

STM32CubeMonitor-Power release 1.2.1

Introduction

This release note is updated periodically to keep abreast of the STM32CubeMonitor-Power (STM32CubeMonPwr) evolutions, problems, and limitations. Check the STMicroelectronics support website at www.st.com/stm32softwaretools for the latest version. Refer to Table 1 for the latest release summary.

Table 1. STM32CubeMonitor-Power 1.2.1 release summary

Туре	Summary
Minor release	Correct voltage issue with X-NUCLEO-LPM01A

Customer support

For more information or help concerning STM32CubeMonitor-Power, contact the STMicroelectronics nearest sales office. For a complete list of STMicroelectronics offices and distributors, refer to the www.st.com webpage.

Software updates

Software updates and all the latest documentation can be downloaded from the ST microcontroller support webpage at www.st.com/stm32softwaretools.







1 General information

1.1 Overview

STM32CubeMonitor-Power is a PC software tool:

- Allowing the end user to display on the PC power data coming from an STLINK-V3PWR probe, from an X-NUCLEO-LPM01A expansion board connected to a target evaluation board, or from the energy meter of an STM32L562E-DK Discovery kit:
 - With very accurate power-data values, from 100 nA to 500 mA for an STLINK-V3PWR, from 100 nA to 50 mA for an X-NUCLEO-LPM01A expansion board, or from 300 nA to 150 mA for the energy meter of an STM32L562E-DK Discovery kit
 - At a high sampling rate, up to 100 kHz
- Bringing advanced features to analyze data: zoom, measurement reports, and others
- Allowing the end-user to perform an estimation of the ULPMark™ score

STM32CubeMonitor-Power supports STM32 32-bit microcontrollers based on the Arm® Cortex®-M processor.

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

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1.2 Host PC system requirements

Supported operating systems and architectures

- Windows[®] 10: 64-bit (x64)
- Linux[®] (tested on Red Hat[®], Fedora[®], and Ubuntu[®], 64-bit)
- macOS[®] (minimum version OS X[®] Yosemite)

Note: Red Hat[®] is a registered trademark of Red Hat, Inc.

Fedora® is a trademark of Red Hat, Inc.

Ubuntu[®] is a registered trademark of Canonical Ltd.

macOS® is a trademark of Apple Inc., registered in the U.S. and other countries and regions.

Software requirements

For Linux[®], Java[™] runtime is required by the installer.

Note: Java is a registered trademark of Oracle and/or its affiliates.

Hardware requirements

- One free USB2 host port
- USB Type-A to Micro-B cable
- 200-Mbyte free storage

1.3 System requirements

Supported hardware

- STLINK-V3PWR probe (for more details refer to the STLINK-V3PWR webpage)
- X-NUCLEO-LPM01A expansion board (for more details refer to the www.st.com/x-nucleo webpage)
- STM32L562E-DK Discovery kit (for more details refer to the www.st.com/en/evaluation-tools/stm32discovery-kits webpage)

Supported firmware

STM32-LPM01-XN (for more details refer to the STM32-LPM01-XN webpage)

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1.4 STM32 Virtual COM port driver

To connect the STM32CubeMonitor-Power tool to the supported hardware, users have to install the STSW-STM32102 driver. The STSW-STM32102 driver is available for download at the www.st.com/stsw-stm32102 webpage. For any installation details, refer to the STSW-STM32102 'Readme' file.

1.5 Setup procedure

Refer to the *STM32CubeMonitor-Power software tool for power and ultra-low-power measurements* user manual (UM2202) available at the www.st.com/stm32softwaretools webpage.

1.6 Licensing

STM32CubeMonitor-Power is delivered under the SLA0048 software license agreement and its Additional License Terms.

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2 STM32CubeMonitor-Power V1.2.1 release information

2.1 Corrections

Solve issue with X-NUCLEO-LPM01A when power voltage is changed

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3 STM32CubeMonitor-Power V1.2.0 release information

3.1 New features

STM32CubeMonitor adds the following features:

- Support of STLINK-V3PWR
- New Power On/Off button allowing to power up/down the target during acquisition

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4 STM32CubeMonitor-Power V1.1.1 release information

4.1 Corrections

- Correction of raw log files not created under macOS[®]
- Correction of current calculation on binary mode

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5 STM32CubeMonitor-Power V1.1.0 release information

5.1 New features

STM32CubeMonitor adds the following features:

- Add the support to the energy meter of the STM32L562E-DK Discovery kit. In particular, add the support of the new current range from 300 nA to 150 mA
- Provide the means to calibrate the X-NUCLEO-LPM01A expansion board or the energy meter of the STM32L562E-DK Discovery kit
- Add a pop-up window inviting you to calibrate the X-NUCLEO-LPM01A expansion board or the energy meter of the STM32L562E-DK Discovery kit, when the temperature value changes by +/- 5°C since the last calibration

5.2 Improvement

JRE is now bundled in STM32CubeMonitor-Power. It is no longer necessary to install JRE before installing STM32CubeMonitor-Power.

5.3 Known problems and limitations

- Power measurements can unexpectedly stop if computer performances are too low for the requested
 acquisition parameters (CPU horsepower or mass storage data throughput). To avoid this issue, use a
 more powerful computer or lower sampling frequency or acquisition time.
- When power measurements unexpectedly stop, out-of-range current values can sometimes be returned by X-NUCLEO-LPM01A or the energy meter of the STM32L562E-DK Discovery kit. To avoid this issue, lower sampling frequency or acquisition time.

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6 STM32CubeMonitor-Power V1.0.3 release information

6.1 Corrections

Update the shape and location of social network icons.

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7 STM32CubeMonitor-Power V1.0.2 release information

7.1 Corrections

STM32CubeMonitor-Power software tool ordering code is changed to STM32CubeMonPwr.

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8 STM32CubeMonitor-Power V1.0.1 release information

8.1 Improvement

Documentation and the software installer are updated to consider the new STSW-STM32102 Virtual COM port driver (version 1.5.0).

8.2 Corrections

This release contains one correction for the following issue:

The abscissa and ordinate axes are sometimes truncated when resizing the tool window.

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9 STM32CubeMonitor-Power V1.0.0 release information

9.1 New features

STM32CubeMonitor has the following features:

- Select the X-NUCLEO-LPM01A expansion board.
- Take and release control of the expansion board.
- Perform power measurements:
 - Start and stop power measurements.
 - Configure power measurement acquisition:
 - Set a sampling frequency of up to 100 Ksamples/s.
 - Set a finite (0.1, 1, 10, or 100 s) or infinite acquisition time.
 - Set the target input voltage for the STM32 board.
 - Set the current threshold used to trigger events inside the expansion board.
 - Configure the source and the delay of the trigger used to start the acquisition.
 - Select the functional mode ("Optimized" or "High currents").
 - Save the power measurements in the data log file.
 - Load previously saved power measurements into the acquisition chart.
 - Select measurements in acquisition charts.
 - Zoom in, zoom out.
- Perform the ULPBench[™] test:
 - Configure ULPBench[™] session: set the target input voltage for the STM32 board, and set the number
 of iterations.
 - Start the ULPBench[™] session.
 - Compute ULPMark[™] score.
 - Select measurements in acquisition charts.
 - Zoom in, zoom out.

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Revision history

Table 2. Document revision history

Date	Version	Changes
28-Sep-2017	1	Initial release.
3-Oct-2017	2	Added restriction for Java SE runtime environment 9 in section 1.2: Host PC system requirements
20-Dec-2017	3	Tool installer aligned with VCP driver 1.5.0. Some minor corrections performed in tool SW
9-Feb-2018	4	STM32CubeMonitor-Power software tool ordering code changed to STM32CubeMonPwr
6-Mar-2018	5	STM32CubeMonitor-Power installers aligned with ordering code STM32CubeMonPwr
18-Sep-2018	6	Updated the shape and location of social network icons
26-Sep-2019	7	Added support to the energy meter of the STM32L562E-DK Discovery kit. JRE bundled in the STM32CubeMonitor-Power tool.
17-Mar-2020	8	Corrections regarding raw log file creation under macOS® and calculation in binary mode
9-Mar-2023	9	Added support to the STLINK-V3PWR probe
3-May-2023	10	Correction regarding X-NUCLEO-LPM01A issue when power voltage is changed

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