



福州中天迅通信技术有限公司

Fuzhou ZHONGTIANXUN Communication Technology Co., Ltd

项目名称(Project Name): DX4000-WIFI/BT/GPS

天线型号(Antenna model): ZTX-DX4000-W/B/G-ANT

A

物料编码(Item number): E.03.00758

MPN 码 (MPN) : B0680319D

日期 (Date) : 2022-10-19

设计公司: 福州中天迅通信技术有限公司

Design company: Fuzhou zhongtianxxun communication technology Co., Ltd

设计人员: 谢恩元

Designer: Enyuan xie

电 话: 18718685346

Tel: 18718685346

测试人员: 谢恩元

Tester: Enyuan xie

电 话: 18718685346

Tel: 18718685346



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版本 version	日期 date	状态 status
A1	2022-7-28	规格书制定。 First issue.
A2	2022-8-12	增加性能数据，更新结构图纸。 Add performance data and update structural drawings.
A3	2022-9-22	油墨颜色更改为绿色。 The color of the ink is changed to green.
A4	2022-10-19	FPC 线路更新；性能数据更新。 The FPC is updated; Performance data update.



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1 名词解释 (Explanation of Nouns)

dBi	Decibel relative isotropic antenna
Tx	Transmit frequency
Rx	Receive frequency
TRP	Total Radiated Power
TIS	Total Isotropic Sensitivity
VSWR	Voltage Standing Wave Ratio
GSM	Global Service for Mobile communication
DCS	Digital Communication System
CDMA	Code Division Multiple Access
WCDMA	Wideband Code Division Multiple Access

2 测试设备 (Test equipment)

矢量网络分析仪 (Vector network analyzer)

安捷伦 8753E (Agilent 8753E)

频谱分析仪 (Frequency analyzer)

综合测试仪 (General-purpose tester)

安捷伦 8960 E5515C

标准高性能无反射屏蔽暗室 (High performance no-reflection shielding darkroom)

ETS

8m*4m*4m

3 适用频段 (Applied frequency band)

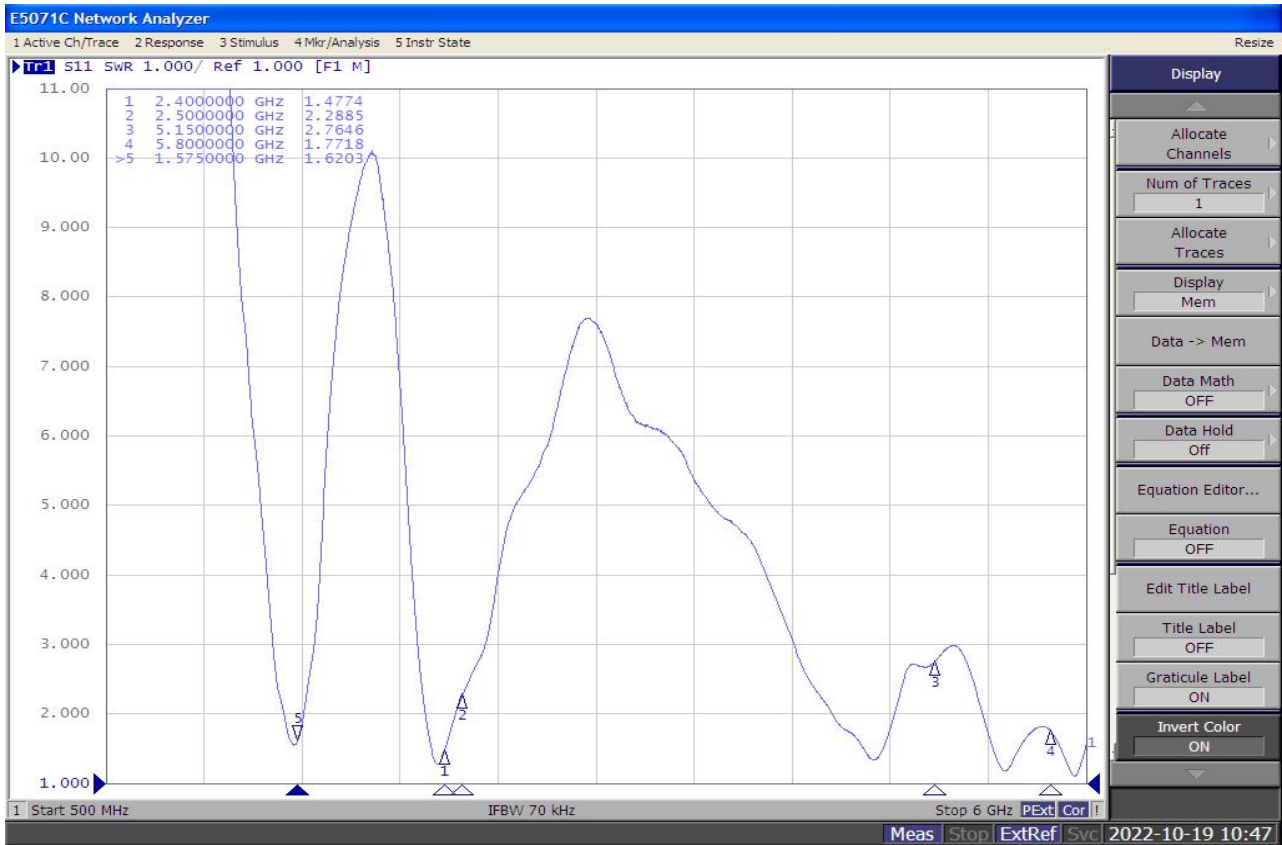
频段	频率
Frequency Band	Frequency
WIFI/BT/GPS	1575MHz; 2400-2500MHz, 5150-5850MHz。





4. 测试指标和数据图表 (Test project)

4.1 驻波图 (VSWR)





4.2 无源效率 (Antenna passive test)

chNo	Freq	Gain	Efficiency_Pcent
1	1550	1.431809345	53.35490673
2	1555	1.368862074	53.23531227
3	1560	1.18064628	53.00547856
4	1565	0.972934752	52.35116369
5	1570	0.739833284	50.83419291
6	1575	0.477347165	49.30307792
7	1580	0.251883813	46.93301559
8	1585	0.174571983	44.95622102
9	1590	0.080563822	43.82757802
10	1595	0.115434259	43.39184203
11	1600	0.47080072	48.52431942
12	2400	3.660512	52.93266384
13	2410	3.646782075	53.92010142
14	2420	3.596783807	53.89005567
15	2430	3.209762402	51.66125355
16	2440	2.803878145	48.12362952
17	2450	2.59793305	47.55840247
18	2460	2.221151777	46.02688385
19	2470	2.222397655	45.58263822





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20	2480	1.995242846	42.51399035
21	2490	1.698865397	40.16907549
22	2500	1.663540342	40.21044804
23	5150	-0.947226739	20.46196298
24	5190	-2.217612891	20.78553552
25	5230	-1.466630181	21.10360283
26	5270	-2.375193704	20.45997934
27	5310	-2.204328098	21.76028288
28	5350	-1.462196818	26.95693371
29	5390	-1.764997283	22.8739593
30	5430	-2.093954961	21.74340176
31	5470	-2.632565511	24.74699225
32	5510	-3.204410401	22.40633843
33	5550	-3.267575609	24.54885197
34	5590	-2.608698508	25.89377454
35	5630	-3.482268771	22.72785678
36	5670	-2.246035769	27.32758689
37	5710	-2.877752023	23.3947757
38	5750	-2.292719632	19.34308241
39	5790	-2.559914543	20.97133168
40	5830	-2.129948303	22.18224728
41	5850	-2.810204816	21.06226567



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4.3 有源数据 (Active test data)

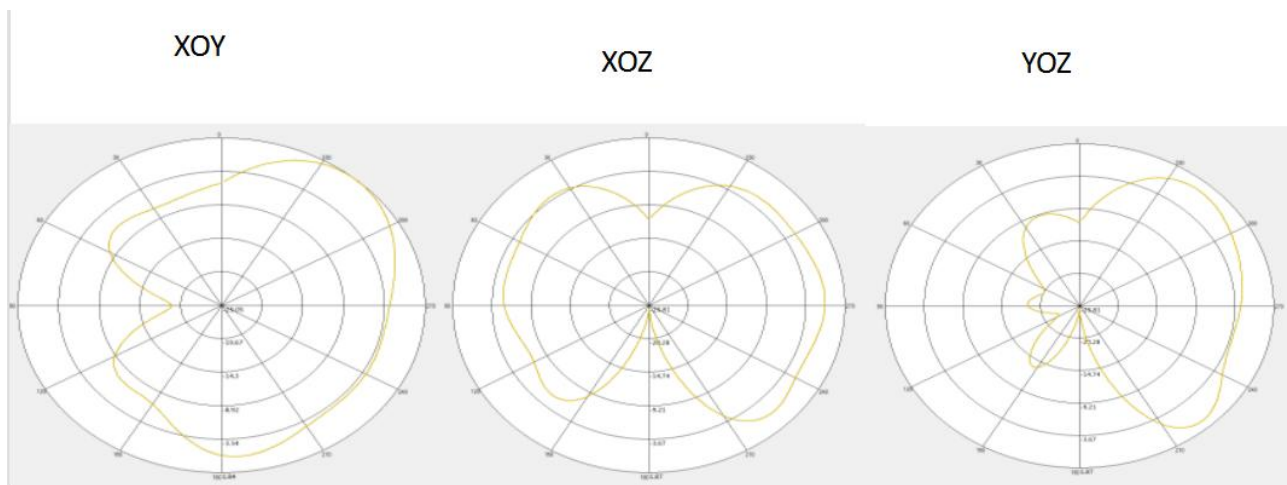
频段	参数\信道	1	6	11
WIFI-11B	TRP	12.98	13.24	13.65
	TIS	-76.52	-77.18	-76.73
频段	参数\信道	1	6	11
WIFI-11G	TRP	11.99	12.47	12.75
	TIS	-65.35	-65.67	-65.74
频段	参数\信道	1	6	11
WIFI-11GN	TRP	11.41	12.12	12.36
	TIS	-62.29	-62.75	-62.74



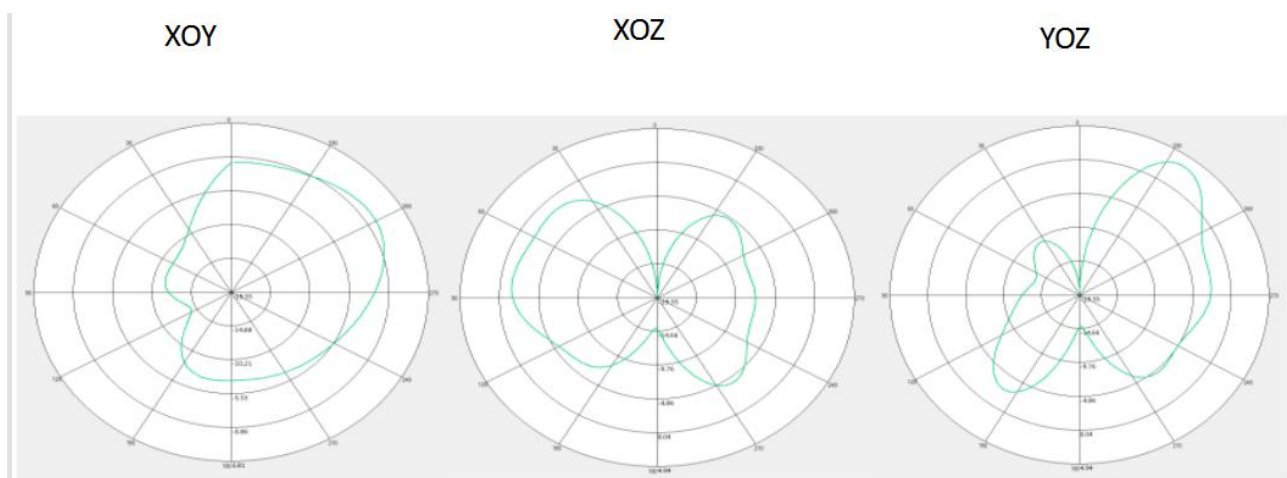


4.4 2D 方向图 (2D directional diagram)

1575MHz



2450MHz



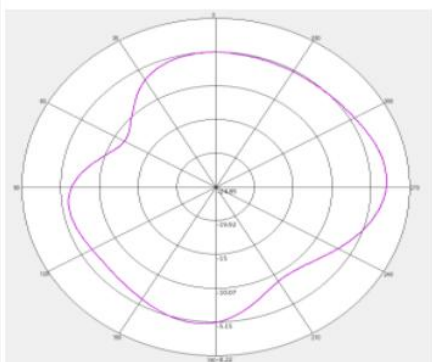


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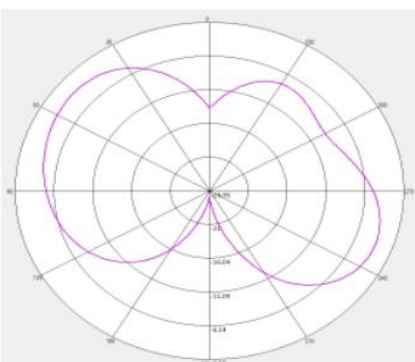
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5510MHz

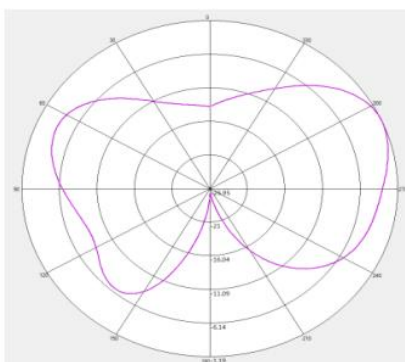
XOY



XOZ



YOZ

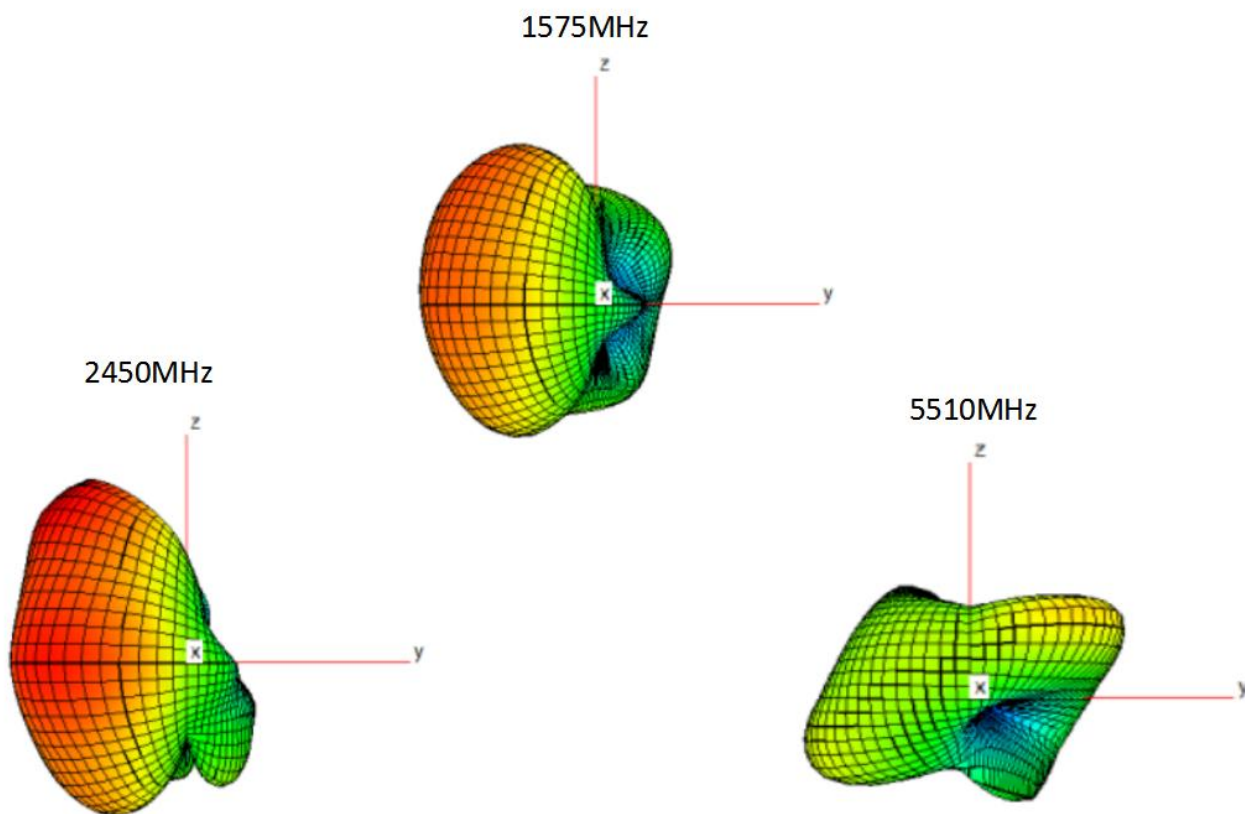


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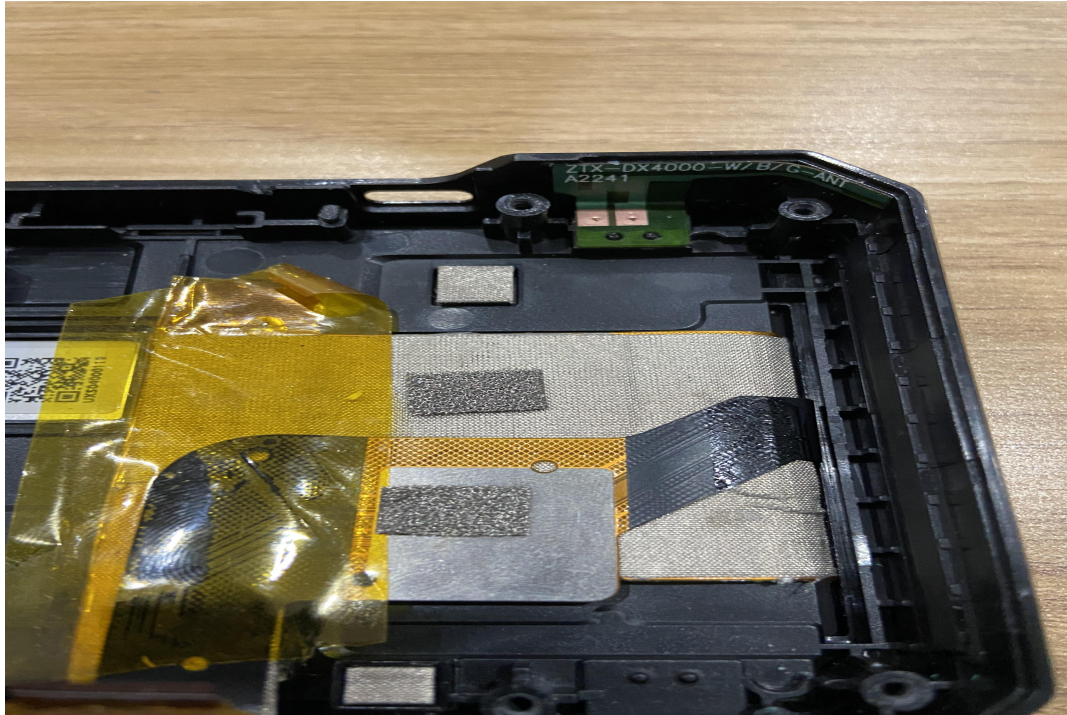


4.5 3D 方向图 (3D directional diagram)



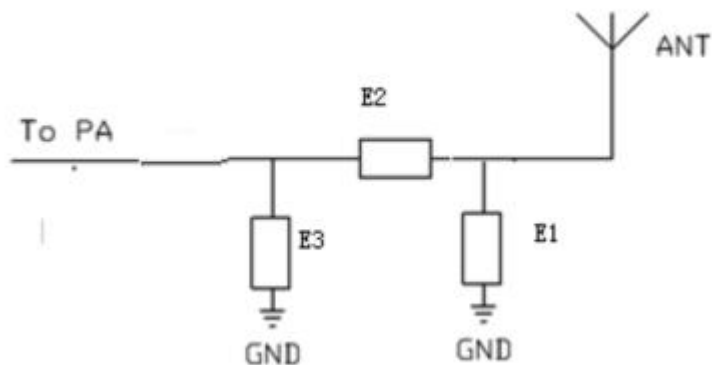


4.6 装配图 (Environment treatment)





5. 匹配说明 (Matching circuit)

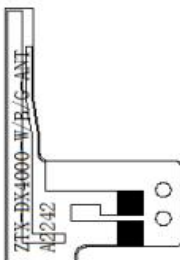


Matching description	WIFI/BT/GPS
E1	NC
E2	0 Ω
E3	NC





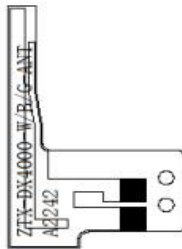
7. 包装作业指导 (The packing way)

福州中天迅通信技术有限公司 Fuzhou ZHONGTIANXUN Communication Technology Co.,Ltd				作业指导书					
产品名称	产品型号	文件编号	版本	工序序号/名称	工序工时	日产量			
三合一	DX4000	ZTX-QD-WI-024	A1	包装	/	/			
  图1：确认数量 图2：每10小袋用大PE袋包装				作业方法（自检验工序作业合格后，方能流入下一道工序）					
				1. 产品采用单PCS出货，每（100pcs）产品用90*130mmPE封口膜					
				2. 外箱只允许有1个物料标签，其余如有多余标签时须将其清理干净。					
				3. 条码标签在贴于外箱时，应尽量平整，避免应起皱影响客户入库。					
				4. 条码需清晰可扫描					
  图3：小标签及追溯码 图4：贴外箱标签，封箱				3. 外箱上除标签贴外，不能有任何丝印（即空白纸箱）出货；					
				4. 将包装好的产品装入纸箱，每箱数量根据订单数量要求进行数量确认，保证每箱装入的数量正确。					
				5. 在装好产品的箱子上将外箱标签及物料追溯码，RoHS贴于外箱的右上角，打印标签内容包括（生产厂家，型号，产品名称，客户编码，数量，订单号，日期，QA检验，）					
				物料编号	物料名称及规格		用量	工/夹具治具	
					纸箱(45*32.5*21)cm	1	电子称		
	PE封口袋(90*130)mm	200	封口机						
	PE开口袋(160*240)mm	20							
修订内容					修订日期	修订人			
版本									
制订	胡小良	审核	易爱玲	品质确认	胡春梅	批准			
						张武民			





SOP

product name	product model	File Number	version	Process number/name	process man-ho	Daily output
WIFI/BT/GPS	DX4000	ZTX-QD-WI-024	A1	package	/	/
				Packaging process	Precautions	
 Figure 1: Confirmed quantity  Figure 2: Every 10 sachets are packed in large PE bags  Figure 3: Small label and traceability code Figure 4: Attach the outer box label and seal the box				1. When it is found that the weight is out of the tolerance range, the quantity must be counted		
				2. Only 1 material label is allowed in the outer box. If there are extra labels, they must be cleaned up.		
				3. When the bar code label is attached to the outer box, it should be as flat as possible to avoid wrinkling that affects the customer's storage.		
				4. The barcode must be clear and scannable		
3. Except for the label, the outer box cannot be shipped with any silk screen (ie blank carton):						
4. Put the packaged products into cartons, and confirm the quantity of each box according to the order quantity requirements to ensure that the quantity of each box is correct.						
5. Put the outer box label and material traceability code, RoHS on the upper right corner of the outer box on the box with the product, and the printed label content includes (manufacturer, model, product name, customer code, quantity, order number, date , QA inspection,)						
Item number	Material name and specification	Dosage	Work/Clamping Fixture			
	Carton (45*32.5*21) cm	1	Electronic scale			
	PE sealed bag (90*130)mm	200	Sealer			
	PE open pocket (160*240)mm	20				
modify the content				Revision date	Revised by	
version						
Formulate	Xiaoliang hu	Review	Ailing yi	Quality confirmation	Chunmei hu	Wumin zhang

