Abstracts

A Monolithic Six-Port Module

M.N. Solomon, P.S. Weitzman, C.P. McClay and H.M. Cronson. "A Monolithic Six-Port Module." 1992 Microwave and Guided Wave Letters 2.8 (Aug. 1992 [MGWL]): 334-336.

The design and test of the first fully monolithic microwave integrated circuit (MMIC) implementation of a complete six-port module is described. The monolithic six-port module (MSPM) includes a six-port junction, matched FET diode detectors, high-dynamic range logarithmic amplifiers, and tunable Gunn-effect oscillators. The GaAs chip is 3 x 3 mm and the circuits operate from 7 to 9 GHz. In a reflectometer configuration, the MSPM demonstrates good agreement with National Institute of Standards and Technology (NIST) measurements on the same components. This MSPM can be used as a primary building block for a new generation of low-cost, very small, and highly reliable IC's for built-in-test applications.

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