

Abstracts

Direct Synthesis of Band-Pass Transmission Line Structures

H.J. Carlin and W. Kohler. "Direct Synthesis of Band-Pass Transmission Line Structures." 1965 Transactions on Microwave Theory and Techniques 13.3 (May 1965 [T-MTT]): 283-297.

Realizable band-pass (zero of transmission, i.e., infinite loss, at dc) equiripple gain functions are constructed which permit exact physical realization of systems consisting of cascaded lines and stubs. The problem of the realization of a prescribed load resistance is solved when a dc zero of transmission is present due to a shunt short-circuiting stub. The exact limits of realizable load resistance are given for equiripple band-pass gain functions and a straight-forward method is presented to synthesize any desired value of load between the predetermined limits. The basis of the synthesis technique is the choice of location of the shunt stub in the cascaded chain.

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