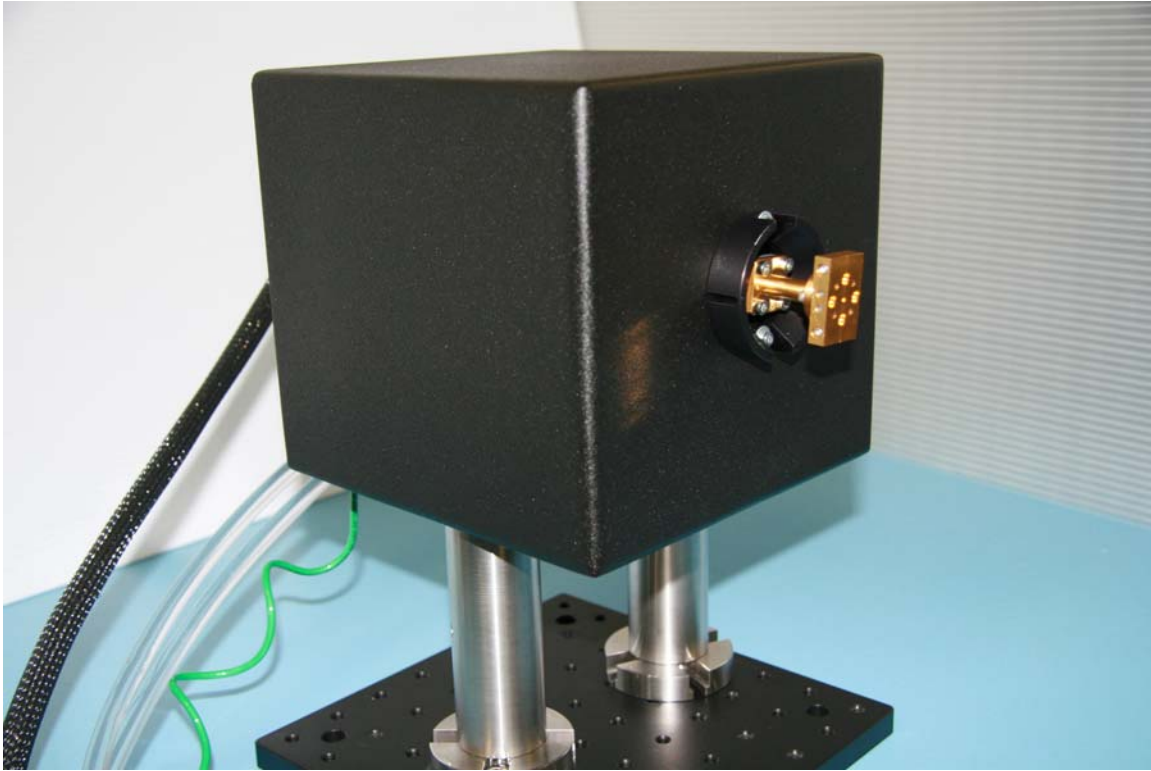


QS1-260-TT Quasi-Optical Source



Frequency Range	Power Range
160-260 GHz	Up to 100 mW
480-780 GHz	Up to 1 mW
1.7-2.1 THz	Up to 5 μ W

The QS1-260-TT is a quasi-optical source, tunable across 160-260 GHz, 480-780 GHz, and 1.7-2.1 THz frequency ranges. The unit is rapidly configurable for any of those ranges. This makes it an excellent choice for a broad range of research and industrial applications.

The QS1-260-TT quasi-optical source is a hybrid device composed of a QS1-260 (OV-24) backward wave oscillator (BWO), waveguide adapter and two Schottky diode frequency triplers.

The QS1-260 BWO can either be pre-packaged into MS-0.6 magnetic systems or used with any other MS-X.X system offered by Microtech Instruments Inc. Operation of QS1-260 also requires a high voltage power supply such as VR-6M and a water cooling system. In the baseline configuration, QS1-260 produces up to 100 mW of continuous wave tunable monochromatic power with a bandwidth of 2 MHz. A typical output power spectrum of QS1-260 is shown in Figure 1.

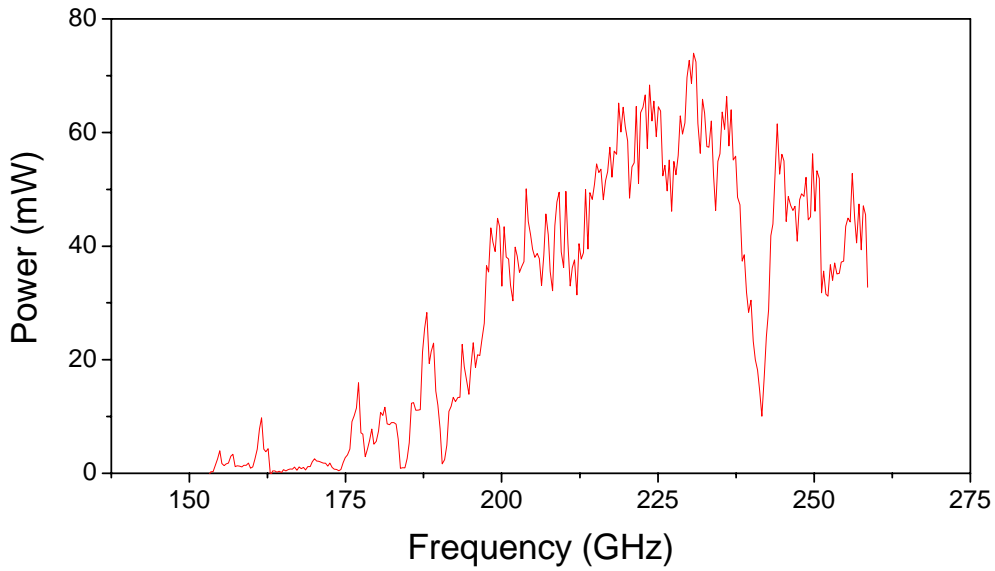


Figure 1: Typical power spectrum from a QS1-260 BWO source

The Schottky diodes attach easily to the wave guide adapter for quick spectral range changes. With the first frequency tripler the power spectrum has a broad usable range 550-780 GHz with power up to 1 mW. The frequency tripled configuration has a bandwidth of 6 MHz. A typical spectrum in QS1-260-T is shown below in Figure 2.

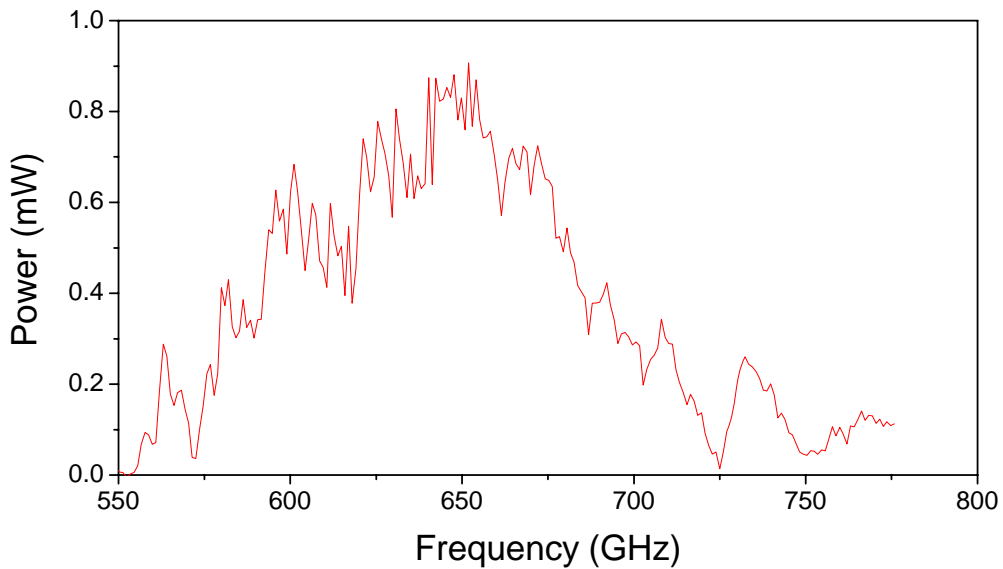


Figure 2: Typical power spectrum for the QS1-260-T generator

The secondary frequency tripler Schottky diode attaches onto the primary tripler to provide up to 5 μW of power in the spectral range of 1.7-2.1 THz with a line width of 18 MHz. A typical spectrum in QS1-260-TT is shown below in Figure 3.

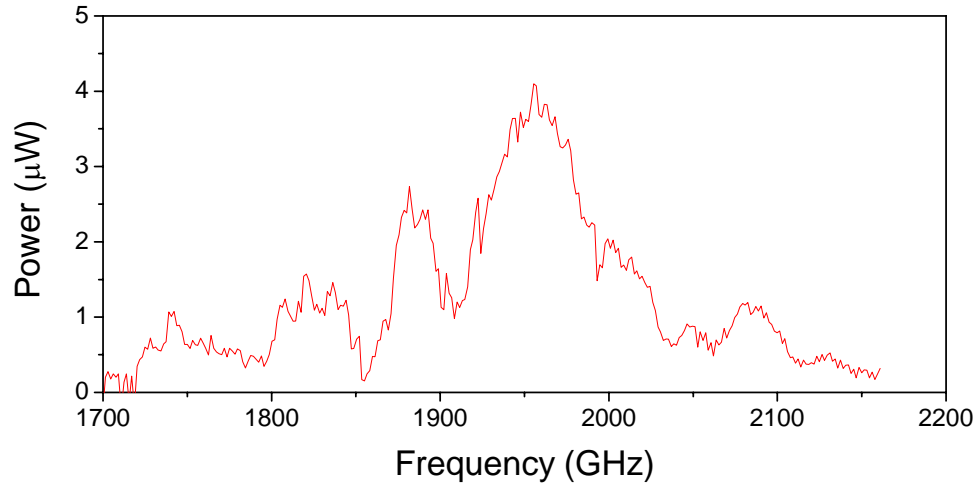


Figure 3: Typical power spectrum for the QS1-260-TT generator

The QS1-260-TT is the hybrid electronic device achieving the highest frequency performing up to 2.1THz.