

# Abstracts

## A 60 GHz uniplanar MMIC 4X subharmonic mixer

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*M.W. Chapman and S. Raman. "A 60 GHz uniplanar MMIC 4X subharmonic mixer." 2001 MTT-S International Microwave Symposium Digest 01.1 (2001 Vol. I [MWSYM]): 95-98 vol. 1.*

A uniplanar GaAs MMIC subharmonic mixer has been designed and fabricated using an antiparallel diode pair in finite ground coplanar (FGC) waveguide technology. This mixer is designed to operate over an RF range of 58.5-60.5 GHz, an IF range of 1.5-2.5 GHz, and an LO frequency range of 14-14.5 GHz. Of several mixer configurations tested, the best results show a maximum conversion loss of 13.2 dB over the specified frequency range with a minimum LO power of 3 dBm. The minimum upper sideband conversion loss is 11.3 dB at an RF of 58.5 GHz and an IF of 2.5 GHz. This represents excellent performance for a 4X subharmonic mixer operating at 60 GHz.

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