

Tesla FSD + Grok: 2025 Model 3

Vision-only Level 2 autonomy. End-to-end neural net. Grok as in-car AI. Honest engineer's read.

L2

SAE LEVEL (SUPERVISED)

8

CAMERAS (NO LIDAR)

HW4

AUTONOMY HARDWARE

v13

FSD GENERATION

• What FSD actually is in 2026

REALITY

SAE Level 2 supervised

Driver remains legally + operationally responsible. Eye-tracking enforces attention. "Full Self-Driving" branding is misleading; "Supervised" is doing real work.

End-to-end neural net

v12+ replaced modular pipeline with one big network. Smoother edge cases, less interpretable failures.

• Where FSD shines vs still fails

✓ Shines

- Highway driving — smooth lane keeping
- Stop-and-go traffic (the worst commute beat)
- Familiar routes w/ clear markings
- Parking-lot navigation (v13 jump)
- Highway-to-exit transitions

✗ Still fails (vigilance needed)

- Construction zones w/ cone detours
- Stopped emergency vehicles (NHTSA concern)
- Heavy rain / snow / fog
- Low-sun glare
- Unusual traffic control (cops, flaggers)
- Phantom braking (rarer than 2022, not gone)

THE GROK INTEGRATION

Grok lives in the car as an LLM assistant — Q&A, trip planning, vehicle control via natural language ("warm the cabin to 72°F"). **Not part of the FSD driving stack.** Two separate systems.

VISION-ONLY BET

No LiDAR. No radar (mostly). Tesla's argument: humans drive with vision. Counter: LiDAR provides geometry no camera matches in bad weather. Bet still in question.

TESLA VS WAYMO VS MERCEDES

1 Waymo (Robotaxi)

Level 4 in defined service areas. No driver.

2 Tesla FSD

Level 2. Anywhere validated. Driver required.

3 Mercedes Drive Pilot

Level 3 in highway corridors only.

WHAT GROK ACTUALLY DOES IN-CAR

1 Trip planning

"Italian restaurant open at 9pm w/ parking"

2 Vehicle control via NL

"Schedule service Tuesday morning"

3 Hands-free Q&A while driving

General knowledge + context

4 Charging/routing recs

Context-aware

Full guide: djenterprises.ai/blog/tesla-fsd-grok

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