



## Application for Certification - Part 1

### Test Group (FOI)

- **Model Year:** 2027
- **Manufacturer Name:** Kia Corporation
- **Test Group:** VKMXT03.5KU3
- **Test Group Description:** 3.5 Liter/ V6 GDPI / Otto-cycle
- **Durability Group:** VKMXGPGNNKU3
- **Durability Group Description:** Monolith, 2WU-TWC + TWC
- **Vehicle Class:** LDT3
- **Applicable Standards:** FED: Interim Tier-4 Bin 30 / Tier-4 Evap  
CAL: LEV-IV SULEV 30 / LEV-IV Evap
- **Vehicles Tested:** EDV-KA4-U6L5GA204F/0 (Exh.)  
KA4U2L5GA069F/0 (Evap.)  
FEDV- KA4-U6L5GA204F/0, KA4-U6L5GA204F/1
- **Carlines Covered by Certificate:** Carnival
- **EPA Response Requested by:** Feb. 27, 2026
- **For Questions, Contact:** Stephanie Wright  
Tel: 734-273-1904  
E-mail: [swright@hatci.com](mailto:swright@hatci.com)

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## **01.00 Correspondence and Communications**

Please refer to Common Section 01.00.

For questions, call Stephanie Wright (734-273-1904).

## **02.00 Durability Group Description**

- 1. Durability Group Name : VKMXGPGNNKU3
- 2. Combustion Cycle : Otto cycle / Four stroke
- 3. Engine Type : Piston / Water cooled
- 4. Fuel Used : Gasoline
- 5. Basic Fuel Metering System : Direct & Port Injection
- 6. Catalyst Construction and location : See Section 02.02
- 7. Precious Metals in Catalyst : See Section 02.02
- 8. Precious Metal Loading for all Catalysts in the Durability Group : See Section 02.02
- 9. Range of Catalyst Grouping Statistics : See Section 02.02
- 10. Type of particulate filter : None

## **02.01 List of Vehicles in Durability Groups**

Please refer to Common Section 02.01.

### 03.00 Evaporative/Refueling Family Description

#### 03.00.01 Evaporative/Refueling Family Name: VKMXR0155KUG (C/O from 22MY Carnival)

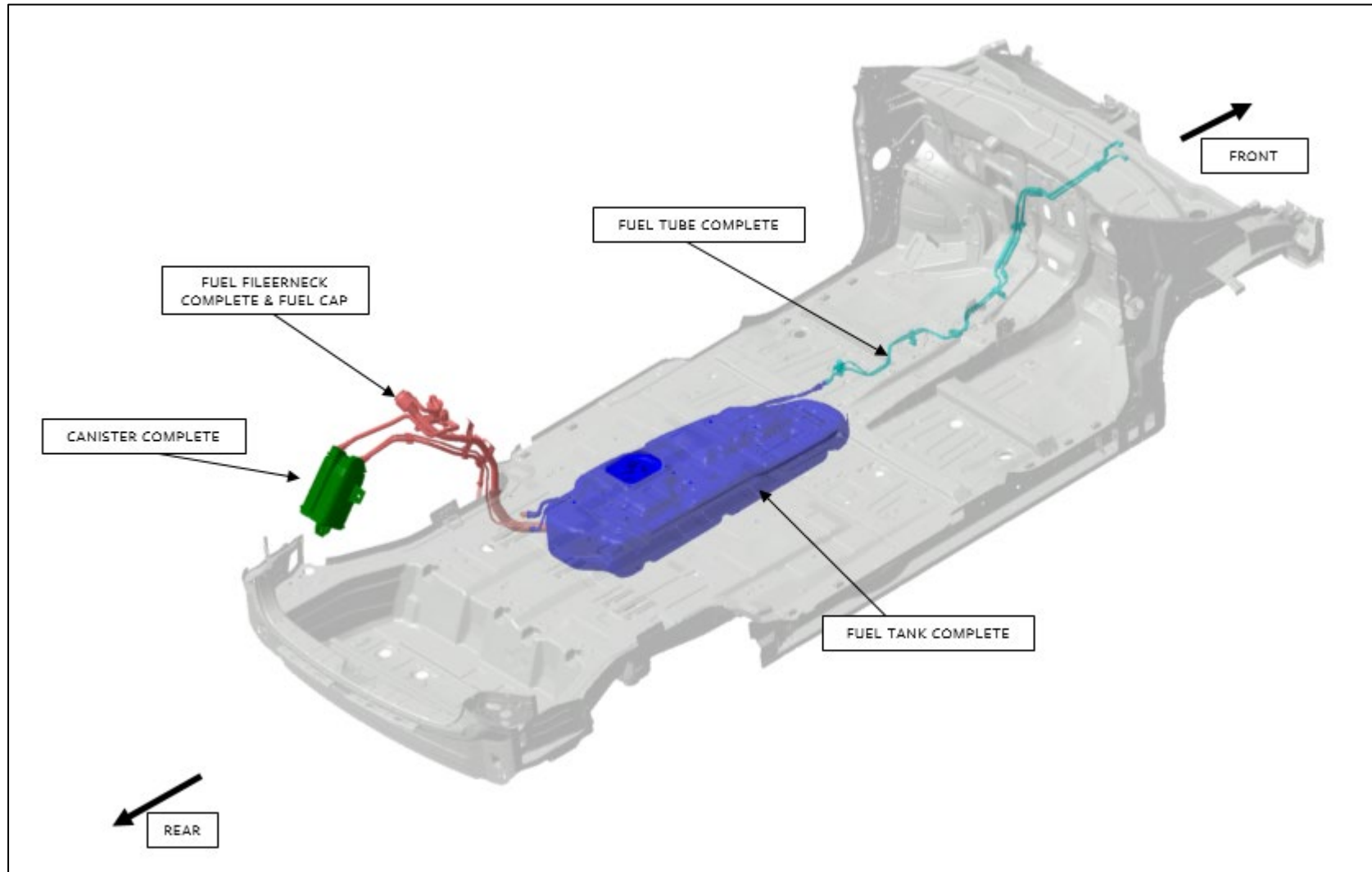
##### 03.00.01.01 Evaporative/Refueling Family Parameters

1. Type of Vapor Storage Device: Canister(1EA)
2. Basic canister design

Evap. Code	Absorption Flow Rate (g/hr)	Nominal Working Capacity(g)	Size (cc)	Material	Medium	Nominal Fuel Tank Capacity (gal)
155KUG	15	155	2700	Plastic	Activated Carbon	19

3. Fuel system: Returnless fuel system
4. Type of refueling emission control system: Integrated type
5. Fill pipe seal mechanism: Liquid seal type
6. Vapor control system or method of vapor line to the canister:
  - a. Fill limit vent valve (ORVR)
  - b. Overfill Limiter (2Way valve)
  - c. Canister close valve
7. Purge control system
  - a. Type of valve: Duty
  - b. Purge control strategy: Controlled by ECU
  - c. High load purge system : No
  - d. Active purge system : No
8. Vapor hose material: Rubber
9. Fuel tank material: Plastic

### 03.00.01.02 Evaporative/Refueling Schematic



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Revised:

### **03.01 Evaporative/Refueling General Description**

Please refer to Common Section 03.01.

### **03.02 List of Vehicles in Evaporative Families**

Please refer to Common Section 03.02.

## **05.00 Test Group Description**

Test Group Name : VKMXT03.5KU3

Engine Displacement (L) Covered : 3.5L

Arrangement/Number of Cylinders : V6

Vehicle Class(s) Covered : LDT3

Sales Location/Emission Standard : FED: Interim Tier-4 Bin 30  
CAL: LEV-IV SULEV30  
See CSI report for emission standard levels

## 06.00 Test Vehicle Description

### 1. Exhaust Durability Data Vehicle (FTP)

#### Verify Processing Report

**Total Datasets Submitted:** 1

**Accepted Datasets:** 1

**Rejected Datasets:** 0

The original datasets are listed below. In addition, any information generated by the Verify system is also included. For any rejected datasets, the reason(s) the dataset was rejected is provided below in the Transaction Report for that particular dataset.

#### TestVehicleInformationSubmission

##### TestVehicleInformationDetails

**InformationProcessCode :** N

**EPAManufacturerCode :** KMX

**VehicleIdentificationText :** KNDNE5K35S6341759

**VehicleConfigurationNumber :** 0

##### VehicleConfigurationDetails

##### VehicleDescriptionDetails

**ManufacturerVehicleConfigurationNumber :** 0

**TestGroupName :** TKMXT03.5KU3

**EvaporativeRefuelingFamilyName :** TKMXR0155KUG

**LeakFamilyIdentifier :** KA4

**LeakFamilyName :** TKMXR0155KUG-KA4

**ModelYear :** 2026

**ActualTestVehicleMakeText :** KIA

**ActualTestVehicleModelText :** CARNIVAL

##### DriveSourceDetails

**DriveSourceIdentifier :** C

**FuelIdentifier :** G

**TestDriveCode :** F

**ShiftIndicatorLightUsageIdentifier :** 1

**AgedComponentUsageIdentifier :** 4

##### OdometerCorrectionDetails

**CorrectionInitialValue :** 15

**CorrectionFactorValue :** 0.9982

**CorrectionSignIdentifier :** +

**CorrectionUnitsCode :** M

**EngineCodeText :** G6DT-AC

**EngineRatedHorsepowerValue :** 287

**EngineDisplacementValue :** 3.5

##### AirAspirationDetails

**AirAspirationMethodIdentifier :** NA

##### VehicleSpecificationsDetails

**CurbWeightValue :** 4810

**EquivalentTestWeightValue :** 5000

**GrossVehicleWeightRatingValue :** 6283

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**NVRatioValue** : 27.0  
**AxleRatioValue** : 3.51

**TransmissionSpecificationsDetails**

**LightDutyTransmissionTypeIdentifier** : SA  
**TransmissionLockupIndicator** : Y  
**TransmissionCreeperGearIndicator** : N  
**TransmissionGearCount** : 8

**TargetSetCoefficientDetails**

**TestProcedureDynamometerCoefficientsCategory** : US06  
**TargetCoefficientAValue** : 36.507  
**TargetCoefficientBValue** : 0.13028  
**TargetCoefficientCValue** : 0.027417  
**SetCoefficientAValue** : 11.040  
**SetCoefficientBValue** : 0.16997  
**SetCoefficientCValue** : 0.026336

**TargetSetCoefficientDetails**

**TestProcedureDynamometerCoefficientsCategory** : Cold-CO  
**TargetCoefficientAValue** : 40.158  
**TargetCoefficientBValue** : 0.14331  
**TargetCoefficientCValue** : 0.030159  
**SetCoefficientAValue** : 13.000  
**SetCoefficientBValue** : 0.05763  
**SetCoefficientCValue** : 0.029851

**TargetSetCoefficientDetails**

**TestProcedureDynamometerCoefficientsCategory** : C-H-E  
**TargetCoefficientAValue** : 36.507  
**TargetCoefficientBValue** : 0.13028  
**TargetCoefficientCValue** : 0.027417  
**SetCoefficientAValue** : 11.040  
**SetCoefficientBValue** : 0.16997  
**SetCoefficientCValue** : 0.026336

**ManufacturerCommentText** : KA4 PE 3.5 8AT 19" DDV

**EPAGeneratedTestVehicleDetails**

**OriginalReceiptDate** : 20241213  
**HybridVehicleIndicator** : N  
**AdjustedLoadedVehicleWeightValue** : 5546  
**LoadedVehicleWeightValue** : 5110  
**TotalRoadLoadHorsepowerValue** : 14.9

**TransactionStatusDetails**

**TransactionStatusIdentifier** : ACCEPTED

## 2. Exhaust Durability Data Vehicle (Quick Drive Away)

### Verify Processing Report

**Total Datasets Submitted:** 1  
**Accepted Datasets:** 1  
**Rejected Datasets:** 0

The original datasets are listed below. In addition, any information generated by the Verify system is also included. For any rejected datasets, the reason(s) the dataset was rejected is provided below in the Transaction Report for that particular dataset.

### Test Vehicle Information Submission

#### Test Vehicle Information Details

**Information Process Code :** N  
**EPA Manufacturer Code :** KMX  
**Vehicle Identification Text :** KNDNC5K39S6339261  
**Vehicle Configuration Number :** 0

#### Vehicle Configuration Details

##### Vehicle Description Details

**Manufacturer Vehicle Configuration Number :** 0  
**Test Group Name :** TKMXT03.5KU3  
**Evaporative Refueling Family Name :** TKMXR0155KUG  
**Leak Family Identifier :** KA4  
**Leak Family Name :** TKMXR0155KUG-KA4  
**Model Year :** 2026  
**Actual Test Vehicle Make Text :** KIA  
**Actual Test Vehicle Model Text :** CARNIVAL

##### Drive Source Details

**Drive Source Identifier :** C  
**Fuel Identifier :** G

**Test Drive Code :** F  
**Shift Indicator Light Usage Identifier :** 1  
**Aged Component Usage Identifier :** 4

##### Odometer Correction Details

**Correction Initial Value :** 15  
**Correction Factor Value :** 0.9982  
**Correction Sign Identifier :** +  
**Correction Units Code :** M

**Engine Code Text :** G6DT-AC  
**Engine Rated Horsepower Value :** 287  
**Engine Displacement Value :** 3.5

##### Air Aspiration Details

**Air Aspiration Method Identifier :** NA

##### Vehicle Specifications Details

**Curb Weight Value :** 4810  
**Equivalent Test Weight Value :** 5000  
**Gross Vehicle Weight Rating Value :** 6283

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**NV Ratio Value : 27.0**  
**Axle Ratio Value : 3.51**

#### **Transmission Specifications Details**

**Light Duty Transmission Type Identifier : SA**  
**Transmission Lockup Indicator : Y**  
**Transmission Creeper Gear Indicator : N**  
**Transmission Gear Count : 8**

#### **Target Set Coefficient Details**

**Test Procedure Dynamometer Coefficients Category : US06**  
**Target CoefficientA Value : 36.507**  
**Target CoefficientB Value : 0.13028**  
**Target CoefficientC Value : 0.027417**  
**Set CoefficientA Value : 11.040**  
**Set CoefficientB Value : 0.16997**  
**Set CoefficientC Value : 0.026336**

#### **Target Set Coefficient Details**

**Test Procedure Dynamometer Coefficients Category : Cold-CO**  
**Target CoefficientA Value : 40.158**  
**Target CoefficientB Value : 0.14331**  
**Target CoefficientC Value : 0.030159**  
**Set CoefficientA Value : 13.000**  
**Set CoefficientB Value : 0.05763**  
**Set CoefficientC Value : 0.029851**

#### **Target Set Coefficient Details**

**Test Procedure Dynamometer Coefficients Category : C-H-E**  
**Target CoefficientA Value : 36.507**  
**Target CoefficientB Value : 0.13028**  
**Target CoefficientC Value : 0.027417**  
**Set CoefficientA Value : 11.040**  
**Set CoefficientB Value : 0.16997**  
**Set CoefficientC Value : 0.026336**

**Manufacturer Comment Text : KA4 PE 3.5 8AT 19" DDV-QDA**

#### **EPA Generated Test Vehicle Details**

**Original Receipt Date : 20260122**  
**Hybrid Vehicle Indicator : N**  
**Adjusted Loaded Vehicle Weight Value : 5546**  
**Loaded Vehicle Weight Value : 5110**  
**Total Road Load Horsepower Value : 14.9**

#### **Transaction Status Details**

**Transaction Status Identifier : ACCEPTED**

### **3. Exhaust & Evaporative Emission Data Vehicle**

Please refer to CSI report in 07.00

**07.01 Test Results**

**07.01 EV-CIS Certification Summary Information**

Certification Summary Information Report submitted to EV-CIS.

See 18.00.00.

## 07.02 Litmus Test Sheet

Litmus Test of EDV					
EDV	FTP(75°F)	Cold FTP (20°F)	HFET	US06	SC03
BAG1	21.8	18.0	36.6	13.7	18.1
BAG2	21.6	19.3		24.5	
BAG3	25.1	23.0		<del>20.9</del>	
TOTAL	22.5	<del>20.9</del>		20.9	

**(1) Determining the City FE Method**

5 Cycle City Criteria (Specific 5 cycle City FE $\geq$ 0.96 Mpg Based City FE)	Passed
---	--------

		UNROUNDED	ADJ. ROUNDED	Examination	Decision
CITY FE	MPG BASED	17.96912904	17.3	Applicable	Selected
	5-CYCLE	17.81442958	17.8	Applicable	
	Ratio of 5CYCLE to 0.96 MPG-BASED		102.89		

CRITERIA : 100%

**(2) Determining the Hwy FE Method**

5 Cycle Highway Criteria (Specific 5 cycle HWY FE $\geq$ 0.95 Mpg Based HWY FE)	Failed
--	--------

		UNROUNDED	ADJ. ROUNDED	Examination	Decision
HWY FE	MPG BASED	25.9337	24.6	Not Applicable	
	5-CYCLE	23.1796	23.2	Not Applicable	
	MODIFIED	23.1987	23.2	Select This	Selected
	Ratio of 5CYCLE to 0.95 MPG-BASED		94.31		

CRITERIA : 100%

## **08.00 Emission Compliance Statement**

Please refer to Common Section 08.00.

## **09.00 OBD System Description**

The on-board diagnostic (OBD) system complies with 40 CFR 86.1806-05, 86.1806-17 per the compliance option allowing demonstration of compliance with California OBD II requirements in Title 13 California Code of Regulation 1968.2 (13 CCR 1968.2) approved on July 31, 2013.

Please refer to OBD application uploaded in EV-CIS system.

**10.00 Description of Alternate-Fueled Vehicles: Not Applicable**

## 12.00 Description of Vehicles Covered by Certificate and Test Parameters

### 12.01 Vehicle Parameters

Model Name		Carnival	
Vehicle Classification		LDT3	
Carline		621	
Emission control System description	Type, number and configuration of	See Sec. 02.02	
	EGR Type	Electronic	
	Air pump type	N/A	
	Fuel system type	DFI, SFI	
	Intake air aspiration method	Natural	
	Other	-	
Engine Code		G6DT-AC	
Number of valves per cylinder		4	
Engine displacement (L)		3.5	
Sales area		50-State	
Transmission and overdrive		SA8 (Overdrive)	
SIL		N/A	
Tire size		235/55R19 (Continental*1/Goodyear)	235/65R17 (Hankook/Nexen*1)
N/V Ratios		27.0	27.2
ETW(lb)		5000	5000
Elec. Dyno. Target Coefficient	A	Please refer to 12.02.01.	
	B		
	C		
Fuel tank volume(gal)		19	

\*1: Tested tire

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## **12.02.02 Engine Starting Procedures**

Please refer to Common Section 12.02.02.

## **12.02.03 Shift Schedules**

Please refer to Common Section 12.02.03.01

## **12.02.04 Transmission / Advanced Technology System Test Modes**

Please refer to Common Section 12.02.04

### **13.00 Projected Sales**

Please refer to Common Section 13.00.

## 14.00 Request for Certification



Ms. Kathryn Kochunas  
Certification Division  
Mobile Source Pollution Control  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan

Subject: Request for Certificate of Conformity for 2027 Model Year Test Group  
VKMXT03.5KU3 / Evaporative Family VKMXR0155KUG

Dear Ms. Kathryn Kochunas:

Kia Corporation requests that EPA issue a Certificate of Conformity for the test group subjected above.

All vehicles within the test group mentioned above comply with the applicable regulations contained in 40 CFR 86.1844-01(d)(14) including the provisions of 40 CFR Parts 85, 86 and 600. This test group also complies with the California Air Resources Board, Final Regulation Order, Sections 1961.4 and 1961.3 (1962.4 and 1962.3 for zero-emission vehicles) Title 13, California Code of Regulations.

The Part 1 Application for Certification has been prepared in accordance with the standardized format recommended by EPA via its guidance document CD-14-19 (LDV/LDT/OCO/LIMO) Subject: Certification Application Reporting Guidance, dated November 24, 2014.

If you have any questions regarding the Certificate of Conformity, do not hesitate to contact Stephanie Wright at [swright@hatci.com](mailto:swright@hatci.com) or (734) 273-1904.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. H. Ji', is written over a horizontal line.

C. H. Ji  
General Manager  
Regulation & Certification Team2  
Kia Corporation

VKMXT03.5KU3– Kia Carnival 3.5 GDPI – Part 1  
Issued : 01-30-2026  
Revised:



Ms. Robin U. Lang, Chief  
Emissions Certification and Compliance Division  
California Air Resources Board  
4001 Iowa Ave.  
Riverside, California 92507

Subject: Request for an Executive Order for 2027 Model Year Test Group  
VKMXT03.5KU3 / Evaporative Family VKMXR0155KUG

Dear Ms. Robin U. Lang:

Kia Corporation requests that California Air Resources Board (CARB) issue an Executive Order for the test group subjected above.

All vehicles within the test group mentioned above comply with the applicable regulations contained in 40 CFR 86.1844-01(d)(14) including the provisions of 40 CFR Parts 85, 86 and 600. This test group also complies with the California Air Resources Board, Final Regulation Order, Sections 1961.4 and 1961.3 (1962.4 and 1962.3 for zero-emission vehicles) Title 13, California Code of Regulations.

The Part 1 Application for Certification has been prepared in accordance with the standardized format recommended by EPA via its guidance document CD-14-19 (LDV/LDT/OCO/LIMO) Subject: Certification Application Reporting Guidance, dated November 24, 2014.

If you have any questions regarding the Executive Order, do not hesitate to contact Stephanie Wright at [swright@haci.com](mailto:swright@haci.com) or (734) 273-1904.

Sincerely,


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C. H. Ji  
General Manager  
Regulation & Certification Team2  
Kia Corporation

VKMXT03.5KU3– Kia Carnival 3.5 GDPI – Part 1  
Issued : 01-30-2026  
Revised :

- 15.00      Other Information**
- 15.01      Certification Fee Filing Form**

## 15.02 Vehicle Emission Control Information (VECI) Label

	KIA CORPORATION VEHICLE EMISSION CONTROL INFORMATION	
Conforms to regulations :		2027 MY
U.S.EPA : Interim T4B30 LDT		OBD : CA II Fuel : Gasoline
California : LEV IV SULEV30 LDT		OBD : CA II Fuel : Gasoline
No adjustments needed.		DFI, SFI, 2WR-HO2S, 2HO2S, 2WU-TWC, TWC, EGR, EGRC
Group : VKMXT03.5KU3 Evap. : VKMXR0155KUG	<b>ALC</b>	32450-3NAK5

## 15.03 ORVR Safety Statement

Kia Corporation uses standard technology in all ORVR systems for 2027 model year vehicles. In accordance with EPA Guidance Letter C1SD-06-06, ORVR applications will not be submitted.

## 15.04 New Technology System Description

Please refer to Common Section 15.04.

## 15.05 Engine Oil Information

Please refer to Common Section 15.05

## 16.00 California ARB Information

### 16.01 Exhaust Emission Control System (Tune-up label)

Test Group Name	Model	Exhaust Emission Control System
VKMXT03.5KU3	Carnival	DFI, SFI, 2WR-HO2S, 2HO2S, 2WU-TWC, TWC, EGR, EGRC, OBD II

Note) DFI : Direct Fuel Injection  
SFI : Sequential multiport Fuel Injection  
WR-HO2S : Wide Range Heated Oxygen Sensor  
HO2S : Heated Oxygen Sensor  
WU-TWC : Warm up Three Way Catalyst System  
TWC : Three Way Catalyst System  
EGR : Exhaust Gas Recirculation  
EGRC : EGR Cooler  
OBD II : On-Board Diagnostics II  
(Use abbreviations per SAE J1930 October 08)

### 16.02 Test Procedures

Please refer to Common Section 16.02

**16.03.00 Fill Pipe Access Zones Statement and Specifications**

**16.03.01 Fill Pipe Access Zones Statement**

Please refer to Common Section 16.03.01.

**16.04.00 Request for Certificate**

Please refer to 14.00.

**16.04.01 Statement of Compliance**

Please refer to Common Section 16.04.01.

**16.04.02 Supplemental Data Sheet**

Please refer to E-cert data.

### **16.05.00 Emission Testing Waiver Statement**

Please refer to Common Section 16.05.00.

### **16.06.00 Projected Sales**

Please refer to Common Section 13.00.

### **16.07.00 OBD-II System Description**

Please refer to section 09.00.

### **16.08.00 New Technology System Description**

Please refer to Common Section 15.04.

### **16.09.00 Environmental Performance Label**

Pursuant to CALIFORNIA ENVIRONMENTAL PERFORMANCE LABEL SPECIFICATIONS FOR 2009 AND SUBSEQUENT MODEL YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY PASSENGER VEHICLES (adopted May 2, 2008, last amended September 2, 2015), 2012, Kia complies Environmental Performance Label requirement by affixing the Federal Fuel Economy and Environment Label in accordance to 40 CFR Parts 85, 86, and 600 as promulgated on July 6, 2011.

## 16.10.00

### AECD General Statements

The vehicles contained in this test group are not equipped with a defeat device and are not equipped with alternative mapping strategies. Furthermore, all AECDs have been declared and described in the application.

As described in our application, the vehicle's transmission is not part of any AECD. However, the transmission gear is an input for the emissions control strategy, as described in that application. The ECU does not provide an output to the TCU to control emissions strategy.

When driving conditions on the road can be properly represented on the dynamometer, the transmission will perform in the same manner. However, there are some different driving conditions, such as an uphill or downhill grade, extreme heat or extreme cold conditions, heavy braking, and curved road driving conditions, which cannot be appropriately represented on the dynamometer. In these conditions where necessary to protect the transmission or to prevent an unnatural shift pattern, a different shift pattern may be executed. It is our understanding that this is commonly used throughout the industry.

The Hyundai-Kia American Technical Center and the Hyundai Motor Group Research and Development Center in Namyang, Korea have endeavored to respond based on our understanding of the regulatory definition of an AECD, the past certification reviews of AECDs conducted by ARB, existing guidance regarding AECDs issued by ARB, and, of course, EPA's and ARB's increased interest in this area. We will continue to monitor guidance issued by ARB regarding the level of information and detail desired in a certification application, and will continue to evaluate AECD issues to ensure transparency with respect to our vehicle and engine performance.

**16.11.00 California warranty compliance**

Please refer to Common Section 16.11.00.

**16.12.00 Description of the Propulsion System: Not Applicable**

**16.13.00 ZEV Compliance: Not Applicable**

**17.00.00 Service of Process**

Please refer to Common Section 01.00.

**18.00.00 Attachment**

1. CSI Report

## Certification Summary Information Report

<b>Manufacturer</b>	Kia Corporation	<b>Manufacturer Code</b>	KMX
<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Certificate Number</b>	--	<b>CARB Executive Order #</b>	--
<b>Certificate Issue Date</b>	--	<b>Certificate Revision Date</b>	--
<b>Certificate Effective Date</b>	--	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	--	<b>CSI Submission/Revision Date</b>	01/22/2026 11:11:28 PM
<b>Model Year</b>	2027		

<b>Test Group Information</b>			
<b>CSI Type</b>	Update for Correction	<b>Running Change Reference Number</b>	--
<b>GHG Exempt Status</b>	Not Exempt		
<b>Drive Sources and Fuel(s)</b>			
<b>Drive Source #1:</b>	Combustion Engine		
	<b>Fuel</b>	<b>Basic Fuel Metering System</b>	<b>Lean Burn Strategy Indicator</b>
	Gasoline	Spark Ignition direct & ported injection	No

<b>Hybrid Indicator</b>	No		
<b>Multiple Fuel Storage</b>	--	<b>Rechargeable Energy Storage System Indicator</b>	--
<b>Multiple Fuel Combustion</b>	--	<b>Off-board Charge Capable Indicator</b>	--
<b>Fuel Cell Indicator</b>	--	<b>EPA Vehicle Class</b>	LDT3
<b>Federal Clean Fuel Vehicle</b>	No	<b>Federal Clean Fuel Vehicle Standard</b>	--
<b>Federal Clean Fuel Vehicle ILEV</b>	No	<b>California Partial Zero Emissions Vehicle Indicator</b>	No
<b>Durability Group Name</b>	VKMXGPGNNKU3	<b>Durability Group Equivalency Factor</b>	1.0
<b>Reduced Fee Test Group</b>	No	<b>Certification Region Code(s)</b>	FA, CA
<b>Complies with HD GHG 2b/3 regulations?</b>	No		
<b>Introduction into Commerce Date</b>	--	<b>CAP2000 Conditional Certificate?</b>	N/A
<b>Independent Commercial Importer?</b>	--	<b>Alternative Fuel Converter Certificate?</b>	--
<b>SFTP Federal Composite Compliance Identifier</b>	Tier 3	<b>SFTP Tier 2 Composite CO Option</b>	No
<b>SFTP LEV-III Composite Compliance Indicator</b>	No		
<b>OBD Compliance Type</b>	CARB	<b>OBD Demonstration Vehicle Test Group</b>	VHYXV03.5HT5
<b>Test Group OBD Compliance Level</b>	Full - no deficiencies	<b>Number of Test Group OBD Deficiencies</b>	0
<b>OBD Deficiencies Comments</b>	--		
<b>Mfr Test Group Comments</b>	The fuel for Litmus test is E10. Litmus result(Value/Threshold): City(17.8/17.3) HWY(23.2/24.6)-3MODE FTP(TKMX10088085),US06(TKMX10088043),SC03(TKMX10088044),Cold(TKMX10088045),HWY(TKMX10088042)		
<b>Mfr Exhaust / Evap Standards Comments</b>	--		

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG				
<b>Evaporative/Refueling Family Information</b>							
<b>Evaporative Summary Information Type</b>	New	<b>Submission/Correction Date</b>	01/13/2026 12:27:36 AM				
<b>Integrated ORVR?</b>	Yes	<b>Fuel(s)</b>	Gasoline				
<b>Multiple Fuel Storage</b>	--						
<b>Bladder Fuel Tank?</b>	No						
<b>Fuel Tank Material</b>	Plastic	<b>Fuel Tank Material Description</b>	plastic				
<b>Fill Pipe Seal Type</b>	Liquid seal						
<b>Air Intake System Vapor Storage Device?</b>	No	<b>Air Intake System Vapor Storage Device Description</b>	--				
<b>Fuel System Vapor Storage Canister?</b>	Yes	<b>Other Vapor Storage</b>	--				
<b>Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)</b>	155	<b>Number of Primary Canisters</b>	1				
<b>Number of Bleed Canisters</b>	0	<b>Bleed Canister Total Working Capacity (grams)</b>	--				
<b>Mfr Evaporative/Refueling Family Comments</b>	--						
<b>Leak Family Details</b>							
<b>Leak Family Indicator</b>	Yes						
<b>Canister Bleed Test Indicator</b>	Yes	<b>Applicability of Evaporative Canister Bleed Test</b>	50 State				
<b>Evaporative Canister Bleed Test Comments</b>	--						
<b>CARB Fuel Only (Rig) Test Indicator</b>	No	<b>Applicability of CARB Fuel Only (Rig) Test</b>	--				
<b>CARB Fuel Only (Rig) Test Comments</b>	--						
<b>Leak Family Name</b>	<b>Applicability of Leak Family Requirements</b>	<b>Leak Family Standard (inches)</b>	<b>Leak Family Description</b>				
VKMXR0155KUG-KA4	50 State	0.02	--				
<b>Models Covered by this Certificate</b>							
<b>Carline Manufacturer</b>	<b>Division</b>	<b>Carline</b>	<b>Certification Region Code(s)</b>	<b>Drive System</b>	<b>Trans - Type</b>	<b>- # of Gears</b>	<b>Trans - Lockup</b>
Kia Corporation	1 - KIA	621 - Carnival	Federal	2-Wheel Drive, Front	Semi-Automatic	8	Yes
Kia Corporation	1 - KIA	621 - Carnival	California + CAA Section 177 states	2-Wheel Drive, Front	Semi-Automatic	8	Yes
<b>Engine Description</b>							
<b>Hybrid Type</b>	--	<b>Hybrid Description</b>	--				
<b>Engine Type</b>	4-Stroke Spark Ignition	<b>Mfr Engine Description</b>	--				
<b>Engine Block Arrangement</b>	V-shaped engine	<b>Mfr Engine Block Arrangement Description</b>	--				
<b>Camless Valvetrain Indicator</b>	No	<b>Oil Viscosity/Classification</b>	0W20				
<b>Number of Cylinders/Rotors</b>	6	<b>Mechanically Variable Compression Ratio Indicator</b>	N				

## Certification Summary Information Report

Test Group	VKMXT03.5KU3	Evaporative/Refueling Family	VKMXR0155KUG	
<b>After Treatment Device(s) (ATD)</b>				
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 + Palladium + Rhodium	Ceramic	Monolith
3	Three-way catalyst	Platinum + Palladium + Rhodium	Ceramic	Monolith
<b>Mfr After Treatment Device (ATD) Comments</b>				--
<b>Direct Ozone Reduction (DOR) Device</b>				Not Equipped
<b>Mfr Emission Control Device Comments</b>				--
<b>Engine Configuration Number 1</b>				
<b>Engine Displacement (liters)</b>	3.5	<b>Engine Rated Horsepower</b>	287	
<b>Number of Inlet Valves Per Cylinder</b>	2	<b>Number of Exhaust Valves Per Cylinder</b>	2	
<b>Air Aspiration Method</b>	Naturally Aspirated	<b>Number of Air Aspiration Devices</b>	--	
<b>Air Aspiration Device Configuration</b>	--	<b>Charge Air Cooler Type</b>	--	
<b>Air Aspiration Drive Method(s)</b>	Mechanical			
<b>Cylinder Deactivation</b>	No			
<b>Cylinder Deactivation Description</b>	--			
<b>Variable Valve Timing</b>	Yes			
<b>Variable Valve Timing System Description</b>	Fixed3(More than two or continuous)			
<b>Variable Valve Lift?</b>	No			
<b>Variable Valve Lift System Description</b>	--			
<b>Number of Knock Sensors</b>	2	<b>Number of Air/Fuel Sensors</b>	4	
<b>Air/Fuel Sensor # 1 Type</b>	Other	<b>Air/Fuel Sensor # 1 Description</b>	WR-HO2S	
<b>Air/Fuel Sensor # 2 Type</b>	Other	<b>Air/Fuel Sensor # 2 Description</b>	WR-HO2S	
<b>Air/Fuel Sensor # 3 Type</b>	Heated oxygen	<b>Air/Fuel Sensor # 3 Description</b>	--	
<b>Air/Fuel Sensor # 4 Type</b>	Heated oxygen	<b>Air/Fuel Sensor # 4 Description</b>	--	
<b>Mfr Air/Fuel Sensor Comments</b>	--			
<b>Exhaust Gas Recirculation</b>	Yes	<b>Cooled Exhaust Gas Recirculation</b>	Yes	
<b>EGR Type</b>	Electronic/Electric	<b>Exhaust Gas Recirculation Description if 'Other'</b>	--	
<b>Closed Loop Air Injection System</b>	No			
<b>Air Injection Type</b>	Not Applicable	<b>Air Injection Type if 'Other'</b>	--	
<b>Mfr Engine Configuration Comments</b>	--			

### Certification Summary Information Report

<b>Test Group</b>		VKMXT03.5KU3				<b>Evaporative/Refueling Family</b>			VKMXR0155KUG		
<b>Official Test Numbers</b>											
<b>Test Group Fuel</b>	<b>FTP</b>	<b>US06</b>	<b>SC03</b>	<b>Cold CO</b>	<b>Highway</b>	<b>EPA City Litmus Value</b>	<b>EPA City Litmus Threshold</b>	<b>EPA Highway Litmus Value</b>	<b>EPA Highway Litmus Threshold</b>	<b>CREE Weighting Factor</b>	
Gasoline	TKMX10088085	TKMX10088043	TKMX10088044	TKMX10088045	TKMX10088042	21.1	228.2	29.7	286.1	--	
<b>SFTP LEV-III Official Test Numbers</b>											
<b>Test Group Fuel</b>	<b>FTP</b>		<b>US06</b>			<b>SC03</b>					
Gasoline	TKMX10088085		TKMX10088043			TKMX10088044					

## Certification Summary Information Report

Test Group	VKMXT03.5KU3	Evaporative/Refueling Family	VKMXR0155KUG						
<b>Emission Data Vehicle Information</b>									
Vehicle ID / Configuration	KA4-U6L5GA204F / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	TKMXT03.5KU3	Original Evaporative/Refueling Family	TKMXR0155KUG						
Original Test Vehicle Model Year	2026								
<b>Vehicle Model</b>									
Represented Test Vehicle Make	KIA	Represented Test Vehicle Model	CARNIVAL						
<b>Leak Family Details</b>									
Leak Family Identifier	KA4	Leak Family Name	TKMXR0155KUG-KA4						
<b>Drive Sources and Fuel System Details</b>									
	<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>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>			Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	15	Odometer Correction Factor	0.9982						
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles								
Odometer Correction Units	Miles								
Engine Code	G6DT-AC	Rated Horsepower	287						
Displacement (liters)	3.5								
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)	4810	Equivalent Test Weight (pounds)	5000						
GVWR (lbs)	6283	N/V Ratio	27						
Axle Ratio	3.51								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creeper Gear	No						

## Certification Summary Information Report

Test Group		VKMXT03.5KU3			Evaporative/Refueling Family			VKMXR0155KUG
<b>Dynamometer Coefficients:</b>								
		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	36.507	0.13028	0.027417	11.04	0.16997	0.026336	14.9	
Cold CO	40.158	0.14331	0.030159	13	0.05763	0.029851	N/A	
US06	36.507	0.13028	0.027417	11.04	0.16997	0.026336	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	KA4 PE 3.5 8AT 19" EDV							

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088045</b>	<b>Test Procedure</b>	<b>11 - Cold CO</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	28 - Cold CO E10 Regular Gasoline (Tier 3)
<b>Test Date</b>	08/08/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	22D-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4042	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	478.7513	--
FE BAG 1 (Bag 1 Fuel Economy)	17.9777	17.9777
CO2 BAG 2 (Bag 2 Carbon Dioxide)	448.2686	--
FE BAG 2 (Bag 2 Fuel Economy)	19.3101	19.3101
CO2 BAG 3 (Bag 3 Carbon Dioxide)	375.6724	--
FE BAG 3 (Bag 3 Fuel Economy)	22.9969	22.9969
CO (Carbon Monoxide)	0.4298	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.81	--
DT-EER (Drive Trace Energy Economy Rating)	-0.29	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.55	--
MFR FE (Manufacturer Fuel Economy)	19.8643	19.8643
NOX (Nitrogen Oxide)	0.002	--
HC-NM (Non-methane Hydrocarbon)	0.0288	--
HC-TOTAL (Total Hydrocarbon)	0.0333	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	434.685	--

**Manufacturer Test Comments** 26MY KA4 PE 3.5 19"(ETW:5000) E10-20F This vehicle followed the manual climate control procedure in cold FTP mode.

## Certification Summary Information Report

Test Group		VKMXT03.5KU3				Evaporative/Refueling Family				VKMXR0155KUG		
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	0.43	--	--	--	0.00	--	0.4	12.5	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.03	--	--	--	0.0039	--	0.0	0.5	Pass
CA	50,000 miles	California LEV-IV SULEV30	CO	0.43	--	--	--	0.00	--	0.4	12.5	Pass

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088046</b>	<b>Test Procedure</b>	<b>52 - Fed. fuel 50 F exh.</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	08/13/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	24T-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4115	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>CO (Carbon Monoxide)</b>	0.2409	--
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	0.88	--
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	-0.15	--
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	1.76	--
<b>MFR FE (Manufacturer Fuel Economy)</b>	22.0199	22.0199
<b>NOX (Nitrogen Oxide)</b>	0.0006	--
<b>HC-NM (Non-methane Hydrocarbon)</b>	0.0125	--
<b>NMOG (Non-methane organic gases)</b>	0.0137	--
<b>HC-TOTAL (Total Hydrocarbon)</b>	0.0149	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
<b>Carbon dioxide</b>	391.8942	--

## Manufacturer Test Comments

26MY KA4 PE 3.5 19"(ETW:5000) E10-50F

## Certification Summary Information Report

Test Group		VKMXT03.5KU3				Evaporative/Refueling Family				VKMXR0155KUG		
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	0.24	--	--	--	--	--	0.2	1.0	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG	0.0137	--	1.10	--	--	--	0.014	99.999	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0143	--	--	--	--	--	0.014	0.060	Pass
CA	4,000 miles	California LEV-IV SULEV30	NOX	0.0006	--	--	--	--	--	0.001	99.999	Pass

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088047</b>	<b>Test Procedure</b>	<b>21 - Federal fuel 2-day exhaust (w/can load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	61 - Tier 2 Cert Gasoline
<b>Test Date</b>	09/11/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	22M-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4246	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	402.3604	--
FE BAG 1 (Bag 1 Fuel Economy)	22.135	22.135
CO2 BAG 2 (Bag 2 Carbon Dioxide)	399.5817	--
FE BAG 2 (Bag 2 Fuel Economy)	22.2809	22.2809
CO2 BAG 3 (Bag 3 Carbon Dioxide)	356.5287	--
FE BAG 3 (Bag 3 Fuel Economy)	24.9669	24.9669
METHANE (CH4 - Methane)	0.0029	--
CO (Carbon Monoxide)	0.2287	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.47	--
DT-EER (Drive Trace Energy Economy Rating)	-0.71	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.13	--
MFR FE (Manufacturer Fuel Economy)	22.9626	22.9626
NOX (Nitrogen Oxide)	0.0023	--
N2O (Nitrous Oxide)	0.0006	--
HC-NM (Non-methane Hydrocarbon)	0.0058	--
NMOG (Non-methane organic gases)	0.006	--
HC-TOTAL (Total Hydrocarbon)	0.0087	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	388.3899	388

## Certification Summary Information Report

Test Group		VKMXT03.5KU3			Evaporative/Refueling Family				VKMXR0155KUG			
Test Result Name		Unrounded Test Result			Verify Calculated CO2							
Carbon dioxide		388.3519			--							
Manufacturer Test Comments		26MY KA4 PE 3.5 19"(ETW:5000) E0-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	388	--	--	--	0.213927	--	388	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0029	--	--	--	0.0036	--	0.006	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	N2O	0.0006	--	--	--	0.0003	--	0.001	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.23	--	--	--	0.00	--	0.2	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0060	--	1.10	--	0.0054	--	0.011	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0083	--	--	--	--	--	0.014	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0023	--	--	--	0.0007	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.23	--	--	--	0.00	--	0.2	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0060	--	1.10	--	0.0054	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0083	--	--	--	--	--	0.014	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0023	--	--	--	0.0007	--	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

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088085</b>	<b>Test Procedure</b>	<b>21 - Federal fuel 2-day exhaust (w/can load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	08/14/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	24T-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4154	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	395.0341	--
FE BAG 1 (Bag 1 Fuel Economy)	21.8441	21.8441
CO2 BAG 2 (Bag 2 Carbon Dioxide)	398.6987	--
FE BAG 2 (Bag 2 Fuel Economy)	21.6487	21.6487
CO2 BAG 3 (Bag 3 Carbon Dioxide)	344.2863	--
FE BAG 3 (Bag 3 Fuel Economy)	25.1037	25.1037
METHANE (CH4 - Methane)	0.003	--
CO (Carbon Monoxide)	0.1445	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.6	--
DT-EER (Drive Trace Energy Economy Rating)	-0.46	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.64	--
MFR FE (Manufacturer Fuel Economy)	22.5469	22.5469
NOX (Nitrogen Oxide)	0.0012	--
HC-NM (Non-methane Hydrocarbon)	0.0067	--
NMOG (Non-methane organic gases)	0.0074	--
PM (Particulate Matter)	0.0004	--
HC-TOTAL (Total Hydrocarbon)	0.0098	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	383.2501	999

## Certification Summary Information Report

Test Group		VKMXT03.5KU3			Evaporative/Refueling Family				VKMXR0155KUG			
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		383.0911			--					
Manufacturer Test Comments		26MY KA4 PE 3.5 19"(ETW:5000) 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	--	--	--	0.213927	--	999	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0030	--	--	--	0.0036	--	0.007	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.14	--	--	--	0.00	--	0.1	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.31	--	--	--	0	--	0.3	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0074	--	1.10	--	0.0054	--	0.013	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0086	--	--	--	--	--	0.015	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0142	--	--	--	0	--	0.014	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0012	--	--	--	0.0007	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0004	--	--	--	0.0000	--	0.000	0.003	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.14	--	--	--	0.00	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0074	--	1.10	--	0.0054	--	0.013	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0086	--	--	--	--	--	0.015	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0012	--	--	--	0.0007	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0004	--	--	--	0.0000	--	0.000	0.003	Pass

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

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088227</b>	<b>Test Procedure</b>	<b>49 - Quick-Driveway (QD)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	10/15/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	24T-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4482	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	0	--
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	-0.7	--
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	-0.1	--
<b>NOX (Nitrogen Oxide)</b>	0.0026	--
<b>HC-NM (Non-methane Hydrocarbon)</b>	0.0106	--
<b>NMOG (Non-methane organic gases)</b>	0.0117	--

## Manufacturer Test Comments

26MY KA4 PE 3.5 19"(ETW:5000) E10-Quick Drive-Away, FTP for Quick Drive-Away NO.is TKMX10088225

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	150,000 miles	California LEV-IV SULEV30	NMOG	0.0117	--	1.10	--	0.0060	--	0.018	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0143	--	--	--	--	--	0.027	0.042	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0026	--	--	--	0.0069	--	0.010	99.999	Pass

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088042</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	08/14/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	24T-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4165	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.0085	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.3	--
DT-EER (Drive Trace Energy Economy Rating)	0.16	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.04	--
MFR FE (Manufacturer Fuel Economy)	36.6119	36.6119
NOX (Nitrogen Oxide)	0.001	--
HC-NM (Non-methane Hydrocarbon)	0.0004	--
NMOG (Non-methane organic gases)	0.0004	--
HC-TOTAL (Total Hydrocarbon)	0.0007	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	236.0187	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	236.0127	--

**Manufacturer Test Comments** 26MY KA4 PE 3.5 19"(ETW:5000) E10-HWY

## Certification Summary Information Report

Test Group		VKMXT03.5KU3				Evaporative/Refueling Family				VKMXR0155KUG		
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	--	--	--	0.213927	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0004	--	1.03	--	0.0054	--	0.006	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0014	--	--	--	--	--	0.008	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0010	--	--	--	0.0007	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0004	--	1.03	--	0.0054	--	0.006	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0014	--	--	--	--	--	0.008	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0010	--	--	--	0.0007	--	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

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088048</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	61 - Tier 2 Cert Gasoline
<b>Test Date</b>	09/11/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	22M-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4267	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>CO (Carbon Monoxide)</b>	0.0057	--
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	2.93	--
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	-0.55	--
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	3.63	--
<b>MFR FE (Manufacturer Fuel Economy)</b>	37.1578	37.1578
<b>NOX (Nitrogen Oxide)</b>	0.0045	--
<b>HC-NM (Non-methane Hydrocarbon)</b>	0	--
<b>NMOG (Non-methane organic gases)</b>	0	--
<b>HC-TOTAL (Total Hydrocarbon)</b>	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
<b>Carbon-Related Exhaust Emissions</b>	240.0157	240

Test Result Name	Unrounded Test Result	Verify Calculated CO2
<b>Carbon dioxide</b>	239.9869	--

**Manufacturer Test Comments**                      26MY KA4 PE 3.5 19"(ETW:5000) E0-HWY

## Certification Summary Information Report

Test Group		VKMXT03.5KU3				Evaporative/Refueling Family				VKMXR0155KUG		
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	240	--	--	--	0.213927	--	240	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0000	--	1.03	--	0.0054	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0045	--	--	--	--	--	0.011	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0045	--	--	--	0.0007	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0000	--	1.03	--	0.0054	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0045	--	--	--	--	--	0.011	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0045	--	--	--	0.0007	--	0.005	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

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088043</b>	<b>Test Procedure</b>	<b>90 - US06</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	08/14/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	24T-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4186	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	627.9995	--
FE BAG 1 (Bag 1 Fuel Economy)	13.7498	13.7498
CO2 BAG 2 (Bag 2 Carbon Dioxide)	351.9952	--
FE BAG 2 (Bag 2 Fuel Economy)	24.5025	24.5025
CO (Carbon Monoxide)	0.3773	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.87	--
DT-EER (Drive Trace Energy Economy Rating)	-1.09	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.41	--
MFR FE (Manufacturer Fuel Economy)	20.8915	20.8915
NOX (Nitrogen Oxide)	0.0067	--
HC-NM (Non-methane Hydrocarbon)	0.0056	--
NMOG (Non-methane organic gases)	0.0058	--
PM (Particulate Matter)	0.0033	--
HC-TOTAL (Total Hydrocarbon)	0.0069	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	413.3129	--

## Manufacturer Test Comments

26MY KA4 PE 3.5 19"(ETW:5000) E10-US06

## Certification Summary Information Report

Test Group		VKMXT03.5KU3				Evaporative/Refueling Family				VKMXR0155KUG		
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	0.3773	--	--	--	0.00	--	0.377	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0058	--	1.03	--	0.0054	--	0.011	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0125	--	--	--	--	--	0.019	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0067	--	--	--	0.0007	--	0.007	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0033	--	--	--	0.0000	--	0.003	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.38	--	--	--	0.00	--	0.4	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0058	--	1.03	--	0.0054	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0125	--	--	--	--	--	0.019	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0067	--	--	--	0.0007	--	0.007	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0033	--	--	--	0.0000	--	0.003	0.006	Pass

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>TKMX10088044</b>	<b>Test Procedure</b>	<b>95 - SC03</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	08/12/2024	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	24T-01	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4102	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.422	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.16	--
DT-EER (Drive Trace Energy Economy Rating)	-0.27	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.19	--
MFR FE (Manufacturer Fuel Economy)	18.0521	18.0521
NOX (Nitrogen Oxide)	0.0022	--
HC-NM (Non-methane Hydrocarbon)	0.002	--
NMOG (Non-methane organic gases)	0.002	--
HC-TOTAL (Total Hydrocarbon)	0.005	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	478.1787	--

## Manufacturer Test Comments

26MY KA4 PE 3.5 19"(ETW:5000) E10-SC03

## Certification Summary Information Report

Test Group		VKMXT03.5KU3				Evaporative/Refueling Family				VKMXR0155KUG		
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	0.4220	--	--	--	0.00	--	0.422	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0020	--	1.03	--	0.0054	--	0.007	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0042	--	--	--	--	--	0.010	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0022	--	--	--	0.0007	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.42	--	--	--	0.00	--	0.4	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0020	--	1.03	--	0.0054	--	0.007	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0042	--	--	--	--	--	0.010	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0022	--	--	--	0.0007	--	0.003	99.999	Pass

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
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**Emission Data Vehicle Information**

Vehicle ID / Configuration	KA4U2L5GA069F / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	NKMXT03.5KU5	Original Evaporative/Refueling Family	NKMXR0155KUG
Original Test Vehicle Model Year	2022		

**Vehicle Model**

Represented Test Vehicle Make	KIA	Represented Test Vehicle Model	CARNIVAL
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**Leak Family Details**

Leak Family Identifier	KA4	Leak Family Name	NKMXR0155KUG-KA4
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**Drive Sources and Fuel System Details**

Drive Source and Fuel#	Drive Source	Fuel
1	Combustion Engine	Gasoline

Hybrid Indicator	No	Multiple Fuel Combustion	--
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	--
Fuel Cell Indicator	--	Rechargeable Energy Storage System, if 'Other'	--
Rechargeable Energy Storage System	--		
Off-board charge Capable Indicator	--		
Odometer Correction -- Initial	0	Odometer Correction Factor	1.0003
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	G6DT-AC	Rated Horsepower	290
Displacement (liters)	3.5	Air Aspiration Method, if 'Other'	
Air Aspiration Method	Naturally Aspirated	Air Aspiration Device Configuration	--
Number of Air Aspiration Devices	--	Drive Mode While Testing	2-Wheel Drive, Front
Charge Air Cooler Type	--	Aged Emission Components	4,000 (mi)
Shift Indicator Light Usage	Not equipped	Equivalent Test Weight (pounds)	4750
Curb Weight (lbs)	4535	N/V Ratio	27
GVWR (lbs)	6041		
Axle Ratio	3.51	# of Transmission Gears	8
Transmission Type	Semi-Automatic	Creeper Gear	No
Transmission Lockup	Yes		

**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	26.773	0.39493	0.027419	8.532	0.23356	0.027937	15.3

Emission Control Device Comments --

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
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**Manufacturer Test Vehicle Comments**      KA4 3.5 8AT 19" EVAP

<b>Test #</b>	<b>NKMX10066867</b>	<b>Test Procedure</b>	<b>38 - CA fuel 3-day evap.</b>
<b>Exhaust Test # for this Evap Test</b>	NKMX10066851	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	07/24/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	19E-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4225	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	No

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.2745	--

**Manufacturer Test Comments**      22MY KA4 3.5 19"(ETW:4750)-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	0.2745	0.0000	0.274	0.500	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2745	0.0000	0.274	0.500	Pass

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>NKMX91004661</b>	<b>Test Procedure</b>	<b>27 - California fuel 2-day evap</b>
<b>Exhaust Test # for this Evap Test</b>	NKMX91004658	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular
<b>Test Date</b>	11/04/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	26757	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	--		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4363	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	No

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.215781	--

**Manufacturer Test Comments**                      Hot\_Soak\_HC\_(g) = 0.024241, Diurnal (gHC) = 0.191540

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	0.2158	0.0000	0.216	0.500	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2158	0.0000	0.216	0.500	Pass

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
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<b>Test #</b>	NKMX10066866	<b>Test Procedure</b>	37 - California Fuel Running Loss
<b>Exhaust Test # for this Evap Test</b>	NKMX10066851	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	07/24/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	19E-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4225	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	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)	0.0001	--

**Manufacturer Test Comments**                      22MY KA4 3.5 19"(ETW:4750) CA E10-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	0.000	0.000	0.00	0.05	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.000	0.000	0.00	0.05	Pass

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>NKMX10066868</b>	<b>Test Procedure</b>	<b>24 - Federal fuel refueling test (ORVR)</b>
<b>Exhaust Test # for this Evap Test</b>	NKMX10066859	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	07/21/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	19T-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4157	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	No

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</b>	0.0011	--

**Manufacturer Test Comments**

22MY KA4 3.5 19"(ETW:4750) CA E10-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	0.001	0.000	0.00	0.20	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.001	0.000	0.00	0.20	Pass

**Certification Summary Information Report**

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>NKMX10066870</b>	<b>Test Procedure</b>	<b>65 - Evap Canister Bleed Test</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline
<b>Test Date</b>	07/09/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	19E-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	Calculated (1.08 x FID Total Hydrocarbons)		
<b>Test Start Odometer Reading</b>	4112	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	No

**Test Results**

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
<b>HC-TOTAL (Total Hydrocarbon)</b>	0.0061	--

**Manufacturer Test Comments**                      22MY KA4 3.5 19"(ETW:4750) CA E10-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	0.0061	0	0.006	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL	0.0061	0	0.006	0.020	Pass

**Certification Summary Information Report**

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>NKMX10066871</b>	<b>Test Procedure</b>	<b>68 - Leak Test - Port Near Fuel Pipe</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	07/28/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	19T-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4253	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	No

**Test Results**

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

**Manufacturer Test Comments**

22MY KA4 3.5 19"(ETW:4750) CA E10-Leak Test Port Near Fuel Pipe-Correct Odometer

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	0.0000	0	0.000	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0.000	0	0.00	0.02	Pass

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Test #</b>	<b>NKMX10066872</b>	<b>Test Procedure</b>	<b>67 - Leak Test - Port Near Canister</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
<b>Test Date</b>	07/28/2020	<b>Fuel</b>	Gasoline
<b>Fuel Batch ID</b>	19T-03	<b>Fuel Calibration Number</b>	1
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4253	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	No	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	--		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	No

**Test Results**

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

**Manufacturer Test Comments**

22MY KA4 3.5 19"(ETW:4750) CA E10-Leak Test Port Near Canister-CORRECT ODORMETER

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	0.0000	0	0.000	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	LEAK-DIA	0.000	0	0.00	0.02	Pass

## Certification Summary Information Report

Test Group	VKMXT03.5KU3	Evaporative/Refueling Family	VKMXR0155KUG
<b>Fuel Properties</b>			
<b>Fuel Batch ID</b>	<b>24T-01</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	09/29/2022
<b>Fuel Batch Calibration Effective Date</b>	06/25/2024	<b>Fuel Batch Calibration Ineffective Date</b>	06/25/2027
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.74
<b>Fuel Ethanol Volume Percent (%)</b>	9.8	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	17799
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	--	<b>Fuel Carbon Mass Fraction (E10)</b>	--
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	0.824	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>19T-03</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	<b>Fuel Batch Calibration Date</b>	08/22/2019
<b>Fuel Batch Calibration Effective Date</b>	04/13/2020	<b>Fuel Batch Calibration Ineffective Date</b>	04/13/2023
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.743
<b>Fuel Ethanol Volume Percent (%)</b>	9.8	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	17949
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	--	<b>Fuel Carbon Mass Fraction (E10)</b>	--
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	0.826	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>19E-03</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	46 - CARB LEV3 E10 Regular Gasoline	<b>Fuel Batch Calibration Date</b>	08/08/2019
<b>Fuel Batch Calibration Effective Date</b>	10/29/2019	<b>Fuel Batch Calibration Ineffective Date</b>	10/29/2022
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	0.75
<b>Fuel Ethanol Volume Percent (%)</b>	9.6	<b>Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)</b>	17917
<b>Fuel Net Heat of Combustion (E10) (MJ/kg)</b>	--	<b>Fuel Carbon Mass Fraction (E10)</b>	--
<b>Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)</b>	0.827	<b>Weight Fraction CO2</b>	--
<b>Fuel Batch ID</b>	<b>22M-01</b>	<b>Fuel Calibration Number</b>	<b>1</b>
<b>Test Fuel Type</b>	61 - Tier 2 Cert Gasoline	<b>Fuel Batch Calibration Date</b>	06/03/2021
<b>Fuel Batch Calibration Effective Date</b>	02/14/2022	<b>Fuel Batch Calibration Ineffective Date</b>	02/14/2025
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--

## Certification Summary Information Report

Test Group	VKMXT03.5KU3	Evaporative/Refueling Family	VKMXR0155KUG
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	--
<b>Fuel Batch ID</b>	<b>26757</b>	<b>Fuel Calibration Number</b>	<b>1</b>
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	--
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	--
<b>Fuel Batch ID</b>	<b>22D-01</b>	<b>Fuel Calibration Number</b>	<b>1</b>
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

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
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#### Consolidated List of Standards

**Exhaust Standards**

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California LEV-IV SULEV30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	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	--	--	--	0.0054	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California LEV-IV SULEV30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	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	--	--	--	--	--	--	0.00	12.5

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California LEV-IV SULEV30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	Quick-Driveway (QD)

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	--	--	1.10	--	--	--	0.0060	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.042
150,000 miles	NOX	--	--	--	--	--	--	0.0069	99.999

### Certification Summary Information Report

<b>Test Group</b>		VKMXT03.5KU3			<b>Evaporative/Refueling Family</b>			VKMXR0155KUG		
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			<b>Standard Level</b>			Federal Tier 3 Bin 30		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			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	--	--	--	--	--	--	0.213927	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0036	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0003	0.010
150,000 miles	CO	--	--	--	--	--	--	0.00	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0054	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.003

<b>Cert Region</b>		California + CAA Section 177 states			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			<b>Standard Level</b>			California LEV-IV SULEV30		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			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	--	--	--	--	--	--	0.00	1.0
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0054	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999

**Certification Summary Information Report**

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California LEV-IV SULEV30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	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	--	--	1.10	--	--	--	--	99.999
4,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.060
4,000 miles	NOX	--	--	--	--	--	--	--	99.999

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California LEV-IV SULEV30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	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	--	--	--	--	--	--	0.00	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0054	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.003

<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	Federal Tier 3 Bin 30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	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	--	--	--	--	--	--	0.213927	999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0054	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999

### Certification Summary Information Report

<b>Test Group</b>		VKMXT03.5KU3			<b>Evaporative/Refueling Family</b>			VKMXR0155KUG		
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			<b>Standard Level</b>			Federal Tier 3 Bin 30		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			US06		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0.00	99.999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0054	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999	
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999	
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.006	

<b>Cert Region</b>		California + CAA Section 177 states			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			<b>Standard Level</b>			California LEV-IV SULEV30		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			US06		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0.00	9.6	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0054	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999	
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.006	

<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)			<b>Standard Level</b>			Federal Tier 3 Bin 30		
<b>Fuel</b>		Gasoline			<b>Test Procedure</b>			SC03		
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>	
150,000 miles	CO	--	--	--	--	--	--	0.00	99.999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0054	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	99.999	
150,000 miles	NOX	--	--	--	--	--	--	0.0007	99.999	

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG
<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT3 (ALVW 3751-5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	Federal Tier 3 Bin 30
<b>Fuel</b>	Gasoline	<b>Test Procedure</b>	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	--	--	--	--	--	--	0.00	12.5
120,000 miles	HC-NM	--	--	--	--	--	--	0.0039	0.5

**Evaporative/Refueling Standards**

<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	
<b>Test Procedure</b>	CA fuel 3-day evap.		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0.0000

<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap
<b>Test Procedure</b>	Evap Canister Bleed Test		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0

<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap
<b>Test Procedure</b>	Federal fuel refueling test (ORVR)		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.000

<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	
<b>Test Procedure</b>	California Fuel Running Loss		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0.000

### Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG		
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap		
<b>Test Procedure</b>	California Fuel Running Loss				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0.000
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Leak Test - Port Near Fuel Pipe				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap		
<b>Test Procedure</b>	CA fuel 3-day evap.				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0.0000
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap		
<b>Test Procedure</b>	California fuel 2-day evap				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0.0000
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap		
<b>Test Procedure</b>	Leak Test - Port Near Fuel Pipe				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0

## Certification Summary Information Report

<b>Test Group</b>	VKMXT03.5KU3	<b>Evaporative/Refueling Family</b>	VKMXR0155KUG		
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	California fuel 2-day evap				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0.0000
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	Federal		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>	Federal Tier 3 Evap		
<b>Test Procedure</b>	Leak Test - Port Near Canister				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Evap Canister Bleed Test				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Leak Test - Port Near Canister				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0
<b>Evaporative/Refueling Family</b>	VKMXR0155KUG	<b>Cert Region</b>	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)		
<b>Cert/In-Use Code</b>	Cert	<b>Standard Level</b>			
<b>Test Procedure</b>	Federal fuel refueling test (ORVR)				
<b>Fuel</b>	<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>Std</b>	<b>Add DF</b>
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.000

## Certification Summary Information Report

Test Group	VKMXT03.5KU3	Evaporative/Refueling Family	VKMXR0155KUG
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	AS-VOLT	Average System Voltage
CO	Carbon Monoxide	CO2 BAG 1	Bag 1 Carbon Dioxide
CO2	Carbon dioxide	CO2 BAG 2	Bag 2 Carbon Dioxide
CREE	Carbon-Related Exhaust Emissions	CO2 BAG 3	Bag 3 Carbon Dioxide
OPT-CREE	Optional Carbon-Related Exhaust Emissions	CO2 BAG 4	Bag 4 Carbon Dioxide
NOX	Nitrogen Oxide	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
PM	Particulate Matter	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
PM-COMP	SFTP Composite Particulate Matter	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM	Non-methane Hydrocarbon	DT-ASCR	Drive Trace Absolute Speed Change Rating
OMHCE	Organic material Hydrocarbon Equivalent	DT-EER	Drive Trace Energy Economy Rating
OMNMHCE	Organic material non-methane HC equivalent	COMB-CREE	Combined Carbon-Related Exhaust Emissions
NMOG	Non-methane organic gases	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
HCHO	Formaldehyde	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
H3C2HO	Acetaldehyde	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	LEAK-DIA	Effective Leak Diameter (inches)
CO-COMP	SFTP Composite Carbon Monoxide	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
ETHANOL	C2H5OH - Ethanol	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
FE BAG 1	Bag 1 Fuel Economy	KW-HRS	Integrated DC KW-HRS
FE BAG 2	Bag 2 Fuel Economy	CH4 BAG 1	Bag 1 Methane
FE BAG 3	Bag 3 Fuel Economy	CH4 BAG 2	Bag 2 Methane
FE BAG 4	Bag 4 Fuel Economy	CH4 BAG 3	Bag 3 Methane
MFR FE	Manufacturer Fuel Economy	CH4 BAG 4	Bag 4 Methane
HC	Hydrocarbon for Running Loss and ORVR	CO BAG 1	Bag 1 Carbon Monoxide
METHANE	CH4 - Methane	CO BAG 2	Bag 2 Carbon Monoxide
METHANOL	CH3OH - Methanol	CO BAG 3	Bag 3 Carbon Monoxide
N2O	Nitrous Oxide	CO BAG 4	Bag 4 Carbon Monoxide
SPITBACK	Spitback Hydrocarbon in grams	NMOG BAG 1	Bag 1 Non-methane organic gases
AMP-HRS	Integrated Amp-hours	NMOG BAG 2	Bag 2 Non-methane organic gases
START-SOC	System Start State of Charge Watt-hours	NMOG BAG 3	Bag 3 Non-methane organic gases
END-SOC	System End State of Charge Watt-hours	NMOG BAG 4	Bag 4 Non-methane organic gases
ACT-DISTANCE	Actual Distance Driven (miles)		
<b>Certification Region</b>			

## Certification Summary Information Report

Test Group	VKMXT03.5KU3	Evaporative/Refueling Family		VKMXR0155KUG
CA	California + CAA Section 177 states	FA	Federal	
<b>Exhaust Emission Standard Level</b>				
B1	Federal Tier 2 Bin 1	T3B160	Federal Tier 3 Bin 160	
B2	Federal Tier 2 Bin 2	T3B125	Federal Tier 3 Bin 125	
B3	Federal Tier 2 Bin 3	T3B110	Federal Tier 3 Transitional Bin 110	
B4	Federal Tier 2 Bin 4	T3B85	Federal Tier 3 Transitional Bin 85	
B5	Federal Tier 2 Bin 5	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
B6	Federal Tier 2 Bin 6	T3B70	Federal Tier 3 Bin 70	
B7	Federal Tier 2 Bin 7	T3B50	Federal Tier 3 Bin 50	
B8	Federal Tier 2 Bin 8	T3B30	Federal Tier 3 Bin 30	
B9	Federal Tier 2 Bin 9	T3B20	Federal Tier 3 Bin 20	
B10	Federal Tier 2 Bin 10	T3B0	Federal Tier 3 Bin 0	
B11	Federal Tier 2 Bin 11	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2	California LEV-II LEV	HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2OP	California LEV-II LEV Optional	HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
U2	California LEV-II ULEV	HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
S2	California LEV-II SULEV	HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
ZEV	California ZEV	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
OT	Other	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
T1	Federal Tier 1	HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
PZEV	California PZEV	HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L2LEV160	California LEV-II LEV160	HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L2ULEV125	California LEV-II ULEV125	HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L2SULEV30	California LEV-II SULEV30	HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2LEV395	California LEV-II LEV395	L4SULEV100	California LEV-IV SULEV100	
L2ULEV340	California LEV-II ULEV340	L4SULEV125	California LEV-IV SULEV125	
L2LEV630	California LEV-II LEV630	L4SULEV15	California LEV-IV SULEV15	
L2ULEV570	California LEV-II ULEV570	L4SULEV150	California LEV-IV SULEV150	
L3LEV160	California LEV-III LEV160	L4SULEV170	California LEV-IV SULEV170	
L3ULEV125	California LEV-III ULEV125	L4SULEV175	California LEV-IV SULEV175	
L3ULEV70	California LEV-III ULEV70	L4SULEV20	California LEV-IV SULEV20	
L3ULEV50	California LEV-III ULEV50	L4SULEV200	California LEV-IV SULEV200	
L3SULEV30	California LEV-III SULEV30	L4SULEV230	California LEV-IV SULEV230	
L3SULEV20	California LEV-III SULEV20	L4SULEV25	California LEV-IV SULEV25	
L3LEV395	California LEV-III LEV395	L4SULEV30	California LEV-IV SULEV30	
L3ULEV340	California LEV-III ULEV340	L4SULEV75	California LEV-IV SULEV75	
L3ULEV250	California LEV-III ULEV250	L4SULEV85	California LEV-IV SULEV85	
L3ULEV200	California LEV-III ULEV200	L4ULEV125	California LEV-IV ULEV125	

## Certification Summary Information Report

Test Group		VKMXT03.5KU3	Evaporative/Refueling Family	VKMXR0155KUG
L3SULEV170	California LEV-III SULEV170		L4ULEV200	California LEV-IV ULEV200
L3SULEV150	California LEV-III SULEV150		L4ULEV250	California LEV-IV ULEV250
L3LEV630	California LEV-III LEV630		L4ULEV270	California LEV-IV ULEV270
L3ULEV570	California LEV-III ULEV570		L4ULEV40	California LEV-IV ULEV40
L3ULEV400	California LEV-III ULEV400		L4ULEV400	California LEV-IV ULEV400
L3ULEV270	California LEV-III ULEV270		L4ULEV50	California LEV-IV ULEV50
L3SULEV230	California LEV-III SULEV230		L4ULEV60	California LEV-IV ULEV60
L3SULEV200	California LEV-III SULEV200		L4ULEV70	California LEV-IV ULEV70
<b>Transmission Type Code</b>				
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)	
<b>Drive System Code</b>				
4	4-Wheel Drive	P	Part-time 4-Wheel Drive	
F	2-Wheel Drive, Front	A	All Wheel Drive	
R	2-Wheel Drive, Rear			
<b>Additional Terms and Acronyms</b>				
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	