STM32 Power Shield
Accurate Power Consumption Measurements

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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
STM32 Power Shield overview

AAA: Accurate, Affordable, and Autonomous
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
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
• 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).
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