Abstracts

Oscillator and Amplifier Grids

D. Rutledge, J.B. Hacker, M. Kim, R.M. Weikle, II, R.P. Smith and E. Sovero. "Oscillator and Amplifier Grids." 1992 MTT-S International Microwave Symposium Digest 92.2 (1992 Vol. II [MWSYM]): 815-818.

In this paper we present the largest recorded output power for a quasi-optical power-combining array and a new planar HBT grid amplifier design. A 16-element MESFET grid oscillator has been fabricated that generates an effective radiated power (ERP) of 28 W at 9.21 GHz. The total radiated power is estimated to be 2.0 W giving a dc to rf efficiency of 28%. A new planar grid amplifier is also presented that is suitable for monolithic fabrication. The planar amplifier grid is a hybrid design using HBT transistors monolithically fabricated in a differential pair configuration and wire bonded to a Duroid substrate. The grid amplifier has a measured gain of 11 dB at 9.9 GHz.

❑ Return to main document.