# Abstracts

## Monolithic Millimeter-Wave IMPATT Oscillator and Active Antenna (Dec. 1988 [T-MTT])

*N. Camilleri and B. Bayraktaroglu. "Monolithic Millimeter-Wave IMPATT Oscillator and Active Antenna (Dec. 1988 [T-MTT])." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1670-1676.*

GaAs lMPATT diodes were monolithically integrated with a microstrip resonator and a loop antenna to produce a single-chip millimeter-wave transmitter module. Devices operating at 43.3 GHz produced 27 mW CW output power with 7.2 percent conversion efficiency. Linear arrays of such radiating elements were produced and radiation patterns were determined as a function of intereIement spacing and element numbers. This monolithic oscillator chip was also directly coupled to and power combined in waveguides, producing an inexpensive millimeter-wave source.

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