# Abstracts

## Power performance and scalability of AlGaN/GaN power MODFETs

*E. Alekseev, D. Pavlidis, N.X. Nguyen, Chanh Nguyen and D.E. Grider. "Power performance and scalability of AlGaN/GaN power MODFETs." 2000 Transactions on Microwave Theory and Techniques 48.10 (Oct. 2000 [T-MTT]): 1694-1700.*

The scalability of power performance of AlGaN/GaN MODFETs with large gate periphery, as necessary for microwave power devices, is addressed in this paper. High-frequency large-signal characteristics of AlGaN/GaN MODFETs measured at 8 GHz are reported for devices with gatewidths from 200 /spl mu/m to 1 mm. 1-dB gain compression occurred at input power levels varying from -1 to +10 dBm as the gatewidth increased, while gain remained almost constant at -17 dB. Output power density was /spl sim/1 W/mm for all devices and maximum output power (29.9 dBm) occurred in devices with 1-mm gates, while power-added efficiency remained almost constant at /spl sim/30%. The large-signal characteristics were compared with those obtained by dc and small-signal S-parameters measurements. The results illustrate a notable scalability of AlGaN/GaN MODFET power characteristics and demonstrate their excellent potential for power applications.

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