STM32 Power Shield

Accurate Power Consumption Measurements

Laurent Hanus
MCD Ecosystem Marketing

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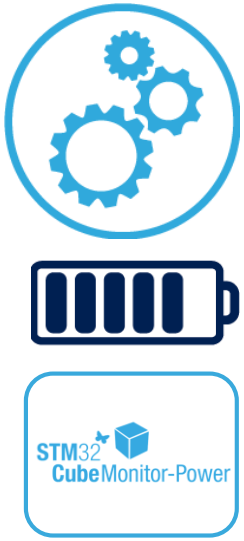
STM32 Power Shield key assets

Accurate power consumption measurements

- Ultra-low power consumption measurements
- Graphical analysis
- Custom test sessions with scripting
- Direct computation of EEMBC ULPMark scores
- No need for a multimeter



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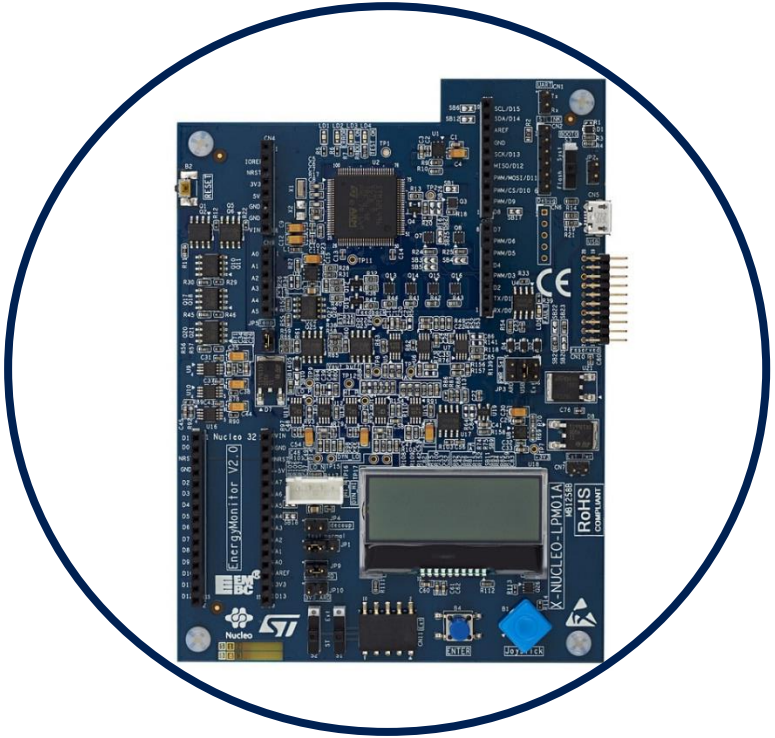
STM32 Power Shield overview

AAA: Accurate, Affordable, and Autonomous



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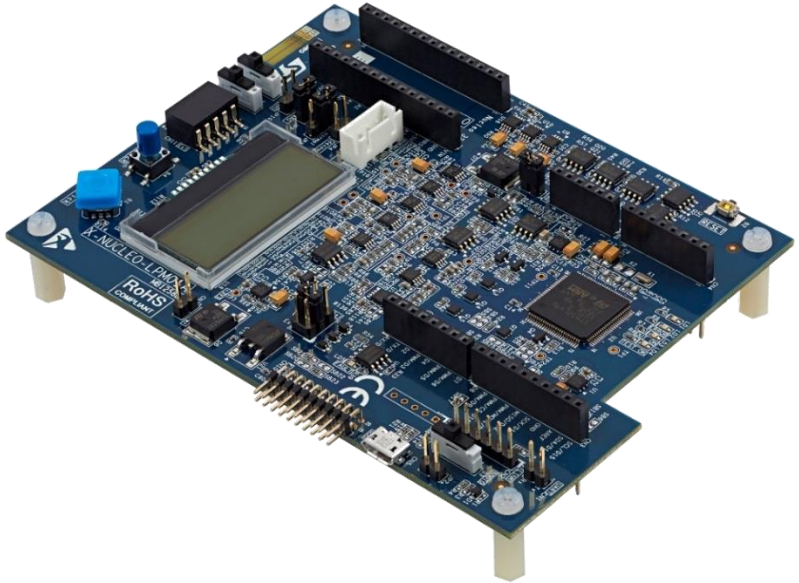
STM32 Power Shield features

Reference: X-NUCLEO-LPM01A



- Ultra-low-power consumption measurements:
  - Supply target board from 3.3 down to 1.8 V
  - Dynamic current from **100 nA to 50 mA**
  - Static current from **1 nA to 200 mA**
  - Accuracy approximately **2%**
- Intuitive user experience:
  - Two operating modes (stand-alone or PC-controlled)
  - Graphical PC application (STM32CubeMonitor-Power)
- Resale price (RRP) 70$
- Official EEMBC Energy Monitor v2.0

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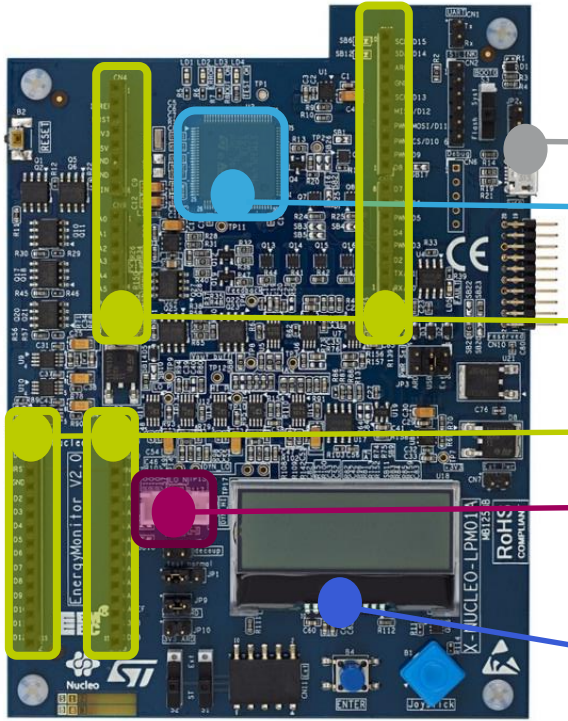
STM32 Power Shield anatomy



Power supply through USB

STM32L496VGT6 MCU @ 80 MHz
3 x 12-bit ADC @ 3.2 Msamples/s

Arduino connectors compatible with
Nucleo-32, 64 & 144 boards

4-wire connector
for any type of target board

Local display:
EEMBC ULPBench score

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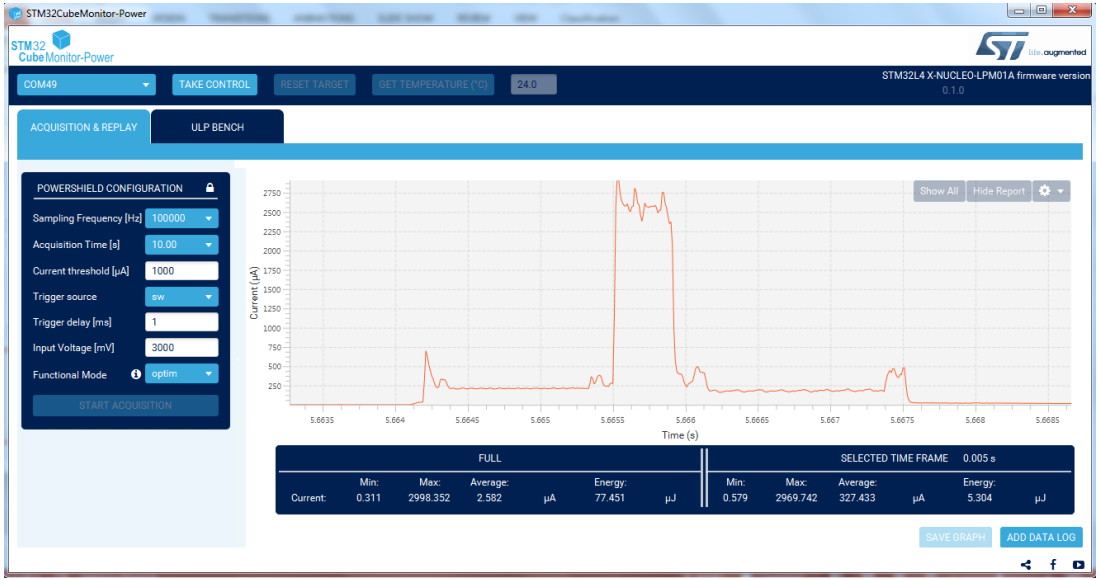
STM32 CubeMonitor-Power

Power profiling

Application reference: STM32CUBEMON-PWR

- PC application to remotely control the STM32 Power Shield.
- Performs graphical visualization with zoom options and measurement reports.
- Achieves fluid rendering through optimized data parsing.
- Custom test sessions supported with a command line interface (scripting).



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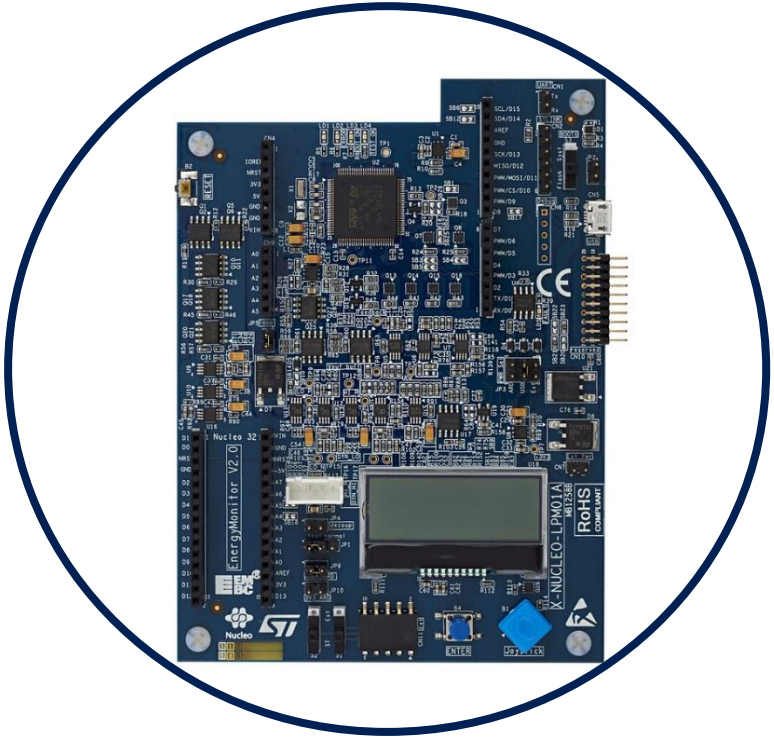
STM32 Power Shield highlights

Accurate power consumption measurements

Any target

Power profiling

EEMBC Energy Monitor v2.0



Dynamic current from 100 nA to 50 mA

Arduino or 4-wire connectors

Graphical visualization

Direct computation of ULPBench

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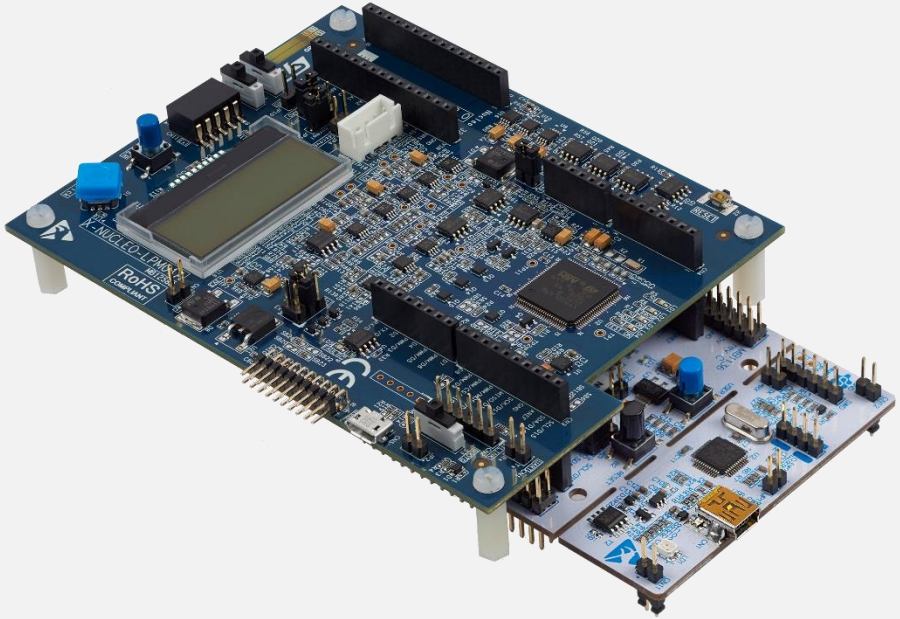
Thank you



STM32 CubeMonitor-Power

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