Abstracts

An accurate complex behavior test bed suitable for 3G power amplifiers characterization

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In this paper, we propose a realistic, accurate, versatile and thermal-free complex behavior test bed suitable for 3G power amplifier characterization. The measurement results, using the proposed test bed of a 90 W peak power amplifier based on a Motorola-LDMOS class-AB amplifier, are presented for several signals excitations (W-CDMA, CDMA2000, 8-Tones). These results show large discrepancies with those obtained by a vector network. analyzer (HP-8510C) with a CW excitation for both AM/AM and AM/PM curves. This test bed can also be used for the investigation of the memory effect in RF power amplifiers. This paper presents some measurements that point out this capability. This system has potential benefits in the area of non-linear behavior modeling of power amplifiers and synthesis of accurate predistortion function for linearization purposes.

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