

Abstracts

A fully integrated PLL frequency synthesizer LSI for mobile communication system

T. Yasunaga, S. Hirano, R. Maeda, Y. Hiraoka, T. Andou and Y. Miyahara. "A fully integrated PLL frequency synthesizer LSI for mobile communication system." 2001 Radio Frequency Integrated Circuits (RFIC) Symposium 01. (2001 [RFIC]): 65-68.

A fully integrated phase locked loop (PLL) frequency synthesizer LSI has been developed. This newly developed fractional-N type PLL LSI consists of an on-chip loop filter and a voltage controlled oscillator (VCO) with an on-chip resonator circuit. This VCO has a band-switching tuning circuit using MOS capacitors and an analog tuning circuit using PN varactor diodes. Both these tuning circuits are controlled automatically without external adjustment. The phase noise of the VCO at 2.2 GHz is -92.5 dBc/Hz at 50 kHz offset, while the frequency switching time is 170 /spl mu/s.

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