## EDR Report

|  | Value |
| :--- | :--- |
| File Information | 5YJ3E1EA1JFO00000 |
| VIN | 2018／01／01 00：00：00（UTC） |
| Retrieval Date |  |
| Retrieval User Comments |  |
| Retrieval Program Information | Tesla EDR Reporting Service v19．28．1 |
| EDR Report Information | $2019 / 08 / 30$ 22：18：36（UTC） |
| Report Date | 2 |
| Number Of Events | 1.5 |
| Time From Event 1 To 2（seconds） | 1422 |
| Ignition Cycle At Retrieval |  |

## Model 3 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 3 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 20 ms time period does not change by more than $0.8 \mathrm{~km} / \mathrm{h}$ 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）．Airbag deployment events are always locked in memory and are never overwritten．Pretensioner／HV disconnect only deployments may not be locked and may be overwritten

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 overwritten by another non－deployment event or a deployment event．

## 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）．

Signal Not Available（SNA）
Signal Not Available（SNA）indicates a data element which is not available due to a fault or network communication disruption with the sensor that supplies the data to the EDR．

## Data Element Definitions

## 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 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．

## 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 0.5 seconds．

## 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 over 4 billion．

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．The value is reported to the nearest kilometer per hour．The range for Maximum Delta－V is $-100 \mathrm{~km} / \mathrm{h}$ to $+100 \mathrm{~km} / \mathrm{h}$ ．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 over 4 billion．

Ignition Cycle Runtime
Ignition Cycle Runtime is the total cumulated time from when the RCM was powered on to Time Zero for a given event．The maximum value of Ignition Cycle Runtime is over 70 million minutes and the resolution is 0.1 minutes．

## Odometer At Event Time Zero

Odometer At Event Time Zero is the value of the vehicle＇s lifetime mileage accumulation at Time Zero．The maximum value for this data element is over 1 million kilometers and the resolution is 0.1 kilometers．

## 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．

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

## Vehicle Drive Mode

Vehicle Drive Mode is the status of the vehicle＇s powertrain setting within approximately the last second before Time Zero．Possible values for this data element include Park，Reverse，Neutral and Drive．

## 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 is recorded one second before Time Zero．

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

## Driver Seat Position

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

## Rear occupant seat status

The Model 3 may record data associated with the second row seat occupancy and seat belt status．The possible values for occupancy status include：Not Occupied or Occupied，or Not Available．The possible values for rear occupant seat belt status are Buckled，Not Buckled，or Not Available．

Driver Airbag Deployment 2nd Stage Disposal
This data element indicates if the driver airbag second stage was commanded to deploy（either for occupant restraint or propellant disposal purposes）．

Right Front Passenger Airbag Deployment 2nd Stage Disposal
This data element indicates if the passenger airbag second stage was commanded to deploy（either for occupant restraint or propellant disposal purposes）．

## 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 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 using the four wheel speed signals as well as inertial acceleration measurements．This speed will be reported either in kilometers per hour or miles per hour，depending on vehicle configuration．The minimum value for vehicle speed is 0 and the maximum value is greater than $200 \mathrm{~km} / \mathrm{h}(124 \mathrm{mph})$ ．The resolution of Vehicle Speed is to the nearest kilometer per hour or mile per hour， depending on vehicle configuration．

## 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 maximum value for Rear Motor Speed is $17,900 \mathrm{rpm}$（revolutions per minute）．The resolution of Rear Motor Speed is to the nearest 1 rpm．Positive RPM values indicate that the vehicle motor is rotating negatively about the vehicle＇s lateral（ $y$ ）axis，which provides forward motive force．

## Service Brake

Service Brake indicates the status of the driver＇s application of the brake pedal as reported by the brake booster．The possible values for Service Brake are＂On＂（pedal being applied by driver）and＂Off＂（pedal not being applied by driver）．

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．

Steering Wheel Angle（deg）
Steering Wheel Angle represents the measured rotational angle of the steering wheel．The range of Steering Wheel Angle data is -819 deg to +819 deg．The resolution of steering wheel angle is to the nearest degree．Data is recorded for 5 seconds prior to Time Zero every 0.1 seconds．

Lateral／Longitudinal Pre－Crash Acceleration
Lateral and Longitudinal Pre－Crash Acceleration data is the measured physical acceleration of the vehicle as measured at the RCM during the 5 seconds prior to（and including）Time Zero．

## Roll／Yaw Rate Pre－Crash Data

Roll and Yaw Rate Pre－Crash data is the measured angular velocity of the RCM for the 5 seconds prior to（and including）Time Zero．The resolution of this data element is to the nearest 0.1 degrees／second and the samples are recorded every 0.1 seconds．

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 (until the end of the event). The range for delta-V data is $-100 \mathrm{~km} / \mathrm{h}$ to $+100 \mathrm{~km} / \mathrm{h}$.

Longitudinal/Lateral/Normal Time Series Acceleration data
Longitudinal and Lateral Time Series Acceleration Data indicates the measured physical acceleration of the vehicle. The source of the data is the accelerometers located inside the RCM. The resolution of acceleration data is 0.8 g and the data is reported every 0.5 ms after Time Zero (until the end of the event). The range of acceleration data is -96 g to +96 g .

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.

## Т ミラレゥ

## Event 1 Data Record

| Data Element | Value |
| :--- | :--- |
| Maximum Delta－V，Longitudinal（km／h） | -13 |
| Time To Maximum Delta－V，Longitudinal（ms） | 260.0 |
| Maximum Delta－V，Lateral（km／h） | 2 |
| Time To Maximum Delta－V，Lateral（ms） | 132.5 |
| Time To Maximum Delta－V，Resultant（ms） | 260.0 |
| Ignition Cycle At Event | 1422 |
| Ignition Cycle Runtime（minutes） | 4.5 |
| Odometer At Event Time Zero（km） | 5840.0 |
| Airbag Warning Lamp Status | Off |
| ABS Warning Indicator Status | Off |
| Vehicle Drive Mode | Drive |
| Driver Safety Belt Status | Buckled |
| Passenger Safety Belt Status | Buckled |
| Occupant Classification Status In Front Passenger Seat | Adult |
| Driver Seat Track Position | Rearward |
| 2nd Row Left Safety Belt Status | Not Buckled |
| 2nd Row Left Seat Occupant | Not Occupied |
| 2nd Row Center Safety Belt Status | Not Buckled |
| 2nd Row Center Seat Occupant | Not Occupied |
| 2nd Row Right Safety Belt Status | Not Buckled |
| 2nd Row Right Seat Occupant | Not Occupied |
| Driver Airbag Deployment 2nd Stage Disposal | No |
| Right Front Passenger Airbag Deployment 2nd Stage Disposal | No |
| Complete File Recorded | Yes |

## Т ミラレゥ

## Deployment Summary（Event 1）

| Device | Status |
| :--- | :--- |
| Driver Front Airbag Stage 1 | Deployment Not Commanded |
| Driver Front Airbag Stage 2 | Deployment Not Commanded |
| Driver Front Airbag Active Vent | Deployment Not Commanded Time（ms） |
| Driver Knee Airbag | Deployment Not Commanded |
| Driver Retractor Pretensioner | Deployment Not Commanded |
| Driver Lap Pretensioner | Deployment Not Commanded |
| Driver Switchable Load Limiter | Deployment Not Commanded |
| Driver Side Seat Airbag | Deployment Not Commanded |
| Passenger Front Airbag Stage 1 | Deployment Not Commanded |
| Passenger Front Airbag Stage 2 | Deployment Not Commanded |
| Passenger Active Vent | Deployment Not Commanded |
| Passenger Knee Airbag | Deployment Not Commanded |
| Passenger Retractor Pretensioner | Deployment Not Commanded |
| Passenger Lap Pretensioner | Deployment Not Commanded |
| Passenger Switchable Load Limiter | Deployment Not Commanded |
| Passenger Side Seat Airbag | Deployment Not Commanded |
| Inflatable Curtain Airbag Left | Deployment Not Commanded |
| Inflatable Curtain Airbag Right | Deployment Not Commanded |
| Second Row Retractor Pretensioner Left | Deployment Not Commanded |
| Second Row Retractor Pretensioner Right | Deployment Not Commanded |

## Т ミラレゥ

Event Data（Event 1）

| Time（sec） | Service Brake | Stability Control | ABS Activity |
| :---: | :---: | :---: | :---: |
| －5．0 | Off | Engaged | Off |
| －4．5 | On | Engaged | Off |
| －4．0 | Off | Engaged | Off |
| －3．5 | Off | Engaged | Off |
| －3．0 | On | Engaged | Engaged |
| －2．5 | On | Engaged | Engaged |
| －2．0 | Off | Engaged | Off |
| －1．5 | On | Engaged | Engaged |
| －1．0 | On | Engaged | On |
| －0．5 | On | Engaged | On |
| 0.0 | On | Engaged | On |


| Time（sec） | Vehicle Speed（ $\mathrm{mi} / \mathrm{h}$ ） | Accelerator Pedal（\％） | Rear Motor Speed（rpm） |
| :---: | :---: | :---: | :---: |
| －5．0 | 46.0 | 0.0 | 4327 |
| －4．8 | 46.0 | 0.0 | 4300 |
| －4．6 | 46.0 | 0.0 | 4155 |
| －4．4 | 47.0 | 0.0 | 4131 |
| －4．2 | 47.0 | 0.0 | 4204 |
| －4．0 | 45.0 | 0.0 | 4185 |
| －3．8 | 39.0 | 0.0 | 4158 |
| －3．6 | 38.0 | 0.0 | 4232 |
| －3．4 | 38.0 | 0.0 | 4282 |
| －3．2 | 41.0 | 0.0 | 4262 |
| －3．0 | 41.0 | 0.0 | 4391 |
| －2．8 | 41.0 | 0.0 | 4209 |
| －2．6 | 40.0 | 0.0 | 4103 |
| －2．4 | 39.0 | 4.8 | 4005 |
| －2．2 | 38.0 | 0.0 | 3960 |
| －2．0 | 38.0 | 0.0 | 3952 |
| －1．8 | 30.0 | 0.0 | 3239 |
| －1．6 | 31.0 | 0.0 | 3394 |
| －1．4 | 31.0 | 0.0 | 3534 |
| －1．2 | 33.0 | 0.0 | 3378 |
| －1．0 | 35.0 | 0.0 | 3310 |
| －0．8 | 34.0 | 0.0 | 3510 |
| －0．6 | 35.0 | 0.0 | 3646 |
| －0．4 | 35.0 | 0.0 | 4050 |
| －0．2 | 35.0 | 0.0 | 3778 |
| 0.0 | 34.0 | 0.0 | 3711 |

Steering Wheel Angle（Event 1）
Steering Wheel Angle（deg）


| Time（sec） | Angle（deg） | Time（sec） | Angle（deg） | Time（sec） | Angle（deg） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | 215 | －3．2 | 258 | －1．4 | 361 |
| －4．9 | 218 | －3．1 | 252 | －1．3 | 363 |
| －4．8 | 227 | －3．0 | 253 | －1．2 | 363 |
| －4．7 | 239 | －2．9 | 252 | －1．1 | 364 |
| －4．6 | 255 | －2．8 | 250 | －1．0 | 364 |
| －4．5 | 269 | －2．7 | 250 | －0．9 | 363 |
| －4．4 | 278 | －2．6 | 254 | －0．8 | 363 |
| －4．3 | 281 | －2．5 | 259 | －0．7 | 363 |
| －4．2 | 278 | －2．4 | 267 | －0．6 | 364 |
| －4．1 | 274 | －2．3 | 273 | －0．5 | 364 |
| －4．0 | 277 | －2．2 | 276 | －0．4 | 364 |
| －3．9 | 282 | －2．1 | 281 | －0．3 | 364 |
| －3．8 | 282 | －2．0 | 293 | －0．2 | 365 |
| －3．7 | 280 | －1．9 | 307 | －0．1 | 364 |
| －3．6 | 279 | －1．8 | 331 | 0.0 | 364 |
| －3．5 | 275 | －1．7 | 355 |  |  |
| －3．4 | 271 | －1．6 | 360 |  |  |
| －3．3 | 267 | －1．5 | 361 |  |  |

Lateral Pre-Crash Acceleration (Event 1)


| Time (s) | Acceleration (g) | Time (s) | Acceleration (g) | Time (s) | Acceleration (g) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -5.0 | -0.1 | -3.2 | 0.0 | -1.4 | 0.0 |
| -4.9 | -0.1 | -3.1 | 0.0 | -1.3 | 0.0 |
| -4.8 | -0.1 | -3.0 | 0.0 | -1.2 | 0.0 |
| -4.7 | -0.1 | -2.9 | 0.0 | -1.1 | 0.0 |
| -4.6 | -0.1 | -2.8 | 0.0 | -1.0 | 0.0 |
| -4.5 | 0.0 | -2.7 | 0.0 | -0.9 | 0.0 |
| -4.4 | -0.1 | -2.6 | 0.0 | -0.8 | 0.0 |
| -4.3 | 0.0 | -2.5 | 0.0 | -0.7 | 0.2 |
| -4.2 | 0.0 | -2.4 | 0.0 | -0.6 | 0.2 |
| -4.1 | 0.0 | -2.3 | 0.0 | -0.5 | 0.3 |
| -4.0 | 0.0 | -2.2 | 0.0 | -0.4 | 0.3 |
| -3.9 | -0.1 | -2.1 | 0.0 | -0.3 | 0.3 |
| -3.8 | 0.0 | -2.0 | 0.0 | -0.2 | 0.3 |
| -3.7 | 0.0 | -1.9 | 0.0 | -0.1 | 0.2 |
| -3.6 | -0.1 | -1.8 | 0.0 | 0.0 | 0.2 |
| -3.5 | 0.0 | -1.7 | 0.0 |  |  |
| -3.4 | 0.0 | -1.6 | 0.0 |  |  |
| -3.3 | 0.0 | -1.5 | 0.0 |  |  |

Longitudinal Pre-Crash Acceleration (Event 1)


| Time (s) | Acceleration (g) | Time (s) | Acceleration (g) | Time (s) | Acceleration (g) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -5.0 | 0.0 | -3.2 | 0.1 | -1.4 | 0.0 |
| -4.9 | 0.0 | -3.1 | 0.1 | -1.3 | 0.0 |
| -4.8 | 0.0 | -3.0 | 0.0 | -1.2 | 0.0 |
| -4.7 | 0.0 | -2.9 | 0.0 | -1.1 | 0.0 |
| -4.6 | 0.0 | -2.8 | 0.0 | -1.0 | 0.0 |
| -4.5 | 0.0 | -2.7 | 0.0 | -0.9 | 0.0 |
| -4.4 | 0.0 | -2.6 | 0.0 | -0.8 | 0.1 |
| -4.3 | 0.0 | -2.5 | 0.0 | -0.7 | 0.1 |
| -4.2 | 0.0 | -2.4 | 0.0 | -0.6 | 0.2 |
| -4.1 | 0.0 | -2.3 | 0.0 | -0.5 | 0.3 |
| -4.0 | 0.0 | -2.2 | 0.0 | -0.4 | 0.2 |
| -3.9 | 0.1 | -2.1 | 0.0 | -0.3 | 0.2 |
| -3.8 | 0.0 | -2.0 | 0.0 | -0.2 | 0.2 |
| -3.7 | 0.0 | -1.9 | 0.1 | -0.1 | 0.2 |
| -3.6 | 0.0 | -1.8 | 0.1 | 0.0 | 0.2 |
| -3.5 | 0.1 | -1.7 | 0.1 |  |  |
| -3.4 | 0.0 | -1.6 | 0.0 |  |  |
| -3.3 | 0.1 | -1.5 | 0.0 |  |  |

Roll Rate Pre－Crash Data（Event 1）


| Time（s） | Roll Rate（deg／s） | Time（s） | Roll Rate（deg／s） | Time（s） | Roll Rate（deg／s） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | 0.1 | －3．2 | 0.1 | －1．4 | 0.9 |
| －4．9 | －0．1 | －3．1 | －0．6 | －1．3 | －0．6 |
| －4．8 | －0．3 | －3．0 | －0．3 | －1．2 | 0.0 |
| －4．7 | －0．4 | －2．9 | －0．5 | －1．1 | －0．7 |
| －4．6 | －0．8 | －2．8 | －0．4 | －1．0 | 0.0 |
| －4．5 | －0．8 | －2．7 | －0．1 | －0．9 | －0．6 |
| －4．4 | 0.0 | －2．6 | －0．4 | －0．8 | －0．4 |
| －4．3 | －0．6 | －2．5 | －0．4 | －0．7 | －3．8 |
| －4．2 | 0.2 | －2．4 | －1．1 | －0．6 | －1．9 |
| －4．1 | 0.2 | －2．3 | 0.8 | －0．5 | －3．7 |
| －4．0 | －1．0 | －2．2 | －0．7 | －0．4 | 0.4 |
| －3．9 | 0.0 | －2．1 | 0.3 | －0．3 | 2.6 |
| －3．8 | 0.4 | －2．0 | 0.1 | －0．2 | 5.0 |
| －3．7 | －0．3 | －1．9 | 0.8 | －0．1 | 2.6 |
| －3．6 | －0．3 | －1．8 | －0．8 | 0.0 | 1.8 |
| －3．5 | 0.5 | －1．7 | 2.0 |  |  |
| －3．4 | －0．2 | －1．6 | 0.2 |  |  |
| －3．3 | 0.3 | －1．5 | 0.6 |  |  |

Yaw Rate Pre－Crash Data（Event 1）

Yaw Rate（deg／s）


| Time（s） | Yaw Rate（deg／s） | Time（s） | Yaw Rate（deg／s） | Time（s） | Yaw Rate（deg／s） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | 1.9 | －3．2 | －21．6 | －1．4 | 2.3 |
| －4．9 | 1.5 | －3．1 | －20．9 | －1．3 | 3.1 |
| －4．8 | 1.2 | －3．0 | －19．1 | －1．2 | 3.8 |
| －4．7 | 1.0 | －2．9 | －17．3 | －1．1 | 4.4 |
| －4．6 | 0.4 | －2．8 | －15．7 | －1．0 | 5.0 |
| －4．5 | －1．7 | －2．7 | －14．0 | －0．9 | 5.7 |
| －4．4 | －3．7 | －2．6 | －12．2 | －0．8 | 6.5 |
| －4．3 | －5．8 | －2．5 | －10．6 | －0．7 | 4.0 |
| －4．2 | －8．0 | －2．4 | －9．2 | －0．6 | －0．8 |
| －4．1 | －10．3 | －2．3 | －7．5 | －0．5 | －4．1 |
| －4．0 | －12．2 | －2．2 | －5．9 | －0．4 | －1．9 |
| －3．9 | －13．5 | －2．1 | －4．5 | －0．3 | －2．3 |
| －3．8 | －14．7 | －2．0 | －3．1 | －0．2 | －4．0 |
| －3．7 | －15．8 | －1．9 | －2．0 | －0．1 | －4．2 |
| －3．6 | －17．1 | －1．8 | －1．3 | 0.0 | －4．7 |
| －3．5 | －18．5 | －1．7 | －0．4 |  |  |
| －3．4 | －19．6 | －1．6 | 0.5 |  |  |
| －3．3 | －20．4 | －1．5 | 1.4 |  |  |

Longitudinal Delta－V（Event 1）


| Time（ms） | Delta－V（km／h） | Time（ms） | Delta－V（km／h） |
| :---: | :---: | :---: | :---: |
| 0 | 0 | 160 | －10 |
| 10 | 0 | 170 | －10 |
| 20 | －1 | 180 | －11 |
| 30 | －2 | 190 | －11 |
| 40 | －2 | 200 | －11 |
| 50 | －3 | 210 | －12 |
| 60 | －4 | 220 | －12 |
| 70 | －4 | 230 | －12 |
| 80 | －5 | 240 | －12 |
| 90 | －6 | 250 | －13 |
| 100 | －6 | 260 | －13 |
| 110 | －7 | 270 | －13 |
| 120 | －8 | 280 | －13 |
| 130 | －8 | 290 | －13 |
| 140 | －9 | 300 | －13 |
| 150 | －9 |  |  |

## Lateral Delta－V（Event 1）

Lateral Delta－V（km／h）


| Time（ms） | Delta－V（km／h） | Time（ms） | Delta－V（km／h） |
| :---: | :---: | :---: | :---: |
| 0 | 0 | 160 | 2 |
| 10 | 0 | 170 | 2 |
| 20 | 0 | 180 | 2 |
| 30 | 0 | 190 | 2 |
| 40 | 1 | 200 | 2 |
| 50 | 1 | 210 | 2 |
| 60 | 1 | 220 | 2 |
| 70 | 1 | 230 | 2 |
| 80 | 1 | 240 | 2 |
| 90 | 1 | 250 | 2 |
| 100 | 1 | 260 | 2 |
| 110 | 1 | 270 | 2 |
| 120 | 1 | 280 | 2 |
| 130 | 2 | 290 | 2 |
| 140 | 2 | 300 | 2 |
| 150 | 2 |  |  |

Longitudinal Acceleration（Event 1）


Т ミラレゥ

Longitudinal Acceleration Values（Event 1）

| Time（ms） | Acceleration（g） | Time（ms） | Acceleration（g） |
| :---: | :---: | :---: | :---: |
| －5．0 | －2．4 | 25.5 | －2．4 |
| －4．5 | －3．2 | 26.0 | －2．4 |
| －4．0 | －2．4 | 26.5 | －2．4 |
| －3．5 | －2．4 | 27.0 | －2．4 |
| －3．0 | －3．2 | 27.5 | －2．4 |
| －2．5 | －3．2 | 28.0 | －2．4 |
| －2．0 | －2．4 | 28.5 | －2．4 |
| －1．5 | －3．2 | 29.0 | －2．4 |
| －1．0 | －3．2 | 29.5 | －3．2 |
| －0．5 | －3．2 | 30.0 | －2．4 |
| 0.0 | －2．4 | 30.5 | －2．4 |
| 0.5 | －2．4 | 31.0 | －2．4 |
| 1.0 | －3．2 | 31.5 | －2．4 |
| 1.5 | －3．2 | 32.0 | －2．4 |
| 2.0 | －2．4 | 32.5 | －2．4 |
| 2.5 | －2．4 | 33.0 | －2．4 |
| 3.0 | －3．2 | 33.5 | －2．4 |
| 3.5 | －3．2 | 34.0 | －2．4 |
| 4.0 | －2．4 | 34.5 | －2．4 |
| 4.5 | －2．4 | 35.0 | －2．4 |
| 5.0 | －3．2 | 35.5 | －2．4 |
| 5.5 | －3．2 | 36.0 | －2．4 |
| 6.0 | －3．2 | 36.5 | －2．4 |
| 6.5 | －2．4 | 37.0 | －2．4 |
| 7.0 | －2．4 | 37.5 | －2．4 |
| 7.5 | －2．4 | 38.0 | －2．4 |
| 8.0 | －2．4 | 38.5 | －2．4 |
| 8.5 | －2．4 | 39.0 | －1．6 |
| 9.0 | －1．6 | 39.5 | －2．4 |
| 9.5 | －2．4 | 40.0 | －1．6 |
| 10.0 | －2．4 | 40.5 | －2．4 |
| 10.5 | －2．4 | 41.0 | －1．6 |
| 11.0 | －1．6 | 41.5 | －1．6 |
| 11.5 | －1．6 | 42.0 | －2．4 |
| 12.0 | －1．6 | 42.5 | －2．4 |
| 12.5 | －1．6 | 43.0 | －2．4 |
| 13.0 | －1．6 | 43.5 | －2．4 |
| 13.5 | －1．6 | 44.0 | －2．4 |
| 14.0 | －2．4 | 44.5 | －2．4 |
| 14.5 | －1．6 | 45.0 | －2．4 |
| 15.0 | －1．6 | 45.5 | －1．6 |
| 15.5 | －1．6 | 46.0 | －2．4 |
| 16.0 | －1．6 | 46.5 | －2．4 |
| 16.5 | －1．6 | 47.0 | －2．4 |
| 17.0 | －1．6 | 47.5 | －2．4 |
| 17.5 | －1．6 | 48.0 | －2．4 |
| 18.0 | －1．6 | 48.5 | －2．4 |
| 18.5 | －1．6 | 49.0 | －2．4 |
| 19.0 | －1．6 | 49.5 | －2．4 |
| 19.5 | －1．6 | 50.0 | －2．4 |
| 20.0 | －2．4 | 50.5 | －2．4 |
| 20.5 | －2．4 | 51.0 | －2．4 |
| 21.0 | －2．4 | 51.5 | －2．4 |
| 21.5 | －2．4 | 52.0 | －2．4 |
| 22.0 | －2．4 | 52.5 | －2．4 |
| 22.5 | －2．4 | 53.0 | －2．4 |
| 23.0 | －2．4 | 53.5 | －2．4 |
| 23.5 | －2．4 | 54.0 | －2．4 |
| 24.0 | －2．4 | 54.5 | －2．4 |
| 24.5 | －2．4 | 55.0 | －2．4 |
| 25.0 | －2．4 |  |  |

Lateral Acceleration（Event 1）


| Time（ms） | Acceleration（g） | Time（ms） | Acceleration（g） |
| :---: | :---: | :---: | :---: |
| －5．0 | 0.8 | 25.5 | 0.8 |
| －4．5 | 0.8 | 26.0 | 0.8 |
| －4．0 | 1.6 | 26.5 | 0.8 |
| －3．5 | 3.2 | 27.0 | 0.8 |
| －3．0 | 2.4 | 27.5 | 0.8 |
| －2．5 | 1.6 | 28.0 | 0.8 |
| －2．0 | 0.8 | 28.5 | 0.8 |
| －1．5 | 1.6 | 29.0 | 0.8 |
| －1．0 | 1.6 | 29.5 | 0.8 |
| －0．5 | 1.6 | 30.0 | 0.8 |
| 0.0 | 2.4 | 30.5 | 0.8 |
| 0.5 | 2.4 | 31.0 | 0.8 |
| 1.0 | 0.8 | 31.5 | 0.8 |
| 1.5 | 0.8 | 32.0 | 0.8 |
| 2.0 | 0.8 | 32.5 | 0.8 |
| 2.5 | 0.8 | 33.0 | 0.8 |
| 3.0 | 0.8 | 33.5 | 0.8 |
| 3.5 | 0.8 | 34.0 | 0.0 |
| 4.0 | 0.0 | 34.5 | 0.0 |
| 4.5 | 0.0 | 35.0 | 0.0 |
| 5.0 | 0.0 | 35.5 | 0.0 |
| 5.5 | 0.0 | 36.0 | 0.0 |
| 6.0 | 0.0 | 36.5 | 0.0 |
| 6.5 | 0.0 | 37.0 | 0.0 |
| 7.0 | 0.0 | 37.5 | 0.0 |
| 7.5 | 0.0 | 38.0 | 0.0 |
| 8.0 | 0.0 | 38.5 | 0.0 |
| 8.5 | 0.0 | 39.0 | 0.0 |
| 9.0 | 0.0 | 39.5 | 0.0 |
| 9.5 | 0.0 | 40.0 | 0.0 |
| 10.0 | 0.0 | 40.5 | 0.0 |
| 10.5 | 0.0 | 41.0 | 0.0 |
| 11.0 | 0.0 | 41.5 | 0.0 |
| 11.5 | 0.0 | 42.0 | 0.0 |
| 12.0 | 0.8 | 42.5 | 0.0 |
| 12.5 | 0.8 | 43.0 | 0.0 |
| 13.0 | 0.8 | 43.5 | 0.0 |
| 13.5 | 0.8 | 44.0 | 0.0 |
| 14.0 | 0.8 | 44.5 | 0.0 |
| 14.5 | 0.8 | 45.0 | 0.0 |
| 15.0 | 0.8 | 45.5 | 0.0 |
| 15.5 | 0.8 | 46.0 | 0.0 |
| 16.0 | 0.8 | 46.5 | 0.0 |
| 16.5 | 0.8 | 47.0 | 0.0 |
| 17.0 | 0.8 | 47.5 | 0.0 |
| 17.5 | 0.8 | 48.0 | 0.0 |
| 18.0 | 0.8 | 48.5 | 0.0 |
| 18.5 | 0.8 | 49.0 | 0.0 |
| 19.0 | 0.8 | 49.5 | 0.0 |
| 19.5 | 0.8 | 50.0 | 0.0 |
| 20.0 | 0.8 | 50.5 | 0.0 |
| 20.5 | 0.8 | 51.0 | 0.0 |
| 21.0 | 0.8 | 51.5 | 0.0 |
| 21.5 | 0.8 | 52.0 | 0.0 |
| 22.0 | 0.8 | 52.5 | 0.0 |
| 22.5 | 0.8 | 53.0 | 0.0 |
| 23.0 | 0.8 | 53.5 | 0.0 |
| 23.5 | 0.8 | 54.0 | 0.0 |
| 24.0 | 0.8 | 54.5 | 0.0 |
| 24.5 | 0.8 | 55.0 | 0.0 |
| 25.0 | 0.8 |  |  |

Normal Acceleration（Event 1）


| Normal Acceleration Values（Event 1） |  | Time（ms） | Acceleration（g） |
| :---: | :---: | :---: | :---: |
| Time（ms） | Acceleration（g） |  |  |
| －900 | 0.0 | －180 | 0.1 |
| －880 | 0.0 | －160 | －0．3 |
| －860 | 0.1 | －140 | 0.1 |
| －840 | 0.4 | －120 | 0.0 |
| －820 | 0.1 | －100 | －0．3 |
| －800 | －0．2 | －80 | 0.1 |
| －780 | －0．1 | －60 | 0.1 |
| －760 | 0.0 | －40 | －0．1 |
| －740 | －0．2 | －20 | －0．5 |
| －720 | 0.2 | 0 | －0．7 |
| －700 | －0．2 | 20 | －1．1 |
| －680 | －0．2 | 40 | －1．4 |
| －660 | 0.0 | 60 | －1．5 |
| －640 | －0．1 | 80 | －1．0 |
| －620 | －0．3 | 100 | －0．7 |
| －600 | －0．1 | 120 | －0．9 |
| －580 | －0．3 | 140 | －0．8 |
| －560 | －0．2 | 160 | －1．2 |
| －540 | －0．4 | 180 | －0．9 |
| －520 | －0．1 | 200 | －1．4 |
| －500 | －0．3 | 220 | －1．0 |
| －480 | －0．4 | 240 | －0．8 |
| －460 | －0．4 | 260 | －0．9 |
| －440 | －0．3 | 280 | －0．4 |
| －420 | －0．3 | 300 | －0．5 |
| －400 | －0．5 | 320 | －0．4 |
| －380 | －0．5 | 340 | －0．4 |
| －360 | 0.1 | 360 | 0.1 |
| －340 | 0.0 | 380 | 0.1 |
| －320 | －0．8 | 400 | 0.0 |
| －300 | 0.1 | 420 | －0．3 |
| －280 | 0.2 | 440 | －0．7 |
| －260 | －0．2 | 460 | －1．2 |
| －240 | －0．1 | 480 | －1．1 |
| －220 | 0.0 | 500 | －0．8 |
| －200 | －0．4 |  |  |

## Event 2 Data Record

|  |  |
| :--- | :--- |
| Data Element | Value |
| Maximum Delta－V，Longitudinal（km／h） | -2 |
| Time To Maximum Delta－V，Longitudinal（ms） | 190.0 |
| Maximum Delta－V，Lateral（km／h） | 5 |
| Time To Maximum Delta－V，Lateral（ms） | 265.0 |
| Time To Maximum Delta－V，Resultant（ms） | 265.0 |
| Ignition Cycle At Event | 1422 |
| Ignition Cycle Runtime（minutes） | 4.5 |
| Odometer At Event Time Zero（km） | 5840.0 |
| Airbag Warning Lamp Status | Off |
| ABS Warning Indicator Status | Off |
| Vehicle Drive Mode | Drive |
| Driver Safety Belt Status | Buckled |
| Passenger Safety Belt Status | Buckled |
| Occupant Classification Status In Front Passenger Seat | Adult |
| Driver Seat Track Position | Rearward |
| 2nd Row Left Safety Belt Status | Not Buckled |
| 2nd Row Left Seat Occupant | Not Occupied |
| 2nd Row Center Safety Belt Status | Not Buckled |
| 2nd Row Center Seat Occupant | Not Occupied |
| 2nd Row Right Safety Belt Status | Not Buckled |
| 2nd Row Right Seat Occupant | Not Occupied |
| Driver Airbag Deployment 2nd Stage Disposal | No |
| Right Front Passenger Airbag Deployment 2nd Stage Disposal | No |
| Complete File Recorded | Yes |

## Т ミラレゥ

## Deployment Summary（Event 2）

| Device | Status | Deployment Command Time（ms） |
| :---: | :---: | :---: |
| Driver Front Airbag Stage 1 | Deployment Not Commanded |  |
| Driver Front Airbag Stage 2 | Deployment Not Commanded |  |
| Driver Front Airbag Active Vent | Deployment Not Commanded |  |
| Driver Knee Airbag | Deployment Not Commanded |  |
| Driver Retractor Pretensioner | Deployment Commanded | 1 |
| Driver Lap Pretensioner | Deployment Commanded | 5 |
| Driver Switchable Load Limiter | Deployment Not Commanded |  |
| Driver Side Seat Airbag | Deployment Not Commanded |  |
| Passenger Front Airbag Stage 1 | Deployment Not Commanded |  |
| Passenger Front Airbag Stage 2 | Deployment Not Commanded |  |
| Passenger Active Vent | Deployment Not Commanded |  |
| Passenger Knee Airbag | Deployment Not Commanded |  |
| Passenger Retractor Pretensioner | Deployment Commanded | 1 |
| Passenger Lap Pretensioner | Deployment Commanded | 5 |
| Passenger Switchable Load Limiter | Deployment Not Commanded |  |
| Passenger Side Seat Airbag | Deployment Not Commanded |  |
| Inflatable Curtain Airbag Left | Deployment Commanded | 1 |
| Inflatable Curtain Airbag Right | Deployment Commanded | 1 |
| Second Row Retractor Pretensioner Left | Deployment Not Commanded |  |
| Second Row Retractor Pretensioner Right | Deployment Not Commanded |  |

## Т ミラレゥ

Event Data（Event 2）

| Time（sec） | Service Brake | Stability Control | ABS Activity |
| :---: | :---: | :---: | :---: |
| －5．0 | Off | Engaged | Off |
| －4．5 | On | Engaged | Engaged |
| －4．0 | On | Engaged | Engaged |
| －3．5 | Off | Engaged | Off |
| －3．0 | On | Engaged | Engaged |
| －2．5 | On | Engaged | On |
| －2．0 | On | Engaged | On |
| －1．5 | On | Engaged | On |
| －1．0 | On | Engaged | On |
| －0．5 | On | Engaged | On |
| 0.0 | On | Engaged | On |


| Time（sec） | Vehicle Speed（ $\mathrm{mi} / \mathrm{h}$ ） | Accelerator Pedal（\％） | Rear Motor Speed（rpm） |
| :---: | :---: | :---: | :---: |
| －5．0 | 38.0 | 0.0 | 4232 |
| －4．8 | 38.0 | 0.0 | 4282 |
| －4．6 | 41.0 | 0.0 | 4262 |
| －4．4 | 41.0 | 0.0 | 4391 |
| －4．2 | 41.0 | 0.0 | 4209 |
| －4．0 | 40.0 | 0.0 | 4103 |
| －3．8 | 39.0 | 4.8 | 4005 |
| －3．6 | 38.0 | 0.0 | 3960 |
| －3．4 | 38.0 | 0.0 | 3952 |
| －3．2 | 30.0 | 0.0 | 3239 |
| －3．0 | 31.0 | 0.0 | 3394 |
| －2．8 | 31.0 | 0.0 | 3534 |
| －2．6 | 33.0 | 0.0 | 3378 |
| －2．4 | 35.0 | 0.0 | 3310 |
| －2．2 | 34.0 | 0.0 | 3510 |
| －2．0 | 35.0 | 0.0 | 3646 |
| －1．8 | 35.0 | 0.0 | 4050 |
| －1．6 | 35.0 | 0.0 | 3778 |
| －1．4 | 34.0 | 0.0 | 3711 |
| －1．2 | 33.0 | 0.0 | 3170 |
| －1．0 | 32.0 | 0.0 | 2436 |
| －0．8 | 24.0 | 0.0 | 1952 |
| －0．6 | 17.0 | 0.0 | 1776 |
| －0．4 | 15.0 | 0.0 | 1682 |
| －0．2 | 15.0 | 0.0 | 1470 |
| 0.0 | 15.0 | 0.0 | 1311 |

Steering Wheel Angle（Event 2）


| Time（sec） | Angle（deg） | Time（sec） | Angle（deg） | Time（sec） | Angle（deg） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | 275 | －3．2 | 355 | －1．4 | 365 |
| －4．9 | 271 | －3．1 | 360 | －1．3 | 364 |
| －4．8 | 267 | －3．0 | 361 | －1．2 | 364 |
| －4．7 | 258 | －2．9 | 361 | －1．1 | 364 |
| －4．6 | 252 | －2．8 | 363 | －1．0 | 364 |
| －4．5 | 253 | －2．7 | 363 | －0．9 | 365 |
| －4．4 | 252 | －2．6 | 364 | －0．8 | 366 |
| －4．3 | 250 | －2．5 | 364 | －0．7 | 366 |
| －4．2 | 250 | －2．4 | 363 | －0．6 | 365 |
| －4．1 | 254 | －2．3 | 363 | －0．5 | 365 |
| －4．0 | 259 | －2．2 | 363 | －0．4 | 365 |
| －3．9 | 267 | －2．1 | 364 | －0．3 | 365 |
| －3．8 | 273 | －2．0 | 364 | －0．2 | 364 |
| －3．7 | 276 | －1．9 | 364 | －0．1 | 362 |
| －3．6 | 281 | －1．8 | 364 | 0.0 | 363 |
| －3．5 | 293 | －1．7 | 365 |  |  |
| －3．4 | 307 | －1．6 | 364 |  |  |
| －3．3 | 331 | －1．5 | 364 |  |  |

Lateral Pre－Crash Acceleration（Event 2）


| Time（s） | Acceleration（g） | Time（s） | Acceleration（g） | Time（s） | Acceleration（g） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | 0.0 | －3．2 | 0.0 | －1．4 | 1.4 |
| －4．9 | 0.0 | －3．1 | 0.0 | －1．3 | 0.5 |
| －4．8 | 0.0 | －3．0 | 0.0 | －1．2 | 0.5 |
| －4．7 | 0.0 | －2．9 | 0.0 | －1．1 | 0.2 |
| －4．6 | 0.0 | －2．8 | 0.0 | －1．0 | 0.1 |
| －4．5 | 0.0 | －2．7 | 0.0 | －0．9 | －0．1 |
| －4．4 | 0.0 | －2．6 | 0.0 | －0．8 | 0.1 |
| －4．3 | 0.0 | －2．5 | 0.0 | －0．7 | 0.2 |
| －4．2 | 0.0 | －2．4 | 0.0 | －0．6 | 0.2 |
| －4．1 | 0.0 | －2．3 | 0.0 | －0．5 | 0.0 |
| －4．0 | 0.0 | －2．2 | 0.2 | －0．4 | 0.0 |
| －3．9 | 0.0 | －2．1 | 0.2 | －0．3 | 0.2 |
| －3．8 | 0.0 | －2．0 | 0.3 | －0．2 | 0.4 |
| －3．7 | 0.0 | －1．9 | 0.3 | －0．1 | 0.1 |
| －3．6 | 0.0 | －1．8 | 0.3 | 0.0 | 0.8 |
| －3．5 | 0.0 | －1．7 | 0.3 |  |  |
| －3．4 | 0.0 | －1．6 | 0.2 |  |  |
| －3．3 | 0.0 | －1．5 | 0.2 |  |  |

Longitudinal Pre-Crash Acceleration (Event 2)


| Time (s) | Acceleration (g) | Time (s) | Acceleration (g) | Time (s) | Acceleration (g) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -5.0 | 0.1 | -3.2 | 0.1 | -1.4 | 2.7 |
| -4.9 | 0.0 | -3.1 | 0.0 | -1.3 | 2.2 |
| -4.8 | 0.1 | -3.0 | 0.0 | -1.2 | 1.2 |
| -4.7 | 0.1 | -2.9 | 0.0 | -1.1 | 0.5 |
| -4.6 | 0.1 | -2.8 | 0.0 | -1.0 | 0.4 |
| -4.5 | 0.0 | -2.7 | 0.0 | -0.9 | 0.4 |
| -4.4 | 0.0 | -2.6 | 0.0 | -0.8 | 0.2 |
| -4.3 | 0.0 | -2.5 | 0.0 | -0.7 | 0.1 |
| -4.2 | 0.0 | -2.4 | 0.0 | -0.6 | 0.3 |
| -4.1 | 0.0 | -2.3 | 0.1 | -0.5 | 0.3 |
| -4.0 | 0.0 | -2.2 | 0.1 | -0.4 | 0.5 |
| -3.9 | 0.0 | -2.1 | 0.2 | -0.3 | 0.4 |
| -3.8 | 0.0 | -2.0 | 0.3 | -0.2 | 0.5 |
| -3.7 | 0.0 | -1.9 | 0.2 | -0.1 | 0.2 |
| -3.6 | 0.0 | -1.8 | 0.2 | 0.0 | 0.7 |
| -3.5 | 0.0 | -1.7 | 0.2 |  |  |
| -3.4 | 0.1 | -1.6 | 0.2 |  |  |
| -3.3 | 0.1 | -1.5 | 0.2 |  |  |

Roll Rate Pre－Crash Data（Event 2）


| Time（s） | Roll Rate（deg／s） | Time（s） | Roll Rate（deg／s） | Time（s） | Roll Rate（deg／s） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | 0.5 | －3．2 | 2.0 | －1．4 | 3.6 |
| －4．9 | －0．2 | －3．1 | 0.2 | －1．3 | 23.9 |
| －4．8 | 0.3 | －3．0 | 0.6 | －1．2 | 3.1 |
| －4．7 | 0.1 | －2．9 | 0.9 | －1．1 | －21．3 |
| －4．6 | －0．6 | －2．8 | －0．6 | －1．0 | －18．4 |
| －4．5 | －0．3 | －2．7 | 0.0 | －0．9 | 10.4 |
| －4．4 | －0．5 | －2．6 | －0．7 | －0．8 | 13.0 |
| －4．3 | －0．4 | －2．5 | 0.0 | －0．7 | －2．0 |
| －4．2 | －0．1 | －2．4 | －0．6 | －0．6 | －51．1 |
| －4．1 | －0．4 | －2．3 | －0．4 | －0．5 | －88．2 |
| －4．0 | －0．4 | －2．2 | －3．8 | －0．4 | －80．2 |
| －3．9 | －1．1 | －2．1 | －1．9 | －0．3 | －56．0 |
| －3．8 | 0.8 | －2．0 | －3．7 | －0．2 | －27．6 |
| －3．7 | －0．7 | －1．9 | 0.4 | －0．1 | －20．2 |
| －3．6 | 0.3 | －1．8 | 2.6 | 0.0 | －60．4 |
| －3．5 | 0.1 | －1．7 | 5.0 |  |  |
| －3．4 | 0.8 | －1．6 | 2.6 |  |  |
| －3．3 | －0．8 | －1．5 | 1.8 |  |  |

Yaw Rate Pre－Crash Data（Event 2）

Yaw Rate（deg／s）


| Time（s） | Yaw Rate（deg／s） | Time（s） | Yaw Rate（deg／s） | Time（s） | Yaw Rate（deg／s） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| －5．0 | －18．5 | －3．2 | －0．4 | －1．4 | －18．1 |
| －4．9 | －19．6 | －3．1 | 0.5 | －1．3 | －25．8 |
| －4．8 | －20．4 | －3．0 | 1.4 | －1．2 | －17．6 |
| －4．7 | －21．6 | －2．9 | 2.3 | －1．1 | －12．3 |
| －4．6 | －20．9 | －2．8 | 3.1 | －1．0 | －14．0 |
| －4．5 | －19．1 | －2．7 | 3.8 | －0．9 | －11．9 |
| －4．4 | －17．3 | －2．6 | 4.4 | －0．8 | －6．4 |
| －4．3 | －15．7 | －2．5 | 5.0 | －0．7 | －4．5 |
| －4．2 | －14．0 | －2．4 | 5.7 | －0．6 | －12．2 |
| －4．1 | －12．2 | －2．3 | 6.5 | －0．5 | －20．5 |
| －4．0 | －10．6 | －2．2 | 4.0 | －0．4 | －23．6 |
| －3．9 | －9．2 | －2．1 | －0．8 | －0．3 | －21．6 |
| －3．8 | －7．5 | －2．0 | －4．1 | －0．2 | －19．2 |
| －3．7 | －5．9 | －1．9 | －1．9 | －0．1 | －16．5 |
| －3．6 | －4．5 | －1．8 | －2．3 | 0.0 | －7．2 |
| －3．5 | －3．1 | －1．7 | －4．0 |  |  |
| －3．4 | －2．0 | －1．6 | －4．2 |  |  |
| －3．3 | －1．3 | －1．5 | －4．7 |  |  |

Longitudinal Delta－V（Event 2）


| Time（ms） | Delta－V（km／h） | Time（ms） | Delta－V（km／h） |
| :---: | :---: | :---: | :---: |
| 0 | 0 | 160 | －1 |
| 10 | 0 | 170 | －1 |
| 20 | 0 | 180 | －1 |
| 30 | 0 | 190 | －1 |
| 40 | 0 | 200 | －2 |
| 50 | 0 | 210 | －2 |
| 60 | 0 | 220 | －2 |
| 70 | 0 | 230 | －2 |
| 80 | －1 | 240 | －2 |
| 90 | －1 | 250 | －2 |
| 100 | －1 | 260 | －2 |
| 110 | －1 | 270 | －2 |
| 120 | －1 | 280 | －2 |
| 130 | －1 | 290 | －2 |
| 140 | －1 | 300 | －2 |
| 150 | －1 |  |  |

Lateral Delta－V（Event 2）
Lateral Delta－V（km／h）


| Time（ms） | Delta－V（km／h） | Time（ms） | Delta－V（km／h） |
| :---: | :---: | :---: | :---: |
| 0 | 0 | 160 | 3 |
| 10 | 0 | 170 | 3 |
| 20 | 0 | 180 | 3 |
| 30 | 0 | 190 | 3 |
| 40 | 0 | 200 | 4 |
| 50 | 0 | 210 | 4 |
| 60 | 1 | 220 | 4 |
| 70 | 1 | 230 | 4 |
| 80 | 1 | 240 | 4 |
| 90 | 1 | 250 | 4 |
| 100 | 2 | 260 | 4 |
| 110 | 2 | 270 | 5 |
| 120 | 2 | 280 | 5 |
| 130 | 2 | 290 | 5 |
| 140 | 3 | 300 | 5 |
| 150 | 3 |  |  |

## Т ミ ムட п

Longitudinal Acceleration (Event 2)


Т ミラレゥ

| Longitudinal Acceleration |  |  |  |
| :---: | :---: | :---: | :---: |
| Time（ms） | Acceleration（g） | Time（ms） | Acceleration（g） |
| －5．0 | －0．8 | 25.5 | －0．8 |
| －4．5 | －0．8 | 26.0 | －0．8 |
| －4．0 | －0．8 | 26.5 | 0.0 |
| －3．5 | －0．8 | 27.0 | 0.0 |
| －3．0 | －0．8 | 27.5 | －0．8 |
| －2．5 | －0．8 | 28.0 | －1．6 |
| －2．0 | －0．8 | 28.5 | －0．8 |
| －1．5 | －0．8 | 29.0 | －0．8 |
| －1．0 | －0．8 | 29.5 | 0.0 |
| －0．5 | －0．8 | 30.0 | －0．8 |
| 0.0 | －0．8 | 30.5 | －0．8 |
| 0.5 | －0．8 | 31.0 | －0．8 |
| 1.0 | －0．8 | 31.5 | －0．8 |
| 1.5 | －0．8 | 32.0 | 0.0 |
| 2.0 | －0．8 | 32.5 | 0.0 |
| 2.5 | －0．8 | 33.0 | －0．8 |
| 3.0 | －0．8 | 33.5 | －0．8 |
| 3.5 | －0．8 | 34.0 | －0．8 |
| 4.0 | －0．8 | 34.5 | －0．8 |
| 4.5 | －0．8 | 35.0 | －0．8 |
| 5.0 | －0．8 | 35.5 | 0.0 |
| 5.5 | －1．6 | 36.0 | －0．8 |
| 6.0 | －0．8 | 36.5 | －0．8 |
| 6.5 | 0.0 | 37.0 | －0．8 |
| 7.0 | 0.0 | 37.5 | －0．8 |
| 7.5 | －0．8 | 38.0 | －0．8 |
| 8.0 | －0．8 | 38.5 | －0．8 |
| 8.5 | 1.6 | 39.0 | －0．8 |
| 9.0 | 4.0 | 39.5 | －0．8 |
| 9.5 | 3.2 | 40.0 | －0．8 |
| 10.0 | －4．8 | 40.5 | －0．8 |
| 10.5 | －8．8 | 41.0 | －0．8 |
| 11.0 | －3．2 | 41.5 | －0．8 |
| 11.5 | 4.0 | 42.0 | －0．8 |
| 12.0 | 4.0 | 42.5 | －0．8 |
| 12.5 | －1．6 | 43.0 | －0．8 |
| 13.0 | －5．6 | 43.5 | －0．8 |
| 13.5 | －5．6 | 44.0 | －0．8 |
| 14.0 | －1．6 | 44.5 | －0．8 |
| 14.5 | 1.6 | 45.0 | －0．8 |
| 15.0 | 0.8 | 45.5 | －0．8 |
| 15.5 | 0.0 | 46.0 | －0．8 |
| 16.0 | －0．8 | 46.5 | －0．8 |
| 16.5 | －0．8 | 47.0 | －0．8 |
| 17.0 | 0.0 | 47.5 | －0．8 |
| 17.5 | －0．8 | 48.0 | －0．8 |
| 18.0 | －0．8 | 48.5 | －0．8 |
| 18.5 | 0.8 | 49.0 | －0．8 |
| 19.0 | －0．8 | 49.5 | －0．8 |
| 19.5 | －2．4 | 50.0 | －0．8 |
| 20.0 | －2．4 | 50.5 | －0．8 |
| 20.5 | －0．8 | 51.0 | －0．8 |
| 21.0 | 0.0 | 51.5 | －0．8 |
| 21.5 | 0.0 | 52.0 | －0．8 |
| 22.0 | 0.0 | 52.5 | －0．8 |
| 22.5 | －0．8 | 53.0 | －0．8 |
| 23.0 | －0．8 | 53.5 | －0．8 |
| 23.5 | －0．8 | 54.0 | －0．8 |
| 24.0 | －0．8 | 54.5 | －0．8 |
| 24.5 | 0.0 | 55.0 | －0．8 |
| 25.0 | 0.0 |  |  |

Lateral Acceleration（Event 2）


| Time（ms） | Acceleration（g） | Time（ms） | Acceleration（g） |
| :---: | :---: | :---: | :---: |
| －5．0 | 0.0 | 25.5 | 0.8 |
| －4．5 | 0.0 | 26.0 | 0.8 |
| －4．0 | 0.0 | 26.5 | 0.8 |
| －3．5 | 0.0 | 27.0 | 0.0 |
| －3．0 | 0.0 | 27.5 | 0.0 |
| －2．5 | 0.0 | 28.0 | 0.0 |
| －2．0 | 0.0 | 28.5 | 0.0 |
| －1．5 | 0.0 | 29.0 | 0.0 |
| －1．0 | 0.0 | 29.5 | 0.0 |
| －0．5 | 0.0 | 30.0 | 0.0 |
| 0.0 | 0.0 | 30.5 | 0.8 |
| 0.5 | 0.0 | 31.0 | 0.8 |
| 1.0 | 0.0 | 31.5 | 0.8 |
| 1.5 | 0.0 | 32.0 | 0.0 |
| 2.0 | 0.0 | 32.5 | 0.0 |
| 2.5 | 0.0 | 33.0 | 0.0 |
| 3.0 | 0.0 | 33.5 | 0.0 |
| 3.5 | 0.0 | 34.0 | 0.0 |
| 4.0 | 0.0 | 34.5 | 0.0 |
| 4.5 | 0.0 | 35.0 | 0.8 |
| 5.0 | 0.0 | 35.5 | 0.8 |
| 5.5 | 0.0 | 36.0 | 0.0 |
| 6.0 | 0.0 | 36.5 | 0.0 |
| 6.5 | 0.8 | 37.0 | 0.0 |
| 7.0 | 0.0 | 37.5 | 0.0 |
| 7.5 | 0.0 | 38.0 | 0.8 |
| 8.0 | 0.0 | 38.5 | 0.8 |
| 8.5 | 0.0 | 39.0 | 0.0 |
| 9.0 | 0.8 | 39.5 | 0.0 |
| 9.5 | 0.8 | 40.0 | 0.0 |
| 10.0 | 0.0 | 40.5 | 0.0 |
| 10.5 | －0．8 | 41.0 | 0.0 |
| 11.0 | －0．8 | 41.5 | 0.8 |
| 11.5 | －0．8 | 42.0 | 0.0 |
| 12.0 | －0．8 | 42.5 | 0.0 |
| 12.5 | 2.4 | 43.0 | 0.8 |
| 13.0 | 2.4 | 43.5 | 0.0 |
| 13.5 | －0．8 | 44.0 | 0.8 |
| 14.0 | 0.0 | 44.5 | 0.8 |
| 14.5 | 0.8 | 45.0 | 0.8 |
| 15.0 | 0.8 | 45.5 | 0.8 |
| 15.5 | 0.8 | 46.0 | 0.8 |
| 16.0 | 0.0 | 46.5 | 0.0 |
| 16.5 | －1．6 | 47.0 | 0.0 |
| 17.0 | －1．6 | 47.5 | 0.0 |
| 17.5 | －0．8 | 48.0 | 0.0 |
| 18.0 | 0.8 | 48.5 | 0.0 |
| 18.5 | 0.8 | 49.0 | 0.0 |
| 19.0 | 0.0 | 49.5 | 0.8 |
| 19.5 | 0.8 | 50.0 | 0.0 |
| 20.0 | 0.8 | 50.5 | 0.0 |
| 20.5 | 0.8 | 51.0 | 0.0 |
| 21.0 | 0.0 | 51.5 | 0.0 |
| 21.5 | 0.0 | 52.0 | 0.8 |
| 22.0 | 0.8 | 52.5 | 0.0 |
| 22.5 | 0.8 | 53.0 | 0.0 |
| 23.0 | 0.0 | 53.5 | 0.0 |
| 23.5 | 0.0 | 54.0 | 0.0 |
| 24.0 | 0.8 | 54.5 | 0.8 |
| 24.5 | 0.8 | 55.0 | 0.8 |
| 25.0 | 0.8 |  |  |

Normal Acceleration（Event 2）


| Time（ms） | Acceleration（g） | Time（ms） | Acceleration（g） |
| :---: | :---: | :---: | :---: |
| －900 | 1.4 | －180 | 2.0 |
| －880 | 1.5 | －160 | 0.9 |
| －860 | 1.3 | －140 | 1.6 |
| －840 | 1.3 | －120 | 1.5 |
| －820 | 1.9 | －100 | 0.5 |
| －800 | 1.3 | －80 | 1.4 |
| －780 | 1.5 | －60 | 0.2 |
| －760 | 1.4 | －40 | 0.6 |
| －740 | 1.5 | －20 | －0．4 |
| －720 | 1.3 | 0 | －0．5 |
| －700 | 0.8 | 20 | 3.0 |
| －680 | 0.5 | 40 | －0．5 |
| －660 | 0.3 | 60 | －0．4 |
| －640 | 0.2 | 80 | 0.3 |
| －620 | 0.2 | 100 | －1．1 |
| －600 | －0．3 | 120 | 0.3 |
| －580 | 0.0 | 140 | 0.6 |
| －560 | 0.9 | 160 | 0.0 |
| －540 | 1.0 | 180 | 1.7 |
| －520 | 0.4 | 200 | 1.4 |
| －500 | －0．6 | 220 | 1.3 |
| －480 | －0．4 | 240 | 1.6 |
| －460 | －1．1 | 260 | 1.3 |
| －440 | －2．2 | 280 | 1.4 |
| －420 | －0．6 | 300 | 1.2 |
| －400 | 0.3 | 320 | 1.3 |
| －380 | 0.5 | 340 | 1.2 |
| －360 | 0.3 | 360 | 1.1 |
| －340 | 0.5 | 380 | 0.9 |
| －320 | 0.4 | 400 | 0.9 |
| －300 | 0.4 | 420 | 0.8 |
| －280 | 0.4 | 440 | 0.8 |
| －260 | 0.4 | 460 | 0.6 |
| －240 | 0.6 | 480 | 0.4 |
| －220 | 0.8 | 500 | 0.5 |
| －200 | 1.2 |  |  |

## Serial Numbers

Not Available

## Т ミラレゥ

Hexadecimal Data

FD68
$\begin{array}{lllllllllllllllll}00 & 00 & 00 & 00 & 00 & 00 & 00 & 00 & 18 & 9 B & 27 & 82 & \text { EE } & 11 & 3 B & 8 A & 02\end{array}$
FD69
$\begin{array}{lllllllllllllllll}00 & 00 & 00 & 00 & 00 & 00 & 00 & 00 & 18 & 99 & 27 & 82 & \text { EE } & 30 & 03 & 8 A & 02\end{array}$
F190
$\begin{array}{lllllllllllllllll}35 & 59 & 4 \mathrm{~A} & 33 & 45 & 31 & 45 & 41 & 31 & 4 \mathrm{~A} & 46 & 30 & 30 & 30 & 30 & 30 & 30\end{array}$
FD60
00 OO 00 OO 00 OO 00 OO 23 A3 2 A FF F3 23 1E $8 \mathrm{~A} ~ 02$
FD61

FD62

FD63
00 OO OO OO OO OO OO OO 25 BF 29 2F $\begin{array}{lllllll} & 3 \mathrm{E} & 63 & 38 & 8 \mathrm{~A} & 02\end{array}$
FD64

FD65
$\begin{array}{lllllllllllllllll}00 & 00 & 00 & 00 & 00 & 00 & 00 & 00 & 25 & 9 B & 29 & 6 D & 2 C & 2 A & 02 & 8 A & 02\end{array}$
FD67
$\begin{array}{lllllllllllllllll}00 & 00 & 00 & 00 & 00 & 00 & 00 & 00 & 23 & C 1 & 2 B & 05 & 12 & 60 & 1 B & 8 A & 02\end{array}$
5818

|  | FF | FE | FF | FE | FF | FF | FF | FE | FF | FE | FF | FE | FF | FE | FF | FF | FF | FE | FF | FE | FF | FF | FF | FF | 08 | 08 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0028 | E4 | 20 | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 01 | F3 | 02 | 68 | 35 | 68 | 0 | 5 A | 00 | 0 | 05 |  |
|  | 00 | 08 | F3 | 25 | 00 | 00 | 01 | OC | BF | 08 | 27 | OE | 0 | OO | 01 | 9A | 00 | 00 | 05 |  | CO | 02 | 87 | 04 | C5 | 56 |  | 4 |
| 0084 | 56 | 07 | 87 | 04 | C9 | 5A | 87 | 04 | CD | 56 | 87 | 04 | c | 5 | 87 | 04 | c6 | 57 | 87 | 04 | C1 | OF | 87 | 04 | CO | 07 | 87 | 26 |
|  | co | 06 | 87 |  | CO | 04 | 87 |  |  | 5 | 87 |  | 0 | 0 | 00 | 0 | 0 | 00 | 00 | 0 | 0 | 00 | 00 | 0 | 00 | 00 | 00 | O |
|  | 00 | 00 | 00 | 00 | 00 | 00 | 00 |  |  | 48 |  |  | 17 |  | 67 | co |  | 21 | 62 | E | 5E | 1 B | 0 | O |  | 7F | E |  |
|  |  | E2 | 00 |  | 11 | 0 |  |  |  |  |  |  |  |  |  |  |  | 43 | OC | B |  |  |  |  |  |  |  |  |
|  | 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 | FF | FF |
|  | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | F | FF | FF | FF | FF | FF | F |  |  |
|  | FF | FF | FF | FF | FF | FF |  | FF | FF | F | FF | FF | F | F | FF | FF | F | FF | FF | F | FF | FF | FF | FF | FF |  |  |  |
|  | FF | FF | FF | FF | FF | FF |  | FF | FF |  | FF | FF |  | FF | FF | FF | F | FF |  | F | FF | FF | F | FF | FF |  |  |  |
|  | FF | FF | FF | FF | FF | FF |  | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | FF | FE | FE | FD | FC | F |
|  | FB | FA | FA | F9 | F8 | F8 | F7 | F7 | F6 | F6 | F5 | F5 | F5 | F | F4 | F4 | F4 | F3 | F3 | F3 | F3 | F3 | F3 | OO | 00 | 00 | 00 |  |
|  | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 |  |  |
|  |  | FD | FC |  | FD | FC |  | FC | FD | FD | FC | FC | FD |  | FC | F |  | FD | FC | C | C | F | D | D | D | D |  |  |
|  |  | FD | FE |  | FE | FE |  |  |  |  |  |  |  |  | FE | E | E | E | E | E |  |  | D |  |  |  |  |  |
|  |  | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FC | D | FD | FD | FD | FD | FD | FD | FD | D | FD | FD | FD |  | F |  |  |
|  |  | FD | FE | FD | FE | FD | FE | FE | FD | FD | FD | FD | FD | FD | FD | FE | D | FD | FD | FD | FD | FD | FD | FD | FD | FD |  |  |
|  |  | FD | FD |  | FD | FD |  | 01 | 01 | 2 | 04 | 03 | 02 | 01 | 02 | 02 | 02 | 03 | 03 | 1 |  | 01 | 1 | 01 | 01 | 0 | OO |  |
|  | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 0 |  |  |  | 01 |  |  | 1 |  |  |  |  |  |  |
|  | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 1 |  | 01 |  | 01 | 01 | 01 | 1 |  | 01 | 01 |  | 01 | 01 |  |  |  |  |  |
|  | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | OO | 00 | 00 | 0 | 00 | 00 | 00 | 0 | 00 | 00 |  |  |  |  |  |
|  | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | OO | 00 | 00 | OO | 00 | 00 | OO | 03 | FC | FD | OO | 02 | 00 | FC | 00 | 06 | 02 |  |  |
|  | FF | FE | 00 | 02 | 04 | 01 | 00 | 00 | FF | F | 01 | 02 | 00 | 02 | 02 | 01 | 0 | FF | 00 | 01 | 00 | 0 | OO | 01 |  |  |  |  |
|  | 1 | 00 | FE | 00 | 01 | 00 | 00 | 01 | 02 | 0 |  |  | 1 |  |  | 01 | 1 | FF | 00 | 1 |  | 01 | 0 |  |  |  |  |  |
|  | 00 | 01 | 00 | 00 | 00 | 01 | 01 | 01 | 00 | 00 | 00 |  | 0 | 00 | OO | 00 | 0 | FF | 00 | 0 | 00 | 0 | 0 | 01 | 00 | 00 |  |  |
|  | 01 | 00 | 01 | 00 | FF | FF | FF | 00 | 01 | 01 | 00 | 0 | 01 | 0 | 00 | 01 | 01 | 01 | OO | 0 | 00 | 0 | 01 | 00 | 00 | 05 | 8 |  |
|  | 01 | OE | 08 | FD | FB | F8 | FC | 01 | 04 | 06 | 07 | FF | F9 | A | 02 | 05 | 03 | FE | FF | 00 | 00 | 00 | 01 | 02 | 01 | F |  |  |
|  | O | 00 | FF | 00 | FF | FE | FF | 02 | 03 | 01 | FF | 0 | 01 | OO | FE | FF | 01 | 00 | FF | FF | 01 | 02 | 0 | FF | 00 | 01 | 00 |  |
|  | FF | 00 | 01 | 00 | 01 | 01 | 01 | 00 | 00 | 00 | OO | 00 | 0 | 00 | 00 | 00 | 0 | 00 | 01 | 01 | 00 | 00 | 0 | 0 | 00 | O | 0 |  |
|  | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 00 | 00 | 00 | 00 | 00 | 01 | 04 | 04 | 02 | FF | FE | FF | 00 | 00 | 00 | 00 | 00 | 00 | FF | 00 |  |
| 96 | 00 | FF | FF | FF | 00 | 01 | 02 | FA | FB | 04 | 09 | FE | F4 | FD | OB | OB | FE | F6 | FA | 02 | 05 | 03 | FF | FE | 01 | 01 | FF | E |
| 924 | 01 | 03 | 01 |  | FE | 01 | 02 |  | FD | FE | 02 | 02 | FF |  | 00 | 02 | 0 | FE | FE |  | 01 | 01 | 00 |  |  |  |  |  |

## 5818 Continued

0952 0980 1008 1036 1064 1092 1120 1148 1176 1204 1232 1260 1288 1316 1344 1372 1400 1428 1456 1484 1512 1540 1568 1596 1624 1652 1680 1708 1736 1764 1792 1820 1848 1876 1904 1932 1960 1988 2016 2044 2072 2100 2128 2156 2184 2212 2240 2268 2296 2324 2352 2380 2408 2436 2464 2492 2520 2548 2576
 00 FF 00 00 FF FF 010200 FF FD FF FD FE FC FF FD FC FC FD FD FB FB 01 01 O1 FF FB F9 F5 F2 F1 F6 F9 F7 F8 F4 F7 F2 F6 F8 F7 FC FB FC FC 01 F1 01 O0 FD F9 F4

 FF FF FF FF FF FF FF 00



 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 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 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 FF FF FF FF FF FF FF FF FF FF FF FF FF C7 FF C2 FF AC FF D8 FF A6 FF OC FE F8 FE CC FE 8 A FE DO FE AD FE AA FE AF FE EE FF 28 FF $1 B$ FF 24 FF OF FF 96 FF 49 FF 1A FF 40 FF 66 FF 49 FE 08 FE A4 FE 8 FE FE E3 FE E2 FE E1 FE D6 FF 13 FE FE FF 1F FE DD FC 96 FC 31 FA FF F9 24 FA $3 F$ FA A3 FB $6 C$ FA $D F$ FB 34 FD $8 D$ FD AO FD 7D FD 69 FE 92 FE ED FE AF FE D4 FE CD FE E3 FE FA FE 57 FE DD FE F3 FE A2 FE DC FF OA FE Cl FF 1A OO CE OO FD OO C6 OO CD OO CE 00 F3 O7 A5 O6 E7 O6 B2 O6 0 OF 06 AE OO 1D OO 1A FF 7D OO OO 0034 FF D4 FF DB 003 FF FF E8 OO 2 F C 00 OE FF BO FF D5 FF













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## F015

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F014
$\begin{array}{llllllllllll}31 & 30 & 39 & 35 & 37 & 35 & 37 & 2 D & 30 & 30 & 2 D & 43\end{array}$
5817
0000 OO OA OO 12 FF FF FF FE FF FE FF FE FF FE FF FF FF FE FF FE FF FF FF FF OE O8 OO OO
0028 E4 20 FF FF FF FF OB 92 O 0000


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 0224 FF FF OO O1 OO O1 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 0252 FF FF OO O2 OO O2 OO O2 OO O2 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 0280 FF FF OO O2 OO O2 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF O3 O3 O3

 0364 FF FF FF FF FF FF FF FF FF FF FF FF FE FE FE FE FE FE FE FE FE FE FE OO OO OO OO OO
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 1260 O 000000000000000000
 1316 3B $\quad$ FF $3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F$ $13443 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F$ $1372 \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F \quad 3 B \quad F F$ $14003 B \quad F F 3 B \quad F F 3 B$ FE $8 A$ FE DO FE AD FE AA FE AF FE EE FF 28 FF $1 B$ FF 24 FF OF FF 96 FF 142849 FF 1A FF 40 FF 66 FF 49 FE O8 FE A4 FE 8 FE FE E3 FE E2 FE E1 FE D6 FF 13 FE FE FF
 14842 F F5 87 F 4 8D FA O2 FC 9A F8 O3 F8 A1 F3 OE F6 DO F3 3A F9 D3 EC 78 FE DC FF OA FE
 1540 CE OO FD OO C6 OO OD OO O O 10

## 5817 Continued

| 1568 | A5 | 06 | E7 | 06 | B2 | 06 | 9 | 06 | 63 | 05 | C7 | 24 | 8D | OE | OC | c | 01 | 05 | E8 | 02 | 13 | FC | FA | 03 | AF | 04 | 5F | 04 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1596 | 73 | 00 | OB | 00 | 6F | 04 | 08 | 09 | 24 | 03 | A5 | 14 | 98 | 00 | 3F | FF | E8 | 00 | 2 C | 00 | OE | FF | Bо | FF | D5 | FF | BE | FF |
| 1624 | C8 | FF | F5 | FF | CF | FF | CF | FF | 6D | 00 | 64 | FF | A4 | 00 | 2E | 00 | OE | 00 | 64 | FF | 94 | 01 | 06 | 00 | 19 | 00 | 51 | 0 |
| 1652 | 78 | FF | AE | 00 | 00 | FF | A2 | FF | FC | FF | AA | FF | C9 | FE | 09 | FE | FF | FE | 18 | 00 | 39 | 01 | 5B | 02 | 9F | 01 | 56 | 0 |
| 1680 | EC | 01 | DE | OC | 68 | 01 | 9B | F4 | EE | F6 | 72 | 05 | 66 | 06 | C2 | FE | F1 | E5 | 78 | D2 | 34 | D6 | 53 | E2 | EF | F1 | A8 | F5 |
| 1708 | 7 E | EO | A6 | F3 | 59 | F2 | 9B | F2 | 04 | F1 | 3 C | F1 | B3 | F2 | F2 | F4 | 2B | F5 | 44 | F6 | 74 | 7 | A | F8 | BB | F9 | BC | FA |
| 1736 | DB | FB | F8 | FC | F1 | FD | DF | FE | A9 | FF | 21 | FF | B6 | 00 | 52 | 00 | FO | 01 | 92 | 02 | 20 | 02 | 9E | 03 | OB | 03 | 68 | 03 |
| 64 | E8 | 04 | 6C | 02 | B5 | FF | 78 | FD | 2E | FE | AF | FE | 6 C | FD | 4B | FD | 28 | FC | D1 | F3 | 9C | EE | 62 | F3 | F6 | F7 | 98 | F6 |
| 1792 | 74 | F7 | DC | FB | 98 | FC | F4 | F7 | AF | F1 | F4 | EF | DD | F1 | 3E | F2 | DB | F4 | B8 | FB | OC | 2A | BC | 2A | 92 | 2A | 6B | A |
| 1820 | 17 | 29 | D3 | 29 | EO | 29 | D9 | 29 | C6 | 29 | C8 | 29 | E9 | 2A | 1D | 2A | 71 | 2A | AC | 2A | C4 | 2A | FB | 2B | 74 | 2B | F | 2C |
| 1848 | EC | 2D | DE | 2E | 15 | 2E | 1 C | 2E | 1D | 2E | 31 | 2E | 30 | 2E | 36 | 2E | 33 | 2E | 31 | 2E | 30 | 2E | 30 | 2E | 33 | 2E | 3C | 2E |
| 1876 | 3D | 2E | 3D | 2E | 3E | 2E | 3D | 2E | 3D | 2E | 40 | 2E | 3D | 2E | 3D | 2E | 3C | 2E | 3B | 2E | 42 | 2E | 47 | 2E | 48 | 2E | 46 | 2E |
| 1904 | 46 | 2 E | 44 | 2E | 41 | 2E | 3B | 2E | 28 | 2E | 2 C | 12 | 4B | 12 | 83 | 12 | 6D | 12 | FB | 12 | 32 | 11 | BD | 11 | 50 | 11 | 1 E | 11 |
| 1932 | 16 | OE | 00 | OE | AC | OF | 47 | OE | 9A | OE | 4F | OF | 2D | OF | C3 | 11 | 82 | 10 | 55 | 10 | OB | OD | B4 | OA | 88 | 08 | 70 | 07 |
| 1960 | AD | 07 | 45 | 06 | 5B | 05 | AB | 00 | 26 | 00 | 26 | 0 | 29 | 00 | 29 | 00 | 29 | 00 | 28 | 00 | 27 | 0 | 26 | 00 | 26 | 00 | 1 E | 00 |
| 1988 | 1 F | 00 | 1F | 00 | 21 | 00 | 23 | 00 | 22 | 00 | 23 | 00 | 23 | 00 | 23 | 00 | 22 | 0 | 21 | 00 | 20 | 0 | 18 | 00 | 11 | 00 | OF | 0 |
| 2016 | OF | 00 | OF | 00 | 00 | 00 | 00 | 00 | 00 | OC | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2044 | 00 | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF |
| 2072 | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | OF | FF | F | FF |
| 100 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | F | FF | FF | F |
| 2128 | 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 |
| 2156 | 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 | F |
| 2184 | 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 | F | FF |
| 2212 | 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 |
| 2240 | 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 |
| 2268 | 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 |
| 229 | 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 | F | FF |
| 2324 | 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 | F | F |
| 2352 | 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 |
| 2380 | 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 |
| 2408 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 90 | FB | FF | FF | 32 | FF | 00 | 00 | 01 | 03 | 24 | 00 | E1 | F1 | F2 | FF | F |
| 2436 | 91 | 40 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 0 |
| 2464 | 20 | 10 | 20 | FF | FF | FF | FF | 6C | OB | 9A | 1E | B5 | 57 | B1 | 84 | 00 | 00 | 02 | 00 | FF | FF | FF | FF | 61 | 05 | 20 | 00 | 20 |
| 2492 | 10 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | FF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2520 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2548 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 |
| 2576 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | ०0 | ○0 | 00 | о0 | о0 | OO | OO | о0 | о0 | 00 | 00 | 00 | 00 | о0 | ○0 | о0 | 00 |  |  |  |  |



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#### Abstract

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