

Abstracts

Dynamic Theory of Intermodulation Distortion

T.C. Best, C.A. Lee and G.C. Dalman. "Dynamic Theory of Intermodulation Distortion." 1982 Transactions on Microwave Theory and Techniques 30.5 (May 1982 [T-MTT]): 729-734.

This paper studies the third-order intermodulation distortion of signals in a reflection amplifier that are separated by an appreciable fraction of the bandwidth. This large separation of input signals requires taking account of the energy interchange between diode and circuit. A theory of intermodulation distortion accounting for this interaction is developed for large-order nonlinearities. Previous analyses of this problem have been limited to small nonlinearities and small separation of the input signals. Experimental verification of the theory developed here is demonstrated for an IMPATT diode reflection amplifier as a function of power level and tone separation.

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