



Application for Certification - Part 1

Test Group (CBI)

- **Model Year:** 2027
- **Manufacturer Name:** Hyundai Motor Company
- **Test Group:** VHYXT02.5VR3
- **Test Group Description:** 2.5 Liter / I4 GDPI / Otto-cycles
- **Durability Group:** VHYXGPGNNVR3
- **Durability Group Description:** Monolith, WU-TWC+TWC
- **Vehicle Class:** LDT2
- **Applicable Standards:** FED: Interim Tier4 Bin 30 / Tier4 Evap
CAL: LEV-IV SULEV30 / LEV-IV Evap
- **Vehicles Tested:** NO1U5HG002A/0 (Exh EDV/FEDV)
NO1U5HG005F/0 (FEDV)
MQ4U1H5GA042A/0 (Evap)
NX4OA7H5GA006A/0 (QDA)
- **Carlines Covered by Certificate:** Santa Cruz AWD / FWD
- **EPA Response Requested by:** May 27, 2026
- **For Questions, Contact:** Stephanie Wright
Tel: 734-273-1904
E-mail: swright@hatci.com

TABLE OF CONTENTS

Section	Contents	Application	
		Common	Test Group
01	Correspondence and Communications	x	
02	Durability Group Description		x
	02.01 List of Vehicles in Durability Groups	x	
	02.02 Catalyst Information		x
03	Evaporative/Refueling Family Description		x
	03.01 Evaporative/Refueling General Description	x	
	03.02 List of Vehicles in Evaporative Families	x	
04	Durability Test Procedure Description		
	04.01 Exhaust Durability Vehicle Test Data		x
	04.02 Evaporative/ORVR Durability Test Data		x
	04.03 Exhaust Durability Test Procedure	x	
	04.04 Evaporative Durability Test Procedure	x	
05	Test Group Description		x
06	Test Vehicle Description		x
07	Test Results		x
08	Emission Compliance Statement	x	
09	OBD System Description		x
	09.01 CARB Approval Letter		x
10	Description of Alternate-Fueled Vehicles		x
11	AECD Description		x
12	Description of Vehicles Covered by Certificate and Test Parameters		
	12.01 Vehicle Parameters		x
	12.02 Test Parameters	x	x
13	Projected Sales	x	
14	Request for Certification		x
15	Other Information		
	15.01 Certification Fee Filing Form		x
	15.02 Vehicle Emission Control Information Label		x
	15.03 ORVR Safety Statement		x
	15.04 New Technology System Description	x	
	15.05 Engine oil Information	x	
16	California ARB Information	x	x
17	Service of Process	x	
18	Attachment		x

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 | : | VHYXGPGNNVR3 |
| 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: VHYXR0145VRG (21MY Sorento 2.5G C/O)

03.00.01.01 Evaporative/Refueling Family Parameters

1. Type of Vapor Storage Device: Canister (1EA), Air cleaner (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)
145VRG	15	145	2500	Plastic	Activated carbon	17.7

3. Fuel system: Returnless fuel system

4. Type of refueling emission control system: Integrated type

5. Fillpipe 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

10. HC-Trap

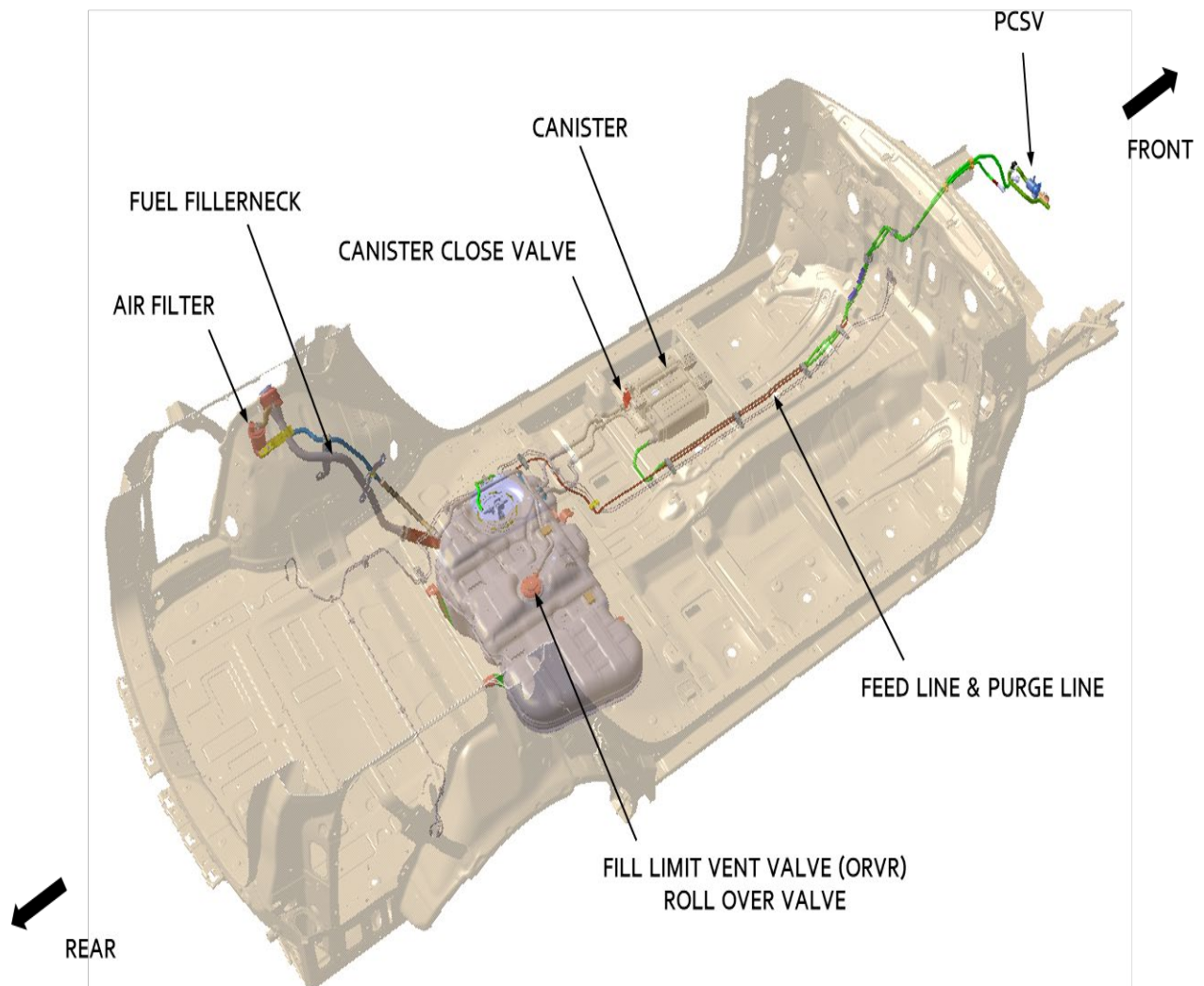
- a. Media : Carbon
- b. Working capacity : 0.8g

VHYXT02.5VR3 - Hyundai Santa Cruz 2.5 – Part 1

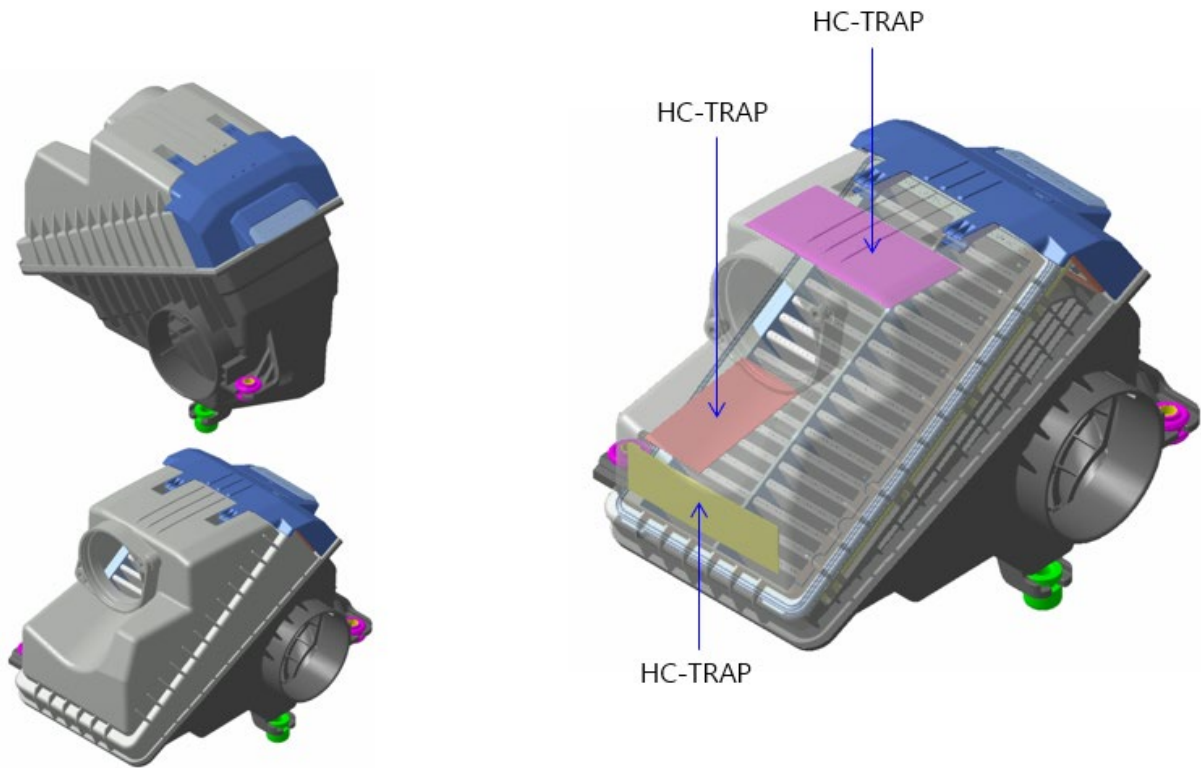
Issued : 04-22-2026

Revised:

03.00.01.02 Evaporative/Refueling Schematic



03.00.01.03 HC-Trap Schematic



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	:	VHYXT02.5VR3
Engine displacement (L) covered	:	2.5L
Arrangement/number of cylinders	:	I4
Vehicle class(s) covered	:	LDT2
Sales location/emission standard	:	FED: Interim Tier4 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.

Test Vehicle Information Submission

Test Vehicle Information Details

Information Process Code : N

EPA Manufacturer Code : KMX

Vehicle Identification Text : 5NMS3CAJBK1P98112

Vehicle Configuration Number : 0

Vehicle Configuration Details

Vehicle Description Details

Manufacturer Vehicle Configuration Number : 0

Test Group Name : RKMXT02.5JR3

Evaporative Refueling Family Name : RKMXR0144JRG

Leak Family Identifier : MQ4

Leak Family Name : RKMXR0144JRG-MQ4

Model Year : 2024

Actual Test Vehicle Make Text : Kia

Actual Test Vehicle Model Text : Sorento

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 : 0

Correction Factor Value : 1.0108

Correction Sign Identifier : -

Correction Units Code : M

Engine Code Text : G4KN-AC

Engine Rated Horsepower Value : 191

Engine Displacement Value : 2.5

Air Aspiration Details

Air Aspiration Method Identifier : NA

VHYXT02.5VR3 - Hyundai Santa Cruz 2.5 – Part 1

Issued : 04-22-2026

Revised:

Vehicle Specifications Details

Curb Weight Value : 4045
Equivalent Test Weight Value : 4250
Gross Vehicle Weight Rating Value : 5512
NV Ratio Value : 31.0
Axle Ratio Value : 4.08

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 : C-H-E
Target CoefficientA Value : 26.766
Target CoefficientB Value : 0.43060
Target CoefficientC Value : 0.023788
Set CoefficientA Value : 2.456
Set CoefficientB Value : 0.40661
Set CoefficientC Value : 0.022636

Manufacturer Comment Text : MQ4A PE 2.5 AWD 8AT 18in-EXHAUST DDV

EPA Generated Test Vehicle Details

Original Receipt Date : 20230901
Hybrid Vehicle Indicator : N
Adjusted Loaded Vehicle Weight Value : 4778
Loaded Vehicle Weight Value : 4345
Total Road Load Horsepower Value : 14.4

Transaction Status Details

Transaction Status Identifier : ACCEPTED

2. Exhaust Durability Data Vehicle (Quick Drive Away)

Verify Processing Report

Page 1 of 2

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 : HXX

VehicleIdentificationText : NX4OA7H5GA006A

VehicleConfigurationNumber : 0

VehicleConfigurationDetails

VehicleDescriptionDetails

ManufacturerVehicleConfigurationNumber : 0

TestGroupName : VHYXT02.5VR3

EvaporativeRefuelingFamilyName : VHYXR0145VRG

LeakFamilyIdentifier : NX4

LeakFamilyName : VHYXR0145VRG-NX4

ModelYear : 2027

ActualTestVehicleMakeText : HYUNDAI

ActualTestVehicleModelText : Santa Cruz

DriveSourceDetails

DriveSourceIdentifier : C

FuelIdentifier : G

TestDriveCode : F

ShiftIndicatorLightUsageIdentifier : 1

AgedComponentUsageIdentifier : 4

OdometerCorrectionDetails

CorrectionInitialValue : 0

CorrectionFactorValue : 0.9994

CorrectionSignIdentifier : +

CorrectionUnitsCode : M

EngineCodeText : G4KN-AC

EngineRatedHorsepowerValue : 191

EngineDisplacementValue : 2.5

AirAspirationDetails

AirAspirationMethodIdentifier : NA

VHYXT02.5VR3 - Hyundai Santa Cruz 2.5 – Part 1

Issued : 04-22-2026

Revised:

VehicleSpecificationsDetails

CurbWeightValue : 4043
EquivalentTestWeightValue : 4250
GrossVehicleWeightRatingValue : 5665
NVRatioValue : 30.3
AxleRatioValue : 4.08

TransmissionSpecificationsDetails

LightDutyTransmissionTypeIdentifier : SA
TransmissionLockupIndicator : Y
TransmissionCreepGearIndicator : N
TransmissionGearCount : 8

TargetSetCoefficientDetails

TestProcedureDynamometerCoefficientsCategory : C-H-E
TargetCoefficientAValue : 29.828
TargetCoefficientBValue : 0.40332
TargetCoefficientCValue : 0.023776
SetCoefficientAValue : 11.562
SetCoefficientBValue : 0.20546
SetCoefficientCValue : 0.024592

ManufacturerCommentText : 27MY NX4 OB 2.5 8AT AWD 18in (QDA EDV)

EPAGeneratedTestVehicleDetails

OriginalReceiptDate : 20260407
HybridVehicleIndicator : N
AdjustedLoadedVehicleWeightValue : 4854
LoadedVehicleWeightValue : 4343
TotalRoadLoadHorsepowerValue : 14.6

TransactionStatusDetails

TransactionStatusIdentifier : ACCEPTED

3. Exhaust & Evaporative Emission Data Vehicle

Please refer to CSI report in 07.00

07.00 Test Results

07.01.01 EV-CIS Certification Summary Information

Certification Summary Information Report submitted to EV-CIS.

1. 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	26.0	20.3	40.3	15.1	21.5
BAG2	25.6	24.5		29.7	
BAG3	28.1	29.3			
TOTAL	26.3			24.5	

(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	20.74634298	19.9	Applicable	Selected
	5-CYCLE	20.98715389	21.0	Applicable	
	Ratio of 5CYCLE to 0.96 MPG-BASED		105.53		

CRITERIA : 100%

(2) Determining the Hwy FE Method

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

		UNROUNDED	ADJ. ROUNDED	Examination	Decision
HWY FE	MPG BASED	28.3185	26.9	Select This	Selected
	5-CYCLE	27.7370	27.7	Not Applicable	
	MODIFIED	27.6958	27.7	Not Applicable	
	Ratio of 5CYCLE to 0.95 MPG-BASED		102.97		

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, 86.1806-27 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 November 30, 2022.

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

Carline		70	71
Model name		Santa Cruz AWD	Santa Cruz FWD
Vehicle classification		LDT2	
Emission control system description	Type, number and configuration of catalyst(s)	See Sec. 02.02	
	EGR Type	Electronic	
	Air pump type	N/A	
	Fuel system type	DFI, SFI	
	Intake air aspiration method	Naturally Aspirated	
	Other	-	
Engine code		G4KN-AC	G4KN-AC
Number of valves per cylinder		4	
Engine displacement (L)		2.5	
Sales area		50-State	
Transmission and overdrive		SA8	SA8
SIL		N/A	N/A
Tire size		245/60R18 (Kumho)	245/60R18 (Kumho)
N/V ratios		30.3	30.3
ETW(lb)		4250	4250
Elec. dyno. target coefficient	A	Please refer to 12.02.01.	
	B		
	C		
Fuel tank volume(gal)		17.7	

12.02.02 Engine Starting Procedures

Please refer to Common Section 12.02.02.

12.02.03 Shift Schedules

Automatic transmission: Please refer to Common Section 12.02.03.01

Manual transmission: Not Applicable

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
VHYXT02.5VR3 / Evaporative Family VHYXR0145VRG

Dear Ms. Kathryn Kochunas:

Hyundai Motor Company 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 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 or (734) 273-1904.

Sincerely,

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

C. H. Ji
General Manager
Regulation & Certification Team2
Hyundai Motor Company

VHYXT02.5VR3 - Hyundai Santa Cruz 2.5 – Part 1
Issued : 04-22-2026
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
VHYXT02.5VR3 / Evaporative Family VHYXR0145VRG

Dear Ms. Robin U. Lang:

Hyundai Motor Company 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 CFR86.1844-01(d), (14) including the provisions of 40 CFR Parts 85, 86 and 600. This test group also complies with 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@hatci.com or (734) 273-1904.

Sincerely,

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

C. H. Ji
General Manager
Regulation & Certification Team2
Hyundai Motor Company

15.00 Other Information

15.01 Certification Fee Filing Form

15.02 Vehicle Emission Control Information (VECI) Label

			HYUNDAI MOTOR COMPANY 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, WR-HO2S, HO2S, WU-TWC, TWC, EGR, EGRC		
Group: VHYXT02.5VR3					32450-2S394
Evap.: VHYXR0145VRG					

VHYXT02.5VR3 - Hyundai Santa Cruz 2.5 – Part 1

Issued : 04-22-2026

Revised:

15.03 ORVR Safety Statement

Hyundai uses standard technology in all ORVR systems for 2027 model year vehicles. In accordance with EPA Guidance Letter CISC-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
VHYXT02.5VR3	Santa Cruz AWD/FWD	DFI, SFI, WR-HO2S, HO2S, WU-TWC, TWC, EGR, EGRC, OBD II

Note: WR-HO2S : Wide-Range Heated Oxygen Sensor
 HO2S : Heated Oxygen Sensor
 WU-TWC : Warm Up Three Way Catalyst System
 TWC : Three Way Catalyst System
 DFI : Direct Fuel Injection
 SFI : Sequential Multipoint(Electronic) Fuel Injection
 OBD II : On-Board Diagnostics II
 EGR : Exhaust Gas Recirculation
 EGRC : EGR Cooler

16.02 Test Procedures

Please refer to Common Section 16.02

16.03.00 Fill Pipe Access Zones Statement and Specifications

VHYXT02.5VR3 - Hyundai Santa Cruz 2.5 – Part 1

Issued : 04-22-2026

Revised:

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, Hyundai Motor Group complies to the 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

Manufacturer	Hyundai Motor Company	Manufacturer Code	HYX
Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Certificate Number	--	CARB Executive Order #	--
Certificate Issue Date	--	Certificate Revision Date	--
Certificate Effective Date	--	Conditional Certificate	--
CSI Revision #	--	CSI Submission/Revision Date	05/06/2026 01:49:25 AM
Model Year	2027		

Test Group Information

CSI Type	Update for Correction	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		

Drive Sources and Fuel(s)

Drive Source #1: Combustion Engine

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Gasoline	Spark Ignition direct & ported injection	No

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	--
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	--
Fuel Cell Indicator	--	EPA Vehicle Class	LDT2
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	VHYXGPGNNVR3	Durability Group Equivalency Factor	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	--	CAP2000 Conditional Certificate?	N/A
Independent Commercial Importer?	--	Alternative Fuel Converter Certificate?	--
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	No
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VHYXV02.5UP3
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	Litmus result city FE threshold=19.9 5cycle=21.0, hwy FE threshold=26.9 5cycle=27.7		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	04/24/2026 03:37:41 AM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	Plastic				
Fill Pipe Seal Type	Liquid seal						
Air Intake System Vapor Storage Device?	Yes	Air Intake System Vapor Storage Device Description	HC-TRAP				
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--				
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	145	Number of Primary Canisters	1				
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	--				
Mfr Evaporative/Refueling Family Comments	--						
Leak Family Details							
Leak Family Indicator	Yes						
Canister Bleed Test Indicator	Yes	Applicability of Evaporative Canister Bleed Test	50 State				
Evaporative Canister Bleed Test Comments	--						
CARB Fuel Only (Rig) Test Indicator	No	Applicability of CARB Fuel Only (Rig) Test	--				
CARB Fuel Only (Rig) Test Comments	--						
Leak Family Name	Applicability of Leak Family Requirements	Leak Family Standard (inches)	Leak Family Description				
VHYXR0145VRG-NX4	50 State	0.02	--				
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	70 - Santa Cruz AWD	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	71 - Santa Cruz FWD	Federal	2-Wheel Drive, Front	Semi-Automatic	8	Yes
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	70 - Santa Cruz AWD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	71 - Santa Cruz FWD	California + CAA Section 177 states	2-Wheel Drive, Front	Semi-Automatic	8	Yes
Engine Description							
Hybrid Type	--	Hybrid Description	--				
Engine Type	4-Stroke Spark Ignition	Mfr Engine Description	--				
Engine Block Arrangement	Inline	Mfr Engine Block Arrangement Description	--				
Camless Valvetrain Indicator	No	Oil Viscosity/Classification	SAE 0W20				
Number of Cylinders/Rotors	4	Mechanically Variable Compression Ratio Indicator	N				

Certification Summary Information Report

Test Group		VHYXT02.5VR3		Evaporative/Refueling Family		VHYXR0145VRG					
After Treatment Device(s) (ATD)											
ATD Number		ATD Type		ATD Precious Metal		Substrate Material		Substrate Construction			
1		Three-way catalyst		Platinum + Palladium + Rhodium		Ceramic		Monolith			
2		Three-way catalyst		Platinum + Rhodium		Ceramic		Monolith			
Mfr After Treatment Device (ATD) Comments											
		--									
Direct Ozone Reduction (DOR) Device											
		Not Equipped									
Mfr Emission Control Device Comments											
		--									
Engine Configuration Number 1											
Engine Displacement (liters)		2.5		Engine Rated Horsepower		191					
Number of Inlet Valves Per Cylinder		2		Number of Exhaust Valves Per Cylinder		2					
Air Aspiration Method		Naturally Aspirated		Number of Air Aspiration Devices		--					
Air Aspiration Device Configuration		--		Charge Air Cooler Type		--					
Air Aspiration Drive Method(s)		Mechanical									
Cylinder Deactivation		No									
Cylinder Deactivation Description		--									
Variable Valve Timing		Yes									
Variable Valve Timing System Description		E-CVVT is an electric device that improve fuel efficiency and reduce toxic exhaust gas by allowing the timing of the intake valves to be changed while the engine is on opration.									
Variable Valve Lift?		No									
Variable Valve Lift System Description		--									
Number of Knock Sensors		1		Number of Air/Fuel Sensors		2					
Air/Fuel Sensor # 1 Type		Heated oxygen		Air/Fuel Sensor # 1 Description		--					
Air/Fuel Sensor # 2 Type		Other		Air/Fuel Sensor # 2 Description		WR-HO2S					
Mfr Air/Fuel Sensor Comments		--									
Exhaust Gas Recirculation		Yes		Cooled Exhaust Gas Recirculation		Yes					
EGR Type		Electronic/Electric		Exhaust Gas Recirculation Description if 'Other'		--					
Closed Loop Air Injection System		No		Air Injection Type if 'Other'		--					
Air Injection Type		--									
Mfr Engine Configuration Comments		--									
Official Test Numbers											
Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Gasoline		SHYX91005885	SHYX91005883	SHYX10084674	SHYX10084675	SHYX91005884	106.6	228.2	999.9	286.1	--

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
SFTP LEV-III Official Test Numbers			
Test Group Fuel	FTP	US06	SC03
Gasoline	SHYX91005885	SHYX91005883	SHYX10084674

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG						
Emission Data Vehicle Information									
Vehicle ID / Configuration	NO1U5HG002A / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	SHYXT02.5VR3	Original Evaporative/Refueling Family	SHYXR0145VRG						
Original Test Vehicle Model Year	2025								
Vehicle Model									
Represented Test Vehicle Make	HYUNDAI	Represented Test Vehicle Model	Santa Cruz						
Leak Family Details									
Leak Family Identifier	NX4	Leak Family Name	SHYXR0145VRG-NX4						
Drive Sources and Fuel System Details									
	<table border="1"> <tr> <th>Drive Source and Fuel#</th><th>Drive Source</th><th>Fuel</th></tr> <tr> <td>1</td><td>Combustion Engine</td><td>Gasoline</td></tr> </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	0	Odometer Correction Factor	0.9813						
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles								
Odometer Correction Units	Miles								
Engine Code	G4KN-AC	Rated Horsepower	191						
Displacement (liters)	2.5								
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)	4049	Equivalent Test Weight (pounds)	4250						
GVWR (lbs)	5665	N/V Ratio	30.3						
Axle Ratio	4.08								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creep Gear	No						

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family		VHYXR0145VRG	
Dynamometer Coefficients:								
Target Coefficients				Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients	
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	29.828	0.40332	0.023776	11.731	0.21988	0.024378	14.6	
Cold CO	32.811	0.44365	0.026154	9.046	0.12554	0.027058	N/A	
US06	29.828	0.40332	0.023776	11.731	0.21988	0.024378	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		25MY NX4 OB 2.5 8AT AWD 18in (EDV)						

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX10084675	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	01/26/2024	Fuel	Gasoline
Fuel Batch ID	22D-01	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4517	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	425	--
FE BAG 1 (Bag 1 Fuel Economy)	20.3	20.3
CO2 BAG 2 (Bag 2 Carbon Dioxide)	353	--
FE BAG 2 (Bag 2 Fuel Economy)	24.5	24.5
CO2 BAG 3 (Bag 3 Carbon Dioxide)	295	--
FE BAG 3 (Bag 3 Fuel Economy)	29.3	29.3
CO (Carbon Monoxide)	0.24	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.13	--
DT-EER (Drive Trace Energy Economy Rating)	-1.26	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.38	--
MFR FE (Manufacturer Fuel Economy)	24.6	24.6
HC-NM (Non-methane Hydrocarbon)	0.014	--
HC-TOTAL (Total Hydrocarbon)	0.017	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	352	--

Manufacturer Test Comments NX4 OB PE 2.5 8SA AWD 18in ETW 4250 (EDV) E10 20FTP

Certification Summary Information Report

Test Group		VHYXT02.5VR3				Evaporative/Refueling Family				VHYXR0145VRG		
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	0.24	--	--	--	0.02	--	0.3	12.5	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.01	--	--	--	0.0032	--	0.0	0.3	Pass
CA	50,000 miles	California LEV-IV SULEV30	CO	0.24	--	--	--	0.02	--	0.3	12.5	Pass

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX10084676	Test Procedure	52 - Fed. fuel 50 F exh.
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/10/2024	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4131	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
CO (Carbon Monoxide)	0.24	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.96	--
DT-EER (Drive Trace Energy Economy Rating)	-0.03	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.49	--
NOX (Nitrogen Oxide)	0.0038	--
NMOG (Non-methane organic gases)	0.0068	--

Manufacturer Test Comments

NX4 OB PE 2.5 8SA AWD 18in ETW 4250 (EDV) E10 US06

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	4,000 miles	California LEV-IV SULEV30	CO	0.24	--	--	--	0	--	0.2	1.0	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG	0.0068	--	1.10	--	0	--	0.007	99.999	Pass
CA	4,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0106	--	1.10	--	--	--	0.011	0.060	Pass
CA	4,000 miles	California LEV-IV SULEV30	NOX	0.0038	--	--	--	0	--	0.004	99.999	Pass

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX91005862	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	04/10/2024	Fuel	Gasoline
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4910	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	330.89151	--
FE BAG 1 (Bag 1 Fuel Economy)	26.8496571	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	334.186554	--
FE BAG 2 (Bag 2 Fuel Economy)	26.6535683	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	307.5887451	--
FE BAG 3 (Bag 3 Fuel Economy)	28.9498768	--
METHANE (CH4 - Methane)	0.0031951	--
CO (Carbon Monoxide)	0.2333157	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.5145117	--
DT-EER (Drive Trace Energy Economy Rating)	-0.1298543	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.3683414	--
MFR FE (Manufacturer Fuel Economy)	27.2884426	--
NOX (Nitrogen Oxide)	0.0073553	--
N2O (Nitrous Oxide)	0.0002368	--
HC-NM (Non-methane Hydrocarbon)	0.0055861	--
NMOG (Non-methane organic gases)	0.0058096	--
PM (Particulate Matter)	0.0007347	--
HC-TOTAL (Total Hydrocarbon)	0.0087366	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	9999.9999999	326

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family				VHYXR0145VRG			
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		326.2099304			--					
Manufacturer Test Comments		None										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	326	--	--	--	0.114474	--	326	--	--
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0032	--	--	--	0.0030	--	0.006	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	N2O	0.0002	--	--	--	0.0002	--	0.000	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.23	--	--	--	0.06	--	0.3	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0058	--	1.10	--	0.0044	--	0.010	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0132	--	1.10	--	--	--	0.020	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0074	--	--	--	0.0028	--	0.010	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0007	--	--	--	0.0001	--	0.001	0.003	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.23	--	--	--	0.06	--	0.3	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0058	--	1.10	--	0.0044	--	0.010	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0132	--	1.10	--	--	--	0.020	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0074	--	--	--	0.0028	--	0.010	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0007	--	--	--	0.0001	--	0.001	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

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX91005885	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	04/23/2024	Fuel	Gasoline
Fuel Batch ID	28637	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4957	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	333.3995972	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	339.3508911	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	307.7386475	--
FE BAG 3 (Bag 3 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0032272	--
CO (Carbon Monoxide)	0.1848223	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	3.5562775	--
DT-EER (Drive Trace Energy Economy Rating)	1.1031802	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	5.3650088	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.0072173	--
N2O (Nitrous Oxide)	0.0001894	--
HC-NM (Non-methane Hydrocarbon)	0.0039438	--
NMOG (Non-methane organic gases)	0.0043318	--
PM (Particulate Matter)	0.0007147	--
HC-TOTAL (Total Hydrocarbon)	0.0071817	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	9999.9999999	999

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family				VHYXR0145VRG																			
<table><tr><td colspan="2">Test Result Name</td><td colspan="3">Unrounded Test Result</td><td colspan="3">Verify Calculated CO2</td></tr><tr><td colspan="2">Carbon dioxide</td><td colspan="3">329.4220886</td><td colspan="3">--</td></tr></table>													Test Result Name		Unrounded Test Result			Verify Calculated CO2			Carbon dioxide		329.4220886			--		
Test Result Name		Unrounded Test Result			Verify Calculated CO2																							
Carbon dioxide		329.4220886			--																							
Manufacturer Test Comments		None Unrounded Result for the following test results were modified by Verify: MFR FE, FE BAG 2, FE BAG 3, FE BAG 1																										
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	--	--	--	0.114474	--	999	--	--																
Fed	120,000 miles	Federal Tier 3 Bin 30	METHANE	0.0032	--	--	--	0.0030	--	0.006	0.030	Pass																
Fed	120,000 miles	Federal Tier 3 Bin 30	N2O	0.0002	--	--	--	0.0002	--	0.000	0.010	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.18	--	--	--	0.06	--	0.2	1.0	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.26	--	--	--	0	--	0.3	4.2	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0043	--	1.10	--	0.0044	--	0.009	99.999	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0115	--	1.10	--	--	--	0.019	0.030	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0188	--	--	--	0	--	0.019	0.030	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0072	--	--	--	0.0028	--	0.010	99.999	Pass																
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0007	--	--	--	0.0001	--	0.001	0.003	Pass																
CA	150,000 miles	California LEV-IV SULEV30	CO	0.18	--	--	--	0.06	--	0.2	1.0	Pass																
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0043	--	1.10	--	0.0044	--	0.009	99.999	Pass																
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0115	--	1.10	--	--	--	0.019	0.030	Pass																
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0072	--	--	--	0.0028	--	0.010	99.999	Pass																
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0007	--	--	--	0.0001	--	0.001	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

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX91005861	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	04/10/2024	Fuel	Gasoline
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4921	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
METHANE (CH4 - Methane)	0.0006731	--	
CO (Carbon Monoxide)	0.048989	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	4.6472192	--	
DT-EER (Drive Trace Energy Economy Rating)	0.230518	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	6.1643901	--	
MFR FE (Manufacturer Fuel Economy)	41.0089951	--	
NOX (Nitrogen Oxide)	0.0024904	--	
N2O (Nitrous Oxide)	0.000017	--	
HC-NM (Non-methane Hydrocarbon)	0.0001062	--	
NMOG (Non-methane organic gases)	0.0001104	--	
HC-TOTAL (Total Hydrocarbon)	0.0007699	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	9999.9999999	217	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	217.2515106	--	
Manufacturer Test Comments	None		

Certification Summary Information Report

Test Group		VHYXT02.5VR3				Evaporative/Refueling Family				VHYXR0145VRG		
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	217	--	--	--	0.114474	--	217	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0001	--	1.03	--	0.0044	--	0.004	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0026	--	1.03	--	--	--	0.010	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0025	--	--	--	0.0028	--	0.005	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0001	--	1.03	--	0.0044	--	0.004	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0026	--	1.03	--	--	--	0.010	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0025	--	--	--	0.0028	--	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

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX91005884	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	04/23/2024	Fuel	Gasoline
Fuel Batch ID	28637	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4968	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
METHANE (CH4 - Methane)	0.0006623	--	
CO (Carbon Monoxide)	0.0515342	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	8.9349976	--	
DT-EER (Drive Trace Energy Economy Rating)	0.5852338	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	11.74335	--	
MFR FE (Manufacturer Fuel Economy)	40.2504311	--	
NOX (Nitrogen Oxide)	0.0027592	--	
N2O (Nitrous Oxide)	0	--	
HC-NM (Non-methane Hydrocarbon)	0.0000364	--	
NMOG (Non-methane organic gases)	0.0000375	--	
HC-TOTAL (Total Hydrocarbon)	0.000701	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	9999.9999999	999	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	215.3572845	--	
Manufacturer Test Comments	None		

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family					VHYXR0145VRG		
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	--	--	--	0.114474	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0000	--	1.03	--	0.0044	--	0.004	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0028	--	1.03	--	--	--	0.010	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0028	--	--	--	0.0028	--	0.006	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0000	--	1.03	--	0.0044	--	0.004	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0028	--	1.03	--	--	--	0.010	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0028	--	--	--	0.0028	--	0.006	99.999	Pass

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

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX91005883	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	04/23/2024	Fuel	Gasoline
Fuel Batch ID	28637	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4988	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	572.453186	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	291.5515442	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0018085	--
CO (Carbon Monoxide)	0.2325901	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-3.402982	--
DT-EER (Drive Trace Energy Economy Rating)	-1.8348287	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-6.8350697	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.0074056	--
N2O (Nitrous Oxide)	0.0003682	--
HC-NM (Non-methane Hydrocarbon)	0.0049182	--
NMOG (Non-methane organic gases)	0.0050658	--
PM (Particulate Matter)	0.0006315	--
HC-TOTAL (Total Hydrocarbon)	0.0067327	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	353.9934387	--

Manufacturer Test Comments

None Unrounded Result for the following test results were modified by Verify: FE BAG 2, MFR FE, FE BAG 1

Certification Summary Information Report

Test Group		VHYXT02.5VR3				Evaporative/Refueling Family				VHYXR0145VRG		
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	0.2326	--	--	--	0.06	--	0.293	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0051	--	1.03	--	0.0044	--	0.010	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0074	--	--	--	0.0028	--	0.010	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0006	--	--	--	0.0001	--	0.001	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.23	--	--	--	0.06	--	0.3	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0051	--	1.03	--	0.0044	--	0.010	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0125	--	--	--	--	--	0.020	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0074	--	--	--	0.0028	--	0.010	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0006	--	--	--	0.0001	--	0.001	0.006	Pass

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	SHYX10084674	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/09/2024	Fuel	Gasoline
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4116	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO (Carbon Monoxide)	0.2	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.44	--
DT-EER (Drive Trace Energy Economy Rating)	0.39	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.98	--
MFR FE (Manufacturer Fuel Economy)	21.5	21.5
NOX (Nitrogen Oxide)	0.008	--
NMOG (Non-methane organic gases)	0.0031	--
HC-TOTAL (Total Hydrocarbon)	0.004	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	389	--

Manufacturer Test Comments

NX4 OB PE 2.5 8SA AWD 18in ETW 4250 (EDV) E10 SC03

Certification Summary Information Report

Test Group		VHYXT02.5VR3				Evaporative/Refueling Family				VHYXR0145VRG		
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	0.2000	--	--	--	0.06	--	0.260	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0031	--	1.03	--	0.0044	--	0.008	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0080	--	--	--	0.0028	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.20	--	--	--	0.06	--	0.3	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0031	--	1.03	--	0.0044	--	0.008	99.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0111	--	--	--	--	--	0.018	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0080	--	--	--	0.0028	--	0.011	99.999	Pass

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG					
Emission Data Vehicle Information								
Vehicle ID / Configuration	NX4OA7H5GA006A / 0	Manufacturer Vehicle Configuration Number	0					
Original Test Group Name	VHYXT02.5VR3	Original Evaporative/Refueling Family	VHYXR0145VRG					
Original Test Vehicle Model Year	2027							
Vehicle Model								
Represented Test Vehicle Make	HYUNDAI	Represented Test Vehicle Model	Santa Cruz					
Leak Family Details								
Leak Family Identifier	NX4	Leak Family Name	VHYXR0145VRG-NX4					
Drive Sources and Fuel System Details								
	<table border="1"> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </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	0	Odometer Correction Factor	0.9994					
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles							
Odometer Correction Units	Miles							
Engine Code	G4KN-AC	Rated Horsepower	191					
Displacement (liters)	2.5							
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)	4043	Equivalent Test Weight (pounds)	4250					
GVWR (lbs)	5665	N/V Ratio	30.3					
Axle Ratio	4.08							
Transmission Type	Semi-Automatic	# of Transmission Gears	8					
Transmission Lockup	Yes	Creep Gear	No					
Dynamometer Coefficients:								
	Target Coefficients		Set Coefficients					
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)					
City/Highway/Evap	29.828	0.40332	0.023776					
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)					
	11.562	0.20546	0.024592					
	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients							
	14.6							
Emission Control Device Comments	--							

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG																					
Manufacturer Test Vehicle Comments	27MY NX4 OB 2.5 8AT AWD 18in (QDA EDV)																							
Test #	VHYX10093801	Test Procedure	49 - Quick-Driveway (QD)																					
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)																					
Test Date	03/28/2026	Fuel	Gasoline																					
Fuel Batch ID	25T-03	Fuel Calibration Number	1																					
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined																					
Verify Test Lab ID	772-1, Jangduck-Dong																							
E10 Evaporative Test Measurement Method	--																							
Test Start Odometer Reading	4224	Odometer Units	M																					
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--																					
State of Charge Delta	--																							
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes																					
Test Results																								
<table border="1"> <thead> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td> <td>2.15</td> <td>--</td> </tr> <tr> <td>DT-EER (Drive Trace Energy Economy Rating)</td> <td>0.18</td> <td>--</td> </tr> <tr> <td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td> <td>3.14</td> <td>--</td> </tr> <tr> <td>NOX (Nitrogen Oxide)</td> <td>0.0074</td> <td>--</td> </tr> <tr> <td>HC-NM (Non-methane Hydrocarbon)</td> <td>0.0063</td> <td>--</td> </tr> <tr> <td>NMOG (Non-methane organic gases)</td> <td>0.0069</td> <td>--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.15	--	DT-EER (Drive Trace Energy Economy Rating)	0.18	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.14	--	NOX (Nitrogen Oxide)	0.0074	--	HC-NM (Non-methane Hydrocarbon)	0.0063	--	NMOG (Non-methane organic gases)	0.0069	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)																						
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.15	--																						
DT-EER (Drive Trace Energy Economy Rating)	0.18	--																						
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.14	--																						
NOX (Nitrogen Oxide)	0.0074	--																						
HC-NM (Non-methane Hydrocarbon)	0.0063	--																						
NMOG (Non-methane organic gases)	0.0069	--																						
Manufacturer Test Comments																								
27MY NX4 OB 2.5 AWD 18in ETW 4250 (QDA EDV) E10-QD																								
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	0.0069	--	1.1020	--	0.0056	--	0.012	99.999	Pass												
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0143	--	--	--	--	--	0.026	0.042	Pass												
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0074	--	--	--	0.0060	--	0.013	99.999	Pass												

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG					
Emission Data Vehicle Information								
Vehicle ID / Configuration	MQ4U1H5GA042A / 0	Manufacturer Vehicle Configuration Number	0					
Original Test Group Name	MKMXT02.5JRG5	Original Evaporative/Refueling Family	MKMXR0144JRG					
Original Test Vehicle Model Year	2021							
Vehicle Model								
Represented Test Vehicle Make	Kia	Represented Test Vehicle Model	Sorento					
Leak Family Details								
Leak Family Identifier	MQ4	Leak Family Name	MKMXR0144JRG-MQ4					
Drive Sources and Fuel System Details								
	<table border="1"> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </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	0	Odometer Correction Factor	1					
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor							
Odometer Correction Units	Miles							
Engine Code	G4KN-AC	Rated Horsepower	191					
Displacement (liters)	2.5							
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)	3935	Equivalent Test Weight (pounds)	4250					
GVWR (lbs)	5467	N/V Ratio	31					
Axle Ratio	4.08							
Transmission Type	Semi-Automatic	# of Transmission Gears	8					
Transmission Lockup	Yes	Creep Gear	No					
Dynamometer Coefficients:								
	Target Coefficients		Set Coefficients					
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)					
City/Highway/Evap	28.002	0.5319	0.023241					
	5.556	0.47281	0.022473					
	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients							
	15							
Emission Control Device Comments	--							

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG						
Manufacturer Test Vehicle Comments	MQ4A 2.5 AWD 8AT 18in EVAP-CORRECT CW & GVWR								
Test #	MKMX10065282	Test Procedure	38 - CA fuel 3-day evap.						
Exhaust Test # for this Evap Test	MKMX10065271	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline						
Test Date	05/28/2020	Fuel	Gasoline						
Fuel Batch ID	19E-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4130	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.2474</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.2474	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.2474	--							
Manufacturer Test Comments									
21MY MQ4a 2.5 18"(ETW:4250)-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	0.2474	0	0.247	0.400	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2474	0	0.247	0.400	Pass	

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	MKMX10065284	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	MKMX10065272	Test Fuel Type	46 - CARB LEV3 E10 Regular
Test Date	04/25/2020	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4062	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.2346	--

Manufacturer Test Comments

21MY MQ4a 2.5 18"(ETW:4250) CA E10-2DBL

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.2346	0	0.235	0.400	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2346	0	0.235	0.400	Pass

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG						
Test #	MKMX10065283	Test Procedure	24 - Federal fuel refueling test (ORVR)						
Exhaust Test # for this Evap Test	MKMX10065273	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	04/22/2020	Fuel	Gasoline						
Fuel Batch ID	19T-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4043	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.008</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.008	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.008	--							
Manufacturer Test Comments									
21MY MQ4a 2.5 18"(ETW:4250) FED 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	0.008	0.003	0.01	0.20	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.008	0.003	0.01	0.20	Pass	

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG						
Test #	MKMX10065285	Test Procedure	37 - California Fuel Running Loss						
Exhaust Test # for this Evap Test	MKMX10065271	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline						
Test Date	05/28/2020	Fuel	Gasoline						
Fuel Batch ID	19E-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4130	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.0003</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0003	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0003	--							
Manufacturer Test Comments									
21MY MQ4a 2.5 18"(ETW:4250) 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	0.00	0.05	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.000	0	0.00	0.01	Pass	

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Test #	MKMX10065287	Test Procedure	65 - Evap Canister Bleed Test
Exhaust Test # for this Evap Test	--	Test Fuel Type	46 - CARB LEV3 E10 Regular
Test Date	05/15/2020	Fuel	Gasoline
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4092	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.0099	--

Manufacturer Test Comments

21MY MQ4a 2.5 18"(ETW:4250) CA E10-Bleed-correct E10 evap test measurement method

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	0.0099	0	0.010	0.020	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL	0.0099	0	0.010	0.020	Pass

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG						
Test #	MKMX10065286	Test Procedure	68 - Leak Test - Port Near Fuel Pipe						
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	06/02/2020	Fuel	Gasoline						
Fuel Batch ID	19T-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	--								
Test Start Odometer Reading	4131	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
	<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated FE Equivalent Value</td></tr><tr><td>LEAK-DIA (Effective Leak Diameter (inches))</td><td>0</td><td>--</td></tr></table>			Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value	LEAK-DIA (Effective Leak Diameter (inches))	0	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value							
LEAK-DIA (Effective Leak Diameter (inches))	0	--							
Manufacturer Test Comments	21MY MQ4a 2.5 18"(ETW:4250) FED E10-Leak Test Port Near Fuel Pipe								
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.0000	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	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG						
Test #	MKMX10065288	Test Procedure	67 - Leak Test - Port Near Canister						
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	06/02/2020	Fuel	Gasoline						
Fuel Batch ID	19T-03	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	772-1, Jangduck-Dong								
E10 Evaporative Test Measurement Method	--								
Test Start Odometer Reading	4131	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <td>Test Result Name</td> <td>Unrounded Test Result</td> <td>Verify Calculated FE Equivalent Value</td> </tr> <tr> <td>LEAK-DIA (Effective Leak Diameter (inches))</td> <td>0</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value	LEAK-DIA (Effective Leak Diameter (inches))	0	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value							
LEAK-DIA (Effective Leak Diameter (inches))	0	--							
Manufacturer Test Comments									
21MY MQ4a 2.5 18"(ETW:4250) FED E10-Leak Test Port Near Canister									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.0000	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	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Fuel Properties			
Fuel Batch ID	29351	Fuel Calibration Number	1
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	05/03/2023
Fuel Batch Calibration Effective Date	05/03/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.742
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18439
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.867	Weight Fraction CO2	--
Fuel Batch ID	25T-03	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	06/19/2025
Fuel Batch Calibration Effective Date	07/23/2025	Fuel Batch Calibration Ineffective Date	07/23/2028
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.495	Fuel Carbon Mass Fraction (E10)	0.828
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	Weight Fraction CO2	--
Fuel Batch ID	19T-03	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	08/22/2019
Fuel Batch Calibration Effective Date	04/13/2020	Fuel Batch Calibration Ineffective Date	04/13/2023
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17949
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	Weight Fraction CO2	--
Fuel Batch ID	22D-01	Fuel Calibration Number	1
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	07/29/2021
Fuel Batch Calibration Effective Date	05/10/2022	Fuel Batch Calibration Ineffective Date	05/10/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
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	--
Fuel Batch ID	23T-01	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	09/29/2022
Fuel Batch Calibration Effective Date	08/07/2023	Fuel Batch Calibration Ineffective Date	08/07/2026
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.74
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18779
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.824	Weight Fraction CO2	--
Fuel Batch ID	19E-03	Fuel Calibration Number	1
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	08/08/2019
Fuel Batch Calibration Effective Date	10/29/2019	Fuel Batch Calibration Ineffective Date	10/29/2022
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.75
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17917
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--
Fuel Batch ID	28637	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	08/26/2021
Fuel Batch Calibration Effective Date	08/26/2021	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.75
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17894
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--

Certification Summary Information Report

Test Group	VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family			VHYXR0145VRG		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			US06		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.06	9.6	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0044	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999	
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.006	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			SC03		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0044	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.030	
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure			Fed. fuel 50 F exh.		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
4,000 miles	CO	--	--	--	--	--	--	0	1.0	
4,000 miles	HCHO	--	--	--	--	--	--	--	0.008	
4,000 miles	NMOG	--	--	1.10	--	--	--	0	99.999	
4,000 miles	NMOG+NOX	--	--	1.10	--	--	--	0	0.060	
4,000 miles	NOX	--	--	--	--	--	--	0	99.999	

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family			VHYXR0145VRG	
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			Cold CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.02	12.5
120,000 miles	HC-NM	--	--	--	--	--	--	0.0032	0.3

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			SC03	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.06	99.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0044	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			Cold CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.02	12.5

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			HWFE	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.114474	999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0044	99.999
150,000 miles	NMOG+NOX	--	--	1.03	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family		VHYXR0145VRG		
Cert Region		California + CAA Section 177 states			Cert/In-Use Code		Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level		California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure		Federal fuel 2-day exhaust (w/can load)		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0044	99.999
150,000 miles	NMOG+NOX	--	--	1.10	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.003
Cert Region		Federal			Cert/In-Use Code		Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level		Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure		Federal fuel 2-day exhaust (w/can load)		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.114474	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0030	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0002	0.010
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0044	99.999
150,000 miles	NMOG+NOX	--	--	1.10	--	--	--	0	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.003

Certification Summary Information Report

Test Group		VHYXT02.5VR3			Evaporative/Refueling Family			VHYXR0145VRG	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			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	--	--	1.1020	--	--	--	0.0056	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.042
150,000 miles	NOX	--	--	--	--	--	--	0.0060	99.999

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			US06	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.06	99.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0044	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.006

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			HWFE	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0044	99.999
150,000 miles	NMOG+NOX	--	--	1.03	--	--	--	0	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0028	99.999

Evaporative/Refueling Standards

Certification Summary Information Report

Test Group		VHYXT02.5VR3		Evaporative/Refueling Family		VHYXR0145VRG	
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		California fuel 2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Leak Test - Port Near Canister					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Evap Canister Bleed Test					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Leak Test - Port Near Fuel Pipe					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0		

Certification Summary Information Report

Test Group		VHYXT02.5VR3		Evaporative/Refueling Family		VHYXR0145VRG	
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California fuel 2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.003		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.01	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Leak Test - Port Near Canister					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.020	0		

Certification Summary Information Report

Test Group		VHYXT02.5VR3		Evaporative/Refueling Family		VHYXR0145VRG	
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Evap Canister Bleed Test					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Leak Test - Port Near Fuel Pipe					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.003		
Evaporative/Refueling Family		VHYXR0145VRG		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0		

Certification Summary Information Report

Test Group		VHYXT02.5VR3	Evaporative/Refueling Family	VHYXR0145VRG
Glossary				
Useful Life				
4	4,000 miles	120	120,000 miles	
50	50,000 miles	150	150,000 miles	
100	100,000 miles			
Emission Name				
HC-TOTAL	Total Hydrocarbon	COMB-CREE	Combined Carbon-Related Exhaust Emissions	
CO	Carbon Monoxide	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
CO2	Carbon dioxide	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
CREE	Carbon-Related Exhaust Emissions	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
OPT-CREE	Optional Carbon-Related Exhaust Emissions	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
NOX	Nitrogen Oxide	LEAK-DIA	Effective Leak Diameter (inches)	
PM	Particulate Matter	LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
PM-COMP	SFTP Composite Particulate Matter	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
HC-NM	Non-methane Hydrocarbon	KW-HRS	Integrated DC KW-HRS	
OMHCE	Organic material Hydrocarbon Equivalent	CH4 BAG 1	Bag 1 Methane	
OMNMHCE	Organic material non-methane HC equivalent	CH4 BAG 2	Bag 2 Methane	
NMOG	Non-methane organic gases	CH4 BAG 3	Bag 3 Methane	
HCHO	Formaldehyde	CH4 BAG 4	Bag 4 Methane	
H3C2HO	Acetaldehyde	CO BAG 1	Bag 1 Carbon Monoxide	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO BAG 2	Bag 2 Carbon Monoxide	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	CO BAG 3	Bag 3 Carbon Monoxide	
CO-COMP	SFTP Composite Carbon Monoxide	CO BAG 4	Bag 4 Carbon Monoxide	
ETHANOL	C2H5OH - Ethanol	NMOG BAG 1	Bag 1 Non-methane organic gases	
FE BAG 1	Bag 1 Fuel Economy	NMOG BAG 2	Bag 2 Non-methane organic gases	
FE BAG 2	Bag 2 Fuel Economy	NMOG BAG 3	Bag 3 Non-methane organic gases	
FE BAG 3	Bag 3 Fuel Economy	NMOG BAG 4	Bag 4 Non-methane organic gases	
FE BAG 4	Bag 4 Fuel Economy	ACT-DISTANCE BAG 1	Bag 1 Actual Distance	
MFR FE	Manufacturer Fuel Economy	ACT-DISTANCE BAG 2	Bag 2 Actual Distance	
HC	Hydrocarbon for Running Loss and ORVR	ACT-DISTANCE BAG 3	Bag 3 Actual Distance	
METHANE	CH4 - Methane	ACT-DISTANCE BAG 4	Bag 4 Actual Distance	
METHANOL	CH3OH - Methanol	HC-TOTAL BAG 1	Bag 1 Total Hydrocarbon	
N2O	Nitrous Oxide	HC-TOTAL BAG 2	Bag 2 Total Hydrocarbon	
SPITBACK	Spitback Hydrocarbon in grams	HC-TOTAL BAG 3	Bag 3 Total Hydrocarbon	
AMP-HRS	Integrated Amp-hours	HC-TOTAL BAG 4	Bag 4 Total Hydrocarbon	
START-SOC	System Start State of Charge Watt-hours	WATT-HRS BAG 1	Bag 1 Watt Hours	
END-SOC	System End State of Charge Watt-hours	WATT-HRS BAG 2	Bag 2 Watt Hours	

Certification Summary Information Report

Test Group		VHYXT02.5VR3	Evaporative/Refueling Family		VHYXR0145VRG
ACT-DISTANCE	Actual Distance Driven (miles)		WATT-HRS BAG 3	Bag 3 Watt Hours	
AS-VOLT	Average System Voltage		WATT-HRS BAG 4	Bag 4 Watt Hours	
CO2 BAG 1	Bag 1 Carbon Dioxide		WATT-HRS	Watt Hours	
CO2 BAG 2	Bag 2 Carbon Dioxide		HC-NM BAG 1	Bag 1 Non-methane Hydrocarbon	
CO2 BAG 3	Bag 3 Carbon Dioxide		HC-NM BAG 2	Bag 2 Non-methane Hydrocarbon	
CO2 BAG 4	Bag 4 Carbon Dioxide		HC-NM BAG 3	Bag 3 Non-methane Hydrocarbon	
NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		HC-NM BAG 4	Bag 4 Non-methane Hydrocarbon	
NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		N2O BAG 1	Bag 1 Nitrous Oxide	
DT-IWRR	Drive Trace Inertia Work Ratio Rating		N2O BAG 2	Bag 2 Nitrous Oxide	
DT-ASCR	Drive Trace Absolute Speed Change Rating		N2O BAG 3	Bag 3 Nitrous Oxide	
DT-EER	Drive Trace Energy Economy Rating		N2O BAG 4	Bag 4 Nitrous Oxide	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
B2	Federal Tier 2 Bin 2		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
B3	Federal Tier 2 Bin 3		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
B4	Federal Tier 2 Bin 4		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
B5	Federal Tier 2 Bin 5		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
B6	Federal Tier 2 Bin 6		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
B7	Federal Tier 2 Bin 7		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
B8	Federal Tier 2 Bin 8		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
B9	Federal Tier 2 Bin 9		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
B10	Federal Tier 2 Bin 10		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
B11	Federal Tier 2 Bin 11		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2	California LEV-II LEV		L4SULEV100	California LEV-IV SULEV100	
L2OP	California LEV-II LEV Optional		L4SULEV125	California LEV-IV SULEV125	
U2	California LEV-II ULEV		L4SULEV15	California LEV-IV SULEV15	
S2	California LEV-II SULEV		L4SULEV150	California LEV-IV SULEV150	
ZEV	California ZEV		L4SULEV170	California LEV-IV SULEV170	
OT	Other		L4SULEV175	California LEV-IV SULEV175	
T1	Federal Tier 1		L4SULEV20	California LEV-IV SULEV20	
PZEV	California PZEV		L4SULEV200	California LEV-IV SULEV200	
L2LEV160	California LEV-II LEV160		L4SULEV230	California LEV-IV SULEV230	
L2ULEV125	California LEV-II ULEV125		L4SULEV25	California LEV-IV SULEV25	
L2SULEV30	California LEV-II SULEV30		L4SULEV30	California LEV-IV SULEV30	
L2LEV395	California LEV-II LEV395		L4SULEV75	California LEV-IV SULEV75	

Certification Summary Information Report

Test Group		VHYXT02.5VR3	Evaporative/Refueling Family		VHYXR0145VRG
L2ULEV340	California LEV-II ULEV340		L4SULEV85	California LEV-IV SULEV85	
L2LEV630	California LEV-II LEV630		L4ULEV125	California LEV-IV ULEV125	
L2ULEV570	California LEV-II ULEV570		L4ULEV200	California LEV-IV ULEV200	
L3LEV160	California LEV-III LEV160		L4ULEV250	California LEV-IV ULEV250	
L3ULEV125	California LEV-III ULEV125		L4ULEV270	California LEV-IV ULEV270	
L3ULEV70	California LEV-III ULEV70		L4ULEV40	California LEV-IV ULEV40	
L3ULEV50	California LEV-III ULEV50		L4ULEV400	California LEV-IV ULEV400	
L3SULEV30	California LEV-III SULEV30		L4ULEV50	California LEV-IV ULEV50	
L3SULEV20	California LEV-III SULEV20		L4ULEV60	California LEV-IV ULEV60	
L3LEV395	California LEV-III LEV395		L4ULEV70	California LEV-IV ULEV70	
L3ULEV340	California LEV-III ULEV340		T4B170	Federal Tier 4 MDV Bin 170	
L3ULEV250	California LEV-III ULEV250		T4B150	Federal Tier 4 MDV Bin 150	
L3ULEV200	California LEV-III ULEV200		T4B125	Federal Tier 4 MDV Bin 125	
L3SULEV170	California LEV-III SULEV170		T4B100	Federal Tier 4 MDV Bin 100	
L3SULEV150	California LEV-III SULEV150		T4B85	Federal Tier 4 MDV Bin 85	
L3LEV630	California LEV-III LEV630		T4B75	Federal Tier 4 MDV Bin 75	
L3ULEV570	California LEV-III ULEV570		T4B70	Federal Tier 4 Bin 70	
L3ULEV400	California LEV-III ULEV400		T4B65	Federal Tier 4 Bin 65	
L3ULEV270	California LEV-III ULEV270		T4B60	Federal Tier 4 Bin 60	
L3SULEV230	California LEV-III SULEV230		T4B55	Federal Tier 4 Bin 55	
L3SULEV200	California LEV-III SULEV200		T4B50	Federal Tier 4 Bin 50	
T3B160	Federal Tier 3 Bin 160		T4B45	Federal Tier 4 Bin 45	
T3B125	Federal Tier 3 Bin 125		T4B40	Federal Tier 4 Bin 40	
T3B110	Federal Tier 3 Transitional Bin 110		T4B35	Federal Tier 4 Bin 35	
T3B85	Federal Tier 3 Transitional Bin 85		T4B30	Federal Tier 4 Bin 30	
T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover		T4B25	Federal Tier 4 Bin 25	
T3B70	Federal Tier 3 Bin 70		T4B20	Federal Tier 4 Bin 20	
T3B50	Federal Tier 3 Bin 50		T4B15	Federal Tier 4 Bin 15	
T3B30	Federal Tier 3 Bin 30		T4B10	Federal Tier 4 Bin 10	
T3B20	Federal Tier 3 Bin 20		T4B5	Federal Tier 4 Bin 5	
T3B0	Federal Tier 3 Bin 0		T4B0	Federal Tier 4 Bin 0	
HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395				
Transmission Type Code					
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual		
A	Automatic	OT	Other		
AM	Automated Manual	SA	Semi-Automatic		
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)		
Drive System Code					
4	4-Wheel Drive	P	Part-time 4-Wheel Drive		

Certification Summary Information Report

Test Group		VHYXT02.5VR3	Evaporative/Refueling Family		VHYXR0145VRG
F	2-Wheel Drive, Front		A	All Wheel Drive	
R	2-Wheel Drive, Rear				
Additional Terms and Acronyms					
AFC	Alternative Fuel Converter		ICI	Independent Commercial Importer	
CSI	Certificate Summary Information		ORVR	Onboard Refueling Vapor Recovery	
DF	Deterioration Factor		SIL	Shift Indicator Light	
Evap	Evaporation, Evaporative		Trans	Transmission	