Abstracts

Broadband flat coupling two-branch and multibranch directional couplers

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The inherent narrow bandwidth of branchline directional couplers can be improved by adding compensation networks at the ports which consist of half wavelength transformers connected in series, and shunted by open stubs of the same length, and further by subdividing the coupler into multiple loops of 2 branch sections, cascaded by interconnecting half wavelength lines. This paper compares such compensated single and multiloop branchline couplers with respect to achievable bandwidth at a certain specified return loss. It is found that nearly optimum performance is obtainable from compensated two branch couplers.

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