Abstracts

Effect of out-of-band terminations on intermodulation distortion in common-emitter circuits

V. Aparin and C. Persico. "Effect of out-of-band terminations on intermodulation distortion in common-emitter circuits." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 977-980 vol.3.

This paper presents the results of Volterra series analysis of the third-order intermodulation distortion in common-emitter circuits. The derived closed-form expression shows how out-of-band source and load impedances affect the distortion. The expression was used to optimally tune the input matching network of a 2 GHz Si BJT LNA at the sub- and second-harmonic frequencies for a higher IIP/sub 3/. While the in-band noise figure, gain and input return loss were not affected, the peak IIP/sub 3/ increased by 14 dB.

❑ Return to main document.