

Linearity considerations of W-CDMA front-ends for UMTS

H. Pretl, L. Maurer, W. Schelmbauer, R. Weigel, B. Adler and J. Fenk. "Linearity considerations of W-CDMA front-ends for UMTS." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. 1 [MWSYM]): 433-436.

The signals used in UMTS have wide bandwidth and high crest factors. Circuit designers use sinusoids to design and simulate their building blocks. Formulas are presented relating the various distortion effects of the W-CDMA signals like adjacent channel leakage ratio (ACLR), cross modulation or intermodulation to well-known linearity measures like input intercept point of third-(IIP3) and second-order (IIP2) and compression point. Measurements of amplifiers with sinusoidal and broadband signals confirm the obtained results.

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