Abstracts

5-GHz Band 30 Watt Power GaAs FETs

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C-band high-power and high-efficiency GaAs FETs have been developed. The active region of FET chip has been highly integrated by forming long gate fingers. Four chips are power-combined efficiently by using internal matching circuits. The FETs deliver an output power at 1dB gain-compression point of 30W with 6.8 dB gain and 28 % power-added efficiency, and a saturated output power of 33 W at 5.5 GHz. These output powers are the highest values reported so far on power GaAs FET. Moreover they exhibit an excellent linearity with a third-order intermodulation distortion intercept point of +55 dBm.

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