

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

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Revision History

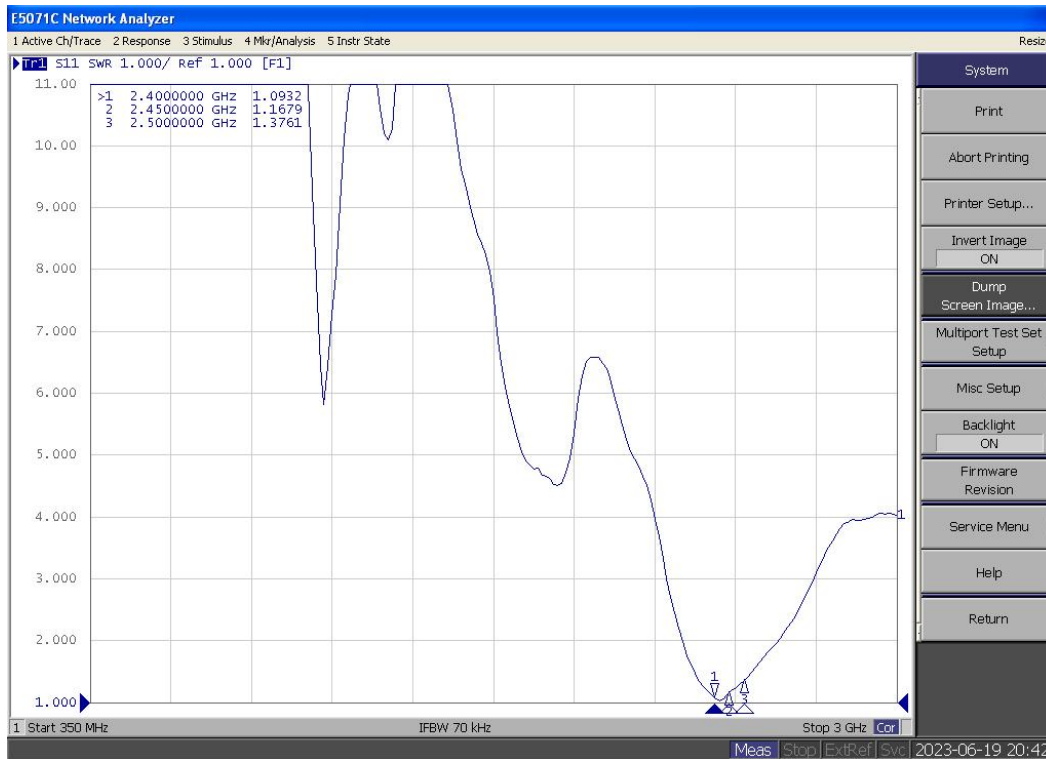
Revision No.	Originator	Description of changes	Date of changes
1	Yanhu Tuo	First document	Dec 10, 2019
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

1 General

Electrical Properties	
Frequency Band	2.4GHz
Test Frequency	2.4-2.5GHz
VSWR	≤ 1.92
Efficiency	$\geq 55\%$
Gain	2.0±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)

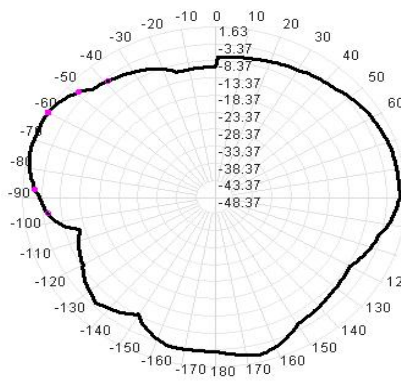


2.2 Gain and Efficiency

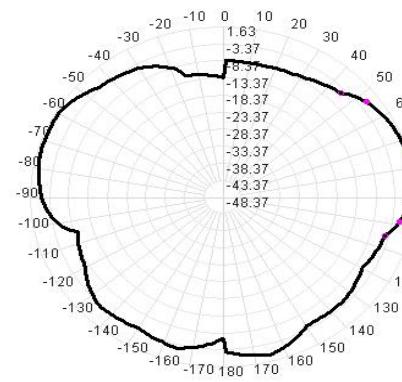
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency (dBi)	-2.55	-2.51	-2.35	-2.10	-2.01	-2.17	-2.24	-2.25	-2.14	-2.20	-2.19
Gain (dBi)	1.68	1.85	2.16	2.47	2.48	2.35	2.22	2.14	2.22	2.06	1.95
Efficiency (%)	55.63	56.12	58.19	61.67	62.96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

2.3 Radiation pattern /2D

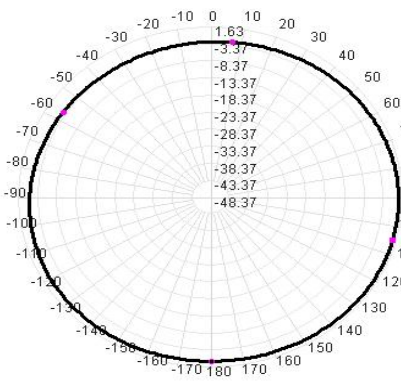
2400.0MHz Total(E1-XZ), Max= 1.63dBi



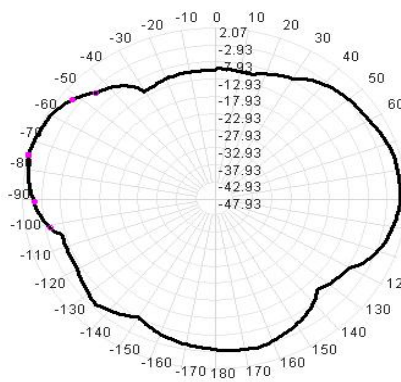
2400.0MHz Total(E2-YZ), Max= 1.20dBi



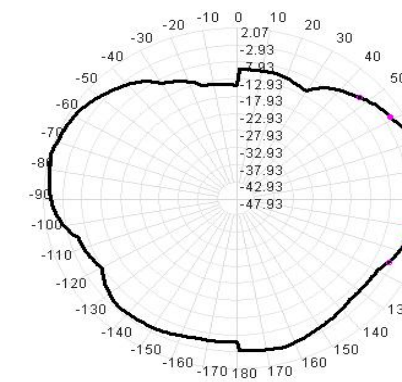
Total(H-XY), Max= 0.38dBi, CirD=3.60



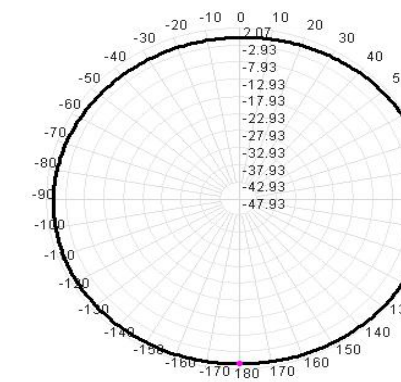
2450.0MHz Total(E1-XZ), Max= 2.07dBi



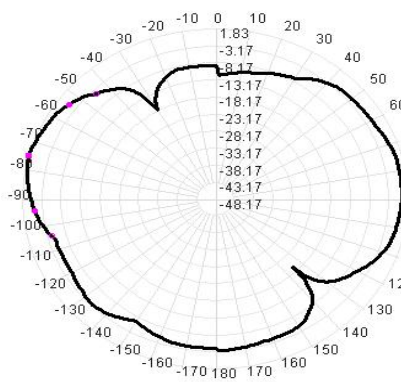
2450.0MHz Total(E2-YZ), Max= 1.72dBi



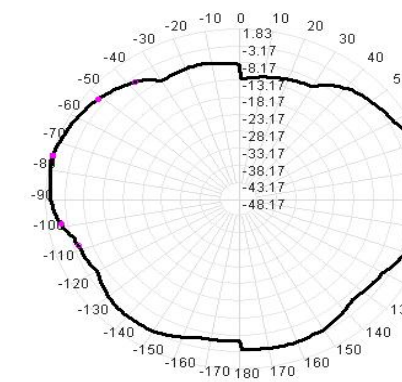
Total(H-XY), Max= 1.47dBi, CirD=2.47



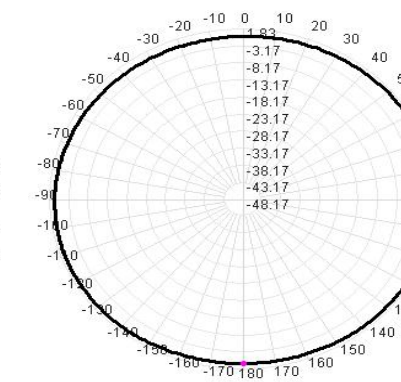
2500.0MHz Total(E1-XZ), Max= 1.83dBi



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



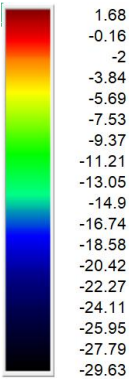
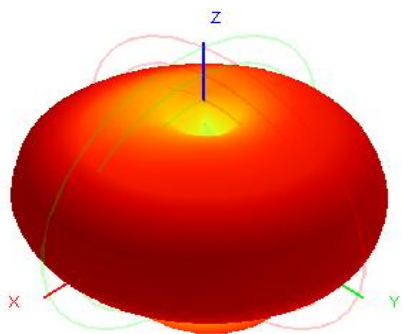
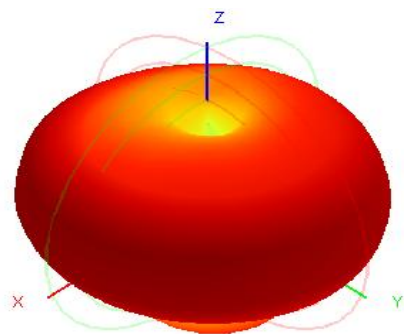
Total(H-XY), Max= 1.04dBi, CirD=1.63



2.4 Radiation pattern /3D

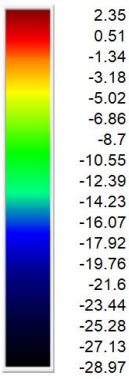
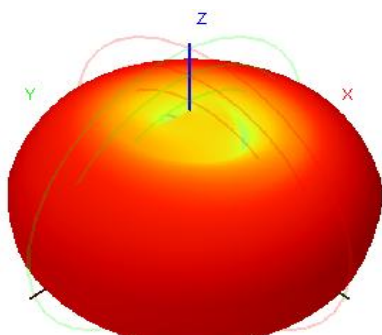
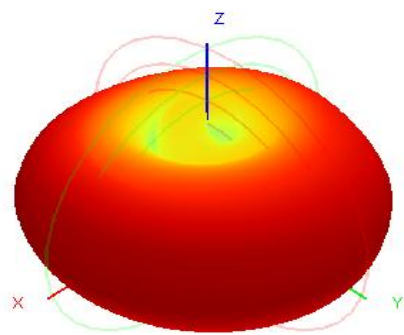
2400.0MHz H+V, Eff: 55.6%

Back View



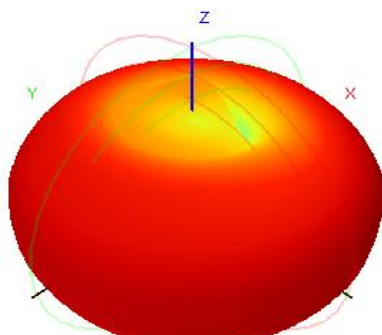
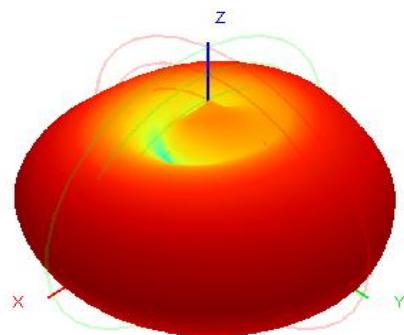
2450.0MHz H+V, Eff: 60.7%

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

NOTE:

1.* Mark Size as Key Size,Unmarked dimensions, measured in 2D .

2.Impedance : 50 Ω

Frequency Range : 2.4-2.5 GHz

VSWR : ≤1.92

3.All materials and processes conform to RoHS.

4.All products are 100% qualified factory test.

5.Keep product appearance clean.

6.Ensure that the height and tension of the terminals meet the requirements.

NO.	TUBE	MATERIAL	GENERAL TOLERANCE TABLE				UNIT	MM	PART NAME	WI-FI Antenna
			LINEAR	TOLERANCE	ANGULAR	TOLERANCE				
3	Cap body	NA	Plastic,Black	0-10	±0.06	±0.5°	1:1	VEDNER PNO.	60100051	
3	Upper base	NA	Plastic,Black	10-50	±0.1	±1°		SAIXUN PNO.	SK-051-1401	
2	Bottom base	NA	Gray	50-80	±0.15	±1.5°				
1	COAXIAL CABLE E1.13mm	NA	Original or Equivalent	>80	±0.2					
	MHE I-PEX For 1.13cable	NA	REMARK							
	DESCRIPTION	PN								

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