

APPROVAL SHEET

CUSTOMER NAME: TUYA

PRODUCT NAME: 2.4G FPC Inner Antenna L=70mm+terminal

UB Model : UB01C70F2D3102A REV: A

	<p>MANUFACTURER</p> <p>SIGNATURE</p>
CHECKED BY:	
APPROVED BY:	
DATE:	2023/05/18

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1. Specification table:

Electrical Specification	
Design Specifications	Types
Antenna Type	FPC Inner Antenna
Operating Frequency	2400-2500MHz
Peak Gain	3.36dBi
Average Efficiency	62.3%
VSWR	<3
Polarization	Linear
Axial Ratio	\
Radiation pattern	Omnidirectional
Impedance	50 ohm
Power handling	1W
Interface	Cable+terminal
Overall dimensions	25.3*21mm,L=70mm
Operating Temp.	-20°C~+70°C
Storage Temp.	-20°C~+70°C

2. Test Items and Equipment

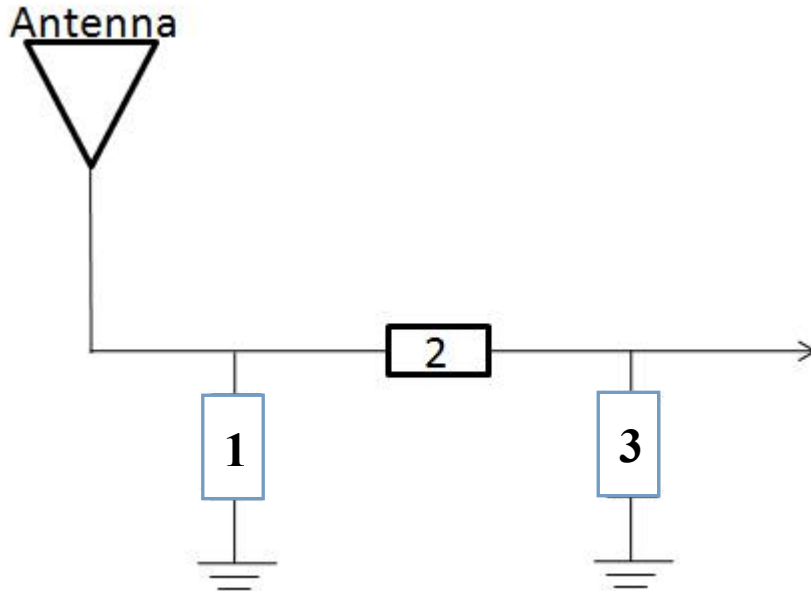
Name	Parameter	Method	Standard number
Mobile communication antenna	VSWR	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Gain		
	Radiation pattern		
Antenna performance	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979

2.1 Equipment list

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Network Analyzer	Agilent	E5071C	MY4631599 6	2022.08.25	2023.08.24
Radio Communication Tester	ROHDE&SCHWARZ	CMW500	0002K50-10 0844	2022.08.25	2023.08.24
Active Test Application	XH-IOE	TASuite V3.6.2			
Passive Test Application	XH-IOE	Pssive Test V2.7.0			
Passive Caculate Application	XH-IOE	TemradioDP			

4. test report:

Matching Circuits



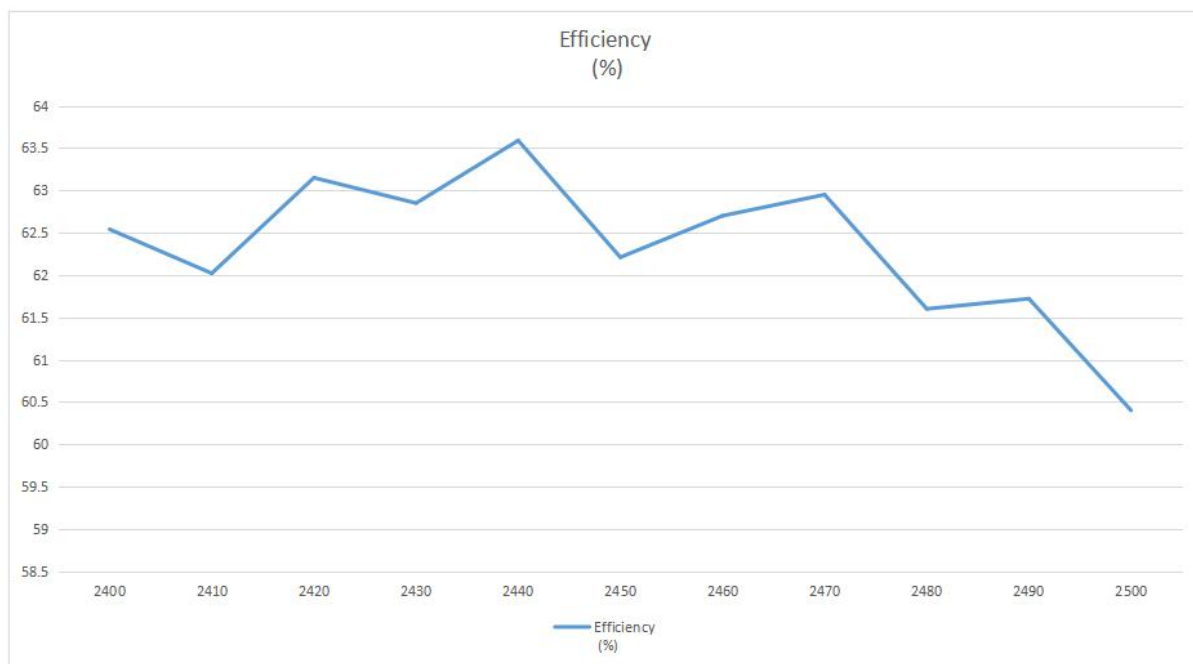
The Circuit matching system and components		
Location	Description	Tolerance
1	-	-
2	RES	0 Ω
3	-	-

4.1: S-Parameter

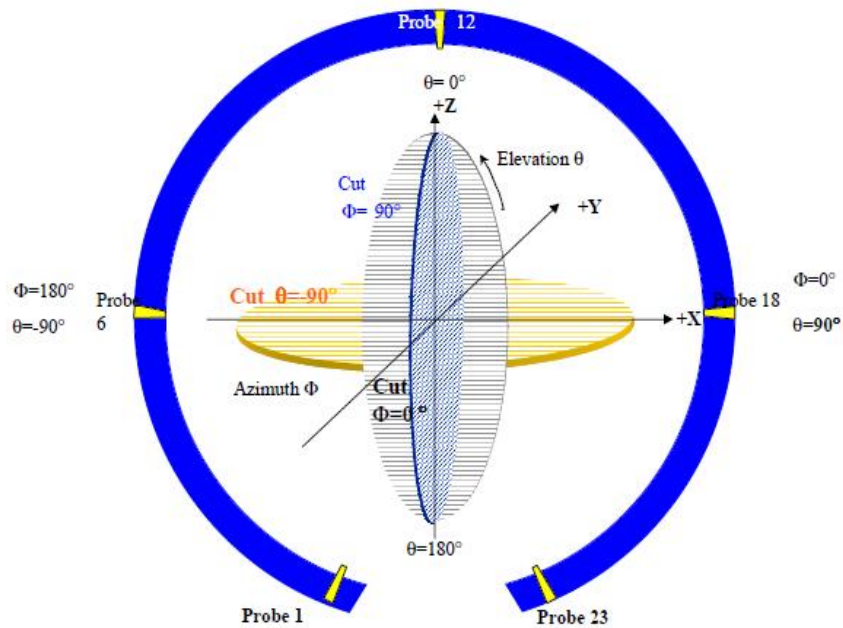


4.2: Efficiency and Gain

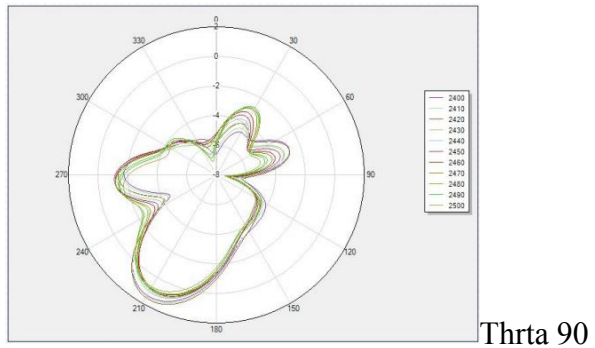
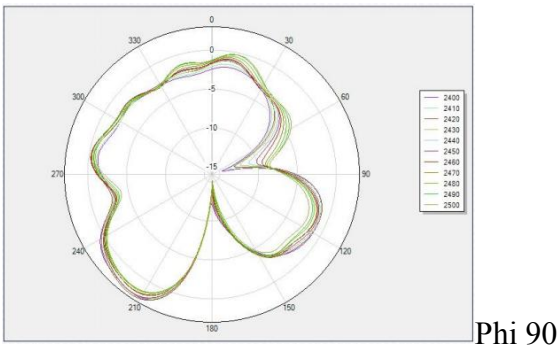
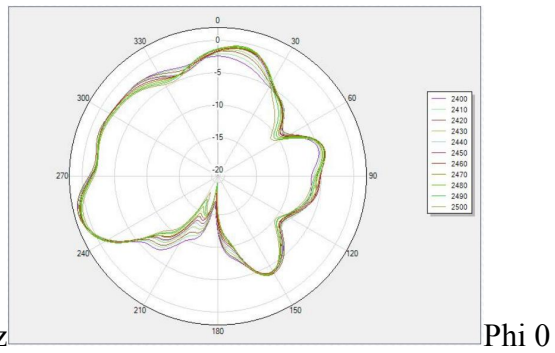
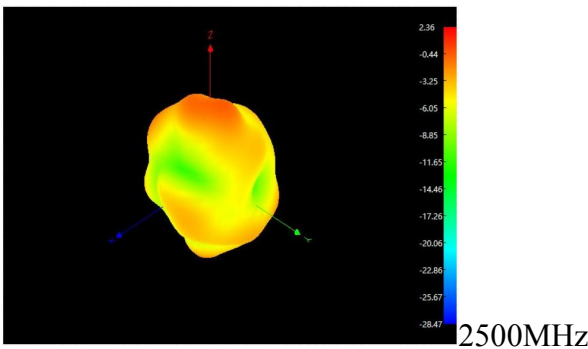
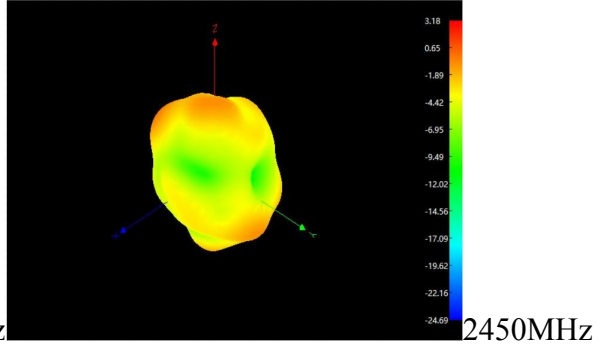
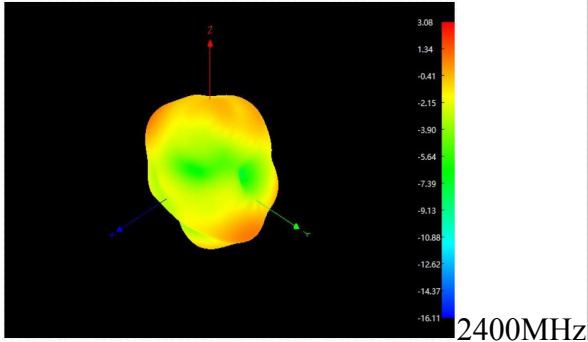
Frequency / MHz	Efficiency / %	Gain/ dBi
2400	62.54	3.08
2410	62.02	3.09
2420	63.15	3.36
2430	62.85	3.19
2440	63.59	3.12
2450	62.21	3.18
2460	62.7	2.82
2470	62.95	2.77
2480	61.6	2.41
2490	61.72	2.46



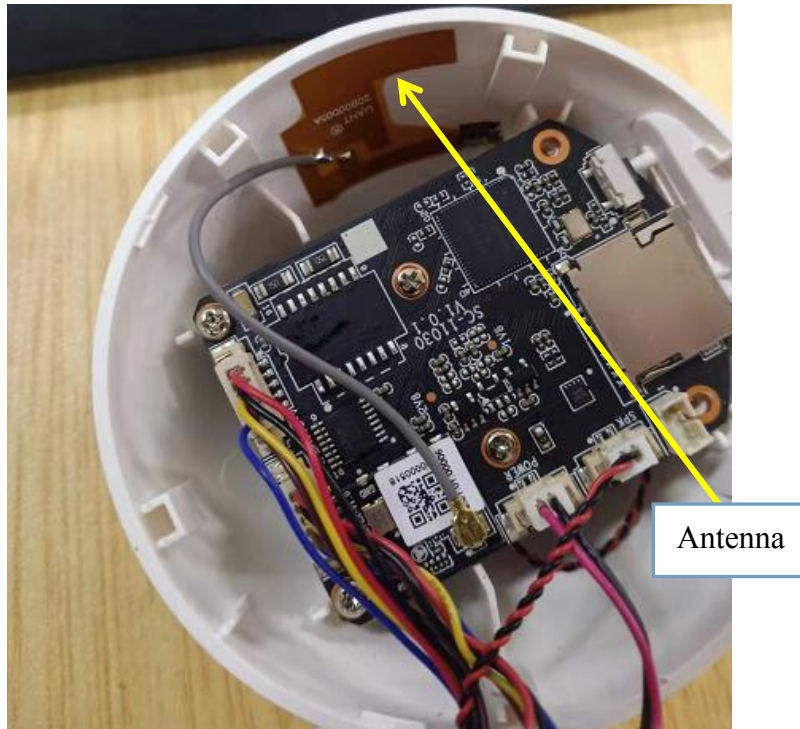
Darkroom coordinates



4.3: Antenna 2/3D Radiation Pattern



5. Antenna installation diagram



(Hand plate sample picture in the early stage, then changed to black ink)