

Abstracts

Wide-Band Balanced Line Microwave Hybrids

S. Rehnmark. "Wide-Band Balanced Line Microwave Hybrids." 1977 Transactions on Microwave Theory and Techniques 25.10 (Oct. 1977 [T-MTT]): 825-830.

Wide-band balanced line microwave hybrids each consisting of lossless two-ports and a "reversed-phase hybrid ring" are presented. The two-ports can be designed for wide-band match and the new device is shown to have the same frequency independent properties as the basic hybrid ring. Two special two-ports are treated: one consists of open-circuited series stubs and short-circuited shunt stubs while the other consists of transmission-line cascades. The hybrid ring with matching stubs has been described previously, but is difficult to realize. The hybrid ring matched with transmission-line cascades is a new development which simplifies the practical realization. A complete synthesis procedure is presented and design data for 3-, 6-, 10-, and 15-dB coupling are tabulated.

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