

KICKR Wifi antenna report



**South
Star**

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

RF: He Jian

Version:20220327 v1

Catalogue

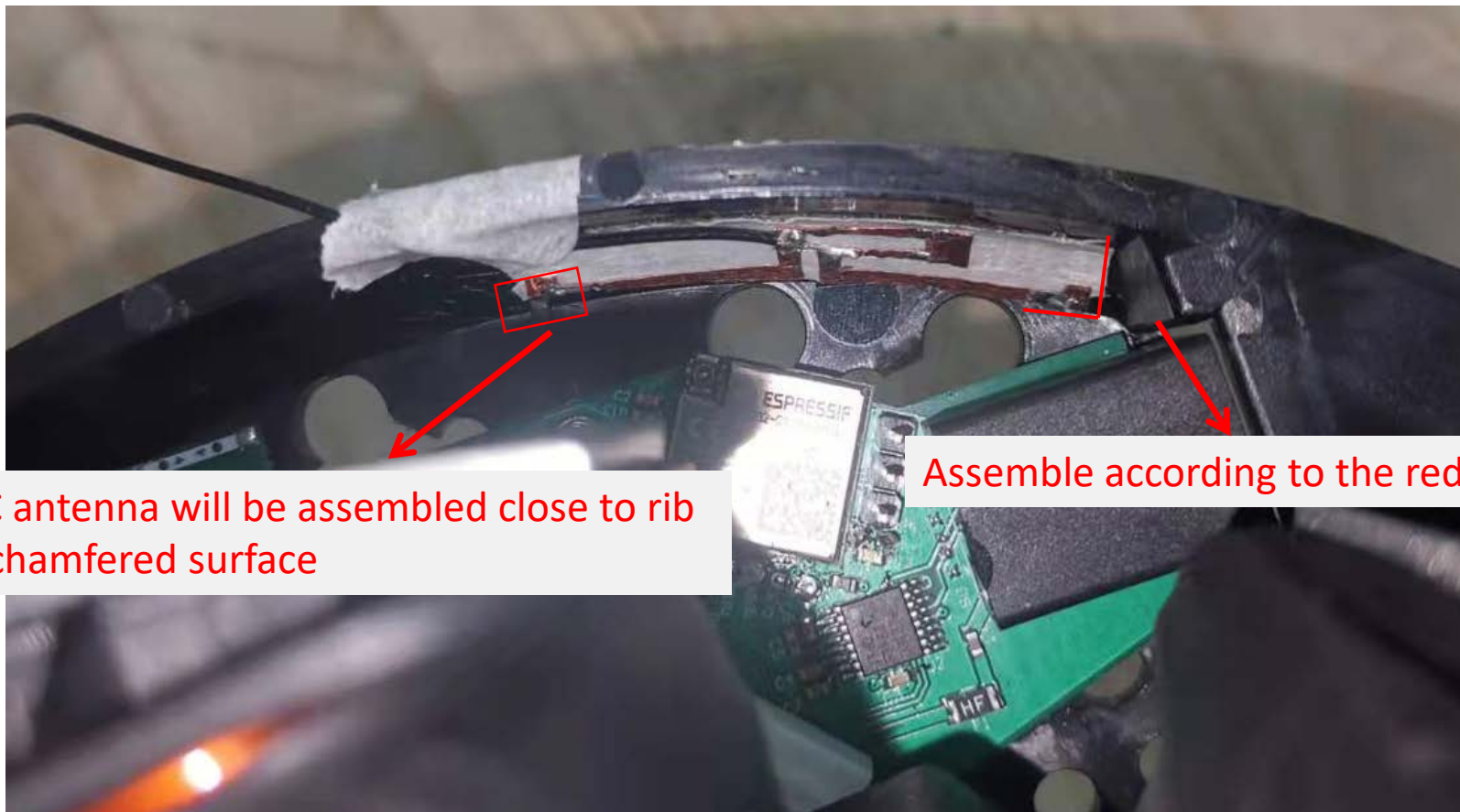
- 一、 Project demand information
- 二、 Antenna position
- 三、 Definition of axis
- 四、 Wifi antenna commissioning data
- 五、 Summary

一、Project demand information

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



二、 Antenna position

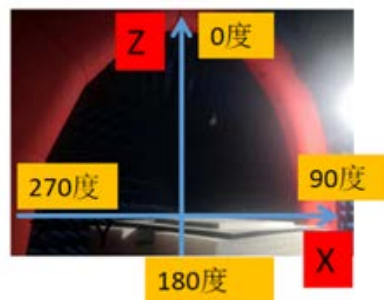
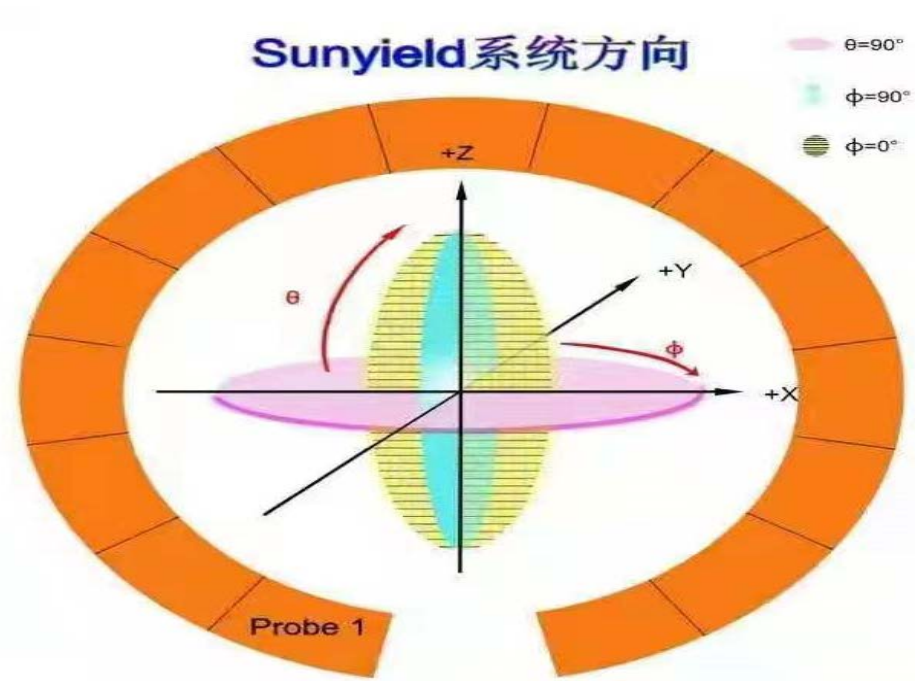
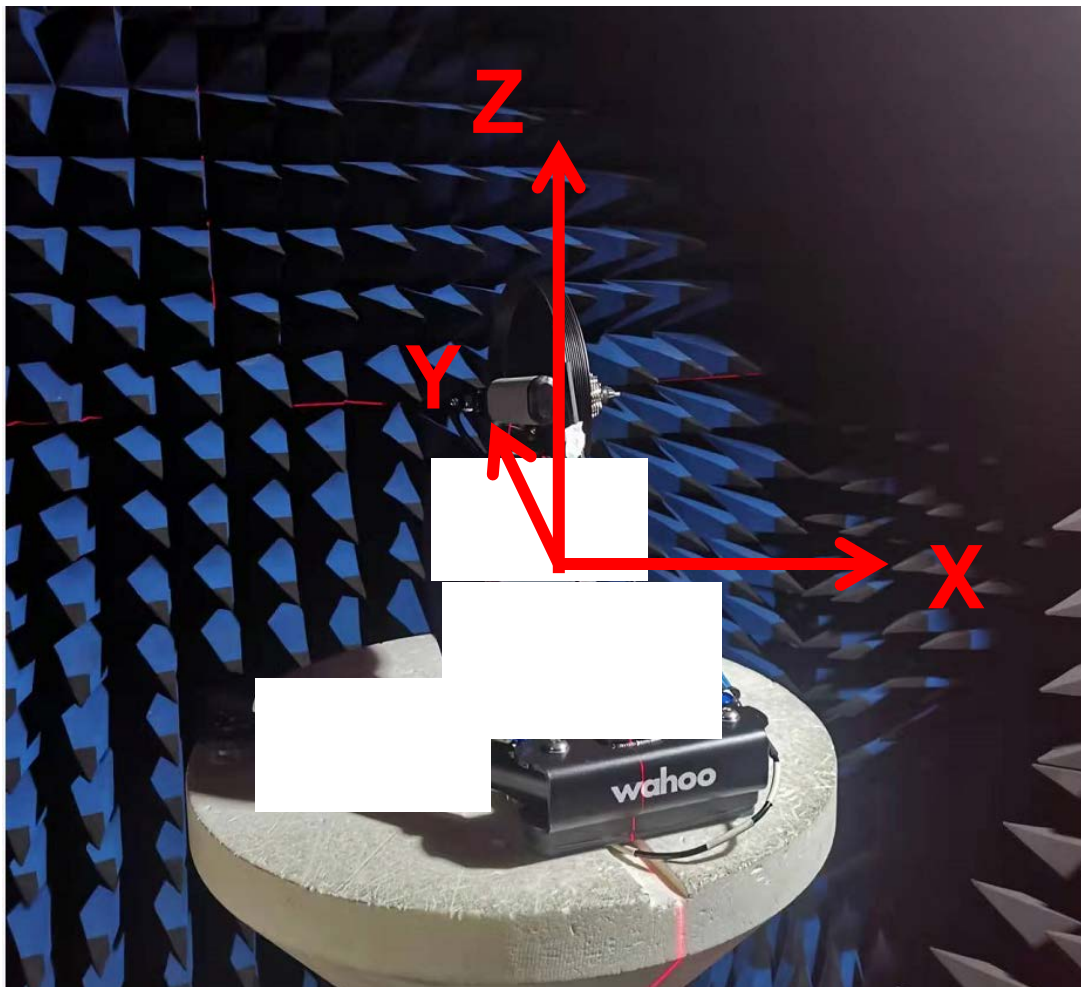


The FPC antenna will be assembled close to rib on the chamfered surface

Assemble according to the red line

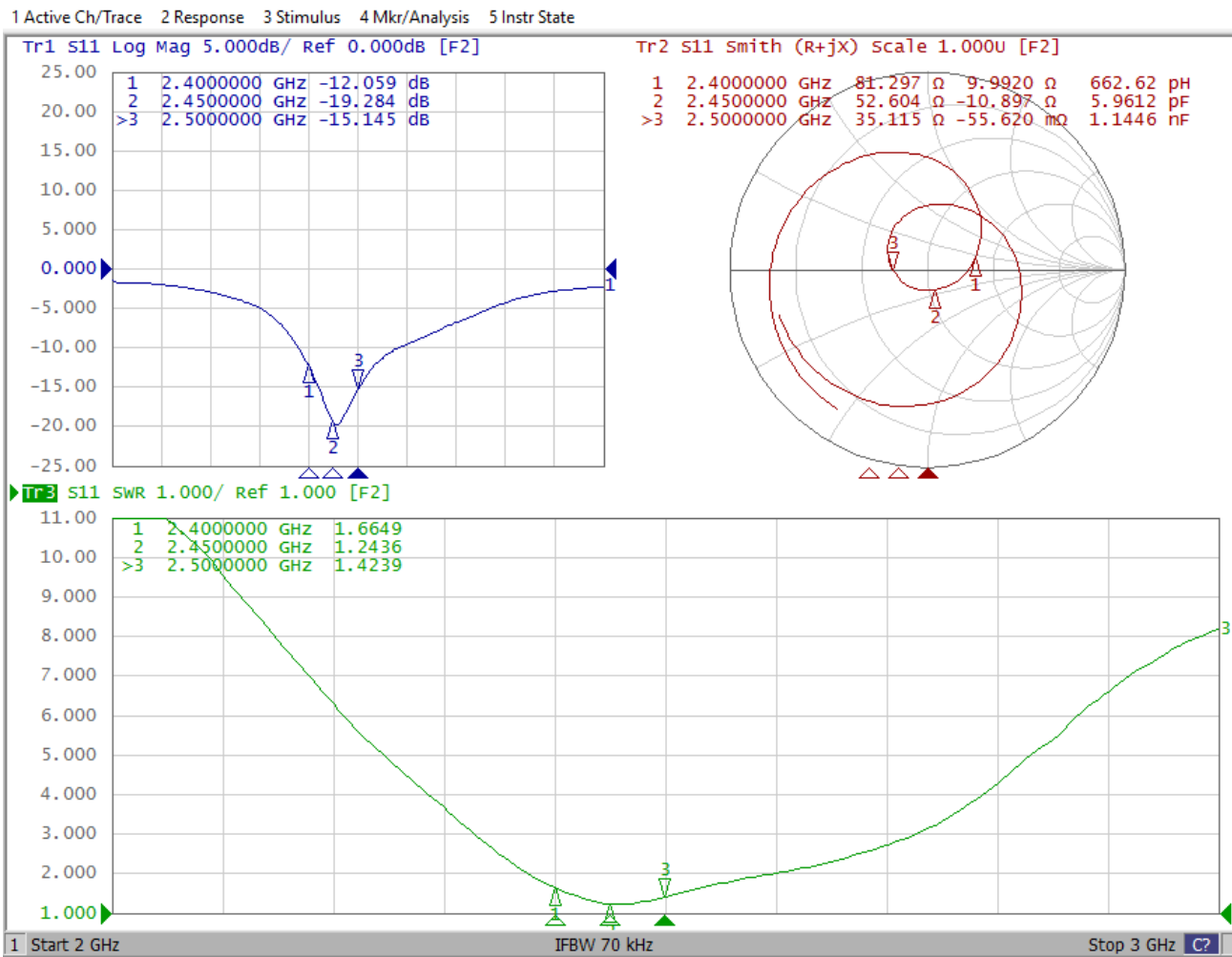


三、Definition of axis





四、Wifi antenna commissioning data



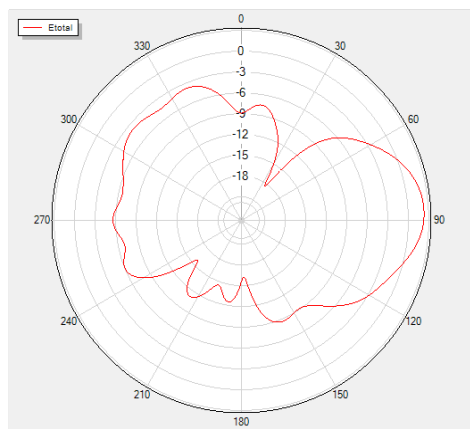
Wifi antenna efficiency and gain

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



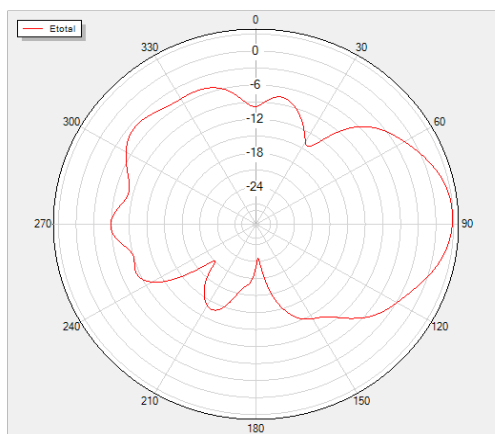
Wifi antenna pattern

Phi=0 Freq=2400MHz



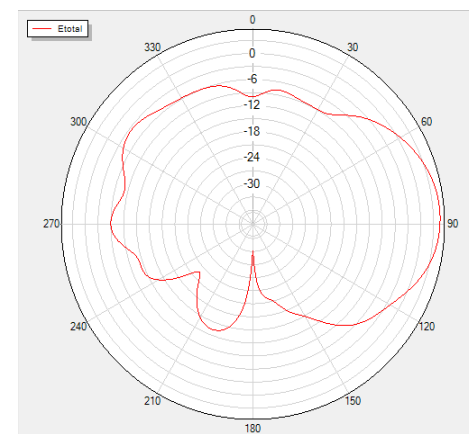
Z、X (H)

Phi=0 Freq=2450MHz



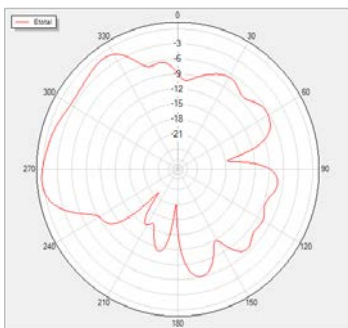
Z、X (H)

Phi=0 Freq=2500MHz



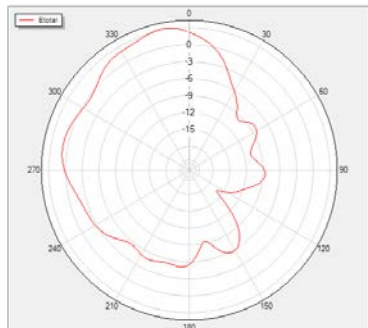
Z、X (H)

Phi=90 Freq=2400MHz



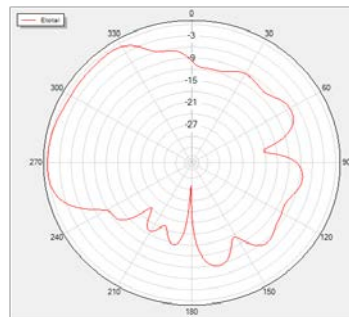
Z、Y

Theta=90 Freq=2400MHz



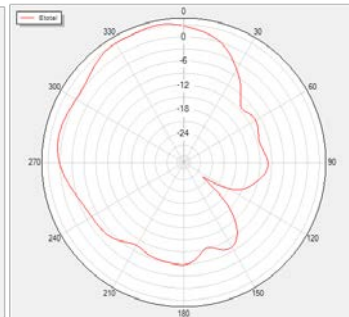
X、Y

Phi=90 Freq=2450MHz



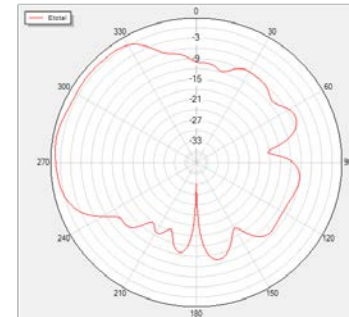
Z、Y

Theta=90 Freq=2450MHz



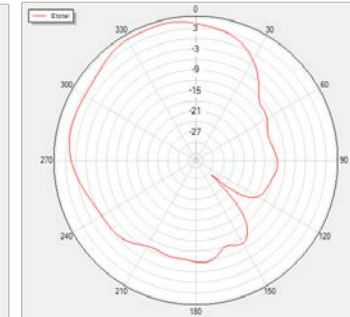
X、Y

Phi=90 Freq=2500MHz



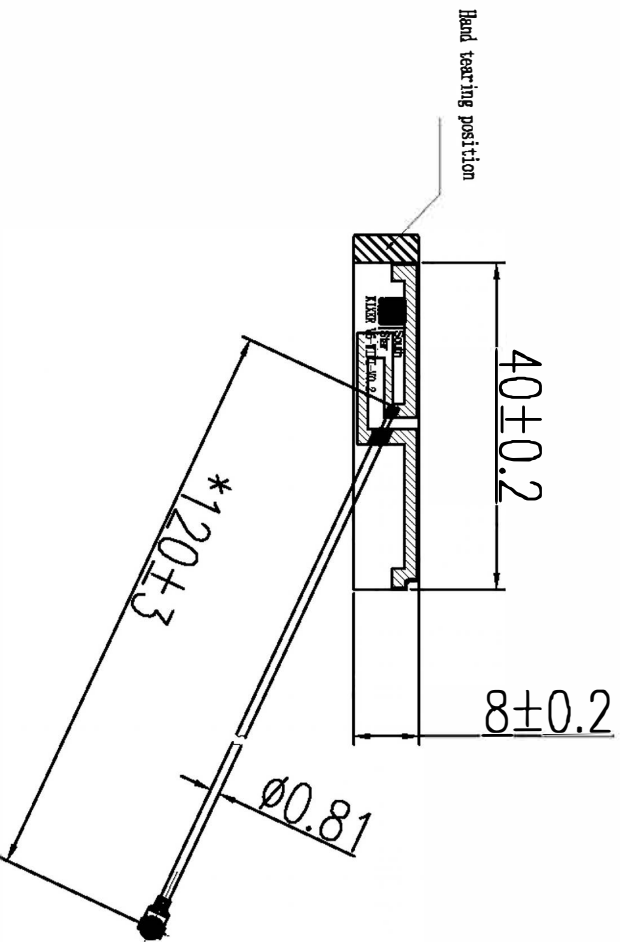
Z、Y

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.

No.	PartName	Specification	Amount	Remark
2	FPC	PI/DSP/40*8mm	1	black
1	Coaxial line	Ø0.81Black line+three generation terminals	1	
1	PartName	Specification	Amount	Remark

South Star		SOUTH STAR TECHNOLOGY HONG KONG COMPANY LIMITED	
Third Angle	Project	KIKKR V6	Date
0~10	±0.05	0.02	2022-04-14
10~18	±0.10	±0.03	Designed by huang tuyong
18~30	±0.12	±0.03	Checked by RF He Jian
30~40	±0.15	0.04	Approved by PE
40~	±0.20	±0.5°	Unit mm Scale 1:1 Rev A
Location	DWG No.	3.N101.0546	



五、Summary

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