



规格承认书

SPECIFICATION FOR APPROVAL

日期 Date	2025/06/04
编号 File No	25060404
版本 Revision	1.0

客户
CUSTOMER: 天波

客户料号
CUSTOMER NO: S104

品名
PART NAME: WIFI Antenna L=85mm MHF

供方料号
SUPPLIER NO: YJW01.076.313.304A

送样日期Date: 送样数量Q'TY:

客户确认CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
 ChenGuoqiang	XieLi	ChenXingyi

YJ-RD-F04-A

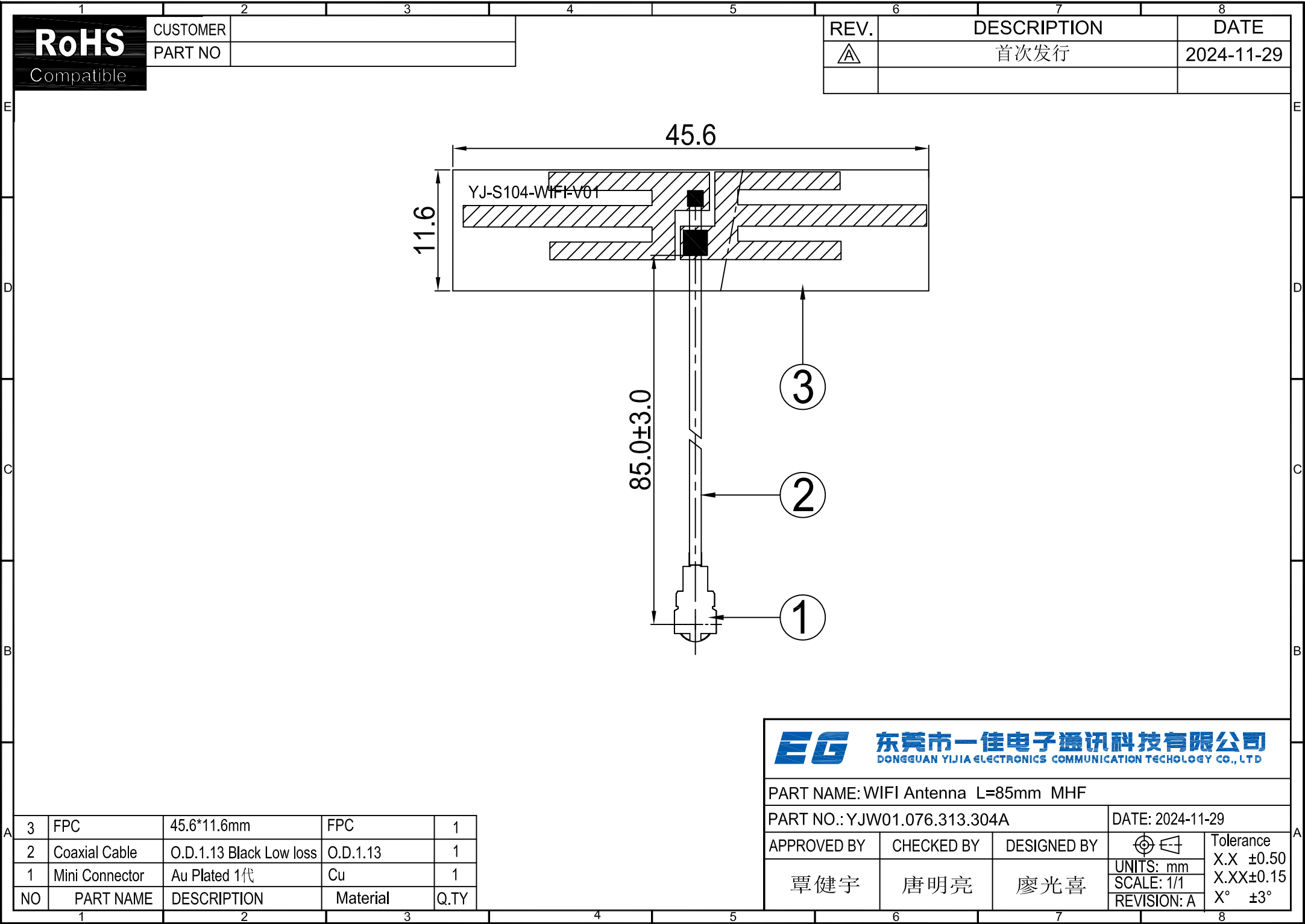




承认书项目表

NO	内 容 (Contents)	页 数 (Number of Page)	页 码 (Page Code)
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12	N/A	N/A	N/A
13	-	-	-





RoHS
Compatible

CUSTOMER	
PART NO	

REV.	DESCRIPTION	DATE
△	首次发行	2024-11-29

3	FPC	45.6*11.6mm	FPC	1
2	Coaxial Cable	O.D.1.13 Black Low loss	O.D.1.13	1
1	Mini Connector	Au Plated 1代	Cu	1
NO	PART NAME	DESCRIPTION	Material	Q.TY

EG 东莞市一佳电子通讯科技有限公司 DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO.,LTD				
PART NAME: WIFI Antenna L=85mm MHF				
PART NO.: YJW01.076.313.304A			DATE: 2024-11-29	
APPROVED BY	CHECKED BY	DESIGNED BY		Tolerance
覃健宇	唐明亮	廖光喜		X.X ±0.50
				X.XX±0.15
			UNITS: mm	X° ±3°
			SCALE: 1/1	
			REVISION: A	



天线规格 Antenna Specification

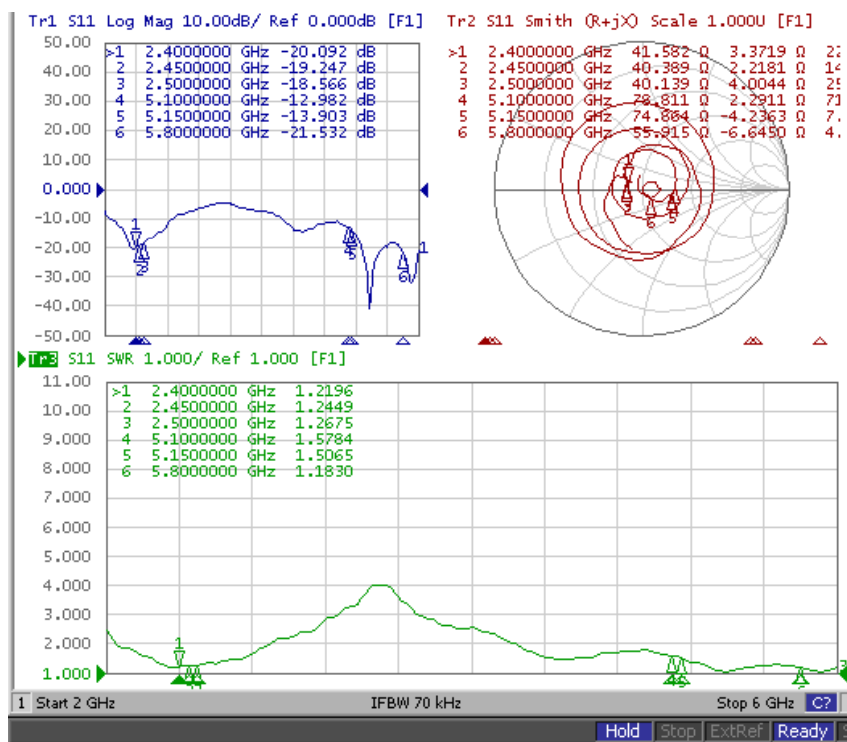
Electrical Properties	
Frequency	2.4-2.5GHz 5.1-5.8GHz
Impedance	50 Ohm Nominal
V.S.W.R	2.0 Max
Gain	5.9 dBi@2.4-2.5GHz 6.4 dBi@5.1-5.8GHz
Radiation	Omni-directional
Polarization	Linear
Physical Properties	
Connector	1代IPEX
Cable Type	O.D.1.13mm Low loss
Cable Length	85mm
Cable Color	Black
Operating Temp.	-40 ~ +85 °C
Storage Temp / Humidity	25±5°C / <70%





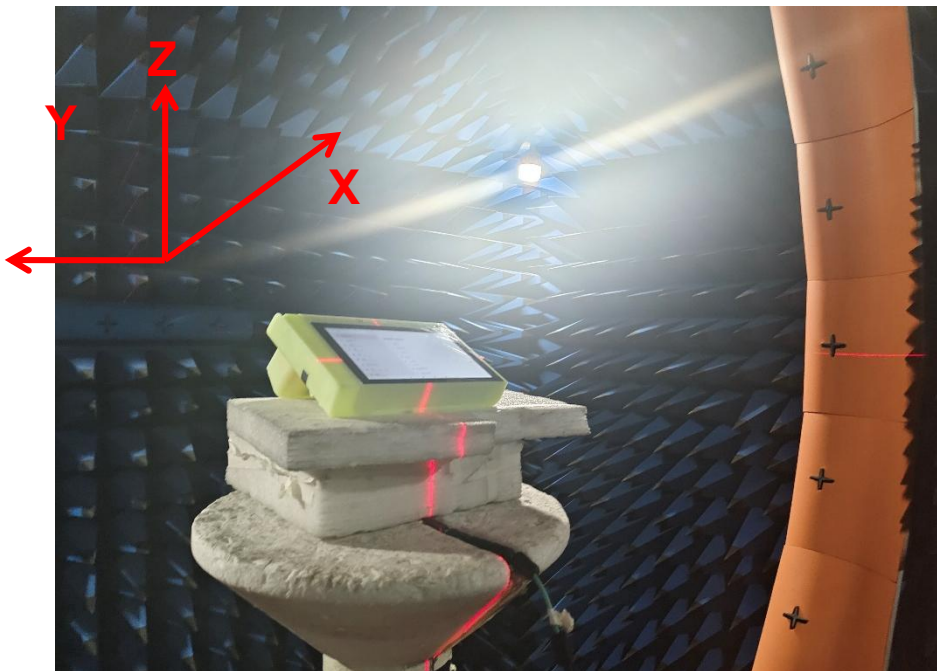
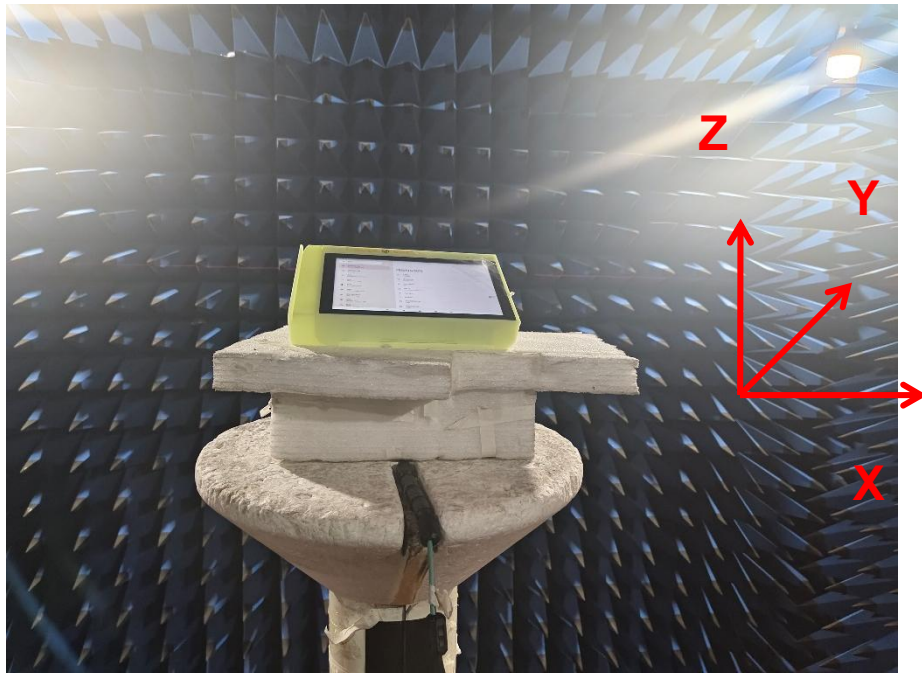
Antenna Performance Test

*Agilent
E5071C
S
Parameter
Test //
WiFi
Antenna*





Antenna Passive Test





Passive Test For WiFi Antenna(2.4G)			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	58.1	-2.4	5.8
2410	57.7	-2.4	5.7
2420	57.2	-2.4	5.7
2430	56.9	-2.4	5.9
2440	57.3	-2.4	5.7
2450	58.2	-2.4	5.8
2460	57.5	-2.4	5.9
2470	56.9	-2.4	5.8
2480	55.9	-2.5	5.7
2490	56.2	-2.5	5.8
2500	54.8	-2.6	5.6





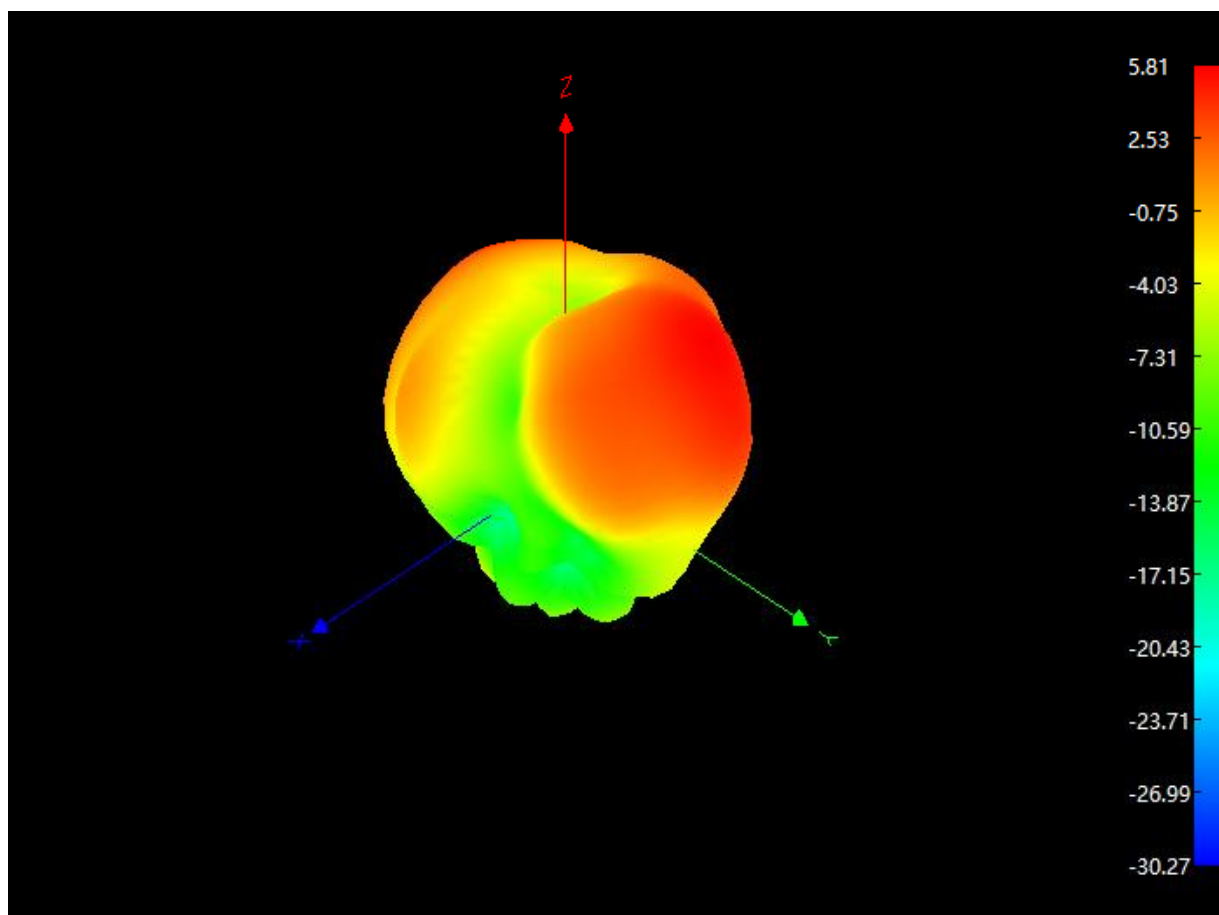
Passive Test For WiFi Antenna(5.8G)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	63.2	-2.0	6.3
5200	61.5	-2.1	6.4
5250	59.2	-2.3	5.7
5300	58.4	-2.3	5.4
5350	59.0	-2.3	5.0
5400	60.7	-2.2	5.3
5450	58.4	-2.3	4.8
5500	54.6	-2.6	4.5
5550	59.6	-2.3	4.7
5600	57.3	-2.4	4.2
5650	56.9	-2.4	3.4
5700	58.5	-2.3	3.7
5750	59.8	-2.2	4.3
5800	55.6	-2.6	3.9
5850	55.5	-2.6	4.0



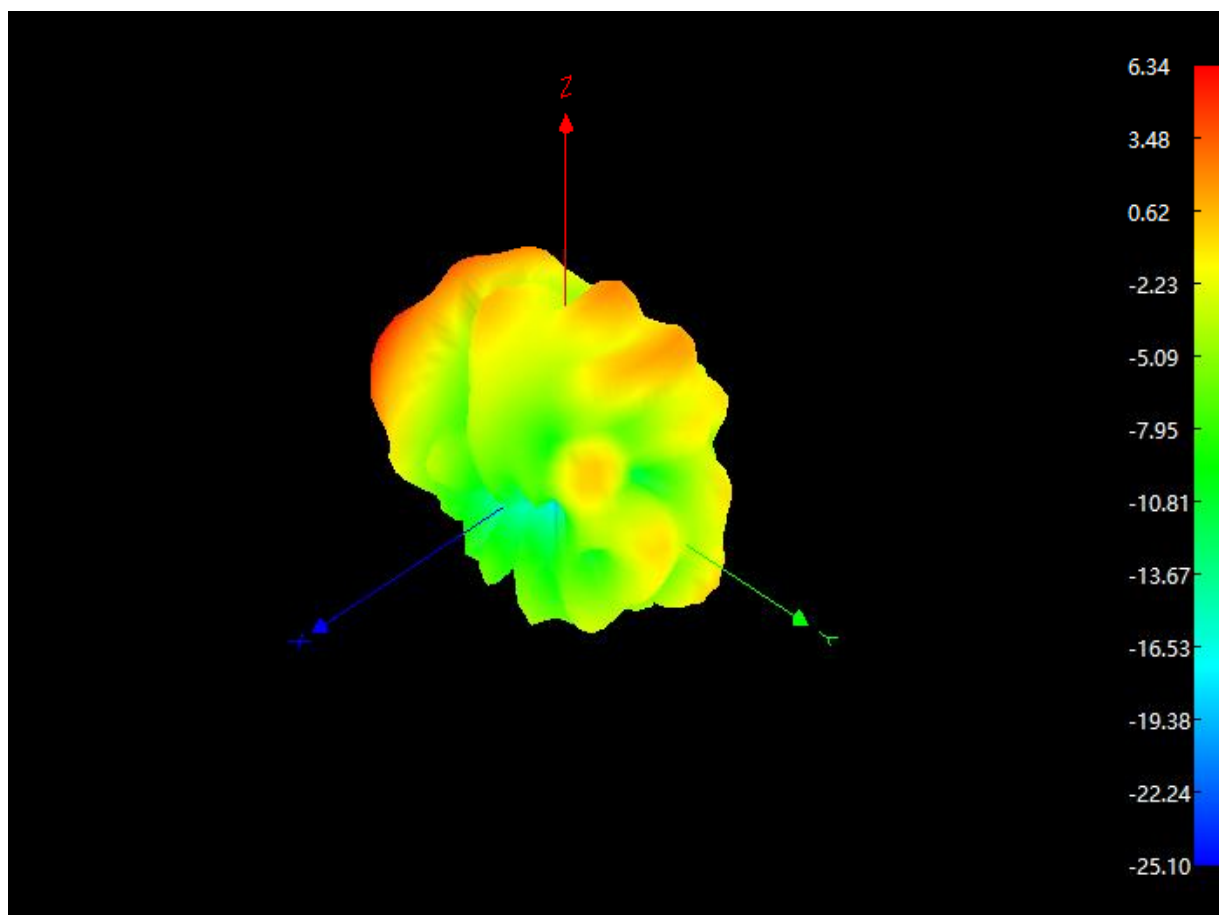


Radiation Pattern For WiFi Antenna(2450MHz)





Radiation Pattern For WiFi Antenna(5150MHz)





Active Test For WiFi Antenna					
Band	Channel	Data Rate	TRP	Data Rate	TIS
WIFI 2.4G 802.11b	1	11Mbps	15.7	11Mbps	-84.1
	6		15.2		-84.1
	11		15.2		-83.7
WIFI 2.4G 802.11g	1	6Mbps	15.9	54Mbps	-73.7
	6		15.5		-73.5
	11		15.6		-72.8
WIFI 2.4G 802.11gn	1	MCS0	14.9	MCS7	-65.9
	6		15.6		-65.3
	11		15.6		-65.2
WIFI 5G 802.11a	36	6Mbps	14.6	54Mbps	-72.4
	149		14.3		-72.1
	165		14.5		-72.3





东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

Device



*WiFi
Antenna*

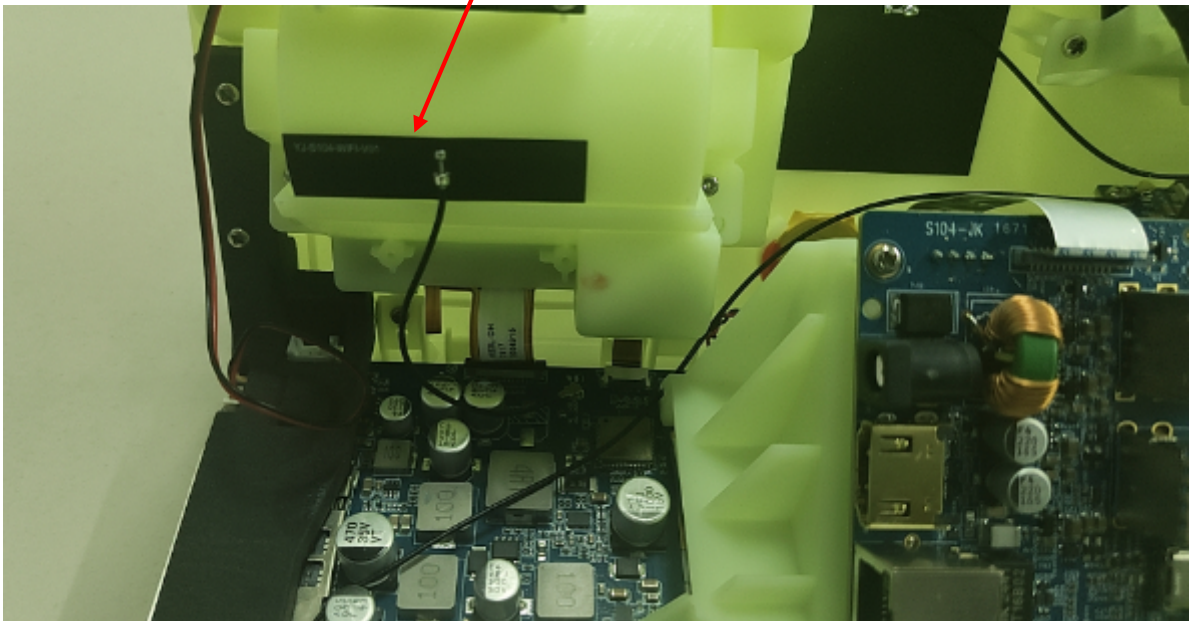


东莞市长安镇沙头社区木鱼路59号 Tel:0769-82586086 Fax:0769-82586086



东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

WiFi Antenna



东莞市长安镇沙头社区木鱼路59号 Tel:0769-82586086 Fax:0769-82586086



规格承认书

SPECIFICATION FOR APPROVAL

日期 Date	2025/06/04
编号 File No	25060401
版本 Revision	1.0

客户
CUSTOMER: 天波

客户料号
CUSTOMER NO: S104

品名
PART NAME: 4G MAIN Antenna L=330mm MHF

供方料号
SUPPLIER NO: YJW01.076.313.301A

送样日期Date:

送样数量Q'TY:

客户确认CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
 ChenGuoqiang	XieLi	ChenXingyi

YJ-RD-F04-A

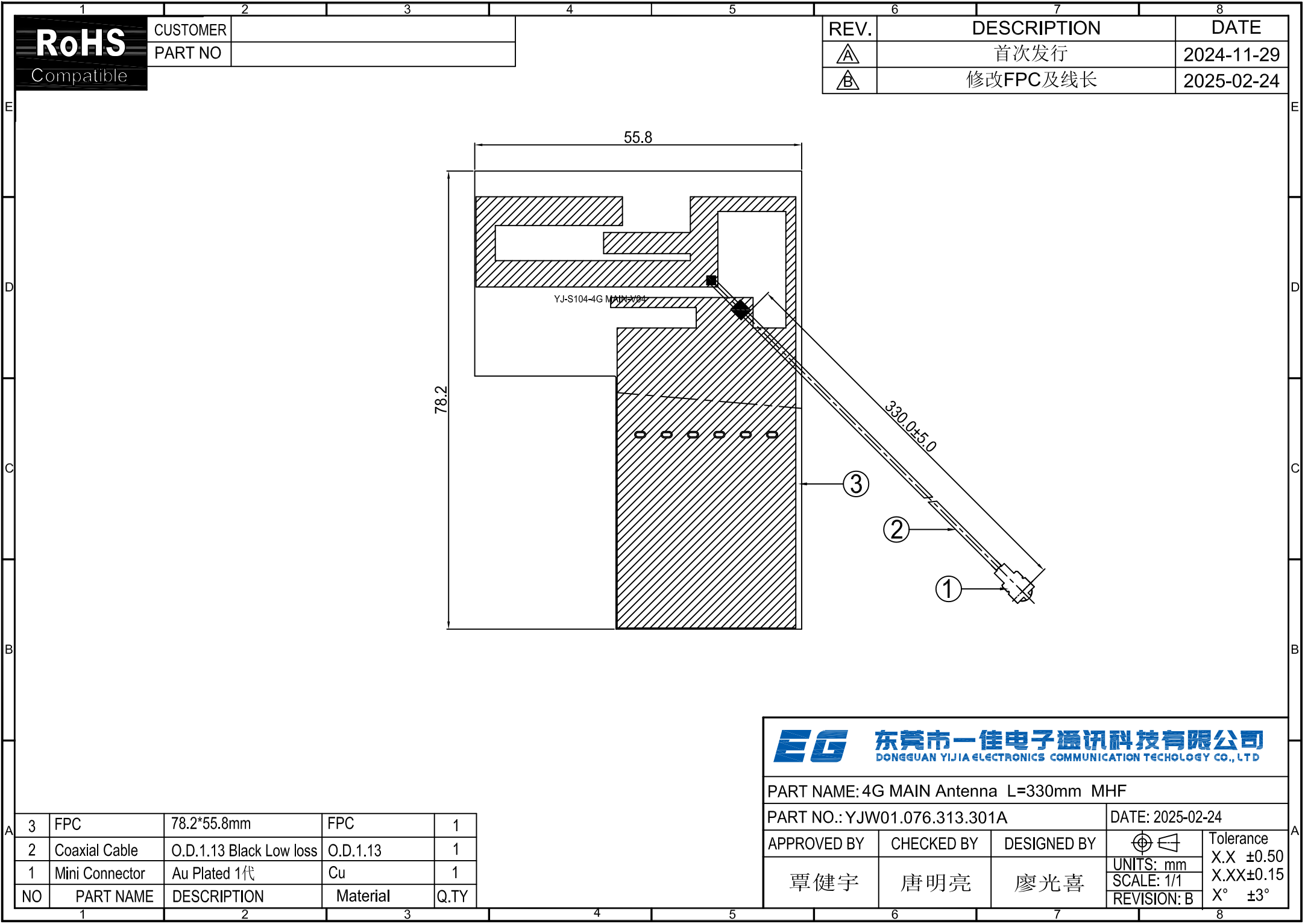




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8	有源测试 (Active Test)	3	12 ~ 14
9	天线装配图 (Antenna Profile)	3	15 ~ 17
10	材质证明 (Material Certificate)	40	18 ~ 57
11	RoHS报告 (RoHS Test Report)	**	**
12	N/A	N/A	N/A
13	-	-	-





RoHS
Compatible

CUSTOMER	
PART NO	

REV.	DESCRIPTION	DATE
A	首次发行	2024-11-29
B	修改FPC及线长	2025-02-24

3	FPC	78.2*55.8mm	FPC	1
2	Coaxial Cable	O.D.1.13 Black Low loss	O.D.1.13	1
1	Mini Connector	Au Plated 1代	Cu	1
NO	PART NAME	DESCRIPTION	Material	Q.TY

EG 东莞市一佳电子通讯科技有限公司 DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO.,LTD				
PART NAME: 4G MAIN Antenna L=330mm MHF				
PART NO.: YJW01.076.313.301A			DATE: 2025-02-24	
APPROVED BY	CHECKED BY	DESIGNED BY	UNITS: mm SCALE: 1/1 REVISION: B	Tolerance
覃健宇	唐明亮	廖光喜		X.X ±0.50
				X.XX±0.15
				X° ±3°



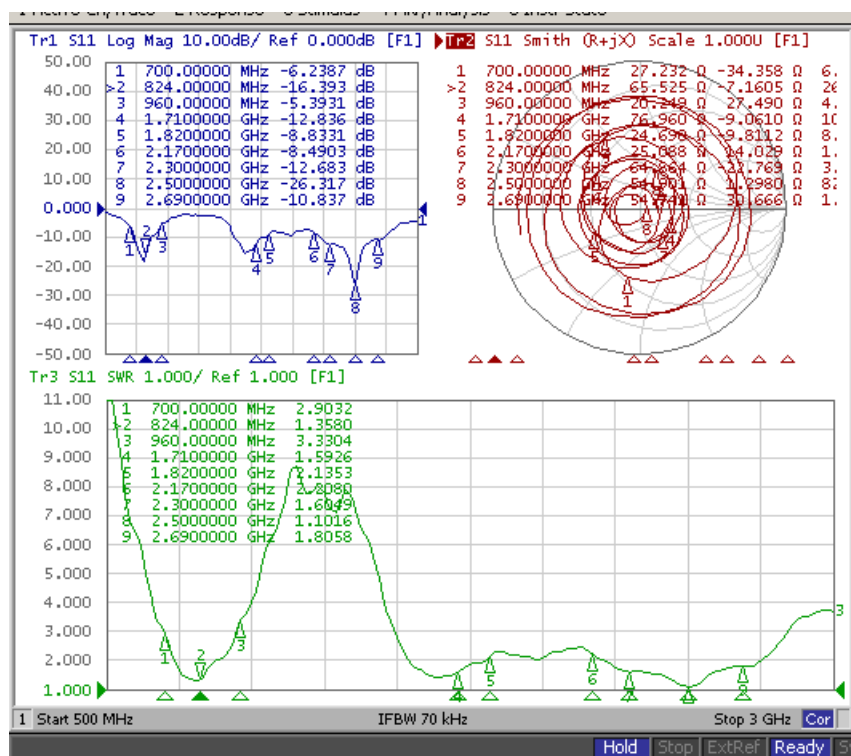
天线规格
Antenna Specification

Electrical Properties	
Frequency	700-960MHz 1710-2690MHz
Impedance	50 Ohm Nominal
V.S.W.R	3.5 Max@700-960MHz 2.5 Max@1710-2690MHz
Gain	2.8 dBi@700-960MHz 3.1 dBi@1710-2690MHz
Radiation	Omni-directional
Polarization	Linear
Physical Properties	
Connector	1代IPEX
Cable Type	O.D.1.13mm Low loss
Cable Length	330mm
Cable Color	Black
Operating Temp.	-40 ~ +85 °C
Storage Temp / Humidity	25±5°C / <70%



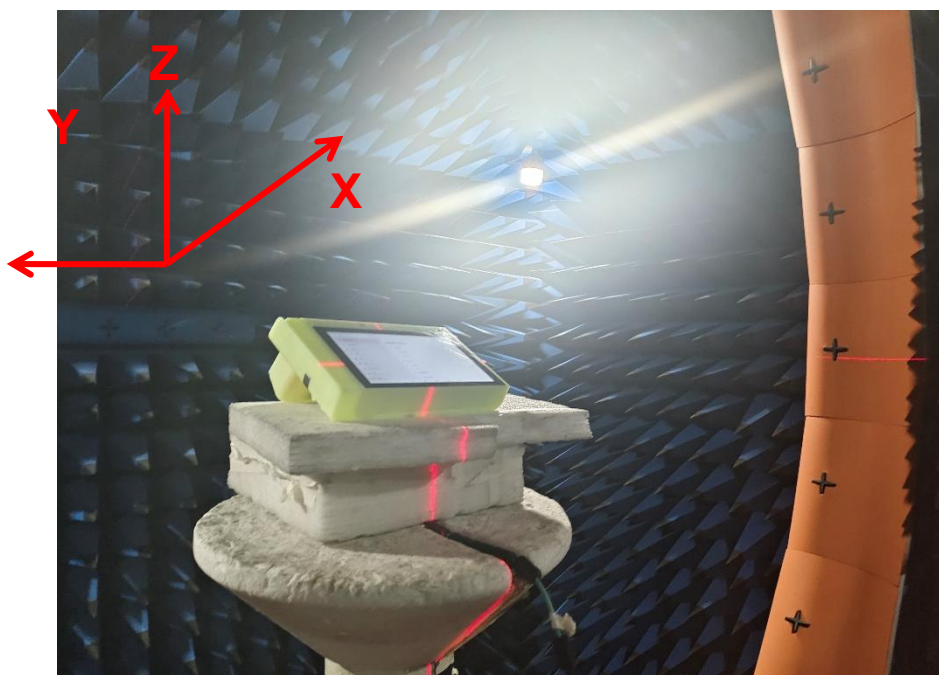
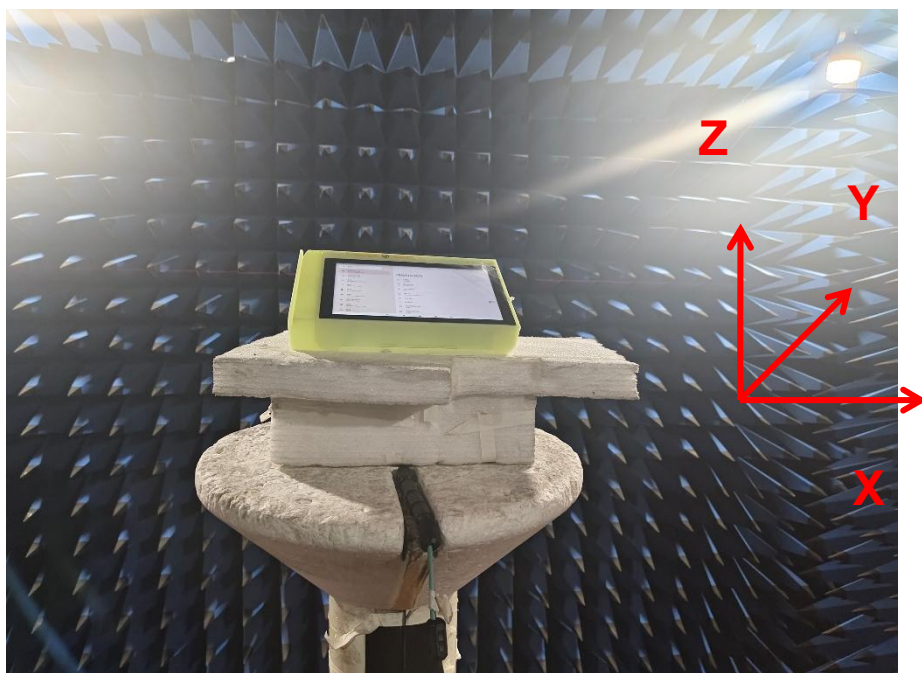


*Agilent
E5071C
S
Parameter
Test //
LTE main
Antenna*





Antenna Passive Test





Passive Test For LTE main Antenna

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	29.2	-5.3	0.5
720	33.4	-4.8	0.4
740	35.7	-4.5	0.8
760	37.7	-4.2	2.5
780	40.8	-3.9	2.8
800	39.0	-4.1	2.0
820	34.6	-4.6	1.3
840	33.4	-4.8	1.4
860	32.5	-4.9	0.5
880	30.9	-5.1	-0.1
900	30.8	-5.1	-0.4
920	30.2	-5.2	-0.9
940	29.3	-5.3	-0.4
960	28.4	-5.5	-0.9





Passive Test For LTE main Antenna			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1700	48.2	-3.2	3.0
1740	47.1	-3.3	2.9
1780	45.4	-3.4	2.0
1820	44.3	-3.5	1.6
1860	41.9	-3.8	0.7
1900	45.3	-3.4	1.2
1940	45.5	-3.4	0.7
1980	46.5	-3.3	1.0
2020	43.2	-3.6	0.0
2060	43.5	-3.6	0.3
2100	44.7	-3.5	0.3
2140	44.8	-3.5	0.6
2180	46.0	-3.4	0.9



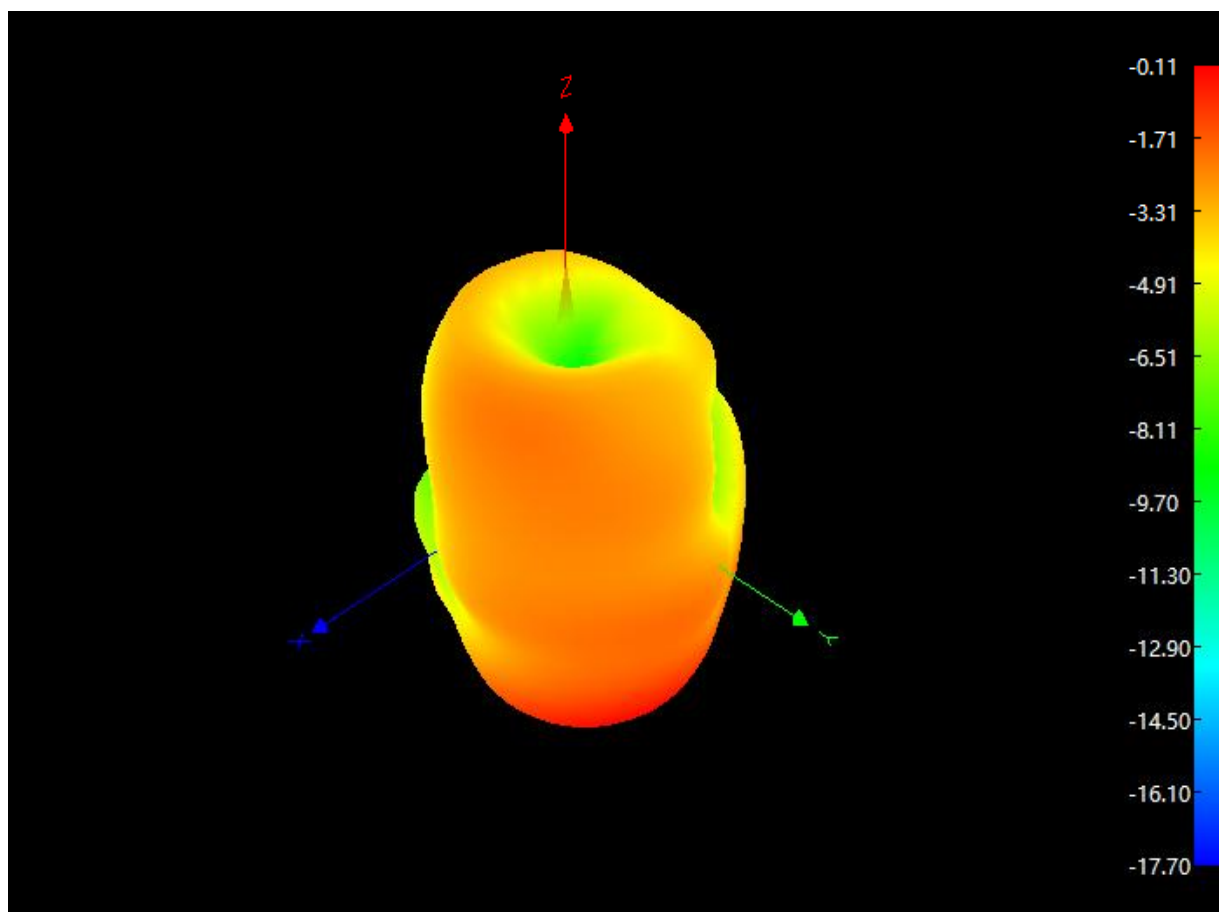


Passive Test For LTE main Antenna			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2300	49.2	-3.1	2.5
2340	50.3	-3.0	2.2
2380	52.1	-2.8	2.2
2420	51.5	-2.9	2.6
2460	51.3	-2.9	3.0
2500	48.0	-3.2	3.1
2540	47.2	-3.3	3.1
2580	45.6	-3.4	3.1
2620	43.6	-3.6	2.9
2660	43.8	-3.6	2.6
2700	42.2	-3.8	2.2



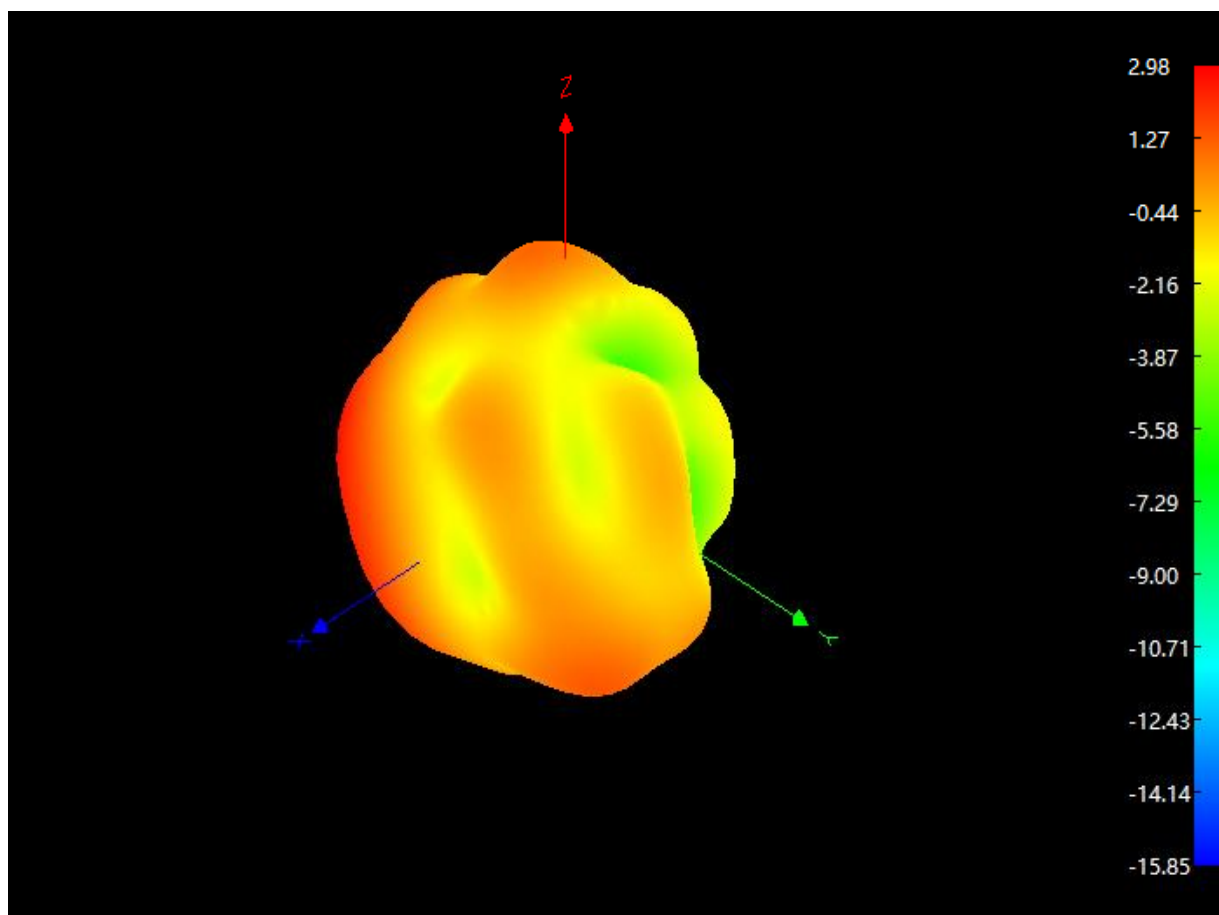


Radiation Pattern For LTE main Antenna (880MHz)



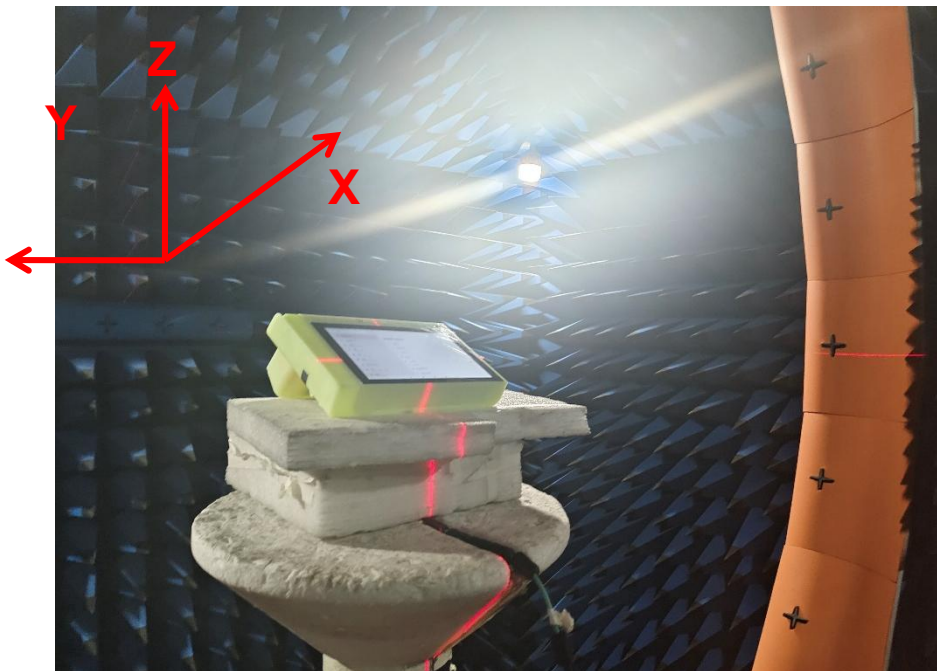
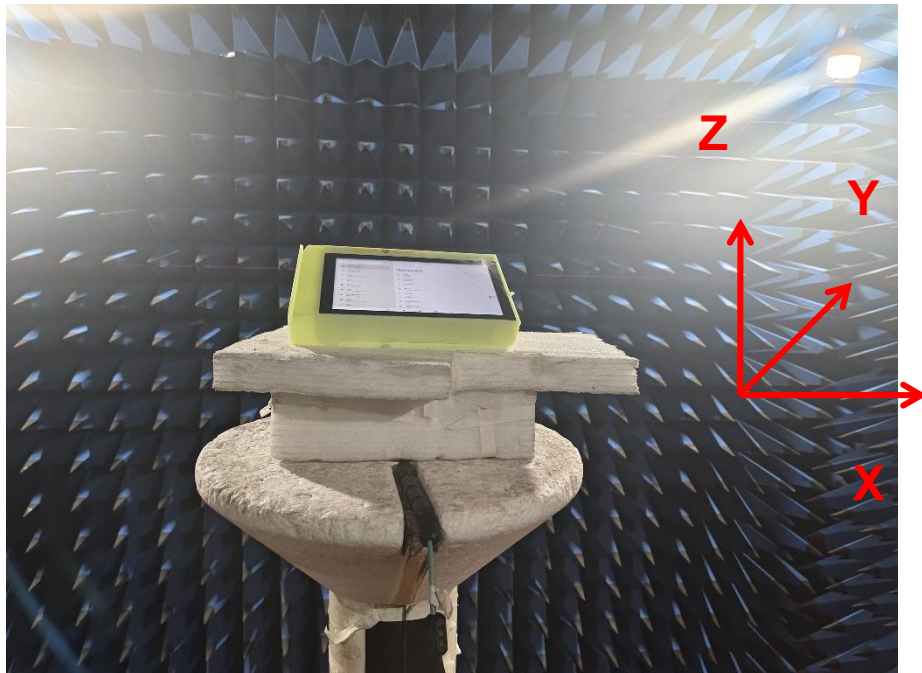


Radiation Pattern For LTE main Antenna (1700MHz)





Antenna Passive Test





Active Test For LTE main Antenna			
Band	Channel	TRP	TIS
FDD LTE Band 1	18050/50	20.5	-95.6
	18300/300	19.6	-95.5
	18550/550	19.6	-95.3
FDD LTE Band 2	18650/650	19.8	-95.2
	18900/900	20.6	-95.1
	19150/1150	19.2	-94.8
FDD LTE Band 3	19250/1250	17.2	-94.5
	19575/1575	18.7	-94.2
	19900/1900	17.5	-93.7
FDD LTE Band 4	20000/2000	18.4	-95.3
	20175/2175	18.0	-95.1
	20350/2350	19.2	-95.1
FDD LTE Band 5	20450/2450	17.5	-89.7
	20525/2525	18.7	-89.3
	20600/2600	17.3	-89.6
FDD LTE Band 8	21500/3500	17.4	-88.9
	21625/3625	18.6	-88.9
	21750/3750	17.6	-89.4
FDD LTE Band 20	24200/6200	18.1	-89.8
	24300/6300	18.7	-89.5
	24400/6400	17.7	-89.3
FDD LTE Band 28	27260/9260	17.1	-89.6
	27435/9435	17.3	-89.2
	27610/9610	17.5	-88.7





Active Test For LTE main Antenna			
Band	Channel	TRP	TIS
FDD LTE Band 66	132022/66536	19.5	-94.0
	132322/66786	18.0	-94.0
	132622/67036	19.5	-95.0
FDD LTE Band 7	20800/2800	17.2	-93.8
	21100/3100	17.2	-94.2
	21400/3400	17.2	-94.2
TDD LTE Band 38	37850	17.9	-94.5
	38000	18.2	-94.2
	38150	18.1	-93.8
TDD LTE Band 40	38750	17.8	-94.8
	39150	18.8	-94.6
	39550	18.4	-94.5
TDD LTE Band 41	40340	18.1	-93.3
	40620	18.1	-93.1
	40960	17.2	-92.9





东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

Device

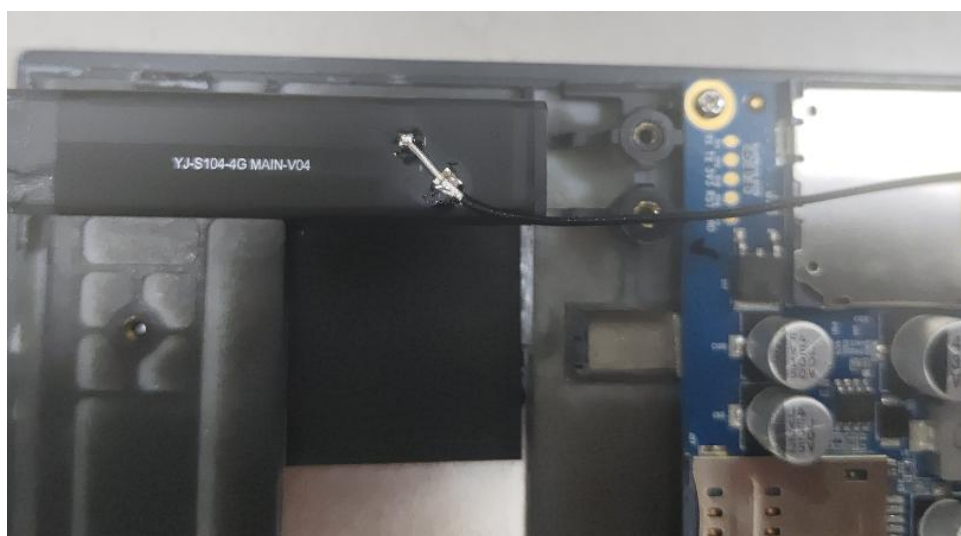


东莞市长安镇沙头社区木鱼路59号 Tel:0769-82586086 Fax:0769-82586086



东莞市一佳电子通讯科技有限公司
DONGGUAN YIJIA ELECTRONICS COMMUNICATION TECHNOLOGY CO., LTD

LTE Antenna

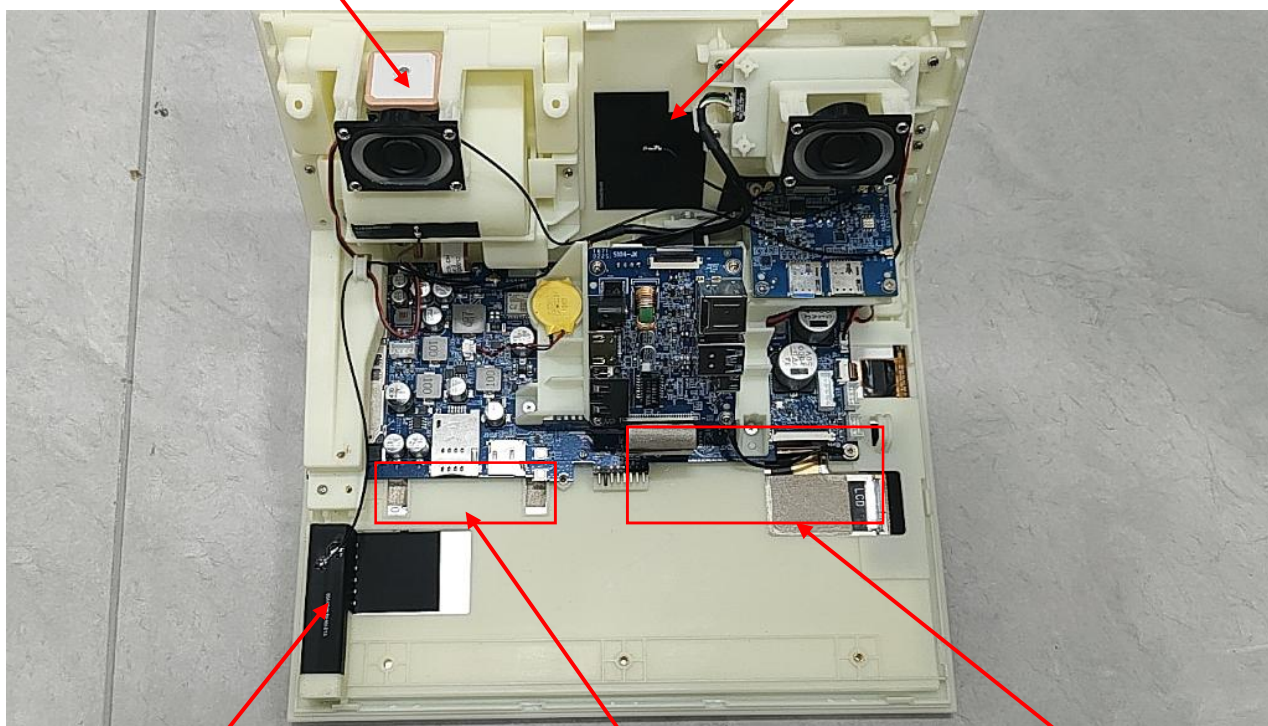


东莞市长安镇沙头社区木鱼路59号 Tel:0769-82586086 Fax:0769-82586086



GNSS Antenna

LTE div Antenna

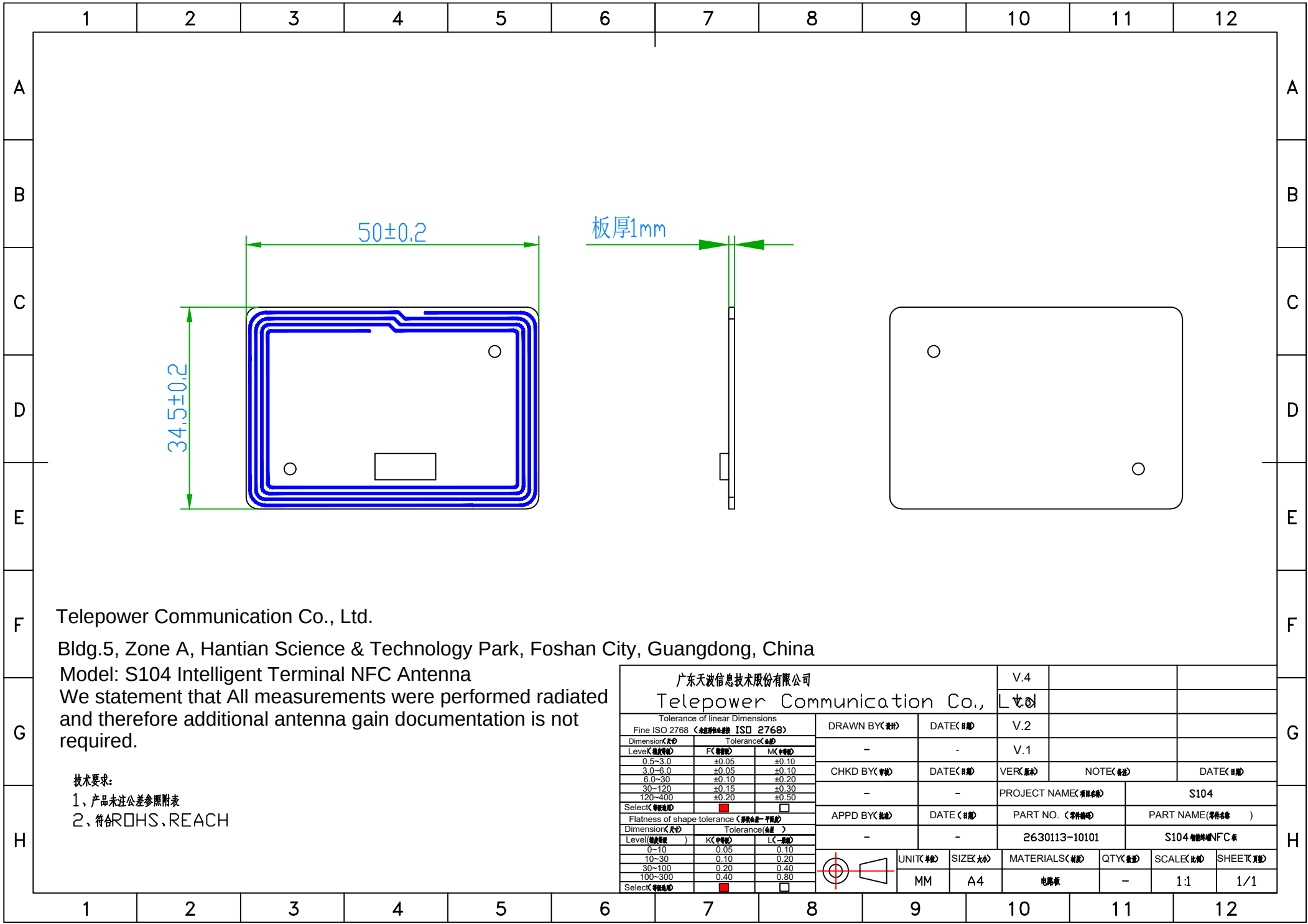


**LTE main
Antenna**

主板需要用导电布
贴屏幕与主板接地

排线需要用
导电布屏蔽





Telepower Communication Co., Ltd.
Bldg.5, Zone A, Hantian Science & Technology Park, Foshan City, Guangdong, China
Model: S104 Intelligent Terminal NFC Antenna
We statement that All measurements were performed radiated and therefore additional antenna gain documentation is not required.

- 技术要求:
- 1、产品未注公差参照附表
 - 2、符合ROHS、REACH

广东天波信息技术股份有限公司				V.4			
Telepower Communication Co., Ltd.				L 20			
Tolerance of linear Dimensions Fine ISO 2768 (未注公差按 ISO 2768)				DRAWN BY(制图)		DATE(日期)	
Dimension(尺寸)		Tolerance(公差)		V.2			
Level(公差等级)	F(精密级)	M(中等级)	-		V.1		
0.5~3.0	±0.05	±0.10	CHKD BY(审核)		DATE(日期)		
3.0~6.0	±0.05	±0.10	VER(版本)		NOTE(备注)		
6.0~30	±0.10	±0.20	-		PROJECT NAME(项目名称)		S104
30~120	±0.15	±0.30	APPD BY(批准)		DATE(日期)		
120~400	±0.20	±0.50	-		PART NO. (零件编号)		PART NAME(零件名称)
Select(选择)	☒	☐	-		2630113-10101		S104智能终端NFC卡
Flatness of shape tolerance (形状公差—平面度)				UNIT(单位)		SIZE(大小)	
Dimension(尺寸)	Tolerance(公差)		MATERIALS(材料)		QTY(数量)		SCALE(比例)
Level(公差等级)	KK(中等级)	LL(一级)	SHEET(页数)		1:1		1/1
0~10	0.05	0.10	MM		A4		电路板
10~30	0.10	0.20					
30~100	0.20	0.40					
100~300	0.40	0.80					
Select(选择)	☒	☐					