Abstracts

Quasi-Optical Integrated Antenna and Receiver Front End

V.D. Hwang, T. Uwano and T. Itoh. "Quasi-Optical Integrated Antenna and Receiver Front End." 1988 Transactions on Microwave Theory and Techniques 36.1 (Jan. 1988 [T-MTT]): 80-85.

A quasi-optical receiver front end applicable to both microwave and millimeter-wave receiver arrays is presented. Two planar MIC quasi-optical receiver circuit designs that integrate a coupled slot antenna, a Schottky diode balanced mixer, and a local oscillator on the same substrate are described. The even-mode/odd-mode characteristics of the coupled slotlines are used to achieve intrinsic RF/LO and RF/IF isolation. To demonstrate circuit feasibility, X-band scaled models of the circuit using a Gunn diode oscillator on an Epsilam-10 substrate, and a MESFET local oscillator on a R/T duroid substrate were built and tested. Results of these tests are included.

❑ Return to main document.