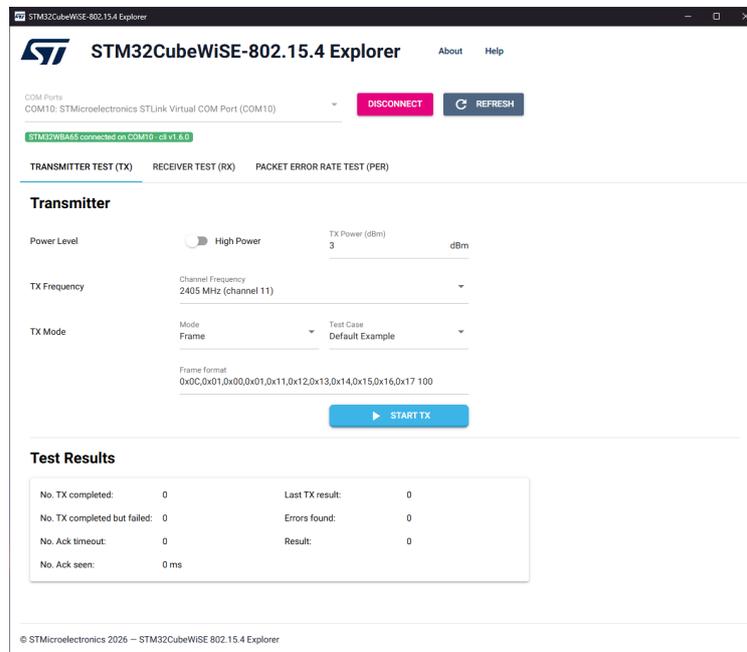


Graphical user interface for 802.15.4 evaluation of STM32WBA MCUs



DT79628V1

Product status

STM32CubeWiSE8e



Features

- Easy-to-use graphical user interface for the evaluation of IEEE 802.15.4 technology on supported devices
- PC-based application
- Supported features
 - Transmitter test mode
 - Receiver test mode
 - Packet error rate (PER) test
 - Link quality assessment (LQI) test
 - Energy detection (ED) test
 - Channel clear assessment (CCA) test
 - Packet error test (PER) mode
 - Graphical display of the LQI, ED, and CCA values

Description

The STM32CubeWiSE - 802.15.4 Explorer (STM32CubeWiSE8e) software tool is a PC application with a graphical user interface (GUI) that performs 802.15.4 radio frequency tests on STM32WBA devices.

STM32CubeWiSE8e allows sending and receiving test packets to check the efficiency of radio frequency boards and compute the packet error rate (PER) on STM32 devices supporting IEEE 802.15.4 technology.

Three test modes are available:

- Transmitter (Tx) test mode. The Tx test sets the device in emission (Tx continuous).
- Receiver (Rx) test mode. The Rx test sets the device in reception.
- Packet error rate (PER) test mode. The PER test sets the device in reception and one additional device is used as a packet generator.

Four PER test variants are available:

- PER (packet error rate)
- LQI (link quality indicator)
- ED (energy detection)
- CCA (channel clear assessment)

1 General information

STM32CubeWiSE8e interacts with STM32WBA microcontrollers based on the Arm® Cortex®-M33 processor.

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1.1 Ordering information

STM32CubeWiSE8e is available for free download from the www.st.com website.

1.2 What is STM32Cube?

STM32Cube is an STMicroelectronics original initiative to improve designer productivity significantly by reducing development effort, time, and cost. STM32Cube covers the whole STM32 portfolio.

STM32Cube includes:

- A set of user-friendly software development tools to cover project development from conception to realization, among which are:
 - STM32CubeMX, a graphical software configuration tool that allows the automatic generation of C initialization code using graphical wizards
 - STM32CubeIDE, an Eclipse®-based IDE, providing code edition, compilation, programming, and debugging capabilities
 - STM32CubeCLT, an all-in-one command-line development toolset with code compilation, board programming, and debug features
 - STM32CubeIDE for Visual Studio Code (STM32VSCode), a complete IDE based on VS Code® platform
 - STM32CubeProgrammer (STM32CubeProg), a programming tool available in graphical and command-line versions
 - STM32CubeMonitor (STM32CubeMonitor, STM32CubeMonPwr, STM32CubeMonRF, STM32CubeMonUCPD), powerful monitoring tools to fine-tune the behavior and performance of STM32 applications in real time
 - STM32CubeWiSE (STM32CubeWiSEbe, STM32CubeWiSEce, STM32CubeWiSEcg, STM32CubeWiSEre, STM32CubeWiSE8e), graphical tools designed to evaluate and test the capabilities of RF radios and protocols (Bluetooth® LE, sub-GHz, IEEE 802.15.4)
- STM32Cube MCU and MPU Packages, comprehensive embedded-software platforms specific to each microcontroller and microprocessor series (such as STM32CubeWBA for the STM32WBA series), which include:
 - STM32Cube hardware abstraction layer (HAL), ensuring maximized portability across the STM32 portfolio
 - STM32Cube low-layer APIs, ensuring the best performance and footprints with a high degree of user control over hardware
 - A consistent set of middleware components such as ThreadX, FileX, LevelX, NetX Duo, FreeRTOS™, USBX, touch library, mbed-crypto, TFM, MCUboot, OpenBL, and STM32_WPAN (including Bluetooth® LE profiles and services, Mesh, Zigbee®, OpenThread, Matter, and 802.15.4 MAC layer)
 - All embedded software utilities with full sets of peripheral and applicative examples
- STM32Cube Expansion Packages, which contain embedded software components that complement the functionalities of the STM32Cube MCU and MPU Packages with:
 - Middleware extensions and applicative layers
 - Examples running on some specific STMicroelectronics development boards



2 License

STM32CubeWiSE8e is delivered under the [SLA0048](#) software license agreement and its Additional License Terms.

Revision history

Table 1. Document revision history

Date	Revision	Changes
02-Feb-2026	1	Initial release.

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