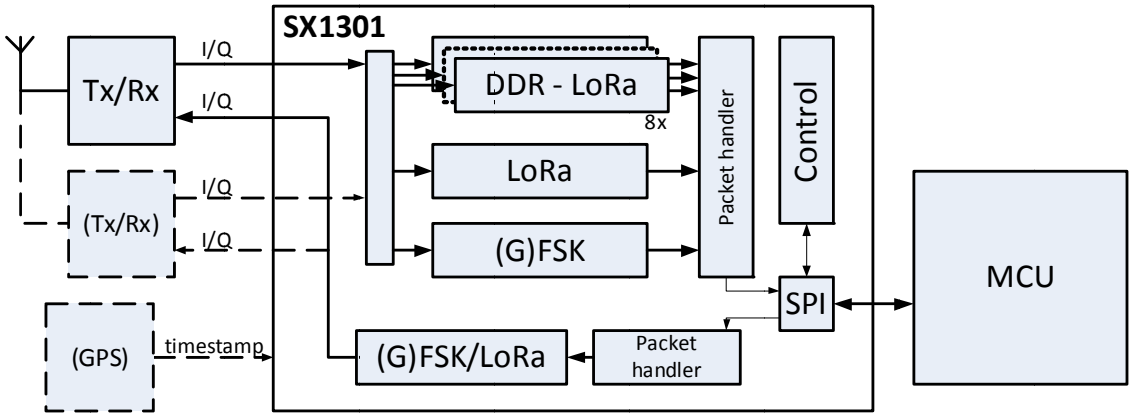
SX1301 – Base Band Processor for Data Concentrator for Long Range Communication Network



General Description

The SX1301 digital baseband chip is a massive digital signal processing engine specifically designed to offer breakthrough gateway capabilities in the ISM bands worldwide. It integrates the LORA concentrator IP.

The LORA concentrator is a multi-channel high performance transmitter/receiver designed to simultaneously receive several LORA packets using random spreading factors on random channels. Its goal is to enable robust connection between a central wireless data concentrator and a massive amount of wireless end-points spread over a very wide range of distances.

The SX1301 is targeted at smart metering fixed networks and Internet of Things applications with up to 5000 nodes per km2 in moderately interfered environment.

Ordering Information

Part Number	Conditioning
SX1301IMLTRC	Tape & Reel 3,000 parts per reel

Key product features

- Up to -142.5 dBm sensitivity with SX1257 Tx/Rx front-end (see reference design)
- 70 dB CW interferer rejection at 1 MHz offset
- Able to operate with negative SNR, CCR up to 9 dB
- Emulates 49x LORA demodulators and 1x (G)FSK demodulator
- Dual digital TX&RX radio front-end interfaces
- 10 programmable parallel demodulation paths
- Dynamic data-rate (DDR) adaptation
- True antenna diversity or simultaneous dual-band operation

Applications

- Smart Metering
- Security Sensors Network
- Agricultural Monitoring
- Internet of Things (IoT)