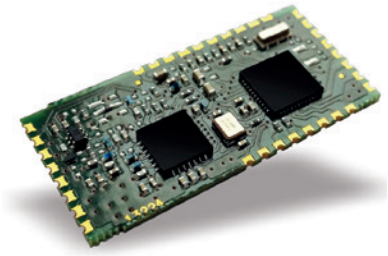
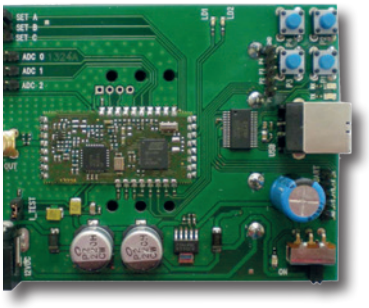
SMD LONG RANGE TRANSCEIVER FOR DISTANCE UP TO 6KM



UART data rate: 9600 bps, 19200 bps, 115200 bps



Evaluation board for testing the XTR-8LR100 transceiver performance.

The **XTR-8LR100** is in **proto type stage.** This SMD Transceiver is a radio modem with UART interface including an implemented data packet addressing technique that allows a point-multipoint communication and 248 Byte of maximum payload. Transceiver module with **LORA™** technology that enables the **Internet of Things.** Compared to standard modulation techniques, the half duplex transceiver based on Semtech (SX1276 chipset) patented " LORA SSM" modulation technique providing an ultra long distance radio communication (>6 km) with low current consumption feature, and significantly improved robustness to interference. Transceiver works in 869.4 … 869.65 MHz (100 mW, ver. 8LR100) which offer a link budget of >165 dBm and 868 … 868,6 MHz (25 mW ver. XXX) European band with possibility to set the channel width.
XTR-8LR100 improves up to 20 dB the receiver sensitivity, allowing long distances by using low power in transmission and low consumption, inexpensive power supply circuits and low cost batteries. The low supply voltage (3.3V) allows the use with battery power supply. Ideal for SCADA (Supervisory Control and Data Acquisition) applications or for the monitoring and control of technical processes by means of a computer system, so for a variety of industrial control.

APPLICATIONS

Features suitable for those application:

- Agriculture (irrigation control, environment sensing)
- Smart metering (electric, water, gas)
- Security smart home (smoke detectors, security systems, smart appliances)
- Tracking (Animal tracking, motor bikes, cars, bicycles)

SPECIFICATIONS

PARAMETER	MIN.	TYP.	MAX.
DC Levels			
Supply voltage Pins 1, 15	2.4 V	3.3 V	3.6 V
Current consumption (RX mode)		17 mA	
Current consumption (TX mode @+20 dBm)	90 mA	110 mA	120 mA
Current consumption (standby mode)		1 µA	2 µA
RF TX			
Freqency band/-deviation		869.4 … 869.65 MHz ±3.5 kHz	
Emitted power (ERP)	17 dBm	19 dBm	20 dBm
Modulation type		LORA™	
Channel width	20.8 kHz	62.5 kHz	125 kHz
RF RX			
Sensitivity, 125 kHz Band (SF:6-10-12)	-118 dBm	-132 dBm	-137 dBm
Sensitivity, 62.5 kHz Band (SF:6-10-12)	-121 dBm	-135 dBm	-140 dBm
Sensitivity, 20.8 kHz Band (SF:6-10-12)	-127 dBm	-140 dBm	-144 dBm
Performance			
Spreading factor	6	10	12
UART data rate	9600 bps	19200 bps	115200 bps
Standard distance		6000 m	
Operating temperature range		-20°C … +70°C	
Dimensions (L×W×H)		37×18×2.2 mm	

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