

PART 1 APPLICATION FOR EMISSIONS CERTIFICATION

MODEL YEAR: 2027

TEST GROUP: VMLNV04.0M22

DURABILITY GROUP: VMLNGPGNN003

EVAPORATIVE FAMILY: VMLNR0164M22

DURABILITY GROUP DESCRIPTION: FOUR STROKE, OTTO CYCLE, GASOLINE-FUELLED,
MULTIPOINT PORT FUEL INJECTION

CATALYST CODE: 003

3-WAY PD/RH COATED SUBSTRATE

TEST GROUP DESCRIPTION: 4.0 LITRE V8 TWIN TURBO

2TWC(2)/2WR-HO2S/2HO2S/SFI/2AIR/2TC/2CAC

APPLICABLE STANDARDS

EXHAUST: FEDERAL TIER3 BIN 50

CARB LEV4 ULEV50

EVAPORATIVE: FEDERAL TIER3 / CARB LEV4 (Option 2) with FEL

CARLINES 222: GTS

Category	EDV	Test	Test Number
Exhaust	SBM22GCA0KW990011	FTP75	LMLN10060626
		HWFET	LMLN10060627
		US06	LMLN10060628
		SC03	LMLN10060629
		FTP20	LMLN10060630
Evaporative	SBM14AAA8HW990014	FTP50	LMLN10060631
		2DD	KMLN10080952
		3DD	KMLN10070962
		RUNNING LOSS	KMLN10070963
		ORVR	KMLN10080949
	BETP	NMLN10070954	

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Nicolas Brown [+1 212 393 4781]

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Issue	Date	Changes
00	1 st April 2026	Initial Issue

1 COMMUNICATION

Authorised representative situated in the United States

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TX 75019

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Address: McLaren Automotive Limited
McLaren Technology Centre
Chertsey Road
Woking
Surrey
GU21 4YH
United Kingdom

Corporate name and address that should appear on the certificate of conformity:

Address: McLaren Automotive Limited
McLaren Technology Centre
Chertsey Road
Woking
Surrey
GU21 4YH
United Kingdom

The certificate of conformity should be issued to:

Name	Title	Email	Telephone
Peter Montague	Head of Homologation	peter.montague@mclaren.com	+44 148 326 1839

2 DURABILITY GROUP

2.1 Durability Group Description

Durability Group Name: VMLNGPGNN003

Carlines within Durability Group: 222 GTS

Combustion Cycle: Four stroke, Otto Cycle

Engine Type: Piston

Fuel: Gasoline

Basic Fuel Metering: Multipoint Port Fuel Injection

Catalyst Construction: Coated metal substrate monolith with stainless steel casing

1 starter and 1 secondary catalyst per bank

Starter: 0.8829 litre, Pd 19:1 Rh 200g/ft³

Secondary: 1.11 litre, Pd 4:1 Rh 25g/ft³

Precious metals in catalyst: Palladium and Rhodium 3-way

Grouping statistic: 3.613 g/litre

3 EVAPORATIVE / REFUELLING FAMILY

3.1 Evaporative Family Description

Evaporative / Refuelling Family Name:	VMLNR0164M22
Type of vapour storage:	Charcoal canister
Basic canister design:	3-chamber, closed bottom with scrubber filter
Working capacity:	163.8 g
System configuration:	Single canister
Canister geometry, construction & materials:	Total volume: 3.231 litres BAX1100 carbon (pellet) PA66-30GF Nylon casing
Fuel system:	Non-return
Type of refuelling emission control system:	Integrated with evaporative control system
Fill pipe seal mechanism:	Mechanical seal
Vapour control system:	Open system
Purge control system:	PWM valve control
Vapour hose material:	Cadbar multi-layer (NBR x2, CPT LP100, Aramid and CM)
Fuel tank material:	Aluminium (1050-H24)

4 DURABILITY INFORMATION

4.1 Durability Information

McLaren is a Small Volume Manufacturer as agreed with EPA and has used Assigned Deterioration Factors (DFs) in accordance with the small volume provisions of 40 CFR 86.1838-01(b)(1), as detailed in 40 CFR 86.1826-01.

The EPA Tier 3 DFs are detailed in CD-2023-01 dated 30th January 2023.

The Tier 3 Bin 50 Light Duty Vehicle additive tailpipe emission DFs are detailed below:

Additive Exhaust DF	NMOG/NMHC mg/mi	CO mg/mi	NOx mg/mi	HCHO mg/mi
150k	6.2	160	4.7	0.2

The Tier 3 Light Duty Vehicle additive evaporative emission DFs are detailed below:

Additive Evaporative DF	3-Day & Hot Soak mg	2-Day & Hot Soak mg	Running Loss mg/mi	ORVR mg/gal
FEL <325mg	2.1	0.0	0.0	6
FEL ≥325mg	0.0	0.0	0.0	6

5 TEST GROUP

5.1 Test Group Description

Test Group Name:	VMLNV04.0M22
Engine displacement:	3994 cm ³ / 243.7 in ³
Arrangement of cylinders:	V-configuration
Number of cylinders:	8
Vehicle Class:	LDV
Applicable emissions standards:	
Exhaust:	Federal TIER3 BIN 50 CARB LEV4 ULEV 50
Evaporative:	Federal TIER3 / CARB LEV4 (Option 2) with FEL
FTP Family Emissions Limit:	50 mg/mile
FTP Fleet Standard:	51 mg/mile
SFTP Family Emissions Limit (EPA):	40mg/mile
SFTP Fleet Standard (EPA):	50mg mile

6 TEST VEHICLE

6.1 Test Vehicle Description

Emission Data Vehicle:

Represented Model: GT [Carline 221]
Vehicle Identification Number: SBM22GCA0KW990011
Configuration Number: 0 = Sport Auto powertrain mode, 612 hp
Engine Displacement: 3994 cm³ / 243.7 in³
Engine Code: 40JBAN
ETW: 3750 lb
Axle Ratio: 3.308
Transmission: 7-Speed Automatic

Full vehicle details are given in the vehicle information submitted to Verify and reproduced in Section 7.

7 TEST RESULTS

7.1 Certification Summary Information is provided in this section for the tests carried out for this Test Group. The official test set is as follows¹:

Test	Test Number
FTP75 E10	LMLN10060626
HWFET E10	LMLN10060627
US06 E10	LMLN10060628
SC03 E10	LMLN10060629
FTP20 E10	LMLN10060630
CARB 2-Day Evap	KMLN10080952
CARB 3-Day Evap	KMLN10070962
ORVR	KMLN10080949
Running Loss	KMLN10070963
BETP	NMLN10070954

7.2 Testing Decisions:

MY27 VMLNV04.0M22 contains full carryover Carline 222. As the existing test datasets demonstrate compliance with the MY27 standards, no testing decisions were required as all test data remains valid from the preceding model year.

¹ NMOG determination for all MY20 tests (those starting with "LMLN") calculated from measured NMHC results according to the provisions of 40 CFR 1066.635.

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Certification Summary Information Report

Manufacturer	McLaren Automotive Limited	Manufacturer Code	MLN
Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Certificate Number	--	CARB Executive Order #	--
Certificate Issue Date	--	Certificate Revision Date	--
Certificate Effective Date	--	Conditional Certificate	--
CSI Revision #	--	CSI Submission/Revision Date	04/01/2026 11:01:02 AM
Model Year	2027		

Test Group Information			
CSI Type	New	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		
Drive Sources and Fuel(s)			
Drive Source #1:	Combustion Engine		
	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
	Gasoline	Multipoint/sequential fuel injection	No

Hybrid Indicator	No	Rechargeable Energy Storage System Indicator	No
Multiple Fuel Storage	--	Off-board Charge Capable Indicator	--
Multiple Fuel Combustion	--	EPA Vehicle Class	LDV
Fuel Cell Indicator	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle	No	California Partial Zero Emissions Vehicle Indicator	No
Federal Clean Fuel Vehicle ILEV	No	Durability Group Equivalency Factor	1.0
Durability Group Name	VMLNGPGNN003	Certification Region Code(s)	FA, CA
Reduced Fee Test Group	No		
Complies with HD GHG 2b/3 regulations?	No	CAP2000 Conditional Certificate?	N/A
Introduction into Commerce Date	--	Alternative Fuel Converter Certificate?	--
Independent Commercial Importer?	--	SFTP Tier 2 Composite CO Option	No
SFTP Federal Composite Compliance Identifier	Tier 3		
SFTP LEV-III Composite Compliance Indicator	No	OBD Demonstration Vehicle Test Group	VMLNV04.0M22
OBD Compliance Type	CARB	Number of Test Group OBD Deficiencies	3
Test Group OBD Compliance Level	Partial - with deficiencies and penalty		
OBD Deficiencies Comments	Full details available in California ARB approval letter E-26-004. Two deficiencies carried over (engine start-stop monitoring and PCV system monitoring), one new deficiency (J1979-2 implementation).		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	04/01/2026 10:07:05 AM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Metal	Fuel Tank Material Description	Aluminium				
Fill Pipe Seal Type	Mechanical seal						
Air Intake System Vapor Storage Device?	No	Air Intake System Vapor Storage Device Description	N/A				
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	N/A				
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	164	Number of Primary Canisters	1				
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	0				
Mfr Evaporative/Refueling Family Comments	Vehicle is fitted with a single carbon canister with three chambers and additional scrubber filter. Total canister volume of 3231 ml, with a rated EPA capacity of 163.8g						
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 test performed with fuel system only.						
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				
VMLNR0164M22-L22	50 State	0.02	Leak Family test data waived under CFR §86.1829-15 Section (e) Part (4).				
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
McLaren Automotive Limited	2 - McLaren	222 - GTS	Federal	2-Wheel Drive, Rear	Automated Manual-Selectable (e.g. Automated Manual with paddles)	7	Yes
McLaren Automotive Limited	2 - McLaren	222 - GTS	California + CAA Section 177 states	2-Wheel Drive, Rear	Automated Manual-Selectable (e.g. Automated Manual with paddles)	7	Yes
Engine Description							
Hybrid Type	--	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	0W40				
Number of Cylinders/Rotors	8	Mechanically Variable Compression Ratio Indicator	N				

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
After Treatment Device(s) (ATD)			
ATD Number	ATD Type	ATD Precious Metal	Substrate Material
1	Three-way catalyst	Palladium + Rhodium	Metal
2	Three-way catalyst	Palladium + Rhodium	Metal
3	Three-way catalyst	Palladium + Rhodium	Metal
4	Three-way catalyst	Palladium + Rhodium	Metal
Substrate Construction	Monolith		
Mfr After Treatment Device (ATD) Comments			
	1 starter and 1 secondary catalyst per bank, total 4.		
Direct Ozone Reduction (DOR) Device			
	Not Equipped		
Mfr Emission Control Device Comments			
	--		
Engine Configuration Number 1			
Engine Displacement (liters)	4.0	Engine Rated Horsepower	626
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	Variable Inlet Valve Timing by camshaft rotation offset.		
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	No	Cooled Exhaust Gas Recirculation	No
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	Secondary Air Injection	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	--		

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Certification Summary Information Report

Test Group		VMLNV04.0M22				Evaporative/Refueling Family		VMLNR0164M22		
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	LMLN10060626	LMLN10060628	LMLN10060629	LMLN10060630	LMLN10060627	17.4	228.2	28.2	286.1	--
SFTP LEV-III Official Test Numbers										
Test Group Fuel	FTP		US06		SC03					
Gasoline	LMLN10060626		LMLN10060628		LMLN10060629					

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22						
Emission Data Vehicle Information									
Vehicle ID / Configuration	SBM14AAA8HW990014 / 4	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	KMLNV04.0M14	Original Evaporative/Refueling Family	KMLNR0164M14						
Original Test Vehicle Model Year	2019								
Vehicle Model									
Represented Test Vehicle Make	McLaren	Represented Test Vehicle Model	765LT Spider						
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> </tbody> </table>			Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	1						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	40JBAK	Rated Horsepower	755						
Displacement (liters)	3.994								
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	2-Wheel Drive, Rear						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	3217	Equivalent Test Weight (pounds)	3625						
GVWR (lbs)	3870	N/V Ratio	30.8						
Axle Ratio	3.73								
Transmission Type	Automatic	# of Transmission Gears	7						
Transmission Lockup	No	Creep Gear	No						
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	41.81	1.0174	0.0121	12.43	0.602	0.0121	16.4		
Emission Control Device Comments				--					

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22					
Manufacturer Test Vehicle Comments	Config #4 - 765LT Spider PT, 720S Spider Road Load (Evap worse case) - Sport Powertrain Mode							
Test #	KMLN10070962	Test Procedure	38 - CA fuel 3-day evap.					
Exhaust Test # for this Evap Test	KMLN10070960	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline					
Test Date	07/27/2021	Fuel	Gasoline					
Fuel Batch ID	IJ2303	Fuel Calibration Number	849					
Vehicle Class	N/A	DF Type	EPA Assigned					
Verify Test Lab ID	Applus IDIADA Group							
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)							
Test Start Odometer Reading	9322	Odometer Units	K					
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--					
State of Charge Delta	Yes	Road Speed Fan Usage	Yes					
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)							
Test Results								
	Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)					
	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.257	--					
Manufacturer Test Comments 3-day diurnal emission result in grams.								
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	0.2570	0.0021	0.259	0.275	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2570	0.0021	0.259	0.275	Pass

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22					
Test #	KMLN10080952	Test Procedure	27 - California fuel 2-day evap					
Exhaust Test # for this Evap Test	KMLN10080951	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline					
Test Date	06/03/2022	Fuel	Gasoline					
Fuel Batch ID	44869	Fuel Calibration Number	2455					
Vehicle Class	N/A	DF Type	EPA Assigned					
Verify Test Lab ID	Applus IDIADA Group							
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)							
Test Start Odometer Reading	10066	Odometer Units	K					
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--					
State of Charge Delta	Yes							
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 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)	0.235	--					
Manufacturer Test Comments 2-day diurnal emission result in grams.								
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	0.2350	0.0	0.235	0.275	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2350	0.0	0.235	0.275	Pass

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	KMLN10070963	Test Procedure	37 - California Fuel Running Loss
Exhaust Test # for this Evap Test	KMLN10070960	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline
Test Date	07/27/2021	Fuel	N/A
Fuel Batch ID	IJ2303	Fuel Calibration Number	849
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	9322	Odometer Units	K
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 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)	0.0001	--
Manufacturer Test Comments	Emission result in grams per mile.		

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22																											
Test #	KMLN10080949	Test Procedure	24 - Federal fuel refueling test (ORVR)																											
Exhaust Test # for this Evap Test	JMLN10080948	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline																											
Test Date	11/22/2022	Fuel	Gasoline																											
Fuel Batch ID	44869	Fuel Calibration Number	2455																											
Vehicle Class	N/A	DF Type	EPA Assigned																											
Verify Test Lab ID	Applus IDIADA Group																													
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)																													
Test Start Odometer Reading	10501	Odometer Units	K																											
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--																											
State of Charge Delta	Yes	Road Speed Fan Usage	Yes																											
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)																													
Test Results																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:35%;">Test Result Name</th> <th style="width:30%;">Unrounded Test Result</th> <th style="width:35%;">Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td style="text-align:center;">HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td style="text-align:center;">0.03</td> <td style="text-align:center;">--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.03	--																					
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)																												
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.03	--																												
Manufacturer Test Comments ORVR Refuelling emissions result in g/dispensed gal																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Certification Region</th> <th style="width:10%;">Useful Life</th> <th style="width:10%;">Standard Level</th> <th style="width:15%;">Emission Name</th> <th style="width:10%;">Rounded Result</th> <th style="width:10%;">Add DF</th> <th style="width:10%;">Certification Level</th> <th style="width:10%;">Standard</th> <th style="width:10%;">Pass/Fail</th> </tr> </thead> <tbody> <tr> <td style="text-align:center;">Fed</td> <td style="text-align:center;">150,000 miles</td> <td style="text-align:center;">Federal Tier 3 Evap</td> <td style="text-align:center;">HC-TOTAL-EQUIV</td> <td style="text-align:center;">0.03</td> <td style="text-align:center;">0.006</td> <td style="text-align:center;">0.0</td> <td style="text-align:center;">0.2</td> <td style="text-align:center;">Pass</td> </tr> <tr> <td style="text-align:center;">CA</td> <td style="text-align:center;">150,000 miles</td> <td style="text-align:center;">California LEV-IV Zero Evap (Option 2)</td> <td style="text-align:center;">HC-TOTAL-EQUIV</td> <td style="text-align:center;">0.03</td> <td style="text-align:center;">0.006</td> <td style="text-align:center;">0.0</td> <td style="text-align:center;">0.2</td> <td style="text-align:center;">Pass</td> </tr> </tbody> </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	0.03	0.006	0.0	0.2	Pass	CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.03	0.006	0.0	0.2	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	0.03	0.006	0.0	0.2	Pass																						
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.03	0.006	0.0	0.2	Pass																						

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Certification Summary Information Report

Test Group	VMLNV04.0M22		Evaporative/Refueling Family	VMLNR0164M22							
Emission Data Vehicle Information											
Vehicle ID / Configuration	SBM14DCA3MW005868 / 0		Manufacturer Vehicle Configuration Number	0							
Original Test Group Name	NMLNV04.0M14		Original Evaporative/Refueling Family	NMLNR0164M14							
Original Test Vehicle Model Year	2022										
Vehicle Model											
Represented Test Vehicle Make	McLaren		Represented Test Vehicle Model	720S Spider							
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> </tbody> </table>		Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline			
Drive Source and Fuel#	Drive Source	Fuel									
1	Combustion Engine	Gasoline									
Hybrid Indicator	No										
Multiple Fuel Storage	--		Multiple Fuel Combustion	--							
Fuel Cell Indicator	--		Rechargeable Energy Storage System Indicator	--							
Rechargeable Energy Storage System	--		Rechargeable Energy Storage System, if 'Other'	--							
Off-board charge Capable Indicator	--										
Odometer Correction -- Initial	0		Odometer Correction Factor	1							
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor										
Odometer Correction Units	Miles										
Engine Code	40JBAG		Rated Horsepower	710							
Displacement (liters)	3.994										
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	2-Wheel Drive, Rear							
Shift Indicator Light Usage	Not equipped		Aged Emission Components	4,000 (mi)							
Curb Weight (lbs)	3217		Equivalent Test Weight (pounds)	3625							
GVWR (lbs)	3870		N/V Ratio	28.9							
Axle Ratio	3.31										
Transmission Type	Automatic		# of Transmission Gears	7							
Transmission Lockup	No		Creep Gear	No							
Dynamometer Coefficients:											
	Target Coefficients			Set Coefficients							
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients				
City/Highway/Evap	47.53	0.8238	0.0151	21.4	0.4729	0.0152	16.9				
Emission Control Device Comments						--					

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22																																
Manufacturer Test Vehicle Comments	Config #0 - 720S Spider - Sport Powertrain Mode																																		
Test #	NMLN10070954	Test Procedure	65 - Evap Canister Bleed Test																																
Exhaust Test # for this Evap Test	--	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline																																
Test Date	06/30/2021	Fuel	Gasoline																																
Fuel Batch ID	IJ2303	Fuel Calibration Number	849																																
Vehicle Class	N/A	DF Type	EPA Assigned																																
Verify Test Lab ID	Applus IDIADA Group																																		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)																																		
Test Start Odometer Reading	0	Odometer Units	K																																
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--																																
State of Charge Delta	--	Road Speed Fan Usage	--																																
Drive Cycle Speed Tolerance Criteria	--																																		
Test Results																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">Test Result Name</th> <th style="width:20%;">Unrounded Test Result</th> <th style="width:40%;">Verify Calculated FE Equivalent Value</th> </tr> </thead> <tbody> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td style="text-align:center;">0.0077</td> <td style="text-align:center;">--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0077	--																										
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value																																	
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0077	--																																	
Manufacturer Test Comments	Rig test performed. Result in g.																																		
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Certification Region</th> <th style="width:10%;">Useful Life</th> <th style="width:10%;">Standard Level</th> <th style="width:10%;">Emission Name</th> <th style="width:10%;">Rounded Result</th> <th style="width:10%;">Add DF</th> <th style="width:10%;">Certification Level</th> <th style="width:10%;">Standard</th> <th style="width:10%;">Pass/Fail</th> </tr> </thead> <tbody> <tr> <td>Fed</td> <td>150,000 miles</td> <td>Federal Tier 3 Evap</td> <td>HC-TOTAL-EQUIV</td> <td style="text-align:center;">0.008</td> <td style="text-align:center;">0.000</td> <td style="text-align:center;">0.01</td> <td style="text-align:center;">0.02</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 style="text-align:center;">0.008</td> <td style="text-align:center;">0.000</td> <td style="text-align:center;">0.01</td> <td style="text-align:center;">0.02</td> <td>Pass</td> </tr> </tbody> </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	0.008	0.000	0.01	0.02	Pass	CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.008	0.000	0.01	0.02	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	0.008	0.000	0.01	0.02	Pass																											
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.008	0.000	0.01	0.02	Pass																											

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22						
Emission Data Vehicle Information									
Vehicle ID / Configuration	SBM22GCA0KW990011 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	1.M1.NV04.0M22	Original Evaporative/Refueling Family	1.M1.NR0164M22						
Original Test Vehicle Model Year	2020								
Vehicle Model									
Represented Test Vehicle Make	McLaren	Represented Test Vehicle Model	GT						
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> </tbody> </table>			Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	1						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	40JBAN	Rated Horsepower	612						
Displacement (liters)	3.994								
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	2-Wheel Drive, Rear						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	3379	Equivalent Test Weight (pounds)	3750						
GVWR (lbs)	3960	N/V Ratio	27.8						
Axle Ratio	3.31								
Transmission Type	Automatic	# of Transmission Gears	7						
Transmission Lockup	No	Creep Gear	No						

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Certification Summary Information Report

Test Group	VMLNV04.0M22			Evaporative/Refueling Family	VMLNR0164M22		
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	47.85	0.8429	0.0132	28.24	0.3618	0.0167	16.4
Cold CO	52.63	0.9272	0.0146	25.97	0.4124	0.0175	N/A
US06	47.85	0.8429	0.0132	28.24	0.3618	0.0167	N/A
Emission Control Device Comments	--						
Manufacturer Test Vehicle Comments	Config #0 - GT - Sport Powertrain Mode						

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	LMLN10060626	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	07/16/2019	Fuel	Gasoline
Fuel Batch ID	HA2903	Fuel Calibration Number	123
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	7386	Odometer Units	K
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	Yes
Test Results			
	Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
	CO2 BAG 1 (Bag 1 Carbon Dioxide)	471.3	--
	FE BAG 1 (Bag 1 Fuel Economy)	18.31	18.31
	CO2 BAG 2 (Bag 2 Carbon Dioxide)	482.2	--
	FE BAG 2 (Bag 2 Fuel Economy)	17.95	17.95
	CO2 BAG 3 (Bag 3 Carbon Dioxide)	426.5	--
	FE BAG 3 (Bag 3 Fuel Economy)	20.29	20.29
	METHANE (CH4 - Methane)	0.004282	--
	CO (Carbon Monoxide)	0.163172	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	3.197742	--
	DT-EER (Drive Trace Energy Economy Rating)	0.655886	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.561324	--
	HCHO (Formaldehyde)	0.000124	--
	MFR FE (Manufacturer Fuel Economy)	18.61	18.61
	NOX (Nitrogen Oxide)	0.011585	--
	N2O (Nitrous Oxide)	0.005852	--
	HC-NM (Non-methane Hydrocarbon)	0.015352	--
	NMOG (Non-methane organic gases)	0.016906	--
	HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.026937	--
	HC-TOTAL (Total Hydrocarbon)	0.019634	--

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Certification Summary Information Report

Test Group		VMLNV04.0M22		Evaporative/Refueling Family				VMLNR0164M22				
		Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE								
		Carbon-Related Exhaust Emissions	0	999								
		Test Result Name	Unrounded Test Result	Verify Calculated CO2								
		Carbon dioxide	464.6	--								
Manufacturer Test Comments		FE in miles per gallon. All emissions results in grams per mile. Config #: Sport Powertrain Mode.										
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	CO	0.16	--	--	--	0.160	--	0.3	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO-COMP	0.26	--	--	--	0.160	--	0.3	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CREE	999	--	--	--	0.0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	HCHO	0.0001	--	--	--	0.0002	--	0.000	0.004	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	METHANE	0.0043	--	--	--	0.00265	--	0.007	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	N2O	0.006	--	--	--	0.0011	--	0.01	0.01	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0169	--	1.1	--	0.0062	--	0.023	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0285	--	--	--	--	--	0.04	0.05	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX-COMP	0.0358	--	--	--	0.0	--	0.036	0.040	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0116	--	--	--	0.0047	--	0.016	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	CO	0.16	--	--	--	0.160	--	0.3	1.7	Pass
CA	150,000 miles	California LEV-IV ULEV50	HCHO	0.0001	--	--	--	0.0002	--	0.000	0.004	Pass
CA	150,000 miles	California LEV-IV ULEV50	METHANE	0.0043	--	--	--	0.00265	--	0.007	0.030	Pass
CA	150,000 miles	California LEV-IV ULEV50	N2O	0.0059	--	--	--	0.0011	--	0.007	0.010	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.01691	--	1.1	--	0.0062	--	0.0231	999.9999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.02849	--	--	--	--	--	0.039	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.01158	--	--	--	0.0047	--	0.0163	999.9999	Pass
NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.												

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	LMLN1006030	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)
Test Date	05/29/2019	Fuel	Gasoline
Fuel Batch ID	GB1203	Fuel Calibration Number	9253
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6874	Odometer Units	K
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	Yes
Test Results			
	Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
	CO2 BAG 1 (Bag 1 Carbon Dioxide)	737.1	--
	FE BAG 1 (Bag 1 Fuel Economy)	11.76	11.76
	CO2 BAG 2 (Bag 2 Carbon Dioxide)	616.9	--
	FE BAG 2 (Bag 2 Fuel Economy)	14.13	14.13
	CO2 BAG 3 (Bag 3 Carbon Dioxide)	453.3	--
	FE BAG 3 (Bag 3 Fuel Economy)	19.23	19.23
	METHANE (CH4 - Methane)	0.011111	--
	CO (Carbon Monoxide)	0.418385	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.311861	--
	DT-EER (Drive Trace Energy Economy Rating)	-0.386023	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.023346	--
	MFR FE (Manufacturer Fuel Economy)	14.59	14.59
	NOX (Nitrogen Oxide)	0.03388	--
	HC-NM (Non-methane Hydrocarbon)	0.09215	--
	NMOG (Non-methane organic gases)	0.101476	--
	HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.12603	--
	HC-TOTAL (Total Hydrocarbon)	0.103261	--
	Test Result Name	Unrounded Test Result	Verify Calculated CO2
	Carbon dioxide	596.85	--

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Certification Summary Information Report

Test Group		VMLNV04.0M22			Evaporative/Refueling Family				VMLNR0164M22			
Manufacturer Test Comments		FE in miles per gallon. All emissions results in grams per mile. Config #0: Sport Powertrain Mode.										
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	CO	0.42	--	--	--	0.160	--	0.6	10.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	HC-NM	0.09	--	--	--	0.0062	--	0.1	0.3	Pass
CA	150,000 miles	California LEV-IV ULEV50	CO	0.42	--	--	--	0.160	--	0.6	10.0	Pass

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	LMLN1006031	Test Procedure	51 - CA fuel 50 Deg(F) exhaust test
Exhaust Test # for this Evap Test	--	Test Fuel Type	23 - CARB Phase II Gasoline
Test Date	05/31/2019	Fuel	Gasoline
Fuel Batch ID	FA1103	Fuel Calibration Number	4563
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6945	Odometer Units	K
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	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	532.7	--
FE BAG 1 (Bag 1 Fuel Economy)	16.4	16.4
CO2 BAG 2 (Bag 2 Carbon Dioxide)	462.1	--
FE BAG 2 (Bag 2 Fuel Economy)	18.96	18.96
CO2 BAG 3 (Bag 3 Carbon Dioxide)	456	--
FE BAG 3 (Bag 3 Fuel Economy)	19.2	19.2
METHANE (CH4 - Methane)	0.006078	--
CO (Carbon Monoxide)	0.206324	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.021955	--
DT-EER (Drive Trace Energy Economy Rating)	-0.067537	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.15807	--
HCHO (Formaldehyde)	0.000181	--
MFR FE (Manufacturer Fuel Economy)	18.43	18.43
NOX (Nitrogen Oxide)	0.01436	--
HC-NM (Non-methane Hydrocarbon)	0.016719	--
NMOG (Non-methane organic gases)	0.018411	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.031079	--
HC-TOTAL (Total Hydrocarbon)	0.022797	--

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Certification Summary Information Report

Test Group		VMLNV04.0M22			Evaporative/Refueling Family				VMLNR0164M22			
		Test Result Name		Unrounded Test Result		Verify Calculated CO2						
		Carbon dioxide		475.051		--						
Manufacturer Test Comments		FE in miles per gallon. All emissions results in grams per mile. Config #0: Sport Powertrain Mode.										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	4,000 miles	California LEV-IV ULEV50	CO	0.21	--	--	--	0.0	--	0.2	1.7	Pass
CA	4,000 miles	California LEV-IV ULEV50	HCHO	0.0002	--	--	--	0.0	--	0.000	0.016	Pass
CA	4,000 miles	California LEV-IV ULEV50	NMOG	0.01841	--	1.1	--	0.0	--	0.0184	999.9999	Pass
CA	4,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.03277	--	--	--	--	--	0.033	0.100	Pass
CA	4,000 miles	California LEV-IV ULEV50	NOX	0.01436	--	--	--	0.0	--	0.0144	999.9999	Pass

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	LMLN10060627	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	05/23/2019	Fuel	Gasoline
Fuel Batch ID	HA2903	Fuel Calibration Number	123
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6722	Odometer Units	K
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	Yes
Test Results			
	Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
	METHANE (CH4 - Methane)	0.002	--
	CO (Carbon Monoxide)	0.008	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.373524	--
	DT-EER (Drive Trace Energy Economy Rating)	0.433682	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.170167	--
	MFR FE (Manufacturer Fuel Economy)	28.77	28.77
	NOX (Nitrogen Oxide)	0.009	--
	HC-NM (Non-methane Hydrocarbon)	0.002	--
	NMOG (Non-methane organic gases)	0.00206	--
	HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.011	--
	HC-TOTAL (Total Hydrocarbon)	0.004	--
	Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
	Carbon-Related Exhaust Emissions	300.865	999
	Test Result Name	Unrounded Test Result	Verify Calculated CO2
	Carbon dioxide	300.84	--
Manufacturer Test Comments	FE in miles per gallon. All emissions results in grams per mile. Config #0: Sport Powertrain Mode.		



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Certification Summary Information Report

Test Group		VMLNV04.0M22			Evaporative/Refueling Family					VMLNR0164M22		
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	CREE	999	--	--	--	0.0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0021	--	1.1	--	0.0062	--	0.008	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0111	--	--	--	--	--	0.022	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0090	--	--	--	0.0047	--	0.014	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.00206	--	1.1	--	0.0062	--	0.0083	999.9999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.01106	--	--	--	--	--	0.022	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.00900	--	--	--	0.0047	--	0.0137	999.9999	Pass

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

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	LMLN10060628	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	06/07/2019	Fuel	Gasoline
Fuel Batch ID	HA2903	Fuel Calibration Number	123
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	7103	Odometer Units	K
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	Yes
Test Results			
	Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
	CO2 BAG 1 (Bag 1 Carbon Dioxide)	622.2	--
	FE BAG 1 (Bag 1 Fuel Economy)	13.9	13.9
	CO2 BAG 2 (Bag 2 Carbon Dioxide)	374.6	--
	FE BAG 2 (Bag 2 Fuel Economy)	23.1	23.1
	METHANE (CH4 - Methane)	0.005	--
	CO (Carbon Monoxide)	0.049	--
	DT-ASCR (Drive Trace Absolute Speed Change Rating)	11.512261	--
	DT-EER (Drive Trace Energy Economy Rating)	3.197384	--
	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	20.051209	--
	MFR FE (Manufacturer Fuel Economy)	20.16	20.16
	NOX (Nitrogen Oxide)	0.008	--
	HC-NM (Non-methane Hydrocarbon)	0.013	--
	NMOG (Non-methane organic gases)	0.01339	--
	HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.021	--
	HC-TOTAL (Total Hydrocarbon)	0.018	--
	Test Result Name	Unrounded Test Result	Verify Calculated CO2
	Carbon dioxide	429.1	--
Manufacturer Test Comments FE in miles per gallon. All emissions results in grams per mile. Config #0: Sport Powertrain Mode.			



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Certification Summary Information Report

Test Group		VMLNV04.0M22			Evaporative/Refueling Family					VMLNR0164M22		
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	CO	0.04900	--	--	--	0.160	--	0.2090	999.9999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.01339	--	1.1	--	0.0062	--	0.0196	999.9999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.00800	--	--	--	0.0047	--	0.0127	999.9999	Pass
CA	150,000 miles	California LEV-IV ULEV50	CO	0.05	--	--	--	0.160	--	0.2	9.6	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.01339	--	1.1	--	0.0062	--	0.0196	999.9999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.02139	--	--	--	--	--	0.032	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.00800	--	--	--	0.0047	--	0.0127	999.9999	Pass

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Test #	LMLN10060629	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	05/31/2019	Fuel	Gasoline
Fuel Batch ID	HA2903	Fuel Calibration Number	123
Vehicle Class	LDV/Passenger Car	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6963	Odometer Units	K
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	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.005	--
CO (Carbon Monoxide)	0.089	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.464526	--
DT-EER (Drive Trace Energy Economy Rating)	-0.27336	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.312696	--
MFR FE (Manufacturer Fuel Economy)	13.04	13.04
NOX (Nitrogen Oxide)	0.018	--
HC-NM (Non-methane Hydrocarbon)	0.006	--
NMOG (Non-methane organic gases)	0.00618	--
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0.024	--
HC-TOTAL (Total Hydrocarbon)	0.011	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	663.35	--

Manufacturer Test Comments FE in miles per gallon. All emissions results in grams per mile. Config #0: Sport Powertrain Mode.



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Certification Summary Information Report

Test Group		VMLNV04.0M22			Evaporative/Refueling Family					VMLNR0164M22		
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	CO	0.08900	--	--	--	0.160	--	0.2490	999.9999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.00618	--	1.1	--	0.0062	--	0.0124	999.9999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.01800	--	--	--	0.0047	--	0.0227	999.9999	Pass
CA	150,000 miles	California LEV-IV ULEV50	CO	0.09	--	--	--	0.160	--	0.2	1.7	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.00618	--	1.1	--	0.0062	--	0.0124	999.9999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.02418	--	--	--	--	--	0.035	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.01800	--	--	--	0.0047	--	0.0227	999.9999	Pass

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Fuel Properties			
Fuel Batch ID	44869	Fuel Calibration Number	2455
Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline	Fuel Batch Calibration Date	08/31/2021
Fuel Batch Calibration Effective Date	08/08/2022	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	0.748
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17829
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.835	Weight Fraction CO2	--
Fuel Batch ID	HA2903	Fuel Calibration Number	123
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	02/01/2019
Fuel Batch Calibration Effective Date	03/27/2019	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	0.752
Fuel Ethanol Volume Percent (%)	9.7	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18052
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--
Fuel Batch ID	IJ2303	Fuel Calibration Number	849
Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline	Fuel Batch Calibration Date	10/21/2020
Fuel Batch Calibration Effective Date	11/23/2020	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	0.748
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17810
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.836	Weight Fraction CO2	--
Fuel Batch ID	GB1203	Fuel Calibration Number	9253
Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)	Fuel Batch Calibration Date	02/23/2018
Fuel Batch Calibration Effective Date	06/26/2018	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--

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Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.749
Fuel Ethanol Volume Percent (%)	9.7	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17822
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	FA1103	Fuel Calibration Number	4563
Test Fuel Type	23 - CARB Phase II Gasoline	Fuel Batch Calibration Date	04/24/2018
Fuel Batch Calibration Effective Date	04/24/2018	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 (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18132
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.844	Weight Fraction CO2	--



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Certification Summary Information Report

Test Group		VMLNV04.0M22			Evaporative/Refueling Family			VMLNR0164M22		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		California + CAA Section 177 states			Cert/In-Use Code		Cert			
Vehicle Class		LDV/Passenger Car			Standard Level		California LEV-IV 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	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.9999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code		Cert			
Vehicle Class		LDV/Passenger Car			Standard Level		California LEV-IV 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	
150,000 miles	CO	--	--	--	--	--	--	0.160	1.7	
150,000 miles	HCHO	--	--	--	--	--	--	0.0002	0.004	
150,000 miles	METHANE	--	--	--	--	--	--	0.00265	0.030	
150,000 miles	N2O	--	--	--	--	--	--	0.0011	0.010	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.9999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code		Cert			
Vehicle Class		LDV/Passenger Car			Standard Level		California LEV-IV ULEV50			
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	--	--	--	--	--	--	0.160	1.7	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.9999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9999	



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Certification Summary Information Report

Test Group	VMLNV04.0M22			Evaporative/Refueling Family			VMLNR0164M22		
Cert Region	Federal			Cert/In-Use Code			Cert		
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
150,000 miles	CO	--	--	--	--	--	--	0.160	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	0.160	4.2
150,000 miles	CREE	--	--	--	--	--	--	0.0	999.999
150,000 miles	HCHO	--	--	--	--	--	--	0.0002	0.004
150,000 miles	METHANE	--	--	--	--	--	--	0.00265	0.030
150,000 miles	N2O	--	--	--	--	--	--	0.0011	0.01
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.05
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0.0	0.040
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999
Cert Region	California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class	LDV/Passenger Car			Standard Level			California LEV-IV 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
150,000 miles	CO	--	--	--	--	--	--	0.160	10.0
Cert Region	California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class	LDV/Passenger Car			Standard Level			California LEV-IV 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	CO	--	--	--	--	--	--	0.160	9.6
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.9999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9999



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Test Group		VMLNV04.0M22			Evaporative/Refueling Family			VMLNR0164M22		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 50		
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	--	--	--	--	--	--	0.160	999.9999	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.9999	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California LEV-IV ULEV50		
Fuel		Gasoline			Test Procedure			CA fuel 50 Deg(F) exhaust test		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
4,000 miles	CO	--	--	--	--	--	--	0.0	1.7	
4,000 miles	HCHO	--	--	--	--	--	--	0.0	0.016	
4,000 miles	NMOG	--	--	1.1	--	--	--	0.0	999.9999	
4,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.100	
4,000 miles	NOX	--	--	--	--	--	--	0.0	999.9999	
Cert Region		Federal			Cert/In-Use Code			Cert		
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	
150,000 miles	CREE	--	--	--	--	--	--	0.0	999.999	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999	



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Test Group		VMLNV04.0M22			Evaporative/Refueling Family			VMLNR0164M22		
Cert Region		Federal			Cert/In-Use Code			Cert		
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	CO	--	--	--	--	--	--	0.160	999.9999	
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.9999	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.9999	
Cert Region		Federal			Cert/In-Use Code			Cert		
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	
150,000 miles	CO	--	--	--	--	--	--	0.160	10.0	
150,000 miles	HC-NM	--	--	--	--	--	--	0.0062	0.3	
Evaporative/Refueling Standards										
Evaporative/Refueling Family		VMLNR0164M22			Cert Region			California + CAA Section 177 states		
Cert/In-Use Code		Cert			Standard Level			California LEV-IV Zero Evap (Option 2)		
Test Procedure		California fuel 2-day evap								
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF					
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.275	0.0					
Evaporative/Refueling Family		VMLNR0164M22			Cert Region			Federal		
Cert/In-Use Code		Cert			Standard Level			Federal Tier 3 Evap		
Test Procedure		California Fuel Running Loss								
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF					
Gasoline	150,000 miles	HC	--	0.05	0.000					



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Test Group	VMLNV04.0M22		Evaporative/Refueling Family	VMLNR0164M22	
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	California fuel 2-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.275	0.0
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.2	0.006
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.275	0.0021
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	CA fuel 3-day evap.				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.275	0.0021
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Spitback				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	SPITBACK	--	1.0	0.000

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Test Group	VMLNV04.0M22		Evaporative/Refueling Family	VMLNR0164M22	
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Evap Canister Bleed Test				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.02	0.000
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Spitback				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	SPITBACK	--	1.0	0.000
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	California Fuel Running Loss				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC	--	0.05	0.000
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Leak Test - Port Near Canister				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0.000
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	California + CAA Section 177 states California LEV-IV Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Evap Canister Bleed Test				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.02	0.000

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Certification Summary Information Report

Test Group	VMLNV04.0M22		Evaporative/Refueling Family	VMLNR0164M22	
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.2	0.006
Evaporative/Refueling Family	VMLNR0164M22		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Leak Test - Port Near Canister				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	LEAK-DIA	--	0.02	0.000

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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
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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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
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	IIDV2B200	Federal Tier 3 IID 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	IIDV3B630	Federal Tier 3 IID 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
IIDV2	IIDV2 (Federal IID chassis Class 3 GVW 10001-14000)	IIDV3B0	Federal Tier 3 IID 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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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
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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Certification Summary Information Report

Test Group	VMLNV04.0M22	Evaporative/Refueling Family	VMLNR0164M22
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 Imperter
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

8 MANUFACTURER STATEMENTS

8.1 Emissions Testing Waiver Statements

8.1.1 High Altitude Emissions

McLaren affirms that all light-duty vehicles included in the application comply with the applicable high-altitude exhaust and evaporative emissions standards. This is based on good engineering judgement and development testing.

In accordance with 40 CFR 86.1829-15(c) and 40 CFR 86.1829-01(b)(2)(ii)(B), we waive the data submittal on the basis of this statement.

In accordance with 40 CFR 86.1810-17(f) and 40 CFR 86.1865-12(h), McLaren affirms that emissions control strategies are used similarly across all altitudes for light-duty vehicles included in this application.

8.1.2 Particulate Matter (PM)

McLaren affirms that all light-duty vehicles included in the application comply with the applicable particulate matter emission standards. This is based on good engineering judgement and development testing.

In accordance with 40 CFR 86.1829-15(d)(2), we waive the data submittal on the basis of this statement.

8.1.3 Knock Sensor [ref. EPA Guidance VPCD-97-01]

McLaren affirms that the knock sensors do not activate in any way during the FTP and HWFET, and knock sensor control does not influence the City/Highway fuel economy and emission results; both remain within the normal test variability. The calibration is designed to operate on 91 RON gasoline without the need for spark adjustment.

8.1.4 Lean Best Torque [ref. EPA Guidance VPCD-98-17 / 40 CFR 86.1810-01(i)(6)]

McLaren affirms that in determining Lean Best Torque, good engineering practice has been used to establish a calibration such that the Air/Fuel ratio is not richer than the leanest required to obtain maximum torque plus a tolerance of 6% throughout all normal vehicle use. At very high torque and engine speed additional enrichment is provided to protect the engine and emissions control hardware.

8.1.5 Emission Control System Continuity

In accordance with 40 CFR 86.1809-12(e), McLaren affirms that based on engineering evaluation and emission testing there is no discontinuity in emission performance of non-methane organic gases, carbon monoxide, carbon dioxide, oxides of nitrogen, nitrous oxide, methane, and formaldehyde measured on the Federal Test Procedure and Highway Fuel Economy Test procedure in the temperature range 20°F to 86°F.

8.1.6 A/C-On Specific Calibrations

In accordance with 40 CFR 86.1811-17(d)(3), McLaren affirms that no A/C-On specific calibrations are used in the light-duty vehicles included in this application.

8.1.7 Lean-On-Cruise Calibration

In accordance with 40 CFR 86.1811-17(d)(4), McLaren affirms that no lean-on-cruise calibrations are used in the light-duty vehicles included in this application.

8.1.8 Exhaust System Statement

McLaren affirms that the exhaust system for the 2027MY Test Group VMLNV04.0M22 has been analysed and designed to provide a durable and leak-free exhaust system for the whole vehicle life. The exhaust system design takes into account the need to enable repairs to be performed with commonly available tools to provide and maintain a leak-free status.

8.1.9 ORVR Spitback

McLaren affirms that all light-duty vehicles included in the application comply with the applicable ORVR Spitback standards. This is based on good engineering judgement, development testing and commonality with McLaren Evaporative Families with submitted test data well below the standard.

In accordance with 40 CFR 86.1829-15(e)(5), we waive the data submittal on the basis of this statement.

8.1.10 Fuel System Effective Leak Diameter

McLaren affirms that all light-duty vehicles included in the application comply with the applicable Leak Diameter standards. This is based on good engineering judgement, development testing and commonality with McLaren Evaporative Families with submitted test data well below the standard.

In accordance with 40 CFR 86.1829-15(e)(4), we waive the data submittal on the basis of this statement.

8.1.11 Adjustable Parameters

In accordance with 40 CFR 86.1833-01, McLaren affirms that no adjustable parameters are used in the light duty vehicles included in this application.

9 OBD SYSTEM

9.1 OBD System Description

The VMLNV04.0M22 OBD system is designed and calibrated to be fully compliant with the following regulations/specifications:

- a) Title 13, California Code of Regulations, Section 1968.2
- b) SAE J1979 – (R) E.E Diagnostic Test Modes
- c) ISO 15031-5 Road Vehicles – Communication between vehicle and external equipment for emissions related diagnostics – Part 5: Emissions – related diagnostic services
- d) ISO 15765-4 Road Vehicles – Diagnostics on Controller Area Networks (CAN) – Part 4: Requirement for emissions related systems.

The corresponding OBD diagnostic connector is designed and located in accordance with specification SAE J1962.

The OBD system is detailed in Section 16 of the CBI version of this application.

9.2 OBD Approval

The CARB OBD approval letter is in Section 16 of the CBI version of this application.

10 DESCRIPTION OF ALTERNATE FUEL VEHICLES

Not applicable.

11 AUXILIARY EMISSION CONTROL DEVICE (AECD) DESCRIPTIONS

The AECD description information can be found in Section 16.3 of the CBI version of this application.

12 DESCRIPTION OF VEHICLES AND TEST PARAMETERS COVERED BY CERTIFICATE

Vehicle Description	Model Name	GTS
	Carline Code	222
	Vehicle Classification	LDV
	Sales Area	50 States
Emissions Control System Description	Catalysts	Coated monolith with stainless steel casing. 2 starter and 2 secondary catalysts
	EGR	N/A
	Air Pump Type	Twin Electric
	Fuel System Type	Multipoint Port Fuel Injection
	Air Intake Aspiration Method	Forced
	Other	N/A
	Engine Code	40JBAN
	Number of valves per cylinder	4
	Engine Displacement	3994 cm ³ / 243.7 in ³
	Transmission	Dual Clutch Transmission (Automatic)
	Shift Indicator Light	No
Fuel Tank Volume	72 litres	
Tyre Description	Tyre Size – Front	225/35/R20 90Y XL
	Rim Size – Front	8Jx20, offset 42mm
	Tyre Size – Rear	295/30/R21 102Y XL
	Rim Size – Rear	10.5Jx21, offset 25mm
Transmission	Highest Gear Ratio	0.686
	Final Drive Ratio	3.308
	N/V Ratio	27.8
	Road Load Horsepower	16.4
Vehicle Weight	Curb Weight	3357 lb
	GVWR	3937 lb
	Equivalent Test Weight	3750 lb

12.1 Test Parameters

12.1.1 Vehicle Operation and Engine Start/Stop Procedures (Extract from Owner’s Manual)

Driving Controls Starting and Driving

Brake discs and pads

WARNING: New brake pads require a period of bedding in. For the first 625 miles (1,000 km), avoid situations where heavy braking is required.

Brake disc and pad wear depends on the driving style and driving conditions.

Brake warning light

BRK The brake warning light will illuminate when the ignition is switched on as a system test. If the brake warning light illuminates at any other time, a fault is indicated. Stop the vehicle as soon as safety permits and contact your McLaren retailer immediately.

Starting/stopping the engine

WARNING: Never run the engine when the vehicle is in an enclosed space. Exhaust fumes contain poisonous carbon monoxide. Breathing exhaust fumes could lead to unconsciousness and death.

NOTE: Do not depress the accelerator pedal when starting the engine.

Starting the engine

1. Ensure that the key fob is in the vehicle.



2. Depress the brake pedal, press and release the START/STOP button and the engine will start.
3. If the START/STOP button is pressed again while the engine is cranking, cranking is stopped.

Stopping the engine

1. Depress the brake pedal.
2. Select neutral.



2.08

Driving Controls Starting and Driving

3. Press the START/STOP button. The engine stops, the vehicle enters Awake mode, see Vehicle electrical status, page 2.02. The immobilizer is activated.

NOTE: The parking brake will apply automatically when the engine is stopped. Automatic application can be overridden by holding the parking brake switch in the off position whilst opening the driver’s door.

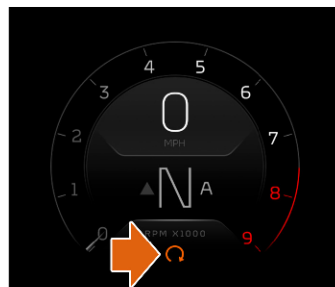
Eco Start-Stop system

This system automatically stops the engine when conditions allow in order to reduce fuel consumption and exhaust gas emissions and restarts it again when required.

The following conditions must be met for the system to automatically stop the engine:

- Driver is detected as present
- Driving speed exceeded 6 mph (10 km/h) since previous stop
- Engine at normal operating temperature
- Vehicle battery fully charged
- Air conditioning demand not too high
- Comfort Powertrain mode active

System operation



At very low speeds a status icon will be shown on the Driver Display.

The icon will illuminate amber if conditions have not been met and the system is not available.

If all conditions have been met and the system is available, the icon will illuminate green.

The system will automatically stop the engine when the brake pedal is depressed and the vehicle slows to a complete stop.

The message 'ENGINE STOPPED' will be shown on the Driver Display.

The engine will automatically restart when the brake pedal is released or any conditions that require the engine to restart are detected.

NOTE: If the parking brake is engaged while the engine is stopped, the engine will not restart when the brake pedal is released.

Depress the brake pedal, disengage the parking brake and then release the brake pedal in order to initiate the automatic restart.

NOTE: The engine may automatically re-start before the brake pedal is released in order to maintain electrical, air conditioning or other vehicle demand.

2.09

Driving Controls
Starting and Driving

Deactivating



Press the Eco Start-Stop system OFF button to deactivate the system. The light in the button will illuminate and the status light on the Driver Display will be extinguished.

Press the button again to activate the system.

i NOTE: If the Eco Start-Stop system OFF button is pressed when the engine has been automatically stopped, the engine will re-start.

i NOTE: The system is active by default when the ignition is switched on, even if it has been previously deactivated.

2.10

Driving

Driving away

⚠ **WARNING: Never turn the engine off while driving, there will be no assistance for the steering or the foot brake. You will need more effort to steer and brake and could lose control of the vehicle and cause an accident.**

i NOTE: Do not drive at high engine speeds until the engine has reached normal operating temperature.

i NOTE: The doors will lock when the vehicle reaches a speed of approximately 9 mph (15 km/h). Auto lock can be set on the Central Display, see Automatic door locking, page 4.16.

i NOTE: During extensive parking maneuvers the steering assistance might feel slightly stiffer. This is normal and designed to protect the steering system from overheating.

i NOTE: When starting from cold, engine idle speed may be increased and gear changes may occur at higher engine speeds. The catalytic converter will reach its operating temperature quicker and reduce engine emissions.

1. With the engine running, press and hold the brake pedal.
2. Select drive or reverse gear, or initiate an upshift by operating the gearshift paddles. For more information, see Gearshift paddles, page 2.17 and Gear positions, page 2.15.
3. Keep the brake pedal depressed and release the parking brake switch. The red status light on the Driver Display will be extinguished.

⚠ **WARNING: If the parking brake is manually released, the vehicle may start to move.**

i NOTE: If the parking brake is not manually released, it will automatically release as the vehicle is driven off forward, or in reverse as long as the following conditions are met:

- All doors are closed

12.1.2 Operation of the vehicle in a dynamometer test environment

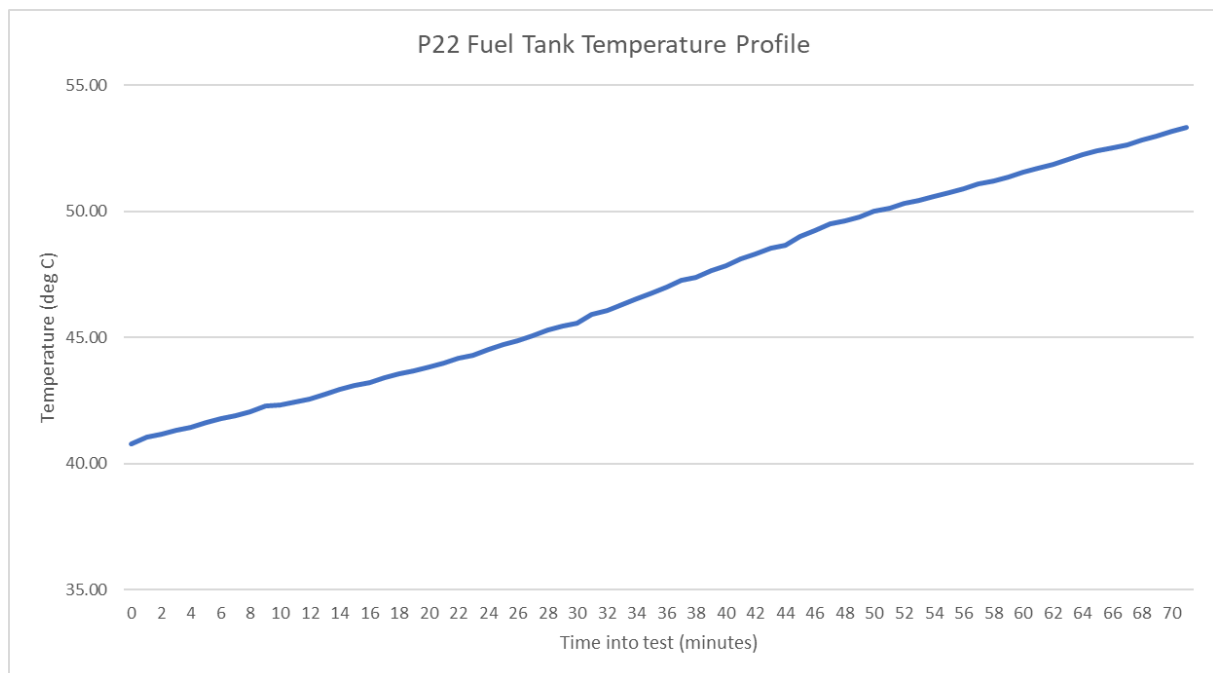
Information relating to operation of the vehicle in a dynamometer test environment is provided in Section 16 of the CBI version of this application.

12.1.3 Shift schedules:

FTA and US6A Automatic Transmission

12.1.4 Fuel Tank Temperature Profile

In accordance with the requirements of the California Evaporative Emissions Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles, Part III Section C and USA Federal requirements 40 CFR 86.129-94, testing has been conducted to measure the worst-case Fuel Tank Temperature Profile. The FTTP was corrected to 105°F using the provisions outlined in the California Evaporative Emissions Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles, Part III, Section C, Point 1.8. The data from which is presented in the graph below:



13 PROJECTED USA VEHICLE SALES

Refer to Section 16 of the CBI version of this application.

14 REQUEST FOR CERTIFICATION

14.1 Statement of Compliance:

McLaren Automotive Limited (McLaren) affirms that any element of design, system, or emission control device installed on or incorporated in McLaren's new motor vehicles or new motor vehicle engines, for the purpose of complying with standards prescribed under Section 202 of the Clean Air Act, will not to the best of McLaren's information and belief, cause the emission into the ambient air of pollutants in the operation of its motor vehicles or motor vehicle engines which cause or contribute to an unreasonable risk of public health or welfare except as specifically permitted by the standards prescribed under Section 202 of the Clean Air Act.

McLaren further states that any element of design, system, or emission control device installed on or incorporated in McLaren's new motor vehicles or new motor vehicle engines, for the purpose of complying with standards prescribed under Section 202 of the Clean Air Act, will not, to the best of McLaren's information and belief, cause or contribute to an unreasonable risk to the public safety.

The term pollutant means:

- a. Diesel particulates
- b. Nickel
- c. MMT combustion products
- d. Ammonia
- e. Sulphates
- f. Hydrogen sulphide
- g. Hydrogen cyanide
- h. Ruthenium combustion products
- i. Nitrosamines

or any other pollutant which McLaren has identified which can reasonably be expected to be emitted from these vehicles.

The test vehicle with respect to which data is submitted is in all material respects as described in the application for certification and has been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the application for certification. It meets the requirements of such tests, and on the basis of such tests, it conforms to the requirements of the regulations in 40 CFR Part 86 Subpart S.

The test vehicle for which certification is requested conforms to the requirements in 40 CFR 86.1810-17(a) and the description of tests performed to ascertain compliance with the general standards in 40 CFR 86.1810-17(a), and the data derived from such tests, is available.

McLaren Automotive Limited herewith applies for the Federal Certificate of Conformity and a California ARB Executive Order for the Test Group VMLNV04.0M22.

This Test Group complies with all applicable regulations contained in 40 Code of Federal Regulations Part 86 and the California Code of Regulations.



Peter Montague
Head of Homologation, McLaren Automotive Limited

15 OTHER INFORMATION

15.1 Vehicle Emission Control Information Label

McLAREN AUTOMOTIVE LTD	
VEHICLE EMISSION CONTROL INFORMATION	
CONFORMS TO REGULATIONS: 2027MY	TEST GROUP: VMLNV04.0M22 EVAP FAMILY: VMLNR0164M22
U.S. EPA: T3 B50 LDV	OBD: II FUEL: GASOLINE
CALIFORNIA: LEV IV ULEV50 PC	OBD: II FUEL: GASOLINE
2TWC(2)/2WR-HO2S/2HO2S/SFI/2AIR/2TC/2CAC	
Remarks:	No adjustments needed
	22AE601GP

15.2 Fuel Economy Label

EPA
DOT

Fuel Economy and Environment

Gasoline Vehicle

Fuel Economy

18

MPG

Two seaters range from 9 to 53 MPG. The best vehicle rates 146 MPGe.

15
city

22
highway

5.6 gallons per 100 miles

You spend

\$8,500

in fuel costs over 5 years

compared to the average new vehicle.

Annual fuel cost

\$3,300

Fuel Economy & Greenhouse Gas Rating (tailpipe only)

1

3

10

Best

Smog Rating (tailpipe only)

1

5

10

Best

This vehicle emits 390 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fueleconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 29 MPG and costs \$8,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.95 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fueleconomy.gov

Smartphone QR Code™

Calculate personalized estimates and compare vehicles

15.3 Certification Fee Payment

To the representative for McLaren Automotive Limited:

Your certification Fee Filing Form(s) submitted for the following family or test group(s) and the associated financial documentation for your payment of \$64634.00 were received on 04/03/2026.

- VMLNV03.0M16

- VMLNV04.0M22

This message indicates only that EPA has received record of your payment and form(s) for the above certification fee. It does not constitute the granting of a Certificate of Conformity by EPA or convey any information about the status of your certification application for the subject family or test group(s).

Please do not respond to this email. If you have any questions regarding certification of the family or test group(s), please contact your EPA Certification Representative; for questions on fees, contact Fees@epa.gov.