

Certification Summary Information Report

Manufacturer	Volkswagen Group of America, Inc.	Manufacturer Code	VGA
Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Certificate Number	VVGAV02.0V7B-016	CARB Executive Order #	--
Certificate Issue Date	06/18/2026	Certificate Revision Date	--
Certificate Effective Date	06/18/2026	Conditional Certificate	Yes
CSI Revision #	--	CSI Submission/Revision Date	06/22/2026 02:00:57 PM
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 fuel injection	No

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	No
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	--
Durability Group Name	VVGAGPGNNV7A	Durability Group Equivalency Factor	2.2
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	07/13/2026	CAP2000 Conditional Certificate?	Yes
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	VVGAV02.0A7N
Test Group OBD Compliance Level	Partial - with deficiencies	Number of Test Group OBD Deficiencies	1
OBD Deficiencies Comments	--		
Mfr Test Group Comments	Updated for VI correction (gear ratio).		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	03/10/2026 09:55:21 AM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	HDPE				
Fill Pipe Seal Type	Liquid seal						
Air Intake System Vapor Storage Device?	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)	139	Number of Primary Canisters	1				
Number of Bleed Canisters	1	Bleed Canister Total Working Capacity (grams)	4				
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				
VVGAR0139VCA-001	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
Volkswagen Group of America, Inc.	1 - Volkswagen	212 - Golf R	California + CAA Section 177 states	All Wheel Drive	Automated Manual-Selectable (e.g. Automated Manual with paddles)	7	No
Volkswagen Group of America, Inc.	1 - Volkswagen	211 - Golf GTI	Federal	2-Wheel Drive, Front	Automated Manual-Selectable (e.g. Automated Manual with paddles)	7	No
Volkswagen Group of America, Inc.	1 - Volkswagen	211 - Golf GTI	California + CAA Section 177 states	2-Wheel Drive, Front	Automated Manual-Selectable (e.g. Automated Manual with paddles)	7	No
Volkswagen Group of America, Inc.	1 - Volkswagen	212 - Golf R	Federal	All Wheel Drive	Automated Manual-Selectable (e.g. Automated Manual with paddles)	7	No

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA	
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	0W30 VW50200 / VW50400	
Number of Cylinders/Rotors	4	Mechanically Variable Compression Ratio Indicator	N	
After Treatment Device(s) (ATD)				
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction
1	Three-way catalyst	Palladium + 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)	2.0	Engine Rated Horsepower	241	
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2	
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1	
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air	
Air Aspiration Drive Method(s)	Mechanical			
Cylinder Deactivation	No			
Cylinder Deactivation Description	--			
Variable Valve Timing	Yes			
Variable Valve Timing System Description	-			
Variable Valve Lift?	Yes			
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	Heated oxygen	Air/Fuel Sensor # 2 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	Applies to DZMA var: 0			

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA								
Engine Configuration Number 2											
Engine Displacement (liters)	2.0	Engine Rated Horsepower	328								
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2								
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1								
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air								
Air Aspiration Drive Method(s)	Mechanical										
Cylinder Deactivation	No										
Cylinder Deactivation Description	--										
Variable Valve Timing	Yes										
Variable Valve Timing System Description	-										
Variable Valve Lift?	Yes										
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	Heated oxygen	Air/Fuel Sensor # 2 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	Applies to DSFD var: 1										
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	NVGA91004862	NVGA91004861	NVGA10071104	NVGA10071098	NVGA91004860	97	228.2	999.9	286.1	--	
SFTP LEV-III Official Test Numbers											
Test Group Fuel	FTP	US06	SC03								
Gasoline	NVGA91004862	NVGA91004861	NVGA10071104								

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA						
Emission Data Vehicle Information									
Vehicle ID / Configuration	VW38003-0082 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	PVGAV02.0V7B	Original Evaporative/Refueling Family	PVGAR0139VCA						
Original Test Vehicle Model Year	2023								
Vehicle Model									
Represented Test Vehicle Make	Volkswagen	Represented Test Vehicle Model	GTI						
Leak Family Details									
Leak Family Identifier	001	Leak Family Name	PVGAR0139VCA-001						
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	0.994						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	DRNA	Rated Horsepower	241						
Displacement (liters)	1.984								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration	Single						
Charge Air Cooler Type	Air	Drive Mode While Testing	2-Wheel Drive, Front						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	3316	Equivalent Test Weight (pounds)	3750						
GVWR (lbs)	4343	N/V Ratio	26.7						
Axle Ratio	3.12								
Transmission Type	Automated Manual- Selectable (e.g. Automated Manual with paddles)	# of Transmission Gears	7						
Transmission Lockup	Yes	Creep Gear	No						

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
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Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	44.74	0.1809	0.02183	22.32	0.178	0.02072	14.4
Cold CO	49.21	0.199	0.02402	0	0	0	N/A
US06	44.74	0.1809	0.02183	22.32	0.178	0.02072	N/A

Emission Control Device Comments	DFI/AIR/TC/CAC/WR-HO2S/HO2S/TWC
Manufacturer Test Vehicle Comments	EVAP

Test #	PVGA10074775	Test Procedure	23 - 2-day evap
Exhaust Test # for this Evap Test	PVGA10074752	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	02/02/2022	Fuel	Gasoline
Fuel Batch ID	WB0014	Fuel Calibration Number	1
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Volkswagen AG WOB2		
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)		
Test Start Odometer Reading	4310	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)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0916	--

Manufacturer Test Comments	2-Day
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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	0.0916	0	0.092	0.3	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.092	0	0.09	0.3	Pass

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Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA																											
Test #	PVGA10074776	Test Procedure	34 - Federal fuel 3-day evap																											
Exhaust Test # for this Evap Test	PVGA10074753	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)																											
Test Date	04/06/2022	Fuel	Gasoline																											
Fuel Batch ID	WB0014	Fuel Calibration Number	1																											
Vehicle Class	N/A	DF Type	Mfr. Determined																											
Verify Test Lab ID	Volkswagen AG WOB2																													
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)																													
Test Start Odometer Reading	4375	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><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated FE Equivalent Value (miles per gallon)</td></tr><tr><td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td><td>0.1516</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)	0.1516	--																					
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)																												
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1516	--																												
Manufacturer Test Comments 3-Day																														
<table><tr><td>Certification Region</td><td>Useful Life</td><td>Standard Level</td><td>Emission Name</td><td>Rounded Result</td><td>Add DF</td><td>Certification Level</td><td>Standard</td><td>Pass/Fail</td></tr><tr><td>Fed</td><td>150,000 miles</td><td>Federal Tier 3 Evap</td><td>HC-TOTAL-EQUIV</td><td>0.1516</td><td>0.0101</td><td>0.162</td><td>0.3</td><td>Pass</td></tr><tr><td>CA</td><td>150,000 miles</td><td>California LEV-IV Zero Evap (Option 2)</td><td>HC-TOTAL-EQUIV</td><td>0.1516</td><td>0.0101</td><td>0.162</td><td>0.3</td><td>Pass</td></tr></table>				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	0.1516	0.0101	0.162	0.3	Pass	CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1516	0.0101	0.162	0.3	Pass
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	0.1516	0.0101	0.162	0.3	Pass																						
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1516	0.0101	0.162	0.3	Pass																						

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA						
Test #	PVGA10074778	Test Procedure	24 - Federal fuel refueling test (ORVR)						
Exhaust Test # for this Evap Test	PVGA10074751	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	01/28/2022	Fuel	Gasoline						
Fuel Batch ID	WB0014	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Volkswagen AG WOB2								
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)								
Test Start Odometer Reading	4274	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"> <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 (Hydrocarbon for Running Loss and ORVR)</td> <td>0.02</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC (Hydrocarbon for Running Loss and ORVR)	0.02	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC (Hydrocarbon for Running Loss and ORVR)	0.02	--							
Manufacturer Test Comments ORVR									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	HC	0.02	0.006	0.03	0.2	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC	0.02	0.006	0.03	0.2	Pass	

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA						
Test #	PVGA10074779	Test Procedure	32 - Federal Fuel Running Loss						
Exhaust Test # for this Evap Test	PVGA10074753	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	04/06/2022	Fuel	Gasoline						
Fuel Batch ID	WB0014	Fuel Calibration Number	1						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Volkswagen AG WOB2								
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)								
Test Start Odometer Reading	4386	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"> <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>0.0023</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)	0.0023	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0023	--							
Manufacturer Test Comments									
Running Loss									
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	0.002	0.003	0	0.05	Pass	
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.002	0.003	0	0.05	Pass	

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA																		
Test #	PVGA10074777	Test Procedure	65 - Evap Canister Bleed Test																		
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)																		
Test Date	02/18/2022	Fuel	Gasoline																		
Fuel Batch ID	WB0014	Fuel Calibration Number	1																		
Vehicle Class	N/A	DF Type	Mfr. Determined																		
Verify Test Lab ID	Volkswagen AG WOB2																				
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)																				
Test Start Odometer Reading	4310	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><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated FE Equivalent Value (miles per gallon)</td></tr><tr><td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td><td>0.012</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)	0.012	--												
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)																			
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.012	--																			
Manufacturer Test Comments																					
BETP																					
<table><tr><td>Certification Region</td><td>Useful Life</td><td>Standard Level</td><td>Emission Name</td><td>Rounded Result</td><td>Add DF</td><td>Certification Level</td><td>Standard</td><td>Pass/Fail</td></tr><tr><td>CA</td><td>150,000 miles</td><td>California LEV-III Zero Evap (Option 2)</td><td>HC-TOTAL-EQUIV</td><td>0.012</td><td>0</td><td>0.012</td><td>0.02</td><td>Pass</td></tr></table>				Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.012	0	0.012	0.02	Pass
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail													
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.012	0	0.012	0.02	Pass													

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA						
Emission Data Vehicle Information									
Vehicle ID / Configuration	VW483020042 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	NVGAV02.0V7B	Original Evaporative/Refueling Family	NVGAR0157VCE						
Original Test Vehicle Model Year	2022								
Vehicle Model									
Represented Test Vehicle Make	Volkswagen	Represented Test Vehicle Model	Arteon 4Motion						
Leak Family Details									
Leak Family Identifier	001	Leak Family Name	NVGAR0157VCE-001						
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	No	Rechargeable Energy Storage System Indicator	No						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	1.004						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	DSFB	Rated Horsepower	300						
Displacement (liters)	1.984								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration	Single						
Charge Air Cooler Type	Air	Drive Mode While Testing	All Wheel Drive						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	3935	Equivalent Test Weight (pounds)	4500						
GVWR (lbs)	5027	N/V Ratio	29.3						
Axle Ratio	3.67								
Transmission Type	Automated Manual- Selectable (e.g. Automated Manual with paddles)	# of Transmission Gears	7						
Transmission Lockup	Yes	Creep Gear	No						

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family		VVGAR0139VCA
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	44.96	0.4197	0.01945	0.09	0.1878	0.0191	15.3
Cold CO	49.46	0.4617	0.02137	-31.45	0.3108	0.01945	N/A
US06	44.96	0.4197	0.01945	0.09	0.1878	0.0191	N/A
Emission Control Device Comments		--					
Manufacturer Test Vehicle Comments		--					

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA10071098	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)
Test Date	06/04/2021	Fuel	Gasoline
Fuel Batch ID	WB0009	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Volkswagen AG WOB2		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4400	Odometer Units	M
4WD Test Dyno	Yes	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)	435.6373507	--
FE BAG 1 (Bag 1 Fuel Economy)	19.9313125	19.9313125
CO2 BAG 2 (Bag 2 Carbon Dioxide)	416.925669	--
FE BAG 2 (Bag 2 Fuel Economy)	20.9497878	20.9497878
CO2 BAG 3 (Bag 3 Carbon Dioxide)	359.9624553	--
FE BAG 3 (Bag 3 Fuel Economy)	24.255423	24.255423
METHANE (CH4 - Methane)	0.004261	--
CO (Carbon Monoxide)	0.4090846	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.251101	--
DT-EER (Drive Trace Energy Economy Rating)	0.6248717	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.288928	--
MFR FE (Manufacturer Fuel Economy)	21.5	21.5
NOX (Nitrogen Oxide)	0.012433	--
N2O (Nitrous Oxide)	0.0005433	--
HC-NM (Non-methane Hydrocarbon)	0.0498285	--
NMOG (Non-methane organic gases)	0.0549065	--
PM (Particulate Matter)	0.0015325	--
HC-TOTAL (Total Hydrocarbon)	0.0539882	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	405	--

Certification Summary Information Report

Test Group		VVGAV02.0V7B				Evaporative/Refueling Family				VVGAR0139VCA		
Manufacturer Test Comments		4k Cold-CO - Tested as VOLKSWAGEN dr. - ETW: 4500										
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 4 Bin 70	CO	0.41	--	--	--	0.04	--	0.4	10.0	Pass
Fed	120,000 miles	Federal Tier 4 Bin 70	HC-NM	0.05	--	--	--	0.005	--	0.1	0.3	Pass
CA	50,000 miles	California LEV-III ULEV70	CO	0.41	--	--	--	0.04	--	0.4	10.0	Pass

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA10071099	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	06/09/2021	Fuel	Gasoline
Fuel Batch ID	WB0008	Fuel Calibration Number	2
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Volkswagen AG WOB2		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4418	Odometer Units	M
4WD Test Dyno	Yes	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)	367.9880929	--
FE BAG 1 (Bag 1 Fuel Economy)	23.9398245	23.9398245
CO2 BAG 2 (Bag 2 Carbon Dioxide)	386.7155462	--
FE BAG 2 (Bag 2 Fuel Economy)	22.8342795	22.8342795
CO2 BAG 3 (Bag 3 Carbon Dioxide)	311.6478563	--
FE BAG 3 (Bag 3 Fuel Economy)	28.3153717	28.3153717
METHANE (CH4 - Methane)	0.0016263	--
CO (Carbon Monoxide)	0.1705018	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.431203	--
DT-EER (Drive Trace Energy Economy Rating)	0.0200642	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.68797	--
MFR FE (Manufacturer Fuel Economy)	24.4	24.4
NOX (Nitrogen Oxide)	0.0081924	--
N2O (Nitrous Oxide)	0.0007566	--
HC-NM (Non-methane Hydrocarbon)	0.0171816	--
NMOG (Non-methane organic gases)	0.0189082	--
PM (Particulate Matter)	0.00002	--
HC-TOTAL (Total Hydrocarbon)	0.0187685	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	362	999

Certification Summary Information Report

Test Group		VVGAV02.0V7B		Evaporative/Refueling Family				VVGAR0139VCA																				
<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">362</td><td colspan="3">--</td></tr></table>													Test Result Name		Unrounded Test Result			Verify Calculated CO2			Carbon dioxide		362			--		
Test Result Name		Unrounded Test Result			Verify Calculated CO2																							
Carbon dioxide		362			--																							
Manufacturer Test Comments		4k FED. FUEL FTP - Tested as VOLKSWAGEN dr. - ETW: 4500																										
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 4 Bin 70	CREE	999	--	--	--	0.176	--	999	--	--																
Fed	120,000 miles	Federal Tier 4 Bin 70	METHANE	0.0016	--	--	--	0.0005	--	0.002	0.030	Pass																
Fed	120,000 miles	Federal Tier 4 Bin 70	N2O	0.0008	--	--	--	0	--	0.001	0.010	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	CO	0.17	--	--	--	0.13	--	0.3	1.7	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0189	--	1.1	--	0.0069	--	0.026	99.999	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG+NOX	0.0271	--	--	--	--	--	0.046	0.070	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0082	--	--	--	0.0118	--	0.02	99.999	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	PM	0	--	--	--	0.0001	--	0	0.003	Pass																
CA	150,000 miles	California LEV-III ULEV70	CO	0.17	--	--	--	0.13	--	0.3	1.7	Pass																
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0189	--	--	--	0.0069	--	0.026	99.999	Pass																
CA	150,000 miles	California LEV-III ULEV70	NMOG+NOX	0.0271	--	--	--	--	--	0.046	0.070	Pass																
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0082	--	--	--	0.0118	--	0.02	99.999	Pass																
CA	150,000 miles	California LEV-III ULEV70	PM	0	--	--	--	0.0001	--	0	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	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA10071105	Test Procedure	52 - Fed. fuel 50 F exh.
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	08/04/2021	Fuel	Gasoline
Fuel Batch ID	IG0008	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	AUDI AG Ingolstadt		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4747	Odometer Units	M
4WD Test Dyno	Yes	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)	364.369161	--
FE BAG 1 (Bag 1 Fuel Economy)	23.9087403	23.9087403
CO2 BAG 2 (Bag 2 Carbon Dioxide)	341.6804684	--
FE BAG 2 (Bag 2 Fuel Economy)	25.5917581	25.5917581
CO2 BAG 3 (Bag 3 Carbon Dioxide)	309.4696092	--
FE BAG 3 (Bag 3 Fuel Economy)	28.2399765	28.2399765
METHANE (CH4 - Methane)	0.0023458	--
CO (Carbon Monoxide)	0.1947113	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.2451871	--
DT-EER (Drive Trace Energy Economy Rating)	-0.247027	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.7208188	--
MFR FE (Manufacturer Fuel Economy)	25.8	25.8
NOX (Nitrogen Oxide)	0.0122587	--
N2O (Nitrous Oxide)	0.0005019	--
HC-NM (Non-methane Hydrocarbon)	0.0222576	--
NMOG (Non-methane organic gases)	0.0245101	--
PM (Particulate Matter)	0.0009286	--
HC-TOTAL (Total Hydrocarbon)	0.0244973	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	338	--

Certification Summary Information Report

Test Group		VVGAV02.0V7B				Evaporative/Refueling Family				VVGAR0139VCA		
Manufacturer Test Comments		4k FED. FUEL 50°F FTP - Tested as VOLKSWAGEN dr. - ETW: 4500										
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-III ULEV70	CO	0.19	--	--	--	--	--	0.2	1.7	Pass
CA	4,000 miles	California LEV-III ULEV70	NMOG	0.0245	--	1.1	--	--	--	0.024	99.999	Pass
CA	4,000 miles	California LEV-III ULEV70	NMOG+NOX	0.0368	--	--	--	--	--	0.037	0.140	Pass
CA	4,000 miles	California LEV-III ULEV70	NOX	0.0123	--	--	--	--	--	0.012	99.999	Pass

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA91004862	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	09/23/2021	Fuel	Gasoline
Fuel Batch ID	27626	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	4800	Odometer Units	M
4WD Test Dyno	Yes	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)	350.9496155	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	364.3457031	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	318.317627	--
FE BAG 3 (Bag 3 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0016657	--
CO (Carbon Monoxide)	0.1194593	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.269397	--
DT-EER (Drive Trace Energy Economy Rating)	1.0051675	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	3.0183816	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.009159	--
N2O (Nitrous Oxide)	0.0007585	--
HC-NM (Non-methane Hydrocarbon)	0.0125819	--
NMOG (Non-methane organic gases)	0.0138454	--
PM (Particulate Matter)	0.0003796	--
HC-TOTAL (Total Hydrocarbon)	0.014181	--

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

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family				VVGAR0139VCA																			
<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">348.9161072</td><td colspan="3">--</td></tr></table>													Test Result Name		Unrounded Test Result			Verify Calculated CO2			Carbon dioxide		348.9161072			--		
Test Result Name		Unrounded Test Result			Verify Calculated CO2																							
Carbon dioxide		348.9161072			--																							
Manufacturer Test Comments		None Unrounded Result for the following test results were modified by Verify: FE BAG 2, MFR FE, FE BAG 1, FE BAG 3																										
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 4 Bin 70	CREE	999	--	--	--	0.176	--	999	--	--																
Fed	120,000 miles	Federal Tier 4 Bin 70	METHANE	0.0017	--	--	--	0.0005	--	0.002	0.030	Pass																
Fed	120,000 miles	Federal Tier 4 Bin 70	N2O	0.0008	--	--	--	0	--	0.001	0.010	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	CO	0.12	--	--	--	0.13	--	0.2	1.7	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	CO-COMP	0.39	--	--	--	--	--	0.4	4.2	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0138	--	1.1	--	0.0069	--	0.021	99.999	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG+NOX	0.023	--	--	--	--	--	0.042	0.070	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG+NOX-COMP	0.038	--	--	--	--	--	0.038	0.090	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0092	--	--	--	0.0118	--	0.021	99.999	Pass																
Fed	150,000 miles	Federal Tier 4 Bin 70	PM	0.0004	--	--	--	0.0001	--	0	0.003	Pass																
CA	150,000 miles	California LEV-III ULEV70	CO	0.12	--	--	--	0.13	--	0.2	1.7	Pass																
CA	150,000 miles	California LEV-III ULEV70	CO-COMP	0.39	--	--	--	--	--	0.4	4.2	Pass																
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0138	--	--	--	0.0069	--	0.021	99.999	Pass																
CA	150,000 miles	California LEV-III ULEV70	NMOG+NOX	0.023	--	--	--	--	--	0.042	0.070	Pass																
CA	150,000 miles	California LEV-III ULEV70	NMOG+NOX-COMP	0.038	--	--	--	--	--	0.038	0.090	Pass																
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0092	--	--	--	0.0118	--	0.021	99.999	Pass																
CA	150,000 miles	California LEV-III ULEV70	PM	0.0004	--	--	--	0.0001	--	0	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	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA10071101	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	06/09/2021	Fuel	Gasoline
Fuel Batch ID	WB0008	Fuel Calibration Number	2
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Volkswagen AG WOB2		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4437	Odometer Units	M
4WD Test Dyno	Yes	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)	0.0002936	--
CO (Carbon Monoxide)	0.2111749	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	7.93507	--
DT-EER (Drive Trace Energy Economy Rating)	-0.0177188	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	9.738946	--
MFR FE (Manufacturer Fuel Economy)	38.7	38.7
NOX (Nitrogen Oxide)	0.0035943	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0003409	--
NMOG (Non-methane organic gases)	0.0003511	--
PM (Particulate Matter)	0	--
HC-TOTAL (Total Hydrocarbon)	0.0006274	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	228	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	228	--

Manufacturer Test Comments 4k HWFET - Tested as VOLKSWAGEN dr. - ETW: 4500

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family					VVGAR0139VCA		
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 4 Bin 70	CREE	999	--	--	--	0.18	--	999	--	--
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0004	--	1.03	--	0.0069	--	0.007	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG+NOX	0.004	--	--	--	--	--	0.023	0.070	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0036	--	--	--	0.0118	--	0.015	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0004	--	1.03	--	0.0069	--	0.007	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG+NOX	0.004	--	--	--	--	--	0.023	0.070	Pass
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0036	--	--	--	0.0118	--	0.015	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	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA91004860	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	09/23/2021	Fuel	Gasoline
Fuel Batch ID	27626	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	4811	Odometer Units	M
4WD Test Dyno	Yes	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)	0.0000303	--
CO (Carbon Monoxide)	0.1183282	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	5.1389947	--
DT-EER (Drive Trace Energy Economy Rating)	0.1027871	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	6.3106155	--
MFR FE (Manufacturer Fuel Economy)	38.7631302	--
NOX (Nitrogen Oxide)	0.0029222	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0005795	--
NMOG (Non-methane organic gases)	0.0005969	--
HC-TOTAL (Total Hydrocarbon)	0.0006087	--

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	221.7604523	--

Manufacturer Test Comments None

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family					VVGAR0139VCA		
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 4 Bin 70	CREE	999	--	--	--	0.18	--	999	--	--
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0006	--	1.03	--	0.0069	--	0.008	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG+NOX	0.0035	--	--	--	--	--	0.022	0.070	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0029	--	--	--	0.0118	--	0.015	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0006	--	1.03	--	0.0069	--	0.008	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG+NOX	0.0035	--	--	--	--	--	0.022	0.070	Pass
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0029	--	--	--	0.0118	--	0.015	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	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA10071100	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	06/09/2021	Fuel	Gasoline
Fuel Batch ID	WB0008	Fuel Calibration Number	2
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	Volkswagen AG WOB2		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4429	Odometer Units	M
4WD Test Dyno	Yes	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)	544.4330285	--
FE BAG 1 (Bag 1 Fuel Economy)	16.1732712	16.1732712
CO2 BAG 2 (Bag 2 Carbon Dioxide)	296.0771312	--
FE BAG 2 (Bag 2 Fuel Economy)	29.7337783	29.7337783
METHANE (CH4 - Methane)	0.0096776	--
CO (Carbon Monoxide)	0.6629136	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.075652	--
DT-EER (Drive Trace Energy Economy Rating)	-1.631063	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.688815	--
MFR FE (Manufacturer Fuel Economy)	25.1	25.1
NOX (Nitrogen Oxide)	0.0105208	--
N2O (Nitrous Oxide)	0.0001789	--
HC-NM (Non-methane Hydrocarbon)	0.0202672	--
NMOG (Non-methane organic gases)	0.0208752	--
PM (Particulate Matter)	0	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.0308	--
HC-TOTAL (Total Hydrocarbon)	0.0297106	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	351	--

Certification Summary Information Report

Test Group		VVGAV02.0V7B				Evaporative/Refueling Family				VVGAR0139VCA		
Manufacturer Test Comments		4k US06 - Tested as VOLKSWAGEN dr. - ETW: 4500										
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 4 Bin 70	CO	0.66	--	--	--	0.13	--	0.8	99.0	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0209	--	1.03	--	0.0069	--	0.028	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0105	--	--	--	0.0118	--	0.022	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	PM	0	--	--	--	0.0001	--	0	0.006	Pass
CA	150,000 miles	California LEV-III ULEV70	CO	0.66	--	--	--	0.13	--	0.8	99.9	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0209	--	1.03	--	0.0069	--	0.028	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0105	--	--	--	0.0118	--	0.022	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	PM	0	--	--	--	0.0001	--	0	0.006	Pass

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA91004861	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	09/23/2021	Fuel	Gasoline
Fuel Batch ID	27626	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	4831	Odometer Units	M
4WD Test Dyno	Yes	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)	552.8129272	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	293.9523315	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0136335	--
CO (Carbon Monoxide)	0.5251425	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.4852894	--
DT-EER (Drive Trace Energy Economy Rating)	-0.9188365	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.1030028	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.0105782	--
N2O (Nitrous Oxide)	0.0002054	--
HC-NM (Non-methane Hydrocarbon)	0.0196872	--
NMOG (Non-methane organic gases)	0.0202778	--
PM (Particulate Matter)	0.0001804	--
HC-TOTAL (Total Hydrocarbon)	0.0327761	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	351.222168	--

Manufacturer Test Comments

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

Certification Summary Information Report

Test Group		VVGAV02.0V7B				Evaporative/Refueling Family				VVGAR0139VCA		
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 4 Bin 70	CO	0.53	--	--	--	0.13	--	0.7	99.0	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0203	--	1.03	--	0.0069	--	0.027	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0106	--	--	--	0.0118	--	0.022	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	PM	0.0002	--	--	--	0.0001	--	0	0.006	Pass
CA	150,000 miles	California LEV-III ULEV70	CO	0.53	--	--	--	0.13	--	0.7	99.9	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0203	--	1.03	--	0.0069	--	0.027	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0106	--	--	--	0.0118	--	0.022	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	PM	0.0002	--	--	--	0.0001	--	0	0.006	Pass

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Test #	NVGA10071104	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	07/15/2021	Fuel	Gasoline
Fuel Batch ID	IG0008	Fuel Calibration Number	1
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	AUDI AG Ingolstadt		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4687	Odometer Units	M
4WD Test Dyno	Yes	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)	0.0010746	--
CO (Carbon Monoxide)	0.1963005	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.635698	--
DT-EER (Drive Trace Energy Economy Rating)	-0.6071627	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.4549563	--
MFR FE (Manufacturer Fuel Economy)	23.2	23.2
NOX (Nitrogen Oxide)	0.0061213	--
N2O (Nitrous Oxide)	0.0011326	--
HC-NM (Non-methane Hydrocarbon)	0.0008942	--
NMOG (Non-methane organic gases)	0.000921	--
PM (Particulate Matter)	0.0002835	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.007	--
HC-TOTAL (Total Hydrocarbon)	0.001935	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	376	--

Manufacturer Test Comments

4k SC03 - Tested as VOLKSWAGEN dr. - ETW: 4500

Certification Summary Information Report

Test Group		VVGAV02.0V7B				Evaporative/Refueling Family				VVGAR0139VCA		
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 4 Bin 70	CO	0.2	--	--	--	0.13	--	0.3	99.9	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NMOG	0.0009	--	1.03	--	0.0069	--	0.008	99.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 70	NOX	0.0061	--	--	--	0.0118	--	0.018	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	CO	0.2	--	--	--	0.13	--	0.3	99.9	Pass
CA	150,000 miles	California LEV-III ULEV70	NMOG	0.0009	--	1.03	--	0.0069	--	0.008	99.999	Pass
CA	150,000 miles	California LEV-III ULEV70	NOX	0.0061	--	--	--	0.0118	--	0.018	99.999	Pass

Certification Summary Information Report

Test Group	VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
Fuel Properties			
Fuel Batch ID	WB0014	Fuel Calibration Number	1
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	12/13/2021
Fuel Batch Calibration Effective Date	01/14/2022	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	0.747
Fuel Ethanol Volume Percent (%)	9.4	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18203
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	IG0008	Fuel Calibration Number	1
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	10/15/2020
Fuel Batch Calibration Effective Date	03/04/2021	Fuel Batch Calibration Ineffective Date	02/07/2022
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.754
Fuel Ethanol Volume Percent (%)	10	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17921
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.831	Weight Fraction CO2	--
Fuel Batch ID	WB0008	Fuel Calibration Number	2
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	01/29/2021
Fuel Batch Calibration Effective Date	01/29/2021	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	0.753
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17642
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.832	Weight Fraction CO2	--
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

Certification Summary Information Report

Test Group		VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
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		WB0009	Fuel Calibration Number	1
Test Fuel Type		29 - Cold CO E10 Premium Gasoline (Tier 3)	Fuel Batch Calibration Date	07/15/2020
Fuel Batch Calibration Effective Date		07/15/2020	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	0.75
Fuel Ethanol Volume Percent (%)		10.1	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17764
Fuel Net Heat of Combustion (E10) (MJ/kg)		--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)		0.828	Weight Fraction CO2	--

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family			VVGAR0139VCA		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV70		
Fuel		Gasoline			Test Procedure			Fed. fuel 50 F exh.		
Useful Life		Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
4,000 miles		CO	--	--	--	--	--	--	--	1.7
4,000 miles		NMOG	--	--	1.1	--	--	--	--	99.999
4,000 miles		NMOG+NOX	--	--	--	--	--	1	--	0.140
4,000 miles		NOX	--	--	--	--	--	--	--	99.999
Cert Region		Federal			Cert/In-Use Code			Both		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 70		
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	--	--	--	--	--	--	0.176	999
120,000 miles		METHANE	--	--	--	--	--	--	0.0005	0.030
120,000 miles		N2O	--	--	--	--	--	--	0	0.010
150,000 miles		CO	--	--	--	--	--	--	0.13	1.7
150,000 miles		CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles		NMOG	--	--	1.1	--	--	--	0.0069	99.999
150,000 miles		NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles		NMOG+NOX-COMP	--	--	--	--	--	--	--	0.090
150,000 miles		NOX	--	--	--	--	--	--	0.0118	99.999
150,000 miles		PM	--	--	--	--	--	--	0.0001	0.003

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family			VVGAR0139VCA	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV70	
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	--	--	--	--	--	--	0.13	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	NMOG	--	--	--	--	--	--	0.0069	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.090
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0001	0.003
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV70	
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	--	--	--	0.0069	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV70	
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	--	--	--	--	--	--	0.13	99.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0069	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family			VVGAR0139VCA	
Cert Region		Federal			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 70	
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	--	--	--	--	--	--	0.13	99.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0069	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-III ULEV70	
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	--	--	--	--	--	--	0.13	99.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0069	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999
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 4 Bin 70	
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	--	--	--	--	--	--	0.18	999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0069	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999

Certification Summary Information Report

Test Group		VVGAV02.0V7B			Evaporative/Refueling Family			VVGAR0139VCA	
Cert Region		Federal			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 70	
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	--	--	--	--	--	--	0.13	99.0
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0069	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0118	99.999
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 ULEV70	
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	--	--	--	--	--	--	0.04	10.0

Cert Region		Federal			Cert/In-Use Code			Both	
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 4 Bin 70	
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	--	--	--	--	--	--	0.04	10.0
120,000 miles	HC-NM	--	--	--	--	--	--	0.005	0.3

Evaporative/Refueling Standards

Evaporative/Refueling Family		VVGAR0139VCA		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	0.003		

Certification Summary Information Report

Test Group		VVGAV02.0V7B		Evaporative/Refueling Family		VVGAR0139VCA	
Evaporative/Refueling Family		VVGAR0139VCA		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-IV 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	--	0.30	0		
Evaporative/Refueling Family		VVGAR0139VCA		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	HC	--	0.20	0.006		
Evaporative/Refueling Family		VVGAR0139VCA		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-IV 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	--	0.300	0.0101		
Evaporative/Refueling Family		VVGAR0139VCA		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	--	0.300	0		
Evaporative/Refueling Family		VVGAR0139VCA		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-EQUIV	--	0.020	0		

Certification Summary Information Report

Test Group		VVGAV02.0V7B		Evaporative/Refueling Family		VVGAR0139VCA	
Evaporative/Refueling Family		VVGAR0139VCA		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	--	0.300	0.0101		
Evaporative/Refueling Family		VVGAR0139VCA		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		Standard Level		California LEV-IV 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	0.003		
Evaporative/Refueling Family		VVGAR0139VCA		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-EQUIV	--	0.020	--		
Evaporative/Refueling Family		VVGAR0139VCA		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Both		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	--	0.20	0.006		

Certification Summary Information Report

Test Group		VVGAV02.0V7B	Evaporative/Refueling Family	VVGAR0139VCA
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	

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Test Group		VVGAV02.0V7B	Evaporative/Refueling Family		VVGAR0139VCA
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	

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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		

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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	