Abstracts

Discussion on spikes and plateaus in pulse distortion shape along exponential microstrip taper

Yue Peng Yan and M. Kobayashi. "Discussion on spikes and plateaus in pulse distortion shape along exponential microstrip taper." 1998 Transactions on Microwave Theory and Techniques 46.7 (Jul. 1998 [T-MTT]): 1013-1015.

The propagation distortions of a nonideal square pulse along an exponential microstrip taper have been numerically calculated. Each part of the distorted pulse shape is related to either the frequency-dependent characteristics of the effective relative permittivity or to the frequency-dependent reflection coefficient characteristics. The components of signal spectra at frequencies below 9 Grad/s do not cause the ringing distortions, but cause the upward slope shift in the center part and the upward parallel shift in the sustained tail part to the distorted pulse shape for the case of no reflection (NR). The ringing distortions and the large spikes of the overshoot and undershoot distortions are caused by the components of the signal spectra in the frequency range 100/spl les//spl omega//spl les/200 Grad/s where the effective relative permittivity is changing very quickly with frequency.

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