

A 410-mW, 1.22-GHz Downconverter in a Dual-Conversion Tuner IC for OpenCable™ Applications

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A 1.22-GHz Downconverter used in a dual-conversion Tuner IC for OpenCable™ applications is presented. Fabricated in a five-metal, 0.35- μm , 27-GHz f_t SOI BiCMOS technology and consuming 124 mA from a 3.3-V supply, it downconverts the input to an IF of 44 MHz and achieves 26 dB gain, 23 dB gain control range, 5.1 dB NF , 33 dBmV $P_{1\text{dB}}$, 56 dBmV IIP_3 , -72 dBc CTB , -60 dBc $X\text{-mod.}$, and 30 dB image rejection.