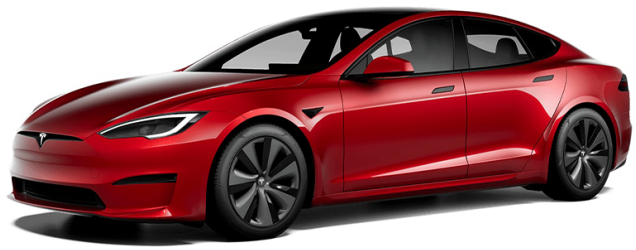
Tesla Model S

Autopilot

2025

MODERATE



ASSISTANCE COMPETENCE	30%
SAFETY BACKUP	94%

SPECIFICATIONS

SYSTEM NAME	Autopilot
Intended Operation Design Domain	● Highway ● Inter-Urban ✖ Urban

● RECOMMENDED ✖ NOT RECOMMENDED

Comments

Tesla's system name 'Autopilot' is inappropriate as it suggests full automation. The promotional material suggests automation where the handbook correctly indicates the limitations of the system capabilities, which could lead to confusion. Status information is clear, but the Model S does not offer a head-up display showing the system status in the driver's direct line of sight. The Tesla Model S robustly monitors that the driver keeps their hands on the steering wheel, and 'locks-out' the assistance system if there are repeated warnings. While the Tesla is equipped with an internal camera, it is not used for Driver Monitoring relying only on steering wheel input for driver engagement. The system resists driver steering input and then disengages, limiting co-operative driving.

The Model S combines map-based speed limit information with real time camera inputs to manage fixed, variable and temporary speed limit signs. The system adapts speed for upcoming road features such as curves and junctions. The Model S responds to avoid a collision in all the ACC test scenarios and and does not require AEB intervention, scoring full points in this part of the assessment. The driver is supported through the S-Bend, staying centred in the lane at all test speeds. The vehicle has an Active Blindspot system designed to prevent lane changing into adjacent vehicles. A lane-change assist function is also provided. In case of an unresponsive driver, the Tesla performs a controlled stop in lane. If the radar or camera are blocked the Model S provides a timely warning and prevents system activation.

The Tesla Model S excels in the Safety Backup it provides and in the level of Vehicle Assistance, but fails to balance that high level of support with a similar level of Driver Engagement, leading to possible overreliance. Overall, 'Autopilot', as fitted to the Tesla Model S, is rated as Moderate. Euro NCAP tested the latest version of AutoPilot available at the time of testing. Tesla can improve the functionality of the system remotely by over-the-air software updates.

Disclaimer

When using Assisted Driving Systems (also known as SAE Level 2 systems), a driver's responsibilities include monitoring the system's control of speed, braking and steering at all times, strict compliance with traffic rules, and maintaining situational awareness throughout the journey.

Certain situations might negatively influence the system's performance (e.g. poor weather, faded lane markings, construction zones, exiting a tunnel), resulting in a sudden interruption of the lateral and/or longitudinal support (system disengagement). Moreover, the system may fail to detect certain road users such as motorcyclists not directly in front of the vehicle, or stationary objects.

Appropriate fitness to drive is critical for safe travel, even when using Assisted Driving Systems. Visual distraction (e.g. eyes off the road), impairment (e.g. drowsiness, intoxication) as well as unresponsiveness, poses high risks. It is highly recommended to keep your hands on the steering wheel at all times to ensure immediate reaction when the system disengages.

Version 020625

ASSISTANCE COMPETENCE

Total 30%

DRIVER ENGAGEMENT

30.9 / 100 PTS

CONSUMER INFORMATION

10.0 / 25 PTS

System Name	Autopilot
Marketing Material	Autopilot Viewed 27 May 2025
Quick Start Guide	
Vehicle Handbook	Viewed 27 May 2025

SYSTEM STATUS

14.9 / 25 Pts

Continuous System Status Indicator	
System Status Change Indicator	

DRIVER MONITORING

5.0 / 20 PTS

Hands-on Monitoring	
Direct Driver Monitoring	

DRIVING COLLABORATION

1.0 / 25 Pts

Increase in Steering Torque	
Override response	
System continues to assist while driver steers to avoid obstacle	

GOOD ADEQUATE MARGINAL WEAK POOR

Version 020625

ASSISTANCE COMPETENCE

Total 30%

VEHICLE ASSISTANCE

96.1 / 100 PTS

SPEED ASSISTANCE

21.1 / 25 PTS

SPEED ASSIST SYSTEMS

Vehicle response to fixed Speed limits	At speed at sign
Vehicle response to variable Speed limits	Start slowing down after sign

SPEED LIMIT INFORMATION FUNCTION

General requirements	Compliant
Conditional Speed Limits	
Road Features	
Local Hazards	
System Updates	Continuous

ADAPTIVE CRUISE CONTROL PERFORMANCE

40.0 / 40 PTS

SCENARIOS		
Approaching a stationary target		
Approaching a slower moving target		
Approaching a braking target		
Target cutting-in in front		
Car cutting-out in front to expose target		

UNDERTAKE PREVENTION	
Undertake prevention at speeds over 90 km/h	

ADAPTIVE CRUISE CONTROL AUTO-RESUME	
Assistance maintained after coming to a full stop	
System assistance maintained by	Automatic resume with collision prevention by external sensors

GOOD ADEQUATE MARGINAL WEAK POOR

Version 020625

ASSISTANCE COMPETENCE

Total 30%

STEERING ASSISTANCE — 35.0 / 35 PTS

SCENARIOS	
80 km/h	Vehicle stays in lane
100 km/h	Vehicle stays in lane
120 km/h	Vehicle stays in lane

Lane Change Assist	●

● FITTED TO THE VEHICLE ✖ NOT FITTED TO THE VEHICLE

GOOD ADEQUATE MARGINAL WEAK POOR

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SAFETY BACKUP

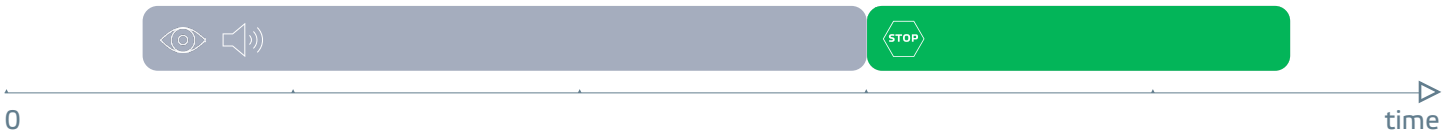
Total 94%

SYSTEM FAILURE — 25.0 / 25 PTS

	ENGAGEMENT	WARNING
SENSOR BLOCKED AT START-UP		
Camera	Full blockage after a 5 minute drive	Yes after sensor blocking
Radar	Partial blockage after a 5 minute drive	Yes after sensor blocking
SENSOR BLOCKED WITH VEHICLE IN MOTION, SYSTEM INACTIVE		
Camera	Full blockage after a 5 minute drive	After sensor blocking
Radar	After a 5 minute drive	After sensor blocking
SENSOR BLOCKED WITH VEHICLE IN MOTION, SYSTEM ACTIVE		
Camera	Full blockage within 2 minutes after blocking	After sensor blocking
Radar	Partial blockage after sensor blocking	After sensor blocking

UNRESPONSIVE DRIVER INTERVENTION — 20.0 / 25 PTS

Hands Off Warning Timeline



COLLISION AVOIDANCE — 49.8 / 50 PTS

SCENARIOS			
Approaching a stationary target			—
Approaching a slower moving target			—
Approaching a braking target			—
Target cutting-in in front			—
Car cutting-out in front to expose target			—
Approaching the target along the roadside	—	—	

GOOD ADEQUATE MARGINAL WEAK POOR

Version 020625