Abstracts

A New Approach in the Computation of Ultrahigh Degree Equal-Ripple Polynomials for 90°-Coupler Synthesis

G. Saulich. "A New Approach in the Computation of Ultrahigh Degree Equal-Ripple Polynomials for 90°-Coupler Synthesis." 1981 Transactions on Microwave Theory and Techniques 29.2 (Feb. 1981 [T-MTT]): 132-135.

An improved efficient numerical method for the computation of ultrahigh degree equal-ripple polynomials, necessary for the synthesis of multielement 90° coupler, is presented. The highest degree computed was N=201 with an accuracy better than 10/sup -20/. For the calculation of the impedances of the equivalent stepped impedance filter an optimization procedure is also described. Finally, based on the N coupling factors k/sub i/ of the sections, the continuous coupling curve is achieved using spline interpolation. Experimental results of a continuously tapered 8.34-dB coupler constructed in three-layer polyolefin stripline are presented.

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