

Advanced passive devices for enhanced integrated RF circuit performance (2002 [RFIC])

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State of the art passive devices have been developed for optimum RF circuit performance. These devices include a hyperabrupt junction varactor with tunability (C_{\max}/C_{\min}) of 3.3, an accumulation mode MOS varactor, high capacitance nitride metal-insulator-metal capacitors, a BEOL TaN resistor and very high Q inductors with a peak Q of 28 at 3.5 GHz. VCO simulations using several of these elements show a significant reduction in VCO gain variation, phase noise, and power consumption.

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