

Abstracts

A Wideband Stripline Hybrid Ring (Correspondence)

S. March. "A Wideband Stripline Hybrid Ring (Correspondence)." 1968 *Transactions on Microwave Theory and Techniques* 16.6 (Jun. 1968 [T-MTT]): 361-361.

Although usually considered a narrow-band device, the "rat-race" hybrid can be broadbanded for good performance over an octave by incorporating several design changes. The limiting factor in the hybrid-ring coupler of Fig. 1 is the three-quarter wavelength section, which restricts the useful frequency range for the 180° hybrid to $f_{\text{sub } 0} \pm 0.23f_{\text{sub } 0}$, where $f_{\text{sub } 0}$ is the center frequency in the band of interest. The conventional ring configuration exhibits -3.0 dB of coupling when the impedance of each of the ring segments, Z_r , is $\sqrt{2} Z_{\text{sub } 0}$, where $Z_{\text{sub } 0}$ is the characteristic impedance of both the input and output lines.

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