

Shenzhen unity wireless technology co., ltd

Address: Room 1002/1012, Building 7E, Hengda Fashion Valley, Dalang, Longhua District, Shenzhen

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Antenna specification

customer name:Shenzhen Jixian Technology Co., Ltd

Customer material number:_____

Customer projects:UAC235

Zhongcheng material number:01.07.0800/01.07.0753

product description:FPC 4G/WIFI antenna

date : 2026.8.21

R&D Confirmati on	MD:	signature:
	RF:	
Quality Confirmati on	QE:	

Customer review

department	Project Department:	signature:
	purchase department:	

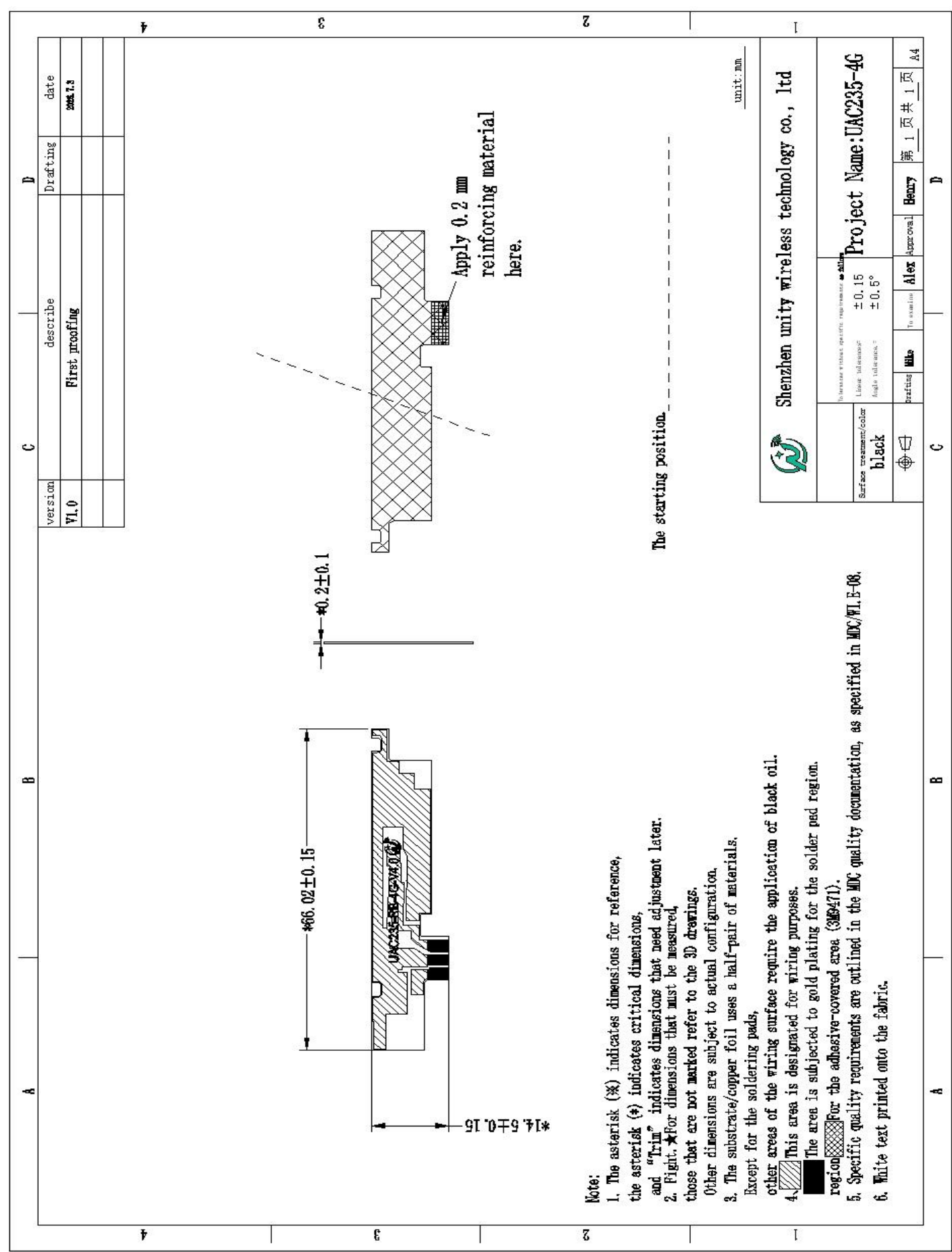
catalogue

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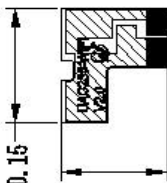
Create/revise/cancel resume as required:

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engineering drawing:

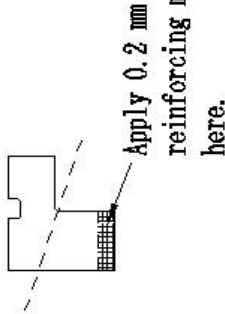


version	describe	D	date
V1.0	First proofing		2023.7.3



*15.5±0.15

*12.5±0.15



Apply 0.2 mm
reinforcing material
here.

The starting position: _____

Note:

- The asterisk (*) indicates dimensions for reference, the asterisk (*) indicates critical dimensions, and "Trim" indicates dimensions that need adjustment later.
- Fig. ★ For dimensions that must be measured, those that are not marked refer to the 3D drawings. Other dimensions are subject to actual configuration.
- The substrate/copper foil uses a half-pair of materials. Except for the soldering pads, other areas of the wiring surface require the application of black oil.
- This area is designated for wiring purposes.

The area is subjected to gold plating for the solder pad region.
- For the adhesive-covered area (3M9471).
- Specific quality requirements are outlined in the MC quality documentation, as specified in MC/V1.8-08.
- White text printed onto the fabric.

unit: mm

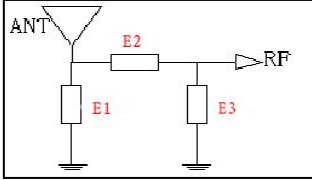
 Shenzhen unity wireless technology co., ltd	
Surface treatment/color black	Please refer to the specific requirements in the drawing. Line tolerance: ±0.15 Angle tolerance: ±0.5°
	Drawing: W18 To standard: Alex Approval: Henry Project Name: UAC235-WIFI
第 1 页 共 1 页 A4	

Product Parameter :

Model	FPC Antenna
Frequency	700-6000MHz
Polarization Type	linear polarization
Gain (dBi)	2.15
VSWR	/
Input Impedance (Ω)	50
Cable length (mm)	/
Cable Colour	/
Connector Type	/
Operation temperature ($^{\circ}\text{C}$)	-40~+85
Store temperat ($^{\circ}\text{C}$)	-40~+85

1.Antenna matching has not been changed (Mainboard Original Matching)

	E1	E2	E3
		0Ω	



WIFI test data

channelCH test value		2.4G 802.11b : 11Mbps			5.8G 802.11a : 54Mbps		
		1	6	11	36	149	165
	TRP	14.29	14.14	14.12	13.73	12.39	11.22
	TIS			-81.11			-71.35

3. Antenna OTA test data (TIS Screen Off Test)

channelCH test value		LTEB1			LTEB3		
		18050	18300	18550	19250	19575	19900
	TRP	18.77	18.91	19.1	18.6	19.22	18.54
	TIS			-91.66			-90.07

channelCH test value		LTEB5			LTEB8		
		20450	20525	20600	21500	21625	21750
	TRP	11.26	11.61	12.2	14.3	13.98	13.32
	TIS			-84.14			-83.33

channelCH test value		LTEB34					
		36250	36275	36300			
	TRP	18.86	18.62	18.69			
	TIS			-91.9			

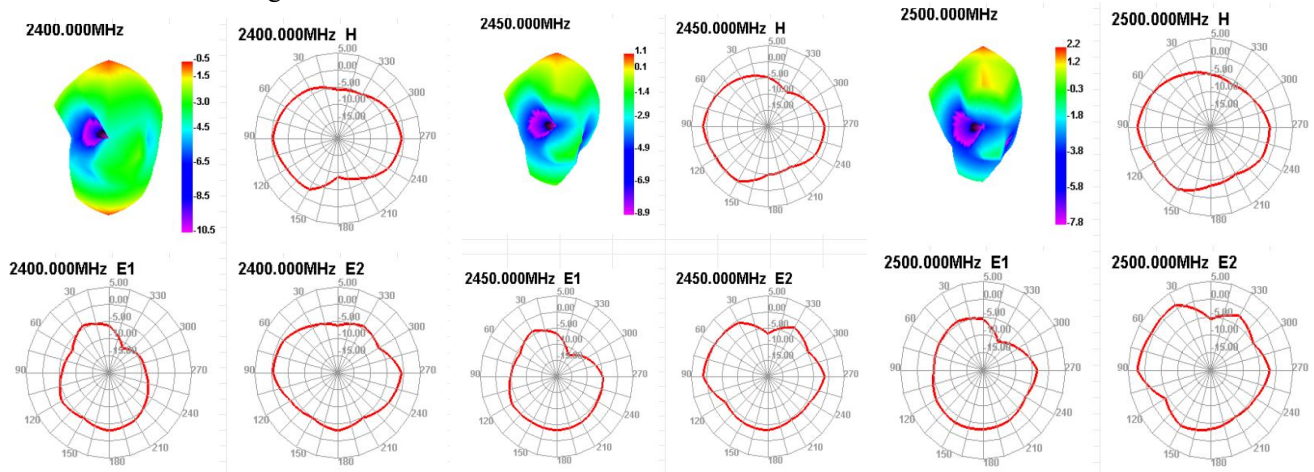
channelCH test value		LTEB38			LTEB39		
		37800	38000	38200	38300	38450	38600
	TRP	18.28	17.85	17.62	17.73	17.5	18.03
	TIS			-91.46			-91.34

channelCH test value		LTEB40			LTEB41		
		38700	39150	39600	40340	40620	41140
	TRP	17.82	18.16	18.93	18.37	17.91	17.66
	TIS			-91.3			-90.85

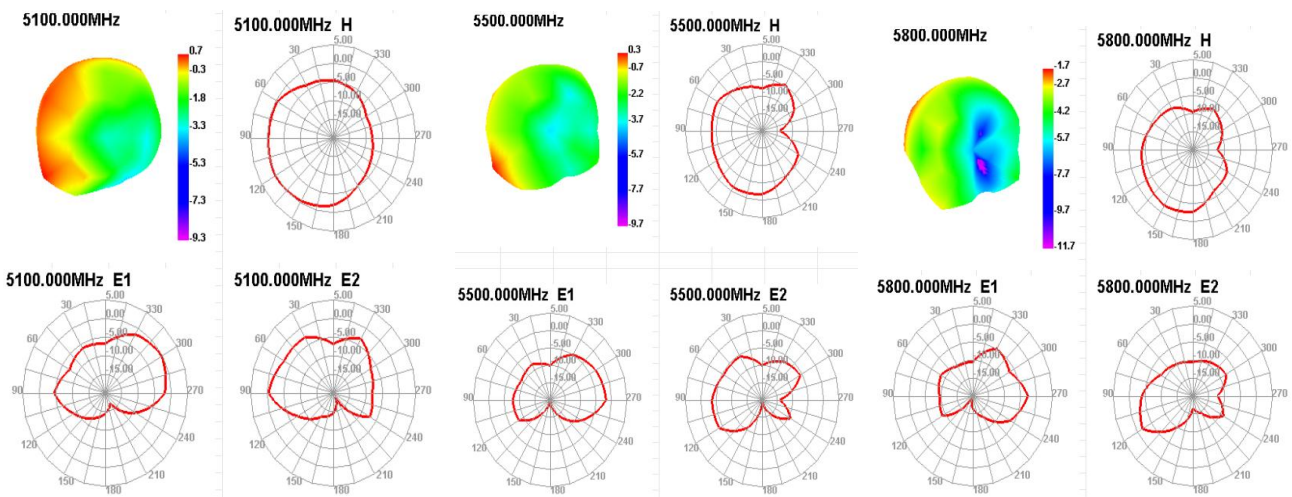
4. Antenna passive parameters (Efficiency and Gain)

Passive Test For 2.4G				Passive Test For 5.8G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	37.31	-4.28	-0.49	5000	29.78	-5.26	-0.02
2410	38.27	-4.17	-0.27	5100	32.16	-4.93	0.75
2420	37.66	-4.24	0.12	5200	33.59	-4.74	0.7
2430	40.85	-3.89	0.56	5300	36.6	-4.37	0.76
2440	42.07	-3.76	0.73	5400	35.43	-4.51	1.04
2450	45.53	-3.42	1.13	5500	34.06	-4.68	0.31
2460	45.21	-3.45	1.1	5600	33.98	-4.69	-0.05
2470	46.13	-3.36	1.29	5700	29.98	-5.23	-1.09
2480	48.75	-3.12	1.38	5800	28.64	-5.43	-1.73
2490	49.09	-3.09	1.6	5900	26.39	-5.79	-0.29
2500	47.24	-3.26	2.15	6000	27.84	-5.55	-2.73

2.4G-WIFI directional diagram



5G-WIFI directional diagram



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Low-frequency (Efficiency and Gain)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	3.65	-14.38	-19.11
710	3.87	-14.12	-18.02
720	4.13	-13.84	-16.54
730	4.17	-13.80	-15.94
740	4.27	-13.70	-15.04
750	4.54	-13.43	-13.94
760	5.02	-12.99	-12.76
770	5.07	-12.95	-12.95
780	5.44	-12.64	-11.85
790	6.43	-11.92	-10.33
800	7.06	-11.51	-8.9

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
810	8.34	-10.79	-9.1
820	8.79	-10.56	-9.27
830	10.26	-9.89	-8.42
840	11.1	-9.55	-7.84
850	11.42	-9.42	-7.57
860	11.98	-9.22	-7.56
870	11.62	-9.35	-7.96
880	11.68	-9.33	-7.68
890	11.91	-9.24	-7.43
900	11.29	-9.47	-7.63
910	10.38	-9.84	-7.71
920	9.92	-10.03	-7.52
930	9.39	-10.27	-7.57
940	8.26	-10.83	-8.36
950	7.71	-11.13	-8.93
960	7.09	-11.49	-9.62

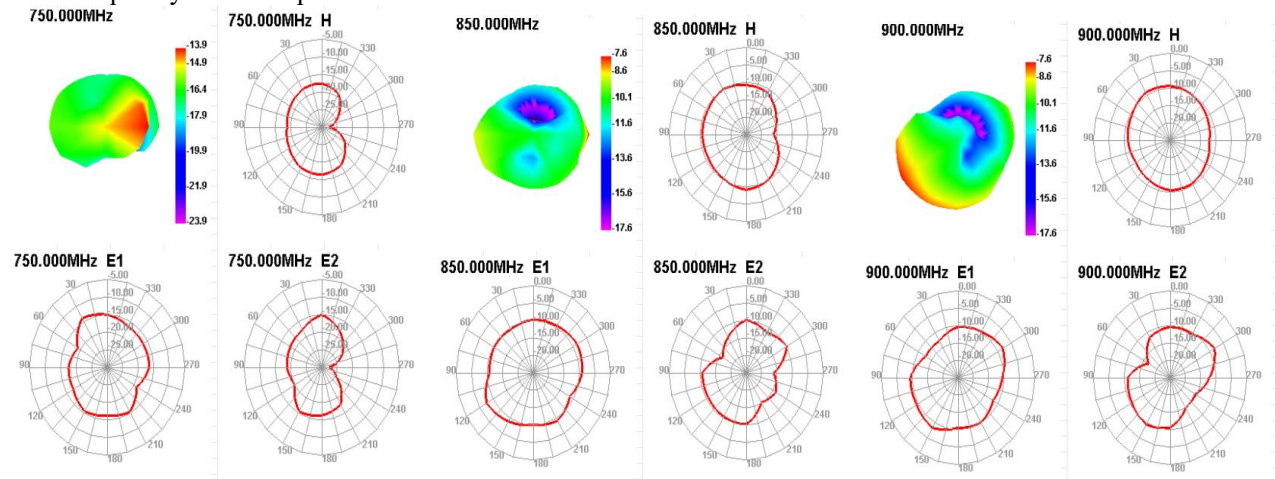
Medium-to-high frequency (Efficiency and Gain)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1700	31.28	-5.05	-3.4
1720	32.64	-4.86	-3.27
1740	32.66	-4.86	-3.15
1760	31.58	-5.01	-3
1780	32.9	-4.83	-2.53
1800	34.11	-4.67	-2.26
1820	37.48	-4.26	-1.69
1840	41.2	-3.85	-1.24
1860	43.24	-3.64	-1.15
1880	44.22	-3.54	-0.5
1900	45.51	-3.42	-0.23
1920	46.24	-3.35	-0.33
1940	41.31	-3.84	-1.07
1960	42.61	-3.70	-1.11
1980	39.59	-4.02	-1.32
2000	44.11	-3.55	-0.76
2020	44.27	-3.54	-0.85
2040	42.92	-3.67	-0.89
2060	43.99	-3.57	-0.83
2080	46.64	-3.31	-0.83
2100	44.09	-3.56	-1.81
2120	36.4	-4.39	-2.65
2140	37.65	-4.24	-2.29
2160	37.81	-4.22	-2.12
2180	34.07	-4.68	-2.49
2200	34.92	-4.57	-2

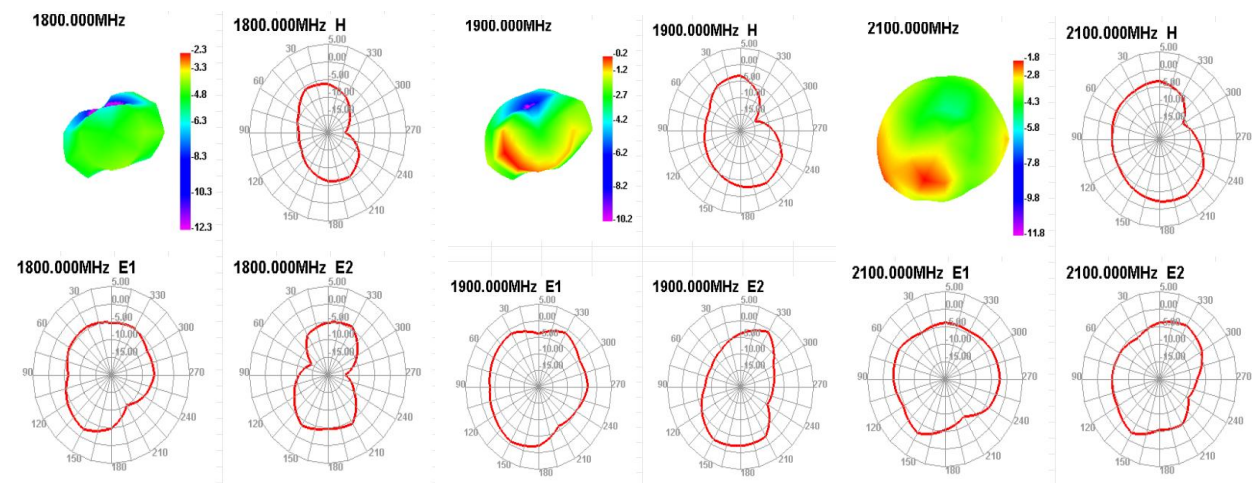
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2300	34.52	-4.62	-1.26
2320	33.89	-4.70	-1.1
2340	36.84	-4.34	-0.54
2360	32.94	-4.82	-1.26
2380	32.23	-4.92	-1.44
2400	30.54	-5.15	-1.28
2420	29.83	-5.25	-1.14
2440	30.35	-5.18	-0.9
2460	30.47	-5.16	-0.92
2480	30.84	-5.11	-1.07
2500	33.38	-4.77	-0.63
2520	31.84	-4.97	-0.7
2540	34.14	-4.67	-0.25
2560	36.47	-4.38	0.13
2580	37.3	-4.28	0.14
2600	35.35	-4.52	-0.23
2620	38.82	-4.11	0.27
2640	44.11	-3.55	0.95
2660	42.02	-3.77	0.74
2680	41.32	-3.84	0.57
2700	38.9	-4.10	0.12

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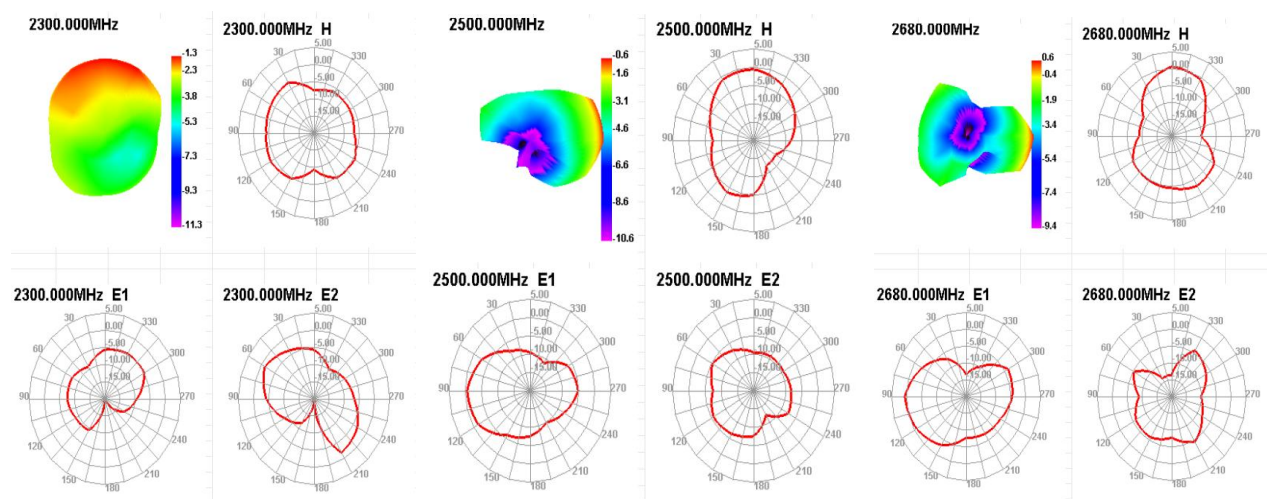
Low-frequency radiation pattern



Intermediate Frequency Directional Pattern



High-frequency pattern diagram



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ROHS Restricted Substance Composition Survey form										
Product information provided										
customer name		Material name/model		project name		manufacturer				
Jixian		01.07.0800/01.07.0753		UAC235		Shenzhen unity wireless technology co., ltd				
Product composition information										
ord er num ber	Componen t Name	Third party inspection report		Limit the amount of substance in PPM						rem ark s
		date	number, identifier, serial number	Pb	Cd	Hg	hexav alent chrom ium	Polybro minated bipheny l	Polybromi nated diphenyl ethers	
1	3M9471 (gum)	2024/12/6	SHAEC24027480901	☐	☐	☐	☐	☐	☐	
2	Substrates (copper foil)	2024/12/20	SHAEC24028809006	☐	☐	☐	☐	☐	☐	
3	pad (OSP)	2024/3/14	CANEC24004013302	☐	☐	☐	☐	☐	☐	
4	pad (Electricity)	2024/3/30	A2240158803101001E	☐	☐	☐	☐	☐	☐	
5	Printingink (ZnO)	2024/6/14	ETR24600712	☐	☐	☐	☐	☐	☐	
6	Printingink (character)	2024/9/23	ETR24902229M01	☐	☐	☐	☐	☐	☐	
<p>Note:</p> <p>1.Please indicate with ☐, compliance of six restricted substance content; compliance with ☐; non-compliance.。</p>										

testing facility:

Measurement instrument: microwave dark room, network analyzer, standard antenna. Description of microwave dark room: This is the microwave dark room set in Shenzhen by our company. This microwave dark room is a far field measuring system. The size of the dark room is 7.0 m x4.0 m x3.0 m, and the size of the static area (quiet zone) is 15 cm x15 cm x15 cm.

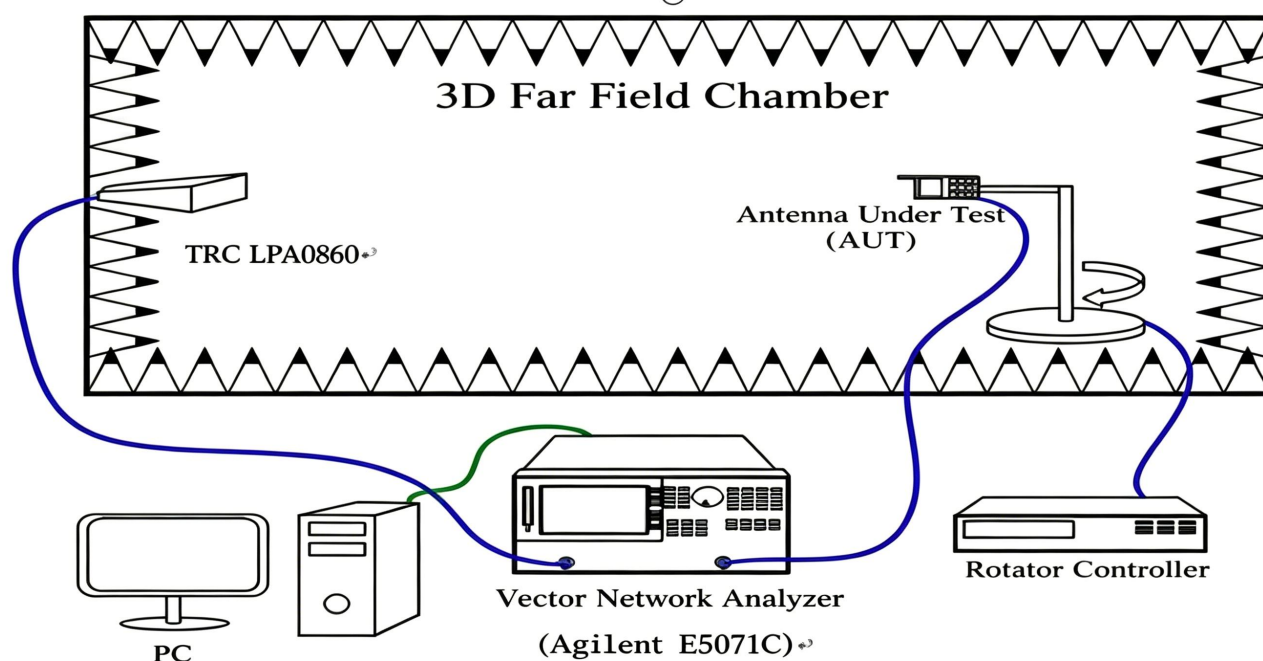


Fig. 1. Instrument setup inside the microwave anechoic chamber

graph. 1 is the instrument setting of the microwave room and the connection diagram of the network analyzer. The distance between the transmitting antenna (the transmitting antenna used in the room is trc lpa0860 800mhz-6 ghz) and the antenna to be tested (aut) is 1.35 meters. The antenna to be measured is placed on the rotating platform, and the antenna can be measured by the Angle of rotation from the control table. Place the measured antenna on the rotating table and measure the 360 degree field strength data of each plane (zy plane and zx plane). Then the antenna to be tested is replaced by a standard dipole antenna (the standard dipole antenna model used in this dark room is trc ad series dipole antenna 800mhz ~ 2500 mhz) and the field strength data of 360 degrees is measured to convert the gain standard value. The gain value and direction map of the antenna to be measured can be obtained through the conversion of equation 1.

$$G_{AUT} = G_{stand} + P_{AUT} - P_{stand}$$

G_{AUT} : Gain of AUT

G_{stand} : Gain of Standard Gain Antenna

P_{AUT} : Measured Power of AUT

P_{stand} : Measured Power of Standard Gain Antenna