# Abstracts

## Adaptive RF Cartesian predistorter based on the low frequency even order IM terms

*Youngoo Yang, Young Yun Woo and Bumman Kim. "Adaptive RF Cartesian predistorter based on the low frequency even order IM terms." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 793-796 vol.2.*

A new adaptive predistortion method for a high power class AB amplifier is presented. The 2nd order harmonic (f2-f1) is generated in the properly filtered drain bias circuits of a small amplifier with proper drive level to have relatively high 2nd order and low 4th order IM components. The 4th order component (2f2-2f1) is generated by multiplying the 2nd order component. These low frequency even harmonics modulate the main signal in the I/Q channel form to generate the 3rd and 5th IM components. This PD is very compact and has low insertion loss and the capability to independently control the amplitudes and phases of the 3rd and 5th IM components, which are very important to achieve higher performance without having local minima in the adaptive control. A 2.15 GHz high power amplifier has been linearized for the 4.5 MHz broadband CDMA signal. The results prove that this adaptive predistorter could achieve a drastic improvement of ACP and has excellent adaptivity.

❑ Return to main document.