

Certification Summary Information Report

Manufacturer	Mercedes Benz	Manufacturer Code	MBX
Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Certificate Number	VMBXV04.0HY1-017	CARB Executive Order #	--
Certificate Issue Date	07/07/2026	Certificate Revision Date	--
Certificate Effective Date	07/07/2026	Conditional Certificate	No
CSI Revision #	--	CSI Submission/Revision Date	07/02/2026 09:41:58 AM
Model Year	2027		

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
-------------------	--------------	-------------------------------------	--------------

Test Group Information

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

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

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

Drive Source #2: Combustion Engine

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

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	No
Fuel Cell Indicator	No	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	VMBXHHGNNB16	Durability Group Equivalency Factor	0.7
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	07/15/2026	CAP2000 Conditional Certificate?	No
Independent Commercial Importer?	No	Alternative Fuel Converter Certificate?	No
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	No
SFTP LEV-III Composite Compliance Indicator	Yes		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VMBXV04.0HY1
Test Group OBD Compliance Level	Partial - with deficiencies and penalty	Number of Test Group OBD Deficiencies	2
OBD Deficiencies Comments	OBD Reference No. E-26-080		
Mfr Test Group Comments	TestGroup qualifies for Derived-5-Cycle Approach: City Litmus Threshold: 14.8 mpg, City FE 15.2 mpg - PASS / HWY Litmus Threshold: 23.1 mpg, HWY FE: 25.9 mpg - PASS ; Sales: Federal = Nationwide (50 states); CA = CA+ 177 States		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
-------------------	--------------	-------------------------------------	--------------

Evaporative/Refueling Family Information			
Evaporative Summary Information Type	New	Submission/Correction Date	03/18/2026 06:04:18 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?	No	Air Intake System Vapor Storage Device Description	--
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	163	Number of Primary Canisters	1
Number of Bleed Canisters	1	Bleed Canister Total Working Capacity (grams)	4
Mfr Evaporative/Refueling Family Comments	Evap family 170LNS for three 223 S-class models w/ ICE except Maybach S 680 4MATIC and S 580e 4MATIC PHEV (NIRCOS)		

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	Bleed canister integrated in primary canister; cert result: 0.008 g/test; MMBX10068170		
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
VMBXR0170LNS-LNS	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
Mercedes Benz	1 - Mercedes-Benz	806 - S 580 4MATIC	Federal	All Wheel Drive	Automatic	9	Yes
Mercedes Benz	1 - Mercedes-Benz	806 - S 580 4MATIC	California + CAA Section 177 states	All Wheel Drive	Automatic	9	Yes
Mercedes Benz	1 - Mercedes-Benz	805 - S 580 4MATIC Maybach	Federal	All Wheel Drive	Automatic	9	Yes
Mercedes Benz	1 - Mercedes-Benz	805 - S 580 4MATIC Maybach	California + CAA Section 177 states	All Wheel Drive	Automatic	9	Yes

Engine Description			
Hybrid Type	IC Engine/Electric Motor	Hybrid Description	--
Engine Type	4-Stroke Spark Ignition	Mfr Engine Description	--
Engine Block Arrangement	V-shaped engine	Mfr Engine Block Arrangement Description	--
Camless Valvetrain Indicator	No	Oil Viscosity/Classification	0W20
Number of Cylinders/Rotors	8	Mechanically Variable Compression Ratio Indicator	N

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
After Treatment Device(s) (ATD)			
ATD Number	ATD Type	ATD Precious Metal	Substrate Material
1	Three-way catalyst	Palladium + Rhodium	Ceramic
2	Three-way catalyst	Palladium + Rhodium	Ceramic
3	Other	no coating	Ceramic
4	Three-way catalyst	Platinum + Palladium + Rhodium	Ceramic
Substrate Construction			
Monolith			
Mfr After Treatment Device (ATD) Comments			
ATD #3 = GPF (Gasoline particulate filter)			
Direct Ozone Reduction (DOR) Device			
Not Equipped			
Mfr Emission Control Device Comments			
--			
Engine Configuration Number 1			
Engine Displacement (liters)	4.0	Engine Rated Horsepower	530
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	2
Air Aspiration Device Configuration	Parallel	Charge Air Cooler Type	Liquid
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Allows timing of the intake / exhaust valves to be changed while the engine is in operation		
Variable Valve Lift?	No		
Variable Valve Lift System Description	--		
Number of Knock Sensors	4	Number of Air/Fuel Sensors	4
Air/Fuel Sensor # 1 Type	Heated oxygen	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Heated oxygen	Air/Fuel Sensor # 2 Description	--
Air/Fuel Sensor # 3 Type	Heated oxygen	Air/Fuel Sensor # 3 Description	--
Air/Fuel Sensor # 4 Type	Heated oxygen	Air/Fuel Sensor # 4 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	No
EGR Type	Variable Valve Timing Control	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	Not Applicable	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	--		

Certification Summary Information Report

Test Group		VMBXV04.0HY1				Evaporative/Refueling Family		VMBXR0170LNS			
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		VMBX91006776	VMBX91006777	VMBX10093728	VMBX10093732	VMBX91006778	42.5	15	89.2	23.3	--
Electricity		VMBX91006776	VMBX91006777	VMBX10093728	VMBX10093732	VMBX91006778	--	--	--	--	--
SFTP LEV-III Official Test Numbers											
Test Group Fuel		FTP		US06		SC03					
Gasoline		VMBX91006776		VMBX91006777		VMBX10093728					
Electricity		VMBX91006776		VMBX91006777		VMBX10093728					
Official Charge Depleting Test Numbers											
Test Group Fuel		UDDS		Highway							
Gasoline		--		--							
Hybrid Electric Vehicle And Fuel Cell Information											
Rechargeable Energy Storage System		Battery(s)				Rechargeable Energy Storage System, if Other		--			
Battery Type		Lithium Ion				Number of Battery Packs		1			
Total Voltage of Battery Packs		44				Battery Energy Capacity		17.5			
Battery Specific Energy		57.2				Battery Charger Type		On-Board			
Number of Capacitors		--				Capacitor Rating (In Farads)		--			
Mfr Capacitor Comments		--									
Hydraulic System Description		--									
Regenerative Braking Type		Electrical Regen Brake									
Regenerative Braking Source		Both				Driver Controlled Regenerative Braking		No			
Mfr Regenerative Braking Description		--									
Drive Motor(s)/Generator(s)		1									
Motor/Generator Type 1		permanent synchronous motor				Rated Motor/Generator Power		17			
Mfr Fuel Cell Description		--									
Fuel Cell On-Board H2 Storage Capacity (kg)		--				Usable H2 Fill Capacity (kg)		--			
Mfr Hybrid Electric/ Electric Vehicle Comments		ISG (Integrated-Starter-Generator) Engine with 48V Technology (BB300)									

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS									
Emission Data Vehicle Information												
Vehicle ID / Configuration	V223E40DETC-Z2148 / 0	Manufacturer Vehicle Configuration Number	2									
Original Test Group Name	MMBXV04.0HY1	Original Evaporative/Refueling Family	MMBXR0170LND									
Original Test Vehicle Model Year	2021											
Vehicle Model												
Represented Test Vehicle Make	Mercedes-Benz	Represented Test Vehicle Model	S 580 4MATIC									
Leak Family Details												
Leak Family Identifier	LND	Leak Family Name	MMBXR0170LND-LND									
Drive Sources and Fuel System Details												
<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th><th>Drive Source</th><th>Fuel</th></tr> </thead> <tbody> <tr> <td>1</td><td>Electric Motor</td><td>Electricity</td></tr> <tr> <td>2</td><td>Combustion Engine</td><td>Gasoline</td></tr> </tbody> </table>				Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity	2	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel										
1	Electric Motor	Electricity										
2	Combustion Engine	Gasoline										
Hybrid Indicator	Yes											
Multiple Fuel Storage	--	Multiple Fuel Combustion	--									
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	No									
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--									
Off-board charge Capable Indicator	No											
Odometer Correction -- Initial	95	Odometer Correction Factor	0.9886									
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor											
Odometer Correction Units	Miles											
Engine Code	M176-40DETC	Rated Horsepower	496									
Displacement (liters)	3.982											
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel									
Charge Air Cooler Type	Liquid	Drive Mode While Testing	4-Wheel Drive									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)									
Curb Weight (lbs)	4942	Equivalent Test Weight (pounds)	5250									
GVWR (lbs)	6210	N/V Ratio	19.7									
Axle Ratio	2.65											
Transmission Type	Automatic	# of Transmission Gears	9									
Transmission Lockup	Yes	Creeper Gear	No									

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
-------------------	--------------	-------------------------------------	--------------

Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	62.72	0.0362	0.01903	3.759	0.08354	0.016303	14.9
US06	62.72	0.0362	0.01903	3.759	0.08354	0.016303	N/A

Emission Control Device Comments	Engine: 496 HP combustion and 20 HP electric
Manufacturer Test Vehicle Comments	285/40 R19 ; EVAP testing configuration

Test #	MMBX10068338	Test Procedure	34 - Federal fuel 3-day evap
Exhaust Test # for this Evap Test	MMBX10068336	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	01/26/2021	Fuel	Gasoline
Fuel Batch ID	U21R14	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	3953 Research Park Drive		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4170	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	--	Road Speed Fan Usage	--

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
HC-TOTAL (Total Hydrocarbon)	0.286	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.3092	--

Manufacturer Test Comments	MY2021 (V223) 3Day EVAP Test Result. Hot Soak: 0.1102 g HC-Total-EQUIV. MFR Conducted Confirmatory Testing
-----------------------------------	--

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	0.3092	0	0.309	0.325	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.3092	0	0.309	0.325	Pass

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	MMBX91004730	Test Procedure	23 - 2-day evap
Exhaust Test # for this Evap Test	MMBX91004726	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	03/16/2021	Fuel	Gasoline
Fuel Batch ID	27626	Fuel Calibration Number	2
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4331	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.285436	--

Manufacturer Test Comments

Hot_Soak_HC_(g) = 0.061215, Diurnal (gHC) = 0.224221

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	0.2854	0	0.285	0.325	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2854	0	0.285	0.325	Pass

Certification Summary Information Report

Test Group	VMBXV04.0HY1		Evaporative/Refueling Family		VMBXR0170LNS			
Test #	MMBX10068172		Test Procedure		24 - Federal fuel refueling test (ORVR)			
Exhaust Test # for this Evap Test	MMBX10068171		Test Fuel Type		49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)			
Test Date	12/17/2020		Fuel		Gasoline			
Fuel Batch ID	U21R13		Fuel Calibration Number		1			
Vehicle Class	N/A		DF Type		Mfr. Determined			
Verify Test Lab ID	3953 Research Park Drive							
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)							
Test Start Odometer Reading	3998		Odometer Units		M			
4WD Test Dyno	No		Diesel Adjustment Factor Usage		--			
State of Charge Delta	--							
Drive Cycle Speed Tolerance Criteria	--		Road Speed Fan Usage		--			
Test Results								
Test Result Name			Unrounded Test Result		Verify Calculated FE Equivalent Value			
HC (Hydrocarbon for Running Loss and ORVR)			0.0005		--			
OMHCE (Organic material Hydrocarbon Equivalent)			0.00054		--			
Manufacturer Test Comments								
MY2021 (V223) ORVR EVAP Test Result								
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	OMHCE	0.001	0.016	0.02	0.2	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	OMHCE	0.001	0.016	0.02	0.2	Pass

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	MMBX10068337	Test Procedure	32 - Federal Fuel Running Loss
Exhaust Test # for this Evap Test	MMBX10068336	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	01/26/2021	Fuel	Gasoline
Fuel Batch ID	U21R14	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	3953 Research Park Drive		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4153	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	--	Road Speed Fan Usage	--

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.00035	--

Manufacturer Test Comments

MY2021 (V223) Running Loss Test. Tier 3 E10 fuel. 0.000322 g/mi HC. MFR Conducted Confirmatory Testing

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0	0	0	0.05	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0	0	0	0.05	Pass

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS						
Test #	MMBX10068170	Test Procedure	65 - Evap Canister Bleed Test						
Exhaust Test # for this Evap Test	--	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline						
Test Date	01/14/2019	Fuel	Gasoline						
Fuel Batch ID	--	Fuel Calibration Number	--						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	3953 Research Park Drive								
E10 Evaporative Test Measurement Method	--								
Test Start Odometer Reading	3900	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	No						
Test Results									
<table border="1"> <tr> <td>Test Result Name</td> <td>Unrounded Test Result</td> <td>Verify Calculated FE Equivalent Value</td> </tr> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td> <td>0.008</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value	HC-TOTAL (Total Hydrocarbon)	0.008	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value							
HC-TOTAL (Total Hydrocarbon)	0.008	--							
Manufacturer Test Comments									
BETP conducted at the EVAP canister supplier Kayser in Einbeck, Germany. Therefore vehicle and test lab values are Dummy values only. Three different samples have been tested with test results ranging btw. 6 - 8 mg HC									
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	0.008	0	0.008	0.02	Pass	
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL	0.008	0	0.008	0.02	Pass	

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS									
Emission Data Vehicle Information												
Vehicle ID / Configuration	Z223E40DETC-Z2742 / 0	Manufacturer Vehicle Configuration Number	0									
Original Test Group Name	VMBXV04.0HY1	Original Evaporative/Refueling Family	VMBXR0170LNS									
Original Test Vehicle Model Year	2027											
Vehicle Model												
Represented Test Vehicle Make	Mercedes-Benz	Represented Test Vehicle Model	Maybach S 580									
Leak Family Details												
Leak Family Identifier	--	Leak Family Name	--									
Drive Sources and Fuel System Details												
<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> <tr> <td>2</td> <td>Electric Motor</td> <td>Electricity</td> </tr> </tbody> </table>				Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline	2	Electric Motor	Electricity
Drive Source and Fuel#	Drive Source	Fuel										
1	Combustion Engine	Gasoline										
2	Electric Motor	Electricity										
Hybrid Indicator	Yes											
Multiple Fuel Storage	--	Multiple Fuel Combustion	--									
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes									
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--									
Off-board charge Capable Indicator	Yes											
Odometer Correction -- Initial	34	Odometer Correction Factor	1									
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles											
Odometer Correction Units	Miles											
Engine Code	M177-40EVO	Rated Horsepower	530									
Displacement (liters)	3.982											
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel									
Charge Air Cooler Type	Liquid	Drive Mode While Testing	All Wheel Drive									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)									
Curb Weight (lbs)	5375	Equivalent Test Weight (pounds)	5500									
GVWR (lbs)	6426	N/V Ratio	19.4									
Axle Ratio	2.65											
Transmission Type	Automatic	# of Transmission Gears	9									
Transmission Lockup	Yes	Creeper Gear	No									

Certification Summary Information Report

Test Group		VMBXV04.0HY1			Evaporative/Refueling Family		VMBXR0170LNS	
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	55.08	0.0362	0.02142	4.57	-0.01757	0.018961	14.7	
Cold CO	60.59	0.0398	0.02356	-4.21	-0.17902	0.021678	N/A	
US06	55.08	0.0362	0.02142	4.57	-0.01757	0.018961	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		265/35 R21						

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX10093732	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)
Test Date	03/17/2026	Fuel	Gasoline
Fuel Batch ID	U25C06	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	3953 Research Park Drive		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5336	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	11.064	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.593	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	647.7094	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.9025	--	
FE BAG 1 (Bag 1 Fuel Economy)	13.3921	13.3921	
CH4 BAG 1 (Bag 1 Methane)	0.0256	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.098	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	8.7557	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.882	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	518.7819	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	16.7656	16.7656	
CH4 BAG 2 (Bag 2 Methane)	0.001	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.0004	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-32.6025	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.59	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	429.6321	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0	--	
FE BAG 3 (Bag 3 Fuel Economy)	20.2442	20.2442	
CH4 BAG 3 (Bag 3 Methane)	0.0033	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	-13.84	--	
METHANE (CH4 - Methane)	0.0067	--	
CO (Carbon Monoxide)	0.1865	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.868	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.656	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.548	--	
MFR FE (Manufacturer Fuel Economy)	16.6821	16.6821	
NOX (Nitrogen Oxide)	0.0285	--	
N2O (Nitrous Oxide)	0.0019	--	
HC-NM (Non-methane Hydrocarbon)	0.0186	--	

Certification Summary Information Report

Test Group		VMBXV04.0HY1				Evaporative/Refueling Family				VMBXR0170LNS			
		NMOG (Non-methane organic gases)		0.0204		--							
		HC-TOTAL (Total Hydrocarbon)		0.0247		--							
		WATT-HRS (Watt Hours)		-37.6868		--							
		Test Result Name		Unrounded Test Result		Verify Calculated CREE/OPT-CREE							
		Carbon-Related Exhaust Emissions		522		--							
		Test Result Name		Unrounded Test Result		Verify Calculated CO2							
		Carbon dioxide		521.013		--							
Manufacturer Test Comments		265/35 R21											
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 50	CO	0.19	--	--	--	0.01	--	0.2	10.0	Pass	
Fed	120,000 miles	Federal Tier 3 Bin 50	HC-NM	0.0186	--	--	--	0.002	--	0.021	0.300	Pass	
CA	50,000 miles	California LEV-III ULEV50	CO	0.19	--	--	--	0.01	--	0.2	10.0	Pass	

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX91006776	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/01/2026	Fuel	Gasoline
Fuel Batch ID	29858	Fuel Calibration Number	2
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5625	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VMBOXV04.0HY1	Evaporative/Refueling Family	VMBOXR0170LNS
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	14.9177084	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.5880315	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	532.2493896	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.3309789	--	
FE BAG 1 (Bag 1 Fuel Economy)	999	--	
CH4 BAG 1 (Bag 1 Methane)	0.0154776	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0679013	--	
HC-TOTAL BAG 1 (Bag 1 Total Hydrocarbon)	0.0767866	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	-311.9848157	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.8733535	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	462.1835327	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	999	--	
CH4 BAG 2 (Bag 2 Methane)	0.0014337	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--	
HC-TOTAL BAG 2 (Bag 2 Total Hydrocarbon)	0.0013605	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-16.695197	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.5896795	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	389.2698669	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0	--	
FE BAG 3 (Bag 3 Fuel Economy)	999	--	
CH4 BAG 3 (Bag 3 Methane)	0.0025454	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--	
HC-TOTAL BAG 3 (Bag 3 Total Hydrocarbon)	0.0022107	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	-18.47988	--	
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.8666446	--	
CO2 BAG 4 (Bag 4 Carbon Dioxide)	454.1669617	--	
CO BAG 4 (Bag 4 Carbon Monoxide)	0	--	
FE BAG 4 (Bag 4 Fuel Economy)	999	--	
CH4 BAG 4 (Bag 4 Methane)	0.0009697	--	
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0	--	

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
	HC-TOTAL BAG 4 (Bag 4 Total Hydrocarbon)	0.0006001	--
	WATT-HRS BAG 4 (Bag 4 Watt Hours)	7.3402592	--
	METHANE (CH4 - Methane)	0.0045056	--
	CO (Carbon Monoxide)	0.0684393	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.827778	--
	DT-EER (Drive Trace Energy Economy Rating)	-0.1156058	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.0569582	--
	MFR FE (Manufacturer Fuel Economy)	999	--
	NOX (Nitrogen Oxide)	0.0185443	--
	N2O (Nitrous Oxide)	0.0020451	--
	HC-NM (Non-methane Hydrocarbon)	0.0127499	--
	NMOG (Non-methane organic gases)	0.014013	--
	PM (Particulate Matter)	0.0000318	--
	HC-TOTAL (Total Hydrocarbon)	0.0169655	--
	WATT-HRS (Watt Hours)	-339.8196335	--
	Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	9999.9999999	454	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	454.2935181	--	
Manufacturer Test Comments	Amended Report (test number 20260081002); test is related to lab concern CA-26-023. Added values for HC-TOTAL bags, ACT-DISTANCE, and WATT-HRS. No other changes were made. Unrounded Result for the following test results were modified by Verify: FE BAG 3, MFR FE, FE BAG 2, FE BAG 4, FE BAG 1		

Certification Summary Information Report

Test Group		VMBXV04.0HY1				Evaporative/Refueling Family				VMBXR0170LNS		
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 50	CREE	454	--	--	--	0.0789	--	454	--	--
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0045	--	--	--	0.0037	--	0.008	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.002	--	--	--	0.0015	--	0.004	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.07	--	--	--	0.05	--	0.1	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO-COMP	0.08	--	--	--	--	--	0.1	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.014	--	1.1	--	0.0027	--	0.017	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0325	--	--	--	--	--	0.035	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX-COMP	0.0242	--	--	--	--	--	0.024	0.080	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0185	--	--	--	0	--	0.018	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0	--	--	--	0.0001	--	0	0.003	Pass
CA	120,000 miles	California LEV-III ULEV50	CREE	454	--	--	--	0.0789	--	454	--	--
CA	120,000 miles	California LEV-III ULEV50	METHANE	0.0045	--	--	--	0.0037	--	0.008	0.030	Pass
CA	120,000 miles	California LEV-III ULEV50	N2O	0.002	--	--	--	0.0015	--	0.004	0.010	Pass
CA	150,000 miles	California LEV-III ULEV50	CO	0.07	--	--	--	0.05	--	0.1	1.7	Pass
CA	150,000 miles	California LEV-III ULEV50	CO-COMP	0.08	--	--	--	--	--	0.1	4.2	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG	0.014	--	1.1	--	0.0027	--	0.017	99.999	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX	0.0325	--	--	--	--	--	0.035	0.050	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX-COMP	0.0242	--	--	--	--	--	0.024	0.080	Pass
CA	150,000 miles	California LEV-III ULEV50	NOX	0.0185	--	--	--	0	--	0.018	99.999	Pass
CA	150,000 miles	California LEV-III ULEV50	PM	0	--	--	--	0.0001	--	0	0.001	Pass

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

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX91006797	Test Procedure	2 - CVS 75 and later (w/o can. load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/19/2026	Fuel	N/A
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5705	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VMBOXV04.0HY1	Evaporative/Refueling Family	VMBOXR0170LNS
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	14.8813902	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.5772004	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	570.3438853	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.983816	--	
FE BAG 1 (Bag 1 Fuel Economy)	15.5742477	--	
CH4 BAG 1 (Bag 1 Methane)	0.0186406	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.1023337	--	
HC-TOTAL BAG 1 (Bag 1 Total Hydrocarbon)	0.1166163	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	-360.1871126	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.8407032	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	506.7355937	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	17.5880018	--	
CH4 BAG 2 (Bag 2 Methane)	0.0010466	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--	
HC-TOTAL BAG 2 (Bag 2 Total Hydrocarbon)	0.0009911	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-22.7902093	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.5877274	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	399.3730368	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0	--	
FE BAG 3 (Bag 3 Fuel Economy)	22.3157739	--	
CH4 BAG 3 (Bag 3 Methane)	0.0032644	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--	
HC-TOTAL BAG 3 (Bag 3 Total Hydrocarbon)	0.002888	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	-4.790258	--	
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.8757585	--	
CO2 BAG 4 (Bag 4 Carbon Dioxide)	507.8726274	--	
CO BAG 4 (Bag 4 Carbon Monoxide)	0	--	
FE BAG 4 (Bag 4 Fuel Economy)	17.5486659	--	
CH4 BAG 4 (Bag 4 Methane)	0.0008667	--	
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0	--	

Page 23 of 44 CSI Submission/Revision Date: 07/02/2026 09:41:58 AM

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX91006778	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/01/2026	Fuel	Gasoline
Fuel Batch ID	29858	Fuel Calibration Number	2
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5640	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	10.2590361	--
METHANE (CH4 - Methane)	0.0006249	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.2202392	--
DT-EER (Drive Trace Energy Economy Rating)	-0.1408319	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.7397106	--
MFR FE (Manufacturer Fuel Economy)	34.0901489	--
NOX (Nitrogen Oxide)	0.0024534	--
N2O (Nitrous Oxide)	0.0001349	--
HC-NM (Non-methane Hydrocarbon)	0.0002368	--
NMOG (Non-methane organic gases)	0.0002439	--
HC-TOTAL (Total Hydrocarbon)	0.0008475	--
WATT-HRS (Watt Hours)	-8.8547763	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	9999.9999999	255

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	255.2107849	--

Manufacturer Test Comments

Amended Report (test number 20260081003); test is related to lab concern CA-26-023. Added values for ACT-DISTANCE, and WATT-HRS. No other changes were made.

Certification Summary Information Report

Test Group		VMBXV04.0HY1			Evaporative/Refueling Family					VMBXR0170LNS		
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 50	CREE	255	--	--	--	0.0789	--	255	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0002	--	1.03	--	0.0027	--	0.003	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0027	--	--	--	--	--	0.005	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0025	--	--	--	0	--	0.002	99.999	Pass
CA	120,000 miles	California LEV-III ULEV50	CREE	255	--	--	--	0.0789	--	255	--	--
CA	150,000 miles	California LEV-III ULEV50	NMOG	0.0002	--	1.03	--	0.0027	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX	0.0027	--	--	--	--	--	0.005	0.050	Pass
CA	150,000 miles	California LEV-III ULEV50	NOX	0.0025	--	--	--	0	--	0.002	99.999	Pass

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

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX91006798	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/19/2026	Fuel	Gasoline
Fuel Batch ID	29351	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5720	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	10.2256217	--	
METHANE (CH4 - Methane)	0.0004806	--	
CO (Carbon Monoxide)	0	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	4.243016	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.6153997	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	5.2524524	--	
MFR FE (Manufacturer Fuel Economy)	33.4284774	--	
NOX (Nitrogen Oxide)	0.0027884	--	
N2O (Nitrous Oxide)	0.0001191	--	
HC-NM (Non-methane Hydrocarbon)	0.0003731	--	
NMOG (Non-methane organic gases)	0.000388	--	
HC-TOTAL (Total Hydrocarbon)	0.0008428	--	
WATT-HRS (Watt Hours)	-11.0817	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	9999.9999999	267	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	266.6119899	--	
Manufacturer Test Comments	None		

Certification Summary Information Report

Test Group		VMBXV04.0HY1				Evaporative/Refueling Family				VMBXR0170LNS		
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 50	CREE	267	--	--	--	0.0789	--	267	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0004	--	1.03	--	0.0027	--	0.003	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0032	--	--	--	--	--	0.006	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0028	--	--	--	0	--	0.003	99.999	Pass
CA	120,000 miles	California LEV-III ULEV50	CREE	267	--	--	--	0.0789	--	267	--	--
CA	150,000 miles	California LEV-III ULEV50	NMOG	0.0004	--	1.03	--	0.0027	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-III ULEV50	NMOG+NOX	0.0032	--	--	--	--	--	0.006	0.050	Pass
CA	150,000 miles	California LEV-III ULEV50	NOX	0.0028	--	--	--	0	--	0.003	99.999	Pass

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

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX91006777	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/01/2026	Fuel	Gasoline
Fuel Batch ID	29858	Fuel Calibration Number	2
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5660	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VMBOXV04.0HY1	Evaporative/Refueling Family	VMBOXR0170LNS
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	8.0212002	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	1.7853826	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	612.3384399	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0	--	
FE BAG 1 (Bag 1 Fuel Economy)	999	--	
CH4 BAG 1 (Bag 1 Methane)	0.0051583	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0020299	--	
HC-TOTAL BAG 1 (Bag 1 Total Hydrocarbon)	0.0070122	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	-58.5042213	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	6.235817	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	301.379364	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	999	--	
CH4 BAG 2 (Bag 2 Methane)	0.0023826	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.0018808	--	
HC-TOTAL BAG 2 (Bag 2 Total Hydrocarbon)	0.0041546	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	31.4337214	--	
METHANE (CH4 - Methane)	0.0030004	--	
CO (Carbon Monoxide)	0	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.4847732	--	
DT-EER (Drive Trace Energy Economy Rating)	-2.1488345	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-4.8977151	--	
MFR FE (Manufacturer Fuel Economy)	999	--	
NOX (Nitrogen Oxide)	0.0093288	--	
N2O (Nitrous Oxide)	0.0010557	--	
HC-NM (Non-methane Hydrocarbon)	0.0018582	--	
NMOG (Non-methane organic gases)	0.001914	--	
PM (Particulate Matter)	0.0000593	--	
HC-TOTAL (Total Hydrocarbon)	0.0047907	--	
WATT-HRS (Watt Hours)	-27.0704999	--	

Certification Summary Information Report

Test Group		VMBXV04.0HY1				Evaporative/Refueling Family				VMBXR0170LNS			
		Test Result Name		Unrounded Test Result		Verify Calculated CO2							
		Carbon dioxide		370.5935669		--							
Manufacturer Test Comments				Amended Report (test number 20260081004); test is related to lab concern CA-26-023. Added values for HC-TOTAL bags, ACT-DISTANCE, and WATT-HRS. No other changes were made. Unrounded Result for the following test results were modified by Verify: FE BAG 1, FE BAG 2, MFR FE									
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 50	PM	0.0001	--	--	--	0.0001	--	0	0.006	Pass	
CA	150,000 miles	California LEV-III ULEV50	PM	0.0001	--	--	--	0.0001	--	0	0.006	Pass	

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Test #	VMBX10093728	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	03/13/2026	Fuel	N/A
Fuel Batch ID	U26R13	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	3953 Research Park Drive		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5222	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	3.584	--
METHANE (CH4 - Methane)	0.0022509	--
CO (Carbon Monoxide)	0.0155336	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.4525	--
DT-EER (Drive Trace Energy Economy Rating)	-0.0495	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.5183	--
MFR FE (Manufacturer Fuel Economy)	15.8114834	15.8114834
NOX (Nitrogen Oxide)	0.0186124	--
N2O (Nitrous Oxide)	0.0009819	--
HC-NM (Non-methane Hydrocarbon)	0.0002674	--
NMOG (Non-methane organic gases)	0.0002754	--
PM (Particulate Matter)	0	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.0188798	--
HC-TOTAL (Total Hydrocarbon)	0.0023262	--
WATT-HRS (Watt Hours)	-24.0462	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	551.8659604	--

Manufacturer Test Comments

265/35 R21

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Fuel Properties			
Fuel Batch ID	27626	Fuel Calibration Number	2
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	12/11/2018
Fuel Batch Calibration Effective Date	12/11/2018	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 (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18001
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--
Fuel Batch ID	29858	Fuel Calibration Number	2
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	07/12/2025
Fuel Batch Calibration Effective Date	07/12/2025	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	0.748
Fuel Ethanol Volume Percent (%)	9.7	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17835
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.377	Fuel Carbon Mass Fraction (E10)	0.829
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--
Fuel Batch ID	U21R14	Fuel Calibration Number	1
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	09/24/2020
Fuel Batch Calibration Effective Date	01/20/2021	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	0.743
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17587
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.823	Weight Fraction CO2	--
Fuel Batch ID	U21R13	Fuel Calibration Number	1
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	09/24/2020

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Fuel Batch Calibration Effective Date	12/15/2020	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	0.743
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17587
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.823	Weight Fraction CO2	--
Fuel Batch ID	29351	Fuel Calibration Number	1
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	05/03/2023
Fuel Batch Calibration Effective Date	05/03/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.742
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18439
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.867	Weight Fraction CO2	--
Fuel Batch ID	U25C06	Fuel Calibration Number	1
Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)	Fuel Batch Calibration Date	04/11/2024
Fuel Batch Calibration Effective Date	05/17/2024	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	0.745
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)	41.39	Fuel Carbon Mass Fraction (E10)	0.827
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	Weight Fraction CO2	--
Fuel Batch ID	U26R13	Fuel Calibration Number	1
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	01/07/2026
Fuel Batch Calibration Effective Date	03/10/2026	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	0.754
Fuel Ethanol Volume Percent (%)	9.7	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.72	Fuel Carbon Mass Fraction (E10)	0.83

Certification Summary Information Report

Test Group	VMBXV04.0HY1	Evaporative/Refueling Family	VMBXR0170LNS
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	Weight Fraction CO2	--

Certification Summary Information Report

Test Group		VMBXV04.0HY1			Evaporative/Refueling Family			VMBXR0170LNS		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		Federal			Cert/In-Use Code			Both		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 50		
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	--	--	--	--	--	--	0.0789	999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0027	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0	99.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV50		
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	--	--	--	--	--	--	0.0789	999	
120,000 miles	METHANE	--	--	--	--	--	--	0.0037	0.030	
120,000 miles	N2O	--	--	--	--	--	--	0.0015	0.010	
150,000 miles	CO	--	--	--	--	--	--	0.05	1.7	
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0027	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050	
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.080	
150,000 miles	NOX	--	--	--	--	--	--	0	99.999	
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.001	

Certification Summary Information Report

Test Group		VMBXV04.0HY1			Evaporative/Refueling Family			VMBXR0170LNS	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV50	
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	--	--	--	--	--	--	0.0789	999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0027	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NOX	--	--	--	--	--	--	0	99.999
Cert Region		Federal			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 50	
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	--	--	--	--	--	--	0.0789	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0037	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0015	0.010
150,000 miles	CO	--	--	--	--	--	--	0.05	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0027	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.080
150,000 miles	NOX	--	--	--	--	--	--	0	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.003
Cert Region		Federal			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 50	
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	--	--	--	--	--	--	0.01	10.0
120,000 miles	HC-NM	--	--	--	--	--	--	0.002	0.300

Certification Summary Information Report

Test Group		VMBXV04.0HY1			Evaporative/Refueling Family			VMBXR0170LNS	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV50	
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	PM	--	--	--	--	--	--	0.0001	0.006

Cert Region		Federal			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 50	
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	PM	--	--	--	--	--	--	0.0001	0.006

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV50	
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	--	--	--	--	--	--	0.01	10.0

Evaporative/Refueling Standards

Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		California + CAA Section 177 states					
Cert/In-Use Code		Both		Standard Level		California LEV-III Zero Evap (Option 2)					
Test Procedure		Federal Fuel Running Loss									
Fuel		Useful Life		Emission Name		Rounded Result		Std		Add DF	
Gasoline		150,000 miles		HC-TOTAL-EQUIV		--		0.05		0	

Certification Summary Information Report

Test Group		VMBXV04.0HY1		Evaporative/Refueling Family		VMBXR0170LNS	
Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-III 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	OMHCE	--	0.20	0.016		
Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.325	0		
Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		Federal	
Cert/In-Use Code		Both		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		VMBXR0170LNS		Cert Region		Federal	
Cert/In-Use Code		Both		Standard Level		Federal Tier 3 Evap	
Test Procedure		Federal 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		VMBXR0170LNS		Cert Region		Federal	
Cert/In-Use Code		Both		Standard Level		Federal Tier 3 Evap	
Test Procedure		2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.325	0		

Certification Summary Information Report

Test Group		VMBXV04.0HY1		Evaporative/Refueling Family		VMBXR0170LNS	
Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-III 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		VMBXR0170LNS		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		Federal fuel 3-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.325	0		
Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		Federal	
Cert/In-Use Code		Both		Standard Level		Federal Tier 3 Evap	
Test Procedure		Federal fuel 3-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.325	0		
Evaporative/Refueling Family		VMBXR0170LNS		Cert Region		Federal	
Cert/In-Use Code		Both		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	OMHCE	--	0.20	0.016		

Certification Summary Information Report

Test Group		VMBXV04.0HY1		Evaporative/Refueling Family		VMBXR0170LNS	
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		VMBXV04.0HY1	Evaporative/Refueling Family		VMBXR0170LNS
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		VMBXV04.0HY1	Evaporative/Refueling Family		VMBXR0170LNS
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		VMBXV04.0HY1	Evaporative/Refueling Family		VMBXR0170LNS
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	