

Certification Summary Information Report

Manufacturer	BMW	Manufacturer Code	BMX
Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Certificate Number	VBMXT04.4H09-019	CARB Executive Order #	--
Certificate Issue Date	06/12/2026	Certificate Revision Date	--
Certificate Effective Date	06/12/2026	Conditional Certificate	Yes
CSI Revision #	--	CSI Submission/Revision Date	05/29/2026 07:10:03 AM
Model Year	2027		

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
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Test Group Information

CSI Type	New	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

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

Drive Source #2: Combustion Engine

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

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	LDT4
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	VBMXHHGVNV5P	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	08/01/2026	CAP2000 Conditional Certificate?	Yes
Independent Commercial Importer?	No	Alternative Fuel Converter Certificate?	No
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	No
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VBMXT04.4H09
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	E-26-060		
Mfr Test Group Comments	--		
Mfr Exhaust / Evap Standards Comments	--		

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	11/20/2025 01:07:13 PM				
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	403 - XM Label	Federal	All Wheel Drive	Semi-Automatic	8	No
Engine Description							
Hybrid Type	IC Engine/Electric Motor			Hybrid Description	--		
Engine Type	4-Stroke Spark Ignition			Mfr Engine Description	--		
Engine Block Arrangement	V-shaped engine			Mfr Engine Block Arrangement Description	--		
Camless Valvetrain Indicator	No			Oil Viscosity/Classification	0W30		
Number of Cylinders/Rotors	8			Mechanically Variable Compression Ratio Indicator	N		

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
After Treatment Device(s) (ATD)			
ATD Number	ATD Type	ATD Precious Metal	Substrate Material
1	Three-way catalyst	Palladium + Rhodium	Ceramic
2	Three-way catalyst	Palladium + Rhodium	Ceramic
3	Three-way catalyst	Palladium + Rhodium	Metal
4	Three-way catalyst	Palladium + Rhodium	Metal
5	Three-way catalyst	Palladium + Rhodium	Metal
6	Three-way catalyst	Palladium + Rhodium	Metal
7	Other	non coated particular filter	Ceramic
8	Other	non coated particular filter	Ceramic
Mfr After Treatment Device (ATD) Comments After Treatment Device #7 and #8: Gasoline Particulate Filter (GPF)			
Direct Ozone Reduction (DOR) Device Not Equipped			
Mfr Emission Control Device Comments --			
Engine Configuration Number 1			
Engine Displacement (liters)	4.4	Engine Rated Horsepower	577
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	2
Air Aspiration Device Configuration	Parallel	Charge Air Cooler Type	Liquid
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	variable valve timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	variable valve lift at inlet valves		
Number of Knock Sensors	4	Number of Air/Fuel Sensors	4
Air/Fuel Sensor # 1 Type	Heated oxygen	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Air fuel	Air/Fuel Sensor # 2 Description	--
Air/Fuel Sensor # 3 Type	Heated oxygen	Air/Fuel Sensor # 3 Description	--
Air/Fuel Sensor # 4 Type	Air fuel	Air/Fuel Sensor # 4 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	Cooled Exhaust Gas Recirculation	No
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	--	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	--		

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Test Group		VBMXT04.4H09		Evaporative/Refueling Family		VBMXR0170H09				
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	VBMX10094267	VBMX10094269	VBMX10094270	VBMX10094271	VBMX10094268	15.3	15.8	16.3	15.2	--
Electricity	--	--	--	--	--	--	--	--	--	--
SFTP LEV-III Official Test Numbers										
Test Group Fuel	FTP		US06		SC03					
Gasoline	VBMX10094267		VBMX10094269		VBMX10094270					
Official Charge Depleting Test Numbers										
Test Group Fuel	UDDS		Highway							
Electricity	VBMX10094363		VBMX10094364							
Hybrid Electric Vehicle And Fuel Cell Information										
Rechargeable Energy Storage System	Battery(s)		Rechargeable Energy Storage System, if Other		--					
Battery Type	Lithium Ion		Number of Battery Packs		1					
Total Voltage of Battery Packs	317		Battery Energy Capacity		93					
Battery Specific Energy	139		Battery Charger Type		On-Board					
Number of Capacitors	--		Capacitor Rating (In Farads)		--					
Mfr Capacitor Comments	--									
Hydraulic System Description	--									
Regenerative Braking Type	Electrical Regen Brake		Driver Controlled Regenerative Braking		Yes					
Regenerative Braking Source	Both									
Mfr Regenerative Braking Description	--									
Drive Motor(s)/Generator(s)	1		Rated Motor/Generator Power		145					
Motor/Generator Type 1	(PMSM)									
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)									

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
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Emission Data Vehicle Information

Vehicle ID / Configuration	9140243 / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	VBMXT04.4H09	Original Evaporative/Refueling Family	VBMXR0170H09
Original Test Vehicle Model Year	2027		

Vehicle Model

Represented Test Vehicle Make	BMW	Represented Test Vehicle Model	XM Label
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Leak Family Details

Leak Family Identifier	--	Leak Family Name	--
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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	XB1161T0G09X1	Rated Horsepower	577
Displacement (liters)	4.4		
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel
Charge Air Cooler Type	Liquid	Drive Mode While Testing	All Wheel Drive
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	6091	Equivalent Test Weight (pounds)	6500
GVWR (lbs)	7209	N/V Ratio	26.1
Axle Ratio	3.63		
Transmission Type	Semi-Automatic	# of Transmission Gears	8
Transmission Lockup	No	Creeper Gear	No

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Test Group		VBMXT04.4H09			Evaporative/Refueling Family		VBMXR0170H09	
Dynamometer Coefficients:								
Target Coefficients				Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients	
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	83.7	-0.331	0.03941	19.8	-0.249	0.03553	22.1	
Cold CO	92.1	-0.364	0.04329	-11.6	-0.12	0.03547	N/A	
US06	83.7	-0.331	0.03941	19.8	-0.249	0.03553	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		vi_9140243_00_EDV_XM Label_A_ETW-6500_RG10_E10_charge sustaining and charge depleting						

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094267	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	03/03/2026	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	62
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--	Odometer Units	K
Test Start Odometer Reading	3687	Diesel Adjustment Factor Usage	--
4WD Test Dyno	Yes		
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			

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	14.93	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.594	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	536.5049438	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.4019549	--	
FE BAG 1 (Bag 1 Fuel Economy)	16.2	16.2	
CH4 BAG 1 (Bag 1 Methane)	0.012902	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0408524	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	19.008	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.866	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	425.4064941	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0.03385	--	
FE BAG 2 (Bag 2 Fuel Economy)	20.5	20.5	
CH4 BAG 2 (Bag 2 Methane)	0.0008954	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-145.728	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.601	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	354.3719482	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0.1626132	--	
FE BAG 3 (Bag 3 Fuel Economy)	24.6	24.6	
CH4 BAG 3 (Bag 3 Methane)	0.0014726	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	143.827	--	
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.869	--	
CO2 BAG 4 (Bag 4 Carbon Dioxide)	412.4497681	--	
CO BAG 4 (Bag 4 Carbon Monoxide)	0.0394422	--	
FE BAG 4 (Bag 4 Fuel Economy)	21.1	21.1	
CH4 BAG 4 (Bag 4 Methane)	0.0009634	--	
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0	--	
WATT-HRS BAG 4 (Bag 4 Watt Hours)	-146.995	--	
METHANE (CH4 - Methane)	0.0035616	--	
CO (Carbon Monoxide)	0.1471462	--	

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																															
	<table><tr><td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td><td>0.6606811</td><td>--</td></tr><tr><td>DT-EER (Drive Trace Energy Economy Rating)</td><td>-0.136286</td><td>--</td></tr><tr><td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td><td>1.1012324</td><td>--</td></tr><tr><td>MFR FE (Manufacturer Fuel Economy)</td><td>20.5</td><td>20.5</td></tr><tr><td>NOX (Nitrogen Oxide)</td><td>0.0018786</td><td>--</td></tr><tr><td>N2O (Nitrous Oxide)</td><td>0.0009839</td><td>--</td></tr><tr><td>HC-NM (Non-methane Hydrocarbon)</td><td>0.0076891</td><td>--</td></tr><tr><td>NMOG (Non-methane organic gases)</td><td>0.0084476</td><td>--</td></tr><tr><td>PM (Particulate Matter)</td><td>0.0004099</td><td>--</td></tr><tr><td>HC-TOTAL (Total Hydrocarbon)</td><td>0.0106625</td><td>--</td></tr><tr><td>WATT-HRS (Watt Hours)</td><td>-129.888</td><td>--</td></tr></table>	DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.6606811	--	DT-EER (Drive Trace Energy Economy Rating)	-0.136286	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.1012324	--	MFR FE (Manufacturer Fuel Economy)	20.5	20.5	NOX (Nitrogen Oxide)	0.0018786	--	N2O (Nitrous Oxide)	0.0009839	--	HC-NM (Non-methane Hydrocarbon)	0.0076891	--	NMOG (Non-methane organic gases)	0.0084476	--	PM (Particulate Matter)	0.0004099	--	HC-TOTAL (Total Hydrocarbon)	0.0106625	--	WATT-HRS (Watt Hours)	-129.888	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.6606811	--																																
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WATT-HRS (Watt Hours)	-129.888	--																																
	<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated CREE/OPT-CREE</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>425</td><td>425</td></tr></table>	Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	Carbon-Related Exhaust Emissions	425	425																											
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Carbon-Related Exhaust Emissions	425	425																																
	<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated CO2</td></tr><tr><td>Carbon dioxide</td><td>425.0802917</td><td>--</td></tr></table>	Test Result Name	Unrounded Test Result	Verify Calculated CO2	Carbon dioxide	425.0802917	--																											
Test Result Name	Unrounded Test Result	Verify Calculated CO2																																
Carbon dioxide	425.0802917	--																																
Manufacturer Test Comments	01_FTP_9140243_00_EDV_XM Label_A_ETW-6500_RG10_D3_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	120,000 miles	Federal Tier 3 Bin 30	CREE	425	--	--	--	--	1	425	--	--																						
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.15	--	--	--	0.14	--	0.3	1.0	Pass																						
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.25	--	--	--	--	--	0.2	4.2	Pass																						
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0084	--	1.1	--	0.0042	--	0.013	99.999	Pass																						
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0103	--	--	--	--	--	0.014	0.030	Pass																						
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0102	--	--	--	--	--	0.01	0.050	Pass																						
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0019	--	--	--	0	--	0.002	99.999	Pass																						
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0004	--	--	--	0	--	0	0.003	Pass																						
NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.																																		

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094271	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	03/13/2026	Fuel	Gasoline
Fuel Batch ID	COE10	Fuel Calibration Number	61
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4037	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			

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	11.051	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.602	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	756.7880249	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.8886843	--	
FE BAG 1 (Bag 1 Fuel Economy)	11.4	11.4	
CH4 BAG 1 (Bag 1 Methane)	0.0168255	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0869063	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	-193.565	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.859	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	442.8143616	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0.1201399	--	
FE BAG 2 (Bag 2 Fuel Economy)	19.6	19.6	
CH4 BAG 2 (Bag 2 Methane)	0.0005209	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-7.92	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.59	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	378.0977173	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0.1850405	--	
FE BAG 3 (Bag 3 Fuel Economy)	22.9	22.9	
CH4 BAG 3 (Bag 3 Methane)	0.0009708	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.0002325	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	224.294	--	
METHANE (CH4 - Methane)	0.004029	--	
CO (Carbon Monoxide)	0.2975014	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.8755279	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.5765143	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.2156292	--	
MFR FE (Manufacturer Fuel Economy)	17.7	17.7	
NOX (Nitrogen Oxide)	0.0016315	--	
HC-NM (Non-methane Hydrocarbon)	0.0164496	--	
NMOG (Non-methane organic gases)	0.0180723	--	

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Test Group		VBMXT04.4H09			Evaporative/Refueling Family			VBMXR0170H09				
		HC-TOTAL (Total Hydrocarbon)			0.0203831			--				
		WATT-HRS (Watt Hours)			22.81			--				
		Test Result Name			Unrounded Test Result			Verify Calculated CREE/OPT-CREE				
		Carbon-Related Exhaust Emissions			491			--				
		Test Result Name			Unrounded Test Result			Verify Calculated CO2				
		Carbon dioxide			490.212738			--				
Manufacturer Test Comments		05_FTPCOLD_9140243_00_EDV_XM Label_A_ETW-6500_RG10_D3_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	50,000 miles	Federal Tier 3 Bin 30	CO	0.3	--	--	--	0.05	--	0.4	12.5	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.02	--	--	--	0	--	0	0.5	Pass

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Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094268	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	03/03/2026	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	62
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3710	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)	
ACT-DISTANCE (Actual Distance Driven (miles))	10.268	--	
METHANE (CH4 - Methane)	0.0000801	--	
CO (Carbon Monoxide)	0.0066414	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	2.3222692	--	
DT-EER (Drive Trace Energy Economy Rating)	0.287817	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.8694894	--	
MFR FE (Manufacturer Fuel Economy)	21.9	21.9	
NOX (Nitrogen Oxide)	0.0046554	--	
HC-NM (Non-methane Hydrocarbon)	0.0000364	--	
NMOG (Non-methane organic gases)	0.0000375	--	
HC-TOTAL (Total Hydrocarbon)	0.000115	--	
WATT-HRS (Watt Hours)	0	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	397	397	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	396.9124146	--	
Manufacturer Test Comments	02_HWFET_9140243_00_EDV_XM Label_A_ETW-6500_RG10_D3_Comfort_Hybrid_sustaining		

Certification Summary Information Report

Test Group		VBMXT04.4H09			Evaporative/Refueling Family					VBMXR0170H09		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	397	--	--	--	--	1	397	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0	--	1.03	--	0.0042	--	0.004	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0047	--	--	--	--	--	0.009	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0047	--	--	--	0	--	0.005	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094269	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	03/04/2026	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	62
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3742	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	8.018	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	1.782	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	771.4956665	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.0511269	--	
FE BAG 1 (Bag 1 Fuel Economy)	11.3	11.3	
CH4 BAG 1 (Bag 1 Methane)	0.0002848	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0032315	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	5.069	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	6.236	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	486.0692444	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0.0104989	--	
FE BAG 2 (Bag 2 Fuel Economy)	17.9	17.9	
CH4 BAG 2 (Bag 2 Methane)	0	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.0006094	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-50.688	--	
METHANE (CH4 - Methane)	0.0000633	--	
CO (Carbon Monoxide)	0.0195278	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.5150275	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.5287961	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.2537259	--	
MFR FE (Manufacturer Fuel Economy)	15.8	15.8	
NOX (Nitrogen Oxide)	0.0063028	--	
HC-NM (Non-methane Hydrocarbon)	0.0011574	--	
NMOG (Non-methane organic gases)	0.0011921	--	
PM (Particulate Matter)	0.0016555	--	
HC-TOTAL (Total Hydrocarbon)	0.0011466	--	
WATT-HRS (Watt Hours)	-45.619	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	550	--	

Certification Summary Information Report

Test Group		VBMXT04.4H09				Evaporative/Refueling Family				VBMXR0170H09		
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		549.5004272			--					
Manufacturer Test Comments		03_US06_9140243_00_EDV_XM Label_A_ETW-6500_RG10_D3_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	Federal Tier 3 Bin 30	CO	0.02	--	--	--	0.14	--	0.2	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0012	--	1.03	--	0.0042	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0063	--	--	--	0	--	0.006	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0017	--	--	--	0	--	0.002	0.006	Pass

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094270	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	03/09/2026	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	62
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3976	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)	
ACT-DISTANCE (Actual Distance Driven (miles))	3.572	--	
METHANE (CH4 - Methane)	0.0010488	--	
CO (Carbon Monoxide)	0.1491506	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.4685008	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.407118	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.0504694	--	
MFR FE (Manufacturer Fuel Economy)	17	17	
NOX (Nitrogen Oxide)	0.0008751	--	
HC-NM (Non-methane Hydrocarbon)	0	--	
NMOG (Non-methane organic gases)	0	--	
HC-TOTAL (Total Hydrocarbon)	0.0007733	--	
WATT-HRS (Watt Hours)	-7.603	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	513	--	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	512.7557373	--	
Manufacturer Test Comments	04_SC03_9140243_00_EDV_XM Label_A_ETW-6500_RG10_D3_Comfort_Hybrid_sustaining		

Certification Summary Information Report

Test Group		VBMXT04.4H09				Evaporative/Refueling Family				VBMXR0170H09		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.15	--	--	--	0.14	--	0.3	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0	--	1.03	--	0.0042	--	0.004	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0009	--	--	--	0	--	0.001	999.999	Pass

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
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Emission Data Vehicle Information

Vehicle ID / Configuration	9140243 / 3	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	VBMXT04.4H09	Original Evaporative/Refueling Family	VBMXR0170H09
Original Test Vehicle Model Year	2027		

Vehicle Model

Represented Test Vehicle Make	BMW	Represented Test Vehicle Model	XM Label
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Leak Family Details

Leak Family Identifier	--	Leak Family Name	--
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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	XB1161T0G09X1	Rated Horsepower	577
Displacement (liters)	4.4		
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel
Charge Air Cooler Type	Liquid	Drive Mode While Testing	All Wheel Drive
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	6091	Equivalent Test Weight (pounds)	6500
GVWR (lbs)	7209	N/V Ratio	26.1
Axle Ratio	3.63		
Transmission Type	Semi-Automatic	# of Transmission Gears	8
Transmission Lockup	No	Creeper Gear	No

Emission Control Device Comments	--
Manufacturer Test Vehicle Comments	vi_9140243_03_FEDV_XM Label_A_ETW-6500_RG11_E0_worst case_charge increasing and charge depleting

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094358	Test Procedure	31 - Federal fuel 3-day exhaust
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	04/30/2026	Fuel	Gasoline
Fuel Batch ID	T2/E0	Fuel Calibration Number	79
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5118	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
ACT-DISTANCE (Actual Distance Driven (miles))	14.915	--	
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.604	--	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	937.1613159	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0.6261963	--	
FE BAG 1 (Bag 1 Fuel Economy)	9.3	9.3	
CH4 BAG 1 (Bag 1 Methane)	0.0062389	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0333875	--	
HC-TOTAL BAG 1 (Bag 1 Total Hydrocarbon)	0.0385	--	
WATT-HRS BAG 1 (Bag 1 Watt Hours)	-1661.616	--	
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.853	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	726.2502441	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0.3380233	--	
FE BAG 2 (Bag 2 Fuel Economy)	12.1	12.1	
CH4 BAG 2 (Bag 2 Methane)	0.0016478	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--	
HC-TOTAL BAG 2 (Bag 2 Total Hydrocarbon)	0.0007	--	
WATT-HRS BAG 2 (Bag 2 Watt Hours)	-311.414	--	
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.594	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	593.8121338	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0.1299582	--	
FE BAG 3 (Bag 3 Fuel Economy)	14.7	14.7	
CH4 BAG 3 (Bag 3 Methane)	0.001294	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--	
HC-TOTAL BAG 3 (Bag 3 Total Hydrocarbon)	0.0004	--	
WATT-HRS BAG 3 (Bag 3 Watt Hours)	-296.842	--	
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.864	--	
CO2 BAG 4 (Bag 4 Carbon Dioxide)	725.9915161	--	
CO BAG 4 (Bag 4 Carbon Monoxide)	0.2794259	--	
FE BAG 4 (Bag 4 Fuel Economy)	12.1	12.1	
CH4 BAG 4 (Bag 4 Methane)	0.0002132	--	
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0	--	

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																													
<table><tr><td>HC-TOTAL BAG 4 (Bag 4 Total Hydrocarbon)</td><td>0</td><td>--</td></tr><tr><td>WATT-HRS BAG 4 (Bag 4 Watt Hours)</td><td>-367.488</td><td>--</td></tr><tr><td>METHANE (CH4 - Methane)</td><td>0.0020811</td><td>--</td></tr><tr><td>CO (Carbon Monoxide)</td><td>0.3234577</td><td>--</td></tr><tr><td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td><td>-1.3993607</td><td>--</td></tr><tr><td>DT-EER (Drive Trace Energy Economy Rating)</td><td>-1.7313159</td><td>--</td></tr><tr><td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td><td>-2.5307076</td><td>--</td></tr><tr><td>MFR FE (Manufacturer Fuel Economy)</td><td>16.3</td><td>16.3</td></tr><tr><td>NOX (Nitrogen Oxide)</td><td>0.0025046</td><td>--</td></tr><tr><td>N2O (Nitrous Oxide)</td><td>0.0013063</td><td>--</td></tr><tr><td>HC-NM (Non-methane Hydrocarbon)</td><td>0.0067721</td><td>--</td></tr><tr><td>NMOG (Non-methane organic gases)</td><td>0.0069767</td><td>--</td></tr><tr><td>PM (Particulate Matter)</td><td>0.0002553</td><td>--</td></tr><tr><td>HC-TOTAL (Total Hydrocarbon)</td><td>0.0082758</td><td>--</td></tr><tr><td>WATT-HRS (Watt Hours)</td><td>-2637.36</td><td>--</td></tr></table>				HC-TOTAL BAG 4 (Bag 4 Total Hydrocarbon)	0	--	WATT-HRS BAG 4 (Bag 4 Watt Hours)	-367.488	--	METHANE (CH4 - Methane)	0.0020811	--	CO (Carbon Monoxide)	0.3234577	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.3993607	--	DT-EER (Drive Trace Energy Economy Rating)	-1.7313159	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.5307076	--	MFR FE (Manufacturer Fuel Economy)	16.3	16.3	NOX (Nitrogen Oxide)	0.0025046	--	N2O (Nitrous Oxide)	0.0013063	--	HC-NM (Non-methane Hydrocarbon)	0.0067721	--	NMOG (Non-methane organic gases)	0.0069767	--	PM (Particulate Matter)	0.0002553	--	HC-TOTAL (Total Hydrocarbon)	0.0082758	--	WATT-HRS (Watt Hours)	-2637.36	--
HC-TOTAL BAG 4 (Bag 4 Total Hydrocarbon)	0	--																																														
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<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated CREE/OPT-CREE</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>735</td><td>735</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	Carbon-Related Exhaust Emissions	735	735																																							
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE																																														
Carbon-Related Exhaust Emissions	735	735																																														
<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated CO2</td></tr><tr><td>Carbon dioxide</td><td>733.6293945</td><td>--</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated CO2	Carbon dioxide	733.6293945	--																																							
Test Result Name	Unrounded Test Result	Verify Calculated CO2																																														
Carbon dioxide	733.6293945	--																																														
Manufacturer Test Comments																																																
01_FTP_9140243_03_FEDV_XM Label_A_ETW-6500_RG11_D3_Sport+_E-Control_increasing; Official test results are determined using S-factor correction according to SAE J1772, FEB 2023.; The following S-factors were applied: S-UDDS1 = 4.5 ; S-UDDS2 = 4.9; MFR FE uncorrected = 11.9; MFR FE corrected = 16.3																																																
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail																																				
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	735	--	--	--	--	1	735	--	--																																				
Fed	150,000 miles	Federal Tier 3 Bin 30	CO	0.32	--	--	--	0.14	--	0.5	1.0	Pass																																				
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.007	--	1.1	--	0.0042	--	0.011	99.999	Pass																																				
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0095	--	--	--	--	--	0.014	0.030	Pass																																				
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0025	--	--	--	0	--	0.002	99.999	Pass																																				
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0003	--	--	--	0	--	0	0.003	Pass																																				
NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.																																																

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094359	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/15/2026	Fuel	Gasoline
Fuel Batch ID	T2/E0	Fuel Calibration Number	79
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5632	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)
ACT-DISTANCE (Actual Distance Driven (miles))	10.258	--
METHANE (CH4 - Methane)	0.0012412	--
CO (Carbon Monoxide)	0.0333567	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.5250211	--
DT-EER (Drive Trace Energy Economy Rating)	-0.1248969	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.0429845	--
MFR FE (Manufacturer Fuel Economy)	21.7	21.7
NOX (Nitrogen Oxide)	0.0045515	--
HC-NM (Non-methane Hydrocarbon)	0.000416	--
NMOG (Non-methane organic gases)	0.0004284	--
HC-TOTAL (Total Hydrocarbon)	0.001645	--
WATT-HRS (Watt Hours)	-290.822	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	430	430

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	429.6080322	--

Manufacturer Test Comments

02_HWFET_9140243_03_FEDV_XM Label_A_ETW-6500_RG11_D3_Sport+_E-Control_increasing; Official test results are determined using S-factor correction according to SAE J1772, FEB 2023.; The following S-factors were applied: HWFET = 3.6; MFR FE uncorrected = 20.4; MFR FE corrected = 21.7

Certification Summary Information Report

Test Group		VBMXT04.4H09			Evaporative/Refueling Family					VBMXR0170H09		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 30	CREE	430	--	--	--	--	1	430	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0004	--	1.03	--	0.0042	--	0.005	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.005	--	--	--	--	--	0.009	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0046	--	--	--	0	--	0.005	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094363	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/27/2026	Fuel	N/A
Fuel Batch ID	T2/E0	Fuel Calibration Number	79
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5896	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)	21.589
Charge Depleting Range (Calculated miles)	44.761	Charge Depleting Range (Actual miles)	44.216
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	2017
All Electric Range Unadjusted (miles)	42.522	Equivalent All Electric Range (miles)	44.216
Number of Charge Depleting Bags/Phases Conducted	8	Transition Bag/Phase Number	6
Charge Depleting Bag/Phase #1			

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.466	
	Average System Voltage	361.13	
	CH4 - Methane	0.0003	
	Carbon Monoxide	0.0012	
	Carbon dioxide	0.1473	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	-1.319	
	Drive Trace Energy Economy Rating	-1.313	
	Drive Trace Inertia Work Ratio Rating	-1.472	
	Integrated Amp-hours	9.329	
	Manufacturer Fuel Economy	0	
	Nitrogen Oxide	0	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0006	
	Non-methane organic gases	0.0007	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	9.329	
	System Start State of Charge Watt-hours	0	
	Total Hydrocarbon	0.001	

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.454	
	Average System Voltage	354.5	
	CH4 - Methane	0.0003	
	Carbon Monoxide	0.0004	
	Carbon dioxide	0.1655	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	-1.261	
	Drive Trace Energy Economy Rating	-1.837	
	Drive Trace Inertia Work Ratio Rating	-1.831	
	Integrated Amp-hours	18.308	
	Manufacturer Fuel Economy	0	
	Nitrogen Oxide	0	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0015	
	Non-methane organic gases	0.0016	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	18.308	
	System Start State of Charge Watt-hours	9.329	
	Total Hydrocarbon	0.0019	

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.463	
	Average System Voltage	346.63	
	CH4 - Methane	0	
	Carbon Monoxide	0.0031	
	Carbon dioxide	0.1421	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	-1.199	
	Drive Trace Energy Economy Rating	-0.793	
	Drive Trace Inertia Work Ratio Rating	-1.141	
	Integrated Amp-hours	27.431	
	Manufacturer Fuel Economy	0	
	Nitrogen Oxide	0	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0009	
	Non-methane organic gases	0.001	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	27.431	
	System Start State of Charge Watt-hours	18.308	
	Total Hydrocarbon	0.0009	

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.45	
	Average System Voltage	338.25	
	CH4 - Methane	0.0004	
	Carbon Monoxide	0.0037	
	Carbon dioxide	0.1224	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	-1.168	
	Drive Trace Energy Economy Rating	-0.977	
	Drive Trace Inertia Work Ratio Rating	-1.238	
	Integrated Amp-hours	36.673	
	Manufacturer Fuel Economy	0	
	Nitrogen Oxide	0	
	Nitrous Oxide	0	
	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	36.673	
	System Start State of Charge Watt-hours	27.431	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.468	
	Average System Voltage	329.5	
	CH4 - Methane	0.0004	
	Carbon Monoxide	0.0005	
	Carbon dioxide	0.2	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	-0.737	
	Drive Trace Energy Economy Rating	-1.101	
	Drive Trace Inertia Work Ratio Rating	-0.345	
	Integrated Amp-hours	46.147	
	Manufacturer Fuel Economy	0	
	Nitrogen Oxide	0	
	Nitrous Oxide	0	
	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	46.147	
	System Start State of Charge Watt-hours	36.673	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.46	
	Average System Voltage	322.25	
	CH4 - Methane	0.0044	
	Carbon Monoxide	0.2024	
	Carbon dioxide	87.3347	
	Carbon-Related Exhaust Emissions	87	
	Drive Trace Absolute Speed Change Rating	-0.754	
	Drive Trace Energy Economy Rating	-1.206	
	Drive Trace Inertia Work Ratio Rating	-0.752	
	Integrated Amp-hours	54.926	
	Manufacturer Fuel Economy	100.2	
	Nitrogen Oxide	0	
	Nitrous Oxide	0.0006	
	Non-methane Hydrocarbon	0.0212	
	Non-methane organic gases	0.0219	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	87	
	System End State of Charge Watt-hours	54.926	
	System Start State of Charge Watt-hours	46.147	
	Total Hydrocarbon	0.0255	

Charge Depleting Bag/Phase #7

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.46	
	Average System Voltage	320.13	
	CH4 - Methane	0.0017	
	Carbon Monoxide	0.074	
	Carbon dioxide	442.9532	
	Carbon-Related Exhaust Emissions	443	
	Drive Trace Absolute Speed Change Rating	-1.096	
	Drive Trace Energy Economy Rating	-0.768	
	Drive Trace Inertia Work Ratio Rating	-1.596	
	Integrated Amp-hours	53.821	
	Manufacturer Fuel Economy	19.8	
	Nitrogen Oxide	0.0019	
	Nitrous Oxide	0.0009	
	Non-methane Hydrocarbon	0.0001	
	Non-methane organic gases	0.0001	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	443	
	System End State of Charge Watt-hours	53.821	
	System Start State of Charge Watt-hours	54.926	
	Total Hydrocarbon	0.0017	

Charge Depleting Bag/Phase #8

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																									
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>7.447</td></tr><tr><td>Average System Voltage</td><td>320.25</td></tr><tr><td>CH4 - Methane</td><td>0.0004</td></tr><tr><td>Carbon Monoxide</td><td>0.0422</td></tr><tr><td>Carbon dioxide</td><td>356.6666</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>357</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>-1.416</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>-1.195</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>-1.81</td></tr><tr><td>Integrated Amp-hours</td><td>54.538</td></tr><tr><td>Manufacturer Fuel Economy</td><td>24.5</td></tr><tr><td>Nitrogen Oxide</td><td>0.0013</td></tr><tr><td>Nitrous Oxide</td><td>0.0003</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0</td></tr><tr><td>Non-methane organic gases</td><td>0</td></tr><tr><td>Non-methane organic gases plus Nitrogen Oxides</td><td>999.999</td></tr><tr><td>Optional Carbon-Related Exhaust Emissions</td><td>357</td></tr><tr><td>System End State of Charge Watt-hours</td><td>54.538</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>53.821</td></tr><tr><td>Total Hydrocarbon</td><td>0</td></tr></table>	Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	7.447	Average System Voltage	320.25	CH4 - Methane	0.0004	Carbon Monoxide	0.0422	Carbon dioxide	356.6666	Carbon-Related Exhaust Emissions	357	Drive Trace Absolute Speed Change Rating	-1.416	Drive Trace Energy Economy Rating	-1.195	Drive Trace Inertia Work Ratio Rating	-1.81	Integrated Amp-hours	54.538	Manufacturer Fuel Economy	24.5	Nitrogen Oxide	0.0013	Nitrous Oxide	0.0003	Non-methane Hydrocarbon	0	Non-methane organic gases	0	Non-methane organic gases plus Nitrogen Oxides	999.999	Optional Carbon-Related Exhaust Emissions	357	System End State of Charge Watt-hours	54.538	System Start State of Charge Watt-hours	53.821	Total Hydrocarbon	0	
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	Manufacturer Test Comments		01_FTP_9140243_03_FEDV_XM Label_A_ETW-6500_RG11_D3_Comfort_Hybrid_depleting; Cycle 1-5 in CD mode, cycle 6 in transition mode, cycle 7-8 in CS mode based on 2% depleted capacity																																									

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	VBMX10094364	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/13/2026	Fuel	N/A
Fuel Batch ID	T2/E0	Fuel Calibration Number	79
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5510	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)	21.272
Charge Depleting Range (Calculated miles)	51.294	Charge Depleting Range (Actual miles)	42.166
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	2017
All Electric Range Unadjusted (miles)	41.83	Equivalent All Electric Range (miles)	42.166
Number of Charge Depleting Bags/Phases Conducted	6	Transition Bag/Phase Number	5
Charge Depleting Bag/Phase #1			

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																					
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>10.261</td></tr><tr><td>Average System Voltage</td><td>359.5</td></tr><tr><td>CH4 - Methane</td><td>0.0004</td></tr><tr><td>Carbon Monoxide</td><td>0.0132</td></tr><tr><td>Carbon dioxide</td><td>0.2625</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>0</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>-0.022</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>-0.158</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>0.137</td></tr><tr><td>Integrated Amp-hours</td><td>13.173</td></tr><tr><td>Manufacturer Fuel Economy</td><td>0</td></tr><tr><td>Nitrogen Oxide</td><td>0</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0.0067</td></tr><tr><td>Non-methane organic gases</td><td>0.0069</td></tr><tr><td>Non-methane organic gases plus Nitrogen Oxides</td><td>999.999</td></tr><tr><td>System End State of Charge Watt-hours</td><td>13.173</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>0</td></tr><tr><td>Total Hydrocarbon</td><td>0.0071</td></tr></table>	Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	10.261	Average System Voltage	359.5	CH4 - Methane	0.0004	Carbon Monoxide	0.0132	Carbon dioxide	0.2625	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	-0.022	Drive Trace Energy Economy Rating	-0.158	Drive Trace Inertia Work Ratio Rating	0.137	Integrated Amp-hours	13.173	Manufacturer Fuel Economy	0	Nitrogen Oxide	0	Non-methane Hydrocarbon	0.0067	Non-methane organic gases	0.0069	Non-methane organic gases plus Nitrogen Oxides	999.999	System End State of Charge Watt-hours	13.173	System Start State of Charge Watt-hours	0	Total Hydrocarbon	0.0071	
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Charge Depleting Bag/Phase #2																																								

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Certification Summary Information Report

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	System Start State of Charge Watt-hours	13.173																																						
	Total Hydrocarbon	0																																						
Charge Depleting Bag/Phase #3																																								

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																					
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>10.257</td></tr><tr><td>Average System Voltage</td><td>337.13</td></tr><tr><td>CH4 - Methane</td><td>0</td></tr><tr><td>Carbon Monoxide</td><td>0.0001</td></tr><tr><td>Carbon dioxide</td><td>0.1996</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>0</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>0.77</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>-0.246</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>1.052</td></tr><tr><td>Integrated Amp-hours</td><td>38.6</td></tr><tr><td>Manufacturer Fuel Economy</td><td>0</td></tr><tr><td>Nitrogen Oxide</td><td>0.0001</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0</td></tr><tr><td>Non-methane organic gases</td><td>0</td></tr><tr><td>Non-methane organic gases plus Nitrogen Oxides</td><td>999.999</td></tr><tr><td>System End State of Charge Watt-hours</td><td>38.6</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>25.785</td></tr><tr><td>Total Hydrocarbon</td><td>0</td></tr></table>	Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	10.257	Average System Voltage	337.13	CH4 - Methane	0	Carbon Monoxide	0.0001	Carbon dioxide	0.1996	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	0.77	Drive Trace Energy Economy Rating	-0.246	Drive Trace Inertia Work Ratio Rating	1.052	Integrated Amp-hours	38.6	Manufacturer Fuel Economy	0	Nitrogen Oxide	0.0001	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	38.6	System Start State of Charge Watt-hours	25.785	Total Hydrocarbon	0	
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	System End State of Charge Watt-hours	38.6																																						
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	Total Hydrocarbon	0																																						
Charge Depleting Bag/Phase #4																																								

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																						
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>10.259</td></tr><tr><td>Average System Voltage</td><td>325.88</td></tr><tr><td>CH4 - Methane</td><td>0</td></tr><tr><td>Carbon Monoxide</td><td>0.0011</td></tr><tr><td>Carbon dioxide</td><td>0.2307</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>0</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>-0.135</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>-0.342</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>-0.152</td></tr><tr><td>Integrated Amp-hours</td><td>51.863</td></tr><tr><td>Manufacturer Fuel Economy</td><td>0</td></tr><tr><td>Nitrogen Oxide</td><td>0.0001</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0.0001</td></tr><tr><td>Non-methane organic gases</td><td>0.0001</td></tr><tr><td>Non-methane organic gases plus Nitrogen Oxides</td><td>999.999</td></tr><tr><td>System End State of Charge Watt-hours</td><td>51.863</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>38.6</td></tr><tr><td>Total Hydrocarbon</td><td>0</td></tr></table>			Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	10.259	Average System Voltage	325.88	CH4 - Methane	0	Carbon Monoxide	0.0011	Carbon dioxide	0.2307	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	-0.135	Drive Trace Energy Economy Rating	-0.342	Drive Trace Inertia Work Ratio Rating	-0.152	Integrated Amp-hours	51.863	Manufacturer Fuel Economy	0	Nitrogen Oxide	0.0001	Non-methane Hydrocarbon	0.0001	Non-methane organic gases	0.0001	Non-methane organic gases plus Nitrogen Oxides	999.999	System End State of Charge Watt-hours	51.863	System Start State of Charge Watt-hours	38.6	Total Hydrocarbon	0
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Charge Depleting Bag/Phase #5

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Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																						
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>10.256</td></tr><tr><td>Average System Voltage</td><td>320.88</td></tr><tr><td>CH4 - Methane</td><td>0.0031</td></tr><tr><td>Carbon Monoxide</td><td>0.1692</td></tr><tr><td>Carbon dioxide</td><td>384.2981</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>384</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>-0.737</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>0.628</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>0.976</td></tr><tr><td>Integrated Amp-hours</td><td>53.322</td></tr><tr><td>Manufacturer Fuel Economy</td><td>22.8</td></tr><tr><td>Nitrogen Oxide</td><td>0.0041</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0.0249</td></tr><tr><td>Non-methane organic gases</td><td>0.0256</td></tr><tr><td>Non-methane organic gases plus Nitrogen Oxides</td><td>999.999</td></tr><tr><td>System End State of Charge Watt-hours</td><td>53.322</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>51.863</td></tr><tr><td>Total Hydrocarbon</td><td>0.028</td></tr></table>			Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	10.256	Average System Voltage	320.88	CH4 - Methane	0.0031	Carbon Monoxide	0.1692	Carbon dioxide	384.2981	Carbon-Related Exhaust Emissions	384	Drive Trace Absolute Speed Change Rating	-0.737	Drive Trace Energy Economy Rating	0.628	Drive Trace Inertia Work Ratio Rating	0.976	Integrated Amp-hours	53.322	Manufacturer Fuel Economy	22.8	Nitrogen Oxide	0.0041	Non-methane Hydrocarbon	0.0249	Non-methane organic gases	0.0256	Non-methane organic gases plus Nitrogen Oxides	999.999	System End State of Charge Watt-hours	53.322	System Start State of Charge Watt-hours	51.863	Total Hydrocarbon	0.028
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Charge Depleting Bag/Phase #6

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																																						
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Manufacturer Test Comments02_HWFET_9140243_03_FEDV_XM Label_A_ETW-6500_RG11_D3_Comfort_Hybrid_depleting; Cycle 1-4 in CD mode, cycle 5 in transition mode, cycle 6 in CS mode based on 2% depleted capacity																																									

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
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Emission Data Vehicle Information

Vehicle ID / Configuration	9N82497 / 6	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	SBMXT04.4H09	Original Evaporative/Refueling Family	SBMXR0170H09
Original Test Vehicle Model Year	2025		

Vehicle Model

Represented Test Vehicle Make	BMW	Represented Test Vehicle Model	XM Label
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Leak Family Details

Leak Family Identifier	--	Leak Family Name	--
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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	XB1161T0G09X1	Rated Horsepower	577
Displacement (liters)	4.4		
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	2	Air Aspiration Device Configuration	Parallel
Charge Air Cooler Type	Liquid	Drive Mode While Testing	All Wheel Drive
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	6091	Equivalent Test Weight (pounds)	6500
GVWR (lbs)	7209	N/V Ratio	26.1
Axle Ratio	3.63		
Transmission Type	Semi-Automatic	# of Transmission Gears	8
Transmission Lockup	No	Creeper Gear	No

Dynamometer Coefficients:

Target Coefficients				Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	83.7	-0.331	0.03912	17	-0.101	0.03348	22

Certification Summary Information Report

Test Group	VBMXT04.4H09		Evaporative/Refueling Family		VBMXR0170H09											
Emission Control Device Comments	--															
Manufacturer Test Vehicle Comments	vi_9N82497_06_EVAP EDV_XM Label_A_ETW-6500_RG10_E10															
Test #	SBMX10084685		Test Procedure		23 - 2-day evap											
Exhaust Test # for this Evap Test	SBMX10084683		Test Fuel Type		48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)											
Test Date	12/14/2023		Fuel		Gasoline											
Fuel Batch ID	T10/87		Fuel Calibration Number		39											
Vehicle Class	N/A		DF Type		Mfr. Determined											
Verify Test Lab ID	EETZ Emissions Lab															
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)															
Test Start Odometer Reading	7747		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																
<table border="1"> <thead> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td> <td>0.15543</td> <td>--</td> </tr> <tr> <td>HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.16787</td> <td>--</td> </tr> </tbody> </table>								Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL (Total Hydrocarbon)	0.15543	--	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.16787	--
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HC-TOTAL (Total Hydrocarbon)	0.15543	--														
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.16787	--														
Manufacturer Test Comments EVAP EDV - 2Day, XM Label																
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	0.1679	0.015	0.183	0.5	Pass								

Test Group		VBMXT04.4H09		Evaporative/Refueling Family		VBMXR0170H09		
Test #		SBMX10084686		Test Procedure		34 - Federal fuel 3-day evap		
Exhaust Test # for this Evap Test		SBMX10084684		Test Fuel Type		48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)		
Test Date		01/25/2024		Fuel		Gasoline		
Fuel Batch ID		T10/87		Fuel Calibration Number		39		
Vehicle Class		N/A		DF Type		Mfr. Determined		
Verify Test Lab ID		EETZ Emissions Lab						
E10 Evaporative Test Measurement Method		Calculated (1.08 x FID Total Hydrocarbons)						
Test Start Odometer Reading		7871		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)			0.13265		--			
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)			0.14326		--			
Manufacturer Test Comments								
EVAP EDV - 3Day, XM Label								
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	0.1433	0.015	0.158	0.5	Pass

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Test #	SBMX10084687	Test Procedure	32 - Federal Fuel Running Loss
Exhaust Test # for this Evap Test	SBMX10084684	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/25/2024	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	39
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	7844	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC (Hydrocarbon for Running Loss and ORVR)	0.0002	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0002	--

Manufacturer Test Comments EVAP EDV - RL, XM Label

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	0	0	0.05	Pass

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09																		
Test #	SBMX10084688	Test Procedure	24 - Federal fuel refueling test (ORVR)																		
Exhaust Test # for this Evap Test	SBMX10084683	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)																		
Test Date	01/10/2024	Fuel	Gasoline																		
Fuel Batch ID	T10/87	Fuel Calibration Number	39																		
Vehicle Class	N/A	DF Type	Mfr. Determined																		
Verify Test Lab ID	EETZ Emissions Lab																				
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)																				
Test Start Odometer Reading	7776	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																					
<table><tr><td>Test Result Name</td><td>Unrounded Test Result</td><td>Verify Calculated FE Equivalent Value (miles per gallon)</td></tr><tr><td>HC (Hydrocarbon for Running Loss and ORVR)</td><td>0.00714</td><td>--</td></tr></table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC (Hydrocarbon for Running Loss and ORVR)	0.00714	--												
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HC (Hydrocarbon for Running Loss and ORVR)	0.00714	--																			
Manufacturer Test Comments EVAP EDV, ORVR, XM Label																					
<table><tr><td>Certification Region</td><td>Useful Life</td><td>Standard Level</td><td>Emission Name</td><td>Rounded Result</td><td>Add DF</td><td>Certification Level</td><td>Standard</td><td>Pass/Fail</td></tr><tr><td>Fed</td><td>150,000 miles</td><td>Federal Tier 3 Evap</td><td>HC</td><td>0.007</td><td>0.028</td><td>0.04</td><td>0.2</td><td>Pass</td></tr></table>				Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	Fed	150,000 miles	Federal Tier 3 Evap	HC	0.007	0.028	0.04	0.2	Pass
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail													
Fed	150,000 miles	Federal Tier 3 Evap	HC	0.007	0.028	0.04	0.2	Pass													

Certification Summary Information Report

Test Group	VBMXT04.4H09		Evaporative/Refueling Family	VBMXR0170H09						
Test #	SBMX10084689		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	02/05/2024		Fuel	Gasoline						
Fuel Batch ID	T10/87		Fuel Calibration Number	39						
Vehicle Class	N/A		DF Type	Mfr. Determined						
Verify Test Lab ID	EETZ Emissions Lab									
E10 Evaporative Test Measurement Method	--									
Test Start Odometer Reading	7926		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										
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Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value								
LEAK-DIA (Effective Leak Diameter (inches))	0	--								
Manufacturer Test Comments EVAP EDV - Leak Test, XM Label										
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	0	0	0.02	Pass		

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Fuel Properties			
Fuel Batch ID	T10/87	Fuel Calibration Number	62
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	01/26/2026
Fuel Batch Calibration Effective Date	10/15/2025	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	0.828	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.748
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.78	Fuel Carbon Mass Fraction (E10)	0.828
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	Weight Fraction CO2	--
Fuel Batch ID	T10/87	Fuel Calibration Number	39
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	08/25/2023
Fuel Batch Calibration Effective Date	11/09/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	0.826	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.742
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18000
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	Weight Fraction CO2	--
Fuel Batch ID	T2/E0	Fuel Calibration Number	79
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	03/20/2026
Fuel Batch Calibration Effective Date	03/20/2026	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)	18723
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.862	Weight Fraction CO2	--
Fuel Batch ID	COE10	Fuel Calibration Number	61
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	10/25/2024
Fuel Batch Calibration Effective Date	10/24/2025	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Exhaust Carbon Weight Fraction	0.827	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	9.5	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.92	Fuel Carbon Mass Fraction (E10)	0.827
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	Weight Fraction CO2	--

Certification Summary Information Report

Test Group		VBMXT04.4H09			Evaporative/Refueling Family			VBMXR0170H09	
Consolidated List of Standards									
Exhaust Standards									
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			Federal fuel 3-day exhaust	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	0.1	--	1	--	999
150,000 miles	CO	--	--	--	0	--	--	0.14	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.1	0	--	--	0.0042	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.030
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.050
150,000 miles	NOX	--	--	--	0	--	--	0	99.999
150,000 miles	PM	--	--	--	0	--	--	0	0.003
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 30	
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	--	--	0.14	999.9
150,000 miles	NMOG	--	--	1.03	0	--	--	0.0042	99.999
150,000 miles	NOX	--	--	--	0	--	--	0	99.999
150,000 miles	PM	--	--	--	0	--	--	0	0.006

Certification Summary Information Report

Test Group		VBMXT04.4H09			Evaporative/Refueling Family			VBMXR0170H09	
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 30	
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	--	--	0.05	12.5
120,000 miles	HC-NM	--	--	--	--	--	--	0	0.5

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 30	
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	--	--	0.14	999.9
150,000 miles	NMOG	--	--	1.03	0	--	--	0.0042	999.999
150,000 miles	NOX	--	--	--	0	--	--	0	999.999

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 30	
Fuel		Gasoline			Test Procedure			HWFE	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	0.1	--	1	--	999
150,000 miles	NMOG	--	--	1.03	0	--	--	0.0042	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.030
150,000 miles	NOX	--	--	--	0	--	--	0	99.999

Evaporative/Refueling Standards

Certification Summary Information Report

Test Group		VBMXT04.4H09		Evaporative/Refueling Family		VBMXR0170H09	
Evaporative/Refueling Family		VBMXR0170H09		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		
Evaporative/Refueling Family		VBMXR0170H09		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	0.015		
Evaporative/Refueling Family		VBMXR0170H09		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		
Evaporative/Refueling Family		VBMXR0170H09		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	0.015		
Evaporative/Refueling Family		VBMXR0170H09		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	0.028		

Certification Summary Information Report

Test Group		VBMXT04.4H09	Evaporative/Refueling Family	VBMXR0170H09
Glossary				
Useful Life				
4	4,000 miles	120	120,000 miles	
50	50,000 miles	150	150,000 miles	
100	100,000 miles			
Emission Name				
HC-TOTAL	Total Hydrocarbon	COMB-CREE	Combined Carbon-Related Exhaust Emissions	
CO	Carbon Monoxide	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
CO2	Carbon dioxide	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
CREE	Carbon-Related Exhaust Emissions	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
OPT-CREE	Optional Carbon-Related Exhaust Emissions	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
NOX	Nitrogen Oxide	LEAK-DIA	Effective Leak Diameter (inches)	
PM	Particulate Matter	LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
PM-COMP	SFTP Composite Particulate Matter	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
HC-NM	Non-methane Hydrocarbon	KW-HRS	Integrated DC KW-HRS	
OMHCE	Organic material Hydrocarbon Equivalent	CH4 BAG 1	Bag 1 Methane	
OMNMHCE	Organic material non-methane HC equivalent	CH4 BAG 2	Bag 2 Methane	
NMOG	Non-methane organic gases	CH4 BAG 3	Bag 3 Methane	
HCHO	Formaldehyde	CH4 BAG 4	Bag 4 Methane	
H3C2HO	Acetaldehyde	CO BAG 1	Bag 1 Carbon Monoxide	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO BAG 2	Bag 2 Carbon Monoxide	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	CO BAG 3	Bag 3 Carbon Monoxide	
CO-COMP	SFTP Composite Carbon Monoxide	CO BAG 4	Bag 4 Carbon Monoxide	
ETHANOL	C2H5OH - Ethanol	NMOG BAG 1	Bag 1 Non-methane organic gases	
FE BAG 1	Bag 1 Fuel Economy	NMOG BAG 2	Bag 2 Non-methane organic gases	
FE BAG 2	Bag 2 Fuel Economy	NMOG BAG 3	Bag 3 Non-methane organic gases	
FE BAG 3	Bag 3 Fuel Economy	NMOG BAG 4	Bag 4 Non-methane organic gases	
FE BAG 4	Bag 4 Fuel Economy	ACT-DISTANCE BAG 1	Bag 1 Actual Distance	
MFR FE	Manufacturer Fuel Economy	ACT-DISTANCE BAG 2	Bag 2 Actual Distance	
HC	Hydrocarbon for Running Loss and ORVR	ACT-DISTANCE BAG 3	Bag 3 Actual Distance	
METHANE	CH4 - Methane	ACT-DISTANCE BAG 4	Bag 4 Actual Distance	
METHANOL	CH3OH - Methanol	HC-TOTAL BAG 1	Bag 1 Total Hydrocarbon	
N2O	Nitrous Oxide	HC-TOTAL BAG 2	Bag 2 Total Hydrocarbon	
SPITBACK	Spitback Hydrocarbon in grams	HC-TOTAL BAG 3	Bag 3 Total Hydrocarbon	
AMP-HRS	Integrated Amp-hours	HC-TOTAL BAG 4	Bag 4 Total Hydrocarbon	
START-SOC	System Start State of Charge Watt-hours	WATT-HRS BAG 1	Bag 1 Watt Hours	
END-SOC	System End State of Charge Watt-hours	WATT-HRS BAG 2	Bag 2 Watt Hours	

Certification Summary Information Report

Test Group		VBMXT04.4H09	Evaporative/Refueling Family		VBMXR0170H09
ACT-DISTANCE	Actual Distance Driven (miles)		WATT-HRS BAG 3	Bag 3 Watt Hours	
AS-VOLT	Average System Voltage		WATT-HRS BAG 4	Bag 4 Watt Hours	
CO2 BAG 1	Bag 1 Carbon Dioxide		WATT-HRS	Watt Hours	
CO2 BAG 2	Bag 2 Carbon Dioxide		HC-NM BAG 1	Bag 1 Non-methane Hydrocarbon	
CO2 BAG 3	Bag 3 Carbon Dioxide		HC-NM BAG 2	Bag 2 Non-methane Hydrocarbon	
CO2 BAG 4	Bag 4 Carbon Dioxide		HC-NM BAG 3	Bag 3 Non-methane Hydrocarbon	
NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		HC-NM BAG 4	Bag 4 Non-methane Hydrocarbon	
NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		N2O BAG 1	Bag 1 Nitrous Oxide	
DT-IWRR	Drive Trace Inertia Work Ratio Rating		N2O BAG 2	Bag 2 Nitrous Oxide	
DT-ASCR	Drive Trace Absolute Speed Change Rating		N2O BAG 3	Bag 3 Nitrous Oxide	
DT-EER	Drive Trace Energy Economy Rating		N2O BAG 4	Bag 4 Nitrous Oxide	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
B2	Federal Tier 2 Bin 2		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
B3	Federal Tier 2 Bin 3		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
B4	Federal Tier 2 Bin 4		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
B5	Federal Tier 2 Bin 5		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
B6	Federal Tier 2 Bin 6		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
B7	Federal Tier 2 Bin 7		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
B8	Federal Tier 2 Bin 8		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
B9	Federal Tier 2 Bin 9		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
B10	Federal Tier 2 Bin 10		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
B11	Federal Tier 2 Bin 11		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2	California LEV-II LEV		L4SULEV100	California LEV-IV SULEV100	
L2OP	California LEV-II LEV Optional		L4SULEV125	California LEV-IV SULEV125	
U2	California LEV-II ULEV		L4SULEV15	California LEV-IV SULEV15	
S2	California LEV-II SULEV		L4SULEV150	California LEV-IV SULEV150	
ZEV	California ZEV		L4SULEV170	California LEV-IV SULEV170	
OT	Other		L4SULEV175	California LEV-IV SULEV175	
T1	Federal Tier 1		L4SULEV20	California LEV-IV SULEV20	
PZEV	California PZEV		L4SULEV200	California LEV-IV SULEV200	
L2LEV160	California LEV-II LEV160		L4SULEV230	California LEV-IV SULEV230	
L2ULEV125	California LEV-II ULEV125		L4SULEV25	California LEV-IV SULEV25	
L2SULEV30	California LEV-II SULEV30		L4SULEV30	California LEV-IV SULEV30	
L2LEV395	California LEV-II LEV395		L4SULEV75	California LEV-IV SULEV75	

Certification Summary Information Report

Test Group		VBMXT04.4H09	Evaporative/Refueling Family		VBMXR0170H09
L2ULEV340	California LEV-II ULEV340		L4SULEV85	California LEV-IV SULEV85	
L2LEV630	California LEV-II LEV630		L4ULEV125	California LEV-IV ULEV125	
L2ULEV570	California LEV-II ULEV570		L4ULEV200	California LEV-IV ULEV200	
L3LEV160	California LEV-III LEV160		L4ULEV250	California LEV-IV ULEV250	
L3ULEV125	California LEV-III ULEV125		L4ULEV270	California LEV-IV ULEV270	
L3ULEV70	California LEV-III ULEV70		L4ULEV40	California LEV-IV ULEV40	
L3ULEV50	California LEV-III ULEV50		L4ULEV400	California LEV-IV ULEV400	
L3SULEV30	California LEV-III SULEV30		L4ULEV50	California LEV-IV ULEV50	
L3SULEV20	California LEV-III SULEV20		L4ULEV60	California LEV-IV ULEV60	
L3LEV395	California LEV-III LEV395		L4ULEV70	California LEV-IV ULEV70	
L3ULEV340	California LEV-III ULEV340		T4B170	Federal Tier 4 MDV Bin 170	
L3ULEV250	California LEV-III ULEV250		T4B150	Federal Tier 4 MDV Bin 150	
L3ULEV200	California LEV-III ULEV200		T4B125	Federal Tier 4 MDV Bin 125	
L3SULEV170	California LEV-III SULEV170		T4B100	Federal Tier 4 MDV Bin 100	
L3SULEV150	California LEV-III SULEV150		T4B85	Federal Tier 4 MDV Bin 85	
L3LEV630	California LEV-III LEV630		T4B75	Federal Tier 4 MDV Bin 75	
L3ULEV570	California LEV-III ULEV570		T4B70	Federal Tier 4 Bin 70	
L3ULEV400	California LEV-III ULEV400		T4B65	Federal Tier 4 Bin 65	
L3ULEV270	California LEV-III ULEV270		T4B60	Federal Tier 4 Bin 60	
L3SULEV230	California LEV-III SULEV230		T4B55	Federal Tier 4 Bin 55	
L3SULEV200	California LEV-III SULEV200		T4B50	Federal Tier 4 Bin 50	
T3B160	Federal Tier 3 Bin 160		T4B45	Federal Tier 4 Bin 45	
T3B125	Federal Tier 3 Bin 125		T4B40	Federal Tier 4 Bin 40	
T3B110	Federal Tier 3 Transitional Bin 110		T4B35	Federal Tier 4 Bin 35	
T3B85	Federal Tier 3 Transitional Bin 85		T4B30	Federal Tier 4 Bin 30	
T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover		T4B25	Federal Tier 4 Bin 25	
T3B70	Federal Tier 3 Bin 70		T4B20	Federal Tier 4 Bin 20	
T3B50	Federal Tier 3 Bin 50		T4B15	Federal Tier 4 Bin 15	
T3B30	Federal Tier 3 Bin 30		T4B10	Federal Tier 4 Bin 10	
T3B20	Federal Tier 3 Bin 20		T4B5	Federal Tier 4 Bin 5	
T3B0	Federal Tier 3 Bin 0		T4B0	Federal Tier 4 Bin 0	
HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395				
Transmission Type Code					
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual		
A	Automatic	OT	Other		
AM	Automated Manual	SA	Semi-Automatic		
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)		
Drive System Code					
4	4-Wheel Drive	P	Part-time 4-Wheel Drive		

Certification Summary Information Report

Test Group		VBMXT04.4H09	Evaporative/Refueling Family		VBMXR0170H09
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	