SX1276/77/78 - 137 MHz to 1020 MHz Low Power Long Range Transceiver

GENERAL DESCRIPTION

The SX1276/77/78 transceivers feature the LoRa™ long range modem that provides ultra-long range spread spectrum communication and high interference immunity whilst minimising current consumption.

Using Semtech's patented LoRa™ modulation technique SX1276/77/78 can achieve a sensitivity of over -148dBm using a low cost crystal and bill of materials. The high sensitivity combined with the integrated +20 dBm power amplifier yields industry leading link budget making it optimal for any application requiring range or robustness.

LoRa™ also provides significant advantages in both blocking and selectivity over conventional modulation techniques, solving the traditional design compromise between range, interference immunity and energy consumption.

These devices also support high performance (G)FSK modes for systems including WMBus, IEEE802.15.4g. The SX1276/77/78 deliver exceptional phase noise, selectivity, receiver linearity and IIP3 for significantly lower current consumption than competing devices.

ORDERING INFORMATION

Part Number	Delivery	MOQ / Multiple
SX1276IMLTRT	T&R	3000 pieces
SX1277IMLTRT	T&R	3000 pieces
SX1278IMLTRT	T&R	3000 pieces

◆ QFN 28 Package - Operating Range [-40;+85°C]

◆ Pb-free, Halogen free, RoHS/WEEE compliant product

KEY PRODUCT FEATURES

◆ LoRa™ Modem.

◆ 168 dB maximum link budget.

◆ +20 dBm - 100 mW constant RF output vs. V supply.

◆ +14 dBm high efficiency PA.

◆ Programmable bit rate up to 300 kbps.

◆ High sensitivity: down to -148 dBm.

◆ Bullet-proof front end: IIP3 = -12.5 dBm.

◆ Excellent blocking immunity.

◆ Low RX current of 10.3 mA, 200 nA register retention.

◆ Fully integrated synthesizer with a resolution of 61 Hz.

◆ FSK, GFSK, MSK, GMSK, LoRa™ and OOK modulation.

◆ Built-in bit synchronizer for clock recovery.

◆ Preamble detection.

◆ 127 dB Dynamic Range RSSI.

◆ Automatic RF Sense and CAD with ultra-fast AFC.

◆ Packet engine up to 256 bytes with CRC.

◆ Built-in temperature sensor and low battery indicator.

APPLICATIONS

◆ Automated Meter Reading.

◆ Home and Building Automation.

◆ Wireless Alarm and Security Systems.

◆ Industrial Monitoring and Control.

◆ Long range Irrigation Systems