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WHAT IS MNO CERTIFICATION IN AUTOMATIVE?

- It’s the approval process by Mobile Network Operators (MNOs) (e.g., AT&T, Vodafone, Verizon) to ensure that TCUs, eSIMs, or cellular modules in vehicles can connect and operate reliably on their networks.
- Comes after regulatory approvals (FCC/CE) and conformance testing (GCF/PTCRB).

why its important in automative application

Enables global connectivity for vehicles sold across regions.

- Supports emergency services like eCall (mandatory in EU).
- Ensures stable communication for OTA updates, remote diagnostics, and infotainment.
- Avoids dropped connections, failed updates, and non-compliance issues.

Steps & Components in the MNO Certification Process

- Module Selection: Choose pre-certified modules from Quectel, u-blox, Thales, etc.
- Regulatory Testing: FCC (US), CE (EU), etc.
- Conformance Testing: GCF/PTCRB for cellular protocol compliance.
- MNO-Specific Certification: AT&T, Verizon ODI, Vodafone VGC, etc.
- Automotive Testing: Temperature, vibration, RF performance, antenna tuning, SIM/eSIM switching.

AUTOMOTIVE-SPECIFIC CONSIDERATIONS & ESIM INTEGRATION

- Must meet automotive-grade standards: AEC-Q100/Q200, ISO 16750, ISO 26262.
- eSIMs enable Remote SIM Provisioning (RSP) for multi-carrier support.
- Infotainment systems need to pass EMI/EMC testing.
- Certification supported by labs like UL, 7Layers, SGS, Intertek.

Thank you

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