



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): M20SE WIFI&BT&GPS

天线型号(Antenna model): M20SE WIFI/BT/GPS ANT

物料编码(Item number): E.03.00964

MPN 码 (MPN) : B0680334D

日期 (Date) : 2024-8-15

设计公司: 福州中天迅通信技术有限公司

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版本 version	日期 date	状态 status
A1	2023-11-27	初版。 First issue.
A2	2023-12-12	线路更新。 Line updating.
A3	2024-2-21	增加性能数据；FPC 外形，线路更新。 Add performance data; FPC shape, line update.
A4	2024-5-17	匹配更新。 Match updates.
A5	2024-8-15	FPC 线路更新。 FPC line 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)

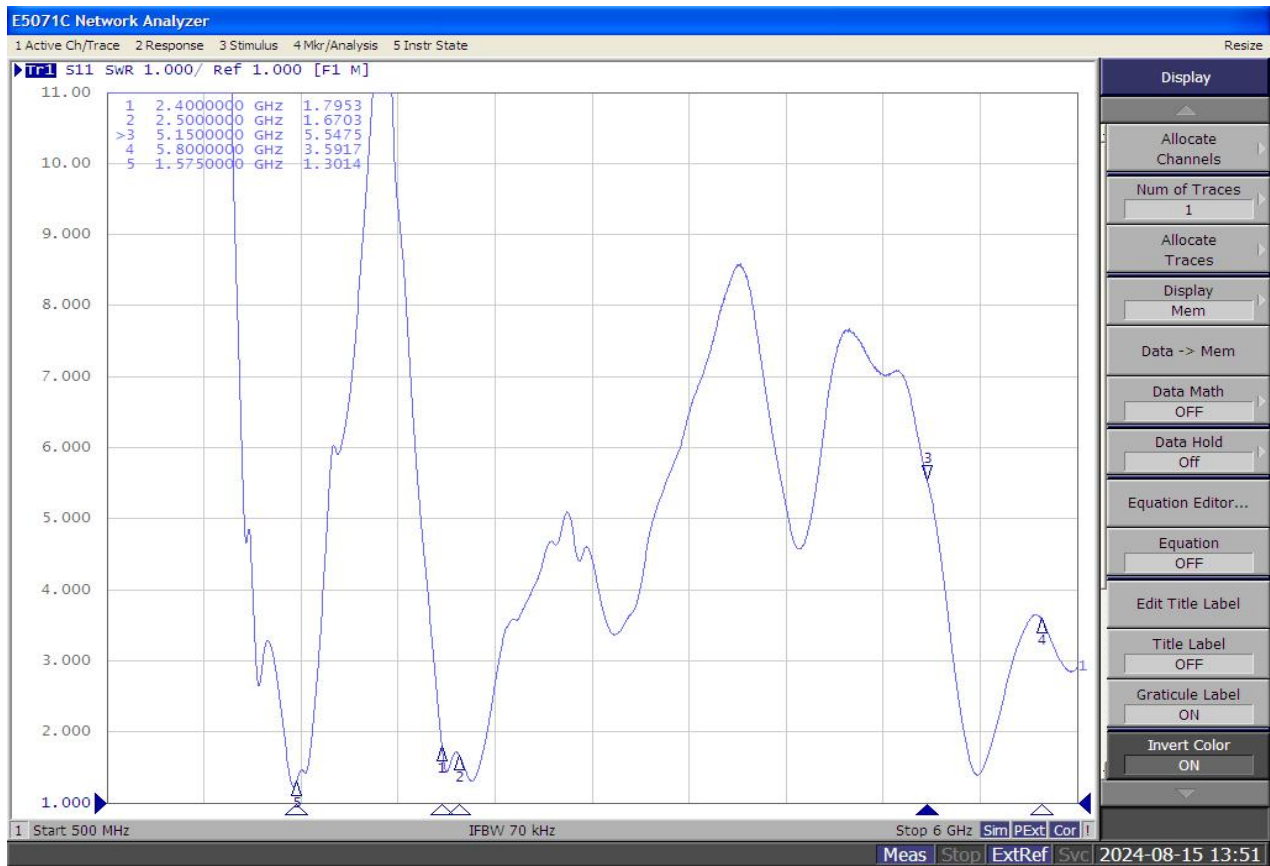
频段	频率
Frequency Band	Frequency
WIFI&BT*GPS	2400-2500MHz, 5150-5850MHz, 1575MHz。





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 (MHz)	Gain (dBi)	Efficiency_Pcent (%)
1	1550	0.527214984	29.92443938
2	1555	0.483513222	30.19807444
3	1560	0.442184288	30.07151389
4	1565	0.321262217	29.75328067
5	1570	0.121378897	39.26525143
6	1575	-0.00384336	31.18592302
7	1580	-0.270244349	30.112467
8	1585	-0.462036371	33.77632839
9	1590	-0.645505125	32.1981171
10	1595	-0.690972963	31.63961093
11	1600	-0.293013322	34.65334079
12	1605	-0.385930804	33.74609316
13	1610	-0.434382882	32.88782009
14	1615	-0.46090726	30.23891283
15	1620	-0.284949915	30.81886182
16	2400	-2.088069619	25.40789861
17	2410	-1.521627154	26.23647846
18	2420	-1.506760802	26.16054675
19	2430	-2.073345198	27.39100626
20	2440	-2.040195766	27.00662741
21	2450	-1.771776957	28.02724314





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22	2460	-2.07648388	26.89390641
23	2470	-2.192173119	26.46630046
24	2480	-2.367123465	26.83925012
25	2490	-2.785924112	25.59501499
26	2500	-2.138338939	24.54968571
27	5150	-4.04783037	16.39994935
28	5200	-2.568524049	18.62037984
29	5250	-2.577258523	20.13470366
30	5300	-2.82326787	23.69684292
31	5350	-1.386313085	23.8141916
32	5400	0.028686365	23.50678641
33	5450	0.008128553	24.68801616
34	5500	1.237881291	21.03683633
35	5550	1.32635692	24.6861072
36	5600	-0.910178375	22.28007034
37	5650	-0.521420358	23.78055466
38	5700	-1.574647359	21.70767042
39	5750	-2.630466503	20.70275812
40	5800	-1.485345745	22.4116533
41	5850	-0.883955174	24.04397634



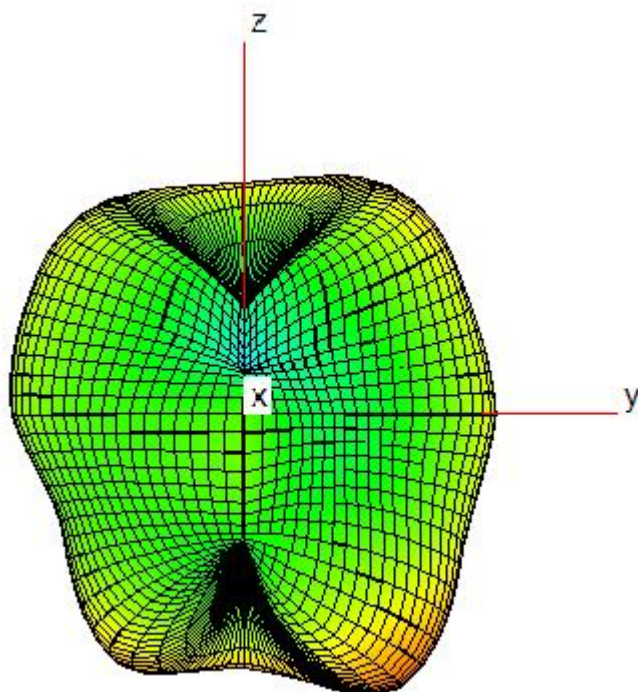
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4.3 3D 辐射图 (3D radiation drawing)

1575MHZ

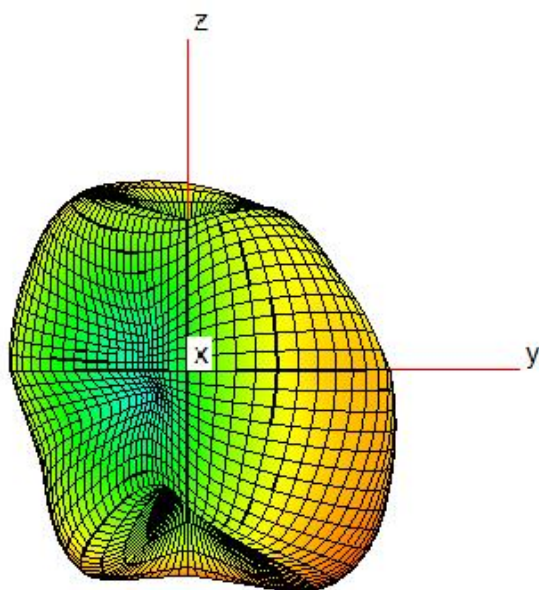




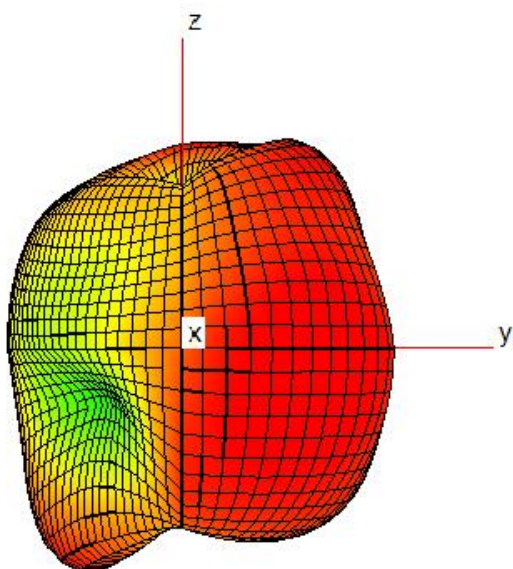
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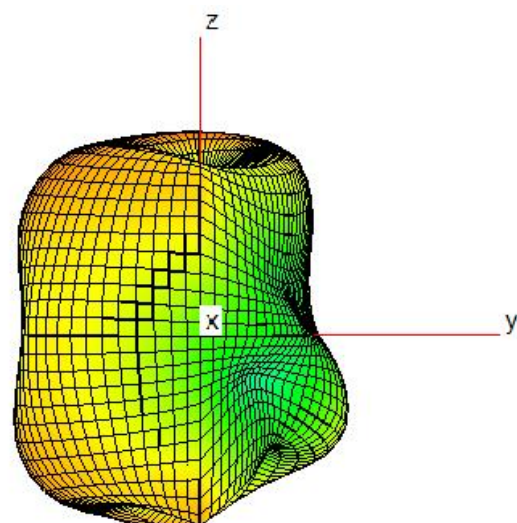
2400MHZ



2450MHZ



2500MHZ



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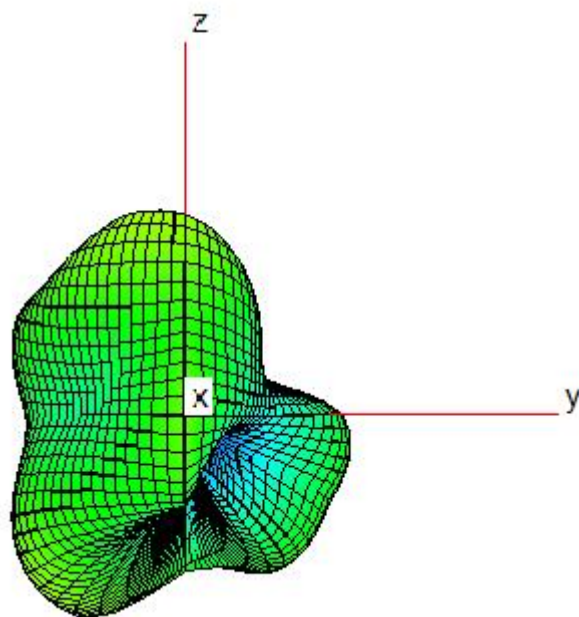
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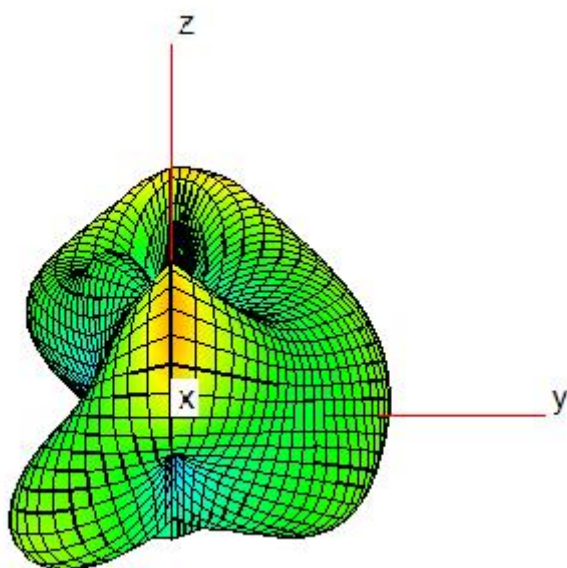
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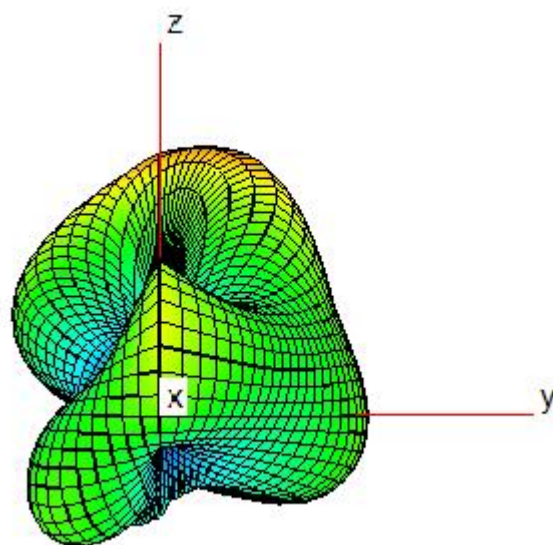
5150MHZ



5450MHZ



5850MHZ



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4.4 有源数据 (Active data)

频段 Frequency	参数\信道 Parameter/channel	1	7	13
WIFI-B	TRP (dBm)	12.38	13.05	10.98
	TIS (dBm)	-84.24	-83.23	-82.48
频段 Frequency	参数\信道 Parameter/channel	1	7	13
WIFI-G	TRP (dBm)	11.00	12.21	10.18
	TIS (dBm)	-69.93	-68.92	-67.34
频段 Frequency	参数\信道 Parameter/channel	1	7	13
WIFI-GN	TRP (dBm)	10.56	11.55	9.90
	TIS (dBm)	-65.67	-64.87	-63.33
频段 Frequency	参数\信道 Parameter/channel	36	100	165
WIFI-A	TRP (dBm)	10.37	10.73	10.42
	TIS (dBm)	-65.56	-65.58	-67.77





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4.5 装配图 (Environment treatment)

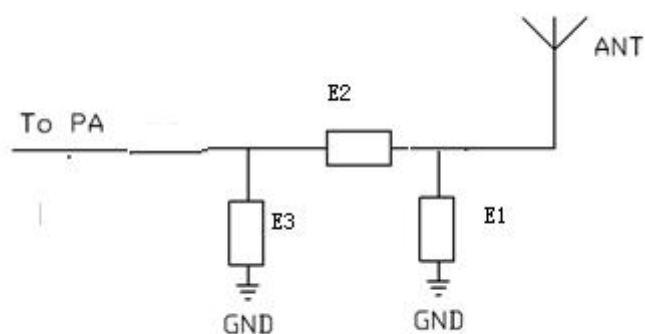


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5. 匹配说明 (Matching circuit)



匹配说明	WIFI
E1	NC
E2	1NH
E3	NC

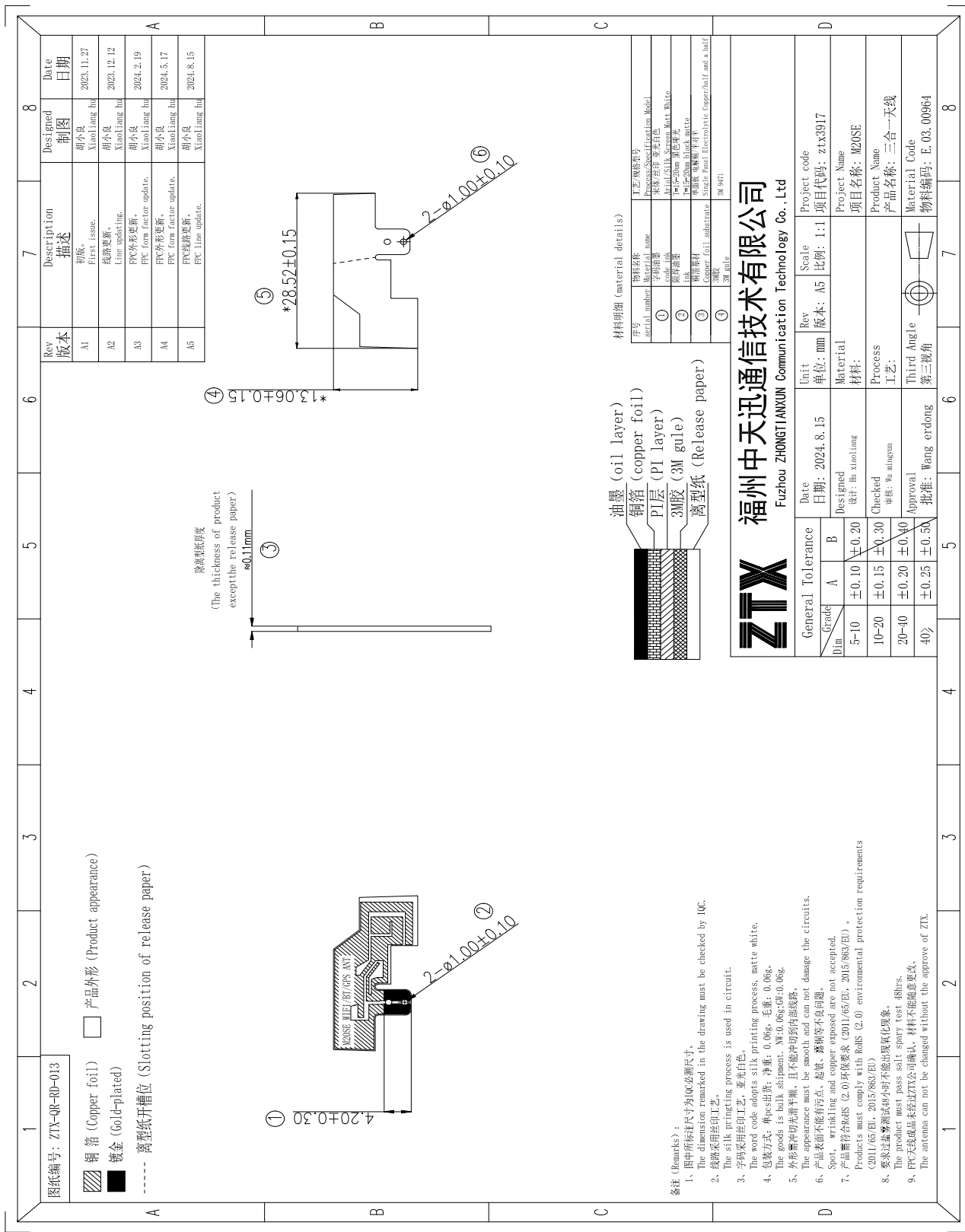




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6. 天线外形图 (Mechanical Specification)



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