Abstracts

60-GHz Integrated-Circuit High Data Rate Quadriphase Shift Keying Exciter and Modulator (Short Papers)

A. Grote and K. Chang. "60-GHz Integrated-Circuit High Data Rate Quadriphase Shift Keying Exciter and Modulator (Short Papers)." 1984 Transactions on Microwave Theory and Techniques 32.12 (Dec. 1984 [T-MTT] (1984 Symposium Issue)): 1663-1667.

An integrated-circuit quadriphase shift keying (QPSK) exciter and modulator have demonstrated excellent performance directly modulating a carrier frequency of 60 GHz with an output phase error of less than 3 degrees and maximum amplitude error of 0.5 dB. The circuit consists of a 60-GHz Gunn VCO phase-locked to a low-frequency reference source, a 4th subharmonic mixer, and a QPSK modulator packaged into a small volume of 1.8x2.5x0.35 in. The use of microstrip has the advantages of small size, light-weight, and low-cost fabrication. The unit has the potential for multigigabit data rate applications.

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