



X3000 project antenna material requirements specification

customer name: Shenzhen Guanglian Zhitong Technology Co., LTD

Customer product name: X3000

Product name: Antenna assembly

Product specification: FPC + common-axis welding

Material code: FPC assembly 205-1019

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1	R:A	editio princeps	2023-03-30	Yuan Shujun	9	

The Supplier acknowledges the signature of the following documents:

Responsible person / date		IQC/ date	Review / Date	Approval / Date
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RF	He lei			

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The demander the result: <input type="checkbox"/> qualified <input type="checkbox"/> unqualified			
Development & Design Engineer / Date	SQE Engineer / Date	Purchasing Leader / Date	Development Manager approval / date

catalogue

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements specifications for X3000 products.

This requirement is applicable to the antenna selection, testing and acceptance of X3000 products.

1.2 Project basic information

Antenna name:	X3000
Antenna band:	WIFI: 5.8G
Antenna material:	FPC+ coaxial cable
Antenna version:	V0.6

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
S11 parameter	Standing wave ratio, echo loss	network analyzer
Active test	TRP,TIS	Integrated tester, microwave darkroom
Passive test	Gain, efficiency	network analyzer

2.2 Test instructions

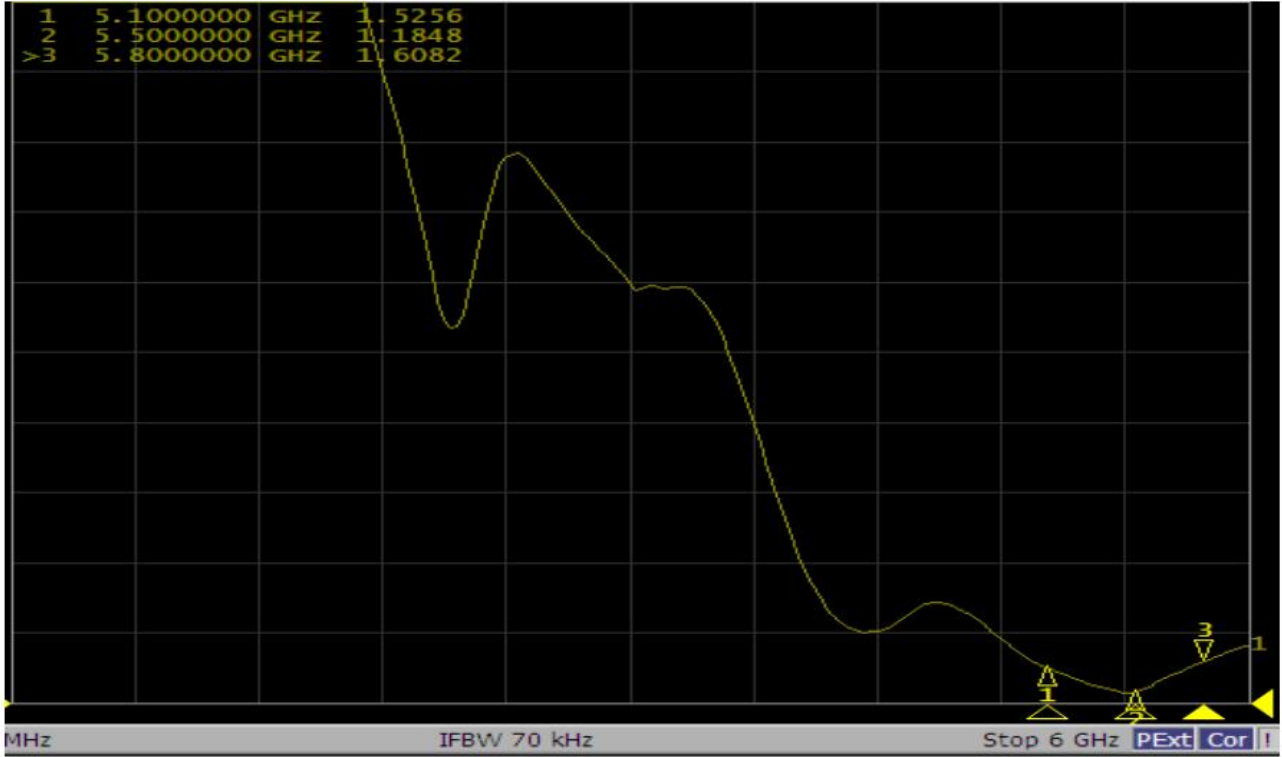
Test tools: Agilent8960 instrument, R & S CMW500, full wave far field ETS dark room, high precision positioning system and its controller and computer with automatic test program

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

Test method: DUT is fixed in the center of the turntable on the same horizontal line as the center of the horn antenna. The positioning system enables the DUT to rotate in the whole sphere to satisfy the high-precision 3 D positioning. Each RF instrument and turntable controller communicate with the PC with automatic test software through the GPIB interface

3. Test report

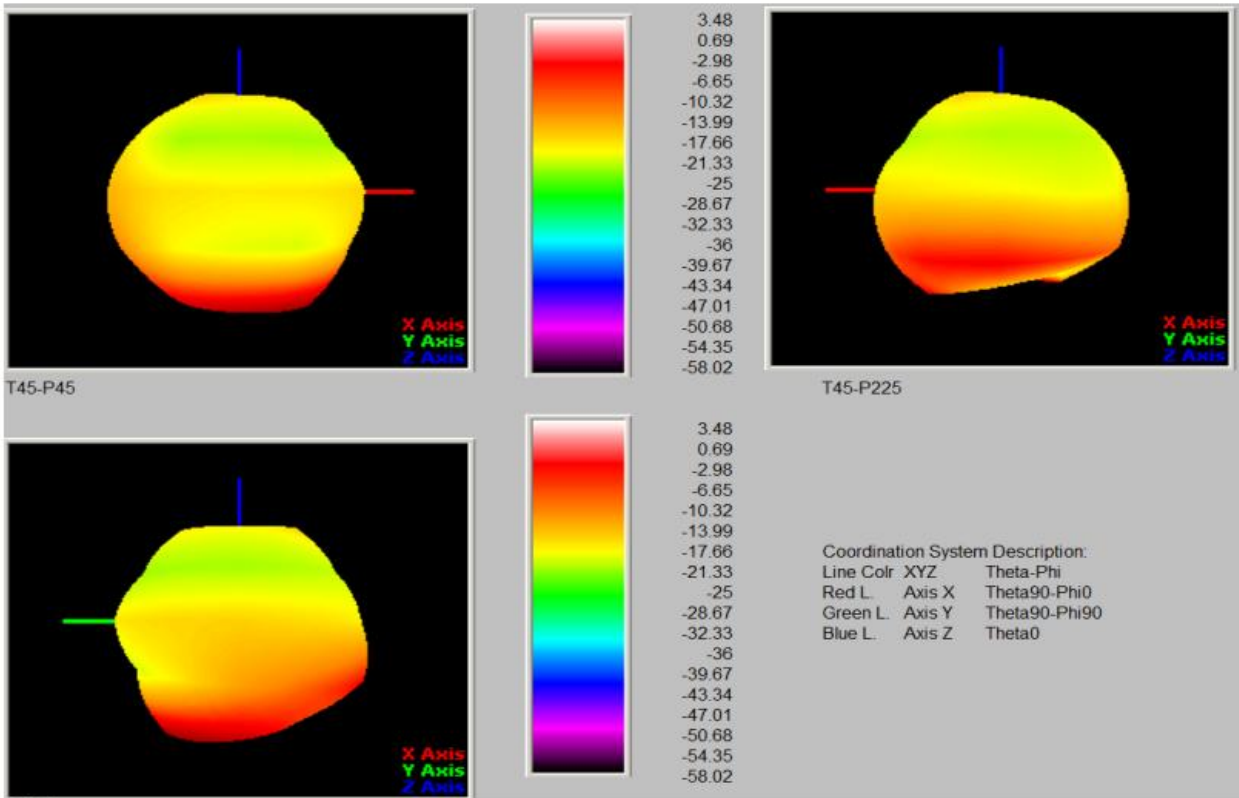
3.1: Antenna passive parameters-FPC 5.8 G



3.2: Antenna passive parameters-5 GWIFI (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)	2.35	2.42	2.68	2.93	3.11	3.04	3.14	3.28	3.53	3.65	3.46	3.27	3.13	2.98	2.81
Efficiency (%)	54.2%	55.1%	55.9%	56.5%	57.7%	58.6%	59.3%	61.7%	62.5%	61.9%	61.2%	59.8%	58.6%	57.9%	57.1%

3.3 : Radiation Pattern For WIFI FPC Antenna (5600MHz) , Peak Gain : 3.48dbi

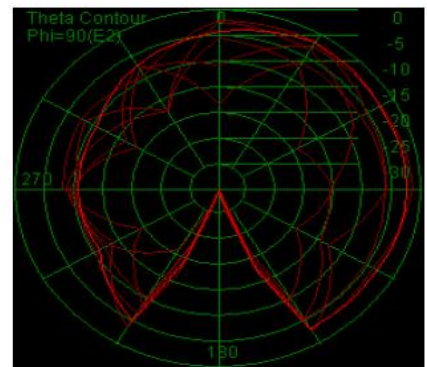
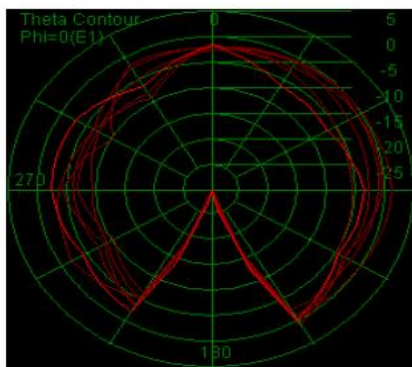
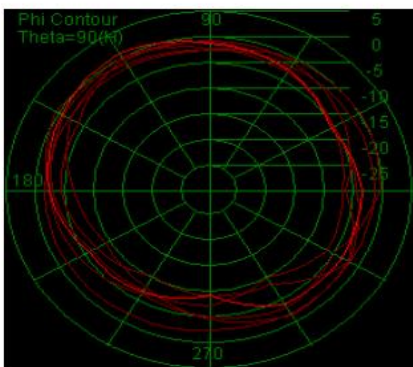


3.4: Antenna passive parameters- (FPC) 5G direction diagram

Thete=90 (Phi=270° 为正前方)

Phi=90°

Phi=180°



3.5 Location of the antenna



3.6 Picture of the whole machine



4. Structural size diagram

<p>A</p>	<p>B</p>														
<p>由 Autodesk 教育版产品制作</p> <p>skills requirements:</p> <table border="1"> <tr> <td>PI substrate:</td> <td>Electrolytic copper (1 to half)</td> </tr> <tr> <td>1. PCB substrate specifications:</td> <td>0.5oz (ED)</td> </tr> <tr> <td>Double-sided tape:</td> <td>3M-9471LSE</td> </tr> <tr> <td>2. Electroplating specifications:</td> <td>Nickel plated: 3±0.1um</td> </tr> <tr> <td>Surface ink requirements:</td> <td>Surface ink color: Matt black</td> </tr> <tr> <td>3. Surface ink requirements:</td> <td>Printing font color: Bright black</td> </tr> <tr> <td>Printing font height:</td> <td>According to drawings</td> </tr> </table> <p>4. Reliability requirements:</p> <ol style="list-style-type: none"> Reliability test: salt spray test\rubber friction test\alcohol resistance test\100 grid test. The front ink, the surface of the ink is required to be folded in half without cracking, scratching, etc. <p>5. Tolerance requirements:</p> <ol style="list-style-type: none"> Shape tolerance ± 0.10; Copper foil circuit tolerance ± 0.05; The position of the copper foil to the shape is ± 0.15; Hole-to-hole position tolerance ± 0.10; hole-to-shape position tolerance ± 0.15; The size tolerance of gold finger is ± 0.20. For other unmarked dimensions, refer to 2D drawings. 	PI substrate:	Electrolytic copper (1 to half)	1. PCB substrate specifications:	0.5oz (ED)	Double-sided tape:	3M-9471LSE	2. Electroplating specifications:	Nickel plated: 3±0.1um	Surface ink requirements:	Surface ink color: Matt black	3. Surface ink requirements:	Printing font color: Bright black	Printing font height:	According to drawings	<p>ShenZhen Yu Sheng Communication Equipment Co.,Ltd</p> <p>Model: Y3000</p> <p>Name: WIFI antenna</p> <p>Part NO: 385014-1A</p> <p>Material quality: Electrolytic copper (1 to half)</p> <p>Hard surface treatment: /</p> <p>Appearance treatment: /</p> <p>DATE: 20230330</p> <p>Design: JFB</p> <p>Review: JFB</p> <p>RP: CKH</p> <p>confirm</p> <p>UNIT: mm</p> <p>proportion: FIT</p> <p>Revise: R.A</p> <p>Double-sided printing black oil</p>
PI substrate:	Electrolytic copper (1 to half)														
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Surface ink requirements:	Surface ink color: Matt black														
3. Surface ink requirements:	Printing font color: Bright black														
Printing font height:	According to drawings														
<p>6. Key control size:</p> <p>The dimensions marked with numbers are regarded as important dimensions, and the others refer to 2D drawings</p> <p>7. Environmental requirements:</p> <p>Parts meet ROHS2.0/REACH/GR environmental protection requirements</p> <p>8. Packaging requirements:</p> <p>Packed in PE bags, the quantity of each bag is 100PCS, there is a mark on the outside of the bag</p> <p>DATE: Modify the content</p> <p>Version: Revise</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p>														

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5. BOM Table (Bill of Materials)

YUSHENG COMMUNICATION TECHNOLOGY CO.,LTD.深圳市昱晟通讯设备有限公司
385014(X3000)-BOM

Edition/版本: R:A client/机种: 385 Model/项目: 385014 date/日期: 20230330

Item	Part No/项次	Name/名称	Types of/类型	ersion/版本	specification/规格	Material quality/材质	colour/颜色	unit/表面处理	Quantity/单位	Craft/数量
1	385014-IA	WIFI antenna	Z	R:A	24.00*10.50*1.7MM				PCS	1
1.1	381014-IA-01	WIFI-FPC	Z	R:A	24.00*10.50*0.12MM	Electrolytic copper (1 to half) 电解铜1对半	black/黑色	Gold plated 镀金	PCS	1
1.2	381014-IA-02	CABLE1 线材1	Z	R:A	1.13*59MM	1.13 CABLE+1代 Terminal	black/黑色	Gold plated 镀金	PCS	1

The above parts meet the environmental requirements of ROHS2.0 HF Reach GP

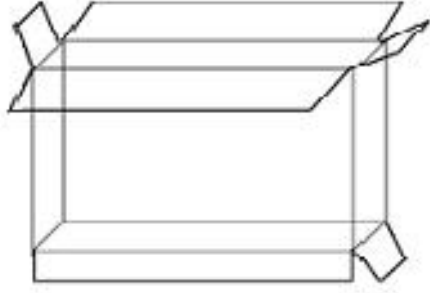
Type: W. Outsourcing B. Semi-finished products Z. Finished products C. Customer supply

Confirmation:

Review:

Production: FJW

6. Packaging diagram

Packaging method diagram		
product name		
P / N		
Project model	X3000	
File details	Carton Size 1: 35*25*24.5cm Carton Size 2: Depending on the order quantity / volume	
	Boating method	Packaging by order quantity
	Total number of binning	Packaging by order quantity
matters need attention		
1. Due to the limitation of order quantity, the packing method of each material is the size of the box according to the total quantity of the order or the physical volume		
2. Storage temperature: room temperature		
3. Preservation conditions: store them in a cool and dry place		