Abstracts

A vertically periodic defected ground structure and its application in reducing the size of microwave circuits

Jong-Sik Lim, Young-Taek Lee, Chul-Soo Kim, Dal Ahn and Sangwook Nam. "A vertically periodic defected ground structure and its application in reducing the size of microwave circuits." 2002 Microwave and Wireless Components Letters 12.12 (Dec. 2002 [MWCL]): 479-481.

The microstrip and coplanar waveguide transmission lines combined by a vertically periodic defected ground structure (VPDGS) are proposed. The slow-wave effect, equivalent circuit, and the performances are shown. As an application example, VPDGS is adopted in the matching networks of an amplifier for size-reduction. Two series microstrip lines in input and output matching networks of the amplifier are reduced to 38.5% and 44.4% of the original lengths, respectively, due to the increased slow-wave effects, while the amplifier performances are preserved.

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