Abstracts

An optimized 25.5-76.5 GHz PHEMT-based coplanar frequency tripler

Y. Campos-Roca, L. Verweyen, M. Fernandez-Bareiela, E. Sanchez, M.C. Curras-Francos, W. Bronner, A. Hulsmann and M. Schlechtweg. "An optimized 25.5-76.5 GHz PHEMT-based coplanar frequency tripler." 2000 Microwave and Guided Wave Letters 10.6 (Jun. 2000 [MGWL]): 242-244.

This letter presents an optimized single-stage MMIC tripler with W-band output frequency (76.5 GHz). The circuit is based on an 0.15 /spl mu/m gate-length AlGaAs/InGaAs/GaAs PHEMT. By using a class AB transistor bias point and carefully selecting its input and output terminations, a high conversion gain of -4.3 dB for an 8.5 dBm input signal and a saturated output power of 7 dBm have been obtained. To our knowledge, these results represent the best performance reported up to date for an active frequency tripler with W-band output frequency.

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