

Abstracts

An Efficient Synthesis Technique of Tapered Transmission Line with Loss and Dispersion (Short Papers)

E.J. Park. "An Efficient Synthesis Technique of Tapered Transmission Line with Loss and Dispersion (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.3 (Mar. 1996 [T-MTT]): 462-465.

A synthesis technique of lossy and dispersive tapered transmission line is newly presented that extends lossless cases suggested by Klopfenstein and others. A special optimization process based on the Fourier transform pair and generalized Taylor's procedure is performed to extract the exact null points of lobe-like frequency response in terms of the input reflection coefficient of lossy-tapered line in which the loss may be frequency dependent and distance dependent. The theory is verified by evaluation of a synthesized microstrip taper profile in the lossy case and is expected to be helpful for design of tapered line in the high-frequency microwave integrated circuits (MIC's) with loss.

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