

## Single-Chip Low-Power FM Receiver for Portable Devices

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### *General Description*

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The QN8005 is a high performance, low power, full-featured single-chip stereo FM receiver designed for cell phones, MP3 players, and portable radios. It integrates FM receive functions, auto-seek and clear channel scan. Advanced digital architecture enables superior receiver sensitivity and crystal clear audio.

With its small footprint, minimal external component count and multiple clock frequency support, the QN8005 is easy to integrate into a variety of small form-factor low power portable applications. An integrated voltage regulator enables direct connection to a battery and provides high PSRR for superior noise suppression. A low-power Standby mode extends battery life. ESD protection is on all pins. The QN8005 is fabricated in highly reliable CMOS technology.

### *Key Features*

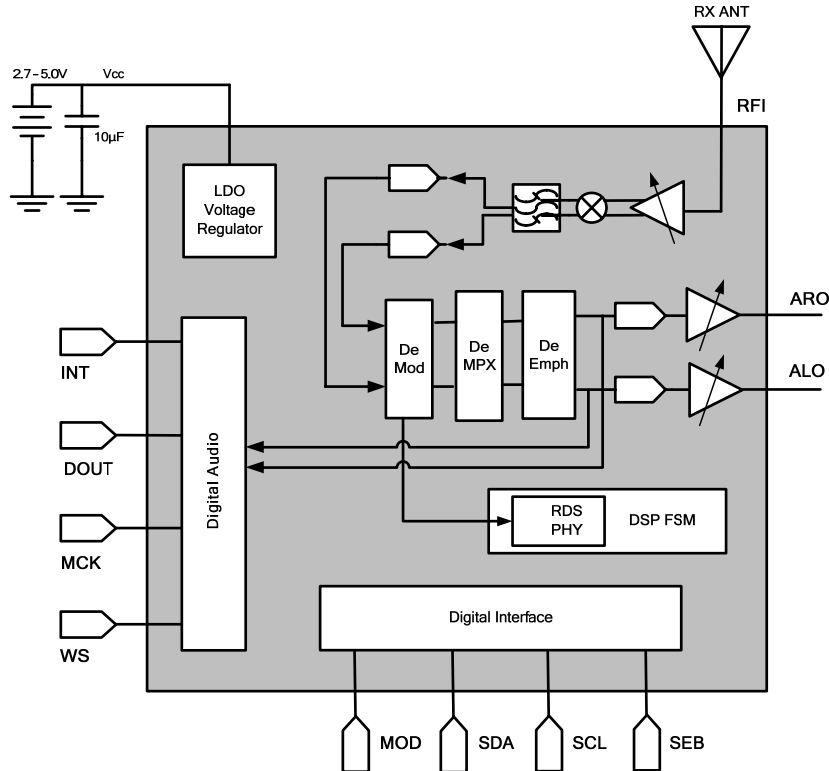
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- **Worldwide FM Band Receive**
  - 76 MHz to 108 MHz full band tuning in 50/100/200 kHz step sizes
  - 50/75  $\mu$ s de-emphasis
- **High Performance FM Receiver (FMR)**
  - Superior sensitivity,  $1.4\mu V_{EMF}$
  - 66dB Stereo, 73dB Mono SNR, 0.03% THD
  - High interference rejection
  - Integrated audio processing (SNC, HCC, SM)
  - Auto Seek
- **Very Low Power Consumption**
  - 17 mA typical
  - Integrated voltage regulator, direct connect to battery
  - Power saving IDLE and standby modes
  - Low shutdown leakage current
- **RDS/RBDS Receiver** (not available in QN8005L)
  - Supports US and European data service
- **Flexible Audio Interfaces**
  - Digital audio interface supports I<sup>2</sup>S and a variety of PCM data formats with 4 different data rates
- **Ease of Integration**
  - Small footprint, 4 x 4 x 0.85mm QFN24
  - Only 1 external passive component required
  - Multiple crystal frequencies supported
  - 2- and 3-wire control interfaces
- **Robust Operation**
  - -25<sup>o</sup>C to +85<sup>o</sup>C operation
  - ESD protection on all input and output pads

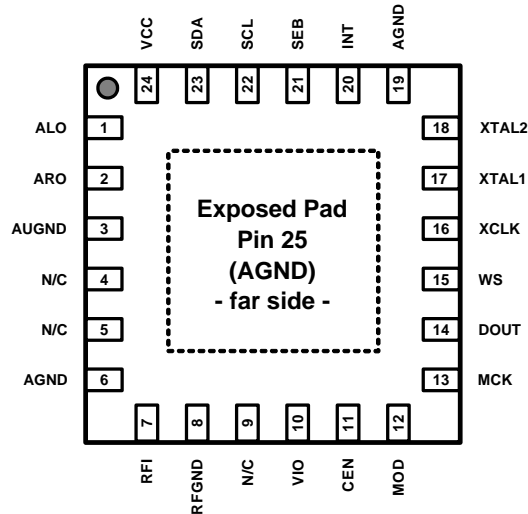
### *Typical Applications*

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- Cell Phones / PDAs
- Portable FM Radio
- MP3/MP4 player, PMP, PND
- USB FM Radio Dongle



QN8005B Block Diagram



QN8005B Pin Out

**CONTACT INFORMATION**

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