



Dongguan Youbi Electronics Co.,Ltd

SPECIFICATION

APPROVAL SHEET

CUSTOMER NAME:

PRODUCT NAME: 2.4/5.8G Hardware Antenna

CUSTOMER P/N:

Youbi P/N: UB01NJ2D1113A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Eddy	
APPROVED BY:	Changxing. Liu	
DATE:	2023/3/4	

Modification History

Version	Content Revision	Issued by	Date
A	Original version	Eddy	2023-3-4

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1. Electrical Specification

Characteristics	Specifications	Unit
Outline Dimensions	17.5x16.1x6.8,T0.4	mm
Frequency	2400-2500 / 5150-5850	MHz
Impedance	50	Ω
VSWR	≤ 2	
Polarization	Linear Polarization	
Gain	2 REF	dBi
Efficiency	> 50	%
Connector Type	DIP	
Operating temperature	-20℃~+85℃	
Storage Temp	-20℃~+50℃	

2.Test Items and Equipment

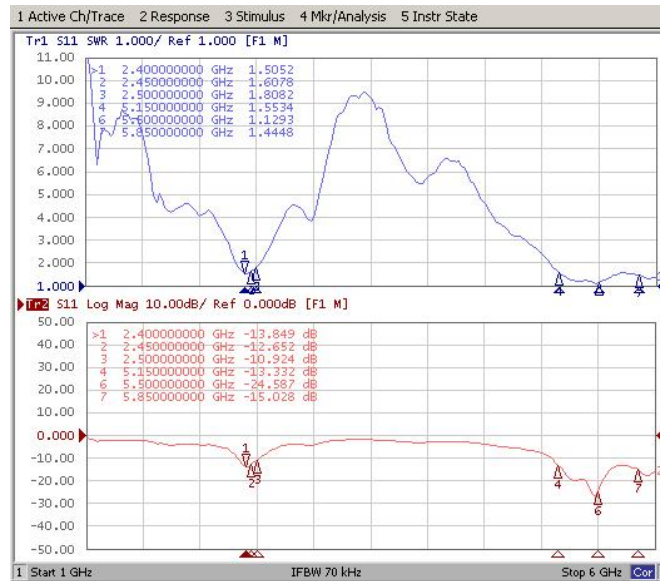
	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (5m*5m*5m) 2.Network analyzer (Agilent E5071B)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave darkroom (5m*5m*5m) 2.Comprehensive test instrument (CMW500)



3. S Parameter

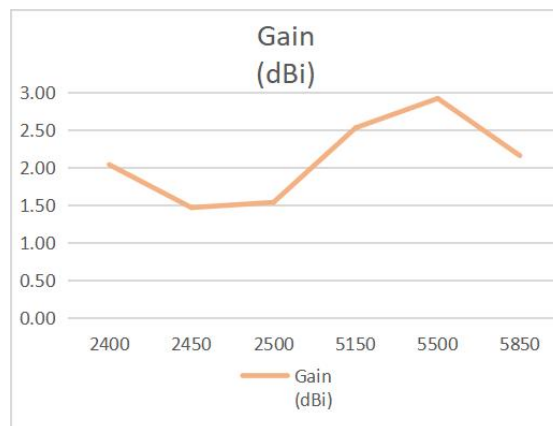
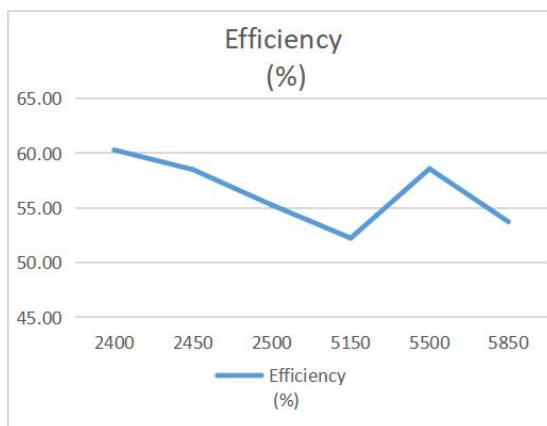
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-13.84	1.50
2450	-12.65	1.60
2500	-10.92	1.80
5150	-13.33	1.55
5500	-24.58	1.12
5850	-15.02	1.44

* Voltage Standing Wave Ratio(VSWR)
Return Loss(RL)
 $RL = 20 * \log_{10}[(VSWR + 1) / (VSWR - 1)]$



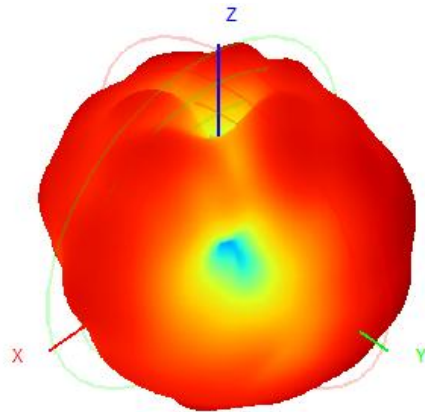
4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500	5150	5500	5850
Efficiency (%)	60.30	58.50	55.26	52.23	58.58	53.73
Gain (dBi)	2.04	1.47	1.54	2.53	2.92	2.16

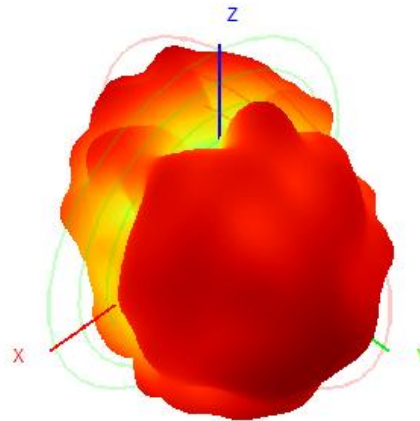


5. Radiation Pattern

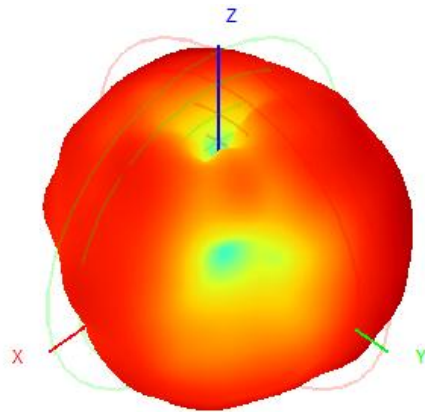
5-1 Antenna 3D Radiation Pattern



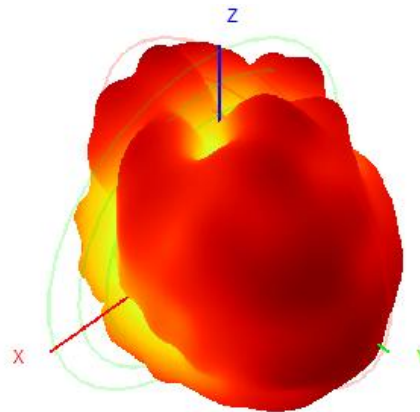
2400MHz



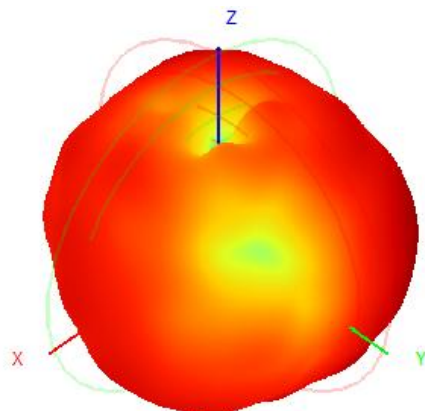
5150MHz



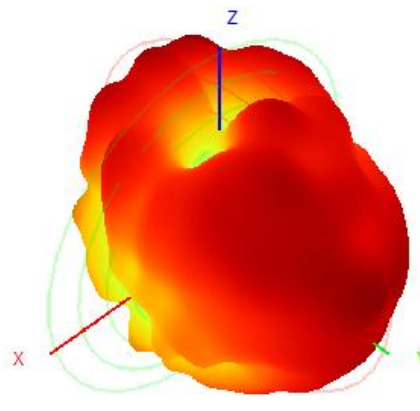
2450MHz



5500MHz



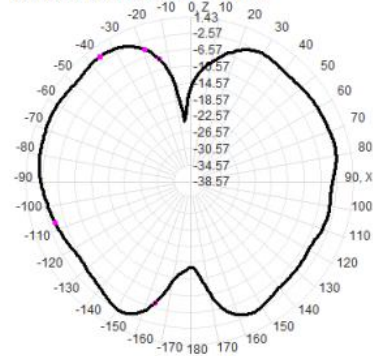
2500MHz



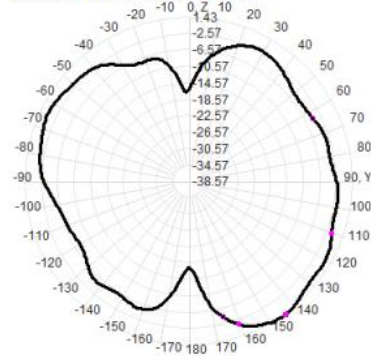
5850MHz

5-2 Antenna 2D Radiation Pattern

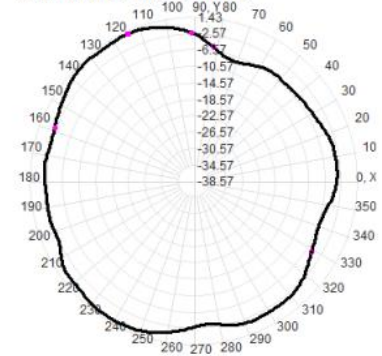
2400.0MHz Total(E1-XZ), Max=-1.12dBi



2400.0MHz Total(E2-YZ), Max= 1.43dBi

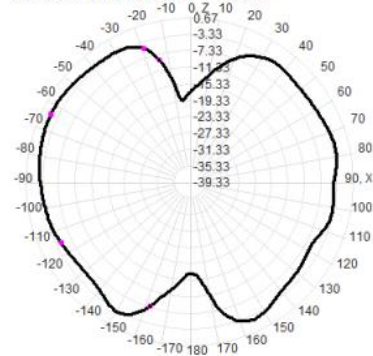


Total(H-XY), Max= 0.78dBi, CirD=8.58

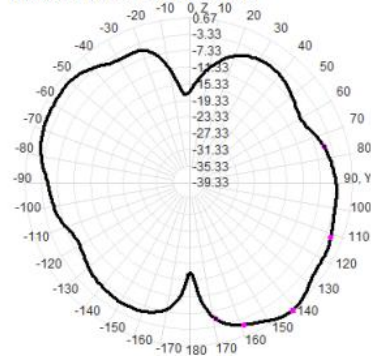


2400MHz

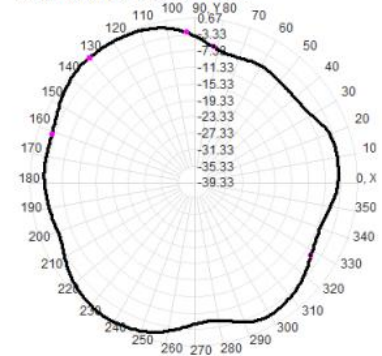
2450.0MHz Total(E1-XZ), Max=-1.63dBi



2450.0MHz Total(E2-YZ), Max= 0.67dBi

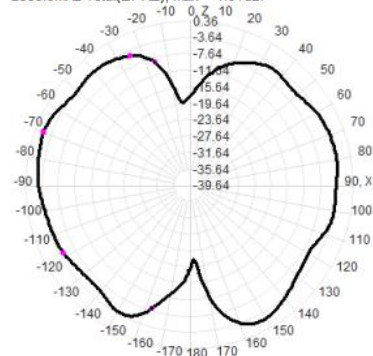


Total(H-XY), Max= 0.25dBi, CirD=7.57

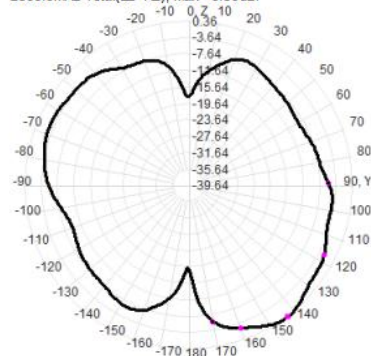


2450MHz

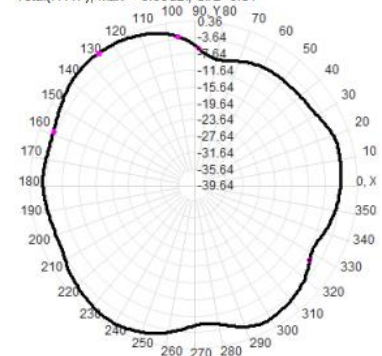
2500.0MHz Total(E1-XZ), Max=-1.81dBi



2500.0MHz Total(E2-YZ), Max= 0.36dBi

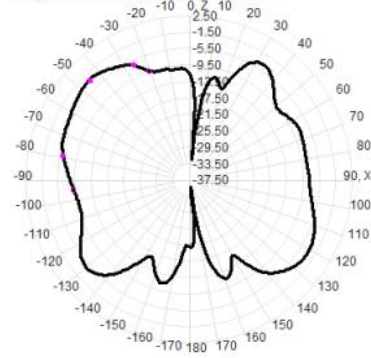


Total(H-XY), Max= -0.00dBi, CirD=8.51

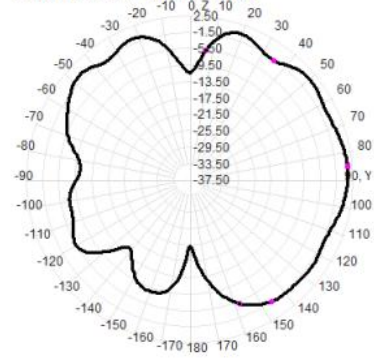


2500MHz

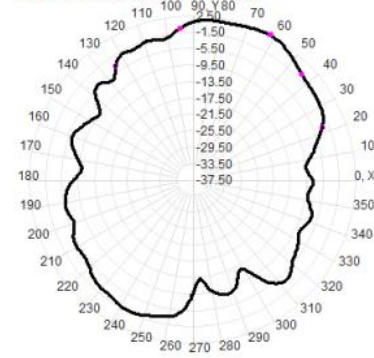
5150.0MHz Total(E1-XZ), Max=-3.13dBi



5150.0MHz Total(E2-YZ), Max= 1.13dBi

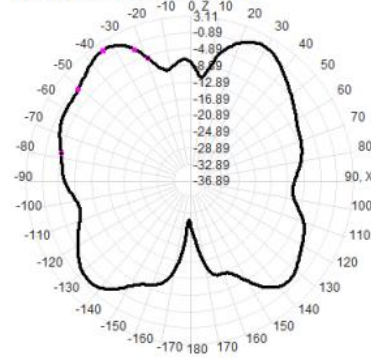


Total(H-XY), Max= 2.50dBi, CirD=15.88

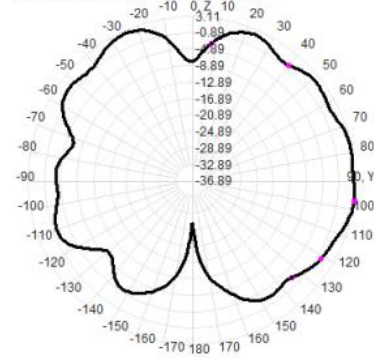


5150MHz

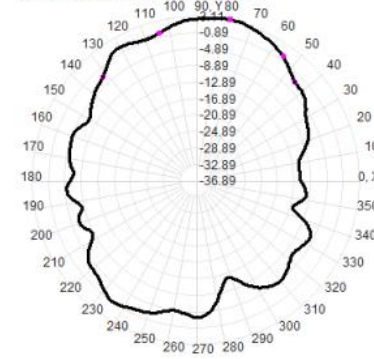
5500.0MHz Total(E1-XZ), Max= 1.18dBi



5500.0MHz Total(E2-YZ), Max= 2.81dBi

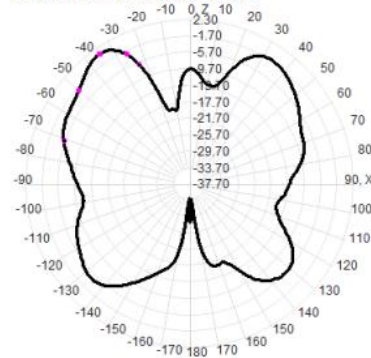


Total(H-XY), Max= 3.11dBi, CirD=15.76

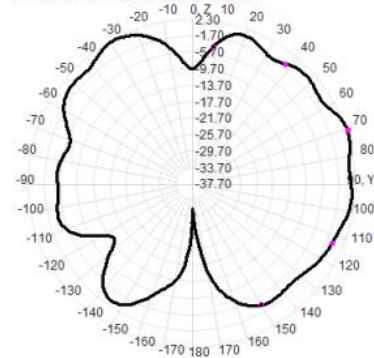


5500MHz

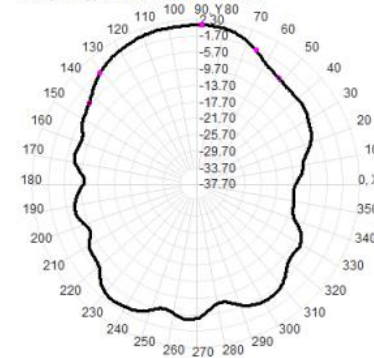
5850.0MHz Total(E1-XZ), Max= 0.76dBi



5850.0MHz Total(E2-YZ), Max= 2.30dBi



Total(H-XY), Max= 0.98dBi, CirD=14.89



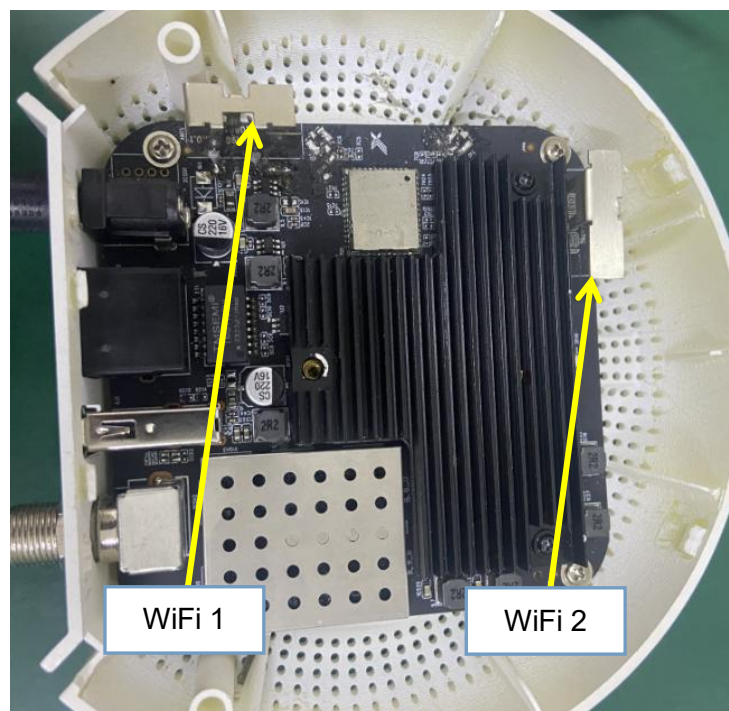
5850MHz

6. Active test data

channel	Measurement	Total
1	TRP	16.46
6	TRP	16.16
11	TRP	15.84
1	TIS(EIRP)	-88.68
6	TIS(EIRP)	-86.21
11	TIS(EIRP)	-88.58

channel	Measurement	Total
36	TRP	15.14
149	TRP	18.34
165	TRP	18.35
36	TIS(EIRP)	-76.10
149	TIS(EIRP)	-75.46
165	TIS(EIRP)	-76.02

7. Antenna installation diagram



8. Mechanical Specification

