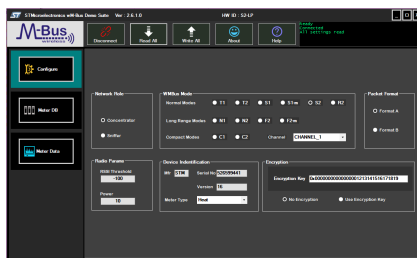


GUI for wireless M-Bus stack evaluation of ST Sub-1GHz devices



User interfaces and utilities	Graphical user interface		
Application	WMBus Application Layer EN 13757-3:2013		
Middleware Library	WMBus Library (Phy and Link) EN 13757-4:2013	STM32_USB-FS-Device_Lib	AES Library
BSP	SDK_Eval_STM32L	SDK_DFU	SDK_Virtual_Com
Driver	STM32L1xx_StdPeriph_Library		SPIRIT1 Library
Hardware	STM32L15xx		SPIRIT1



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: <ul style="list-style-type: none"> • 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.

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