



SX1280/SX1281

Long Range, Low Power, 2.4GHz
Transceiver with Ranging Capability

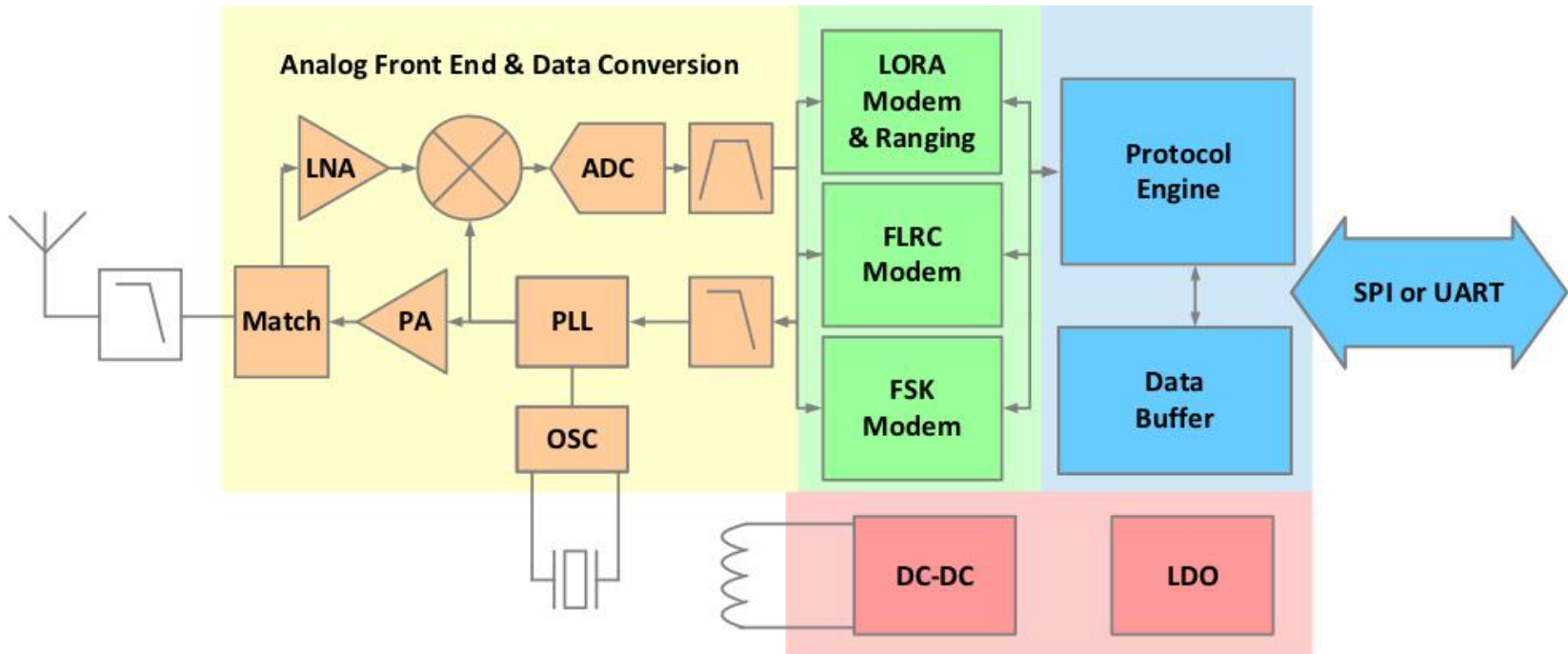


Figure A: Transceiver Block Diagram

General Description

The SX1280/1 transceiver family provides ultra long range communication in the 2.4GHz band with the linearity to withstand heavy interference. This makes them the ideal solution for robust and reliable wireless solutions. They are the first ISM band transceiver IC of their kind to integrate a time-of-flight functionality, opening up application solutions to track and localize assets in logistic chains and people for safety. These long range 2.4GHz products include multiple physical layers and modulations to optimize long range communication at high data rate for video and security applications. Very small products for wearables can easily be designed thanks to the high level of integration and the ultra-low current consumption which allows the use of miniaturized batteries.

The radio is fully compliant with all worldwide 2.4GHz radio regulations including EN 300 440, FCC CFR 47 Part 15 and the Japanese ARIB STD-T66.

The level of integration, low consumption and ranging functions within the long range 2.4GHz product line enable enhanced connectivity and provide additional functionality to a new generation of previously unconnected devices and applications.

Key Features

- Long Range 2.4GHz transceiver
- High sensitivity, down to -132dBm
- +12.5dBm, high efficiency PA
- Low energy consumption, on-chip DC-DC
- LoRa®, FLRC, (G)FSK supported modulations
- Programmable bit rate
- Excellent blocking immunity
- Standard & Advanced Ranging Engine, Time-of-Flight
- Bluetooth® Low Energy PHY layer compatibility
- Low system cost

Applications

- Home automation & appliances
- IoT Asset Management and Safety
- Logistics Tracking applications
- Sports /Fitness sensors and smart watches
- Radio-controlled toys & drones
- Agriculture
- Healthcare

Disclaimer

Semtech's products are designed to be used in connection with qualified Bluetooth® products and applications but are not certified or qualified Bluetooth® products.

Ordering Information

Part Number	Delivery	Order Quantity
-------------	----------	----------------