

A decorative graphic on the right side of the slide consists of a thin blue line connecting several icons. From top to bottom, the icons include: a hand pointing at a target with a smartphone icon; a bar chart; a globe; a circuit board; and a cube. The line starts at the top left and curves around the icons to the bottom right.

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

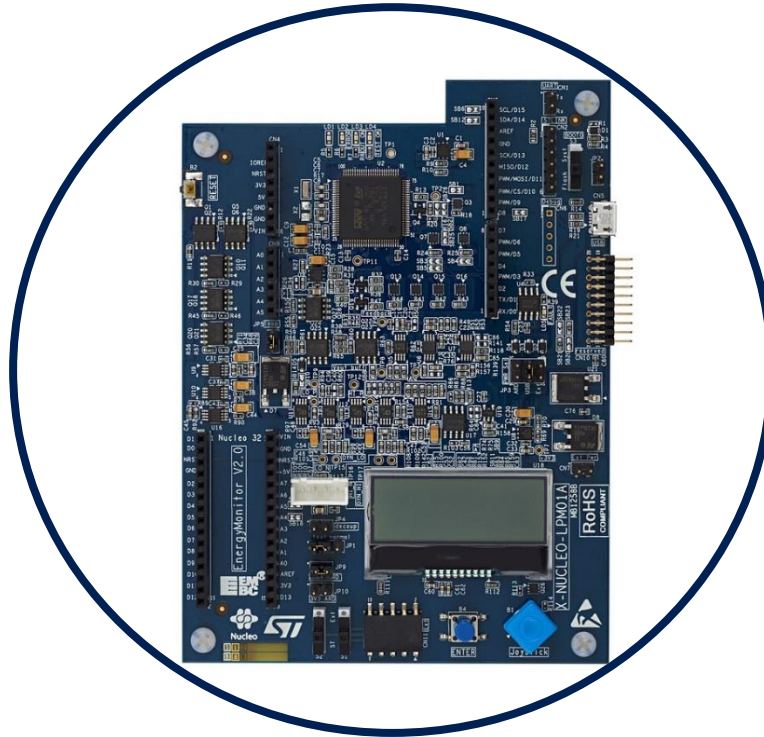
Direct computation of EEMBC ULPMark scores

No need for a multimeter



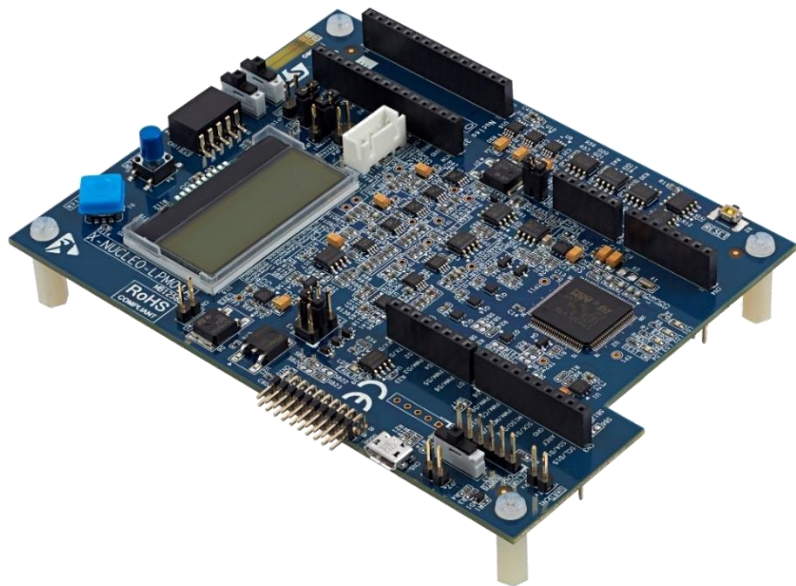
STM32 Power Shield overview

AAA: Accurate, Affordable, and Autonomous



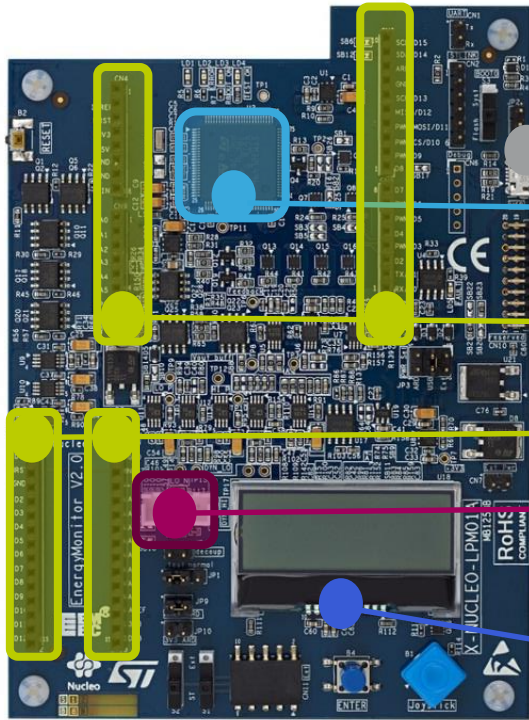
STM32 Power Shield features

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

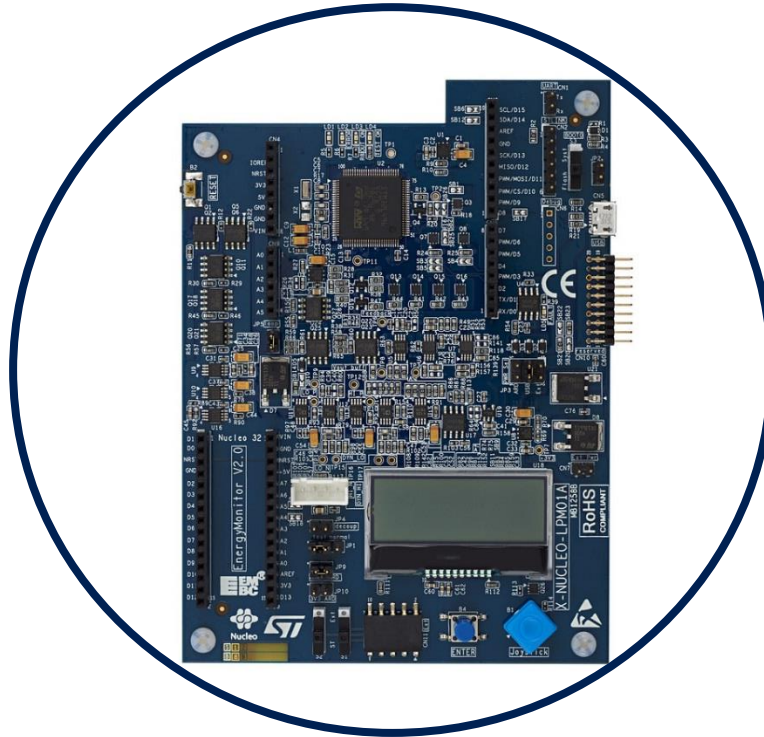
STM32 Power Shield highlights

Accurate power consumption measurements

Any target

Power profiling

EEMBC
Energy
Monitor v2.0



Dynamic current from 100 nA to 50 mA

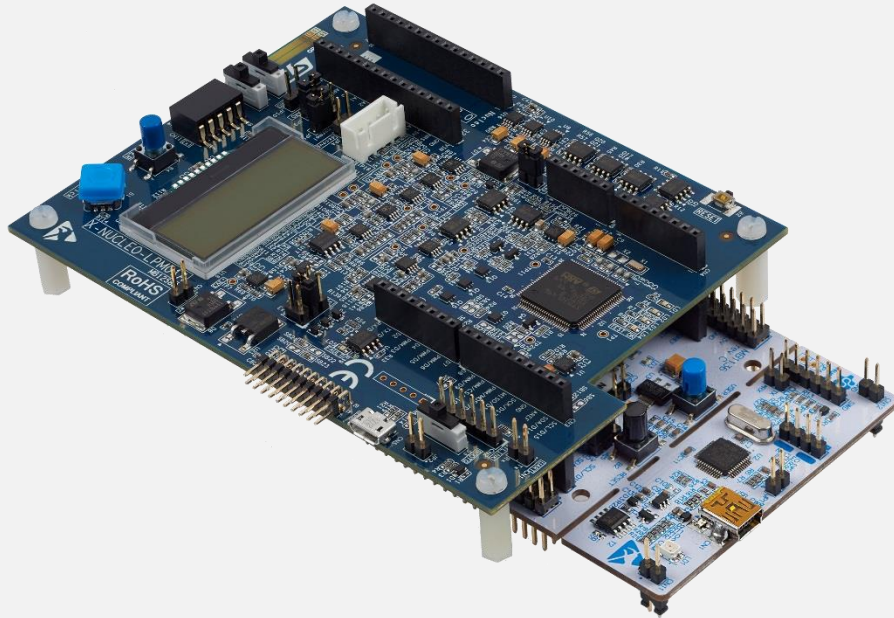
Arduino or 4-wire connectors

Graphical visualization

Direct computation of ULPBench

Thank you

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STM32 
CubeMonitor-Power

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