Abstracts

High-power AlGaN/GaN FET-based VCO sources

J.B. Shealy, J.A. Smart and J.R. Shealy. "High-power AlGaN/GaN FET-based VCO sources." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1427-1430 vol.3.

The first report of multi-watt AlGaN/GaN FET-based voltage-controlled oscillators (VCO's) with high efficiency is presented. Varactor-tuned oscillators implemented using distributed networks oscillate at 3 GHz with high output power (2.7 w), high efficiency (27%), high supply voltage range (3.5 V to 30 V) and high tuning bandwidth (13%) over a control voltage range from 1 to 9 V. The measured output power and circuit efficiency are examined as a function of supply voltage. These results indicate high-power AlGaN/GaN-based VCO's may he used as high-efficiency sources for radio communications.

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