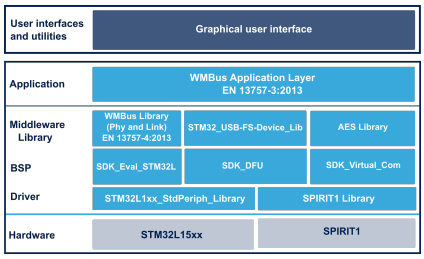
STSW-WMBUS-GUI

Data brief

GUI for wireless M-Bus stack evaluation of ST Sub-1GHz devices



Product summary	
wM-Bus Stack evaluation tool	STSW-WMBUS-GUI
Sub-1 GHz 868 MHz RF expansion board based on S2-LP radio for STM32 Nucleo	X-NUCLEO-S2868A1
Sub-1GHz (860-940 MHz) transceiver development kit based on S2-LP	STEVAL-FKI868V2
STM32 Nucleo-64 development board with STM32L152RE/ STM32L053R8/ STM32F401RE MCU	NUCLEO-L152RE/ NUCLEO-L053R8/ NUCLEO-F401RE
SPIRIT1 low data rate transceiver	STEVAL-IKR002V4
FW download method	ST-LINK
Other utilities and applications	Graphical user interface

Features

- Graphical user interface to evaluate the wM-Bus firmware library
- Identification of hardware and firmware:
  - Automatically identifies the connected evaluation board running the wM-Bus firmware
  - Reads wM-Bus device identification (serial number, vendor, version)
- Easy configuration of the wM-Bus stack:
  - Reads and writes configuration settings of the wM-Bus stack
  - Sets wM-Bus modes like T, S, C, F, R
  - Sets channel and packet format
  - Sets radio RSSI and Tx power parameters
  - Enables/disables the encryption and sets the encryption key
- Meter database management:
  - Manages meter database on the firmware which supports the feature
  - Adds and removes new meters
  - Updates meter settings
  - Assigns friendly name for easy identification of the meters
- Sniffer mode:
  - Can work as a wM-Bus sniffer when used with the firmware with sniffer feature
  - Displays sent and received packets
  - Decodes wM-Bus packets
- Supported devices:
  - X-NUCLEO-S2868A1/STEVAL-FKI868V2 with NUCLEO-L152RE/ NUCLEO-L053R8/NUCLEO-F401RE
  - STEVAL-IKR002V4 with daughter board
- Developer-friendly license terms

Description

The STSW-WMBUS-GUI (wM-Bus demo suite) is a PC application to easily evaluate the features of the wM-Bus firmware running on ST Sub-1GHz devices.

The application is used for automatic, gas, water, electricity and heat meter readings.

The X-NUCLEO-S2868A1/STEVAL-FKI868V2 boards mounted on NUCLEO-L152RE/NUCLEO-L053R8/NUCLEO-F401RE boards create hardware platforms for testing a wM-Bus stack which communicates with PC using the VCOM protocol (with a default baud rate of 115200).

The compatible STM32 Nucleo boards must have the wM-Bus firmware loaded (for further details, refer to UM1904 for X-CUBE-SUBG1 on www.st.com).

The wM-Bus stack can be easily configured in different wM-Bus modes (sniffer mode and concentrator mode) and packets transactions can be captured using a GUI.

Using any terminal utility on PC, AT commands can be sent to the board to reconfigure wM-Bus stack in the desired mode.

The command/response can also be seen on the PC-GUI for the data concentrator unit by programming the board with the Conc-PC-GUI workspace selectable from the dropdown menu in the firmware project.

1 Evaluation board compatibility

Table 1. List of evaluation boards with available STSW-WMBUS-GUI evaluation samples

Evaluation board	Description
X-NUCLEO-S2868A1	Sub-1 GHz 868 MHz RF expansion board based on S2-LP radio for STM32 Nucleo
STEVAL-FKI868V2	Sub-1GHz (860-940 MHz) transceiver development kit based on S2-LP
X-NUCLEO-IDS01A4	Sub-1GHz RF expansion board based on the SPSGRF-868 module for STM32 Nucleo
STEVAL-IDS001V4	SPIRIT1 low data rate transceiver - 868 MHz - USB dongle
STEVAL-IKR002V4	SPIRIT1 low data rate transceiver - 868 MHz - Full kit To be used with the following daughter boards: • STEVAL-IKR002V4D - low data rate transceiver - 868 MHz • STEVAL-IKR002V1D - low data rate transceiver - 169 MHz
STEVAL-IKR002V7D	SPIRIT1 - low data rate transceiver - 169 MHz - daughter board - range extender

Revision history

Table 2. **Document revision history**

Date	Version	Changes
04-Oct-2019	1	Initial release.