



shenzhenTian wei xun wireless technology co.,ltd.

Product performance and specification

Tian wei xun antenna the research and development department

CUSTOMER NAME: Shenzhen AZW Technology Co., Ltd

PRODUCT NAME: Key N BOARD MODEL V1

TIAN WEI XUN P/N: TWX-069-086 PCB MODEL: _____

CUSTOMER P/N: _____

Client	Admit manufacturing party		
Customers confirmation	Quality department	R&D	Approval
		ME:	
		RF:	
Date:	(Date) : Wednesday, July 3rd, 2024		

Telephone: 86-755-29361726 Fax: 86-755-85268343

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company.

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03

Indexes

1.1Project Diagram.....	2
1.1.1Antenna matching diagram.....	2
2.1objective.....	3
3.1Main antenna.....	3
3.1.1Main antenna electrical specifications and materials.....	3
3.1.2Antenna form.....	3
3.1.3Antenna design working frequency band.....	3
3.1.4Antenna measurement data in ETS-SG24SYSTEM3D testing system.....	3
3.1.5Passive standing wave and return loss of antenna.....	5
3.1.6WiFiAntenna active test data.....	6
3.1.7Throughput test data.....	7
4.1Product Design Drawing.....	7
5.1Product assembly diagram.....	10
5.1.1Antenna composition.....	10
5.1.2Antenna assembly.....	10
5.1.3The antenna assembly is shown in the diagram inside the entire machine.....	12
5.1.4Environmental treatment diagram.....	12

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

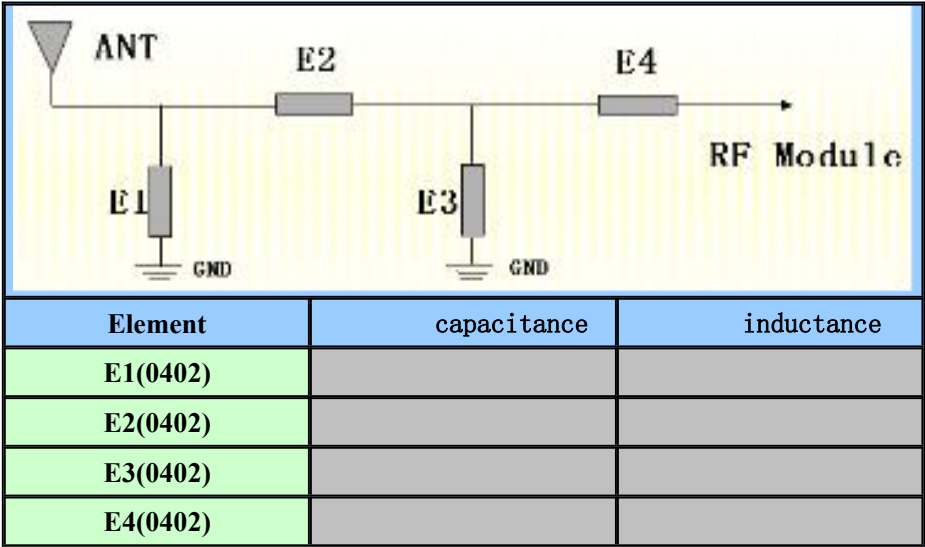
Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03

1.1 Project Diagram



MAX N

1.1.1 Antenna matching diagram



Matching instructions: Match according to the original motherboard without any changes.

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03

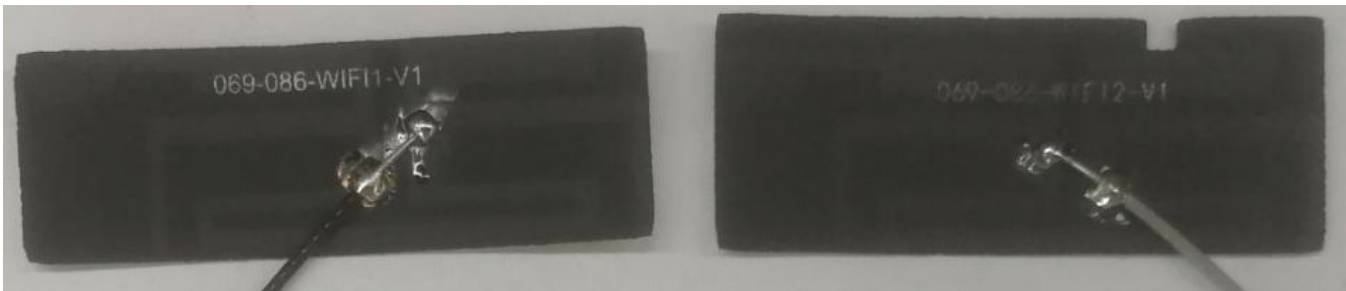
2. 1 objective

Standardize the specifications and testing methods of mobile communication terminal antenna products produced by Tianweixun to avoid errors caused by different testing conditions and methods.

3. 1 antenna

3.1.1Main antenna electrical specifications and materials

This report mainly provides the testing status of the structural performance parameters of mobile phone antenna MAXN.



Physical image of antenna designed by Tianwei Xun

3.1.2 Antenna form

Implementation type: PIFA antenna

3.1.3 Antenna design operating frequency band

The working frequency band of the antenna is

2412MHz~ 2472MHz、5100MHz~5820MHz

3.1.4 Measurement data of the main antenna in the ETS-SG24SYSTEM 3D testing system

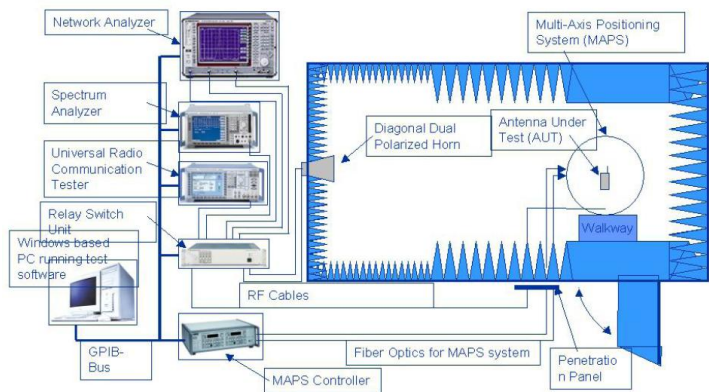


Figure (2) ETS Testing System

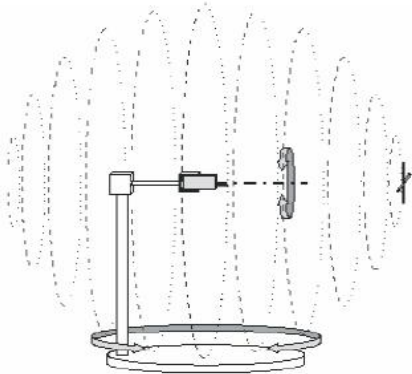


Figure (3) Three dimensional positioning device for mobile phone in darkroom

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03

The following table shows the passive performance indicators of Tianweixun's designed and mass-produced antennas:

Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)
2400	1.73	40.1	5100	2.89	44.8	5485	3.42	48.2
2410	1.75	40.0	5135	2.82	44.8	5520	2.85	42.6
2420	1.95	40.1	5170	2.23	48.2	5555	2.75	41.4
2430	1.85	40.7	5205	2.46	44.3	5590	2.79	44.5
2440	1.87	41.2	5240	2.11	40.2	5625	2.06	41.9
2450	1.93	42.4	5275	2.40	42.7	5660	2.36	41.6
2460	1.99	41.9	5310	2.07	40.4	5695	2.39	44.5
2470	1.81	41.7	5345	2.14	41.2	5730	2.20	39.0
2480	1.74	42.7	5380	2.89	46.6	5765	2.48	39.0
2490	1.66	41.5	5415	2.88	46.0	5800	2.27	39.0
2500	1.76	41.8	5450	3.07	46.3			

BT ANT

Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)
2400	-0.30	36.1	5100	3.48	35.8	5485	3.67	44.3
2410	-0.22	36.1	5135	3.75	37.2	5520	3.20	38.3
2420	-0.16	36.8	5170	4.53	42.3	5555	3.48	39.0
2430	-0.22	35.7	5205	4.19	40.9	5590	3.77	43.5
2440	-0.31	35.8	5240	3.56	37.0	5625	3.66	40.5
2450	-0.31	39.0	5275	3.71	42.6	5660	3.47	41.6
2460	-0.24	38.1	5310	3.42	39.4	5695	4.39	46.8
2470	-0.15	37.7	5345	3.52	39.7	5730	3.55	39.2
2480	-0.08	37.5	5380	3.94	43.7	5765	4.34	42.1
2490	0.22	37.0	5415	3.71	42.6	5800	3.98	38.8
2500	0.68	36.3	5450	3.85	42.9			

WIFI ANT

Confidentiality requirements

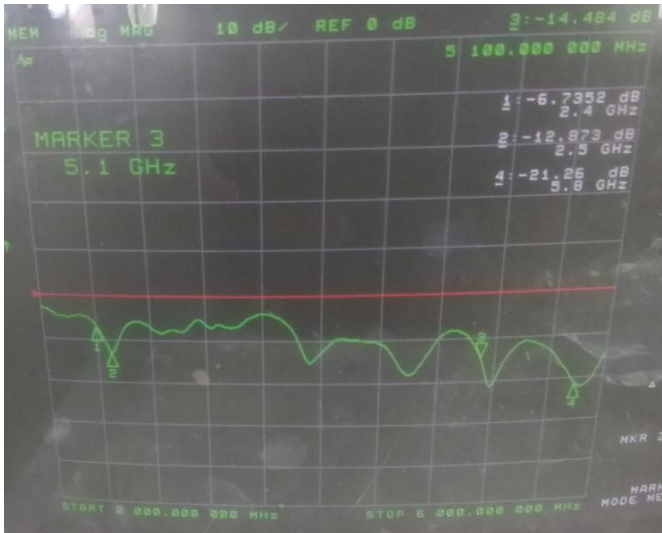
The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03

3.1.5 Passive standing wave and return loss of antenna



Voltage standing wave ratio (SWR)



Return loss (Return loss)

BT ANT

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03



Voltage standing wave ratio (SWR)



Return loss (Return loss)

WIFI ANT

3.1.6 WiFi Antenna active test data

		Channel No.	TRP (dBm)	TIS (dBm)
WiFi	2.4G	1	12.99	-80.62
		6	13.04	-79.34
		13	13.13	-79.18
	5G	36	13.72	-71.29
		64	13.17	-70.37
		149	12.82	-71.25
		157	13.16	-70.93
		165	12.36	-70.82

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03

日期	修改内容	版本	备注

The technical drawing shows a rectangular component with a central slot. Dimension ① indicates a width of $\star 12.00 \pm 0.15$. Dimension ② indicates a diagonal length of $\star 200 \pm 2.0$. A vertical dimension on the right side is $\star 35.84 \pm 0.15$. The component is labeled "069-086-M/F11-Y1".

序号	名称	描述	数量	备注
1	FPC	3A 8x12mm/黑色/字符亮蓝色	1	
2	端子端	mQ, 81x200mm/黑色线材/4代端子	1	

公差		位置		表面处理	
0~10	+0.10	⊕	0.02	机种	TXX-008-008
10~20	+0.15	○	m0.03	品名	BT ANT
20~40	+0.15	□	0.02	料号	
40~50	+0.20	▽	0.04	材质	
		∇	0.02	表面处理	
				外观处理	

设计	审核	结构	封固
Allen			

深圳市天威讯无线技术有限公司
Shenzhen TianWeiXun Communication Equipment Co., Ltd.

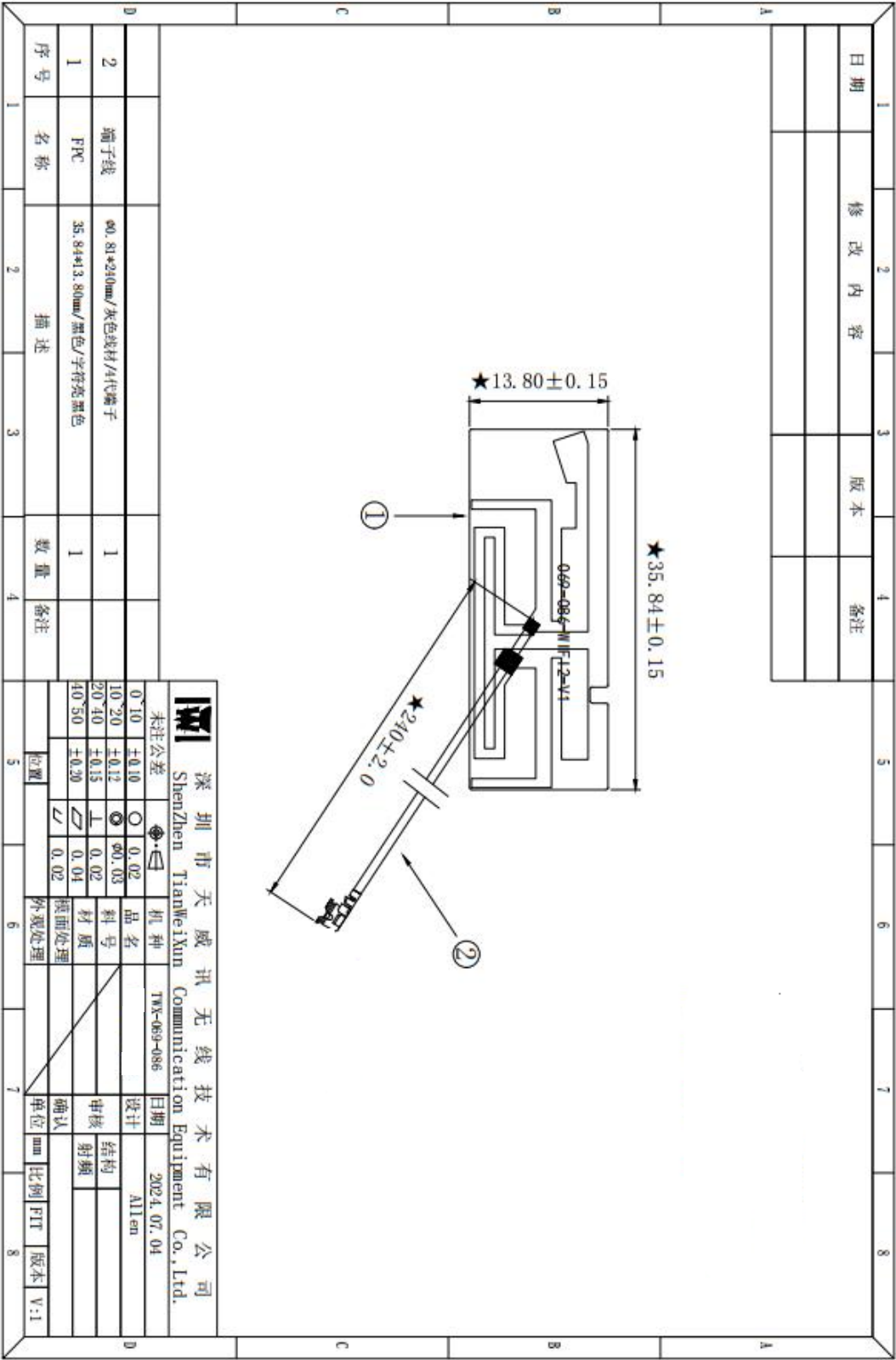
日期: 2024.07.04

比例: FIT 版本: V:1

Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company

Draft	Liao Xianming	Product specification sheet	edition	V1
Issuing department	R&D Department		Release date	2024-07-03



Confidentiality requirements

The information provided by the technology is not allowed to be disclosed to any company or individual without the prior written consent of our company