

# Waveguide Components up to 500 GHz



## TECHNICAL SPECIFICATIONS

- **Waveguide Low Noise Amplifiers (LNAs)**  
33–340 GHz (WR-22 to WR-2.8), noise figures as low as 2.5 dB, single power supply operation
- **Frequency Multipliers**  
33–330 GHz (WR-22 to WR-3.4), multiplication factors  $\times 2$  to  $\times 24$ , output power up to +23 dBm
- **VNA Extension Modules**  
40–500 GHz (WR-19 to WR-2.2), compatible with major VNA platforms, full two-port measurement capability
- **Fixed Waveguide Attenuators**  
40–500 GHz, attenuation steps 3–40 dB, power handling up to 10 W
- **Waveguide Power Amplifiers**  
40–260 GHz (WR-19 to WR-04), output power up to +34 dBm, stable gain across bandwidth
- **Mixers & IQ Mixers**  
33–500 GHz (WR-22 to WR-2.2), integrated LO chains, bidirectional signal path compatibility
- **Signal Generator Extensions**  
40–330 GHz (WR-19 to WR-3.4), configurable as LO sources or converters, optional attenuators and isolators
- **Directional Couplers**  
40–500 GHz (WR-19 to WR-2.2), coupling values 3–40 dB, excellent directivity and isolation

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## APPLICATIONS

5G/6G & Telecommunications:  
Network characterization and  
beyond-5G testing environments

SATCOM: Satellite  
communication systems and  
ground station equipment

Defense: Military RF  
measurement platforms and  
radar systems

Automotive: Radar and sensing  
applications at millimeter-wave  
frequencies

Research: Semiconductor  
device characterization,  
materials spectroscopy, and  
terahertz applications