Crash Detection Report

Structured Report: Crash Detection Analysis

Crash Likelihood: High

Detected Anomalies:

1. Sudden Deceleration Events:

• Multiple instances of extreme negative acceleration (deceleration) exceeding -2.5g, such as:

• -3.84g at 10:24.1 (Vehicle speed: 66.1 km/h)

• -3.21g at 10:24.2 (Vehicle speed: 76.5 km/h)

• -3.1g at 10:24.3 (Vehicle speed: 61.9 km/h)

• -3.03g at 10:25.3 (Vehicle speed: 95.4 km/h)

• These values are significantly higher than typical braking deceleration, indicating potential collision or hard impact.

2. Erratic Speed Fluctuations:

• Rapid changes in vehicle speed, e.g., from 125.7 km/h to 73 km/h within milliseconds, followed by further fluctuations.

3. Throttle Position Inconsistencies:

• Throttle position drops to 0% or near 0% during high-speed events, suggesting sudden loss of control or driver reaction to an emergency.

4. Negative Engine Power:

• At 10:24.4, engine power drops to -4.3 hp, indicating potential mechanical failure or severe deceleration forces.

5. Unusual Fuel Consumption:

• Negative fuel consumption at 10:25.2 (-0.26 km/L), which is physically impossible and suggests sensor malfunction or extreme vehicle behavior.

Possible Causes:

1. Collision or Impact:

• The extreme deceleration values and erratic speed changes are consistent with a high-speed collision or multiple impacts.

2. Loss of Control:

• Rapid throttle changes and inconsistent engine power suggest the driver may have lost control of the vehicle, possibly due to road conditions, mechanical failure, or external factors.

3. Mechanical Failure:

• Sudden drops in engine power and throttle position could indicate a mechanical issue, such as brake failure or engine malfunction.

4. Sensor Malfunction:

• While unlikely, some anomalies (e.g., negative fuel consumption) could be due to faulty sensors, though this does not explain the extreme deceleration events.

Recommendations:

1. Immediate Investigation:

• Conduct a thorough inspection of the vehicle for physical damage, especially to the front

and rear, to confirm a collision.

2. Driver and Passenger Safety Check:

• Ensure the driver and passengers are safe and seek medical attention if necessary, given the high likelihood of a crash.

3. Data Validation:

• Cross-check sensor data for accuracy to rule out potential malfunctions, especially for fuel consumption and engine power readings.

4. Accident Reconstruction:

• Use the data to reconstruct the event timeline and identify the sequence of events leading to the anomalies.

5. Preventive Measures:

• If no collision occurred, investigate potential causes of the extreme deceleration (e.g., brake system failure) and address them to prevent future incidents.

This analysis strongly suggests a high likelihood of a crash or severe incident. Immediate

action is recommended to confirm the event and ensure safety.