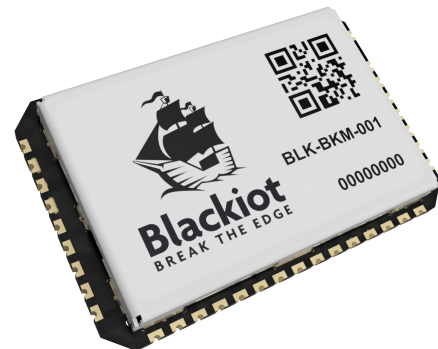


## GENERAL DESCRIPTION

The **BlackMoon** Ultra Low Power transmission module consists of STM32L0 microcontroller unit with S2-LP high performance ultra-low power RF transceiver, intended for RF wireless applications in the sub-1 GHz band.

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

Ideal solution for SIGFOX™ or 6LoWPAN / IEEE 802.15.4g low power wide area networks.



## FEATURES

The **BlackMoon** SOM provides an ideal solution for low power sensors with WAN communication.

### Hardware Features

MCU Core:

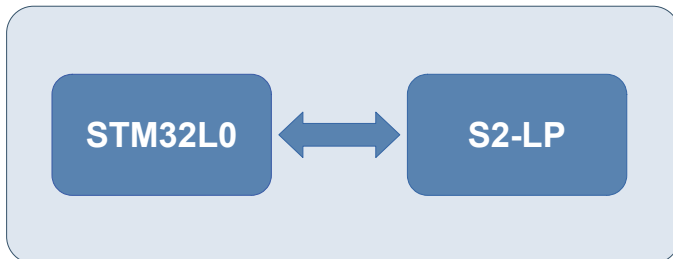
- ARM® Cortex®-M0+ at 32 MHz
- 128 kBytes Flash with ECC
- 20 kBytes RAM
- 6 kBytes of data EEPROM with ECC
- -40 to 85°C operating temp. (125 °C available)
- Voltage range 1.8 V to 3.6 V
- Low power modes down to 0.29 µA
- Run at 93 µA / MHz
- 12 bit ADC up to 1.14 MSPS

RF Transceiver:

- Frequency Bands:
  - 413-479 MHz
  - 826-958 MHz
- Modulation schemes:
  - 2(G)FSK, 4(G)FSK
  - OOK, ASK
- Air data rate from 0.1 to 500 kbps
- Ultra Low Power consumption:
  - 7 mA RX
  - 10 mA TX @ +10 dBm
- Receiver sensitivity: down to -130 dBm
- RF output power up to +16 dBm
- More than 145 dB RF link budget

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 SIGFOX™ and Monarch networks or 6LoWPAN / IEEE 802.15.4g networks
- IoT Battery powered devices
- Smart metering, Industrial monitoring and control, Home energy management systems, Smart parking, Wireless alarm systems, Asset tracking devices

## BlackIoT Sagl

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Order Code	Description
BLK-BKM-001	BlackMoon - Sub-GHz SOM