

Forensic Analysis Summary

Vehicle VIN (consensus)	1FTFW1E58MFA83274
Input file	rollback.csv
Input format	csv
Frames / decoded messages	31 / 22
Capture duration	0.55 s
Modules responding	4
DBC file	none (standard OBD-II decode only)
Engine	VeriCAN Analysis Engine v1.0.0



1 high-severity, 0 medium-severity and 0 low-severity finding(s) (5 informational). Overall classification: **MODERATE RISK**.

Findings

Severity	Category	Finding	Detail
HIGH	odometer	Odometer value decreased during capture	ECM (Engine Control) [0x7E8] reported 150,000.0 km at t=1700000000.355s and then 45,000.0 km at t=1700000000.405s -- a decrease of 105,000.0 km. An odometer must be monotonically increasing; a decrease is a classic rollback / mileage-tampering indicator.
INFO	vin	VIN consistent across modules	2 modules independently reported the same VIN (1FTFW1E58MFA83274). No identity mismatch detected.
INFO	cleared_codes	No cleared-code remnants detected	Fault memories, freeze frames and readiness monitors are mutually consistent; no indication of a recent code clear.
INFO	srs	No SRS/airbag fault indicators	No SRS/airbag (B0xxx) trouble codes were reported. The SRS module [0x7EB] is present and responding normally.
INFO	module_swap	Calibration identity stable	Calibration IDs and CVNs are internally consistent for every reporting module. No swap or reflash indicator in this capture. (Note: matching against factory calibration databases is out of scope without manufacturer data.)

Severity	Category	Finding	Detail
INFO	transmission	No transmission fault indicators	The transmission control module is responding and no transmission-range trouble codes or telemetry anomalies were found in this capture.

Module Status

Address	Module	Frames Seen	Findings	Status
0x7E8	ECM (Engine Control)	13	1	FAIL
0x7E9	TCM (Transmission Control)	4	0	PASS
0x7EA	ABS / Brake Module	1	0	PASS
0x7EB	SRS / Airbag Module	1	0	PASS

Recommendations

1. Cross-check the displayed odometer against service records, state inspection/title mileage history and module-stored mileage before purchase.
2. Combine these electronic indicators with a physical inspection and a commercial vehicle-history report before making a purchase decision.

Methodology

VeriCAN ingests the raw CAN bus capture, normalizes every frame to a (timestamp, arbitration id, payload) stream, and reassembles ISO 15765-2 transport-layer messages so that multi-frame diagnostic responses (such as the 17-character VIN) can be decoded. Standard OBD-II services are then decoded without requiring any manufacturer database: vehicle identity (mode 09 VIN, calibration IDs, CVNs), live data (mode 01 speed and odometer), fault memory (modes 03 and 07), freeze frames (mode 02) and emissions readiness (mode 01 PID 01). When a DBC file is supplied, proprietary broadcast signals are decoded as well and folded into the analysis.

Six independent forensic analyzers then interrogate the decoded session: cross-module VIN consistency, odometer monotonicity and cross-module mileage agreement, cleared-code remnants (freeze frames and readiness monitors that outlive a memory wipe), SRS/airbag fault and suppression patterns, module swap/reflash indicators from calibration identity, and transmission health. Each analyzer reports findings with severity HIGH, MEDIUM, LOW or INFO; when a capture lacks the data a check requires, the analyzer explicitly reports insufficient data rather than guessing.

The overall risk score is a weighted, capped sum of the findings (HIGH = 25, MEDIUM = 10, LOW = 4, INFO = 0; maximum 100). Modules implicated in a HIGH finding are marked FAIL, in a MEDIUM or LOW finding REVIEW, and PASS otherwise. All conclusions are statistical indicators derived from bus traffic captured at one point in time: they are intended to direct a physical inspection, and are not, by themselves, proof of tampering.

Appendix A — Decoded Evidence Inventory

Item	Value
VIN reported by ECM (Engine Control) [0x7E8]	1FTFW1E58MFA83274
VIN reported by TCM (Transmission Control) [0x7E9]	1FTFW1E58MFA83274
Calibration ID(s) — ECM (Engine Control)	CAL-9A21-PROD.01
CVN(s) — ECM (Engine Control)	1A2B3C4D
Odometer @ t=1700000000.355s — ECM (Engine Control)	150,000.0 km
Odometer @ t=1700000000.405s — ECM (Engine Control)	45,000.0 km
Stored DTCs — ECM (Engine Control)	none
Stored DTCs — TCM (Transmission Control)	none
Stored DTCs — ABS / Brake Module	none
Stored DTCs — SRS / Airbag Module	none
Pending DTCs — ECM (Engine Control)	none
Readiness — ECM (Engine Control)	MIL off, 0 DTC(s), 0/8 monitors incomplete (raw 0007E500)

Bus traffic profile (top arbitration ids): 0x7E8 ×13, 0x7DF ×9, 0x7E9 ×4, 0x7E0 ×3, 0x7EA ×1, 0x7EB ×1.

This report was generated automatically by the VeriCAN Analysis Engine from a point-in-time CAN bus capture. Findings are probabilistic forensic indicators intended to guide physical inspection and further records research. They do not constitute a mechanical inspection, a certification of vehicle condition, or legal proof of tampering or fraud.