Abstracts

Multiplexer Channel-Separating Units Using Interdigital and Parallel-Coupled Filters

G.L. Matthaei and E.G. Cristal. "Multiplexer Channel-Separating Units Using Interdigital and Parallel-Coupled Filters." 1965 Transactions on Microwave Theory and Techniques 13.3 (May 1965 [T-MTT]): 328-334.

Design theory is presented for strip-line multiplexer channel-separating units which have constant-resistance input impedances so that many units can be cascaded without reflection effects. Each channel unit consists of an interdigital band-pass filter and a band-stop filter which uses parallel-coupled resonators. In order to obtain the desired constant-resistance input impedance, both filters are designed from singly loaded, maximally flat, low-pass prototype filters. A trial design was worked out and constructed so as to have five per cent bandwidth for the separated channel. Excellent agreement between theory and experiment was obtained.

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