



SHENZHEN XINHENG YANG TECHNOLOGY CO., LTD

SPECIFICATION FOR APPROVAL

Customer Name: Hangzhou Hangmo Robot
Co., Ltd.
Product Model: IRM0 M1

Customer P/N :

XINHENG YANG P/N: CP. 21. 0000508 CP. 21. 0000509 CP. 21. 0000510

SPECIFICATIONS: 2400MHZ-2500MHZ/5150MHZ-5850MHZ ϕ 1.13双锡线黑色同轴线 L=110MM

Production date: 2026. 07. 07

Sample Version: V1

(XINHENG YANG)		
(FICTION)	(SE)	(R&D)
张文翰	何亮亮	唐师荣
(Customer)		
(PUR)	(SE)	(R&D)

Manufacturer: SHENZHEN XINHENG YANG TECHNOLOGY CO., LTD

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SHENZHEN XINHENGYANG TECHNOLOGY CO., LTD

三、（Change history）

Number	Effective date	Change record
V1	2026.07.7	Initial release

四、（The basic parameters）

A. Electrical Characteristics	
Frequency	2400MHZ-2500MHZ 5150MHZ-5850MHZ
VSWR	MAIN< 2.5 AUX<3 BT<4.5
Avg Efficiency	MAIN 2400MHZ-2500MHZ >40% AUX 2400MHZ-2500MHZ >50% 5150MHZ-5850MHZ >50% BT 2400MHZ-2500MHZ >50%
Polarization	Linear
Peak Gain	MAIN 2400MHZ-2500MHZ:2.77dBi AUX 2400MHZ-2500MHZ:5.17dBi 5150MHZ-5850MHZ:5.43dBi BT 2400MHZ-2500MHZ:3.13dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC Black
Cable Type	MAIN: Φ1.13双锡线黑色同轴线 L=110MM black AUX : Φ1.13双锡线黑色同轴线 L=110MM black BT : Φ1.13双锡线黑色同轴线 L=110MM black
Dimension	35.0MM*16.0MM±0.15MM
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 20 °C ~ + 60 °C

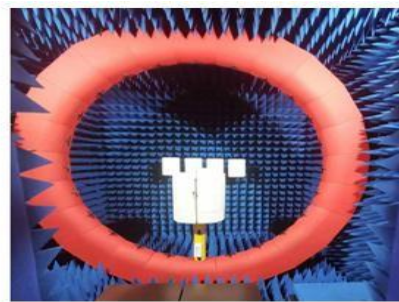
五、Introduction:

Microwave darkroom and no reflection chamber, absorbing short wave darkroom dark room. Microwave darkroom by electromagnetic shielding room, filtering and isolation, grounding device, the ventilation duct, indoor distribution system, monitoring system, ceiling wave material part. It is based on the wave absorbing material as the lining of the shield room, it can absorb the most of the electromagnetic energy into the six wall is a better simulation of the free space conditions.

The main working principle of microwave anechoic chamber is according to the electromagnetic wave in the medium from the low magnetic guide magnetic direction of propagation rules, absorbing materials to guide the electromagnetic wave using high permeability, through resonance, a substantial absorption of electromagnetic wave radiation energy, by coupling the electromagnetic energy into heat energy.

main performance:

Frequency range: 400MHz ~ 6GHz ceiling reflected wave loss materials: 400MHz ~ 6GHz is equal to or more than 15dB (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite).



六、(Test Report)

Those specifications were specially defined for 外骨骼M1 model.

1. Antenna picture:



2. VSWR

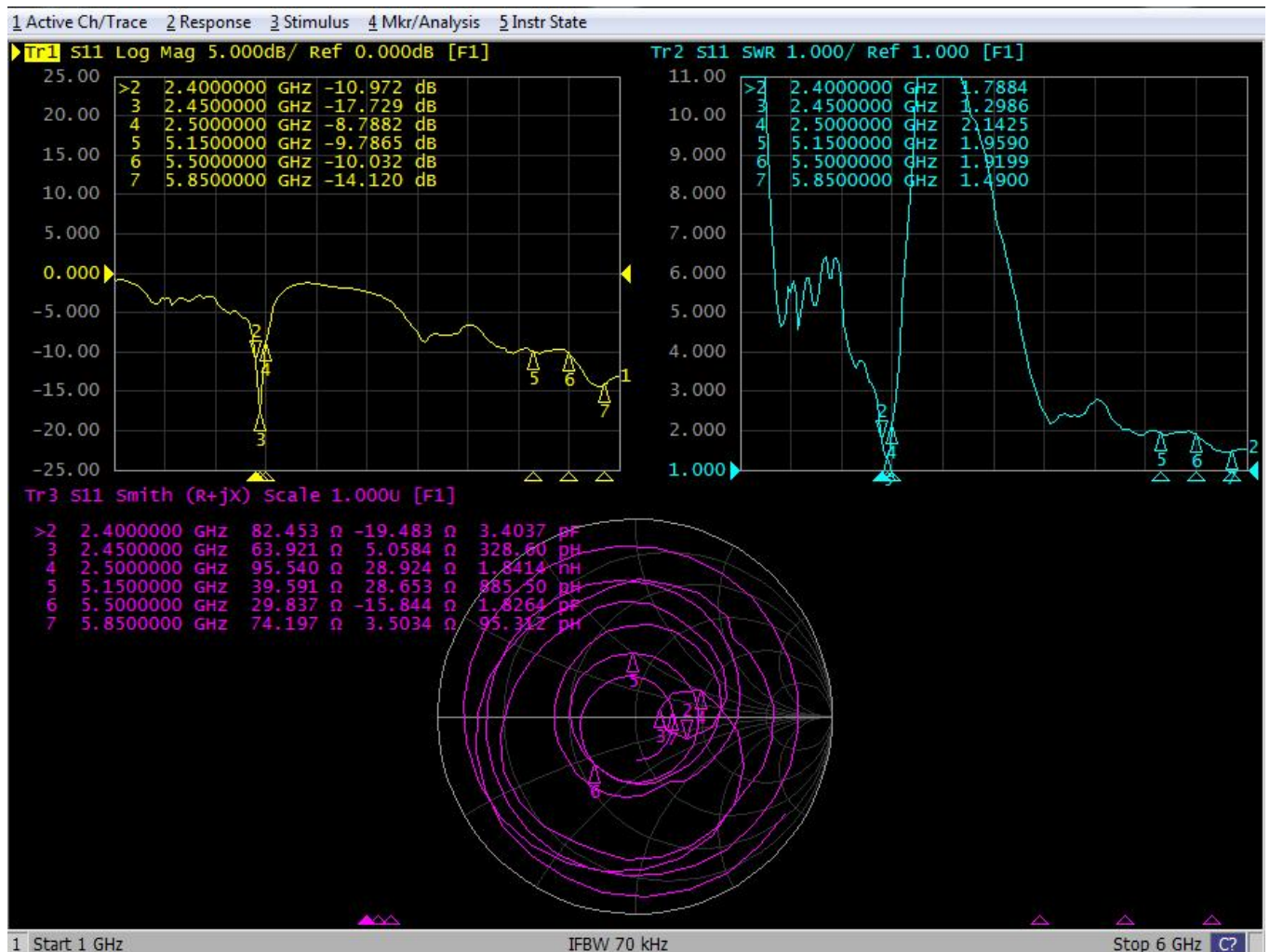
1. Measuring Method

A 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR.

Keeping this jig away from metal at least 20cm

Measurement frequency points and VSWR value

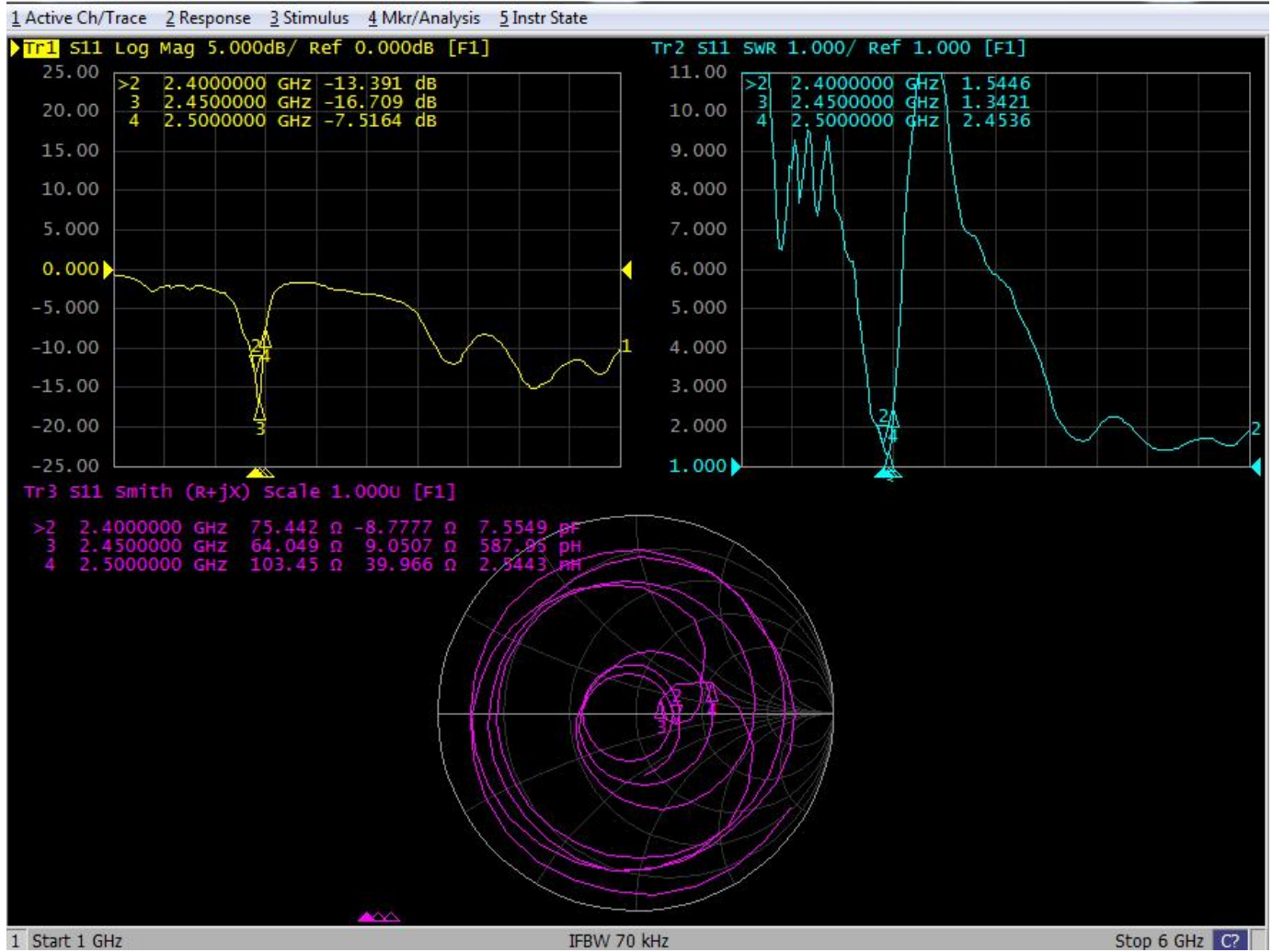
B-AUX



BT



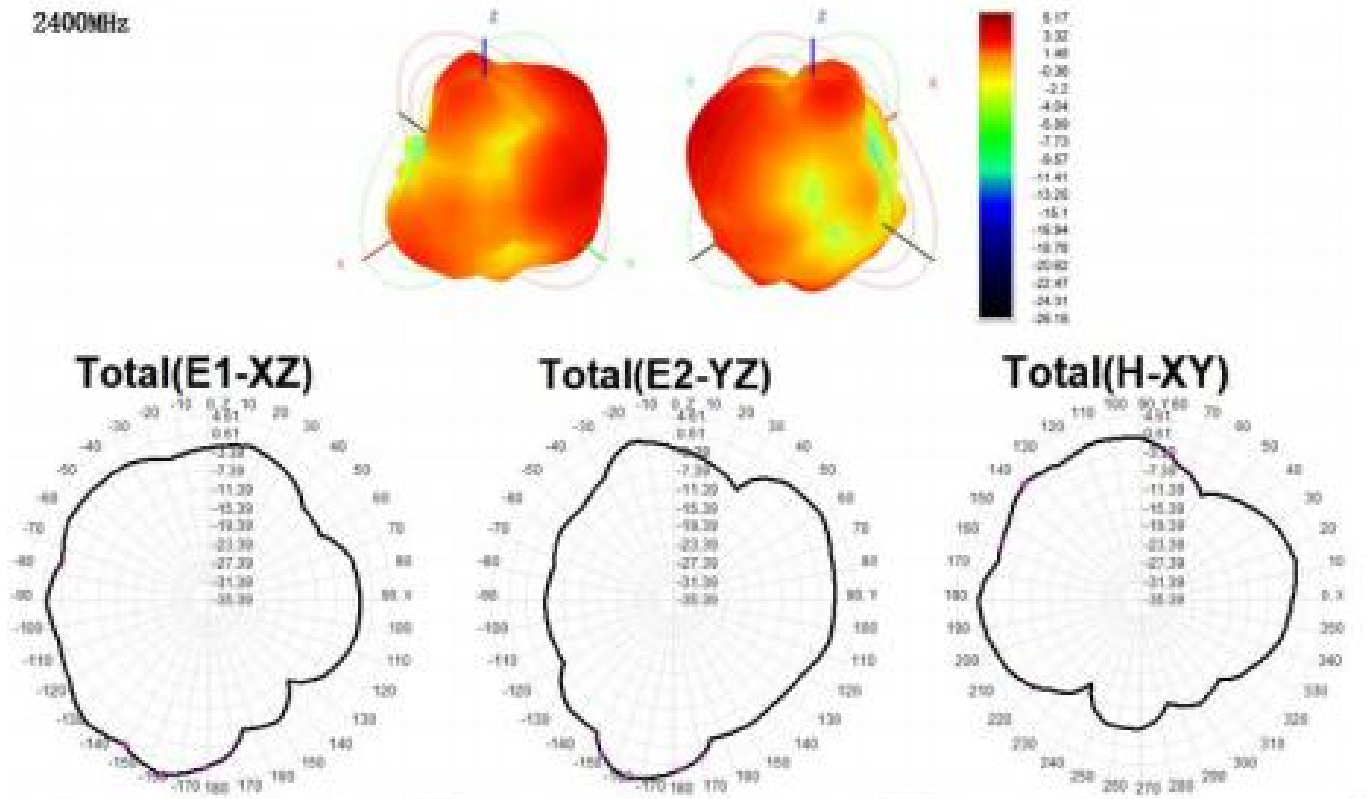
A=MAIN



3. 2D/3D field pattern diagram

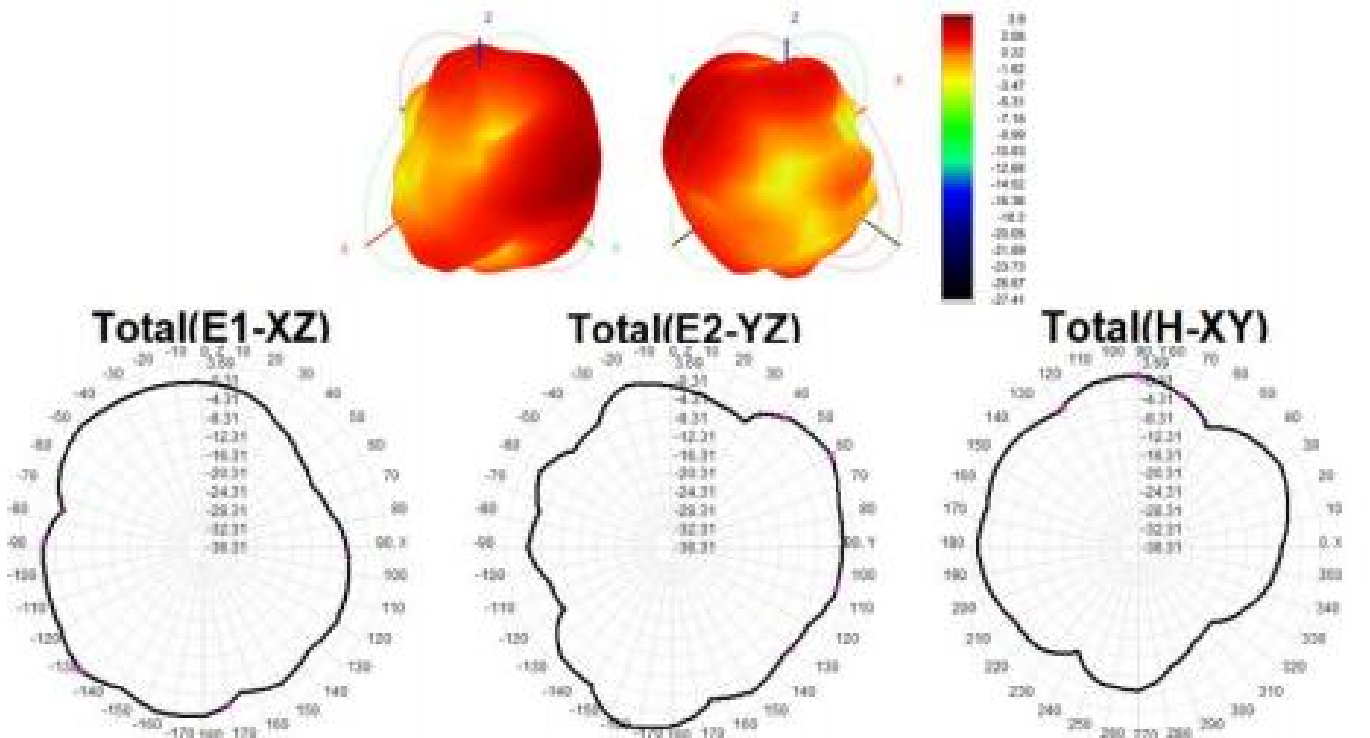
WIFI-B-AUX分集天线

2400MHz



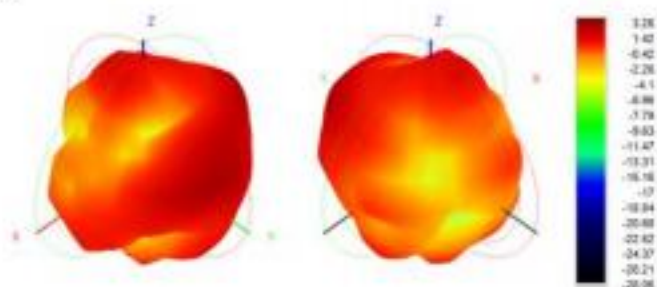
WIFI-B-AUX分集天线

2450MHz

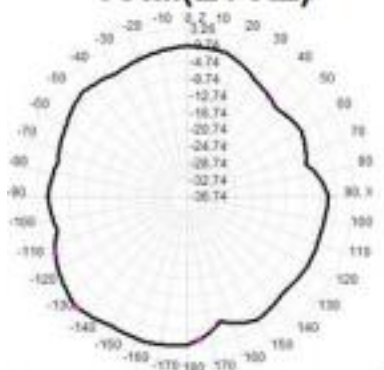


WIFI-B-AUX分集天线

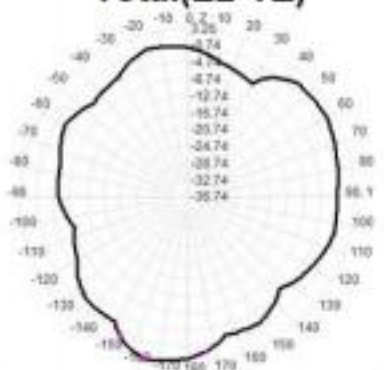
2500MHz



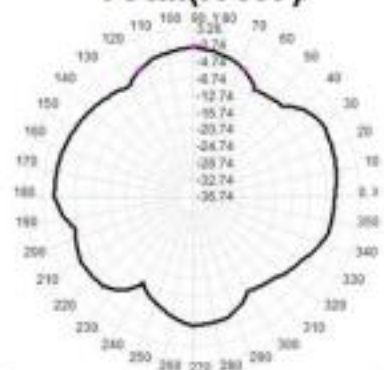
Total(E1-XZ)



Total(E2-YZ)

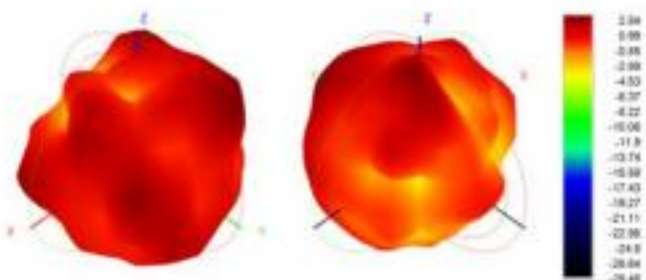


Total(H-XY)

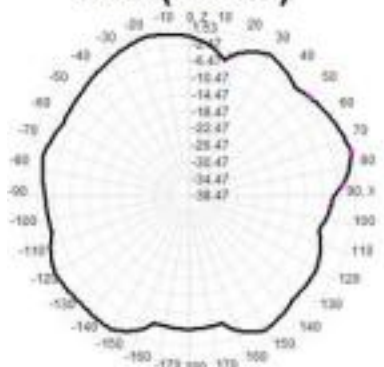


WIFI-B-AUX分集天线

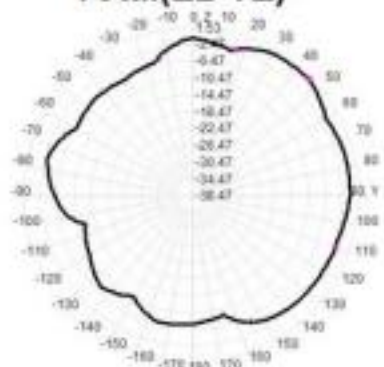
5150MHz



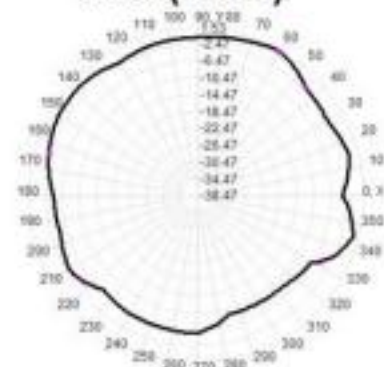
Total(E1-XZ)



Total(E2-YZ)

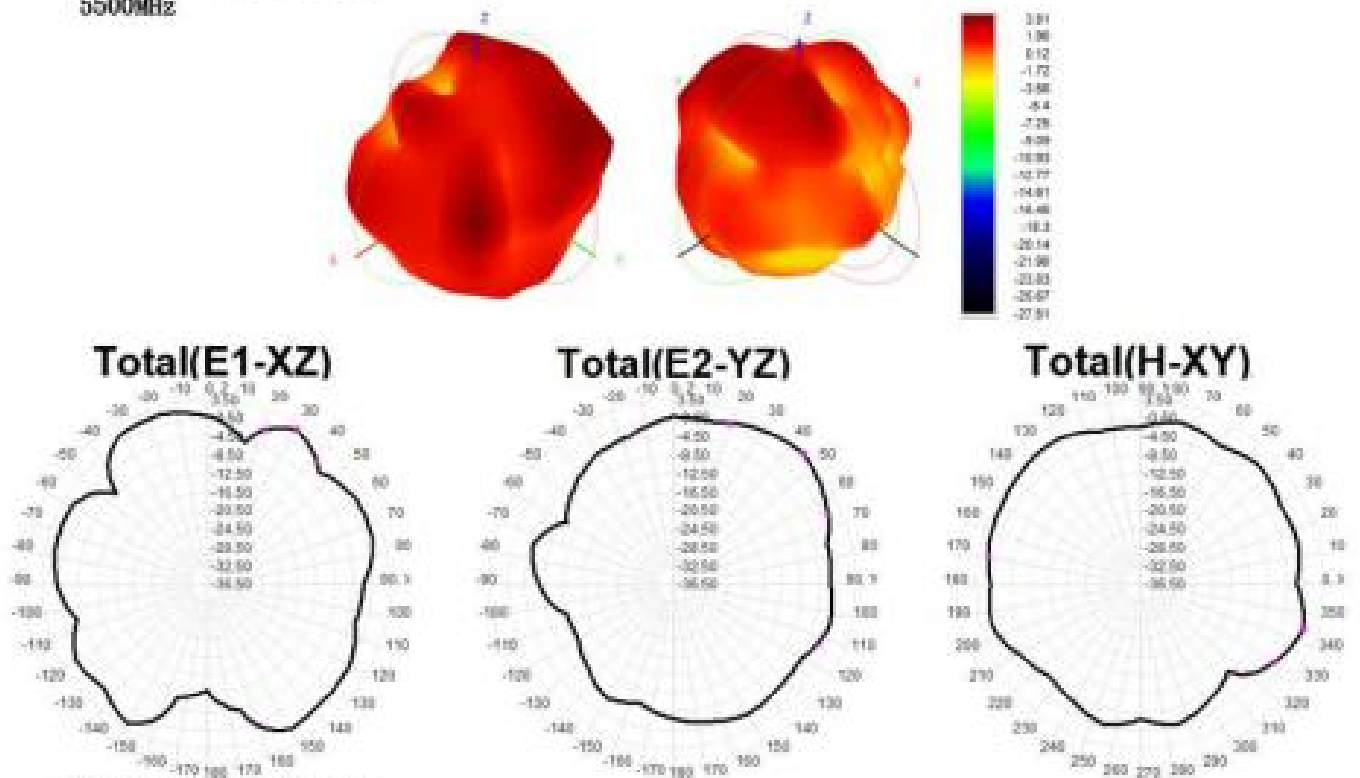


Total(H-XY)

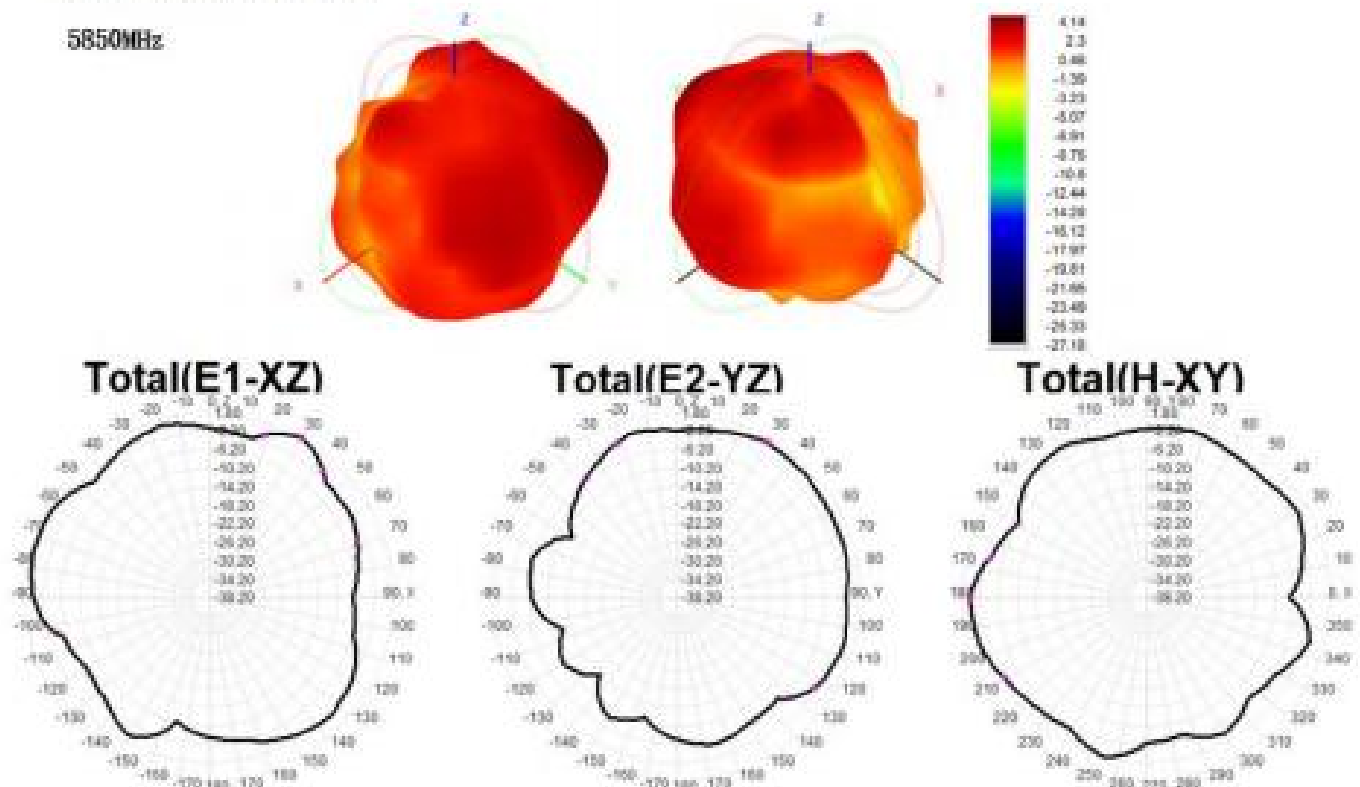


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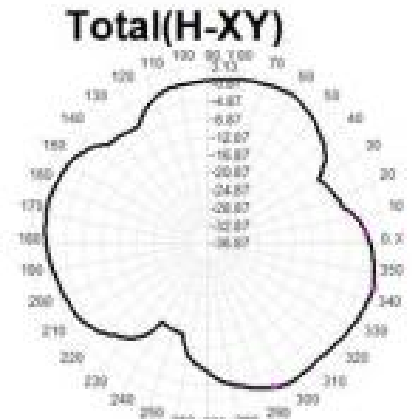
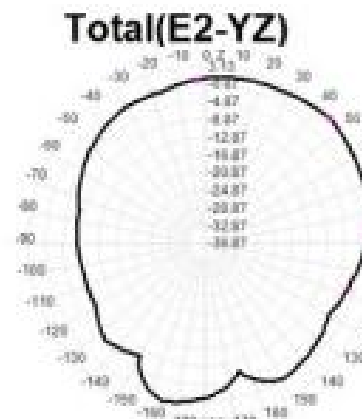
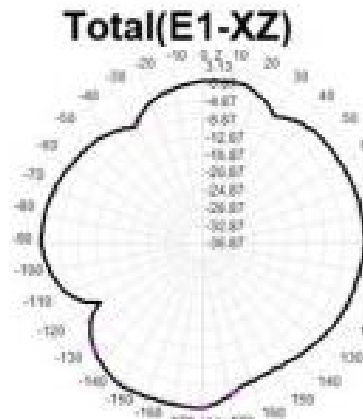
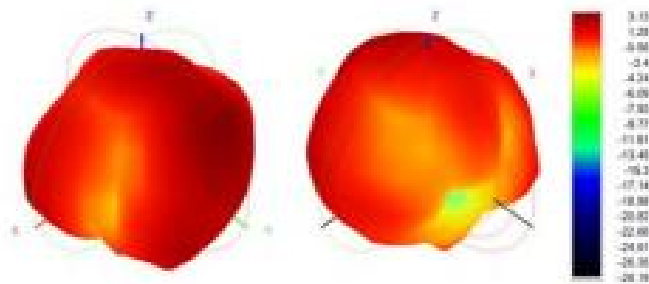
WIFI-B-AUX分集天线
5500MHz



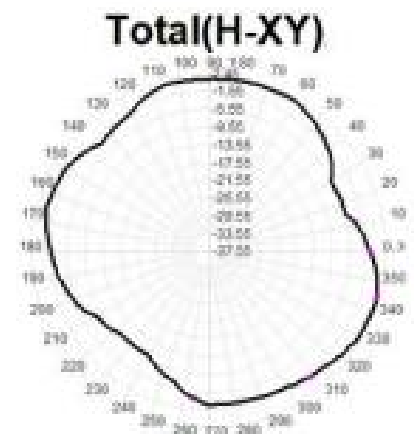
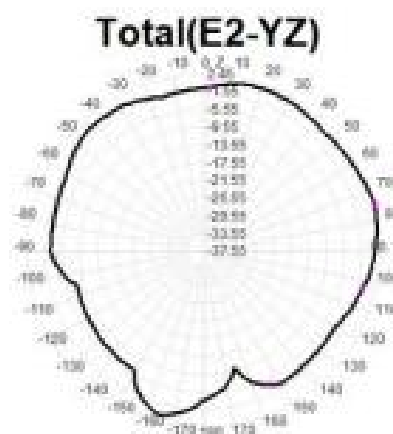
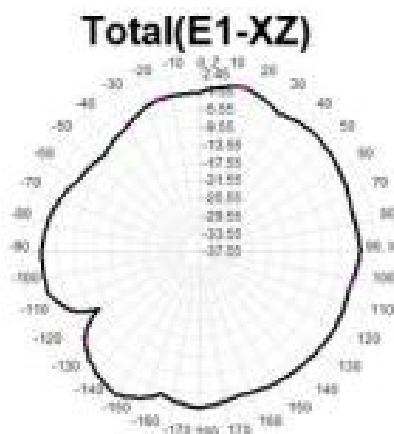
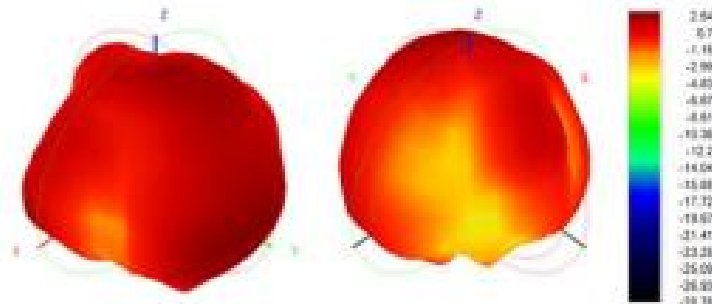
WIFI-B-AUX分集天线
5850MHz



BT
2400MHz

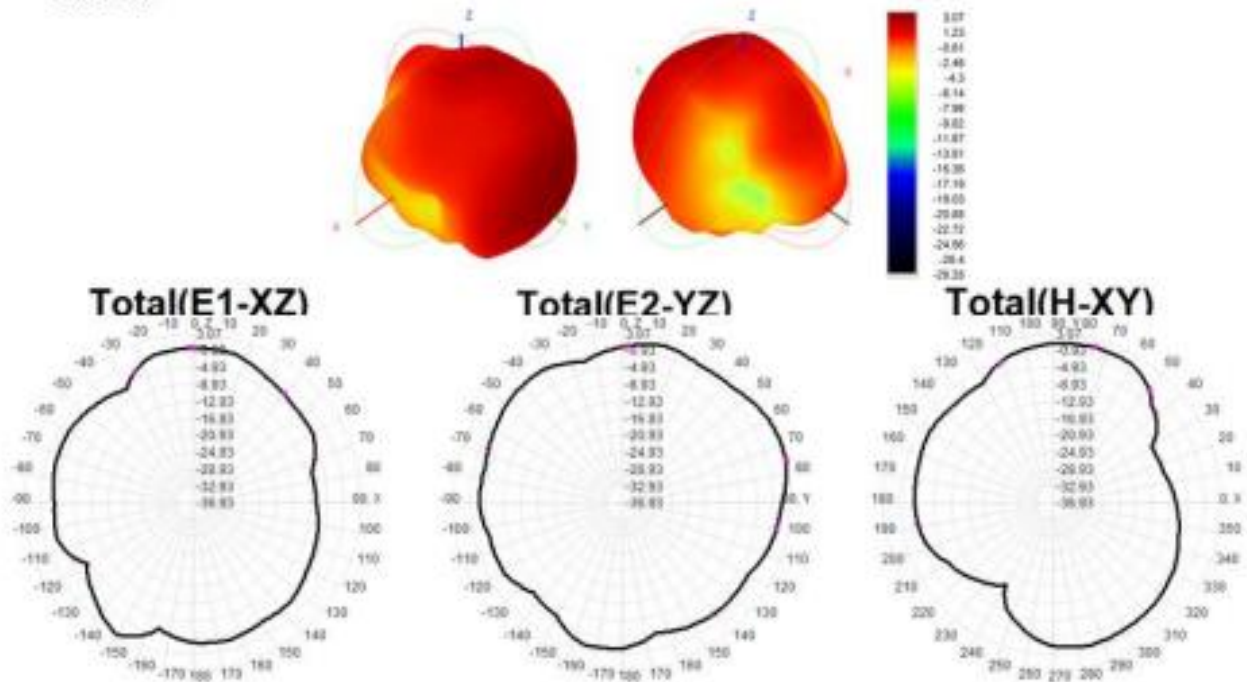


BT
2450MHz



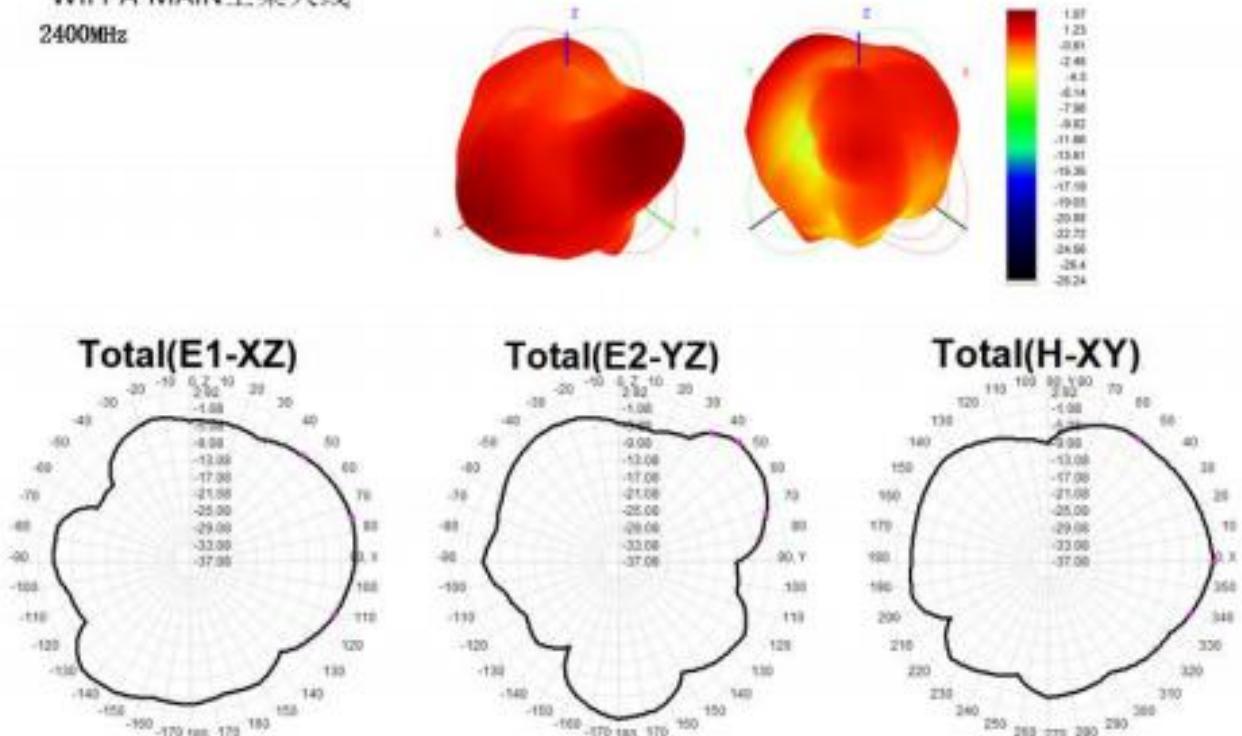
BT

2500MHz



WIFI-A-MAIN主集天线

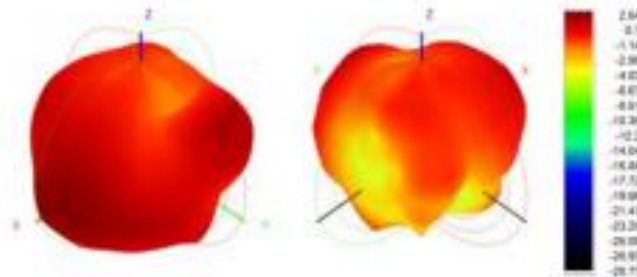
2400MHz



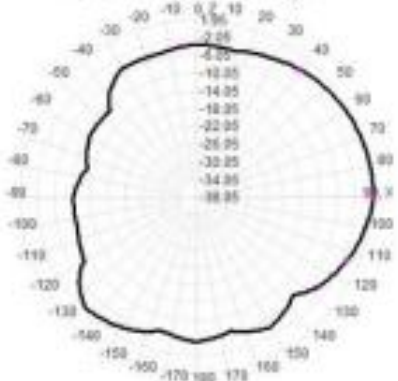
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WIFI-A-MAIN-主集天线

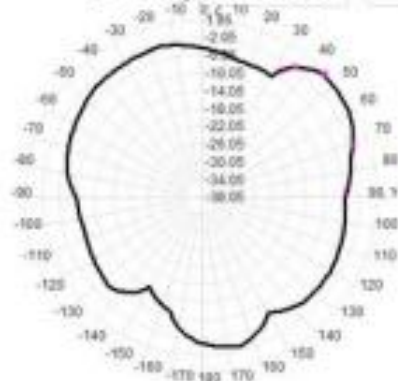
2450MHz



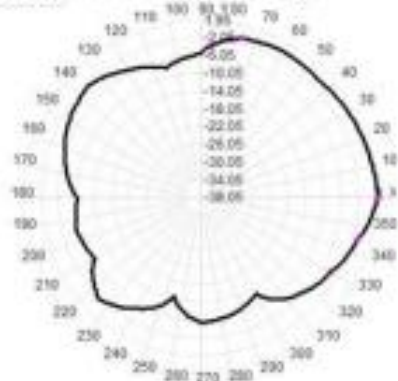
Total(E1-XZ)



Total(I 提取文字

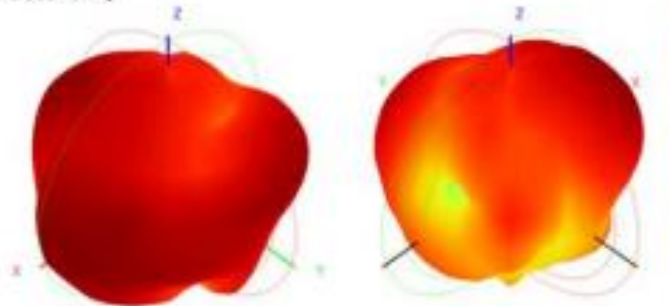


Total(H-XY)

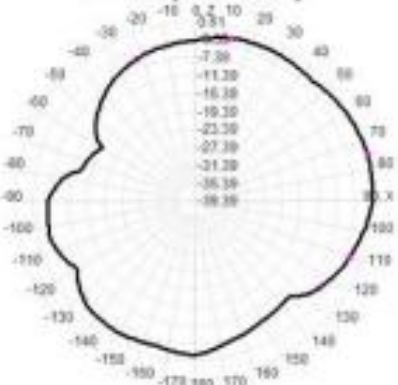


WIFI-A-MAIN-主集天线

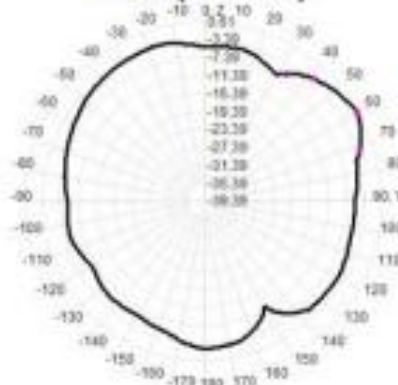
2500MHz



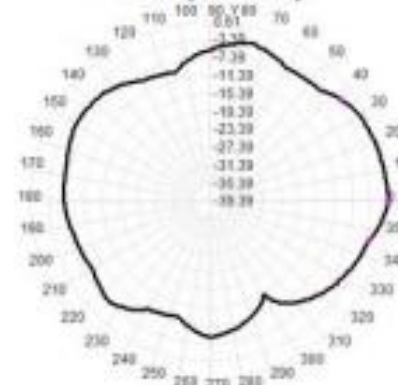
Total(E1-XZ)



Total(E2-YZ)



Total(H-XY)



4. Passive efficiency & Gain

Passive efficiency & Gain

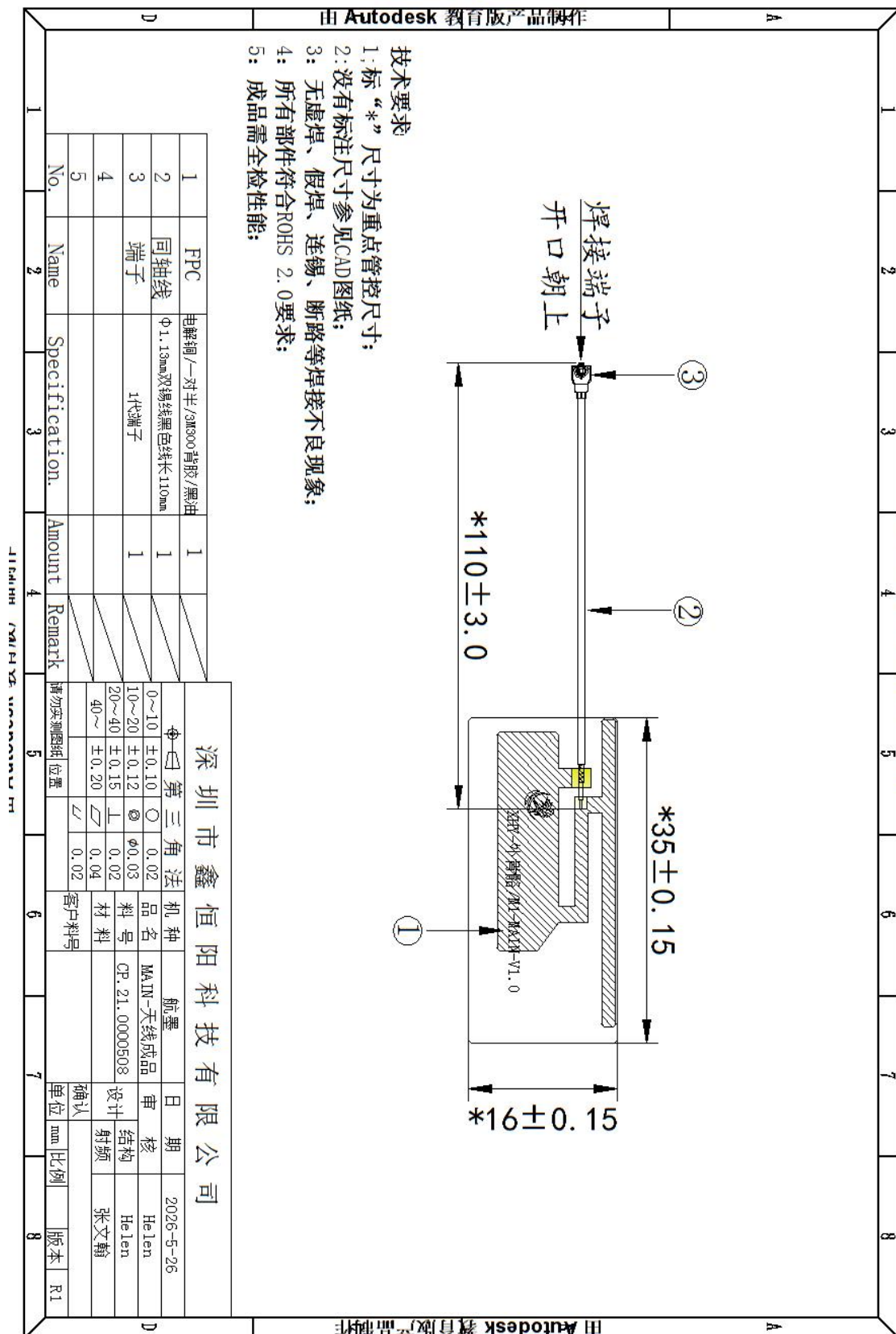
WIFI-B-AUX分集天线 (2400MHZ-2500MHZ)		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400.0	54.54	5.17
2410.0	54.55	5.15
2420.0	53.82	4.77
2430.0	55.34	4.37
2440.0	54.32	3.66
2450.0	57.22	3.90
2460.0	56.85	3.89
2470.0	57.80	3.69
2480.0	54.13	2.98
2490.0	52.36	3.11
2500.0	51.61	3.26

WIFI-B-AUX分集天线 (5150MHZ-5850MHZ)					
Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
5150.0	56.04	2.84	5675.0	52.64	5.43
5185.0	56.90	3.04	5710.0	54.42	4.84
5220.0	56.93	3.29	5745.0	52.00	4.91
5255.0	57.38	3.99	5780.0	56.02	4.55
5290.0	58.54	3.37	5815.0	55.85	3.96
5325.0	59.50	4.02	5850.0	57.32	4.14
5360.0	60.46	3.68			
5395.0	55.87	3.25			
5430.0	56.23	4.06			
5465.0	58.58	4.05			
5500.0	58.62	3.81			
5535.0	57.03	3.72			
5570.0	55.59	4.65			
5605.0	56.30	4.79			
5640.0	54.58	5.00			

BT (2400MHZ-2500MHZ)		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400.0	52.35	3.13
2410.0	53.70	3.07
2420.0	53.02	2.64
2430.0	54.17	2.43
2440.0	58.62	2.26
2450.0	58.82	2.54
2460.0	56.90	2.64
2470.0	57.75	2.92
2480.0	54.35	2.91
2490.0	53.88	3.11
2500.0	51.07	3.07

WIFI-A-MAIN主集天线 (2400MHZ-2500MHZ)		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400.0	50.66	1.07
2410.0	50.09	1.98
2420.0	47.44	2.69
2430.0	47.46	2.77
2440.0	43.76	2.52
2450.0	43.48	2.54
2460.0	41.07	2.31
2470.0	43.15	2.07
2480.0	46.51	1.41
2490.0	47.37	1.16
2500.0	48.35	1.04

七、 (Product Drawing)

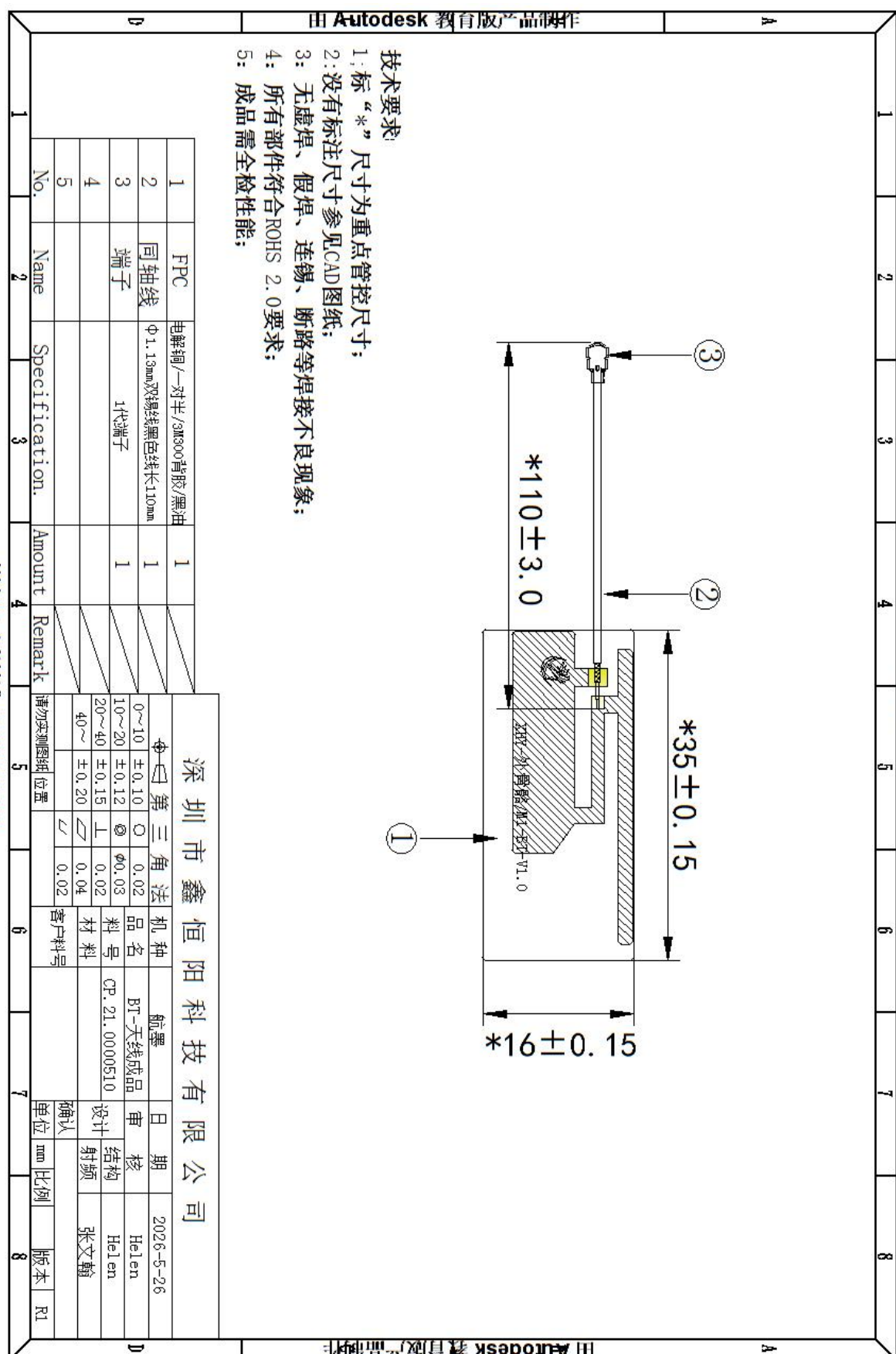




1; 标“*”尺寸为重点管控尺寸;

- 2: 没有标注尺寸参见CAD图纸;
- 3: 无虚焊、假焊、连锡、断路等焊接不良现象;
- 4: 所有部件符合ROHS 2.0要求;
- 5: 成品需全检性能;

由 Aulomesk 教育出版厂前制作





八、RoHS

Antenna CP. 21. 0000508 CP. 21. 0000509 CP. 21. 0000510 meets RoHS requirements See electronic file for details.

九、Product packaging instructions

A. packing should meet the moistureproof, vibration, pressure and mildew proof, etc.

B. the smallest packing unit logo must have the manufacturer trademarks, product model, name, code and quantity.

C. in the attached packing list, certificate of approval, and the factory inspection report.

*****END*****