# Abstracts

## A circuit, waveguide, and spatial power combiner for millimeter-wave amplification

*C.E. Saavedra, W. Wright and R.C. Compton. "A circuit, waveguide, and spatial power combiner for millimeter-wave amplification." 1999 Transactions on Microwave Theory and Techniques 47.5 (May 1999 [T-MTT]): 605-613.*

A new concept for a millimeter-wave amplifier that uses circuit, waveguide, and spatial power combining is demonstrated. The passive array has a free-space-to-microstrip insertion loss below -1.5 dB from 30 to 44 GHz. Small-signal measurements of the active array reveal an average gain of 5 dB from 41 to 46 GHz and a maximum gain of 6.4 dB at 45.6 GHz. Large-signal measurements reveal a linear power gain of 2 dB and an output power of 23.7 dBm at the 1-dB compression point at 44 GHz.

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