
STM32CubeMonitor-Power release 1.1.1

Introduction

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

Table 1. STM32CubeMonitor-Power 1.1.1 release summary

Type	Summary
Minor release	Correction of raw log file not created under macOS® Correction of current calculation on binary mode

Customer support

For more information or help concerning STM32CubeMonitor-Power, contact the ST nearest sales office. For a complete list of ST 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 PC power data coming from an X-NUCLEO-LPM01A expansion board, a board connected to an ST's or competitor's Evaluation board, or from the Energy Meter of an STM32L562E-DK Discovery kit:
 - With very accurate power-data values, 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 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.



1.2 Host PC system requirements

Supported operating systems and architectures

- Windows® 7, 8 and 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.

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

- 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/stm32-discovery-kits webpage)

Supported firmware

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

1.4 STM32 Virtual COM port driver

To connect the STM32CubeMonitor-Power tool to the X-NUCLEO-LPM01A expansion board, 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 Mix Ultimate Liberty + OSS + 3rd party V1 license. Table 2 summarizes the software components used in the development of and their licenses.

Table 2. List of licenses

Name	Version	Copyright	License ⁽¹⁾	Details
commons-io	2.5	The Apache Software Foundation	Apache License, Version 2.0	https://mvnrepository.com ⁽²⁾
commons-lang	2.6	The Apache Software Foundation	Apache License, Version 2.0	
fontawesomefx	8.9	Jens Deters	Apache License, Version 2.0	
log4j-api	2.8.1	The Apache Software Foundation	Apache License, Version 2.0	
log4j-core	2.8.1	The Apache Software Foundation	Apache License, Version 2.0	
awaitility	2.0.0	Johan Haleby	Apache License, Version 2.0	
controlsfx	8.40.13	ControlsFX	The 3-Clause BSD License	
jfxutils	1.0	Jason Winnebeck	Apache License, Version 2.0	
jdom2	2.0.6	Jason Winnebeck and Brett McLaughlin	Similar to Apache License but with the acknowledgment clause removed (https://raw.githubusercontent.com/)	
jssc	2.8.0	Sokolov Alexey	GNU Lesser General Public License 3.0	
izpack	5.1.3	Julien Ponge, René Krell and the IzPack contributors	Apache License, Version 2.0	
Ringprogressindicator	No version	Andrea Vacondio	Apache License, Version 2.0	https://github.com ⁽³⁾
ProgressCircleIndicator	No version	Andrea Vacondio	Apache License, Version 2.0	
RingProgressIndicatorSkin	No version	Andrea Vacondio	Apache License, Version 2.0	

1. License identifier as defined by SPDX. Refer to <https://spdx.org/licenses> to get license details.

2. Search for the proper version of the component in the MVN repository.

3. Search for the component in the Git repository.

Table 3. List of software bundled with the tool

Name	Version	Copyright	License	Details
Java SE and JavaFX	1.8.0_192	Oracle®	Oracle® Binary Code License Agreement	Copy of license is in "License" folder. http://www.oracle.com (1)
Inno setup	6.0.2	Jordan Russell	Inno Setup license	Windows installer Copy of license is in "License" folder. http://www.innosetup.com/

1. Search for Java SE in the Oracle® web site.

2 STM32CubeMonitor-Power V1.1.1 release information

2.1 Corrections

Correction of raw log files not created under macOS®

Correction of current calculation on binary mode

3 STM32CubeMonitor-Power V1.1.0 release information

3.1 New features

STM32CubeMonitor add 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 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

3.2 Improvement

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

3.3 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 more powerful computer or lower sampling frequency or acquisition time.
- When power measurements unexpectedly stop, out of range current value(s) can sometimes be returned by X-NUCLEO-LPM01A or Energy Meter of STM32L562E-DK Discovery kit. To avoid this issue, lower sampling frequency or acquisition time.

4 STM32CubeMonitor-Power V1.0.3 release information

4.1 Corrections

Update the shape and location of social network icons.

5 STM32CubeMonitor-Power V1.0.2 release information

5.1 Corrections

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

6 STM32CubeMonitor-Power V1.0.1 release information

6.1 Improvement

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

6.2 Corrections

This release contains one correction for the following issue:

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

7 STM32CubeMonitor-Power V1.0.0 release information

7.1 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 s, 1 s, 10 s 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 power measurements in the data logged 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.

Revision history

Table 4. Document revision history

Date	Version	Changes
28-Sep-2017	1	Initial release.
3-Oct-2017	2	Added restriction for Java SE Run Time 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 the 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

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