Abstracts

Coplanar transceive MMIC for 77 GHz automotive applications based on a nonlinear design approach

L. Verweyen, H.J. Siweris, M. Neumann, U. Schaper, R. Osorio, A. Werthof, S. Kudszus, H. Massier, H. Tischer, W. Reinert, A. Hulsmann, W.H. Haydl, T. Meier, W. Kellner and M. Schlechtweg. "Coplanar transceive MMIC for 77 GHz automotive applications based on a nonlinear design approach." 1998 Radio Frequency Integrated Circuits (RFIC) Symposium 98. (1998 [RFIC]): 33-36.

Integrated transceive MMICs for automotive applications were realized in coplanar waveguide technology, using a 0.15 /spl mu/m PM-HEMT process. Based on an analytical nonlinear HEMT model, harmonic balance simulations of the entire chip, comprising up to 7 devices, showed good agreement with the measured power performance of the transmit and the receive paths. For the resistive mixer, a DSB noise temperature of only 297 K was measured.

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