

Certification Summary Information Report

Manufacturer	Kia Corporation	Manufacturer Code	KMX
Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Certificate Number	VKMXV01.6213-025	CARB Executive Order #	--
Certificate Issue Date	06/10/2026	Certificate Revision Date	--
Certificate Effective Date	06/10/2026	Conditional Certificate	No
CSI Revision #	--	CSI Submission/Revision Date	05/18/2026 12:16:57 AM
Model Year	2027		

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
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Test Group Information

CSI Type	Update for Correction	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	--	--

Drive Source #2: Combustion Engine

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Gasoline	Spark Ignition Direct fuel injection	No

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	No
Fuel Cell Indicator	No	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	VKMXHHGNN213	Durability Group Equivalency Factor	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	07/01/2026	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	No
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VKMXT02.5M13
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

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Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	04/13/2026 05:58:47 AM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	HDPE				
Fill Pipe Seal Type	Liquid seal						
Air Intake System Vapor Storage Device?	Yes	Air Intake System Vapor Storage Device Description	HC-TRAP				
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--				
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	119	Number of Primary Canisters	1				
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	--				
Mfr Evaporative/Refueling Family Comments	--						
Leak Family Details							
Leak Family Indicator	Yes						
Canister Bleed Test Indicator	Yes	Applicability of Evaporative Canister Bleed Test	50 State				
Evaporative Canister Bleed Test Comments	--						
CARB Fuel Only (Rig) Test Indicator	No	Applicability of CARB Fuel Only (Rig) Test	--				
CARB Fuel Only (Rig) Test Comments	--						
Leak Family Name	Applicability of Leak Family Requirements	Leak Family Standard (inches)	Leak Family Description				
VKMXR011921G-SGH	50 State	0.02	--				
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Kia Corporation	1 - KIA	182 - Niro	California + CAA Section 177 states	2-Wheel Drive, Front	Automated Manual-Selectable (e.g. Automated Manual with paddles)	6	No
Kia Corporation	1 - KIA	182 - Niro	Federal	2-Wheel Drive, Front	Automated Manual-Selectable (e.g. Automated Manual with paddles)	6	No
Engine Description							
Hybrid Type	IC Engine/Electric Motor	Hybrid Description	--				
Engine Type	4-Stroke Spark Ignition	Mfr Engine Description	--				
Engine Block Arrangement	Inline	Mfr Engine Block Arrangement Description	--				
Camless Valvetrain Indicator	No	Oil Viscosity/Classification	SAE 0W16				
Number of Cylinders/Rotors	4	Mechanically Variable Compression Ratio Indicator	N				

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Test Group		VKMXV01.6213		Evaporative/Refueling Family		VKMXR011921G					
After Treatment Device(s) (ATD)											
ATD Number		ATD Type		ATD Precious Metal		Substrate Material		Substrate Construction			
1		Three-way catalyst		Platinum + Palladium + Rhodium		Ceramic		Monolith			
2		Three-way catalyst		Platinum + Rhodium		Ceramic		Monolith			
Mfr After Treatment Device (ATD) Comments		--									
Direct Ozone Reduction (DOR) Device		Not Equipped									
Mfr Emission Control Device Comments		--									
Engine Configuration Number 1											
Engine Displacement (liters)		1.6		Engine Rated Horsepower		105					
Number of Inlet Valves Per Cylinder		2		Number of Exhaust Valves Per Cylinder		2					
Air Aspiration Method		Naturally Aspirated		Number of Air Aspiration Devices		--					
Air Aspiration Device Configuration		--		Charge Air Cooler Type		--					
Air Aspiration Drive Method(s)		--									
Cylinder Deactivation		No									
Cylinder Deactivation Description		--									
Variable Valve Timing		Yes									
Variable Valve Timing System Description		Fixed3, CVVT is an oil pressure device that improve fuel efficiency and reduce toxic exhaust gas by allowing the timing (some or all) of the intake or exhaust valves (or both) to be changed while the engine is in operation.									
Variable Valve Lift?		No									
Variable Valve Lift System Description		--									
Number of Knock Sensors		1		Number of Air/Fuel Sensors		2					
Air/Fuel Sensor # 1 Type		Other		Air/Fuel Sensor # 1 Description		WR-HO2S					
Air/Fuel Sensor # 2 Type		Heated oxygen		Air/Fuel Sensor # 2 Description		--					
Mfr Air/Fuel Sensor Comments		--									
Exhaust Gas Recirculation		Yes		Cooled Exhaust Gas Recirculation		Yes					
EGR Type		Electronic/Electric		Exhaust Gas Recirculation Description if 'Other'		--					
Closed Loop Air Injection System		No		Air Injection Type if 'Other'		--					
Air Injection Type		--									
Mfr Engine Configuration 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
Gasoline		VKMX10092981	VKMX10092983	VKMX10092984	VKMX10092985	VKMX10092982	36.5	33.1	36.2	32.1	--
Electricity		--	--	--	--	--	--	--	--	--	--

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Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
SFTP LEV-III Official Test Numbers			
Test Group Fuel	FTP	US06	SC03
Gasoline	VKMX10092981	VKMX10092983	VKMX10092984
Electricity	--	--	--
Hybrid Electric Vehicle And Fuel Cell Information			
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if Other	--
Battery Type	Lithium Ion	Number of Battery Packs	1
Total Voltage of Battery Packs	240	Battery Energy Capacity	5.5
Battery Specific Energy	39.3	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	Front Wheels	Driver Controlled Regenerative Braking	Yes
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	PMSM	Rated Motor/Generator Power	32
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	--		

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G									
Emission Data Vehicle Information												
Vehicle ID / Configuration	CN7U1K6GD044F / 0	Manufacturer Vehicle Configuration Number	0									
Original Test Group Name	MHYXV01.6C13	Original Evaporative/Refueling Family	MHYXR0119C1G									
Original Test Vehicle Model Year	2021											
Vehicle Model												
Represented Test Vehicle Make	HYUNDAI	Represented Test Vehicle Model	Elantra Hybrid									
Leak Family Details												
Leak Family Identifier	CNH	Leak Family Name	MHYXR0119C1G-CNH									
Drive Sources and Fuel System Details												
	<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th><th>Drive Source</th><th>Fuel</th></tr> </thead> <tbody> <tr> <td>1</td><td>Electric Motor</td><td>Electricity</td></tr> <tr> <td>2</td><td>Combustion Engine</td><td>Gasoline</td></tr> </tbody> </table>	Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity	2	Combustion Engine	Gasoline		
Drive Source and Fuel#	Drive Source	Fuel										
1	Electric Motor	Electricity										
2	Combustion Engine	Gasoline										
Hybrid Indicator	Yes											
Multiple Fuel Storage	--	Multiple Fuel Combustion	--									
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes									
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--									
Off-board charge Capable Indicator	No											
Odometer Correction -- Initial	0	Odometer Correction Factor	1.0382									
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor											
Odometer Correction Units	Miles											
Engine Code	G4LE-AMC	Rated Horsepower	104									
Displacement (liters)	1.6											
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--									
Charge Air Cooler Type	--	Drive Mode While Testing	2-Wheel Drive, Front									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)									
Curb Weight (lbs)	3069	Equivalent Test Weight (pounds)	3375									
GVWR (lbs)	4079	N/V Ratio	34.5									
Axle Ratio	3.23											
Transmission Type	Automated Manual- Selectable (e.g. Automated Manual with paddles)	# of Transmission Gears	6									
Transmission Lockup	No	Creep Gear	No									

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
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Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	21.092	0.40195	0.015805	4.787	0.27674	0.015411	10.8
Cold CO	23.201	0.44215	0.017386	3.422	0.22104	0.017389	N/A
US06	21.092	0.40195	0.015805	4.787	0.27674	0.015411	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments 21MY CN7 HEV 1.6 GDI DCT 17in (EDV)

Test #	MHYX10066012	Test Procedure	68 - Leak Test - Port Near Fuel Pipe
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	07/15/2020	Fuel	Gasoline
Fuel Batch ID	19T-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4335	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
LEAK-DIA (Effective Leak Diameter (inches))	0	--

Manufacturer Test Comments 21MY CN7 HEV 1.6 GDI DCT 17" E10 - Leak Test Port Near Fuel Pipe

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0	0	0	0.02	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0	0	0	0.02	Pass

Certification Summary Information Report

Test Group	VKM XV01.6213	Evaporative/Refueling Family	VKM XR011921G						
Test #	MHYX10066013	Test Procedure	67 - Leak Test - Port Near Canister						
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	07/15/2020	Fuel	Gasoline						
Fuel Batch ID	19T-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	--	Odometer Units	M						
Test Start Odometer Reading	4335	Diesel Adjustment Factor Usage	--						
4WD Test Dyno	No								
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <td>Test Result Name</td> <td>Unrounded Test Result</td> <td>Verify Calculated FE Equivalent Value</td> </tr> <tr> <td>LEAK-DIA (Effective Leak Diameter (inches))</td> <td>0</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value	LEAK-DIA (Effective Leak Diameter (inches))	0	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value							
LEAK-DIA (Effective Leak Diameter (inches))	0	--							
Manufacturer Test Comments									
21MY CN7 HEV 1.6 GDI DCT 17" E10 - Leak Test Port Near Canister									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0	0	0	0.02	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0	0	0	0.02	Pass	

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Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
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Emission Data Vehicle Information

Vehicle ID / Configuration	DE-U1G6GD423F / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	MKMXV01.6L13	Original Evaporative/Refueling Family	MKMXR0110L1G
Original Test Vehicle Model Year	2021		

Vehicle Model

Represented Test Vehicle Make	KIA	Represented Test Vehicle Model	NIRO
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Leak Family Details

Leak Family Identifier	DEH	Leak Family Name	MKMXR0110L1G-DEH
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Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity
2	Combustion Engine	Gasoline

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	Multiple Fuel Combustion	--
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	0	Odometer Correction Factor	1.002
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	G4LE-AC	Rated Horsepower	104
Displacement (liters)	1.6		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	--	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	3274	Equivalent Test Weight (pounds)	3625
GVWR (lbs)	4255	N/V Ratio	33.3
Axle Ratio	3.23		
Transmission Type	Automated Manual- Selectable (e.g. Automated Manual with paddles)	# of Transmission Gears	6
Transmission Lockup	No	Creep Gear	No

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
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Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	25.264	0.32832	0.019509	6.41	0.22442	0.018947	12.1

Emission Control Device Comments --

Manufacturer Test Vehicle Comments NIRO 18" Evap EDV

Test #	MKMX10065781	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	MKMX10065780	Test Fuel Type	46 - CARB LEV3 E10 Regular
Test Date	06/17/2020	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4134	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1996	--

Manufacturer Test Comments 2DBL

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.1996	0	0.2	0.3	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1996	0	0.2	0.3	Pass

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G						
Test #	MKMX10065784	Test Procedure	38 - CA fuel 3-day evap.						
Exhaust Test # for this Evap Test	MKMX10065779	Test Fuel Type	46 - CARB LEV3 E10 Regular						
Test Date	06/12/2020	Fuel	Gasoline						
Fuel Batch ID	19E-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4099	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	Yes								
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.1723</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1723	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1723	--							
Manufacturer Test Comments 3DBL									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.1723	0	0.172	0.3	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1723	0	0.172	0.3	Pass	

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Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G						
Test #	MKMX10065783	Test Procedure	37 - California Fuel Running Loss						
Exhaust Test # for this Evap Test	MKMX10065779	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline						
Test Date	06/12/2020	Fuel	Gasoline						
Fuel Batch ID	19E-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4099	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	Yes								
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <td>Test Result Name</td> <td>Unrounded Test Result</td> <td>Verify Calculated FE Equivalent Value (miles per gallon)</td> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.0001</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0001	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0001	--							
Manufacturer Test Comments RL									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0	0	0	0.05	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0	0	0	0.01	Pass	

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Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G						
Test #	MKMX10065785	Test Procedure	24 - Federal fuel refueling test (ORVR)						
Exhaust Test # for this Evap Test	MKMX10065782	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	06/10/2020	Fuel	Gasoline						
Fuel Batch ID	19T-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4080	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.048</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.048	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.048	--							
Manufacturer Test Comments ORVR									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.048	0	0.05	0.2	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.048	0	0.05	0.2	Pass	

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Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	MKMX10065786	Test Procedure	65 - Evap Canister Bleed Test
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	06/23/2020	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4153	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.0035	--

Manufacturer Test Comments BLEED

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL	0.0035	0	0.004	0.02	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL	0.0035	0	0.004	0.02	Pass

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
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Emission Data Vehicle Information

Vehicle ID / Configuration	SG2-U7GPGD046F / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	VKMXV01.6213	Original Evaporative/Refueling Family	VKMXR011921G
Original Test Vehicle Model Year	2027		

Vehicle Model

Represented Test Vehicle Make	KIA	Represented Test Vehicle Model	NIRO
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Leak Family Details

Leak Family Identifier	SGH	Leak Family Name	VKMXR011921G-SGH
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Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Combustion Engine	Gasoline
2	Electric Motor	Electricity

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	Multiple Fuel Combustion	--
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	0	Odometer Correction Factor	1.0093
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	G4LL-AMC	Rated Horsepower	105
Displacement (liters)	1.6		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	--	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	3362	Equivalent Test Weight (pounds)	3625
GVWR (lbs)	4255	N/V Ratio	36
Axle Ratio	3.23		
Transmission Type	Automated Manual- Selectable (e.g. Automated Manual with paddles)	# of Transmission Gears	6
Transmission Lockup	No	Creep Gear	No

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family		VKMXR011921G	
Dynamometer Coefficients:								
Target Coefficients				Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients	
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	19.671	0.38603	0.018769	5.303	0.34488	0.017826	11.5	
Cold CO	21.638	0.42463	0.020646	2.663	0.28222	0.01991	N/A	
US06	19.671	0.38603	0.018769	5.303	0.34488	0.017826	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		27MY NIRO 1.6 GDI 6DCT 18" TYPO of NV ratio is corrected to 36.0						

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX10092981	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/05/2025	Fuel	Gasoline
Fuel Batch ID	25T-03	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4091	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	199.6281	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.084	--
FE BAG 1 (Bag 1 Fuel Economy)	43.394	43.394
CH4 BAG 1 (Bag 1 Methane)	0.001	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.01	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	178.5228	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.052	--
FE BAG 2 (Bag 2 Fuel Economy)	48.5015	48.5015
CH4 BAG 2 (Bag 2 Methane)	0.001	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--
METHANE (CH4 - Methane)	0.001	--
CO (Carbon Monoxide)	0.07	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.29	--
DT-EER (Drive Trace Energy Economy Rating)	-2.83	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.99	--
MFR FE (Manufacturer Fuel Economy)	46.165	46.165
NOX (Nitrogen Oxide)	0.001	--
NMOG (Non-methane organic gases)	0.0042	--
PM (Particulate Matter)	0.0002	--
HC-TOTAL (Total Hydrocarbon)	0.004	--

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family				VKMXR011921G			
				Test Result Name		Unrounded Test Result		Verify Calculated CREE/OPT-CREE				
				Carbon-Related Exhaust Emissions		188		188				
				Test Result Name		Unrounded Test Result		Verify Calculated CO2				
				Carbon dioxide		187.5981		--				
Manufacturer Test Comments		27MY SG2 HEV PE 18inch (EDV) E10 - FTP										
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	120,000 miles	Federal Tier 3 Bin 30	CREE	188	--	--	--	0.047299	--	188	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.001	--	--	--	0.0017	--	0.003	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.07	--	--	--	0	--	0.1	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.06	--	--	--	0	--	0.1	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0042	--	1.09978	--	0.002	--	0.006	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0052	--	--	--	--	--	0.008	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0056	--	--	--	0	--	0.006	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.001	--	--	--	0.0013	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0002	--	--	--	0	--	0	0.003	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.07	--	--	--	0	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0042	--	1.09978	--	0.002	--	0.006	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0052	--	--	--	--	--	0.008	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.001	--	--	--	0.0013	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0002	--	--	--	0	--	0	0.001	Pass
NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.												

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX10092985	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	12/09/2025	Fuel	Gasoline
Fuel Batch ID	25D-02	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4184	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G																																																																											
<table><tr><th>Test Result Name</th><th>Unrounded Test Result</th><th>Verify Calculated FE Equivalent Value (miles per gallon)</th></tr><tr><td>CO2 BAG 1 (Bag 1 Carbon Dioxide)</td><td>299.145</td><td>--</td></tr><tr><td>CO BAG 1 (Bag 1 Carbon Monoxide)</td><td>3.75</td><td>--</td></tr><tr><td>FE BAG 1 (Bag 1 Fuel Economy)</td><td>28.0807</td><td>28.0807</td></tr><tr><td>CH4 BAG 1 (Bag 1 Methane)</td><td>0.053</td><td>--</td></tr><tr><td>NMOG BAG 1 (Bag 1 Non-methane organic gases)</td><td>0.778</td><td>--</td></tr><tr><td>CO2 BAG 2 (Bag 2 Carbon Dioxide)</td><td>227.069</td><td>--</td></tr><tr><td>CO BAG 2 (Bag 2 Carbon Monoxide)</td><td>0.04</td><td>--</td></tr><tr><td>FE BAG 2 (Bag 2 Fuel Economy)</td><td>37.988</td><td>37.988</td></tr><tr><td>CH4 BAG 2 (Bag 2 Methane)</td><td>0.001</td><td>--</td></tr><tr><td>NMOG BAG 2 (Bag 2 Non-methane organic gases)</td><td>0.002</td><td>--</td></tr><tr><td>CO2 BAG 3 (Bag 3 Carbon Dioxide)</td><td>249.1362</td><td>--</td></tr><tr><td>CO BAG 3 (Bag 3 Carbon Monoxide)</td><td>0.08</td><td>--</td></tr><tr><td>FE BAG 3 (Bag 3 Fuel Economy)</td><td>34.6201</td><td>34.6201</td></tr><tr><td>CH4 BAG 3 (Bag 3 Methane)</td><td>0.003</td><td>--</td></tr><tr><td>NMOG BAG 3 (Bag 3 Non-methane organic gases)</td><td>0.01</td><td>--</td></tr><tr><td>METHANE (CH4 - Methane)</td><td>0.012</td><td>--</td></tr><tr><td>CO (Carbon Monoxide)</td><td>0.82</td><td>--</td></tr><tr><td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td><td>-0.95</td><td>--</td></tr><tr><td>DT-EER (Drive Trace Energy Economy Rating)</td><td>-1.43</td><td>--</td></tr><tr><td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td><td>-1.34</td><td>--</td></tr><tr><td>MFR FE (Manufacturer Fuel Economy)</td><td>34.5419</td><td>34.5419</td></tr><tr><td>HC-NM (Non-methane Hydrocarbon)</td><td>0.1497</td><td>--</td></tr><tr><td>NMOG (Non-methane organic gases)</td><td>0.165</td><td>--</td></tr><tr><td>HC-TOTAL (Total Hydrocarbon)</td><td>0.162</td><td>--</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	CO2 BAG 1 (Bag 1 Carbon Dioxide)	299.145	--	CO BAG 1 (Bag 1 Carbon Monoxide)	3.75	--	FE BAG 1 (Bag 1 Fuel Economy)	28.0807	28.0807	CH4 BAG 1 (Bag 1 Methane)	0.053	--	NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.778	--	CO2 BAG 2 (Bag 2 Carbon Dioxide)	227.069	--	CO BAG 2 (Bag 2 Carbon Monoxide)	0.04	--	FE BAG 2 (Bag 2 Fuel Economy)	37.988	37.988	CH4 BAG 2 (Bag 2 Methane)	0.001	--	NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.002	--	CO2 BAG 3 (Bag 3 Carbon Dioxide)	249.1362	--	CO BAG 3 (Bag 3 Carbon Monoxide)	0.08	--	FE BAG 3 (Bag 3 Fuel Economy)	34.6201	34.6201	CH4 BAG 3 (Bag 3 Methane)	0.003	--	NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.01	--	METHANE (CH4 - Methane)	0.012	--	CO (Carbon Monoxide)	0.82	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.95	--	DT-EER (Drive Trace Energy Economy Rating)	-1.43	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.34	--	MFR FE (Manufacturer Fuel Economy)	34.5419	34.5419	HC-NM (Non-methane Hydrocarbon)	0.1497	--	NMOG (Non-methane organic gases)	0.165	--	HC-TOTAL (Total Hydrocarbon)	0.162	--
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HC-TOTAL (Total Hydrocarbon)	0.162	--																																																																												
<table><tr><th>Test Result Name</th><th>Unrounded Test Result</th><th>Verify Calculated CO2</th></tr><tr><td>Carbon dioxide</td><td>248.052</td><td>--</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated CO2	Carbon dioxide	248.052	--																																																																					
Test Result Name	Unrounded Test Result	Verify Calculated CO2																																																																												
Carbon dioxide	248.052	--																																																																												
Manufacturer Test Comments	27MY SG2 HEV PE 18inch (EDV) E10 - 20F																																																																													

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Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX10092986	Test Procedure	52 - Fed. fuel 50 F exh.
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/04/2025	Fuel	Gasoline
Fuel Batch ID	25T-03	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4051	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
CO (Carbon Monoxide)	0.09	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.02	--
DT-EER (Drive Trace Energy Economy Rating)	-2.75	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.74	--
NOX (Nitrogen Oxide)	0.0001	--
NMOG (Non-methane organic gases)	0.0032	--

Manufacturer Test Comments 27MY SG2 HEV PE 18inch (EDV) E10 - 50F

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
CA	4,000 miles	California LEV-IV SULEV30	CO	0.09	--	--	--	--	--	0.1	1.0	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG	0.0032	--	1.09978	--	--	--	0.003	99.999	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0033	--	--	--	--	--	0.003	0.060	Pass
CA	4,000 miles	California LEV-IV SULEV30	NOX	0.0001	--	--	--	--	--	0	99.999	Pass

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX91006756	Test Procedure	2 - CVS 75 and later (w/o can. load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	03/27/2026	Fuel	Gasoline
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4912	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	15.0073671	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.6120701	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	211.0148621	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.1249732	--	
FE BAG 1 (Bag 1 Fuel Economy)	42.1808243	--	
CH4 BAG 1 (Bag 1 Methane)	0.003888	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0229019	--	
HC-TOTAL BAG 1 (Bag 1 Total Hydrocarbon)	0.025821	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	-232.275177	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.9014933	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	76.8221207	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	116.0030136	--	
CH4 BAG 2 (Bag 2 Methane)	0.001966	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.000612	--	
HC-TOTAL BAG 2 (Bag 2 Total Hydrocarbon)	0.00251	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	235.238327	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.6044052	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	164.249527	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0.0270348	--	
FE BAG 3 (Bag 3 Fuel Economy)	54.243885	--	
CH4 BAG 3 (Bag 3 Methane)	0.0026116	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.0014915	--	
HC-TOTAL BAG 3 (Bag 3 Total Hydrocarbon)	0.0039866	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	-122.4151077	--	
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.8893986	--	
CO2 BAG 4 (Bag 4 Carbon Dioxide)	93.096405	--	
CO BAG 4 (Bag 4 Carbon Monoxide)	0	--	
FE BAG 4 (Bag 4 Fuel Economy)	95.7262115	--	
CH4 BAG 4 (Bag 4 Methane)	0.0022486	--	
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0.0003032	--	

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G																																										
<table><tr><td>HC-TOTAL BAG 4 (Bag 4 Total Hydrocarbon)</td><td>0.0024891</td><td>--</td></tr><tr><td>WATT-HRS BAG 4 (Bag 4 Watt Hours)</td><td>110.8126755</td><td>--</td></tr><tr><td>METHANE (CH4 - Methane)</td><td>0.0026239</td><td>--</td></tr><tr><td>CO (Carbon Monoxide)</td><td>0.0332461</td><td>--</td></tr><tr><td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td><td>-0.6182721</td><td>--</td></tr><tr><td>DT-EER (Drive Trace Energy Economy Rating)</td><td>-1.5508918</td><td>--</td></tr><tr><td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td><td>-0.9358769</td><td>--</td></tr><tr><td>MFR FE (Manufacturer Fuel Economy)</td><td>66.799118</td><td>--</td></tr><tr><td>NOX (Nitrogen Oxide)</td><td>0.0021304</td><td>--</td></tr><tr><td>N2O (Nitrous Oxide)</td><td>0.0006765</td><td>--</td></tr><tr><td>HC-NM (Non-methane Hydrocarbon)</td><td>0.005163</td><td>--</td></tr><tr><td>NMOG (Non-methane organic gases)</td><td>0.0053695</td><td>--</td></tr><tr><td>HC-TOTAL (Total Hydrocarbon)</td><td>0.0077275</td><td>--</td></tr><tr><td>WATT-HRS (Watt Hours)</td><td>-8.6392803</td><td>--</td></tr></table>				HC-TOTAL BAG 4 (Bag 4 Total Hydrocarbon)	0.0024891	--	WATT-HRS BAG 4 (Bag 4 Watt Hours)	110.8126755	--	METHANE (CH4 - Methane)	0.0026239	--	CO (Carbon Monoxide)	0.0332461	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.6182721	--	DT-EER (Drive Trace Energy Economy Rating)	-1.5508918	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.9358769	--	MFR FE (Manufacturer Fuel Economy)	66.799118	--	NOX (Nitrogen Oxide)	0.0021304	--	N2O (Nitrous Oxide)	0.0006765	--	HC-NM (Non-methane Hydrocarbon)	0.005163	--	NMOG (Non-methane organic gases)	0.0053695	--	HC-TOTAL (Total Hydrocarbon)	0.0077275	--	WATT-HRS (Watt Hours)	-8.6392803	--
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HC-TOTAL (Total Hydrocarbon)	0.0077275	--																																											
WATT-HRS (Watt Hours)	-8.6392803	--																																											
<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated CREE/OPT-CREE</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>9999.9999999</td><td>133</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	Carbon-Related Exhaust Emissions	9999.9999999	133																																				
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<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated CO2</td></tr><tr><td>Carbon dioxide</td><td>133.3459778</td><td>--</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated CO2	Carbon dioxide	133.3459778	--																																				
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Carbon dioxide	133.3459778	--																																											
Manufacturer Test Comments	Amended Report (test number 20260044006); test is related to lab concern CA-26-023. Added values for ACT-DISTANCE and WATT-HRS. No other changes were made.																																												

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family					VKMXR011921G		
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	120,000 miles	Federal Tier 3 Bin 30	CREE	133	--	--	--	0	--	133	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0026	--	--	--	0.0017	--	0.004	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	N2O	0.0007	--	--	--	0.0004	--	0.001	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.03	--	--	--	0	--	0	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0054	--	1.09978	--	0.002	--	0.007	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0075	--	--	--	--	--	0.011	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0021	--	--	--	0.0013	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.03	--	--	--	0	--	0	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0054	--	1.09978	--	0.002	--	0.007	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0075	--	--	--	--	--	0.011	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0021	--	--	--	0.0013	--	0.003	99.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G																														
Test #	VKMX10092982	Test Procedure	3 - HWFE																														
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)																														
Test Date	12/05/2025	Fuel	Gasoline																														
Fuel Batch ID	25T-03	Fuel Calibration Number	1																														
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined																														
Verify Test Lab ID	772-1, Jangduck-Dong																																
E10 Evaporative Test Measurement Method	--																																
Test Start Odometer Reading	4109	Odometer Units	M																														
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--																														
State of Charge Delta	Yes																																
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 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 (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td>METHANE (CH4 - Methane)</td> <td>0.0012</td> <td>--</td> </tr> <tr> <td>CO (Carbon Monoxide)</td> <td>0.02</td> <td>--</td> </tr> <tr> <td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td> <td>0.75</td> <td>--</td> </tr> <tr> <td>DT-EER (Drive Trace Energy Economy Rating)</td> <td>-0.65</td> <td>--</td> </tr> <tr> <td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td> <td>0.79</td> <td>--</td> </tr> <tr> <td>MFR FE (Manufacturer Fuel Economy)</td> <td>48.7851</td> <td>48.7851</td> </tr> <tr> <td>NOX (Nitrogen Oxide)</td> <td>0.0003</td> <td>--</td> </tr> <tr> <td>NMOG (Non-methane organic gases)</td> <td>0.0012</td> <td>--</td> </tr> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td> <td>0.002</td> <td>--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	METHANE (CH4 - Methane)	0.0012	--	CO (Carbon Monoxide)	0.02	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.75	--	DT-EER (Drive Trace Energy Economy Rating)	-0.65	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.79	--	MFR FE (Manufacturer Fuel Economy)	48.7851	48.7851	NOX (Nitrogen Oxide)	0.0003	--	NMOG (Non-methane organic gases)	0.0012	--	HC-TOTAL (Total Hydrocarbon)	0.002	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)																															
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HC-TOTAL (Total Hydrocarbon)	0.002	--																															
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Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE																															
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Test Result Name	Unrounded Test Result	Verify Calculated CO2																															
Carbon dioxide	178.2095	--																															
Manufacturer Test Comments	27MY SG2 HEV PE 18inch (EDV) E10 - HWY																																

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family					VKMXR011921G		
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	120,000 miles	Federal Tier 3 Bin 30	CREE	178	--	--	--	0.047299	--	178	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0012	--	1.03	--	0.002	--	0.003	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0015	--	--	--	--	--	0.005	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0003	--	--	--	0.0013	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0012	--	1.03	--	0.002	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0015	--	--	--	--	--	0.005	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0003	--	--	--	0.0013	--	0.002	99.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX91006744	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	03/11/2026	Fuel	Gasoline
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4837	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	10.2648201	--
METHANE (CH4 - Methane)	0.0009957	--
CO (Carbon Monoxide)	0.0038555	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.0611115	--
DT-EER (Drive Trace Energy Economy Rating)	-0.4653338	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.4622588	--
MFR FE (Manufacturer Fuel Economy)	63.6575508	--
NOX (Nitrogen Oxide)	0.0001328	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0001114	--
NMOG (Non-methane organic gases)	0.0001159	--
HC-TOTAL (Total Hydrocarbon)	0.0010845	--
WATT-HRS (Watt Hours)	-4.9732914	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	9999.9999999	140

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	139.997818	--

Manufacturer Test Comments

Amended Report (test number 20260044003); test is related to lab concern CA-26-023. Added values for ACT-DISTANCE and WATT-HRS. No other changes were made.

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family					VKMXR011921G		
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	120,000 miles	Federal Tier 3 Bin 30	CREE	140	--	--	--	0.047299	--	140	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0001	--	1.03	--	0.002	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0002	--	--	--	--	--	0.004	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0001	--	--	--	0.0013	--	0.001	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0001	--	1.03	--	0.002	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0002	--	--	--	--	--	0.004	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0001	--	--	--	0.0013	--	0.001	99.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX10092983	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/05/2025	Fuel	Gasoline
Fuel Batch ID	25T-03	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4129	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	248	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.048	--
FE BAG 1 (Bag 1 Fuel Economy)	35	35
CH4 BAG 1 (Bag 1 Methane)	0.002	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	222	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.053	--
FE BAG 2 (Bag 2 Fuel Economy)	39.1	39.1
CH4 BAG 2 (Bag 2 Methane)	0.001	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--
METHANE (CH4 - Methane)	0.001	--
CO (Carbon Monoxide)	0.05	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-6.23	--
DT-EER (Drive Trace Energy Economy Rating)	-2.65	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-8.79	--
MFR FE (Manufacturer Fuel Economy)	38.1	38.1
NOX (Nitrogen Oxide)	0.0013	--
NMOG (Non-methane organic gases)	0	--
PM (Particulate Matter)	0.0008	--
HC-TOTAL (Total Hydrocarbon)	0.001	--

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family				VKMXR011921G			
		Test Result Name			Unrounded Test Result			Verify Calculated CO2				
		Carbon dioxide			227.6768			--				
Manufacturer Test Comments		27MY SG2 HEV PE 18inch (EDV) E10 - US06										
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 30	CO	0.05	--	--	--	0	--	0.05	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0	--	1.03	--	0.002	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0013	--	--	--	--	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0013	--	--	--	0.0013	--	0.003	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0008	--	--	--	0	--	0.001	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.05	--	--	--	0	--	0	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0	--	1.03	--	0.002	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0013	--	--	--	--	--	0.005	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0013	--	--	--	0.0013	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0008	--	--	--	0	--	0.001	0.003	Pass

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Test #	VKMX10092984	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/10/2025	Fuel	Gasoline
Fuel Batch ID	25T-03	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4239	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.0016	--
CO (Carbon Monoxide)	0.07	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.8	--
DT-EER (Drive Trace Energy Economy Rating)	-2.55	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.73	--
MFR FE (Manufacturer Fuel Economy)	38.9285	38.9285
NOX (Nitrogen Oxide)	0.0001	--
NMOG (Non-methane organic gases)	0.0001	--
HC-TOTAL (Total Hydrocarbon)	0.002	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	223.4278	--

Manufacturer Test Comments 27MY SG2 HEV PE 18inch (EDV) E10 - SC03

Certification Summary Information Report

Test Group		VKMXV01.6213				Evaporative/Refueling Family				VKMXR011921G		
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 30	CO	0.07	--	--	--	0	--	0.07	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0001	--	1.03	--	0.002	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0002	--	--	--	--	--	0.004	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0001	--	--	--	0.0013	--	0.001	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.07	--	--	--	0	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0001	--	1.03	--	0.002	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0002	--	--	--	--	--	0.004	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0001	--	--	--	0.0013	--	0.001	99.999	Pass

Certification Summary Information Report

Test Group	VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Fuel Properties			
Fuel Batch ID	29351	Fuel Calibration Number	1
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	05/03/2023
Fuel Batch Calibration Effective Date	05/03/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.742
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18439
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.867	Weight Fraction CO2	--
Fuel Batch ID	25T-03	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	06/19/2025
Fuel Batch Calibration Effective Date	07/23/2025	Fuel Batch Calibration Ineffective Date	07/23/2028
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.495	Fuel Carbon Mass Fraction (E10)	0.828
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	Weight Fraction CO2	--
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	08/08/2019
Fuel Batch Calibration Effective Date	10/29/2019	Fuel Batch Calibration Ineffective Date	10/29/2022
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.75
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17917
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--
Fuel Batch ID	19T-03	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	08/22/2019
Fuel Batch Calibration Effective Date	04/13/2020	Fuel Batch Calibration Ineffective Date	04/13/2023
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group		VKMXV01.6213	Evaporative/Refueling Family	VKMXR011921G
Exhaust Carbon Weight Fraction	--		Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--		Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	9.8		Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17949
Fuel Net Heat of Combustion (E10) (MJ/kg)	--		Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826		Weight Fraction CO2	--
Fuel Batch ID	25D-02		Fuel Calibration Number	1
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)		Fuel Batch Calibration Date	06/19/2025
Fuel Batch Calibration Effective Date	07/23/2025		Fuel Batch Calibration Ineffective Date	07/23/2028
Carbon Weight Fraction NMHC	--		Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--		Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--		Fuel Specific Gravity	0.736
Fuel Ethanol Volume Percent (%)	9.8		Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.538		Fuel Carbon Mass Fraction (E10)	0.826
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--		Weight Fraction CO2	--

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family			VKMXR011921G		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure			HWFE		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
120,000 miles	CREE	--	--	--	--	--	--	0.047299	999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.002	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			Federal fuel 2-day exhaust (w/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	1.0	
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004	
150,000 miles	NMOG	--	--	1.09978	--	--	--	0.002	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999	
150,000 miles	PM	--	--	--	--	--	--	0	0.001	
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure			Cold CO		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
50,000 miles	CO	--	--	--	--	--	--	0	10.0	
120,000 miles	HC-NM	--	--	--	--	--	--	0.0015	0.3	

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family			VKMXR011921G	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			SC03	
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	1.0
150,000 miles	NMOG	--	--	1.03	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			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	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.09978	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family			VKMXR011921G	
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			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
120,000 miles	CREE	--	--	--	--	--	--	0	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0017	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0004	0.010
150,000 miles	CO	--	--	--	--	--	--	0	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	HC-NM+NOX-COMP	--	--	--	--	--	--	0	0.030
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.09978	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			Federal fuel 2-day exhaust (w/can load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.047299	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0017	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0004	0.010
150,000 miles	CO	--	--	--	--	--	--	0	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.09978	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family			VKMXR011921G	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			US06	
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	9.6
150,000 miles	NMOG	--	--	1.03	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			HWFE	
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	NMOG	--	--	1.03	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			Fed. fuel 50 F exh.	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
4,000 miles	CO	--	--	--	--	--	--	--	1.0
4,000 miles	HCHO	--	--	--	--	--	--	--	0.008
4,000 miles	NMOG	--	--	1.09978	--	--	--	--	99.999
4,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.060
4,000 miles	NOX	--	--	--	--	--	--	--	99.999

Certification Summary Information Report

Test Group		VKMXV01.6213			Evaporative/Refueling Family			VKMXR011921G	
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			SC03	
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	99.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			US06	
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	99.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.002	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0013	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.006

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			Cold CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0	10.0

Evaporative/Refueling Standards

Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result		Std	Add DF	
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--		0.05	0	

Certification Summary Information Report

Test Group		VKMXV01.6213		Evaporative/Refueling Family		VKMXR011921G	
Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Leak Test - Port Near Fuel Pipe					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Leak Test - Port Near Canister					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Evap Canister Bleed Test					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0		

Certification Summary Information Report

Test Group		VKMXV01.6213		Evaporative/Refueling Family		VKMXR011921G	
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		California fuel 2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.01	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Evap Canister Bleed Test					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Leak Test - Port Near Fuel Pipe					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0		

Certification Summary Information Report

Test Group		VKMXV01.6213		Evaporative/Refueling Family		VKMXR011921G	
Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Leak Test - Port Near Canister					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0		
Evaporative/Refueling Family		VKMXR011921G		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California fuel 2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0		

Certification Summary Information Report

Test Group		VKMXV01.6213	Evaporative/Refueling Family		VKMXR011921G
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		COMB-CREE	Combined Carbon-Related Exhaust Emissions	
CO	Carbon Monoxide		COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
CO2	Carbon dioxide		HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
CREE	Carbon-Related Exhaust Emissions		METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
OPT-CREE	Optional Carbon-Related Exhaust Emissions		N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
NOX	Nitrogen Oxide		LEAK-DIA	Effective Leak Diameter (inches)	
PM	Particulate Matter		LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
PM-COMP	SFTP Composite Particulate Matter		CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
HC-NM	Non-methane Hydrocarbon		KW-HRS	Integrated DC KW-HRS	
OMHCE	Organic material Hydrocarbon Equivalent		CH4 BAG 1	Bag 1 Methane	
OMNMHCE	Organic material non-methane HC equivalent		CH4 BAG 2	Bag 2 Methane	
NMOG	Non-methane organic gases		CH4 BAG 3	Bag 3 Methane	
HCHO	Formaldehyde		CH4 BAG 4	Bag 4 Methane	
H3C2HO	Acetaldehyde		CO BAG 1	Bag 1 Carbon Monoxide	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03		CO BAG 2	Bag 2 Carbon Monoxide	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides		CO BAG 3	Bag 3 Carbon Monoxide	
CO-COMP	SFTP Composite Carbon Monoxide		CO BAG 4	Bag 4 Carbon Monoxide	
ETHANOL	C2H5OH - Ethanol		NMOG BAG 1	Bag 1 Non-methane organic gases	
FE BAG 1	Bag 1 Fuel Economy		NMOG BAG 2	Bag 2 Non-methane organic gases	
FE BAG 2	Bag 2 Fuel Economy		NMOG BAG 3	Bag 3 Non-methane organic gases	
FE BAG 3	Bag 3 Fuel Economy		NMOG BAG 4	Bag 4 Non-methane organic gases	
FE BAG 4	Bag 4 Fuel Economy		ACT-DISTANCE BAG 1	Bag 1 Actual Distance	
MFR FE	Manufacturer Fuel Economy		ACT-DISTANCE BAG 2	Bag 2 Actual Distance	
HC	Hydrocarbon for Running Loss and ORVR		ACT-DISTANCE BAG 3	Bag 3 Actual Distance	
METHANE	CH4 - Methane		ACT-DISTANCE BAG 4	Bag 4 Actual Distance	
METHANOL	CH3OH - Methanol		HC-TOTAL BAG 1	Bag 1 Total Hydrocarbon	
N2O	Nitrous Oxide		HC-TOTAL BAG 2	Bag 2 Total Hydrocarbon	
SPITBACK	Spitback Hydrocarbon in grams		HC-TOTAL BAG 3	Bag 3 Total Hydrocarbon	
AMP-HRS	Integrated Amp-hours		HC-TOTAL BAG 4	Bag 4 Total Hydrocarbon	
START-SOC	System Start State of Charge Watt-hours		WATT-HRS BAG 1	Bag 1 Watt Hours	
END-SOC	System End State of Charge Watt-hours		WATT-HRS BAG 2	Bag 2 Watt Hours	

Certification Summary Information Report

Test Group		VKM XV01.6213	Evaporative/Refueling Family		VKM XR011921G
ACT-DISTANCE	Actual Distance Driven (miles)		WATT-HRS BAG 3	Bag 3 Watt Hours	
AS-VOLT	Average System Voltage		WATT-HRS BAG 4	Bag 4 Watt Hours	
CO2 BAG 1	Bag 1 Carbon Dioxide		WATT-HRS	Watt Hours	
CO2 BAG 2	Bag 2 Carbon Dioxide		HC-NM BAG 1	Bag 1 Non-methane Hydrocarbon	
CO2 BAG 3	Bag 3 Carbon Dioxide		HC-NM BAG 2	Bag 2 Non-methane Hydrocarbon	
CO2 BAG 4	Bag 4 Carbon Dioxide		HC-NM BAG 3	Bag 3 Non-methane Hydrocarbon	
NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		HC-NM BAG 4	Bag 4 Non-methane Hydrocarbon	
NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		N2O BAG 1	Bag 1 Nitrous Oxide	
DT-IWRR	Drive Trace Inertia Work Ratio Rating		N2O BAG 2	Bag 2 Nitrous Oxide	
DT-ASCR	Drive Trace Absolute Speed Change Rating		N2O BAG 3	Bag 3 Nitrous Oxide	
DT-EER	Drive Trace Energy Economy Rating		N2O BAG 4	Bag 4 Nitrous Oxide	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
B2	Federal Tier 2 Bin 2		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
B3	Federal Tier 2 Bin 3		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
B4	Federal Tier 2 Bin 4		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
B5	Federal Tier 2 Bin 5		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
B6	Federal Tier 2 Bin 6		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
B7	Federal Tier 2 Bin 7		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
B8	Federal Tier 2 Bin 8		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
B9	Federal Tier 2 Bin 9		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
B10	Federal Tier 2 Bin 10		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
B11	Federal Tier 2 Bin 11		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2	California LEV-II LEV		L4SULEV100	California LEV-IV SULEV100	
L2OP	California LEV-II LEV Optional		L4SULEV125	California LEV-IV SULEV125	
U2	California LEV-II ULEV		L4SULEV15	California LEV-IV SULEV15	
S2	California LEV-II SULEV		L4SULEV150	California LEV-IV SULEV150	
ZEV	California ZEV		L4SULEV170	California LEV-IV SULEV170	
OT	Other		L4SULEV175	California LEV-IV SULEV175	
T1	Federal Tier 1		L4SULEV20	California LEV-IV SULEV20	
PZEV	California PZEV		L4SULEV200	California LEV-IV SULEV200	
L2LEV160	California LEV-II LEV160		L4SULEV230	California LEV-IV SULEV230	
L2ULEV125	California LEV-II ULEV125		L4SULEV25	California LEV-IV SULEV25	
L2SULEV30	California LEV-II SULEV30		L4SULEV30	California LEV-IV SULEV30	
L2LEV395	California LEV-II LEV395		L4SULEV75	California LEV-IV SULEV75	

Certification Summary Information Report

Test Group		VKM XV01.6213	Evaporative/Refueling Family		VKM XR011921G
L2ULEV340	California LEV-II ULEV340		L4SULEV85	California LEV-IV SULEV85	
L2LEV630	California LEV-II LEV630		L4ULEV125	California LEV-IV ULEV125	
L2ULEV570	California LEV-II ULEV570		L4ULEV200	California LEV-IV ULEV200	
L3LEV160	California LEV-III LEV160		L4ULEV250	California LEV-IV ULEV250	
L3ULEV125	California LEV-III ULEV125		L4ULEV270	California LEV-IV ULEV270	
L3ULEV70	California LEV-III ULEV70		L4ULEV40	California LEV-IV ULEV40	
L3ULEV50	California LEV-III ULEV50		L4ULEV400	California LEV-IV ULEV400	
L3SULEV30	California LEV-III SULEV30		L4ULEV50	California LEV-IV ULEV50	
L3SULEV20	California LEV-III SULEV20		L4ULEV60	California LEV-IV ULEV60	
L3LEV395	California LEV-III LEV395		L4ULEV70	California LEV-IV ULEV70	
L3ULEV340	California LEV-III ULEV340		T4B170	Federal Tier 4 MDV Bin 170	
L3ULEV250	California LEV-III ULEV250		T4B150	Federal Tier 4 MDV Bin 150	
L3ULEV200	California LEV-III ULEV200		T4B125	Federal Tier 4 MDV Bin 125	
L3SULEV170	California LEV-III SULEV170		T4B100	Federal Tier 4 MDV Bin 100	
L3SULEV150	California LEV-III SULEV150		T4B85	Federal Tier 4 MDV Bin 85	
L3LEV630	California LEV-III LEV630		T4B75	Federal Tier 4 MDV Bin 75	
L3ULEV570	California LEV-III ULEV570		T4B70	Federal Tier 4 Bin 70	
L3ULEV400	California LEV-III ULEV400		T4B65	Federal Tier 4 Bin 65	
L3ULEV270	California LEV-III ULEV270		T4B60	Federal Tier 4 Bin 60	
L3SULEV230	California LEV-III SULEV230		T4B55	Federal Tier 4 Bin 55	
L3SULEV200	California LEV-III SULEV200		T4B50	Federal Tier 4 Bin 50	
T3B160	Federal Tier 3 Bin 160		T4B45	Federal Tier 4 Bin 45	
T3B125	Federal Tier 3 Bin 125		T4B40	Federal Tier 4 Bin 40	
T3B110	Federal Tier 3 Transitional Bin 110		T4B35	Federal Tier 4 Bin 35	
T3B85	Federal Tier 3 Transitional Bin 85		T4B30	Federal Tier 4 Bin 30	
T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover		T4B25	Federal Tier 4 Bin 25	
T3B70	Federal Tier 3 Bin 70		T4B20	Federal Tier 4 Bin 20	
T3B50	Federal Tier 3 Bin 50		T4B15	Federal Tier 4 Bin 15	
T3B30	Federal Tier 3 Bin 30		T4B10	Federal Tier 4 Bin 10	
T3B20	Federal Tier 3 Bin 20		T4B5	Federal Tier 4 Bin 5	
T3B0	Federal Tier 3 Bin 0		T4B0	Federal Tier 4 Bin 0	
HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395				
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		

Certification Summary Information Report

Test Group		VKMXV01.6213	Evaporative/Refueling Family		VKMXR011921G
F	2-Wheel Drive, Front		A	All Wheel Drive	
R	2-Wheel Drive, Rear				
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	