

Crowtail- LoRaWAN Lora LR1262 Module DataSheet



V1.0

Table of Contents

1 Overview.....	1
1.1 Product Description.....	1
1.2 Key Features.....	2
1.3 Application Scenarios	3
2 Product Appearance	4
3 Dimension Diagram	5
4 System Block Diagram	6
5 Hardware Overview	7
5.1 Button Pin Definitions and Functions	8
5.2 Indicator LED Pin Definitions and Functions.....	8
5.3 Interface Pin Definitions and Functions.....	9
6 Technical Specifications	10
7 Environmental Characteristics	12
8 Related Documents	12
9 Revision History	12

1 Overview

1.1 Product Description

The Crowtail-LoRa LR1262 utilizes an LR1262 node module based on the STM32WLE5CCU6 chip, which integrates an ARM Cortex-M4 32-bit processor, delivering robust processing capabilities. Equipped with an SX1262 RF chip, it supports a frequency range of 150-960 MHz, with a transmit power of up to 20 dBm and a receiver sensitivity of -123 dBm for 2-FSK (at 1.2 Kbit/s) and -148 dBm for LoRa® (at 10.4 kHz, spreading factor 12).

This module supports LoRa, (G)FSK, BPSK, and (G)MSK modulation schemes, achieving a communication range of up to 5-7 km under ideal line-of-sight conditions. It features download and communication switching functionality, supports user-customizable programming, and is equipped with an IPEX-1 connector for easy antenna attachment. The module measures 40 mm (L) × 20 mm (W) × 7.5 mm (H) and operates at a voltage of 3.3 V, making it suitable for various IoT applications such as smart instrumentation and supply chain logistics.

1.2 Key Features

- **Transmit Power:** Up to +20 dBm, ensuring stable signal transmission for medium-to-long-range communication scenarios.
- **Supported Frequency Bands:** Covers 150–960 MHz, including EU865, US915, and other bands, offering wider compatibility and stronger adaptability.
- **Receiver Sensitivity:** -123 dBm for 2-FSK (1.2 Kbit/s) and -148 dBm for LoRa®, providing excellent reception for different modulation schemes.
- **Modulation Modes:** Supports LoRa, (G)FSK, BPSK, and (G)MSK, matching the RA-08H for versatile communication options.
- **Transmission Range:** Achieves 5–7 km in ideal open environments, excelling in long-distance communication.
- **Functional Features:** Includes download and communication switching, supports user-customizable programming, and enables flexible adaptation to personalized application needs.
- **Hardware Configuration:** Equipped with an IPEX-1 connector for easy antenna attachment; compact dimensions of 40 (L) × 20 (W) × 7.5 (H) mm, identical to the RA-08H for convenient installation and deployment.

1.3 Application Scenarios

- Smart Instrumentation
- Smart City Infrastructure
- Environmental Monitoring
- Supply Chain & Logistics
- Home & Building Automation
- Security Systems
- Remote Irrigation Systems
- And other IoT applications

2 Product Appearance



Figure 1: Front & Rear Views of Crowtail-LoRa LR1262

3 Dimension Diagram

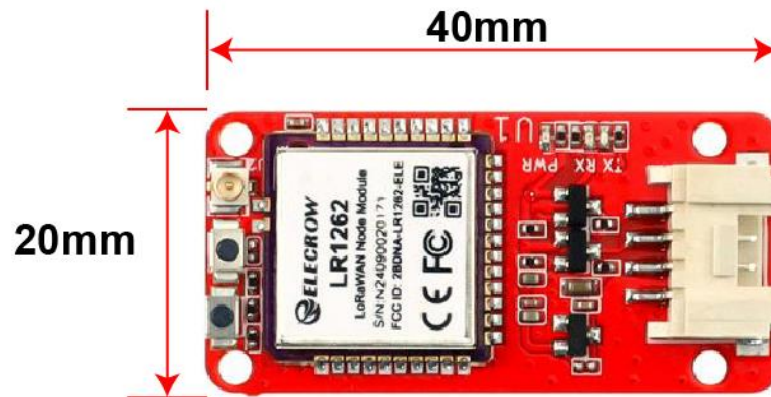


Figure 2:Dimension Diagram

4 System Block Diagram

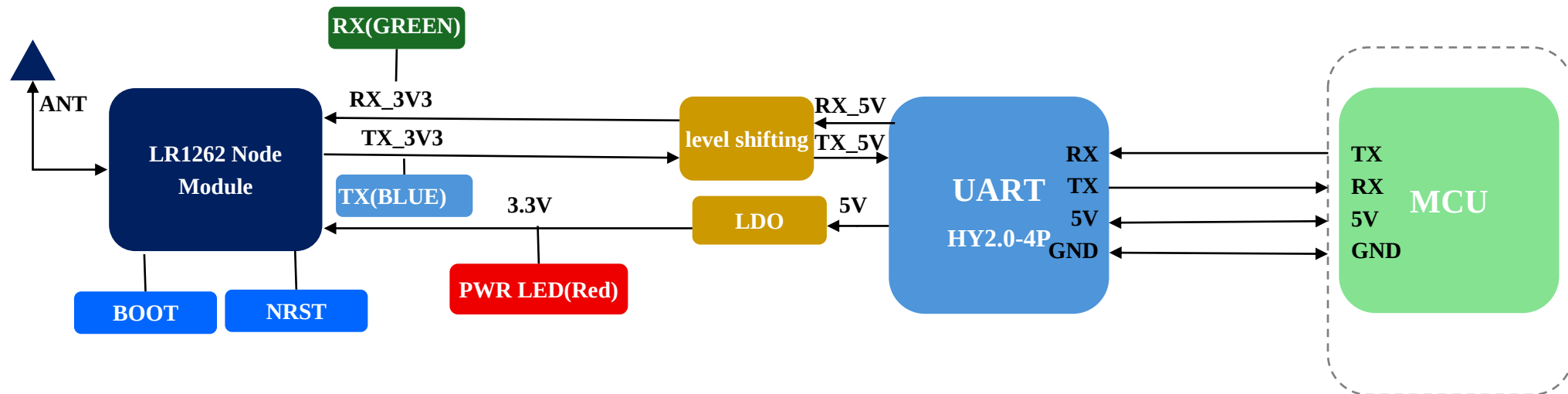


Figure 3: System Block Diagram

5 Hardware Overview

The hardware overview section details the pin definitions and functional descriptions of the Crowtail-LoRa LR1262, covering the pin mappings and specifications for buttons/indicators and various interfaces.

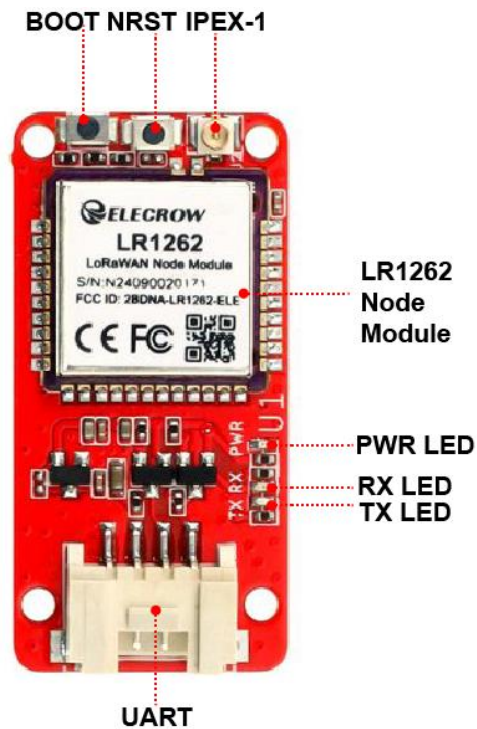


Figure 4: Crowtail-LoRa LR1262 Interface Diagram

5.1 Button Pin Definitions and Functions

No.	Product Group	Button/Switch Name	Silkscreen	State	Pin	Module Pin	Description
1	Crowtail-LoRa LR1262	BOOT	BOOT	Press & Hold	LR_BOOT	BOOT	Press the (LR1262) BOOT button, then press the NRST button once, and finally release the BOOT button to put the LR1262 module into programming mode.
2		NRST	NRST	Press & Hold	NRST	NRST	Press and hold to trigger a module reset, used to reboot the module.

5.2 Indicator LED Pin Definitions and Functions

No.	Product Group	LED Name	Silkscreen	Color	Pin	Module Pin	Description
1	Crowtail-LoRa LR1262	RX LED	RX	GREEN LED	LPUART-RX	LPUART-RX	Illuminates when module receives data via LPUART interface, indicating data reception status
2		TX LED	TX	BLUE LED	LPUART-TX	LPUART-TX	Illuminates when module transmits data via LPUART interface, indicating data transmission status
3		PWR	PWR	RED LED	3V3_VDDRF	/	Remains constantly lit when powered on, indicating normal power supply for RF section and overall system

5.3 Interface Pin Definitions and Functions

No.	Interface Name	Silkscreen	Pins	Module Pins	Description
1	UART Interface	UART	GND 5V RX TX	 / / UART-RX UART-TX	The UART interface serves as the critical serial communication channel between the module and external devices (e.g., controllers, host computers). It establishes common ground through GND, provides 5V power supply, and enables bidirectional data transmission via RX/TX lines for command interaction and data exchange.
2	IPEX-1 Antenna Connector	ANT	/	/	External LoRa spring antenna connection (supports 868MHz/915MHz bands) for enhanced wireless signal transmission/reception capabilities and extended communication range.

6 Technical Specifications

No.	Parameter Category	Specific Parameter	Crowtail-LoRa LR1262
1	Integrated Module	Module Name	LR1262 Node Module
2	MCU	Processor	Based on STM32WLE5CCU6 (ARM Cortex-M4 32-bit) chip
3		RAM	64KB
4		Flash	256KB(with ECC)
5	RF Module Characteristics	RF Chip	SX1262
6		Transmit Power	+20dBm(Max)
7		Receiver Sensitivity	-125dBm@SF7
8		LoRaWAN Protocol	Class A/B/C (compliant with LoRaWAN 1.0.3 specification)
9		Supported Bands	EU865、US915
10		Frequency Range	150 -960 MHz
11		Modulation Schemes	LoRa®、 (G) FSK、 (G) MSK 、 BPSK
12		Communication Range	5 - 7 KM
13	Module Mechanical Characteristics	Operating Voltage	3.3V DC
14		Antenna Type	Supports stamped hole or IPEX antenna mounting
15		Package Type	32-pin SMD (stamped hole), 32-pin clamping I/O ports for PCB SMT assembly
16		Module Dimensions	15 * 15 * 2.5mm
17	Antenna Measurement Range	Urban Communication Range	868:1km 915:1.2km
18	Mechanical Properties	Dimensions	20*40*7.5mm
19	Electrical Characteristics	Operating Voltage	DC 5V/1A
20		Low Power Consumption	115μA

21		Deep Sleep Power Consumption	2.5μA
22		standby power consumption	0.28W
23	Functions	Communication Interfaces	● UART interface ● IPEX-1 antenna interface: Lora spring antenna (868Mhz/915Mhz)
24		LED	RX LED (GREEN) TX LED (BLUE) PWR LED(RED)
25		Buttons	NRST BOOT

7 Environmental Characteristics

NO.	Item	Description	Minimum Value	Typical Value	Maximum Value	Unit
1	VDD	Supply Voltage	3.3	5	5.5	V
2	TOPR	Operating Temperature	-40	25	+85	°C

8 Related Documents

- [Crowtail- LoRaWAN Lora RA-08H/LR1262 Module Product Link](#)
- [LR1262 LoRaWAN Node Module Datasheet](#)
- [SX1261/2 Datasheet](#)

9 Revision History

Date	Version	Release Notes
2025/8/31	V1.0	First release