AACHEN/AUBURN HILLS, AUGUST 2020

CHRISTIAN SPEUSER, BRANDON BARTNECK

BENCHMARK PROGRAM
PORSCHE TAYCAN TURBO S

BENCHMARKING

PROGRAM INTRODUCTION

Porsche Taycan Turbo S

- Porsche's first BEV and "Tesla Beater"
  - Dedicated full electric, high performance vehicle platform
  - Outstanding aerodynamic design and improved seating comfort supported by creative battery pack arrangement (including "foot garages")
  - High-tech, light-weight, multi-material body structure
  - Dynamic chassis control, torque vectoring, rear-axle steering, and air suspension
- Cutting-edge propulsion system technology
  - First production vehicle with 800-volt technology
  - Up to 560 kW power and 1,050 Nm torque[1)]
  - 93.4 kWh Li-Ion battery with 396 pouch cells
  - PMSM e-machines, one on each axle
  - First two-speed gearbox in a production BEV
  - Pulse-controlled inverter with max. 600 amps[1)]
- Intelligent fast charging technology
  - Up to 270 kW DC fast charging power
  - Up to 150 kW DC onboard charger available
  - Intelligent charging planner and range manager

1) Taycan Turbo S


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AC FE 199E
FEV
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FEV benchmarking experts are performing a comprehensive benchmarking program on the new Porsche Taycan Turbo S

Module 1

MICRO BENCHMARK

- Summary of vehicle specifications[1)]
- Vehicle overview and photo documentation
- On-road cycle simulation of drive traces (NEDC, FTP75, and RDE)
- Initial performance and energy consumption tests

Mandatory entry module![2)]

- *Optionally: Competitive comparison of results in FEV scatter bands*

Module 2

NVH BENCHMARK

- Driving operation measurements
- Airborne noise and structure-borne transfer functions
- Exterior noise measurement

- *Optionally: TPA (VINS) evaluation (Transfer Path Analysis)*

Module 3

PROPULSION SYSTEM & E/E

- Vehicle energy consumption & efficiency
- High power DC charging; HV & LV voltage stability
- Electric drive unit efficiency

Module 4

TEARDOWN & DESIGN STUDY

- Detailed powertrain component teardown and documentation:
  - HV battery
  - EDU (electric motor & transmission)
  - Power electronics
  - Thermal mgmt.
- 3D scanning of outside package for main powertrain components

- *Optionally: Cost analysis of key powertrain components*

1) Acc. public available data
2) Can be ordered standalone, has to be ordered in combination with module 2 and/or 3; module 4 packages can be ordered standalone
All prices given are exclusive of VAT and any local taxes


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CONTACT DETAILS

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