Abstracts

Hilbert-transform-derived relative group delay

Many common types of microwave circuits, particularly filters, are required to meet a group delay ripple specification. This is normally measured using a vector network analyzer (VNA) or some specialized test configuration. A new method of assessing the group delay ripple of a broad class of microwave circuits is presented, which uses a scalar network analyzer and a form of the Hilbert transform. Experimental results illustrating the usefulness of the technique are shown for a series of examples and the principal sources of error are analyzed.

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