Abstracts

Coplanar pHEMT MMIC frequency multipliers for 76-GHz automotive radar

Y. Campos-Roca, L. Verweyen, M. Neumann, M. Fernandez-Barciela, M.C. Curras-Francos, E. Sanchez-Sanchez, A. Hulsmann and M. Schlechtweg. "Coplanar pHEMT MMIC frequency multipliers for 76-GHz automotive radar." 1999 Microwave and Guided Wave Letters 9.6 (Jun. 1999 [MGWL]): 242-244.

For 76-GHz transmitters, two coplanar monolithic microwave integrated circuit (MMIC) frequency multipliers were realized in a 0.15-/spl mu/m pHEMT technology on GaAs. A 38/76-GHz frequency doubler achieved a state-of-the-art output power of 10 dBm for a 16-dBm input signal and a maximum conversion gain of -4 dB. For a 19/76-GHz frequency quadrupler, a high conversion gain of -7.5 dB for an input power of 8 dBm and a saturated power of 4 dBm was demonstrated. To our knowledge, this is the first reported W-band one-stage frequency quadrupler based on HEMT technology.

❑ Return to main document.