Abstracts

Subharmonic Mixer with Planar Schottky Diodes in a Novel Split-Block at 200-240 GHz

A.V. Raisanen, R.J. Dengler, I. Mehdi, J.E. Oswald, D. Choudhury and P.H. Siegel. "Subharmonic Mixer with Planar Schottky Diodes in a Novel Split-Block at 200-240 GHz." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 775-777.

A broadband subharmonic mixer utilizing a planar antiparallel Schottky barrier diode pair has been developed for 220 GHz. The mixer is based on a novel split-waveguide block design consisting of only two central pieces and two tuner drivers which provide series and parallel tuning elements at both the local oscillator and signal frequency. The single sideband noise temperature is just below 2000 K from 210 - 235 GHz when an IF at 1.5 GHz is used. The conversion loss is 9.5 - 10 dB. A fixed-tuned useable IF bandwidth of more than 10 GHz was achieved with the new block design.

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