Abstracts

Direct Coupled Coaxial and Waveguide Band-Pass Filters (Correspondence)

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In this note, experimental results will be presented for practical coaxial and waveguide band-pass filters. Filters of both types were originally developed in the 1700 Mc to 2300 Mc frequency range for application in a wide-band microwave radio relay communications system. The specifications for these filters called for very low input VSWR's over an appreciable part of the filter pass bands. This is necessary to minimize the degradation in system performance due to intermodulation noise resulting from feeder distortion of microwave transmission lines and/or group delay distortion within the microwave filters. Both the coaxial and waveguide band-pass filters employed five direct coupled resonators. Filters were designed for Butterworth (maximally flat amplitude) response shapes and nominal filter 3 db bandwidths of 60 Mc.

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