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:	东莞市优比电子有限公司 工程专用章 Changxing.Liu	
DATE:	2023/07/7	

Modification History

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

Content

ltem ***Description***

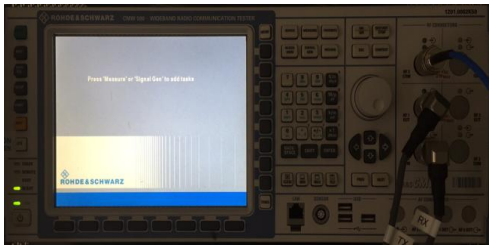
1.Electrical Specification:

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

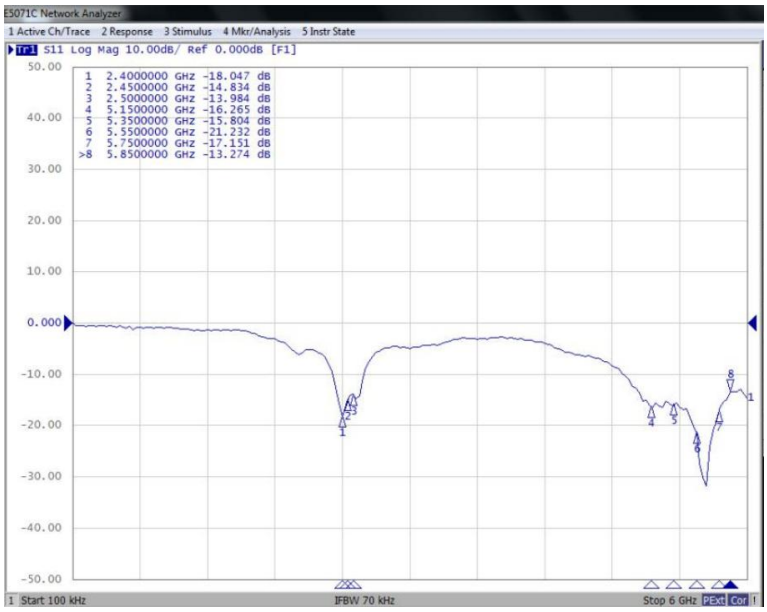
	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (5m*5m*5m) 2.Network analyzer (Agilent E5071B)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave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





3. S Parameter

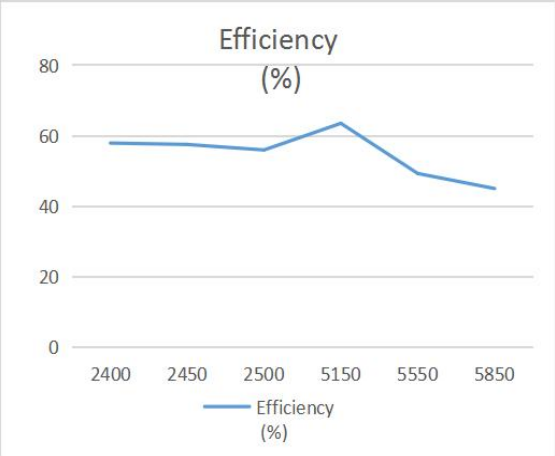
Frequency (MHz)	VSWR
2400	-18.04
2450	-14.83
2500	-13.98
5150	-16.26
5550	-21.23
5850	-13.27



* Voltage Standing Wave Ratio(VSWR)
  Return Loss(RL)
  RL=20*log10[(VSWR+1)/(VSWR-1)

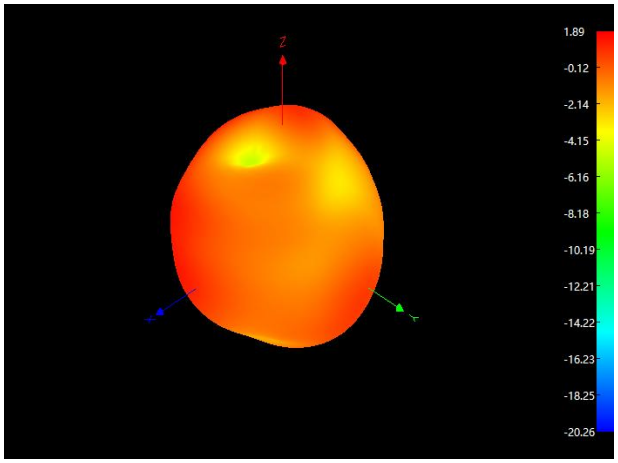
4. Efficiency and Gain

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

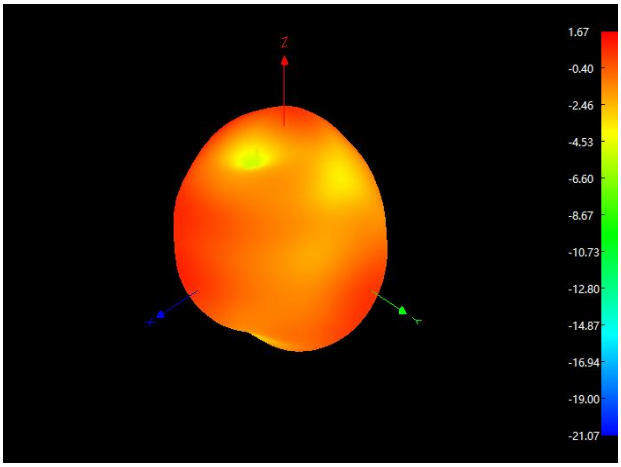


5. Radiation Pattern

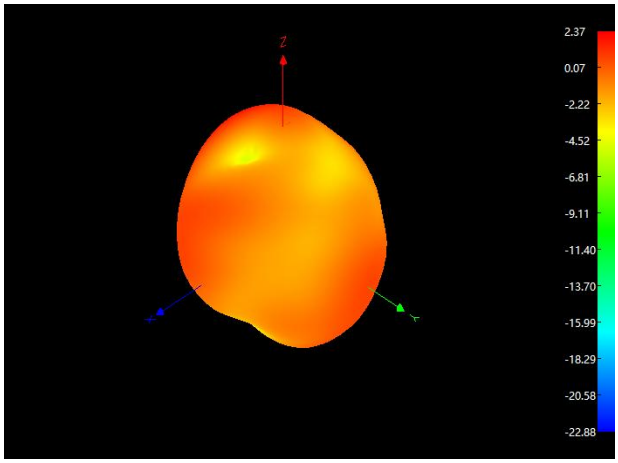
5-1 Antenna 3D Radiation Pattern



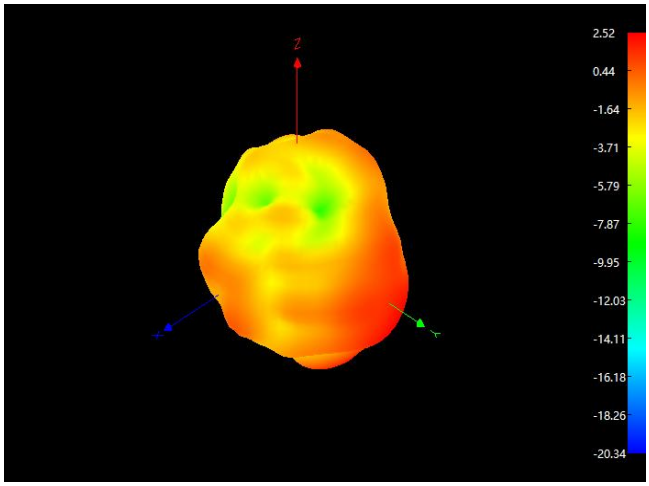
2400MHz



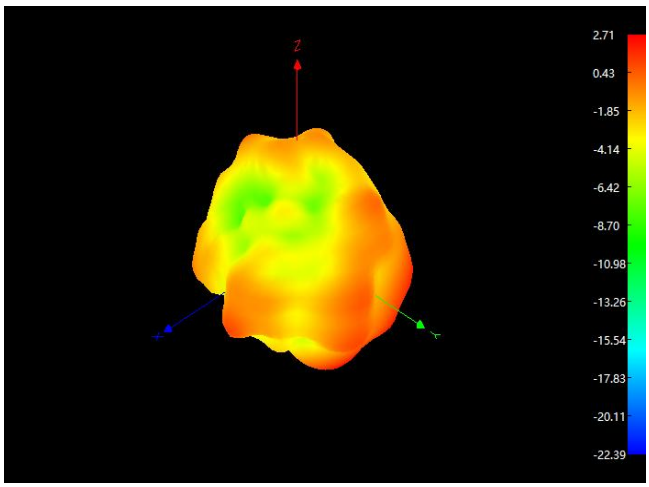
2450MHz



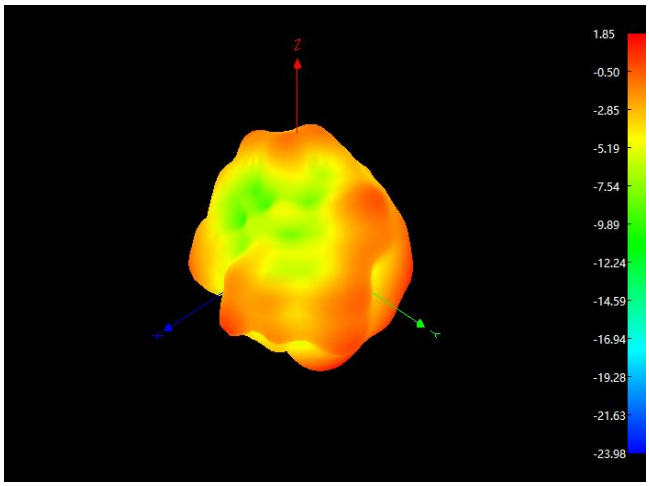
2500MHz



5150MHz

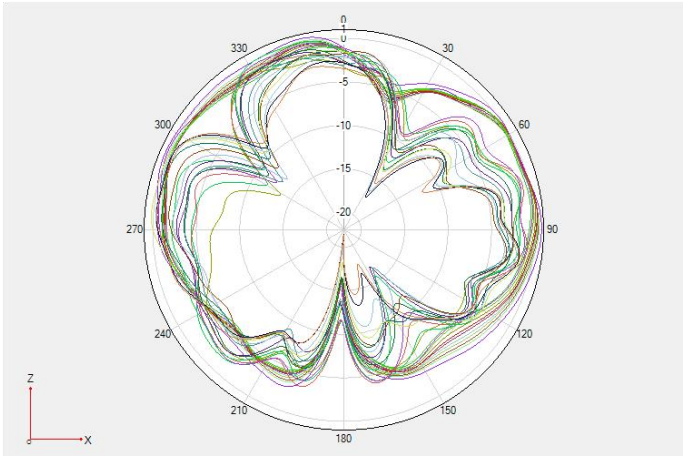


5550MHz

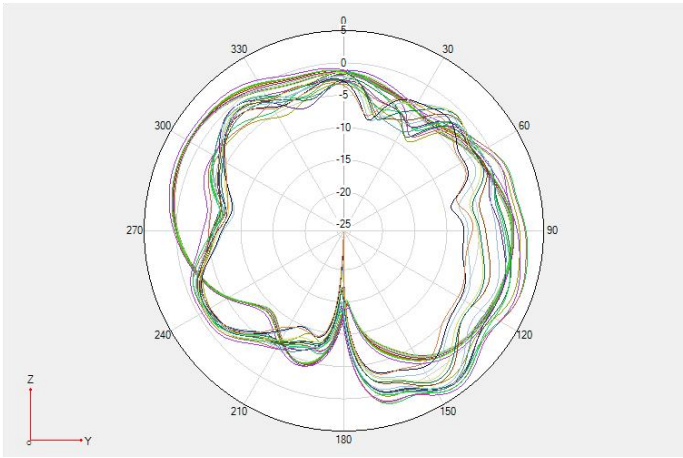


5850MHz

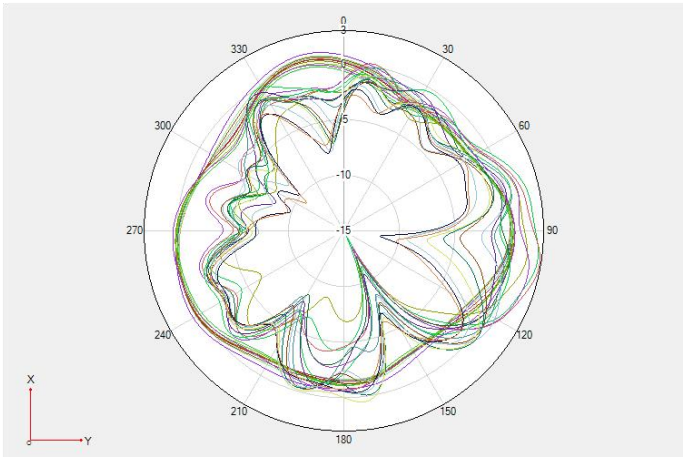
5-2 Antenna 2D Radiation Pattern



Phi 0 2D



Phi 90 2D



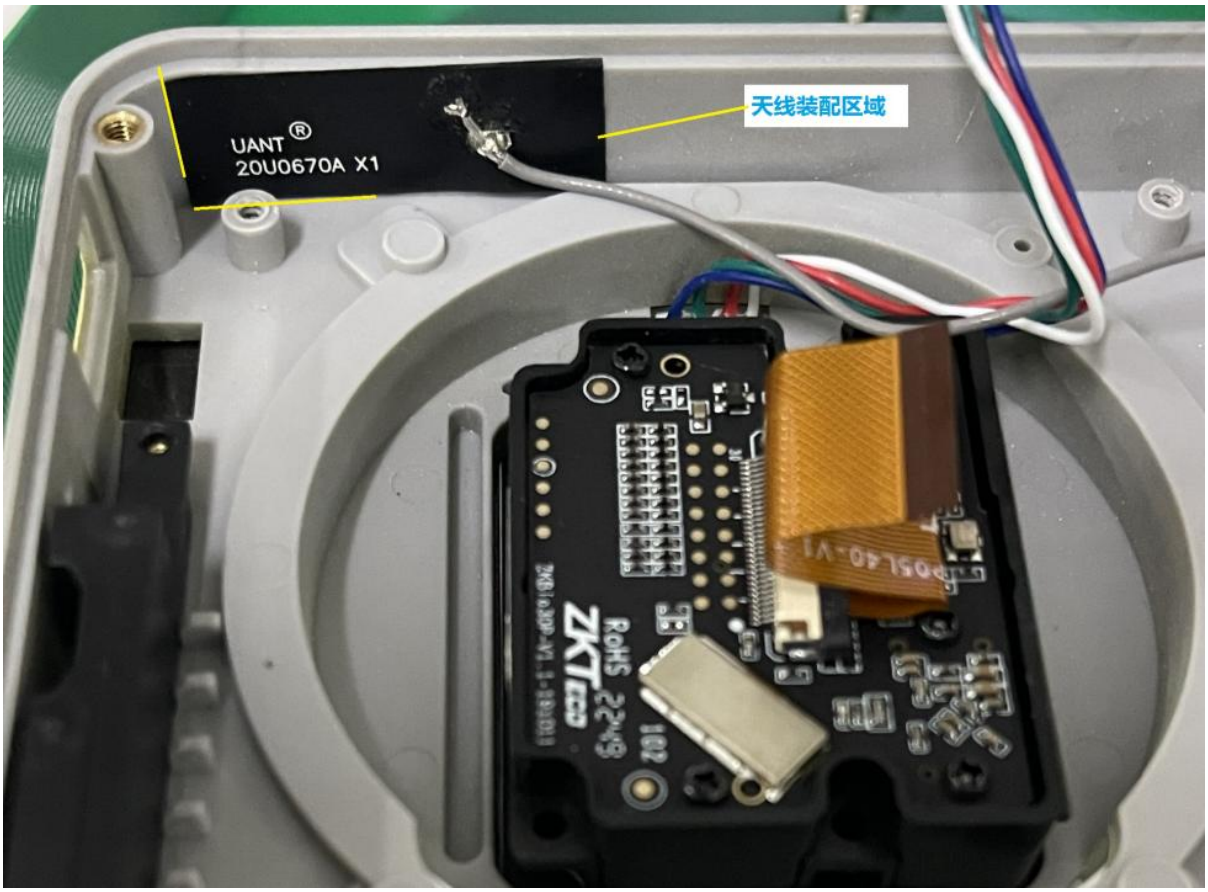
Theta 90

6.Active test data

Antenna complete machine test

Type	Azimuths	Elevations	Standard	Band	Channel	Frequency	Max	Min	Total
TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	1	2412	-53.99	-64.77	-62.67
TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	6	2437	-50.16	-64.09	-61.69
TIS(EIRP)	Every30	Every30	WIFI (AP)	WIFI_B (11M)	11	2462	-56	-68.12	-65.99
TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	1	2412	10.8	-0.54	8.5
TRP	Every30	Every30	WIFI (AP)	WIFI_B (11M)	11	2462	7.32	-4.58	5.19

7. Antenna installation diagram:



8. Mechanical Specification: