Abstracts

Wideband, High Selectivity Diplexers Utilizing Digital-Elliptic Filters

R.J. Wenzel. "Wideband, High Selectivity Diplexers Utilizing Digital-Elliptic Filters." 1967 G-MTT International Microwave Symposium Program and Digest 67.1 (1967 [MWSYM]): 47-50.

The high selectivity and compact form of digital-eliptic filters makes them attractive for use in wideband diplexers. The theory of diplexers has been described in several references where it is shown that a perfect match at the input of a diplexer requires the component filters to be complementary. Filters with equal-ripple response in both pass band and stop band can be designed to be complementary; however, it has been pointed out that this places an undesirable restriction on the isolatian characteristic. The use of "pseudo-complementary" filters allows the achievement of equal-ripple designs with high isolation characteristics at the cost of a slight increase in input VSWR.

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