

Shenzhen SKYLink TechnologyCo., Ltd

Antenna specification acknowledgement

编号: SLS0A2021061801

Customer Name: HuiYuan Innovation & Technology Co., Ltd

Product Name: X30

Product description: WF113A copper pipe welding 1.13 Black coaxial line, wire length 80mm, first generation terminal

Part No.: WF113A.C113.80B.121100.1

Version number: : V1.0

Issued Date: 2021-05-25

Customer

Engineer	Purchase	Approved By

SKYLink

Research and development	Engineer	Approved By

Specification Summary

Electrical Characteristics	
Frequency	5150MHz ~5850MHz
Voltage standing wave ratio	<3.0
Efficiency	>45%
Peak Gain	2. 9dbi
Impedance	50 Ohm
Polarization	Linear gradation
Material & Mechanical Characteristics	
Materials	Copper pipe + RF cable
Wire type	1. 13mm
Terminal type	Primary terminal
Drawing size	See the drawing for details
Screen printing method	White letters on black background
Environmental Characteristic	
Storage temperature	- 30 °C ~ + 85 °C
FPC welding temperature	280±5°C impregnation time :10 seconds
Rf wire welding temperature	320±5°C for 2-3 seconds

● Test equipment and conditions

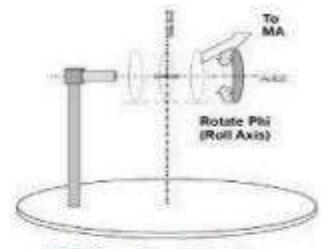
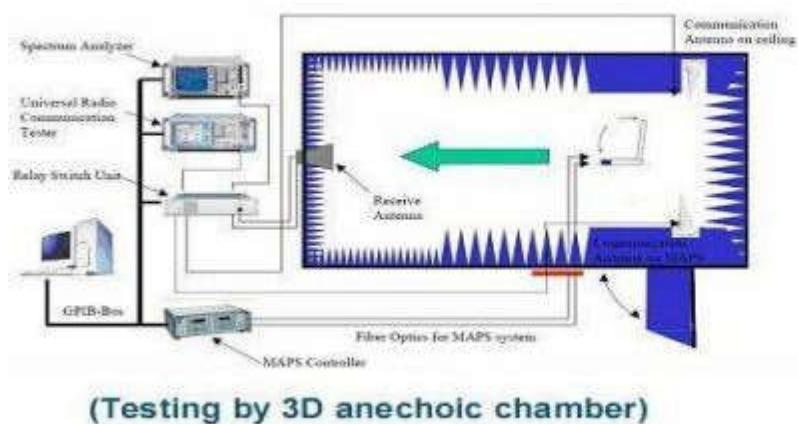
1. Network analyzer :

Agilent 8753D Agilent 5071B

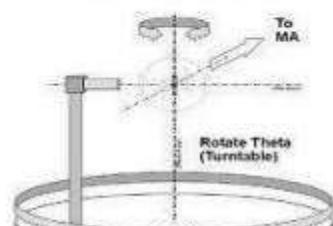
Communication test equipment:

Agilent E5515C R&S CMW500

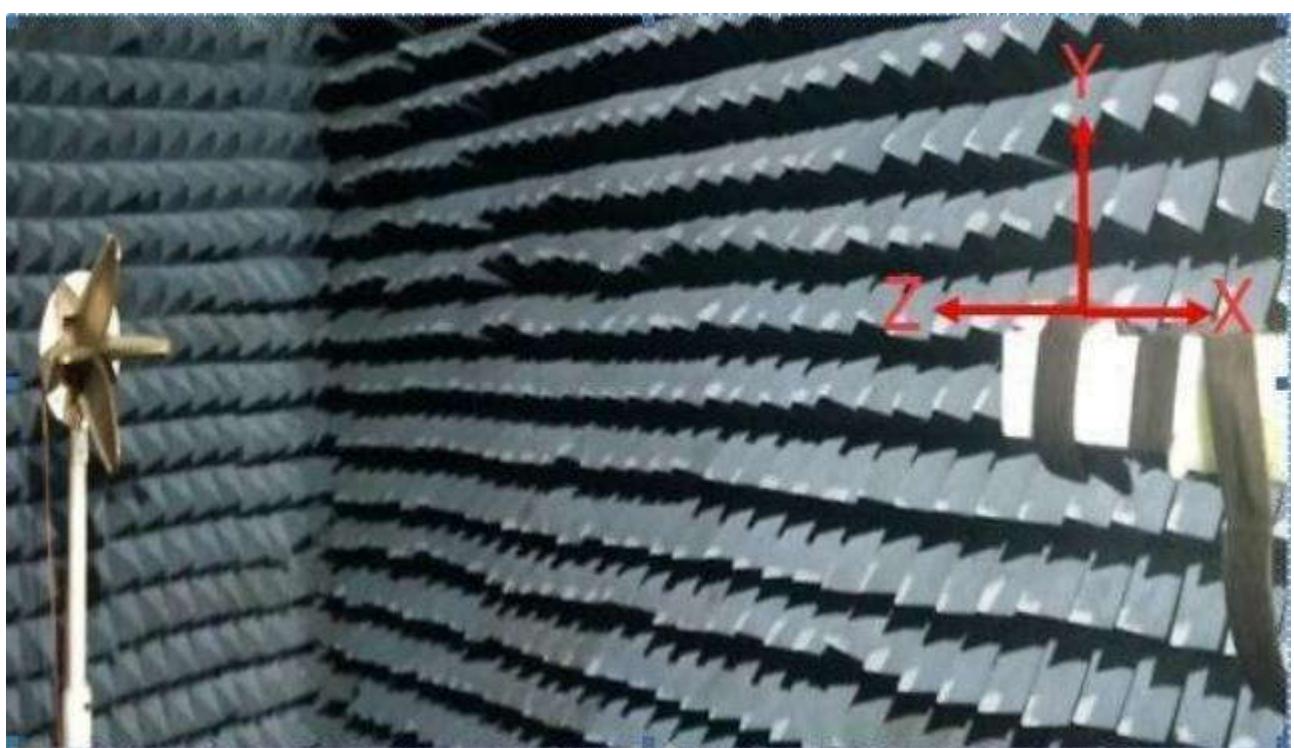
2. 3D test system

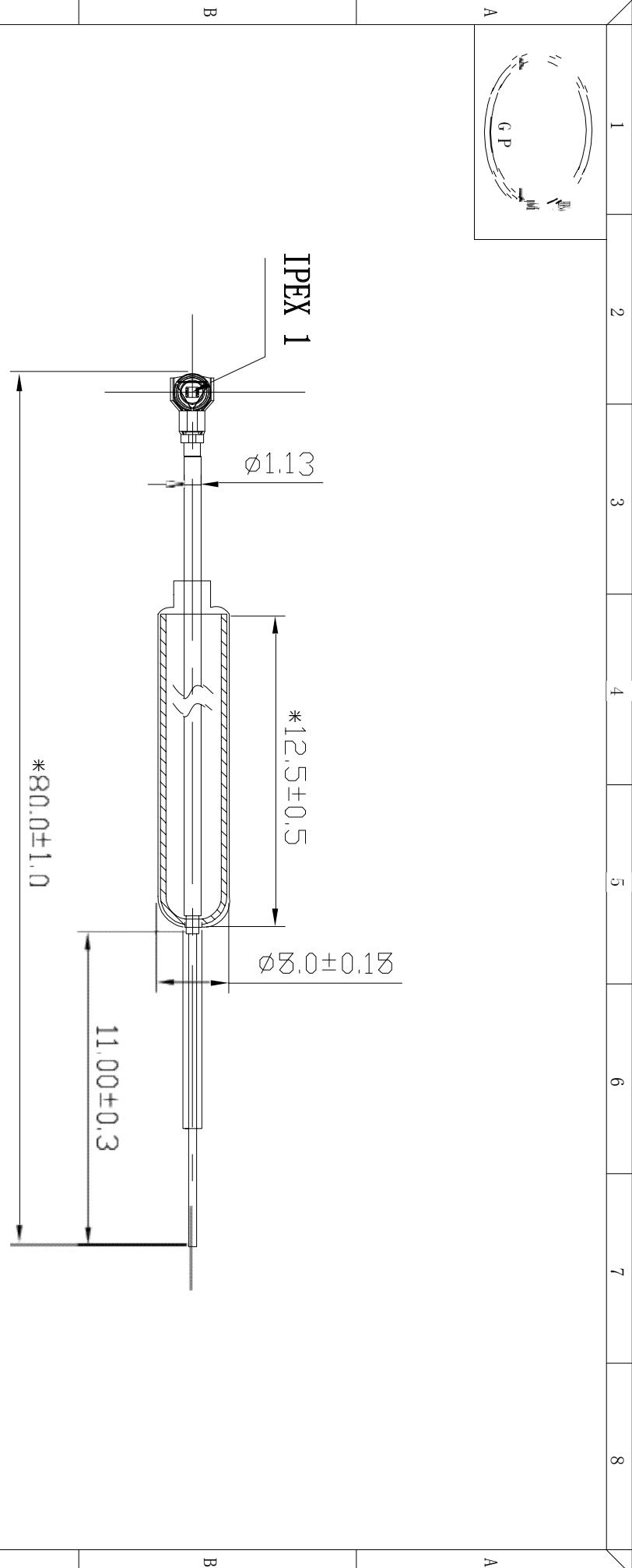


Phi axis test



Theta axis test





Φ 1				Project	Date		2021-05-28	
0~10				±0 05	0 02	Part Name	Designed by	
D				18~38	±0 10	◎	Part No	WF113A C113 80B 121
					0 12	0 02	100 1	MD
				30~40	±0 15	■	Checked by	
				40~	±0 20	Angle ±0 5 °	RF	
A	New drawing	Description	Date	Remark	Location	DWG No	Approved by	
Rev	1	2	3	4	5	6	Unit mm	Scale 1:1
						7	Rev A	
						8		

● Matching circuit



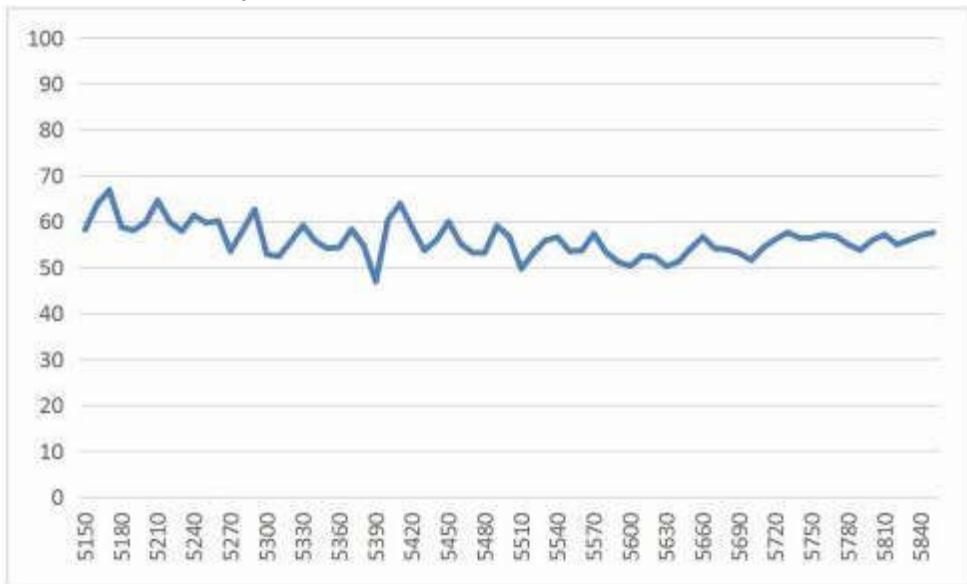
The original
motherboard matching
circuit remains
unchanged

● Passive test report

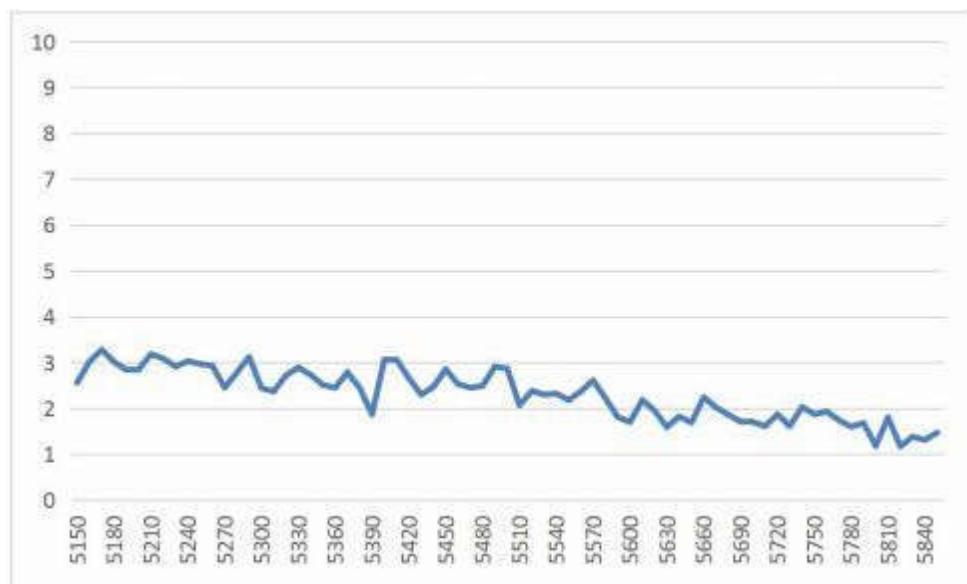
◆ S11 diagram



◆Efficiency



◆Gain

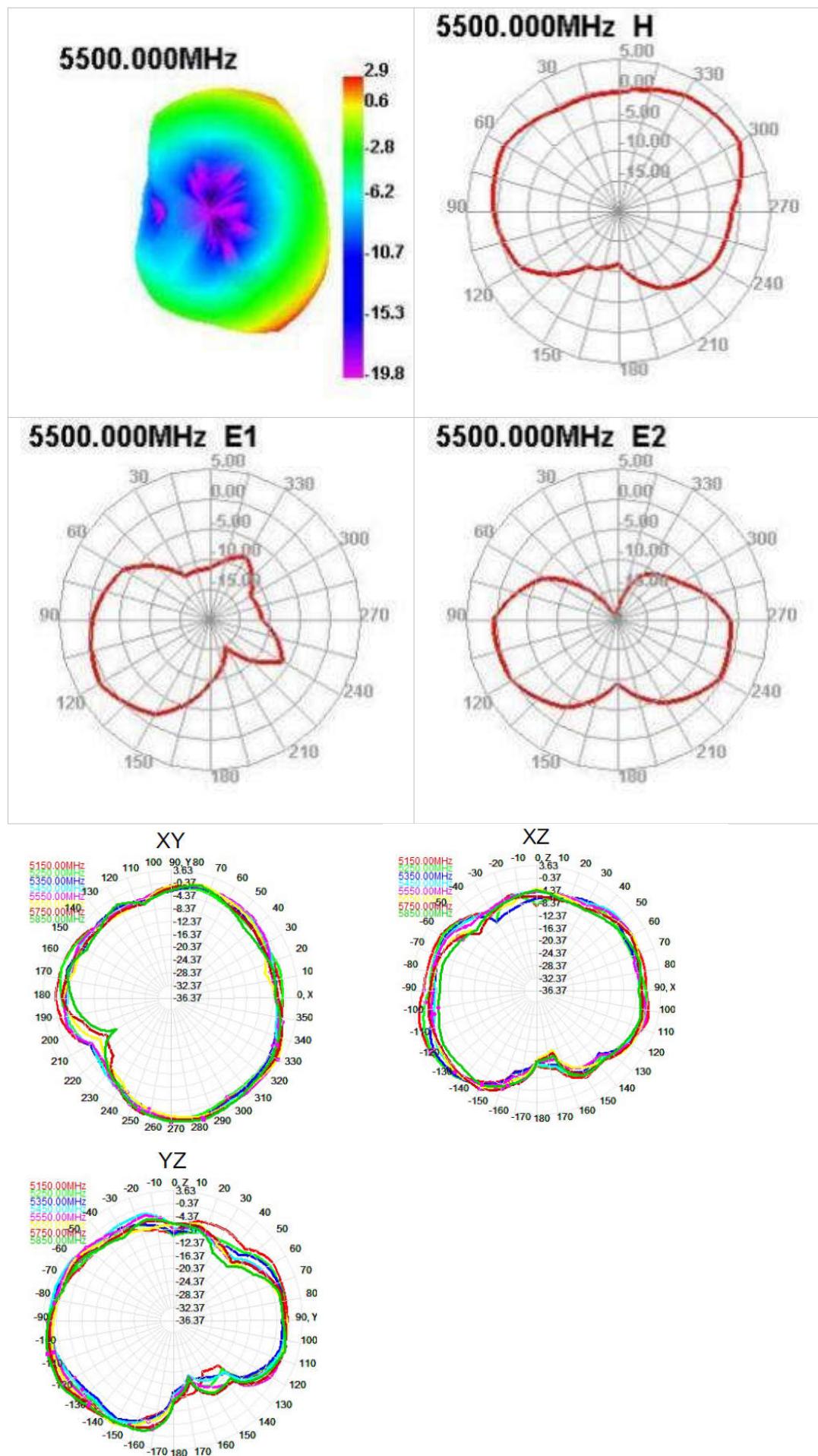


Peak Gain & Efficiency

(Peak Gain: ≥2.2dBi) (Efficiency: ≥55%)

Frequency (MHz)	Drone			
	5G-1 (dBi)	5G-1 (%)	5G-2 (dBi)	5G-2 (%)
5150	2.0	63	2.0	69
5250	2.61	60	2.71	63
5350	2.21	58	2.23	62
5450	2.05	62	2.36	69
5550	2.15	68	2.19	73
5650	2.79	66	2.30	69
5750	2.34	68	2.37	72
5850	2.2	67	2.17	71
5500	2.1	65	2.9	72

Radiation pattern



◆Reliability test

Test item		Test condition	Equipment	Norm	Result
1	Low temperature test	<p>Temperature: -30°C, humidity: 65%, time: 48 hours</p> <p>Test Conditions:</p> <p>The antenna is placed in a high and low temperature test chamber, the temperature is maintained at 25 ° C and the humidity is maintained at 65% for 1 hour, and then the temperature is lowered to -30 ° C within 1 hour for 44 hours, and then the temperature is raised to 25 ° C for 2 hours</p>	High and low temperature testing machine	<p>The material is not allowed to deform for good electronic performance</p>	Pass
2	High temperature test	<p>Temperature: 85°C, humidity: 85%, time: 48 hours</p> <p>Test Conditions:</p> <p>The antenna is placed in a high and low temperature test chamber, the temperature is maintained at 25 ° C and the humidity is maintained at 65% for 1 hour, and then within 1 hour, the temperature is raised to 80 ° C and the humidity is 85% for 44 hours, and then the temperature is lowered to 25 ° C for 2 hours.</p>	High and low temperature testing machine	<p>The material is not allowed to deform for good electronic performance</p>	Pass
3	Salt spray test	<p>Salt spray test:</p> <p>Place the antenna in the salt spray tester to set up the test environment:</p> <p>Temperature 35±2°C Humidity 85%</p> <p>Salt spray: 5±1% PH 6.5~7.2</p> <p>Time: 24 hours</p>	Salt spray testing machine	<p>No color change, no rust</p>	Pass