NEW RELEASE

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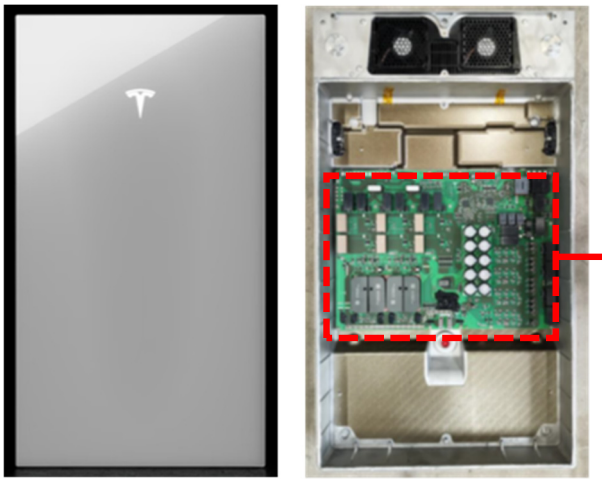
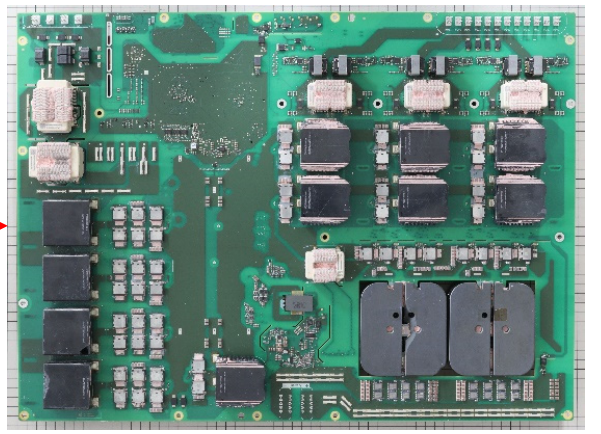
Home Storage Battery: Tesla Storage Battery Powerwall 3
Circuit Analysis Report on Main Signal Path



TESLA Powerwall3 Overview & Inside



TESLA PowerWall3 Main PCB(Top View)

Product Outline

Tesla Powerwall 3 is a next-generation home energy storage system with 13.5 kWh capacity and 11.5 kW continuous output, enabling more appliances and heavy loads. It delivers 13.5 kW peak and 7 kW backup power for whole-home support. An integrated solar inverter with six inputs (97.5% efficiency) simplifies installation. Using LFP batteries for safety and longevity, up to four units can be combined for 54 kWh capacity.

https://energylibrary.tesla.com/docs/Public/EnergyStorage/Powerwall/3/Datasheet/en-us/Powerwall-3-Datasheet.pdf

Manufacturing process: Building Powerwall 3 | Tesla - YouTube

The major differences from the Powerwall 2 are the significant increase in output (2.3× higher) and the integration of a solar inverter.
LTEC focused on these aspects and analyzed the U.S. market product, and released the following two reports:
(1) Teardown Report
(2) Circuit Analysis Report on the Main Signal Path

Product Info.

- Size: 1010mm (H) × 600mm (W) × 193mm (D) Weight: 130kg
- Power storage capacity 13.5 kWh (*)26 modules installed
- Maximum Output 15.4 kW (Peak)/11.5 kW (Continuous Operation)
  (*)PowerWall2: 5 kW
- PV⇒ Battery ⇒ Output converged on 1 PCB (570 x 420 mm).
- Planar transformers very similar to the OBC equipped with TESLA Cybertruck has been adopted to reduce the height.
- The power element uses the STMicroelectronics SiC MOSFET SCT027HU65G3AG

24G-1187-1,24G-1187-2 Release day: July 18,2025

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Report contents

1. Teardown report: (34 pages)

- Product teardown, component identification and size measurement
- Identification of key ICs (including datasheet which we found)
- Connection among PCBs and Modules

2. Circuit Analysis Report on Main Signal Path: (38 pages)

- Product teardown, component identification and size measurement
- Identification of key ICs (including datasheet which we found)
- Connection among PCBs and Modules
- Circuit Analysis on Main Signal Path of Main PCB

- **Delivered one week after order placement**
- **Please contact us for report pricing**

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1. Teardown Report

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2. Main Circuit Investigation Report

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