Application for Certification

Model Year: 2027
Manufacturer Name: BMW

Test Group: VBMXV03.0H5P
Test Group Description: in-line 6-cylinder, 4-stroke, 3.0 Liter, gasoline PHEV

Durability Group: VBMXHHGVNV2P
Durability Group Description: 4-Stroke Otto Cycle
gasoline
direct fuel injection and multiport fuel injection
ceramic, monolith
Palladium, Rhodium
Gasoline Particulate Filter, Three-Way Catalyst

Evaporative Group: VBMXR0170G0H

Applicable Standards: EPA
FTP Standard: Interim Tier 4 - Bin 50
SFTP Standard: Interim Tier 4 composite - 0.070
EVAP FEL: Tier 3 - 500

Vehicle Classes Covered: EPA
LDV

Carlines Covered: 550e xDrive Sedan

Test EDV:

VID	CFG	Fuel	FTP sust.	HWY sust.	US06 sust.	SC03 sust.	Cold CO sust.
CS79001	00	T3E10	TBMX10089184	TBMX10089186	TBMX10089185	TBMX10089189	TBMX10089187
CS79001	02	T2E0	TBMX10089287	TBMX10089289	---	---	---

VID	CFG	Fuel	FTP depl.	HWY depl.	US06 Cold Start depl.
CS79001	02	T2E0	TBMX10089318	TBMX10089319	---

Test EDV EVAP:

Family	VID	CFG	Fuel	3-day	RL	2-day	ORVR	BTP	Leak
R0170G0H	9N02303	00	T3E10	RBMX10078642	RBMX10078643	RBMX10078641	RBMX10078645	not applicable	RBMX10078644

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

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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	VBMXHHGVNV2P
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	ceramic monolith
2.9.	Precious Metals in Particulate Filter	Palladium Rhodium
2.10.	Precious Metal Loading	Refer to Section 16, Confidential Information
2.11.	Range of Catalyst Grouping Statistics	6.9 - 5.2

3. Evaporative / Refueling Family Description

3.1.	Evaporative / Refueling Family Name	VBMXR0170G0H
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:	170 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	non-integrated refueling canister only
3.2.5.	Fillpipe seal mechanism	liquid seal
3.2.6.	Vapor control system	pressurized tank system
3.2.7.	Purge control system	electric purge valve
3.2.8.	Vapor hose material	multilayer plastic
3.2.9.	Fuel tank material	steel
3.3.	Leak Family Description	same Leak-Standard in between the evaporative family

3.4. ORVR Statement

Evaporative Family VBMXR0170G0H

ORVR safety application is carried over from previous model year.

This evaporative / refueling family was first certified for model year 2024.

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] =	855.9	---
calculated tref [h] =	120.0	---
effective tref [h] =	120.0	---

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	VBMXV03.0H5P
5.2.	Engine information	
5.2.1.	Engine displacement	2998 cm³
5.2.2.	Arrangement of cylinders	in line
5.2.3.	Number of cylinders	6
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 50
5.6.	Applicable emission standards	Refer to Summary Sheet enclosed in Section 7 of this application.
5.7.	Battery Monitor Family	
5.7.1.	Battery Monitor Family Name	VBMXV03.0H5P

5.7.2. All vehicles coverd by this application are substantially similar with respect to the following elements:

- Algorithm for estimating on-board SOCE
- Sensor configuration
- Characteristics of battery cell as described in section 12

5.8.	Battery Durability Family	VBMXV03.0H5P
5.8.1.	Battery Durability Family Name	VBMXV03.0H5P

5.8.2. All vehicles coverd by this application are substantially similar with respect to the following elements:

- Type and number of electric machines as described in section 12
- Type of battery as described in section 12
- Battery management system
- Passive and active thermal management of the battery as described in section 12
- Type of electric energy converter between recharge -plug-in and battery as described by the different charging rates in setion 12
- Operation strategy of all components influencing the battery durability
- Declared maximum charging power as described in section 12

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
CS79001	00	--	550e xDrive Sedan	SA-8	EDV	T3E10	---	10	refer to section 12	refer to section 12	refer to section 12	5250
CS79001	02	430	550e xDrive Sedan	SA-8	FEDV	T2E0	---	11	D	default mode	Hybrid	5250
9T75013	---	---	X3 M50i xDrive	---	DDV	T3E10	---	---	---	---	---	5000

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
9N02303	00	X5 xDrive50e	EDV EVAP	T3E10	R0170G0H

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-VBMXV03.0H5P-VBMXR0170G0H

The certified usable battery energy is given in the respective test information.
BMW selects the HFET Full Charge Test to determine compliance with the battery energy Minimum Performance Requirement.

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.

Avoiding fuel vapor to atmosphere at opening fuel fill pipe cap for plug-in hybrid electric vehicles

According to 40 CFR 86.1844-01(d)(7)(v) we state as the manufacturer, based on our engineering evaluation in terms of the working principle of the pressurized fuel tank system, that vapor would not be vented into the atmosphere if the fuel fill pipe cap was removed. At any operation condition the fuel filler cap cannot be removed until the pressure of fuel tank system is completely released to the carbon canister.

Battery Durability

According to 40 CFR §86.1844 (d)(19)(iv) we state as the manufacturer that the vehicles covered by this test group meet the Minimum Performance Requirement specified in §86.1815-27(e). According to §86.1844 (d)(19)(ii) BMW selects the HFET Full ChargeTest to determine the certified usable battery energy in terms Minimum Performance Requirement.

Break-In Period Vehicle, Battery, Fuel Cell

According to EPA CD-2021-12 the test vehicles are stabilized for certification testing by aging at least to 2,000 miles. Test vehicle and the battery, in addition the fuel cell if applicable, that power the vehicle during testing are aged as one unit at the same time for the same number of miles. Aging is done by using the SRC cycle.

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 compliance of plug-in hybrid electric vehicles

According to guidance letter CD-14-19 we confirm that plug-in hybrid electric vehicles remain in compliance with the emission standards during the charge depletion and charge sustaining transition modes. During depleting operation for hot start test cycles (Highway, US06, SC03) compliance demonstration is limited to all test cycles following the cycle where the combustion engine was initially started.

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.

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.

State of Health Indication Accuracy

According to 40 CFR §86.1844 (d)(19)(iii) and § 86.1815-27 (d) we state as the manufacturer that vehicles covered by this test group display SOCE values that are accurate within 5 percent of measured values as calculated in GTR No. 22.

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
550e xDrive Sedan	--	SA	LDV	4894	5250	6195	15.9	180	3060	--
550e xDrive Sedan	430	SA	LDV	4894	5250	6195	15.9	180	3060	No

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			
550e xDrive Sedan	--	SA (A)	8	3.07	3.07	XB1151U2G60X	308 / 5000	332 / 1750 - 4700
550e xDrive Sedan	430	SA (A)	8	3.07	3.07	XB1151U2G60X	308 / 5000	332 / 1750 - 4700

12.1.3. Tire Information

Modell	Carline	Trans	Road Load CFG	Tire Front	Tire Rear
550e xDrive Sedan	--	SA	10	worst case represented	worst case represented
	430	SA	11	245/35 R21 96Y STD	275/30 R21 98Y STD
				255/35 R21 101Y STD	285/30 R21 103Y STD
				245/45 R19 102H M+S STD	275/40 R19 105H M+S STD
				245/40 R20 99Y STD (HP)	275/35 R20 102Y STD (HP)
				245/45 R19 102Y STD	275/40 R19 105Y STD
				245/40 R20 99H M+S STD	275/35 R20 102H M+S 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	TWC
12.1.4.2. Particulate Filter	yes
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 by waste gate
12.1.4.7. Other	Charged Air Cooler
12.1.5. Number of valves per cylinder	4
12.1.6. Engine displacement	2998 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
550e xDrive Sedan	--	SA	10	24.6	62.4	-0.203	0.02452	15.1	18.0	-0.078	0.02076	Yes
550e xDrive Sedan	430	SA	11	24.6	62.4	-0.203	0.02269	14.5	17.9	-0.060	0.01816	Yes

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

12.3. Hybrid Electric Vehicle System Description

12.3.1. Description of electric motor

Model Name	Type	Power (peak) [kW]	Max. torque [Nm]
550e xDrive Sedan	permanent excited synchronous machine	145 @ 7000	280

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
550e xDrive Sedan	LI-ION	63.5	22.08	347.5	268.8	1	3	96

Model Name	Cell format	Min. Voltage Cell [V]	Weight [kg]	Specific Energy Density [Wh/kg]	Chemistry Identifier
550e xDrive Sedan	prismatic	2.80	204.8	108	Li MM(NMC) - C.F

Battery specific energy data are determined in accordance with U.S. Advanced Battery Consortium`s Electric Vehicle Battery Procedure No. 2 (Constant Current Discharge Test Series).

12.3.3. Description of thermal management

	Component	Medium
battery	evaporator	refrigerant / evaporator plate

cooling module	condenser	air or coolant / refrigerant
	ratiator / fan	air / coolant
passenger compartment	heat exchanger	coolant / air
	engine (ICE)	coolant
	electric heater	coolant
	evaporator	refrigerant / air

12.3.4. Description of battery charger

The charger is capable of charging with different rates. For each charging power, the following approximate charge rates apply:

Model Name	Current Type Charging Source	Charging Power [kW]	Voltage [V]	Rated Current [A]	Charging Rates [hh:mm]
550e xDrive Sedan	AC	11.5	240	48	1:45
550e xDrive Sedan	AC	9.6	240	40	2:00
550e xDrive Sedan	AC	1.4	120	12	13:45
550e xDrive Sedan	AC	7.6	240	32	2:30

Model Name	Current Type Charging Source	Max. Charging Power [kW]
550e xDrive Sedan	DC	not applicable

The conductive charging port meets SAE J1772.

12.4. Information on driver selectable modes

Drive Mode	Default Mode	Function
Auto E	yes	combined use of combustion engine and electric engine.
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)
Max E	no	pure electric driving if possible (e.g. above defined state of charge, below specific driving load)
SOC Set	no	selected target state of charge is reached either by charge depleting or charge increasing
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

Transmission Mode	Default Mode	Function
sporty	no	sporty setting for shift points

12.5. Modes used for EDV Testing

Test EDV:

VID	CFG	Fuel	FTP sust.	HWY sust.	US06 sust.	SC03 sust.	Cold CO sust.
CS79001	00	T3E10	TBMX10089184	TBMX10089186	TBMX10089185	TBMX10089189	TBMX10089187
CS79001	02	T2E0	TBMX10089287	TBMX10089289	---	---	---

Drive Mode
Sustaining T3E10 EDV testing is done in the drive mode "Hybrid" (Auto E) + "Personal" (comfortable) and transmission mode "D" (comfortable). This is the worst case combination allowing a SOC neutral condition during the test sequence. Recuperation settings have no influence on energy consumption and E-range at dynamometer testing. Sustaining T2E0 EDV testing is done in drive mode "Hybrid" (Auto E) + "Personal" (comfortable) and transmission mode "D" (comfortable). This represents the default mode. Recuperation settings have no influence on energy consumption and E-range at dynamometer testing.

VID	CFG	Fuel	FTP depl.	HWY depl.	US06 Cold Start depl.
CS79001	02	T2E0	TBMX10089318	TBMX10089319	---

Drive Mode
Depleting T3E0 EDV testing is done in drive mode "Hybrid" (Auto E) + "Personal" (comfortable) and transmission mode "D" (comfortable). This combination allows depleting operation during the test sequence. Recuperation settings have no influence on energy consumption and E-range at dynamometer testing.

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 VBMXV03.0H5P.

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
430	550e xDrive Sedan	see attachment: 03VE-VH5P-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
430	550e xDrive Sedan	VBMXR0170G0H	see attachment: FTTP-0G0H-01

17. Attachment

17.1	Fuel Tank Temperature Profile	see attachment: FTTP-0G0H-01
17.2	VECI Label	see attachment: 03VE-VH5P-01
17.3	Certification Summary Information Report	see attachment: CSI-VBMXV03.0H5P-VBMXR0170G0H

Test Vehicle Data		**Ambient Conditions**		**Test Data**	
Vehicle Type:	X5 xDrive50e	Weather:	sunny	Date of test:	06/07/2022
Mileage:	4837 mi	clouds:	0 %	Engine start:	9:47
Fuel tank volume:	69.0 L	Wind speed:	0 mph	Measure start:	9:59
Fuel volume:	27.6 L	Ambient temp:		Measure stop:	11:11
		Start:	111 °F	Test track:	Dubai Bab Al Shams
		delta:	4 °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	90.9	91.0	90.9	95.0	94.3	-43.0
30	90.9	91.0	90.9	95.0	94.3	-43.0
60	90.9	91.0	91.0	95.0	94.3	-43.1
90	90.9	91.1	91.0	95.0	94.3	-43.1
120	90.9	91.1	91.0	95.0	94.3	-43.4
150	90.9	91.2	91.0	95.1	94.3	-43.4
180	90.9	91.2	91.0	95.1	94.2	-43.0
210	90.9	91.2	91.1	95.1	94.2	-43.0
240	91.0	91.2	91.1	95.2	94.1	-43.0
270	91.0	91.2	91.1	95.2	94.1	-42.8
300	91.0	91.2	91.1	95.2	94.1	-43.0
330	91.0	91.2	91.1	95.2	94.1	-43.0
360	91.0	91.2	91.1	95.2	94.1	-43.0
390	91.0	91.2	91.1	95.2	94.1	-43.0
420	91.0	91.2	91.1	95.2	94.2	-43.0
450	91.0	91.2	91.1	95.2	94.2	-42.7
480	91.0	91.2	91.1	95.2	94.3	-42.6
510	91.0	91.2	91.1	95.2	94.3	-42.6
540	91.0	91.3	91.2	95.2	94.3	-42.6
570	91.0	91.3	91.2	95.3	94.3	-42.6
600	91.0	91.4	91.2	95.3	94.4	-42.6
630	91.1	91.4	91.2	95.3	94.4	-42.6
660	91.1	91.4	91.3	95.3	94.5	-42.4
690	91.2	91.4	91.3	95.3	94.5	-42.5
720	91.2	91.4	91.3	95.4	94.5	-42.2
750	91.2	91.4	91.3	95.4	94.5	-42.2
780	91.2	91.4	91.3	95.4	94.5	-42.2
810	91.2	91.4	91.3	95.4	94.5	-42.2
840	91.2	91.4	91.3	95.4	94.5	-42.2
870	91.2	91.4	91.3	95.4	94.5	-42.2
900	91.2	91.4	91.3	95.4	94.6	-41.8
930	91.2	91.5	91.4	95.4	94.6	-41.8
960	91.2	91.5	91.4	95.4	94.6	-41.8
990	91.3	91.6	91.4	95.5	94.7	-41.8
1020	91.3	91.6	91.5	95.5	94.7	-41.8
1050	91.4	91.6	91.5	95.5	94.7	-41.7

1080	91.4	91.6	91.5	95.5	94.8	-41.5
1110	91.4	91.6	91.5	95.5	94.8	-41.4
1140	91.4	91.6	91.5	95.5	94.8	-41.4
1170	91.4	91.6	91.5	95.5	94.8	-41.4
1200	91.4	91.6	91.5	95.5	94.9	-41.4
1230	91.4	91.6	91.5	95.5	95.0	-41.4
1260	91.4	91.6	91.5	95.6	95.0	-41.1
1290	91.4	91.6	91.5	95.6	95.0	-41.0
1320	91.4	91.6	91.5	95.6	95.0	-41.0
1350	91.4	91.7	91.6	95.6	95.0	-41.0
1380	91.4	91.7	91.6	95.6	95.1	-41.0
1410	91.4	91.8	91.6	95.6	95.1	-41.0
1440	91.4	91.8	91.6	95.6	95.0	-40.9
1470	91.4	91.8	91.6	95.7	94.8	-40.8
1500	91.5	91.8	91.6	95.7	94.4	-40.6
1530	91.6	91.8	91.7	95.7	94.1	-40.6
1560	91.6	91.8	91.7	95.7	93.8	-40.6
1590	91.6	91.8	91.7	95.7	93.7	-40.3
1620	91.6	91.8	91.7	95.7	93.9	-40.2
1650	91.6	91.8	91.7	95.7	94.0	-40.2
1680	91.6	91.8	91.7	95.8	94.2	-40.2
1710	91.6	91.9	91.7	95.8	94.3	-40.2
1740	91.6	91.9	91.7	95.8	94.4	-40.2
1770	91.6	91.9	91.8	95.8	94.5	-40.1
1800	91.6	91.9	91.8	95.8	94.6	-39.8
1830	91.6	91.9	91.8	95.8	94.6	-39.8
1860	91.6	91.9	91.8	95.9	94.7	-39.8
1890	91.7	91.9	91.8	95.9	94.8	-39.8
1920	91.7	91.9	91.8	95.9	94.8	-39.8
1950	91.8	91.9	91.8	95.9	94.9	-39.8
1980	91.8	91.9	91.8	95.9	95.0	-39.7
2010	91.8	91.9	91.9	95.9	95.0	-39.4
2040	91.8	91.9	91.9	95.9	95.1	-39.4
2070	91.8	91.9	91.9	95.9	95.2	-39.4
2100	91.8	91.9	91.9	95.9	95.3	-39.4
2130	91.8	92.0	91.9	95.9	95.4	-39.4
2160	91.8	92.0	91.9	95.9	95.5	-39.3
2190	91.8	92.1	91.9	96.0	95.6	-39.1
2220	91.8	92.1	92.0	96.0	95.6	-39.0
2250	91.9	92.1	92.0	96.1	95.7	-39.0
2280	91.9	92.1	92.0	96.1	95.7	-39.0
2310	91.9	92.1	92.0	96.1	95.7	-38.9
2340	91.9	92.1	92.0	96.1	95.8	-38.9
2370	91.9	92.1	92.0	96.1	95.9	-39.0
2400	91.9	92.1	92.0	96.1	95.9	-38.9
2430	91.9	92.1	92.0	96.1	96.0	-38.6
2460	91.9	92.1	92.0	96.1	96.0	-38.6
2490	91.9	92.1	92.0	96.1	96.1	-38.6
2520	91.9	92.2	92.1	96.1	96.1	-38.6
2550	91.9	92.2	92.1	96.2	96.1	-38.6
2580	92.0	92.3	92.1	96.2	96.1	-38.5
2610	92.0	92.3	92.2	96.2	96.1	-38.2
2640	92.1	92.3	92.2	96.2	96.1	-38.2
2670	92.1	92.3	92.2	96.3	96.2	-38.2
2700	92.1	92.3	92.2	96.3	96.2	-38.2
2730	92.1	92.3	92.2	96.3	96.2	-38.0

2760	92.1	92.3	92.2	96.3	96.3	-37.8
2790	92.1	92.3	92.2	96.3	96.4	-37.8
2820	92.1	92.3	92.2	96.3	96.4	-37.8
2850	92.1	92.3	92.2	96.3	96.4	-37.8
2880	92.2	92.4	92.3	96.3	96.4	-37.7
2910	92.2	92.4	92.3	96.4	96.4	-37.4
2940	92.3	92.5	92.4	96.4	96.4	-37.4
2970	92.3	92.5	92.4	96.4	96.4	-37.4
3000	92.3	92.5	92.4	96.4	96.4	-37.3
3030	92.3	92.5	92.4	96.4	96.4	-37.0
3060	92.3	92.5	92.4	96.4	96.4	-37.0
3090	92.3	92.5	92.4	96.5	96.4	-36.8
3120	92.4	92.5	92.4	96.5	96.4	-36.8
3150	92.4	92.5	92.4	96.5	96.4	-37.0
3180	92.4	92.5	92.5	96.5	96.2	-36.6
3210	92.5	92.6	92.5	96.6	96.1	-36.6
3240	92.5	92.6	92.6	96.6	96.1	-36.6
3270	92.5	92.7	92.6	96.6	96.1	-36.2
3300	92.5	92.7	92.6	96.6	96.1	-36.1
3330	92.5	92.7	92.6	96.6	96.1	-36.1
3360	92.5	92.7	92.6	96.6	96.1	-36.1
3390	92.5	92.7	92.6	96.6	96.1	-36.1
3420	92.5	92.7	92.6	96.6	96.2	-36.0
3450	92.5	92.7	92.6	96.6	96.2	-35.8
3480	92.5	92.7	92.6	96.6	96.3	-35.8
3510	92.5	92.7	92.6	96.7	96.3	-35.8
3540	92.6	92.8	92.7	96.7	96.3	-35.7
3570	92.6	92.8	92.7	96.8	96.3	-35.4
3600	92.7	92.8	92.7	96.8	96.3	-35.3
3630	92.7	92.8	92.8	96.8	96.3	-35.3
3660	92.7	92.8	92.8	96.8	96.3	-35.3
3690	92.8	92.8	92.8	96.9	96.3	-35.3
3720	92.8	92.8	92.8	96.9	96.3	-35.2
3750	92.8	92.8	92.8	96.9	96.3	-35.0
3780	92.8	92.9	92.9	96.9	96.2	-35.0
3810	92.8	92.9	92.9	96.9	96.2	-35.0
3870	92.8	93.0	92.9	97.0	95.9	-34.6
3900	92.8	93.0	92.9	97.0	95.8	-34.6
3930	92.8	93.0	92.9	97.0	95.7	-34.5
3960	92.8	93.0	92.9	97.0	95.8	-34.5
3990	92.8	93.0	92.9	97.0	95.8	-34.2
3990	92.8	93.0	92.9	97.0	95.8	-34.2
4020	92.8	93.0	92.9	97.0	95.9	-34.1
4050	92.8	93.0	92.9	97.0	95.9	-34.1
4080	92.9	93.0	92.9	97.0	95.9	-34.1
4110	92.9	93.0	93.0	97.0	95.9	-33.9
4140	93.0	93.0	93.0	97.1	96.0	-33.9
4170	93.0	93.0	93.0	97.1	96.0	-33.8
4200	93.0	93.0	93.0	97.1	96.0	-33.8
4230	93.0	93.1	93.0	97.1	96.1	-33.7
4260	93.0	93.1	93.1	97.1	96.1	-33.4
4290	93.0	93.2	93.1	97.2	96.1	-33.4
4320	93.0	93.2	93.1	97.2	96.1	-33.3

BMW

Designation

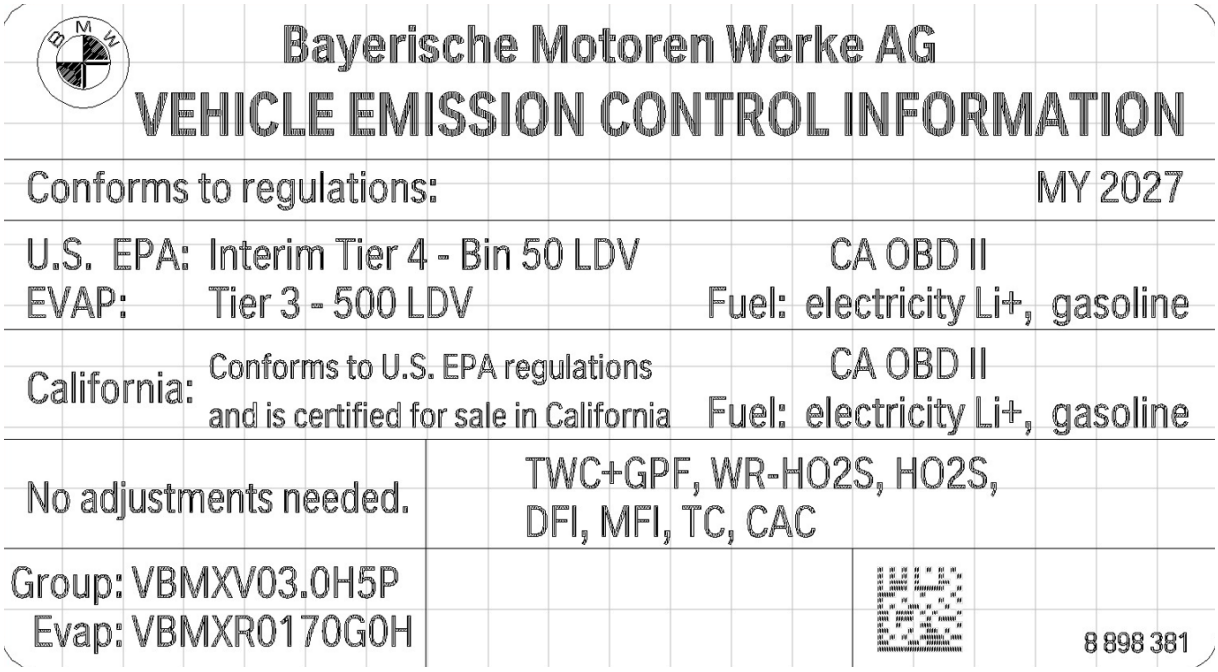
Attachment

VECI Label LDV, VBMXV03.0H5P, VBMXR0170G0H

Date: 03.12.2025

03VE-VH5P-01

DRAFT - Inverted Representation



Original representation

Base: Black
Characters: Silver

Certification Summary Information Report

Manufacturer	BMW	**Manufacturer Code**	BMX
Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	02/10/2026 05:00:42 AM
Model Year	2027		

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

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**	Yes
Fuel Cell Indicator	No	**EPA Vehicle Class**	LDV
Federal Clean Fuel Vehicle	No	**Federal Clean Fuel Vehicle Standard**	--
Federal Clean Fuel Vehicle ILEV	No	**California Partial Zero Emissions Vehicle Indicator**	No
Durability Group Name	VBMXHHGVNV2P	**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**	VBMXV03.0H5P
Test Group OBD Compliance Level	Full - no deficiencies	**Number of Test Group OBD Deficiencies**	0
OBD Deficiencies Comments	E-26-015		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Evaporative/Refueling Family Information

Evaporative Summary Information Type	New	**Submission/Correction Date**	10/07/2025 07:56:35 AM
Integrated ORVR?	No	**Fuel(s)**	Gasoline
Multiple Fuel Storage	--		
Bladder Fuel Tank?	No		
Fuel Tank Material	Metal	**Fuel Tank Material Description**	--
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)	170	**Number of Primary Canisters**	1
Number of Bleed Canisters	0	**Bleed Canister Total Working Capacity (grams)**	--
Mfr Evaporative/Refueling Family Comments	non-integrated refueling system		

Leak Family Details

Leak Family Indicator	No		
Canister Bleed Test Indicator	No	**Applicability of Evaporative Canister Bleed Test**	--
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	430 - 550e xDrive Sedan	Federal	All Wheel Drive	Semi-Automatic	8	No

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	6	**Mechanically Variable Compression Ratio Indicator**	N

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

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	Other	Palladium + Rhodium	Ceramic	Monolith

Mfr After Treatment Device (ATD) Comments	After Treatment Device #2: Gasoline particulate filter (GPF)
Direct Ozone Reduction (DOR) Device	Not Equipped
Mfr Emission Control Device Comments	--

Engine Configuration Number 1

Engine Displacement (liters)	3.0	**Engine Rated Horsepower**	308
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
Gasoline	TBMX10089184	TBMX10089185	TBMX10089189	TBMX10089187	TBMX10089186	27.0	228.2	34.6	286.1	--
Electricity	--	--	--	--	--	--	--	--	--	--

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Gasoline	TBMX10089184	TBMX10089185	TBMX10089189

Official Charge Depleting Test Numbers

Test Group Fuel	UDDS	Highway
Electricity	TBMX10089318	TBMX10089319

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	348	**Battery Energy Capacity**	63.5
Battery Specific Energy	108	**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**	Yes
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	PMSM	**Rated Motor/Generator Power**	145
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	**Usable H2 Fill Capacity (kg)**	--
Mfr Hybrid Electric/ Electric Vehicle Comments	permanent magnet synchronous machine (PMSM)		

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Emission Data Vehicle Information

Vehicle ID / Configuration	9N02303 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	RBMXJ03.0H70	**Original Evaporative/Refueling Family**	RBMXR0170G0H
Original Test Vehicle Model Year	2024		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	X5 xDrive50e

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	Yes		
Odometer Correction -- Initial	0	**Odometer Correction Factor**	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	XB1151U2G05X	**Rated Horsepower**	308
Displacement (liters)	3		
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)	5573	**Equivalent Test Weight (pounds)**	6000
GVWR (lbs)	7055	**N/V Ratio**	27.4
Axle Ratio	3.63		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	No	**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	65.9	-0.247	0.03085	8.5	-0.286	0.02941	17.4

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_9N02303_00_EVAP_EDV_X5 xDrive50e_A_ETW-6000_RG10_E10

Test #	**RBMX10078641**	**Test Procedure**	**23 - 2-day evap**
Exhaust Test # for this Evap Test	RBMX10078639	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/15/2022	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	30
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	3423	**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)	0.251338	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.271445	--

Manufacturer Test Comments EVAP EDV - 2Day, X5 xDrive50e

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	0.2714	0.0151	0.286	0.500	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**RBMX10078642**	**Test Procedure**	**34 - Federal fuel 3-day evap**
Exhaust Test # for this Evap Test	RBMX10078640	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/26/2023	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	30
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	3537	**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)	0.256858	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.277406	--

Manufacturer Test Comments EVAP EDV - 3Day, X5 xDrive50e

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	0.2774	0.0151	0.292	0.500	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**RBMX10078643**	**Test Procedure**	**32 - Federal Fuel Running Loss**
Exhaust Test # for this Evap Test	RBMX10078640	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/26/2023	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	30
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	3509	**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)	0.0003	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0003	--

Manufacturer Test Comments EVAP EDV - RL, X5 xDrive50e

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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**RBMX10078645**	**Test Procedure**	**24 - Federal fuel refueling test (ORVR)**
Exhaust Test # for this Evap Test	RBMX10078639	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/23/2022	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	30
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	3336	**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)	0.00018	--

Manufacturer Test Comments EVAP EDV, ORVR, X5 xDrive50e

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	0.000	0.020	0.02	0.20	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**RBMX10078644**	**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	10/27/2022	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	30
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3282	**Odometer Units**	K
4WD Test Dyno	Yes	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
LEAK-DIA (Effective Leak Diameter (inches))	0.001	--

Manufacturer Test Comments EVAP EDV - Leak Test, X5 xDrive50e

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	0.001	0.0000	0.00	0.02	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Emission Data Vehicle Information

Vehicle ID / Configuration	CS79001 / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	TBMXV03.0H5P	**Original Evaporative/Refueling Family**	TBMXR0170G0H
Original Test Vehicle Model Year	2026		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	550e 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	Yes		
Odometer Correction -- Initial	0	**Odometer Correction Factor**	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	XB1151U2G60X	**Rated Horsepower**	308
Displacement (liters)	3		
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)	4894	**Equivalent Test Weight (pounds)**	5250
GVWR (lbs)	6195	**N/V Ratio**	24.6
Axle Ratio	3.07		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	No	**Creeper Gear**	No

Certification Summary Information Report

Test Group	VBMXV03.0H5P	Evaporative/Refueling Family	VBMXR0170G0H

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	62.4	-0.203	0.02452	18	-0.078	0.02076	15.1
Cold CO	68.7	-0.223	0.02697	-8.4	0.376	0.01664	N/A
US06	62.4	-0.203	0.02452	18	-0.078	0.02076	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_CS79001_00_EDV_550e xDrive Sedan_A_ETW-5250_RG10_defaultE10_charge sustaining and charge depleting

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089184**	**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	12/10/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
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	5605	**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)	378.5037	--
FE BAG 1 (Bag 1 Fuel Economy)	22.8	22.8
CO2 BAG 2 (Bag 2 Carbon Dioxide)	238.9745	--
FE BAG 2 (Bag 2 Fuel Economy)	36.2	36.2
CO2 BAG 3 (Bag 3 Carbon Dioxide)	300.5608	--
FE BAG 3 (Bag 3 Fuel Economy)	28.7	28.7
CO2 BAG 4 (Bag 4 Carbon Dioxide)	196.6693	--
FE BAG 4 (Bag 4 Fuel Economy)	43.9	43.9
METHANE (CH4 - Methane)	0.00185	--
CO (Carbon Monoxide)	0.2116	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.428	--
DT-EER (Drive Trace Energy Economy Rating)	0.206	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.091	--
MFR FE (Manufacturer Fuel Economy)	31.8	31.8
NOX (Nitrogen Oxide)	0.00312	--
N2O (Nitrous Oxide)	0.00053	--
HC-NM (Non-methane Hydrocarbon)	0.00815	--
NMOG (Non-methane organic gases)	0.00897	--
PM (Particulate Matter)	0.000468	--
HC-TOTAL (Total Hydrocarbon)	0.00954	--

Certification Summary Information Report

Test Group	VBMXV03.0H5P	Evaporative/Refueling Family	VBMXR0170G0H

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	272	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	272.3592	--

Manufacturer Test Comments 01_FTP_CS79001_00_EDV_550e xDrive Sedan_A_ETW-5250_RG10_D_Comfort_Hybrid_sustaining

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	0.0018	--	--	--	0.0014	--	0.003	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0005	--	--	--	0.0002	--	0.001	0.010	Pass
Fed	150,000 miles	Other	CO	0.21	--	--	--	0.16	--	0.4	1.7	Pass
Fed	150,000 miles	Other	CO-COMP	0.46	--	--	--	--	--	0.5	4.2	Pass
Fed	150,000 miles	Other	NMOG	0.0090	--	1.10	--	0.0023	--	0.011	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0121	--	--	--	--	--	0.020	0.050	Pass
Fed	150,000 miles	Other	NMOG+NOX-COMP	0.0194	--	--	--	--	--	0.019	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0031	--	--	--	0.0054	--	0.008	999.999	Pass
Fed	150,000 miles	Other	PM	0.0005	--	--	--	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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089187**	**Test Procedure**	**11 - Cold CO**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	12/07/2024	**Fuel**	Gasoline
Fuel Batch ID	COE10	**Fuel Calibration Number**	56
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	5488	**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)	563.9458	--
FE BAG 1 (Bag 1 Fuel Economy)	15.2	15.2
CO2 BAG 2 (Bag 2 Carbon Dioxide)	411.7123	--
FE BAG 2 (Bag 2 Fuel Economy)	20.9	20.9
CO2 BAG 3 (Bag 3 Carbon Dioxide)	232.6803	--
FE BAG 3 (Bag 3 Fuel Economy)	37	37
METHANE (CH4 - Methane)	0.00532	--
CO (Carbon Monoxide)	0.4439	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.48	--
DT-EER (Drive Trace Energy Economy Rating)	-0.01	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.704	--
MFR FE (Manufacturer Fuel Economy)	21.8	21.8
HC-NM (Non-methane Hydrocarbon)	0.02351	--
HC-TOTAL (Total Hydrocarbon)	0.02862	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	394.0257	--

Manufacturer Test Comments 06_FTPCOLD_CS79001_00_EDV_550e xDrive Sedan_A_ETW-5250_RG10_D_Comfort_Hybrid_sustaining

Certification Summary Information Report

Test Group VBMXV03.0H5P **Evaporative/Refueling Family** VBMXR0170G0H

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	0.44	--	--	--	0.05	--	0.5	10.0	Pass
Fed	120,000 miles	Other	HC-NM	0.02	--	--	--	0.00	--	0.0	0.3	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089186**	**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	12/10/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
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	5629	**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)	0.00257	--
CO (Carbon Monoxide)	0.1568	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.954	--
DT-EER (Drive Trace Energy Economy Rating)	-0.583	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-3.288	--
MFR FE (Manufacturer Fuel Economy)	37.7	37.7
NOX (Nitrogen Oxide)	0.00175	--
HC-NM (Non-methane Hydrocarbon)	0.00455	--
NMOG (Non-methane organic gases)	0.00468	--
HC-TOTAL (Total Hydrocarbon)	0.00705	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	229	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	228.7732	--

Manufacturer Test Comments 02_HWFET_CS79001_00_EDV_550e xDrive Sedan_A_ETW-5250_RG10_D_Comfort_Hybrid_sustaining

Certification Summary Information Report

Test Group VBMXV03.0H5P **Evaporative/Refueling Family** VBMXR0170G0H

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	0.0047	--	1.03	--	0.0023	--	0.007	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0065	--	--	--	--	--	0.014	0.050	Pass
Fed	150,000 miles	Other	NOX	0.0018	--	--	--	0.0054	--	0.007	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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089185**	**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	01/20/2025	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
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	6768	**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)	444.2036	--
FE BAG 1 (Bag 1 Fuel Economy)	19.4	19.4
CO2 BAG 2 (Bag 2 Carbon Dioxide)	296.4663	--
FE BAG 2 (Bag 2 Fuel Economy)	29.2	29.2
METHANE (CH4 - Methane)	0.00186	--
CO (Carbon Monoxide)	0.4506	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-5.051	--
DT-EER (Drive Trace Energy Economy Rating)	-2.596	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-8.791	--
MFR FE (Manufacturer Fuel Economy)	26.2	26.2
NOX (Nitrogen Oxide)	0.00598	--
HC-NM (Non-methane Hydrocarbon)	0.0032	--
NMOG (Non-methane organic gases)	0.0033	--
PM (Particulate Matter)	0.000566	--
HC-TOTAL (Total Hydrocarbon)	0.00502	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	329.2025	--

Manufacturer Test Comments 03_US06_CS79001_00_EDV_550e xDrive Sedan_A_ETW-5250_RG10_D_Comfort_Hybrid_sustaining

Certification Summary Information Report

Test Group VBMXV03.0H5P **Evaporative/Refueling Family** VBMXR0170G0H

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	0.4506	--	--	--	0.16	--	0.611	999.999	Pass
Fed	150,000 miles	Other	NMOG	0.0033	--	1.03	--	0.0023	--	0.006	999.999	Pass
Fed	150,000 miles	Other	NOX	0.0060	--	--	--	0.0054	--	0.011	999.999	Pass
Fed	150,000 miles	Other	PM	0.0006	--	--	--	0.0000	--	0.001	0.006	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089189**	**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	12/09/2024	**Fuel**	Gasoline
Fuel Batch ID	T10/87	**Fuel Calibration Number**	43
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	5551	**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)	0.00035	--
CO (Carbon Monoxide)	0.2701	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.346	--
DT-EER (Drive Trace Energy Economy Rating)	1.234	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.479	--
MFR FE (Manufacturer Fuel Economy)	17.8	17.8
NOX (Nitrogen Oxide)	0.01292	--
HC-NM (Non-methane Hydrocarbon)	0.00018	--
NMOG (Non-methane organic gases)	0.00019	--
HC-TOTAL (Total Hydrocarbon)	0.00052	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	485.8021	--

Manufacturer Test Comments 04_SC03_CS79001_00_EDV_550e xDrive Sedan_A_ETW-5250_RG10_D_Comfort_Hybrid_sustaining

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	0.2701	--	--	--	0.16	--	0.430	999.999	Pass
Fed	150,000 miles	Other	NMOG	0.0002	--	1.03	--	0.0023	--	0.002	999.999	Pass
Fed	150,000 miles	Other	NOX	0.0129	--	--	--	0.0054	--	0.018	999.999	Pass

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Emission Data Vehicle Information

Vehicle ID / Configuration	CS79001 / 2	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	TBMXV03.0H5P	**Original Evaporative/Refueling Family**	TBMXR0170G0H
Original Test Vehicle Model Year	2026		

Vehicle Model

Represented Test Vehicle Make	BMW	**Represented Test Vehicle Model**	550e 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	Yes		
Odometer Correction -- Initial	0	**Odometer Correction Factor**	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	XB1151U2G60X	**Rated Horsepower**	308
Displacement (liters)	3		
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)	4894	**Equivalent Test Weight (pounds)**	5250
GVWR (lbs)	6195	**N/V Ratio**	24.6
Axle Ratio	3.07		
Transmission Type	Semi-Automatic	**# of Transmission Gears**	8
Transmission Lockup	No	**Creeper Gear**	No

Certification Summary Information Report

Test Group	VBMXV03.0H5P	Evaporative/Refueling Family	VBMXR0170G0H

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	62.4	-0.203	0.02269	17.9	-0.06	0.01816	14.5
Cold CO	68.7	-0.223	0.02496	-7.9	0.376	0.01474	N/A
US06	62.4	-0.203	0.02269	17.9	-0.06	0.01816	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments vi_CS79001_02_FEDV_550e xDrive Sedan_A_ETW-5250_RG11_E0_charge sustaining and charge depleting

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089287**	**Test Procedure**	**31 - Federal fuel 3-day exhaust**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	01/14/2025	**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	6387	**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)	393.0297	--
FE BAG 1 (Bag 1 Fuel Economy)	22.2	22.2
CO2 BAG 2 (Bag 2 Carbon Dioxide)	236.1059	--
FE BAG 2 (Bag 2 Fuel Economy)	37.1	37.1
CO2 BAG 3 (Bag 3 Carbon Dioxide)	321.7224	--
FE BAG 3 (Bag 3 Fuel Economy)	27.2	27.2
CO2 BAG 4 (Bag 4 Carbon Dioxide)	177.8469	--
FE BAG 4 (Bag 4 Fuel Economy)	49.2	49.2
METHANE (CH4 - Methane)	0.00222	--
CO (Carbon Monoxide)	0.2888	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.25	--
DT-EER (Drive Trace Energy Economy Rating)	0.943	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.05	--
MFR FE (Manufacturer Fuel Economy)	31.8	31.8
NOX (Nitrogen Oxide)	0.00338	--
N2O (Nitrous Oxide)	0.00036	--
HC-NM (Non-methane Hydrocarbon)	0.01078	--
NMOG (Non-methane organic gases)	0.01121	--
HC-TOTAL (Total Hydrocarbon)	0.01248	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	275	275

Certification Summary Information Report

Test Group VBMXV03.0H5P **Evaporative/Refueling Family** VBMXR0170G0H

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	275.005	--

Manufacturer Test Comments 01_FTP_CS79001_02_FEDV_550e xDrive Sedan_A_ETW-5250_RG11_D_Comfort_Hybrid_sustaining

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	275	--	--	--	0.2	--	275	--	--
Fed	120,000 miles	Other	METHANE	0.0022	--	--	--	0.0014	--	0.004	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0004	--	--	--	0.0002	--	0.001	0.010	Pass
Fed	150,000 miles	Other	CO	0.29	--	--	--	0.16	--	0.4	1.7	Pass
Fed	150,000 miles	Other	NMOG	0.0112	--	1.10	--	0.0023	--	0.014	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0146	--	--	--	--	--	0.022	0.050	Pass
Fed	150,000 miles	Other	NOX	0.0034	--	--	--	0.0054	--	0.009	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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089289**	**Test Procedure**	**3 - HWFE**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	01/14/2025	**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	6412	**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)	0.00221	--
CO (Carbon Monoxide)	0.1446	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.796	--
DT-EER (Drive Trace Energy Economy Rating)	0.236	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.042	--
MFR FE (Manufacturer Fuel Economy)	39.9	39.9
NOX (Nitrogen Oxide)	0.00219	--
HC-NM (Non-methane Hydrocarbon)	0.00073	--
NMOG (Non-methane organic gases)	0.00075	--
HC-TOTAL (Total Hydrocarbon)	0.00289	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	219	219

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	219.4832	--

Manufacturer Test Comments 02_HWFET_CS79001_02_FEDV_550e xDrive Sedan_A_ETW-5250_RG11_D_Comfort_Hybrid_sustaining

Certification Summary Information Report

Test Group VBMXV03.0H5P **Evaporative/Refueling Family** VBMXR0170G0H

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	219	--	--	--	0.2	--	219	--	--
Fed	150,000 miles	Other	NMOG	0.0008	--	1.03	--	0.0023	--	0.003	999.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0030	--	--	--	--	--	0.011	0.050	Pass
Fed	150,000 miles	Other	NOX	0.0022	--	--	--	0.0054	--	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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089318**	**Test Procedure**	**81 - Charge Depleting UDDS**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	01/15/2025	**Fuel**	N/A
Fuel Batch ID	T2/E0	**Fuel Calibration Number**	57
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6484	**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

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	230	**Recharge Event Energy (kiloWatt-hours)**	17.071
Charge Depleting Range (Calculated miles)	52.014	**Charge Depleting Range (Actual miles)**	46.811
Charge Depleting Range Highway (Calculated miles)	--	**Derived 5-Cycle Coefficient Model Year**	2017
All Electric Range Unadjusted (miles)	44.625	**Equivalent All Electric Range (miles)**	46.811
Number of Charge Depleting Bags/Phases Conducted	9	**Transition Bag/Phase Number**	7

Charge Depleting Bag/Phase #1

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.433
Average System Voltage	395.25
CH4 - Methane	0.00021
Carbon Monoxide	0.0014
Carbon dioxide	0.1472
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.241
Drive Trace Energy Economy Rating	0.45
Drive Trace Inertia Work Ratio Rating	-0.669
Integrated Amp-hours	6.381
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Nitrous Oxide	0.00011
Non-methane Hydrocarbon	0.00136
Non-methane organic gases	0.0014
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	0
System End State of Charge Watt-hours	6.381
System Start State of Charge Watt-hours	0
Total Hydrocarbon	0.00157

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.434
Average System Voltage	387.75
CH4 - Methane	0.00013
Carbon Monoxide	0.0016
Carbon dioxide	0.2222
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.908
Drive Trace Energy Economy Rating	-0.088
Drive Trace Inertia Work Ratio Rating	-1.486
Integrated Amp-hours	12.514
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Nitrous Oxide	0.00017
Non-methane Hydrocarbon	0.00016
Non-methane organic gases	0.0002
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	0
System End State of Charge Watt-hours	12.514
System Start State of Charge Watt-hours	6.381
Total Hydrocarbon	0.00029

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.428
Average System Voltage	379.38
CH4 - Methane	0.00027
Carbon Monoxide	0.0021
Carbon dioxide	0.1935
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.274
Drive Trace Energy Economy Rating	0.293
Drive Trace Inertia Work Ratio Rating	-0.825
Integrated Amp-hours	18.733
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Nitrous Oxide	0.00015
Non-methane Hydrocarbon	0
Non-methane organic gases	0
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	0
System End State of Charge Watt-hours	18.733
System Start State of Charge Watt-hours	12.514
Total Hydrocarbon	0.00014

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.423
Average System Voltage	370.25
CH4 - Methane	0.00008
Carbon Monoxide	0
Carbon dioxide	0.1136
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.047
Drive Trace Energy Economy Rating	0.03
Drive Trace Inertia Work Ratio Rating	-0.508
Integrated Amp-hours	25.049
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Nitrous Oxide	0.00018
Non-methane Hydrocarbon	0.00016
Non-methane organic gases	0.0002
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	0
System End State of Charge Watt-hours	25.049
System Start State of Charge Watt-hours	18.733
Total Hydrocarbon	0.00024

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.433
Average System Voltage	360.75
CH4 - Methane	0
Carbon Monoxide	0
Carbon dioxide	0.1329
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.186
Drive Trace Energy Economy Rating	0.317
Drive Trace Inertia Work Ratio Rating	-0.455
Integrated Amp-hours	31.567
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Nitrous Oxide	0.00006
Non-methane Hydrocarbon	0.00136
Non-methane organic gases	0.0014
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	0
System End State of Charge Watt-hours	31.567
System Start State of Charge Watt-hours	25.049
Total Hydrocarbon	0.00136

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.43
Average System Voltage	352
CH4 - Methane	0.00014
Carbon Monoxide	0
Carbon dioxide	0.115
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.016
Drive Trace Energy Economy Rating	0.559
Drive Trace Inertia Work Ratio Rating	-0.353
Integrated Amp-hours	38.214
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Nitrous Oxide	0.00012
Non-methane Hydrocarbon	0.00002
Non-methane organic gases	0
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	0
System End State of Charge Watt-hours	38.214
System Start State of Charge Watt-hours	31.567
Total Hydrocarbon	0.00016

Charge Depleting Bag/Phase #7

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.433
Average System Voltage	347.88
CH4 - Methane	0.00227
Carbon Monoxide	0.2794
Carbon dioxide	208.5608
Carbon-Related Exhaust Emissions	210
Drive Trace Absolute Speed Change Rating	0.36
Drive Trace Energy Economy Rating	0.504
Drive Trace Inertia Work Ratio Rating	0.397
Integrated Amp-hours	40.206
Manufacturer Fuel Economy	41.9
Nitrogen Oxide	0.00236
Nitrous Oxide	0.00032
Non-methane Hydrocarbon	0.01663
Non-methane organic gases	0.0173
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	210
System End State of Charge Watt-hours	40.206
System Start State of Charge Watt-hours	38.214
Total Hydrocarbon	0.01885

Charge Depleting Bag/Phase #8

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.436
Average System Voltage	348.38
CH4 - Methane	0.00142
Carbon Monoxide	0.1851
Carbon dioxide	288.3552
Carbon-Related Exhaust Emissions	288
Drive Trace Absolute Speed Change Rating	-0.214
Drive Trace Energy Economy Rating	0.237
Drive Trace Inertia Work Ratio Rating	-0.717
Integrated Amp-hours	39.513
Manufacturer Fuel Economy	30.3
Nitrogen Oxide	0.00379
Nitrous Oxide	0.00012
Non-methane Hydrocarbon	0.00041
Non-methane organic gases	0.0004
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	288
System End State of Charge Watt-hours	39.513
System Start State of Charge Watt-hours	40.206
Total Hydrocarbon	0.0018

Charge Depleting Bag/Phase #9

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.426
Average System Voltage	347.63
CH4 - Methane	0.00097
Carbon Monoxide	0.139
Carbon dioxide	226.6
Carbon-Related Exhaust Emissions	227
Drive Trace Absolute Speed Change Rating	0.369
Drive Trace Energy Economy Rating	0.797
Drive Trace Inertia Work Ratio Rating	0.317
Integrated Amp-hours	40.145
Manufacturer Fuel Economy	38.6
Nitrogen Oxide	0.00245
Nitrous Oxide	0.00007
Non-methane Hydrocarbon	0.00069
Non-methane organic gases	0.0007
Non-methane organic gases plus Nitrogen Oxides	999.999
Optional Carbon-Related Exhaust Emissions	227
System End State of Charge Watt-hours	40.145
System Start State of Charge Watt-hours	39.513
Total Hydrocarbon	0.00163

Manufacturer Test Comments 01_FTP_CS79001_02_FEDV_550e xDrive Sedan_A_ETW-5250_RG11_D_Comfort_Hybrid_depleting, Cycle 1-6 in CD mode, cycle 7 in transition mode, cycle 8-9 in CS mode based on 1% NEC tolerance

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test #	**TBMX10089319**	**Test Procedure**	**84 - Charge Depleting Highway**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	61 - Tier 2 Cert Gasoline
Test Date	01/16/2025	**Fuel**	N/A
Fuel Batch ID	T2/E0	**Fuel Calibration Number**	57
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6593	**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

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	230	**Recharge Event Energy (kiloWatt-hours)**	16.301
Charge Depleting Range (Calculated miles)	51.188	**Charge Depleting Range (Actual miles)**	50.585
Charge Depleting Range Highway (Calculated miles)	--	**Derived 5-Cycle Coefficient Model Year**	2017
All Electric Range Unadjusted (miles)	49.833	**Equivalent All Electric Range (miles)**	50.585
Number of Charge Depleting Bags/Phases Conducted	6	**Transition Bag/Phase Number**	5

Charge Depleting Bag/Phase #1

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.24
Average System Voltage	394.25
CH4 - Methane	0.00013
Carbon Monoxide	0.0003
Carbon dioxide	0.0681
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-2.672
Drive Trace Energy Economy Rating	-0.202
Drive Trace Inertia Work Ratio Rating	-3.179
Integrated Amp-hours	7.888
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Non-methane Hydrocarbon	0.00005
Non-methane organic gases	0.0001
Non-methane organic gases plus Nitrogen Oxides	999.999
System End State of Charge Watt-hours	7.888
System Start State of Charge Watt-hours	0
Total Hydrocarbon	0.00017

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.25
Average System Voltage	383.5
CH4 - Methane	0.00001
Carbon Monoxide	0
Carbon dioxide	0.0662
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-2.719
Drive Trace Energy Economy Rating	-0.132
Drive Trace Inertia Work Ratio Rating	-3.494
Integrated Amp-hours	15.508
Manufacturer Fuel Economy	0
Nitrogen Oxide	0.00002
Non-methane Hydrocarbon	0.00008
Non-methane organic gases	0.0001
Non-methane organic gases plus Nitrogen Oxides	999.999
System End State of Charge Watt-hours	15.508
System Start State of Charge Watt-hours	7.888
Total Hydrocarbon	0.00009

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.242
Average System Voltage	372.88
CH4 - Methane	0
Carbon Monoxide	0
Carbon dioxide	0.0371
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-2.543
Drive Trace Energy Economy Rating	-0.155
Drive Trace Inertia Work Ratio Rating	-3.198
Integrated Amp-hours	23.174
Manufacturer Fuel Economy	0
Nitrogen Oxide	0
Non-methane Hydrocarbon	0
Non-methane organic gases	0
Non-methane organic gases plus Nitrogen Oxides	999.999
System End State of Charge Watt-hours	23.174
System Start State of Charge Watt-hours	15.508
Total Hydrocarbon	0

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.229
Average System Voltage	361.88
CH4 - Methane	0.00004
Carbon Monoxide	0.0001
Carbon dioxide	0.0404
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	0.227
Drive Trace Energy Economy Rating	-0.07
Drive Trace Inertia Work Ratio Rating	0.305
Integrated Amp-hours	31.016
Manufacturer Fuel Economy	0
Nitrogen Oxide	0.00001
Non-methane Hydrocarbon	0.00007
Non-methane organic gases	0.0001
Non-methane organic gases plus Nitrogen Oxides	999.999
System End State of Charge Watt-hours	31.016
System Start State of Charge Watt-hours	23.174
Total Hydrocarbon	0.00011

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.227
Average System Voltage	351.88
CH4 - Methane	0.00099
Carbon Monoxide	0.0907
Carbon dioxide	38.8364
Carbon-Related Exhaust Emissions	39
Drive Trace Absolute Speed Change Rating	0.557
Drive Trace Energy Economy Rating	-0.278
Drive Trace Inertia Work Ratio Rating	0.566
Integrated Amp-hours	38.395
Manufacturer Fuel Economy	224.3
Nitrogen Oxide	0
Non-methane Hydrocarbon	0.01002
Non-methane organic gases	0.0103
Non-methane organic gases plus Nitrogen Oxides	999.999
System End State of Charge Watt-hours	38.395
System Start State of Charge Watt-hours	31.016
Total Hydrocarbon	0.01099

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.235
Average System Voltage	348.88
CH4 - Methane	0.00002
Carbon Monoxide	0.161
Carbon dioxide	216.7938
Carbon-Related Exhaust Emissions	217
Drive Trace Absolute Speed Change Rating	0.425
Drive Trace Energy Economy Rating	-0.184
Drive Trace Inertia Work Ratio Rating	0.386
Integrated Amp-hours	38.436
Manufacturer Fuel Economy	40.3
Nitrogen Oxide	0.00215
Non-methane Hydrocarbon	0.00023
Non-methane organic gases	0.0002
Non-methane organic gases plus Nitrogen Oxides	999.999
System End State of Charge Watt-hours	38.436
System Start State of Charge Watt-hours	38.395
Total Hydrocarbon	0.00025

Manufacturer Test Comments 02_HWFET_CS79001_02_FEDV_550e xDrive Sedan_A_ETW-5250_RG11_D_Comfort_Hybrid_depleting, Cycle 1-4 in CD mode, cycle 5 in transition mode, cycle 6 in CS mode based on 1% NEC tolerance

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

Fuel Properties

Fuel Batch ID	**T10/87**	**Fuel Calibration Number**	**30**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	06/16/2022
Fuel Batch Calibration Effective Date	06/23/2022	**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**	0.745
Fuel Ethanol Volume Percent (%)	9.4	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	18207
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	**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	**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**	--
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	**COE10**	**Fuel Calibration Number**	**56**
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	**Fuel Batch Calibration Date**	05/17/2024
Fuel Batch Calibration Effective Date	07/30/2024	**Fuel Batch Calibration Ineffective Date**	--
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H
Exhaust Carbon Weight Fraction	0.826	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.744
Fuel Ethanol Volume Percent (%)	9.8	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	18001
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	**Fuel Carbon Mass Fraction (E10)**	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	**Weight Fraction CO2**	--

Certification Summary Information Report

Test Group	VBMXV03.0H5P	Evaporative/Refueling Family	VBMXR0170G0H

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
120,000 miles	METHANE	--	--	--	--	--	--	0.0014	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0002	0.010
150,000 miles	CO	--	--	--	0.0000	--	--	0.16	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	0.0000	--	--	0.0023	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.070
150,000 miles	NOX	--	--	--	0.0000	--	--	0.0054	999.999
150,000 miles	PM	--	--	--	0.0000	--	--	0.0000	0.003

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	--	--	--	--	--	--	0.2	999
120,000 miles	METHANE	--	--	--	--	--	--	0.0014	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0002	0.010
150,000 miles	CO	--	--	--	0.0000	--	--	0.16	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.10	0.0000	--	--	0.0023	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.070
150,000 miles	NOX	--	--	--	0.0000	--	--	0.0054	999.999
150,000 miles	PM	--	--	--	0.0000	--	--	0.0000	0.003

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H

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	0.0000	--	--	0.0023	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NOX	--	--	--	0.0000	--	--	0.0054	999.999

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	--	--	--	0.0000	--	--	0.05	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	--	--	--	0.0000	--	--	0.16	999.999
150,000 miles	NMOG	--	--	1.03	0.0000	--	--	0.0023	999.999
150,000 miles	NOX	--	--	--	0.0000	--	--	0.0054	999.999

Certification Summary Information Report

Test Group	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H
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	--	--	--	0.0000	--	--	0.16	999.999
150,000 miles	NMOG	--	--	1.03	0.0000	--	--	0.0023	999.999
150,000 miles	NOX	--	--	--	0.0000	--	--	0.0054	999.999
150,000 miles	PM	--	--	--	0.0000	--	--	0.0000	0.006

Evaporative/Refueling Standards

Evaporative/Refueling Family	VBMXR0170G0H	**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	0.020

Evaporative/Refueling Family	VBMXR0170G0H	**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	--	0.500	0.0151

Evaporative/Refueling Family	VBMXR0170G0H	**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	--	0.500	0.0151

Evaporative/Refueling Family	VBMXR0170G0H	**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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H
Evaporative/Refueling Family	VBMXR0170G0H	**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	0.0000

Certification Summary Information Report

Test Group	VBMXV03.0H5P	Evaporative/Refueling Family	VBMXR0170G0H

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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H
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	VBMXV03.0H5P	**Evaporative/Refueling Family**	VBMXR0170G0H
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