Application for Certification

Model Year: 2027
Manufacturer Name: BMW

Test Group: VBMXV02.0B4D
Test Group Description: in-line 4-cylinder, 4-stroke, 2.0 Liter, gasoline

Durability Group: VBMXHHGVNV41
Durability Group Description: 4-Stroke Otto Cycle
gasoline
direct fuel injection and multiport fuel injection
ceramic, monolith
Palladium, Rhodium
Three-Way Catalyst

Evaporative Group: VBMXR0150G60

Applicable Standards: EPA
FTP Standard: Interim Tier 4 - Bin 30
SFTP Standard: Interim Tier 4 composite - 0.050
EVAP FEL: Tier 3 - 300

Vehicle Classes Covered: EPA
LDV

Carlines Covered: 530i Sedan, 530i xDrive Sedan

Test EDV:

VID	CFG	Fuel	FTP	HWY	US06	SC03	Cold CO
CV26075	00	T3E10	VBMX10093175	VBMX10093176	VBMX10093180	VBMX10093177	VBMX10093178
CV26075	03	T2E0	VBMX10093156	VBMX10093157	---	---	---

Test EDV EVAP:

Family	VID	CFG	Fuel	3-day	RL	2-day	ORVR	BTP	Leak
R0150G60	9T75018	00	T3E10	SBMX10085519	SBMX10085522	SBMX10085517	SBMX10085523	SBMX10085524	SBMX10085525

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	VBMXHHGVNV41
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 and multiport fuel injection
2.6.	Catalyst construction	ceramic 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	10.9 - 8.2

3. Evaporative / Refueling Family Description

3.1.	Evaporative / Refueling Family Name	VBMXR0150G60
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 time-contr. MPI
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 VBMXR0150G60

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] =	861.5	861.4
calculated tref [h] =	216.4	216.4
effective tref [h] =	216.4	216.4

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	VBMXV02.0B4D
5.2.	Engine information	
5.2.1.	Engine displacement	1998 cm^3
5.2.2.	Arrangement of cylinders	in line
5.2.3.	Number of cylinders	4
5.3.	Hybrid Electric Vehicle System Description	
5.3.1.	Electric Motor	Refer to Section 12
5.3.2.	Battery	Refer to Section 12
5.4.	Vehicle class	EPA
		LDV
5.5.	Emission standards class	Interim Tier 4 - Bin 30
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
CV26075	00	--	530i xDrive Sedan	SA-8	EDV	T3E10	---	30	refer to section 12	refer to section 12	refer to section 12	4500
CV26075	01	418	530i xDrive Sedan	SA-8	FEDV	T2E0	---	31	D	default mode	---	4500
CV26075	02	418	530i xDrive Sedan	SA-8	FEDV	T2E0	---	32	D	default mode	---	4500
CV26075	03	418	530i xDrive Sedan	SA-8	FEDV	T2E0	---	33	D	default mode	---	4500
CV26076	00	417	530i Sedan	SA-8	FEDV	T2E0	---	31	D	default mode	---	4250
CV26076	01	417	530i Sedan	SA-8	FEDV	T2E0	---	32	D	default mode	---	4250
CV26076	02	417	530i Sedan	SA-8	FEDV	T2E0	---	33	D	default mode	---	4250
9K06069	---	---	X7 xDrive40i	---	DDV	T3E10	---	---	---	---	---	6000

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
30	Road Load for EDV (worst case)
31	Road Load for first FEDV configuration
32	Road Load for second FEDV configuration
33	Road Load for third FEDV configuration

6.2. Test Vehicle Description EVAP EDV

VID	CFG	Model	Type	Fuel	Family
9T75018	00	X3 xDrive30i	EDV EVAP	T3E10	R0150G60

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-VBMXV02.0B4D-VBMXR0150G60

7.2. Litmus Check

see attachment:
CSI-VBMXV02.0B4D-VBMXR0150G60

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.

Corporate Average Fuel Economy Calculation-Statement

Since the 2007 model year and in accordance with Dear Manufacturer letter CISD-09-19, BMW uses customer data to analyze whether predominance criteria are met regarding a certain operation mode of the multimode transmissions. Usage rates are determined by collecting data from the onboard powertrain and/or transmission control module. Using good engineering judgment, BMW has concluded that it is appropriate to carry-forward and carry-across the results of the earlier surveys where predominant use of one mode has been demonstrated.

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.

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
530i Sedan	417	SA	LDV	4041	4250	5192	15.9	150	2600	No
530i xDrive Sedan	418	SA	LDV	4158	4500	5324	15.9	150	2600	No
530i xDrive Sedan	--	SA	LDV	4158	4500	5324	15.9	150	2600	--

12.1.2. Drive Train Information

Model Name	Carline	Trans-Type (-drive Sys.)	# Gears	Axle ratio		Engine Code	Combustion engine power [hp / rpm]	Combustion engine torque ft-lb / rpm
				front	rear			
530i Sedan	417	SA (R)	8	not applicable	3.15	B48B20O2G60S	255 / 4700	295 / 1600 - 4500
530i xDrive Sedan	418	SA (A)	8	3.15	3.15	B48B20O2G60X	255 / 4700	295 / 1600 - 4500
530i xDrive Sedan	--	SA (A)	8	3.15	3.15	B48B20O2G60X	255 / 4700	295 / 1600 - 4500

12.1.3. Tire Information

Modell	Carline	Trans	Road Load CFG	Tire Front	Tire Rear
530i Sedan	417	SA	31	245/45 R19 102Y STD	245/45 R19 102Y STD
				245/40 R20 99Y STD	275/35 R20 102Y STD
			32	245/40 R20 99H M+S STD	275/35 R20 102H M+S STD
				245/45 R19 102H M+S STD	245/45 R19 102H M+S STD
				245/35 R21 96Y STD	275/30 R21 98Y STD
			33	245/45 R19 102Y STD	275/40 R19 105Y STD
				245/40 R20 99Y STD (HP)	275/35 R20 102Y STD (HP)
				245/35 R21 96Y STD	275/30 R21 98Y STD
530i xDrive Sedan	--	SA	30	worst case represented	worst case represented
	418	SA	31	245/45 R19 102Y STD	245/45 R19 102Y STD
				245/40 R20 99Y STD	275/35 R20 102Y STD
			32	245/40 R20 99H M+S STD	275/35 R20 102H M+S STD
				245/45 R19 102H M+S STD	245/45 R19 102H M+S STD
				245/35 R21 96Y STD	275/30 R21 98Y STD
			33	245/45 R19 102Y STD	275/40 R19 105Y STD
				245/40 R20 99Y STD (HP)	275/35 R20 102Y STD (HP)
				245/35 R21 96Y STD	275/30 R21 98Y STD

M+S indicates an All-Season tire and not a dedicated Winter tire
(Winter) indicates a dedicated Winter tire
AT indicates an All-Terrain tire
HP indicates a High-Performance 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	TWC
12.1.4.2. Particulate Filter	not applicable
12.1.4.3. EGR / EGRC	EGR: no EGRC: not applicable
12.1.4.4. Air pump type	not applicable

12.1.4.5.	Fuel system type	direct- and intake manifold 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	1998 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
530i Sedan	417	SA	31	25.3	33.0	0.081	0.01976	11.5	12.3	0.273	0.01628	Yes
530i Sedan	417	SA	32	25.3	36.0	0.089	0.02021	12.1	14.9	0.293	0.01669	Yes
530i Sedan	417	SA	33	25.3	43.4	0.111	0.01857	12.7	23.2	0.293	0.01519	Yes
530i xDrive Sedan	--	SA	30	25.3	46.7	0.152	0.01984	13.9	11.6	0.206	0.01642	Yes
530i xDrive Sedan	418	SA	31	25.3	35.8	0.121	0.01942	12.1	0.6	0.147	0.01621	Yes
530i xDrive Sedan	418	SA	32	25.3	38.9	0.130	0.01986	12.7	3.0	0.149	0.01648	Yes
530i xDrive Sedan	418	SA	33	25.3	46.7	0.152	0.01823	13.3	12.2	0.185	0.01497	Yes

Road Load Configuration Description

X_ means number of FEDV tire groups used for this model
30 Road Load for EDV (worst case)
31 Road Load for first FEDV configuration
32 Road Load for second FEDV configuration
33 Road Load for third FEDV configuration

12.3. Hybrid Electric Vehicle System Description

12.3.1. Description of electric motor

Model Name	Type	Power (peak) [kW]	Max. torque [Nm]
530i Sedan	48V-Belt-Driven Starter Generator (SGR)	8 @ 6000	25
530i xDrive Sedan	48V-Belt-Driven Starter Generator (SGR)	8 @ 6000	25

12.3.2. Description of batteries

Model Name	System Chemistry	Capacity (C) [Ah]	Energy Capacity (E) [kWh]	Nominal Voltage [V]	Min. Voltage Pack [V]	Number of Packs	Number of Modules	Number of Battery Cells
530i Sedan	LI-ION	20.0	0.92	46.2	35.0	1	1	14
530i xDrive Sedan	LI-ION	20.0	0.92	46.2	35.0	1	1	14

Model Name	Cell format	Min. Voltage Cell [V]	Weight [kg]	Specific Energy Density [Wh/kg]	Chemistry Identifier
530i Sedan	pouch	2.50	19.6	47	Li Fe(LFP) - C.FP
530i xDrive Sedan	pouch	2.50	19.6	47	Li Fe(LFP) - C.FP

12.4. Information on driver selectable modes

Drive Mode	Default Mode	Function
comfortable	yes	comfortable setting for defined systems (e.g. climatic control, gas pedal progression)
efficiently	no	efficient 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
CV26075	00	T3E10	VBMX10093175	VBMX10093176	VBMX10093180	VBMX10093177	VBMX10093178
CV26075	03	T2E0	VBMX10093156	VBMX10093157	---	---	---

Drive Mode
T3E10 EDV testing is done in drive mode "Sport" (sporty) and transmission mode "S" (sporty). This is the worst case combination with highest engine revolutions. T2E0 EDV testing is done in drive mode "Comfort" (comfortable) and transmission mode "D" (comfortable). This represents the default mode.

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 VBMXV02.0B4D.

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
417	530i Sedan	see attachment: 03VE-VB4D-01
418	530i xDrive Sedan	

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
417	530i Sedan	VBMXR0150G60	see attachment: FTTP-0G60-02
418	530i xDrive Sedan		

17. Attachment

17.1	Fuel Tank Temperature Profile	see attachment: FTTP-0G60-02
17.2	VECI Label	see attachment: 03VE-VB4D-01
17.3	Certification Summary Information Report	see attachment: CSI-VBMXV02.0B4D-VBMXR0150G60

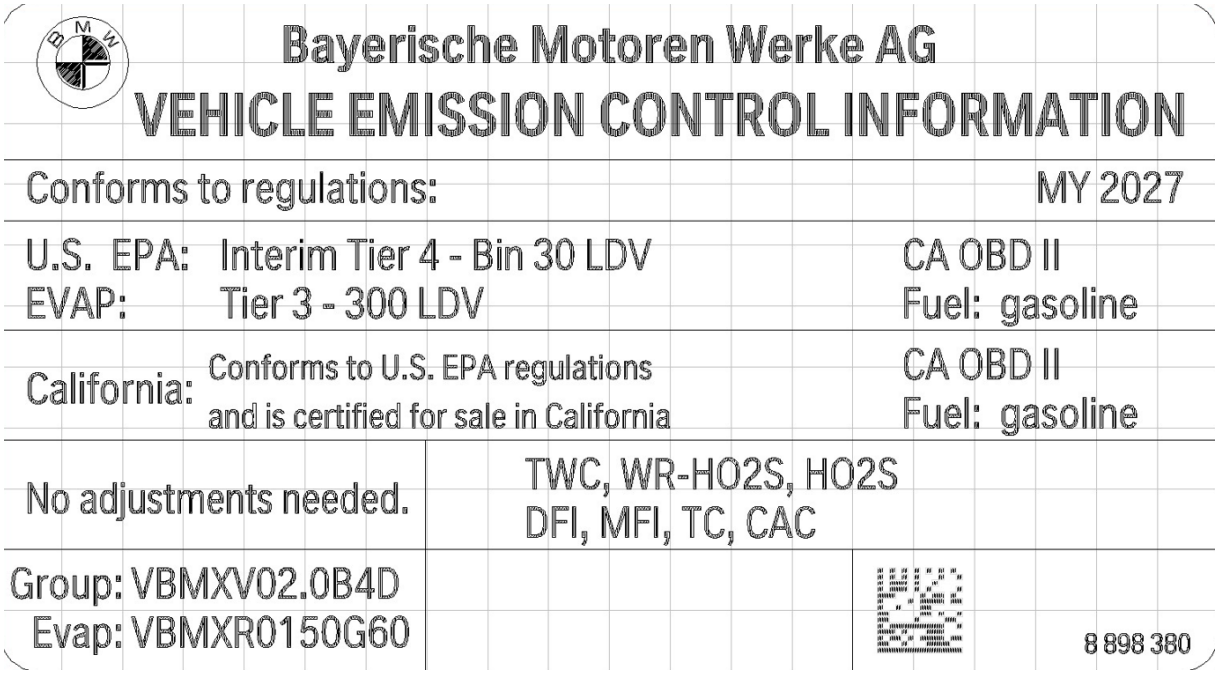
Test Vehicle Data		**Ambient Conditions**		**Test Data**	
Vehicle Type:	X3 xDrive30i	Weather:	sunny	Date of test:	10/09/2023
Mileage:	6946 mi	clouds:	1 %	Engine start:	11:43
Fuel tank volume:	65 L	Wind speed:	0 mph	Measure start:	11:49
Fuel volume:	26 L	Ambient temp:		Measure stop:	13:01
		Start:	107 °F	Test track:	Dubai Bab Al Shams
		delta:	2 °F		
		Surface temperature:	100 %		

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	91,8	91,7	91,7	95,0	92,9	-0,5
30	91,8	91,8	91,8	95,1	93,1	-0,9
60	92,0	92,0	92,0	95,2	93,2	-2,2
90	92,1	92,1	92,1	95,3	93,3	-2,4
120	92,2	92,2	92,2	95,4	93,4	-0,6
150	92,3	92,3	92,3	95,5	93,5	-2,0
180	92,4	92,4	92,4	95,6	93,6	-1,3
210	92,5	92,5	92,5	95,7	93,8	-1,3
240	92,6	92,5	92,6	95,9	93,9	-0,6
270	92,8	92,7	92,7	96,0	94,0	-2,3
300	92,9	92,9	92,9	96,2	94,2	-0,7
330	93,1	93,1	93,1	96,3	94,3	-1,7
360	93,2	93,2	93,2	96,5	94,5	-0,8
390	93,3	93,4	93,4	96,6	94,6	-0,4
420	93,5	93,5	93,5	96,8	94,8	-0,8
450	93,7	93,7	93,7	96,9	95,0	-2,5
480	93,8	93,8	93,8	97,1	95,1	-0,9
510	93,9	93,9	93,9	97,2	95,2	-2,1
540	94,1	94,1	94,1	97,3	95,3	-1,0
570	94,2	94,2	94,2	97,4	95,4	-1,3
600	94,4	94,3	94,3	97,6	95,5	-2,1
630	94,5	94,4	94,4	97,7	95,6	-0,5
660	94,6	94,5	94,6	97,8	95,8	-2,8
690	94,7	94,7	94,7	98,0	95,9	-3,4
720	94,9	94,8	94,9	98,1	96,0	-0,5
750	95,1	95,0	95,0	98,3	96,2	-0,6
780	95,2	95,1	95,2	98,4	96,3	-2,4
810	95,3	95,2	95,3	98,5	96,4	-2,1
840	95,4	95,4	95,4	98,7	96,5	-1,9
870	95,6	95,5	95,6	98,8	96,6	-1,3
900	95,7	95,7	95,7	99,0	96,8	-2,6
930	95,9	95,8	95,8	99,1	97,0	-1,8
960	96,0	95,9	96,0	99,2	97,1	-1,5
990	96,2	96,1	96,1	99,4	97,2	-1,7
1020	96,3	96,2	96,2	99,5	97,3	-0,6
1050	96,4	96,4	96,4	99,6	97,5	-1,1

1080	96,5	96,5	96,5	99,7	97,6	-0,4
1110	96,6	96,6	96,6	99,9	97,7	-3,7
1140	96,8	96,8	96,8	100,0	97,8	-0,6
1170	96,9	96,9	96,9	100,2	97,9	-1,3
1200	97,0	97,1	97,1	100,3	98,0	-1,2
1230	97,2	97,2	97,2	100,4	98,1	-1,1
1260	97,3	97,3	97,3	100,5	98,2	-2,1
1290	97,3	97,4	97,4	100,7	98,4	-2,2
1320	97,5	97,5	97,5	100,8	98,5	-0,5
1350	97,6	97,7	97,7	100,9	98,6	-1,0
1380	97,8	97,8	97,8	101,1	98,7	-0,4
1410	98,0	97,9	98,0	101,2	98,8	-0,4
1440	98,2	98,1	98,1	101,4	98,9	-2,8
1470	98,3	98,2	98,2	101,5	99,1	-2,8
1500	98,4	98,3	98,4	101,6	99,2	-2,0
1530	98,5	98,4	98,5	101,7	99,4	-3,1
1560	98,6	98,5	98,6	101,8	99,5	-0,7
1590	98,8	98,7	98,7	102,0	99,6	-1,4
1620	98,9	98,8	98,9	102,1	99,6	-0,6
1650	99,0	98,9	99,0	102,2	99,8	-2,7
1680	99,1	99,0	99,1	102,4	99,9	-1,6
1710	99,3	99,2	99,2	102,5	100,0	-0,5
1740	99,4	99,4	99,4	102,6	100,1	-3,2
1770	99,5	99,5	99,5	102,8	100,2	-1,0
1800	99,6	99,6	99,6	102,9	100,3	-0,9
1830	99,8	99,7	99,7	103,0	100,3	-0,7
1860	99,9	99,9	99,9	103,1	100,4	-2,5
1890	100,0	100,0	100,0	103,3	100,5	-2,6
1920	100,1	100,1	100,1	103,4	100,5	-1,6
1950	100,2	100,2	100,2	103,5	100,6	-1,5
1980	100,4	100,3	100,3	103,6	100,6	-3,0
2010	100,5	100,4	100,4	103,7	100,7	-1,8
2040	100,6	100,5	100,5	103,8	100,9	-1,3
2070	100,7	100,7	100,7	104,0	101,0	-0,5
2100	100,9	100,8	100,8	104,1	101,1	-2,9
2130	101,0	101,0	101,0	104,3	101,2	-2,9
2160	101,2	101,1	101,1	104,4	101,3	-0,8
2190	101,3	101,2	101,3	104,5	101,4	-1,6
2220	101,4	101,3	101,4	104,6	101,5	-1,1
2250	101,5	101,4	101,5	104,7	101,6	-1,0
2280	101,6	101,5	101,6	104,8	101,7	-1,0
2310	101,8	101,7	101,7	105,0	101,8	-0,7
2340	101,9	101,8	101,9	105,1	101,9	-0,6
2370	102,0	102,0	102,0	105,2	102,0	-1,4
2400	102,1	102,1	102,1	105,4	102,1	-0,7
2430	102,2	102,2	102,2	105,5	102,2	-1,5
2460	102,4	102,3	102,4	105,6	102,3	-2,7
2490	102,5	102,4	102,5	105,7	102,4	-1,3
2520	102,6	102,6	102,6	105,8	102,5	-1,3
2550	102,7	102,7	102,7	105,9	102,5	-1,6
2580	102,8	102,8	102,8	106,0	102,6	-4,0
2610	102,9	102,9	102,9	106,2	102,7	-1,6
2640	103,0	103,0	103,0	106,3	102,8	-1,1
2670	103,2	103,1	103,2	106,4	102,9	-0,9
2700	103,3	103,3	103,3	106,5	103,0	-2,9
2730	103,4	103,4	103,4	106,7	103,1	-3,5

2760	103,5	103,5	103,5	106,8	103,3	-3,4
2790	103,7	103,6	103,6	106,9	103,4	-3,4
2820	103,8	103,7	103,8	107,0	103,6	-0,5
2850	103,9	103,8	103,9	107,1	103,6	-0,8
2880	104,0	104,0	104,0	107,2	103,7	-1,7
2910	104,1	104,1	104,1	107,4	103,8	-2,0
2940	104,2	104,2	104,2	107,5	103,9	-1,6
2970	104,4	104,3	104,3	107,6	104,0	-3,1
3000	104,5	104,4	104,4	107,7	104,1	-1,1
3030	104,6	104,4	104,5	107,8	104,2	-1,1
3060	104,7	104,6	104,6	107,9	104,3	-0,8
3090	104,8	104,7	104,8	108,0	104,4	-1,0
3120	104,9	104,8	104,9	108,1	104,5	-0,5
3150	105,0	105,0	105,0	108,3	104,7	-0,7
3180	105,1	105,1	105,1	108,4	104,8	-1,3
3210	105,3	105,2	105,2	108,5	104,9	-1,2
3240	105,4	105,4	105,4	108,6	105,0	-0,8
3270	105,5	105,5	105,5	108,7	105,2	-1,4
3300	105,6	105,6	105,6	108,9	105,3	-1,4
3330	105,7	105,7	105,7	109,0	105,4	-3,5
3360	105,9	105,8	105,8	109,1	105,5	-0,6
3390	106,0	105,9	106,0	109,2	105,6	-1,6
3420	106,1	106,0	106,1	109,3	105,7	-1,3
3450	106,2	106,1	106,2	109,4	105,8	-1,6
3480	106,3	106,3	106,3	109,5	105,9	-0,7
3510	106,4	106,4	106,4	109,6	106,0	-2,4
3540	106,5	106,5	106,5	109,8	106,1	-1,1
3570	106,6	106,6	106,6	109,9	106,2	-0,6
3600	106,8	106,8	106,8	110,0	106,3	-1,7
3630	106,9	106,9	106,9	110,2	106,4	-0,8
3660	107,0	107,0	107,0	110,3	106,5	-1,2
3690	107,1	107,1	107,1	110,4	106,5	-1,1
3720	107,3	107,2	107,2	110,5	106,6	-0,6
3750	107,4	107,3	107,4	110,6	106,8	-2,0
3780	107,5	107,4	107,4	110,7	106,9	-1,0
3810	107,5	107,5	107,5	110,8	107,0	-1,1
3840	107,6	107,6	107,6	110,9	107,1	-0,6
3870	107,7	107,7	107,7	111,0	107,2	-1,9
3900	107,8	107,8	107,8	111,1	107,3	-0,6
3930	107,9	107,9	107,9	111,2	107,4	-2,7
3960	108,0	108,0	108,0	111,3	107,5	-0,5
3990	108,2	108,1	108,1	111,4	107,6	-0,6
4020	108,3	108,2	108,3	111,5	107,7	-1,4
4050	108,4	108,4	108,4	111,6	107,8	-0,7
4080	108,5	108,5	108,5	111,8	107,9	-1,6
4110	108,6	108,6	108,6	111,9	108,0	-2,3
4140	108,8	108,7	108,7	112,0	108,1	-0,8
4170	108,9	108,8	108,8	112,1	108,2	-0,5
4200	109,0	108,9	108,9	112,2	108,3	-2,3
4230	109,1	109,0	109,0	112,3	108,4	-0,6
4260	109,2	109,1	109,1	112,4	108,5	-2,8
4290	109,3	109,2	109,2	112,5	108,6	-2,9
4320	109,3	109,3	109,3	112,6	108,7	-3,0

DRAFT - Inverted Representation



Original representation

Base: Black
Characters: Silver

Certification Summary Information Report

Manufacturer	BMW	**Manufacturer Code**	BMX
Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	02/11/2026 04:05:44 AM
Model Year	2027		

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test Group Information

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

Drive Sources and Fuel(s)

Drive Source #1: Combustion Engine

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

Drive Source #2: Electric Motor

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

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Rechargeable Energy Storage System Indicator**	Yes
Multiple Fuel Combustion	--	**Off-board Charge Capable Indicator**	No
Fuel Cell Indicator	No	**EPA Vehicle Class**	LDV
Federal Clean Fuel Vehicle	No	**Federal Clean Fuel Vehicle Standard**	--
Federal Clean Fuel Vehicle ILEV	No	**California Partial Zero Emissions Vehicle Indicator**	--
Durability Group Name	VBMXHHGVNV41	**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**	VBMXV02.0B4D
Test Group OBD Compliance Level	Full - no deficiencies	**Number of Test Group OBD Deficiencies**	0
OBD Deficiencies Comments	E-25-316		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Evaporative/Refueling Family Information

Evaporative Summary Information Type	New	**Submission/Correction Date**	10/07/2025 07:55:49 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	417 - 530i Sedan	Federal	2-Wheel Drive, Rear	Semi-Automatic	8	Yes
BMW	1 - BMW	418 - 530i xDrive Sedan	Federal	All Wheel Drive	Semi-Automatic	8	Yes

Engine Description

Hybrid Type	IC Engine/Electric Motor	**Hybrid Description**	Fuel Economy Guide Category MHEV (Mild Hybrid Electric Vehicle)
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**	0W-12
Number of Cylinders/Rotors	4	**Mechanically Variable Compression Ratio Indicator**	N

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

After Treatment Device(s) (ATD)

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

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

Engine Configuration Number 1

Engine Displacement (liters)	2.0	**Engine Rated Horsepower**	255
Number of Inlet Valves Per Cylinder	2	**Number of Exhaust Valves Per Cylinder**	2
Air Aspiration Method	Turbocharged	**Number of Air Aspiration Devices**	1
Air Aspiration Device Configuration	Single	**Charge Air Cooler Type**	Air
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	Variable Valve Timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	Variable Valve Lift at inlet valves and two settings at outlet valves		
Number of Knock Sensors	2	**Number of Air/Fuel Sensors**	2
Air/Fuel Sensor # 1 Type	Air fuel	**Air/Fuel Sensor # 1 Description**	--
Air/Fuel Sensor # 2 Type	Heated oxygen	**Air/Fuel Sensor # 2 Description**	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	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
Electricity	--	--	--	--	--	--	--	--	--	--
Gasoline	VBMX10093175	VBMX10093180	VBMX10093177	VBMX10093178	VBMX10093176	22.0	21.4	30.9	28.4	--

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Gasoline	VBMX10093175	VBMX10093180	VBMX10093177

Hybrid Electric Vehicle And Fuel Cell Information

Rechargable Energy Storage System	Battery(s)	**Rechargable Energy Storage System, if Other**	--
Battery Type	Lithium Ion	**Number of Battery Packs**	1
Total Voltage of Battery Packs	46	**Battery Energy Capacity**	20.0
Battery Specific Energy	47.0	**Battery Charger Type**	On-Board
Number of Capacitors	--	**Capacitor Rating (In Farads)**	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Both	**Driver Controlled Regenerative Braking**	No
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	EESM	**Rated Motor/Generator Power**	8
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	**Usable H2 Fill Capacity (kg)**	--
Mfr Hybrid Electric/ Electric Vehicle Comments	Starter Generator Engine with 48V Technology; Motor/Generator Type: externally excited synchronuous machine (EESM)		

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Emission Data Vehicle Information

Vehicle ID / Configuration	9T75018 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	SBMXJ02.0B4P	**Original Evaporative/Refueling Family**	SBMXR0150G60
Original Test Vehicle Model Year	2025		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	X3 xDrive30i

Leak Family Details

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

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity
2	Combustion Engine	Gasoline

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	1	**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	B48B20O2G45X	**Rated Horsepower**	255
Displacement (liters)	2		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	1	**Air Aspiration Device Configuration**	Single
Charge Air Cooler Type	Air	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4176	**Equivalent Test Weight (pounds)**	4500
GVWR (lbs)	5512	**N/V Ratio**	26.2
Axle Ratio	3.38		
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	44.2	0.118	0.02266	12.8	0.122	0.02015	14.2

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_9T75018_00_EVAP EDV_X3 xDrive30i_A_ETW-4500_RG30_E10

Test #	**SBMX10085517**	**Test Procedure**	**23 - 2-day evap**
Exhaust Test # for this Evap Test	SBMX10085514	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	02/13/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	39
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3552	**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)	0.16206	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.17502	--

Manufacturer Test Comments EVAP EDV - 2Day, X3 xDrive30i

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	0.1750	0.0000	0.175	0.300	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**SBMX10085519**	**Test Procedure**	**34 - Federal fuel 3-day evap**
Exhaust Test # for this Evap Test	SBMX10085515	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	02/29/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3669	**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)	0.21303	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.23007	--

Manufacturer Test Comments EVAP EDV - 3Day, X3 xDrive30i

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	0.2301	0.0000	0.230	0.300	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**SBMX10085522**	**Test Procedure**	**32 - Federal Fuel Running Loss**
Exhaust Test # for this Evap Test	SBMX10085515	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	02/29/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3641	**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)	0.0002	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0002	--

Manufacturer Test Comments EVAP EDV - Running Loss, X3 xDrive30i

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.000	0.000	0.00	0.05	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**SBMX10085523**	**Test Procedure**	**24 - Federal fuel refueling test (ORVR)**
Exhaust Test # for this Evap Test	SBMX10085516	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	02/22/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	39
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3611	**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)	0.03314	--

Manufacturer Test Comments EVAP EDV - ORVR, X3 xDrive30i

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	0.033	0.000	0.03	0.20	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**SBMX10085524**	**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	03/13/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	3712	**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)	0.0088	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0095	--

Manufacturer Test Comments EVAP EDV - Bleed Test, X3 xDrive30i

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	0.0095	0.0000	0.010	0.020	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**SBMX10085525**	**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	03/12/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3687	**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
LEAK-DIA (Effective Leak Diameter (inches))	0	--

Manufacturer Test Comments EVAP EDV - Leak Test, X3 xDrive30i

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	0.000	0.000	0.00	0.02	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Emission Data Vehicle Information

Vehicle ID / Configuration	CV26075 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	VBMXV02.0B4D	**Original Evaporative/Refueling Family**	VBMXR0150G60
Original Test Vehicle Model Year	2027		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	530i xDrive Sedan

Leak Family Details

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

Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity
2	Combustion Engine	Gasoline

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	1	**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	B48B20O2G60X	**Rated Horsepower**	255
Displacement (liters)	2		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	1	**Air Aspiration Device Configuration**	Single
Charge Air Cooler Type	Air	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4158	**Equivalent Test Weight (pounds)**	4500
GVWR (lbs)	5324	**N/V Ratio**	25.3
Axle Ratio	1		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper Gear**	No

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

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	46.7	0.152	0.01984	11.6	0.206	0.01642	13.9
Cold CO	51.3	0.167	0.02182	-8.2	0.295	0.01654	N/A
US06	46.7	0.152	0.01984	11.6	0.206	0.01642	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_CV26075_00_EDV_530i xDrive Sedan_A_ETW-4500_RG30_S-Sport_S_off; Axle Ratio front 3.15; Axle Ratio rear 3.15

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093175**	**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	02/07/2026	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	62
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	4733	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	321.3365784	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.1754031	--
FE BAG 1 (Bag 1 Fuel Economy)	27.1	27.1
CH4 BAG 1 (Bag 1 Methane)	0.0041743	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0143092	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	308.1721497	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.0770613	--
FE BAG 2 (Bag 2 Fuel Economy)	28.3	28.3
CH4 BAG 2 (Bag 2 Methane)	0.0005798	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.0019238	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	283.4057617	--
CO BAG 3 (Bag 3 Carbon Monoxide)	0.0885391	--
FE BAG 3 (Bag 3 Fuel Economy)	30.8	30.8
CH4 BAG 3 (Bag 3 Methane)	0.0009488	--
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.0003684	--
CO2 BAG 4 (Bag 4 Carbon Dioxide)	312.0970459	--
CO BAG 4 (Bag 4 Carbon Monoxide)	0.10964	--
FE BAG 4 (Bag 4 Fuel Economy)	27.9	27.9
CH4 BAG 4 (Bag 4 Methane)	0.0006166	--
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0.0002263	--
METHANE (CH4 - Methane)	0.0014377	--
CO (Carbon Monoxide)	0.1102414	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.165	--
DT-EER (Drive Trace Energy Economy Rating)	-0.239	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.081	--
MFR FE (Manufacturer Fuel Economy)	28.5	28.5
NOX (Nitrogen Oxide)	0.0024071	--
N2O (Nitrous Oxide)	0.0003435	--
HC-NM (Non-methane Hydrocarbon)	0.0032339	--
NMOG (Non-methane organic gases)	0.0035529	--
PM (Particulate Matter)	0.000232	--
HC-TOTAL (Total Hydrocarbon)	0.0046574	--

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	305	305

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	305.2660828	--

Manufacturer Test Comments 01_FTP_CV26075_00_EDV_530i xDrive Sedan_A_ETW-4500_RG30_S-Sport_S_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	305	--	--	--	0.1	--	305	--	--
Fed	120,000 miles	Other	METHANE	0.0014	--	--	--	0.0010	--	0.002	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0003	--	--	--	0.0002	--	0.000	0.010	Pass
Fed	150,000 miles	Other	CO	0.11	--	--	--	0.06	--	0.2	1.0	Pass
Fed	150,000 miles	Other	CO-COMP	0.21	--	--	--	--	--	0.2	4.2	Pass
Fed	150,000 miles	Other	NMOG	0.0036	--	1.10	--	0.0040	--	0.008	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0060	--	--	--	--	--	0.014	0.030	Pass
Fed	150,000 miles	Other	NMOG+NOX-COMP	0.0176	--	--	--	--	--	0.018	0.050	Pass
Fed	150,000 miles	Other	NOX	0.0024	--	--	--	0.0036	--	0.006	999.999	Pass
Fed	150,000 miles	Other	PM	0.0002	--	--	--	0.0000	--	0.000	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	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093178**	**Test Procedure**	**11 - Cold CO**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	01/30/2026	**Fuel**	Gasoline
Fuel Batch ID	COE10	**Fuel Calibration Number**	61
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	4703	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	446.0774841	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.3133976	--
FE BAG 1 (Bag 1 Fuel Economy)	19.4	19.4
CH4 BAG 1 (Bag 1 Methane)	0.0077734	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0372779	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	349.8247986	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.0660491	--
FE BAG 2 (Bag 2 Fuel Economy)	24.7	24.7
CH4 BAG 2 (Bag 2 Methane)	0.0006126	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	309.7308655	--
CO BAG 3 (Bag 3 Carbon Monoxide)	0.0645908	--
FE BAG 3 (Bag 3 Fuel Economy)	27.9	27.9
CH4 BAG 3 (Bag 3 Methane)	0.0012731	--
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--
METHANE (CH4 - Methane)	0.0022766	--
CO (Carbon Monoxide)	0.1168619	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.602	--
DT-EER (Drive Trace Energy Economy Rating)	0.314	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.501	--
MFR FE (Manufacturer Fuel Economy)	24.1	24.1
NOX (Nitrogen Oxide)	0.0026437	--
HC-NM (Non-methane Hydrocarbon)	0.0070119	--
NMOG (Non-methane organic gases)	0.0077035	--
HC-TOTAL (Total Hydrocarbon)	0.0088766	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	359	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	358.7442627	--

Manufacturer Test Comments 06_FTPCOLD_CV26075_00_EDV_530i xDrive Sedan_A_ETW-4500_RG30_S-Sport_S_off

Certification Summary Information Report

Test Group VBMXV02.0B4D **Evaporative/Refueling Family** VBMXR0150G60

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	0.12	--	--	--	0.02	--	0.1	10.0	Pass
Fed	120,000 miles	Other	HC-NM	0.01	--	--	--	0.00	--	0.0	0.3	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093176**	**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	11/19/2025	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	60
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	4331	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.000364	--
CO (Carbon Monoxide)	0.00624	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.063	--
DT-EER (Drive Trace Energy Economy Rating)	-0.01	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.423	--
MFR FE (Manufacturer Fuel Economy)	42.799999	42.799999
NOX (Nitrogen Oxide)	0.004729	--
HC-NM (Non-methane Hydrocarbon)	0.000503	--
NMOG (Non-methane organic gases)	0.000518	--
HC-TOTAL (Total Hydrocarbon)	0.00086	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	203	203

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	203.134949	--

Manufacturer Test Comments 02_HWFET_CV26075_00_EDV_530i xDrive Sedan_A_ETW-4500_RG30_S-Sport_S_off

Certification Summary Information Report

Test Group VBMXV02.0B4D **Evaporative/Refueling Family** VBMXR0150G60

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	203	--	--	--	0.1	--	203	--	--
Fed	150,000 miles	Other	NMOG	0.0005	--	1.03	--	0.0040	--	0.004	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0052	--	--	--	--	--	0.013	0.030	Pass
Fed	150,000 miles	Other	NOX	0.0047	--	--	--	0.0036	--	0.008	999.999	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	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093180**	**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	11/19/2025	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	60
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	4364	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	482.6865	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.2851	--
FE BAG 1 (Bag 1 Fuel Economy)	18	18
CH4 BAG 1 (Bag 1 Methane)	0.0036	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0104	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	254.7782	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.1188	--
FE BAG 2 (Bag 2 Fuel Economy)	34	34
CH4 BAG 2 (Bag 2 Methane)	0.001	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.0029	--
METHANE (CH4 - Methane)	0.001576	--
CO (Carbon Monoxide)	0.155555	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.59	--
DT-EER (Drive Trace Energy Economy Rating)	-0.047	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.704	--
MFR FE (Manufacturer Fuel Economy)	28.5	28.5
NOX (Nitrogen Oxide)	0.009396	--
HC-NM (Non-methane Hydrocarbon)	0.004416	--
NMOG (Non-methane organic gases)	0.004549	--
PM (Particulate Matter)	0.001031	--
HC-TOTAL (Total Hydrocarbon)	0.005963	--

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	305	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	305.12204	--

Manufacturer Test Comments 03_US06_CV26075_00_EDV_530i xDrive Sedan_A_ETW-4500_RG30_S-Sport_S_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	0.1556	--	--	--	0.06	--	0.216	999.999	Pass
Fed	150,000 miles	Other	NMOG	0.0045	--	1.03	--	0.0040	--	0.008	999.999	Pass
Fed	150,000 miles	Other	NOX	0.0094	--	--	--	0.0036	--	0.013	999.999	Pass
Fed	150,000 miles	Other	PM	0.0010	--	--	--	0.0000	--	0.001	0.006	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093177**	**Test Procedure**	**95 - SC03**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/26/2026	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	62
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	4642	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.0024964	--
CO (Carbon Monoxide)	0.1654444	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.1714012	--
DT-EER (Drive Trace Energy Economy Rating)	0.1474053	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.0368711	--
MFR FE (Manufacturer Fuel Economy)	20.2999992	20.2999992
NOX (Nitrogen Oxide)	0.0099073	--
HC-NM (Non-methane Hydrocarbon)	0.0009777	--
NMOG (Non-methane organic gases)	0.001007	--
HC-TOTAL (Total Hydrocarbon)	0.0034273	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	428	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	428.2980347	--

Manufacturer Test Comments 04_SC03_CV26075_00_EDV_530i xDrive Sedan_A_ETW-4500_RG30_S-Sport_S_off

Certification Summary Information Report

Test Group VBMXV02.0B4D **Evaporative/Refueling Family** VBMXR0150G60

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	0.17	--	--	--	0.06	--	0.2	999.9	Pass
Fed	150,000 miles	Other	NMOG	0.0010	--	1.03	--	0.0040	--	0.005	999.999	Pass
Fed	150,000 miles	Other	NOX	0.0099	--	--	--	0.0036	--	0.014	999.999	Pass

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Emission Data Vehicle Information

Vehicle ID / Configuration	CV26075 / 3	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	VBMXV02.0B4D	**Original Evaporative/Refueling Family**	VBMXR0150G60
Original Test Vehicle Model Year	2027		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	530i xDrive Sedan

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
2	Electric Motor	Electricity

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	1	**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	B48B20O2G60X	**Rated Horsepower**	255
Displacement (liters)	2		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	1	**Air Aspiration Device Configuration**	Single
Charge Air Cooler Type	Air	**Drive Mode While Testing**	All Wheel Drive
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4158	**Equivalent Test Weight (pounds)**	4500
GVWR (lbs)	5324	**N/V Ratio**	25.3
Axle Ratio	1		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper Gear**	No

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

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	46.7	0.152	0.01823	12.2	0.185	0.01497	13.3
US06	46.7	0.152	0.01823	12.2	0.185	0.01497	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_CV26075_03_FEDV_530i xDrive Sedan_A_ETW-4500_RG33_default mode_D_on; Axle Ratio front 3.15; Axle Ratio rear 3.15

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093156**	**Test Procedure**	**31 - Federal fuel 3-day exhaust**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	11/06/2025	**Fuel**	Gasoline
Fuel Batch ID	T2/E0	**Fuel Calibration Number**	57
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	4206	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	310.727539	--
FE BAG 1 (Bag 1 Fuel Economy)	28.1	28.1
CO2 BAG 2 (Bag 2 Carbon Dioxide)	250.305893	--
FE BAG 2 (Bag 2 Fuel Economy)	35	35
CO2 BAG 3 (Bag 3 Carbon Dioxide)	265.156586	--
FE BAG 3 (Bag 3 Fuel Economy)	33	33
CO2 BAG 4 (Bag 4 Carbon Dioxide)	237.912781	--
FE BAG 4 (Bag 4 Fuel Economy)	36.799999	36.799999
METHANE (CH4 - Methane)	0.001606	--
CO (Carbon Monoxide)	0.15808	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.829	--
DT-EER (Drive Trace Energy Economy Rating)	-0.134	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.088	--
MFR FE (Manufacturer Fuel Economy)	33.63	33.63
NOX (Nitrogen Oxide)	0.000493	--
N2O (Nitrous Oxide)	0.000402	--
HC-NM (Non-methane Hydrocarbon)	0.003833	--
NMOG (Non-methane organic gases)	0.003949	--
HC-TOTAL (Total Hydrocarbon)	0.005374	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	263	263

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	263.2399	--

Manufacturer Test Comments 01_FTP_CV26075_03_FEDV_530i xDrive Sedan_A_ETW-4500_RG33_default mode_D_on Official test results are determined using S-factor correction according to SAE J1772, FEB 2023. The following S-factors were applied: S-UDDS1 = 3.1 ; S-UDDS2, HWFE = 2.7 Unadjusted results for MFR FE = 33.3 MPG

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	263	--	--	--	0.1	--	263	--	--
Fed	120,000 miles	Other	METHANE	0.0016	--	--	--	0.0010	--	0.003	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0004	--	--	--	0.0002	--	0.001	0.010	Pass
Fed	150,000 miles	Other	CO	0.16	--	--	--	0.06	--	0.2	1.0	Pass
Fed	150,000 miles	Other	NMOG	0.0039	--	1.10	--	0.0040	--	0.008	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0044	--	--	--	--	--	0.012	0.030	Pass
Fed	150,000 miles	Other	NOX	0.0005	--	--	--	0.0036	--	0.004	999.999	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	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Test #	**VBMX10093157**	**Test Procedure**	**3 - HWFE**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	10/29/2025	**Fuel**	Gasoline
Fuel Batch ID	T2/E0	**Fuel Calibration Number**	57
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	4051	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.000808	--
CO (Carbon Monoxide)	0.061291	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.142	--
DT-EER (Drive Trace Energy Economy Rating)	-0.178	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.163	--
MFR FE (Manufacturer Fuel Economy)	49.37	49.37
NOX (Nitrogen Oxide)	0.000315	--
HC-NM (Non-methane Hydrocarbon)	0.0004	--
NMOG (Non-methane organic gases)	0.000413	--
HC-TOTAL (Total Hydrocarbon)	0.00119	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	176	176

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	175.6758	--

Manufacturer Test Comments 02_HWFET_CV26075_03_FEDV_530i xDrive Sedan_A_ETW-4500_RG33_default mode_D_on Official test results are determined using S-factor correction according to SAE J1772, FEB 2023. The following S-factors were applied: S-UDDS1 = 3.1 ; S-UDDS2, HWFE = 2.7 Unadjusted results for MFR FE = 49.7 MPG

Certification Summary Information Report

Test Group VBMXV02.0B4D **Evaporative/Refueling Family** VBMXR0150G60

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	176	--	--	--	0.1	--	176	--	--
Fed	150,000 miles	Other	NMOG	0.0004	--	1.03	--	0.0040	--	0.004	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0007	--	--	--	--	--	0.008	0.030	Pass
Fed	150,000 miles	Other	NOX	0.0003	--	--	--	0.0036	--	0.004	999.999	Pass

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

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Fuel Properties

Fuel Batch ID	**T2/E0**	**Fuel Calibration Number**	**57**
Test Fuel Type	61 - Tier 2 Cert Gasoline	**Fuel Batch Calibration Date**	11/26/2024
Fuel Batch Calibration Effective Date	12/11/2024	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	0.862	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.737
Fuel Ethanol Volume Percent (%)	--	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	18727
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	**Fuel Carbon Mass Fraction (E10)**	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.862	**Weight Fraction CO2**	--

Fuel Batch ID	**COE10**	**Fuel Calibration Number**	**61**
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	**Fuel Batch Calibration Date**	10/25/2024
Fuel Batch Calibration Effective Date	10/24/2025	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	0.827	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.743
Fuel Ethanol Volume Percent (%)	9.5	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.92	**Fuel Carbon Mass Fraction (E10)**	0.827
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	**Weight Fraction CO2**	--

Fuel Batch ID	**T10/87**	**Fuel Calibration Number**	**60**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	04/15/2025
Fuel Batch Calibration Effective Date	07/31/2025	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	0.827	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.746
Fuel Ethanol Volume Percent (%)	9.7	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.82	**Fuel Carbon Mass Fraction (E10)**	0.827
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	**Weight Fraction CO2**	--

Fuel Batch ID	**T10/87**	**Fuel Calibration Number**	**43**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	11/27/2023
Fuel Batch Calibration Effective Date	02/27/2024	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60
Exhaust Carbon Weight Fraction	0.827	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.746
Fuel Ethanol Volume Percent (%)	9.8	**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)	0.827	**Weight Fraction CO2**	--
Fuel Batch ID	**T10/87**	**Fuel Calibration Number**	**39**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	08/25/2023
Fuel Batch Calibration Effective Date	11/09/2023	**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**	0.742
Fuel Ethanol Volume Percent (%)	9.6	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	18000
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**	**62**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	01/26/2026
Fuel Batch Calibration Effective Date	10/15/2025	**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**	0.748
Fuel Ethanol Volume Percent (%)	9.6	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.78	**Fuel Carbon Mass Fraction (E10)**	0.828
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	**Weight Fraction CO2**	--

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

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**	US06

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.06	999.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0040	999.999
150,000 miles	NOX	--	--	--	--	--	--	0.0036	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.006

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Other
Fuel	Gasoline	**Test Procedure**	Federal fuel 2-day exhaust (w/can load)

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.1	999
120,000 miles	N2O	--	--	--	--	--	--	0.0002	0.010
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	METHANE	--	--	--	--	--	--	0.0010	0.030
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0040	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0036	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.003

Certification Summary Information Report

Test Group VBMXV02.0B4D **Evaporative/Refueling Family** VBMXR0150G60

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	--	--	--	--	--	--	0.1	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0010	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0002	0.010
150,000 miles	CO	--	--	--	--	--	--	0.06	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	--	--	--	0.0040	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0036	999.999
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** Cold CO

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.02	10.0
120,000 miles	HC-NM	--	--	--	--	--	--	0.00	0.3

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	--	--	--	--	--	--	0.06	999.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0040	999.999
150,000 miles	NOX	--	--	--	--	--	--	0.0036	999.999

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60
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	--	--	--	--	--	--	0.1	999.999
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0040	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0.0000	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0036	999.999

Evaporative/Refueling Standards

Evaporative/Refueling Family	VBMXR0150G60	**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	0.000

Evaporative/Refueling Family	VBMXR0150G60	**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	VBMXR0150G60	**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

Evaporative/Refueling Family	VBMXR0150G60	**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	--	0.300	0.0000

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60

Evaporative/Refueling Family	VBMXR0150G60	**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	VBMXR0150G60	**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	--	0.300	0.0000

Certification Summary Information Report

Test Group	VBMXV02.0B4D	Evaporative/Refueling Family	VBMXR0150G60

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	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60
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

Certification Summary Information Report

Test Group	VBMXV02.0B4D	**Evaporative/Refueling Family**	VBMXR0150G60
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