Abstracts

Analytical derivation of a two-section impedance transformer for a frequency and its first harmonic

C. Monzon. "Analytical derivation of a two-section impedance transformer for a frequency and its first harmonic." 2002 Microwave and Wireless Components Letters 12.10 (Oct. 2002 [MWCL]): 381-382.

The feasibility of an electrically small two-section transformer (total length one-third-wavelength at the fundamental) capable of achieving ideal impedance matching at a fundamental frequency and its first harmonic is demonstrated, analytically. To achieve this, the exact solution to the resulting transcendental transmission line equations for two sections is obtained with no restrictions. The parameters of the transformer are presented in explicit closed form and are exact. The results of this study are useful for a number of practical design problems, including dual-band antennas and RF circuits in general.

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