

Abstracts

Phase Noise Measurements of a D-Band Backward Wave Oscillator

A.R. Harvey, G.M. Smith and J.C.G. Lesurf. "Phase Noise Measurements of a D-Band Backward Wave Oscillator." 1994 *Microwave and Guided Wave Letters* 4.8 (Aug. 1994 [MGWL]): 271-273.

The difficulties encountered in measuring phase noise at millimetre wave frequencies have resulted in a scarcity of such data for backward wave oscillators. This paper reports the extension of a highly sensitive quasi-optical phase noise measurement system to D-band and presents phase noise spectra of a commercial backward wave oscillator at carrier frequencies between 120 and 160 GHz for offset frequencies in the range 10 kHz to 10 MHz. At small offset frequencies, the measured phase noise is typically 15 dB higher than solid state oscillators at this frequency.

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