

Shenzhen Xinlingke Technology Co., Ltd.



Antenna specification

Model Name: G520

Date: December 16, 2025

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01.Project Introduction and Photoes-Project Introduction



RF Engineer	Engineer Kong	Email	2532625702@qq.com
		Mobile	18477016343
Antenna Overview			
Status of Sample machine	Whole machine	Project Name	G520
Antenna Type	Dipole	Structure mode	
Main Antenna			
Other Antenna	2.4G 5G BT		

02.Report Versions



Version	Report Time	Commissioning Overview
A0	2022.06.01	Antenna Test Report
A1		
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		
A10		

03.Introduction of Company and Test Environment- Company



Company Experience

Shenzhen Xinlingke Technology Co., Ltd. owns 12 years of experience in R & D and production of various mobile communication terminals. Company has established a joint RF device laboratory with universities. Company is proficient in antennas of 5G NSA and SA, ultra thin mobile phones, NB IOT / EMTC, and base station.



Product Range

The products of company cover many fields, such as smart home, Internet of vehicles, smart wear, mobile phones, pad, base station etc.



Core Task

Company has been committed to improving our long-term competitiveness by providing whole RF solution, insisted on taking customer demand as the first place.

03.Introduction of Company and Test Environment-Test Environment



The company owns several OTA darkrooms whose frequency bands covers from 400mhz to 8.5ghz.

- Providing OTA test for whole machine which include but not be limited to 5G NSA, SA(trp/tis), WiFi active test (supporting 11b/11g/11n/11ax mode), bluetooth/GPS active test
- Providing antenna gain and efficiency
- Providing 2D pattern / Apple chart analysis
- Providing upper and lower hemisphere efficiency
- Providing mutual interference correlation coefficient test items.

04.Environment Test



Name of the testing laboratory: Shenzhen Xinlingke Technology Co., Ltd.

address: 5th Floor, Shenzhen Flour Company Office Building, No. 9106, Beihuan Avenue,
North District, Nanshan Science Park, Shenzhen

Test date: December 16, 2025

Name of the tester: Kong Xiang-hua

04.Environment Test

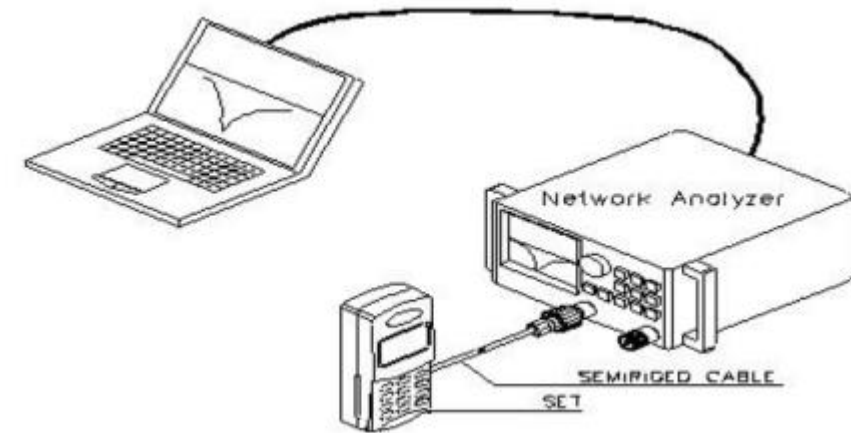


S11 test.

Test equipment: Network analyzer.

Test Method: Use a 50-ohm cable to transmit data from the instrument's test port. After calibrating using a calibration device, connect the SMA connector of the phone-based device. Record data such as the return loss or standing wave ratio for the corresponding frequency points.

The test diagram is as follows::



04.Environment Test

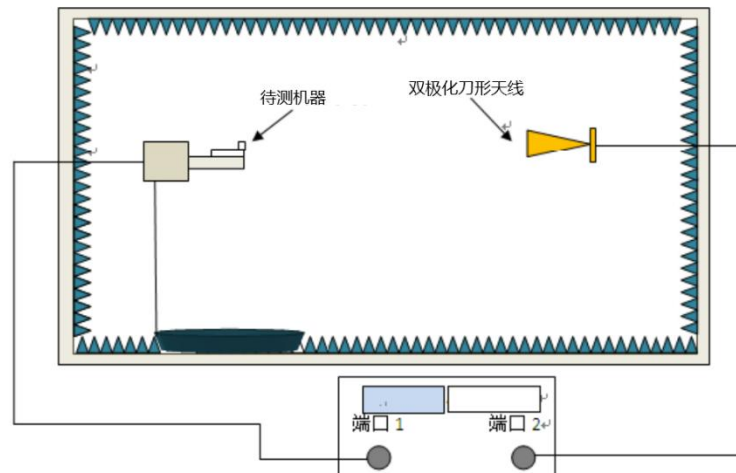


Efficiency/Gain

Test equipment: Agilent E5071B multimeter, spectrum analyzer, network analyzer, full-wave far-field ETS darkroom, high-precision positioning system and its controller, as well as a computer with automated testing programs.

Test Method: The DUT is positioned with the H-face facing the center of the turntable, aligned horizontally with the center of the horn antenna. The port 1 of the network analyzer is connected to the speaker antenna via a high-frequency cable, while port 2 is connected to the test phone antenna via a high-frequency cable. The speaker antenna transmits and receives signals using H-polarization and v-polarization, respectively. Each RF instrument, the turntable controller, and the PC with automated testing software communicate through a GPIB interface. The positioning system enables the DUT to rotate throughout the spherical surface, ensuring high-precision three-dimensional positioning. Data is acquired from various points in three-dimensional space with an increment of 15 degrees, and the efficiency and maximum gain are determined.

Connection diagram:

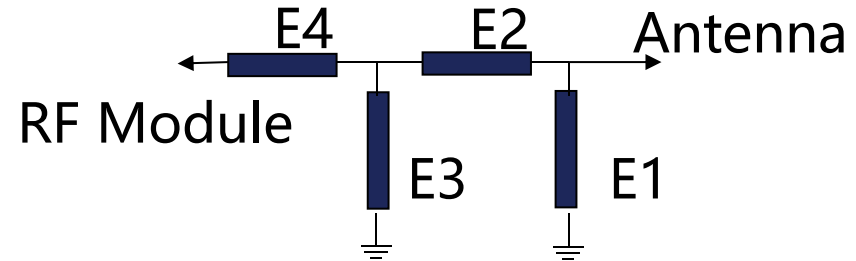


05. Matching Circuit



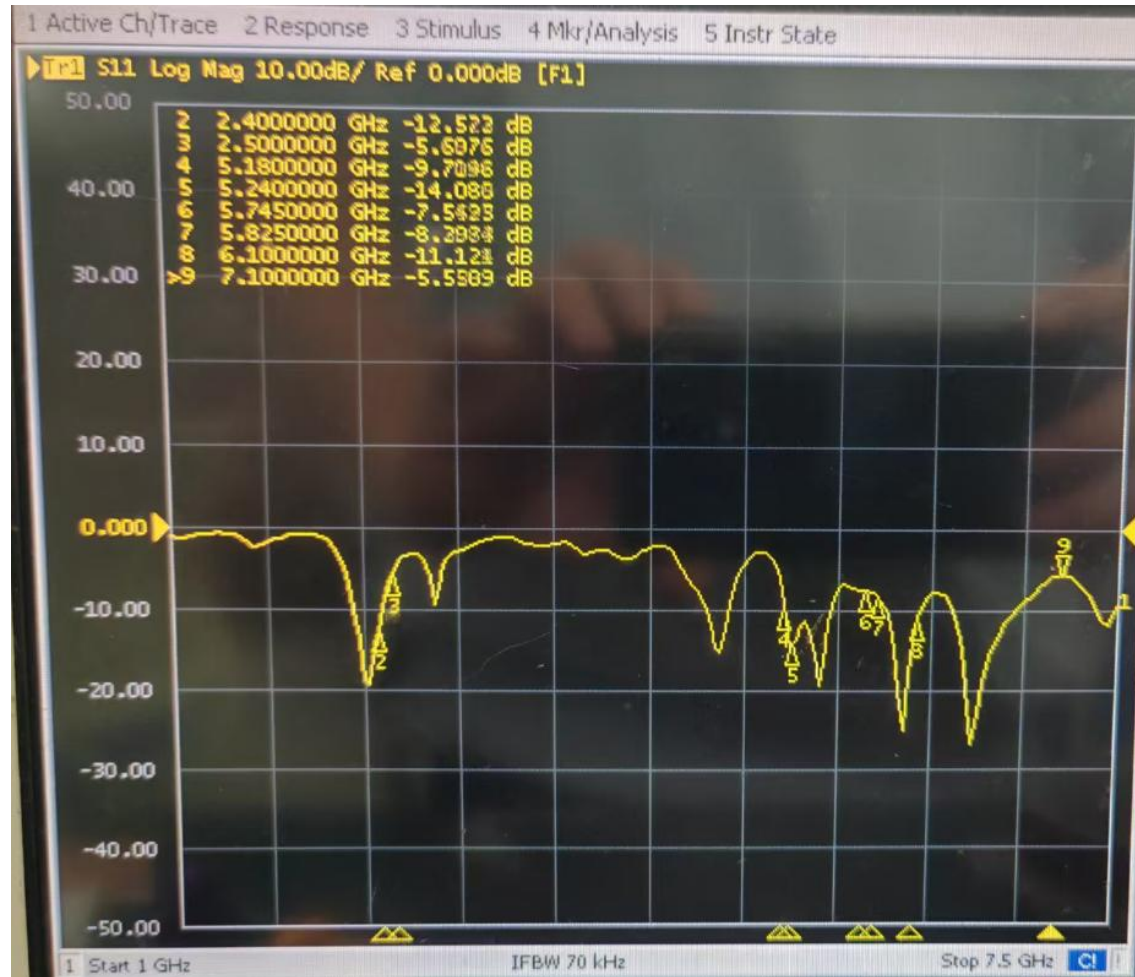
Matching Circuit
is not been changed

Element	Value
E1(0402)	
E2(0201)	
E3(0201)	
E4(0201)	



05. Antenna data.

WiFi antenna, passive data.



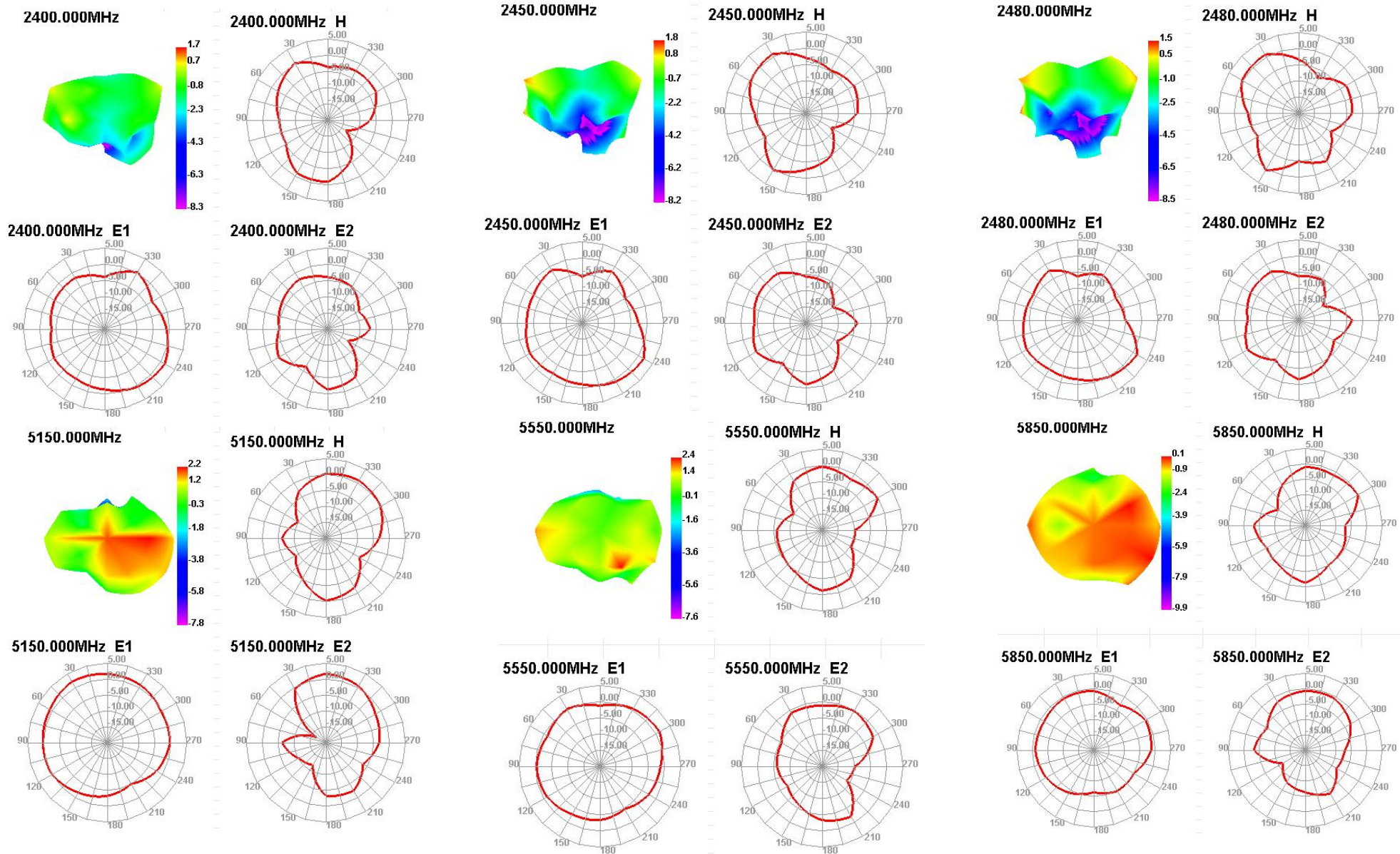
05.Antenna data.

WiFi antenna efficiency gain.

Frequency (MHz)	2400	2450	2480	5150	5550	5850	6150	6550	7100
Gain (dBi)	1.71	1.81	1.74	2.16	2.4	0.07	1.81	1.04	-1.5
Frequency (MHz)	2400	2450	2480	5150	5550	5850	6150	6550	7100
Efficiency(%)	53.5	55.67	54.63	57.27	54.53	45.59	42.21	43.18	40.27

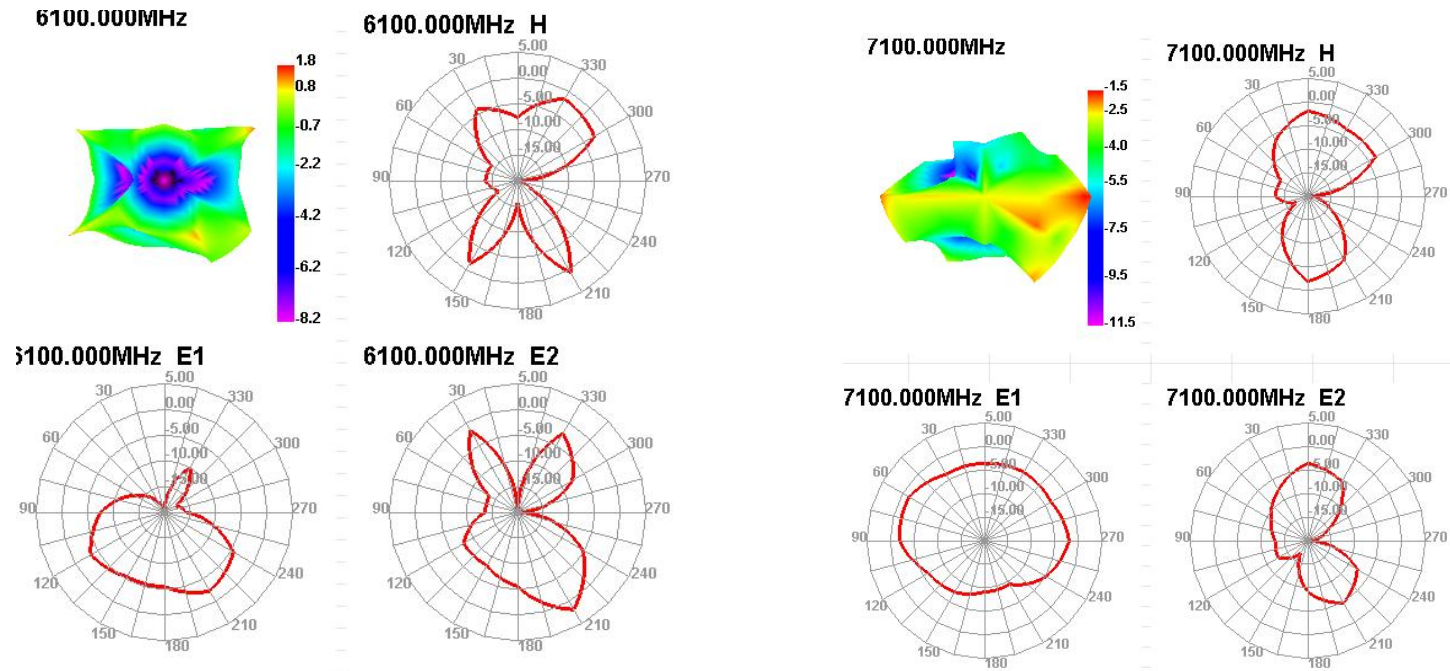
05.Antenna data.

WiFi antenna direction diagram for Apple devices.



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WiFi antenna direction diagram for Apple devices.



05. Antenna data.

BT antenna, passive data.



05.Antenna data.

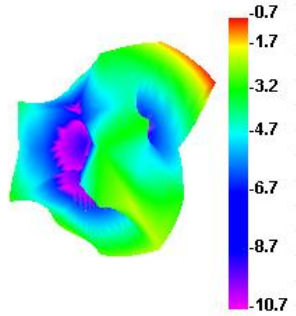
BT antenna efficiency gain.

Frequency (MHz)	2400	2450	2480
Gain (dBi)	-0.74	-0.01	-0.52
Frequency (MHz)	2400	2450	2480
Efficiency(%)	30.32	35.78	34.52

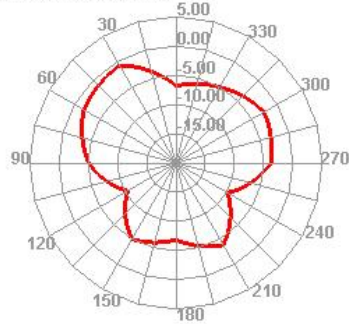
05. Antenna data.

BTWiFi antenna direction diagram for Apple devices.

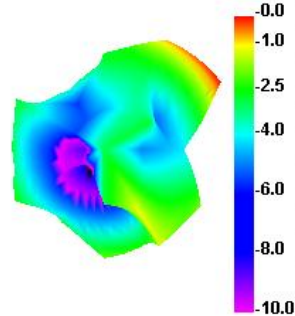
2400.000MHz



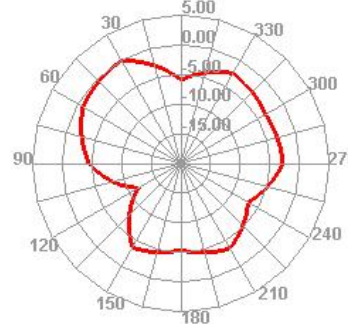
2400.000MHz H



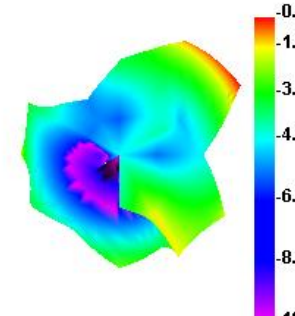
2450.000MHz



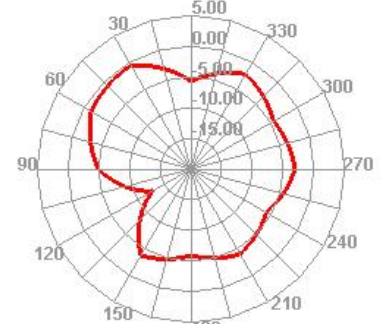
2450.000MHz H



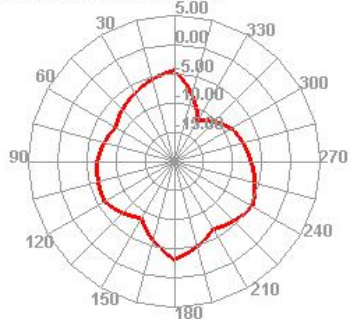
2480.000MHz



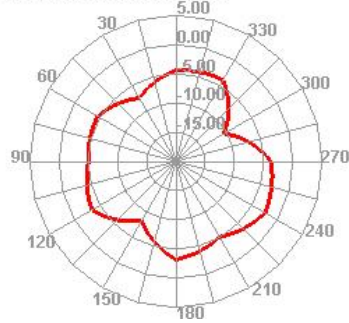
2480.000MHz H



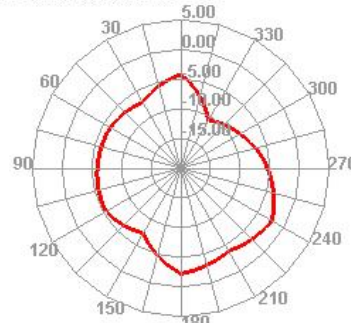
2400.000MHz E1



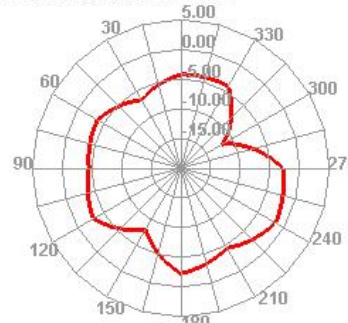
2400.000MHz E2



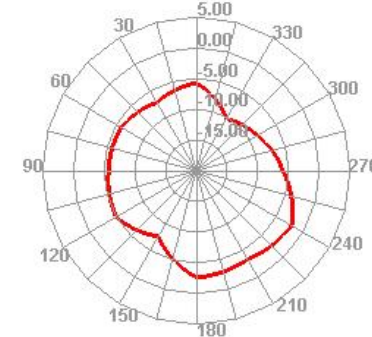
2450.000MHz E1



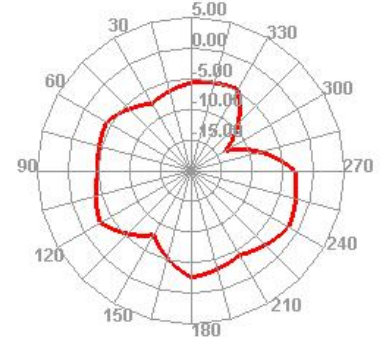
2450.000MHz E2



2480.000MHz E1



2480.000MHz E2



THANKS!

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