SX1257

Low Power Digital I and Q RF Multi-PHY Mode Transceiver

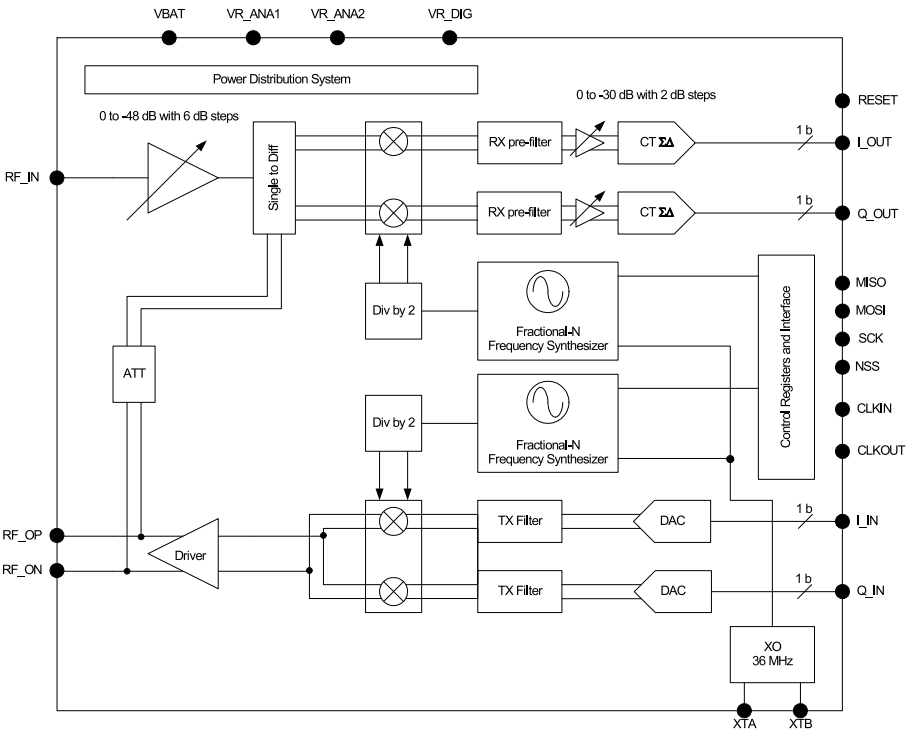

Figure A: SX1257 Block Diagram

General Description

The SX1257 is a highly integrated RF front-end to digital I and Q modulator/demodulator Multi-PHY mode transceiver capable of supporting multiple constant and non-constant envelope modulation schemes. It is designed to operate over the 862 to 960 MHz European, North American and Japanese ISM (Industrial, Scientific and Medical) license-exempt frequency bands. Its highly integrated architecture allows for a minimum of external components whilst maintaining maximum design flexibility. All major RF communication parameters are programmable and most of them can be dynamically set. The SX1257 offers support for both narrow-band and wide-band communication modes without the need to modify external components. The SX1257 is optimized for low power consumption while offering the provision for high RF output power and channelized operation. TrueRF™ technology enables a low-cost external component count whilst still satisfying ETSI, FCC and ARIB regulations.

Applications

- IEEE 802.15.4g SUN Multi-PHY Mode Smartgrid
- Cognitive / Software Defined Radio (SDR)

Key Product Features

- Fully flexible I and Q modulator and demodulator
- Half or full-duplex operation
- Bullet proof RX LNA
- Analog TX and RX pre-filtering
- Programmable tap TX FIR-DAC filter
- Linear TX amplifier for both constant and non-constant envelope modulation schemes