

Antenna Type: FPC Antenna  
Antenna Size: 42.mm(L)\*25mm(W)  
Antenna Manufacture: Yuan de  
Electronics (Shenzhen) Co., LTD  
Model Number: 136-AOCA3-10A

SAMPLE APPROVAL SHEET

Part information:

Material Description	AOC A3 BT antenna
Customer's Part number	
Specifications	AOC A3 BT antenna: FPC (L42*W25mm) +Black coaxial line (φ1.13*110mm) +seal+bonding pad UV
Supplier's Part number	136-AOCA3-10A
Date	2023-2-13

# 1 specification

This report mainly provides the test status of various electrical and structural performance parameters of antenna AOC A3 BT



图 1 antenna

## 1.1 Electrical specification standard

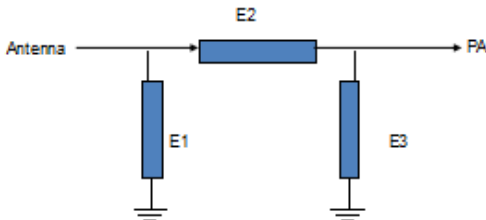
### 1.1.1 Electrical performance index

The antenna operates on a frequency band 2400-2480MHz

The following table is the electrical performance index of our designed antenna.

antenna	AOC A3 BT antenna
frequency band	2400-2480MHz
SWR	< 2
efficiency	> 50%
impedance	50 ohm
polarization mode	linear polarization

### 1.1.2 Match the circuit diagram



Element	Value
E1(0402)	N/A
E2(0402)	OR
E3(0402)	N/A

## 2 test

Antenna commissioning and testing with the prototype provided by the customer.

### 2.1 Test the passive S11

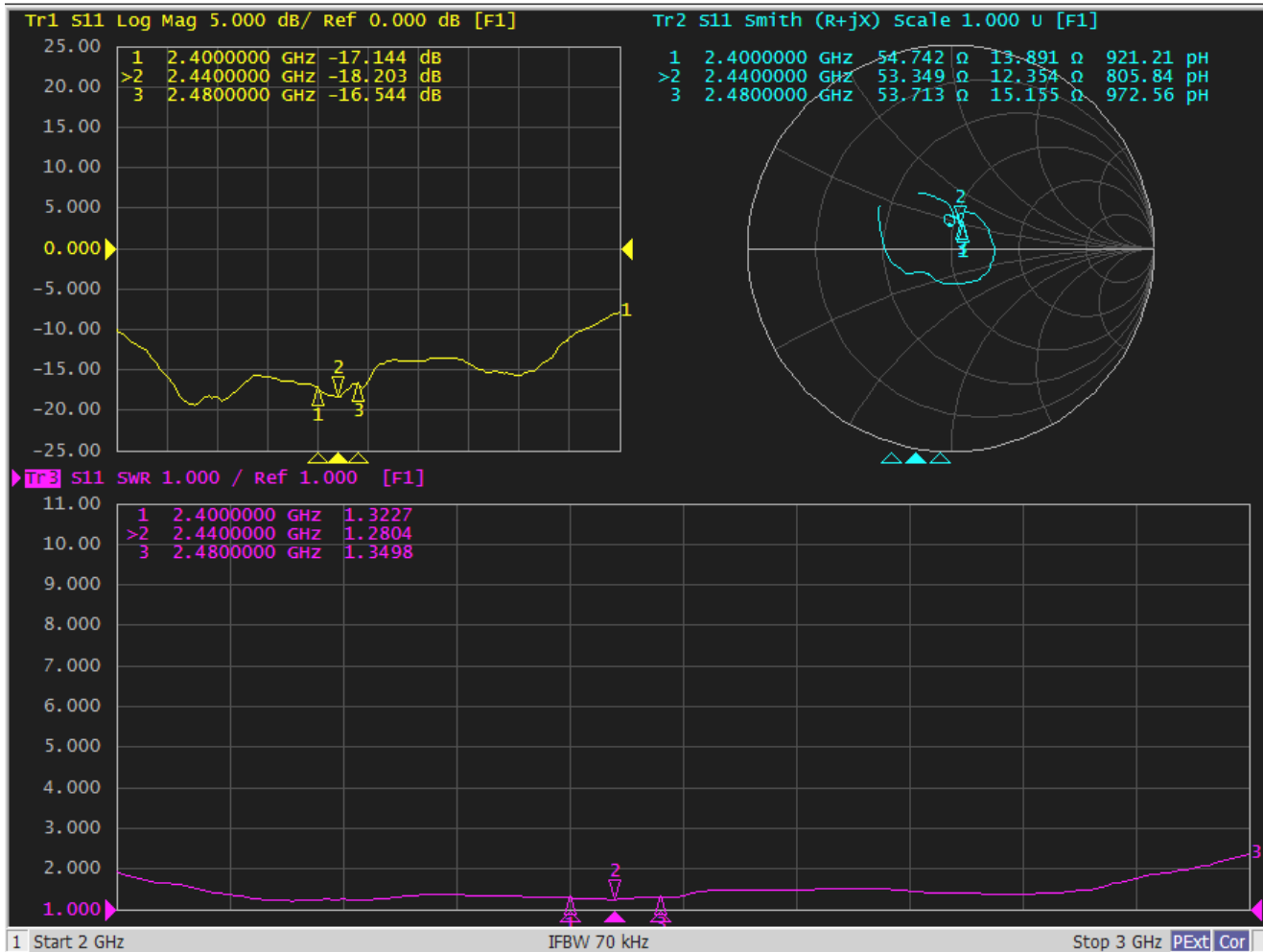
#### 2.1.1 test connection

The passive S11 test device is connected in turn: network analyze → test line → test fixture

#### 2.1.2 Passive S11

The following table shows the value of standing wave ratio of the frequency points at the edge of the working band of the antenna. ReturnLoss and VSWR related waveforms obtained from the test are shown in the figure below.

AOC A3 BT antennaS11			
MHz	2400	2440	2480
VSWR	1.32	1.28	1.34
Return Loss	-17.14	-18.20	-16.54



## 2.2 Measurement of gain and efficiency

### 2.2.1 Test site

Yuande microwave anechoic chamber: Test frequency range is 400MHz - 6GHz

### 2.2.2 Instrument for testing

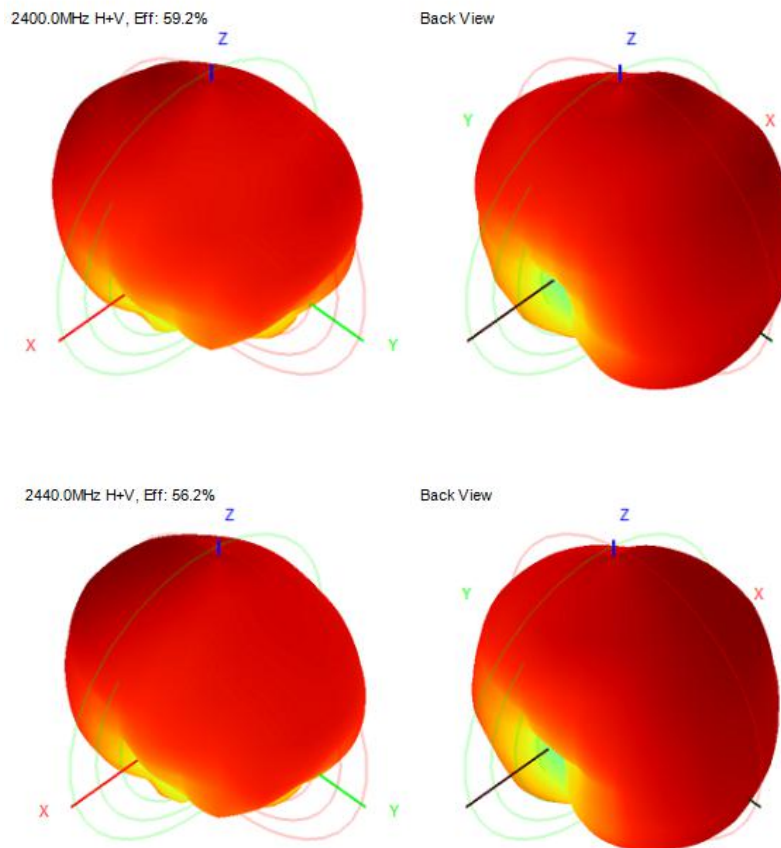
Network analyzer, standard horn antenna, multi-probe near-field antenna test system, test computer, etc.

### 2.2.3 test result

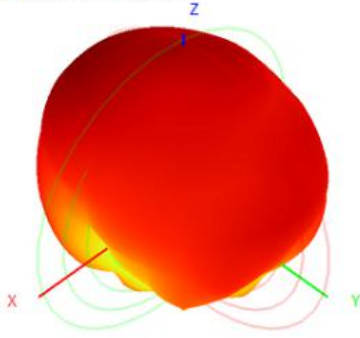
In the microwave darkroom, the values related to efficiency and gain measured are shown in the table below

Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	2.44	59.21
2410	2.20	55.75
2420	2.52	59.63
2430	2.17	56.66
2440	2.01	56.18
2450	2.26	58.73
2460	2.00	54.94
2470	2.22	58.54
2480	2.00	56.09
2490	2.08	57.56
2500	2.14	59.83

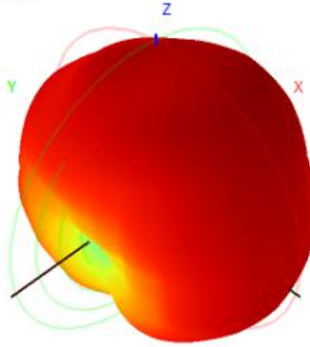
### 2.2.4 Passive radiation direction diagram



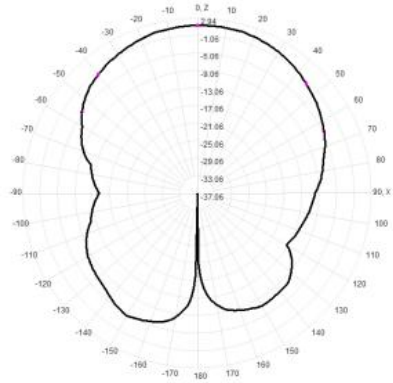
2480.0MHz H+V, Eff: 56.1%



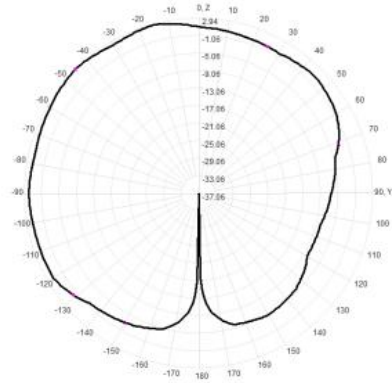
Back View



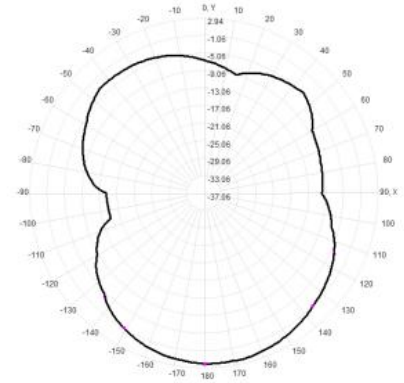
2400.0MHz Total(E1-XZ), Max= 1.26dBi



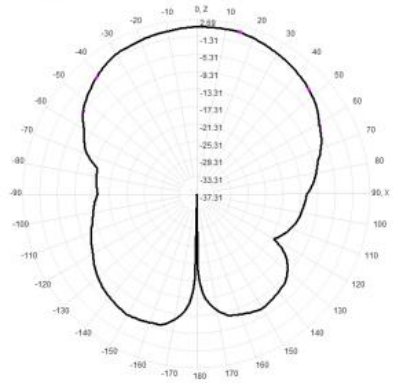
2400.0MHz Total(E2-YZ), Max= 2.94dBi



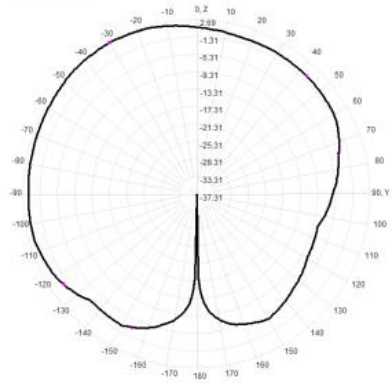
Total(H-XY), Max= 1.81dBi, CirD=16.79



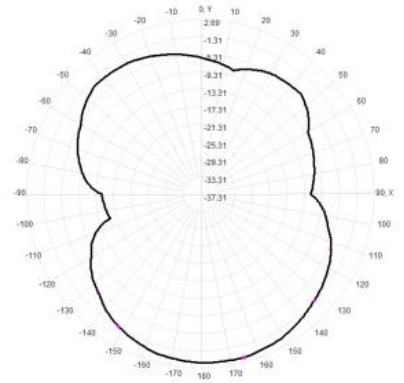
2440.0MHz Total(E1-XZ), Max= 1.05dBi



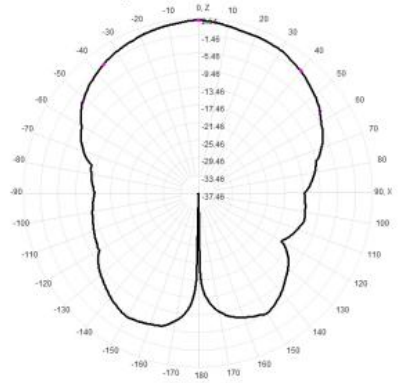
2440.0MHz Total(E2-YZ), Max= 2.69dBi



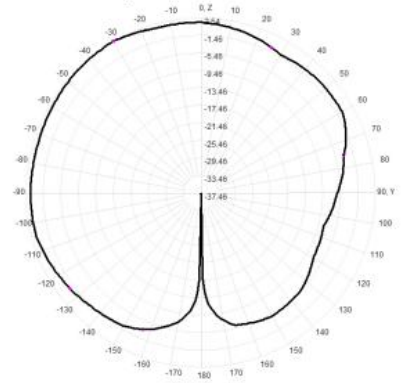
Total(H-XY), Max= 1.37dBi, CirD=17.17



2480.0MHz Total(E1-XZ), Max= 2.05dBi



2480.0MHz Total(E2-YZ), Max= 2.54dBi



Total(H-XY), Max= 1.46dBi, CirD=19.14

