

Abstracts

U-Band Shield Suspended-Stripline Gunn DRO and VCO (Dec. 1988 [T-MTT])

Z.-Q. Huang and Q.-R. Yang. "U-Band Shield Suspended-Stripline Gunn DRO and VCO (Dec. 1988 [T-MTT])." 1988 *Transactions on Microwave Theory and Techniques* 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1685-1694.

A new millimeter-wave IC DRO is proposed. Equations are derived that give the resonant frequency of the DR in suspended stripline (SSL). A U-band voltage-controlled oscillator (VCO) with varactor tuning also has been developed. The Gunn diode and varactor used in both of the oscillators are commercially available packaged devices. Restrictions on the performance of the oscillators imposed by packaged and mounted networks and the self-characteristic of the solid-state devices have been analyzed. An electronic tuning range greater than 1000 MHz with an output power exceeding 15 dBm across the bandwidth in the 53 GHz region for the SSL VCO has been realized. The SSL DRO with an output power of more than 17 dBm and a mechanical tuning range of 1.5 GHz in the 54 GHz region has been measured.

[Return to main document.](#)