Abstracts

24 GHz Low-Cost Doppler Sensor with Fundamental-Frequency GaAs Pseudomorphic HEMT Oscillator Stabilized by Dielectric Resonator Operating in Higher-Order Mode

P. Heide, R. Schubert , V. Magori and R. Schwarte. "24 GHz Low-Cost Doppler Sensor with Fundamental-Frequency GaAs Pseudomorphic HEMT Oscillator Stabilized by Dielectric Resonator Operating in Higher-Order Mode." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 945-948.

24 GHz fundamental-frequency microwave oscillators using low-cost packaged HEMTs and a dielectric resonator in a higher-order mode are reported. From the very high quality factor of the resonator-mode, excellent phase noise (-95 dBc/Hz at 100 kHz offset) and a good temperature stability (+9ppm/K) are achieved. The output power is about +10 dBm. By adding a demodulator diode and a patch antenna, a high-performance low-cost Doppler sensor for speed over ground measurements has been built.

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