

Certification Summary Information Report

Manufacturer	Tesla, Inc.	Manufacturer Code	TSL
Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Certificate Number	KTSLV00.0L23-004	CARB Executive Order #	--
Certificate Issue Date	12/18/2018	Certificate Revision Date	--
Certificate Effective Date	12/18/2018	Conditional Certificate	No
CSI Revision #	--	CSI Submission/Revision Date	11/06/2018 08:49:36 PM
Model Year	2019		

Test Group Information

CSI Type	New	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity	--	--

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	Yes
Fuel Cell Indicator	No	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	Yes	Federal Clean Fuel Vehicle Standard	ZEV
Federal Clean Fuel Vehicle ILEV	Yes	California Partial Zero Emissions Vehicle Indicator	--
Durability Group Name	KTSLEEVN23	Durability Group Equivalency Factor	1
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	01/01/2019	CAP2000 Conditional Certificate?	No
Independent Commercial Importer?	No	Alternative Fuel Converter Certificate?	No
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	--
SFTP LEV-III Composite Compliance Indicator	Yes		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	KTSLV00.0L23
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	Battery Electric Vehicle - No OBD requirements		
Mfr Test Group Comments	MY2019 certification for Model 3 Long Range AWD and Performance carlines.		
Mfr Exhaust / Evap Standards Comments	--		

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Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
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Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Tesla, Inc.	1 - Tesla Motors	92 - Model 3 Long Range AWD	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Tesla, Inc.	1 - Tesla Motors	92 - Model 3 Long Range AWD	Federal	All Wheel Drive	Automatic	1	No
Tesla, Inc.	1 - Tesla Motors	93 - Model3 LongRange AWD Performance	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No
Tesla, Inc.	1 - Tesla Motors	93 - Model3 LongRange AWD Performance	Federal	All Wheel Drive	Automatic	1	No

Engine Description

Hybrid Type	--	Hybrid Description	--
Engine Type	--	Mfr Engine Description	--
Engine Block Arrangement	--	Mfr Engine Block Arrangement Description	--
Camless Valvetrain Indicator	--	Oil Viscosity/Classification	
Number of Cylinders/Rotors	--	Mechanically Variable Compression Ratio Indicator	--

After Treatment Device(s) (ATD)

Mfr After Treatment Device (ATD) Comments	--
Direct Ozone Reduction (DOR) Device	--
Mfr Emission Control Device Comments	--

Official Test Numbers

Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity		--	--	--	--	--	--	--	--	--	--

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Electricity	--	--	--

Official Charge Depleting Test Numbers

Test Group Fuel	UDDS	Highway
Electricity	JTSL10054423	JTSL10054424

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Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Hybrid Electric Vehicle And Fuel Cell Information			
Rechargable Energy Storage System	Battery(s)	Rechargable Energy Storage System, if Other	--
Battery Type	Lithium Ion	Number of Battery Packs	1
Total Voltage of Battery Packs	350	Battery Energy Capacity	230
Battery Specific Energy	150	Battery Charger Type	On-Board
Number of Capacitors	--	Capacitor Rating (In Farads)	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Both	Driver Controlled Regenerative Braking	No
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	2		
Motor/Generator Type 1	AC 3 PHASE PERMANENT MAGNET	Rated Motor/Generator Power	188
Motor/Generator Type 2	AC Induction	Rated Motor/Generator Power	147
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	2019 MY Model 3 AWD Long Range Carline ; AWD & PERF SHARE COMMON FRONT MOTOR - 147 kW; REAR (AWD) - 188 kW; (PERF)- 211 kW;		

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Test Group	KTSLV00.0L23		Evaporative/Refueling Family	--																								
Manufacturer Test Vehicle Comments	This is 2018 Model 3 - Long Range AWD. Front Motor Power - 147 kW, Rear Motor Power - 188 kW;																											
Test #	JTSL10054632		Test Procedure	2 - CVS 75 and later (w/o can. load)																								
Exhaust Test # for this Evap Test	--		Test Fuel Type	62 - Electricity																								
Test Date	04/08/2018		Fuel	Electricity																								
Fuel Batch ID	--		Fuel Calibration Number	--																								
Vehicle Class	LDV/Passenger Car		DF Type	EPA Assigned																								
Verify Test Lab ID	Fremont Dyno																											
E10 Evaporative Test Measurement Method	--																											
Test Start Odometer Reading	6649		Odometer Units	M																								
4WD Test Dyno	Yes		Diesel Adjustment Factor Usage	--																								
State of Charge Delta	--																											
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)		Road Speed Fan Usage	Yes																								
Test Results																												
<table border="1"> <thead> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)</th> </tr> </thead> <tbody> <tr> <td>CO (Carbon Monoxide)</td> <td>0</td> <td>--</td> </tr> <tr> <td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td> <td>2.3347</td> <td>--</td> </tr> <tr> <td>DT-EER (Drive Trace Energy Economy Rating)</td> <td>1.4489</td> <td>--</td> </tr> <tr> <td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td> <td>4.106</td> <td>--</td> </tr> <tr> <td>MFR FE (Manufacturer Fuel Economy)</td> <td>17.4004</td> <td>193.6737087</td> </tr> <tr> <td>NOX (Nitrogen Oxide)</td> <td>0</td> <td>--</td> </tr> <tr> <td>NMOG (Non-methane organic gases)</td> <td>0</td> <td>--</td> </tr> </tbody> </table>					Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)	CO (Carbon Monoxide)	0	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.3347	--	DT-EER (Drive Trace Energy Economy Rating)	1.4489	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.106	--	MFR FE (Manufacturer Fuel Economy)	17.4004	193.6737087	NOX (Nitrogen Oxide)	0	--	NMOG (Non-methane organic gases)	0	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)																										
CO (Carbon Monoxide)	0	--																										
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.3347	--																										
DT-EER (Drive Trace Energy Economy Rating)	1.4489	--																										
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MFR FE (Manufacturer Fuel Economy)	17.4004	193.6737087																										
NOX (Nitrogen Oxide)	0	--																										
NMOG (Non-methane organic gases)	0	--																										
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Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE																										
Carbon-Related Exhaust Emissions	0	0																										
Manufacturer Test Comments	Internal Test results (CVS-75 UDDS Ambient) for MY2018 Model 3 Long Range AWD / AWD Performance. Wh/mi @ 50 % SOC - Bag 1 - 201.6398; Bag 2- 176.5316; Bag 3 - 197.1232; Bag 4 - 175.7479;																											
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail																
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass																
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass																

Certification Summary Information Report

Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Test #	JTSL10054631	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/08/2018	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6649	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	5.8871	--
DT-EER (Drive Trace Energy Economy Rating)	0.9542	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	7.6037	--
MFR FE (Manufacturer Fuel Economy)	18.7406	179.8234848
NOX (Nitrogen Oxide)	0	--
NMOG (Non-methane organic gases)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	0

Manufacturer Test Comments

Internal Test results (HWY 3) for MY2018 Model 3 Long Range AWD / AWD Performance. The HFET result from the full discharge MCT is used for the 2-part and 5-part calculations. wh/mi - 187.4165;

Certification Summary Information Report

Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Test #	JTSL10054630	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/08/2018	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6649	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.67	--
DT-EER (Drive Trace Energy Economy Rating)	-0.99	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.67	--
MFR FE (Manufacturer Fuel Economy)	27.5938	122.128884
NOX (Nitrogen Oxide)	0	--
NMOG (Non-methane organic gases)	0	--

Manufacturer Test Comments

Internal Test results (US 06) for MY2018 Model 3 Long Range AWD / AWD Performance. US 06 dc wh/mi - City -275.9632; Hwy -247.4057 @ 50% SOC. City FE 27.5938; Hwy FE - 24.7402;

Certification Summary Information Report

Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Test #	JTSL10054629	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/08/2018	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6649	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.55	--
DT-EER (Drive Trace Energy Economy Rating)	2.98	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.85	--
MFR FE (Manufacturer Fuel Economy)	24.4918	137.5970733
NOX (Nitrogen Oxide)	0	--
NMOG (Non-methane organic gases)	0	--

Manufacturer Test Comments

Internal Test results (SC 03) for MY2018 Model 3 Long Range AWD / AWD Performance. dc wh/mi - 244.9051 at 50% SOC.

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Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Test #	JTSL10054423	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/08/2018	Fuel	Electricity
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6649	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	89.58
Charge Depleting Range (Calculated miles)	455.32	Charge Depleting Range (Actual miles)	455.32
Equivalent All Electric Range (miles)	455.32		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	455.32	
2	Average System Voltage	351	
3	Carbon Monoxide	0	
4	Carbon dioxide	0	
5	Carbon-Related Exhaust Emissions	0	
6	Drive Trace Absolute Speed Change Rating	2.34	
7	Drive Trace Energy Economy Rating	1.45	
8	Drive Trace Inertia Work Ratio Rating	4.11	
9	Integrated Amp-hours	225.56	
10	Manufacturer Fuel Economy	171.32	
11	Nitrogen Oxide	0	
12	Non-methane organic gases	0	
13	Non-methane organic gases plus Nitrogen Oxides	999.999	
14	Particulate Matter	0	
15	System End State of Charge Watt-hours	7921.8	
16	System Start State of Charge Watt-hours	0	

Certification Summary Information Report

Test Group		KTSLV00.0L23				Evaporative/Refueling Family				--		
Manufacturer Test Comments		Internal Test results for MY2018 Model 3 Long Range AWD / AWD Performance. Range determined by using SAE J1634 Multi-cycle test procedure. END-SOC 79218 wh (system gave error limited to 4 digits). MCT dc wh/mi is attached with EPA application.Added NMOG Test results.										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Test #	JTSL10054424	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/08/2018	Fuel	Electricity
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6649	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	89.58
Charge Depleting Range (Calculated miles)	422.7	Charge Depleting Range (Actual miles)	422.7
Equivalent All Electric Range (miles)	422.7		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	422.7	
2	Average System Voltage	351	
3	Carbon Monoxide	0	
4	Carbon dioxide	0	
5	Carbon-Related Exhaust Emissions	0	
6	Drive Trace Absolute Speed Change Rating	5.89	
7	Drive Trace Energy Economy Rating	0.95	
8	Drive Trace Inertia Work Ratio Rating	7.6	
9	Integrated Amp-hours	225.56	
10	Manufacturer Fuel Economy	159.05	
11	Nitrogen Oxide	0	
12	Non-methane organic gases	0	
13	Non-methane organic gases plus Nitrogen Oxides	999.999	
14	Particulate Matter	0	
15	System End State of Charge Watt-hours	7921.8	
16	System Start State of Charge Watt-hours	0	

Certification Summary Information Report

Test Group		KTSLV00.0L23				Evaporative/Refueling Family				--		
Manufacturer Test Comments		Internal Test results for MY2018 Model 3 Long Range AWD / AWD Performance. Range determined by using SAE J1634 Multi-cycle test procedure. END-SOC - 79218 wh (System error limited to 4 digits). MCT dc wh/mi is attached with application.										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Test #	JTSL10054633	Test Procedure	86 - Charge Depleting 20 Degree F FTP
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	04/08/2018	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6649	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	82.02
Charge Depleting Range (Calculated miles)	256.64	Charge Depleting Range (Actual miles)	256.64
Equivalent All Electric Range (miles)	256.64		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Actual Distance Driven (miles)	256.64	
2	Average System Voltage	354.93	
3	Carbon Monoxide	0	
4	Carbon dioxide	0	
5	Carbon-Related Exhaust Emissions	0	
6	Drive Trace Absolute Speed Change Rating	0.14	
7	Drive Trace Energy Economy Rating	-0.6	
8	Drive Trace Inertia Work Ratio Rating	0.54	
9	Integrated Amp-hours	204.36	
10	Manufacturer Fuel Economy	28.2646	
11	Nitrogen Oxide	0	
12	Non-methane organic gases	0	
13	Non-methane organic gases plus Nitrogen Oxides	999.999	
14	Particulate Matter	0	
15	System End State of Charge Watt-hours	7253.4	
16	System Start State of Charge Watt-hours	0	

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Test Group	KTSLV00.0L23	Evaporative/Refueling Family	--
Manufacturer Test Comments	Internal Test results(Cold UDDS) for MY2018 Model 3 Long Range AWD / AWD Performance. END SOC is 72534 wh (System error limited to 4 digits) for full discharge. wh/mi - Bag 1 - 504.3455; Bag 2 - 406.6573; Bag 3 - 342.9979; Bag - 4- 316.0353;Tesla did not use external current measurement after the full cold discharge test, since AC energy is not used in any part of the 5-cycle consumption calculation. The stated recharge energy is an estimate using the DC energy from the cold discharge test and the round trip energy efficiency from the full discharge MCT.		
Fuel Properties			

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Test Group		KTSLV00.0L23			Evaporative/Refueling Family		--		
Consolidated List of Standards									
Exhaust Standards									
Cert Region		California + CAA Section 177 states			Cert/In-Use Code		Cert		
Vehicle Class		LDV/Passenger Car			Standard Level		California ZEV		
Fuel		Electricity			Test Procedure		Charge Depleting UDDS		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0
Cert Region		Federal			Cert/In-Use Code		Cert		
Vehicle Class		LDV/Passenger Car			Standard Level		Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure		Charge Depleting Highway		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0
Cert Region		Federal			Cert/In-Use Code		Cert		
Vehicle Class		LDV/Passenger Car			Standard Level		Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure		Charge Depleting UDDS		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0

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Test Group		KTSLV00.0L23			Evaporative/Refueling Family			--	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV	
Fuel		Electricity			Test Procedure			Charge Depleting Highway	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0	
Fuel		Electricity			Test Procedure			CVS 75 and later (w/o can. load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV	
Fuel		Electricity			Test Procedure			CVS 75 and later (w/o can. load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0

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Test Group		KTSLV00.0L23	Evaporative/Refueling Family		--
Glossary					
Useful Life					
4	4,000 miles		120	120,000 miles	
50	50,000 miles		150	150,000 miles	
100	100,000 miles				
Emission Name					
HC-TOTAL	Total Hydrocarbon		METHANOL	CH3OH - Methanol	
CO	Carbon Monoxide		N2O	Nitrous Oxide	
CO2	Carbon dioxide		SPITBACK	Spitback Hydrocarbon in grams	
CREE	Carbon-Related Exhaust Emissions		AMP-HRS	Integrated Amp-hours	
OPT-CREE	Optional Carbon-Related Exhaust Emissions		START-SOC	System Start State of Charge Watt-hours	
NOX	Nitrogen Oxide		END-SOC	System End State of Charge Watt-hours	
PM	Particulate Matter		ACT-DISTANCE	Actual Distance Driven (miles)	
PM-COMP	SFTP Composite Particulate Matter		AS-VOLT	Average System Voltage	
HC-NM	Non-methane Hydrocarbon		CO2 BAG 1	Bag 1 Carbon Dioxide	
OMHCE	Organic material Hydrocarbon Equivalent		CO2 BAG 2	Bag 2 Carbon Dioxide	
OMNMHCE	Organic material non-methane HC equivalent		CO2 BAG 3	Bag 3 Carbon Dioxide	
NMOG	Non-methane organic gases		CO2 BAG 4	Bag 4 Carbon Dioxide	
HCHO	Formaldehyde		NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides	
H3C2HO	Acetaldehyde		NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03		DT-IWRR	Drive Trace Inertia Work Ratio Rating	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides		DT-ASCR	Drive Trace Absolute Speed Change Rating	
CO-COMP	SFTP Composite Carbon Monoxide		DT-EER	Drive Trace Energy Economy Rating	
ETHANOL	C2H5OH - Ethanol		COMB-CREE	Combined Carbon-Related Exhaust Emissions	
FE BAG 1	Bag 1 Fuel Economy		COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
FE BAG 2	Bag 2 Fuel Economy		HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
FE BAG 3	Bag 3 Fuel Economy		METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
FE BAG 4	Bag 4 Fuel Economy		N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
MFR FE	Manufacturer Fuel Economy		LEAK-DIA	Effective Leak Diameter (inches)	
HC	Hydrocarbon for Running Loss and ORVR		LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
METHANE	CH4 - Methane		CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		L3ULEV340	California LEV-III ULEV340	
B2	Federal Tier 2 Bin 2		L3ULEV250	California LEV-III ULEV250	
B3	Federal Tier 2 Bin 3		L3ULEV200	California LEV-III ULEV200	
B4	Federal Tier 2 Bin 4		L3SULEV170	California LEV-III SULEV170	
B5	Federal Tier 2 Bin 5		L3SULEV150	California LEV-III SULEV150	

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Test Group		KTSLV00.0L23	Evaporative/Refueling Family		--
B6	Federal Tier 2 Bin 6		L3LEV630	California LEV-III LEV630	
B7	Federal Tier 2 Bin 7		L3ULEV570	California LEV-III ULEV570	
B8	Federal Tier 2 Bin 8		L3ULEV400	California LEV-III ULEV400	
B9	Federal Tier 2 Bin 9		L3ULEV270	California LEV-III ULEV270	
B10	Federal Tier 2 Bin 10		L3SULEV230	California LEV-III SULEV230	
B11	Federal Tier 2 Bin 11		L3SULEV200	California LEV-III SULEV200	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		T3B160	Federal Tier 3 Bin 160	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		T3B125	Federal Tier 3 Bin 125	
L2	California LEV-II LEV		T3B110	Federal Tier 3 Transitional Bin 110	
L2OP	California LEV-II LEV Optional		T3B85	Federal Tier 3 Transitional Bin 85	
U2	California LEV-II ULEV		T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
S2	California LEV-II SULEV		T3B70	Federal Tier 3 Bin 70	
ZEV	California ZEV		T3B50	Federal Tier 3 Bin 50	
OT	Other		T3B30	Federal Tier 3 Bin 30	
T1	Federal Tier 1		T3B20	Federal Tier 3 Bin 20	
PZEV	California PZEV		T3B0	Federal Tier 3 Bin 0	
L2LEV160	California LEV-II LEV160		HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
L2ULEV125	California LEV-II ULEV125		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
L2SULEV30	California LEV-II SULEV30		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2LEV395	California LEV-II LEV395		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2ULEV340	California LEV-II ULEV340		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
L2LEV630	California LEV-II LEV630		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
L2ULEV570	California LEV-II ULEV570		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
L3LEV160	California LEV-III LEV160		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
L3ULEV125	California LEV-III ULEV125		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
L3ULEV70	California LEV-III ULEV70		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
L3ULEV50	California LEV-III ULEV50		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L3SULEV30	California LEV-III SULEV30		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L3SULEV20	California LEV-III SULEV20		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L3LEV395	California LEV-III LEV395		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
Transmission Type Code					
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual		
A	Automatic	OT	Other		
AM	Automated Manual	SA	Semi-Automatic		
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)		
Drive System Code					
4	4-Wheel Drive	P	Part-time 4-Wheel Drive		
F	2-Wheel Drive, Front	A	All Wheel Drive		
R	2-Wheel Drive, Rear				

Certification Summary Information Report

Test Group		KTSLV00.0L23		Evaporative/Refueling Family		--	
Additional Terms and Acronyms							
AFC	Alternative Fuel Converter			ICI	Independent Commercial Importer		
CSI	Certificate Summary Information			ORVR	Onboard Refueling Vapor Recovery		
DF	Deterioration Factor			SIL	Shift Indicator Light		
Evap	Evaporation, Evaporative			Trans	Transmission		