Abstracts

Development of cryogenic load-pull analysis: power amplifier technology performance trends

E. Gebara, J. Laskar, M. Harris and T. Kikel. "Development of cryogenic load-pull analysis: power amplifier technology performance trends." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1663-1666.

On-wafer load-pull measurements at cryogenic temperatures are made for the first time on FET power amplifier structures to demonstrate the improved performance when operated at reduced temperatures. Measurements from 300 K to 17 K demonstrate improvements in both efficiency (40-80%) and output power (1.0-2.7 dB). These results demonstrate that advanced device technologies that are optimized for cooled operation may provide significantly enhanced system performance and reliability with a minimal increase in prime power.

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