Application for Certification

Model Year:	2027
Manufacturer Name:	BMW
Test Group:	VBMXV03.0SM3
Test Group Description:	in-line 6-cylinder, 4-stroke, 3.0 Liter, gasoline
Durability Group:	VBMXGPGNNV35
Durability Group Description:	4-Stroke Otto Cycle gasoline direct fuel injection ceramic, metal, monolith Palladium, Rhodium Three-Way Catalyst
Evaporative Group:	VBMXR0150G3F
Applicable Standards:	EPA
FTP Standard:	Interim Tier 4 - Bin 70
SFTP Standard:	Interim Tier 4 composite - 0.070
EVAP FEL:	Tier 3 - 450
Vehicle Classes Covered:	EPA LDV
Carlines Covered:	M3 Competition M xDrive Sedan, M3 Competition Sedan, M3 Sedan, M4 Competition Coupe, M4 Competition M xDrive Convertible, M4 Competition M xDrive Coupe, M4 Coupe

Test EDV:

VID	CFG	Fuel	FTP	HWY	US06	SC03	Cold CO
CM64099	00	T3E10	SBMX10083792	SBMX10083799	SBMX10083802	SBMX10083803	SBMX10083806
CM64099	02	T2E0	SBMX10083810	SBMX10083811	---	---	---

Test EDV EVAP:

Family	VID	CFG	Fuel	3-day	RL	2-day	ORVR	BTP	Leak
R0150G3F	G463617	00	T3E10	JBMX10046019	JBMX10046020	JBMX10046029	JBMX10046036	JBMX10046037	JBMX10046038

For questions, Contact: Carlheinz Bayer, 201 / 571 - 5193

Table of Contents

1. Correspondence and Communications

1.1.	Authorized Persons	Refer to Common Section
1.2.	Certificate Information	Refer to Common Section
1.3.	Primary certification contact:	

Name: Carlheinz Bayer
Phone Number: 201 / 571 - 5193
Fax Number: 201 / 571 - 5479
E-Mail-Address: Carlheinz.Bayer@bmwna.com

2. Durability Group Description

2.1.	Durability Group Name	VBMXGPGNNV35
2.2.	Combustion Cycle	4-Stroke Otto Cycle
2.3.	Engine type	piston, water cooled
2.4.	Fuel used	gasoline
2.5.	Basic fuel metering system	direct fuel injection
2.6.	Catalyst construction	ceramic metal monolith
2.7.	Precious Metals in Catalyst	Palladium Rhodium
2.8.	Particulate Filter Construction	not applicable
2.9.	Precious Metals in Particulate Filter	not applicable
2.10.	Precious Metal Loading	Refer to Section 16, Confidential Information
2.11.	Range of Catalyst Grouping Statistics	9.8 - 7.4

3. Evaporative / Refueling Family Description

3.1.	Evaporative / Refueling Family Name	VBMXR0150G3F
3.2.	Evaporative / Refueling Family Parameters specified in 40 CFR § 86.1821-01:	
3.2.1.	Type of vapor storage device	canister
3.2.2.	Basic canister design	
	Working capacity:	150 g
	System configuration:	1 canister
	Canister Construction:	active charcoal granulate closed bottom
	Canister Materials:	plastic
3.2.3.	Fuel system	time-contr. DI
3.2.4.	Type of refueling emission control system	integrated system
3.2.5.	Fillpipe seal mechanism	liquid seal
3.2.6.	Vapor control system	passive mechanical system with liquid seal
3.2.7.	Purge control system	electric purge valve
3.2.8.	Vapor hose material	multilayer plastic
3.2.9.	Fuel tank material	hdpe
3.3.	Leak Family Description	same Leak-Standard in between the evaporative family

3.4. ORVR Statement

Evaporative Family VBMXR0150G3F

ORVR safety application is carried over from previous model year.

This evaporative / refueling family was first certified for model year 2025.

During this time period we had no in-use problems or defects related to the ORVR system that required action by BMW.

There have been no service notifications, campaigns, instructions or bulletins to dealers or field personal or changes in production procedures or components.
No safety-related defect campaigns have been conducted related to the ORVR system.
Therefore no EPA/NHTSA review of this evaporative / refueling family was required.

4. Durability Procedure Description

4.1. Description of used durability process

4.1.1. Alternative Durability Program for Exhaust Emissions:

The durability data vehicle was aged according to the bench aging process described in §86.1823-08. Following parameters were used to age the catalyst of the durability data vehicle:

	Exhaust branch 1. line	Exhaust branch 2. line
Tref [°C] =	879.79	878.91
calculated tref [h] =	410.3	415.1
effective tref [h] =	412.7	412.7

Statement:

Based on BMW`s good engineering judgment, all the vehicles described in this Application for Certification comply with all applicable intermediate and full useful life standards.

4.1.2. Durability Program for Evaporative/Refueling Emissions:

Confidential Information:
Refer to Common Section

4.2. Determination of certification Levels

4.2.1. Exhaust Emissions:

additive deterioration factor:

For Deterioration Factors refer to Summary Sheet enclosed in Chapter 7 of this application.

4.2.2. Evaporative/Refueling Emissions:

additive deterioration factor:

For Deterioration Factors refer to Summary Sheet enclosed in Chapter 7 of this application.

5. Test Group Description

5.1.	Test Group Name	VBMXV03.0SM3
5.2.	Engine information	
5.2.1.	Engine displacement	2993 cm^3
5.2.2.	Arrangement of cylinders	in line
5.2.3.	Number of cylinders	6
5.4.	Vehicle class	EPA
		LDV
5.5.	Emission standards class	Interim Tier 4 - Bin 70
5.6.	Applicable emission standards	Refer to Summary Sheet enclosed in Section 7 of this application.

6. Test Vehicle Description

6.1. Test Vehicle Description EDV, FEDV, DDV

VID	CFG	Carline	Model	Trans Type	Type	Fuel	ESS	Road Load CFG	Gear	Mode	eDrive	ETW
CM64099	00	--	M4 Competition M xDrive Convertible	SA-8	EDV	T3E10	OFF	10	refer to section 12	refer to section 12	refer to section 12	4500
CM64099	01	343	M4 Competition M xDrive Convertible	SA-8	FEDV	T2E0	ON	11	D1	Efficient	not applicable	4500
CM64099	02	343	M4 Competition M xDrive Convertible	SA-8	FEDV	T2E0	OFF	11	D3	Sport+	not applicable	4500
CM64099	03	342	M4 Competition M xDrive Coupe	SA-8	FEDV	T2E0	ON	11	D1	Efficient	not applicable	4250
CM64099	04	342	M4 Competition M xDrive Coupe	SA-8	FEDV	T2E0	OFF	11	D3	Sport+	not applicable	4250
CM64099	05	341	M3 Competition M xDrive Sedan	SA-8	FEDV	T2E0	ON	11	D1	Efficient	not applicable	4250
CM64099	06	341	M3 Competition M xDrive Sedan	SA-8	FEDV	T2E0	OFF	11	D3	Sport+	not applicable	4250
FJ19862	01	323	M4 Competition Coupe	SA-8	FEDV	T2E0	ON	11	D1	Efficient	not applicable	4250
FJ19862	02	323	M4 Competition Coupe	SA-8	FEDV	T2E0	OFF	11	D3	Sport+	not applicable	4250
FJ19870	00	322	M4 Coupe	M-6	FEDV	T2E0	OFF	11	---	Efficient	not applicable	4250
FJ19870	01	322	M4 Coupe	M-6	FEDV	T2E0	OFF	11	---	Sport+	not applicable	4250
LA57588	---	---	X3 M	---	DDV	T3E10	---	---	---	---	---	5750

Test parameters are described in the EV-CIS vehicle information

Road Load Configuration Description

X_ means number of FEDV tire groups used for this model
10 Road Load for EDV (worst case)
11 Road Load for FEDV configuration

6.2. Test Vehicle Description EVAP EDV

VID	CFG	Model	Type	Fuel	Family
G463617	00	M550i xDrive	EDV EVAP	T3E10	R0150G3F

For complete vehicle description, refer to Certification Summary Information Report Sheet, enclosed in Section 7 of this application.
Selection of vehicles carried out according to 40 CFR §86.1828-01(a).

7. Test results (Cover page)

7.1. Certification Summary Information Report submitted to EV-CIS

see attachment:
CSI-VBMXV03.0SM3-VBMXR0150G3F

7.2. Litmus Check

see attachment: 03LC-0SM3-02

8. Statements

8.1 Emission Testing Waiver Statements

All applicable vehicles will conform with the emission standards for which emission data is not being provided, as allowed under 40 CFR §86.1806-27, §86.1811-27, §86.1829-15 and §86.1865-12. The statements below identify the standards for which emission testing was not performed.

Data submittal waiver for HCHO emission compliance

Based on our engineering evaluation of appropriate HCHO emissions we state, that all light-duty vehicles included in the respective applications comply with the applicable HCHO emission standards. According to 40 CFR §86.1829-15 (d) (4), we waive the data submittal on the basis of this statement.

Data submittal waiver for high-altitude exhaust and evaporative emissions compliance

Based on an engineering evaluation of appropriate high-altitude emission testing we state that all vehicles included in this application comply with the applicable exhaust and evaporative emissions standards at high altitude. According to 40 CFR §86.1829-15 (c), we waive the data submittal on the basis of this statement.
According to 40 CFR §86.1865-12 (h) (3), we state for all vehicles included in this application that the hardware and software emission control strategies used during low altitude condition testing are used similarly across all altitudes for in-use operation.
According to 40 CFR §86.1811-27(c)(4) for Tier 4 vehicles we state based on an engineering evaluation for all vehicles included in this application that common calibration approaches are used at high altitudes, there is no deviation from low altitude emission control practices.

Evaporative Leak-Detection

For test groups not selected for OBD demonstration testing we state as the manufacturer, consistent with good engineering judgment, that all vehicles included in this application comply with the applicable leak monitoring requirement.

Spitback Testing Waiver

According to 40 CFR §86.1829-15 (e) (5), BMW certifies, that all vehicles included in this application do not exceed the fuel dispensing spitback standard of 1.0g THCE as given in §86.1813-17 (c).

8.2 Compliance Statements

"Lean-on-cruise" calibration strategies

There are no "Lean-on-cruise" calibration strategies according to 40 CFR §86.1811-17 (d)(4) incorporated into the vehicle design of this Test Group.

91RON-Statement

According to VPCD 97-01 we confirm that city and highway fuel economy test result differences between comparing 91 RON operation and 96 RON operation is within 3%. Emission standards are met at 91 RON operation and 96 RON operation as demonstrated by certification testing. Hereby EDV testing is done using Tier 3 E10 fuel with 91 RON, FEDV testing is using Tier 2 E0 fuel with 96 RON.

A/C-on specific calibrations-Statement

According to 40 CFR §86.1811-27(d) we state as the manufacturer that there are no A/C-on specific calibrations that differ from A/C-off calibrations for a given set of engine operating conditions which unnecessarily reduce emission control effectiveness during A/C-on operation when the vehicle is operated under conditions that may reasonably be expected during normal operation and use.

Cold Temperature Emission Control-Statement

According to 40 CFR §86.1809-12 (c) and based on engineering evaluations of emission testing between 25°F and 68°F, we confirm for all vehicles covered by this test group, that the guideline for CO, NMHC or NMOG+N0x as applicable, emission congruity in the intermediate temperature range is fulfilled by this test group.

Emission Control System Continuity-Statement

According to 40 CFR §86.1809-12 (e) and based on engineering evaluations of emission testing between 20°F and 86°F, we confirm for all vehicles covered by this test group, that there is no discontinuity in emissions of NMOG, PM, CO, CO2, N2O, NOx, CH4, HCHO, and in case of diesel vehicles also particulate emissions as measured on the FTP and Highway tests in the temperature range of 20°F to 86°F.

Engine Oil used for Certification Testing

Based on the guidance letters CISD-2008-11, CISD-10-11 and CD-2020-03 BMW confirms that it fulfills the "representativeness" requirements of 40 CFR 600.007(b)(6) with regard to the engine oils used in its test vehicles. BMW uses the factory fill oil for test vehicle run in, certification testing and fuel economy testing. The specific SAE viscosity grade used is included in the CSI information of each application. BMW uses non-API-registered fully synthetic oils. For factory fill, 0W-12, 0W-20, and 0W-30 oils are used (viscosity grades vary by engine model). For maintenance BMW recommends a 0W-12, 0W-20 or 0W-30 oil equivalent to or superior to the oil used for certification testing. BMW dealers are required to use this oil as part of the maintenance package included with each new vehicle. This approach is used to ensure that the oil used in certification test vehicles is no more fuel efficient than the oil that is used as the factory fill, or the oil recommended to the vehicle owner.

Enrichment Limit-Statement

According to 40 CFR §86.1811-17(d)(1) we confirm that the nominal air-fuel ratio throughout the US06 cycle at any speed and load point is not richer than the leanest air fuel mixture required to obtain maximum torque plus a tolerance of four percent.
For the engine covered by this application enrichment takes place at high engine loads (full load) resulting in high exhaust temperatures. Fixing spark advance at this condition allows very little Lambda variation without damaging either the engine (knocking) or the catalyst (over temperature). Therefore, BMW does not fix spark advance for LBT investigations at these full load engine operation conditions. The enrichment limit is fulfilled at any engine operation point.

Leak free exhaust system

Based on our engineering analysis of the complete exhaust system we state as the manufacturer, that the exhaust system installed on any vehicles covered by this application comply with the requirements of § 86.1844-01(d)(16). The analysis covers the exhaust system and all relared attached components from the engine block manifold gasket surface to a point sufficiently past the last catalyst and oxygen sensor in the system to assure that air will not reach the oxygen sensors under normal operating conditions.

N2O Compliance-Statement

For this model year BMW elects to use the option of paragraph §86.1818-12(f)(3) for this Test Group with an higher alternative standard.

OBD system

According to 40 CFR 86.1844-01 (d)(9)(iv) we confirm that the emission control diagnostic system installed on any vehicles included in this application is adequate for the performance warranty test described in 40 CFR Part 85 subpart W.

9. OBD System Description

The OBD System Description of this Test Group, MY 2027 has been uploaded separately to EV-CIS.

10. Description of Alternate-fueled Vehicles

not applicable

11. Auxiliary Emission Control Devices (AECD) descriptions

Confidential Information: Please refer to uploaded AECD document in EV-CIS

12. Description of vehicles and test parameters covered by certificate

12.1. Vehicle Parameters

12.1.1. Vehicle Information

Model Name	Carline	Trans	Vehicle Class	VCW [lbs]	ETW [lbs]	GVW [lbs]	Tank [gal]	Canister Working Capacity [g]	Canister Bed Volume [ccm]	Hydrocarbon Trap - Fleece
M3 Competition M xDrive Sedan	341	SA	LDV	3990	4250	4982	15.6	150	2600	No
M3 Competition Sedan	345	SA	LDV	3891	4250	4872	15.6	150	2600	No
M3 Sedan	344	M	LDV	3840	4250	4872	15.6	150	2600	No
M4 Competition Coupe	323	SA	LDV	3880	4250	4751	15.6	150	2600	No
M4 Competition M xDrive Convertible	--	SA	LDV	4306	4500	5170	15.6	150	2600	--
M4 Competition M xDrive Convertible	343	SA	LDV	4306	4500	5170	15.6	150	2600	No
M4 Competition M xDrive Coupe	342	SA	LDV	3979	4250	4861	15.6	150	2600	No
M4 Coupe	322	M	LDV	3829	4250	4751	15.6	150	2600	No

12.1.2. Drive Train Information

Model Name	Carline	Trans-Type (-drive Sys.)	# Gears	Axle ratio		Engine Code	hp / rpm	ft-lb / rpm
				front	rear			
M3 Competition M xDrive Sedan	341	SA (A)	8	3.15	3.15	S58B30T0G80X2	523 / 6250	479 / 2750 - 5730
M3 Competition Sedan	345	SA (R)	8	not applicable	3.15	S58B30T0G80S	503 / 6250	479 / 2750 - 5500
M3 Sedan	344	M (R)	6	not applicable	3.46	S58B30O0G80S	473 / 6250	406 / 2650 - 6130
M4 Competition Coupe	323	SA (R)	8	not applicable	3.15	S58B30T0G82S	503 / 6250	479 / 2750 - 5500
M4 Competition M xDrive Convertible	--	SA (A)	8	3.15	3.15	S58B30T0G83X1	523 / 6250	479 / 2750 - 5730
M4 Competition M xDrive Convertible	343	SA (A)	8	3.15	3.15	S58B30T0G83X1	523 / 6250	479 / 2750 - 5730
M4 Competition M xDrive Coupe	342	SA (A)	8	3.15	3.15	S58B30T0G82X1	523 / 6250	479 / 2750 - 5730
M4 Coupe	322	M (R)	6	not applicable	3.46	S58B30O0G82S	473 / 6250	406 / 2650 - 6130

12.1.3. Tire Information

Modell	Carline	Trans	Road Load CFG	Tire Front	Tire Rear
M3 Competition M xDrive Sedan	341	SA	11	285/30 ZR20 99Y STD	295/25 ZR21 96Y STD
				275/35 ZR19 100Y STD	285/30 ZR20 99Y STD
M3 Competition Sedan	345	SA	11	275/40 ZR18 103Y STD	285/35 ZR19 103Y STD
				285/30 ZR20 99Y STD	295/25 ZR21 96Y STD
				275/35 ZR19 100Y STD	285/30 ZR20 99Y STD
M3 Sedan	344	M	11	275/35 ZR19 100Y STD	285/30 ZR20 99Y STD
				275/40 ZR18 103Y STD	285/35 ZR19 103Y STD
				285/30 ZR20 99Y STD	295/25 ZR21 96Y STD
M4 Competition Coupe	323	SA	11	275/40 ZR18 103Y STD	285/35 ZR19 103Y STD
				275/35 ZR19 100Y STD	285/30 ZR20 99Y STD
				285/30 ZR20 99Y STD	295/25 ZR21 96Y STD
M4 Competition M xDrive Convertible	--	SA	10	worst case represented	worst case represented
	343	SA	11	285/30 ZR20 99Y STD	295/25 ZR21 96Y STD
				275/35 ZR19 100Y STD	285/30 ZR20 99Y STD

M4 Competition M xDrive Coupe	342	SA	11	285/30 ZR20 99Y STD	295/25 ZR21 96Y STD
				275/35 ZR19 100Y STD	285/30 ZR20 99Y STD
M4 Coupe	322	M	11	275/35 ZR19 100Y STD	285/30 ZR20 99Y STD
				275/40 ZR18 103Y STD	285/35 ZR19 103Y STD
				285/30 ZR20 99Y STD	295/25 ZR21 96Y STD

M+S indicates an all season tire and not a dedicated winter tire
RSC indicates a tire with run flat capability
STD indicates a tire without run flat capability

12.1.4. Emission control system description:

12.1.4.1. Catalyst — 2TWC, 2WU-TWC

12.1.4.2. Particulate Filter — not applicable

12.1.4.3. EGR / EGRC — EGR: no
EGRC: no

12.1.4.4. Air pump type — not applicable

12.1.4.5. Fuel system type — Direct injection

12.1.4.6. Intake air aspiration method — exhaust gas turbo charger with charge pressure control via wastegate

12.1.4.7. Other — Charged Air Cooler

12.1.5. Number of valves per cylinder — 4

12.1.6. Engine displacement — 2993 cm³

12.1.7. Certification Region — FA

12.1.8. Shift Indicator Light — not applicable

12.2. Test Parameters

12.2.1. Engine Starting Procedures — Refer to Common Section

12.2.2. Shift Schedules — not applicable

12.2.3. Dynamometer loading information

12.2.3.1. Sort of dynamometer — all wheel roll

12.2.3.2. Electric Dynamometer Coefficients

Modell	Carline	Trans	Road Load CFG	N/V	A [lbf]	B [lbf/mph]	C [lbf/mph²]	TRLHP	a [lbf]	b [lbf/mph]	c [lbf/mph²]	Grill Shutter
M3 Competition M xDrive Sedan	341	SA	11	26.1	68.3	-0.382	0.02687	15.5	18.2	-0.763	0.03023	No
M3 Competition Sedan	345	SA	11	26.1	63.9	-0.286	0.02580	15.2	not applicable	not applicable	not applicable	No
M3 Sedan	344	M	11	37.7	51.1	0.206	0.02101	15.2	not applicable	not applicable	not applicable	No
M4 Competition Coupe	323	SA	11	26.1	64.2	-0.285	0.02574	15.2	27.4	0.029	0.02122	No

M4 Competition M xDrive Convertible	--	SA	10	26.1	69.5	-0.378	0.02654	15.6	9.2	-0.072	0.02155	No
M4 Competition M xDrive Convertible	343	SA	11	26.1	69.5	-0.378	0.02654	15.6	9.2	-0.072	0.02155	No
M4 Competition M xDrive Coupe	342	SA	11	26.1	68.7	-0.380	0.02677	15.6	17.6	-0.738	0.02939	No
M4 Coupe	322	M	11	37.7	51.3	0.207	0.02095	15.2	33.7	0.017	0.02161	No

Road Load Configuration Description

X_ means number of FEDV tire groups used for this model
10 Road Load for EDV (worst case)
11 Road Load for FEDV configuration

12.4. Information on driver selectable modes

Drive Mode	Default Mode	Function
comfortable	no	comfortable setting for defined systems (e.g. climatic control, gas pedal progression)
sporty	no	sporty setting for defined systems (e.g. steering, gas pedal progression, shift points, less pure electric drive, e-boost)

Transmission Mode	Default Mode	Function
comfortable	no	standard comfortable vehicle gear operation
sporty	no	sporty setting for shift points

12.5. Modes used for EDV Testing

Test EDV:

VID	CFG	Fuel	FTP	HWY	US06	SC03	Cold CO
CM64099	00	T3E10	SBMX10083792	SBMX10083799	SBMX10083802	SBMX10083803	SBMX10083806
CM64099	02	T2E0	SBMX10083810	SBMX10083811	---	---	---

Drive Mode
T3E10 EDV testing is done in drive mode "Sport+" (sporty) and transmission mode "D3" (sporty). This is the worst case combination with highest engine revolutions. T2E0 EDV testing is done in both best case and worst case configuration. Best case testing is done in drive mode "Efficient" (Efficient) and transmission mode "D1" (comfortable). This represents the best case mode. Worst case testing is done in drive mode "Sport+" (sporty) and transmission mode "D3" (sporty). This is the worst case combination with highest engine revolutions.

13. Projected Sales

Refer to Common Section for Model Year 2027

14. Request for certification

We herewith apply for the Federal Certificate of conformity for the Test Group VBMXV03.0SM3.

The mentioned Test Group complies with all applicable regulations contained in 40 Code of Federal Regulations Part 85 and Part 86.

Dr. Bernd Ofner

15. Other Information

15.1. Vehicle Emission Control Information Label

Label according to certification requirements in 40 CFR § 86.1807-01.

The VECI label is attached to the engine hood.

Refer to Section 17, Attachment

Carline	Model Name	VECI Label
322	M4 Coupe	see attachment: 03VE-VSM3-01
323	M4 Competition Coupe	see attachment: 03VE-VSM3-01
341	M3 Competition M xDrive Sedan	see attachment: 03VE-VSM3-01
342	M4 Competition M xDrive Coupe	see attachment: 03VE-VSM3-01
343	M4 Competition M xDrive Convertible	see attachment: 03VE-VSM3-01
344	M3 Sedan	see attachment: 03VE-VSM3-01
345	M3 Competition Sedan	see attachment: 03VE-VSM3-01

15.2. Fuel Tank Temperature Profile

Fuel Tank Temperature Profile according to certification requirements in 40 CFR § 86.129-94(d).

Refer to Section 17, Attachment

Carline	Model Name	Evaporative Group	FTTP
322	M4 Coupe	VBMXR0150G3F	see attachment: FTTP-0G3F-01
323	M4 Competition Coupe		
341	M3 Competition M xDrive Sedan		
342	M4 Competition M xDrive Coupe		
343	M4 Competition M xDrive Convertible		
344	M3 Sedan		
345	M3 Competition Sedan		

17. Attachment

17.1	Fuel Tank Temperature Profile	see attachment: FTTP-0G3F-01
17.2	VECI Label	see attachment: 03VE-VSM3-01
17.3	Litmus Check	see attachment: 03LC-0SM3-02
17.4	Certification Summary Information Report	see attachment: CSI-VBMXV03.0SM3-VBMXR0150G3F

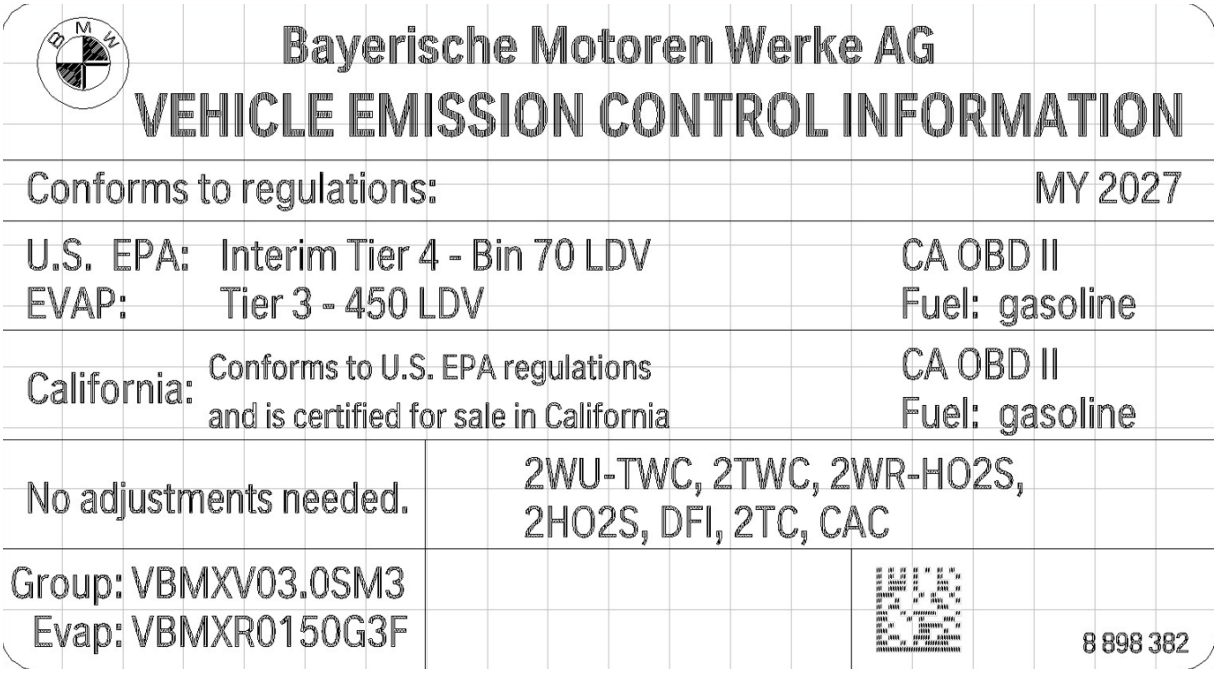
Test Vehicle Data		**Ambient Conditions**		**Test Data**	
Vehicle Type:	M550i xDrive	Weather:	sunny	Date of test:	05/25/2016
Mileage:	8422 mi	clouds	< 11 %	Engine start:	11:39
Fuel tank volume:	68 L	Wind speed:	0 mph	Measure start:	11:40
Fuel volume:	27..2 L	Ambient temp:		Measure stop:	12:52
		Start:	106 °F	Test track:	BAS Dubai
		End:	°F		
		Surface temp.:			
		Start:	°F		
		End:	°F		

Time [s]	Fuel Temp 1 [°F]	Fuel Temp 2 [°F]	Fuel Temp Average [°F]	Fuel Temp Average Correctet (to95°F) [°F]	Vapor Temp [°F]	Tank pressure [in H_2O]
0	97,63	97,70	97,67	95,00	103,71	-0,13
30	97,72	97,78	97,75	95,08	103,66	-0,13
60	97,81	97,87	97,84	95,17	103,62	-0,17
90	97,90	97,95	97,93	95,26	103,61	-2,71
120	97,98	98,02	98,00	95,33	103,59	-0,26
150	98,03	98,06	98,05	95,38	103,53	-0,39
180	98,09	98,11	98,10	95,43	103,39	-0,97
210	98,17	98,18	98,17	95,50	103,16	-1,96
240	98,26	98,28	98,27	95,60	102,74	-4,30
270	98,39	98,42	98,41	95,74	101,93	-2,68
300	98,56	98,59	98,57	95,91	100,88	-2,29
330	98,75	98,77	98,76	96,09	100,11	-0,49
360	98,93	98,95	98,94	96,27	99,82	-2,92
390	99,08	99,10	99,09	96,42	99,81	-0,29
420	99,23	99,24	99,24	96,57	99,93	-0,52
450	99,38	99,39	99,38	96,72	100,09	-0,35
480	99,52	99,53	99,53	96,86	100,20	-0,31
510	99,66	99,65	99,65	96,99	100,27	-3,28
540	99,78	99,78	99,78	97,12	100,38	-2,19
570	99,92	99,93	99,92	97,26	100,54	-0,96
600	100,06	100,08	100,07	97,40	100,68	-0,15
630	100,20	100,22	100,21	97,54	100,78	-0,16
660	100,35	100,36	100,35	97,68	100,90	-3,71
690	100,49	100,49	100,49	97,82	101,05	-1,47
720	100,63	100,64	100,64	97,97	101,22	-0,58
750	100,79	100,79	100,79	98,12	101,42	-1,90
780	100,94	100,95	100,94	98,28	101,64	-0,17
810	101,09	101,09	101,09	98,42	101,82	-0,18
840	101,23	101,23	101,23	98,56	101,91	-1,77
870	101,37	101,36	101,37	98,70	101,96	-2,35
900	101,51	101,50	101,51	98,84	102,03	-4,13
930	101,65	101,64	101,65	98,98	102,15	-4,44
960	101,79	101,79	101,79	99,12	102,37	-3,05
990	101,94	101,94	101,94	99,27	102,63	-2,44
1020	102,10	102,10	102,10	99,43	102,87	-0,58
1050	102,28	102,28	102,28	99,61	103,06	-1,83
1080	102,46	102,46	102,46	99,80	103,20	-0,27

1110	102,64	102,64	102,64	99,97	103,33	-3,24
1140	102,80	102,80	102,80	100,13	103,48	-1,91
1170	102,96	102,96	102,96	100,29	103,66	-1,71
1200	103,12	103,13	103,12	100,45	103,86	-2,51
1230	103,28	103,28	103,28	100,61	104,04	-2,35
1260	103,44	103,44	103,44	100,77	104,19	-2,54
1290	103,59	103,60	103,59	100,93	104,31	-4,73
1320	103,74	103,74	103,74	101,07	104,46	-0,75
1350	103,88	103,89	103,88	101,21	104,64	-2,99
1380	104,01	104,03	104,02	101,35	104,80	-0,59
1410	104,15	104,16	104,15	101,48	104,92	-0,60
1440	104,28	104,28	104,28	101,61	105,02	-0,61
1470	104,41	104,41	104,41	101,74	105,13	-0,60
1500	104,54	104,54	104,54	101,87	105,23	-0,60
1530	104,65	104,65	104,65	101,98	105,33	-0,60
1560	104,77	104,77	104,77	102,10	105,45	-1,00
1590	104,90	104,91	104,91	102,24	105,59	-0,39
1620	105,06	105,07	105,06	102,40	105,72	-2,69
1650	105,21	105,22	105,21	102,55	105,85	-3,75
1680	105,35	105,36	105,35	102,69	106,01	-0,98
1710	105,50	105,50	105,50	102,83	106,17	-0,69
1740	105,66	105,66	105,66	102,99	106,31	-0,76
1770	105,81	105,82	105,81	103,15	106,43	-1,22
1800	105,96	105,97	105,96	103,29	106,54	-1,57
1830	106,10	106,11	106,10	103,44	106,66	-1,40
1860	106,23	106,24	106,24	103,57	106,78	-0,67
1890	106,35	106,36	106,36	103,69	106,89	-1,19
1920	106,46	106,47	106,47	103,80	107,00	-3,53
1950	106,57	106,58	106,57	103,90	107,09	-0,74
1980	106,68	106,68	106,68	104,01	107,19	-0,81
2010	106,79	106,80	106,79	104,12	107,32	-1,00
2040	106,90	106,91	106,91	104,24	107,49	-1,03
2070	107,00	107,02	107,01	104,34	107,63	-0,58
2100	107,11	107,12	107,11	104,44	107,73	-0,60
2130	107,22	107,23	107,22	104,56	107,82	-0,61
2160	107,34	107,36	107,35	104,68	107,95	-0,83
2190	107,45	107,48	107,47	104,80	108,11	-1,47
2220	107,57	107,59	107,58	104,91	108,25	-0,26
2250	107,68	107,69	107,68	105,01	108,35	-2,18
2280	107,79	107,80	107,79	105,12	108,46	-0,72
2310	107,90	107,91	107,91	105,24	108,58	-0,35
2340	108,01	108,04	108,03	105,36	108,71	-0,77
2370	108,13	108,17	108,15	105,48	108,85	-1,35
2400	108,25	108,29	108,27	105,60	109,01	-0,66
2430	108,37	108,40	108,39	105,72	109,16	-1,88
2460	108,49	108,51	108,50	105,83	109,29	-0,79
2490	108,60	108,62	108,61	105,94	109,45	-1,55
2520	108,71	108,73	108,72	106,05	109,64	-3,67
2550	108,82	108,84	108,83	106,16	109,82	-0,76
2580	108,94	108,96	108,95	106,28	109,95	-0,85
2610	109,05	109,08	109,06	106,39	110,07	-1,08
2640	109,16	109,19	109,17	106,50	110,24	-2,05
2670	109,27	109,29	109,28	106,61	110,50	-0,93
2700	109,39	109,41	109,40	106,73	110,83	-0,94
2730	109,51	109,52	109,51	106,85	111,18	-0,94
2760	109,62	109,63	109,63	106,96	111,51	-0,97
2790	109,73	109,74	109,74	107,07	111,80	-1,06

2820	109,85	109,86	109,85	107,18	112,03	-1,06
2850	109,97	109,98	109,97	107,30	112,22	-2,07
2880	110,08	110,09	110,09	107,42	112,35	-4,51
2910	110,20	110,20	110,20	107,53	112,40	-4,72
2940	110,33	110,33	110,33	107,66	112,46	-0,92
2970	110,47	110,47	110,47	107,80	112,55	-1,19
3000	110,60	110,60	110,60	107,93	112,63	-1,17
3030	110,73	110,74	110,73	108,06	112,71	-3,10
3060	110,86	110,86	110,86	108,19	112,88	-2,65
3090	110,99	110,99	110,99	108,32	113,17	-4,04
3120	111,12	111,13	111,12	108,45	113,51	-0,47
3150	111,26	111,27	111,26	108,60	113,76	-0,97
3180	111,41	111,43	111,42	108,75	113,83	-3,32
3210	111,57	111,59	111,58	108,91	113,86	-1,43
3240	111,73	111,74	111,74	109,07	113,97	-0,68
3270	111,88	111,88	111,88	109,21	114,13	-3,60
3300	112,03	112,03	112,03	109,36	114,28	-3,16
3330	112,18	112,18	112,18	109,51	114,44	-4,24
3360	112,30	112,31	112,30	109,64	114,60	-0,77
3390	112,41	112,42	112,42	109,75	114,70	-1,98
3420	112,54	112,54	112,54	109,87	114,72	-2,80
3450	112,67	112,66	112,67	110,00	114,72	-0,87
3480	112,80	112,79	112,80	110,13	114,76	-1,77
3510	112,91	112,91	112,91	110,24	114,87	-3,86
3540	113,02	113,03	113,02	110,36	114,98	-2,08
3570	113,14	113,15	113,15	110,48	115,08	-0,76
3600	113,27	113,27	113,27	110,60	115,17	-4,13
3630	113,38	113,37	113,38	110,71	115,29	-1,44
3660	113,47	113,46	113,46	110,80	115,39	-4,47
3690	113,56	113,55	113,56	110,89	115,44	-3,94
3720	113,67	113,66	113,67	111,00	115,50	-4,49
3750	113,79	113,79	113,79	111,12	115,61	-4,50
3780	113,90	113,90	113,90	111,23	115,74	-3,85
3810	114,02	114,01	114,02	111,35	115,84	-4,33
3840	114,15	114,13	114,14	111,47	115,90	-0,75
3870	114,28	114,25	114,27	111,60	115,95	-2,99
3900	114,39	114,37	114,38	111,71	116,05	-0,96
3930	114,49	114,47	114,48	111,81	116,13	-1,15
3960	114,58	114,57	114,58	111,91	116,15	-0,59
3990	114,67	114,67	114,67	112,00	116,15	-0,71
4020	114,77	114,77	114,77	112,10	116,16	-3,70
4050	114,86	114,85	114,86	112,19	116,23	-0,67
4080	114,96	114,94	114,95	112,28	116,32	-2,17
4110	115,06	115,05	115,05	112,38	116,36	-2,87
4140	115,16	115,14	115,15	112,48	116,37	-0,82
4170	115,26	115,23	115,25	112,58	116,38	-2,14
4200	115,37	115,34	115,36	112,69	116,38	-1,00
4230	115,49	115,47	115,48	112,81	116,38	-1,03
4260	115,60	115,59	115,60	112,93	116,39	-1,07
4290	115,69	115,69	115,69	113,02	116,42	-1,07
4320	115,78	115,79	115,79	113,12	116,45	-1,08

DRAFT - Inverted Representation



Original representation

Base: Black
Characters: Silver

Enclosure to Certification Summary Information Report

Test	Test Number	Test Procedure	Man FE	FE Bag1	FE Bag2	FE Bag3
FTP75	SBMX10083792	31	17.4	17.1	16.6	19.6
HWFET	SBMX10083799	3	28.2			
US06	SBMX10083802	90		13.0	23.0	
SC03	SBMX10083803	95		15.5		
Cold CO	SBMX10083806	11		14.4	15.4	19.1

Model Specific Calculation (5 Cycle)

City	[mi/gallon]
Start FC	0.0028
Start Fuel 75	0.0269
Start Fuel 20	0.0615
Running FC	0.0598
Label City (5 Cycle)	14.5

Highway	[mi/gallon]
Start FC	0.0002
Start Fuel 75	0.0269
Start Fuel 20	0.0615
Running FC	0.0426
Label Highway (5 Cycle)	21.2

Derived Calculation (2 Cycle)

Label City (2 Cycle)	14.1
Threshhold (96% Derived MPG - 2 Cycle)	13.5

Label Highway (2 Cycle)	20.4
Threshhold (95% Derived MPG - 2 Cycle)	19.4

Model Specific Calculation Label City (5 Cycle)	Threshhold City (96% Derived MPG - 2 Cycle)	Model Specific Calculation Label Highway (5 Cycle)	Threshhold HWY (95% Derived MPG 2 Cycle)
14.5	13.5	21.2	19.4

Certification Summary Information Report

Manufacturer	BMW	**Manufacturer Code**	BMX
Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	02/12/2026 12:26:14 AM
Model Year	2027		

Test Group Information

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

Drive Sources and Fuel(s)

Drive Source #1: Combustion Engine

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

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Rechargeable Energy Storage System Indicator**	--
Multiple Fuel Combustion	--	**Off-board Charge Capable Indicator**	--
Fuel Cell Indicator	--	**EPA Vehicle Class**	LDV
Federal Clean Fuel Vehicle	No	**Federal Clean Fuel Vehicle Standard**	--
Federal Clean Fuel Vehicle ILEV	--	**California Partial Zero Emissions Vehicle Indicator**	--
Durability Group Name	VBMXGPGNNV35	**Durability Group Equivalency Factor**	1
Reduced Fee Test Group	No	**Certification Region Code(s)**	FA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	--	**CAP2000 Conditional Certificate?**	N/A
Independent Commercial Importer?	--	**Alternative Fuel Converter Certificate?**	--
SFTP Federal Composite Compliance Identifier	Tier 3	**SFTP Tier 2 Composite CO Option**	--
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	**OBD Demonstration Vehicle Test Group**	VBMXV03.0SM3
Test Group OBD Compliance Level	Partial - with deficiencies	**Number of Test Group OBD Deficiencies**	1
OBD Deficiencies Comments	E-26-020		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Evaporative/Refueling Family Information

Evaporative Summary Information Type	New	**Submission/Correction Date**	01/08/2026 09:05:39 AM
Integrated ORVR?	Yes	**Fuel(s)**	Gasoline
Multiple Fuel Storage	--		
Bladder Fuel Tank?	No		
Fuel Tank Material	Plastic	**Fuel Tank Material Description**	HDPE
Fill Pipe Seal Type	Liquid seal		
Air Intake System Vapor Storage Device?	No	**Air Intake System Vapor Storage Device Description**	--
Fuel System Vapor Storage Canister?	Yes	**Other Vapor Storage**	--
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	150	**Number of Primary Canisters**	1
Number of Bleed Canisters	0	**Bleed Canister Total Working Capacity (grams)**	--
Mfr Evaporative/Refueling Family Comments	--		

Leak Family Details

Leak Family Indicator	No		
Canister Bleed Test Indicator	Yes	**Applicability of Evaporative Canister Bleed Test**	50 State
Evaporative Canister Bleed Test Comments	--		
CARB Fuel Only (Rig) Test Indicator	No	**Applicability of CARB Fuel Only (Rig) Test**	--
CARB Fuel Only (Rig) Test Comments	--		

Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
BMW	1 - BMW	344 - M3 Sedan	Federal	2-Wheel Drive, Rear	Manual	6	No
BMW	1 - BMW	342 - M4 Competition M xDrive Coupe	Federal	All Wheel Drive	Semi-Automatic	8	Yes
BMW	1 - BMW	323 - M4 Competition Coupe	Federal	2-Wheel Drive, Rear	Semi-Automatic	8	Yes
BMW	1 - BMW	343 - M4 Competition M xDrive Convertible	Federal	All Wheel Drive	Semi-Automatic	8	Yes
BMW	1 - BMW	322 - M4 Coupe	Federal	2-Wheel Drive, Rear	Manual	6	No
BMW	1 - BMW	341 - M3 Competition M xDrive Sedan	Federal	All Wheel Drive	Semi-Automatic	8	Yes
BMW	1 - BMW	345 - M3 Competition Sedan	Federal	2-Wheel Drive, Rear	Semi-Automatic	8	Yes

Engine Description

Hybrid Type	--	**Hybrid Description**	--
Engine Type	4-Stroke Spark Ignition	**Mfr Engine Description**	--
Engine Block Arrangement	Inline	**Mfr Engine Block Arrangement Description**	--
Camless Valvetrain Indicator	No	**Oil Viscosity/Classification**	0W30
Number of Cylinders/Rotors	6	**Mechanically Variable Compression Ratio Indicator**	N

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F

After Treatment Device(s) (ATD)

ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction
1	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
2	Three-way catalyst	Palladium + Rhodium	Metal	Monolith
3	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
4	Three-way catalyst	Palladium + Rhodium	Metal	Monolith

Mfr After Treatment Device (ATD) Comments	--
Direct Ozone Reduction (DOR) Device	Not Equipped
Mfr Emission Control Device Comments	--

Engine Configuration Number 1

Engine Displacement (liters)	3.0	**Engine Rated Horsepower**	473
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 valve timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	variable valve lift at inlet valves		
Number of Knock Sensors	2	**Number of Air/Fuel Sensors**	4
Air/Fuel Sensor # 1 Type	Air fuel	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Heated oxygen	**Air/Fuel Sensor # 2 Description**	--
Air/Fuel Sensor # 3 Type	Air fuel	**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	--	**Air Injection Type if 'Other'**	--
Mfr Engine Configuration Comments	--		

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Engine Configuration Number 2

Engine Displacement (liters)	3.0	**Engine Rated Horsepower**	503
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 valve timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	variable valve lift at inlet valves		
Number of Knock Sensors	2	**Number of Air/Fuel Sensors**	4
Air/Fuel Sensor # 1 Type	Heated oxygen	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Air fuel	**Air/Fuel Sensor # 2 Description**	--
Air/Fuel Sensor # 3 Type	Heated oxygen	**Air/Fuel Sensor # 3 Description**	--
Air/Fuel Sensor # 4 Type	Air fuel	**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	--	**Air Injection Type if 'Other'**	--
Mfr Engine Configuration Comments	--		

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Engine Configuration Number 3

Engine Displacement (liters)	3.0	**Engine Rated Horsepower**	523
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 valve timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	variable valve lift at inlet valves		
Number of Knock Sensors	2	**Number of Air/Fuel Sensors**	4
Air/Fuel Sensor # 1 Type	Heated oxygen	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Air fuel	**Air/Fuel Sensor # 2 Description**	--
Air/Fuel Sensor # 3 Type	Heated oxygen	**Air/Fuel Sensor # 3 Description**	--
Air/Fuel Sensor # 4 Type	Air fuel	**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	--	**Air Injection Type if 'Other'**	--
Mfr Engine Configuration Comments	--		

Official Test Numbers

Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Gasoline	SBMX10083792	SBMX10083802	SBMX10083803	SBMX10083806	SBMX10083799	17.0	228.2	28.2	286.1	--

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Gasoline	SBMX10083792	SBMX10083802	SBMX10083803

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Emission Data Vehicle Information

Vehicle ID / Configuration	CM64099 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	SBMXV03.0SM3	**Original Evaporative/Refueling Family**	SBMXR0150G3F
Original Test Vehicle Model Year	2025		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	M4 Competition M xDrive Convertible

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

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	S58B30T0G83X1	**Rated Horsepower**	523
Displacement (liters)	3		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	2	**Air Aspiration Device Configuration**	Parallel
Charge Air Cooler Type	Air	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4306	**Equivalent Test Weight (pounds)**	4500
GVWR (lbs)	5170	**N/V Ratio**	26.1
Axle Ratio	3.15		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper Gear**	No

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F

Dynamometer Coefficients:

Coefficient Category	Target Coefficients A (lbf)	Target Coefficients B (lbf/mph)	Target Coefficients C (lbf/mph**2)	Set Coefficients A (lbf)	Set Coefficients B (lbf/mph)	Set Coefficients C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	69.5	-0.378	0.02654	9.2	-0.072	0.02155	15.6
Cold CO	76.5	-0.416	0.0292	10.2	-1.003	0.03323	N/A
US06	69.5	-0.378	0.02654	9.2	-0.072	0.02155	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083792**	**Test Procedure**	**31 - Federal fuel 3-day exhaust**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/25/2023	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	34
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4344	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	504.2272	--
FE BAG 1 (Bag 1 Fuel Economy)	17.1	17.1
CO2 BAG 2 (Bag 2 Carbon Dioxide)	520.5929	--
FE BAG 2 (Bag 2 Fuel Economy)	16.6	16.6
CO2 BAG 3 (Bag 3 Carbon Dioxide)	439.641	--
FE BAG 3 (Bag 3 Fuel Economy)	19.6	19.6
METHANE (CH4 - Methane)	0.00238	--
CO (Carbon Monoxide)	0.1405	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.347	--
DT-EER (Drive Trace Energy Economy Rating)	0.538	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.033	--
MFR FE (Manufacturer Fuel Economy)	17.4	17.4
NOX (Nitrogen Oxide)	0.03022	--
N2O (Nitrous Oxide)	0.00487	--
HC-NM (Non-methane Hydrocarbon)	0.0082	--
NMOG (Non-methane organic gases)	0.00903	--
PM (Particulate Matter)	0.000638	--
HC-TOTAL (Total Hydrocarbon)	0.01033	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	495	999

Certification Summary Information Report

Test Group VBMXV03.0SM3 **Evaporative/Refueling Family** VBMXR0150G3F

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	494.9706	--

Manufacturer Test Comments 01_FTP_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	999	--	--	--	0.2	--	999	--	--
Fed	120,000 miles	Other	METHANE	0.0024	--	--	--	0.0002	--	0.003	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0049	--	--	--	0.0000	--	0.005	0.015	Pass
Fed	150,000 miles	Other	CO	0.14	--	--	--	0.18	--	0.3	1.7	Pass
Fed	150,000 miles	Other	CO-COMP	0.24	--	--	--	--	--	0.2	4.2	Pass
Fed	150,000 miles	Other	NMOG	0.0090	--	1.10	--	0.0045	--	0.014	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0392	--	--	--	--	--	0.044	0.070	Pass
Fed	150,000 miles	Other	NMOG+NOX-COMP	0.0355	--	--	--	--	--	0.036	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0302	--	--	--	0.0000	--	0.030	99.999	Pass
Fed	150,000 miles	Other	PM	0.0006	--	--	--	0.0000	--	0.001	0.003	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083806**	**Test Procedure**	**11 - Cold CO**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	12/01/2023	**Fuel**	Gasoline
Fuel Batch ID	COE10	**Fuel Calibration Number**	41
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5664	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	598.4666	--
FE BAG 1 (Bag 1 Fuel Economy)	14.4	14.4
CO2 BAG 2 (Bag 2 Carbon Dioxide)	560.7856	--
FE BAG 2 (Bag 2 Fuel Economy)	15.4	15.4
CO2 BAG 3 (Bag 3 Carbon Dioxide)	452.0507	--
FE BAG 3 (Bag 3 Fuel Economy)	19.1	19.1
METHANE (CH4 - Methane)	0.00633	--
CO (Carbon Monoxide)	0.237	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.638	--
DT-EER (Drive Trace Energy Economy Rating)	0.603	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.891	--
MFR FE (Manufacturer Fuel Economy)	16	16
NOX (Nitrogen Oxide)	0.03274	--
HC-NM (Non-methane Hydrocarbon)	0.02827	--
NMOG (Non-methane organic gases)	0.0311	--
HC-TOTAL (Total Hydrocarbon)	0.03403	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	539	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	538.7009	--

Certification Summary Information Report

Test Group VBMXV03.0SM3 **Evaporative/Refueling Family** VBMXR0150G3F

Manufacturer Test Comments 06_FTPCOLD_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	50,000 miles	Other	CO	0.24	--	--	--	0.06	--	0.3	10.0	Pass
Fed	120,000 miles	Other	HC-NM	0.03	--	--	--	0.00	--	0.0	0.3	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083799**	**Test Procedure**	**3 - HWFE**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/25/2023	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	34
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4362	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0.0029	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	4.156	--
DT-EER (Drive Trace Energy Economy Rating)	0.501	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.745	--
MFR FE (Manufacturer Fuel Economy)	28.2	28.2
NOX (Nitrogen Oxide)	0.0047	--
HC-NM (Non-methane Hydrocarbon)	0.00015	--
NMOG (Non-methane organic gases)	0.00016	--
HC-TOTAL (Total Hydrocarbon)	0.00015	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	306	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	306.0716	--

Manufacturer Test Comments 02_HWFET_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

Certification Summary Information Report

Test Group VBMXV03.0SM3 **Evaporative/Refueling Family** VBMXR0150G3F

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	999	--	--	--	0.2	--	999	--	--
Fed	150,000 miles	Other	NMOG	0.0002	--	1.03	--	0.0045	--	0.005	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0049	--	--	--	--	--	0.009	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0047	--	--	--	0.0000	--	0.005	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083802**	**Test Procedure**	**90 - US06**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/25/2023	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	34
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4405	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	661.8722	--
FE BAG 1 (Bag 1 Fuel Economy)	13	13
CO2 BAG 2 (Bag 2 Carbon Dioxide)	375.7251	--
FE BAG 2 (Bag 2 Fuel Economy)	23	23
METHANE (CH4 - Methane)	0.00393	--
CO (Carbon Monoxide)	0.0052	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.342	--
DT-EER (Drive Trace Energy Economy Rating)	0.064	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.675	--
MFR FE (Manufacturer Fuel Economy)	19.7	19.7
NOX (Nitrogen Oxide)	0.01946	--
HC-NM (Non-methane Hydrocarbon)	0.00104	--
NMOG (Non-methane organic gases)	0.00108	--
PM (Particulate Matter)	0.000209	--
HC-TOTAL (Total Hydrocarbon)	0.0048	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	439.0716	--

Manufacturer Test Comments 03_US06_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

Certification Summary Information Report

Test Group VBMXV03.0SM3 **Evaporative/Refueling Family** VBMXR0150G3F

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Other	CO	0.01	--	--	--	0.18	--	0.2	99.9	Pass
Fed	150,000 miles	Other	NMOG	0.0011	--	1.03	--	0.0045	--	0.006	99.999	Pass
Fed	150,000 miles	Other	NOX	0.0195	--	--	--	0.0000	--	0.020	99.999	Pass
Fed	150,000 miles	Other	PM	0.0002	--	--	--	0.0000	--	0.000	0.006	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083803**	**Test Procedure**	**95 - SC03**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/30/2023	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	34
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4604	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.00119	--
CO (Carbon Monoxide)	0.0114	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.156	--
DT-EER (Drive Trace Energy Economy Rating)	-0.071	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.769	--
MFR FE (Manufacturer Fuel Economy)	15.5	15.5
NOX (Nitrogen Oxide)	0.03072	--
HC-NM (Non-methane Hydrocarbon)	0.00033	--
NMOG (Non-methane organic gases)	0.00034	--
HC-TOTAL (Total Hydrocarbon)	0.00151	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	556.4742	--

Manufacturer Test Comments 04_SC03_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

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	Other	CO	0.01	--	--	--	0.18	--	0.2	99.9	Pass
Fed	150,000 miles	Other	NMOG	0.0003	--	1.03	--	0.0045	--	0.005	99.999	Pass
Fed	150,000 miles	Other	NOX	0.0307	--	--	--	0.0000	--	0.031	99.999	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Emission Data Vehicle Information

Vehicle ID / Configuration	CM64099 / 2	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	SBMXV03.0SM3	**Original Evaporative/Refueling Family**	SBMXR0150G3F
Original Test Vehicle Model Year	2025		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	M4 Competition M xDrive Convertible

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

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	S58B30T0G83X1	**Rated Horsepower**	523
Displacement (liters)	3		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	2	**Air Aspiration Device Configuration**	Parallel
Charge Air Cooler Type	Air	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4306	**Equivalent Test Weight (pounds)**	4500
GVWR (lbs)	5170	**N/V Ratio**	26.1
Axle Ratio	3.15		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper 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	69.5	-0.378	0.02654	9.2	-0.072	0.02155	15.6

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Emission Control Device Comments	--
Manufacturer Test Vehicle Comments	vi_CM64099_02_FEDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG11_Sport+_D3_ESS off

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083810**	**Test Procedure**	**31 - Federal fuel 3-day exhaust**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	10/20/2023	**Fuel**	Gasoline
Fuel Batch ID	T2/E0	**Fuel Calibration Number**	40
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4158	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	497.6125	--
FE BAG 1 (Bag 1 Fuel Economy)	17.5	17.5
CO2 BAG 2 (Bag 2 Carbon Dioxide)	538.5009	--
FE BAG 2 (Bag 2 Fuel Economy)	16.2	16.2
CO2 BAG 3 (Bag 3 Carbon Dioxide)	448.8358	--
FE BAG 3 (Bag 3 Fuel Economy)	19.4	19.4
METHANE (CH4 - Methane)	0.00229	--
CO (Carbon Monoxide)	0.2158	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.378	--
DT-EER (Drive Trace Energy Economy Rating)	0.444	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.03	--
MFR FE (Manufacturer Fuel Economy)	17.3	17.3
NOX (Nitrogen Oxide)	0.02463	--
N2O (Nitrous Oxide)	0.00453	--
HC-NM (Non-methane Hydrocarbon)	0.00913	--
NMOG (Non-methane organic gases)	0.00949	--
HC-TOTAL (Total Hydrocarbon)	0.01132	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	505	505

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	505.367	--

Manufacturer Test Comments 01_FTP_CM64099_02_FEDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG11_Sport+_D3_ESS off

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	505	--	--	--	0.2	--	505	--	--
Fed	120,000 miles	Other	METHANE	0.0023	--	--	--	0.0002	--	0.002	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0045	--	--	--	0.0000	--	0.004	0.015	Pass
Fed	150,000 miles	Other	CO	0.22	--	--	--	0.18	--	0.4	1.7	Pass
Fed	150,000 miles	Other	NMOG	0.0095	--	1.10	--	0.0045	--	0.014	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0341	--	--	--	--	--	0.039	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0246	--	--	--	0.0000	--	0.025	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**SBMX10083811**	**Test Procedure**	**3 - HWFE**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	10/20/2023	**Fuel**	Gasoline
Fuel Batch ID	T2/E0	**Fuel Calibration Number**	40
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4176	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.00048	--
CO (Carbon Monoxide)	0.0123	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	3.521	--
DT-EER (Drive Trace Energy Economy Rating)	0.189	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.356	--
MFR FE (Manufacturer Fuel Economy)	28.5	28.5
NOX (Nitrogen Oxide)	0.00357	--
HC-NM (Non-methane Hydrocarbon)	0.00132	--
NMOG (Non-methane organic gases)	0.00135	--
HC-TOTAL (Total Hydrocarbon)	0.00178	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	306	306

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	305.8493	--

Manufacturer Test Comments 02_HWFET_CM64099_02_FEDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG11_Sport+_D3_ESS off

Certification Summary Information Report

Test Group VBMXV03.0SM3 **Evaporative/Refueling Family** VBMXR0150G3F

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	306	--	--	--	0.2	--	306	--	--
Fed	150,000 miles	Other	NMOG	0.0014	--	1.03	--	0.0045	--	0.006	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0050	--	--	--	--	--	0.010	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0036	--	--	--	0.0000	--	0.004	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Emission Data Vehicle Information

Vehicle ID / Configuration	G463617 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	JBMXJ04.4N63	**Original Evaporative/Refueling Family**	JBMXR0150G1X
Original Test Vehicle Model Year	2018		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	M550i xDrive

Leak Family Details

Leak Family Identifier	--	**Leak Family Name**	--

Drive Sources and Fuel System Details

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	4.4-N63-G30X	**Rated Horsepower**	455
Displacement (liters)	4.4		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	2	**Air Aspiration Device Configuration**	Parallel
Charge Air Cooler Type	Liquid	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4372	**Equivalent Test Weight (pounds)**	4750
GVWR (lbs)	5430	**N/V Ratio**	23.3
Axle Ratio	2.81		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper 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	62.8	-0.258	0.02258	-1.7	-0.03	0.01869	14.2
US06	62.8	-0.258	0.02258	-1.7	-0.03	0.01869	N/A

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Emission Control Device Comments --
Manufacturer Test Vehicle Comments EVAP EDV - M550i xDrive

Test #	**JBMX10046019**	**Test Procedure**	**34 - Federal fuel 3-day evap**
Exhaust Test # for this Evap Test	JBMX10046018	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/24/2016	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	4
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5258	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.2730461	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.2948898	--

Manufacturer Test Comments EVAP EDV FTP75, M550i xDrive

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	0.2949	0.0474	0.342	0.450	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**JBMX10046029**	**Test Procedure**	**23 - 2-day evap**
Exhaust Test # for this Evap Test	JBMX10046028	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/27/2016	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	4
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5258	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.3119584	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.3369151	--

Manufacturer Test Comments EVAP EDV 2-Day, M550i xDrive

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	0.3369	0.0162	0.353	0.450	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**JBMX10046020**	**Test Procedure**	**32 - Federal Fuel Running Loss**
Exhaust Test # for this Evap Test	JBMX10046018	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/24/2016	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	4
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5258	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC (Hydrocarbon for Running Loss and ORVR)	0.0124514	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0134475	--

Manufacturer Test Comments EVAP EDV FTP75, M550i xDrive

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	0.013	0.000	0.01	0.05	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**JBMX10046036**	**Test Procedure**	**24 - Federal fuel refueling test (ORVR)**
Exhaust Test # for this Evap Test	JBMX10046034	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/08/2016	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	4
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5067	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC (Hydrocarbon for Running Loss and ORVR)	0.0434	--

Manufacturer Test Comments EVAP EDV, ORVR, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC	0.043	0.001	0.04	0.20	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**JBMX10046037**	**Test Procedure**	**65 - Evap Canister Bleed Test**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	08/25/2016	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	4
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4000	**Odometer Units**	M
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.00321	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.00347	--

Manufacturer Test Comments EVAP EDV, Bleed, M550i xDrive

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	0.0035	0.0000	0.004	0.020	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Test #	**JBMX10046038**	**Test Procedure**	**67 - Leak Test - Port Near Canister**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/16/2016	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	4
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5167	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
LEAK-DIA (Effective Leak Diameter (inches))	0.0087	--

Manufacturer Test Comments EVAP EDV, Leak Test, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.009	0.000	0.01	0.02	Pass

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F

Fuel Properties

Fuel Batch ID	**T10/87**	**Fuel Calibration Number**	**34**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	10/27/2022
Fuel Batch Calibration Effective Date	02/02/2023	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	0.826	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.745
Fuel Ethanol Volume Percent (%)	9.9	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17962
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	**Fuel Carbon Mass Fraction (E10)**	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	**Weight Fraction CO2**	--

Fuel Batch ID	**T10/87**	**Fuel Calibration Number**	**4**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	07/21/2016
Fuel Batch Calibration Effective Date	07/21/2016	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	0.828	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.747
Fuel Ethanol Volume Percent (%)	--	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17812
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	**T2/E0**	**Fuel Calibration Number**	**40**
Test Fuel Type	61 - Tier 2 Cert Gasoline	**Fuel Batch Calibration Date**	09/01/2023
Fuel Batch Calibration Effective Date	09/21/2023	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	0.861	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.735
Fuel Ethanol Volume Percent (%)	--	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	18740
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	**Fuel Carbon Mass Fraction (E10)**	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.861	**Weight Fraction CO2**	--

Fuel Batch ID	**COE10**	**Fuel Calibration Number**	**41**
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	**Fuel Batch Calibration Date**	11/14/2023
Fuel Batch Calibration Effective Date	11/14/2023	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F
Exhaust Carbon Weight Fraction	0.826	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.743
Fuel Ethanol Volume Percent (%)	10	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17949
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	**Fuel Carbon Mass Fraction (E10)**	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	**Weight Fraction CO2**	--

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F

Consolidated List of Standards

Exhaust Standards

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Other
Fuel	Gasoline	**Test Procedure**	Federal fuel 3-day exhaust

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.2	999.999
120,000 miles	METHANE	--	--	--	--	--	--	0.0002	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0000	0.015
150,000 miles	CO	--	--	--	--	--	--	0.18	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0045	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.070
150,000 miles	NOX	--	--	--	--	--	--	0.0000	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.003

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Other
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	--	--	--	--	--	--	0.18	99.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0045	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0000	99.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.006

Certification Summary Information Report

Test Group VBMXV03.0SM3 **Evaporative/Refueling Family** VBMXR0150G3F

Cert Region Federal **Cert/In-Use Code** Cert
Vehicle Class LDV/Passenger Car **Standard Level** Other
Fuel Gasoline **Test Procedure** HWFE

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.2	999.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0045	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles	NOX	--	--	--	--	--	--	0.0000	99.999

Cert Region Federal **Cert/In-Use Code** Cert
Vehicle Class LDV/Passenger Car **Standard Level** Other
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	--	--	--	--	--	--	0.18	99.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0045	99.999
150,000 miles	NOX	--	--	--	--	--	--	0.0000	99.999

Cert Region Federal **Cert/In-Use Code** Cert
Vehicle Class LDV/Passenger Car **Standard Level** Other
Fuel Gasoline **Test Procedure** Cold CO

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.06	10.0
120,000 miles	HC-NM	--	--	--	--	--	--	0.00	0.3

Evaporative/Refueling Standards

Evaporative/Refueling Family VBMXR0150G3F **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	--	0.20	0.001

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F

Evaporative/Refueling Family VBMXR0150G3F
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	--	0.020	0.0000

Evaporative/Refueling Family VBMXR0150G3F
Cert Region Federal
Cert/In-Use Code Cert
Standard Level Federal Tier 3 Evap
Test Procedure Federal fuel 3-day evap

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.450	0.0474

Evaporative/Refueling Family VBMXR0150G3F
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

Evaporative/Refueling Family VBMXR0150G3F
Cert Region Federal
Cert/In-Use Code Cert
Standard Level Federal Tier 3 Evap
Test Procedure 2-day evap

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.450	0.0162

Evaporative/Refueling Family VBMXR0150G3F
Cert Region Federal
Cert/In-Use Code Cert
Standard Level Federal Tier 3 Evap
Test Procedure Federal Fuel Running Loss

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F

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

Certification Region

Certification Summary Information Report

Test Group	VBMXV03.0SM3	**Evaporative/Refueling Family**	VBMXR0150G3F
CA	California + CAA Section 177 states	FA	Federal
Exhaust Emission Standard Level			
B1	Federal Tier 2 Bin 1	T3B160	Federal Tier 3 Bin 160
B2	Federal Tier 2 Bin 2	T3B125	Federal Tier 3 Bin 125
B3	Federal Tier 2 Bin 3	T3B110	Federal Tier 3 Transitional Bin 110
B4	Federal Tier 2 Bin 4	T3B85	Federal Tier 3 Transitional Bin 85
B5	Federal Tier 2 Bin 5	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
B6	Federal Tier 2 Bin 6	T3B70	Federal Tier 3 Bin 70
B7	Federal Tier 2 Bin 7	T3B50	Federal Tier 3 Bin 50
B8	Federal Tier 2 Bin 8	T3B30	Federal Tier 3 Bin 30
B9	Federal Tier 2 Bin 9	T3B20	Federal Tier 3 Bin 20
B10	Federal Tier 2 Bin 10	T3B0	Federal Tier 3 Bin 0
B11	Federal Tier 2 Bin 11	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2	California LEV-II LEV	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2OP	California LEV-II LEV Optional	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
U2	California LEV-II ULEV	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
S2	California LEV-II SULEV	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
ZEV	California ZEV	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
OT	Other	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
T1	Federal Tier 1	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
PZEV	California PZEV	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L2LEV160	California LEV-II LEV160	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L2ULEV125	California LEV-II ULEV125	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L2SULEV30	California LEV-II SULEV30	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
L2LEV395	California LEV-II LEV395	L4SULEV100	California LEV-IV SULEV100
L2ULEV340	California LEV-II ULEV340	L4SULEV125	California LEV-IV SULEV125
L2LEV630	California LEV-II LEV630	L4SULEV15	California LEV-IV SULEV15
L2ULEV570	California LEV-II ULEV570	L4SULEV150	California LEV-IV SULEV150
L3LEV160	California LEV-III LEV160	L4SULEV170	California LEV-IV SULEV170
L3ULEV125	California LEV-III ULEV125	L4SULEV175	California LEV-IV SULEV175
L3ULEV70	California LEV-III ULEV70	L4SULEV20	California LEV-IV SULEV20
L3ULEV50	California LEV-III ULEV50	L4SULEV200	California LEV-IV SULEV200
L3SULEV30	California LEV-III SULEV30	L4SULEV230	California LEV-IV SULEV230
L3SULEV20	California LEV-III SULEV20	L4SULEV25	California LEV-IV SULEV25
L3LEV395	California LEV-III LEV395	L4SULEV30	California LEV-IV SULEV30
L3ULEV340	California LEV-III ULEV340	L4SULEV75	California LEV-IV SULEV75
L3ULEV250	California LEV-III ULEV250	L4SULEV85	California LEV-IV SULEV85
L3ULEV200	California LEV-III ULEV200	L4ULEV125	California LEV-IV ULEV125

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L3SULEV170	California LEV-III SULEV170	L4ULEV200	California LEV-IV ULEV200
L3SULEV150	California LEV-III SULEV150	L4ULEV250	California LEV-IV ULEV250
L3LEV630	California LEV-III LEV630	L4ULEV270	California LEV-IV ULEV270
L3ULEV570	California LEV-III ULEV570	L4ULEV40	California LEV-IV ULEV40
L3ULEV400	California LEV-III ULEV400	L4ULEV400	California LEV-IV ULEV400
L3ULEV270	California LEV-III ULEV270	L4ULEV50	California LEV-IV ULEV50
L3SULEV230	California LEV-III SULEV230	L4ULEV60	California LEV-IV ULEV60
L3SULEV200	California LEV-III SULEV200	L4ULEV70	California LEV-IV ULEV70

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
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

Additional Terms and Acronyms			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission