

Data Sheet

Product : Plastic shell antenna
Date: Dec 10,2019

Customer Applied model			
Customer			
Customer Part No.	60100051		
Product Description	WI-FI Antenna		
Supplier	saixun		
Supplier Part No.	SX-051-1401		
Customer	By designed	By Checked	By Approval

Catalogue

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 Electrical Properties

 Mechanical Properties

 Environment Properties

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Revision History

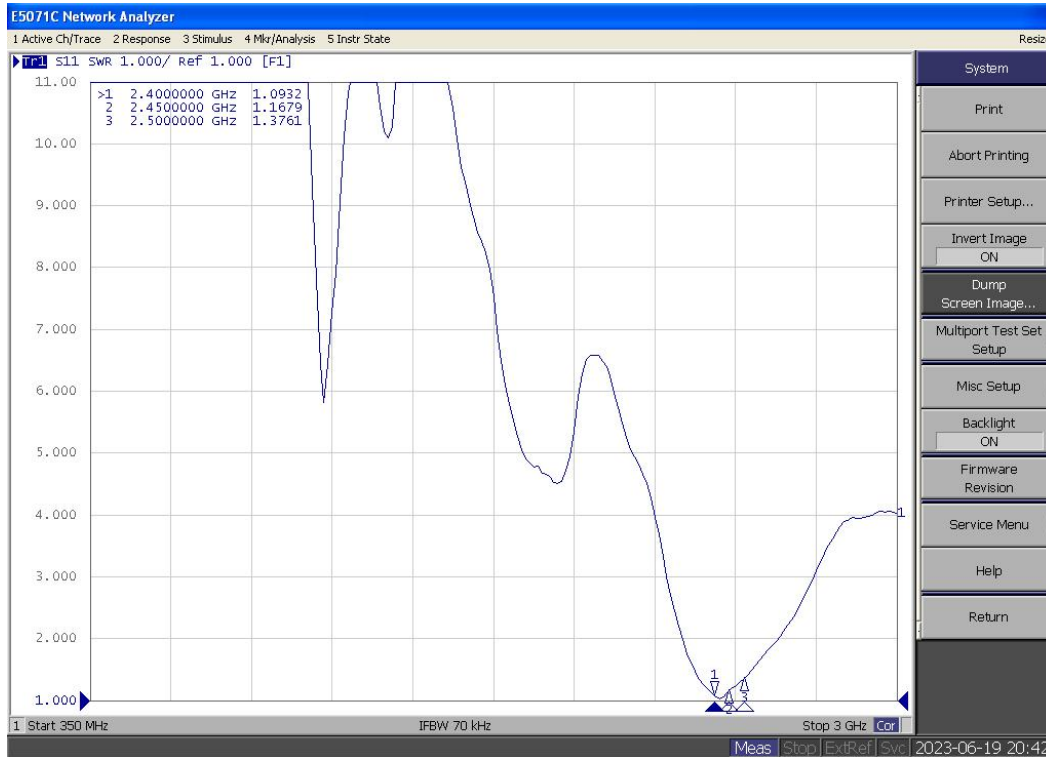
Revision No.	Originator	Description of changes	Date of changes
1	Yanhu Tuo	First document	Dec 10, 2019
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

1 General

Electrical Properties	
Frequency Band	2.4GHz
Test Frequency	2.4-2.5GHz
VSWR	≤ 1.92
Efficiency	$\geq 55\%$
Gain	2.0 $\pm$ 0.5 dBi
Radiation Pattern	Omni-Directional
Polarization	V/H
Antenna Type	Dipole
Mechanical Properties	
Antenna Dimension	105 mm
Connector Type	I-PEX I
Connector pull	1.5 Kg min
Cable Type	RF-1.13
Installation site	Machine inside
Fixed mode	Bottom Base
Environment Properties	
Operational Temperature	-40°C ~ +85°C
Storage temperature	-30°C ~ +60°C

2 Test Data (only test the antenna separately)

2.1 Network Data (VSWR)

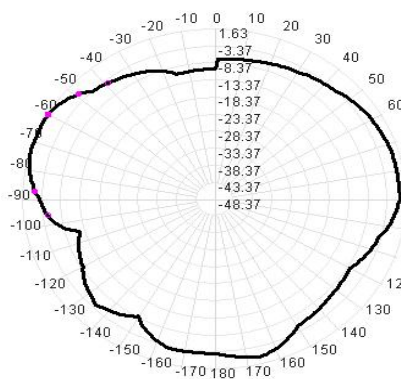


2.2 Gain and Efficiency

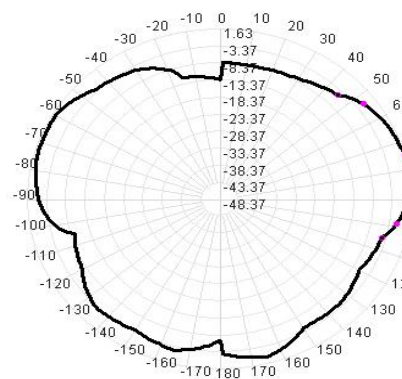
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency (dBi)	-2.55	-2.51	-2.35	-2.10	-2.01	-2.17	-2.24	-2.25	-2.14	-2.20	-2.19
Gain (dBi)	1.68	1.85	2.16	2.47	2.48	2.35	2.22	2.14	2.22	2.06	1.95
Efficiency (%)	55.63	56.12	58.19	61.67	62.96	60.74	59.65	59.52	61.06	60.26	60.34

2.3 Radiation pattern /2D

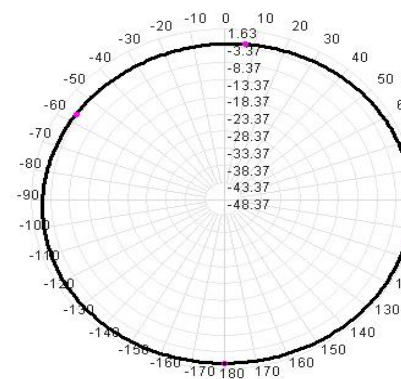
2400.0MHz Total(E1-XZ), Max= 1.63dBi



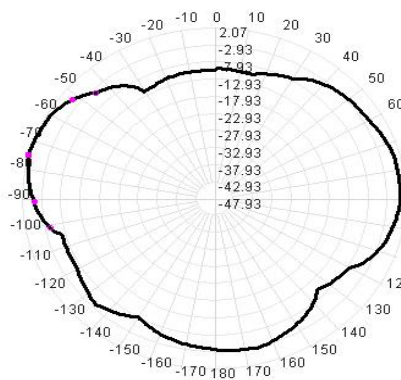
2400.0MHz Total(E2-YZ), Max= 1.20dBi



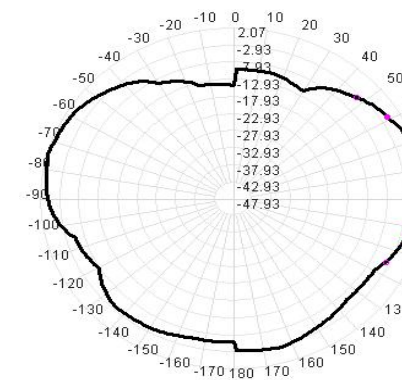
Total(H-XY), Max= 0.38dBi, CirD=3.60



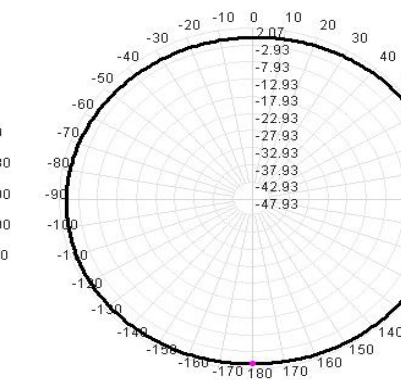
2450.0MHz Total(E1-XZ), Max= 2.07dBi



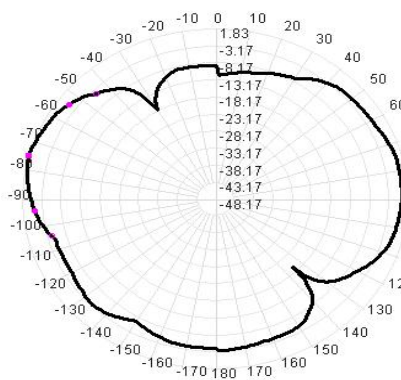
2450.0MHz Total(E2-YZ), Max= 1.72dBi



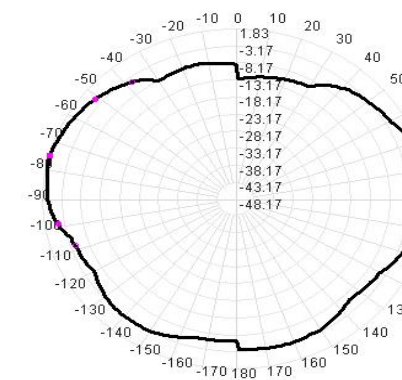
Total(H-XY), Max= 1.47dBi, CirD=2.47



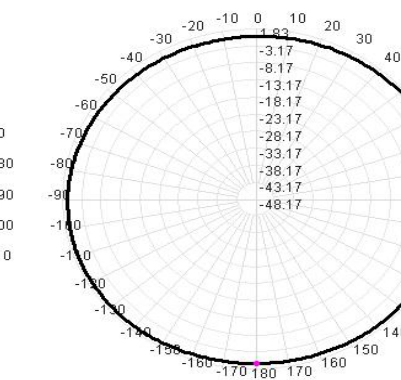
2500.0MHz Total(E1-XZ), Max= 1.83dBi



2500.0MHz Total(E2-YZ), Max= 1.52dBi



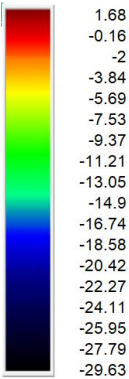
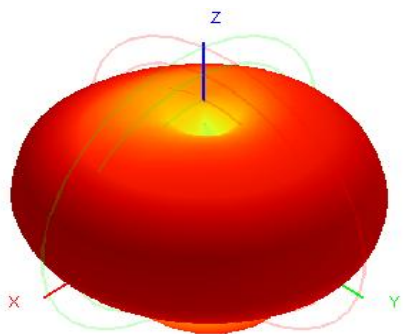
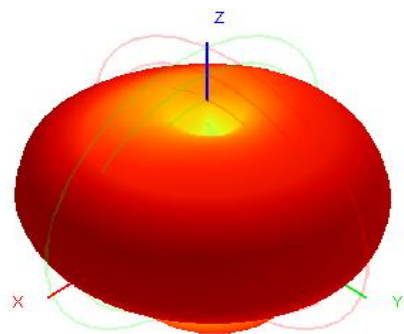
Total(H-XY), Max= 1.04dBi, CirD=1.63



2.4 Radiation pattern /3D

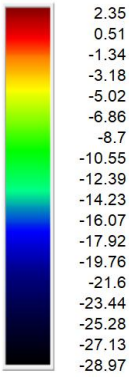
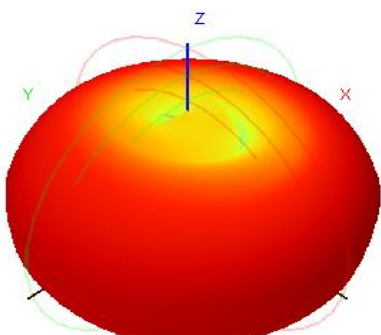
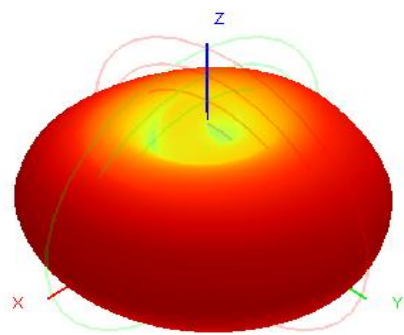
2400.0MHz H+V, Eff: 55.6%

Back View



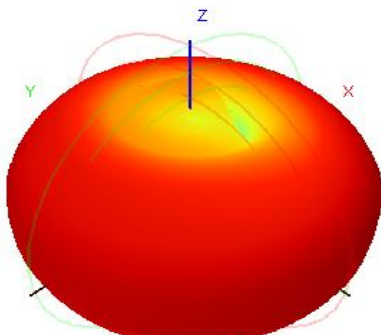
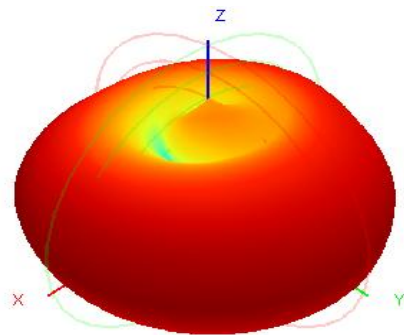
2450.0MHz H+V, Eff: 60.7%

Back View



2500.0MHz H+V, Eff: 60.3%

Back View



3 Mechanical Drawings

Engineering Design Change Record

DATE	REV	ECR	Change Content and Description
Dec 10, 2019	A		NEW Issuance

Technical drawing of a WiFi Antenna. The top view shows a rectangular antenna with a mounting bracket at one end. Dimensions include a total length of 120±2 mm, a mounting bracket width of 105±2 mm, and a mounting hole diameter of Ø7.9 mm. Callouts 1, 2, 3, 4, and 5 point to specific features: 1. Mounting hole, 2. Mounting bracket, 3. Antenna body, 4. Antenna base, 5. Antenna tip. The side view shows the antenna's profile with a height of 105±2 mm and a mounting bracket height of 120±2 mm. A dimension of 105±2 mm is also shown for the antenna body length.

NOTE:

1. Mark Size as Key Size. Unmarked dimensions, measured in 2D.
2. Impedance : 50 Ω
3. Frequency Range : 2.4-2.5 GHz
4. VSWR : ≤1.92
5. All materials and processes conform to RoHS.
6. All products are 100% qualified factory test.
7. Keep product appearance clean.
8. Ensure that the height and tension of the terminals meet the requirements.

NO.	DESCRIPTION	PIN	REMARK	GENERAL TOLERANCE TABLE				UNIT	MM	PART NAME	WIFI Antenna
				LINEAR	TOLERANCE	ANGULAR	TOLERANCE				
3	Tube	NA	Material:plated Tin								
3	Cap body	NA	Plastic,Black								
3	Upper base	NA	Plastic,Black								
3	Bottom base	NA	Plastic,Black								
2	COAXIAL CABLE,113mm	NA	Gray								
1	MHF 14-PEX For 1.13cable	NA	Original or Equivalent								
			REMARK								

SCALE	1 : 1	DRAWING	CHECKED	APPROVED

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END.