

n-Core[®] Sirius Quantum 2.0

Device for the development and deployment of IEEE 802.15.4/ZigBee networks

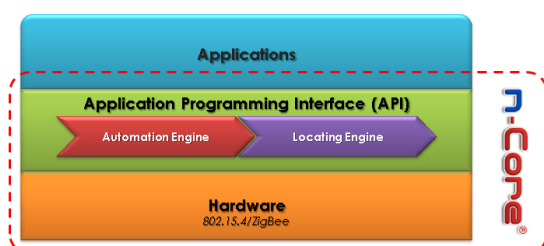
Overview

The all-new **Sirius Quantum 2.0** is a radio-frequency device that offers a complete solution for deploying **wireless sensor networks and real-time locating systems** based on the IEEE 802.15.4/ZigBee™ international standard in a simple and fast way.

Its tiny design provides an extraordinary versatility to suit a wide range of applications, especially those where **mobility and miniaturization** are key factors. It includes **IP65 case** to protect the device against dust and water, a **tri-axial accelerometer** to detect lack of movement or falls, **Qi inductive charge**, as well as a **buzzer** to alert the user.



The new **Sirius Quantum 2.0** device is part of the **n-Core platform**, developed by Nebusens. The n-Core platform offers a complete set of hardware and software tools to fit all your necessities when developing and deploying wireless networks based on the international standard IEEE 802.15.4/ZigBee™.



Main Features

- High scalability thanks to the implementation of the IEEE 802.15.4/ZigBee™ international standard.
- Very small form factor.
- Software selectable U.FL and ceramic antennas.
- Read range up to 500 meters.
- Sensitivity up to -100dBm.
- Maximum output power up to +22dBm.
- High precision **3-axis accelerometer**.
 - Detection of absence of movement.
 - Detection of possible falls.
- **Qi inductive charge**.
 - No cable required!
- **Button** to send alerts to the system.
- **Buzzer** to receive alerts from remote apps.
- Fully compatible with the n-Core Sirius family.
- Programming and updating interfaces:
 - JTAG and OTA (**Over The Air**).

Benefits & Applications

The all-new **Sirius Quantum 2.0** is a full-featured wireless device that facilitates the development of different types of custom applications. It is a multipurpose solution with **an outstanding potential to create almost any kind of application**, especially where mobility of users and objects is a key factor. The **Sirius Quantum 2.0** is ideal for use in a multiple variety of applications, for example:

- Healthcare at hospitals or home retirements.
- In-home telecare.
- Safety of workers in industry.
- Location of guards and children in mall centers.
- Security and surveillance applications.
- Logistics and asset tracking.
- Access control systems.
- Real-time locating.

These and other applications can be quickly deployed by using the dynamic and scalable mesh topology of the ZigBee™ international standard.

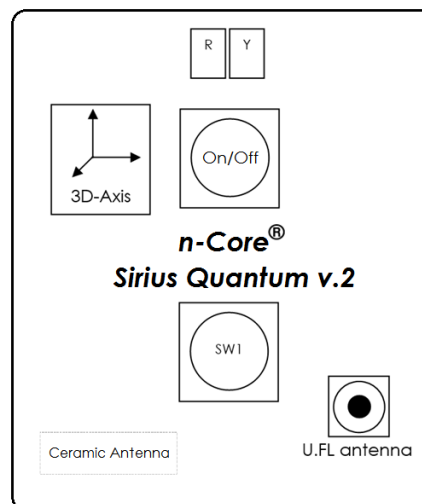
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Technical Features

Electrical features	
Batteries Power Supply	3.7V
External Power Supply	3.2V - 5 V
Power Switch	On / Off Button
Physical characteristics	
Dimensions (mm) without enclosure	38 x 33 x 8
Dimensions (mm) with enclosure	47.5 x 37.4 x 15.0
Micro-controller	
Model	ATMEGA256RFR2
Frequency	16MHz
Flash	256KB
RAM	32KB
EEPROM	8KB
Radio	
Frequency Band	2405 to 2480MHz
Number of Channels	16
Channel Spacing	5MHz
Tx Output Power (Software-controlled)	-11 to +22 dBm
Rx Sensitivity	-100dBm
Data Transmission Rate	250Kbps
Connectivity	
On Board Connectivity	<ul style="list-style-type: none"> • JTAG • Power supply
Programming Port	<ul style="list-style-type: none"> • JTAG • OTA (Over The Air)
Buttons (x2)	<ul style="list-style-type: none"> • Button connected to IRQ • On/Off Button
LEDs (x2)	<ul style="list-style-type: none"> • Red • Green

Reference Schematics



Development Tools

n-Core offers a complete Application Programming Interface (accessible from different platforms like C/C++, .Net or Java, under Windows and Linux) to easily create end-user applications from any compatible Integrated Development Environment. n-Core also offers through this API **two powerful engines** that highly facilitates the development of specific applications:

- **Locating engine.** It offers additional functionalities for developing **Real-Time Locating Systems**. Includes powerful algorithms that calculate the position of any n-Core device with an exceptional accuracy, both indoors and outdoors.
- **Automation engine.** Control and monitoring of any sensor or actuator connected to the system. Consists of a set of dynamic link libraries (DLLs) with basic functions ranging from networking to automatic data collection.

Contact Information



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