

Abstracts

Dielectric Loaded Gaussian Beam Oscillator in the 40 GHz Band

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A 40-GHz Gaussian output-beam oscillator, using a Gaussian-beam open resonator filled with a dielectric, is described. The dielectric resonator has a highly reflective convex spherical surface and a plane mirror surface having a coupling section with an active circuit. The circuit is fabricated using a commercial HEMT chip. The phase noise of -90 dBc/Hz at 100 kHz off carrier is expected. The output power is extracted as a Gaussian beam.

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