A 1-V IEEE 802.11a/b/g-Compliant Receiver IF-to-Baseband Chip in 0.35-um CMOS for Low-Cost Wireless SiP

Motivation 1 – The Scope of Wireless Anywhere

Roaming

GSM/WCDMA/.../802.11a-b-g/.../Bluetooth/...

Motivation 2 – Technology Scaling

PROPOSED SOLUTIONS: Low-Cost Multistandard-Compliant Architecture + Technology-Independent Low-Voltage Implementation
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KEY FEATURES

◆ Low-IF/Zero-IF Reconfigurable for IEEE 802.11a/(b,g) ¹
◆ Constant-Bandwidth Programmable-Gain Amplifier ²
◆ I/Q-Mismatch-Insensitive Mixed-Signal Clock Generator
◆ Switchable DC-Offset Canceler Inside Op-Amp ²
◆ Bandwidth-Tunable Lowpass Filter
◆ Double-Quadrature I/Q Modulator


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Chip

PCB

Parasitic-Extracted Simulation Results