



Shenzhen Qinxin Technology Co., LTD

ANTENNA APPROVAL SHEET

customer name	Zha ke comsenz Inc	Project frequency band	BT
project name	ZK-2450	Tab date	2025/10/21
Antenna form	FPC	date changed	--
Customer material number	zk2450-L-R Zk-2450-BT	order of the edition	1.0
The RF Engineer / RF	Huang Wenbo	construction engineer /MD	Xiao-ping ye
project manager /PM			
Customer confirmation			

深圳市勤新科技有限公司	SHENZHEN QIN XIN INDUSTRY CO.,LTD
中国广东省深圳市宝安区石岩街道永兴街 5 号德雨大厦 3 楼 电话: 0755-28404650 传真: 0755-28404639 公司邮箱: Sales@sz-qinxin.com 公司网址: www.sz-qinxin.com 邮编: 518000	3rd Floor, Deyu Building, No. 5 Yongxin Street, Shiyan Street, Bao'an District, Shenzhen , TEL: 28404650 FAX: 0755-28404639 E-Mail: Sales@sz-qinxin.com Website: www.sz-qinxin.com Post Code: 518000



The antenna test environment

External test environment

Our main test equipment is shown in the table below.

Table 2-2. Main test equipment

order number	device name	Device pictures	Measurement index	operational environment
1	Agilent 8960 Integrated tester		Active performance	Normal temperature and humidity
2	Microwave darkroom			
3	ADVANTEST R3765BH Network analyzer		Passive performance	There is no large metal around it
				Normal temperature and humidity



2.1.1 A passive test

The connection of the test device is: network analyzer test line test equipment.

2.1.2 Active testing

The main performance indicators of active testing: total radiation power (TRP), omnidirectional sensitivity (TIS).

Test site

Microwave dark room: the frequency range is 700 MHz-6GHz, the static area range is 50cm circumference, and the reflectivity is less than-50 dB.

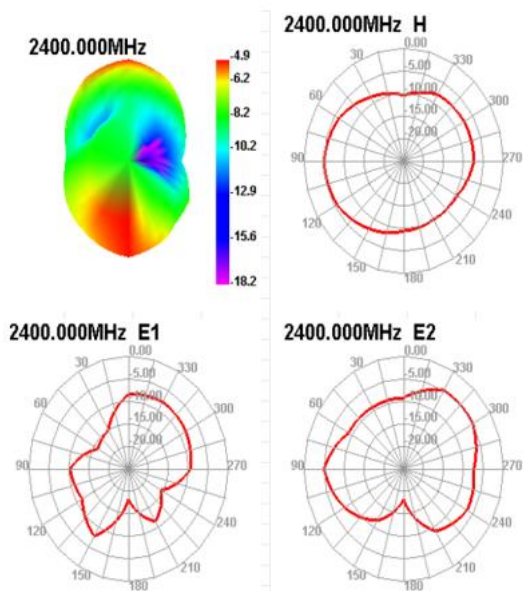
Test instrument

Network analyzer, CMW500, standard horn antenna, GTS1800 test system, printer, etc.

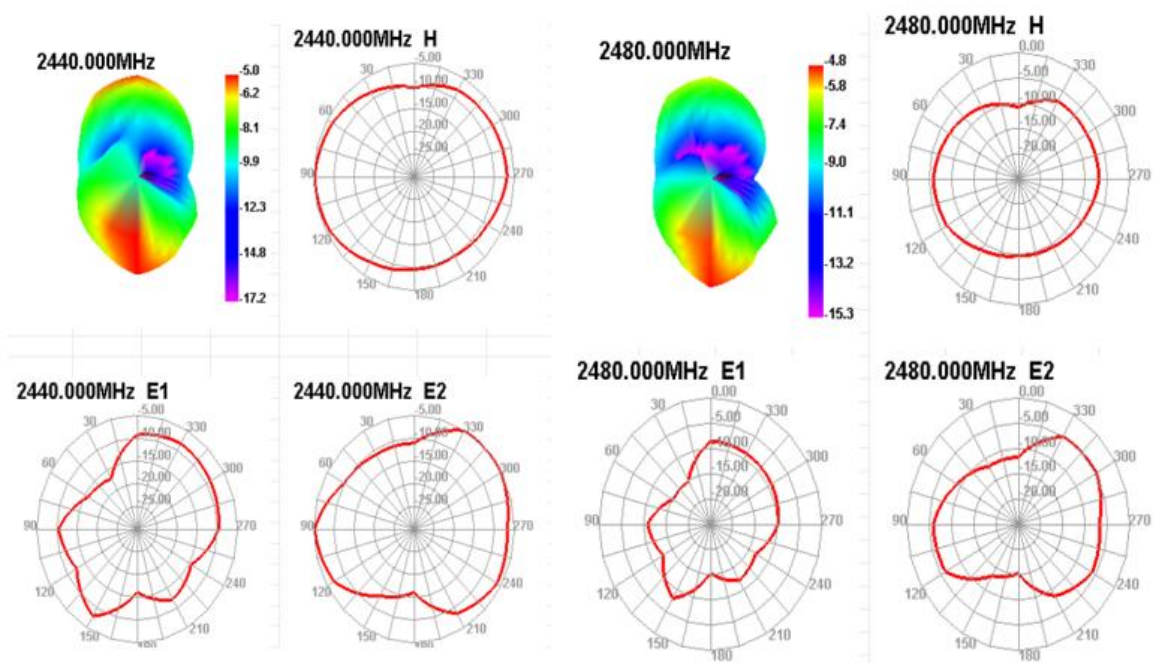
Efficiency gain and radiation pattern of antenna

headphone

Freq (MHz)	Effi (%)	Gain (dBi)
2400	9.82	-5.25
2410	10.66	-4.81
2420	10.53	-4.34
2430	10.31	-4.42
2440	10.59	-4.56
2450	10.46	-4.24
2460	11.85	-3.97
2470	11.76	-4.01
2480	11.21	-3.7
2490	11.75	-4
2500	11.73	-4.18



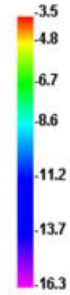
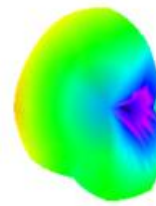
headphone



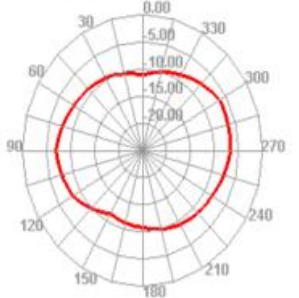
earbuds case

Freq (MHz)	Effi (%)	Gain (dBi)
2400	17.59	-3.99
2410	17.86	-3.89
2420	18.13	-3.87
2430	18.99	-3.86
2440	19.59	-3.97
2450	19.29	-3.64
2460	18.91	-3.69
2470	19.13	-3.62
2480	20.15	-3.64
2490	20.38	-3.1
2500	19.71	-3.5

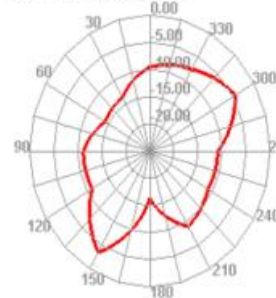
2400.000MHz



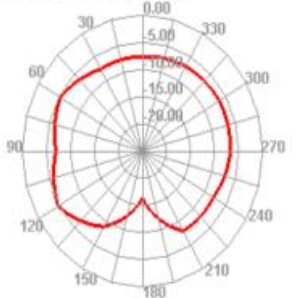
2400.000MHz H



2400.000MHz E1

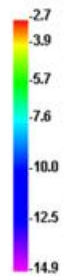
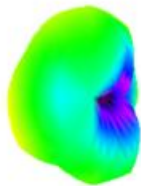


2400.000MHz E2

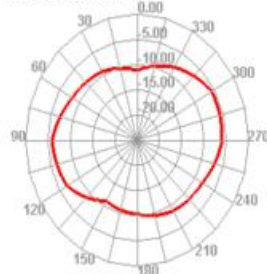


earbuds case

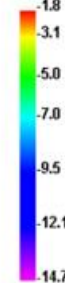
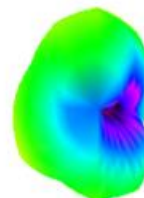
2440.000MHz



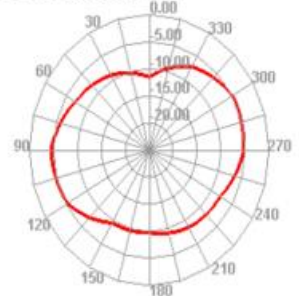
2440.000MHz H



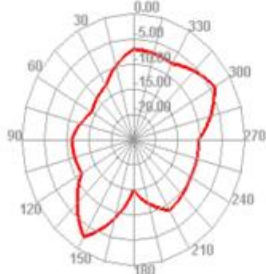
2480.000MHz



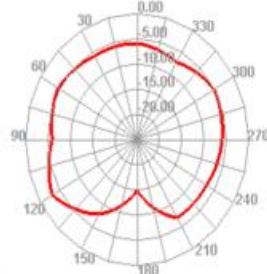
2480.000MHz H



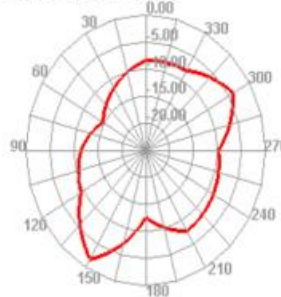
2440.000MHz E1



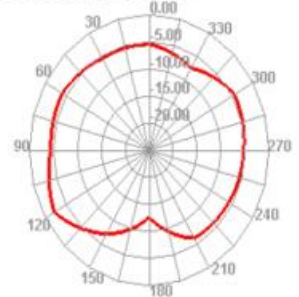
2440.000MHz E2



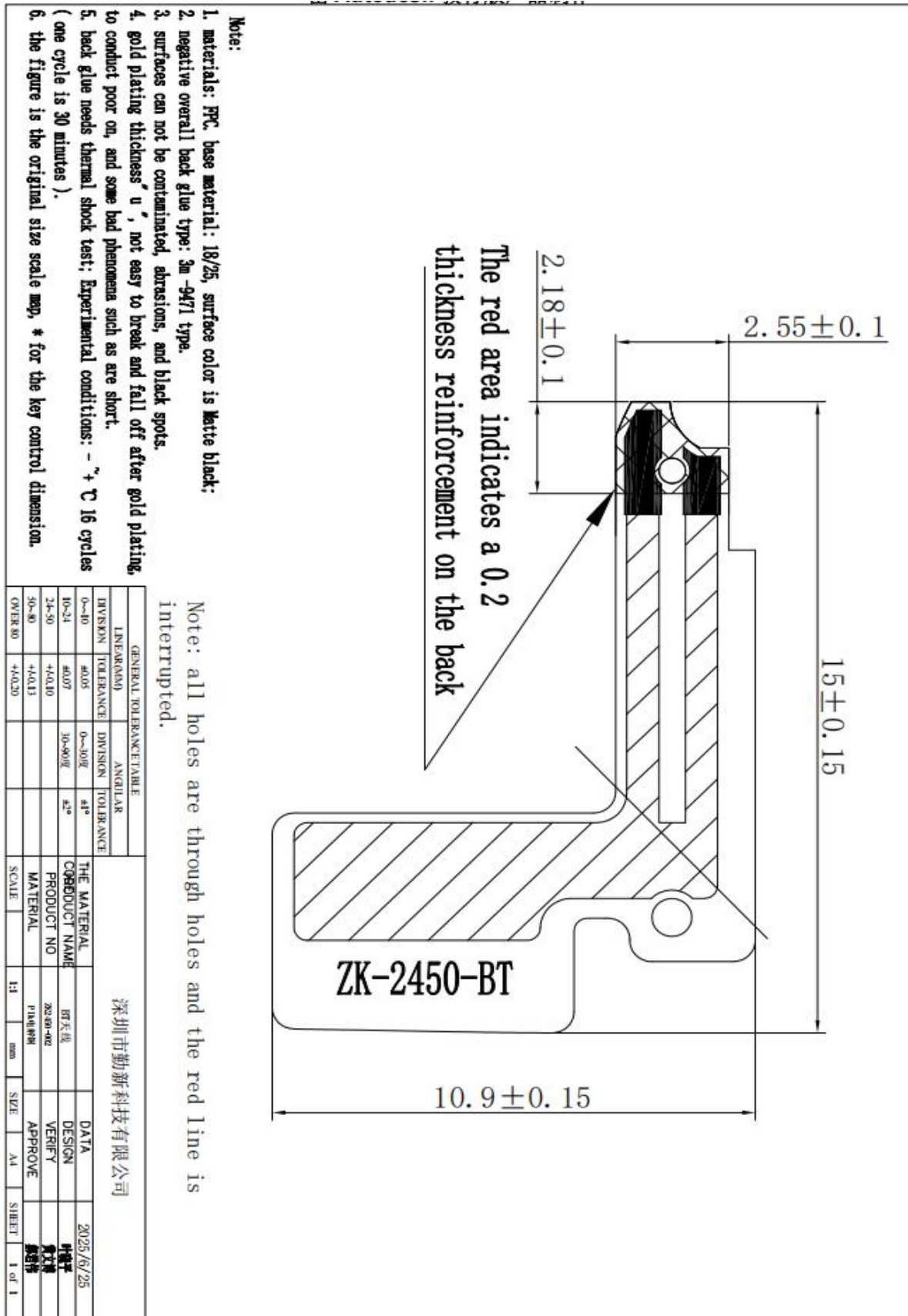
2480.000MHz E1

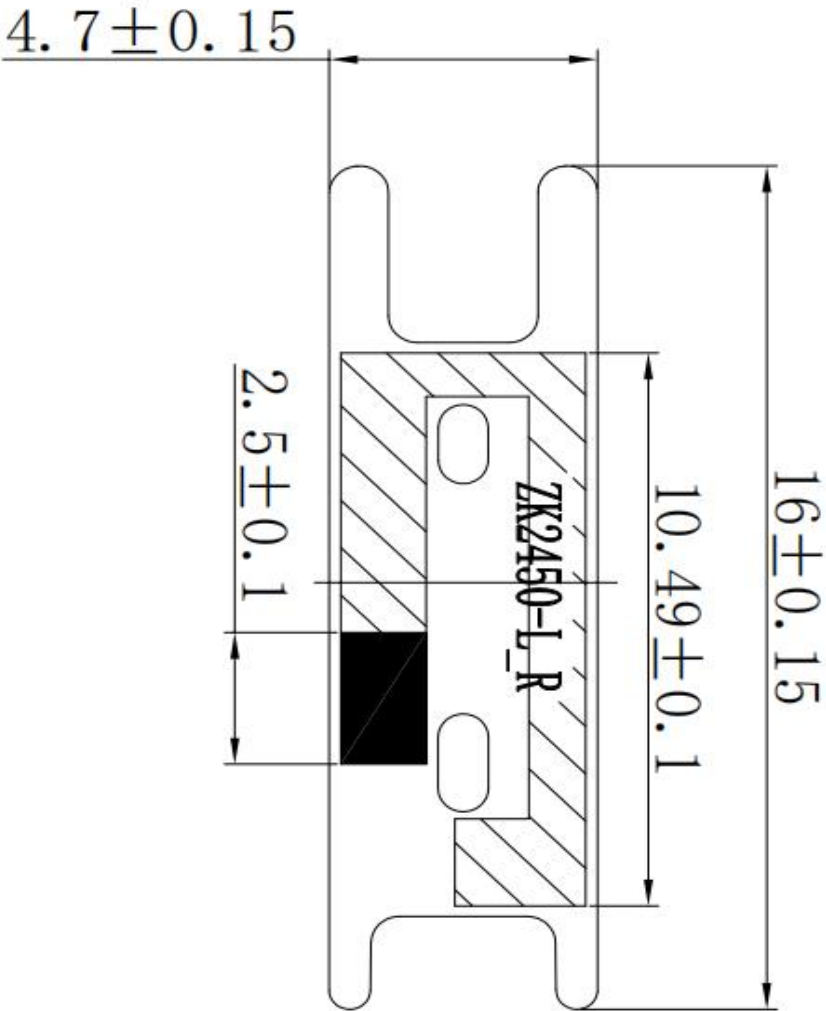


2480.000MHz E2



6、assembly drawing:





Note:

1. materials: FPC, base material: 18/25, surface color is matte black;
2. negative overall back glue type: 3m-9471 type.
3. surfaces can not be contaminated, abrasions, and black spots.
4. gold plating thickness "u", not easy to break and fall off after gold plating to conduct poor on, and some bad phenomena such as are short.
5. back glue needs thermal shock test; Experimental conditions: - ~ + ℃ 16 cycles (one cycle is 30 minutes).
6. the figure is the original size scale map, * for the key control dimension.

Note: all holes are through holes and the red line is interrupted.

GENERAL TOLERANCE TABLE				深圳市勤新科技有限公司			
LINEAR/mm		ANGULAR					
DIVISION	TOLERANCE	DIVISION	TOLERANCE	THE MATERIAL	PRODUCT NAME	DATA	2025/5/21
0~10	±0.05	0~30°	±1°	BT天线	202501-001	DESIGN	100%
10~34	±0.07	30~90°	±2°	PRODUCT NO	1844/008	VERIFY	100%
34~50	±0.10			MATERIAL		APPROVE	100%
50~80	±0.13			SCALE			
OVER 80	±0.20			H1	mm	SIZE	A4
						SHEET	1 of 1



文件编号: QX-FM-EN-M4