Abstracts

Spatial Frequency Multiplier with Active Linearly Tapered Slot Antenna Array

R.N. Simons and R.Q. Lee. "Spatial Frequency Multiplier with Active Linearly Tapered Slot Antenna Array." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1557-1560.

A frequency multiplier with active linearly tapered slot antennas (LTSAs) has been demonstrated at the second harmonic frequency. In each antenna element, a GaAs monolithic microwave integrated circuit (MMIC) distributed amplifier is integrated with two LTSAs. The multiplier has a very wide bandwidth and large dynamic range. The fundamental-to-second harmonic conversion efficiency is 8.1 percent. The spatially combined second harmonic signal is 50 dB above the noise level. The design is suitable for constructing a large array using monolithic integration techniques.

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