Power amplifier convertible capacitor

In this paper, power amplifiers in CMOS technologies are reviewed including traditional PAs and the digital power amplifier (DPA). DPAs embed the functionality of an up-conversion mixer and digital-to-analog converter (DAC) in the PA. Hence a more appropriate label for DPAs is RF-Power-DACs. The "Switched-Capacitor Power Amplifier" (SCPA) is highlighted due to its ...

The "Switched-Capacitor Power Amplifier" (SCPA) is highlighted due to its potential to ...

If I were to build a single-ended power amplifier (or really any other circuit with poor PSRR) I would seriously consider the use of a regulated power supply. The alternative option is to just massively increase energy storage through the use of huge capacitors and chokes, but that"s big, heavy and expensive.

This study presents a single-chip integrated reconfigurable 180-nm complementary metal-oxide-semiconductor (CMOS) power amplifier (PA) with a radio frequency micro-electro-mechanical system (RF MEMS) switched capacitor, which is highly useful for advanced wireless mobile communication systems.

Switched-Capacitor Power Amplifier (SCPA) Introduction o Recent Demonstrations of SCPAs o mmWave SCPAs - Frequency multiplying class-D - Frequency multiplying SCPA o Conclusions

A digital power amplifier (DPA) architecture utilizes switched-capacitor techniques combined with envelope elimination and restoration (EER). The switched-capacitor PA (SCPA) operates as a linear RF envelope digital-to-analog converter (DAC) and employs a switching PA to amplify non-constant envelope-modulated signals with large peak ...

This paper presents a single chip CMOS power amplifier with neutralization capacitors for Zigbee^{TM} system according to IEEE 802.15.4. A novel structure with digital interface is adopted, which allows the output power of a PA to be controlled by baseband signal directly, so there is no need for DAC. The neutralization capacitors will increase reverse ...

The "Switched-Capacitor Power Amplifier" (SCPA) is highlighted due to its potential to transform future communications networks because of its small-size, high linearity, and high efficiency. Because the SCPA (and other DPAs) can directly interface with digital signals while outputting RF signals, it is a flexible mixed-signal interface circuit ...

In this review article, a stage-convertible RF power amplifier designed with a 0.18-m RF CMOS process is described. A method to implement a low-power matching network is an essential technology for the stage-convertible power am-

Power amplifier convertible capacitor

Power down opamps, and adjust the time the ring amps are allowed to settle. Isn"t this just a 90dB amplifier that"s been limited by the dead-zone size to look like a 60dB amplifier? Answer: No! Depends on dead-zone value? Yes, but doesn"t actually matter... Noise floor degrades faster than power/speed improves.

A digitally-controlled switched-capacitor RF power amplifier (SCPA) is implemented with a transformer-based power-combiner in 90nm CMOS. The individual SCPA cores can be controlled to provide high average output power and linearity in an "all-switching" mode or increased dynamic range in a "sequential-switching" mode. The SCPA delivers a peak (average) output ...

This paper presents a novel rail-to-rail low power dynamic CMOS amplifier optimized for discrete-time filtering in analog-to-digital converters (ADC). The proposed architecture incorporates a switched resistor-capacitor (RC) parallel compensation technique, which is strategically activated in the sampling phase to minimize the amplifier"s current consumption. Dynamic biasing of the ...

Switched-Capacitor Power Amplifier (SCPA) Introduction o Recent Demonstrations of SCPAs o ...

This study presents a single-chip integrated reconfigurable 180-nm complementary metal-oxide-semiconductor (CMOS) power amplifier (PA) with a radio frequency micro-electro-mechanical system (RF MEMS) switched capacitor, which is highly useful for advanced wireless mobile communication systems. The proposed reconfigurable PA prototype ...

In this review article, a stage-convertible RF power amplifier designed with a 0.18- m RF CMOS process is described. A method to implement a low-power matching network is an essential technology ...

The experiment was done using a power amplifier, capacitors, electric condenser microphone, potentiometer, and ohms. The experiment results fulfilled the design requirements as cost reduction ...

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