Abstracts

Nonlinear Analysis of f/sub 0//2 Loop Oscillation of High Power Amplifiers

M. Mochizuki, M. Nakayama, Y. Tarui, Y. Itoh, S. Tsuji and T. Takagi. "Nonlinear Analysis of f/sub 0//2 Loop Oscillation of High Power Amplifiers." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 709-712.

A novel nonlinear analysis of high power amplifier instability has been developed. This analysis method deals with a loop oscillation and presents the conditions for oscillation under large-signal operation by taking account of a mixing effect of FETs. Applying this analysis method to the high power amplifier instability that an output power decreases at some compression point where an f/sub 0//2-wave is observed, it has been found that this instability is caused by an f/sub 0//2 loop oscillation. In addition, it has been verified by analysis and measurement that the oscillation can be removed by employing an isolation resistor in a closed loop circuit.

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