F66

Antenna material requirements specification

customer: Qichang

Trade : F66

Product : Antenna

Code : 03.005.0001.0064

THOT

Change History

Number	Version	Status	Start-stop date	Person	Page	Note
1	1.0	1.0	2023-12-06	Li jieyi	14	

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1.Overview

1.1 Scope

This requirement specifies F66 Product antenna technical requirements and material requirements specification.
This requirement applies F66 Product antenna selection, testing and acceptance.

1.2 Project information

Antenna Name :	F66
Dqwhqqd edqg :	GWB:1575.42MHz 2.4G / 5G
Dqwhqqd Yhuvlrq :	V0.1

2.Technical specifications

2.1 Test Item and equipment

List	Test Item	Equipment
S11 Parameters	Standing wave ratio, return loss	Network analyzer
Active test	TRP,TIS	Comprehensive tester, microwave darkroom
Passive testing	Gain, efficiency	Network analyzer

2.2 Description

Test tools: Agilent8960 integrated measuring instrument, R&SCMW500, all-wave far-field ETS darkroom, high-precision positioning system and its controller and computer with automatic test program

Test environment: Temperature 22℃±3℃, humidity 50%±15%

Test method: The DUT is fixed in the center position of the turntable with the H-plane, and the center position of the horn antenna is on the same horizontal line. The positioning system enables the DUT to rotate throughout the spherical surface to meet the high accuracy of three-dimensional positioning. Each RF instrument, turntable controller and PC with automatic test software communicate through GPIB interface

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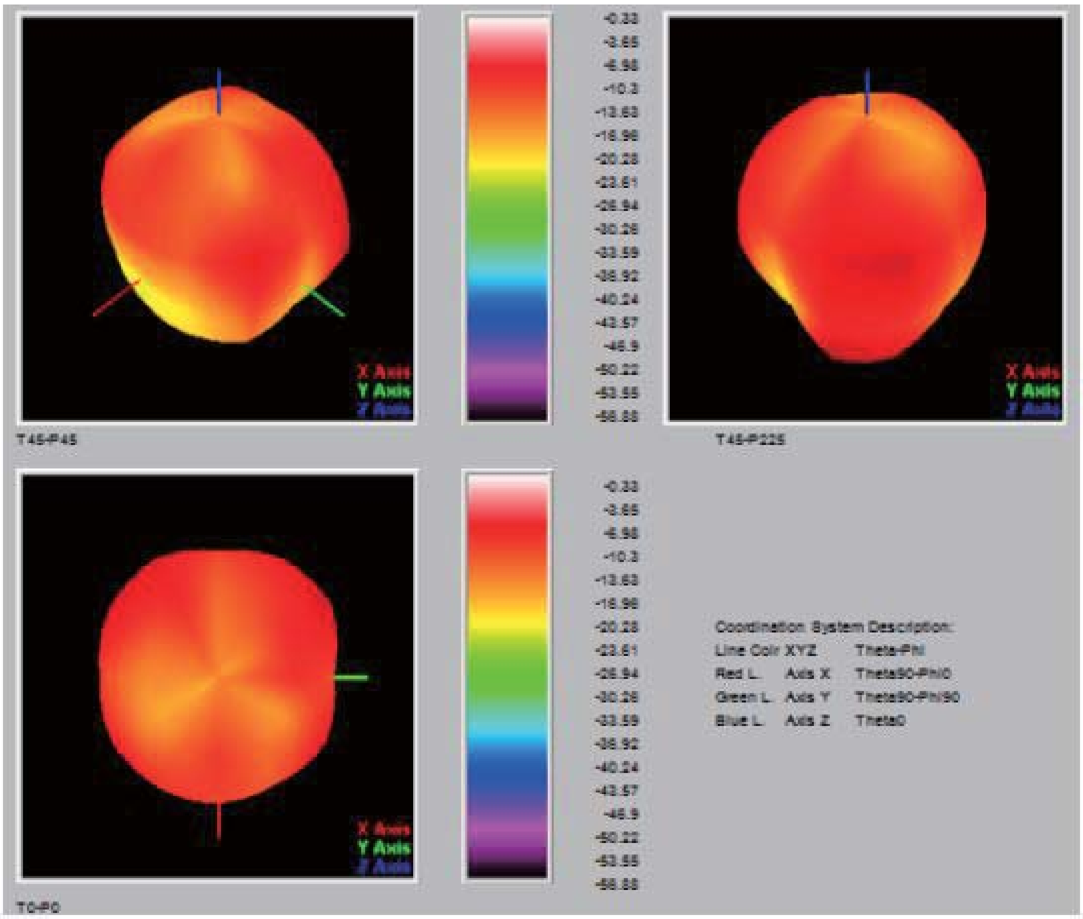
2.2.1 Antenna efficiency

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
1550	36.2	-0.35	2400	44.6	1.38	5100	33.1	0.35
1560	36.4	-0.25	2420	45.2	1.42	5200	34.4	0.41
1570	35.6	-0.29	2440	47.7	1.50	5300	35.8	0.47
1575	35.2	-0.33	2450	46.4	1.46	5400	36.0	0.52
1580	34.8	-0.42	2460	45.3	1.42	5500	34.7	0.44
1590	33.7	-0.50	2480	44.5	1.34	5600	32.1	0.31
			2500	43.4	1.27	5700	33.2	0.36
						5800	32.6	0.29
						5900	32.0	0.22

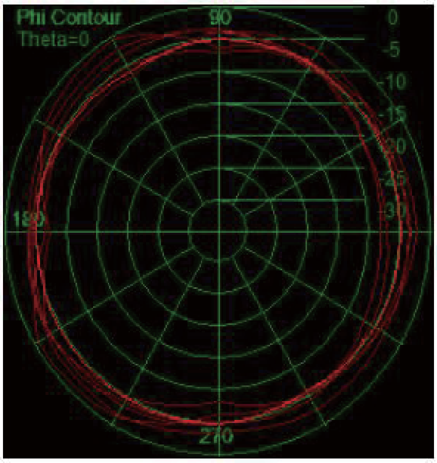
2.2.2 Active antenna parameters

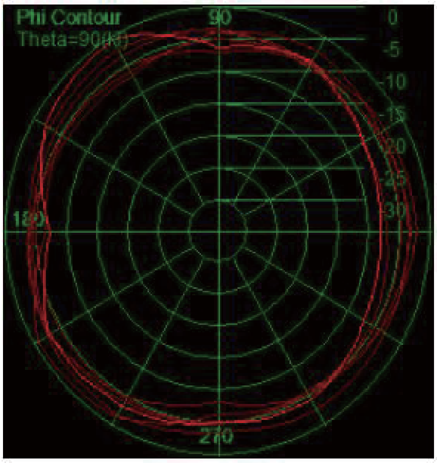
	802.11	信道号	TRP (db)	TIS (dbm)
WIFI	11b	CH1	13.38	-82.11
		CH6	13.40	-82.76
		CH11	13.15	-82.20
	11g	CH1	12.04	-71.78
		CH6	12.29	-72.46
		CH11	12.15	-72.29
	11n	CH1	11.26	-68.12
		CH7	11.58	-68.75
		CH13	11.43	-68.08
	11a	CH36	9.12	-71.03
		CH64	10.43	-71.58
		CH165	10.28	-71.64

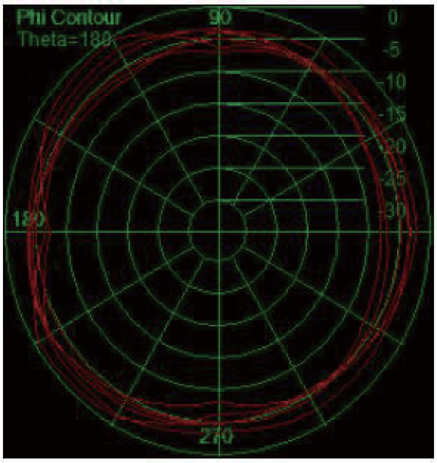
2.2.3 Antenna pattern——GPS



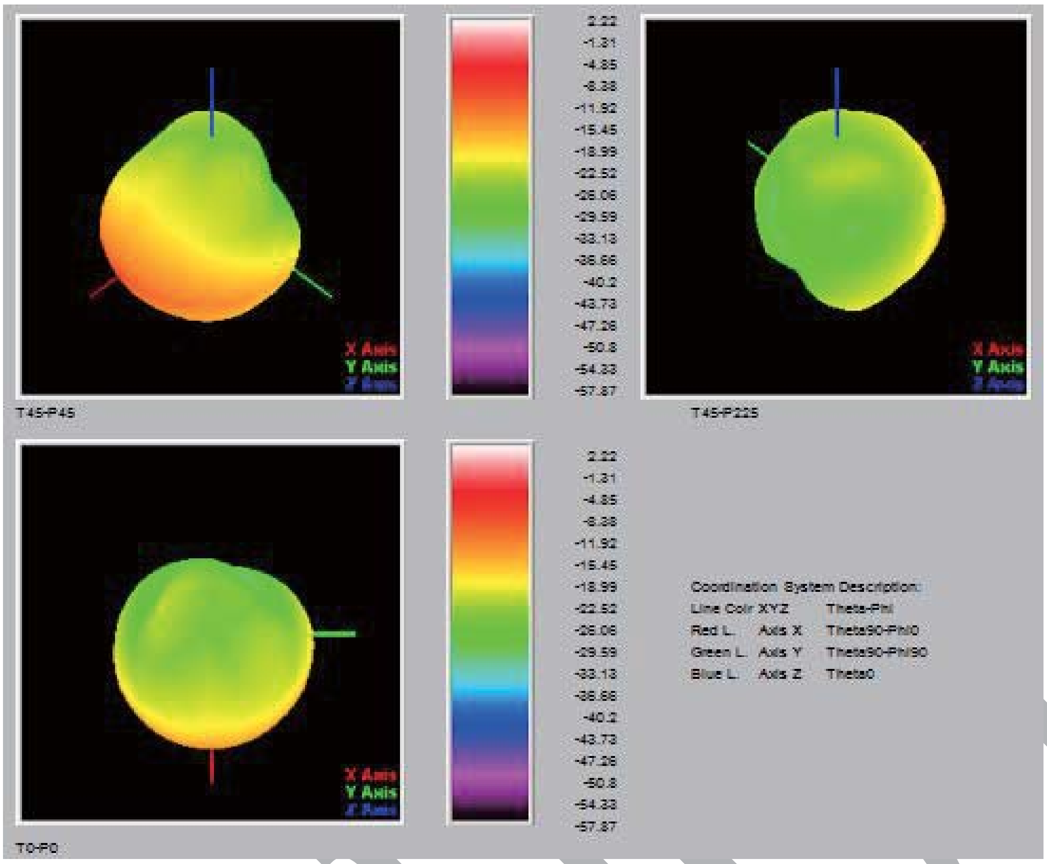
2.2.4 Antenna Plan——GPS



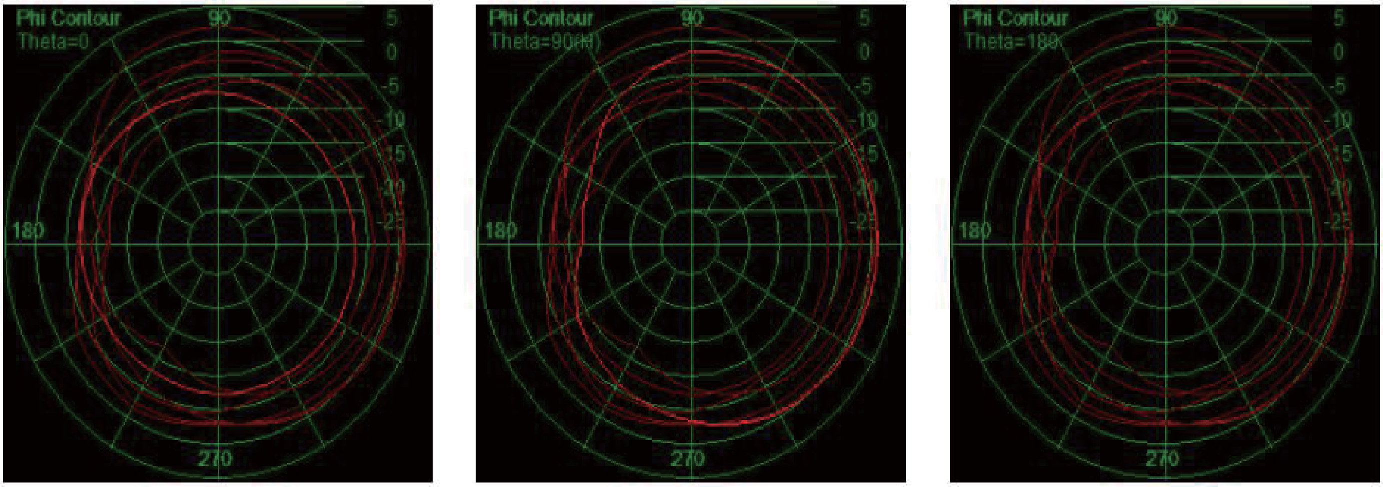




2.2.5 Antenna pattern——2.4G



2.2.6 Antenna Plan——2.4G



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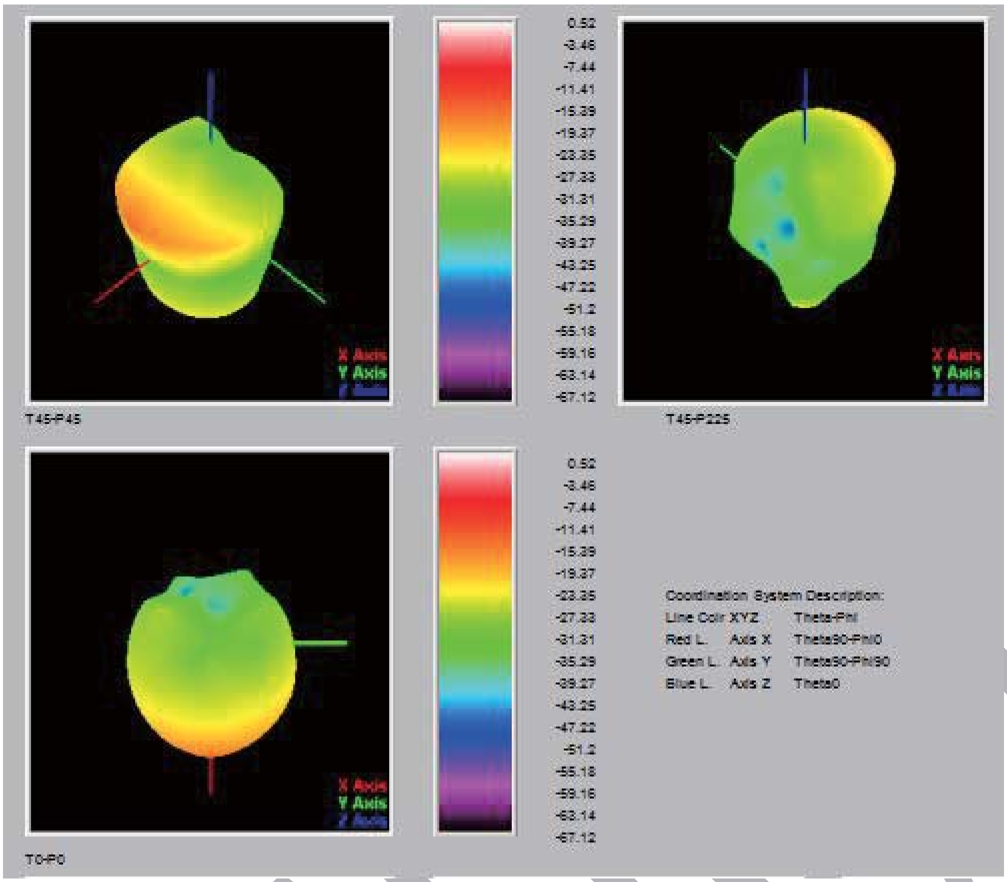
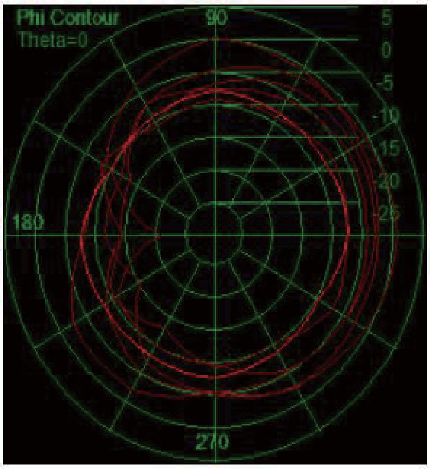
2.2.7 Antenna pattern——5G

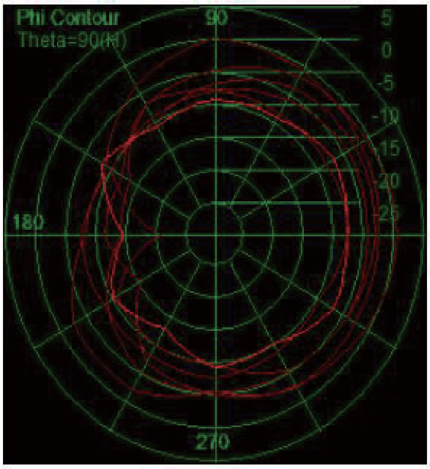

X Axis
Y Axis
Z Axis
T45-P45
0.52
-3.46
-7.44
-11.41
-15.39
-19.37
-23.35
-27.33
-31.31
-35.29
-39.27
-43.25
-47.22
-51.2
-55.18
-59.16
-63.14
-67.12
X Axis
Y Axis
Z Axis
T45-P225
X Axis
Y Axis
Z Axis
T0-P0

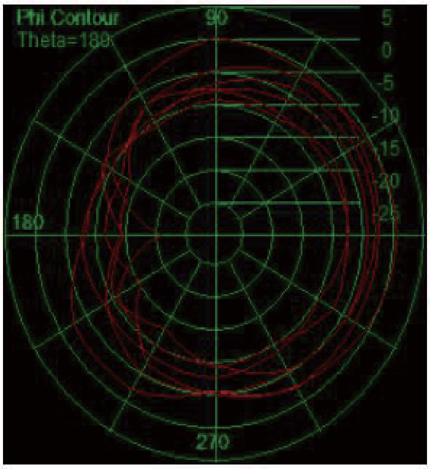
Coordination System Description:

Line Colr	XYZ	Theta-Phi
Red L.	Axis X	Theta90-Phi0
Green L.	Axis Y	Theta90-Phi90
Blue L.	Axis Z	Theta0

2.2.8 Antenna Plan——5G







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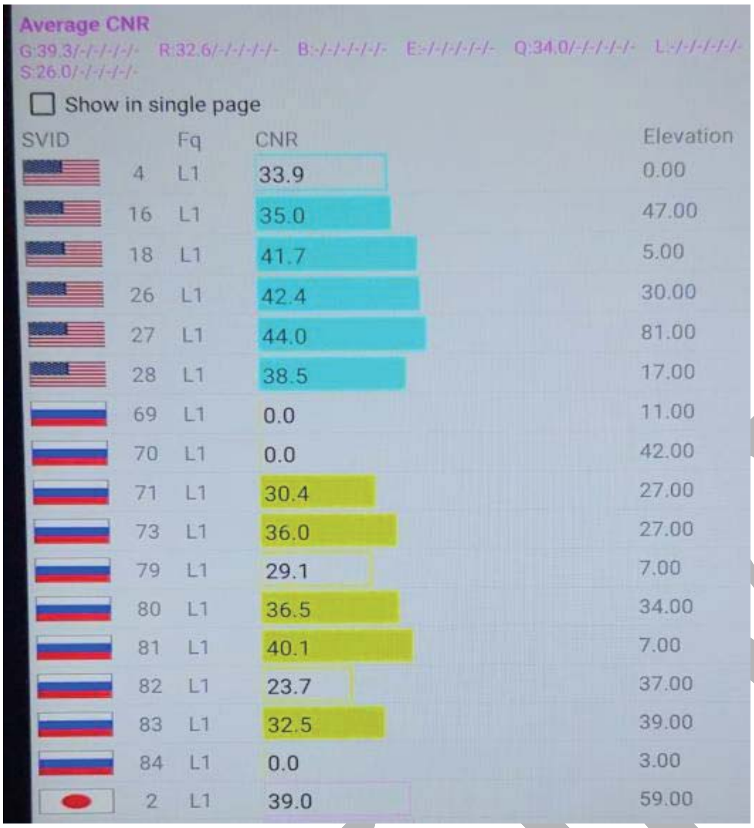
2.2.9 GPS measurement for star search



Average CNR

G:39.3/-/-/-/- R:32.6/-/-/-/- B:-/-/-/-/- E:-/-/-/-/- Q:34.0/-/-/-/- L:-/-/-/-/- S:26.0/-/-/-/-

☐ Show in single page

SVID		Fq	CNR	Elevation
🇺🇸	4	L1	33.9	0.00
🇺🇸	16	L1	35.0	47.00
🇺🇸	18	L1	41.7	5.00
🇺🇸	26	L1	42.4	30.00
🇺🇸	27	L1	44.0	81.00
🇺🇸	28	L1	38.5	17.00
🇷🇺	69	L1	0.0	11.00
🇷🇺	70	L1	0.0	42.00
🇷🇺	71	L1	30.4	27.00
🇷🇺	73	L1	36.0	27.00
🇷🇺	79	L1	29.1	7.00
🇷🇺	80	L1	36.5	34.00
🇷🇺	81	L1	40.1	7.00
🇷🇺	82	L1	23.7	37.00
🇷🇺	83	L1	32.5	39.00
🇷🇺	84	L1	0.0	3.00
🇯🇵	2	L1	39.0	59.00

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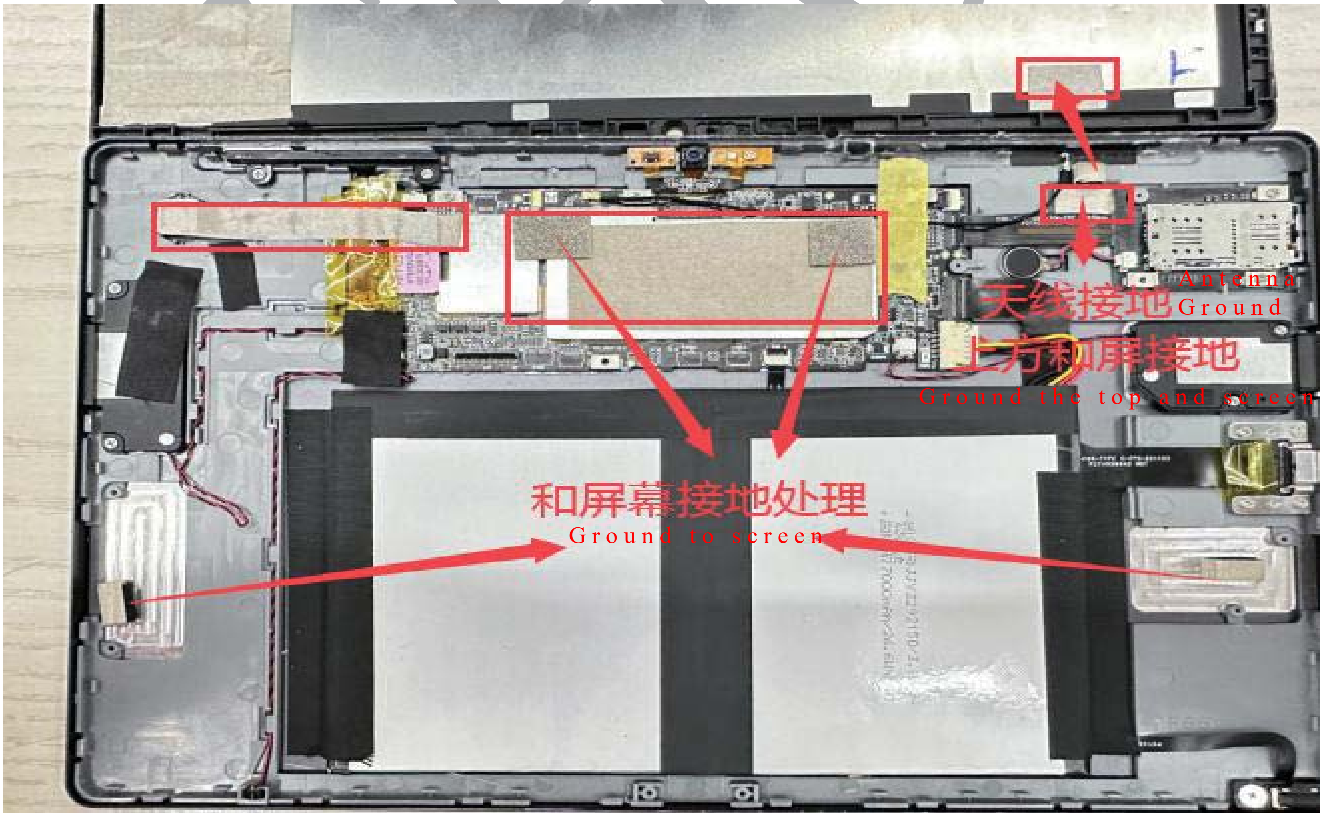
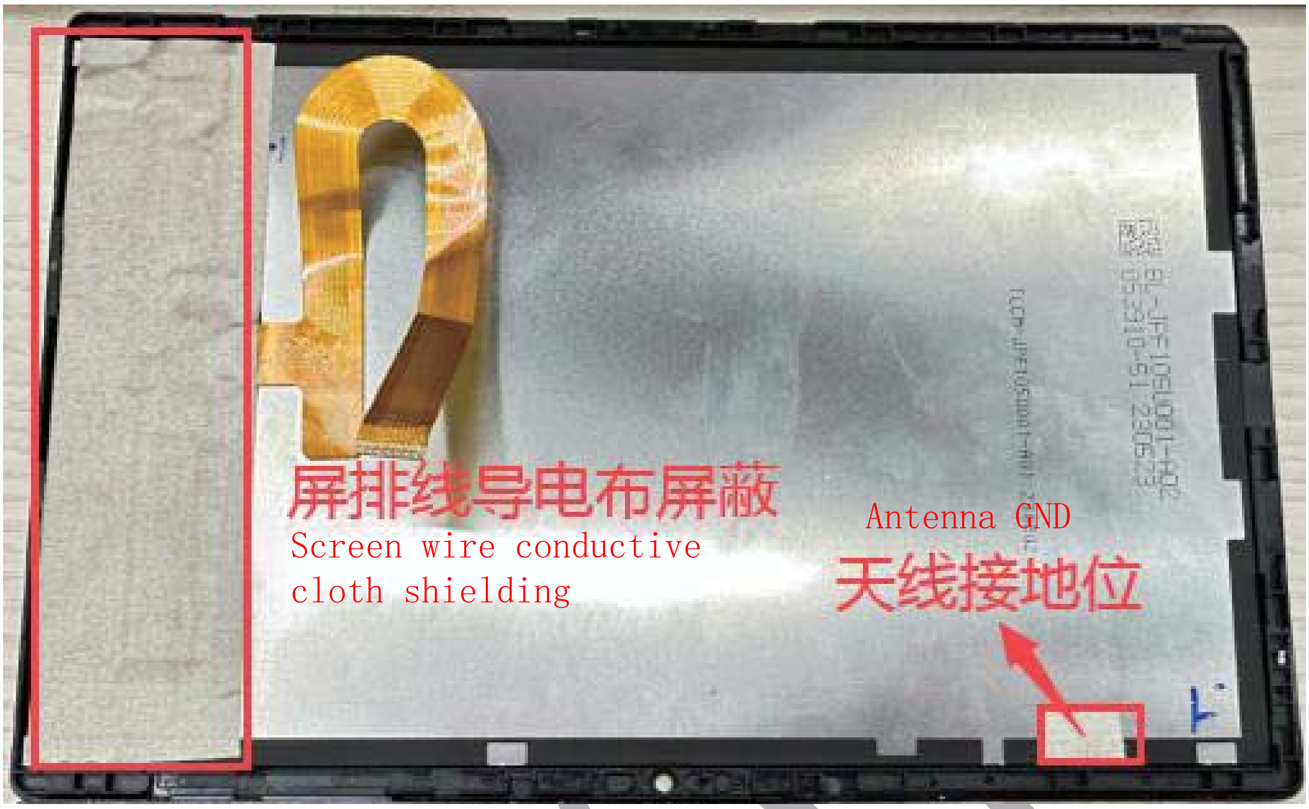
2.2.10 Environment Processing


天线接地
Antenna Ground
上方和屏接地
Ground the top and screen
和屏幕接地处理
Ground to screen


屏排线导电布屏蔽
Screen wire conductive cloth shielding
Antenna GND
天线接地位

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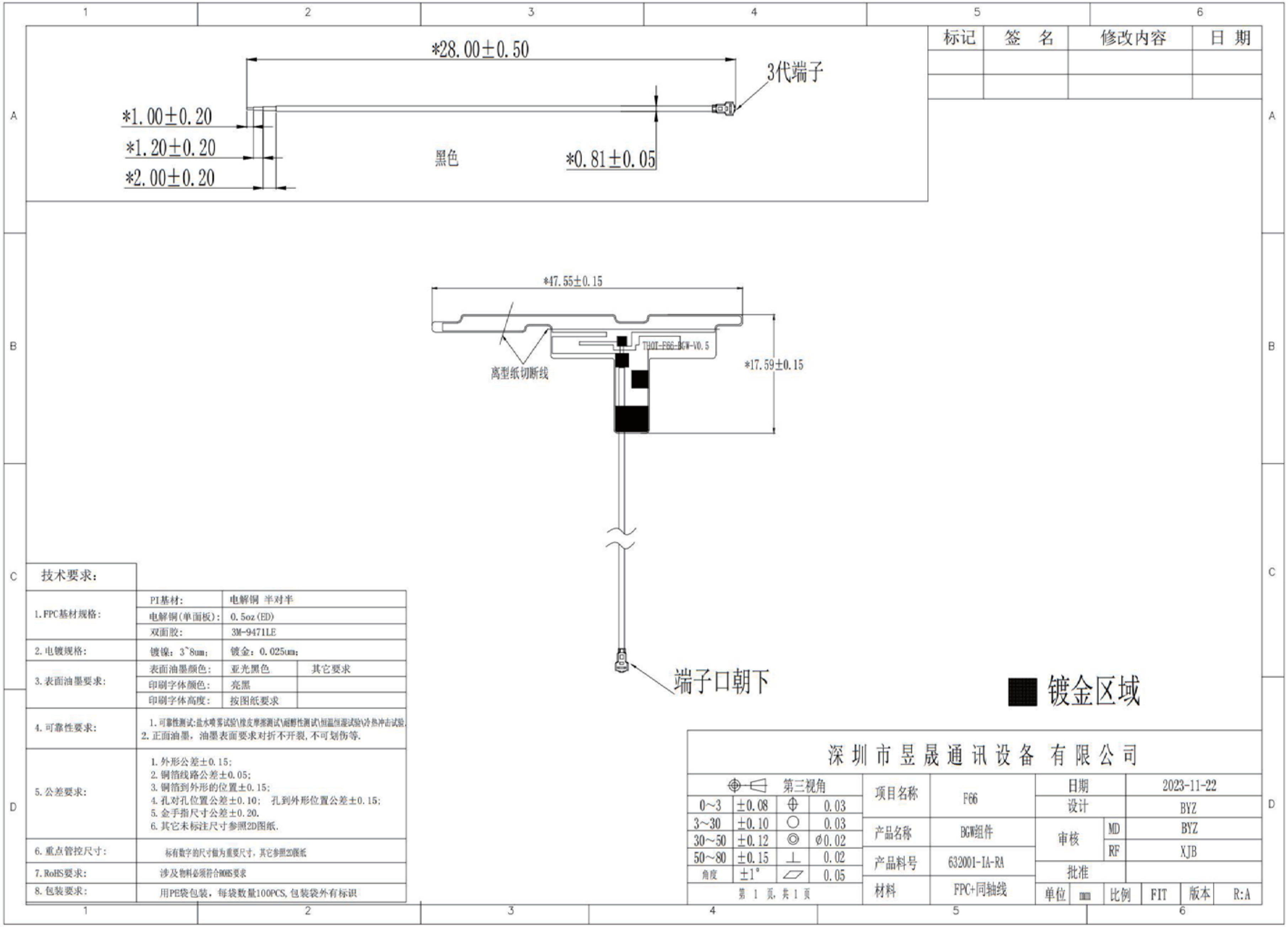
3.Engineering drawings


*28.00±0.50
3代端子
*1.00±0.20
*1.20±0.20
*2.00±0.20
黑色
*0.81±0.05
*47.55±0.15
THOT-F66-BGW-V0.5
离型纸切断线
*17.59±0.15
端子口朝下

■ 镀金区域

标记	签 名	修改内容	日 期

技术要求：			
1.FPC基材规格：	PI基材：	电解铜 半对半	
	电解铜(单面板)：	0.5oz(ED)	
	双面胶：	3M-9471LE	
2.电镀规格：	镀镍：3~8um；	镀金：0.025um；	
3.表面油墨要求：	表面油墨颜色：	亚光黑色	其它要求
	印刷字体颜色：	亮黑	
	印刷字体高度：	按图纸要求	
4.可靠性要求：	1.可靠性测试:盐水喷雾试验\橡皮摩擦测试\耐醇性测试\恒温恒湿试验\冷热冲击试验, 2.正面油墨，油墨表面要求对折不开裂,不可划伤等.		
5.公差要求：	1.外形公差±0.15； 2.铜箔线路公差±0.05； 3.铜箔到外形的位置±0.15； 4.孔对孔位置公差±0.10；　孔到外形位置公差±0.15； 5.金手指尺寸公差±0.20. 6.其它未标注尺寸参照2D图纸.		
6.重点管控尺寸：	标有数字的尺寸做为重要尺寸，其它参照2D图纸		
7.RoHS要求：	涉及物料必须符合ROHS要求		
8.包装要求：	用PE袋包装，每袋数量100PCS,包装袋外有标识		

深圳市昱晟通讯设备 有限公司								
第三视角				项目名称	F66	日期		2023-11-22
0~3	±0.08	⌖	0.03			设计		BYZ
3~30	±0.10	○	0.03	产品名称	BGW组件	审核	MD	BYZ
30~50	±0.12	◎	ø0.02				RF	XJB
50~80	±0.15	⊥	0.02	产品料号	632001-IA-RA	批准		
角度	±1°	▱	0.05	材料	FPC+同轴线	单位 mm	比例 FIT	版本 R:A
第 1 页，共 1 页								