

Abstracts

High-Sensitivity W-Band MMIC Radiometer Modules

B. Kane, S. Weinreb, E. Fischer and N. Byer. "High-Sensitivity W-Band MMIC Radiometer Modules." 1995 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 95.1 (1995 [MCS]): 59-62.

Multichip monolithic-integrated circuit modules that provide low-noise amplification, bandpass filtering, square-law detection, and DC amplification of a broadband millimeter-wave signal are described. The module is compact (4.50 cm³) and lightweight (37 g), has low power consumption (80 - 130 mW), and is well-suited for use in focal-plane arrays to provide passive imaging of millimeter-wave thermal radiation. The theoretical gain requirement, radiometer construction, and measured results are reported.

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