Abstracts

Linearity optimization of a distributed base station amplifier using an automated high-speed measurement protocol

M.P. van der Heijden, J.R. Gajadharsing, B. Rejaei and L.C.N. de Vreede. "Linearity optimization of a distributed base station amplifier using an automated high-speed measurement protocol." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1679-1682 vol.3.

This paper describes a high-speed measurement protocol using a high-order implementation of the complex power series representation (CPSR). The CPSR is used to relate AM-AM and AM-PM conversion (large signal S/sub 21/) to the 3rd-order intermodulation distortion (IM3) of an amplifier up to gain compression. This method requires the use of a network analyzer only and eliminates the need for a spectrum analyzer speeding-up the measurements tremendously. The method has proven to be very powerful in a real-time optimization of bias parameter of a novel linear distributed amplifier for base stations.

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