

SPECIFICATION



深圳市大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

通力 TOUR ONE M3 BT 天线组件Tonly TOUR ONE M3 BT Antenna assembly

产 品 规 格 书

Product Specification

客 户 connection	通力 Tonly	频 段 frequency range	2400 ~ 2500MHz
项目名称 entry name	TOUR ONE M3	版 本 edition	V1.0
物料编号 Material No	1T-DM3XX-043	颜 色 Color	黑色 Black
客户料号 Customer Item Number	290000-019562		
R F 设计 R F Design	胡 鹏 Peng.Hu	结构设计 Structural Design	周锐斌 Rui Bin Zhou
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日 期 Date	2024-8-26		

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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索引 Indexes

一、项目说明 Project Description.....	4
二、 BT 天线 antenna.....	4
1、 规格 specifications.....	4
1.1 电气规格标准 Electrical specifications and standards.....	5
1.1.1 电性能指标 Electrical performance index.....	5
1.2 结构规格标准 Structural specifications and standards.....	5
1.2.1 天线组成 Antenna composition..	5
2、测试环境 testing environment.....	6
3、测试 test.	7
3.1 驻波(VSWR)的测试 Test of standing wave (VSWR).....	7
3.1.1 测试连接 Test connection.....	7
3.2 效率、功率（TRP）、灵敏度（TIS）的测试 Testing of efficiency, power (TRP), sensitivity (TIS).....	7
3.2.1 测试的场地 Test site.....	7
3.2.2 测试的仪表 Tested Instruments.....	7
3.2.3 测试数据 test data.....	7-8
4、VSWR 参数图 Parameter diagram.....	8
5、无源场型图 Passive field pattern diagram.....	9
6、有源场型图 Active field pattern diagram.....	10
7、结论 conclusion.....	10
三、工程图 schedule drawing.....	11

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一 项目说明 Project Description

客户名: Customer Name:	通力 Tonly
整机类型: Type of complete machine:	头戴式蓝牙耳机 Headband Bluetooth Headset
天线频段: Antenna band:	2400 ~ 2500MHz
天线形式: Antenna form:	FPC+同轴线 FPC+coaxial line
馈电形式: Feed form:	焊接 weld
硬件版本: Hardware version:	/

二 BT 天线组件 Antenna assembly

1 规格 specifications

本报告主要提供 TOUR ONE M3 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 TOUR ONE M3 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 ~ 2500 MHz**。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**. The following table shows the electrical performance indicators of large display design and mass production antennas.

Frequency Range	Frequency (MHz)	VSWR
BT	2400 ~ 2500	≤ 3

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 $6 \times 4 \times 4$ (m)

Agilent 8960 E5515c

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、Agilent8960 E5515C、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

OTA 数据 (OTA data)			
BAND	CH	TRP	TIS
BT	0	2.52	-90.12
	39	3.67	-89.78
	78	4.59	-90.27

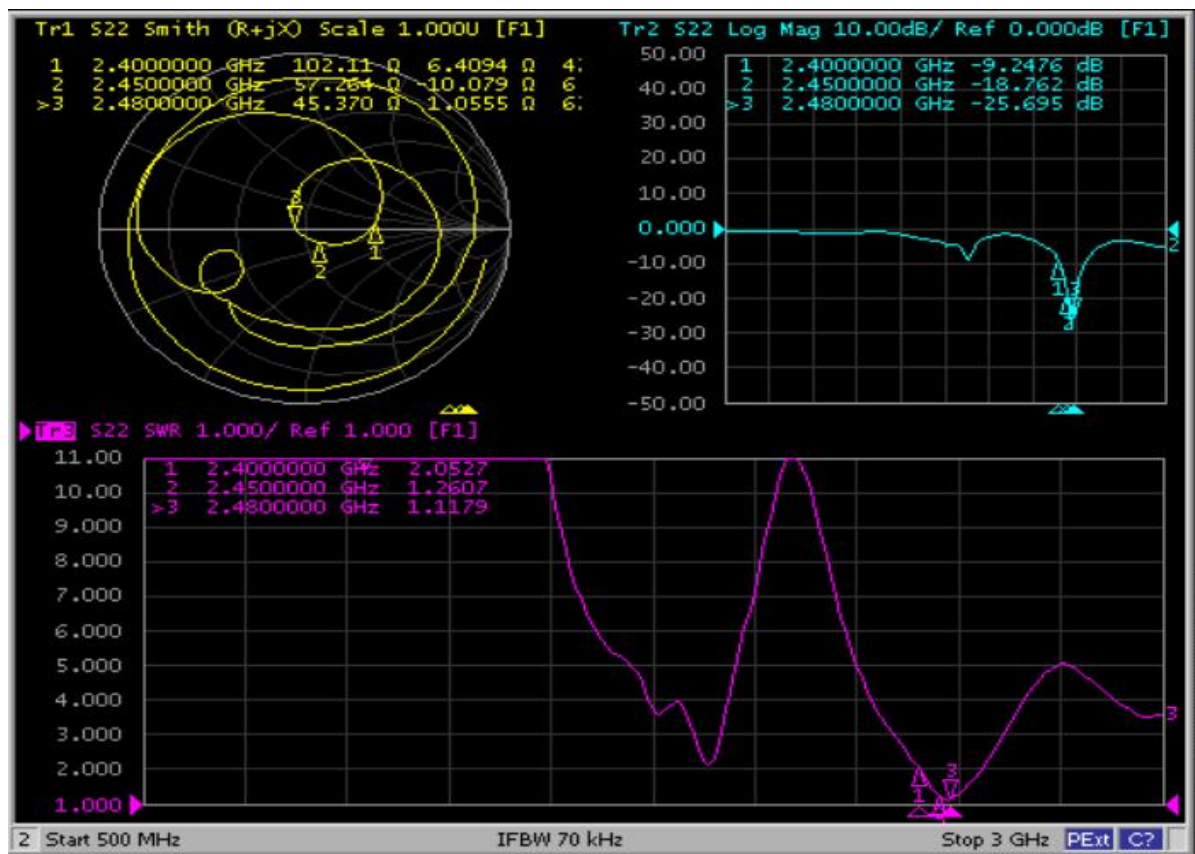
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无源效率&增益 Passive efficiency&gain:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	41.46	-3.82	1.81
2410	42.45	-3.72	1.76
2420	42.66	-3.7	1.9
2430	43.07	-3.66	1.85
2440	43.43	-3.62	1.93
2450	44.82	-3.48	2.01
2460	44.48	-3.52	1.92
2470	45.98	-3.37	1.79
2480	46.33	-3.34	1.85
2490	46.78	-3.3	1.8
2500	45.38	-3.43	1.97

4、VSWR 参数图 VSWR parameter diagram

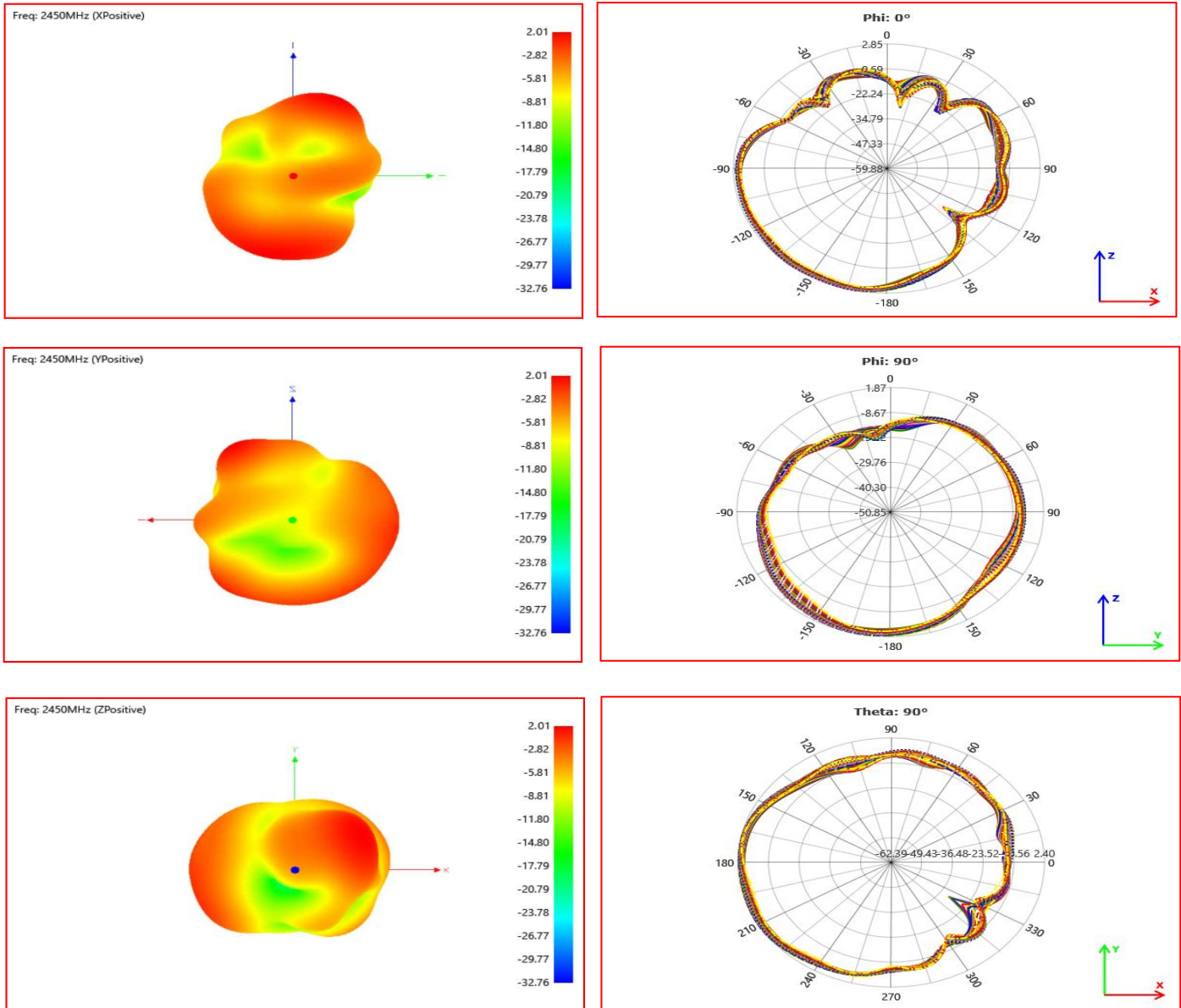


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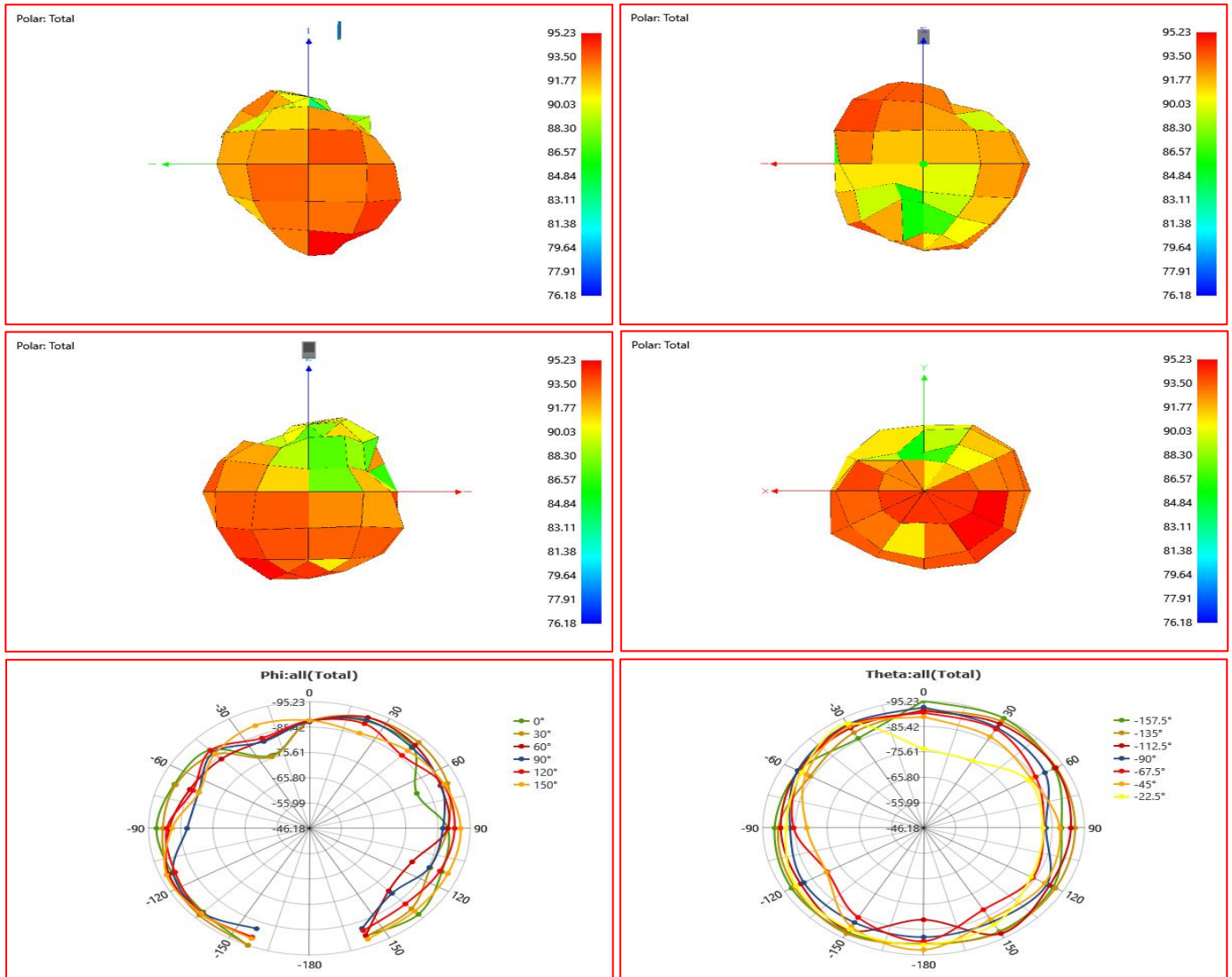
5、无源场型图 Passive Field Pattern Diagram



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6、有源场型图 Active Field Pattern Diagram



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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