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Shenzhen Yuchen Technology Co., Ltd.

## SPECIFICATION FOR APPROVAL

CUSTOMER : Xu lian

CUSTOMER P/N : ANT-WD1401-T01

OUR MODEL NO : A1022M0001.WI-AR

SPECIFICATIONS : WD1401 Transmitter-end antenna

**QTY :** **1**

Date: 2021-11-11

Shenzhen Yuchen Technology Co., Ltd			Customer
RF	Structural	Approved	Signature (seal)
Wang Jiaxi	Zhou Lei	Dai Wen zhen	

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1 . antenna loading coil

The customer was originally matched No changed

2. Antenna parameters

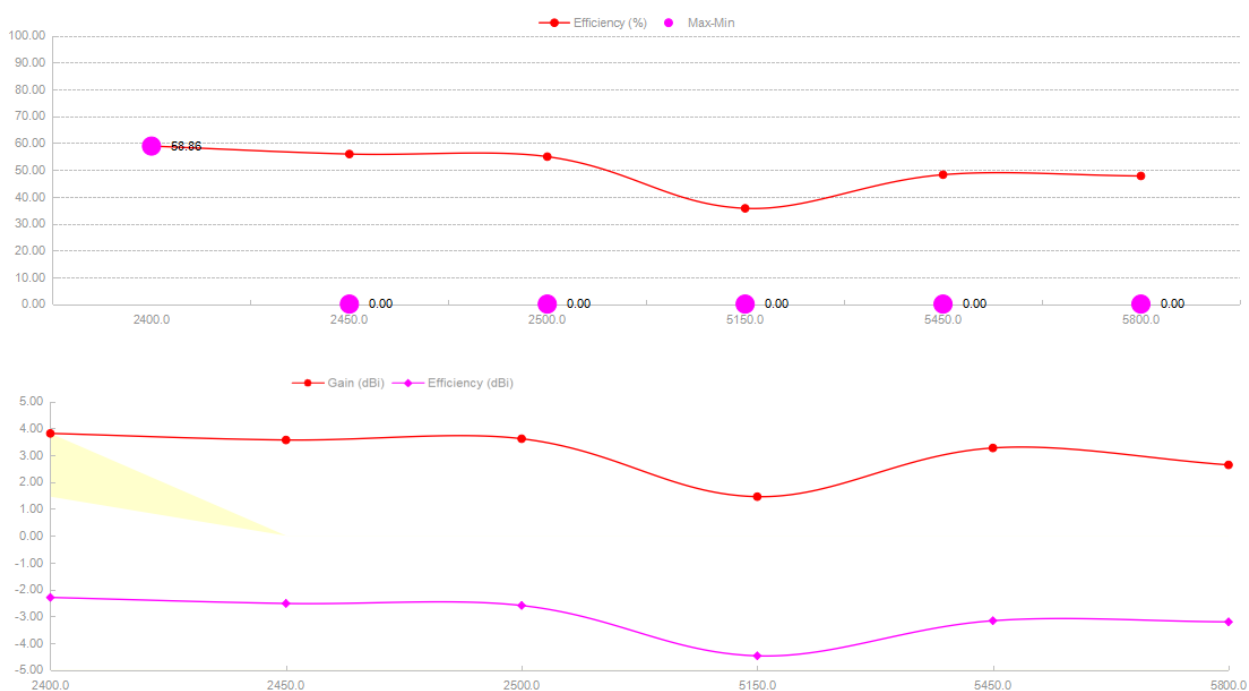
Main technical indicators of the transmitter antenna	
frequency range (MHz )	2400-2500, 5125-5850
characteristic impedance ( $\Omega$ )	50
Peak Gain (dBi)	<b>3.0, 3.0</b>
voltage standing-wave ratio	$\leq 2.5, \leq 3.0$
maximum power	10W
Antenna form	Monopole
Antenna material	argentan
Antenna connection mode	weld

### 3. test report

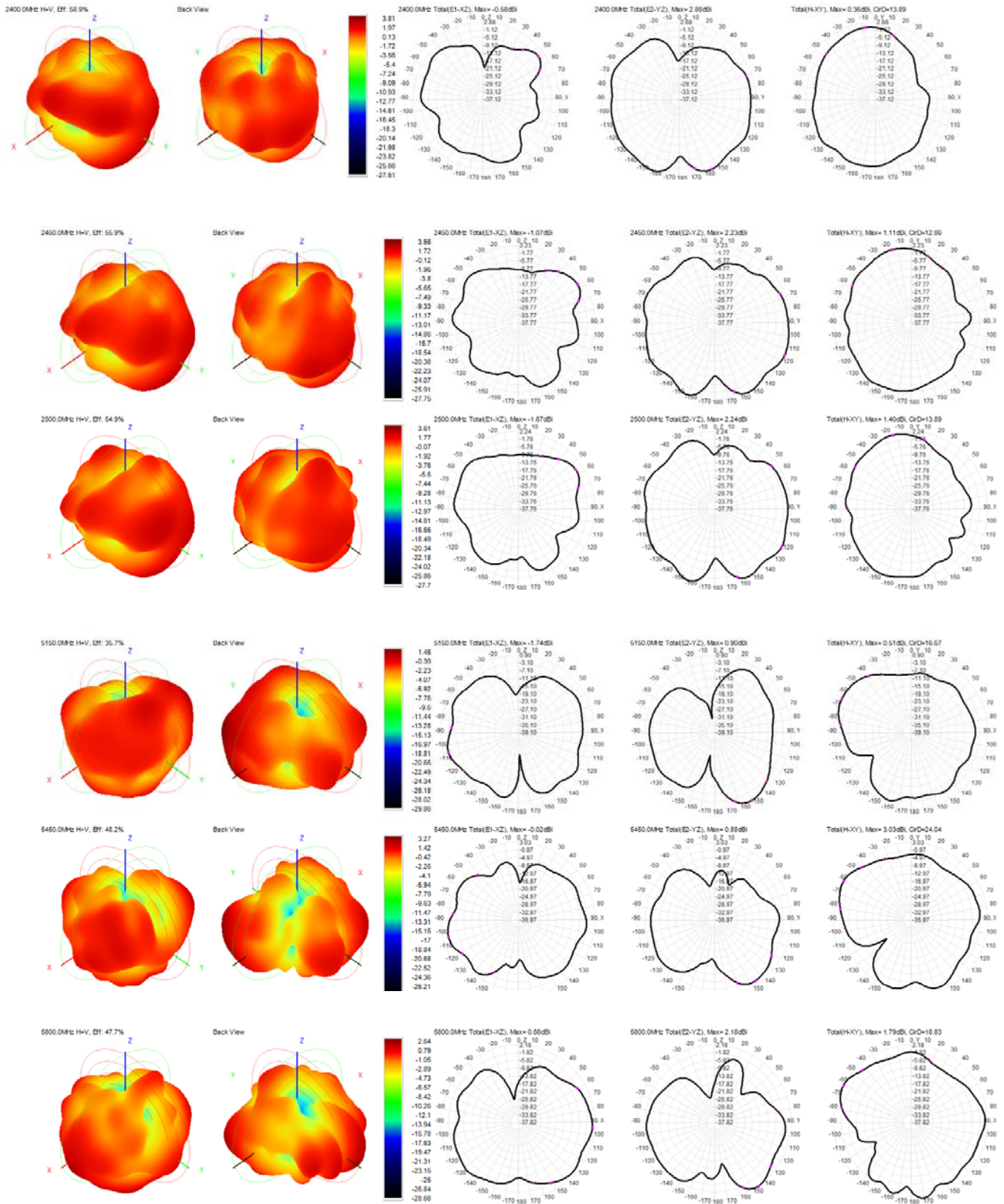
#### 3.1. Passive gain, efficiency

Frequency ID	1	2	3	4	5	6
Frequency (MHz)	2400.0	2450.0	2500.0	5150.0	5450.0	5800.0
Efficiency (dBi)	-2.30	-2.53	-2.60	-4.48	-3.17	-3.21
Gain (dBi)	3.81	3.56	3.61	1.45	3.27	2.64
Efficiency (%)	58.86	55.89	54.92	35.66	48.20	47.73
Directivity (dB)	6.11	6.09	6.21	5.93	6.44	5.85
Peak Gain Position (Theta)	155.00	122.00	123.00	151.00	98.00	136.00
Peak Gain Position (Phi)	308.00	115.00	118.00	80.00	150.00	151.00
Efficiency ThetaPol (%)	27.18	27.19	26.40	13.72	16.28	18.85
Efficiency PhiPol (%)	31.68	28.70	28.52	21.95	31.92	28.88
Upper Hem. Efficiency (%)	24.78	24.85	25.67	16.38	19.92	15.61
Lower Hem. Efficiency (%)	34.09	31.05	29.25	19.28	28.28	32.12
T90(H)圆度	13.89	12.86	13.89	16.67	24.04	18.83
Gain 15deg (dBi)						
E1(XZ)波瓣宽度	24.00	32.00	32.00	39.00	36.00	91.00
E1(XZ)前后比	1.78	1.47	2.26	3.03	3.47	2.87
E2(YZ)波瓣宽度	96.00	98.00	109.00	31.00	38.00	28.00
E2(YZ)前后比	0.00	0.11	0.72	0.00	0.21	0.60
最大增益处轴比(P)	3.15	13.73	11.64	4.09	12.86	11.56
仰角10度最差(大)轴比(P)	49.52	52.29	64.09	19.88	60.54	23.13
Hc(XY)波瓣宽度	63.00	71.00	64.00	47.00	38.00	35.00
Hc(XY)前后比	2.71	2.65	2.34	2.97	2.38	0.15
左旋圆极化效率(%)	29.25	31.77	31.09	4.43	20.69	9.22
右旋圆极化效率(%)	29.62	24.12	23.84	31.23	27.51	38.51

#### 3.2 Plot



### 3.3 Field pattern



#### 4. Modulconduction test (copper pipe test)

test pattern	Transmitting end 11a (54M)		
channel			CH165
TX			12.41
RX			/

#### 5. Active test data

test pattern	Transmitting end 11a (54M)		
channel			CH165
TRP			10.39
TIS			-74.21

#### 6. Measured

Test time: 10:00~11:30 am on November 11,2021

Test location: Office of Shenzhen Yuchen Co., LTD

Test distance: the transmitting terminal is 12m from the receiving terminal, the transmitting terminal is connected to the computer, the receiving terminal is TV Test

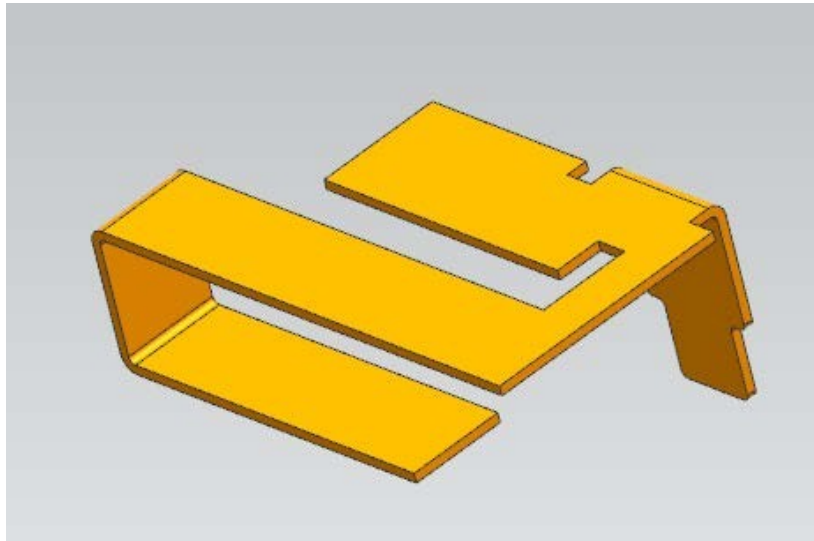
conditions: play 4K video, the computer sets the display resolution of 3840 \* 2160

No.	Test Item	Test content
1	Pairing test	12 meters pairing is normal
2	Connection test	12 meters Connection is normal
3	The video of the test	12 meters can be played normally, without stuck or flowered screen

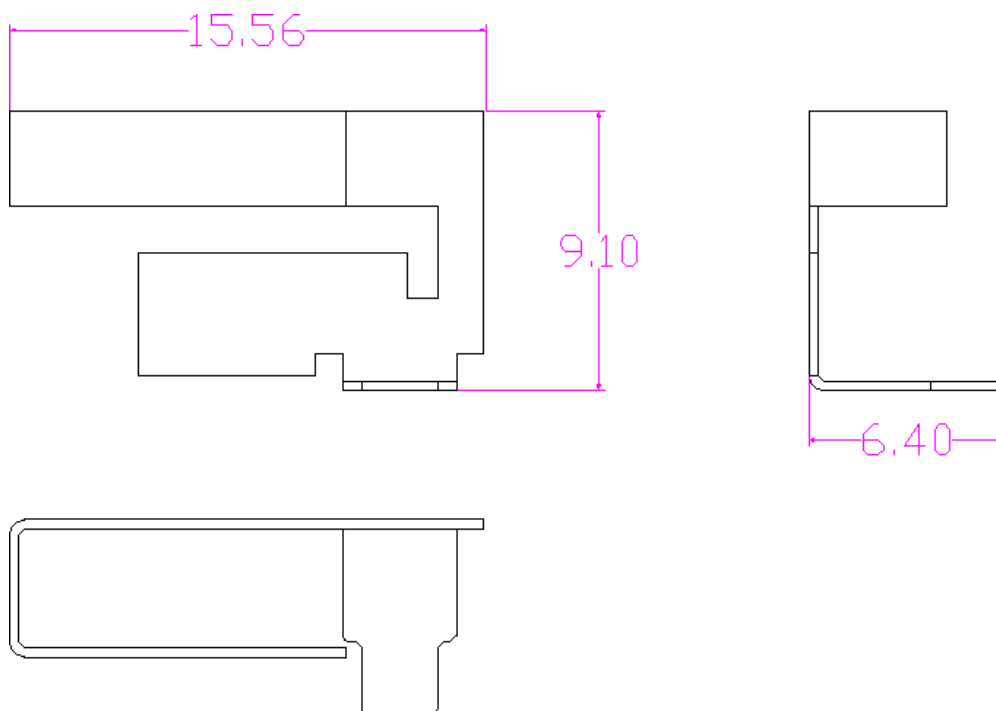
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## 7. Antenna drawings

### 7.1 3D graph



### 7.2 2D graph



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## 8. Installation and precautions

