



# Antenna Approval Sheet

For  
**T52** Project

|          |                  |         |           |
|----------|------------------|---------|-----------|
| Customer | EKEN INNOVA TION | Project | T52       |
| Band     | WiFi 2.4GHZ      |         |           |
| ZC PN    | T21-043          |         |           |
| Version  | R:A              | Data    | 2025-6-17 |

|              |  |
|--------------|--|
| RF           |  |
| Checked By   |  |
| Confirmed By |  |
| Cust Confirm |  |



## 1.Manufacturer information

Company name: Shenzhen Zhongcheng communication products Co., Ltd

Address: 5th floor, building 9, Guafeng Industrial Zone, Jinxia Road District,  
Bao'an, Shenzhen

Tel: 0755-29995224

Fax: 0755-27863505

## 2. Summary of the DUT

### T52 Picture



### Antenna Picture



## 3. Electrical Specification:

|                  |                          |
|------------------|--------------------------|
| Antenna types    | Built-in WIFI Antenna    |
| Frequency        | 2400-2500 MHZ            |
| Impedance        | 50 $\Omega$              |
| 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 |
|--------------|-----------------------------------------------------------------------|------------------------------------------------------------------|---------|
| PASSIVE TEST | 1. Antenna Gain<br>2. S.W.R<br>3. Return Loss<br>4. Radiation Pattern | 1. Network analyzer (R&S ZVL6)<br>2. Network analyzer (HP 8753D) |         |

**4.2 Matching Circuit** The matching circuit was Default

**4.3 Antenna installation diagram:**



#### 5.1 RF Performance –WIFI Antenna

##### 5.1 Passive parameters

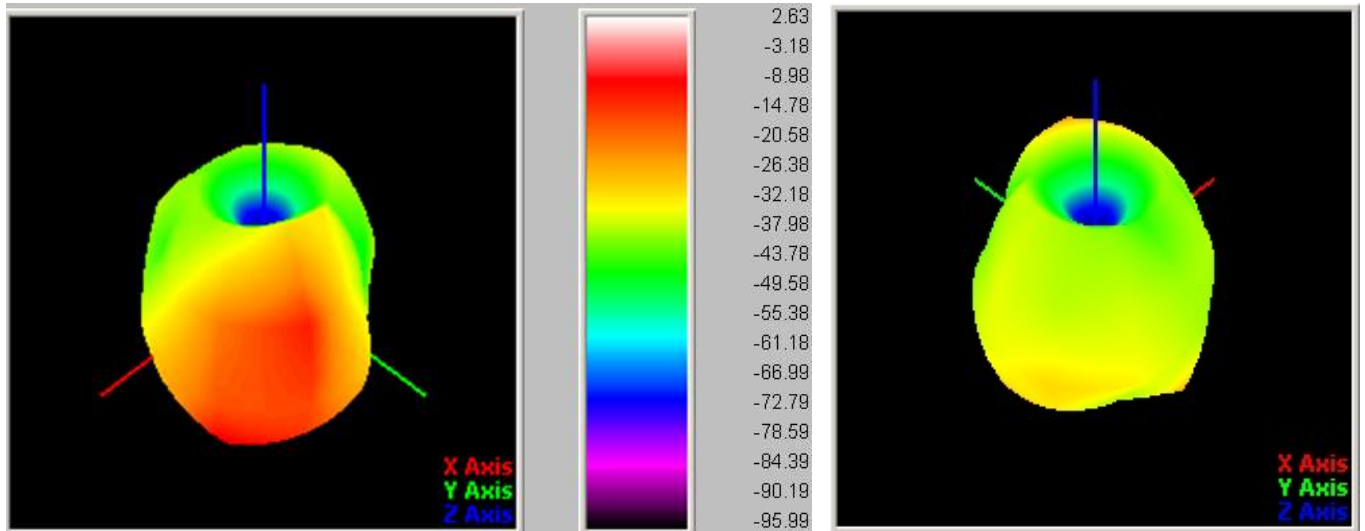
| Freq. (MHz) | 2400 | 2410 | 2420 | 2430 | 2440 | 2450 | 2460 | 2470 | 2480 | 2490 | 2500 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Gain (dBi)  | 2.63 | 2.68 | 2.71 | 2.99 | 2.6  | 2.23 | 2.6  | 2.49 | 1.96 | 1.77 | 1.7  |

##### 5.2 S Parameter

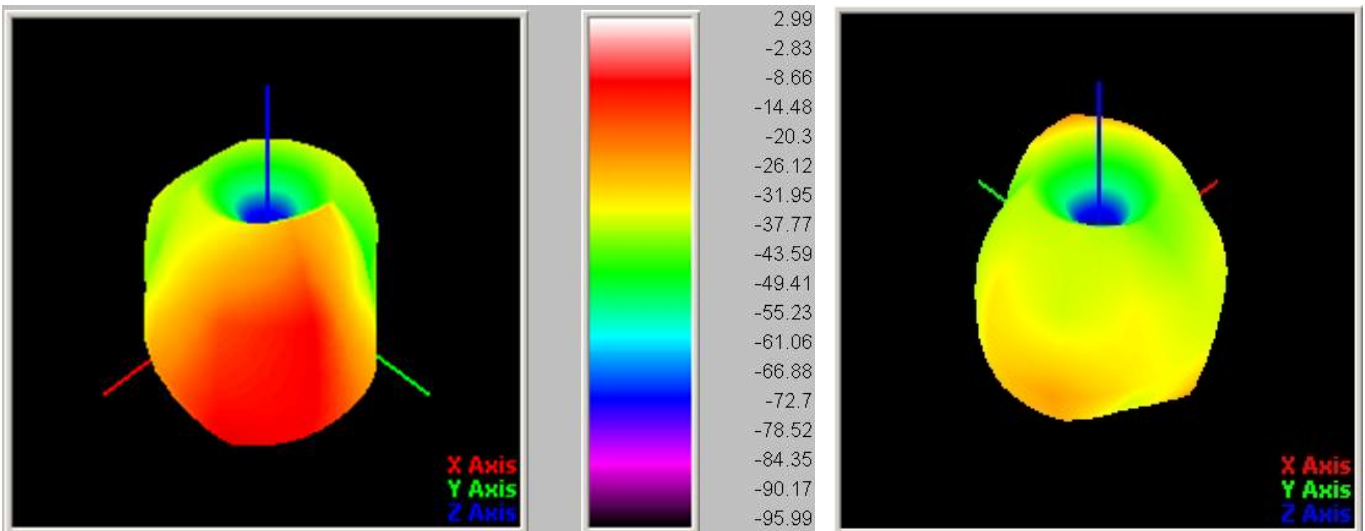
|                  |      |      |       |
|------------------|------|------|-------|
| Frequency (MHz)  | 2400 | 2450 | 2480  |
| Return Loss (dB) | -22  | -18  | -16.9 |
| VSWR             | 1.25 | 1.32 | 1.36  |



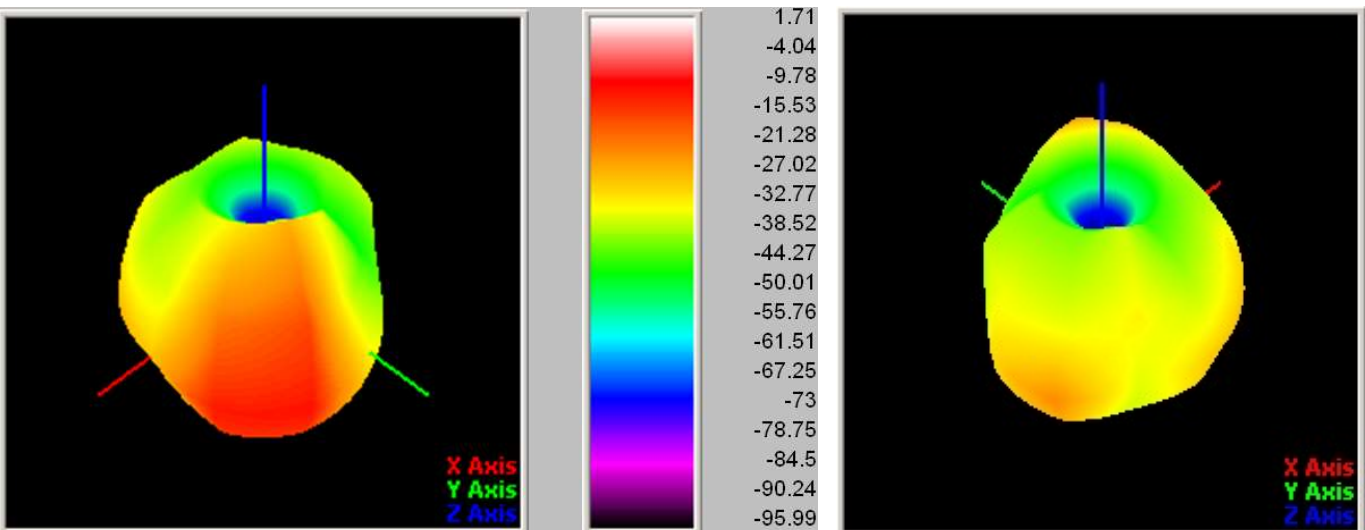
### 5.3 Antenna 3D Radiation Pattern (Unit:dbi)



Freq2400.00MHZ



Freq2430.00MHZ



Freq2500.00MHZ

