



Shenzhen xingtong wireless technology co.,
Telephone: +86-755- 27850514 Fax: +86- 0755-27850514
Address: 3/F, Building A1, Qiangrongdong Industrial Zone,
Jiuwei, Xixiang, Baoan District, Shenzhen

Product specification

Product number: MT022

Product name: MT022-WiFi/GPS/BT-ANT

Product item number: ANT-MT022-GWB-ANT-XT001

Producer	Audit	Date
Huangjiajun	Wu Yanlong	2024-07-11

Customer confirmation:

Customer name: Shenzhen Xinruizhi Industrial Co., Ltd
Approval :
Date :
Notes :

Please accept your signature and seal and return one copy to our company for filing. Thank you for your cooperation!

 Shenzhen Xingtong Wieress Technology Co., Ltd		Date	2024-07-11
		Version	A0
		File number	XT-YF-004
Product model	MT022-G/W/B antenna	Product number	XT-MT022-APP

1.Product Constrution:

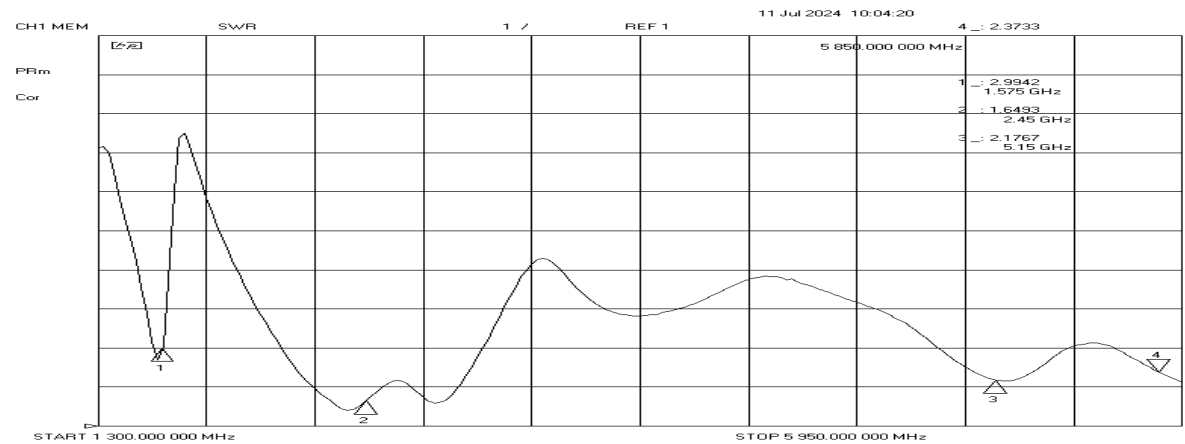
- 1. Antenna material: FPC
- 2. Adhesive tvbe: 3M9470
- 3. Antenna size: See engineering drawing at the end page
- 4. Coaxial line size: not have

2. parameters

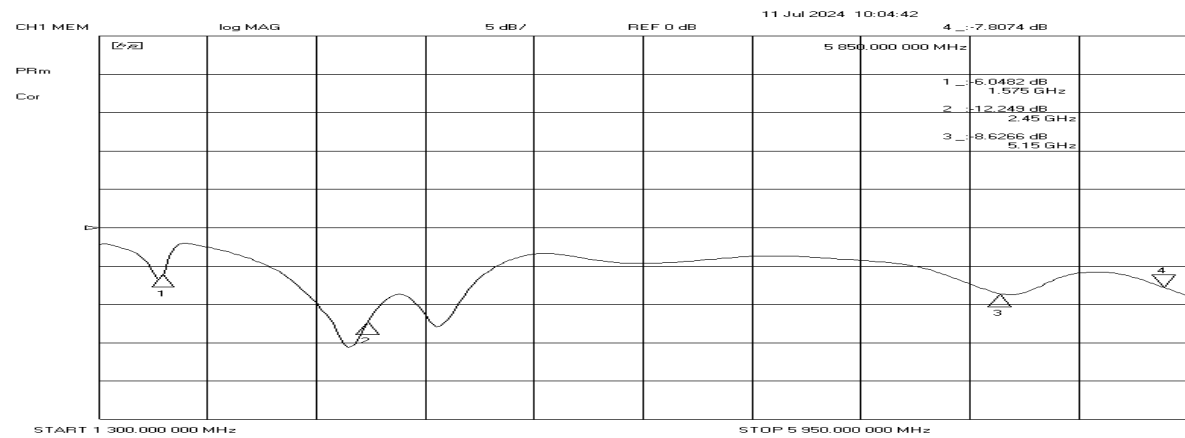
- Scope of use: customer-supplied machines
- Antenna frequency: 1550-1560Mhz, 2400-2500Mhz 5150-5850Mhz
- Polarization method: horizontal/vertical
- Antenna free space gain: 2. 4G≥1. 37dbi 5G≥1.93dbi 1. 57G≥-0. 73dbi
- Polarization mode: horizontal/vertical
- Installation mode: Antenna nasted inside the bottom shell
- Packing method: use PE bag+packing box

3.S11 value of antenna (S11)

- 3. 1: antenna standing wave ratio



- 3. 2: Antenna return loss value





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4.Antenna performance (OTA)

■ 4.1: Antenna matching recommendations

Matching without modification

■ 4.2: Antenna OTA/ efficiencyv/gain (test instruments: network analyzer, oscilloscope, customer engineering prototype, various standard cards, etc.)

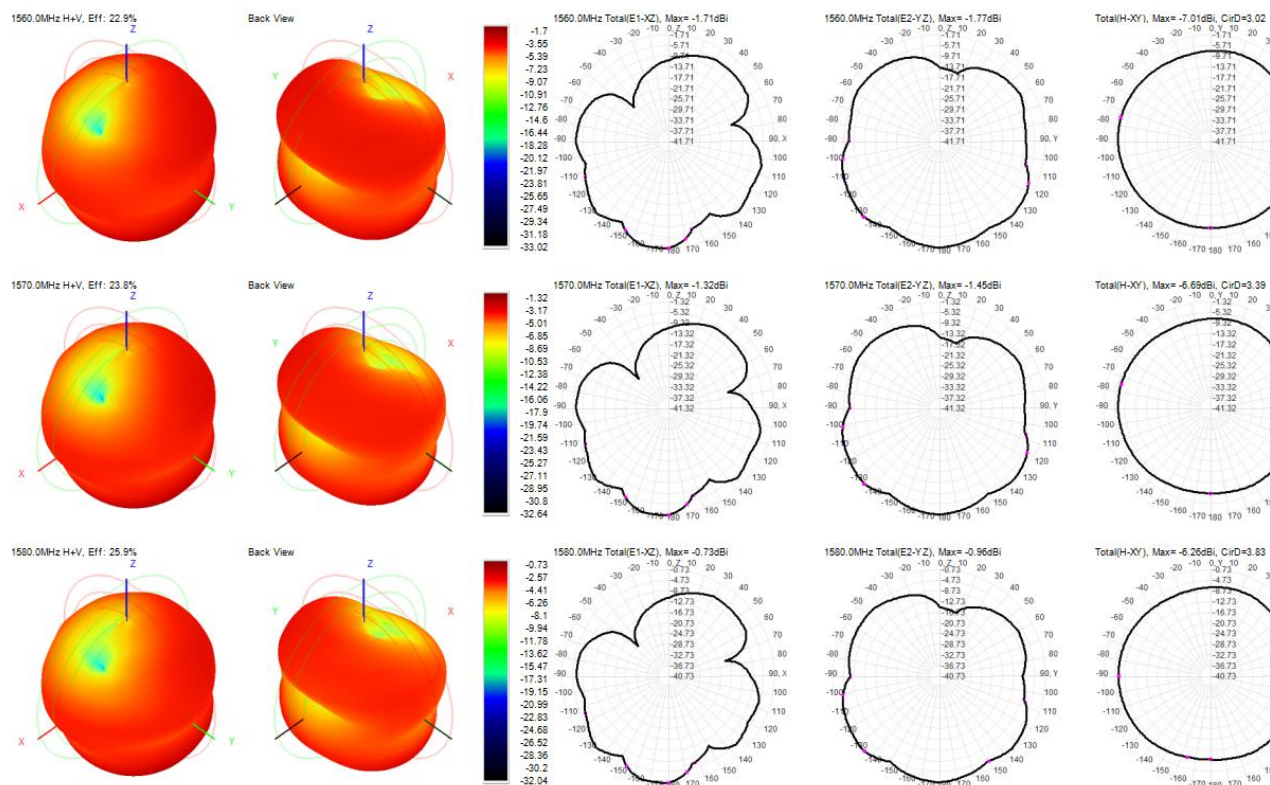
GPS/WIFI2.4G-2D

Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Frequency (MHz)	1550.0	1560.0	1570.0	1580.0	1590.0	1600.0	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-6.90	-6.41	-6.24	-5.87	-5.67	-5.87	-6.35	-6.34	-6.11	-6.07	-6.33	-6.03	-6.16	-6.45	-6.40	-6.54	
Gain (dBi)	-2.26	-1.70	-1.32	-0.73	-0.30	-0.31	1.86	1.91	2.08	2.05	1.68	1.85	1.70	1.41	1.74	1.50	1.37
Efficiency (%)	20.42	22.86	23.76	25.90	27.07	25.88	23.15	23.23	24.50	24.71	23.30	24.94	24.24	22.63	24.13	22.89	22.19
Directivity (dB)	4.64	4.71	4.92	5.14	5.38	5.56	8.21	8.25	8.19	8.12	8.01	7.88	7.86	7.87	7.91	7.90	7.91
Peak Gain Position (Theta)	165.00	165.00	180.00	180.00	180.00	180.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Peak Gain Position (Phi)	345.00	345.00	0.00	0.00	15.00	15.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Efficiency ThetaPol (%)	12.68	14.11	14.39	15.38	15.84	14.89	14.80	14.68	15.41	15.57	14.50	15.33	14.82	13.93	14.90	14.11	13.83
Efficiency PhiPol (%)	7.74	8.75	9.36	10.53	11.24	10.99	8.35	8.55	9.09	9.14	8.79	9.61	9.42	8.70	9.23	8.78	8.36
Upper Hem. Efficiency (%)	6.75	7.35	7.45	8.04	8.41	8.08	5.88	5.92	6.40	6.66	6.42	6.92	6.68	6.17	6.60	6.41	6.44
Lower Hem. Efficiency (%)	13.67	15.51	16.31	17.87	18.66	17.80	17.27	17.32	18.10	18.06	16.88	18.02	17.55	16.46	17.53	16.49	15.75

5G-2D

Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Efficiency (dBi)	-4.97	-4.10	-4.07	-5.37	-5.36	-5.30	-6.53	-5.68	-4.71	-5.78	-5.40	-4.50	-5.25	-5.75	-4.70
Gain (dBi)	2.06	3.17	4.18	2.79	3.38	3.07	1.93	2.32	2.73	2.14	2.33	3.91	2.74	2.78	3.44
Efficiency (%)	31.84	38.91	39.16	29.01	29.12	29.52	22.21	27.06	33.83	26.42	28.83	35.47	29.87	26.62	33.90
Directivity (dB)	7.03	7.27	8.25	8.17	8.74	8.37	8.47	7.99	7.44	7.92	7.73	8.42	7.98	8.53	8.14
Peak Gain Position (Theta)	60.00	60.00	60.00	60.00	60.00	75.00	60.00	75.00	60.00	60.00	60.00	60.00	45.00	45.00	45.00
Peak Gain Position (Phi)	105.00	120.00	90.00	105.00	105.00	105.00	105.00	105.00	105.00	90.00	75.00	105.00	105.00	105.00	105.00
Efficiency ThetaPol (%)	24.39	29.67	30.42	23.61	22.84	23.30	17.51	21.13	26.86	20.68	22.56	27.38	22.37	19.47	24.05
Efficiency PhiPol (%)	7.45	9.24	8.74	5.41	6.28	6.22	4.70	5.94	6.96	5.74	6.27	8.09	7.50	7.15	9.85
Upper Hem. Efficiency (%)	22.17	27.01	28.10	20.76	21.06	21.88	16.11	19.29	24.81	19.39	21.00	26.61	22.12	19.63	24.73
Lower Hem. Efficiency (%)	9.67	11.90	11.06	8.26	8.06	7.64	6.10	7.77	9.02	7.03	7.82	8.86	7.75	6.99	9.17

3D-OTA-GPS/WIFI 2.4G





Date

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Version

A0

File number

XT-YF-004

Product model

MT022-G/W/B antenna

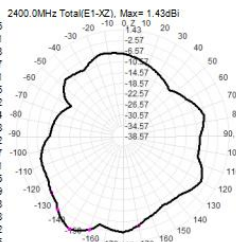
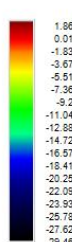
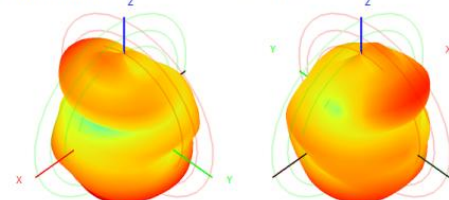
Product
number

XT-MT022-APP

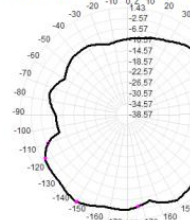
3D-OTA-WIFI 2.4G

2400.0MHz H+V, Eff: 23.1%

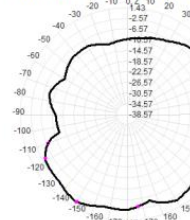
Back View



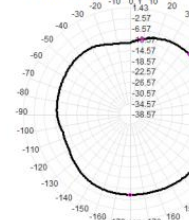
2400.0MHz Total(E1-XZ), Max=1.43dBi



2400.0MHz Total(E2-YZ), Max=-0.85dBi

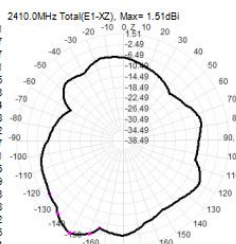
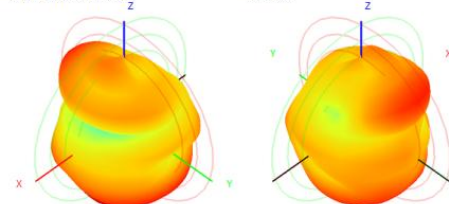


Total(H-XY), Max=-6.89dBi, C/D=5.71

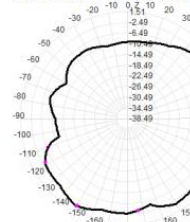


2410.0MHz H+V, Eff: 23.2%

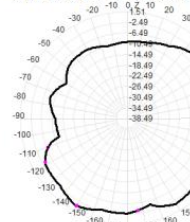
Back View



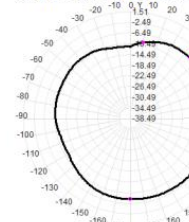
2410.0MHz Total(E1-XZ), Max=1.51dBi



2410.0MHz Total(E2-YZ), Max=-0.79dBi

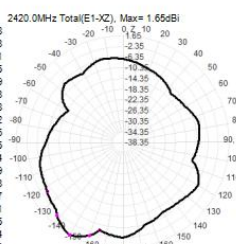
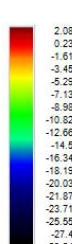
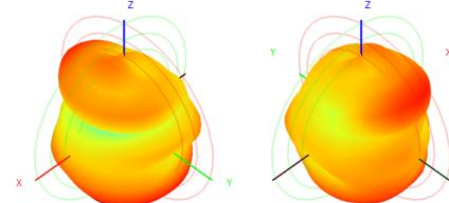


Total(H-XY), Max=-6.52dBi, C/D=5.44

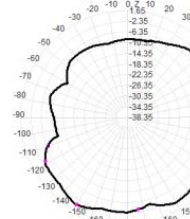


2420.0MHz H+V, Eff: 24.5%

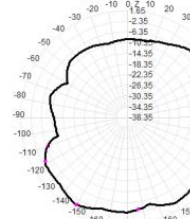
Back View



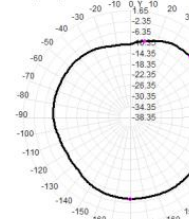
2420.0MHz Total(E1-XZ), Max=1.65dBi



2420.0MHz Total(E2-YZ), Max=-0.63dBi

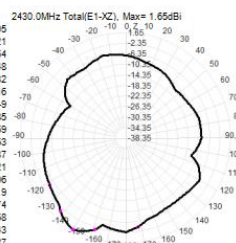
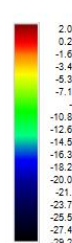
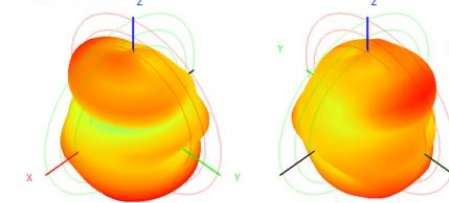


Total(H-XY), Max=-6.21dBi, C/D=5.02

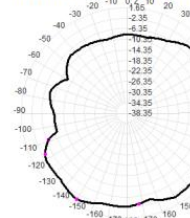


2430.0MHz H+V, Eff: 24.7%

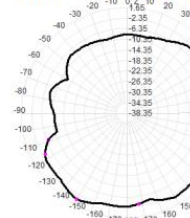
Back View



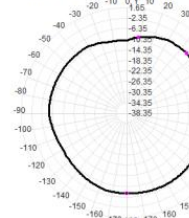
2430.0MHz Total(E1-XZ), Max=1.65dBi



2430.0MHz Total(E2-YZ), Max=-0.69dBi

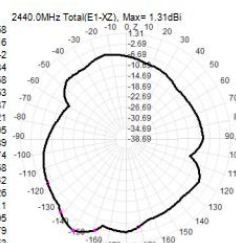
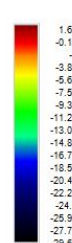
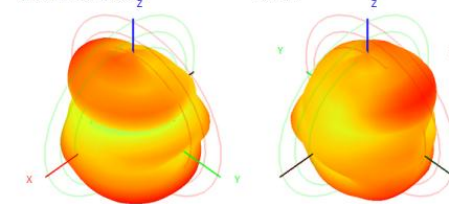


Total(H-XY), Max=-6.16dBi, C/D=4.77

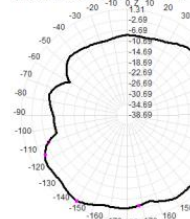


2440.0MHz H+V, Eff: 23.3%

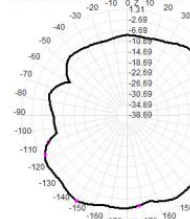
Back View



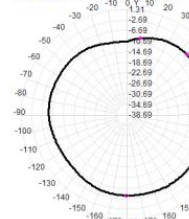
2440.0MHz Total(E1-XZ), Max=1.31dBi



2440.0MHz Total(E2-YZ), Max=-1.09dBi

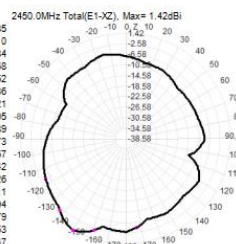
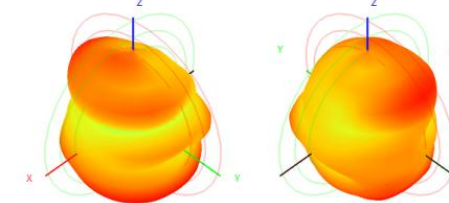


Total(H-XY), Max=-6.26dBi, C/D=4.74

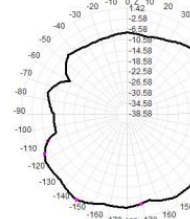


2450.0MHz H+V, Eff: 24.9%

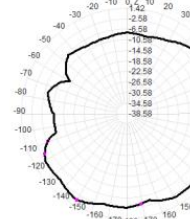
Back View



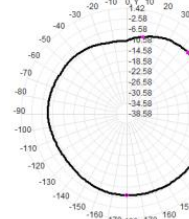
2450.0MHz Total(E1-XZ), Max=1.42dBi



2450.0MHz Total(E2-YZ), Max=-0.94dBi



Total(H-XY), Max=-5.66dBi, C/D=5.31





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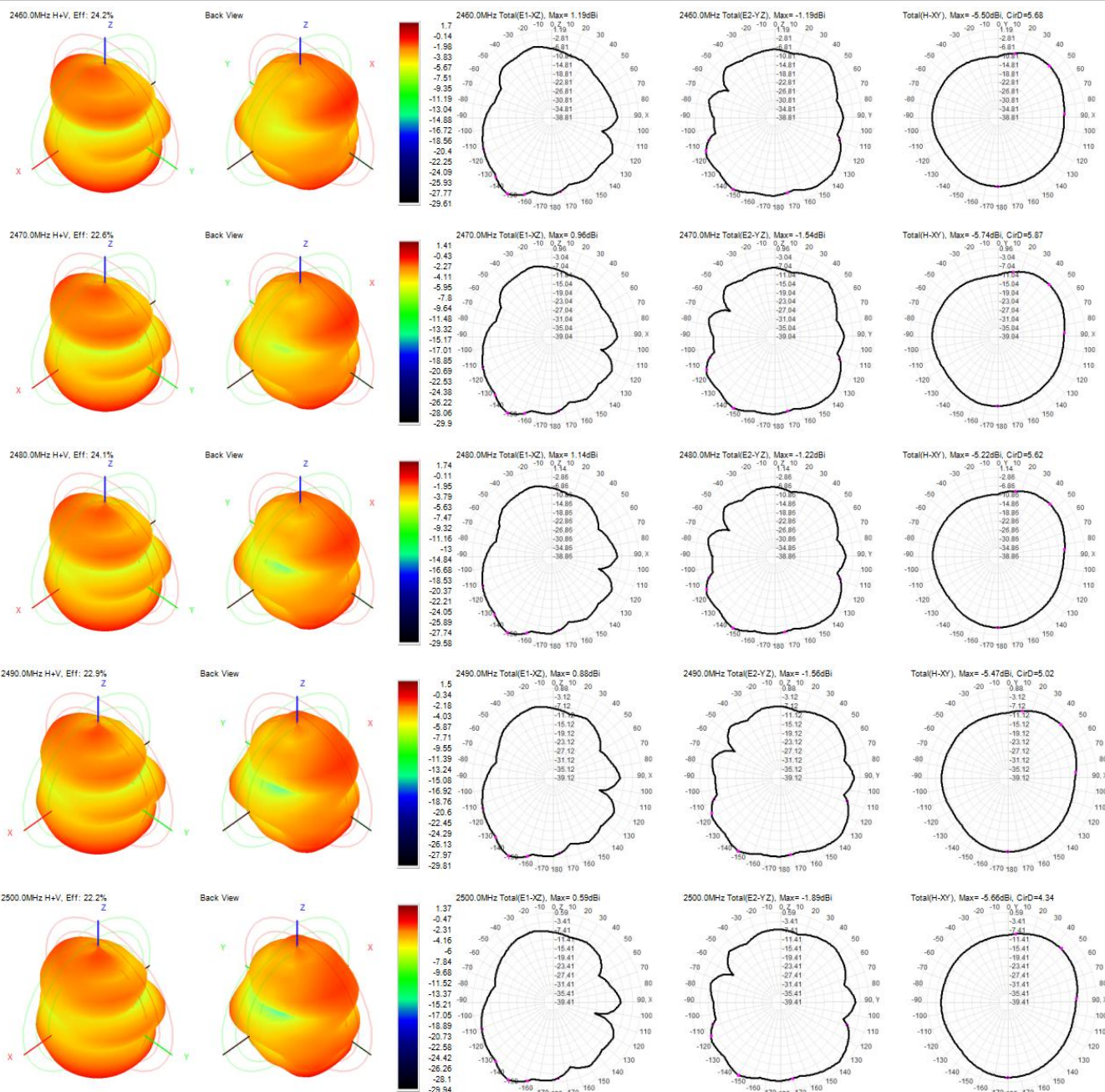
XT-YF-004

Product model

MT022-G/W/B antenna

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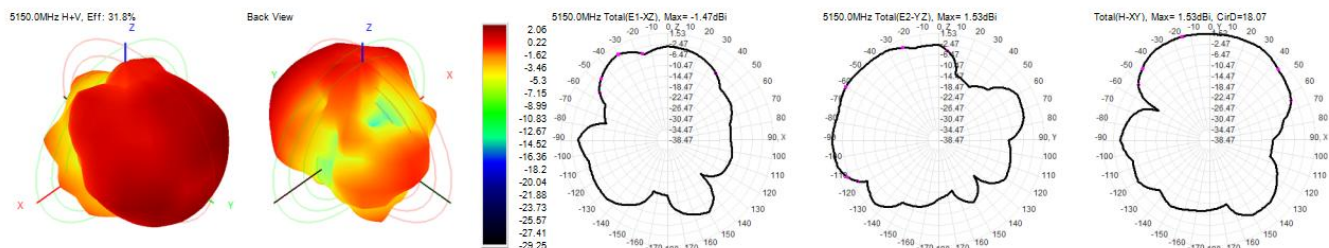
MT022-G/W/B antenna

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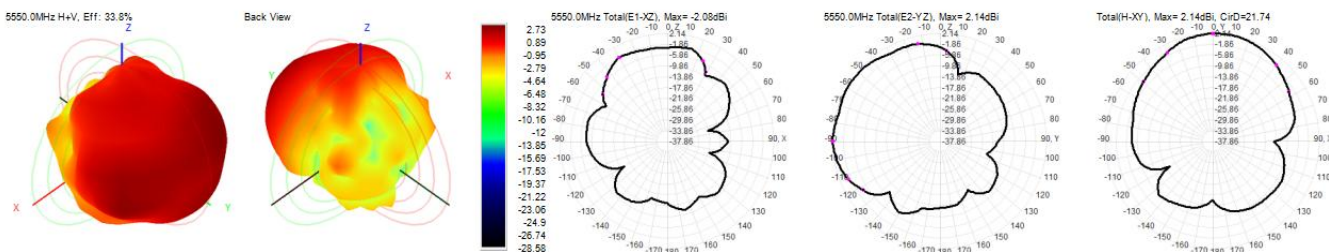
XT-MT022-APP

3D-OTA-5G

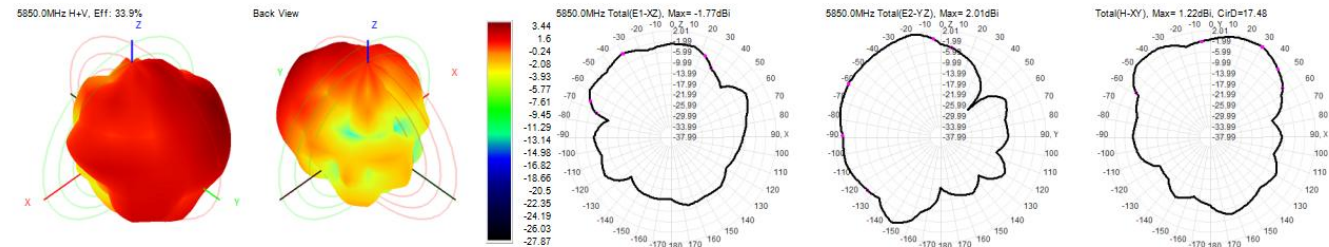
5150MHZ



5550MHZ



5850MHZ

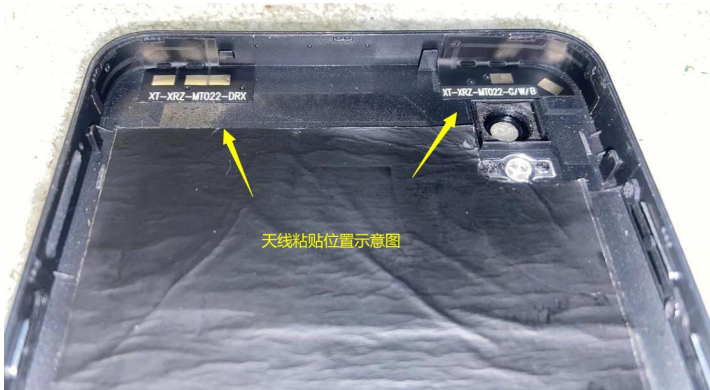


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7. Reliability test:

Serialnumber	test item	Test requirements	testing tool	test result
1	Resistance to tin melting	288℃, 10S, no delamination, no foaming	Tin furnace	Ok
2	weldability	245℃, 5s, smooth tin surface, solder surface≥95%	Tin furnace	Ok
3	Pulling force	N/A	tautness meter	Ok
4	Reverse pulling force	N/A	tautness meter	Ok
5	Peel strength (covering film)	≥0.35kg/cm	peel strength	Ok
6	Peel strength (copper foil)	≥0.8kg/cm	peel strength	Ok
7	Hot melt adhesive fluidity	0.1~0.15	/	Ok

7. Matters needing attention:



After opening, please carefully check whether the goods are complete. If there is any damage, please contact us immediately.