



深圳市天威讯无线技术有限公司

shenzhenTian wei xun wireless technology co.,ltd.

产品性能与规格承认书

Product performance and specification

料号: TWX-129-002
客户名称: 深圳市磐雷科技有限公司
CUSTOMER NAME Shenzhen panlei Intelligent Technology Co., Ltd.
产品名称: NT17 主板型号:
PRODUCT NAME BOARD MODEL

客 户 Client	承 制 方 Admit manufacturing party		
客户确认 Customers confirmation	品 质 部 Quality department	研 发 部 R&D	核 准 Approval
		ME: RF:	
日期(Date):	日期(Date): 2023 年 03 月 17 日星期五		

深圳市天威讯无线技术有限公司

shenzhenTian wei xun wireless technology co.,ltd.

地址: 深圳市龙华新区大浪街道华荣路 528 号日鑫科技园 A1 栋四层

电话: 86-755-29361726 /85268343 传真:86-755-23732325

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1.1 项目图

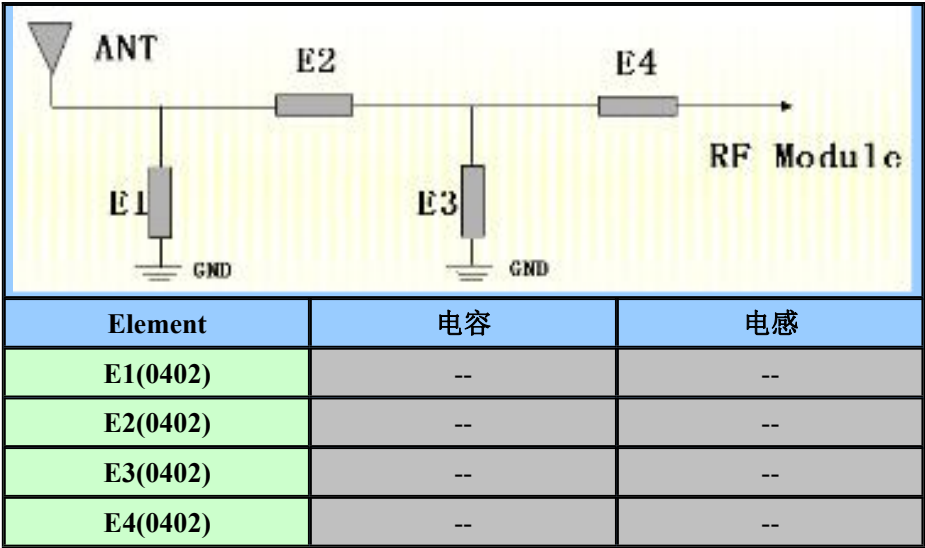


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1.1.1 天线匹配图



Matching instructions: The matching is based on the original motherboard matching without any changes。

2. 1 目的 Purpose

Standardize the product specifications and test methods for mobile communication terminal antennas produced by Shenzhen Tianweixun Wireless Technology Co., Ltd. to avoid errors caused by different test conditions and methods.

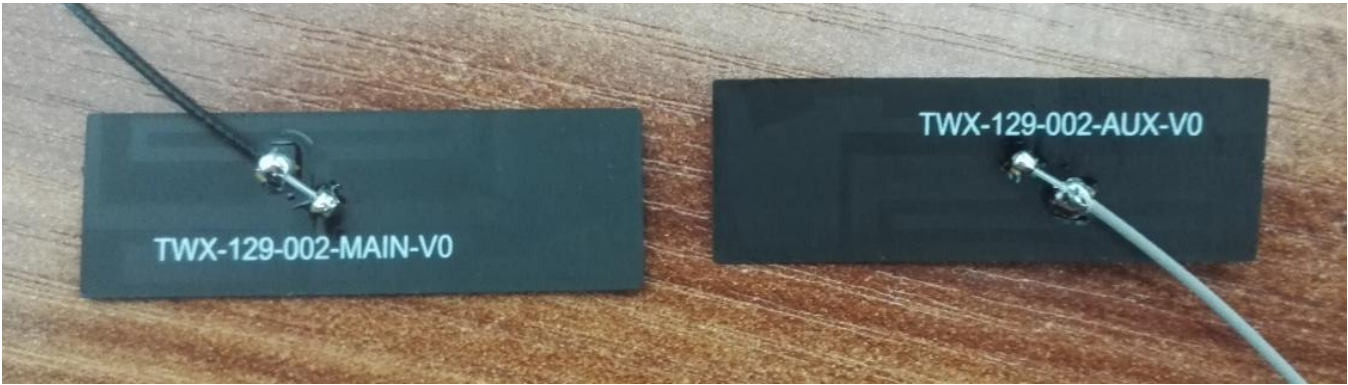
3. 1 天线 antenna

3.1.1 天线电气规格与材质 Antenna electrical specifications and materials

本报告主要提供 SPEED S11 天线的结构性能参数的测试状况。This report mainly provides the testing status of the structural performance parameters of the SPEED S11 antenna.

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天威讯设计的天线实物图
Picture of antenna designed by Tianweixun

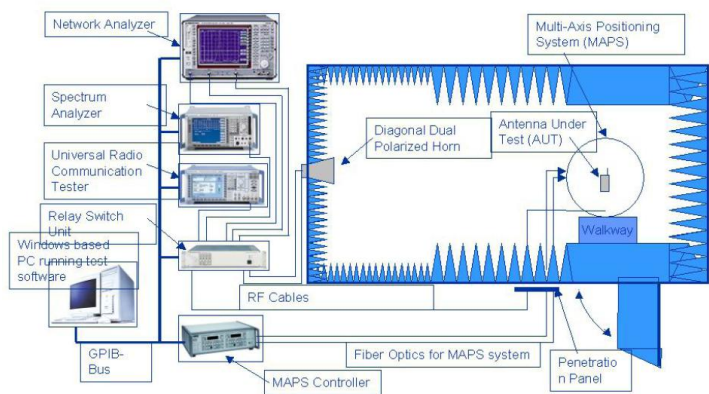
3.1.2 天线形式 Antenna type::

实现类型: PIFA 天线 天线材质: FPC+同轴线 Implementation type: PIFA antenna Antenna material: FPC+coaxial line

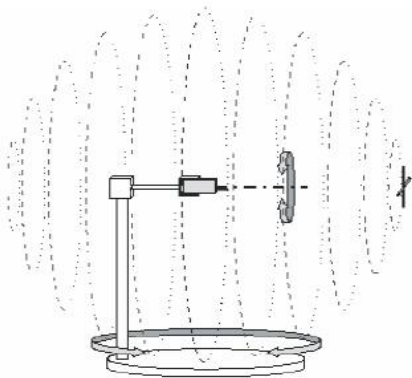
3. 1. 3 天线设计工作频段 Antenna design operating frequency band:

天线工作频段在 2412MHz~ 2472MHz\5745MHz~5850MHz
Antenna operating frequency range: 2412MHz~2472MHz 5745MHz~5850MHz

3.1.4 主天线在 ETS-SG24SYSTEM 3D 测试系统中测量数据 Measurement data of the main antenna in the ETS-SG24SYSTEM 3D test system



图（1）ETS 测试系统 Figure (1) ETS Test System



图（2）手机在暗室内三维定位装置
Figure (2) Three-dimensional positioning device for mobile phones in a dark room

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下表是天威讯设计的无源性能指标 The following table shows the passive performance indicators

Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)
2400	2.83	41.1	5745	3.63	46.4	2400	1.40	32.7	5745	4.03	39.7
2410	2.85	41.4	5760	3.32	44.7	2410	1.04	33.5	5760	3.88	38.5
2420	2.69	40.1	5770	3.43	42.3	2420	0.91	34.7	5770	3.77	37.4
2430	2.71	41.1	5780	3.38	43.7	2430	1.21	35.6	5780	3.82	38.7
2440	2.79	42.2	5790	3.34	43.5	2440	1.46	36.2	5790	3.57	37.8
2450	2.74	42.3	5800	3.32	44.2	2450	1.48	35.1	5800	3.64	39.0
2460	2.70	42.6	5810	3.26	43.5	2460	1.37	33.0	5810	3.62	38.1
2470	2.68	42.8	5820	3.71	43.3	2470	1.40	33.4	5820	3.42	38.5
2480	2.52	41.9	5830	3.52	43.1	2480	1.35	33.5	5830	3.54	39.2
2490	2.49	42.1	5840	3.52	42.8	2490	1.15	32.9	5840	3.17	38.2
2500	2.51	42.7	5850	3.60	43.4	2500	1.03	32.6	5850	3.05	38.9

主天线

designed by Tianweixun:

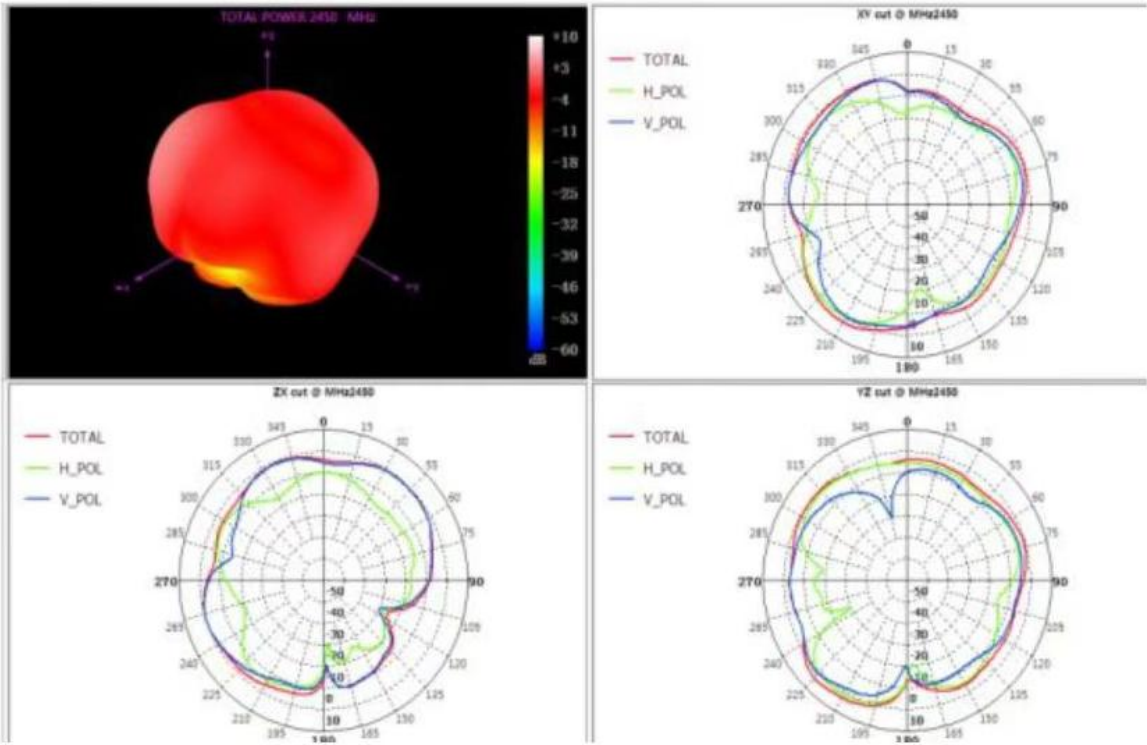
Main antenna

分天线

Antenna division

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3.1.5 主天线在网络分析仪所测得数据（天线无源驻波及回波损耗）

Data measured by the main antenna in the network analyzer (passive standing wave and return loss of the antenna)



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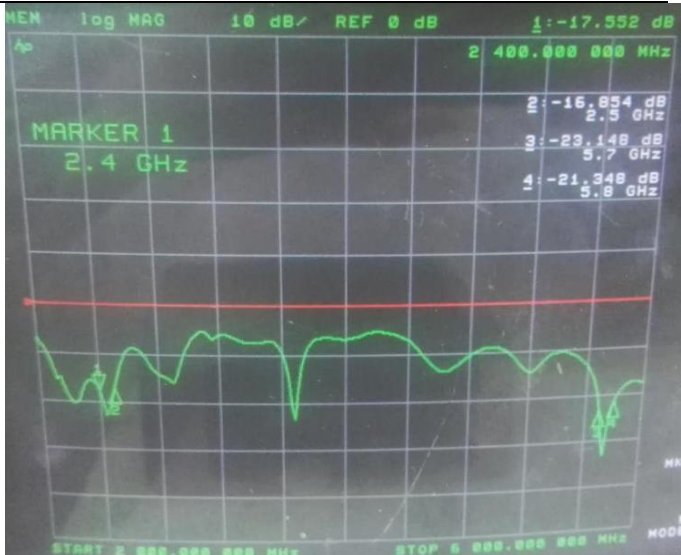
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电压驻波比 Voltage standing wave ratio (SWR)



回波损耗 Return loss (Return loss)

主天线



电压驻波比 Voltage standing wave ratio (SWR)



回波损耗 Return loss (Return loss)

分天线 Antenna division

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3.1.6 吞吐量测试数据 Antenna throughput test data

#336: [49.50Mbits/s]					#336: [472.00Mbits/s]				
Output					Output				
[336]	101.0-102.0 sec	6.23 MBytes	52.2 Mbits/sec		[336]	101.0-102.0 sec	52.2 MBytes	438 Mbits/sec	
[336]	102.0-103.0 sec	5.95 MBytes	49.9 Mbits/sec		[336]	102.0-103.0 sec	53.8 MBytes	451 Mbits/sec	
[336]	103.0-104.0 sec	6.13 MBytes	51.4 Mbits/sec		[336]	103.0-104.0 sec	57.8 MBytes	485 Mbits/sec	
[336]	104.0-105.0 sec	6.87 MBytes	57.6 Mbits/sec		[336]	104.0-105.0 sec	60.6 MBytes	508 Mbits/sec	
[336]	105.0-106.0 sec	6.46 MBytes	54.2 Mbits/sec		[336]	105.0-106.0 sec	53.0 MBytes	445 Mbits/sec	
[336]	106.0-107.0 sec	6.14 MBytes	51.5 Mbits/sec		[336]	106.0-107.0 sec	51.6 MBytes	432 Mbits/sec	
[336]	107.0-108.0 sec	6.15 MBytes	51.6 Mbits/sec		[336]	107.0-108.0 sec	42.3 MBytes	355 Mbits/sec	
[336]	108.0-109.0 sec	6.30 MBytes	52.8 Mbits/sec		[336]	108.0-109.0 sec	43.2 MBytes	363 Mbits/sec	
[336]	109.0-110.0 sec	6.52 MBytes	54.7 Mbits/sec		[336]	109.0-110.0 sec	55.4 MBytes	464 Mbits/sec	
[336]	110.0-111.0 sec	6.66 MBytes	55.9 Mbits/sec		[336]	110.0-111.0 sec	55.5 MBytes	466 Mbits/sec	
[336]	111.0-112.0 sec	6.88 MBytes	57.7 Mbits/sec		[336]	111.0-112.0 sec	59.3 MBytes	497 Mbits/sec	
[336]	112.0-113.0 sec	6.34 MBytes	53.1 Mbits/sec		[336]	112.0-113.0 sec	58.8 MBytes	493 Mbits/sec	
[336]	113.0-114.0 sec	6.16 MBytes	51.6 Mbits/sec		[336]	113.0-114.0 sec	57.5 MBytes	482 Mbits/sec	
[336]	114.0-115.0 sec	5.19 MBytes	43.5 Mbits/sec		[336]	114.0-115.0 sec	53.8 MBytes	451 Mbits/sec	
[336]	115.0-116.0 sec	6.62 MBytes	55.5 Mbits/sec		[336]	115.0-116.0 sec	45.4 MBytes	381 Mbits/sec	
[336]	116.0-117.0 sec	6.60 MBytes	55.4 Mbits/sec		[336]	116.0-117.0 sec	46.3 MBytes	388 Mbits/sec	
[336]	117.0-118.0 sec	5.93 MBytes	49.7 Mbits/sec		[336]	117.0-118.0 sec	49.0 MBytes	411 Mbits/sec	
[336]	118.0-119.0 sec	6.34 MBytes	53.2 Mbits/sec		[336]	118.0-119.0 sec	51.6 MBytes	433 Mbits/sec	
[336]	119.0-120.0 sec	6.08 MBytes	51.0 Mbits/sec		[336]	119.0-120.0 sec	58.4 MBytes	490 Mbits/sec	
[ID]	Interval	Transfer	Bandwidth		[ID]	Interval	Transfer	Bandwidth	
[336]	0.0-120.0 sec	708 MBytes	49.5 Mbits/sec		[336]	0.0-120.0 sec	6750 MBytes	472 Mbits/sec	
Done.					Done.				
2.4G					5G				

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