深圳市千目通讯科技有限公司

Shenzhen Qianmu Communication Technology Co.,Ltd.

Address: 443, 425, Block A2, Huafeng Zhigu Hangcheng High-tech Industrial Park, Gushu Street, Baoan District, Shenzhen

Guest: Olano

Item: T65T-Maxwest

Date: 2024-12-21

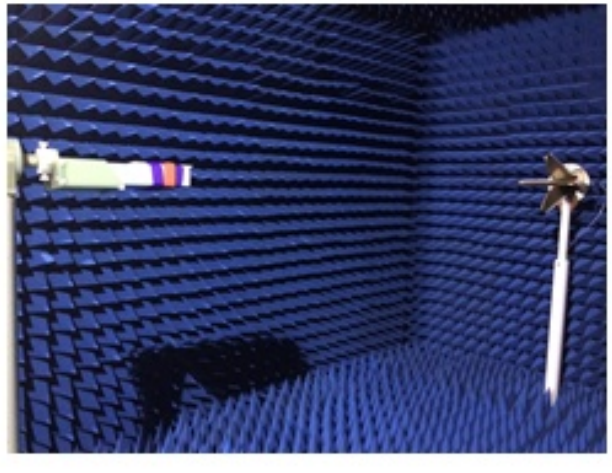
Radio Frequency: QIU ZHI YUAN

testing environment

	测试项目test item	设备equipment
1. S参数 （S-parameter）	1. 回波损耗 （Return Loss） 2. 电压驻波比（VSWR）	网络分析仪network analyzer: Agilent E5071B HP 8753D
2. 有源测试（Active ）	1. 发射功率 （TRP） 2. 接收灵敏度（TIS） 3.频率误差frequency error 4.屏灭、屏亮Screen off, screenon	1. 暗室darkroom： ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.综合测试仪Comprehensive tester: Agilent 8960 E5515B ×2 StarPoint SP6011
3.无源测试（Passive）	1.天线增益 （Gain） 2.天线效率 （Efficiency）	1. 暗室暗室darkroom： ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪network analyzer： Agilent E5071B HP 8753D







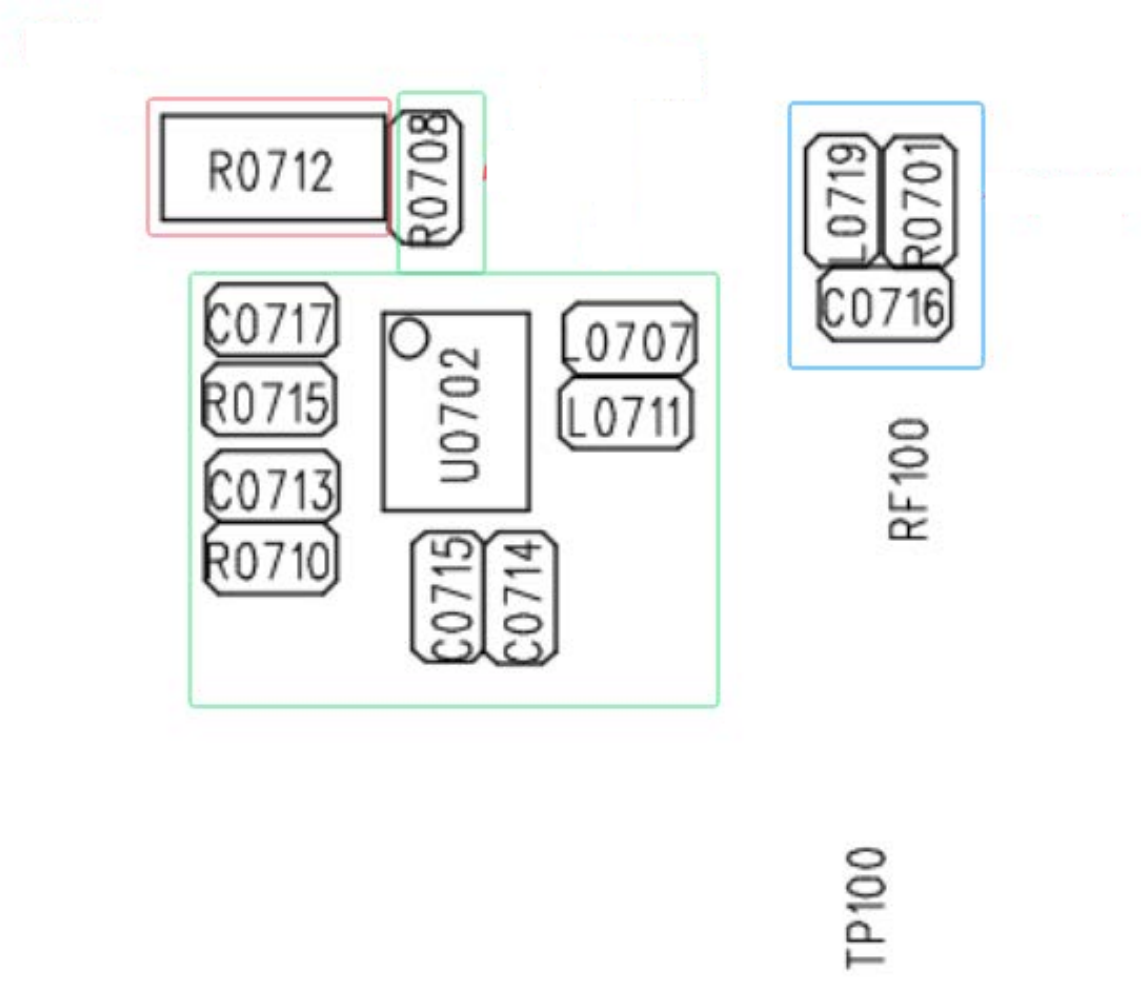
Description of previous debugging records

Date	version	Model	Debugging record description
2024.9.10	A	T18_MB_V5.0-20240228	FPC modification sample, debugging machine
2024.9.23	A	T18_MB_V5.0-20240228	FPC modified sample, add tuning switch
2024.9.25	A	T18_MB_V5.0-20240228	FPC sample, retest
2024.11.29	A	T18_MB_V5.0-20240228	Increase antenna gain and pattern
2024.12.12	A	T18_MB_V5.0-20240228	FPC-like cancel switch

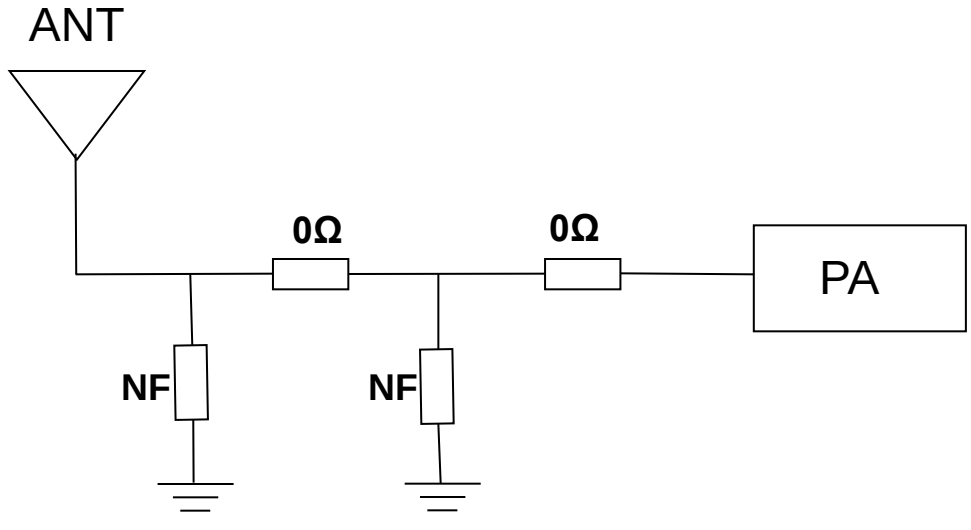
Debugging instructions of the whole machine

type	Functional machine						
Model	T65T						
Overview of antenna	Main antenna	frequency band		Antenna state	Antenna type	Design area	Matching change
		2G	850/900/1800/1900	FPC	PIFA	Shell material	No
		3G	850/1700/1900				
		4G	B2/4/5/7/12/17 /28AB/66/71				
Prototype state				Environmental treatment	Multiple places		

Small board switch logic and matching change description:



Matching circuit -GSM antenna



test data

Antenna state	FPC			Prototype state			
	GSM900				DCS1800		
Channel	1	62	124		512	698	885
TRP	23.22	22.9	23.09		24.55	24.67	25.15
TIS			-100.96				-103.43
	GSM850				PCS1900		
Channel	128	190	251		512	661	810
TRP	28.78	28.58	28.04		24.48	24.64	25.39
TIS			-100				-103.31

test data

Antenna state	FPC			Prototype state			
	W850				W1700		
Channel	4357	4408	4458		1537	1638	1738
TRP	18.31	18.38	18.4		18.34	18.26	18.4
TIS			-100.45				-103.27
	W1900						
Channel	9662	9700	9938				
TRP	18.27	18.32	18.41				
TIS			-103.18				

test data

Antenna state	FPC			Prototype state			
	B2				B4		
Channel	18650	18900	19150		20000	20175	20350
TRP	17.58	17.66	17.81		18.16	18.2	18.34
TIS			-90.43				-90.22
	B5				B7		
Channel	20450	20550	20600		20800	21100	21400
TRP	18.23	17.63	17.98		18.4	18.21	18.19
TIS			-88.08				-90.41

test data

Antenna state	FPC			Prototype state			
	B12				B17		
Channel	23060	23095	23130		23780	23790	23800
TRP	17.12	17.2	17.37		17.26	17.14	17.2
TIS			-88.35				-88.67
	B66				B71		
Channel	132022	132322	132622		133172	133297	133422
TRP	18.32	18.24	18.33		17.21	17.29	17.34
TIS			-90.19				-85.27

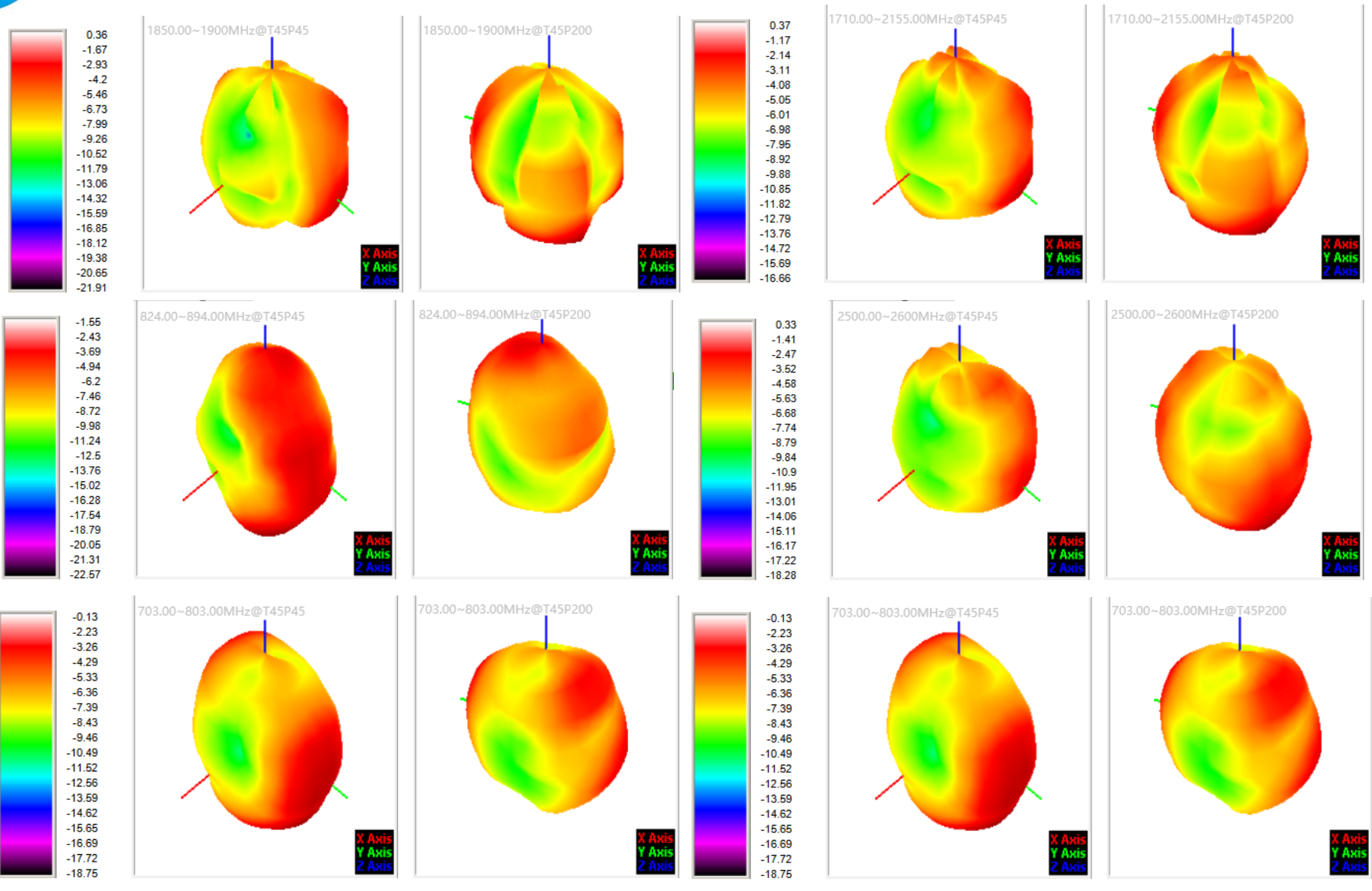
test data -Freespace

	B28AB				
Channel	27260	27433	27435	27510	27610
TRP	17.27	17.32	17.56	17.6	17.69
TIS			-88.11		-88.56

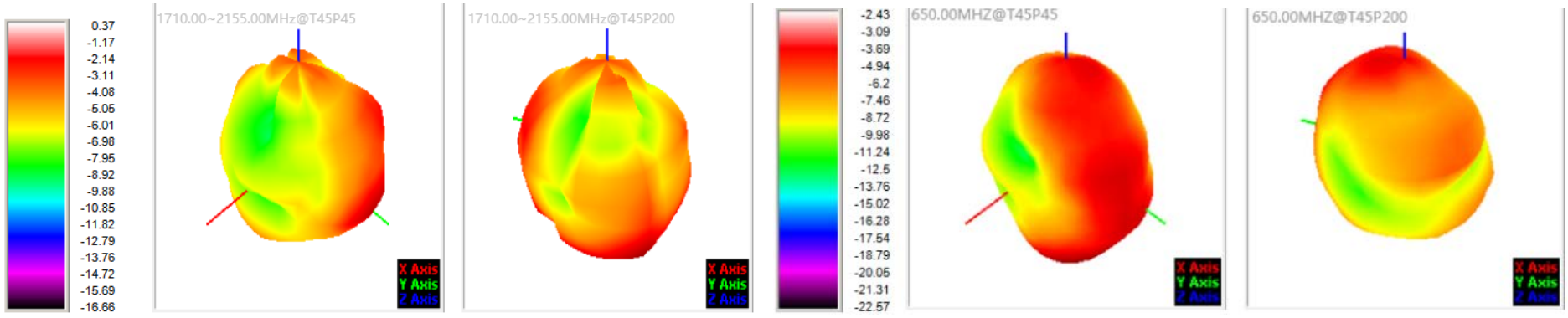
antenna gain：

PEAK GAIN		
2G:	Frequency range	Gaim dBi
GSM850	824~894Mhz	-1.55
GSM900	880~960Mhz	-1.68
DCS1800	1710~1880Mhz	0.38
PCS1900	1850~1990Mhz	0.36
3G:		
W2	1850~1990Mhz	0.36
W4	1710~2155Mhz	0.37
W5	824~894Mhz	-1.55
4G:		
LTE-B2	1850~1990Mhz	0.36
LTE-B4	1710~2155Mhz	0.37
LTE-B5	824~894Mhz	-1.55
LTE-B7	2500~2690Mhz	0.33
LTE-B12	698~746Mhz	-0.13
LTE-B17	704~746Mhz	-0.13
LTE-B28AB	708~798Mhz	-0.13
LTE-B71	617~697.9Mhz	-2.43
LTE-B66	1710~2170Mhz	0.37
2.4G-BT	2400~2500Mhz	0.33

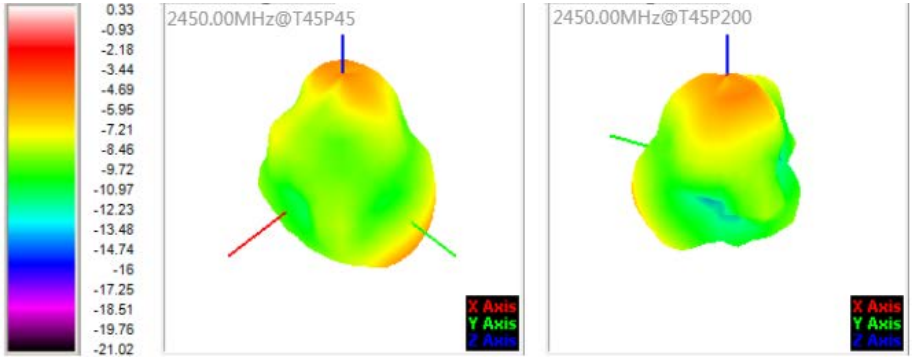
Main antenna pattern：



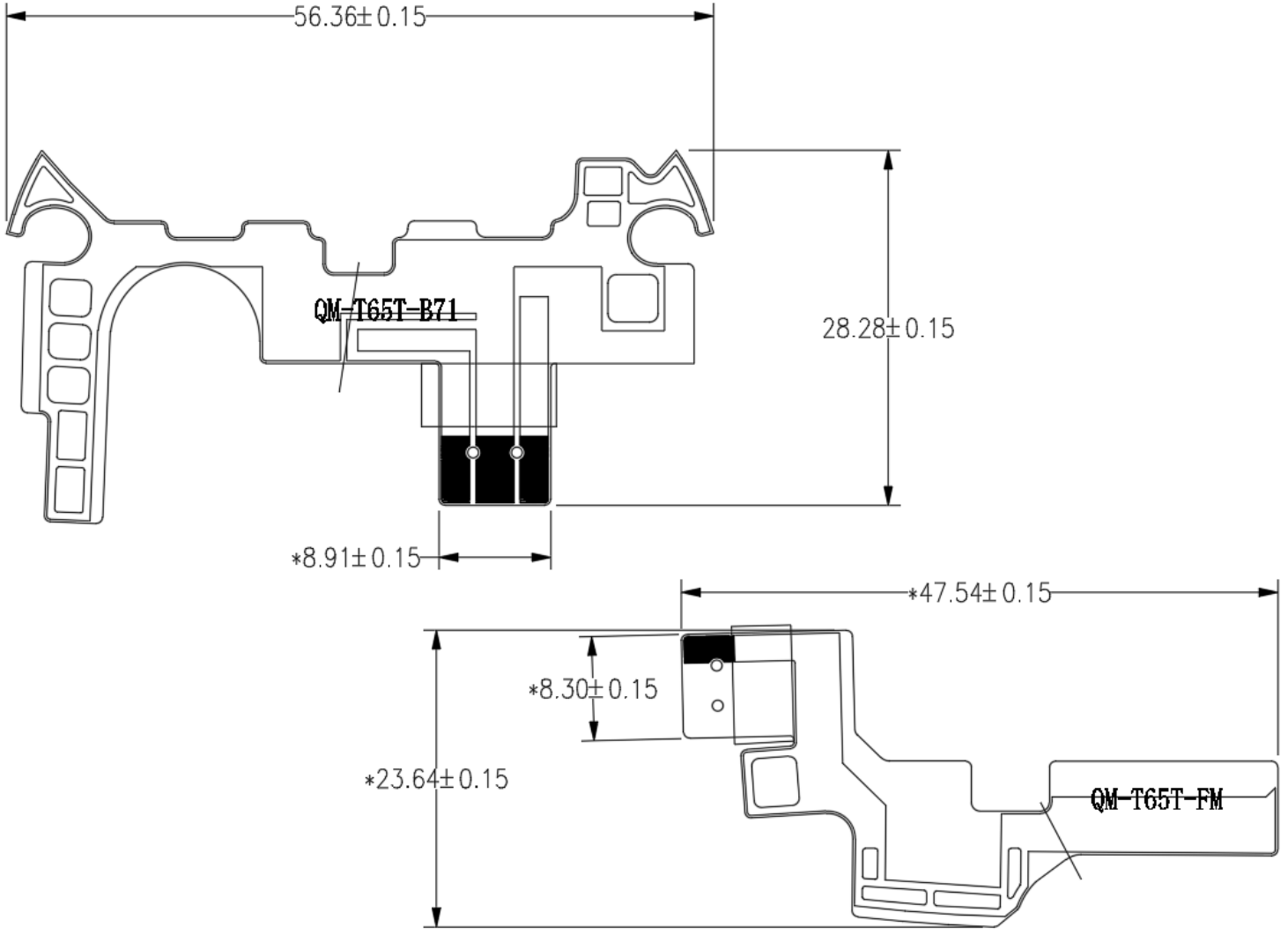
Main antenna pattern：

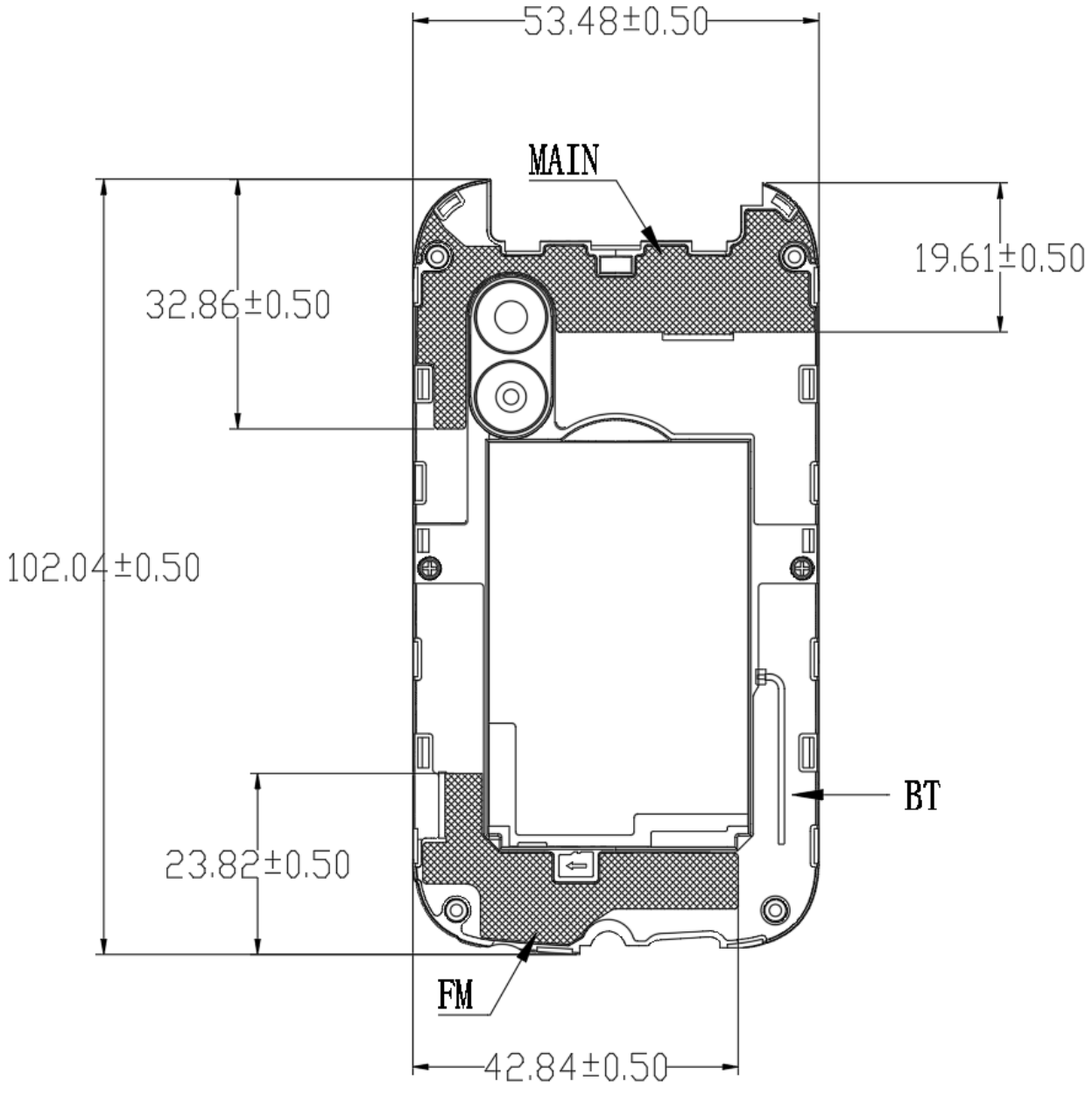


Bluetooth antenna pattern：

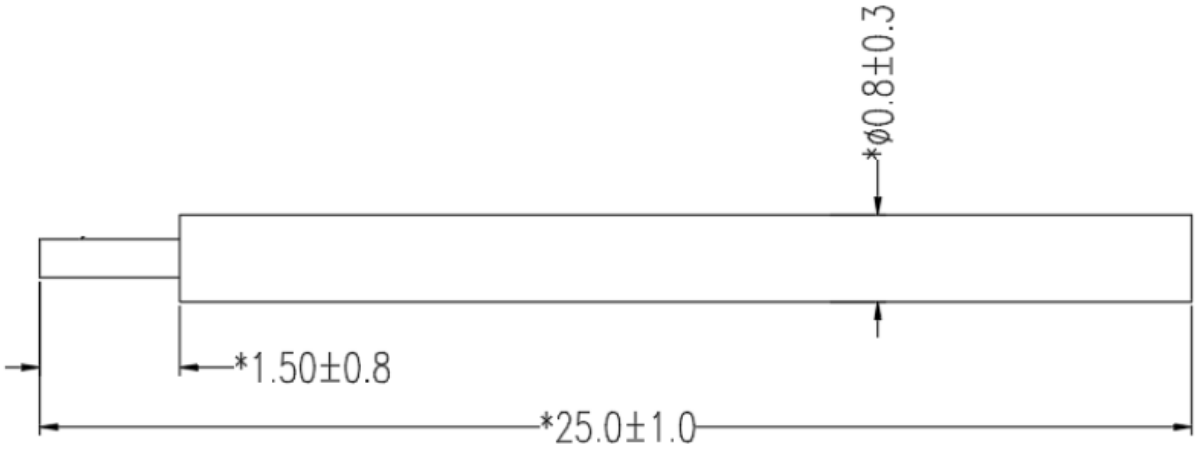


Antenna circuit diagram ：

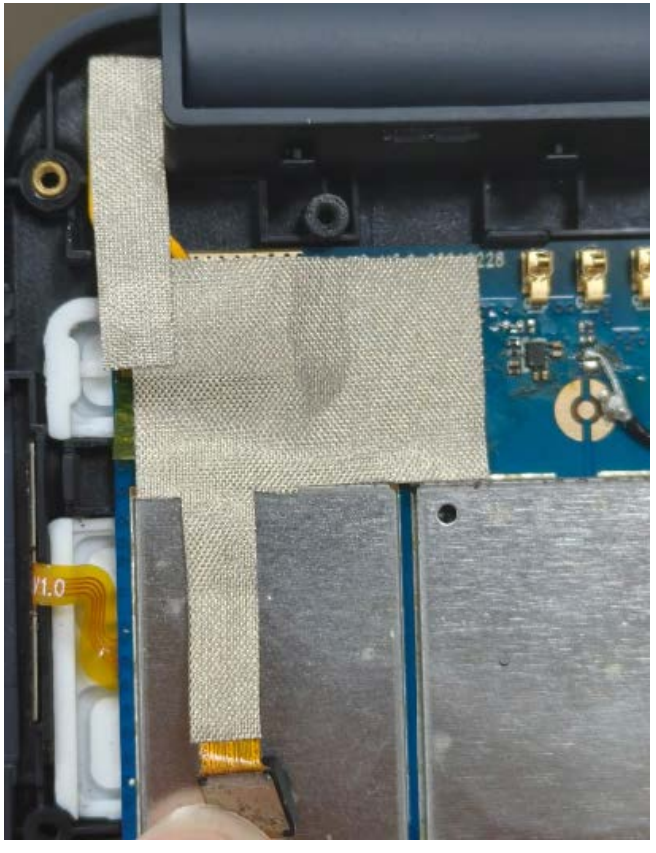



53.48±0.50
MAIN
19.61±0.50
32.86±0.50
102.04±0.50
BT
23.82±0.50
FM
42.84±0.50

BT Antenna circuit diagram ：



Environmental treatment：



Location of conductive cloth Camera
and lamp are grounded.

Prompt explanation

Tip:
1.This data only refers to the data generated by the prototype provided by thecustomer, and does not represent the final mass production state of the customer;
2.Please carefully confirm the description of matching circuit modification andenvironmental treatment in our report;
3.Please provide a trial prototype to our company for secondary verification beforemass production; Please inform in advance if there are any material replacement, software update and environmental treatment.
4.If the customer needs a third-party retest or sends it to the customer for testing,please go to our company for verification before sending the prototype; Prevent the difference between the machine and the debugging machine;
Five: Our company does not accept the machine data and other darkroom test data other than our debugging, but it can be used for reference, except for the certification darkroom. If there is any difference in the data, all the debugging machines shall prevail to find out the reasons.

thank you!