



好天线 · 优比造

东莞市优比电子有限公司

Dongguan Youbi Electronics Co., Ltd

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 FPC L=50mm

客 户 料 号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01C50F2D4495A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Eddy 	
APPROVED BY:	Changxing. Liu	
DATE:	2024/3/18	

Modification History

Version	Content Revision	Issued by	Date
A	Original version	Eddy	2024-3-18

Content

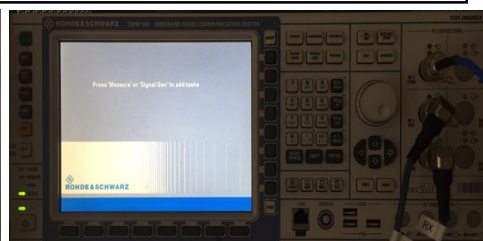
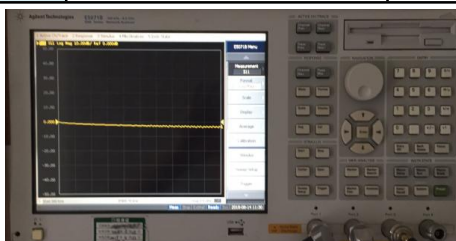
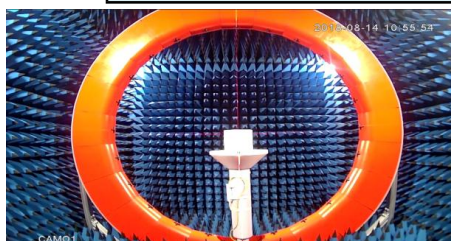
<i>Item</i>	<i>Description</i>
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1. Electrical Specification:

Characteristics	Specifications	Unit
Outline Dimensions	31x21.2,L50	mm
Frequency	2400-2500	MHz
Impedance	50	Ω
VSWR	< 2	
Polarization	Linear Polarization	
Gain	4.0	dBi
Efficiency	>40	%
Connector Type	MHF-1-Plug	
Operating temperature	-20℃~+85℃	
Storage Temp	-20℃~+50℃	

2. Test Items and Equipment

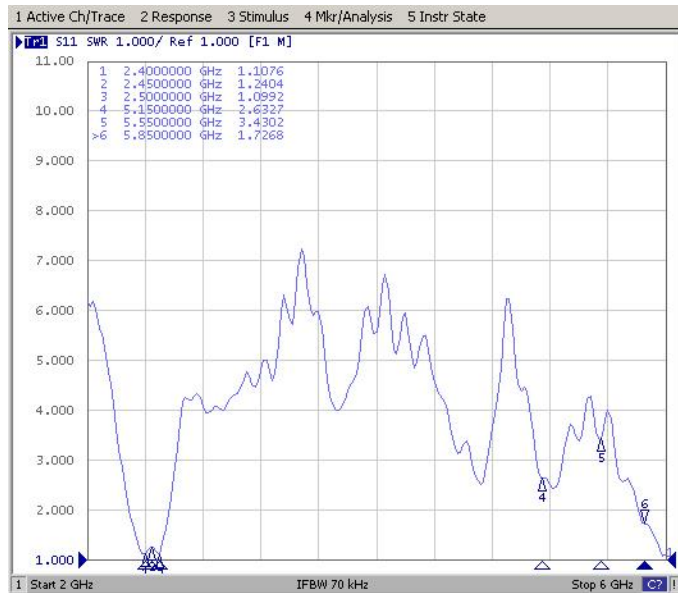
	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (5m*5m*5m) 2.Network analyzer (Agilent E5071B)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave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



3. S Parameter

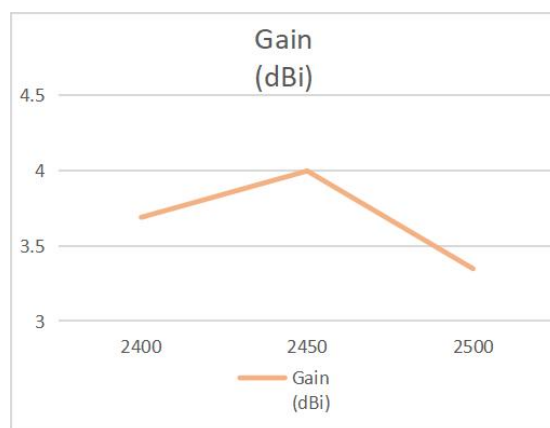
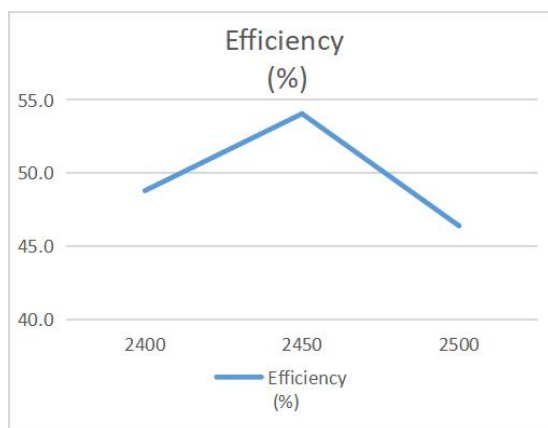
Frequency (MHz)	VSWR
2400	1.10
2450	1.24
2500	1.09

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



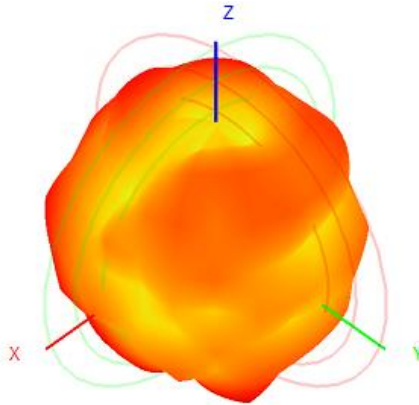
4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500
Efficiency (%)	48.79	54.05	46.38
Gain (dBi)	3.69	4.00	3.35

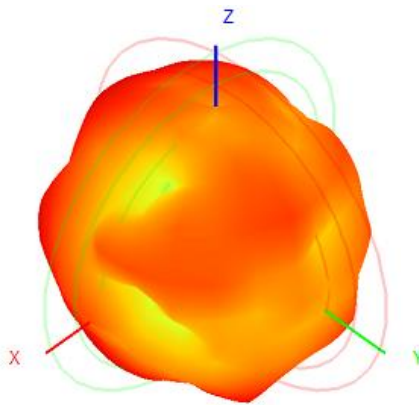


5. Radiation Pattern

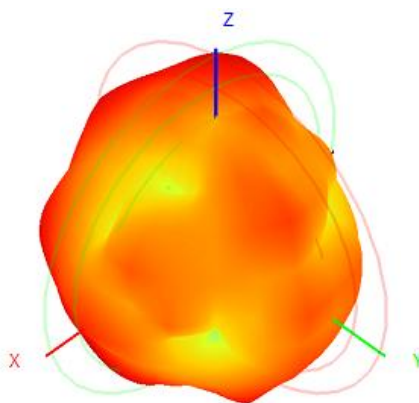
5-1 Antenna 3D Radiation Pattern



2400MHz

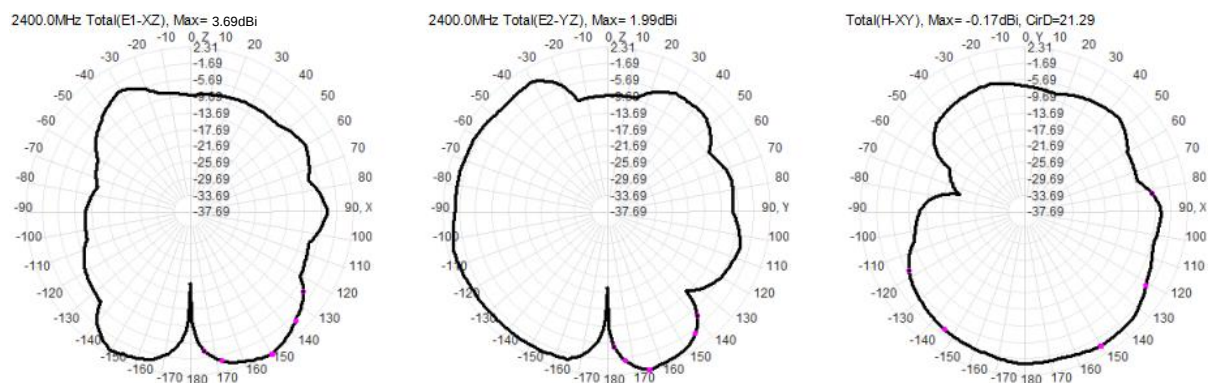


2450MHz

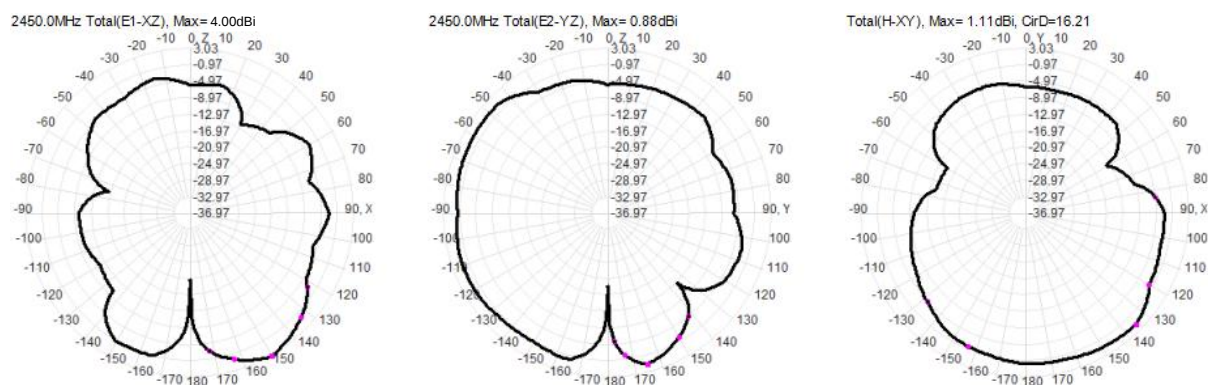


2500MHz

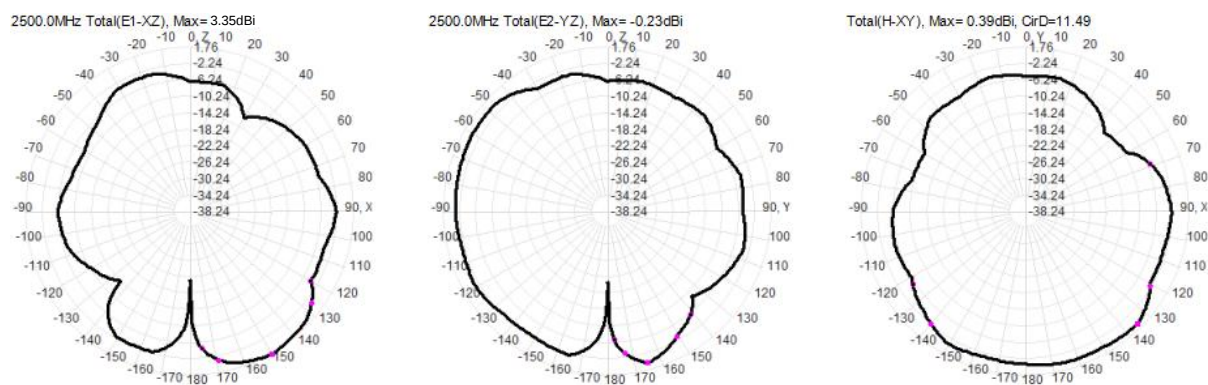
5-2 Antenna 2D Radiation Pattern



2400MHz

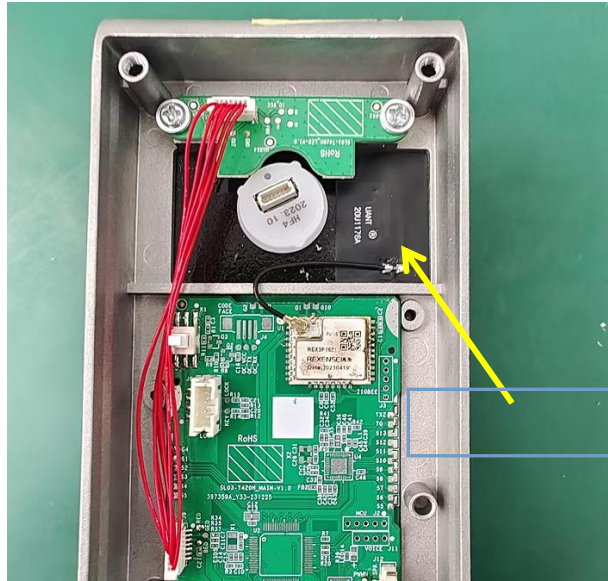


2450MHz



2500MHz

6. Antenna installation diagram



7.Mechanical Specification

