Collision Sciences ***EDR REPORT***

DISCOVERABLE EVIDENCE FILE

Claim Number: ******

Vehicle: 2021 Hyundai i30

VIN: TMAH251DAMJ******

Report Number: *****-DE-*****

Generated: 2040-01-31 12:40:12 (UTC)

EVENT DATA RECORDER: RAW DATA

This section contains raw data retrieved from the vehicle.

Module Information

Data Item	Recorded Data
Part Number	95910-G4000(G409)
Data Collection Date	2040-01-31

Most Recent Event

Occurred 1610 Ignition Cycles Ago. Ignition Cycle at Event: 680. Ignition Cycle at Download: 2290.

EDR Data Elements

This section contains a list of data items that may be supported by this vehicle. Note that an item being supported does not guarantee it will be recorded in a crash. Communication issues arising from a crash may interfere with the module's ability to receive and record data.

Crash Pulse Details

Data Item	Recording Time	Recorded Data
Longitudinal Delta-V [1]	0 to 250 ms	See Below
Maximum Longitudinal Delta-V [2]	0 to 300 ms	-19.00 km/h
Time at Maximum Longitudinal Delta-V	0 to 300 ms	210 ms
Lateral Delta-V [1]	0 to 250 ms	See Below
Maximum Lateral Delta-V [2]	0 to 300 ms	-2.00 km/h
Time at Maximum Lateral Delta-V	0 to 300 ms	80 ms
Time at Maximum Resultant Delta-V	0 to 300 ms	272.5 ms
Longitudinal Acceleration	0 to 250 ms	See Below
Lateral Acceleration	0 to 250 ms	See Below
Normal Acceleration	0 to 250 ms	See Below

Pre-Crash Data

Data Item	Recording Time	Recorded Data
Vehicle Speed	-5.0 to 0 sec	See Below
Accelerator Pedal	-5.0 to 0 sec	See Below

Service Brake	-5.0 to 0 sec	See Below
Engine RPM	-5.0 to 0 sec	See Below
Steering Wheel Angle	-5.0 to 0 sec	See Below
Anti-lock Brake System Status	-5.0 to 0 sec	See Below
Stability Control System Status	-5.0 to 0 sec	See Below

Event Record Details

Data Item	Recording Time	Recorded Data
Event Number	Event	1
Ignition cycle at Event	-1.0 sec	680
Ignition cycle at Download	Download	2290
Complete File Recorded	Event	Yes

Seat Belt & Airbag Details

Data Item	Recording Time	Recorded Data
Airbag Warning Light	-1.0 sec	Off
Driver Seat Belt Status	-1.0 sec	Buckled
Passenger Seat Belt Status	-1.0 sec	Buckled
Driver Seat at Foremost Position	-1.0 sec	Not Supported
Passenger Seat at Foremost Position	-1.0 sec	Not Supported
Passenger Occupant Classification	-1.0 sec	Unavailable
Driver Pretensioner Deployment Time	Event	No Deployment
Passenger Pretensioner Deployment Time	Event	No Deployment
Driver Front Airbag 1st Stage Deployment Time	Event	No Deployment
Passenger Front Airbag 1st Stage Deployment Time	Event	No Deployment
Driver Front Airbag 2nd Stage Deployment Time	Event	Unavailable
Passenger Front Airbag 2nd Stage Deployment Time	Event	Unavailable
Driver Torso Airbag Deployment Time	Event	No Deployment
Passenger Torso Airbag Deployment Time	Event	No Deployment
Driver Side Curtain Airbag Deployment Time	Event	No Deployment
Passenger Side Curtain Airbag Deployment Time	Event	No Deployment

NOTES
1. Longitudinal (or lateral) delta-V is an array of recorded values that describes the crash pulse with respect to time.
2. Depending on the vehicle, the maximum longitudinal (or lateral) delta-V value may not be present in the delta-V array described above.

Crash Pulse Data

This section shows retrieved crash pulse data in tabular format.

Time (ms)	Longitudinal Delta-V (km/h)	Time (ms)	Longitudinal Delta-V (km/h)	Time (ms)	Longitudinal Delta-V (km/h)	Time (ms)	Longitudinal Delta-V (km/h)	Time (ms)	Longitudinal Delta-V (km/h)
0	0	60	-14	120	-18	180	-18	240	-19
10	0	70	-16	130	-18	190	-18	250	-19
20	-2	80	-17	140	-18	200	-18		
30	-4	90	-17	150	-18	210	-19		
40	-7	100	-18	160	-18	220	-19		
50	-10	110	-18	170	-18	230	-19		

Time (ms)	Lateral Delta-V (km/h)	Time (ms)	Lateral Delta-V (km/h)	Time (ms)	Lateral Delta-V (km/h)	Time (ms)	Lateral Delta-V (km/h)	Time (ms)	Lateral Delta-V (km/h)
0	0	60	0	120	0	180	0	240	0

10	0	70	-1	130	0	190	0	250	0
20	0	80	-2	140	0	200	0		
30	0	90	-2	150	-1	210	0		
40	0	100	-1	160	-1	220	0		
50	0	110	-1	170	-1	230	0		

Time (ms)	Longitudinal Acceleration (g)	Time (ms)	Longitudinal Acceleration (g)	Time (ms)	Longitudinal Acceleration (g)	Time (ms)	Longitudinal Acceleration (g)	Time (ms)	Longitudinal Acceleration (g)
0	-2.5	60	-8.5	120	0.0	180	0.0	240	0.0
10	-3.5	70	-3.0	130	0.0	190	0.0	250	0.0
20	-5.0	80	-1.5	140	0.0	200	-0.5		
30	-7.0	90	-1.5	150	0.0	210	-0.5		
40	-8.5	100	0.0	160	0.0	220	0.0		
50	-10.0	110	0.0	170	0.0	230	0.0		

Time (ms)	Lateral Acceleration (g)	Time (ms)	Lateral Acceleration (g)	Time (ms)	Lateral Acceleration (g)	Time (ms)	Lateral Acceleration (g)	Time (ms)	Lateral Acceleration (g)
0	0.0	60	0.0	120	0.0	180	0.0	240	0.0
10	3.5	70	-2.5	130	-0.5	190	0.5	250	0.0
20	0.5	80	-0.5	140	0.0	200	0.0		
30	1.5	90	1.5	150	0.0	210	0.0		
40	-1.0	100	1.0	160	0.0	220	0.0		
50	0.0	110	0.5	170	0.0	230	0.0		

Time (ms)	Normal Acceleration (g)	Time (ms)	Normal Acceleration (g)	Time (ms)	Normal Acceleration (g)	Time (ms)	Normal Acceleration (g)	Time (ms)	Normal Acceleration (g)
0	-0.5	60	0.0	120	-1.0	180	-1.0	240	-1.0
10	0.0	70	-1.0	130	-1.5	190	-1.0	250	-1.0
20	0.0	80	-2.0	140	-1.5	200	-1.0		
30	-0.5	90	-1.5	150	-1.5	210	-0.5		
40	-1.0	100	-0.5	160	-1.5	220	-0.5		
50	0.0	110	0.0	170	-1.0	230	-1.0		

Pre-Crash Data

This section lists pre-crash data records stored on the vehicle's event data recorder.

Time (sec)	Vehicle Speed (km/h)	Engine Speed (RPM)	Accelerator Pedal (%)	Brake Status	ABS Activity	Stability Control	Steering Angle (deg)
-5.00	113	2600	19.0	Off	Off	On	0.0 (Straight)
-4.50	113	2600	19.0	Off	Off	On	0.0 (Straight)
-4.00	113	2500	19.0	Off	Off	On	0.0 (Straight)
-3.50	113	2500	19.0	Off	Off	On	0.0 (Straight)
-3.00	112	2600	20.0	Off	Off	On	0.0 (Straight)
-2.50	112	2500	21.0	Off	Off	On	0.0 (Straight)
-2.00	101	2300	0.0	On	Off	On	0.0 (Straight)
-1.50	82	2000	0.0	On	Engaged	On	0.0 (Straight)
-1.00	68	1700	0.0	On	Engaged	On	-10.0 (Straight)
-0.50	51	1600	0.0	On	Engaged	On	5.0 (Straight)
0.00	32	1400	0.0	On	Engaged	On	-10.0 (Straight)

NOTES
Some pre-crash data elements have the following statuses:
1. Off: Not active, or disabled by the driver.
2. On: On standby and ready to intervene.
3. Engaged: Activated or actively controlling and intervening.

HEXADECIMAL DATA

This section contains the unprocessed, raw hexadecimal data retrieved from the Event Data Recorder. The date of data collection was 2040-01-31.

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50 44 65 20 20 20 39 35 39 31 30 2D 47 34 30 30 30 44 45 50 2C 44 53 32 53 43 34 2D 2D 2D 2D 52
59 47 31 2D 2D 32 30 2F 30 39 2F 32 39 31 2E 30 30 31 2E 30 31 31 2E 30 30 31 2E 30 31 47 34 44
46 31 30 31 30 47 34 44 53 30 36 31 30 47 34 44 4F 30 33 31 30 47 34 44 52 46 41 31 30 47 34 44
50 46 46 31 30 30 31 30 30

FF 80 00 00 7F 7F 7D 7B 78 75 71 6F 6E 6E 6D 6D 6D 6D 6D 6D 6D 6D 6D 6D 6D 6C 6C 6C 6C 6C 6B 6D
7F 7F 7F 7F 7F 7F 7F 7E 7D 7D 7E 7E 7F 7F 7F 7E 7E 7E 7F 7F 7F 7F 7F 7F 7F 7F 7D 1F 6D FF FF FF
FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
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FF FF FF FF 71 71 71 71 70 70 65 52 44 33 20 18 17 19 1B 1C 1C 10 05 05 04 04 55 A5 2A 02 A8 01
00 FF FE FF FE 00 00 01 1A 1A 19 19 1A 19 17 14 11 10 0E 00 40 15 55 55 15 7F 7F 7F 7F 7F 7F 7F
7F 7D 80 7D 01 FF FF FF 07 FF FF FF FF FF FE FF FE FF FE FF FE FF FE FF FE 00 00 FF FF FF FF

E0 00 00 00 7F FA 7F F8 7F F5 7F F1 7F EE 7F EB 7F EE 7F F9 7F FC 7F FC 7F FF 7F FF 7F FF 7F FF
7F FF 7F FF 7F FF 7F FF 7F FF 7F FF 7F FE 7F FE 7F FF 7F FF 7F FF 7F FF 7F FF 7F FF 80 06 80 00 80 02
7F FD 7F FF 7F FF 7F FA 7F FE 80 02 80 01 80 00 7F FF 7F FE 7F FF 7F FF 7F FF 7F FF 7F FF 80 00
7F FF 7F FF 7F FF 7F FF 7F FF 7F FF 7E 7F 7F 7E 7D 7F 7F 7D 7B 7C 7E 7F 7D 7C 7C 7C 7C 7D 7D 7D
7D 7E 7E 7D 7D 7D

80 00 00 00 13 13 13 13 14 15 00 00 00 00 00

FF FF FF E0 5C FE F5 56 FF 42 FF 42 41 44 42 FF FF 46 47 FF FF FF FF 08 F2 FF FF 44 45 FF FF FF

7F 22 10

7F 22 10

7F 22 10

7F 22 10
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Event Data Disclaimer

Airbag ECU data should be used in conjunction with other physical evidence obtained from the vehicle and the surrounding circumstances. It is important to note is that if a vehicle was spinning or rolling surrounding the collision, then the report's speed measurements would not accurately reflect the actual speed of the vehicle during/after it lost control; the speed measurement is typically based on the wheel speed sensor. Signs of this type of anomaly would be rapid changes in speed between the brief timing intervals. The reported speed may be an average of the four wheels; thus could also be skewed by spinning wheels. In combination with scene evidence, an expert could assess the vehicle speed recorded by the EDR by analyzing the data in combination with evidence, using methods such as EDR data analysis, accident reconstruction, or engineering analysis.

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