Abstracts

A set of integrated circuits for 60 GHz radio front-end

M. Karkkainen, M. Varonen, J. Riska, P. Kangaslahti and V. Porra. "A set of integrated circuits for 60 GHz radio front-end." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1273-1276 vol.2.

This paper describes results obtained within the MMIC research activity at the Helsinki University of Technology (HUT). These MMICs were developed for a 60 GHz broadband radio front-end. A set of circuits is reported including power, low noise amplifiers, mixers and signal generation circuits. They have been fabricated with a commercially available 0.15 /spl mu/m GaAs pseudomorphic HEMT technology. Finally, the performance of the circuits was measured at 60 GHz frequency: The power amplifier has 14 dBm output compression point and 15.5 dB small signal gain. The low noise amplifier exhibits 24 dB of gain with 3.5 dB noise figure and the up-conversion mixer circuit has 12.7 dB of conversion loss.

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