

Abstracts

A Compact 60-GHz Transmitter--Receiver

Y. Matsuo, Y. Akaiwa and I. Takase. "A Compact 60-GHz Transmitter--Receiver." 1976 *Transactions on Microwave Theory and Techniques* 24.11 (Nov. 1976 [T-MTT] (Special Issue on Millimeter Waves: Circuits, Components, and Systems)): 794-797.

A new, compact, low-cost, and reliable 60-GHz transmitter-receiver was developed for civilian use. Common components are used for transmitting and receiving functions. An IMPATT oscillator generates the millimeter-wave output power for both the transmitter and the receiver local oscillator. A common antenna is also used for transmitting and receiving signals without a circulator. A mixer is used as a modulator in transmission as well as a receiver front end. A noise figure of 13 dB is obtained by a balanced mixer with a 200-MHz IF frequency differential preamplifier. A reliable packaged GaAs varactor diode is used for the mixer-modulator (MM).

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