Abstracts

Monolithic power amplifiers covering 70-113 GHz

H. Wang, L. Samoska, T. Gaier, A. Peralta, H.H. Liao, Y.C. Chen, M. Nishimoto and R. Lai. "Monolithic power amplifiers covering 70-113 GHz." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 39-42.

A number of monolithic W-band power amplifiers (PAs) have been developed for local oscillators of the Far Infrared and Submillimeter Telescope (FIRST). These PA chips include three driver and three power amplifiers covering most of the W-band, i.e., the frequency ranges of 72-81, 90-101, and 100-113 GHz. Each driver amplifier and power amplifier provides at least 20 and 22 dBm (160 mW), respectively in the frequency range it covers. The 100-113 GHz power amplifier has a peak power of greater than 250 mW (25 dBm) at 105 GHz, which is the best output power performance for a monolithic amplifier above 100 GHz to date. These monolithic chips are fabricated using 0.1-/spl mu/m AlGaAs-InGaAs-GaAs pseudomorphic T-gate power HEMTs on a 2-mil GaAs substrate.

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