

承 认 书

APPROVAL SHEET

客 户 名 称

CUSTOMER NAME: 熵基科技股份有限公司 ZKTECO CO.,LTD

产 品 名 称

PRODUCT NAME: 2.4G/5.8G FPC antenna L=108MM+端子 1.13 灰色线材

客 户 料 号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01C108F2Da027A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Mark Liang 	
APPROVED BY:	Changxing. Liu	
DATE:	2023/07/7	

Modification History

Version	Content Revision	Issued by	Date
A	Original version	Mark.Liang	2023-07-7

Content

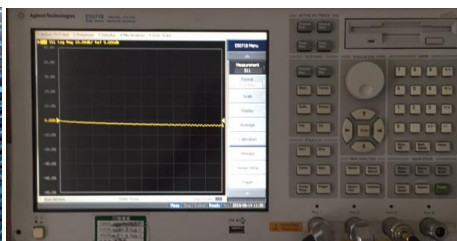
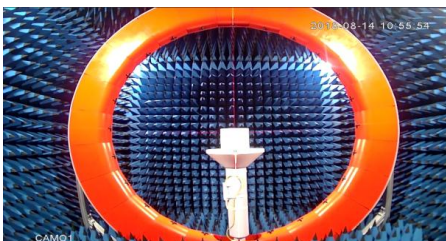
<i>Item</i>	<i>Description</i>
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1.Electrical Specification:

Characteristics	Specifications	Unit
Outline Dimensions	31.3x10.5,L108	mm
Frequency	2400-2500;5150-5850	MHz
Impedance	50	Ω
Return Loss	-10 Max	dB
Polarization	Linear Polarization	
Gain	2	dBi
Efficiency	>40	%
Connector Type	1.13 MHF-1-Plug	
Operating temperature	-20℃~+70℃	
Storage Temp	-20℃~+50℃	

2.Test Items and Equipment

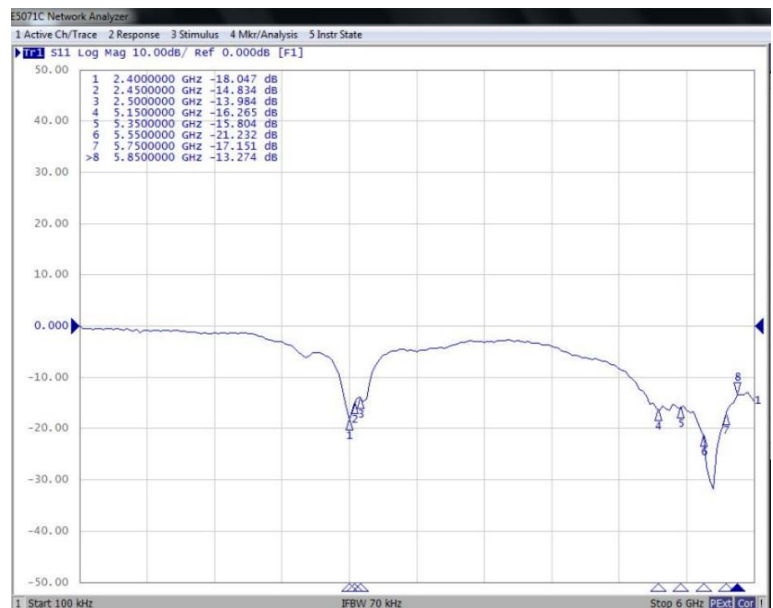
	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (5m*5m*5m) 2.Network analyzer (Agilent E5071B)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave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



3. S Parameter

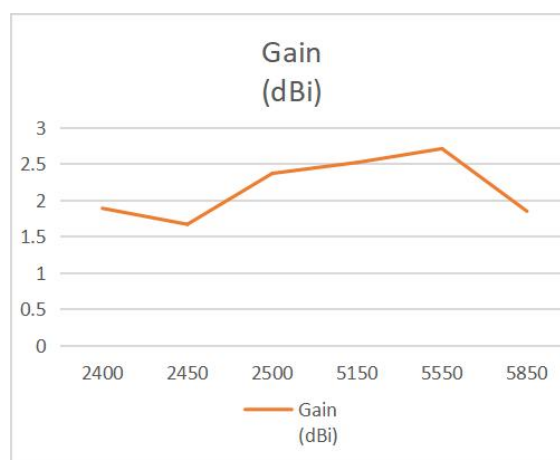
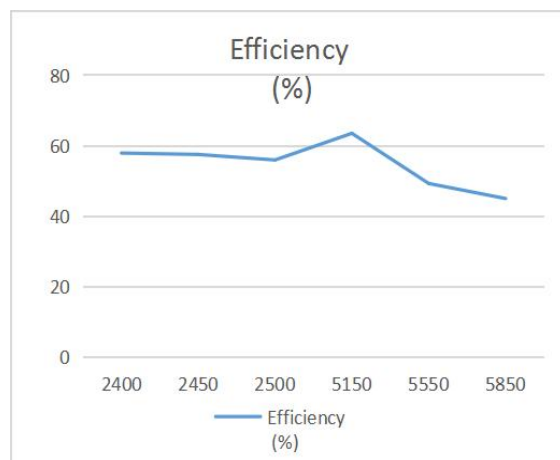
Frequency (MHz)	VSWR
2400	-18.04
2450	-14.83
2500	-13.98
5150	-16.26
5550	-21.23
5850	-13.27

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



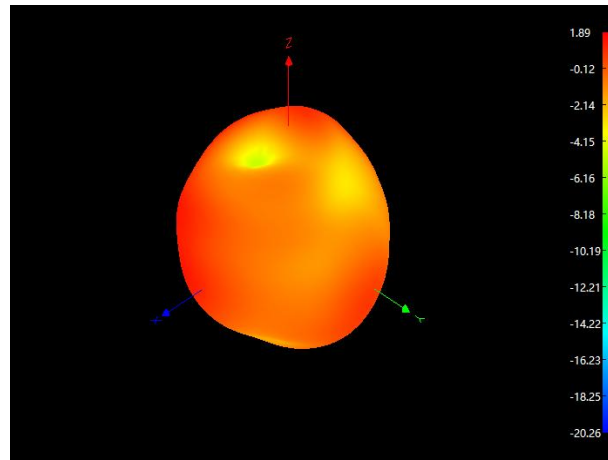
4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500	5150	5550	5850
Efficiency (%)	57.94	57.54	55.98	63.53	49.32	45.05
Gain (dBi)	1.89	1.67	2.37	2.52	2.71	1.85

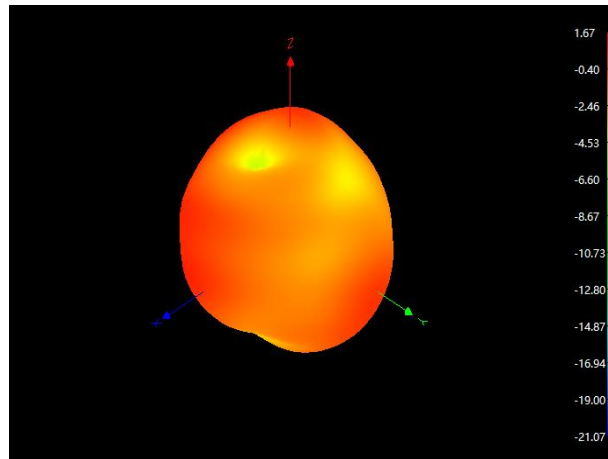


5. Radiation Pattern

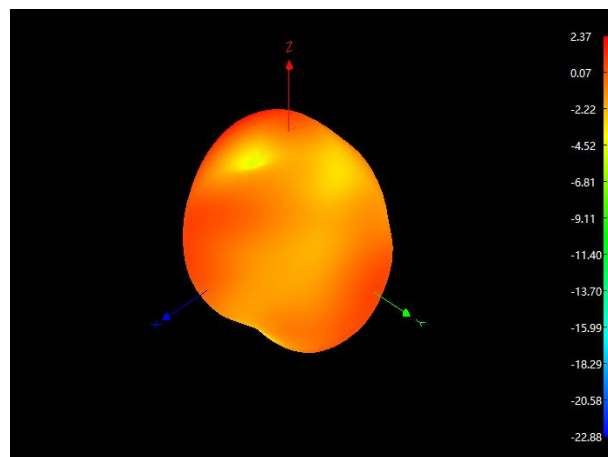
5-1 Antenna 3D Radiation Pattern



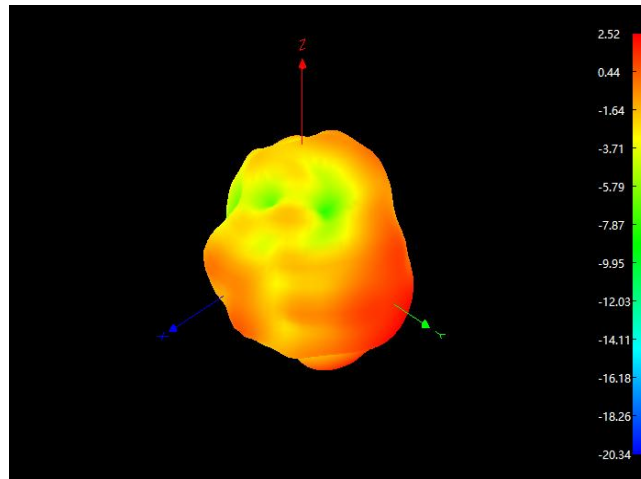
2400MHz



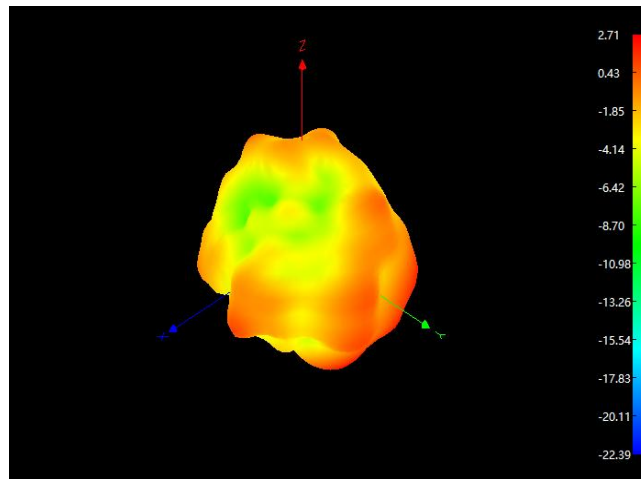
2450MHz



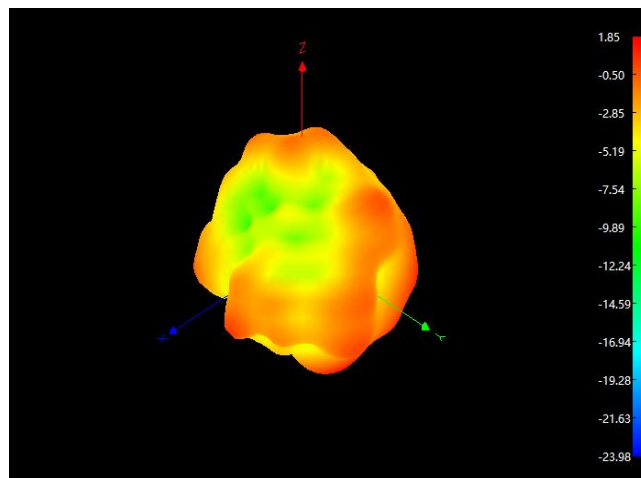
2500MHz



5150MHz

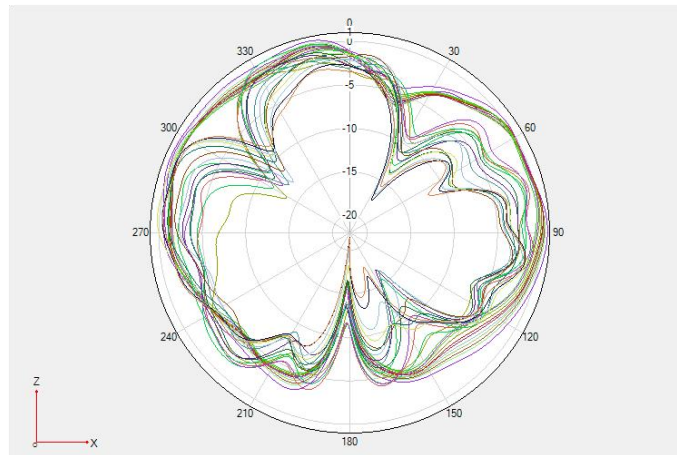


5550MHz

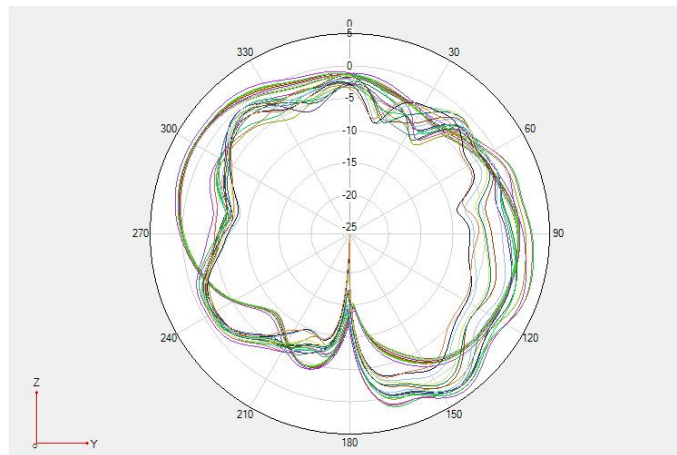


5850MHz

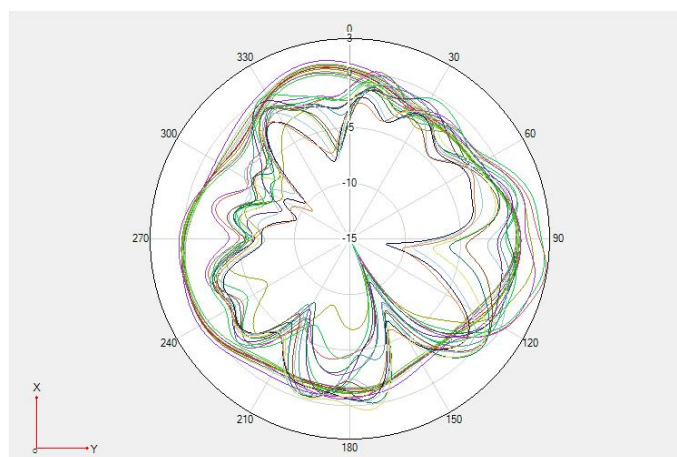
5-2 Antenna 2D Radiation Pattern



Phi 0 2D



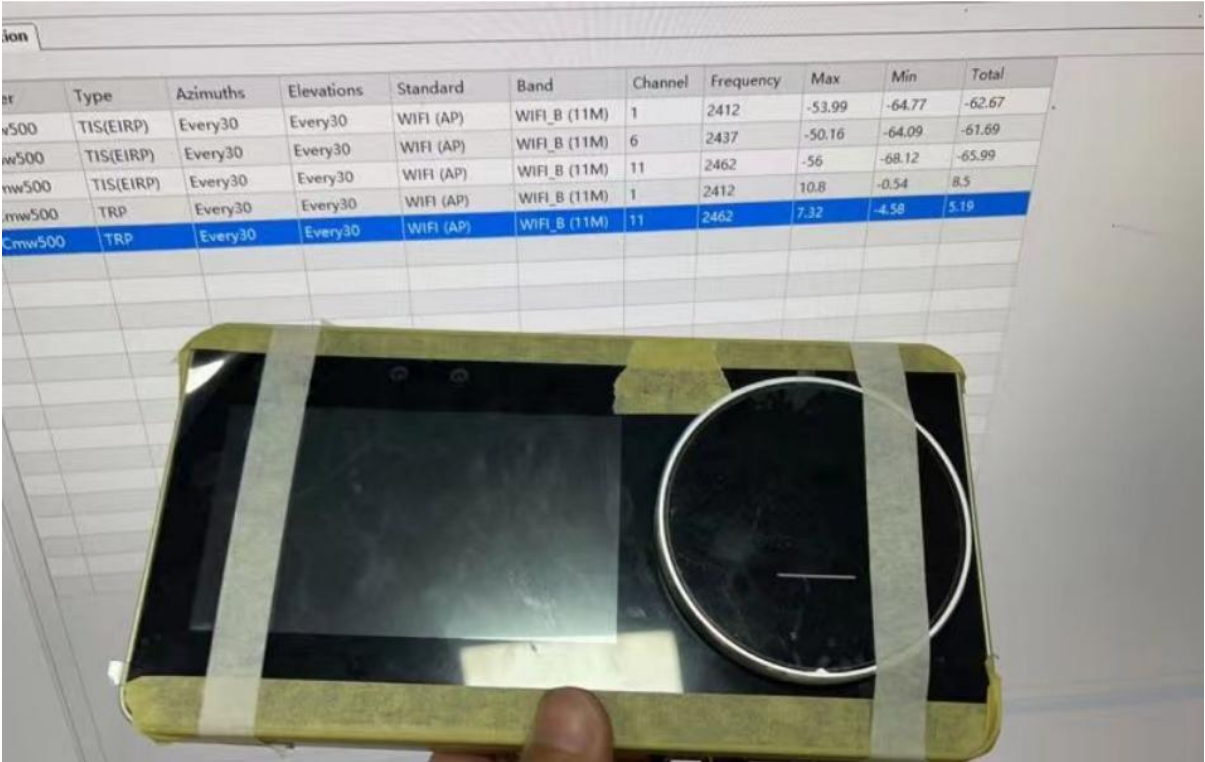
Phi 90 2D



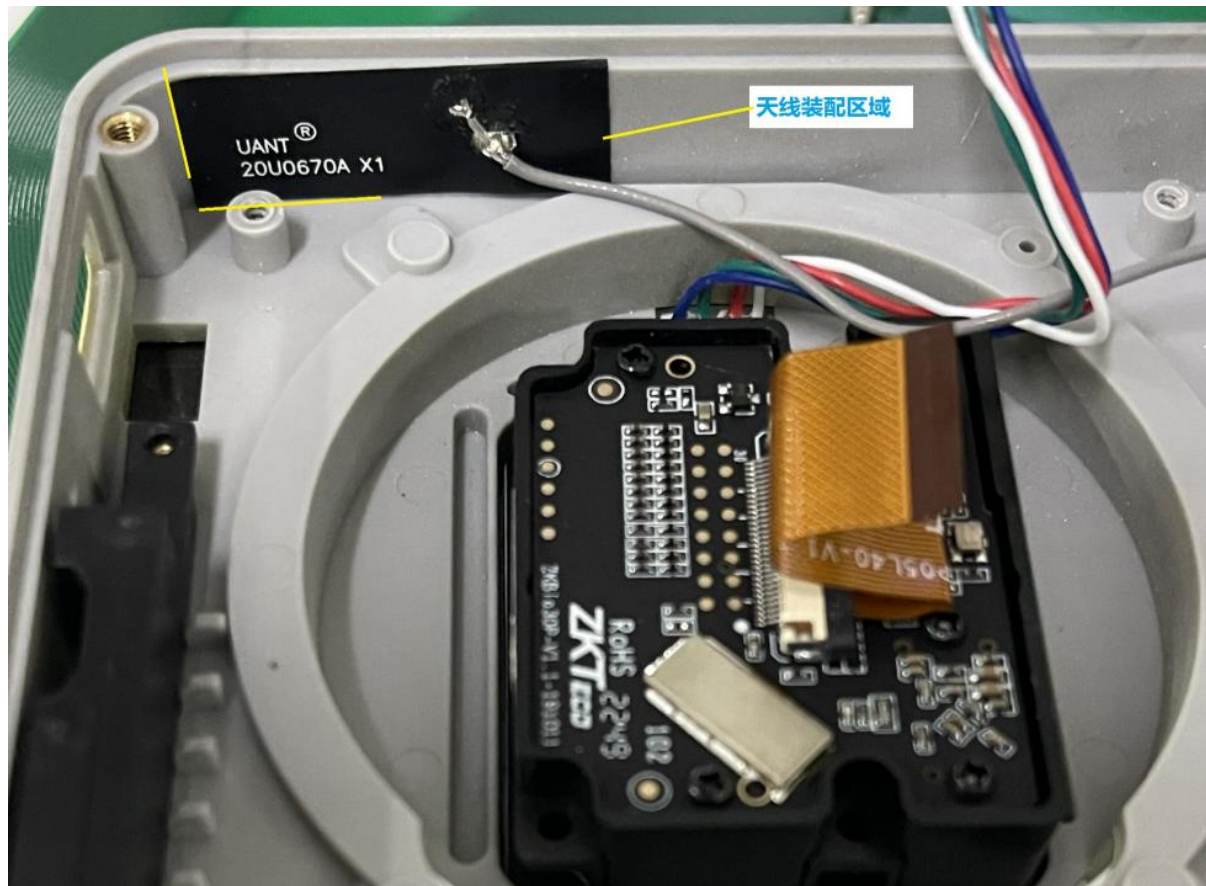
Theta 90

6.Active test data

Antenna complete machine test



7. Antenna installation diagram:



8. Mechanical Specification:

