

Single-Chip Low-Power FM Transmitter for Portable Devices

General Description

Features

The QN8000 is a high performance single-chip stereo FM transmitter designed for low-power portable audio, multimedia, cellphone, and GPS applications.

The QN8000 integrates complete transmitter function, from stereo audio input to RF antenna port, for worldwide FM band personal area broadcast. It includes variable input gain programming, selectable pre-emphasis, precision low-spur MPX stereo encoding & pilot tone generation, low-noise PLL-based modulation, and an on-chip power amplifier with variable output level and RF band-pass filtering to ensure optimum transmit spectrum purity.

Integrated crystal oscillator and on-chip digital calibration circuits eliminate external tuning components and enable tuning-free manufacturing. Support for 7.6 MHz reference clock ensures high audio performance. Integrated saturation detection and programmable audio interface eliminate distortion, optimize audio fidelity, and support wide range of input audio levels. Low power idle mode extends battery life.

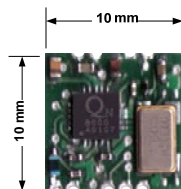
The QN8000 can be operated continuously from 76MHz to 108MHz, supporting North America, Europe, Asia, and Japan FM broadcast bands.

2 and 3-wire serial interfaces provide simple access to all programmable functions. A parallel (static GPIO) control interface is also available for simplified operation without an MCU.

Designed for the portable multimedia devices, the QN8000 is fabricated in high reliability CMOS and features very low power operation which extends battery life.

- **Worldwide FM band support (76~108MHz)**
 - Fully Integrated PLL synthesizer
 - No external VCO required
 - Continuous 100kHz channel selection
 - Fast power-up & channel switching
- **High Audio Fidelity**
 - 65dB Stereo SNR, less than 0.2% THD
 - Fully integrated programmable 50 & 75µs pre-emphasis (no external capacitor required)
- **Small footprint (4x4 mm x 0.8 mm QFN20)**
- **Very low power consumption**
 - 12mA Typical (Transmit Mode)
 - 1.2mA (Idle Mode), 0.1µA (Sleep).
- **Integrated Power Amplifier**
 - On-chip BPF for best spectral performance
 - Precision output power control
- **Programmable audio interface**
 - on-chip input buffer amplifiers
 - Integrated Input Saturation Detection
- **Flexible Control Interface**
 - 2 and 3-wire serial, and parallel (static GPIO)
- **Robust Operation**
 - -25^oC to +85^oC operation
 - ESD protection on all Input Output pads
- **ROHS Compliant, Pb-free**
- **Moisture Sensitivity Level (MSL)-1**

Typical Applications



Reference Module
(footprint less than 10 x 10 mm)

- Portable Audio & Media Players
- Portable GPS Navigators
- PDAs, Cell Phones & Smartphones
- Personal Area Broadcast

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Page 2

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该套课程全面讲授了当前手机天线相关设计技术,内容涵盖了早期的外置螺旋手机天线设计,最常用的几种手机内置天线类型——如 monopole 天线、PIFA 天线、Loop 天线和 FICA 天线的设计,以及当前高端智能手机中较常用的金属边框和全金属外壳手机天线的设计;通过该套课程的学习,可以帮助您快速、全面、系统地学习、了解和掌握各种类型的手机天线设计,以及天线及其匹配电路的设计和调试...

课程网址: <http://www.edatop.com/peixun/antenna/133.html>



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课程网址: <http://www.edatop.com/peixun/antenna/134.html>



CST 学习培训课程套装

该培训套装由易迪拓培训联合微波 EDA 网共同推出,是最全面、系统、专业的 CST 微波工作室培训课程套装,所有课程都由经验丰富的专家授课,视频教学,可以帮助您从零开始,全面系统地学习 CST 微波工作的各项功能及其在微波射频、天线设计等领域的设计应用。且购买该套装,还可超值赠送 3 个月免费学习答疑...

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该套课程套装包含了本站全部 HFSS 培训课程,是迄今国内最全面、最专业的 HFSS 培训教程套装,可以帮助您从零开始,全面深入学习 HFSS 的各项功能和在多个方面的工程应用。购买套装,更可超值赠送 3 个月免费学习答疑,随时解答您学习过程中遇到的棘手问题,让您的 HFSS 学习更加轻松顺畅...

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