Abstracts

Prediction of a CDMA output spectrum based on intermodulation products of two-tone test

Seung-June Yi, Sangwook Nam, Sung-Hoon Oh and Jae-Hee Han. "Prediction of a CDMA output spectrum based on intermodulation products of two-tone test." 2001 Transactions on Microwave Theory and Techniques 49.5 (May 2001 [T-MTT]): 938-946.

A prediction method of a code-division multiple-access (CDMA) output spectrum based on intermodulation (IM) products of a two-tone test is proposed in this paper. An RF power amplifier is mathematically modeled by a complex envelope transfer function and, using this model, analytical expressions of IM products and a CDMA output spectrum are derived, respectively. By combining these two expressions, we finally derive an analytical expression that relates IM products to a CDMA output spectrum. It is shown in this expression that not only AM-AM, but also AM-PM distortion affects the CDMA output spectrum. Comparison between the measured and predicted results shows that the output spectrum predicted by this method agrees well with the measured spectrum.

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