

EDR Report

File Information	Value
VIN	5YJSA1H21EFP00000
Retrieval Date	2018/01/01 00:00:00 (UTC)
Retrieval User Comments	Sample Tesla Model S EDR
Retrieval Program Information	
EDR Report Information	Tesla EDR Reporting Service v18.14.1
Report Requested By	
Report Date	2018/04/09 21:36:08 (UTC)
Number Of Events	1
Time From Event 1 To 2 (seconds)	N/A
Ignition Cycle At Retrieval	N/A

Model S Data Limitations

General Data Limitations

This report represents data from a Tesla Event Data Recorder (EDR). The report was generated using EDR data that was uploaded to the Tesla EDR Report Service at <https://edr.tesla.com>. This service is periodically updated using the most current vehicle information available and report users should always ensure that the report was generated by the most recent version of the Report Service.

The Tesla EDR Retrieval Program and Tesla EDR Report Service are designed for vehicles configured for the North American market region only. Report elements found in this report may not have not been validated for vehicles configured for regions outside of North America.

The EDR is part of the vehicle's Restraints Control Module (RCM). When the EDR senses a crash or crash-like event, it may record a short period of data related to vehicle dynamics and safety systems. This recorded data may assist in understanding the crash or crash-like event. EDR data will only be recorded by a Tesla vehicle if the EDR senses a crash or crash-like event; no data is recorded by the EDR under normal driving conditions.

EDR data should only be used as part of a thorough and competent review of the human, vehicle, and environmental information associated with an event. The data recorded by the EDR has limitations including the number of items recorded, the time period of the recording, the data sampling interval, and the data range and resolution. Additionally, EDR data may be limited by sensor capabilities or the availability of 12 V DC power at the RCM. For these and other potential reasons, the EDR data may not capture an entire event, and the data elements captured may not fully represent all aspects of a given event.

Tesla has made all reasonable efforts to include sufficient information in this report's Data Limitations section to clarify terminology and data elements found in this document to assist the end user in understanding the recorded data. Tesla reserves the right to update, change or modify this information.

Event Data Recorder

An Event Data Recorder is defined as a device or function in a vehicle that records the vehicle's dynamic time-series data during the time period just prior to a crash event (e.g., vehicle speed vs. time) or during a crash event (e.g., delta-V vs. time), intended for retrieval after the crash event. For the purposes of this definition, the event data do not include audio and video data (49 CFR Part 563).

Data Synchronization

Pre-crash and crash data are recorded in discrete intervals and may be asynchronous.

Events

The Model S RCM can store up to two events: Event 1 and Event 2. The conditions for triggering the recording of an event differs depending on event type.

Time Zero

Time Zero, as indicated throughout the event record, is the point where the restraint control algorithm is activated in any sensing direction.

Recording duration

The end of an event is typically the moment at which the cumulative delta-V within a 20ms time period does not change by more than 0.8 km/h or the moment at which the crash detection algorithm of the RCM resets. Some events may lead to the recording of different duration data as provided for by 49 CFR Part 563.

Deployment events

A deployment event may be recorded when the RCM commands the deployment of a device (e.g. airbag, pretensioner, or High Voltage (HV) battery disconnect). Deployment events are always locked in memory and are never overwritten. Only the first two deployment events are recorded as in this case the available memory is full and locked.

Non-deployment events

A non-deployment event may be recorded when the RCM senses a physical occurrence triggering the recording of an event but does not command the deployment of a device (e.g. airbag, pretensioner, High Voltage (HV) battery disconnect). A non-deployment event is recorded if one of the two event memory locations is available (not locked). Non-deployment events are not locked in memory. A non-deployment event is not overwritten by another non-deployment or deployment event that occurs less than or equal to 5 seconds later (and on the same ignition cycle) unless the available memory is full (in which case the new event overwrites the oldest event). All non-deployment events may be overwritten if a second non-deployment or deployment event occurs greater than 5 seconds later.

Data polarity

Where applicable, the data in this report follows the polarity conventions found in SAE J1733 and J211. For example, forward longitudinal acceleration and resultant delta-V are positive and left-to-right lateral acceleration and resultant delta-V are positive. Positive roll angle is rotation about the vehicle's longitudinal axis using the right hand rule (clockwise vehicle roll when viewed from the rear of the vehicle). Positive steering wheel angle is clockwise rotation of the steering wheel (steering to the right from straight).

Data Element Definitions

Number Of Events

The Number Of Events represents the total number of events that are stored in the RCM memory. The maximum number of events that can be recorded is two.

Time From Event 1 to 2 (seconds)

The Time From Event 1 to 2 is the amount of time elapsed between the Time Zero of two linked events (if applicable). Linked events must occur within 5 seconds and in the same ignition cycle. Non-linked events will report "N/A" in the Time From Event 1 to 2 value. The value is reported to the nearest 0.1 seconds.

Vehicle Identification Number (VIN)

The Vehicle Identification Number (VIN) is stored in the RCM when it is installed at the Tesla Fremont Factory or by Tesla Service. The last 6 digits of the VIN can be anonymized by selecting the "Save without VIN sequence number" option in the Tesla EDR Retrieval Program.

Retrieval Date

The Retrieval Date is the calendar date and time when the data was retrieved from the RCM. This date and time is sourced from the computer that was used to retrieve the data. This is not the date and time of an event.

Retrieval User Comments

The Retrieval User Comments is an open field that can be used by the Tesla EDR Retrieval operator to record text comments at the time of retrieval.

Retrieval Program Information

The Retrieval Program Information is the version number of the Tesla EDR Retrieval Program that was used to retrieve the EDR data from the RCM.

EDR Report Information

The EDR Report Information identifies the version of the Tesla EDR Report Service.

Report Requested By

Report Requested By is the name of the "My Tesla" user that generated the report using the Tesla EDR Report Service.

Report Date

Report Date is the calendar date when the online Tesla EDR Report Service was used to generate the report. The source of this data element is the Tesla server.

Ignition Cycle At Retrieval

The Ignition Cycle At Retrieval is the number of times that the RCM had been powered on as reported at the time that the Tesla EDR Retrieval Program was used to retrieve the data from the RCM. The maximum value for ignition cycles is 65,534.

Maximum Delta-V, Longitudinal/Lateral (km/h)

The Maximum delta-V, Longitudinal/Lateral is the maximum magnitude of the recorded delta-V during the event from Time Zero to a maximum of 300 ms. The value is reported to the nearest kilometer per hour. The range for Maximum Delta-V is -127 km/h to +127 km/h. The source of the data is the internal calculation (integration) of the sensor data inside of the RCM.

Time to Maximum Delta-V, Longitudinal/Lateral (ms)

The Time to Maximum Delta-V, Longitudinal/Lateral is the time from Time Zero to the maximum magnitude of the recorded delta-V during the event. The maximum value is 300 ms and the value is reported to the nearest millisecond.

Time to Maximum Delta-V, Resultant (ms)

The Time to Maximum Delta-V, Resultant is the time from Time Zero to the calculated maximum resultant of the longitudinal and lateral delta-V components. The maximum value is 300 ms and the value is reported to the nearest millisecond.

Ignition Cycle At Event

The Ignition Cycle At Event is the number of times that the RCM had been powered on as reported at Time Zero. The maximum value for ignition cycles is 65,534.

Airbag Warning Lamp Status

Airbag Warning Lamp Status indicates the commanded state of the warning lamp as "on" or "off" within approximately the last second before Time Zero.

Driver/Passenger Safety Belt Status

The Driver/Passenger Safety Belt Status is the recorded status of the safety belt at the time of the event. This data element represents the last observed state within approximately the last second before Time Zero.

Occupant Classification In Front Passenger Seat

The Occupant Classification data element indicates the detected occupant type in the front passenger seat. Values include: Empty, Child, or Adult.

Driver Seat Position

Driver Seat Position indicates the recorded seat track position of the driver seat. The possible values are Rearward and Forward.

Complete File Recorded

Complete File Recorded indicates whether or not the complete data set available to the EDR was successfully recorded.

Deployment Summary

The Deployment Summary table indicates which of the deployable safety devices (if any) were commanded to deploy by the RCM and at what time (relative to the event Time Zero). The possible values for the status of each device is "Deployment Commanded" or "Deployment Not Commanded". The deployment commanded time is to the nearest millisecond.

Time Series Data

All time references are based on the event definition of Time Zero.

Vehicle Speed

Vehicle Speed is calculated and reported by the average of the four wheel speed signals. The minimum value for vehicle speed is 0 km/h and the maximum value is greater than 200 km/h. The resolution of Vehicle Speed is to the nearest kilometer per hour.

Accelerator Pedal (%)

Accelerator Pedal (%) is the percent of full application of the accelerator pedal. The resolution of Accelerator Pedal (%) is to the nearest percent.

Rear Motor Speed (rpm)

Rear Motor Speed is the rate of rotation of the rear drive motor. The units of this data element are rotations per minute. The minimum value for Rear Motor Speed is 0 rpm and the maximum value is 17,000 rpm. The resolution of Rear Motor Speed is to the nearest 100 rotations per minute.

Service Brake

Service Brake indicates the status of the brake pedal as reported by the brake pedal switch. The possible values for Service Brake are "On" (pedal applied) and "Off" (pedal not applied).

Steering Wheel Angle (deg)

Steering Wheel Angle represents the measured rotational angle of the steering wheel. The range for Steering Wheel Angle is -420 deg to +420 deg. The resolution of steering wheel angle is to the nearest degree.

Stability Control

Stability Control is the status of the Electronic Stability Control system (ESC). The possible values are "On" (meaning the ESC was enabled but not active), "Off" (meaning the ESC was turned off), and "Engaged" (meaning that the ESC was active).

ABS Activity

ABS Activity is the status of the Anti-lock Braking System (ABS). The possible values are "On" (meaning the ABS was active) and "Off" (meaning the ABS was not active). Active ABS status does not necessarily indicate that the ABS control unit was actively modulating braking at one or more wheels.

Longitudinal/Lateral Delta-V data

Longitudinal and Lateral Time Series Delta-V Data indicates the change in velocity of the vehicle. The source of the data is the internal calculation (integration) of the sensor data inside of the RCM. The resolution of delta-V data is to the nearest kilometer per hour and the data is reported every 10 ms after Time Zero. The range for delta-V data is -127 km/h to +127 km/h.

Longitudinal and Lateral Time Series Acceleration data

Longitudinal and Lateral Time Series Acceleration Data indicates the measured acceleration of the vehicle. The source of the data is the accelerometers located inside the RCM. The resolution of acceleration data is 0.5 g and the data is reported every 2 ms after Time Zero. The range of acceleration data is -63.5 g to +63.5 g.

Roll Angle

Roll Angle indicates the vehicles roll angle at a specific time before and/or after Time Zero. The source of the data is the internal calculation (integration) of the sensor data inside of the RCM. The measurement starts 1,000 ms before Time Zero and ends when the RCM rollover algorithm resets. The maximum recording time for Roll Angle Data is 1000 ms before and 5,000 ms after Time Zero. The range of roll angle data is -1,270 deg to +1,270 deg. The resolution of roll angle data is to the nearest 10 deg. From -1,000 ms to 1,000 ms, the time between each sample is 10 ms. From 1,000 ms to 5,000 ms the time between each sample is 100 ms.

Serial Numbers

Serial numbers are the sensor identification numbers that are stored in the RCM. These values are stored when the RCM is powered up (each ignition cycle).

Hexadecimal Data

The Hexadecimal Data found in this report represents the original, raw data and identifying information retrieved from the RCM accessed to ultimately generate this report. The binary data is represented in hexadecimal format as a matter of convenience. While it represents all the raw data retrieved from the subject RCM not all of that raw data may be used in a given report or application.

Event 1 Data Record

Data Element	Value
Maximum Delta-V, Longitudinal (km/h)	-9
Time To Maximum Delta-V, Longitudinal (ms)	300.0
Maximum Delta-V, Lateral (km/h)	-9
Time To Maximum Delta-V, Lateral (ms)	250.0
Time To Maximum Delta-V, Resultant (ms)	264.0
Ignition Cycle At Event	13158
Airbag Warning Lamp Status	Off
Driver Safety Belt status	Buckled
Passenger Safety Belt status	Buckled
Occupant Classification Status In Front Passenger Seat	Not Available
Driver Seat Position	Rearward
Complete File Recorded	Yes

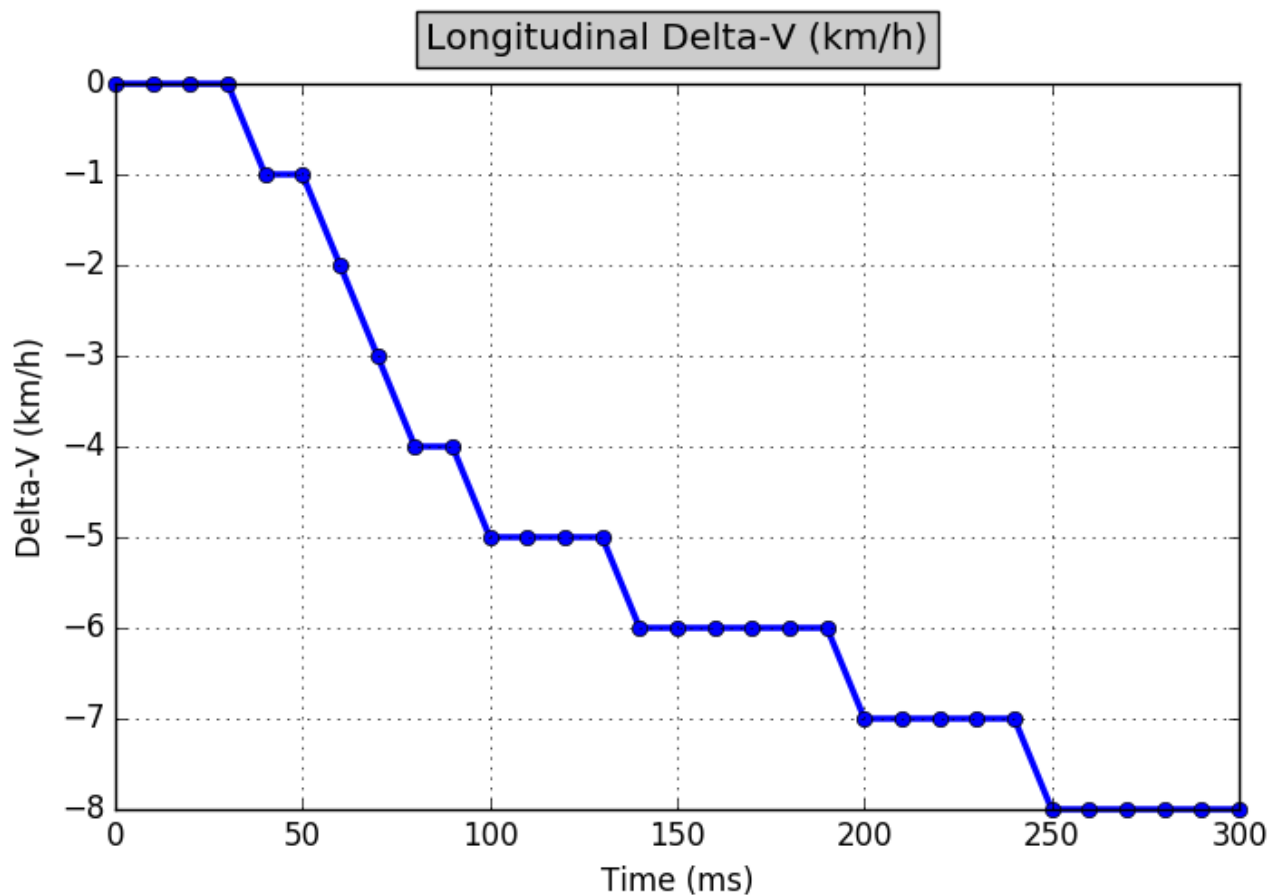
Deployment Summary (Event 1)

Device	Status	Deployment Command Time (ms)
Driver Front Airbag Stage 1	Deployment Commanded	71
Driver Front Airbag Stage 2	Deployment Commanded	171
Driver Knee Airbag	Deployment Commanded	71
Driver Retractor Pretensioner	Deployment Commanded	71
Driver Lap Pretensioner	Deployment Commanded	71
Driver Side Seat Airbag	Deployment Not Commanded	
Passenger Front Airbag Stage 1	Deployment Commanded	71
Passenger Front Airbag Stage 2	Deployment Commanded	171
Passenger Knee Airbag	Deployment Commanded	71
Front Right Passenger Retractor Pretensioner	Deployment Commanded	71
Front Right Passenger Lap Pretensioner	Deployment Commanded	71
Passenger Side Seat Airbag	Deployment Not Commanded	
Left Side Curtain Airbag	Deployment Not Commanded	
Right Side Curtain Airbag	Deployment Not Commanded	
HV Battery Disconnect	Deployment Commanded	71

Event Data (Event 1)

Time (sec)	Vehicle Speed (kph)	Accelerator Pedal %	Rear Motor Speed (rpm)	Service Brake	Steering Wheel Angle (deg)	Stability Control	ABS Activity
-5.0	69	0	5100	On	-4.2	On	Off
-4.5	66	0	4900	On	0.0	On	Off
-4.0	61	0	4500	On	-12.6	On	Off
-3.5	58	0	4300	Off	-50.4	On	Off
-3.0	56	0	4200	Off	-92.4	On	Off
-2.5	55	4	4100	Off	-100.8	On	Off
-2.0	54	12	4000	Off	-151.2	On	Off
-1.5	57	35	4100	Off	-235.2	Engaged	Off
-1.0	51	87	4000	Off	-357.0	Engaged	Off
-0.5	46	98	3700	Off	-420.0	Engaged	Off
0.0	45	99	3500	Off	-420.0	Engaged	Off

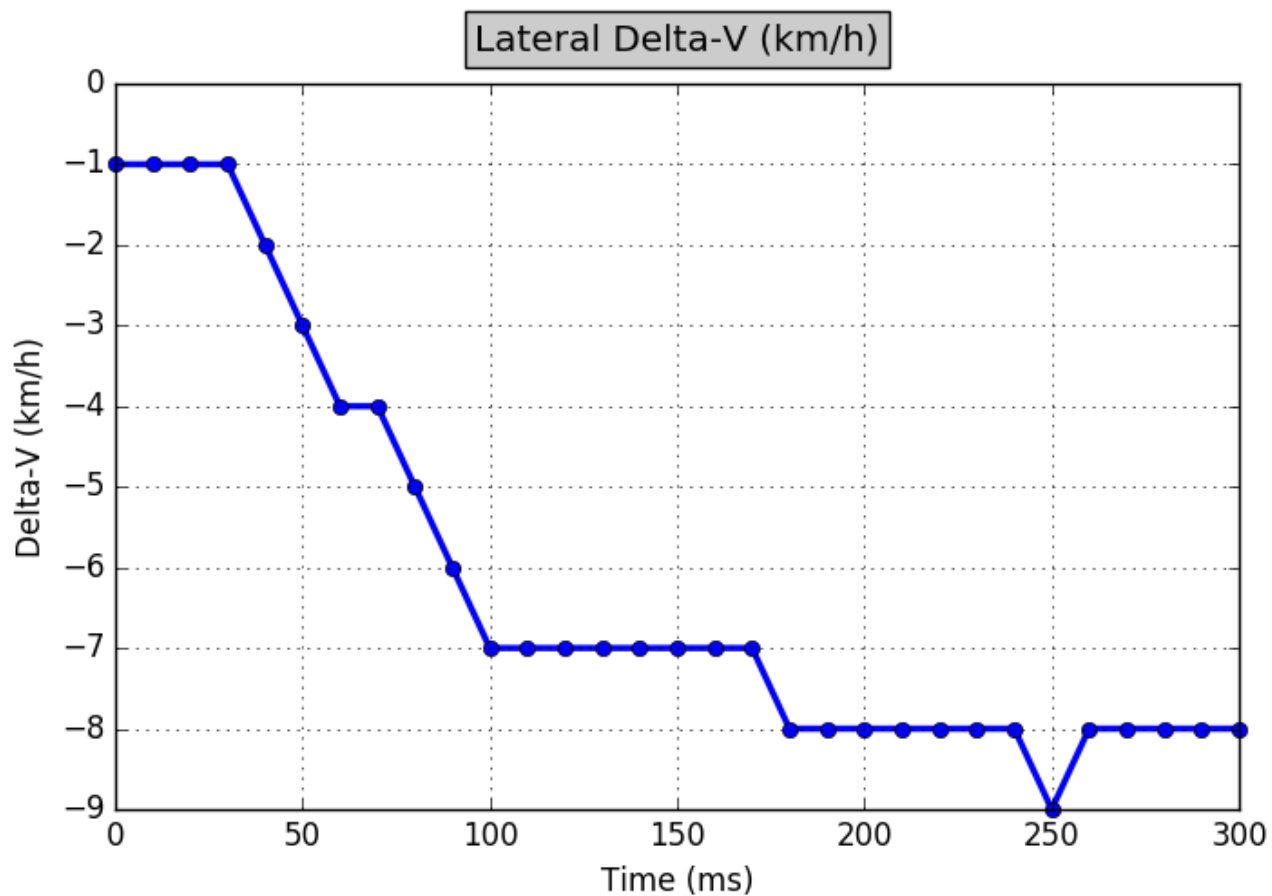
Longitudinal Delta-V (Event 1)



Time (ms)	Delta-V (km/h)
0	0
10	0
20	0
30	0
40	-1
50	-1
60	-2
70	-3
80	-4
90	-4
100	-5
110	-5
120	-5
130	-5
140	-6
150	-6

Time (ms)	Delta-V (km/h)
160	-6
170	-6
180	-6
190	-6
200	-7
210	-7
220	-7
230	-7
240	-7
250	-8
260	-8
270	-8
280	-8
290	-8
300	-8

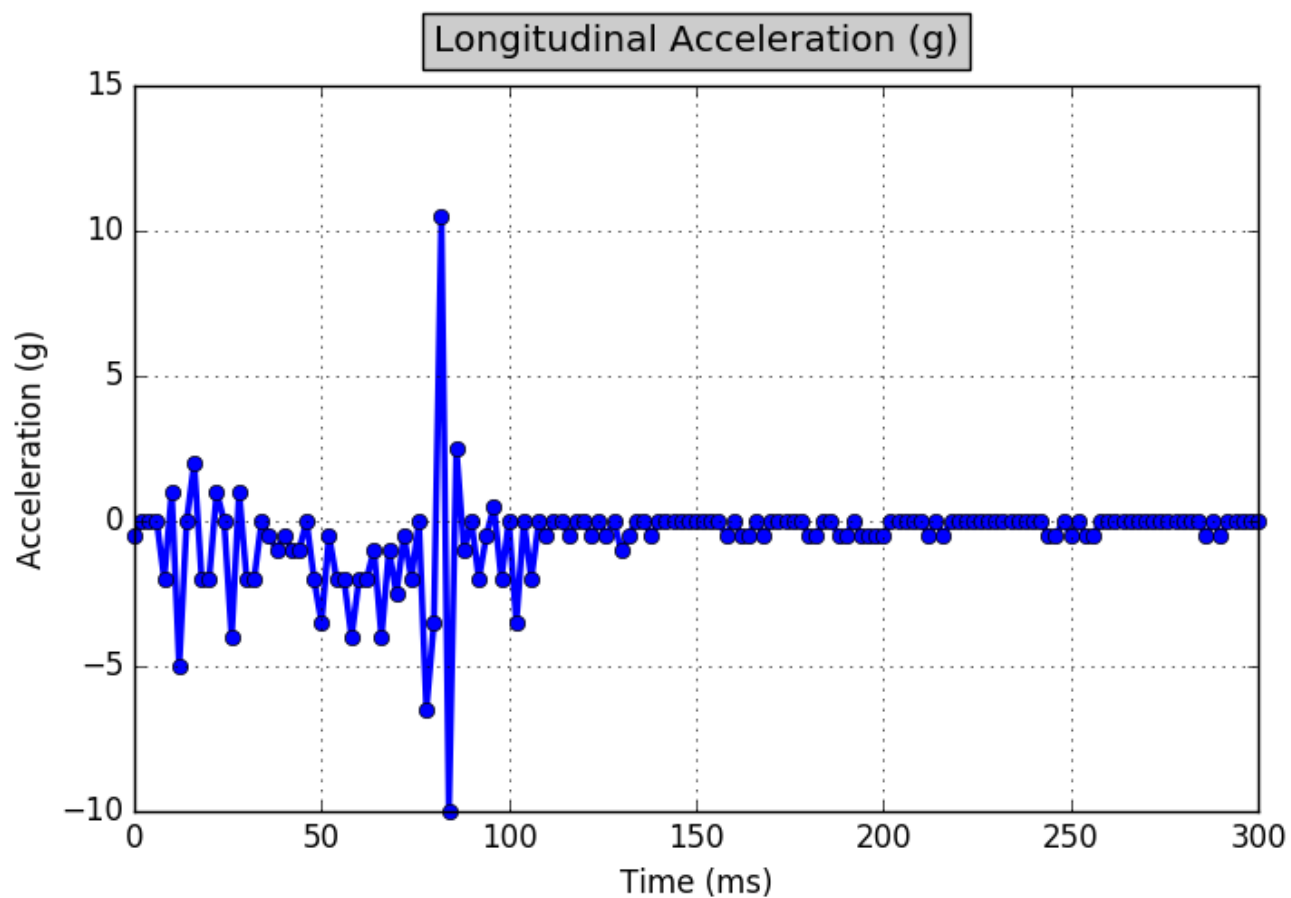
Lateral Delta-V (Event 1)



Time (ms)	Delta-V (km/h)
0	-1
10	-1
20	-1
30	-1
40	-2
50	-3
60	-4
70	-4
80	-5
90	-6
100	-7
110	-7
120	-7
130	-7
140	-7
150	-7

Time (ms)	Delta-V (km/h)
160	-7
170	-7
180	-8
190	-8
200	-8
210	-8
220	-8
230	-8
240	-8
250	-9
260	-8
270	-8
280	-8
290	-8
300	-8

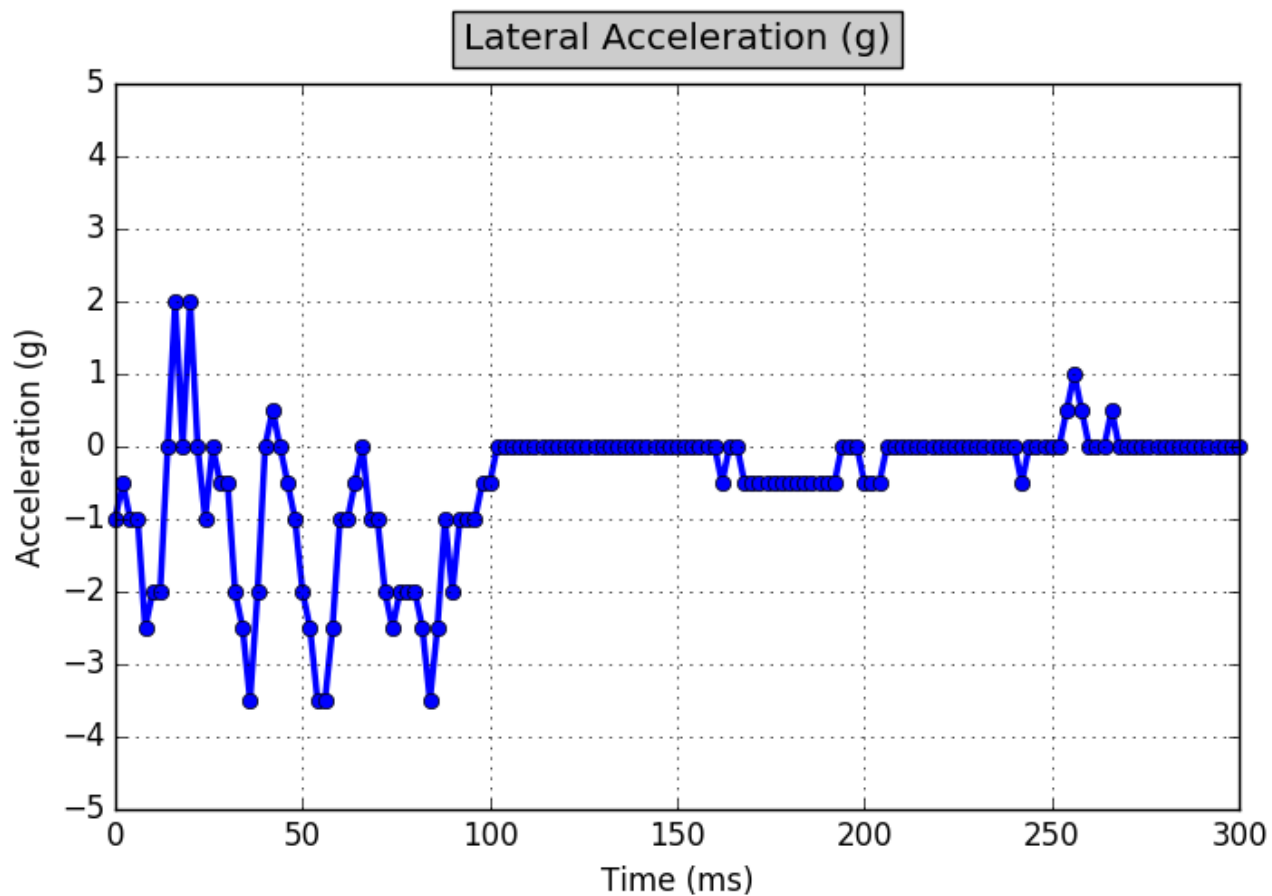
Longitudinal Acceleration (Event 1)



Longitudinal Acceleration Values (Event 1)

Time (ms)	Acceleration (g)	Time (ms)	Acceleration (g)	Time (ms)	Acceleration (g)
0	-0.5	102	-3.5	204	0.0
2	0.0	104	0.0	206	0.0
4	0.0	106	-2.0	208	0.0
6	0.0	108	0.0	210	0.0
8	-2.0	110	-0.5	212	-0.5
10	1.0	112	0.0	214	0.0
12	-5.0	114	0.0	216	-0.5
14	0.0	116	-0.5	218	0.0
16	2.0	118	0.0	220	0.0
18	-2.0	120	0.0	222	0.0
20	-2.0	122	-0.5	224	0.0
22	1.0	124	0.0	226	0.0
24	0.0	126	-0.5	228	0.0
26	-4.0	128	0.0	230	0.0
28	1.0	130	-1.0	232	0.0
30	-2.0	132	-0.5	234	0.0
32	-2.0	134	0.0	236	0.0
34	0.0	136	0.0	238	0.0
36	-0.5	138	-0.5	240	0.0
38	-1.0	140	0.0	242	0.0
40	-0.5	142	0.0	244	-0.5
42	-1.0	144	0.0	246	-0.5
44	-1.0	146	0.0	248	0.0
46	0.0	148	0.0	250	-0.5
48	-2.0	150	0.0	252	0.0
50	-3.5	152	0.0	254	-0.5
52	-0.5	154	0.0	256	-0.5
54	-2.0	156	0.0	258	0.0
56	-2.0	158	-0.5	260	0.0
58	-4.0	160	0.0	262	0.0
60	-2.0	162	-0.5	264	0.0
62	-2.0	164	-0.5	266	0.0
64	-1.0	166	0.0	268	0.0
66	-4.0	168	-0.5	270	0.0
68	-1.0	170	0.0	272	0.0
70	-2.5	172	0.0	274	0.0
72	-0.5	174	0.0	276	0.0
74	-2.0	176	0.0	278	0.0
76	0.0	178	0.0	280	0.0
78	-6.5	180	-0.5	282	0.0
80	-3.5	182	-0.5	284	0.0
82	10.5	184	0.0	286	-0.5
84	-10.0	186	0.0	288	0.0
86	2.5	188	-0.5	290	-0.5
88	-1.0	190	-0.5	292	0.0
90	0.0	192	0.0	294	0.0
92	-2.0	194	-0.5	296	0.0
94	-0.5	196	-0.5	298	0.0
96	0.5	198	-0.5	300	0.0
98	-2.0	200	-0.5		
100	0.0	202	0.0		

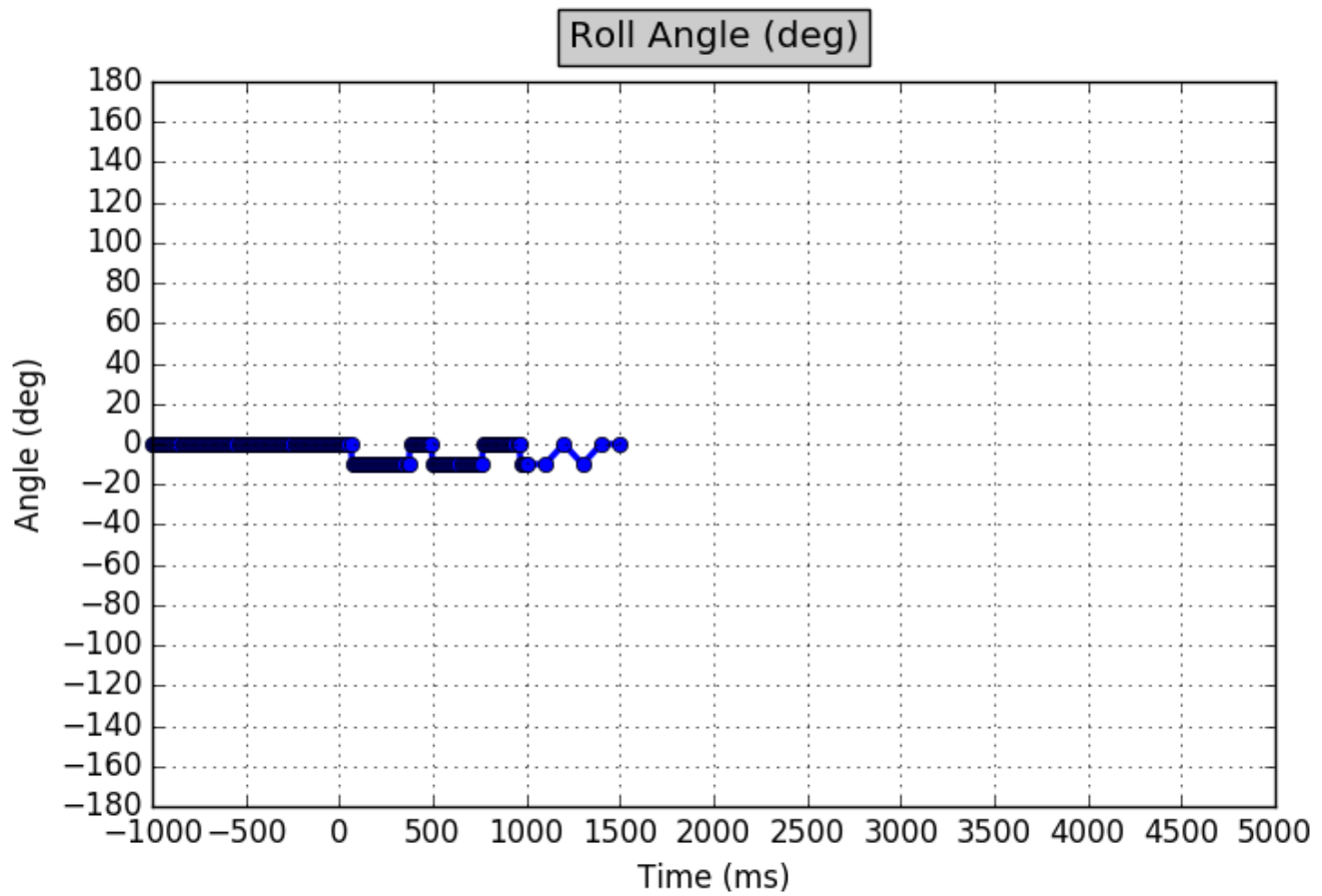
Lateral Acceleration (Event 1)



Lateral Acceleration Values (Event 1)

Time (ms)	Acceleration (g)	Time (ms)	Acceleration (g)	Time (ms)	Acceleration (g)
0	-1.0	102	0.0	204	-0.5
2	-0.5	104	0.0	206	0.0
4	-1.0	106	0.0	208	0.0
6	-1.0	108	0.0	210	0.0
8	-2.5	110	0.0	212	0.0
10	-2.0	112	0.0	214	0.0
12	-2.0	114	0.0	216	0.0
14	0.0	116	0.0	218	0.0
16	2.0	118	0.0	220	0.0
18	0.0	120	0.0	222	0.0
20	2.0	122	0.0	224	0.0
22	0.0	124	0.0	226	0.0
24	-1.0	126	0.0	228	0.0
26	0.0	128	0.0	230	0.0
28	-0.5	130	0.0	232	0.0
30	-0.5	132	0.0	234	0.0
32	-2.0	134	0.0	236	0.0
34	-2.5	136	0.0	238	0.0
36	-3.5	138	0.0	240	0.0
38	-2.0	140	0.0	242	-0.5
40	0.0	142	0.0	244	0.0
42	0.5	144	0.0	246	0.0
44	0.0	146	0.0	248	0.0
46	-0.5	148	0.0	250	0.0
48	-1.0	150	0.0	252	0.0
50	-2.0	152	0.0	254	0.5
52	-2.5	154	0.0	256	1.0
54	-3.5	156	0.0	258	0.5
56	-3.5	158	0.0	260	0.0
58	-2.5	160	0.0	262	0.0
60	-1.0	162	-0.5	264	0.0
62	-1.0	164	0.0	266	0.5
64	-0.5	166	0.0	268	0.0
66	0.0	168	-0.5	270	0.0
68	-1.0	170	-0.5	272	0.0
70	-1.0	172	-0.5	274	0.0
72	-2.0	174	-0.5	276	0.0
74	-2.5	176	-0.5	278	0.0
76	-2.0	178	-0.5	280	0.0
78	-2.0	180	-0.5	282	0.0
80	-2.0	182	-0.5	284	0.0
82	-2.5	184	-0.5	286	0.0
84	-3.5	186	-0.5	288	0.0
86	-2.5	188	-0.5	290	0.0
88	-1.0	190	-0.5	292	0.0
90	-2.0	192	-0.5	294	0.0
92	-1.0	194	0.0	296	0.0
94	-1.0	196	0.0	298	0.0
96	-1.0	198	0.0	300	0.0
98	-0.5	200	-0.5		
100	-0.5	202	-0.5		

Roll Angle Data (Event 1)



Roll Angle Values (Event 1)

Time (ms)	Angle (deg)	Time (ms)	Angle (deg)	Time (ms)	Angle (deg)	Time (ms)	Angle (deg)
-1000	0	-390	0	220	-10	830	0
-990	0	-380	0	230	-10	840	0
-980	0	-370	0	240	-10	850	0
-970	0	-360	0	250	-10	860	0
-960	0	-350	0	260	-10	870	0
-950	0	-340	0	270	-10	880	0
-940	0	-330	0	280	-10	890	0
-930	0	-320	0	290	-10	900	0
-920	0	-310	0	300	-10	910	0
-910	0	-300	0	310	-10	920	0
-900	0	-290	0	320	-10	930	0
-890	0	-280	0	330	-10	940	0
-880	0	-270	0	340	-10	950	0
-870	0	-260	0	350	-10	960	0
-860	0	-250	0	360	-10	970	-10
-850	0	-240	0	370	-10	980	-10
-840	0	-230	0	380	0	990	-10
-830	0	-220	0	390	0	1000	-10
-820	0	-210	0	400	0	1100	-10
-810	0	-200	0	410	0	1200	0
-800	0	-190	0	420	0	1300	-10
-790	0	-180	0	430	0	1400	0
-780	0	-170	0	440	0	1500	0
-770	0	-160	0	450	0	1600	
-760	0	-150	0	460	0	1700	
-750	0	-140	0	470	0	1800	
-740	0	-130	0	480	0	1900	
-730	0	-120	0	490	0	2000	
-720	0	-110	0	500	-10	2100	
-710	0	-100	0	510	-10	2200	
-700	0	-90	0	520	-10	2300	
-690	0	-80	0	530	-10	2400	
-680	0	-70	0	540	-10	2500	
-670	0	-60	0	550	-10	2600	
-660	0	-50	0	560	-10	2700	
-650	0	-40	0	570	-10	2800	
-640	0	-30	0	580	-10	2900	
-630	0	-20	0	590	-10	3000	
-620	0	-10	0	600	-10	3100	
-610	0	0	0	610	-10	3200	
-600	0	10	0	620	-10	3300	
-590	0	20	0	630	-10	3400	
-580	0	30	0	640	-10	3500	
-570	0	40	0	650	-10	3600	
-560	0	50	0	660	-10	3700	
-550	0	60	0	670	-10	3800	
-540	0	70	-10	680	-10	3900	
-530	0	80	-10	690	-10	4000	
-520	0	90	-10	700	-10	4100	
-510	0	100	-10	710	-10	4200	
-500	0	110	-10	720	-10	4300	
-490	0	120	-10	730	-10	4400	
-480	0	130	-10	740	-10	4500	
-470	0	140	-10	750	-10	4600	
-460	0	150	-10	760	-10	4700	
-450	0	160	-10	770	0	4800	
-440	0	170	-10	780	0	4900	
-430	0	180	-10	790	0	5000	
-420	0	190	-10	800	0		
-410	0	200	-10	810	0		
-400	0	210	-10	820	0		

Serial Numbers

Sensor Number	Sensor Type	Serial Number
1	RCM Serial Number	1HST
2	Left Front Crash Sensor	A3EE47C04
3	Right Front Crash Sensor	AB5E07C04
4	Left Side Impact Crash Sensor (B-Pillar)	A23497B04
5	Right Side Impact Crash Sensor (B-Pillar)	A50AF8204
6	Right Side Impact Crash Sensor (C-Pillar)	A8F497A04
7	Left Side Impact Crash Sensor (C-Pillar)	A9C316204
8	Right Side Door Pressure Sensor	P812460C1
9	Left Side Door Pressure Sensor	P81242191

Hexadecimal Data

FD02	31	48	53	54																																	
FD03	80	FF	FF	FF	FF	00	31	34	30	38	31	39	30	31	31	48	53	54	41	4B	58																
FD00	28	44	54	97	00	00	00	00																													
F190	35	59	4A	53	41	31	48	32	31	45	46	50	30	30	30	30	30																				
FD90	0000	7F	7F	7F	7F	7E	7E	7D	7C	7B	7B	7A	7A	7A	7A	79	79	79	79	79	79	78	78	78	78	78	77	77	77	77							
	0028	77	77	77	76	01	2C	7E	7E	7E	7E	7D	7C	7B	7B	7A	79	78	78	78	78	78	78	78	78	77	77	77	77	77							
	0056	77	77	77	76	77	77	77	77	77	76	00	FA	01	08																						
FD93	0000	09	01	55	55	C5	30	FD	00	00	47	00	AB	00	47	00	AB	00	47	00	47	00	47	00	47	00	47	00	47	00	47						
	0028	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	00	47	FF	FF	FF	FF	FF	FF	FF															
FD92	0000	7E	7F	7F	7F	7B	81	75	7F	83	7B	7B	81	7F	77	81	7B	7B	7F	7E	7D	7E	7D	7D	7F	7B	78	7E	7B	7E	7B						
	0028	7B	77	7B	7B	7D	77	7D	7A	7E	7B	7F	72	78	94	6B	84	7D	7F	7B	7E	80	7B	7F	78	7F	7B	7F	7E	7B	7E						
	0056	7F	7F	7E	7F	7F	7E	7F	7E	7F	7D	7E	7F	7F	7E	7F	7F	7F	7F	7F	7F	7F	7F	7F	7E	7F	7E	7E	7F	7E	7F						
	0084	7E	7F	7F	7F	7F	7F	7E	7E	7F	7F	7E	7E	7F	7E	7E	7E	7E	7F	7F	7F	7F	7F	7E	7F	7E	7F	7E	7F	7F	7F						
	0112	7F	7F	7F	7F	7F	7F	7F	7F	7F	7E	7E	7F	7E	7F	7E	7E	7E	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F						
	0140	7F	7F	7F	7E	7F	7E	7F	7F	7F	7F	7F	7D	7E	7D	7D	7A	7B	7B	7F	83	7F	83	7F	7D	7F	7E	7E	7E	7B	7E						
	0168	7A	78	7B	7F	80	7F	7E	7D	7B	7A	78	78	7A	7D	7D	7E	7F	7D	7D	7B	7A	7B	7B	7B	7A	78	7A	7D	7A	7D						
	0196	7B	7D	7D	7D	7E	7E	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F						
	0224	7F	7F	7F	7F	7F	7F	7F	7F	7E	7F	7F	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7F	7F	7F	7F	7E	7E						
	0252	7E	7E	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F						
	0280	80	7F	7F	7F	80	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F														
FD60	FF	00	00	00	00	41	33	45	45	34	37	43	30	34																							
FD61	FF	00	00	00	00	41	42	35	45	30	37	43	30	34																							
FD62	FF	00	00	00	00	41	32	33	34	39	37	42	30	34																							
FD63	FF	00	00	00	00	41	35	30	41	46	38	32	30	34																							
FD64	FF	00	00	00	00	41	38	46	34	39	37	41	30	34																							
FD65	FF	00	00	00	00	41	39	43	33	31	36	32	30	34																							
FD66	FF	00	00	00	00	50	38	31	32	34	36	30	43	31																							
FD67	FF	00	00	00	00	50	38	31	32	34	32	31	39	31																							
FD52	01	02	06	07	09	08	0C	0B																													
FD91	0000	45	42	3D	3A	38	37	36	39	33	2E	2D	00	00	00	00	00	04	0C	23	57	62	63	33	31	2D	2B	2A	29	29							
	0028	28	29	28	25	23	00	00	00	80	7F	82	8B	95	97	A3	B7	D4	E3	E3	15	00	00	55	95	2A	33	66	00	00							
	0056	00	00	00	00	00	00	01	01	00	03	03	03	00	00	00	00	00	C0	30	FC	00	83	DE	4B	48	3D	3D	3F	3F							
	0084	3F	3C	3C	3C	3A	41	00	42	41	00	42	3C	00	00	00																					
FD80	FF	FF	FF	FF	FF	FF	FF																														

FD94

0000	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F
0028	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F
0056	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F
0084	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7E	7E	7E	7E	7E
0112	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7F	7F
0140	7F	7F	7F	7F	7F	7F	7F	7F	7F	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E
0168	7E	7E	7E	7E	7E	7E	7E	7E	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F
0196	7F	7E	7E	7E	7E	7E	7F	7E	7F	7F	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0224	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

FD95

0000	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
0028	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
0056	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
0084	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
0112	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
0140	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
0168	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
0196	FF	FF	FF	FF																							

87 34 BD DA 6F 55 56 E3 1C C3 66 3B 1F DA 4F 0B F6 2C A0 24 EF 38 06 11 AC 90 65 77 B6 CA 26 2B

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