

# Tengxiang Technology. Inc

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## 承認書

X X X料號

SOREDE P/N

PCB12276

品名 / 規格

2.4G 天线

DESCRIPTION

X X X送樣編號

送樣日期:

### MANUFACTURER/制造商

APPROVED BY

QC DEPT

CHECKED BY

TESTED BY

核准

品管

审核

检测

客户:

深圳市视壮科技有限公司

CUSTOMER P/N 视壮料号:

CUSTOMER

视壮名称:

DESCRIPTION

品名/规格:

### CUSTOMER APPROVAL/客户审核

APPROVED BY

QC DEPT

CHECKED BY

TESTED BY

核准

品管

审核

检测

Product Number:  
Product Name: Onboard Antenna

1. Specification

|                                                                                   |                   |
|-----------------------------------------------------------------------------------|-------------------|
| Sample Photo                                                                      |                   |
|  |                   |
| A. Electrical Characteristics                                                     |                   |
| Frequency 频率                                                                      | 2400-2500MHz      |
| S.W.R.驻波比                                                                         | <= 2.0            |
| Antenna Gain 增益                                                                   | 1 dBi             |
| Polarization 极化方式                                                                 | Linear            |
| Impedance 阻抗                                                                      | 50 Ohm            |
| B. Material & Mechanical Characteristics                                          |                   |
| Material of Radiator                                                              | Cu                |
| Material of Plastic 塑胶材质                                                          | /                 |
| Cable Type 线材规格                                                                   | /                 |
| Connector Type 连接器规格                                                              | /                 |
| Connector Pull Test                                                               | /                 |
| Connector Torque Test                                                             | /                 |
| C. Environmental                                                                  |                   |
| Operation Temperature 存储温度                                                        | - 40 °C ~ + 80 °C |
| Storage Temperature 存储温度                                                          | - 40 °C ~ + 80°C  |

2. Characteristics and Reliability Test

| Test Items |              | Test Condition and Procedure                                                                                       | Requirements                                  |
|------------|--------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| C1         | S.W.R.       | Set DUT on Network Analyzer; make individual calibration to test                                                   | Directive DUT specification                   |
| C2         | Antenna Gain | Set DUT on Antenna Chamber; make individual calibration to test                                                    | Directive DUT specification                   |
| M1         | Vibration    | MIL-STD-202G, 201A<br>Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz<br>3 directions; 2 hours for each direction | 1. No Visual Damage<br>2. Frequency Tol.<= 5% |

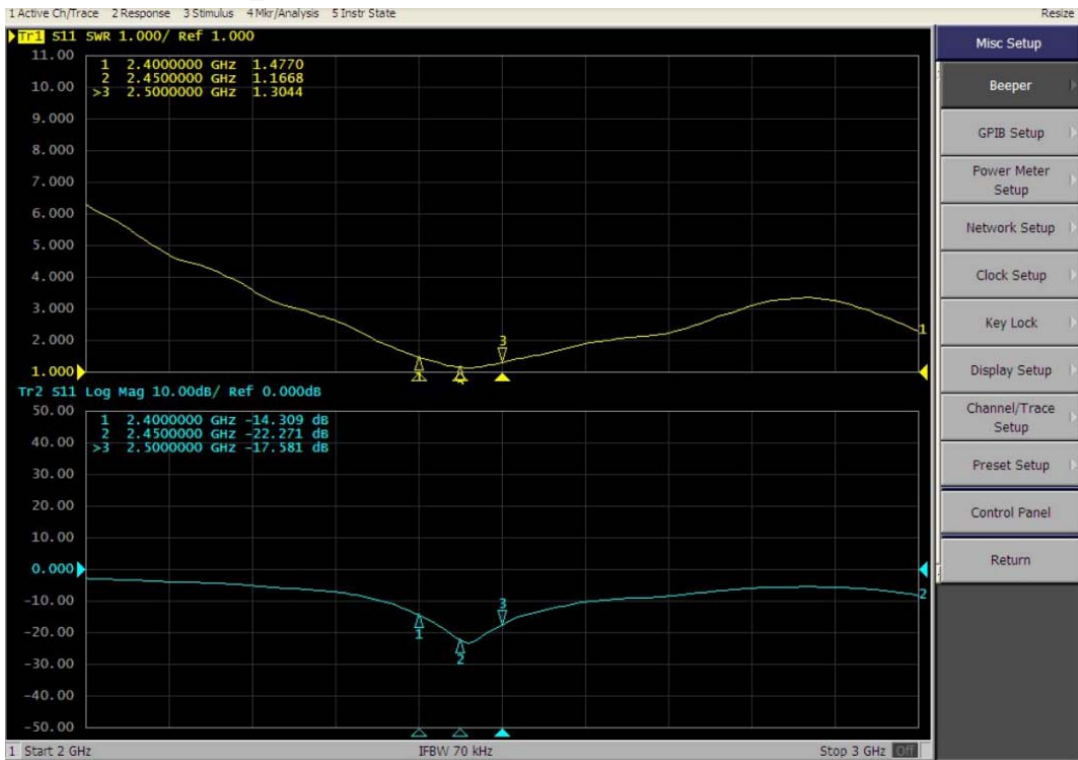
**Product Number:**

**Product Name:**    **Onboard    Antenna**

|    |                      |                                                                                                                                      |                                                                         |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| M2 | Random Drop          | Height: 1.5 Meter;<br>3 directions; 1 time for each direction                                                                        | 1. No parts separated<br>2. Frequency Tol.<= 5%                         |
| M3 | Solderability        | MIL-STD-202G, 210F, cond. A<br>Solder iron: 350±10°C; Duration: 5 seconds                                                            | 1. Mounted on PCB<br>2. No Visual Damage                                |
| M4 | Terminal-Pull Test   | MIL-STD-202G, 211A, cond. A<br>Holding with individual specification; force applied to axis of terminal                              | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M5 | Terminal-Torque Test | MIL-STD-202G, 211A, cond. E<br>Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M6 | Dimension            | Inspection of dimension, color, material, package, surface process                                                                   | Directive DUT specification                                             |
| E1 | Salt Spray           | MIL-STD-202G, 101E, cond. B<br>Temp: 405°C; RH: >= 95%; NaCl solution: >= 5%;<br>Time: 48 hours                                      | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E2 | Humidity             | MIL-STD-202G, 103B, cond. B<br>Temp: 40°C; RH: >= 95%; Time: 48 hours                                                                | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E3 | Thermal Shock        | 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes)<br>Cycles: 24                                                                    | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E4 | Life (High Temp.)    | MIL-STD-202G, 108A, cond. A<br>Temp: 80°C; Time: 96 hours                                                                            | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| R1 | RoHS                 | With Reference to IEC 62321:2008 with flow chart                                                                                     | Directive RoHS 2020/863/EU                                              |

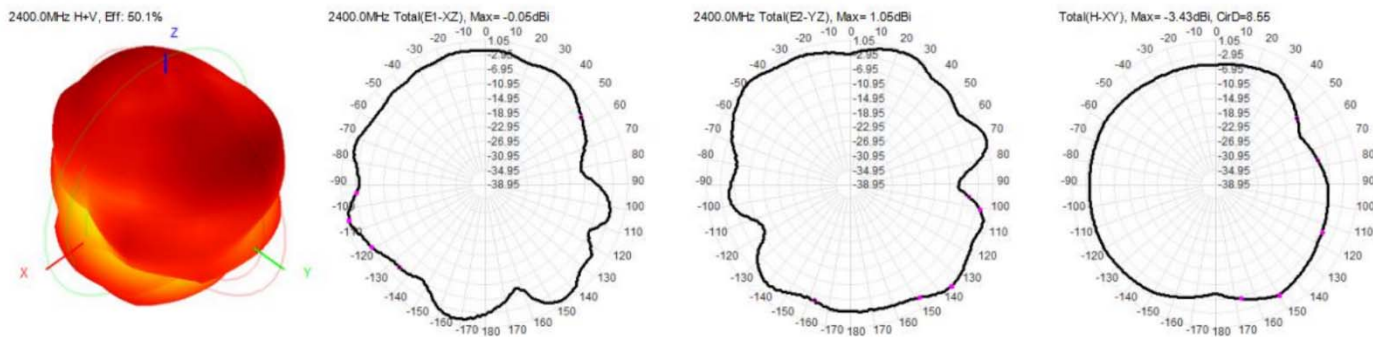
### 3. Antenna - S Parameter Test Data

Product Number:  
Product Name:     Onboard   Antenna

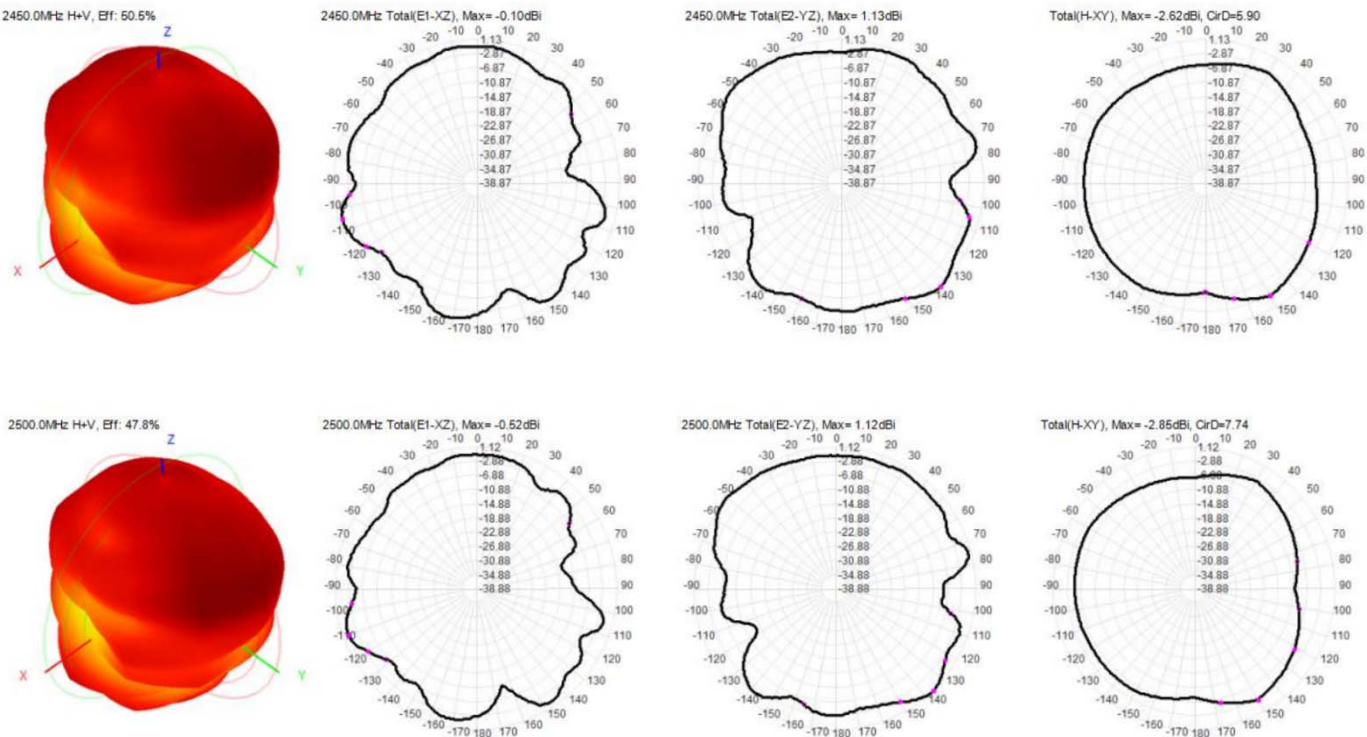


4. Antenna - Radiation Pattern Test Data

| Frequency ID    | 1     | 6       | 11      |
|-----------------|-------|---------|---------|
| Frequency (MHz) | 2400  | 2450    | 2500    |
| Gain (dBi)      | 1dBi  | 0.84dBi | 0.98dBi |
| Efficiency (%)  | 50.08 | 50.54   | 47.83   |



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5. Mechanical Drawing (See attached files)

