



# Antenna data sheet

**2400-2500 MHz**

**P/N: HXD-BTD05**

Manufacturer: Shenzhen HengXinDa Technology Co., Ltd.  
Add: Room 301, No. 8, Sanhe Overseas Chinese District 2, Tongsheng Community, Dalang  
Sub-district, Longhua District, Shenzhen City

1. Frequency

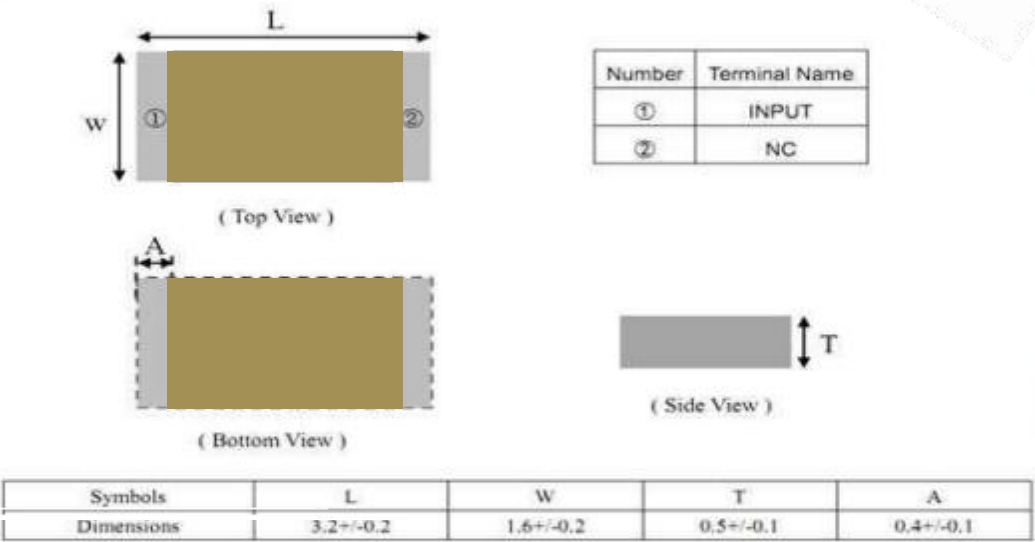
2400-2500 MHz

2. Applications

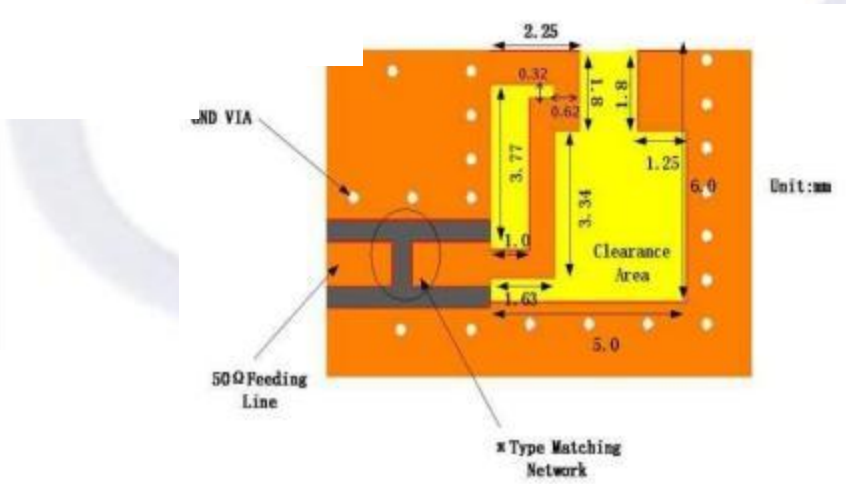
For Miniaturized Bluetooth System

3. Dimensions (Unit : mm)

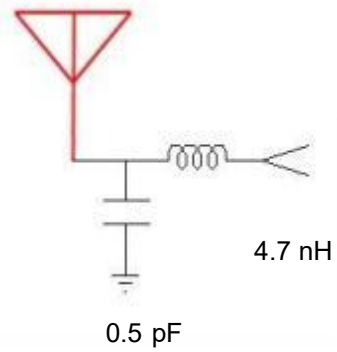
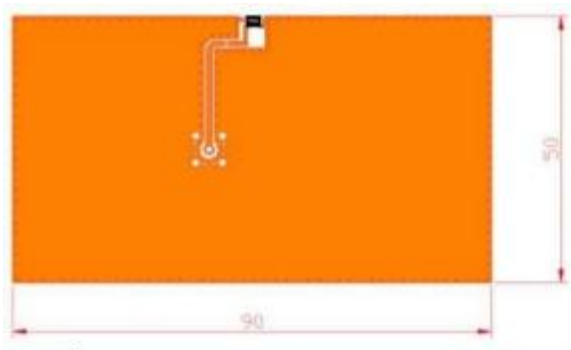
1). Over View :



2).PCBLYOUTVIEW:



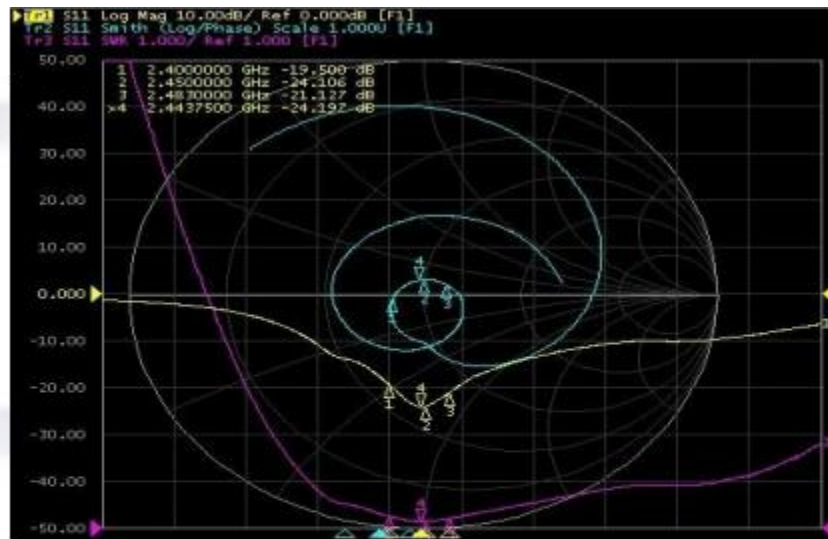
#### 4. Evaluation Board Size and Matching Circuits



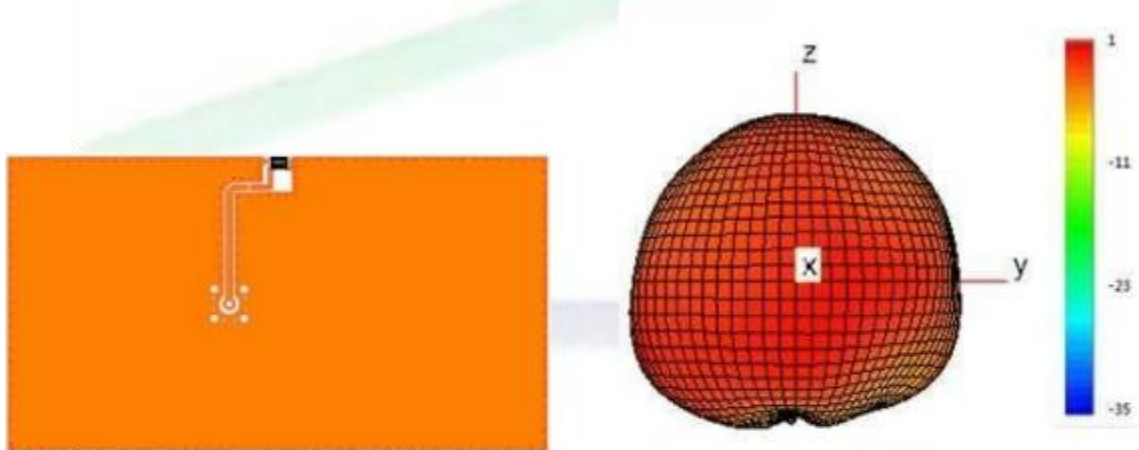
#### 5. Electrical Characteristics

|                   |                      |
|-------------------|----------------------|
| Part Number       | HXD3216ANT2450-BTD05 |
| Central Frequency | 2450 MHz             |
| Bandwidth         | 100(typ.) MHz        |
| V.S.W.R           | $\leq 2.0$           |
| Peak Gain         | 4.34 dBi             |
| Impedance         | 50 Ohm               |
| Polarization      | Linear               |
| Azimuth Beamwidth | Omni-directional     |

## 6. Return Loss (S11)

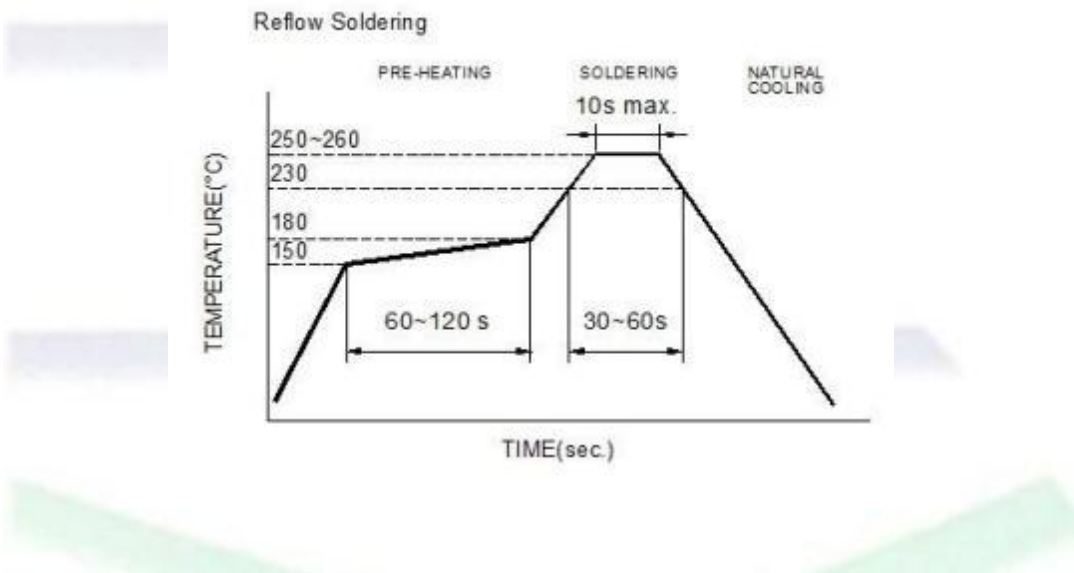


## 7. Radiation Pattern & Efficiency

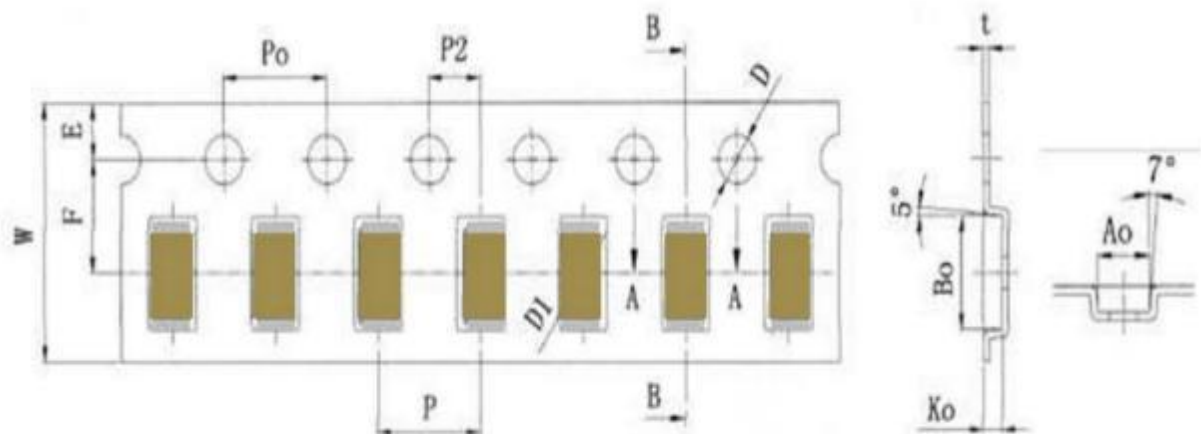


| Frequency (MHz) | 2400  | 2450  | 2500  |
|-----------------|-------|-------|-------|
| Efficiency (dB) | -1.87 | -1.67 | -1.94 |
| Efficiency (%)  | 65    | 68    | 64    |
| Gain (dBi)      | 3.12  | 4.34  | 3.45  |

8. Reflow Soldering Standard Condition



9.



| 外觀   | 規格    | 公差             |
|------|-------|----------------|
| W    | 8.00  | ±0.10          |
| P    | 4.00  | ±0.10          |
| E    | 1.75  | ±0.10          |
| F    | 3.50  | ±0.05          |
| P2   | 2.00  | ±0.05          |
| D    | 1.50  | +0.10<br>-0.00 |
| DI   | 1.00  | ±0.10          |
| Po   | 4.00  | ±0.10          |
| 10Po | 40.00 | ±0.20          |

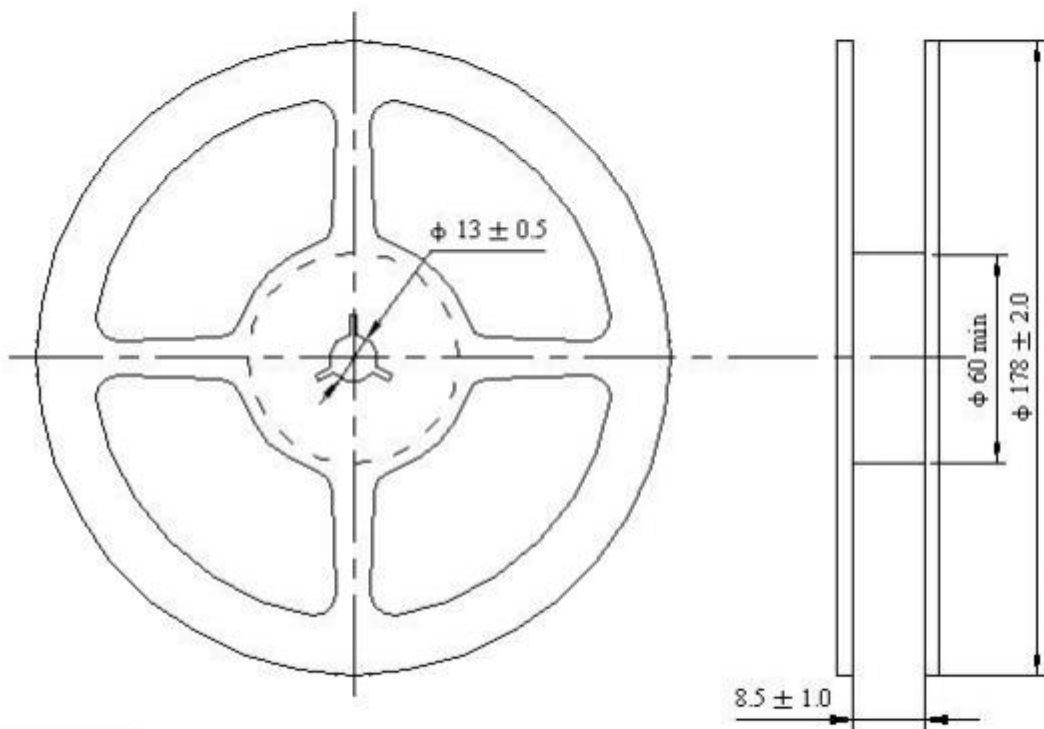
| 外觀 | 規格   | 公差    |
|----|------|-------|
| Ao | 1.85 | ±0.10 |
| Bo | 3.50 | ±0.10 |
| Ko | 0.73 | ±0.10 |
| t  | 0.23 | ±0.05 |

#### Remarks for Package

Reserve a length of 150 ~200mm for the trailer of the carrier and 250 ~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.



#### Reel (6000 pcs/Reel)



#### Storage Period

Oxidizable Material, 12 months in vacuum sealed bag, please repack within 168 hours by re-seal the package treatment after using.

Storage Temperature Range : <30 degree C, Humidity : <60%RH

## 10. Dependability Test

| Test item                                                               | Test condition / Test method                                                                                                                                                                                                   | Specification                                                                                                                                                                                                         |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solderability<br>IEC 60068-2-58<br>GB/T2423.28                          | *Solder bath temperature: 240: 5°C<br>*Immersion time: 2: 0.5 sec<br>Solder: Sn96.5Ag3.0Gu0.5 for lead-free.                                                                                                                   | At least 95% of a surface of each terminal electrode must be covered by fresh solder.                                                                                                                                 |
| Leaching (Resistance to dissolution of metallization)<br>JIS C5101      | *Solder bath temperature: 260: 5°C<br>*Leaching immersion time: 10: 1 sec<br>Solder : Sn96.5 Ag3.0 Gu0.5 for lead-free.                                                                                                        | Loss of metallization on the edges of each electrode shall not exceed 25%.                                                                                                                                            |
| Resistance to soldering heat<br>IEC 60068-2-58<br>GB/T2423.28           | *Preheating temperature: 120~150°C, 1 minute.<br>*Solder temperature: 260: 5°C<br>*Immersion time: 10: 1 sec Solder: Sn96.5Ag3.0Gu0.5 for lead-free<br>Measurement to be made after keeping at room temperature for 24: 2 hrs. | No mechanical damage.<br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.<br>Loss of metallization on the edges of each electrode shall not exceed 25%. |
| Drop Test<br>IEC 60068-2-32<br>GB/T2423.8<br>Customer' s specification. | *Height: 50 cm<br>*Test Surface: Rigid surface of concrete or steel.<br>*Times: 6 surfaces for each units; 2 times for each side.                                                                                              | No mechanical damage.<br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.                                                                               |
| Vibration<br>IEC 60068-2-6<br>GB/T 2423.10                              | *Frequency: 10Hz~55Hz~10Hz(1min)<br>*Total amplitude: 1.5mm<br>*Test times: 6hrs.(Two hrs each in three mutually perpendicular directions)                                                                                     | No mechanical damage.<br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature.                                                                               |
| Adhesive Strength of Termination<br>IEC60068-2-21<br>GB/T 2423.6        | *Pressurizing force:<br>5N( $\leq$ 0603); 10N(>0603)<br>*Test time:10: 1 sec                                                                                                                                                   | No remarkable damage or removal of the termination.                                                                                                                                                                   |

|                                                             |                                                                                                                                                                                                                                                                                                |                                                                                                                                             |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Bending test<br>IEC 60068-2-21<br>GB/T 2423.29              | The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second until the deflection becomes 2mm and then pressure shall be maintained for 10: 1 sec.<br><br>Measurement to be made after keeping at room temperature for 24: 2 hours. | No mechanical damage.<br><br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. |
| Temperature cycle<br>IEC60068-2-14<br>GB/T 2423.22          | 30 minutes at -40°C: 2°C.<br>10~15 minutes at room temperature.<br>30 minutes at +85°C: 2°C.<br>10~15 minutes at room temperature.<br><br>Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24: 2 hrs.                                                  | No mechanical damage.<br><br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. |
| High temperature<br>IEC 60068-2-2<br>GB/T2423.2             | *Temperature: 85: 2°C.<br>*Test duration: 500+24/-0 hours.<br><br>Measurement to be made after keeping at room temperature for 24: 2 hrs.                                                                                                                                                      | No mechanical damage.<br><br>Electrical specification shall satisfy the descriptions in electrical characteristics.                         |
| Humidity (steady conditions)<br>IEC60068-2-3<br>GB/T 2423.3 | *Humidity: 85: 5%R.H.<br>*Temperature: 85: 2°C.<br>*Time: 500+24/-0 hrs.<br><br>Measurement to be made after keeping at room temperature for 24: 2 hrs<br><br>※ 200hrs measuring the first data then 300hrs data.                                                                              | No mechanical damage.<br><br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. |
| Low temperature<br>IEC 60068-2-1<br>GB/T2423.1              | *Temperature: -40: 2°C.<br>*Test duration: 500+24/-0 hours<br><br>Measurement to be made after keeping at room temperature for 24: 2 hrs.                                                                                                                                                      | No mechanical damage.<br><br>Electrical specification shall satisfy the descriptions in electrical characteristics at the room temperature. |