

MT3000 Project Antenna Material Requirements Specification

Customer name: Shenzhen Guanglian Zhitong Technology Co., Ltd.

Customer Name: MT3000

Product name: Antenna assembly

Product specification: FPC + coaxial line welding

Material code: FPC component 205-1016

Resume of changes:

Serial number	Version	Status	Start and end date	Responsible person	Page number	Remarks
1	R: A	First edition	2022-12-29	Yuan Shujun	9	
2						

Supplier acknowledges signature:

Responsible person/date		IQC/Date	Review/Date	Approval/Date
MD	Feng Jiwu	Yiguanfa	Zeng Xianghao	
RF	He Lei			

The buyer acknowledges the signature (please send it back after acknowledging the signature):

Demander's judgment result: -qualified-unqualified			
Development Design Engr/Date	SQE Engr/Date	Person in charge of procurement/date	Approval by Development Manager/Date

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements specifications of MT3000 products.

This requirement is applicable to antenna selection, testing and acceptance of MT3000 products.

1.2 Basic Project Information

Antenna name:	MT3000
Antenna band:	WIFI-2.4g/5.8g
Antenna material:	FPC + coaxial line
Antenna version:	V0.1

2. Requirements for technical indicators

2.1 Introduction of Test Items and Equipment

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

2.2 Test Instructions

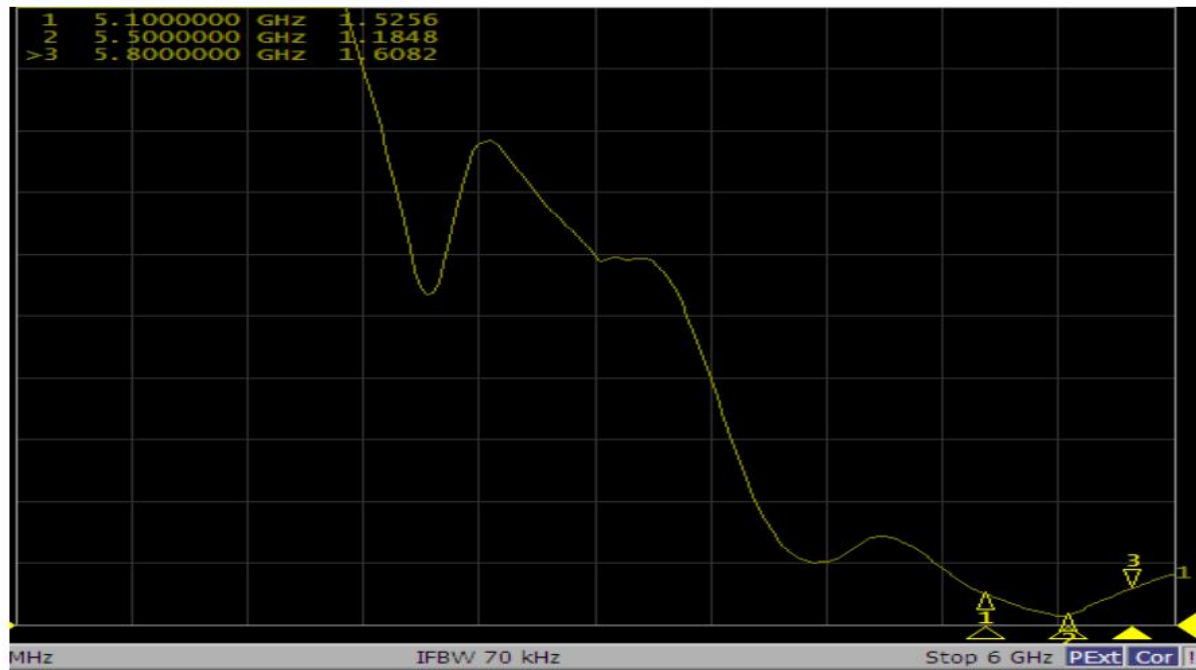
Test tools: Agilent 8960, R&SCMW500, all-wave far-field ETS darkroom, high-precision positioning system and its controller, and computer with automatic test program

Test environment: temperature 22 °C ± 3 °C, humidity 50% ± 15%

Test method: DUT is fixed in the center position of turntable with H plane, which is on the same horizontal line as the center position of horn antenna. The positioning system makes DUT rotate on the whole spherical surface, which meets the requirements of high-precision three-dimensional positioning. Each RF instrument, turntable controller and PC with automatic test software communicate through GPIB interface

3. Test report

3.1: Antenna Passive Parameters-2. 4G/5G

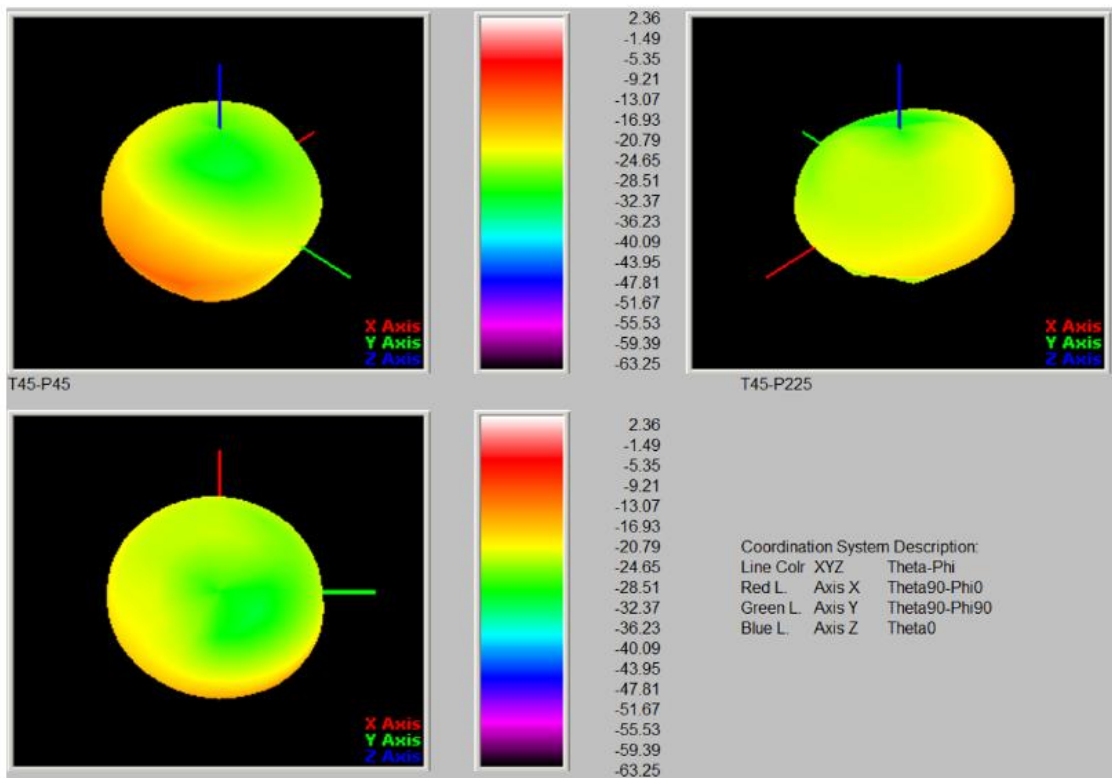


3.2: Antenna Passive Parameter-5GWIFI (FPC)

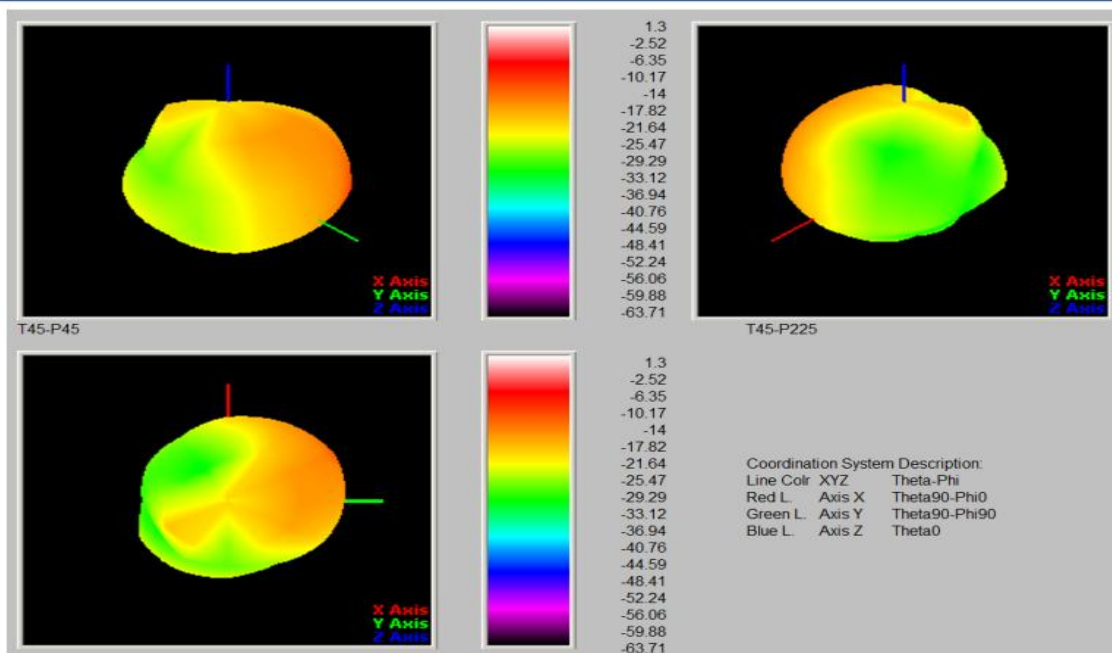
Test Point ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Freq. (MHz)	5100.0	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0
Gain (dBi)	2.89	2.98	3.08	3.14	3.78	3.75	3.57	3.42	3.51	3.43	3.25	3.19	2.94	2.88	2.75
Efficiency (%)	53.6%	55.1%	55.7%	56.6%	59.4%	56.8%	58.2%	60.1%	59.4%	59.1%	58.3%	56.9%	55.7%	53.6%	52.9%

3.3: Apple Map

Radiation Pattern For WIFI FPC Antenna (5300MHz) , Peak Gain: 3.78dbi

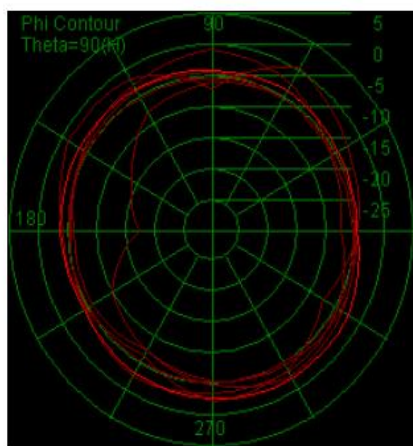


Radiation Pattern For WIFI FPC Antenna (5600MHz) , Peak Gain: 3.25dbi

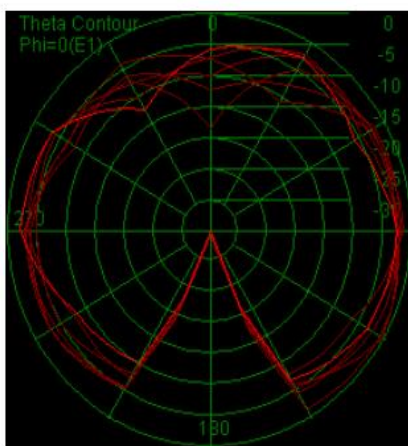


天线无源参数- (FPC) 5G方向图

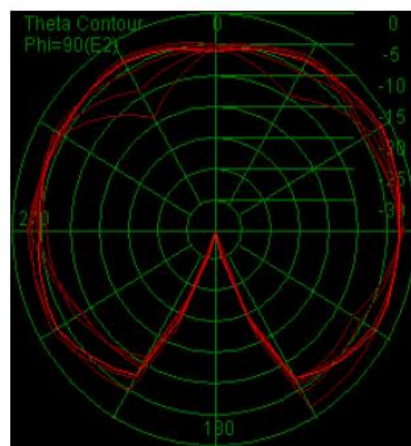
Thete=90 (Phi=270° 为正前方)



Phi=90°



Phi=180°



FPC component

由 Autodesk 教育版产品制作

标记	签名	修改内容	日期

端子侧向丝印这边，
同FPC垂直

镀锡区域

深圳市昱晟通讯设备有限公司

技术要求:	
材料	电铸铜 半对半
L FPC板规格:	电铸铜(表面层): 0.5oz(FD) 双面胶: 3M 9471
2.电镀规格:	镀镍: 3~8um 表面油膜颜色: 黑色 印刷字体颜色: 亮黑色
3.表面油量要求:	按图纸要求
印刷字体高度:	按图纸要求
4.可靠性要求:	1.可弯折次数: 至少50次, 弯曲半径: 按照客户要求, 且需保持性能稳定, 无裂纹、断线、脱皮等。 2.正面贴膜, 油墨表面要能对折不开裂, 不可划伤等。
公差要求:	1.外形公差±0.15; 2.铜箔线路公差±0.05; 3.铜箔到外形的的位置±0.15; 4.孔到孔位置公差±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:	标称尺寸及公差值在图中已标注, 不另列数据表
7. RoHS要求:	涉及物料必须符合RoHS要求
包装要求:	用防静电袋, 每袋数量100PCS, 包装袋要有标识

第三规范					
项目	名称	单位	日期	设计	审核
0~3	±0.08	φ	0.03	M3000	FJW
3~30	±0.10	○	0.03	产品名称	FJW
30~80	±0.12	◎	0.02	S.86 MFI	R
80~80	±0.15	⊥	0.02	产品料号	tql
角度	±1°	∠	0.05	389013-IC	
第 1 页 共 1 页			材料	PFC+同轴缆	批准
			单位	mm	比例
			版本	FTT	R.A

5. BOM (Bill of Materials)

深圳市昱晟通讯设备有限公司
YUSHENG COMMUNICATION TECHNOLOGY CO.,LTD.
385013 (MT3000) –BOM表

Edition: R:B client:385 Model: 385013 date: 20221031

NO	part no	Name	Types of	version	specification	Material quality	unit	colour	Quantity	Craft
1	385013-IA	L(长天线)-antenna	Z	T: A	71.67*21.12*12.97MM				PCS	1
1.1	385013-IA-01	PCB	Z	T: A	50.00*10.00*0.8MM	PCBT0.8MM	Tinning	Green	PCS	1
1.1.1	385013-IA-02	L-CABLE	Z	T: A	1.13*109MM	1.13 CABLE+1代 Terminal	Terminal Gilding	Black	PCS	1
1.2	385013-IA-03	Upper cover	Z	T: A	71.67*21.12*12.97MM	PC	Fine Lines	Black	PCS	1
1.3	385013-IA-04	Lower cover	Z	T: A		PC	Fine Lines	Black	PCS	1
2	385013-IB	R(短天线)-antenna	Z	T: A	71.67*21.12*12.97MM				PCS	1
2.1	385013-IB-01	PCB	Z	T: A	50.00*10.00*0.8MM	PCBT0.8MM	Tinning	Green	PCS	1
2.1.1	385013-IB-02	R-CABLE	Z	T: A	1.13*86MM	1.13 CABLE+1代 Terminal	Terminal Gilding	Black	PCS	1
2.2	385013-IB-03	Upper cover	Z	T: A	71.67*21.12*12.97MM	PC	Fine Lines	Black	PCS	1
2.3	385013-IB-04	Lower cover	Z	T: A		PC	Fine Lines	Black	PCS	1
3.1	385015-IC	5.8GWIFI组件	Z	T: A	32.70*13.60*0.12MM			Black	PCS	1
3.1	385015-IC-01	WIFI-FPC	Z	T: A	32.70*13.60*0.12MM	电解铜 半对半	Tinning	Black	PCS	1
3.2	385013-IC-02	WIFI-CABLE	Z	T: A	1.13*79MM	1.13 CABLE+1代 Terminal	Terminal Gilding	Black	PCS	1

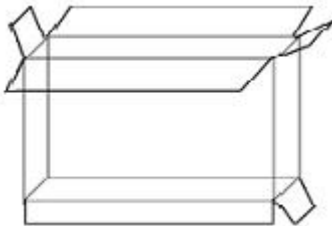
Type: W. Outsourcing B. Semi-finished products Z. Finished products C. Customer supply

Confirmation:

Review:

Production: FJW

6. Packaging drawings

Packaging mode diagram																
Product name	Antenna assembly															
Material number	385013															
Project model	MT3000															
Packing details	Carton size 1: 270*260*200MM Carton size 2: 260*200*200MM Carton size 3: Depending on order quantity/volume															
	Packing mode	Packing according to order quantity														
	Total number of packing	Packing according to order quantity														
Label requirements	Label size 1: Universal 100*100mm Label size 2: According to customer requirements	深圳市昱晟通讯设备有限公司 <table><tr><td>客户名称</td><td>*****</td></tr><tr><td>订单编号</td><td>*****</td></tr><tr><td>项目名称</td><td>*****</td></tr><tr><td>物料编码</td><td>*****</td></tr><tr><td>数 量</td><td>****pcs</td></tr><tr><td>出货日期</td><td>****年**月**日</td></tr><tr><td colspan="2">地址：深圳市光明新区光明大道南太云创谷园区2栋4楼4A</td></tr></table>	客户名称	*****	订单编号	*****	项目名称	*****	物料编码	*****	数 量	****pcs	出货日期	****年**月**日	地址：深圳市光明新区光明大道南太云创谷园区2栋4楼4A	
客户名称	*****															
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Matters needing attention																
1. Due to the limitation of order quantity, the packing method of each material selects the box size according to the total order quantity or physical volume																
2. Storage temperature: Normal temperature																
3. Storage conditions: Store in a cool and dry place																

This diagram is the packaging schematic diagram of this project, and the specific mass production objects shall prevail)