Abstracts

A single-chip 94-GHz frequency source using InP-based HEMT-HBT integration technology (1998 [RFIC])

H. Wang, R. Lai, L. Tran, J. Cowles, Y.C. Chen, E.W. Lin, H.H. Liao, M.K. Ke, T. Block and H.C. Yen. "A single-chip 94-GHz frequency source using InP-based HEMT-HBT integration technology (1998 [RFIC])." 1998 Radio Frequency Integrated Circuits (RFIC) Symposium 98. (1998 [RFIC]): 275-278.

This paper presents the development of a 94-GHz monolithic frequency source using InP-based HEMT-HBT integration technology. This single-chip frequency source consists of five sub-circuits: a 23.5-GHz HBT VCO, a 23.5-GHz HBT buffer amplifier, a 23.5 to 47 GHz HEMT frequency doubler, a 47 GHz HEMT buffer amplifier, and a 47 to 94 GHz HEMT doubler. The source chip has a peak output power of 1.6 dBm, with tuning range from 90.8 GHz to 94.3 GHz. This is the highest-level integration of millimeter-wave solid-state integrated circuits using this technology reported to date.

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