

KICKR Wifi antenna report



Manufacturer: Wahoo Fitness LLC
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www.sz-southstar.com

RF: He Jian
Version:20220327 v1



Catalogue

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- 二、 Antenna position
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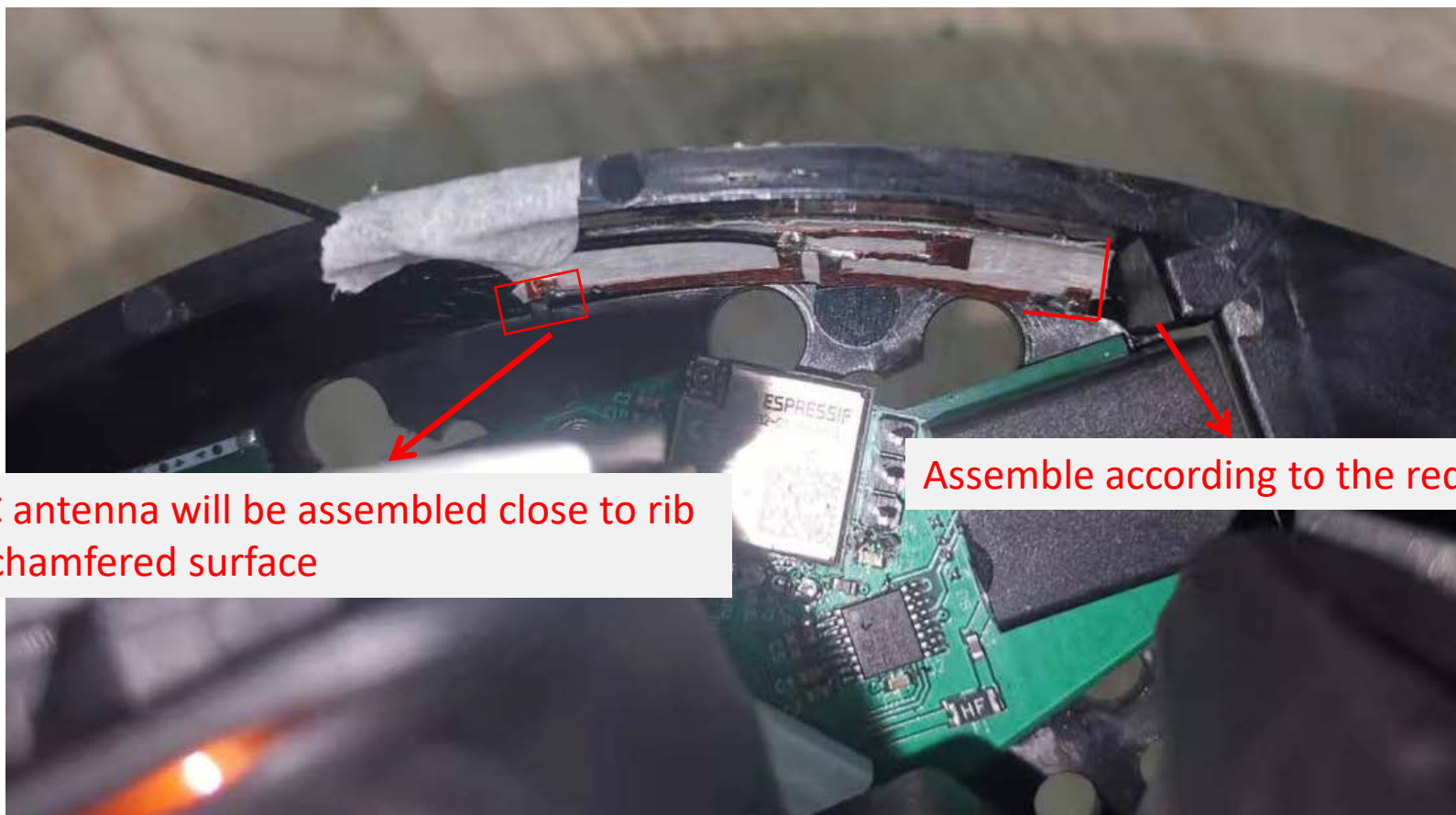


一、Project demand information

Customer	Model	Antenna implementation
Wahoo	KICKR WIFI Ant.	FPC+Cable
Parameter requirements		
WIFI	2400-2500Mhz	



二、Antenna position

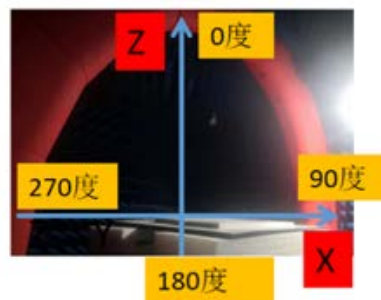
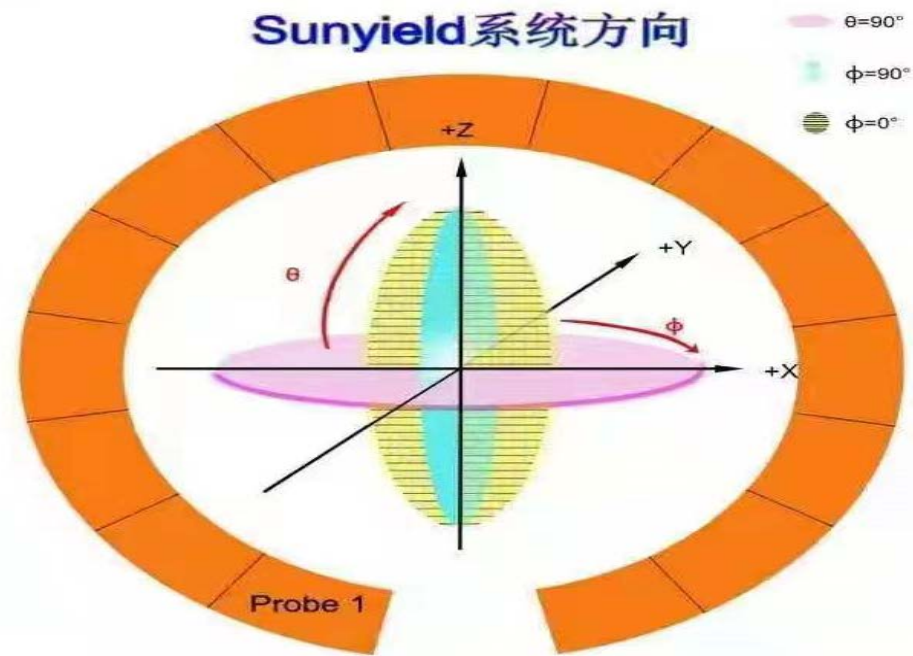
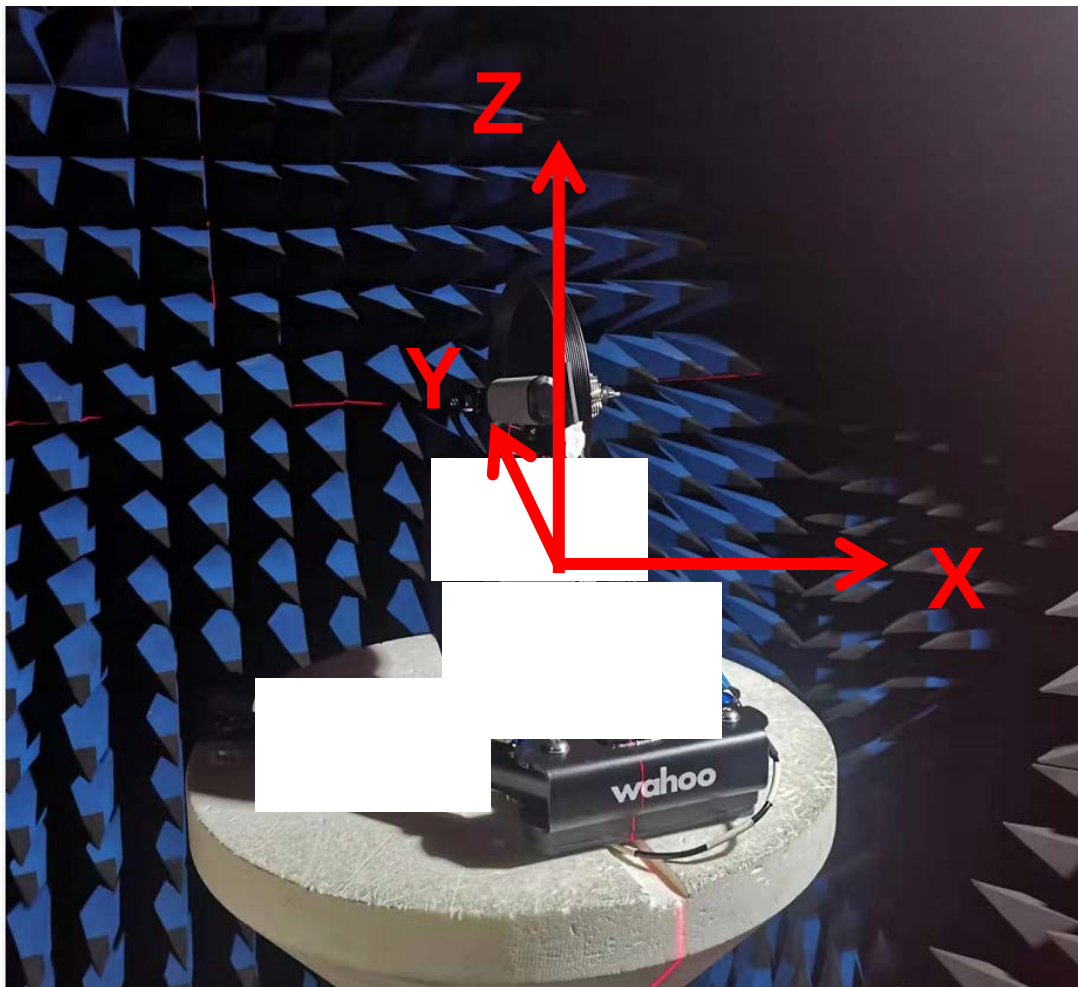


The FPC antenna will be assembled close to rib on the chamfered surface

Assemble according to the red line

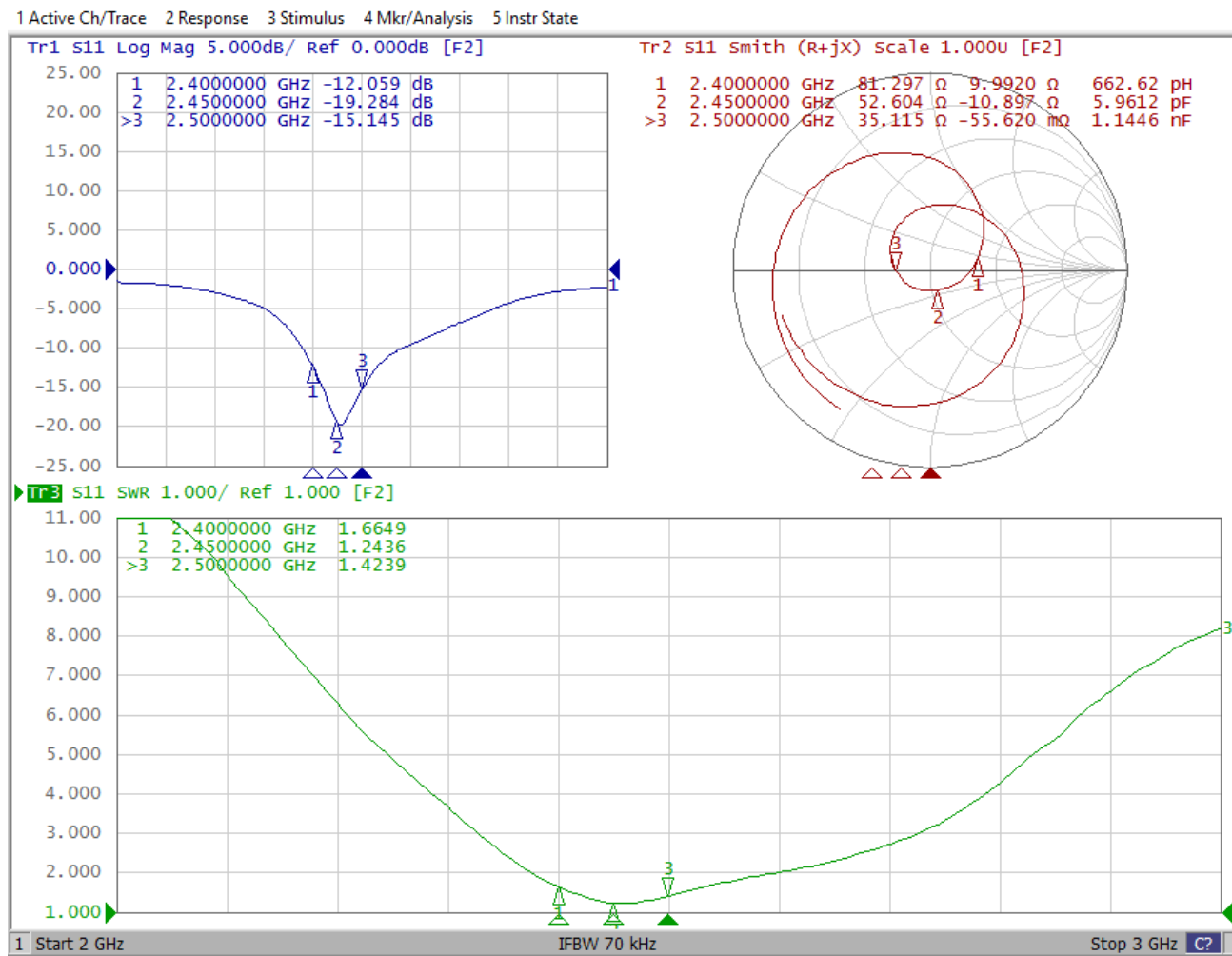


三、Definition of axis





四、Wifi antenna commissioning data





Wifi antenna efficiency and gain

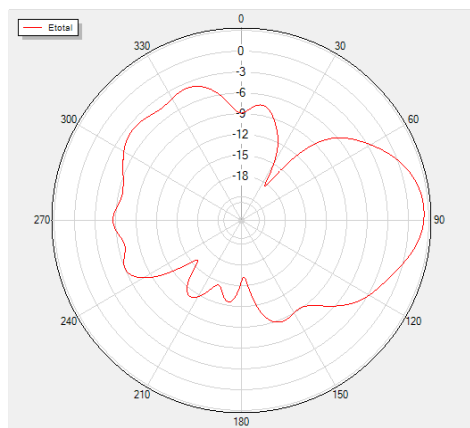
frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	3.81	-3.71	42.52
2410	3.68	-3.65	43.16
2420	3.63	-3.54	44.29
2430	3.31	-3.49	44.82
2440	3.81	-3.46	45.09
2450	3.87	-3.44	45.34
2460	3.89	-3.45	45.19
2470	4.16	-3.37	46.04
2480	4.02	-3.36	46.17
2490	4.13	-3.33	46.45
2500	4.29	-3.29	46.81
avg.	3.87	-3.46	45.08



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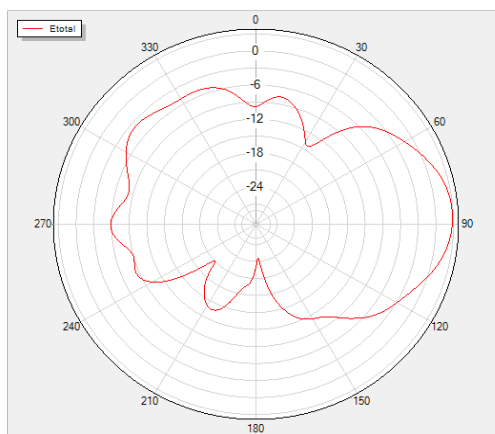
Wifi antenna pattern

Phi=0 Freq=2400MHz



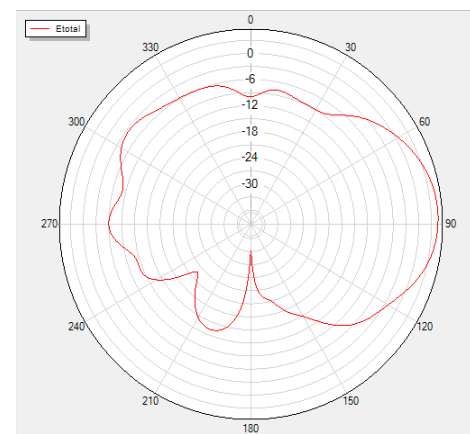
Z、X (H)

Phi=0 Freq=2450MHz



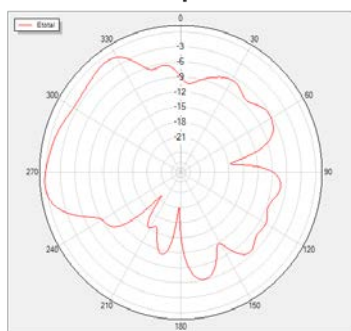
Z、X (H)

Phi=0 Freq=2500MHz



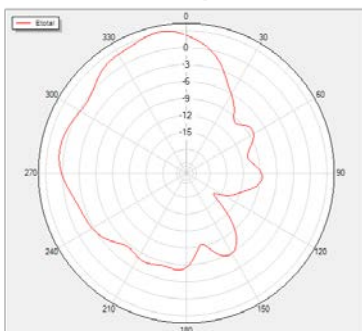
Z、X (H)

Phi=90 Freq=2400MHz



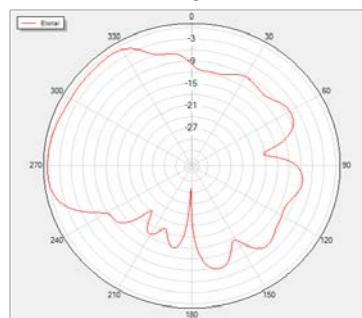
Z、Y

Theta=90 Freq=2400MHz



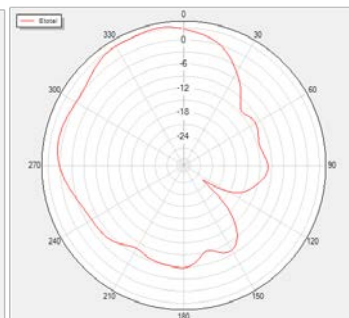
X、Y

Phi=90 Freq=2450MHz



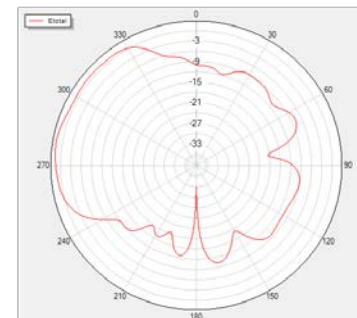
Z、Y

Theta=90 Freq=2450MHz



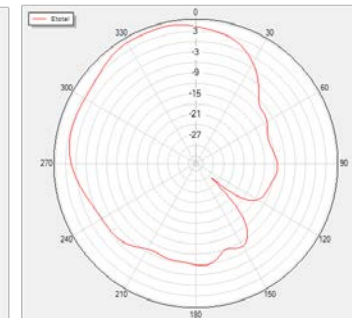
X、Y

Phi=90 Freq=2500MHz



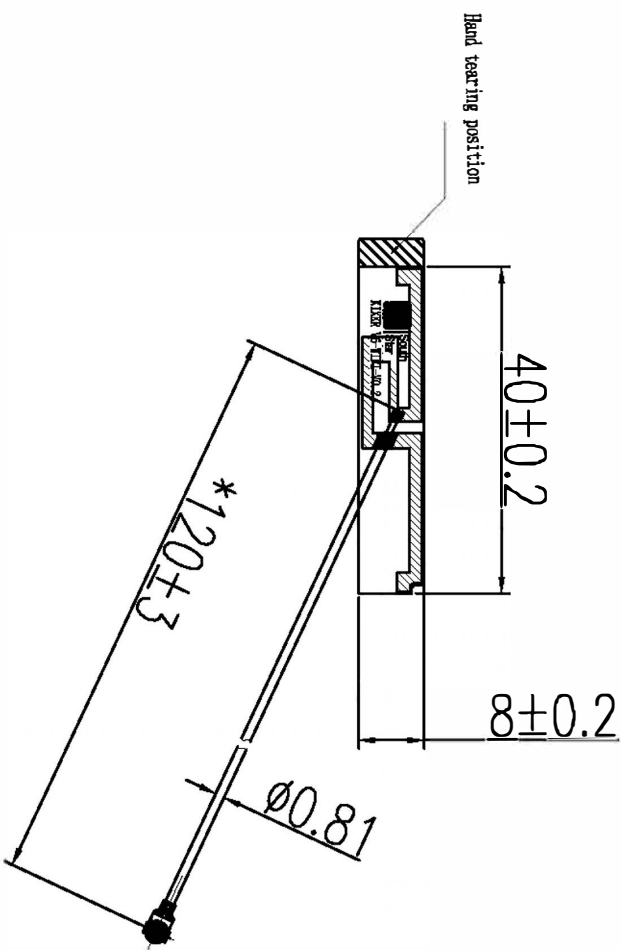
Z、Y

Theta=90 Freq=2500MHz



X、Y

Rev		Description	Date	Remark
A	New drawing			



Technical requirements:

1. The dimension marked with "*" is the key controlled dimension;
2. The dimension not marked shall be in accordance with the drawing;
3. No welding defects such as false welding, tin connection, short circuit and open circuit;
4. All parts shall meet ROHS requirements;
5. The finished product should be fully inspected.

		SOUTH STAR TECHNOLOGY HONG KONG COMPANY LIMITED					
	Third Angle	Project	KIKKR V6	Date	2022-04-14		
0~10	±0.05	Part Name	WFI antenna	Designed by	huang tuyong		
10~18	±0.10	Part No.		Checked by	RF He Jian		
18~30	±0.12	Material	/	Approved by	PE		
30~40	±0.15	DWG No.	3.N101.0546	Unit	mm	Scale	1:1
40~	±0.20	Angle	±0.5°	Rev	A		
Location		8					

1	2	3	4	5	6	7	8
No.	Par tName	Specification	Amount	Remark			
2	FPC	PI/DSP/40#8mm	1	black			
1	Coaxial line	Ø0.81Black line+three generation terminals	1				
1							



五、Summary

- 1, Wifi antenna efficiency: the average is 45%
- 2, The antenna is in the form of PFC