Abstracts

A single-layer CPW-fed active patch antenna

K.H.Y. Ip, T.M.Y. Kan and G.V. Eleftheriades. "A single-layer CPW-fed active patch antenna." 2000 Microwave and Guided Wave Letters 10.2 (Feb. 2000 [MGWL]): 64-66.

A single-layer CPW-fed active patch antenna oscillator at 2.76 GHz is presented. The patch antenna acts both as a resonator and a radiator. Electromagnetic coupling is utilized for providing the appropriate closed-loop positive feedback. The active antenna is built around a commercially available GaAs MMIC on a low-permittivity /spl epsiv//sub r/=2.33 Duroid 5870 substrate. The measured effective isotropic radiated power (EIRP) is 20 dBm, whereas the front-to-back ratio is about 12 dB with the cross-polarized fields better than -15 db. The measured phase noise is -87.5 dBc/Hz at a 100-kHz offset away from the carrier. The structure only requires a single substrate, is compatible with uniplanar technology, and results in a low-component count.

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