Abstracts

High Performance HEMT MMICs for Low Cost EHF SATCOM Terminals

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Presented is a set of high performance pseudomorphic InGaAs HEMT MMICs for insertion into a low cost transceiver for EHF SATCOM terminal applications. A 20 GHz MMIC LNA with 1.8 dB noise figure and 38 dB gain and a 44 GHz driver amplifier with an output power of +17.8 dBm, 22.8 dB gain, and 17% efficiency are featured. Also reported are HEMT MMIC doublers with output frequencies of 17, 22, and 44 GHz which demonstrate +13, +12, and +5 dBm power outputs with 1 dB conversion loss, 1 dB conversion gain, and 4 dB conversion loss, respectively.

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