Abstracts

First demonstration of a 0.5 W, 2 to 8 GHz MMIC HBT distributed power amplifier based on a large signal design approach

J.P. Viaud, M. Lajugie, R. Quere and J. Obregon. "First demonstration of a 0.5 W, 2 to 8 GHz MMIC HBT distributed power amplifier based on a large signal design approach." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 893-896.

In this paper we report the results of the first demonstration of a 0.5 Watt, 2 to 8 GHz MMIC HBT distributed power amplifier optimised with a new design methodology. Initially developed for MESFET transistors, this new design methodology has been applied to HBT devices to obtain simultaneously both high power and high efficiency operation. Thus, a power density performance greater than 1 W/mm has been demonstrated compared to the MESFET where a typical value of 0.35 W/mm can be observed. Moreover, an average value of 20% power added efficiency between 2 and 8 GHZ has been measured with a peak efficiency of 30% at 3 GHz.

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