Abstracts

Advanced passive devices for enhanced integrated RF circuit performance (2002 Vol. I [MWSYM])

D. Coolbaugh, E. Eshun, R. Groves, D. Hararnel, J. Johnson, A. Harnmad, Z. He, V. Ramachandran, K. Stein, S. St Ongel, S. Subbanna, D. Wang, R. Volant, X. Wang and K. Watson. "Advanced passive devices for enhanced integrated RF circuit performance (2002 Vol. I [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.1 (2002 Vol. I [MWSYM]): 187-191 vol.1.

State of the art passive devices have been developed for optimum RF circuit performance. These devices include a hyperabrupt junction varactor with tunability (Cmax/Cmin) 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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