Abstracts

Analysis and Design of Feeding Structures for Microstrip Leaky Wave Antenna (Sep. 1996 [T-MTT])

Y.D. Lin, J.-W. Sheen and C.-K.C. Tzuang. "Analysis and Design of Feeding Structures for Microstrip Leaky Wave Antenna (Sep. 1996 [T-MTT])." 1996 Transactions on Microwave Theory and Techniques 44.9 (Sep. 1996 [T-MTT]): 1540-1547.

Three arrangements of the feeding structure for the excitation of a microstrip leaky wave antenna are proposed and investigated in this paper. A full-wave spectral domain integral equation method combined with the fundamental mode sampling technique is applied to determine the reflection coefficient of the excitation source. Tabulation technique is used to reduce the computational effort. Dependence on structural parameters such as line width, line spacing and overlap length is fully analyzed to obtain the design criteria for a microstrip leaky wave antenna. Additionally, an experimental setup is used to check the validity of our numerical results and verify the radiation nature of the microstrip line first higher-order mode.

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