Abstracts

The Application of a New Class of Equal-Ripple Functions to Some Familiar Transmission-Line Problems

H.J. Riblet. "The Application of a New Class of Equal-Ripple Functions to Some Familiar Transmission-Line Problems." 1964 Transactions on Microwave Theory and Techniques 12.4 (Jul. 1964 [T-MTT]): 415-421.

Chevyshev's procedure for determining equal-ripple rational functions with preassigned poles is extended to functions with double-valued singularities. As long as the number of elements is small, design equations for the class of transmission-line filters consisting of shunt-resonant elements spaced a quarter wavelength apart are readily obtained by identifying the unknown coefficients with those of the desired equal-ripple function. This is carried out in some detail for three and four element filters and applied to the design of broad-band stub supports and quarter-wave-spaced broad-band TR tubes. Experimental confirmation is presented.

❑ Return to main document.