



Antenna Approval Sheet

For
M9 Project

Customer	EKEN INNOVA TION	Project	M9
Band	WiFi 2.4GHZ		
ZC PN	T21-036		
Version	R:A	Data	2024-7-11

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

M9 Picture



Antenna Picture



3. Electrical Specification:

Antenna types	Built-in WIFI Antenna
Frequency	2400-2500 MHZ
Impedance	50 Ω
VSWR	< 2.0
PeaK Gain	2.99dBi REF
Efficiency	>35%
Antenna Material	Copper tube+coaxial line
Connector Type	1.13 MHF-1-Plug

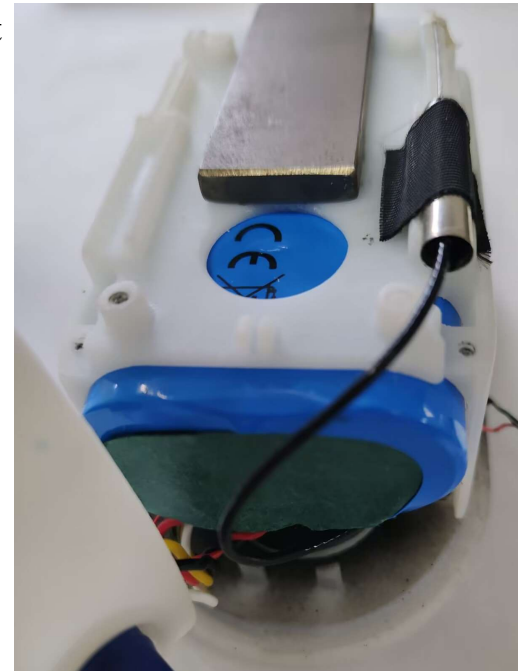


4. Test Condition

4.1	TEST ITEM	TESTING INSTRUMENT	REMARKS
ACTIVE TEST	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

4.3 Antenna installation diagram:



5. RF Performance

5.1 Passive parameters

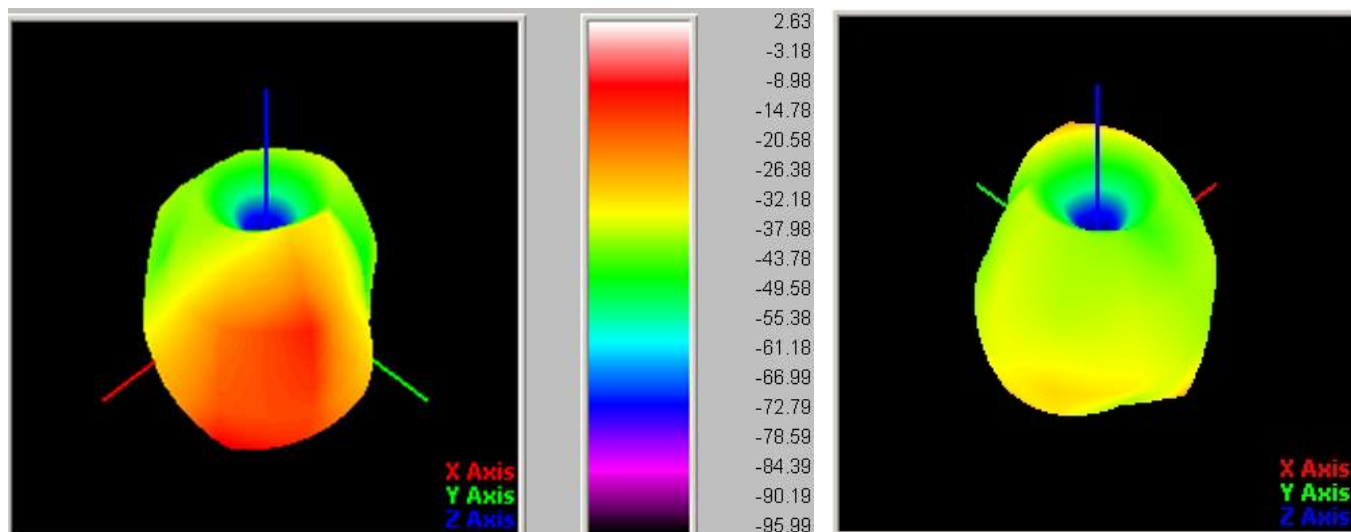
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	2.63	2.68	2.71	2.99	2.6	2.23	2.6	2.49	1.96	1.77	1.7

5.2 S Parameter

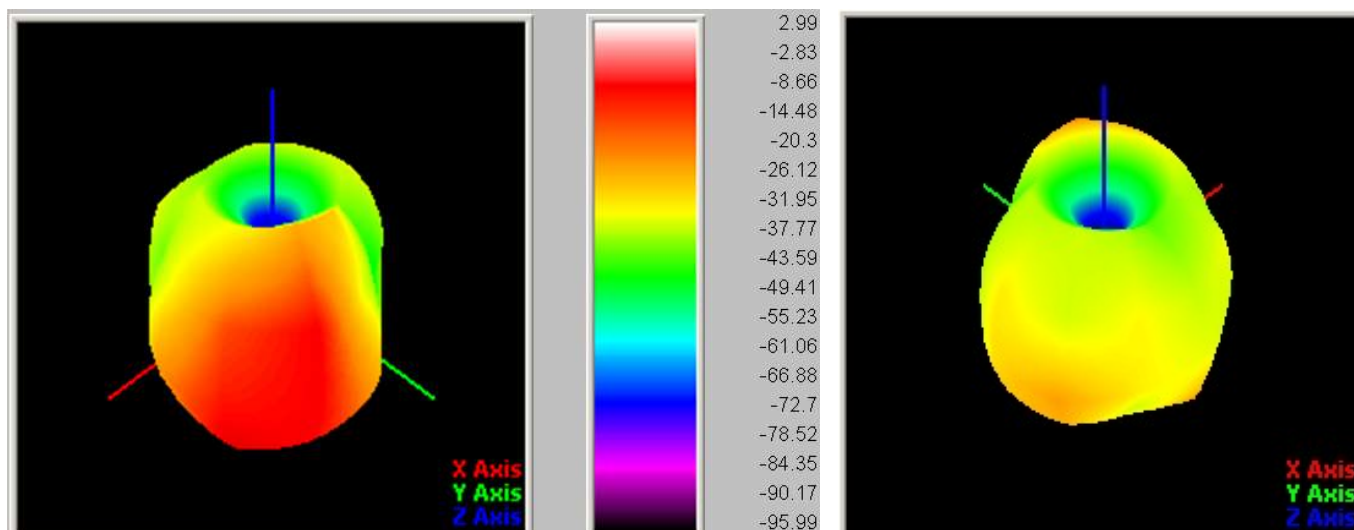
Frequency (MHz)	2400	2450	2480
Return Loss (dB)	-22	-18	-16.9
VSWR	1.25	1.32	1.36



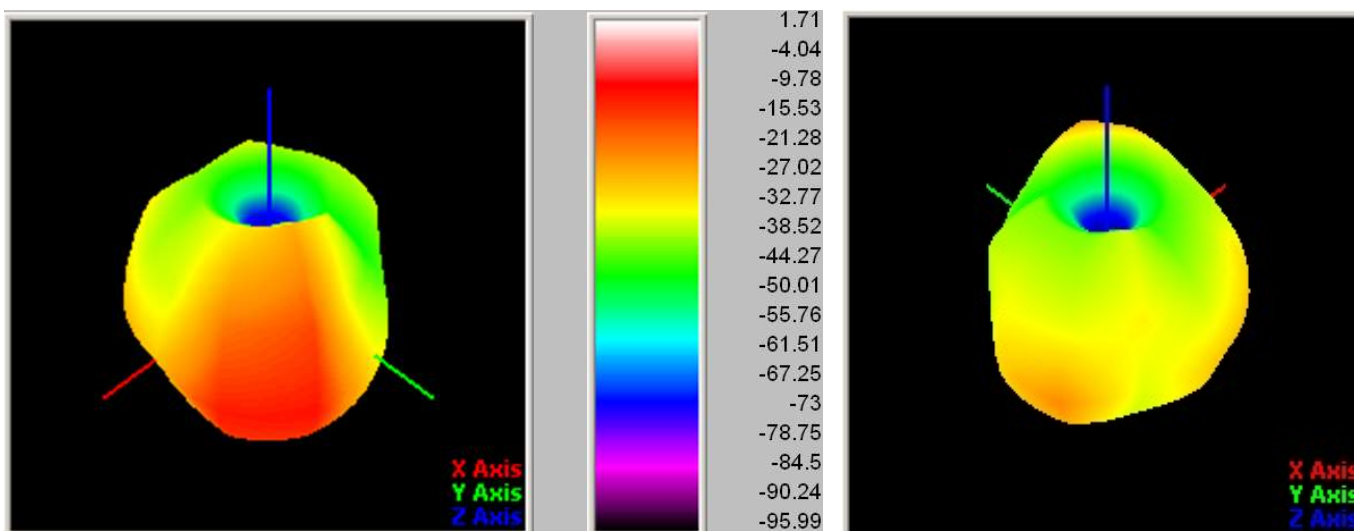
5.3 Antenna 3D Radiation Pattern (Unit:dbi)



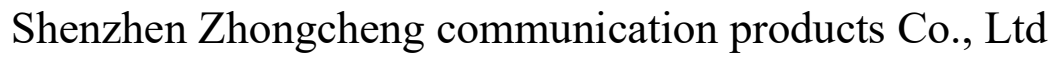
Freq2400.00MHZ



Freq2430.00MHZ



Freq2500.00MHZ



REV	Description of change	BY	DATE
T:A	New drawings	GUO	2024-07-24

112.50±1

20.50±0.5

Ø0.69

(Length of Tube)23

Copper Tube

4.40

Ø1.13

First Generation Connector

ZE Shenzhen Zhongcheng Communication Technology Co., Ltd.			
Third Angle:		Unit: mm	
General Tolerance:		NAME: WiFi Antenna	DATE: 2024-07-24
X	±0.5	PART NO. 121-036	DRWN:
.X	±0.25	MATERIAL:	CHKD:
XX	±0.10	Copper Tube+Coaxial Cable	APPD:
.XXX	±0.05	COLOR: Black	SCALE: 2:1
ANGULAR	±1°		REV: T:A