

Abstracts

A 94 GHz Uniplanar Subharmonic Mixer

S. Raman and G.M. Rebeiz. "A 94 GHz Uniplanar Subharmonic Mixer." 1996 MTT-S International Microwave Symposium Digest 96.1 (1996 Vol. I [MWSYM]): 385-388.

A uniplanar subharmonic mixer has been implemented in coplanar waveguide technology. The circuit is designed to operate at RF frequencies of 92-96 GHz, IF frequencies of 2-4 GHz, and LO frequencies of 45-46 GHz. Total circuit size excluding probe pads is less than 2 mm x 1.5 mm. The measured minimum SSB conversion loss is 9.4 dB at a 94 GHz RF, 2 GHz IF, and an LO power of 9 dBm, and represents state-of-the-art performance for a planar W-band subharmonic mixer. Potential applications for this mixer are millimeter-wave receivers for smart munition seekers and automotive collision avoidance radars.

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