

## Operation Description

The QN8027 is a high performance, low power, full featured single-chip stereo FM transmitter designed for portable audio/video players, automotive accessories. The QN8027 covers frequencies from 88.1 MHz to 89.1 MHz in 200kHz step sizes for FM band support. The QN8027 also supports RDS/RBDS data transmit. The QN8027 integrates a complete transmitter function, from stereo audio input to RF antenna port. It includes variable input gain programming, selectable pre-emphasis, precision low-spur MPX stereo encoding and 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. An integrated crystal oscillator and on-chip digital calibration circuits eliminate external tuning components and enable tuning-free manufacturing. Support for 12MHz reference clocks allows the chip to use readily available system clocks. Integrated saturation detection and a programmable audio interface eliminate distortion, optimize audio fidelity, and support a wide range of input audio levels. A low power IDLE mode extends battery life.