

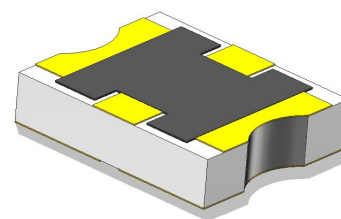
**High Frequency Temperature Compensation Attenuator DC~20GHz 50Ω 200mW**
**Part No. Descriptions**

| ****<br>Series | **<br>Frequency | **<br>Attenuation        | **<br>Temperature Coefficient Code | ***<br>Metallization Options |
|----------------|-----------------|--------------------------|------------------------------------|------------------------------|
| WTCA           | (20)            | (02 to 07)<br>2dB to 7dB | (N3 to N10)                        | WB2                          |

| Part No.      | Frequency Range (GHz) | Attenuation (dB) | Temperature Coefficient Code | Temperature Coefficient of Attenuation (dB/dB/°C) | Max. VSWR (:1) @1GHz@25°C | Max. Input Power (mW) | Attenuation Accuracy (dB) |
|---------------|-----------------------|------------------|------------------------------|---------------------------------------------------|---------------------------|-----------------------|---------------------------|
| WTCA2002N*WB2 | DC-20                 | 2                | N3~N7                        | -0.003~ -0.007                                    | 1.2                       | 200                   | ±0.5                      |
| WTCA2003N*WB2 | DC-20                 | 3                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 200                   | ±0.5                      |
| WTCA2004N*WB2 | DC-20                 | 4                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 200                   | ±0.5                      |
| WTCA2005N*WB2 | DC-20                 | 5                | N3~N10                       | -0.003~ -0.010                                    | 1.2                       | 200                   | ±0.5                      |
| WTCA2006N*WB2 | DC-20                 | 6                | N3~N10                       | -0.003~ -0.010                                    | 1.2                       | 200                   | ±0.5                      |
| WTCA2007N*WB2 | DC-20                 | 7                | N3~N10                       | -0.003~ -0.010                                    | 1.2                       | 200                   | ±0.5                      |

**General Specifications**

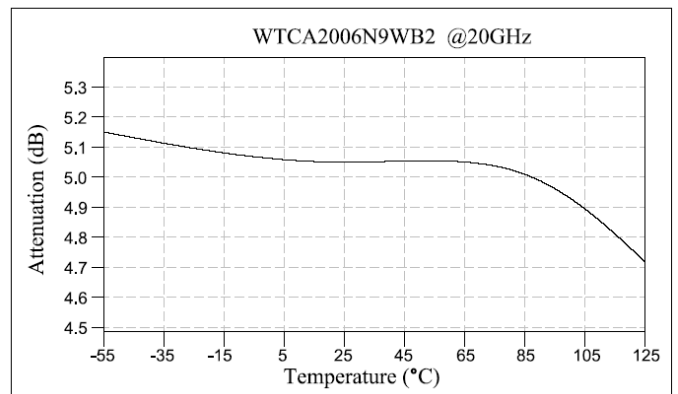
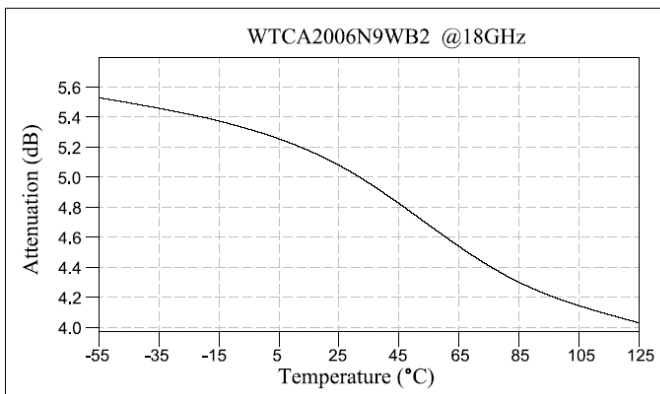
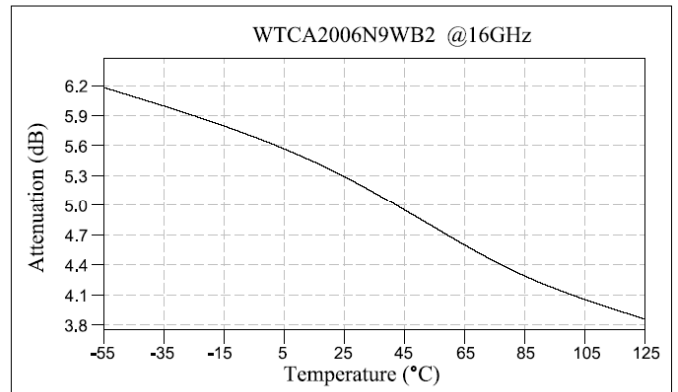
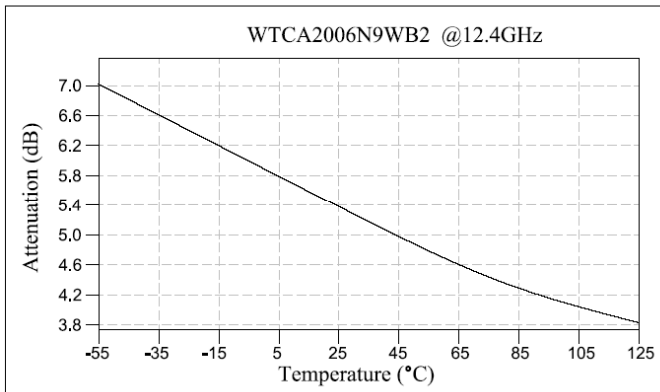
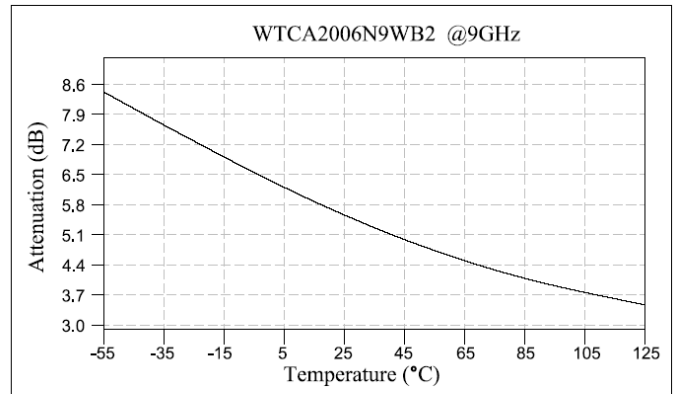
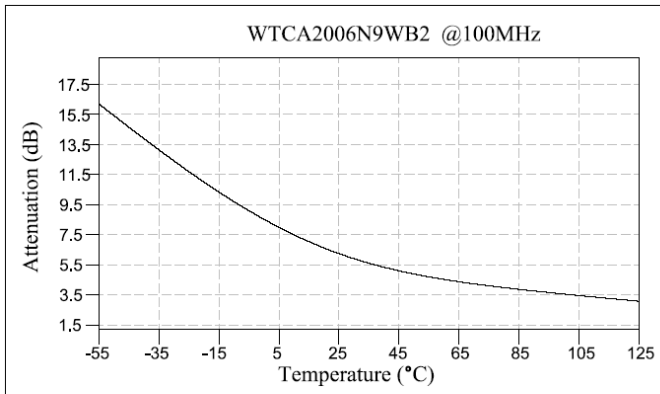
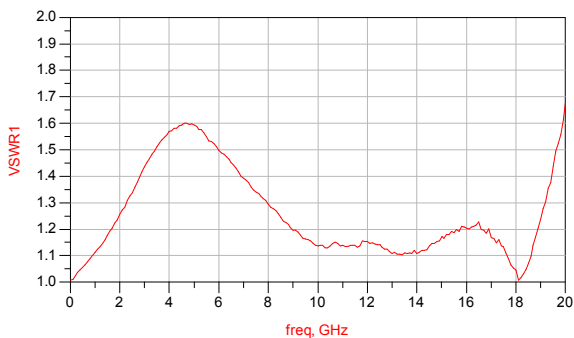
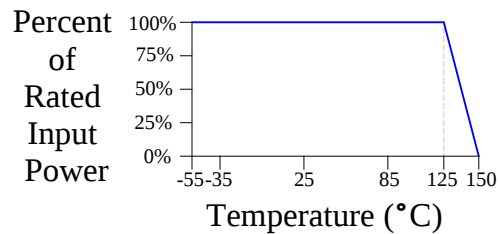
- Frequency Range DC to 20GHz
- Attenuation 6dB
- Attenuation Accuracy at 25°C ±0.5dB@1GHz
- VSWR at 25°C 1.65:1 Max. over DC-10GHz  
1.30:1 Max. over 10-18GHz  
1.70:1 Max. over 18-20GHz
- Nominal Impedance 50 Ohms
- Power Rating 200 mW CW
- Power Derating 100% @ 125°C  
Derates to 0% @ 150°C
- Operating Temperature -55°C to +150°C
- Temperature Coefficient over Operating Temperature Range: See Table Above.  
Temperature Coefficient Tolerance: ±0.001dB/dB/°C.
- Substrate: Alumina (Al<sub>2</sub>O<sub>3</sub>)
- Resistive material: Thick film
- Terminal material: Thick film, Input, Output and front Ground all made by gold, Back Ground made by Pd/Ag.
- Protective Coating: Thick film (ethyl acetate)
- Package Outline: See Sheet 4.
- Workmanship: per MIL-PRF-55342.
- RoHS Compliant.
- Electrostatic Discharge Control: per MIL-STD-1686.



**Unit Marking** dB Value (XX), Direction of Shift (N) and TCA Shift (X).  
Legibility and Permanency: per MIL-STD-130.

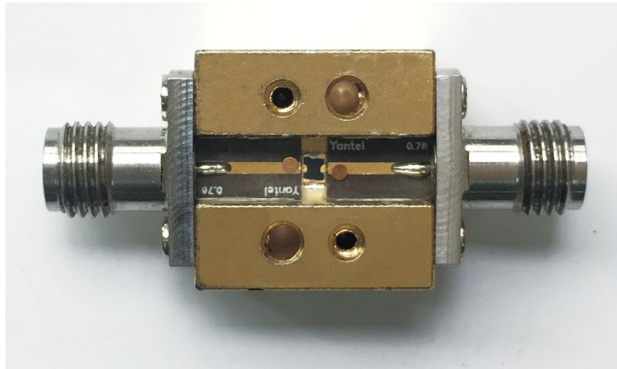
**Quality Assurance**

- Sample inspect per ANSI/ASQC Z1.4 general inspection, LEVEL II, AQL = 1.0.
  - Visual and mechanical examination for conformance to outline package requirements.
- Select five (5) Units from lot measure attenuation from DC to 20GHz every 20°C over the temperature range -55°C to +125°C.
  - Calculate, using linear regression, the slope of the curve.
  - Calculate TCA using the following formula: TCA = Slope / Attenuation @ 25°C.
- Test data required for customer.

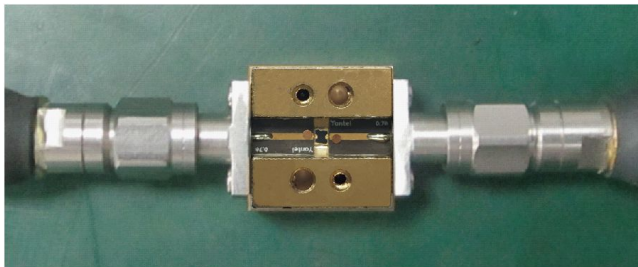
**WTCA Response**

**Typical VSWR @25°C**

**Power Rating & Derating Curve**


## Notes on RF Testing and Circuit Layout

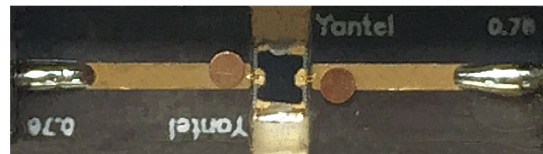
### DC-20GHz WB2 series(for Gold Terminal type) Test Fixture



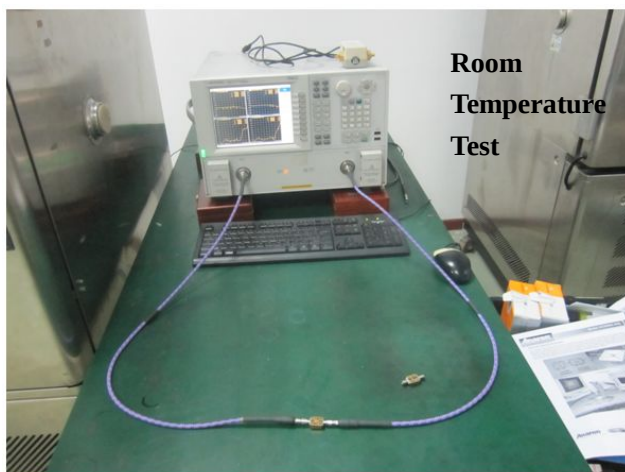
Connect test part to Test Fixture



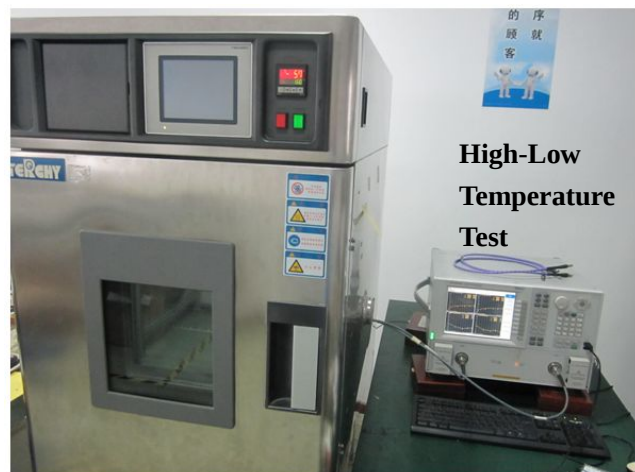
### WB2 PCB Test Board



Equipment Calibration



Room  
Temperature  
Test



High-Low  
Temperature  
Test

- 1、S2P documents are available for download
- 2、DC-20GHz or 16-36GHz test fixture is rentable (only for Chinese customers) , otherwise please purchase them.

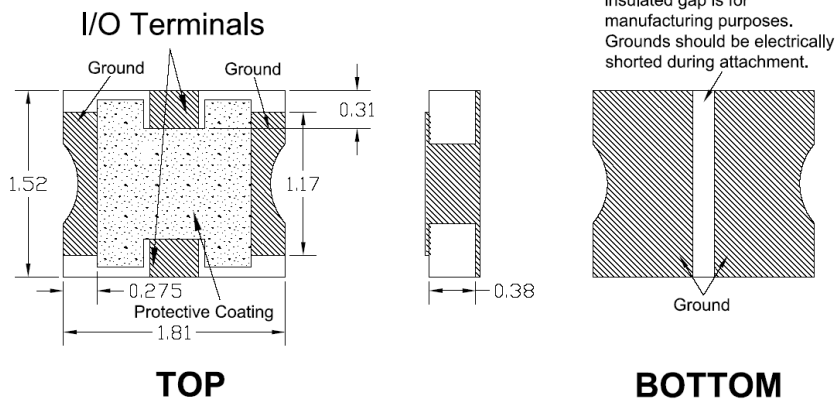
For any questions or needs, please feel free to contact [inform@yantel-corp.com](mailto:inform@yantel-corp.com).

## Package Outlines

All dimensions shown in mm unless stated otherwise

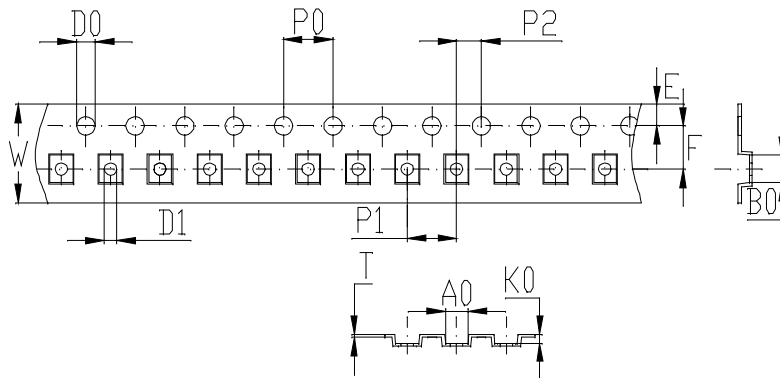
Note: Dimension tolerance in  $\pm 0.10$  otherwise mention.

Unit: mm



## Tape & Reel Drawing

All dimensions shown in mm unless stated otherwise



Notice:

A.10 Sprocket hole pitch cumulative tolerance is 0.2mm.

B. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.

C. All dimensions meet EIA-418-B requirements.

D. A0 & B0 measured as indicated.

E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.

F. Material: PS

G. Thickness:  $0.25 \pm 0.05$ mm

H. 3000 units (maximum) / T&R

| symbol | A0             | B0              | K0             | P0            | P1                       | P2                       |
|--------|----------------|-----------------|----------------|---------------|--------------------------|--------------------------|
| spec   | $1.85 \pm 0.1$ | $2.25 \pm 0.1$  | $0.7 \pm 0.1$  | $4.0 \pm 0.1$ | $4.0 \pm 0.1$            | $2.0 \pm 0.1$            |
| symbol | W              | T               | E              | F             | D0                       | D1                       |
| spec   | $8.0 \pm 0.3$  | $0.25 \pm 0.05$ | $1.75 \pm 0.1$ | $3.5 \pm 0.1$ | $\Phi 1.5^{+0.1}_{-0.0}$ | $\Phi 1.0^{+0.1}_{-0.0}$ |

