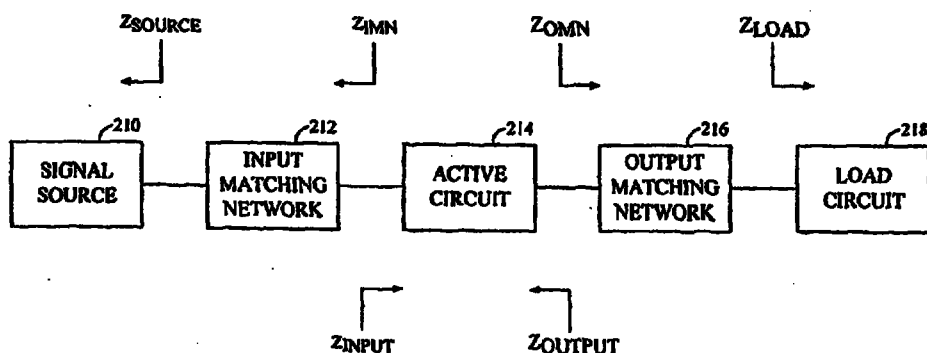




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(54) Title: IMPEDANCE MATCHING NETWORKS FOR NON-LINEAR CIRCUITS



(57) Abstract

Techniques to reduce intermodulation distortion at the output of an active circuit having even-order and odd-order nonlinearities. The IM3 products generated by the even-order nonlinearity of the active circuit are canceled against the IM3 products generated by the odd-order nonlinearity. The amplitude and phase of the IM3 products can be manipulated by adjusting either the source or load impedance, or both, of the active circuit. The amplitude and phase of the IM2 products generated by the even-order nonlinearity can be manipulated by adjusting the impedance of the active circuit at subharmonic and second harmonic frequencies (i.e., the frequencies of the IM2 products). By properly tuning or "matching" the impedance of either the source or load, or both, of the active circuit at either the sub-harmonic or second harmonic frequency, or both, the amplitude and phase of the IM2 products can be adjusted such that the IM3 products resulting from the even-order nonlinearity approximately cancel the IM3 product.