Abstracts

A Single-Chip W-Band Transceiver with Front-End Switching Receiver for FMCW Radar Applications

D.C.W. Lo, K.W. Chang, R. Lin, E.W. Lin, H. Wang, M. Biedenbender, G.S. Dow and B.R. Allen. "A Single-Chip W-Band Transceiver with Front-End Switching Receiver for FMCW Radar Applications." 1995 MTT-S International Microwave Symposium Digest 95.2 (1995 Vol. II [MWSYM]): 873-876.

We have demonstrated the first monolithic W-band transceiver with front-end switching receiver for FMCW radar application. The switching receiver utilizes a novel balanced switching low noise amplifier for switching function and has achieved a conversion gain of 5.4 dB and 10 dB isolation. By operating the MMIC as a heterodyne receiver, we achieved a noise figure at 1MHz IF of 8 dB which is lower than that of the previous reported single-chip W-band homodyne transceivers.

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