

Abstracts

System analysis of a W-CDMA base-station PA employing adaptive digital predistortion (2002 [RFIC])

C. Potter. "System analysis of a W-CDMA base-station PA employing adaptive digital predistortion (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 275-278.

An analysis is presented of the implementation requirements for a linear power amplifier (PA) incorporating a predistortion lineariser. It is shown that the statistical distribution of the W-CDMA envelope affects the linearity requirement of the PA when viewed as a function of instantaneous power. Where there is a low probability of a given level, the acceptable non-linearities are higher than at the most probable level. Consequently, a minimum linearity profile is derived that is consistent with meeting the ACLR, PCDE and EVM system requirements. This can be exploited to produce a simpler and more efficient PA while still meeting its specifications.

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