BATTERY TEST REPORT

Battery certification

Report ID: EIVV8YPNA95F

Date and time of the test execution: July 30, 2026 10:49 AM UTC

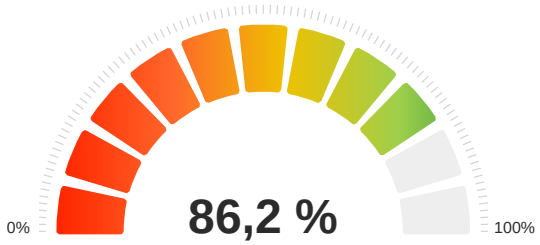
Manufacturer	Model	VIN
Tesla	Model 3	5YJ3E7XXXXX123456

Mileage	Gross capacity of the new battery	Production year
151 548 km	53,1 kWh	2019

Battery chemistry	Battery configuration
NCA	96s31p

State of Health (SOH)

100% = health of the new battery



Net capacity of the new battery	Actual net capacity	
49,0 kWh	42,2 kWh	-6,8 kWh

Range of new (WLTP)	Actual range (WLTP)	
409,0 km	352,6 km	-56,4 km

This battery test did not show any signs of anomalies.*

Static cell imbalance
Normal

Dynamic cell imbalance
Normal

Total discharged energy
Normal

SOC – State of Charge
Optimal

SOH – State of Health
Normal

Mileage verification
Available

For details refer to the corresponding pages.

Based on the analyzed data, the battery appears to be in good operating condition with no apparent signs of major defects.*

Static cell imbalance

Cell voltages at no load (V)

	1 – 10	11 – 20	21 – 30	31 – 40	41 – 50	51 – 60	61 – 70	71 – 80	81 – 90	91 – 96
1	3,658	3,656	3,659	3,659	3,656	3,657	3,657	3,658	3,657	3,657
2	3,657	3,658	3,659	3,658	3,657	3,657	3,657	3,659	3,657	3,655
3	3,658	3,658	3,659	3,657	3,658	3,657	3,658	3,658	3,656	3,657
4	3,656	3,659	3,660	3,657	3,657	3,657	3,657	3,657	3,657	3,655
5	3,654	3,658	3,658	3,658	3,657	3,657	3,657	3,658	3,656	3,655
6	3,658	3,658	3,657	3,657	3,657	3,658	3,658	3,657	3,656	3,656
7	3,658	3,658	3,659	3,658	3,656	3,657	3,657	3,657	3,657	
8	3,658	3,658	3,658	3,658	3,658	3,657	3,656	3,657	3,655	
9	3,656	3,657	3,658	3,658	3,657	3,658	3,658	3,658	3,656	
10	3,657	3,658	3,658	3,658	3,657	3,657	3,658	3,657	3,655	

Total battery voltage during the test **351,0 V**

Cell Voltages (V)

Minimal	Middle	Maximal
3,654	3,657	3,660

Maximum cell voltage difference

6 mV

This graph shows cell voltages under standby load (onboard electronics only). Ideally, the voltage variance should be negligible. Any difference exceeding 30mV is outside the normal tolerance.

How to improve cell balancing?

Large differences between individual cell voltages do not necessarily mean internal battery damage. Most cars balance the cells in the final minutes of charging before reaching a 100% state of charge. Before you start looking for problems in the battery, try charging it to 100% and repeat the test.

AC/DC charging ratio

Share of DC charging

AC charging is the gentlest method for electric vehicle batteries. Frequent DC charging can speed up battery aging, but the actual impact depends on the charging power. For example, low-power DC charging (like 50 kW) does not significantly harm the battery. Therefore, a high share of DC charging is not an immediate problem. It should always be evaluated in a broader context, along with the battery's State of Health (SoH) and cell imbalance.

Battery certification

Dynamic cell imbalance

Cell voltages under load (V)

	1 – 10	11 – 20	21 – 30	31 – 40	41 – 50	51 – 60	61 – 70	71 – 80	81 – 90	91 – 96
1	3,191	3,193	3,202	3,194	3,187	3,201	3,195	3,196	3,184	3,190
2	3,187	3,184	3,200	3,200	3,192	3,200	3,198	3,212	3,187	3,194
3	3,206	3,201	3,193	3,195	3,192	3,194	3,198	3,202	3,177	3,193
4	3,194	3,200	3,218	3,192	3,200	3,189	3,198	3,197	3,191	3,190
5	3,191	3,197	3,202	3,189	3,188	3,197	3,204	3,191	3,200	3,193
6	3,193	3,189	3,196	3,193	3,193	3,201	3,201	3,191	3,182	3,199
7	3,200	3,208	3,199	3,207	3,191	3,189	3,191	3,192	3,195	
8	3,201	3,195	3,193	3,188	3,202	3,202	3,196	3,193	3,188	
9	3,186	3,186	3,197	3,194	3,188	3,198	3,199	3,181	3,188	
10	3,202	3,197	3,202	3,192	3,194	3,185	3,202	3,187	3,186	

Average current during the test **445,4 A**

Cell Voltages (V)

Minimal	Middle	Maximal
3,092	**3,194**	**3,132**

Maximum cell voltage difference

40 mV

The graph displays cell voltages across the parallel branches under load during a road test. It is normal for the voltage delta between the strongest and weakest cells to be larger here than during the static test. Since these results depend heavily on the specific battery type, a variance exceeding 250mV is generally considered the threshold limit.

What if the imbalance remains high even after a recent 100% charge?

If the BMS (Battery Management System) cannot keep the cells balanced even after a 100% charge, it indicates increased internal resistance in one or more cells within the battery. This means the battery may be significantly degraded, or cell damage may have occurred.

Total energy discharged

Cumulative battery energy

34667 kWh

Total energy cycled since vehicle manufacturing. This metric allows us to estimate the number of charge cycles the battery has undergone. By combining this data with the odometer reading, we can accurately calculate the average consumption and gain insight into previous driving patterns. Note that cumulative energy may also factor in regenerative braking energy. Consequently, this average consumption can deviate by up to 30% from the values displayed on the trip computer.

Estimated charge cycles

1415 cycles

A single cycle is defined as a 30% to 80% charge/discharge. Lifespan depends heavily on the manufacturer, chemistry, and thermal management. Generally, LFP cells last 2,000-3,000 cycles, while NMC cells last 1,000-2,000 cycles.

Average vehicle consumption

23 kWh/100km

EV energy consumption depends heavily on usage and ambient conditions. Unlike ICE vehicles, EVs are most efficient in mild city driving and least efficient on freezing highways. This metric allows us to estimate the environment in which the vehicle was operated.

An example of your EV's typical consumption

Spring

City	Highway	Combined
10 kWh/100km	16 kWh/100km	12 kWh/100km

Summer

City	Highway	Combined
11 kWh/100km	16 kWh/100km	13 kWh/100km

Fall

City	Highway	Combined
12 kWh/100km	17 kWh/100km	14 kWh/100km

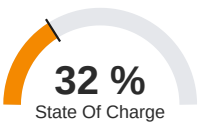
Winter

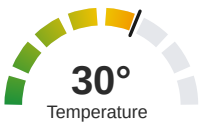
City	Highway	Combined
15 kWh/100km	20 kWh/100km	17 kWh/100km

SOC – State Of Charge

Start of test

Timer 00:00





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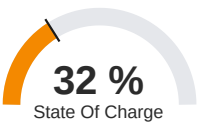
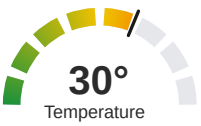
End of test

Timer 01:40





Why is a low SOC important during the test?

For a more reliable detection of weak or damaged cells, perform a short, high-load road test at a lower State of Charge (SoC). Ideally around the bottom third of the battery capacity. At this charge level, the vehicle still allows high current draw, but the voltage differences between healthy and degraded cells become significantly more pronounced.

SOH - State of Health

State of Health (SoH) measures actual battery capacity against its original factory capacity. SoH declines naturally with both mileage and age, though studies indicate that calendar aging is the primary factor. Typically accounting for a 2% annual capacity loss. Degradation peaks early in the lifecycle and gradually tapers off. The aging process can be accelerated by frequent DC fast charging or prolonged exposure to extreme high or low SoC levels. To improve the SOH you can try to charge the battery to 100% and discharge it to values below 10%. The BMS will recalibrate the highest and the lowest thresholds.

SOH – Battery Health

86,2 %

Good health

Net capacity of the new battery	Actual net capacity	
49,0 kWh	42,2 kWh	-6,8 kWh

Range of new (WLTP)	Actual range (WLTP)	
409,0 km	352,6 km	-56,4 km

Range – Mild summer

	City	Highway	Combined
New vehicle	450 km	299 km	368 km
Actual range	388 km	258 km	317 km
	-62,1 km	-41,2 km	-50,8 km

Range – Winter

	City	Highway	Combined
New vehicle	323 km	245 km	282 km
Actual range	278 km	211 km	243 km
	-44,6 km	-33,8 km	-38,9 km

Mileage verification

Suspected odometer rollback based on BMS data

No

The cumulative energy of the battery corresponds to the vehicle odometer reading.

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*Limitation of Liability: The values provided in this report consist exclusively of data retrieved from the BMS and other onboard control units. The provider of this report accepts no liability for the accuracy, veracity, or correctness of this data, nor for the baseline battery capacity entered by the user. The results reflect the state of the battery solely at the exact time of testing, are strictly for informational purposes, and do not constitute a warranty, guarantee, or representation of future performance or State of Health (SoH). Due to the limitations of software-based diagnostics, this test cannot detect hidden, sporadic, or unrecognised faults within the control unit; it does not include fault code (DTC) reading, nor does it assess mechanical damage or the physical condition of the cells. Prior tampering with the control unit or a BMS reset will result in incorrect outcomes. Any use of this report (e.g., for vehicle purchase or sale) is entirely at the parties' sole risk, and shall not give rise to any legal claims against the provider.