Abstracts

Practical Design of Strip-Transmission-Line Half-Wavelength Resonator Directional Filters

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Strip-transmission-line directional filters have been found extremely useful since they serve as a combination multiplexer and filter assembly. A step by step procedure has been developed for the quarter-wave coupled filter design having a prescribed band-width, skirt selectivity, and passband ripple tolerance for narrow band multiplexing applications. An experimental study of the strip-transmission-line resonator as an integral part of the directional filter utilizing direct and quarter-wave coupling between the half-wave resonants has been carried out; and an efficient method of tuning a filter is described. This study has included not only problems of insertion loss caused by dissipation but also effects on filter characteristics caused by variations in environmental temperature.

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