

SPECIFICATION



深圳市大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

国光 COVE P1 WIFI1 天线组件

GGEC COVE P1 WIFI1 Antenna assembly

产 品 规 格 书

Product Specification

客 户 connection	国光 GGEC	频 段 frequency range	2400 MHz~ 2500MHz 5150 MHz~ 5850MHz 5925MHz ~ 7125MHz
项目名称 entry name	COVE P1	版 本 edition	V06
物料编号 Material No	3C-OVEP1-178	颜 色 Color	黑色+灰色 Black+Cray
客户料号 Customer Item Number			
R F 设计 R F Design	沈 川 Chuan.Shen	结构设计 Structural Design	周锐斌 Ruibin.Zhou
品质经理 Quality Manager	李崇瑞 ChongRui.Li	技术总监 Technical Director	张 磊 Lei.Zhang
日 期 Date	2026-02-09		

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

[illegible]

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一 项目说明 Project Description

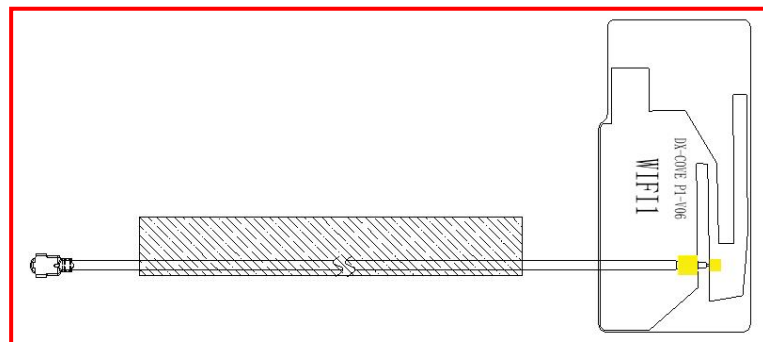
客户名: Customer Name:	国光 GGEC
整机类型: Type of complete machine:	音箱 loudspeaker box
天线频段: Antenna band:	2400 MHz~ 2500MHz、 5150 MHz~ 5850MHz 、 5925MHz ~ 7125MHz
天线形式: Antenna form:	FPC+同轴线+线材海绵 FPC+coaxial line+wire sponge
馈电形式: Feed form:	焊接 weld
硬件版本: Hardware version:	/

二 WIFI 1 天线组件 Antenna assembly

1 规格 specifications

本报告主要提供 COVE P1 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 P1 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

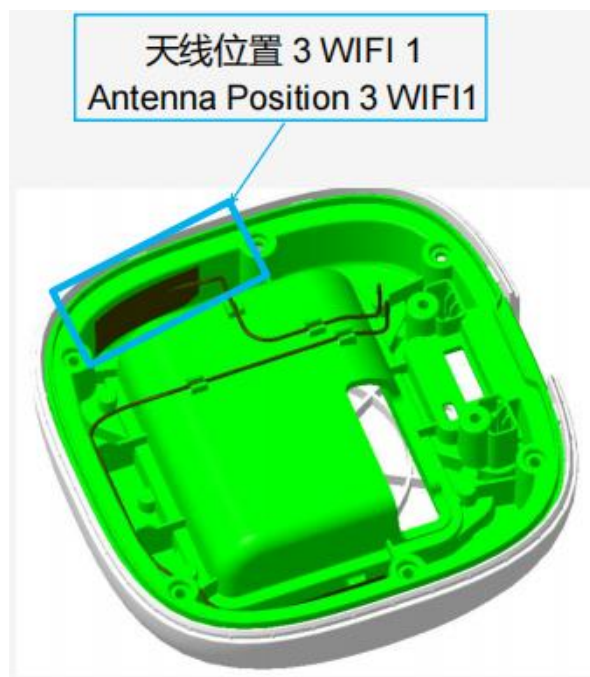
1.1.1 电性能指标 Electrical performance index

天线工作频段在 **2400 MHz~ 2500MHz** 、 **5150 MHz~ 5850MHz**、 **5925MHz ~ 7125MHz**。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 MHz and 2500 MHz、5150MHz and5850MHz、5925MHz and7125MHz.. The following table shows the electrical performance indicators of large display design and mass production antennas.

Frequency Range	Frequency (MHz)	VSWR
WIFI1	2400 MHz~ 2500MHz、 5150MHz ~ 5850MHz 5925MHz ~ 7125MHz	≤ 2

1.1.2 天线位置布局 Antenna Location Layout



1.2 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.

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2、测试设备 The Equipment of Active Test

Satimo 3D Chamber $4 \times 4 \times 4$ (m)

CMW500 E5071C

Network analyzer-R&S ZVL

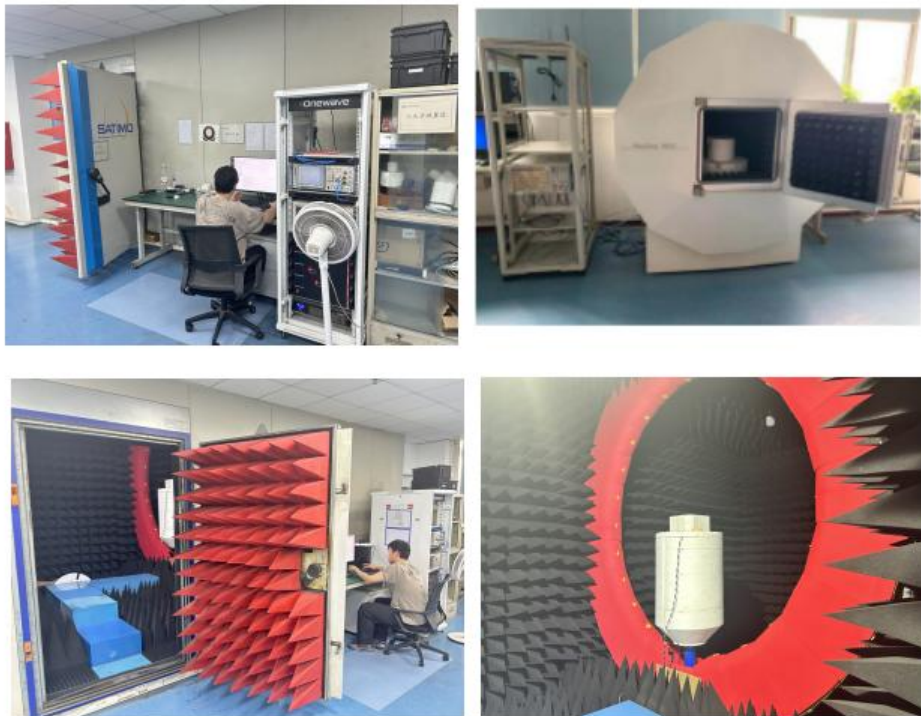


图 2

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 测试装置依次的连接为: 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—7.5GHz, 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 - 7.5GHz, 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

OTA 有源测试 OTA active testing

		TPR	TIS
802.11b 11M	1	13.42	-83.72
	6	13.57	-83.92
	11	13.78	-83.86
802.11g 54M	1	12.81	-71.27
	6	12.94	-71.67
	11	12.46	-71.36
802.11n MCS7	1	11.34	-69.73
	6	11.44	-69.96
	11	11.58	-69.81
802.11a 54M	40	7.14	-72.36
	149	7.36	-72.75
	161	7.26	-72.61

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无源效率&增益 Passive efficiency&gain:

	Efficiency (%)	Efficiency (dB)	Gain (dBi)
2400	52.62	-2.79	1.59
2450	52.84	-2.77	1.80
2500	52.33	-2.81	1.46
5150	44.76	-3.49	2.26
5300	45.13	-3.46	2.43
5500	45.73	-3.43	2.58
5700	45.41	-3.40	2.54
5850	44.79	-3.49	2.31

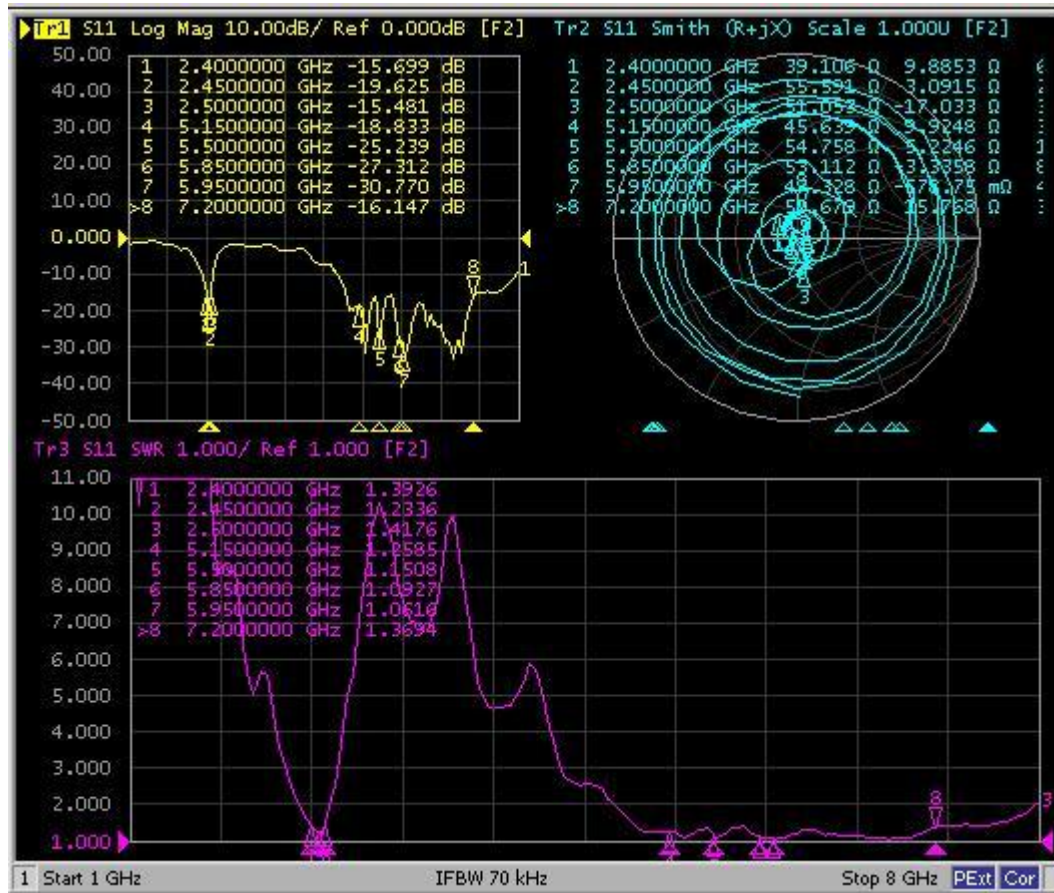
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5925	43.75	-3.59	2.36
6125	44.31	-3.53	2.52
6325	44.71	-3.50	2.71
6525	44.91	-3.48	2.82
6725	44.09	-3.56	2.69
6925	43.42	-3.63	2.43
7125	43.35	-3.62	2.21

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4、VSWR 参数图 VSWR parameter diagram



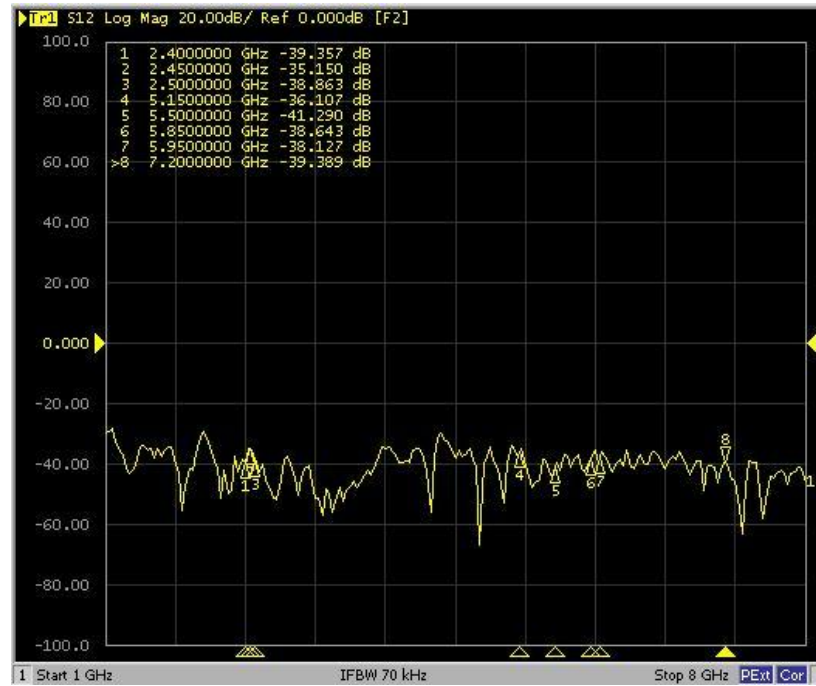
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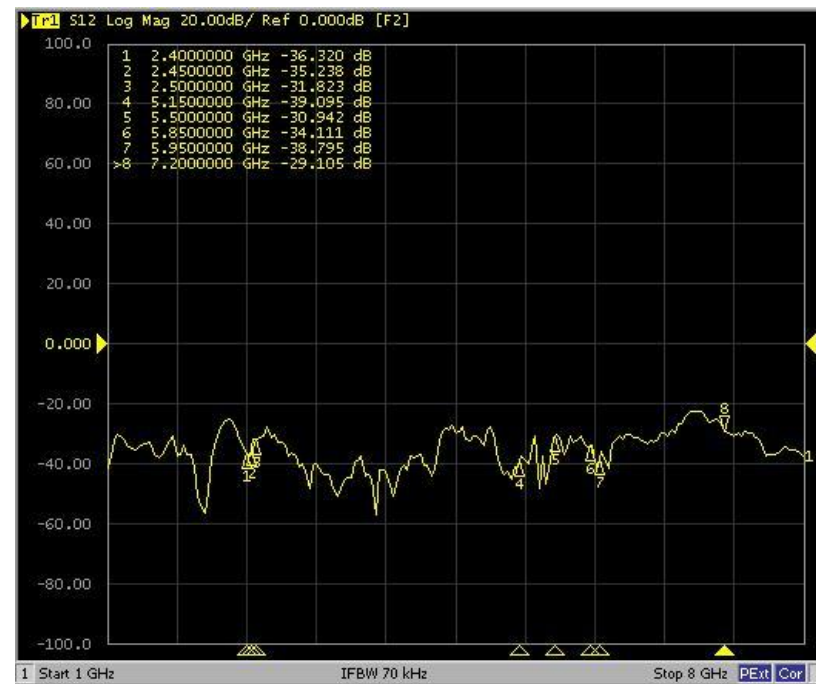
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天线隔离度 Antenna Isolation:

BT and WIFI 1



WIFI0 and WIFI 1



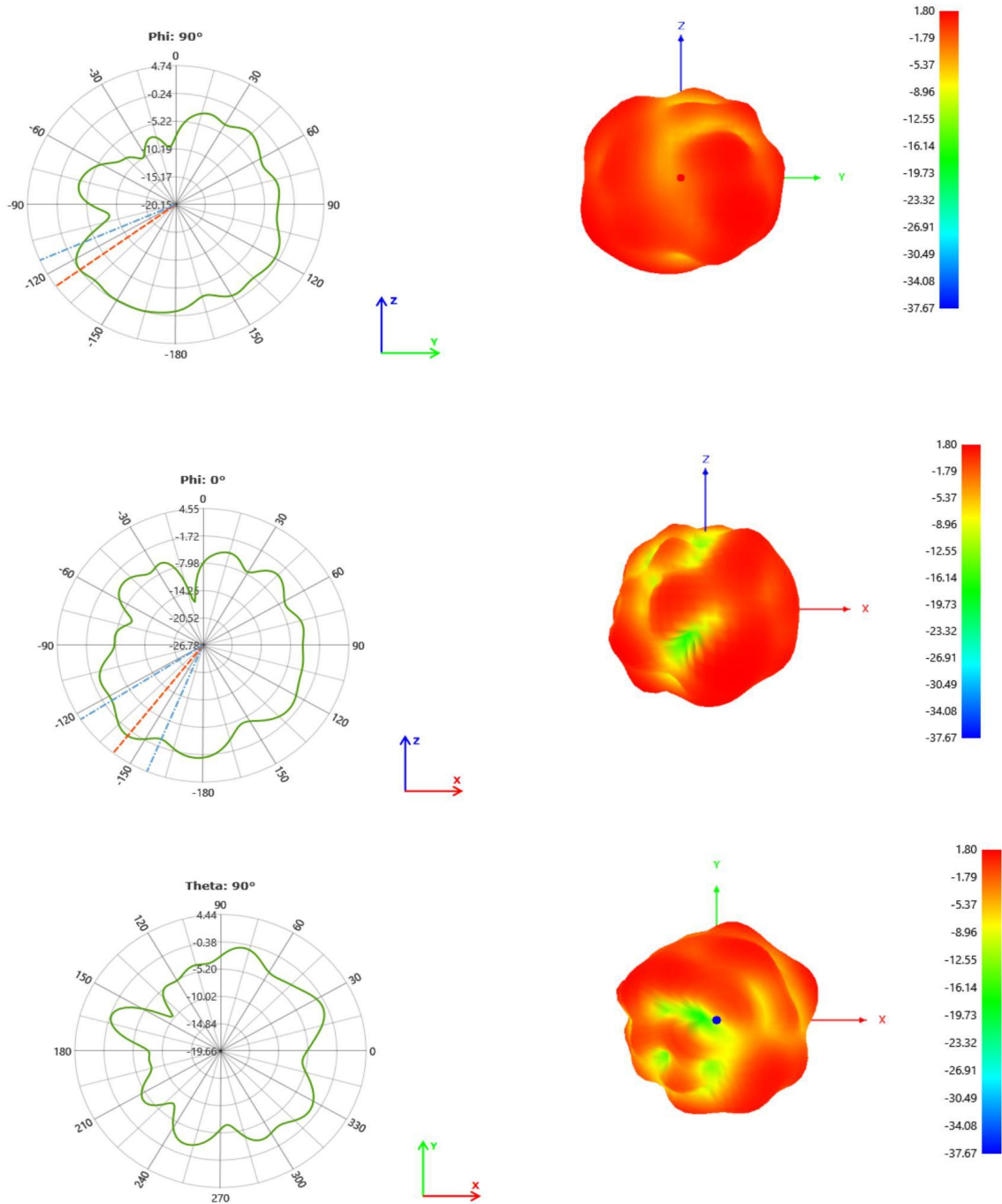
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5、无源效率场型图 Passive efficiency field pattern diagram

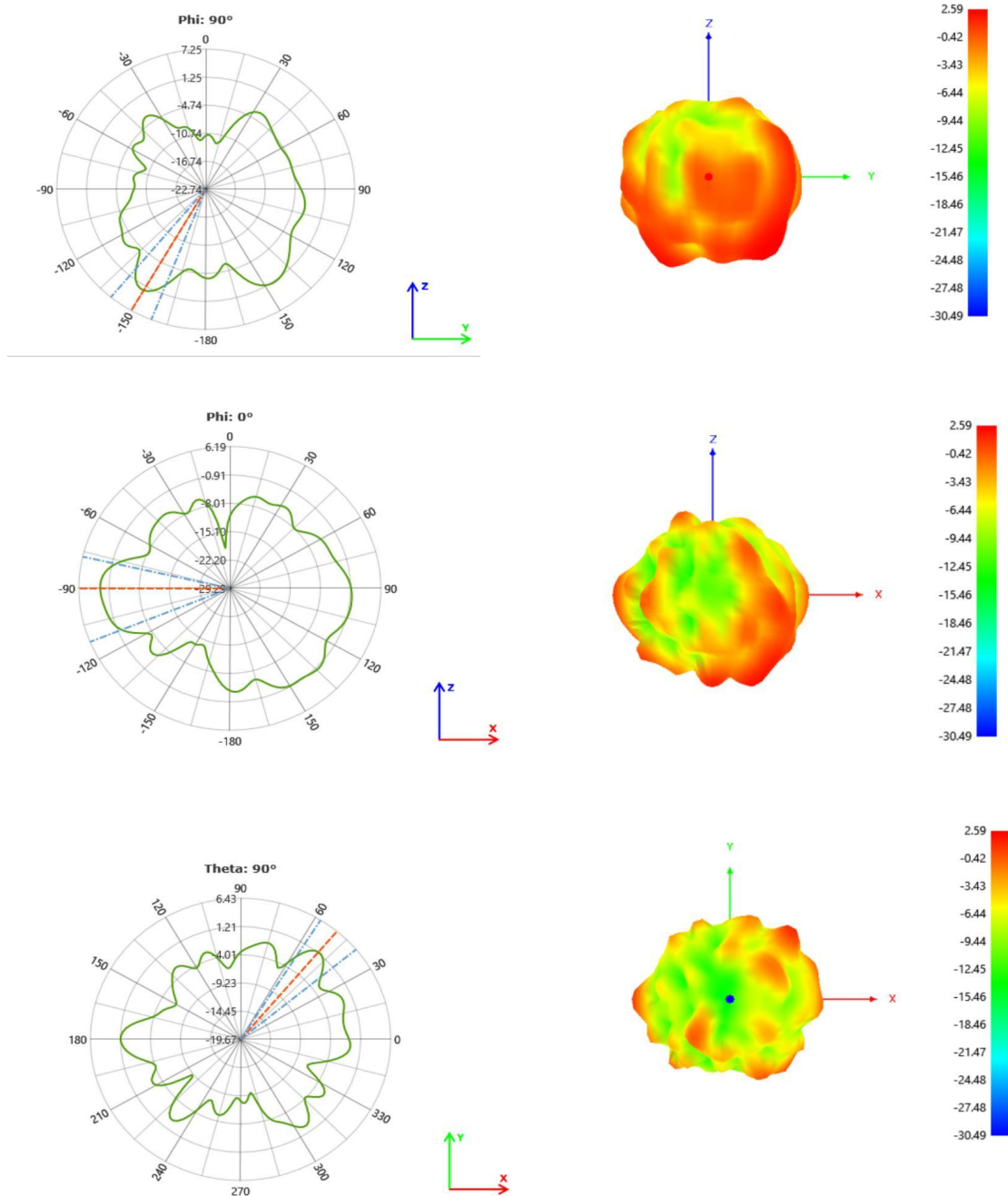
2450MHz



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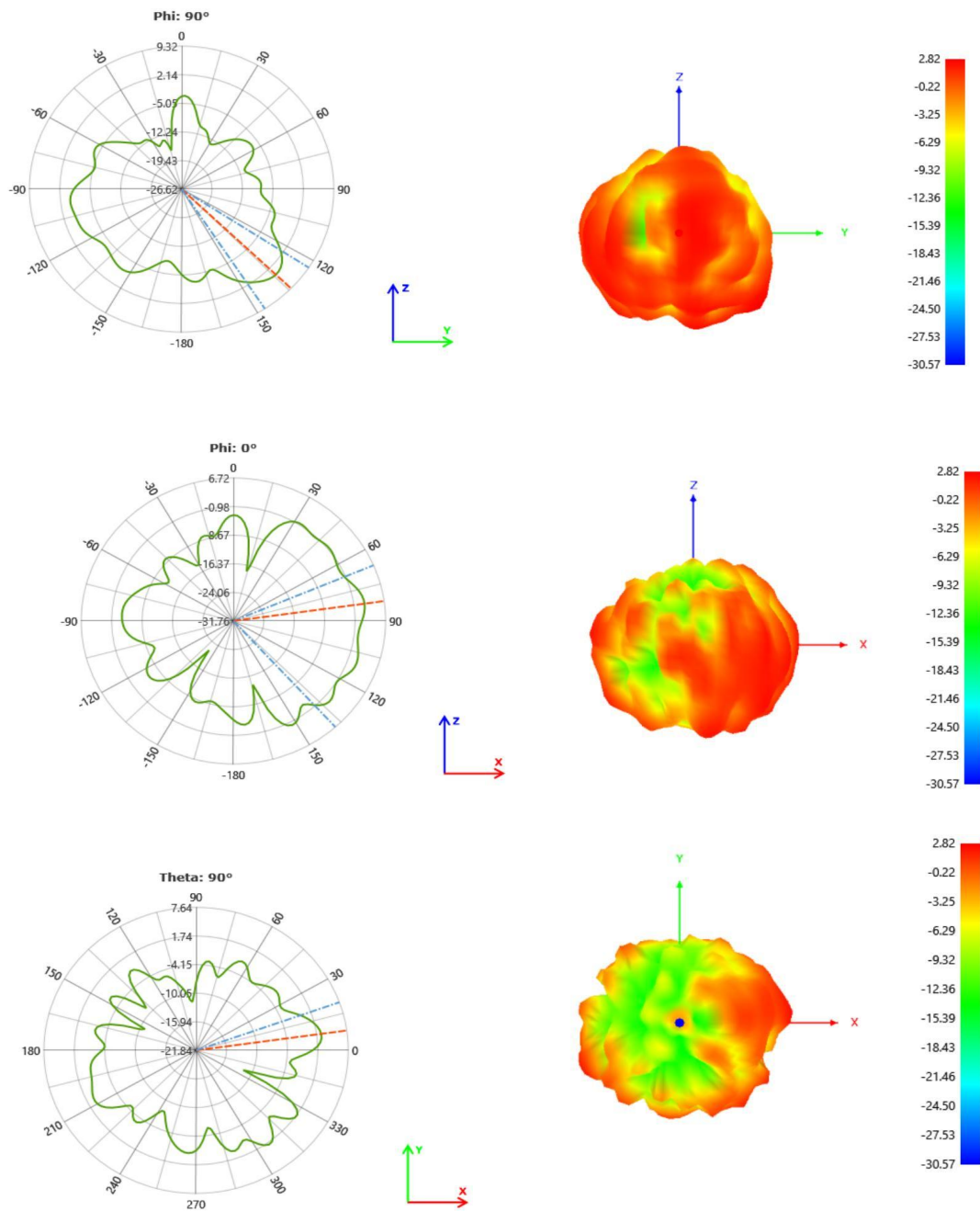
5500MHz



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6525MHz



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6、户外拉距测试 Outdoor Pull distance test

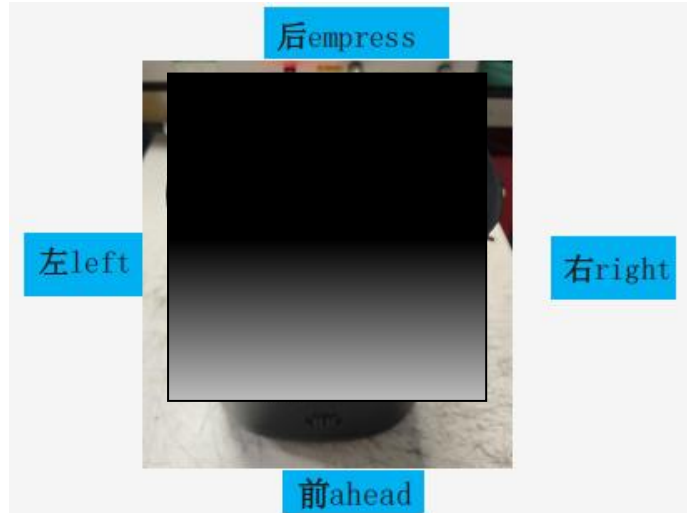
拉距测试 (Pull distance test) :

测试时间 (Testing time) : 2026/02/07

测试场地 (test site) : 深圳铁岗水库附近 (Near Tiegang Reservoir, Shenzhen)

测试手机 (Test Cell Phones) : Iphone 16 Pro

测试路由器 (Tested on) : Asus-RT-AC86U Router



测试方向 Test direction	前 ahead	后 empress	左 left	右 right
	测试距离TestDistance			
BT	100M	100M	100M	100M
WIFI 2.4G	130M	130M	130M	130M
WIFI 5.8G	255M	255M	255M	255M

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Aura Cast 测试

苹果手机 16 Pro							
4#为主机 3#为副机							
	主机0°		主机90°		主机180°		主机270°
副机0°	65米	副机0°	65米	副机0°	65米	副机0°	65米
副机90°	65米	副机90°	65米	副机90°	65米	副机90°	65米
副机180°	65米	副机180°	65米	副机180°	65米	副机180°	65米
副机270°	65米	副机270°	65米	副机270°	65米	副机270°	65米

7、结论 conclusion

此天线是在客户提供样机基础上设计，电参数和结构性能已达到技术要求，请确认！

This antenna is designed based on the prototype provided by the customer. The electrical parameters and structural performance have met the technical requirements, please confirm!

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