

APPROVAL SHEET

CUSTOMER NAME: TUYA

PRODUCT NAME: 2.4G FPC Inner Antenna L=35mm+terminal

CUSTOMER P/N:

UB Model: UB01C35F3D3297A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:		
APPROVED BY:		
DATE:	2023/05/18	

Contents

<i>Item</i>	<i>Description</i>
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2.-----	Test Items and Equipment
3.-----	Mechanical Specification
4.-----	Test report
5.-----	Active test data
6.-----	Antenna installation diagram

1. Specification table:

Electrical Specification	
Design Specifications	Types
Antenna Type	FPC Inner antenna
Operating Frequency	2400-2500MHz
Peak Gain	3.79 dBi
Average Efficiency	53.16%
VSWR	<2
Polarization	Linear
Axial Ratio	\
Radiation pattern	Omnidirectional
Impedance	50 ohm
Power handling	1W
Interface	Cabel+terminal
Overall dimensions	38x6.5,L=35mm
Operating Temp.	-20°C~+85°C
Storage Temp.	-20°C~+50°C

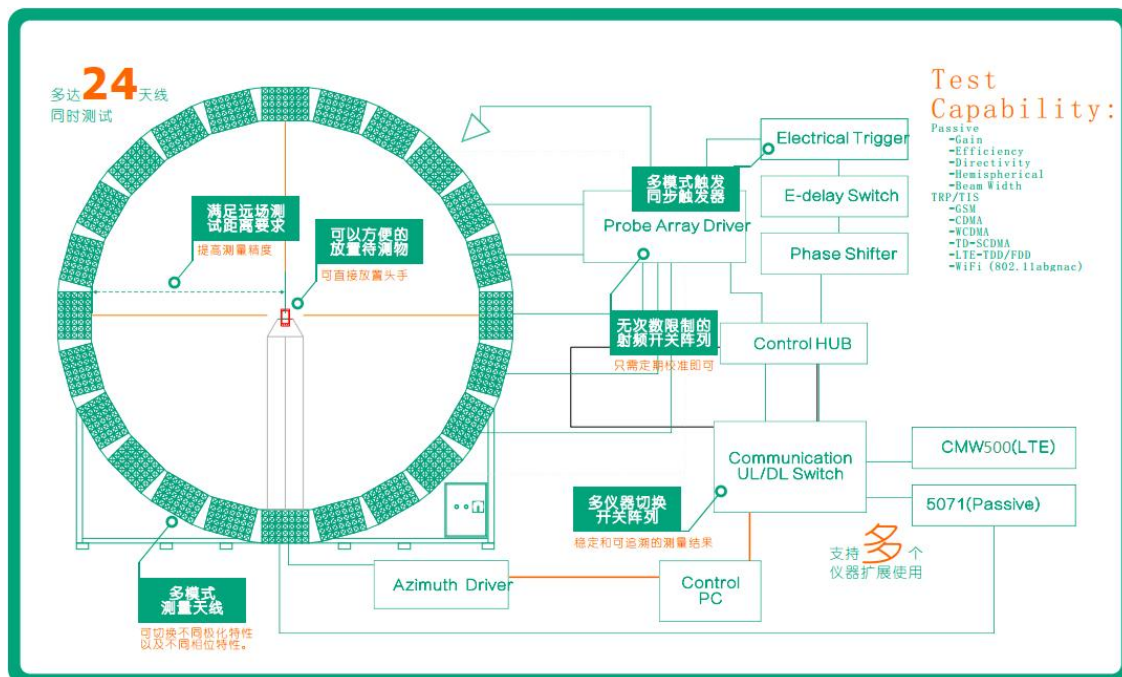
2. Test Items and Equipment

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			

2.2 Test configuration diagram

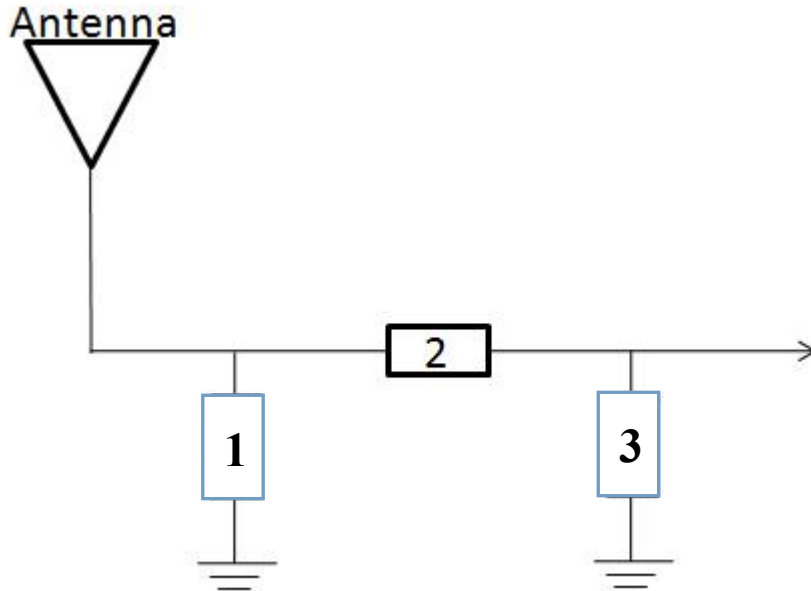


3. Mechanical Specification

Please refer set up photo

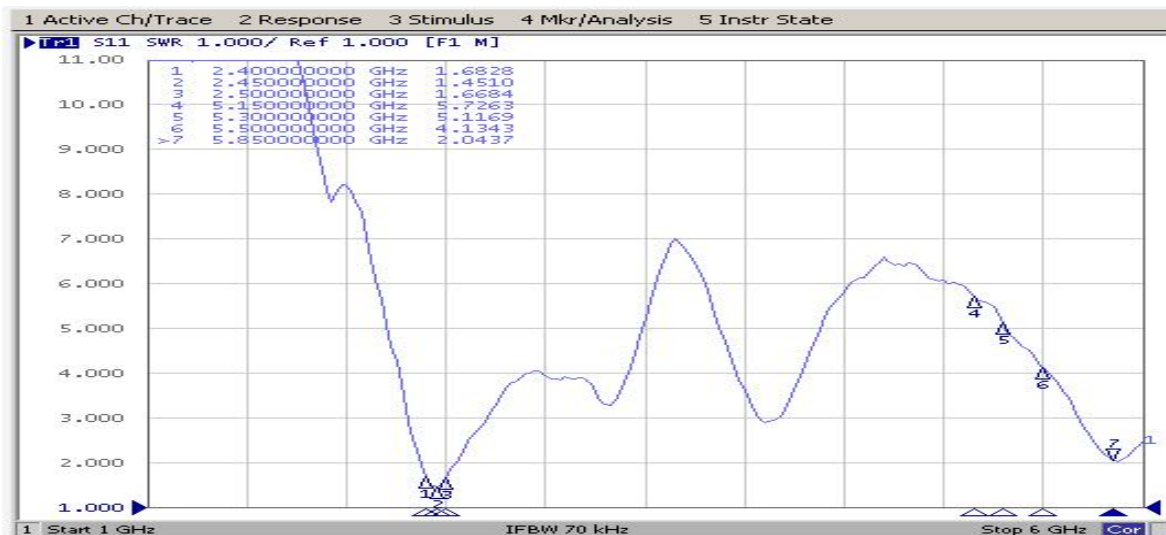
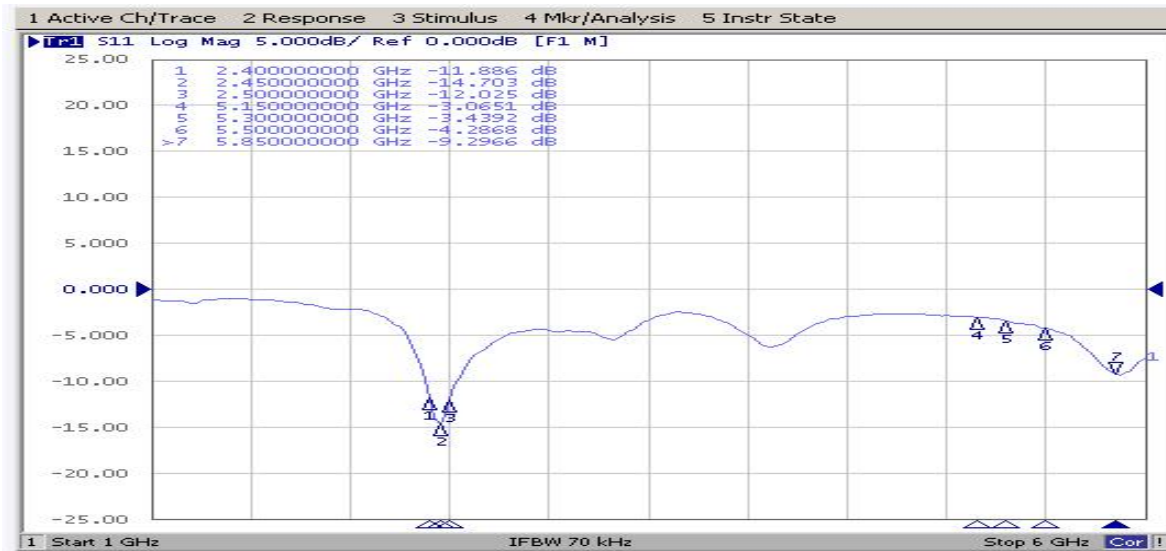
4. test report:

Matching Circuits



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

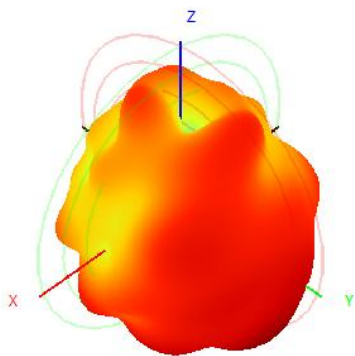
4.1: S-Parameter



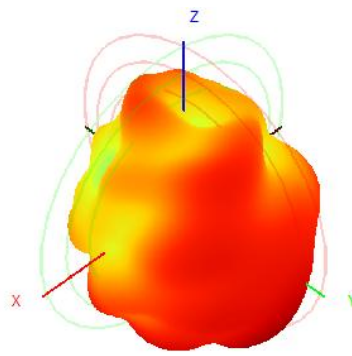
4.2: Efficiency and Gain

Frequency / MHz	Efficiency / %	Gain/ dBi
2400	53.03	2.98
2450	53.18	3.79
2500	53.14	3.3

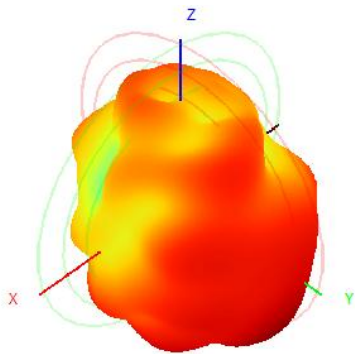
4.3: Antenna 2/3D Radiation Pattern



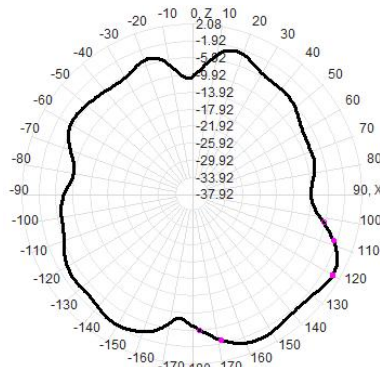
2400MHz



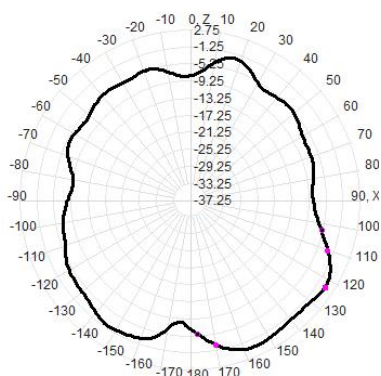
2450MHz



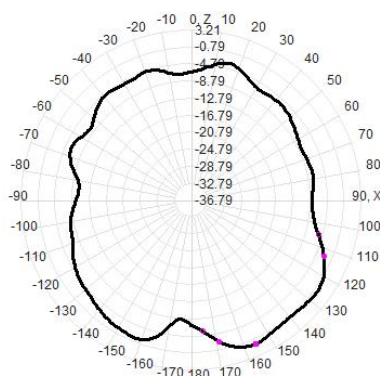
2500MHz



2400MHz



2450MHz



2500MHz

5.Active test data

Item	Measurement	Total
1	TRP	16.14
6	TRP	15.83
11	TRP	15.43
1	TIS(EIRP)	-86.62
6	TIS(EIRP)	-86.47
11	TIS(EIRP)	-84.91

6. Antenna installation diagram

Please refer set up photo

APPROVAL SHEET

CUSTOMER NAME: TUYA-SC022-BCI0

PRODUCT NAME: 433MHz Spring Antenna

CUSTOMER P/N:

UB Model: UB01NJ3D762A REV: A

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1. Specification table:

Electrical Specification	
Design Specifications	Types
Antenna Type	Spring Antenna
Operating Frequency	433MHz
Peak Gain	-10.36 dBi
Average Efficiency	4.15%
VSWR	<3
Polarization	Linear
Axial Ratio	\
Radiation pattern	Omnidirectional
Impedance	50 ohm
Power handling	1W
Interface	DIP
Overall dimensions	ϕ 4.0*20.9*0.5mm
Operating Temp.	-20°C~+70°C
Storage Temp.	-20°C~+70°C

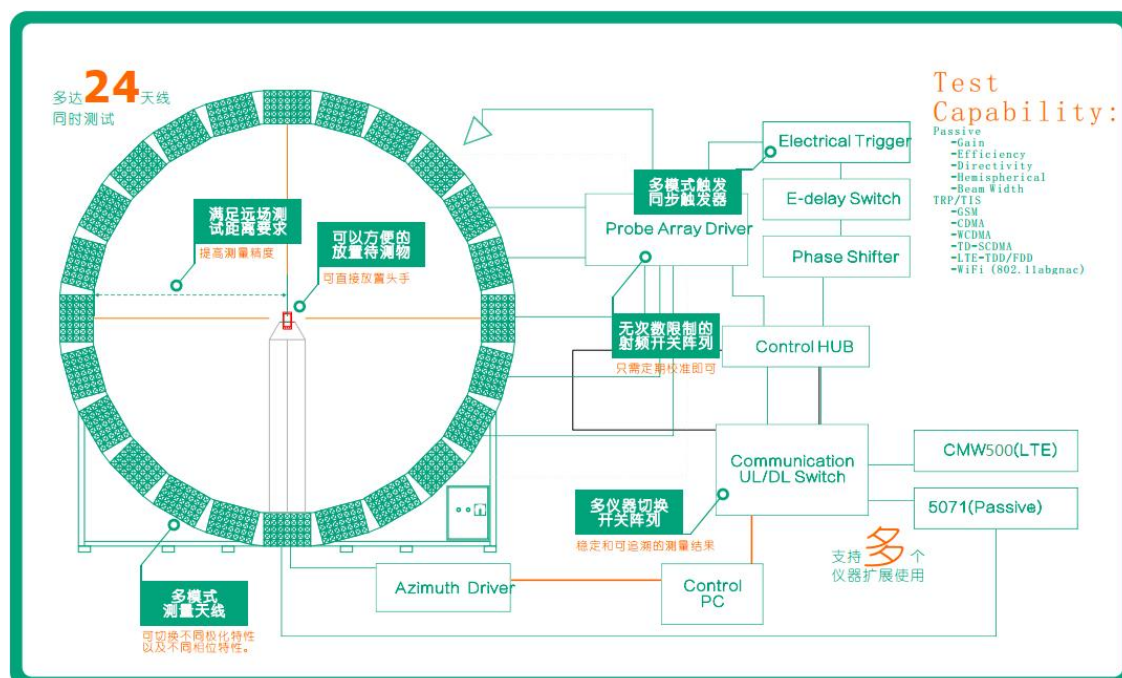
2. Test Items and Equipment

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

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Passive Caculate Application	XH-IOE	TemradioDP			

2.2 Test configuration diagram

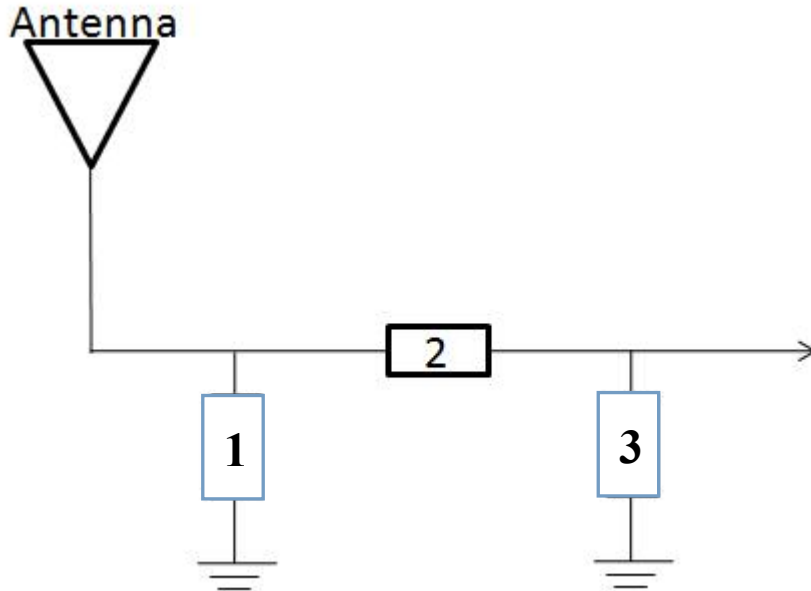


3. Mechanical Specification

Please refer set up photo

4. test report:

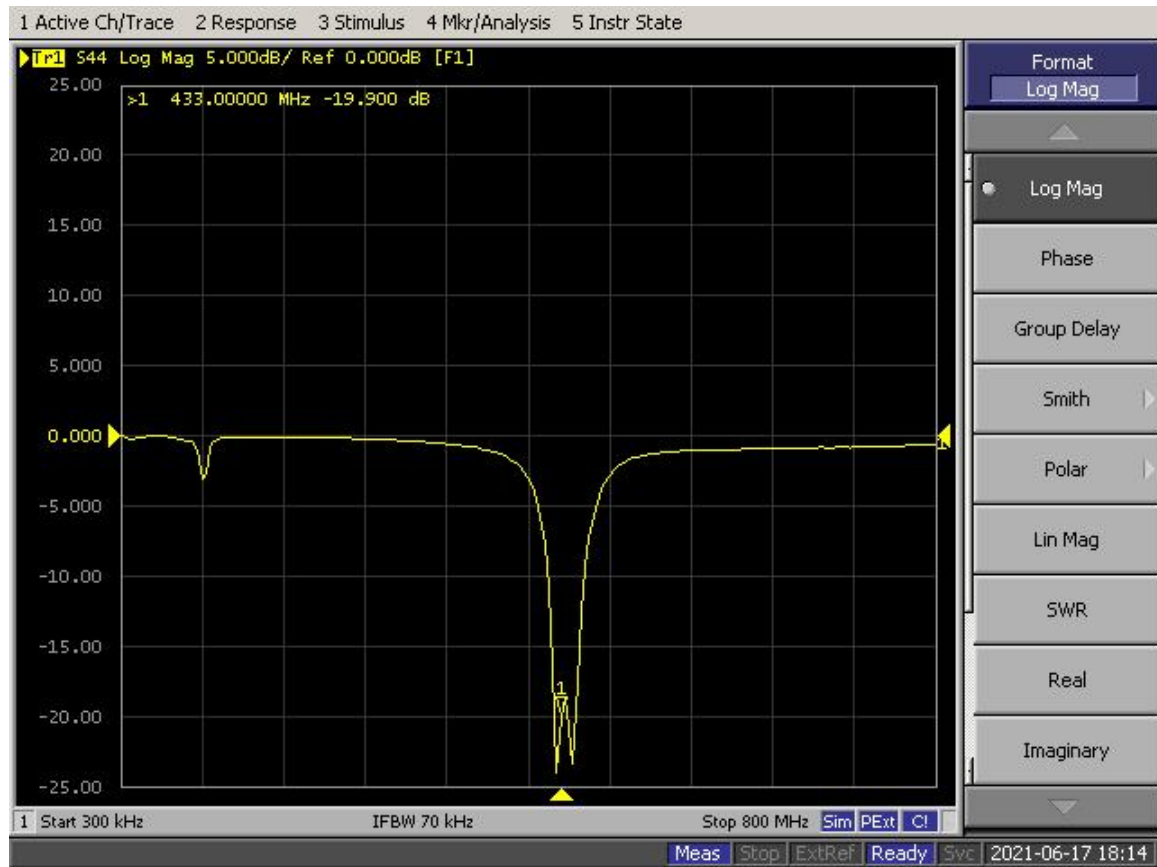
Matching Circuits



The Circuit matching system and components

Location	Description	Tolerance
1	-	-
2	RES	0 Ω
3	-	-

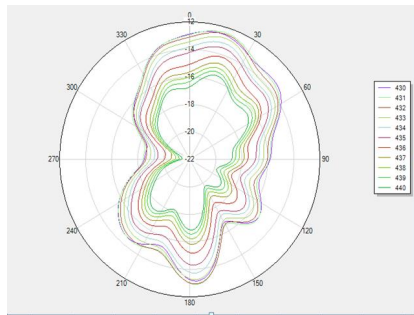
4.1: S-Parameter



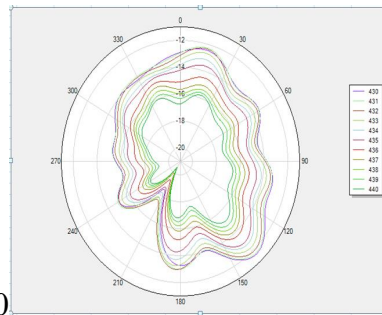
4.2: Efficiency and Gain

Frequency / MHz	Efficiency / %	Gain/ dBi
433	4.15	-10.36

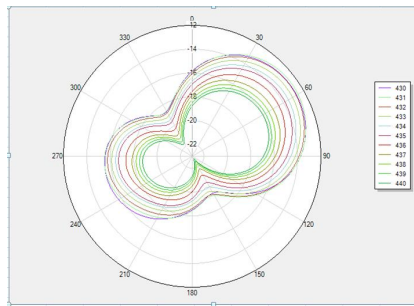
4.3: Antenna 2/3D Radiation Pattern



Phi 0



Phi 90



Theta 90