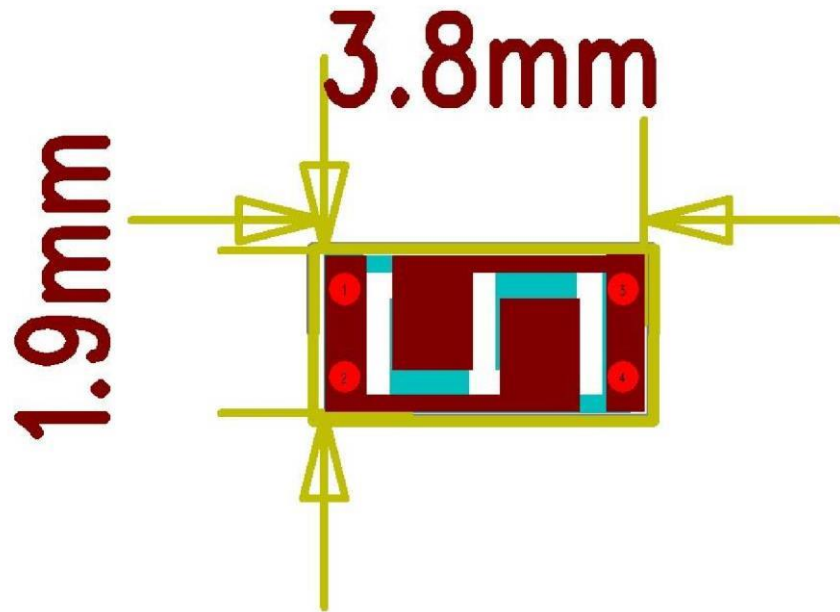


## On-board Antenna Specification 1. Detailed

Dimensions of the On-board Antenna :



## 2. Features

Ultra-compact size: 3.8\*1.9mm

50 ohm impedance

Maximum gain: 1.3dBi

Operates in the 2.4GHz band

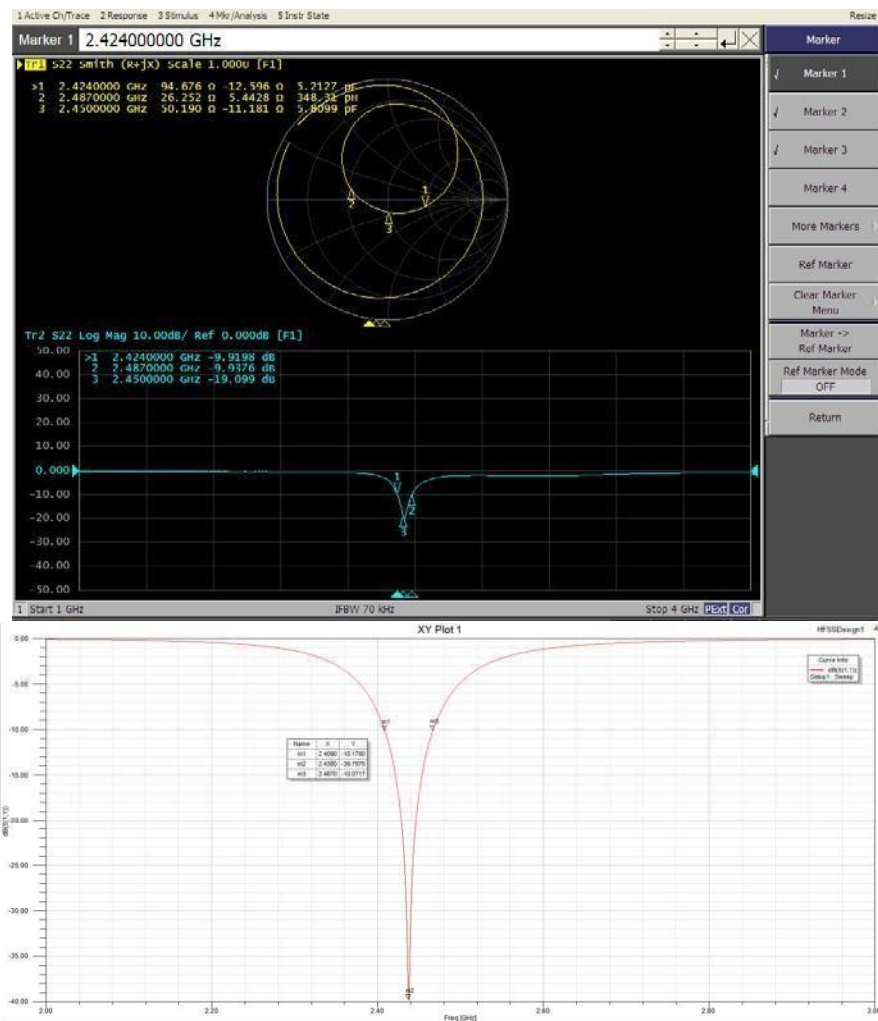
## 3. Antenna S -parameters

10dB bandwidth: 100MHz, center frequency

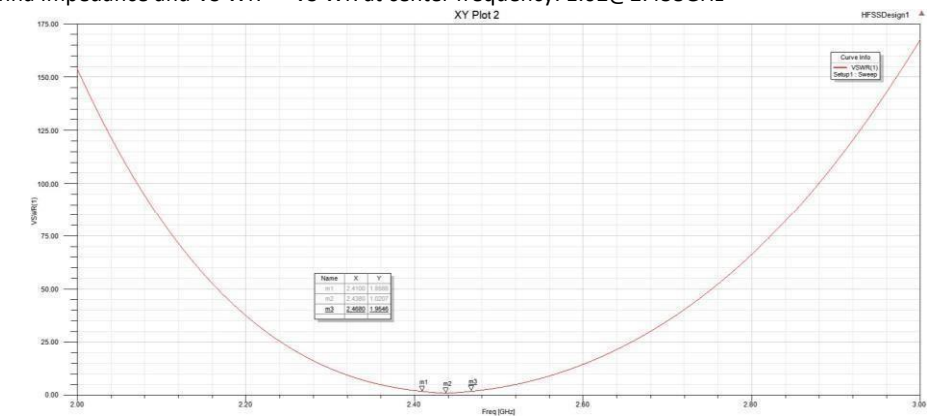
S 11: -39.8dB@2.438GHz

Manufacturer: Huizhou Pyrenees Technology Co., Ltd.

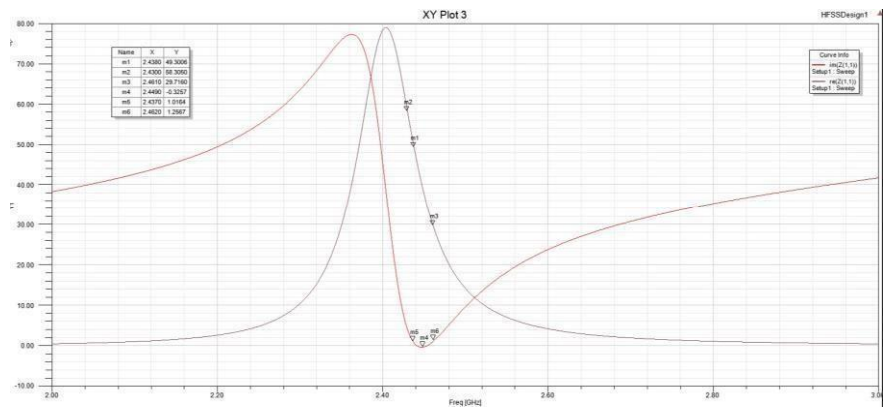
Address of Manufacture: 3rd Floor, West Side, No.639, Mingyue 1st Road, Jintai Industrial Park, Shiwang Town, Boluo County, Huizhou City, Guangdong Province, P.R.China



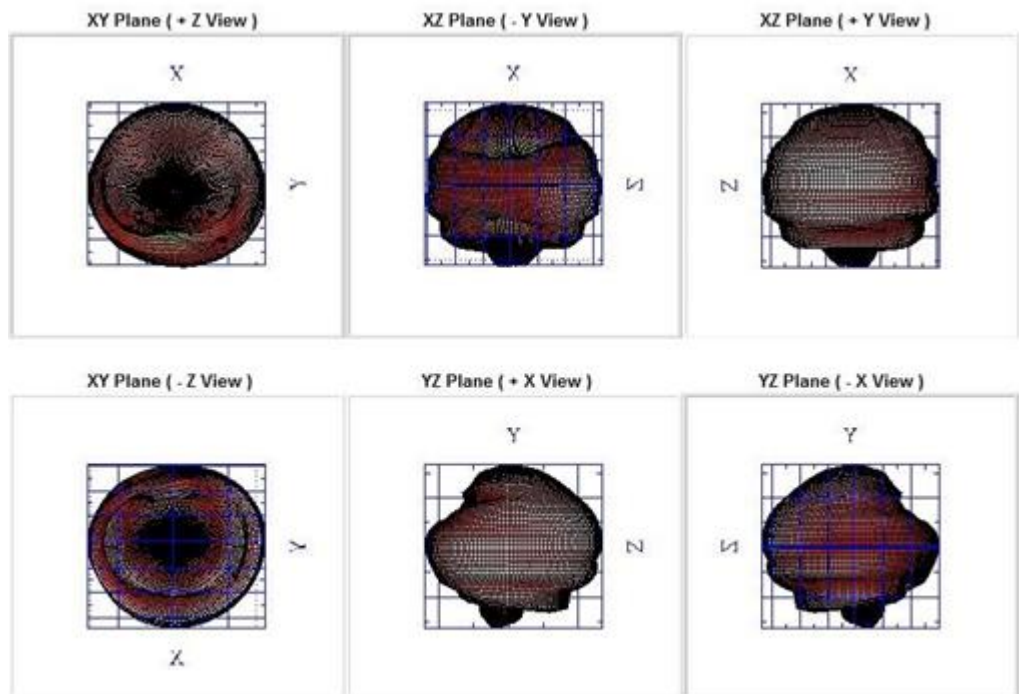
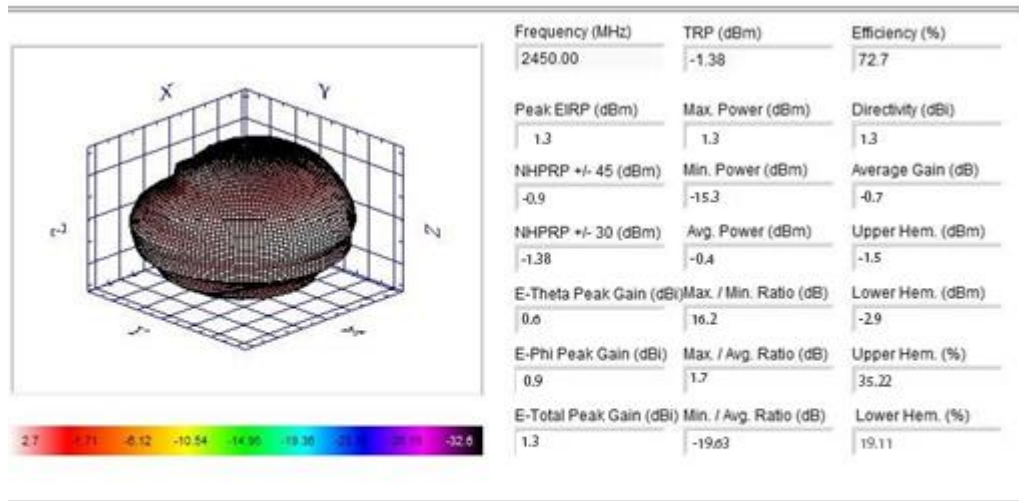
4. Antenna Impedance and VS WR — VS WR at center frequency: 1.02@2.438GHz



Impedance at center frequency: 50 ohm @2.438GHz



5. Maximum directional antenna gain:1.3dBi



E plane:

6

Post Dependability Tolerance

Post Dependability Tolerance ( Refer to the table )

| No. | Item              | Post Dependability Tolerance<br>( ) |
|-----|-------------------|-------------------------------------|
| 8.1 | Central Frequency | $\pm 5$ MHz                         |
| 8.2 | Band Width        | $\pm 5$ MHz                         |
| 8.3 | Gain              | $\pm 0.1$ dBi                       |
| 8.4 | V.S.W.R (in BW)   | $\pm 0.1$                           |

7

Dependability Test Temperature range

25 $\pm$ 5 $^{\circ}$ C      Relative Humidity range      55~75%RH      Operating  
Temperature range -40 $^{\circ}$ C~+85 $^{\circ}$ C      Storage Temperature range -  
40 $^{\circ}$ C~+85 $^{\circ}$ C

7. 1      Vibration Resist

10~55Hz      1.5mm      X.Y.Z      2

8.1~8.4

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X , Y and Z directions.

7. 2      Drop Shock

100cm      X   Y   Z      3

8.1~8.4

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

## 8 Moisture Proof

$60 \pm 2$                       90~95%                      96

1~2                      8.1~8.4

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature  $60 \pm 2^{\circ}\text{C}$  and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

### 8. 1 High Temperature Endurance

$85 \pm 5$                        $96 \pm 2$                       1~2

8.1~8.4

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to temperature  $85 \pm 5^{\circ}\text{C}$  for  $96 \pm 2$  hours and 1~2 hours recovery time under normal temperature.

### 8. 2 Low Temperature Endurance

$-40^{\circ}\text{C} \pm 5$                        $96 \pm 2$                       1~2                      8.1~8.4

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature  $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $96 \pm 2$  hours and to 2 hours recovery time under normal temperature.

### 8. 3 Temperature Cycle Test

-40                      30                      +85                      30                      5  
1~2

8.1~8.4

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the low temperature  $-40^{\circ}\text{C}$  and high

temperature +85°C for  $30 \pm 2$  min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.