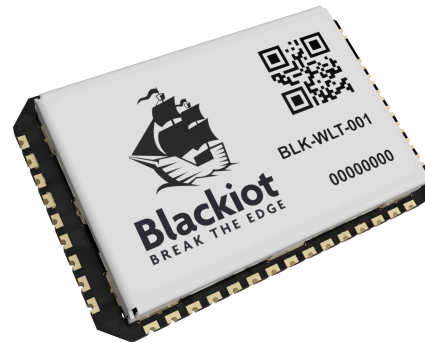


GENERAL DESCRIPTION

The **Vallarta** Ultra Low Power transmission module consists of STM32WL55 System-On-Chip that integrates both a general purpose microcontroller and a sub-GHz radio on the same chip.

STM32WL features a sub-GHz radio based-on Semtech SX126x to meet the requirements of a wide range of Low-Power Wide Area Network (LPWAN) wireless applications.

The module can be custom programmed with STM32Cube tools from STMicroelectronics enabling fast application development.



FEATURES

The **Vallarta** SOM provides an ideal solution for low power sensors with LPWAN communication.

Hardware Features

Dual Core MCU Core:

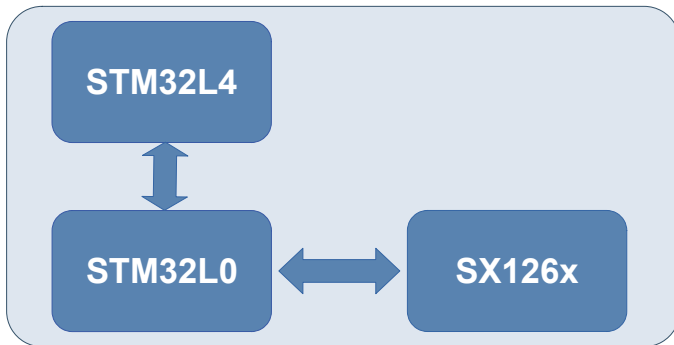
- ARM® Cortex®-M4 at 48 MHz
- ARM® Cortex®-M0+ at 48 MHz
- 256-Kbyte Flash memory
- 64-Kbyte RAM
- 20x32-bit backup register
- OTA (over-the-air) firmware update capable
- -40 to 85°C operating temp.
- Voltage range 1.8 V to 3.6 V
- Low power modes down to 0.36 µA
- Run at < 72 µA / MHz
- 12 bit ADC up to 2.5 MSPS

RF Transceiver:

- Frequency range: 150 MHz to 960 MHz
- Modulation: LoRa ® , (G)FSK, (G)MSK and BPSK
- RX sensitivity:
 - -123 dBm for 2-FSK (at 1.2 Kbit/s),
 - -148 dBm for LoRa ®
- Transmitter high output power, up to +22 dBm
- Transmitter low output power, up to +15 dBm
- Active-mode RX: 4.82 mA
- Active-mode TX:
 - 15 mA at 10 dBm
 - 87 mA at 20 dBm (LoRa ® 125 kHz)

Module:

- Size 22.86 x 15.24 mm
- Castellated contacts
- 47 pin + 8 ground pads



Target Applications:

- 24/7 always-on sensor processing at ultra-low power consumption.
- LPWAN data transmission over LORAWAN and SIGFOX™
- IoT Battery powered devices
- Smart metering, Industrial monitoring and control
- Home energy management systems, Smart parking, Wireless alarm systems, Asset tracking devices

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Order Code	Description
BLK-WLT-001	Vallarta - LPWAN SOM