



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): AXIUM DX8000 AM 2G 3G 4G

天线类型(Antenna type): AXIUM DX8000 A-2G/3G/4G-ANT

物料编码(Item number): F.00000656

MPN 码 (MPN) : B0680281D

日期 (Date) : 2021-11-24

设计公司: 福州中天迅通信技术有限公司

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版本 (Versions)	日期 (Date)	状态 (State)
A1	2020-9-15	规格书制定。 Specification made.
A2	2020-9-18	增加性能数据。 Increase performance data.
A3	2020-10-26	性能优化；线路修改。 Performance optimization; circuit modification.
A4	2021-1-6	同轴线尺寸标注更新。 Coaxial dimensioning updated.
A5	2023-11-24	增加白色丝印线。 adds white silk screen.



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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)

Vector network analyzer Agilent 8753E

Frequency analyzer

General-purpose tester Agilent 8960 E5515C

High performance no-reflection shielding darkroom ETS 8m*4m*4m

3 适用频段 (Applied frequency band)

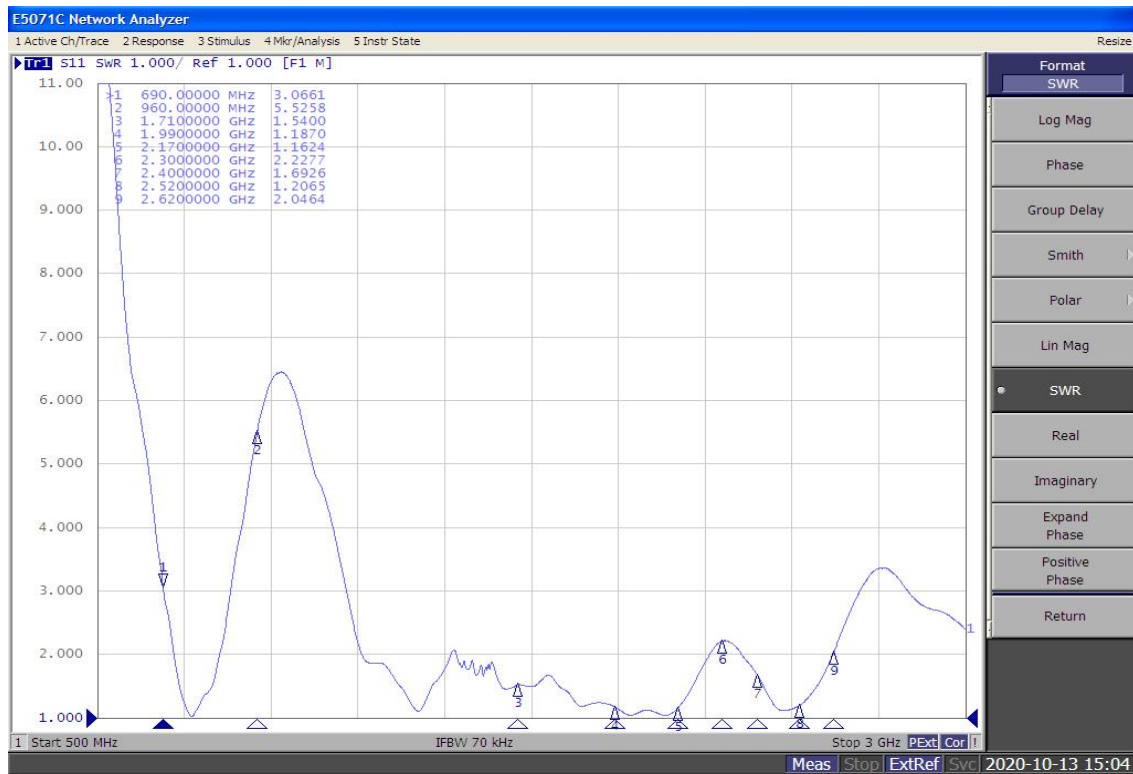
频段	频率
Frequency Band	Frequency
2G 3G 4G	690-960MHz, 1710-2170MHz, 2350-2690MHz。





4. 测试指标和数据图表 (Test project)

4.1 驻波图 (VSWR)





4.2 无缘效率 (Antenna passive test)

chNo	Freq (MHz)	Gain (dBi)	Efficiency_Pcent (%)
1	690	-2.914461816	22.30238692
2	710	-2.050426087	27.87874268
3	730	-1.923143412	30.56228009
4	750	-1.577319419	34.88913656
5	770	-0.286620008	38.00113775
6	790	-0.309506717	35.75632112
7	810	-1.548741358	33.17938032
8	830	-1.686654136	32.42556681
9	850	-1.613066275	33.21152354
10	870	-1.614541828	29.15943504
11	890	-1.845684749	28.0504549
12	910	-3.111522031	21.45689599
13	930	-3.73334499	17.90321689
14	950	-4.818913998	17.96756368





15	960	-4.427265796	16.37655101
16	1700	1.3339669	53.5898801
17	1740	1.286120816	49.02526887
18	1780	0.696244397	46.62692513
19	1820	0.447152009	45.68230242
20	1860	0.858156672	43.5548847
21	1900	0.98471731	52.68036921
22	1940	0.194714519	48.91951087
23	1980	0.815674155	55.76165271
24	2020	1.459064984	57.33473778
25	2060	1.059004143	54.55148681
26	2100	1.101491802	54.76217435
27	2140	1.38539904	51.83621201
28	2180	1.34447989	46.15002681





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29	2220	0.216846172	40.02490538
30	2260	-1.039558326	30.79796914
31	2300	-1.829000287	23.75020237
32	2340	-2.655999689	22.93452945
33	2380	-2.239760533	24.7558187
34	2420	-0.488295606	24.84612312
35	2460	-0.599280538	25.58159898
36	2500	-0.257021046	28.77310392
37	2540	-0.169772675	31.97278177
38	2580	-0.901381339	31.85676587
39	2620	-1.472297853	29.0624972
40	2660	-1.764380766	25.74302725
41	2700	-1.974197633	23.76166401

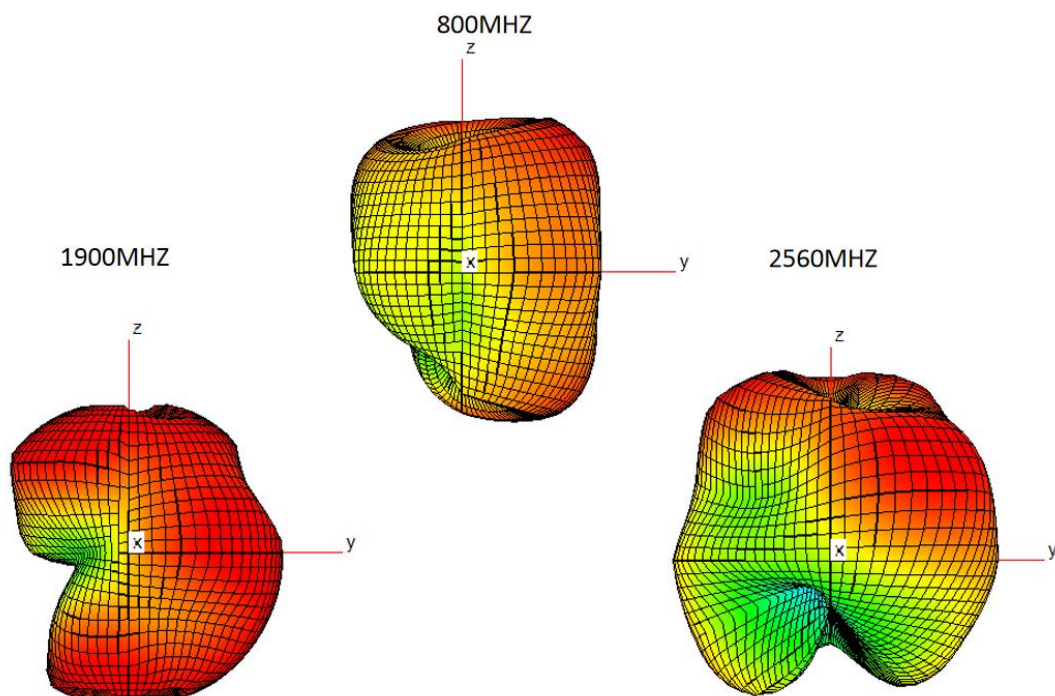


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4.3 辐射图 (3D radiation drawing)





4.4 有源数据 (Active test data)

频段 Frequency band	参数\信道 Parameter \ channel	128	190	251
GSM850	TRP dBm	29.50	29.11	28.99
	TIS dBm	-103.26	-103.42	-102.811
频段 Frequency band	参数\信道 Parameter \ channel	1	62	124
GSM900	TRP dBm	27.61	27.12	25.73
	TIS dBm	-100.29	-99.77	-98.67
频段 Frequency band	参数\信道 Parameter \ channel	512	661	885
PCS900	TRP dBm	28.77	29.38	28.86
	TIS dBm	-106.47	-108.14	-108.43
频段 Frequency band	参数\信道 Parameter \ channel	10562	10700	10838
W1	TRP dBm	20.30	20.94	21.14
	TIS dBm	-109.20	-108.88	-108.89
频段 Frequency band	参数\信道 Parameter \ channel	9662	9800	9938
W2	TRP dBm	20.58	20.50	20.93
	TIS dBm	-110.61	-109.15	-110.93
频段 Frequency band	参数\信道 Parameter \ channel	4357	4408	4458
W5	TRP dBm	19.65	19.43	19.89
	TIS dBm	-106.9	-106.06	-105.51
频段 Frequency band	参数\信道 Parameter \ channel	2937	3013	3088
W8	TRP dBm	17.18	16.14	14.92
	TIS dBm	-104.25	-102.82	-102.72





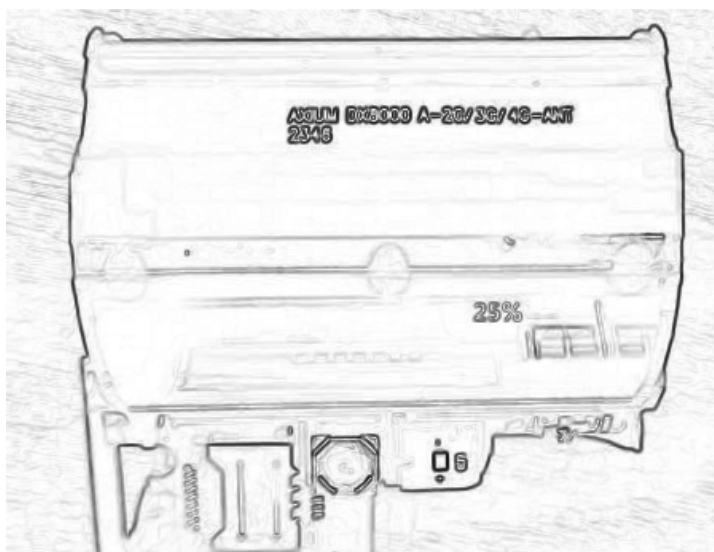
频段 Frequency band	参数\信道 Parameter \ channel	1537	1638	1738
W4	TRP dBm	21.58	21.07	20.8
	TIS dBm	-108.61	-109.41	-109.19
频段 Frequency band	参数\信道 Parameter \ channel	650	900	1150
band2	TRP dBm	19.81	20.04	19.73
	TIS dBm	-97.76	-98.51	-98.83
频段 Frequency band	参数\信道 Parameter \ channel	2000	2175	2350
band4	TRP dBm	21.17	20.65	20.35
	TIS dBm	-95.79	-96.43	-95.97
频段 Frequency band	参数\信道 Parameter \ channel	2450	2525	2600
band5	TRP dBm	20.98	20.79	21.24
	TIS dBm	-96.06	-95.53	-94.55
频段 Frequency band	参数\信道 Parameter \ channel	2850	3100	3350
band7	TRP dBm	20.19	20.44	20.42
	TIS dBm	-92.63	-92.6	-91.84
频段 Frequency band	参数\信道 Parameter \ channel	5060	5095	5125
band12	TRP dBm	21.14	21.26	21.18
	TIS dBm	-99.82	-99.75	-99.66

频段 Frequency band	参数\信道 Parameter \ channel		5230	
band13	TRP dBm		21.67	
	TIS dBm		-95.12	
频段 Frequency band	参数\信道 Parameter \ channel	5780	5790	5800
band17	TRP dBm	21.17	20.65	21.31
	TIS dBm	-97.95	-97.07	-97.76
频段 Frequency band	参数\信道 Parameter \ channel	8100	8365	8600
band25	TRP dBm	19.67	19.18	19.24
	TIS dBm	-97.79	-98.68	-98.73
频段 Frequency band	参数\信道 Parameter \ channel	8740	8865	8990
band26	TRP dBm	22.23	21.23	21.51
	TIS dBm	-96.2	-95.25	-92.25
频段 Frequency band	参数\信道 Parameter \ channel	40450	40740	40940
band41	TRP dBm	20.58	20.65	19.84
	TIS dBm	-90.06	-90.01	-89.35
频段 Frequency band	参数\信道 Parameter \ channel	132022	132322	132622
band66	TRP dBm	20.97	21.26	21.18
	TIS dBm	-95.83	-96.18	-96.3





4.5 装配图 (Environment treatment)

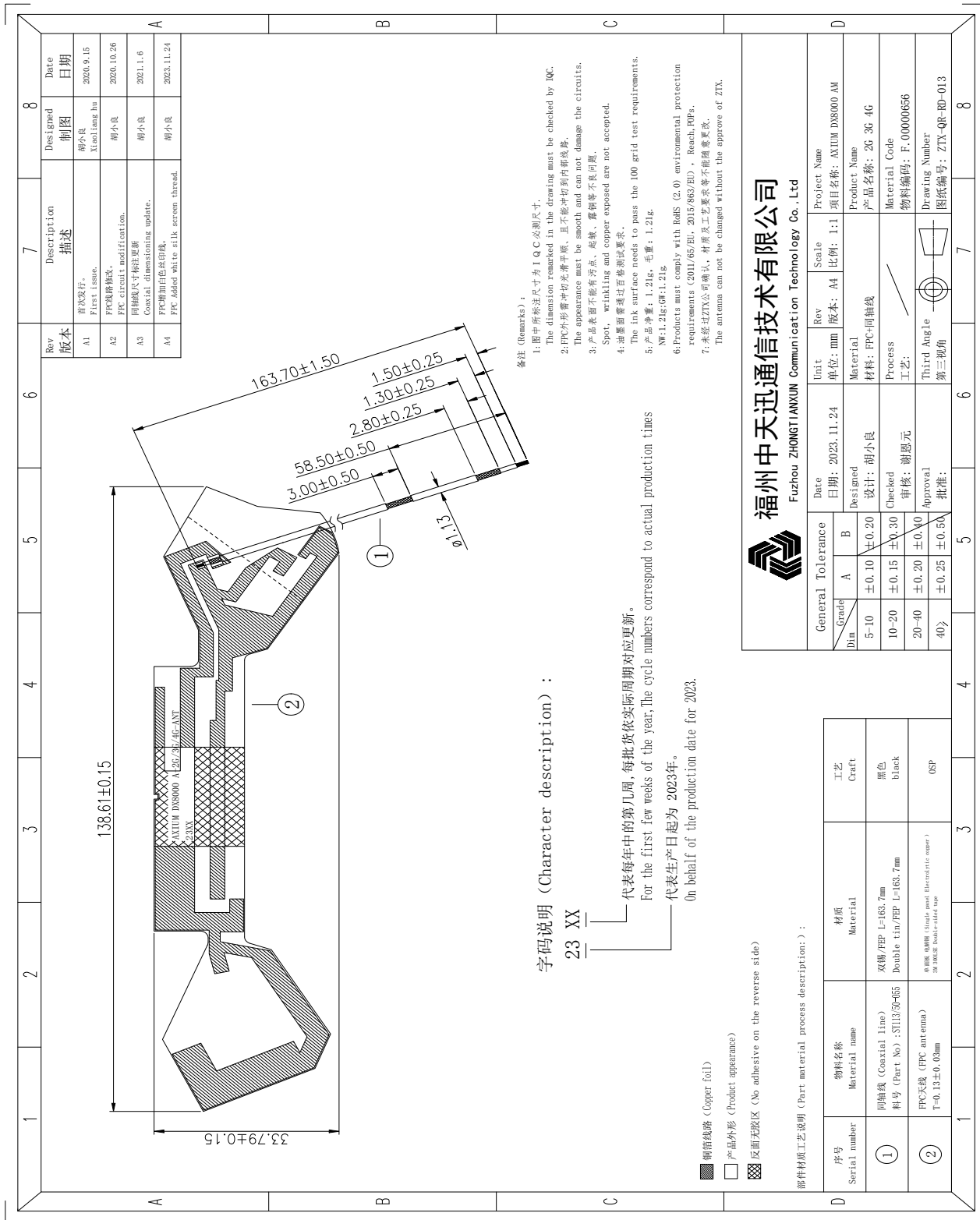




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5. 天线外形图 (Mechanical Specification)

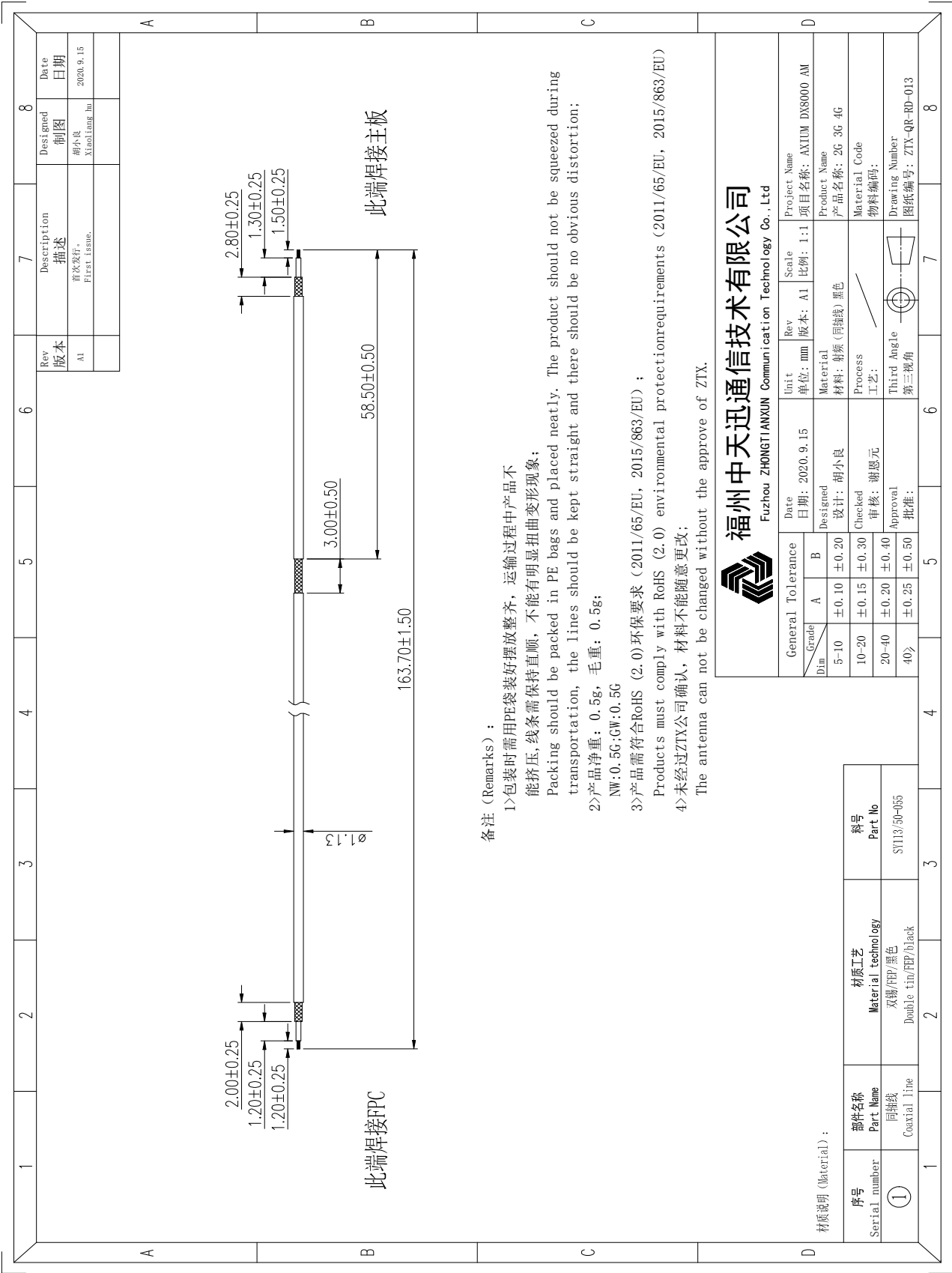


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6. 包装作业指导 (The packing way)

福州中天迅通信技术有限公司 Fuzhou ZHONGTIANXUN Communication Technology Co., Ltd					包装规范					
产品名称		产品型号		工序序号/名称		版本	文件编号		仪器校准及要求:	
2G 3G 4G		AXIUM DX8000 AM		包装		A1	ZTX-QD-WI-023		1. 测试设备必须接地; 2. 重新连接接口后或连续测试不稳定时, 需对仪器进行校正; 3. 测试产品时保证无线信号, 并远离人体或金属附件30cm以上;	
作业方法: 作业参数 (自检该工序作业合格后, 方能流入下一道工序)										
<div><div>取件 装箱</div><div>→</div><div><div>贴外箱 标签</div><div>→</div><div>装箱</div><div>→</div><div><div>贴外箱 标签 附报告</div><div>→</div><div>封箱</div></div></div><div>1. 确认数量50pcs产品橡皮筋包扎; 2. 将50pcs产品装入 (240*160mm) PE开口袋中, 贴小标签, 填写产品名称、物料号、数量、周期等信息; 2. 每5袋装入 (330*230mm) PE封口袋装好 (250PCS) 的PE袋, 贴小标签, 填写产品名称、物料号、数量、周期等信息; 3. 装箱: 纸箱规格 (45*32.5*21cm), 每箱装 (5000pcs) 尾数除外, 并附手写检验报告一份; 4. 标签贴于外箱的右上角, 外标签内容 (含: 企业名称、供应商代码、客户规格号, 生产周期, 生产批次包装数量, 供应商代码, 内附检验报告, ROHS等); 5. 将贴好标签的箱子用胶纸以“工”字型封箱;</div></div>										
6S要求: 1. 保持检测现场台面整洁, 无尘、水、油污; 2. 物料摆放整齐, 标记清楚;										
操作防护要求: 1. 作业人员需带手套进行作业, (特殊产品带绝缘手套); 2. 检测过程中检测产品做到轻拿轻放; 3. 操作测试治具时, 严格按照操作规范使用, 避免伤手;										
6S要求: 1. 保持检测现场台面整洁, 无尘、水、油污; 2. 物料摆放整齐, 标记清楚;										
注意事项: 1. 客户物料编码和数量是否正确, 标签必须用机打印的 2. 内标签、外标签、出货报告、送货单内容需一致。 3. 如是试产物料或有变更均需贴相应标识, 尾数箱需贴尾数标识, 内附检验报告等										
物料名称		物料代码		规格		用量		备注		
PE开口袋		1. 12. 000030		240*160*0.05mm		100/袋				
PE封口袋		1. 12. 000023		330*230*mm		10/袋				
纸板		1. 13. 000003		42*30cm		2张/箱				
纸箱		1. 12. 000086		45*32.5*21cm		1/箱				
标签										
橡皮筋										
版本				修订内容		修订日期		修订人		
制订		胡小良		审核		易爱玲		批准		
								张武民		

图1: 确认数量

图2: 封口PE袋包装/贴标签

图3: 封口PE袋包装/贴标签

图4: 装箱

图5: 贴外箱标签/附出货检验报告

图6: 封箱

图7: 封箱

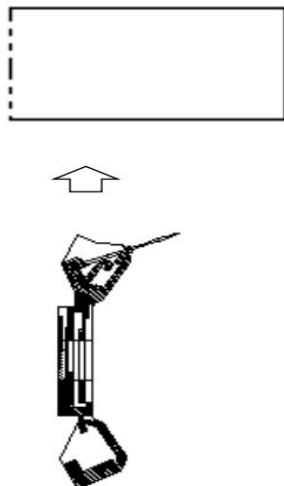


图1: 确认数量



图2: 封口PE袋包装/贴标签






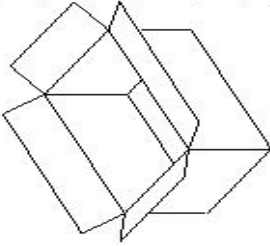
图3: 封口PE袋包装/贴标签



图4: 装箱

图5: 贴外箱标签/贴出货检验报告



product name	product model	Antenna Typ	Version	document number
2G 3G 4G	AXIUM DX8000 AM	FPC+ cable	A1	
Packing diagram			Packing process	matters need attention
<div><div>Figure 1 (Product) </div><div>Figure 2 (PE bag A) </div><div>Figure 3 (PE bag B) </div><div>Figure 4 (Carton) </div></div>			<div>1 > the 50pcs is wrapped in rubber band and packed in PE bag;</div> <div>2> Put the PE bag A product into PE bag B and 5 bags per bag (250 PCS in total);</div> <div>3 > packing PE bag B products in cartons, with the exception of the Mantissa (5000PCS);</div> <div>4> Put the label on the shipping label after the carton is sealed;</div>	<div>1. Each bag of products put into the carton should be put flat, sealed box can not have obvious shaking;</div> <div>2. Label is affixed to the upper right corner of the carton (label contents include: product name / quantity / manufacturing date / order number, etc.)</div>
Packing material detail				
Material	material quality	dimensions	Volume per box	
carton	K=K	(45*32.5*21) cm	1	
PE bag A	PE	(24*16) cm	100个	
PE bag B	PE	280*360mm	10个	
label			/	
Version	Contents			Made by
				Date
Formulation: Xiaoliang hu		approval: Wumin zhang		

