



**Manufacturer of Broadband Microwave & Millimeter Wave Components**

**Ver.2209**



# Company Introduction

Qualwave is a privately-owned company based in Chengdu, China. We manufacture both active and passive components in a wide frequency range from DC to 260GHz all over the world. Our products are mainly used in Industry, Defense, Aviatronic, Telecom, Test and Measurement application.



We have 68 skilled staff, of which there are more than 10 engineers and some of them have more than 14 years' experience in this industry, 35 well-trained workers.



Our company is equipped with 67GHz vector network analyzers, signal sources, spectrum analyzers, power meters, oscilloscopes, welding platforms, resistance and voltage withstand test instruments, high and low temperature test systems and other research and development, production and testing equipments. Our quality management system has been successfully registered for GB/T19001-2016/ISO9001:2015.





# CUSTOMERS

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**FOCUS**

**DC~260GHz Microwave & MM-wave Components**

**Design & Manufacture Active / Passive Components**

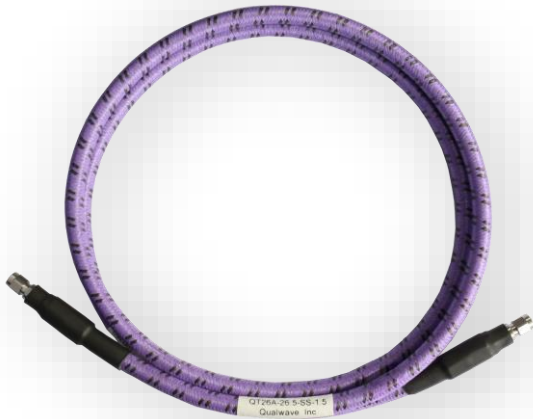
**CAPABILITY****QUALITY**

**GB/T 19001-2016/ ISO 9001:2015 Certificate**

**Fast Delivery (0~4weeks) & Competitive Price**

**ADVANTAGE****SERVICE**

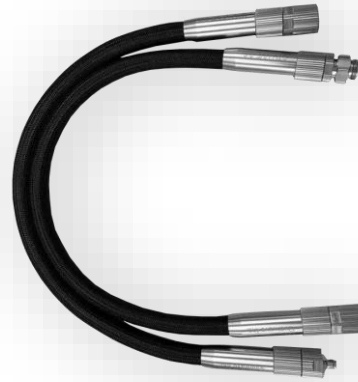
**Customization + Fast Response**



## QT Series

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- Test Cable QT Series
- Up to 110GHz
- Long Bending Life



## QTV Series

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- Phase & Loss Stable
- Long Flex Life
- Up to 67GHz
- NMD Connector



## QA Series

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- Ultra Low Loss
- Phase Stable
- IL: 2.18dB/m@40GHz

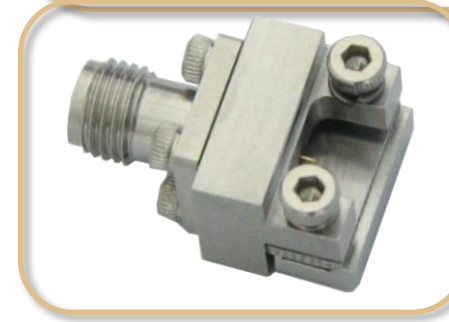
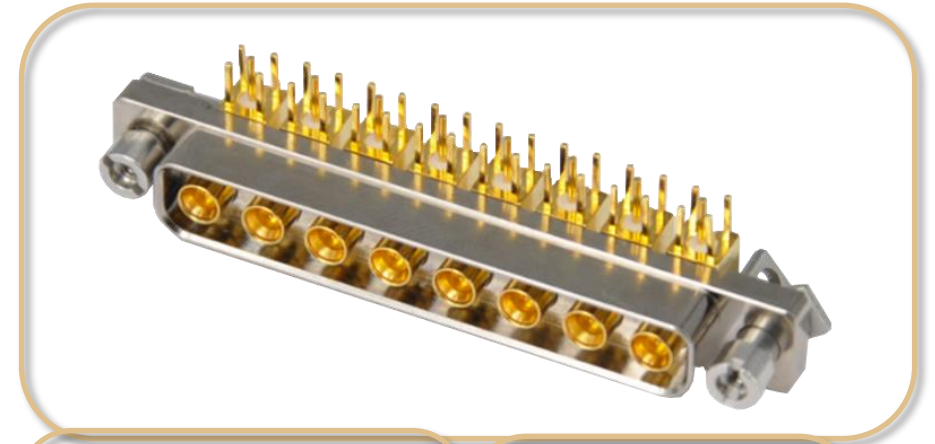
- QH Series: Flex. 40GHz, 086/141
- QE Series: Semi-Rigid, 40GHz, 086/141
- QD Series: Semi-Flex, 40GHz, 086/141
- QR Series: Wireless Communication/LMR Cable
- RG Series: RG58, RG142, RG174, RG178, RG304, RG316(D), RG400...





- PCB Connector
- End Launch Connector
- Cable Connector

\* DC-110GHz | Customization is available



**Connectors**

**1.00  
mm**

**1.85  
mm**

**2.4  
mm**

**2.92  
mm**

**3.5  
mm**

**7/16  
(DIN)**

**N**

**SC**

**TNC**

**SSMP**

**SSMA**

**SMA**

**BNC**

**SMP**

- DC-110GHz
- VSWR<1.15@40GHz
- Customization is available

\* NMD adapter is available



## Connectors

1.00  
mm

1.85  
mm

2.4  
mm

2.92  
mm

3.5  
mm

7/16  
(DIN)

N

SC

TNC

SSMP

SSMA

SMA

BNC

SMP

- DC-110GHz
- Double Ridged Waveguide Available
- Customization is available



**Connectors**

**1.00  
mm**

**1.85  
mm**

**2.4  
mm**

**2.92  
mm**

**SMA**

**N**

**WR10**

**WR12**

**WR15**

**WR19**

**WR22**

**WR975**

**WRD  
-180**

**WRD  
-84**

- **Fixed Attenuators:** Up to 110GHz | 600W @18GHz
- **Rotary Stepped Attenuators:** Up to 40GHz | High Accuracy
- **Continuously Variable Attenuators:** DC-18GHz/0-40dB/10W
- **Digitally controlled Attenuators:**  
40GHz | 0.25dB Step | Customization Available
- **Voltage Controlled Attenuators:** 0.1-40GHz



- **Coaxial Terminations:**  
Up to 110GHz | Up to 600W @ 18GHz
- **Waveguide Terminations:** 1.13~75.8GHz  
WR-1150 ~ WR-10 | 5W ~ 2500W



QCT18K1 (18GHz, 100W)



QWT3440 (WR34, 40W)

- **Pin Diode Switches:**  
40GHz | 50nS Switching Time | Customization Available
- **Coaxial Switches:**  
110GHz | SPDT-SP12T, DPDT, 2P3T | SP8T@40GHz  
Extended Temperature: -45~+85 deg.
- **Waveguide Switches:** 3.95~110GHz, WR-187 ~ WR-10
- **Surface Mount Relay Switches:** DC~18GHz, Small Size.



- Frequency: DC~110GHz
- Path: 2~32 ways
- Isolation: 16~25 dB
- Power up to 10KW
- Amplitude Balance:  $\pm 0.2\text{dB} \sim \pm 1\text{dB}$
- Phase Balance:  $\pm 2^\circ \sim \pm 8^\circ$



- Freq. 4KHz to 260GHz
- Power up to 2000W
- Noise figure: down to 0.5dB
- Module & System available



PA Module



LNA Bench Top



- Freq. up to 67GHz
- Voltage 25V, 50V
- IL <0.4dB @ 67GHz



**Connectors**

1.85  
mm

2.4  
mm

2.92  
mm

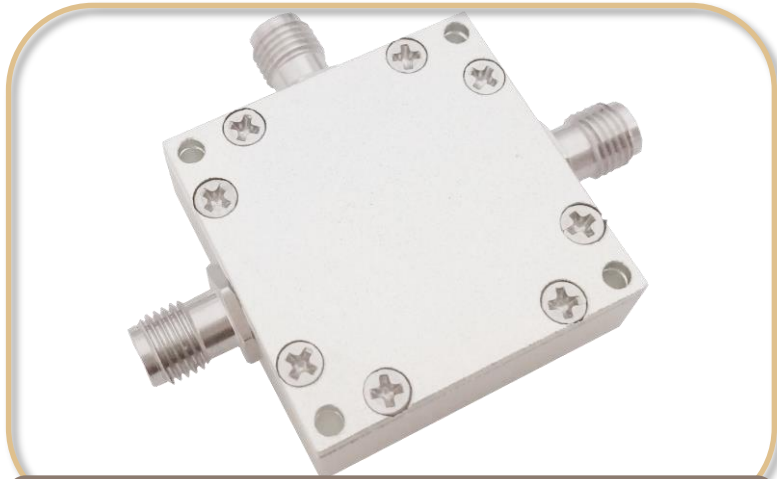
3.5  
mm

**SMA**

**N**

- Freq. : 10MHz ~ 110GHz
- Sensitivity: 100~300 mV/mW
- Polarity: Negative / Positive
- Input Connector: 2.4mm, SMA, WR28~WR10
- Output Connector: 2.92mm, SMA





Balanced Mixer



Harmonic Mixer

- Freq. : 1KHz ~ 110GHz

Mixers

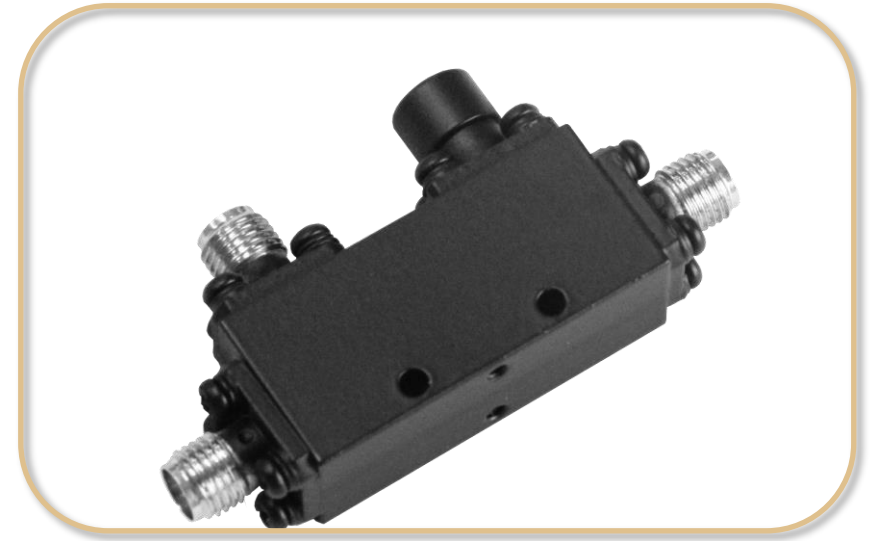
Balanced  
Mixers

Harmonic  
Mixers

- Freq. : up to 50GHz
- Single Channel & Multi-Channels Available
- Electrical Channels Optional



- **Directional Couplers:** up to 110GHz
- **90 Degree Hybrid Couplers:** up to 40GHz
- **180 Degree Hybrid Couplers:** up to 40GHz
- **Waveguide Directional Couplers**



- Freq.: 100MHz~40GHz
- Reference: External/Internal
- Power: 10dBm or higher
- Phase Noise: -110dBc/Hz typical @1KHz Offset
- Customization is available
- No MOQ



Frequency  
Sources

PLDRO

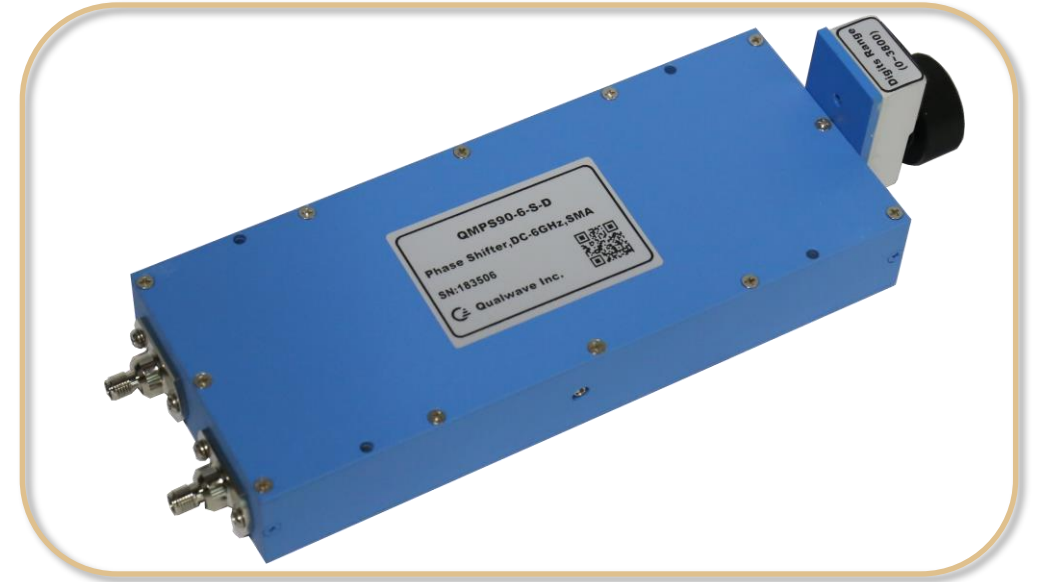
DRO

VCO

PLXO

PLVCO

- **Manual Phase Shifters:**  
Up to 40GHz | Up to 900°/GHz | Up to 100W
- **Digitally Controlled Phase Shifter:**  
Up to 40GHz
- **Voltage Controlled Phase Shifter:**  
Up to 40GHz



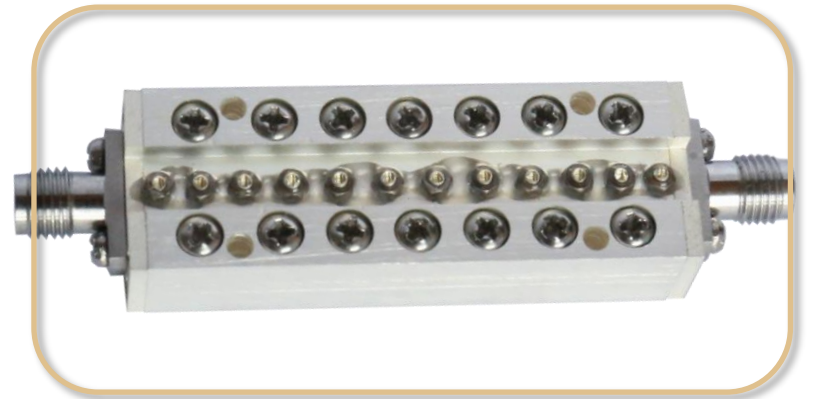
Phase Shifters

Manual Phase  
Shifters

Digital Phase  
Shifters

Voltage Controlled  
Phase Shifters

- Freq.: Up to 110GHz
- Stopband Attenuation: up to 90dB
- Customization is available



**Coaxial Filter**

**Band  
Pass**

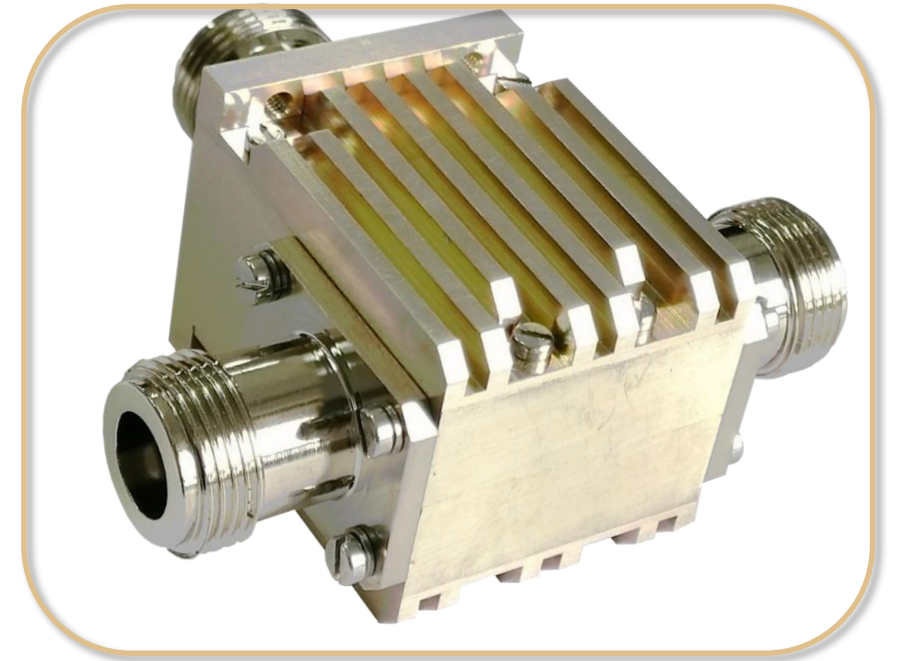
**High  
Pass**

**Low  
Pass**

**Band  
Reject**



- Freq.: 10MHz ~110GHz
- Isolation: 16 ~ 50dB
- Bandwidth: up to 4 Octaves
- Insertion Loss: 0.3 ~ 1dB typical
- Average Power: up to 1.5KW CW
- Customization is available



**Circulators/  
Isolators**

Coaxial

Drop-In

Surface Mount

Waveguide

Microstrip

- Freq.: Up to 67GHz
- VSWR:  $\leq 1.15$  @40GHz, 1.06@26.5GHz



**Connectors**

**7  
mm**

**1.85  
mm**

**2.4  
mm**

**2.92  
mm**

**3.5  
mm**

**L16**

**N**

- Freq.: Up to 116GHz
- Customization is available



**Antennas**

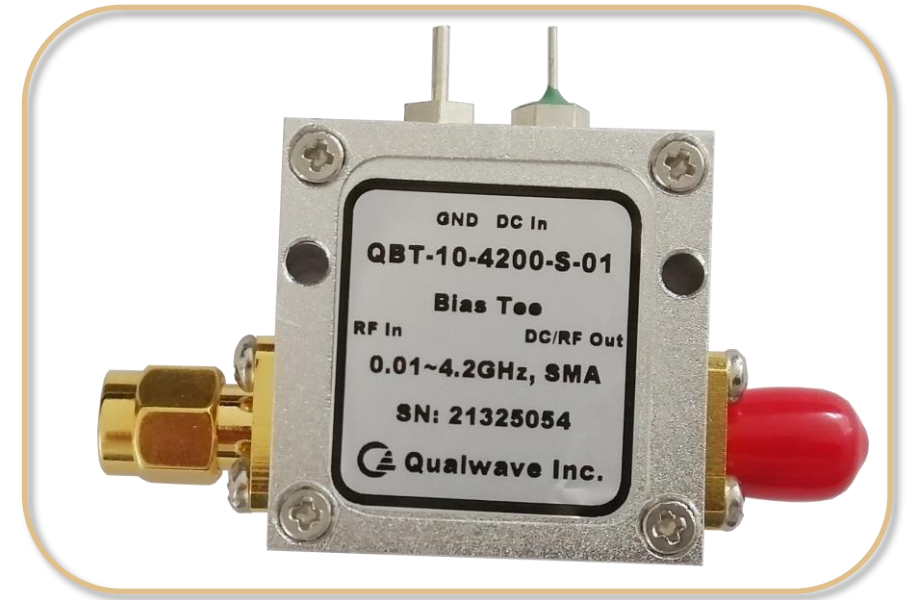
Rectangular  
Horn Antennas

Double Ridged  
Horn Antenn

Conical Horn  
Antennas

- Bias Tee: 0.005~40GHz
- Frequency Multipliers: up to 110GHz
- Frequency Dividers: up to 110GHz
- Equalizer: up to 40GHz

\* Customization is available



# Contact us

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