Abstracts

GaAs HEMT Lossy Match Amplifiers

Y. Ito and A. Takeda. "GaAs HEMT Lossy Match Amplifiers." 1988 MTT-S International Microwave Symposium Digest 88.1 (1988 Vol. I [MWSYM]): 347-350.

A novel design approach of hybrid lossy match amplifiers for the 1 to 13 GHz and 1 to 20 GHz bands using 0.3 micron gate length GaAs HEMT's is described. Two types of the two stage lossy match amplifier have been realized. One amplifier, using 0.3 x 280 micron GaAs HEMT's, exhibits 14.0±0.4 dB gain, better than 10 dB return loss, and less than 7.8 dB noise figure over the 1 to 13 GHz band. The other amplifier, using 0.3 x 200 micron GaAs HEMT's, shows 9.5±0.4 dB gain, better than 10 dB return loss, and less than 7.5 dB noise figure across the 1 to 20 GHz band. These are the unprecedented lossy match amplifiers to achieve high gain-bandwidth product.

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