Abstracts

A new unequal three-tone signal method for AM-AM and AM-PM distortion measurements suitable for characterization of satellite communication transmitters/transponders

F.M. Ghannouchi, H. Wakana and M. Tanaka. "A new unequal three-tone signal method for AM-AM and AM-PM distortion measurements suitable for characterization of satellite communication transmitters/transponders." 2000 Transactions on Microwave Theory and Techniques 48.8 (Aug. 2000 [T-MTT]): 1404-1407.

A new method for characterization of AM-AM and AM-PM distortion of power amplifiers (PAs) using only power measurements is proposed in this paper This technique was found to be suitable for the characterization of satellite communication transmitters/transponders. It consists of using an unequal three-tone signal (UTTS) to drive either the base-station PA's transmitter or the satellite transponder's PA and to measure the level of this UTTS at the output of the transmitter/transponder. By comparison of the three tone levels at the input and output of the transmitter/transponder, one can calculate the AM-AM compression factor and AM-PM conversion coefficient of the transmitter/transponder PA using closed-form expressions.

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