SPECIFICATION

Daxian Communication Technology Limited

深圳市大显科技有限公司

Shenzhen Daxian Technology Co., Ltd.

三诺 PB-120 BT 天线组件

3nod PB-120 BT Antenna assembly

产 品 规 格 书

Product Specification

客　户 connection	三诺 3nod	频　段 frequency range	2400 ~ 2500MHz
项目名称 entry name	PB-120	版　本 edition	V06
物料编号 Material No	1P-B-120-070	颜　色 Color	黑色 Black
客户料号 Customer Item Number	**42300322**		
R F 设计 R F Design	沈 川 Chuan.Shen	结构设计 Structural Design	赖宁平 NingPing.Lai
品质经理 Quality Manager	杨进 Jin.Yang	技术总监 Technical Director	张 磊 Lei.Zhang
日　期 Date	2023-10-08		

客户确认：
Customer confirmation:

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

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变更履历
Revision history

版本号 Version number	变更内容 Change content	变更理由 Reason for change	发起变更方 Originating Party	日期 Date	修改人 Modified by
V1.0	创建 found			2023-10-08	
V1.1					

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一 项目说明 Project Description

客 户 名： Customer Name：	三诺 3nod
整机类型： Type of complete machine：	音箱 loudspeaker box
天线频段： Antenna band：	2400 ~ 2500MHz
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
馈脚数量： Number of feed legs：	两个 Two

二 BT 天线组件 Antenna assembly

1、规格 specifications

本报告主要提供 PB-120 项目天线的各项电气和结构性能参数的测试状况。

This report mainly provides the testing status of various electrical and structural performance parameters of the antenna for the PB-120 project.

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**	**≤ 2**

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 6×4×4(m)

Agilent 8960 E5515c

Network analyzer-R&S ZVL

图 2

Figure 2

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—6GHz，静区范围为 50cm 周圆，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 bel

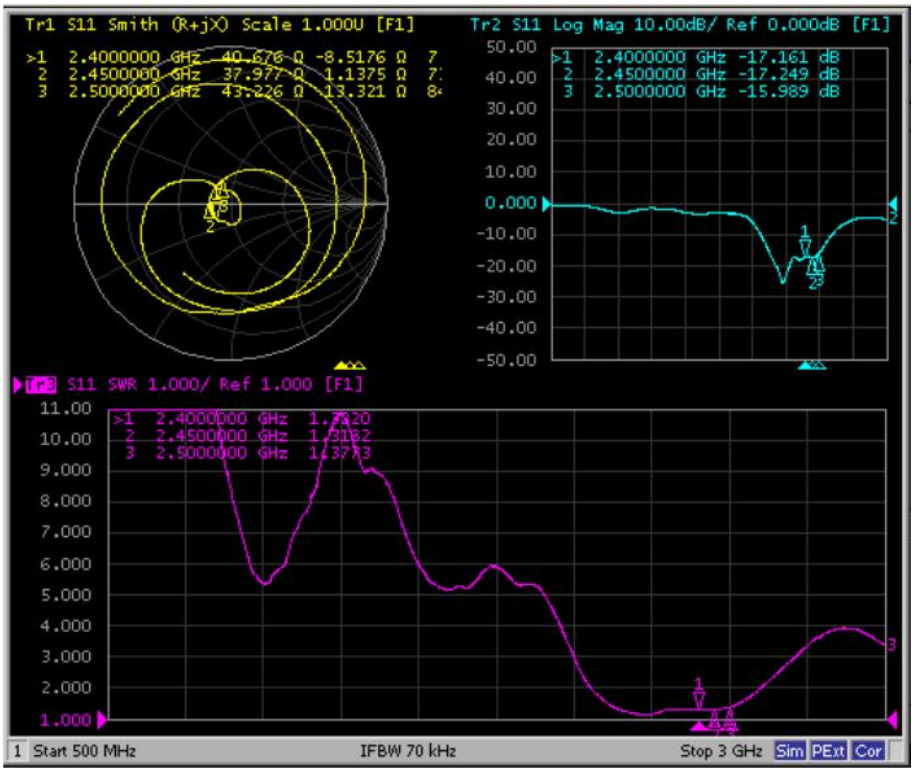
OTA 有源测试 OTA Active Test：

BAND	CH	TRP (dBm)	TIS (dBm)
BT	0	9.25	-90.37
	39	9.78	-90.65
	78	9.37	-90.26

无源效率&增益 Passive efficiency&gain：

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	51.36	-2.92	1.18
2410	51.46	-2.91	1.72
2420	51.25	-2.96	1.25
2430	51.3	-2.9	1.33
2440	51.65	-2.87	1.5
2450	52.93	-2.76	1.97
2460	52.69	-2.78	1.61
2470	53.83	-2.69	1.02
2480	53.33	-2.73	1.56
2490	52.91	-2.76	1.27
2500	52.52	-2.8	1.94

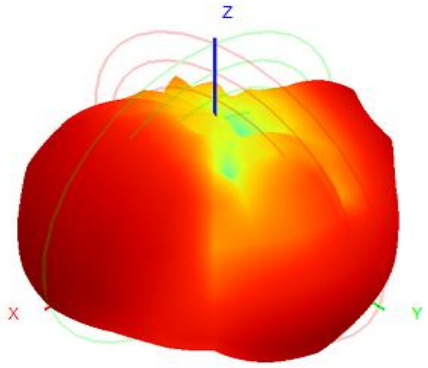
4、VSWR 参数图 VSWR parameter diagram



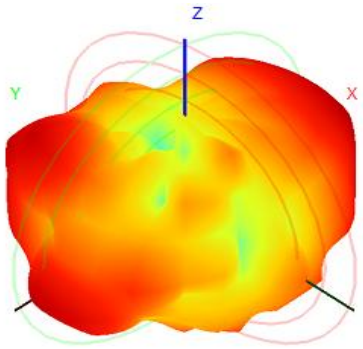
5、无源效率场型图

Passive efficiency field pattern diagram

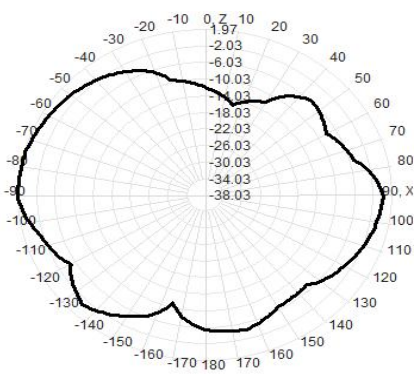
2450.0MHz H+V, Eff: 52.9%



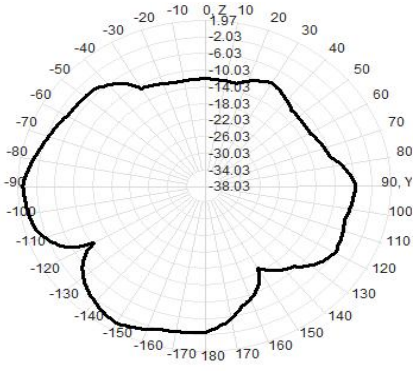
Back View



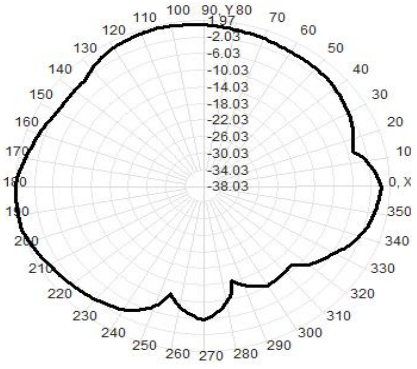
2450.0MHz Total(E1-XZ), Max= 1.97dBi



2450.0MHz Total(E2-YZ), Max= 0.83dBi



Total(H-XY), Max= 1.97dBi, CirD=16.57



6、OTA 有源场型图
OTA active field pattern diagram