
STM32CubeMonitor-Power release 1.0.3

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 1.0.3 release summary

Type	Summary
Minor release	STM32CubeMonitor-Power software tool ordering code changed to STM32CubeMonPwr

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 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):
 - With very accurate power-data values (from 100 nA to 50 mA)
 - At high sampling rate (up to 100 kHz)
- Bringing advanced features to analyze data (zoom, measurement reports and others)
- Allowing 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.

arm

1.2 Host PC system requirements

Supported operating systems and architectures

- Windows® 7, 8 and 10: 32-bit (x86) and 64-bit (x64)
- Linux® (tested on RedHat, Fedora and Ubuntu, 32 and 64 bits)
- macOS® (minimum version OS X® Yosemite)

Note: macOS® is a trademark of Apple Inc. registered in the U.S. and other countries.
Ubuntu is a registered trademark of Canonical Ltd.

Software requirements

- The Java™ SE Run Time Environment 1.8 (version 1.8.121 or newer) from Oracle® must be installed (download available from www.oracle.com).
- IMPORTANT: Java OpenJDK is not supported. Java SE Run Time Environment 9 by Oracle is not supported.

Note: Oracle and Java are registered trademarks 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 for the X-NUCLEO-LPM01A expansion board

Supported hardware

- X-NUCLEO-LPM01A expansion board (for more details refer to the www.st.com/x-nucleo webpage)

Supported firmware

- STM32-LPM01-XN (for more details refer to the www.st.com/x-nucleo 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 <http://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	License type	Details
Java SE	1.8.0_121	Oracle Binary Code License Agreement	http://www.oracle.com ⁽¹⁾
commons-io	2.5	Apache License, Version 2.0	https://mvnrepository.com ⁽²⁾
commons-lang	2.6	Apache License, Version 2.0	
fontawesomefx	8.9	Apache License, Version 2.0	
log4j-api	2.8.1	Apache License, Version 2.0	
log4j-core	2.8.1	Apache License, Version 2.0	
awaitility	2.0.0	Apache License, Version 2.0	
controlsfx	8.40.13	The 3-Clause BSD License	
jfxutils	1.0	Apache License, Version 2.0	
jdom2	2.0.6	Similar to Apache License but with the acknowledgment clause removed (https://raw.githubusercontent.com)	
jssc	2.8.0	GNU Lesser General Public License 3.0	
izpack	5.1.3	Apache License, Version 2.0	https://github.com ⁽³⁾
Ringprogressindicator	No version	Apache License, Version 2.0	
ProgressCircleIndicator	No version	Apache License, Version 2.0	
RingProgressIndicatorSkin	No version	Apache License, Version 2.0	

1. Search for Java SE 1.8.0_121 in the Oracle repository.
2. Search for the proper version of the component in the MVN repository.
3. Search for the component in the Git repository.

2 STM32CubeMonitor-Power V1.0.3 release information

2.1 Corrections

Update shape and location of social network icons.

2.2 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) (above 75 mA) can sometimes be returned by X-NUCLEO-LPM01A. To avoid this issue, lower sampling frequency or acquisition time.
- Performance issue can be detected when using JRE 32 bits in client mode. To avoid this issue, use JDK 32 bits in server mode. If the machine and the operating system architecture is 64 bits, it is recommended to use a 64-bit Oracle JVM rather than a 32-bit one.

3 STM32CubeMonitor-Power V1.0.2 release information

3.1 Corrections

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

4 STM32CubeMonitor-Power V1.0.1 release information

4.1 Improvement

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

4.2 Corrections

This release contains one correction for the following issue:

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

5 STM32CubeMonitor-Power V1.0.0 release information

5.1 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 up to 100 Ksamples/s, set a finite (0.1 s, 1 s, 10 s or 100 s) or an infinite acquisition time, set the target input voltage for the STM32 board, set the current threshold used to trig events inside the expansion board, configure the source and the delay of the trigger used to start acquisition, and select the functional mode ("Optimized" or "High currents")
 - Save power measurements in data logged file
 - Load previously saved power measurements into acquisition chart
 - Select measurements in acquisition charts
 - Zoom in, Zoom out
- Perform ULPBench™ test:
 - Configure ULPBench™ session: set the target input voltage for the STM32 board, and set the number of iterations
 - Start ULPBench™ session
 - Compute ULPMark™ score
 - Select measurements in acquisition charts
 - Zoom in, Zoom out

Revision history

Table 3. 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	Added Section 2 STM32CubeMonitor-Power V1.0.3 release information

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