Abstracts

A Planar Log-Periodic Mixtenna for Millimeter and Submillimeter Wavelengths

P.H. Siegel. "A Planar Log-Periodic Mixtenna for Millimeter and Submillimeter Wavelengths." 1986 MTT-S International Microwave Symposium Digest 86.1 (1986 [MWSYM]): 649-652.

A design for a combined planar mixer/antenna for use at near millimeter and submillimeter wavelengths is described. The antenna is one of the class of planar log-periodic structures originally developed by DuHamel and Isbell. The active mixing element may be separately mounted or fully integrated with the antenna and can be either a planar Schottky diode or SIS (superconductor insulator superconductor) junction. The results of extensive antenna pattern and impedance measurements made on a microwave scale model are discussed. It is felt that the proposed mixtenna structure is suitable as a moderate bandwidth receiver or as an element of a focal plane or limited scan phased array.

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