Abstracts

Class-A SiGe HBT Power Amplifiers at C-Band Frequencies

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In this letter we report on the first experimental investigations of the power-handling capabilities of SiGe heterojunction bipolar transistors (HBT's) at C-band frequencies. Multifinger HBT's in common-emitter (CE) and common-base (CB) configuration were matched using high Q matching net-works, At a frequency of 5.7 GHz the CE and the CB class A amplifier exhibit a 1-dB compression output power of 18 and 20 dBm, respectively. A power-added efficiency (PAE) of more than 30% and a output power density of 1 mW/µm² at 4 V V/sub CB/ were observed.

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