



Antenna Approval Sheet

For
K50 Project

Customer	EKEN INNOVA TION	Project	K50
Band	WiFi 2.4GHZ\433MHZ		
ZC PN	T21-029\AC017-XD-16		
Version	R:A	Data	2023-9-22

RF	
Checked By	
Confirmed By	
Cust Confirm	



1. Manufacturer information

Company name: Shenzhen Zhongcheng communication products Co., Ltd

Address: 5th floor, building C, Huafeng Industrial Zone, Liuxian Road, 71 District, Bao'an, Shenzhen

Tel: 0755-29995224

Fax: 0755-27863505

2. Summary of the DUT

K50 Picture



Antenna Picture



3. Electrical Specification:

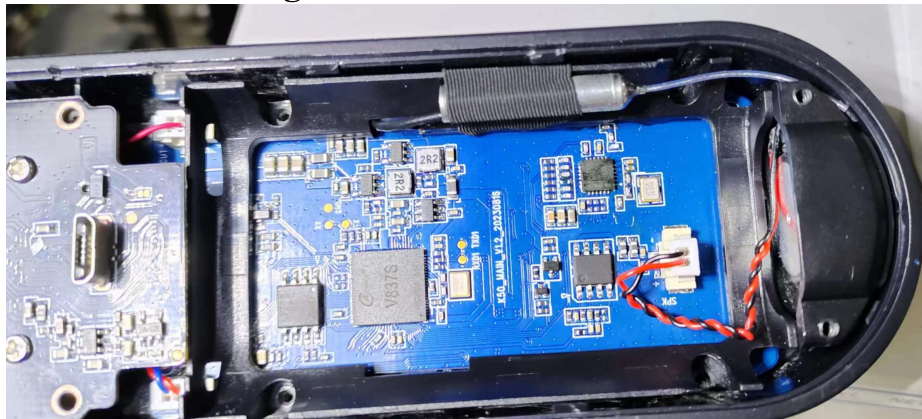
Antenna types	Built-in WIFI Antenna\433M Antenna
Frequency	2400-2500 MHZ, 433MHZ
Impedance	50 Ω
VSWR	< 2.0
PeaK Gain	2.99dBi REF, 433MHZ 0.84dbi
Efficiency	>35%
Antenna Material	Copper tube+coaxial line/spring copper wire coil
Connector Type	1.13 MHF-1-Plug\Soldering

4. Test Condition

4.1	Test items	Test equipment and model	Remark
1.Active test	1.TRP 2.TIS	1. 3D microwave darkroom (Satimo SG24) 2. Comprehensive test instrument (CMW500) 3. Agilent 8960 E5515C	
2.Passive testing	1. Antenna Gain 2. S.W.R 3. Return Loss 4. Radiation Pattern	1. Network analyzer (R&S ZVL6) 2. Network analyzer (HP 8753D)	

4.2 Matching Circuit The matching circuit was Default

4.3Antenna installation diagram:



5.1 RF Performance –WIFI Antenna

5.1.1 Active test data

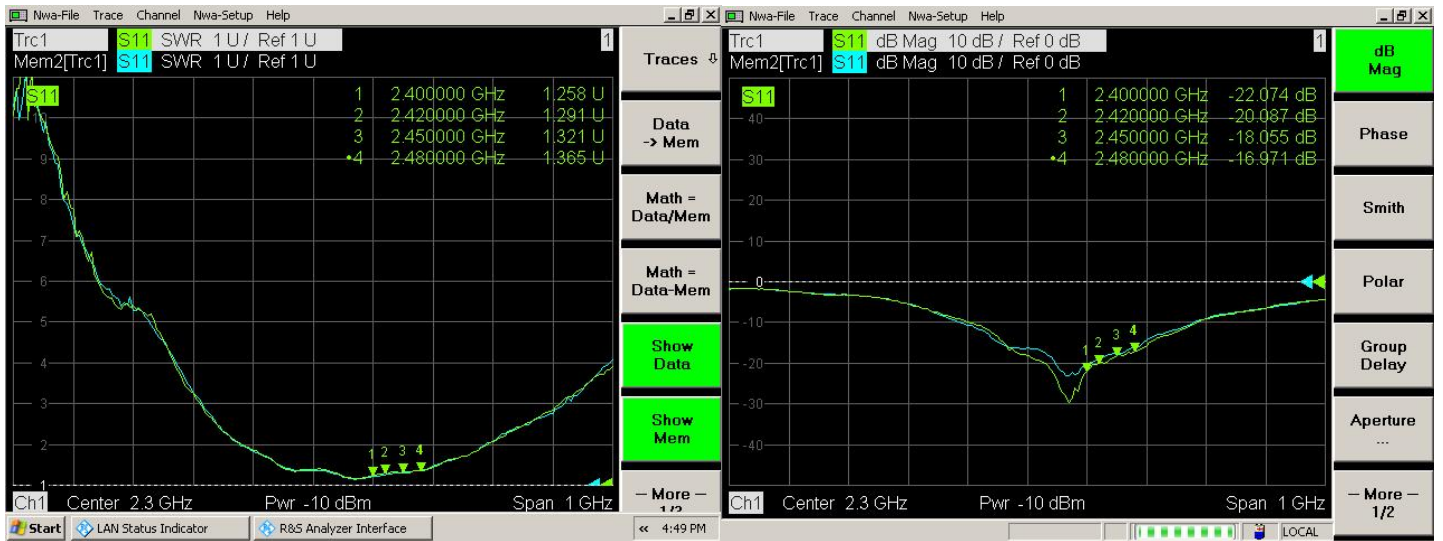
Item	Standard	Band	Channel	Frequency	最大功率	最小灵敏度	TRP	TIS
1	WIFI (AP)	WIFI_B (11M)	1	2412	24.55	-90.21	15.69	-80.39
2	WIFI (AP)	WIFI_B (11M)	6	2437	24.89	-87.4	18.79	-81.9
3	WIFI (AP)	WIFI_B (11M)	11	2462	24.44	-89.54	17.92	-81.19

5.1.2 Passive parameters

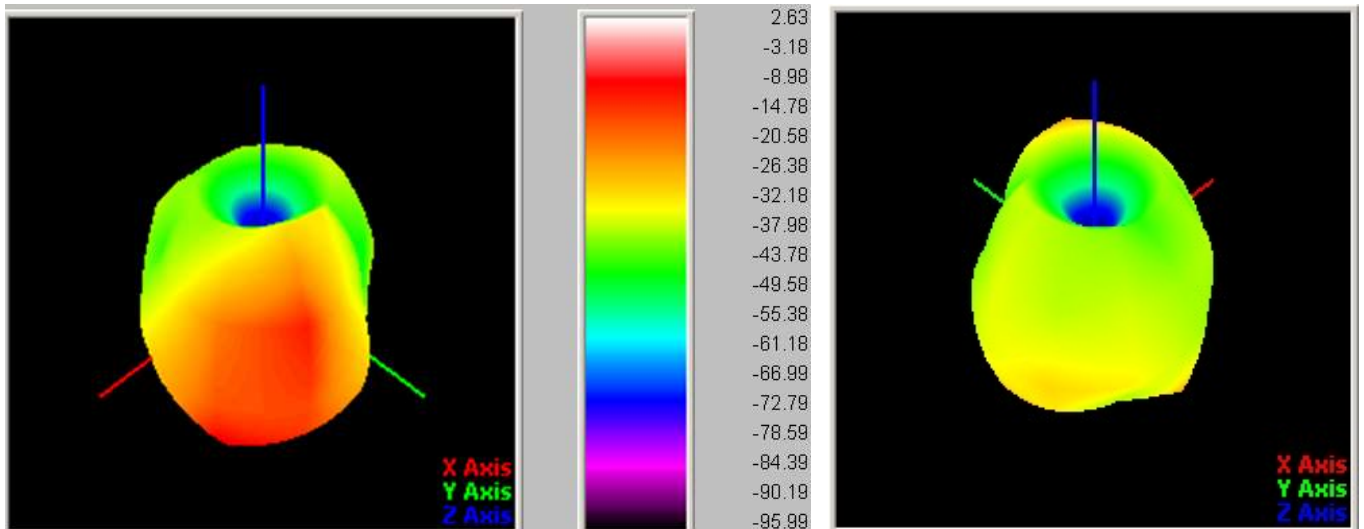
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	2.63	2.68	2.71	2.99	2.6	2.23	2.6	2.49	1.96	1.77	1.7

5.1.3 S Parameter

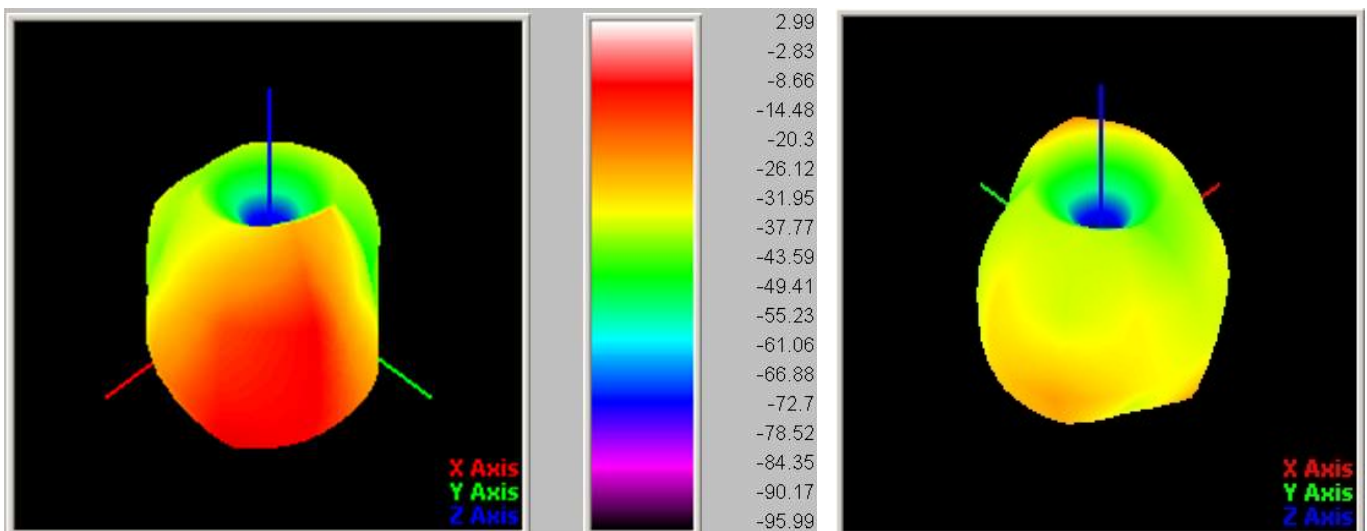
Frequency (MHz)	2400	2450	2480
Return Loss (dB)	-22	-18	-16.9
VSWR	1.25	1.32	1.36



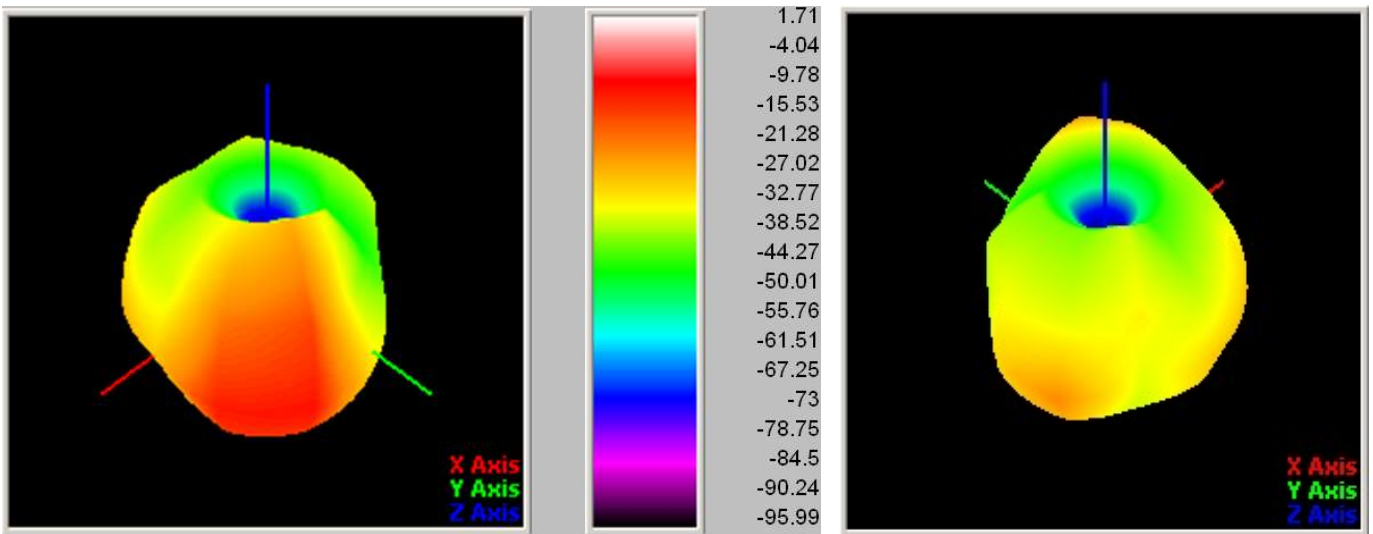
5.1.4 Antenna 3D Radiation Pattern (Unit:dbi)



Freq2400.00MHZ



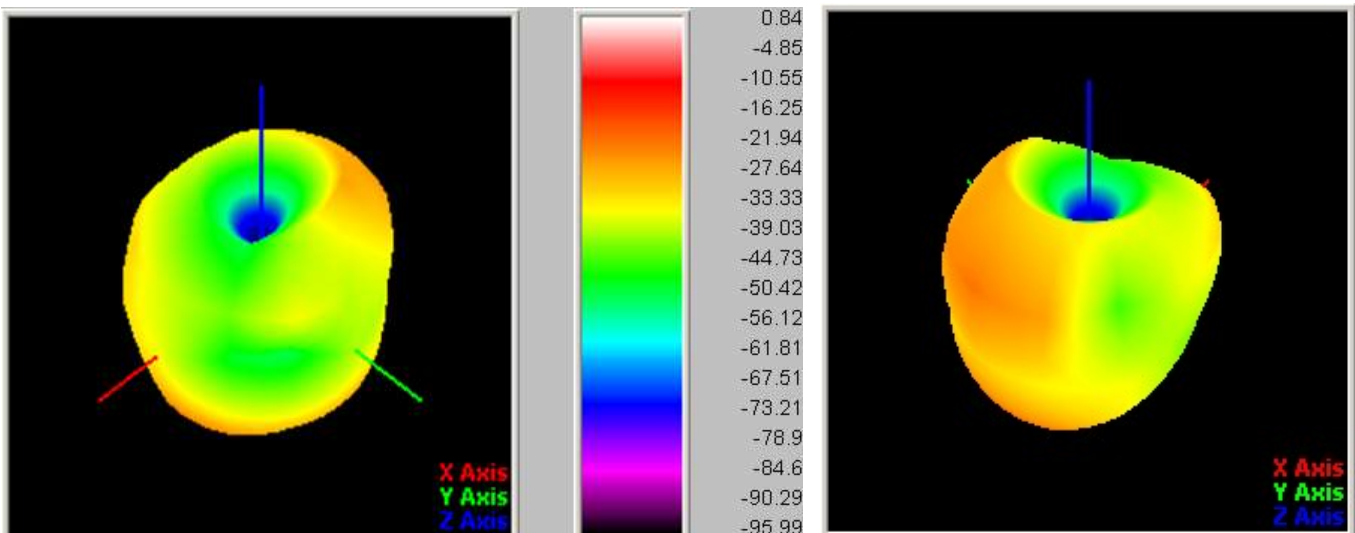
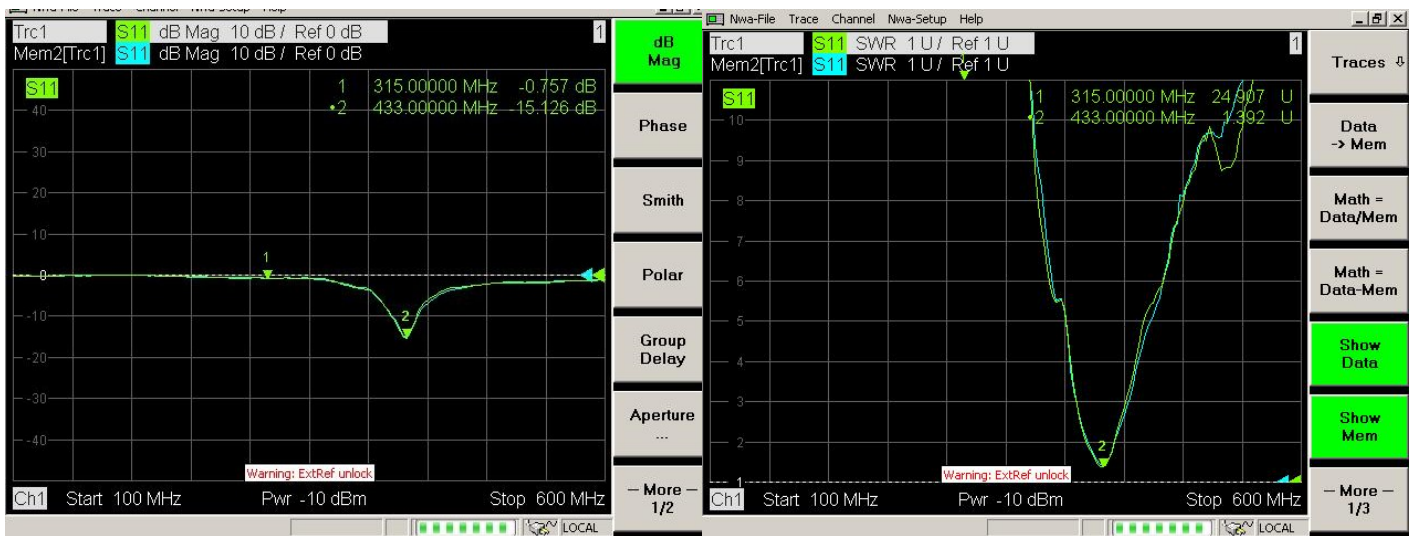
Freq2430.00MHZ



Freq2500.00MHZ

5. 2 RF Performance-433MHZ Antenna
Passive parameters

Frequency (MHz)	Return Loss (dB)	VSWR	Gain (dBi)
433	-15.12	1.39	0.84





6. ME Drawing for the antenna

