern	Omni-directional	
Impedance	50 Ω	
Antenna Length	17.5 mm	

2. Antenna Photo & Length



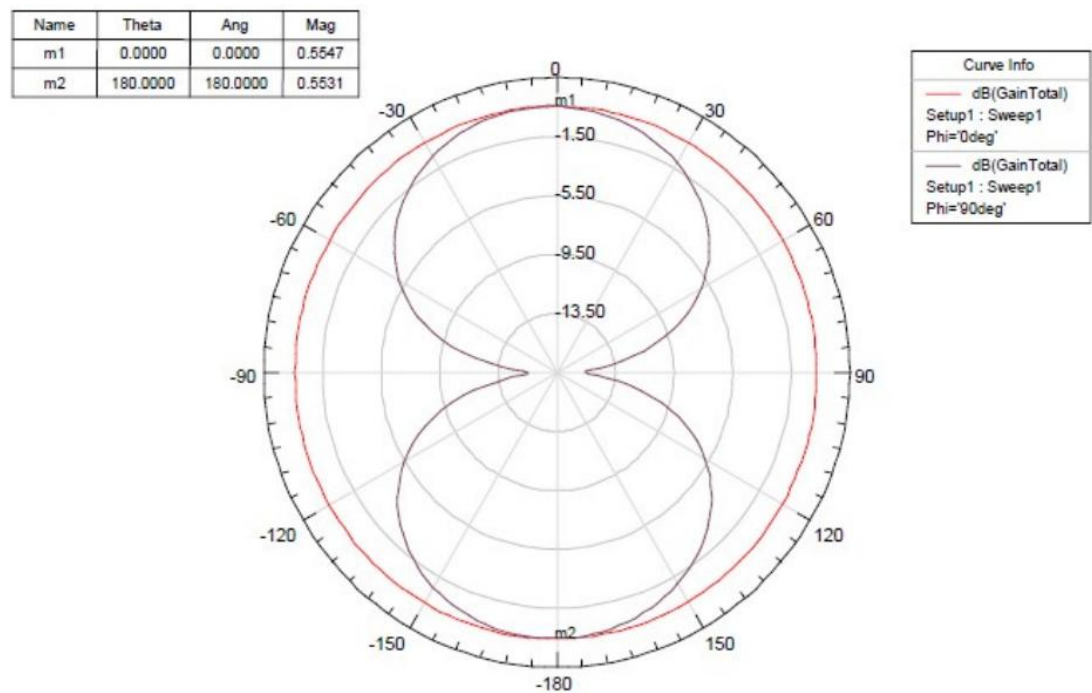
On-board Antenna



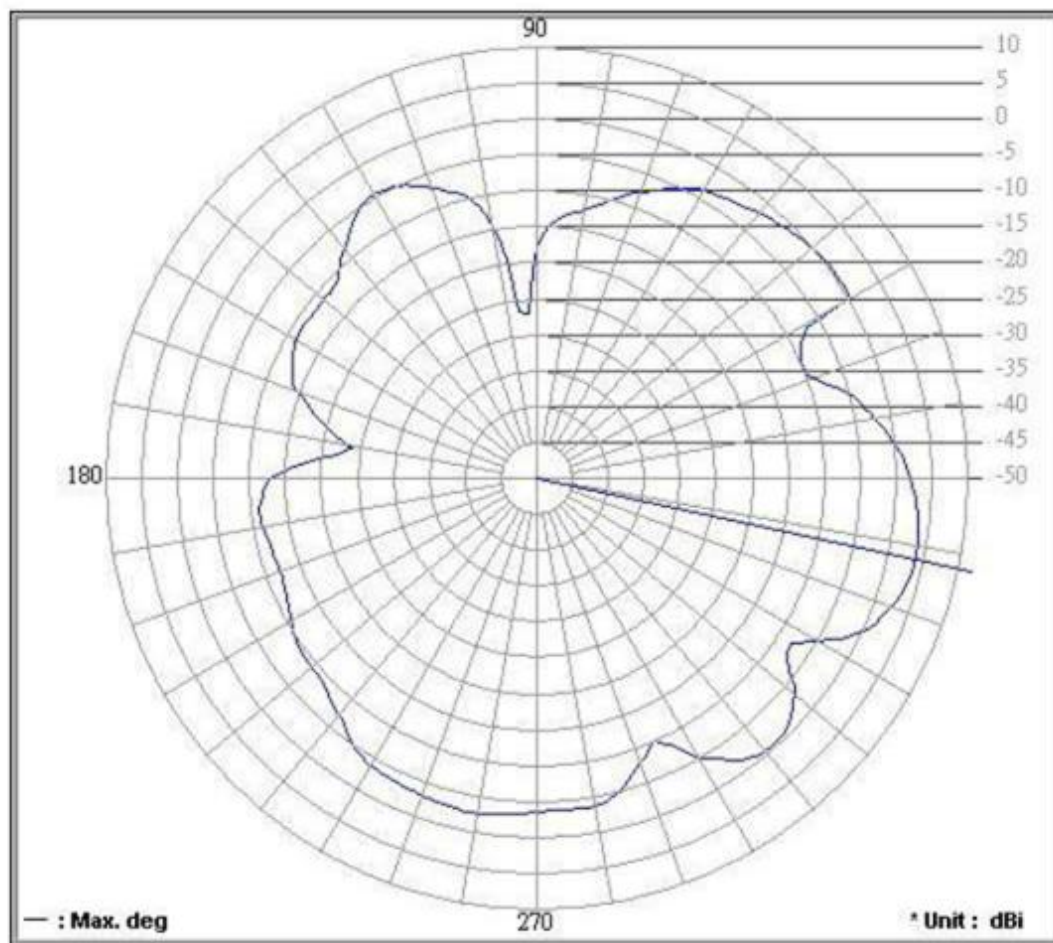
3. Antenna S11 performance



4. Directed graph



5.Test Datas



Frequency (MHz): **2402.00**

Antenna Polarity: **Horizontal**

Average Gain (dB): **-3.64**

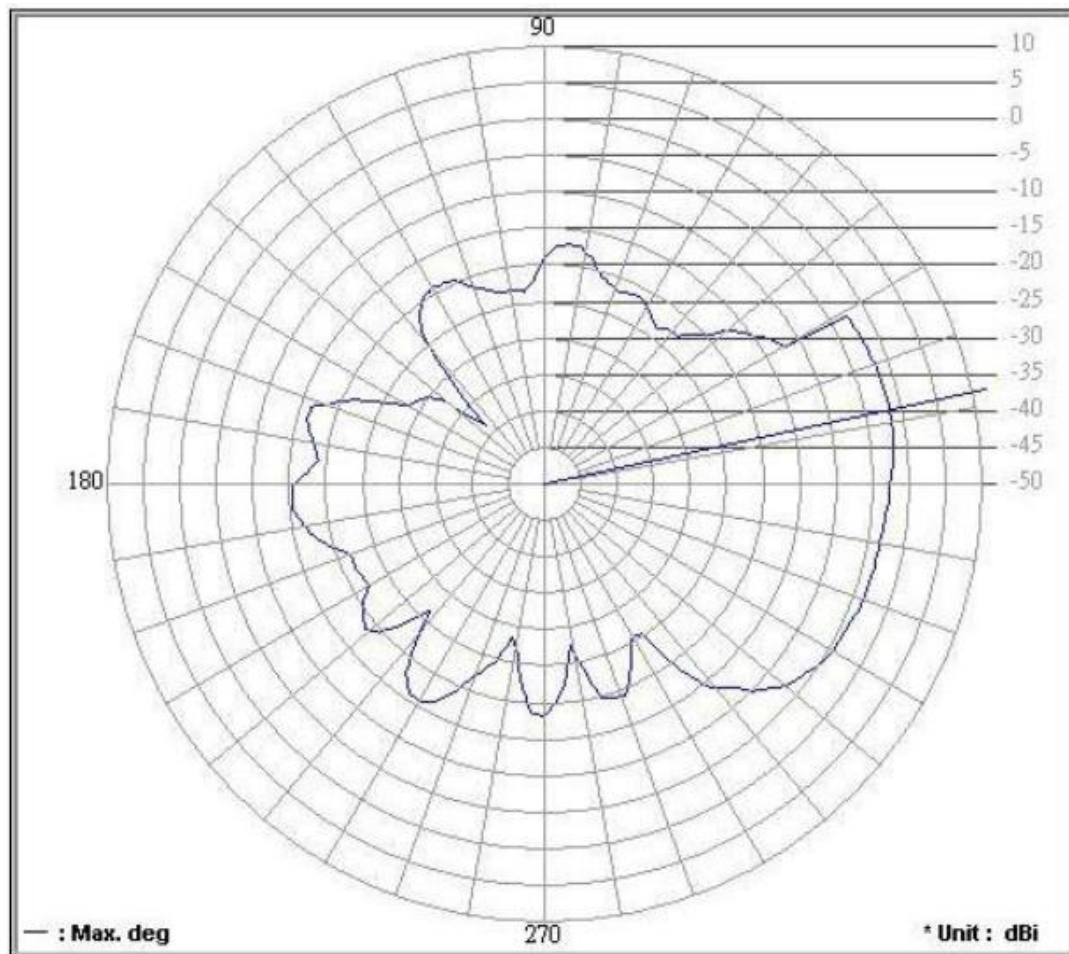
Maximum Gain (dB): **1.85**

Maximum Gain (degree): **348**

Minimum Gain (dB): **-27.08**

Minimum Gain (degree): **93**

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Frequency (MHz): **2402.00**

Antenna Polarity: **Vertical**

Average Gain (dB): **-9.57**

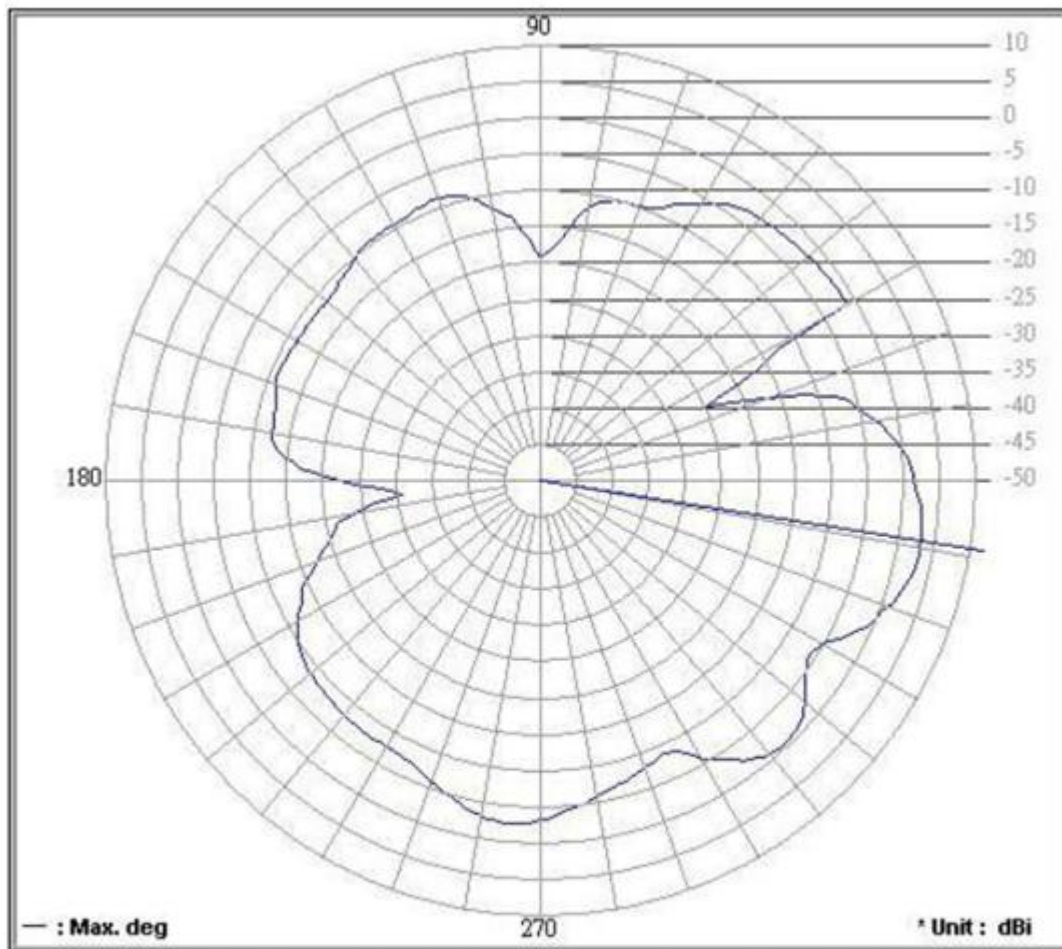
Maximum Gain (dB): **-1.54**

Maximum Gain (degree): **12**

Minimum Gain (dB): **-38.76**

Minimum Gain (degree): **135**

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Frequency (MHz) : **2441.00**

Antenna Polarity : **Horizontal**

Average Gain (dB) : **-4.64**

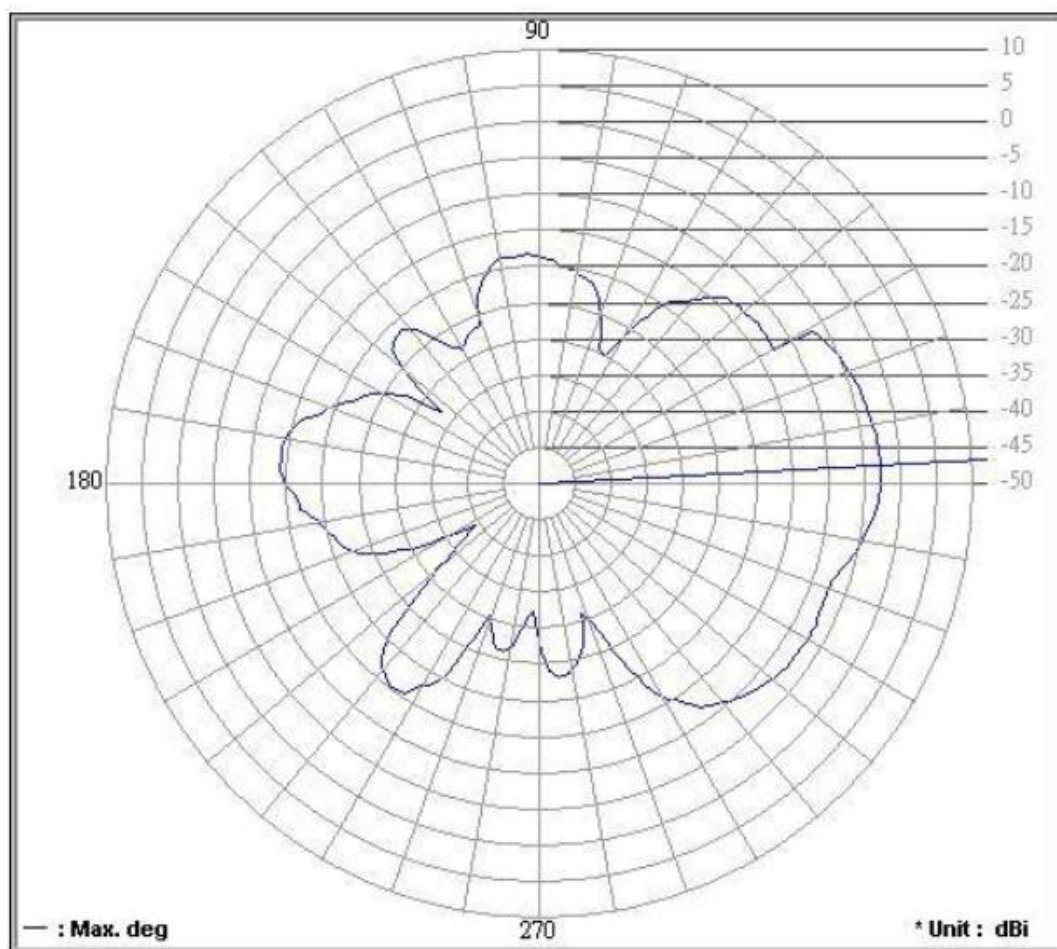
Maximum Gain (dB) : **1.82**

Maximum Gain (degree) : **351**

Minimum Gain (dB) : **-30.92**

Minimum Gain (degree) : **186**

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Frequency (MHz) : **2441.00**

Antenna Polarity : **Vertical**

Average Gain (dB) : **-11.06**

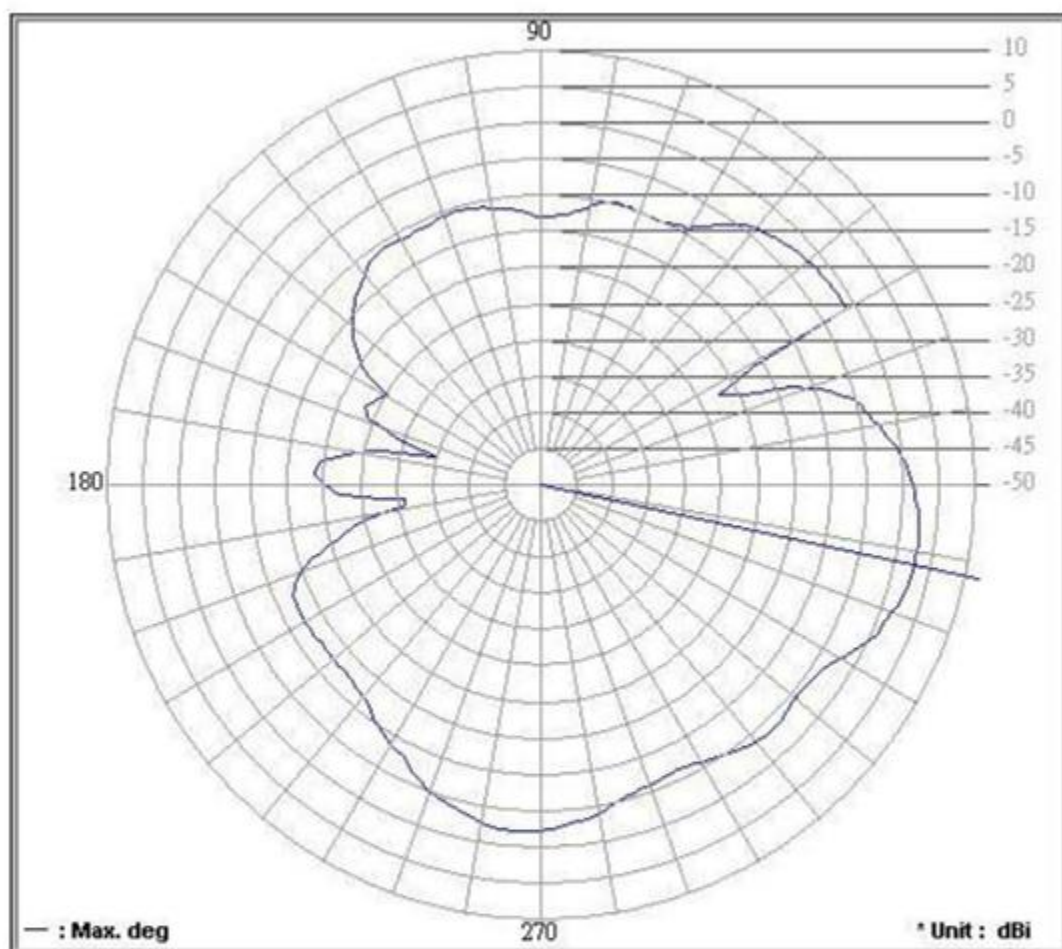
Maximum Gain (dB) : **-2.58**

Maximum Gain (degree) : **3**

Minimum Gain (dB) : **-39.35**

Minimum Gain (degree) : **213**

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Frequency (MHz) : **2479.00**

Antenna Polarity : **Horizontal**

Average Gain (dB) : **-4.84**

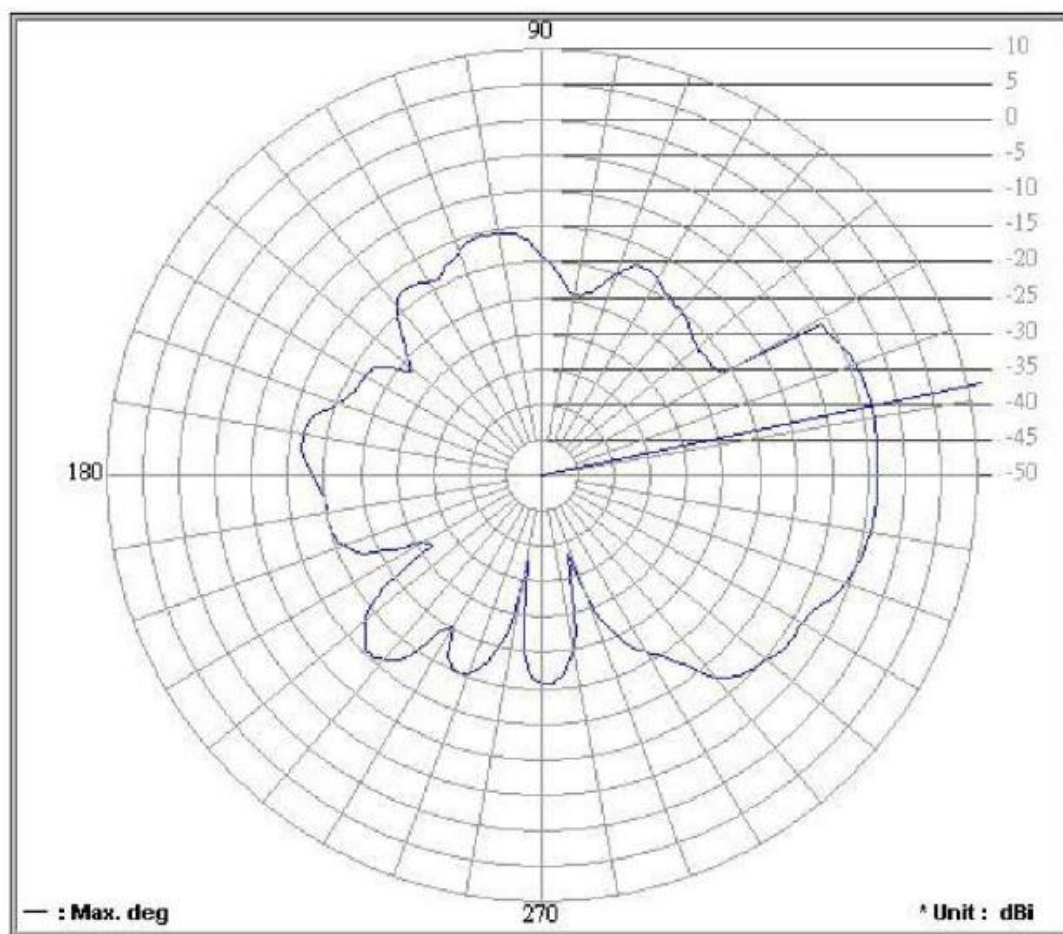
Maximum Gain (dB) : **1.80**

Maximum Gain (degree) : **348**

Minimum Gain (dB) : **-34.80**

Minimum Gain (degree) : **165**

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Frequency (MHz) : **2479.00**

Antenna Polarity : **Vertical**

Average Gain (dB) : **-11.34**

Maximum Gain (dB) : **-3.47**

Maximum Gain (degree) : **12**

Minimum Gain (dB) : **-38.33**

Minimum Gain (degree) : **208**

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Center Frequency		Maximum Ant Gain
2402 MHz	H	1.85 dBi
	V	-1.54 dBi
2441 MHz	H	1.82 dBi
	V	-2.58 dBi
2479 MHz	H	1.80 dBi
	V	-3.47 dBi