Abstracts

Cross modulation distortion in CDMA receivers

V. Aparin, B. Butler and P. Draxler. "Cross modulation distortion in CDMA receivers." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1953-1956.

The jammer cross modulation transferred from a TX CDMA leakage by a common-emitter receiver circuit is analyzed using the Volterra series and statistical theory. The "two-hump" cross-modulation spectrum is explained based on the time-domain model of the reverse-link CDMA signal. The derived closed-form expression for the cross modulation shows that it is affected by the circuit terminations in the CDMA signal baseband and at the sum and difference of the jammer and CDMA signal center frequencies. The theory was used to optimize the out-of-band source impedance of a 2 GHz Si BJT LNA to significantly reduce its distortion.

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