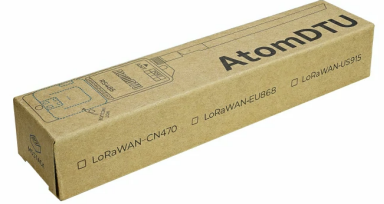


Atom DTU LoRaWAN-US915

SKU:A152-US915





Description

Atom DTU LoRaWAN-US915 is a LoRaWAN programmable data transmission unit (DTU) designed for the 915 MHz frequency band, specifically tailored for the US915 band, suitable for the United States and other regions using the US915 band. This module employs the **STM32WLE5** solution, supporting long-range communication with low power consumption and high sensitivity. The module features a built-in LoRaWAN protocol stack, supporting **Class A, Class B and Class C** operation modes for easy connection to various LoRaWAN server platforms such as TTN, ChirpStack, Actility, Tencent Cloud, etc.; it also supports LoRa® point-to-point (P2P) communication mode and uses a UART communication interface (controlled via the AT command set) for flexible configuration, and integrates an **RS485** communication interface to provide reliable wired connectivity for industrial field devices. The product uses a high-performance **rubber-duck antenna**, with an optimized design to deliver more stable signal coverage and longer communication range, suitable for a variety of complex environments. In LoRaWAN mode, the module can act as a node to connect to a gateway for data collection and management; in P2P mode, it can achieve direct device-to-device communication without a gateway. Structurally, the module features a standard **35 mm DIN rail slot** at its base, allowing direct installation on industrial rails for quick deployment and maintenance in cabinets or distribution boxes. It is designed for long-range, low-power IoT communication scenarios such as smart agriculture, industrial monitoring, and environmental monitoring node deployments.

Features

- Complies with LoRaWAN® 1.0.3 protocol
- Supports 902 – 928 MHz band
- Supports LoRa® P2P (point-to-point) communication
- LoRaWAN Activation Modes: OTAA, ABP
- Serial communication (AT commands)
- RS485 communication
- High-sensitivity stick antenna
- Low power consumption
- LEGO-compatible mounting holes
- DIN rail mounting design
- Development Platforms:
 - UiFlow1
 - UiFlow2
 - Arduino IDE

Includes

- 1 × Atom DTU LoRaWAN-US915
- 1 × Stick antenna (@0.5 dBi total length 195 mm, SMA male)
- 1 × HT3.96-4P wiring terminal

| Applications

- Smart agriculture
- Industrial monitoring
- Environmental monitoring node deployment

| Specifications

Specification	Parameter
LoRa Solution	STM32WLE5 @256 KB Flash, 64 KB RAM
Supported Band	US915 (902 – 928 MHz)
Protocol Support	LoRaWAN® 1.0.3 (Class A, Class B, Class C)
Receive Sensitivity	-137 dBm
LoRaWAN Activation Modes	Over-The-Air Activation (OTAA), Activation By Personalization (ABP)
Communication Modes	LoRaWAN and LoRa® P2P (point-to-point)
RS485	SP3485EN
Interface	UART serial @default baud rate 115200, supports AT commands
Antenna	High-performance stick antenna, 50 Ω impedance @0.5 dBi, total length 195 mm, SMA male
Standby Power Consumption (RS485 interface power)	DC 9V @ 167.98 μA DC 12V @ 178.09μA
Operating Current (RS485 interface power)	(500 kbps) Data reception: DC 9V @ 50.32mA Data transmission: DC 9V @ 51.56mA (125 kbps) Data reception: DC 9V @ 49.94mA Data transmission: DC 9V @ 102.79mA
Operating Temperature	0 – 40 °C
Product Size	65.3 × 28.7 × 24.0mm
Product Weight	20.0 g
Package Size	175.0 × 40.0 × 30.0mm
Gross Weight	56.9 g

Learn

LoRaWAN Introduction and Device Configuration

For an introduction to LoRaWAN and device configuration information, please refer to [TTN – LoRaWAN Docs](#).

Major Countries and Regions Supporting US915

Applicable Regions

Argentina / Canada / Chile / Colombia / Ecuador / Greece / Guatemala / Jamaica / Mexico / Nicaragua / Panama / United States / Uruguay

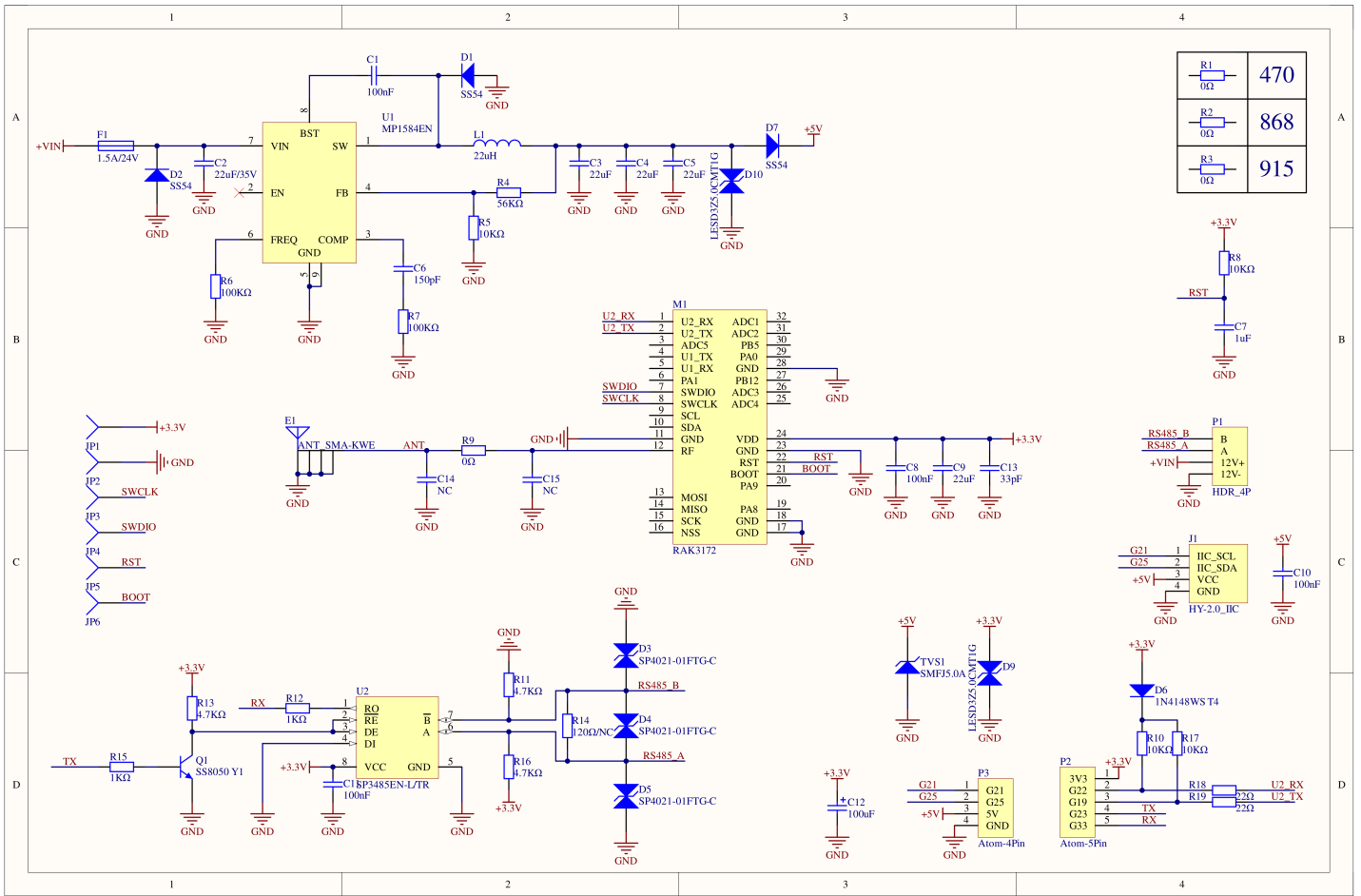


Certifications

- [RAK3172 Module Certification Information](#)

Schematics

- [Atom DTU LoRaWAN-US915 Schematic PDF](#)



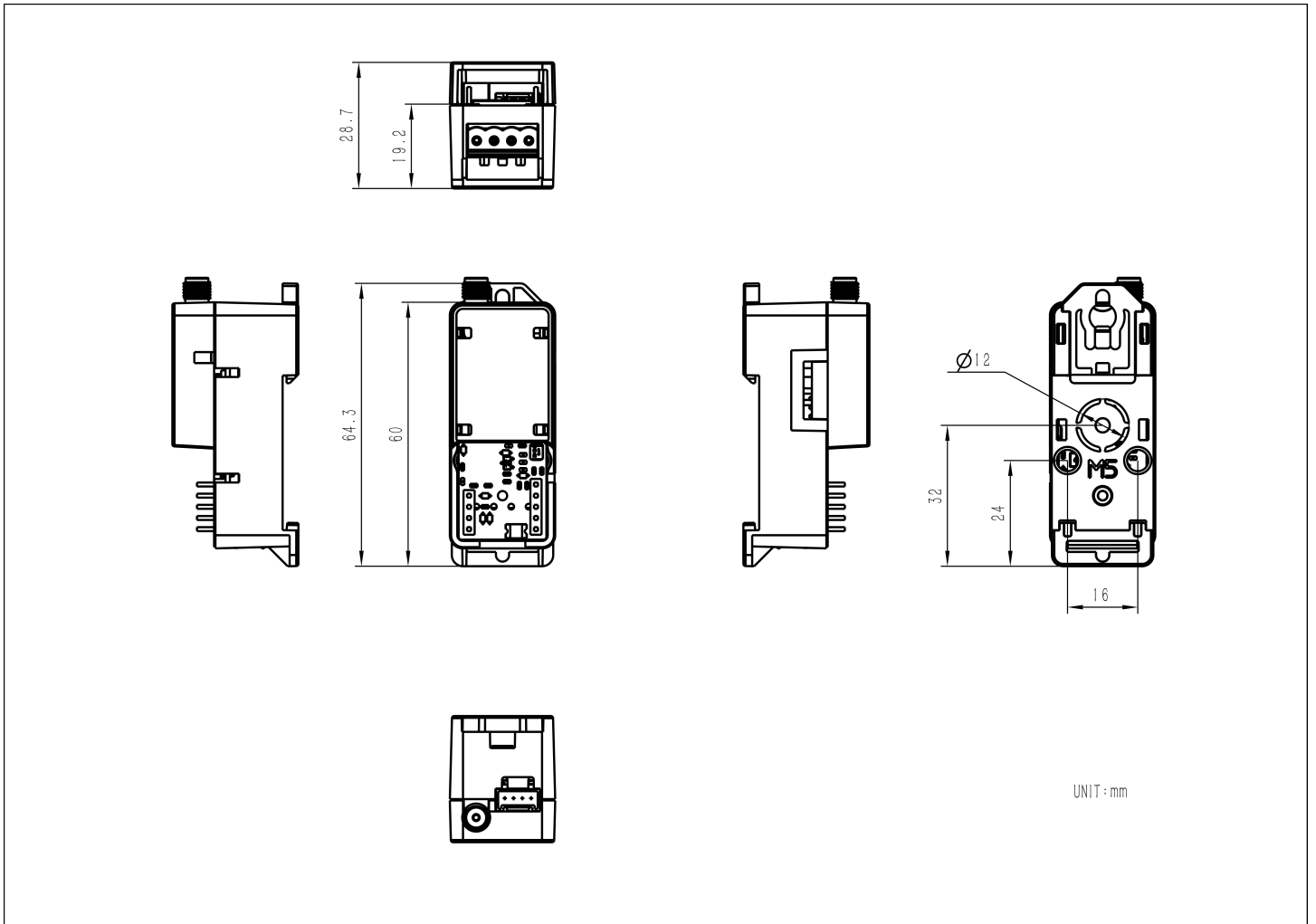
PinMap

PIN	LEFT	RIGHT	PIN
		1	3V3
PORT.A	2	3	UART_RX
PORT.A	4	5	UART_TX
5V	6	7	RS485_RX
GND	8	9	RS485_TX

HY2.0-4P

HY2.0-4P	Black	Red	Yellow	White
PORT.A	GND	5V	G25 (Atom Lite)	G21 (Atom Lite)

Model Size



Datasheets

- [RAK3172](#)

Softwares

Arduino

- [Atom DTU LoRaWAN-US915 Arduino Library](#)
- [Atom DTU-LoRaWAN US915 Arduino QuickStart](#)

UiFlow1

- coming soon...

UiFlow2

- [Atom DTU LoRaWAN-Series Base UiFlow2 Docs](#)



Protocol

Video

- o [Atom DTU LoRaWAN-US915 product introduction and demonstration](#)

[A152_Atom_DTU_LoRaWAN_Video.mp4](#)

Product Comparison

	 Atom DTU LoRaWAN-US915	 Atom DTU LoRaWAN915
Product Comparison Table		
Chip Module	STM32WLE5	ASR6501
Receive Sensitivity	Minimum -137 dBm	Minimum -137 dBm
Interface Type	UART @default baud rate: 115200	UART @default baud rate: 115200
LoRaWAN Protocol Version	LoRaWAN 1.0.3, supports Class A/B/C	LoRaWAN 1.0.1, supports Class A/C
Transmit Power	Max 22 dBm	Max 21 dBm
Protocol Stack Support	Built-in LoRaWAN protocol stack	Built-in LoRaWAN protocol stack
Communication Modes	LoRaWAN and LoRa® P2P (point-to-point)	LoRaWAN