



## Low Power and Low Cost Expandable IoT Solution

### Multi-functional device with Sigfox connectivity

The Loka Device is revolutionary in its ability to be both flexible and scalable for a wide range of IoT use cases that require a low-power and low-cost solution.

The system is composed by a multi-purpose board, a cloud based device management platform and a geolocation tool.

The multi-purpose module, can be used as a motherboard or a daughterboard (allowing to connect a variety of sensors).

The geolocation is done combining the signal strength and location of WiFi and Sigfox base stations to determine its position.

This revolutionary concept, addresses the low-cost and low-power demands introducing new and simple ways to develop your own solutions

### Plug-and-Play, Extensible, Flexible

The centerpiece of the LOKA System is the LOKA board which is both a motherboard and a daughterboard module.

As a standalone board, the LOKA can act as Geolocation device, Temperature sensor, Motion Sensor, Magnetic sensor or a Push-button alert.

#### Daughterboards

The LOKA Mini-Boards have access to all of the LOKA pins in a 20mmx15mm form factor.

The 3.3V power supply to the mini-board can handle up to 200mA.

The mini-board architecture is open spec, allowing anyone to develop mini-boards so long as they remain compliant to the specification.

The mini-boards can be run by generic drivers or with fully customizable routines as an extension to the LOKA software.

#### Module

The Loka Board can work as a standalone Sigfox device or can be mounted on top of already existent systems in order to provide connectivity.

#### Device Management

Loka devices are managed in a cloud platform where firmware, configuration and parameters are kept for each and every device.

#### WiFi & Geolocation

With 802.11 b/g/n support, the LOKA board enables geolocation of objects with low power consumption. This feature allows also the ability to perform firmware upgrades and a local wifi interface to configure and manage the device.

## Technical Specifications

### General Features

#### Dimensions

L: 65mm; W: 20mm; H: 5mm

#### Weight

25,4 g (without batteries)

#### Operating temperature

-30°C to +85°C

#### Sigfox ETSI

Output power: Class 0 - 16 dBm

Rx Sensitivity: -124 dBm

Uplink Frequencies : 868.1 MHz & 869.5 MHz

#### Sigfox FCC

Output power: Class 0 - 16 dBm

Rx Sensitivity: -124 dBm

Uplink Frequencies: 902.2 MHz & 920.8 MHz

WiFi 802.11b/g/n transceiver

3D Sensor, Temperature Sensor, built-in Button

#### Input VCC

From 1.8V to 3.3 V

#### Power consumption

Sleep: 3uA

Running: 1mA

Transmitting: 60 mA (~6 sec)

#### External Interfaces

2 Analog IO lines

8 Digital IO lines

UART / Serial Port (AT commands available)

SPI / I2C / 1-Wire Support

3.3V input / output

Power control

#### SDK and API

All the features of the product are available from the API allowing the fast development of applications

The Development Kit and SDK provides the tools to extend and customize the functionalities of the device

#### Approvals and Certifications

Sigfox RCZ1 (ETSI) RCZ2 and RCZ4 (FCC)

CE mark (on going)

WEEE, RoHS compliant