

SPECIFICATION



深圳市大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

中山悦辰 COVE A1 WIFI0 天线组件

Richsound COVE A1 WIFI0 Antenna assembly

产 品 规 格 书

Product Specification

客 户 connection	中山悦辰 Richsound	频 段 frequency range	2400MHz ~ 2500MHz 5150MHz ~ 5850MHz
项目名称 entry name	COVE A1	版 本 edition	V03
物料编号 Material No	2C-OVEA1-049	颜 色 Color	黑色 Black
客户料号 Customer Item Number			
R F 设计 R F Design	刘柱东 ZhuDong.Liu	结构设计 Structural Design	周锐斌 Rui Bin Zhou
品质经理 Quality Manager	李高亮 GaoLiang.Li	技术总监 Technical Director	张磊 Lei Zhang
日 期 Date	2026-04-03		

客户确认:

Customer confirmation:

装配是否符合贵司要求: ☐OK ☐NGWhether the assembly meets your company's requirements: ☐OK ☐NG

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变更履历

Revision history

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V1.0	创建 found			2026-04-03	
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一 项目说明 Project Description

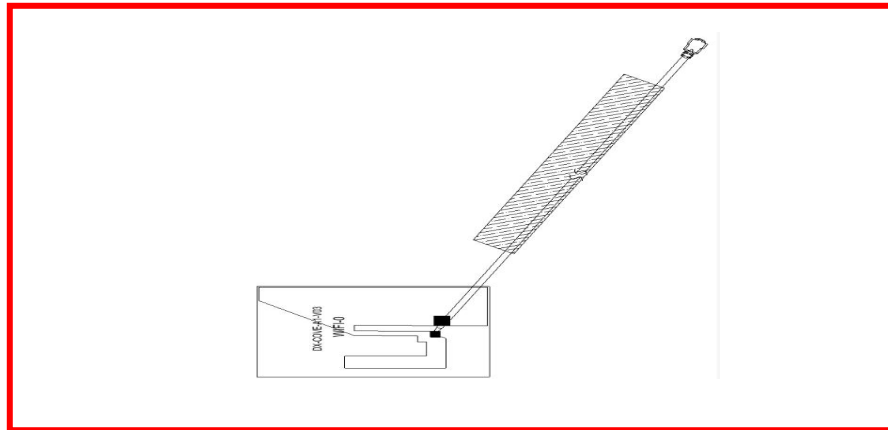
客户名: Customer Name:	中山悦辰 Richsound
整机类型: Type of complete machine:	音箱 loudspeaker box
天线频段: Antenna band:	2400MHz ~ 2500MHz、5150MHz ~ 5850MHz
天线形式: Antenna form:	FPC+同轴线+线材海绵 FPC+coaxial line+wire sponge
馈电形式: Feed form:	焊接 weld
硬件版本: Hardware version:	/

二 WIFI 0 天线组件 Antenna assembly

1 规格 specifications

本报告主要提供 COVE A1 项目天线的各项电气和结构性能参数的测试状况。下图为大显设计的天线图片。

This report mainly provides the testing status of various electrical and structural performance parameters of the antenna for the COVE A1 project. The following image shows an antenna with a large display design.



天线外观图

antenna appearing diagram

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1.1 电气规格标准 Electrical specifications and standards

1.1.1 电性能指标 Electrical performance index

天线工作频段在 2400MHz ~ 2500MHz、5150MHz ~ 5850MHz。 下表是大显设计和量产天线的电性能的指标。

The operating frequency band of the antenna is between 2400 and 2500 MHz、5150 and 5850MHz. The following table shows the electrical performance indicators of large display design and mass production antennas.

Frequency Range	Frequency (MHz)	VSWR
WIFI1	2400MHz ~ 2500MHz 5150MHz ~ 5850MHz	≤ 2

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2 结构规格标准 Structural specifications and standards

1.2.1 天线组成 Antenna composition

天线主要是由 FPC+同轴线+线材海绵 组成。

The antenna is mainly composed of FPC+coaxial line+wire sponge.

2、测试设备 The Equipment of Active Test

Satimo 3D Chamber 4×4×4(m)

CMW500 E5071C

Network analyzer-R&S ZVL

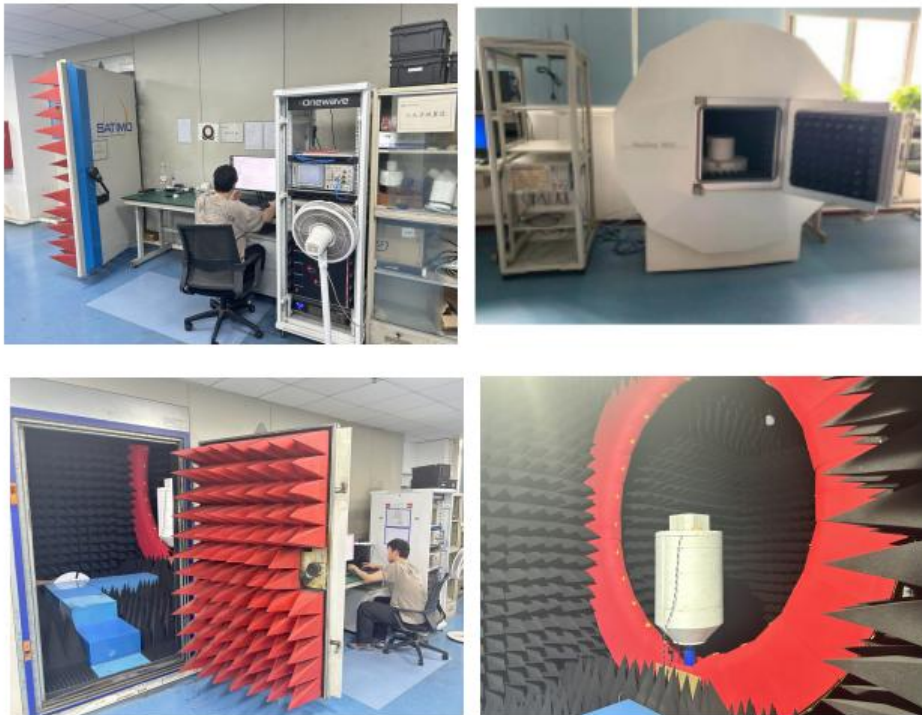


图 2

Figure 2

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3 测试 test

3.1 驻波(VSWR)的测试 Test of standing wave (VSWR)

3.1.1 测试连接: VSWR 测试装置依次连接为: R&S ZVL 网络分析仪 → 测试线 → 测试治

Test connection: The VSWR test device is sequentially connected as follows: R&S ZVL network analyzer → test line → test fixture

实测(附图)Actual measurement (attached drawing)

3.2 增益及效率、功率 (TRP)、灵敏度 (TIS) 的测试

Gain and efficiency, power (TRP), sensitivity (TIS) testing

3.2.1 测试的场地 Test site:

大显微波暗室。测试频率范围为 400MHz—6GHz, 静区范围为 50cm 圆周, 反射率小于 -50 dB。

Large display microwave anechoic chamber. The test frequency range is 400MHz - 6GHz, the static zone range is 50cm circumferential, and the reflectivity is less than - 50dB.

3.2.2 测试的仪表 Tested Instruments:

R&S ZVL 网络分析仪、CMW500 E5071C、标准喇叭天线、法国 SATIMO-SG24SYSTEM 系统、打印机等。

R&S ZVL network analyzer, Agilent 8960 E5515C, standard horn antenna, French SATIMO-SG24SYSTEM system, printer, etc.

3.2.3 测试数据: 在微波暗室中, 测试的功率和灵敏度相关的数值如下表

Test data: In a microwave anechoic chamber, the values related to the power and sensitivity tested are shown in the table below

无源效率&增益 Passive efficiency&gain:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	53.09	-2.75	2.34
2450	54.09	-2.67	2.37
2500	53.95	-2.68	2.35
5150	50.12	-3.00	2.37
5250	50.21	-2.99	2.64
5350	50.57	-2.96	2.84
5450	50.95	-2.93	2.86
5550	51.32	-2.90	2.89
5650	50.76	-2.94	2.81
5750	50.65	-2.95	2.78
5850	50.61	-2.96	2.7

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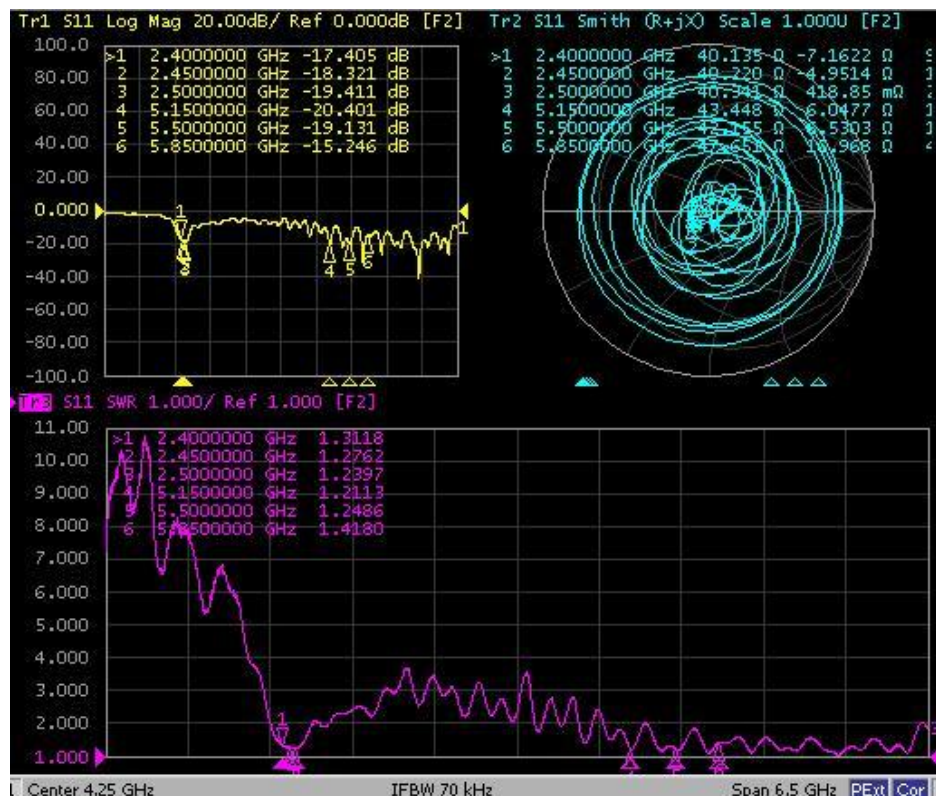
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OTA 有源数据 Active OTA Data

		TPR	TIS
802.11b 11M	1	14.12	-72.31
	6	14.16	-81.62
	11	14.02	-81.55
802.11g 54M	1	13.42	-67.28
	6	13.57	-67.41
	11	13.37	-67.31
802.11n MCS7	1	12.19	-66.31
	6	12.37	-66.37
	11	12.27	-66.29
802.11a 54M	36	9.34	-73.58
	149	9.31	-73.62
	161	9.42	-73.31

4、VSWR 参数图 VSWR parameter diagram



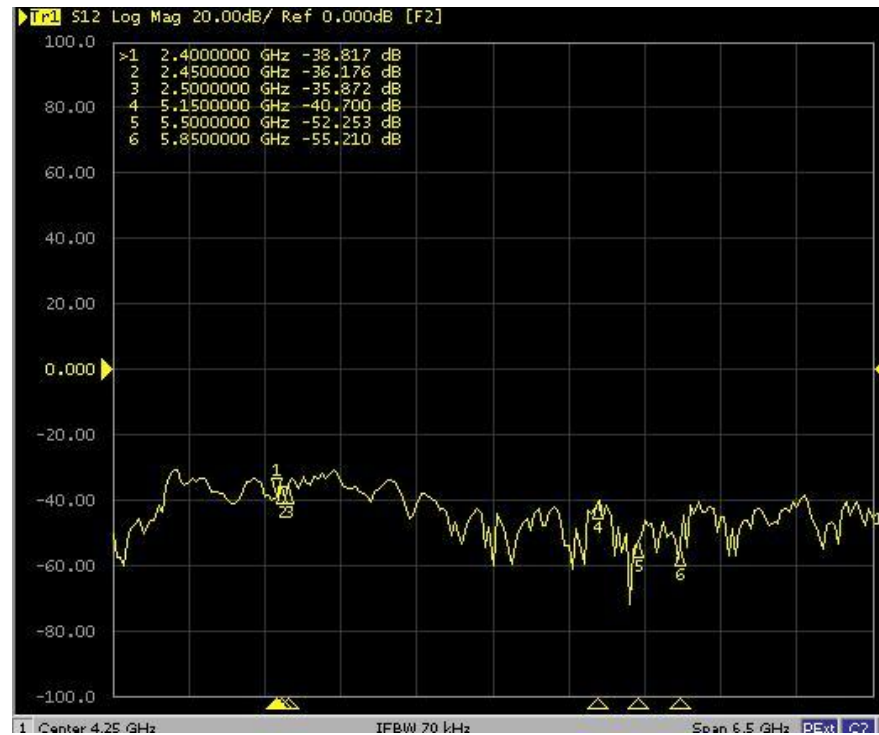
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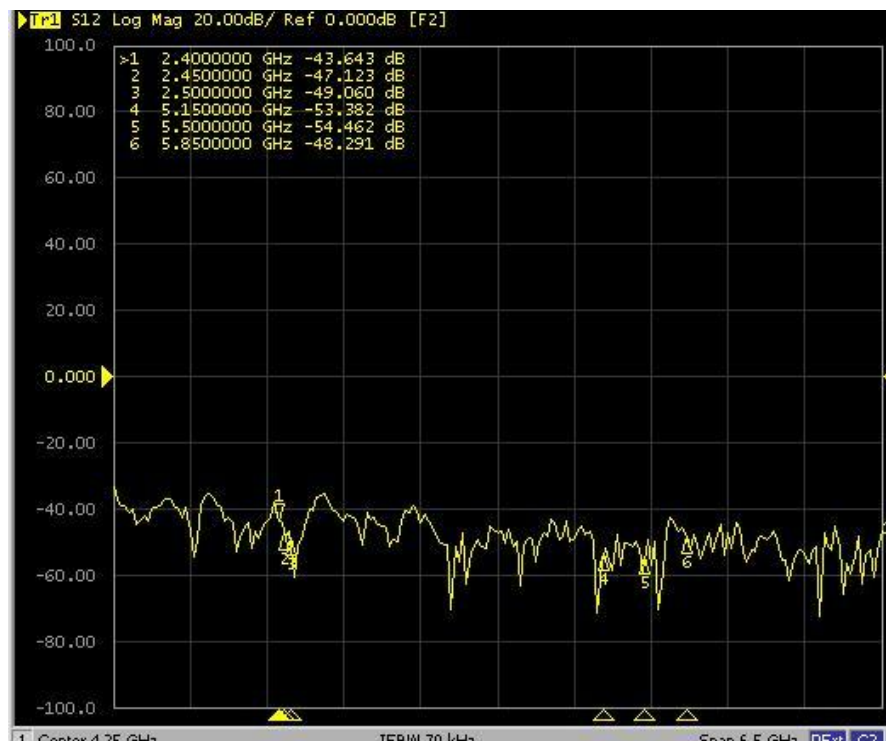
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天线隔离度 Antenna Isolation:

WIFI 0 and BT



WIFI 0 and WIFI 1



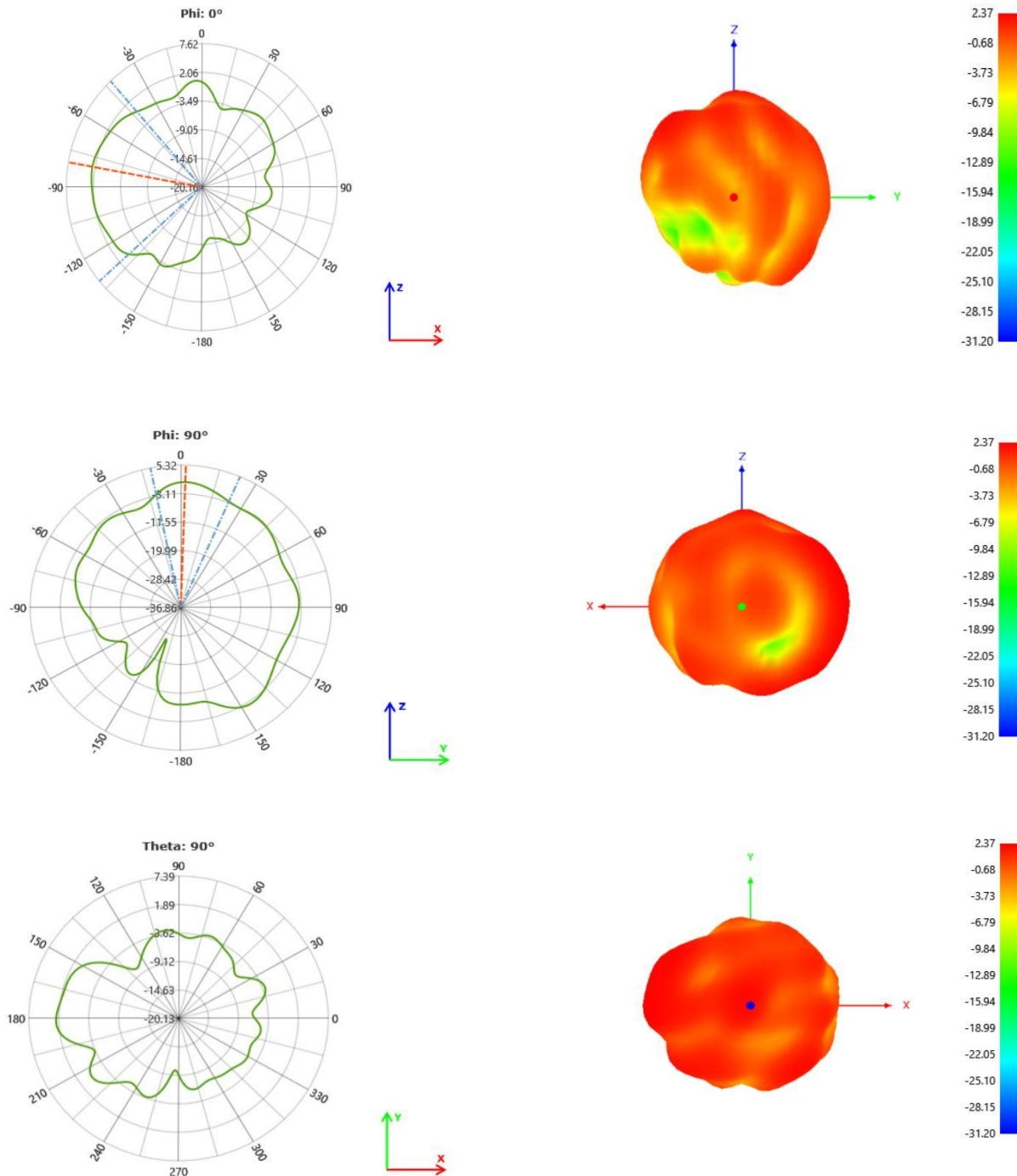
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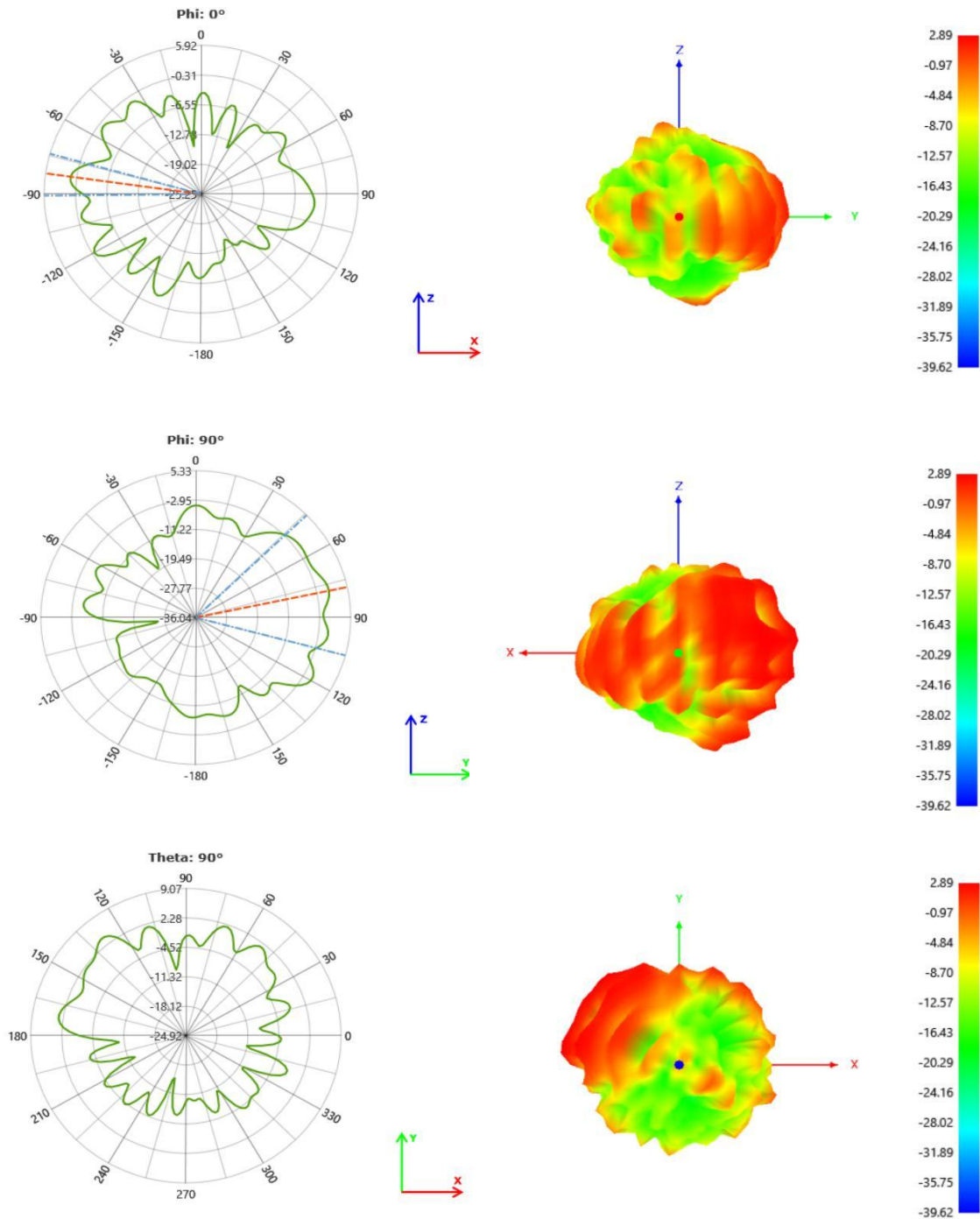
5、无源场型图 Passive Field Pattern Diagram

2450MHz



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5550MHz

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