

Certification Summary Information Report

Manufacturer	Kia Corporation	Manufacturer Code	KMX
Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Certificate Number	VKMXT01.6K13-005	CARB Executive Order #	--
Certificate Issue Date	03/02/2026	Certificate Revision Date	--
Certificate Effective Date	03/02/2026	Conditional Certificate	No
CSI Revision #	--	CSI Submission/Revision Date	01/13/2026 01:08:45 AM
Model Year	2027		

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test Group Information			
CSI Type	New	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		
Drive Sources and Fuel(s)			
Drive Source #1:	Combustion Engine		
	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
	Gasoline	Spark Ignition Direct fuel injection	No
Drive Source #2:	Electric Motor		
	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
	Electricity	--	--
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	LDT3, LDT4
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	VKMXXHHGNNK13	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	05/01/2026	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	VKMXXJ01.6P13
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	The fuel for Litmus test is E0. Litmus result(Value/Threshold): City(33.7/32.4),HWY(32.6/30.3)-2MODE Test No: SKMX91005919(FTP),SKMX91005920(HWY),SKMX91005918(US06),SKMX10083951(SC03),SKMX10083952(Cold)		
Mfr Exhaust / Evap Standards Comments	--		

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	01/13/2026 12:30:00 AM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	Plastic				
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)	148	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				
VKMXR0148K1G-KA4	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	625 - Carnival Hybrid	California + CAA Section 177 states	2-Wheel Drive, Front	Automated Manual-Selectable (e.g. Automated Manual with paddles)	6	No
Kia Corporation	1 - KIA	625 - Carnival Hybrid	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 0W-20; API SN PLUS				
Number of Cylinders/Rotors	4	Mechanically Variable Compression Ratio Indicator	N				

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G							
After Treatment Device(s) (ATD)										
ATD Number	ATD Type	ATD Precious Metal	Substrate Material							
1	Three-way catalyst	Platinum + Palladium + Rhodium	Ceramic							
2	Three-way catalyst	Platinum + Rhodium	Ceramic							
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	178							
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2							
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1							
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air							
Air Aspiration Drive Method(s)	Mechanical									
Cylinder Deactivation	No									
Cylinder Deactivation Description	--									
Variable Valve Timing	Yes									
Variable Valve Timing System Description	APPLY VVT									
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	--	Air Injection Type if 'Other'	--							
Mfr Engine Configuration Comments	--									
Official Test Numbers										
Test Group		EPA City	EPA City	EPA	EPA					
Fuel	FTP	US06	SC03	Cold CO	Highway	Litmus Value	Litmus Threshold	Highway Litmus Value	Highway Litmus Threshold	CREE Weighting Factor
Electricity	--	--	--	--	--	--	--	--	--	--
Gasoline	SKMX10083898	SKMX10083900	SKMX10083901	SKMX10083902	SKMX10083899	32	228.2	34.1	286.1	--

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
SFTP LEV-III Official Test Numbers			
Test Group Fuel	FTP	US06	SC03
Electricity	--	--	--
Gasoline	SKMX10083898	SKMX10083900	SKMX10083901
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	270	Battery Energy Capacity	5.5
Battery Specific Energy	35.4	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	No
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	PMSM	Rated Motor/Generator Power	54
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	--		

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Test Group		VKMXT01.6K13			Evaporative/Refueling Family			VKMXR0148K1G
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	40.823	-0.00861	0.028783	13.005	0.13425	0.026741	15	
Cold CO	44.905	-0.00947	0.031661	11.266	0.10689	0.029421	N/A	
US06	40.823	-0.00861	0.028783	13.005	0.13425	0.026741	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	25MY KA4 HEV 1.6T GDI 6AT 19in							

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083898	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	12/05/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4177	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)	287	--
FE BAG 1 (Bag 1 Fuel Economy)	29.1	29.1
CO2 BAG 2 (Bag 2 Carbon Dioxide)	193	--
FE BAG 2 (Bag 2 Fuel Economy)	43.4	43.4
CO2 BAG 3 (Bag 3 Carbon Dioxide)	269	--
FE BAG 3 (Bag 3 Fuel Economy)	31.1	31.1
CO2 BAG 4 (Bag 4 Carbon Dioxide)	197	--
FE BAG 4 (Bag 4 Fuel Economy)	42.5	42.5
CO (Carbon Monoxide)	0.05	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.6	--
DT-EER (Drive Trace Energy Economy Rating)	-0.21	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.82	--
MFR FE (Manufacturer Fuel Economy)	35.6	35.6
NOX (Nitrogen Oxide)	0.004	--
NMOG (Non-methane organic gases)	0.0057	--
PM (Particulate Matter)	0.0002	--
HC-TOTAL (Total Hydrocarbon)	0.008	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	235	999

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	235	--

Manufacturer Test Comments KA4 HEV 1.6T FWD 19in ETW 5250 (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	999	--	--	--	0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.05	--	--	--	0.09	--	0.1	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.16	--	--	--	0	--	0.2	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0057	--	1.1	--	0.0048	--	0.01	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0097	--	--	--	--	--	0.016	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.012	--	--	--	0	--	0.012	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.004	--	--	--	0.0015	--	0.006	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	0.05	--	--	--	0.09	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0057	--	1.1	--	0.0048	--	0.01	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0097	--	--	--	--	--	0.016	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.004	--	--	--	0.0015	--	0.006	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.

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083902	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	12/12/2023	Fuel	Gasoline
Fuel Batch ID	22D-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4308	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	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	299	--
FE BAG 1 (Bag 1 Fuel Economy)	28.8	28.8
CO2 BAG 2 (Bag 2 Carbon Dioxide)	386	--
FE BAG 2 (Bag 2 Fuel Economy)	22.4	22.4
CO2 BAG 3 (Bag 3 Carbon Dioxide)	382	--
FE BAG 3 (Bag 3 Fuel Economy)	22.7	22.7
CO (Carbon Monoxide)	0.12	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.29	--
DT-EER (Drive Trace Energy Economy Rating)	-0.4	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.65	--
MFR FE (Manufacturer Fuel Economy)	23.6	23.6
HC-NM (Non-methane Hydrocarbon)	0.032	--
HC-TOTAL (Total Hydrocarbon)	0.038	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	367	--

Manufacturer Test Comments

KA4 HEV 1.6T FWD 19in ETW 5250 (EDV) E10 20FTP

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Test Group		VKMXT01.6K13				Evaporative/Refueling Family				VKMXR0148K1G		
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	50,000 miles	Federal Tier 3 Bin 30	CO	0.12	--	--	--	0.03	--	0.2	12.5	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.03	--	--	--	0	--	0	0.5	Pass
CA	50,000 miles	California LEV-IV SULEV30	CO	0.12	--	--	--	0.03	--	0.2	12.5	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083903	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	12/13/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4346	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	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
CO (Carbon Monoxide)	0.07	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.39	--
DT-EER (Drive Trace Energy Economy Rating)	0.14	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.66	--
NOX (Nitrogen Oxide)	0.0073	--
NMOG (Non-methane organic gases)	0.0063	--

Manufacturer Test Comments

KA4 HEV 1.6T FWD 19in ETW 5250 (EDV) E10 FTP50

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	0.07	--	--	--	--	--	0.1	1.0	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG	0.0063	--	--	--	--	--	0.006	99.999	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0136	--	--	--	--	--	0.014	0.060	Pass
CA	4,000 miles	California LEV-IV SULEV30	NOX	0.0073	--	--	--	--	--	0.007	99.999	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX91005919	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/22/2024	Fuel	Gasoline
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5258	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)	269.8558044	--
FE BAG 1 (Bag 1 Fuel Economy)	32.9707947	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	137.1483765	--
FE BAG 2 (Bag 2 Fuel Economy)	64.983429	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	267.8500671	--
FE BAG 3 (Bag 3 Fuel Economy)	33.2601929	--
CO2 BAG 4 (Bag 4 Carbon Dioxide)	121.3527679	--
FE BAG 4 (Bag 4 Fuel Economy)	73.4416885	--
METHANE (CH4 - Methane)	0.0017073	--
CO (Carbon Monoxide)	0.0586385	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.4346598	--
DT-EER (Drive Trace Energy Economy Rating)	-1.4395672	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.0348831	--
MFR FE (Manufacturer Fuel Economy)	45.4714394	--
NOX (Nitrogen Oxide)	0.0006948	--
N2O (Nitrous Oxide)	0.0004275	--
HC-NM (Non-methane Hydrocarbon)	0.0095062	--
NMOG (Non-methane organic gases)	0.0098865	--
HC-TOTAL (Total Hydrocarbon)	0.0111778	--

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	9999.9999999	196

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	195.8750153	--

Manufacturer Test Comments None

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	196	--	--	--	0	--	196	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0017	--	--	--	0.0041	--	0.006	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	N2O	0.0004	--	--	--	0.0025	--	0.003	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.06	--	--	--	0.09	--	0.2	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0099	--	1.1	--	0.0048	--	0.015	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0106	--	--	--	--	--	0.017	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0007	--	--	--	0.0015	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.06	--	--	--	0.09	--	0.2	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0099	--	1.1	--	0.0048	--	0.015	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0106	--	--	--	--	--	0.017	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0007	--	--	--	0.0015	--	0.002	99.999	Pass

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

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Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083899	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	12/05/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4192	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)
CO (Carbon Monoxide)	0.01	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.73	--
DT-EER (Drive Trace Energy Economy Rating)	-0.05	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.33	--
MFR FE (Manufacturer Fuel Economy)	37	37
NOX (Nitrogen Oxide)	0.0008	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	226	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	226	--

Manufacturer Test Comments

KA4 HEV 1.6T FWD 19in ETW 5250 (EDV) E10 HWY

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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	999	--	--	--	0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0	--	1.03	--	0.0048	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0008	--	--	--	--	--	0.007	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0008	--	--	--	0.0015	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0	--	1.03	--	0.0048	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0008	--	--	--	--	--	0.007	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0008	--	--	--	0.0015	--	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	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083949	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	12/15/2023	Fuel	Gasoline
Fuel Batch ID	22M-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4408	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)
CO (Carbon Monoxide)	0.05	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.18	--
DT-EER (Drive Trace Energy Economy Rating)	-0.57	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.36	--
MFR FE (Manufacturer Fuel Economy)	44.4	44.4
NOX (Nitrogen Oxide)	0	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	201	201

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	201	--

Manufacturer Test Comments KA4 HEV 1.6T FWD 19in ETW 5250 (EDV) E0 HWY

Certification Summary Information Report

Test Group		VKMXT01.6K13			Evaporative/Refueling Family					VKMXR0148K1G		
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	201	--	--	--	0	--	201	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0	--	1.03	--	0.0048	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0	--	--	--	--	--	0.006	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0	--	--	--	0.0015	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0	--	1.03	--	0.0048	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0	--	--	--	--	--	0.006	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0	--	--	--	0.0015	--	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	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083958	Test Procedure	38 - CA fuel 3-day evap.
Exhaust Test # for this Evap Test	SKMX10083956	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/28/2023	Fuel	Gasoline
Fuel Batch ID	23E-01	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	4140	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-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1674	--

Manufacturer Test Comments 25MY KA4 HEV 1.6T FWD 19in 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	0.1674	0	0.167	0.5	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1674	0	0.167	0.5	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX91005806	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	SKMX91005798	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	03/05/2024	Fuel	Gasoline
Fuel Batch ID	26757	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4975.1	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
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.185848	--

Manufacturer Test Comments Hot_Soak_HC_(g) = 0.020126, Diurnal (gHC) = 0.165722

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	0.1858	0	0.186	0.5	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1858	0	0.186	0.5	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083960	Test Procedure	24 - Federal fuel refueling test (ORVR)
Exhaust Test # for this Evap Test	SKMX10083957	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/08/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	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	4271	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-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0068	--

Manufacturer Test Comments 25MY KA4 HEV 1.6T FWD 19in 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	0.007	0	0.01	0.2	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.007	0	0.01	0.2	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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Test #	SKMX10083980	Test Procedure	37 - California Fuel Running Loss
Exhaust Test # for this Evap Test	SKMX10083956	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/28/2023	Fuel	Gasoline
Fuel Batch ID	23E-01	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	4112	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-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.001	--

Manufacturer Test Comments 25MY KA4 HEV 1.6T FWD 19in 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	0.001	0	0	0.05	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.001	0	0	0.01	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083900	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	12/05/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4213	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)	426	--
FE BAG 1 (Bag 1 Fuel Economy)	19.6	19.6
CO2 BAG 2 (Bag 2 Carbon Dioxide)	295	--
FE BAG 2 (Bag 2 Fuel Economy)	28.4	28.4
CO (Carbon Monoxide)	0.06	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.96	--
DT-EER (Drive Trace Energy Economy Rating)	-0.75	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-3.56	--
MFR FE (Manufacturer Fuel Economy)	25.8	25.8
NOX (Nitrogen Oxide)	0.0032	--
NMOG (Non-methane organic gases)	0.0016	--
PM (Particulate Matter)	0.0009	--
HC-TOTAL (Total Hydrocarbon)	0.004	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	324	--

Manufacturer Test Comments

KA4 HEV 1.6T FWD 19in ETW 5250 (EDV) E10 US06

Certification Summary Information Report

Test Group		VKMXT01.6K13				Evaporative/Refueling Family				VKMXR0148K1G		
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	0.06	--	--	--	0.09	--	0.15	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0016	--	1.03	--	0.0048	--	0.006	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0048	--	--	--	--	--	0.011	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0032	--	--	--	0.0015	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0009	--	--	--	0	--	0.001	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.06	--	--	--	0.09	--	0.2	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0016	--	1.03	--	0.0048	--	0.006	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0048	--	--	--	--	--	0.011	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0032	--	--	--	0.0015	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0009	--	--	--	0	--	0.001	0.006	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083901	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	12/06/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4229	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)
CO (Carbon Monoxide)	0.11	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.27	--
DT-EER (Drive Trace Energy Economy Rating)	-0.08	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.06	--
MFR FE (Manufacturer Fuel Economy)	27.6	27.6
NOX (Nitrogen Oxide)	0.0024	--
NMOG (Non-methane organic gases)	0.0003	--
HC-TOTAL (Total Hydrocarbon)	0.004	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	303	--

Manufacturer Test Comments

KA4 HEV 1.6T FWD 19in ETW 5250 (EDV) E10 SC03

Certification Summary Information Report

Test Group		VKMXT01.6K13				Evaporative/Refueling Family				VKMXR0148K1G		
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	0.11	--	--	--	0.09	--	0.2	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0003	--	1.03	--	0.0048	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0027	--	--	--	--	--	0.009	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0024	--	--	--	0.0015	--	0.004	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.11	--	--	--	0.09	--	0.2	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0003	--	1.03	--	0.0048	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0027	--	--	--	--	--	0.009	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0024	--	--	--	0.0015	--	0.004	99.999	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083981	Test Procedure	65 - Evap Canister Bleed Test
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/21/2023	Fuel	Gasoline
Fuel Batch ID	23E-01	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	4065	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)	0.0034	--

Manufacturer Test Comments 25MY KA4 HEV 1.6T FWD 19in 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	0.0034	0	0.003	0.02	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL	0.0034	0	0.003	0.02	Pass

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Test #	SKMX10083982	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	11/10/2023	Fuel	Gasoline
Fuel Batch ID	23T-01	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	4006	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 25MY KA4 HEV 1.6T FWD 19in 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

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G						
Test #	SKMX10083983	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	11/10/2023	Fuel	Gasoline						
Fuel Batch ID	23T-01	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	4006	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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Test Result Name</th> <th style="width: 30%;">Unrounded Test Result</th> <th style="width: 35%;">Verify Calculated FE Equivalent Value</th> </tr> </thead> <tbody> <tr> <td>LEAK-DIA (Effective Leak Diameter (inches))</td> <td style="text-align: center;">0</td> <td style="text-align: center;">--</td> </tr> </tbody> </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									
25MY KA4 HEV 1.6T FWD 19in 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	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Fuel Properties			
Fuel Batch ID	23E-01	Fuel Calibration Number	1
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	01/18/2020
Fuel Batch Calibration Effective Date	08/20/2023	Fuel Batch Calibration Ineffective Date	08/20/2026
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.748
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17960
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--
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	23T-01	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	09/29/2022
Fuel Batch Calibration Effective Date	08/07/2023	Fuel Batch Calibration Ineffective Date	08/07/2026
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.74
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18779
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.824	Weight Fraction CO2	--
Fuel Batch ID	26757	Fuel Calibration Number	1
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	07/27/2017
Fuel Batch Calibration Effective Date	07/27/2017	Fuel Batch Calibration Ineffective Date	07/27/2032
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.749
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17958
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	22M-01	Fuel Calibration Number	1
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	06/03/2021
Fuel Batch Calibration Effective Date	02/14/2022	Fuel Batch Calibration Ineffective Date	02/14/2025
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 (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18435
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	22D-01	Fuel Calibration Number	1
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	07/29/2021
Fuel Batch Calibration Effective Date	05/10/2022	Fuel Batch Calibration Ineffective Date	05/10/2025
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 (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17925
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.828	Weight Fraction CO2	--

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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Consolidated List of Standards

Exhaust Standards

Cert Region	Federal	Cert/In-Use Code	Cert
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	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	999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0048	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999

Cert Region	California + CAA Section 177 states	Cert/In-Use Code	Cert
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	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	--	--	--	--	--	--	0.03	12.5

Cert Region	California + CAA Section 177 states	Cert/In-Use Code	Cert
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	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	--	--	--	0.0048	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999

Certification Summary Information Report

Test Group		VKMXT01.6K13			Evaporative/Refueling Family			VKMXR0148K1G		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			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	--	--	--	--	--	--	0.09	99.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0048	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.006

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			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	--	--	--	--	--	--	0.09	9.6
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0048	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.006

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
Cert Region	Federal	Cert/In-Use Code	Cert
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	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	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0041	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0025	0.010
150,000 miles	CO	--	--	--	--	--	--	0.09	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0048	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Cert Region	Federal	Cert/In-Use Code	Cert
Vehicle Class	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	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	--	--	--	--	--	--	0.09	99.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0048	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999

Certification Summary Information Report

Test Group		VKMXT01.6K13			Evaporative/Refueling Family			VKMXR0148K1G		
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			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	--	--	--	--	--	--	0.09	1.0	
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0048	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999	
150,000 miles	PM	--	--	--	--	--	--	0	0.001	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			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	--	--	--	--	--	--	--	99.999	
4,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.060	
4,000 miles	NOX	--	--	--	--	--	--	--	99.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			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	--	--	--	--	--	--	0.09	1.0	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0048	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0015	99.999	

Certification Summary Information Report

Test Group		VKMXT01.6K13			Evaporative/Refueling Family			VKMXR0148K1G		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			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	--	--	--	--	--	--	0.03	12.5	
120,000 miles	HC-NM	--	--	--	--	--	--	0	0.5	
Evaporative/Refueling Standards										
Evaporative/Refueling Family		VKMXR0148K1G			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		VKMXR0148K1G			Cert Region			California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
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			
Evaporative/Refueling Family		VKMXR0148K1G			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		VKMXR0148K1G			Cert Region			California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
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		--		0.500	0			

Certification Summary Information Report

Test Group		VKMXT01.6K13	Evaporative/Refueling Family		VKMXR0148K1G
Evaporative/Refueling Family		VKMXR0148K1G	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		VKMXR0148K1G	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		VKMXR0148K1G	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
Evaporative/Refueling Family		VKMXR0148K1G	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	--	0.500	0
Evaporative/Refueling Family		VKMXR0148K1G	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

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G		
Evaporative/Refueling Family	VKMXR0148K1G	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0
Evaporative/Refueling Family	VKMXR0148K1G	Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
Cert/In-Use Code	Cert	Standard Level			
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	VKMXR0148K1G	Cert Region	Federal Federal Tier 3 Evap		
Cert/In-Use Code	Cert	Standard Level			
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
Evaporative/Refueling Family	VKMXR0148K1G	Cert Region	Federal Federal Tier 3 Evap		
Cert/In-Use Code	Cert	Standard Level			
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	VKMXR0148K1G	Cert Region	Federal Federal Tier 3 Evap		
Cert/In-Use Code	Cert	Standard Level			
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0

Certification Summary Information Report

Test Group	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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		VKMXT01.6K13	Evaporative/Refueling Family		VKMXR0148K1G
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		VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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	VKMXT01.6K13	Evaporative/Refueling Family	VKMXR0148K1G
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