



connect to detect.

IS YOUR BATTERY TESTING MISSING THE MOST IMPORTANT PARTS?

AVILOO vs Voltest — measured against three requirements essential for a genuine, independent battery health check



WHAT A GENUINE BATTERY HEALTH TEST REQUIRES



Miss any one of these three, and a real fault can go undetected, costing \$1,000's



1. Dynamic-load cell balance, Open Circuit Voltage (OCV)

Cell voltage delta assessed under load over a multi-minute window, read against each cell's own OCV, compared to typical values — not just a snapshot of raw numbers.

WHY IT MATTERS

A cell can look fine sitting still, a snapshot won't catch it. Faults often only show up once the pack is under some load, and a raw voltage number means little without knowing what's normal for that specific cell — so faults get missed, or misjudged as nothing.



2. BMS State of Health corrected against real-world data

The OEM's own BMS SoH figure checked against real-world energetic capacity via a model-specific dataset — the same energy-based principle UN GTR22 sets for OEM reporting.

WHY IT MATTERS

OEMs calibrate their BMS for warranty and comfort, not resale accuracy. AVILOO's independent assessments found read-out BMS values deviating from real SoH by up to 91% points. 1 in 10 cars tested show an SoH gap of more than 10 points. That's not a rounding error; it's a different answer.



3. Sensor diagnostics beyond error codes

Faults are detected even when the OEM's BMS hasn't raised a warning or error code of its own — because the absence of a code isn't the same as the absence of a problem.

WHY IT MATTERS

An OEM only sets an error code once a fault crosses its own internal threshold. A real, worsening problem that hasn't crossed that line yet is invisible to any tool that only reads what the BMS already flags.

Without all three, a dealer — and their customer — is at risk of a real fault being missed or hidden behind a number that looks fine.

And a battery condition claim a dealer can't back up is a [s.18 ACL](#) problem waiting to happen.

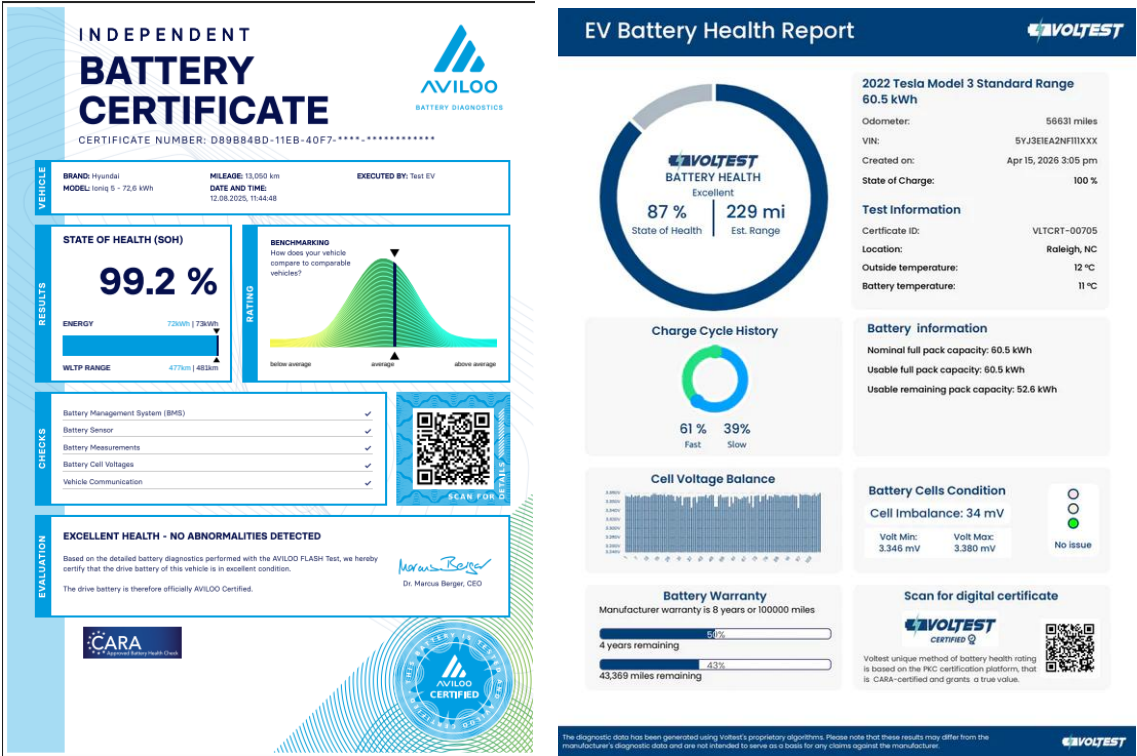
DOES IT MEET THE STANDARD?



AVILOO Flash Test vs Voltest, against the three-part benchmark

Requirement	AVILOO	Voltest
1. Dynamic-load cell delta, OCV-interpreted	YES — OCV-mapped heatmap, severity-graded	NO — test too short for a genuine multi-minute dynamic-load assessment
2. BMS SoH corrected against real-world data	YES — independently calculated from cell-level data	NO — headline figure is an estimated range, which varies with driving style and conditions rather than a fixed energy-based calculation
3. Sensor diagnostics beyond error codes	YES — flags anomalies the BMS hasn't coded	NOT ESTABLISHED — no evidence of fault detection beyond BMS-reported data
4. Operator effort required / equipment	Automatic operation, Purpose-built certified device — EESS + RCM registered for AU/NZ	Generic third-party OBD adapter hardware, not a purpose-built or certified device for AU/NZ use. Operator must select model

Voltest - lots of information but no “so what” and not certified



Also: AVILOO is CARA Approved (independent/Premium tier) + TÜV-certified, ±3% stated accuracy. Voltest is based on interpretation of data provided by a third party who holds a basic CARA certification. Voltest's own materials claim over 90% coverage — but only for the North American market, Australian market coverage is less than this claim.

WHY RANGE ESTIMATES ARE THE WRONG YARDSTICK



Voltest's report leads with estimated range. AVILOO's leads with energy (kWh) — and the difference isn't cosmetic

Range feels intuitive — and that's the problem

Estimating SoH from range means dividing current range by new-state range — but that calculation only holds if the same driving style is used as the basis for both values.

As AVILOO's own whitepaper on SoH puts it: “every driver has his or her own individual driving profile. External influences also affect the extractable energy of the battery.”

A nice-looking number, built on a foundation that moves under it.



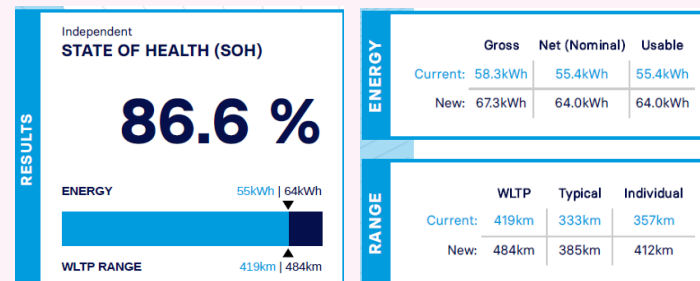
Which range is being considered and estimated?

Energy-based is why AVILOO chose kWh, not distance

AVILOO calculates SoH from real-world **extractable energy in kWh** — compensated for temperature and discharge rate — not from a range figure that shifts with how the car happens to be driven that day.

That's also why AVILOO's figures are **comparable across brands and models** — a Tesla and a Kia can be measured on the same basis. A range estimate can't offer that; range depends on the vehicle's own efficiency, and driver behaviour as much as the battery underneath it.

Energy first, range in several forms



BUILT FOR A DIFFERENT MARKET, THE FINE PRINT AGREES



Voltest's focus is the North American market, a very different landscape to the Chinese built dominated Australian / New Zealand markets

Not built for the Australian market

- **Sample reports are still in miles, not km.**
- Coverage claims ("over 90% of EVs and PHEVs") are explicitly scoped to **the North American market** in Voltest's own FAQ — not Australia.
- **Test EV's own assessment is that actual AU coverage sits well short of that figure** — no number has published by Voltest for this market.

CARA certification traces to the EU platform provider behind Voltest's technology — CARA is a European remarketing body; whether that certification carries to this deployment isn't established.

What Voltest's own report admits

The fine print on Voltest's own sample report states (as shown below):

"The diagnostic data has been generated using Voltest's proprietary algorithms. Please note that these results may differ from the manufacturer's diagnostic data and are not intended to serve as a basis for any claims against the manufacturer."

For a report with the purpose of defending a dealer's **s.18 ACL** position, the provider's own paperwork disclaiming the use a dealer most needs it for.

An AVILOO certificate is signed by named executives and formally titled "officially AVILOO Certified." AVILOO are now providing a warranty with each certificate in European markets and is being developed for roll out in local markets in 2027.

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TEST
EV

Only independently assessed values reveal issues like these.

INDEPENDENT BATTERY CERTIFICATE

CERTIFICATE NUMBER: C64C4A77-53AB-4FF9-8047-14AE0C9980C2

VEHICLE

BRAND: Volkswagen
MODEL: ID4 - 77 kWh

MILEAGE: 50,089 mi
VIN: WVGGZZEZM
DATE AND TIME:
17.07.2025, 08:10:36

EXECUTED BY:

RESULTS

STATE OF HEALTH (SOH)

ENERGY - kWh | 77kWh

WLTP RANGE - km | 547km

RATING

BENCHMARKING

How does your vehicle
compare to comparable
vehicles?

below average average above average

CHECKS

Battery Management System (BMS) - warning detected

Battery Sensor

Battery Measurements - safety risk detected

Battery Cell Voltages

Vehicle Communication

SCAN FOR DETAILS

EVALUATION

SAFETY RISK! - POTENTIAL SAFETY HAZARD

During the detailed battery diagnosis with the AVILOO FLASH Test, safety concerning anomalies were detected that require immediate inspection. For Details scan the QR code.

For assistance, please contact AVILOO Customer Management.

Marcus Berger

Dr. Marcus Berger, CEO

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ENERGY

	Gross	Net (Nominal)	Usable
Current:			
New:	82.0kWh	77.0kWh	74.0kWh

RANGE

	WLTP	Typical
Current:		
New:	461-547km	391km

EXECUTION PROTOCOL

AVILOO Box connected.	08:10:33
FLASH Test started.	✓
Starting data acquisition.	✓
Vehicle detected.	✓
Finished data acquisition.	✓

SENSORS

Voltage Sensor	✓
Current Sensor	✓
Temperature Sensors	✓
Cell Voltage Sensors	✓

BMS

BMS State of Charge (SOC)*:	5%	Value	Status
SOC calculation accuracy:	✓		
BMS State of Health (SOH)*:	89%		
SOH calculation accuracy:	!		

MEASUREMENTS

	Min	Max	Delta	Status
Battery Temperature	19.6°C	21.3°C	1.6°C	✓
Cell Voltage	3.452V	4.021V	569mV	!
Pack Voltage	381.8V			
Average Current	-3.7A			

CELL VOLTAGES DIAGRAM

MESSAGES

It has been determined that there is a discrepancy between the highest and lowest charged cells, as illustrated in the cell voltage table above. This indicates an issue with battery balancing. Please take your vehicle to a workshop or contact AVILOO Customer Management for further assistance.

The determined SOH is below the recommended limit for safe operation. In order to identify the underlying cause of this low SOH we recommend either conducting a PREMIUM Test or arranging a visit to a workshop. For assistance, please contact AVILOO Customer Management.

The state of health calculated by the BMS is implausible. This may result in a reduced range or the vehicle stopping before reaching 0% charge. Try to recalibrate the BMS with a full cycle, then try the FLASH Test again, if the problem persists we recommend a PREMIUM Test for a deeper analysis or contact AVILOO Customer Management for assistance.

*The values shown here were not calculated by AVILOO but correspond to the values read out from the battery management system (BMS) and were calculated by the manufacturer. AVILOO therefore assumes no liability for their accuracy.

DISCLAIMER: The test result includes the currently calculated state of health (SoH) of the drive battery. The determination is based on data provided by the vehicle. These are evaluated by AVILOO algorithms using statistical and analytical models. Manipulation of the data in the control unit leads to an incorrect result. The indicated SoH has a technically induced fluctuation range (deviations) of no more than 3% in at least 95% of reference measurements. It should be noted that this tolerance applies to the SoH determination at the cell level and not to the SoH of the entire battery. This is because the state of charge of individual cells may vary, which can negatively affect the current SoH of the battery. However, this can be compensated by the Battery Management System (BMS) or during a calibration. The result reflects the condition of the battery at the time of the test. No conditions can be drawn about the future state of health of the battery from this. Statements about mechanical damage or external influences are not part of this diagnosis.

AVILOO GmbH | IZ NÖ-Süd, Straße 16, Objekt 69/5 | 2355 Wiener Neudorf | Austria | info@aviloo.com

THE BOTTOM LINE



If a buyer later alleges a battery condition representation was misleading under [s.18 of the Australian Consumer Law](#), the question that matters is: what evidence did the dealer rely on when making that representation?

Voltest is quick and easy to use — but a scan under 30 seconds can't be a genuine dynamic-load test, its not clear how the OEM SoH and the reported value differ. The headline range figure moves with driving style, and its own report tells the dealer not to rely on it for exactly the kind of claim this benchmark exists to defend against.

AVILOO meets all three elements of a genuine independent battery health test — simply, automatically, without asking your operator to already be a battery engineer. AVILOO covers more models

AVILOO is TÜV-certified and CARA Approved, with over 1 million tests completed globally (July 2026) and over 100 devices deployed in Australia



Test EV Pty Ltd — sole AU/NZ distributor of AVILOO battery diagnostics

info@testev.co

1300 948 606

+61 (0)424 407 002

