P-NUCLEO-WB55

STM32WB Nucleo-68 pack for wireless solutions

Data brief

Features

Nucleo68

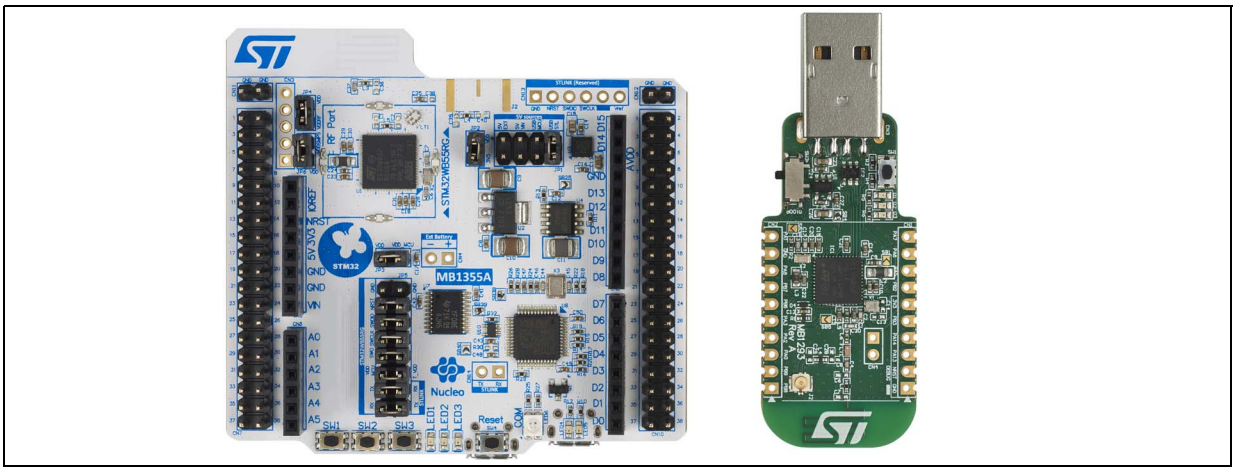
- STM32WB microcontroller in a VFQFPN68 package
- 2.4 GHz RF transceiver supporting Bluetooth® specification v5.0 and IEEE 802.15.4-2011 PHY and MAC
- Dedicated Arm® 32-bit Cortex® M0+ CPU for real-time Radio layer
- Three user LEDs
- Three user buttons and one reset button
- Board connector: USB user with Micro-B
- Board expansion connectors:
  - Arduino™ Uno V3
  - ST morpho
- Integrated PCB antenna or footprint for SMA connector
- Flexible power-supply options: ST-LINK USB VBUS or external sources
- On-board socket for CR2032 battery
- On-board ST-LINK/V2-1 debugger/programmer with USB re- enumeration capability: mass storage, virtual COM port and debug port
- Comprehensive free software libraries and examples available with the STM32Cube package
- Support of a wide choice of Integrated Development Environments (IDEs), including IAR™, Keil®, GCC-based IDEs, Arm® Mbed™

USB dongle

- STM32WB microcontroller in UFQFPN48 package
- 2.4 GHz RF transceiver supporting Bluetooth® specification v5.0 and IEEE 802.15.4-2011 PHY and MAC
- Dedicated Arm® 32-bit Cortex® M0+ CPU for real-time Radio layer
- Switch for boot management
- User push button
- Three user LEDs
- Integrated PCB antenna or UFL connector

Table 1. Ordering information

Order code	Target MCU
P-NUCLEO-WB55	STM32WB55RG (Nucleo68) STM32WB55CG (USB dongle)



For further information contact your local STMicroelectronics sales office. www.st.com

Description

The P-NUCLEO-WB55 pack is a multi-protocol wireless and ultra-low-power device embedding a powerful and ultra-low-power radio compliant with the Bluetooth® Low Energy (BLE) SIG specification v5.0 and with IEEE 802.15.4-2011.

Key applications of the cryptographic functionality

- On STM32WB55XX devices, based on Arm®(a) cores, this IP is used mainly by ST to protect the Wireless stack (to ensure that only the ST stack is installed, and that it cannot be read/modified by third parties).
- The AES/PKA IPs can be used for other purposes in the security field (among them encrypt/decrypt, generate keys, sign/authenticate).

Range and maximum number of interfaces (Bluetooth® only)

- The Bluetooth® range on STM32WB55XX is intended to be 10 m in normal working conditions, and up to 100 m in open field.
- The number of simultaneous connections is 8.

System requirements

- Windows® OS (7, 8 and 10), Linux® 64-bit or macOS®
- USB Type-A to Micro-B cable

arm

a. Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

Development toolchains

- Keil® MDK-ARM(b)
- IAR™ EWARM(b)
- GCC-based IDEs including free SW4STM32 from AC6
- Arm® Mbed™

Software tools

- STM32CubeMX
- STM32CubeMonRF
- STM32CubeProg

Demonstration software

The demonstration software, included in the STM32Cube package, is preloaded in the STM32 Flash memory for easy demonstration of the device peripherals in standalone mode. The latest versions of the demonstration source code and associated documentation can be downloaded from http://www.st.com/stm32nucleo.

b. On Windows® only.

Revision history

Table 2. Document revision history

Date	Revision	Changes
26-Jun-2018	1	Initial release.

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