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Overview

This xCHIP features an SC18IS602B SPI/I²C converter IC for handling radio operations, the on-board RFM96W LoRa™ module provides ultra-long range spread spectrum communication and high interference immunity whilst minimizing current consumption.

Product Highlights

- 433 MHz Range (Software Selectable Center Frequency)
- 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

Applications

- Remote Sensing
- Home Automation
- Satellite Telemetry

Specifications

RFM96W

- 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.

SC18IS602B

- I²C-bus slave interface operating up to 400 kHz
- SPI master operating up to 1.8 Mb/s
- 200-byte data buffer
- Low power mode
- Internal oscillator option

External Links

Datasheets

- RFM96W From HopeRF (http://www.hoperf.com/upload/rf/RFM95_96_97_98W.pdf)
- SC18IS602B From NXP Semiconductors (<https://www.nxp.com/docs/en/data-sheet/SC18IS602B.pdf>)

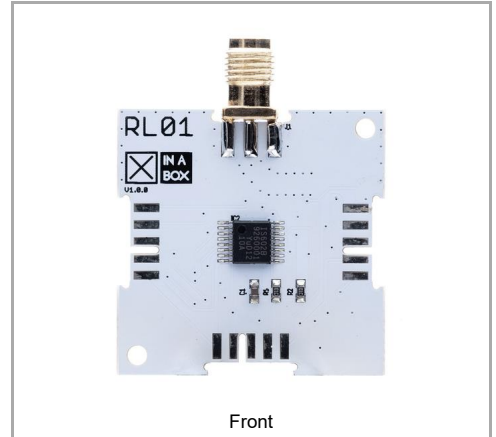
Shop

- Buy RL01 (<https://xinabox.cc/products/RL01>)

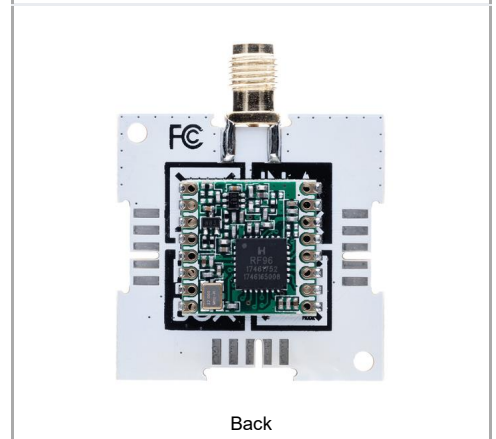
GitHub

- RL01 on GitHub (<https://github.com/xinabox/xRL01>)

RL01 - LoRa Radio (433.92 MHz)
(RFM96W/RFM95, SC18IS602B)



Front



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XCHIP	
Main Category	Radio
Sub Category	LoRa
Introduced	1 January 2017
Current version	1.0.0
Current version date	1 January 2017
Dimensions	
Size	2x2U (32x32mm)
Weight	7.9 g
Height	5.3/1/1.8 mm
Non-BUS Connections	
North	SMA Female Connector (7.5 mm)
Main Chip Set	
Main Chip	SC18IS602B
I ² C Speed	100/400 kHz