

CIRCUIT DESCRIPTION

1. Platform

Baseband Processor MT6261DA is a monolithic chip integrating leading edge power management unit, analog baseband and radio circuitry based on the low power CMOS process. Platform MT6261DA is a feature-rich and extremely powerful single-chip solution for high-end GSM/GPRS capability. Based on the 32-bit ARM7EJ-STMicroelectronics RISC processor, MT6261DA's superb processing power, along with high bandwidth architecture and dedicated hardware support, provides a platform for high-performance GPRS Class 12 MODEM application and leading-edge multimedia applications.

2. GSM/GPRS radio

MT6261DA integrates a mixed-signal baseband front-end in order to provide a well-organized radio interface with flexibility for efficient customization. The frontend contains gain and offset calibration mechanisms and filters with programmable coefficients for comprehensive compatibility control on RF modules. MT6261DA achieves outstanding MODEM performance by utilizing a highly dynamic range ADC in the RF downlink path. MT6261DA embeds a high performance and completely integrated single-ended SAW-less RF transceiver for multi-band GSM cellular system. In this RF transceiver, a quad-band receiving feature with high sensitivity is supported utilizing one RF receiver and a fully integrated channel filter. With ultra-high dynamic range, the off-chip bandpass and SAW filters on the receiving path can be removed for BOM cost

3. RF PA model

The RF7196 is a complete CMOS high-power, high-efficiency transmit module for low-cost quad-band GSM/GPRS mobile handsets. Power Amplifier, Power Controller and Switch functionality have been implemented on a single standard CMOS die.

The patented AdaptiveRF™ architecture has been designed specifically to use standard CMOS technology to generate high output power at high efficiency over the phone's full operational range. Internal 50 Ω matching, DC blocking on TX and RX ports and harmonic filtering on RF terminals eliminate the need for external components, simplifying layout and reducing board space. Advanced digital power control ensures stable, controlled and repeatable output power over all operating conditions, and enables simplified calibration.