Abstracts

Optimization of Trade-Offs Between Efficiency and Intermodulation in SSPAs Based on Experimental and Theoretical Considerations

C. Duvanaud, P. Bouysse, J.M. Nebus, L. Lapierre and J.P. Villotte. "Optimization of Trade-Offs Between Efficiency and Intermodulation in SSPAs Based on Experimental and Theoretical Considerations." 1993 MTT-S International Microwave Symposium Digest 93.1 (1993 Vol. I [MWSYM]): 285-288.

This paper examines the problem of improving trade-offs between power added efficiency and third order intermodulation in power FETs. Intermodulation and power added efficiency of a commercially available 4 watt power FET (FUJITSU FLM 7785-4C) have been fully characterized by using an active load pull technique. Significant variations of power added efficiency, third order intermodulation and differential gain compression versus bias conditions and load impedances are observed by experimentation and confined by theoretical non-linear analysis. Both experimentation and theoretical analysis proposed in this paper provide a valuable contribution to the optimization of trade-offs between power added efficiency and third order intermodulation in communication power amplifiers.

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