



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: SYX.1.1.017

Product name: BT Magic antenna

Product item number: XT-20220825-V1.0

Producer	Audit	Date
Huangjiajun	Wu Yanlong	2022-08-25

Customer confirmation:

Customer name: Shenzhen shiye Technology 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 Wireless Technology Co., Ltd

Date

2022-08-25

Version

A0

File number

XT-YF-004

Product model

BT Magic antenna

Product
number

A1002

1. Product Construction:

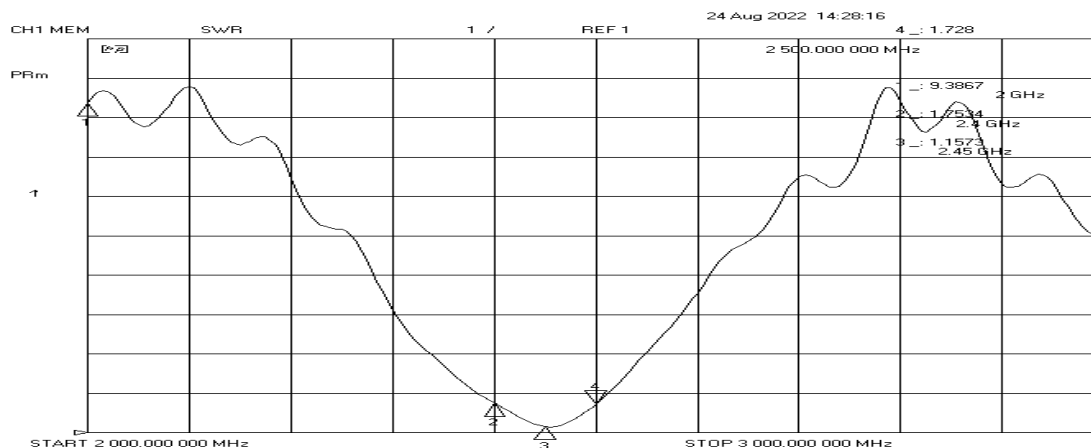
- 1. Antenna material: FPC black
- 2. Adhesive type: 3M9471
- 3. Antenna size: 13.12*7.19*0.15 (Tolerance $\pm 0.03\text{MM}$)
- 4. Coaxial line size: nothing

2. parameters

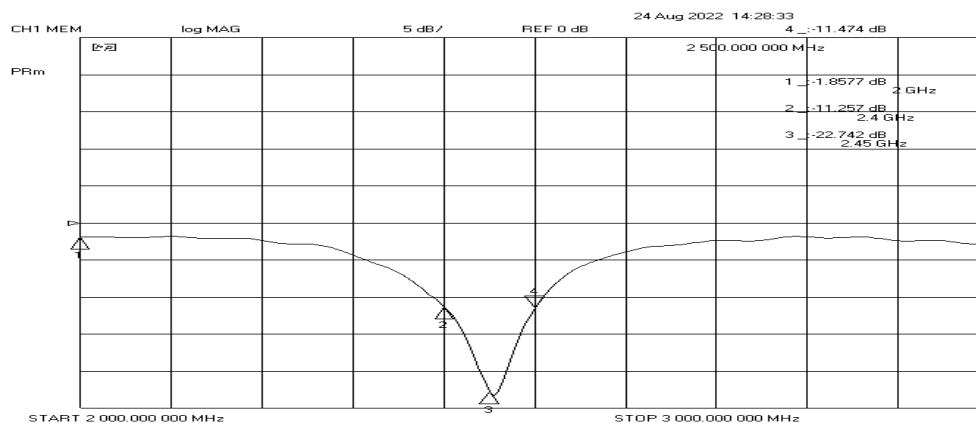
- Scope of use: customer-supplied machines
- Antenna frequency: 2.4-2.5GHz
- Antenna gain: 1.8dbi
- Installation mode: Main board spring foot contact
- Packing method: use PE bag+packing box

3. S11 value of antenna (S11)

- 3.1: antenna standing wave ratio



- 3.2: Antenna return loss value





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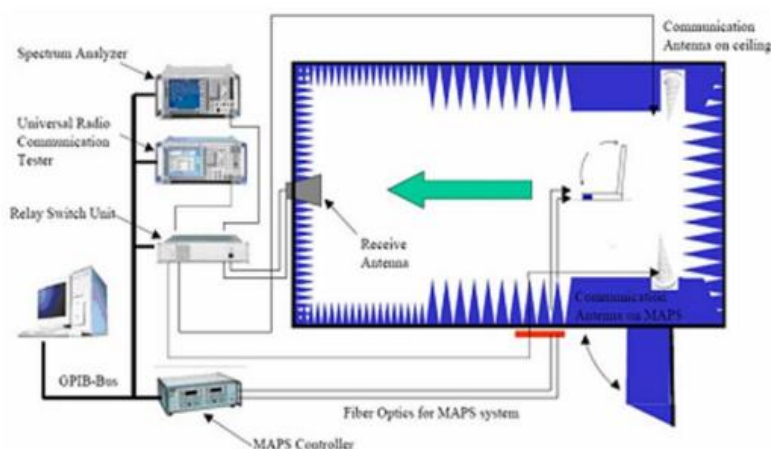
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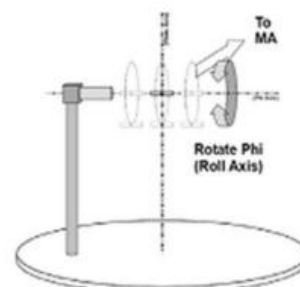
4. Antenna performance (OTA)

4.1: Antenna matching recommendations

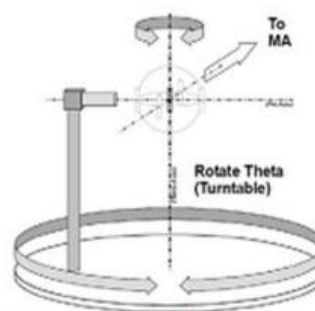
Vector impedance modulation can be performed.



(Testing by 3D anechoic chamber)



Phi axis test



Theta axis test

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

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-5.33	-5.19	-5.01	-4.87	-4.84	-4.66	-4.63	-4.72	-4.71	-4.96	-5.21
Gain (dBi)	1.11	1.10	1.45	1.65	1.68	1.80	1.75	1.51	1.44	1.21	1.10
Efficiency (%)	29.29	30.24	31.56	32.55	32.78	34.20	34.45	33.70	33.78	31.92	30.15
Directivity (dB)	5.22	5.29	5.45	5.52	5.52	5.46	5.38	5.23	5.15	5.17	5.31
Peak Gain Position (Theta)	165.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Peak Gain Position (Phi)	150.00	285.00	285.00	285.00	285.00	285.00	285.00	285.00	285.00	285.00	285.00
Efficiency ThetaPol (%)	18.82	19.48	20.49	21.35	21.53	22.45	22.78	22.61	22.78	21.57	20.55
Efficiency PhiPol (%)	10.48	10.76	11.08	11.20	11.25	11.75	11.67	11.10	11.00	10.35	9.60
Upper Hem. Efficiency (%)	10.24	10.48	10.85	11.11	11.20	11.72	11.89	11.76	11.90	11.29	10.60
Lower Hem. Efficiency (%)	19.05	19.76	20.72	21.45	21.59	22.48	22.56	21.94	21.88	20.64	19.55



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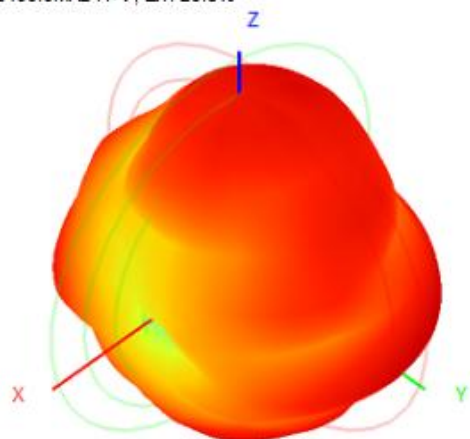
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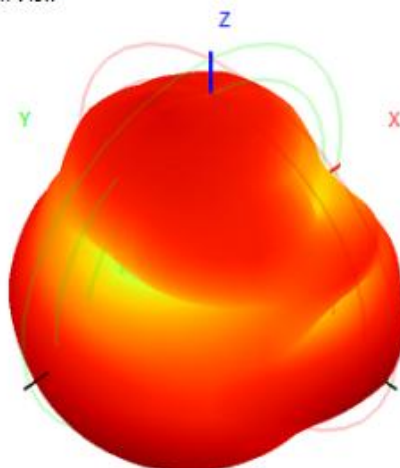
A1002

4.3: Antenna OTA-2.4G-3D

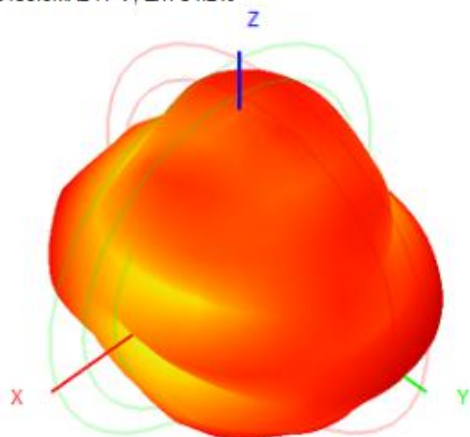
2400.0MHz H+V, Eff: 29.3%



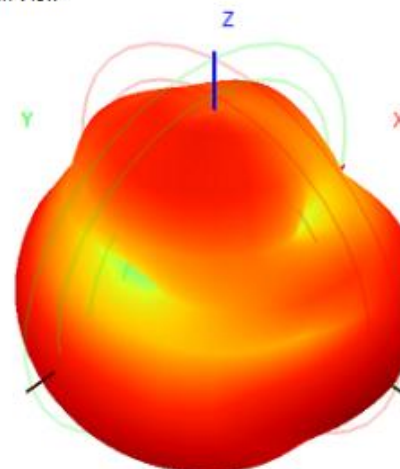
Back View



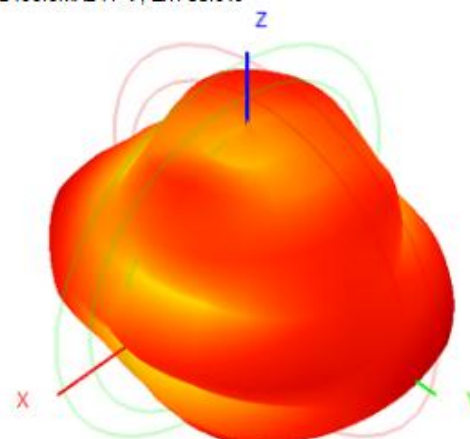
2450.0MHz H+V, Eff: 34.2%



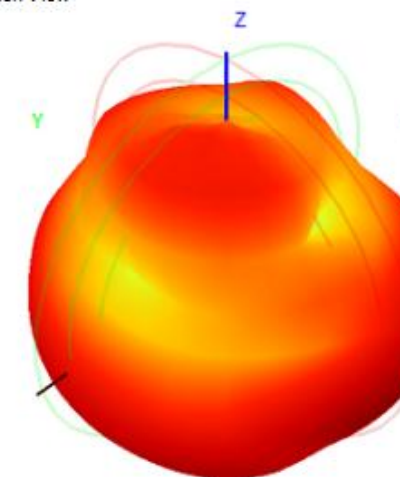
Back View



2480.0MHz H+V, Eff: 33.8%



Back View





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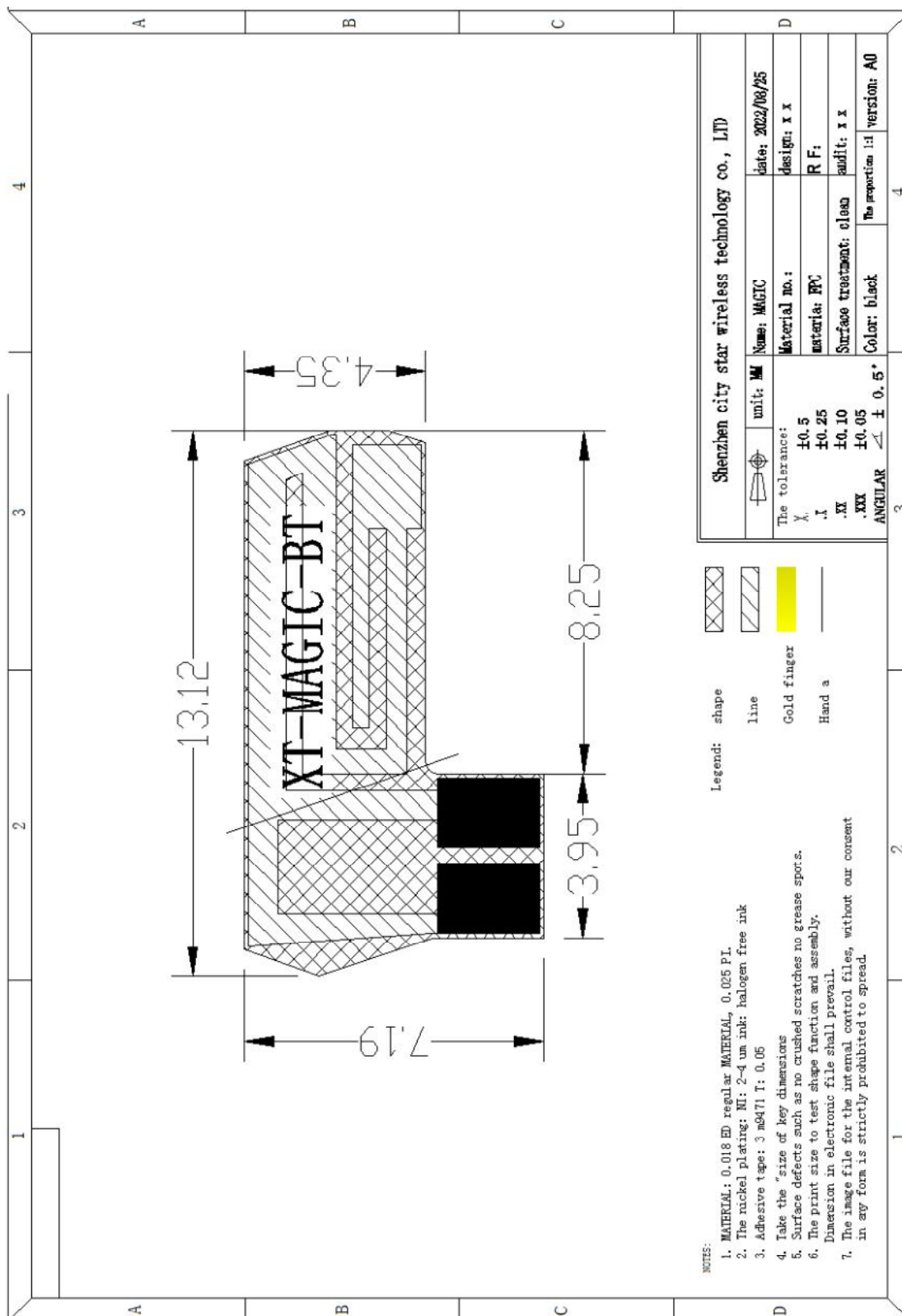
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5. 附图:

□ 5.1: Finished antenna drawing





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6. Maintenance verification:

Tests/test items	Maintainability	Inspection order number
Product name/specification	2.4 bluetooth built-in FPC antenna	Test quantity: 5PCS
Date of inspection: 25, 8, 2022		Completion date: 25, 8, 2022

Test/inspection equipment:

1. The tensile tester tests 5 times. (The tester is shown in the figure)



Note: Uniform speed test is required, not extreme speed test.

Projects Condition	Maintaining force between terminal and cable $\geq 0.6\text{kgf}$.				
Test times	1	2	3	4	5
test result	0.6	0.7	0.7	0.9	0.7

Test/inspection result: acceptable

Test/inspection judgment: ☒ Qualified ☐ Unqualified ☐ Make no judgment

Test: Zhu Yongjian

Audit: Wu Yanlong



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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积≥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	0.1~0.15	/	Ok

8. Matters needing attention:

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