LPWA Products

Type 1SJ LBAA0QB1SJ-686

The Type 1SJ (LBAA0QB1SJ-686) module is one of the smallest LoRaWAN™ modules in the industry.
This module has a lower power consumption and higher output than previous products.
Radio Law certification has already been obtained for major regions.
Equipped with US915, EU868, and AS923 band modem software, this module can be operated with AT commands.

Product Status

In Production

Series Overview Block Diagram Technical Support Application Guide

Product Type	Module
Part.No	LBAA0QB1SJ-686
LoRaWAN™ Channel Band	US915, EU868, AS923
Chipset	Semtech (SX1262) + STM (STM32L)
Modulation	LoRa™ Modulation
Antenna	External
Operating Temperature Range	-40 to +85
Dimension	10.0 mm × 8.0 mm × 1.6 mm
Interface Voltage (Vdc for VIO)	3.3 Vdc
Supply Voltage min	2.2V for VDD_MCU, VDD_RF, VDD_TCXO
Supply Voltage max	3.6V for VDD_MCU, VDD_RF, VDD_TCXO
Transmit Mode Current	118mA @ 22dBm setting
Transmit Power	Up to +21.5dBm
Receive Mode Current	15.5mA @ 125kHz BW
Receiver Sensitivity	-135.5dBm @ 1% PER, 125kHz BW, SF=12
Host Interface	UART
RoHS Compliant	Yes
Technology	LPWA
Certified	FCC/IC/CE/MIC/KC/NCC/ANATEL

Series Overview

With just 10.0 mm × 8.0 mm × 1.6 mm, Murata developed the smallest LoRa module available in the world today.
Suitable for a wide range of high-volume applications where small size, long range, extended battery life, security and a competitive price point are requirements.

Based upon a second-generation Semtech SX1262 radio frequency IC (RFIC), the Type 1SJ-296 module is preprogrammed with a modem firmware that supports LoRaWAN™ US915, EU868, and AS923 band protocol and is easily controlled with AT commands from the Host MCU through UART interface.

Operating from a single supply rail (up to 3.9V DC), the Type 1SJ-686 module incorporates several low power modes that allow the real time clock (RTC) to operate while drawing a typical current of just 1.3µA.
This enhanced current consumption allows devices based upon Murata's module to operate for years from a single battery.

The resin mold package provides physical ruggedness, allowing the module to operate across the temperature range -40°C to +85 °C.

The new Type 1SJ LoRa module will help designers to develop solutions that meet the most demanding requirements, especially in areas such as asset tracking, utilities, agriculture, smart cities, smart buildings, industrial and other IoT applications.

Sample quantities of the new module, along with a full evaluation kit are available with immediate effect.

Block Diagram