

The proposed algorithm brings a new method for RF front-end intermodulation nonlinearity test. Unlike existing RF front-end test methodologies, the new method does not require any RF signal measurements. It only requires digital measurements at the baseband ADC output when the RF front-end is excited with a two-tone signal at the LNA input. Based on a simple adjustment of a filter transfer functions between the LNA and the mixer, the nonlinearities in the LNA and the mixer can be isolated and tested accurately. The method is verified in both Matlab Simulink and ADS, and simulation results demonstrate both efficacy and accuracy.