

Certification Summary Information Report

Test Group	VBMXV03.OSM3	Evaporative/Refueling Family	VBMXR0150G3F
Evaporative/Refueling Family Information			
Evaporative Summary Information Type	New	Submission/Correction Date	01/08/2026 09:05:39 AM
Integrated ORVR?	Yes	Fuel(s)	Gasoline
Multiple Fuel Storage	--		
Bladder Fuel Tank?	No		
Fuel Tank Material	Plastic	Fuel Tank Material Description	HDPE
Fill Pipe Seal Type	Liquid seal		
Air Intake System Vapor Storage Device?	No	Air Intake System Vapor Storage Device Description	--
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	150	Number of Primary Canisters	1
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	--
Mfr Evaporative/Refueling Family Comments	--		
Leak Family Details			
Leak Family Indicator	No		
Canister Bleed Test Indicator	Yes	Applicability of Evaporative Canister Bleed Test	50 State
Evaporative Canister Bleed Test Comments	--		
CARB Fuel Only (Rig) Test Indicator	No	Applicability of CARB Fuel Only (Rig) Test	--
CARB Fuel Only (Rig) Test Comments	--		

Models Covered by this Certificate

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

Engine Description

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

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Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F	
After Treatment Device(s) (ATD)				
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction
1	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
2	Three-way catalyst	Palladium + Rhodium	Metal	Monolith
3	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
4	Three-way catalyst	Palladium + Rhodium	Metal	Monolith
Mfr After Treatment Device (ATD) Comments				--
Direct Ozone Reduction (DOR) Device				Not Equipped
Mfr Emission Control Device Comments				--
Engine Configuration Number 1				
Engine Displacement (liters)	3.0	Engine Rated Horsepower	473	
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2	
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	2	
Air Aspiration Device Configuration	Parallel	Charge Air Cooler Type	Liquid	
Air Aspiration Drive Method(s)	Mechanical			
Cylinder Deactivation	No			
Cylinder Deactivation Description	--			
Variable Valve Timing	Yes			
Variable Valve Timing System Description	variable valve timing at inlet and outlet valves			
Variable Valve Lift?	Yes			
Variable Valve Lift System Description	variable valve lift at inlet valves			
Number of Knock Sensors	2	Number of Air/Fuel Sensors	4	
Air/Fuel Sensor # 1 Type	Air fuel	Air/Fuel Sensor # 1 Description	--	
Air/Fuel Sensor # 2 Type	Heated oxygen	Air/Fuel Sensor # 2 Description	--	
Air/Fuel Sensor # 3 Type	Air fuel	Air/Fuel Sensor # 3 Description	--	
Air/Fuel Sensor # 4 Type	Heated oxygen	Air/Fuel Sensor # 4 Description	--	
Mfr Air/Fuel Sensor Comments	--			
Exhaust Gas Recirculation	No	Cooled Exhaust Gas Recirculation	No	
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--	
Closed Loop Air Injection System	No			
Air Injection Type	--	Air Injection Type if 'Other'	--	
Mfr Engine Configuration Comments	--			

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Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Engine Configuration Number 2			
Engine Displacement (liters)	3.0	Engine Rated Horsepower	503
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	2
Air Aspiration Device Configuration	Parallel	Charge Air Cooler Type	Liquid
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	variable valve timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	variable valve lift at inlet valves		
Number of Knock Sensors	2	Number of Air/Fuel Sensors	4
Air/Fuel Sensor # 1 Type	Heated oxygen	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Air fuel	Air/Fuel Sensor # 2 Description	--
Air/Fuel Sensor # 3 Type	Heated oxygen	Air/Fuel Sensor # 3 Description	--
Air/Fuel Sensor # 4 Type	Air fuel	Air/Fuel Sensor # 4 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	Cooled Exhaust Gas Recirculation	No
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	--	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	--		

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Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Engine Configuration Number 3			
Engine Displacement (liters)	3.0	Engine Rated Horsepower	523
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	2
Air Aspiration Device Configuration	Parallel	Charge Air Cooler Type	Liquid
Air Aspiration Drive Method(s)	Mechanical		
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	Yes		
Variable Valve Timing System Description	variable valve timing at inlet and outlet valves		
Variable Valve Lift?	Yes		
Variable Valve Lift System Description	variable valve lift at inlet valves		
Number of Knock Sensors	2	Number of Air/Fuel Sensors	4
Air/Fuel Sensor # 1 Type	Heated oxygen	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Air fuel	Air/Fuel Sensor # 2 Description	--
Air/Fuel Sensor # 3 Type	Heated oxygen	Air/Fuel Sensor # 3 Description	--
Air/Fuel Sensor # 4 Type	Air fuel	Air/Fuel Sensor # 4 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	No	Cooled Exhaust Gas Recirculation	No
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	--	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	--		

Official Test Numbers

Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Gasoline		SBMX10083792	SBMX10083802	SBMX10083803	SBMX10083806	SBMX10083799	17	228.2	28.2	286.1	--

SFTP LEV-III Official Test Numbers

Test Group	Fuel	FTP	US06	SC03
Gasoline		SBMX10083792	SBMX10083802	SBMX10083803

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F						
Emission Data Vehicle Information									
Vehicle ID / Configuration	CM64099 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	SBMXV03.0SM3	Original Evaporative/Refueling Family	SBMXR0150G3F						
Original Test Vehicle Model Year	2025								
Vehicle Model									
Represented Test Vehicle Make	BMW	Represented Test Vehicle Model	M4 Competition M xDrive Convertible						
Leak Family Details									
Leak Family Identifier	--	Leak Family Name	--						
Drive Sources and Fuel System Details									
	<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>			Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No								
Multiple Fuel Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	1						
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor								
Odometer Correction Units	Miles								
Engine Code	S58B30T0G83X1	Rated Horsepower	523						
Displacement (liters)	3	Air Aspiration Method, if 'Other'							
Air Aspiration Method	Turbocharged	Air Aspiration Device Configuration	Parallel						
Number of Air Aspiration Devices	2	Drive Mode While Testing	All Wheel Drive						
Charge Air Cooler Type	Air	Aged Emission Components	4,000 (mi)						
Shift Indicator Light Usage	Not equipped	Equivalent Test Weight (pounds)	4500						
Curb Weight (lbs)	4306	N/V Ratio	26.1						
GVWR (lbs)	5170								
Axle Ratio	3.15								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creep Gear	No						

Certification Summary Information Report

Test Group		VBMXV03.0SM3			Evaporative/Refueling Family			VBMXR0150G3F
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	69.5	-0.378	0.02654	9.2	-0.072	0.02155	15.6	
Cold CO	76.5	-0.416	0.0292	10.2	-1.003	0.03323	N/A	
US06	69.5	-0.378	0.02654	9.2	-0.072	0.02155	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	vi_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off							

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083792	Test Procedure	31 - Federal fuel 3-day exhaust
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/25/2023	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	34
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4344	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

Certification Summary Information Report

Test Group	VBMXV03.OSM3	Evaporative/Refueling Family	VBMXR0150G3F
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Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	494.9706	--

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

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/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	120,000 miles	Other	METHANE	0.0024	--	--	--	0.0002	--	0.003	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0049	--	--	--	0	--	0.005	0.015	Pass
Fed	150,000 miles	Other	CO	0.14	--	--	--	0.18	--	0.3	1.7	Pass
Fed	150,000 miles	Other	CO-COMP	0.24	--	--	--	--	--	0.2	4.2	Pass
Fed	150,000 miles	Other	NMOG	0.009	--	1.1	--	0.0045	--	0.014	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0392	--	--	--	--	--	0.044	0.070	Pass
Fed	150,000 miles	Other	NMOG+NOX-COMP	0.0355	--	--	--	--	--	0.036	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0302	--	--	--	0	--	0.03	99.999	Pass
Fed	150,000 miles	Other	PM	0.0006	--	--	--	0	--	0.001	0.003	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083806	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	12/01/2023	Fuel	Gasoline
Fuel Batch ID	COE10	Fuel Calibration Number	41
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5664	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
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Manufacturer Test Comments 06_FTPCOLD_CM64099_00_EDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG10_Sport+_D3_ESS off

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	50,000 miles	Other	CO	0.24	--	--	--	0.06	--	0.3	10.0	Pass
Fed	120,000 miles	Other	HC-NM	0.03	--	--	--	0	--	0	0.3	Pass

Certification Summary Information Report

Test Group	VBMXV03.OSM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083799	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/25/2023	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	34
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4362	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

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

Manufacturer Test Comments

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

Certification Summary Information Report

Test Group		VBMXV03.0SM3				Evaporative/Refueling Family				VBMXR0150G3F		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	999	--	--	--	0.2	--	999	--	--
Fed	150,000 miles	Other	NMOG	0.0002	--	1.03	--	0.0045	--	0.005	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0049	--	--	--	--	--	0.009	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0047	--	--	--	0	--	0.005	99.999	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	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083802	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/25/2023	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	34
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4405	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

Manufacturer Test Comments

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

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Test Group		VBMXV03.0SM3				Evaporative/Refueling Family				VBMXR0150G3F		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Other	CO	0.01	--	--	--	0.18	--	0.2	99.9	Pass
Fed	150,000 miles	Other	NMOG	0.0011	--	1.03	--	0.0045	--	0.006	99.999	Pass
Fed	150,000 miles	Other	NOX	0.0195	--	--	--	0	--	0.02	99.999	Pass
Fed	150,000 miles	Other	PM	0.0002	--	--	--	0	--	0	0.006	Pass

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Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083803	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/30/2023	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	34
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4604	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

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

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification		Pass/Fail
										Level	Standard	
Fed	150,000 miles	Other	CO	0.01	--	--	--	0.18	--	0.2	99.9	Pass
Fed	150,000 miles	Other	NMOG	0.0003	--	1.03	--	0.0045	--	0.005	99.999	Pass
Fed	150,000 miles	Other	NOX	0.0307	--	--	--	0	--	0.031	99.999	Pass

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Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
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Emission Data Vehicle Information

Vehicle ID / Configuration	CM64099 / 2	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	SBMXV03.0SM3	Original Evaporative/Refueling Family	SBMXR0150G3F
Original Test Vehicle Model Year	2025		
Vehicle Model			
Represented Test Vehicle Make	BMW	Represented Test Vehicle Model	M4 Competition M xDrive Convertible

Leak Family Details

Leak Family Identifier	--	Leak Family Name	--
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Drive Sources and Fuel System Details

Drive Source and Fuel#	Drive Source	Fuel
1	Combustion Engine	Gasoline

Hybrid Indicator	No	Multiple Fuel Combustion	--
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	--
Fuel Cell Indicator	--	Rechargeable Energy Storage System, if 'Other'	--
Rechargeable Energy Storage System	--		
Off-board charge Capable Indicator	--		
Odometer Correction -- Initial	0	Odometer Correction Factor	1
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	S58B30T0G83X1	Rated Horsepower	523
Displacement (liters)	3	Air Aspiration Method, if 'Other'	
Air Aspiration Method	Turbocharged	Air Aspiration Device Configuration	Parallel
Number of Air Aspiration Devices	2	Drive Mode While Testing	All Wheel Drive
Charge Air Cooler Type	Air	Aged Emission Components	4,000 (mi)
Shift Indicator Light Usage	Not equipped	Equivalent Test Weight (pounds)	4500
Curb Weight (lbs)	4306	N/V Ratio	26.1
GVWR (lbs)	5170		
Axle Ratio	3.15		
Transmission Type	Semi-Automatic	# of Transmission Gears	8
Transmission Lockup	Yes	Creeper Gear	No

Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	69.5	-0.378	0.02654	9.2	-0.072	0.02155	15.6

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Emission Control Device Comments	--		
Manufacturer Test Vehicle Comments	vi_CM64099_02_FEDV_M4 Competition M xDrive Convertible_A_ETW-4500_RG11_Sport+_D3_ESS off		

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083810	Test Procedure	31 - Federal fuel 3-day exhaust
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	10/20/2023	Fuel	Gasoline
Fuel Batch ID	T2/E0	Fuel Calibration Number	40
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4158	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

Certification Summary Information Report

Test Group	VBMXV03.OSM3	Evaporative/Refueling Family	VBMXR0150G3F
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Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	505.367	--

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

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	505	--	--	--	0.2	--	505	--	--
Fed	120,000 miles	Other	METHANE	0.0023	--	--	--	0.0002	--	0.002	0.030	Pass
Fed	120,000 miles	Other	N2O	0.0045	--	--	--	0	--	0.004	0.015	Pass
Fed	150,000 miles	Other	CO	0.22	--	--	--	0.18	--	0.4	1.7	Pass
Fed	150,000 miles	Other	NMOG	0.0095	--	1.1	--	0.0045	--	0.014	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.0341	--	--	--	--	--	0.039	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0246	--	--	--	0	--	0.025	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	SBMX10083811	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	10/20/2023	Fuel	Gasoline
Fuel Batch ID	T2/E0	Fuel Calibration Number	40
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	EETZ Emissions Lab		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4176	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

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

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

Manufacturer Test Comments

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

Certification Summary Information Report

Test Group		VBMXV03.0SM3				Evaporative/Refueling Family				VBMXR0150G3F		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Other	CREE	306	--	--	--	0.2	--	306	--	--
Fed	150,000 miles	Other	NMOG	0.0014	--	1.03	--	0.0045	--	0.006	99.999	Pass
Fed	150,000 miles	Other	NMOG+NOX	0.005	--	--	--	--	--	0.01	0.070	Pass
Fed	150,000 miles	Other	NOX	0.0036	--	--	--	0	--	0.004	99.999	Pass

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

Certification Summary Information Report

Test Group	VBMXV03.0SM3		Evaporative/Refueling Family	VBMXR0150G3F							
Emission Data Vehicle Information											
Vehicle ID / Configuration	G463617 / 0		Manufacturer Vehicle Configuration Number	0							
Original Test Group Name	JBMXJ04.4N63		Original Evaporative/Refueling Family	JBMXR0150G1X							
Original Test Vehicle Model Year	2018										
Vehicle Model											
Represented Test Vehicle Make	BMW		Represented Test Vehicle Model	M550i xDrive							
Leak Family Details											
Leak Family Identifier	--		Leak Family Name	--							
Drive Sources and Fuel System Details											
	<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Combustion Engine</td> <td>Gasoline</td> </tr> </tbody> </table>		Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline			
Drive Source and Fuel#	Drive Source	Fuel									
1	Combustion Engine	Gasoline									
Hybrid Indicator	No										
Multiple Fuel Storage	--		Multiple Fuel Combustion	--							
Fuel Cell Indicator	--		Rechargeable Energy Storage System Indicator	--							
Rechargeable Energy Storage System	--		Rechargeable Energy Storage System, if 'Other'	--							
Off-board charge Capable Indicator	--										
Odometer Correction -- Initial	0		Odometer Correction Factor	1							
Odometer Correction Sign	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor										
Odometer Correction Units	Miles										
Engine Code	4.4-N63-G30X		Rated Horsepower	455							
Displacement (liters)	4.4										
Air Aspiration Method	Turbocharged		Air Aspiration Method, if 'Other'								
Number of Air Aspiration Devices	2		Air Aspiration Device Configuration	Parallel							
Charge Air Cooler Type	Liquid		Drive Mode While Testing	All Wheel Drive							
Shift Indicator Light Usage	Not equipped		Aged Emission Components	4,000 (mi)							
Curb Weight (lbs)	4372		Equivalent Test Weight (pounds)	4750							
GVWR (lbs)	5430		N/V Ratio	23.3							
Axle Ratio	2.81										
Transmission Type	Semi-Automatic		# of Transmission Gears	8							
Transmission Lockup	Yes		Creeper Gear	No							
Dynamometer Coefficients:											
	Target Coefficients			Set Coefficients							
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients				
City/Highway/Evap	62.8	-0.258	0.02258	-1.7	-0.03	0.01869	14.2				
US06	62.8	-0.258	0.02258	-1.7	-0.03	0.01869	N/A				

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Emission Control Device Comments	--		
Manufacturer Test Vehicle Comments	EVAP EDV - M550i xDrive		
Test #	JBMX10046019	Test Procedure	34 - Federal fuel 3-day evap
Exhaust Test # for this Evap Test	JBMX10046018	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/24/2016	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	4
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5258	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

Manufacturer Test Comments EVAP EDV FTP75, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.2949	0.0474	0.342	0.45	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	JBMX10046029	Test Procedure	23 - 2-day evap
Exhaust Test # for this Evap Test	JBMX10046028	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	10/27/2016	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	4
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5258	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

Manufacturer Test Comments EVAP EDV 2-Day, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.3369	0.0162	0.353	0.45	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	JBMX10046020	Test Procedure	32 - Federal Fuel Running Loss
Exhaust Test # for this Evap Test	JBMX10046018	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/24/2016	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	4
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5258	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

Manufacturer Test Comments EVAP EDV FTP75, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.013	0	0.01	0.05	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
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Test #	JBMX10046036	Test Procedure	24 - Federal fuel refueling test (ORVR)
Exhaust Test # for this Evap Test	JBMX10046034	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/08/2016	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	4
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5067	Odometer Units	K
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

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

Manufacturer Test Comments EVAP EDV, ORVR, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC	0.043	0.001	0.04	0.2	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Test #	JBMX10046037	Test Procedure	65 - Evap Canister Bleed Test
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	08/25/2016	Fuel	Gasoline
Fuel Batch ID	T10/87	Fuel Calibration Number	4
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	5900 Arcturus Ave		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4000	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No	Road Speed Fan Usage	Yes
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)		

Test Results

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

Manufacturer Test Comments EVAP EDV, Bleed, M550i xDrive

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.0035	0	0.004	0.02	Pass

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F						
Test #	JBMX10046038	Test Procedure	67 - Leak Test - Port Near Canister						
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	11/16/2016	Fuel	Gasoline						
Fuel Batch ID	T10/87	Fuel Calibration Number	4						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	5900 Arcturus Ave								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	5167	Odometer Units	K						
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--						
State of Charge Delta	No								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes						
Test Results									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Test Result Name</th> <th style="width: 30%;">Unrounded Test Result</th> <th style="width: 35%;">Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td>LEAK-DIA (Effective Leak Diameter (inches))</td> <td style="text-align: center;">0.0087</td> <td style="text-align: center;">--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	LEAK-DIA (Effective Leak Diameter (inches))	0.0087	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
LEAK-DIA (Effective Leak Diameter (inches))	0.0087	--							
Manufacturer Test Comments	EVAP EDV, Leak Test, M550i xDrive								
Certification									
Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	LEAK-DIA	0.009	0	0.01	0.02	Pass	

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Fuel Properties			
Fuel Batch ID	T10/87	Fuel Calibration Number	34
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	10/27/2022
Fuel Batch Calibration Effective Date	02/02/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	0.826	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.745
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17962
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	Weight Fraction CO2	--
Fuel Batch ID	T10/87	Fuel Calibration Number	4
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	07/21/2016
Fuel Batch Calibration Effective Date	07/21/2016	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	0.828	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.747
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17812
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.828	Weight Fraction CO2	--
Fuel Batch ID	COE10	Fuel Calibration Number	41
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	11/14/2023
Fuel Batch Calibration Effective Date	11/14/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	0.826	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.743
Fuel Ethanol Volume Percent (%)	10	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17949
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.826	Weight Fraction CO2	--
Fuel Batch ID	T2/E0	Fuel Calibration Number	40
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	09/01/2023
Fuel Batch Calibration Effective Date	09/21/2023	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Exhaust Carbon Weight Fraction	0.861	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.735
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18740
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.861	Weight Fraction CO2	--

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
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Consolidated List of Standards

Exhaust Standards

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

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0.2	999.999
120,000 miles	METHANE	--	--	--	--	--	--	0.0002	0.030
120,000 miles	N2O	--	--	--	--	--	--	0	0.015
150,000 miles	CO	--	--	--	--	--	--	0.18	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0045	99.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.070
150,000 miles	NOX	--	--	--	--	--	--	0	99.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Cert Region	Federal	Cert/In-Use Code	Cert
Vehicle Class	LDV/Passenger Car	Standard Level	Other
Fuel	Gasoline	Test Procedure	SC03

Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.18	99.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0045	99.999
150,000 miles	NOX	--	--	--	--	--	--	0	99.999

Certification Summary Information Report

Test Group		VBMXV03.0SM3			Evaporative/Refueling Family			VBMXR0150G3F		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Other		
Fuel		Gasoline			Test Procedure			HWFE		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
120,000 miles	CREE	--	--	--	--	--	--	0.2	999.999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0045	99.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.070	
150,000 miles	NOX	--	--	--	--	--	--	0	99.999	

Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Other		
Fuel		Gasoline			Test Procedure			US06		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.18	99.9	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0045	99.999	
150,000 miles	NOX	--	--	--	--	--	--	0	99.999	
150,000 miles	PM	--	--	--	--	--	--	0	0.006	

Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Other		
Fuel		Gasoline			Test Procedure			Cold CO		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
50,000 miles	CO	--	--	--	--	--	--	0.06	10.0	
120,000 miles	HC-NM	--	--	--	--	--	--	0	0.3	

Evaporative/Refueling Standards

Evaporative/Refueling Family		VBMXR0150G3F			Cert Region			Federal		
Cert/In-Use Code		Cert			Standard Level			Federal Tier 3 Evap		
Test Procedure		Federal Fuel Running Loss								
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF					
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0					

Certification Summary Information Report

Test Group	VBMXV03.0SM3		Evaporative/Refueling Family	VBMXR0150G3F	
Evaporative/Refueling Family	VBMXR0150G3F		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	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	VBMXR0150G3F		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Federal fuel 3-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.450	0.0474
Evaporative/Refueling Family	VBMXR0150G3F		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Evap Canister Bleed Test				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.020	0
Evaporative/Refueling Family	VBMXR0150G3F		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Federal fuel refueling test (ORVR)				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC	--	0.20	0.001
Evaporative/Refueling Family	VBMXR0150G3F		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	2-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.450	0.0162

Certification Summary Information Report

Test Group	VBMXV03.0SM3	Evaporative/Refueling Family	VBMXR0150G3F
Glossary			
Useful Life			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
Emission Name			
HC-TOTAL	Total Hydrocarbon	AS-VOLT	Average System Voltage
CO	Carbon Monoxide	CO2 BAG 1	Bag 1 Carbon Dioxide
CO2	Carbon dioxide	CO2 BAG 2	Bag 2 Carbon Dioxide
CREE	Carbon-Related Exhaust Emissions	CO2 BAG 3	Bag 3 Carbon Dioxide
OPT-CREE	Optional Carbon-Related Exhaust Emissions	CO2 BAG 4	Bag 4 Carbon Dioxide
NOX	Nitrogen Oxide	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
PM	Particulate Matter	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
PM-COMP	SFTP Composite Particulate Matter	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM	Non-methane Hydrocarbon	DT-ASCR	Drive Trace Absolute Speed Change Rating
OMHCE	Organic material Hydrocarbon Equivalent	DT-EER	Drive Trace Energy Economy Rating
OMNMHCE	Organic material non-methane HC equivalent	COMB-CREE	Combined Carbon-Related Exhaust Emissions
NMOG	Non-methane organic gases	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
HCHO	Formaldehyde	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
H3C2HO	Acetaldehyde	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	LEAK-DIA	Effective Leak Diameter (inches)
CO-COMP	SFTP Composite Carbon Monoxide	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
ETHANOL	C2H5OH - Ethanol	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
FE BAG 1	Bag 1 Fuel Economy	KW-HRS	Integrated DC KW-HRS
FE BAG 2	Bag 2 Fuel Economy	CH4 BAG 1	Bag 1 Methane
FE BAG 3	Bag 3 Fuel Economy	CH4 BAG 2	Bag 2 Methane
FE BAG 4	Bag 4 Fuel Economy	CH4 BAG 3	Bag 3 Methane
MFR FE	Manufacturer Fuel Economy	CH4 BAG 4	Bag 4 Methane
HC	Hydrocarbon for Running Loss and ORVR	CO BAG 1	Bag 1 Carbon Monoxide
METHANE	CH4 - Methane	CO BAG 2	Bag 2 Carbon Monoxide
METHANOL	CH3OH - Methanol	CO BAG 3	Bag 3 Carbon Monoxide
N2O	Nitrous Oxide	CO BAG 4	Bag 4 Carbon Monoxide
SPITBACK	Spitback Hydrocarbon in grams	NMOG BAG 1	Bag 1 Non-methane organic gases
AMP-HRS	Integrated Amp-hours	NMOG BAG 2	Bag 2 Non-methane organic gases
START-SOC	System Start State of Charge Watt-hours	NMOG BAG 3	Bag 3 Non-methane organic gases
END-SOC	System End State of Charge Watt-hours	NMOG BAG 4	Bag 4 Non-methane organic gases
ACT-DISTANCE	Actual Distance Driven (miles)		
Certification Region			

Certification Summary Information Report

Test Group	VBMXV03.OSM3	Evaporative/Refueling Family		VBMXR0150G3F
CA	California + CAA Section 177 states	FA	Federal	
Exhaust Emission Standard Level				
B1	Federal Tier 2 Bin 1	T3B160	Federal Tier 3 Bin 160	
B2	Federal Tier 2 Bin 2	T3B125	Federal Tier 3 Bin 125	
B3	Federal Tier 2 Bin 3	T3B110	Federal Tier 3 Transitional Bin 110	
B4	Federal Tier 2 Bin 4	T3B85	Federal Tier 3 Transitional Bin 85	
B5	Federal Tier 2 Bin 5	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
B6	Federal Tier 2 Bin 6	T3B70	Federal Tier 3 Bin 70	
B7	Federal Tier 2 Bin 7	T3B50	Federal Tier 3 Bin 50	
B8	Federal Tier 2 Bin 8	T3B30	Federal Tier 3 Bin 30	
B9	Federal Tier 2 Bin 9	T3B20	Federal Tier 3 Bin 20	
B10	Federal Tier 2 Bin 10	T3B0	Federal Tier 3 Bin 0	
B11	Federal Tier 2 Bin 11	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2	California LEV-II LEV	HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2OP	California LEV-II LEV Optional	HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
U2	California LEV-II ULEV	HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
S2	California LEV-II SULEV	HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
ZEV	California ZEV	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
OT	Other	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
T1	Federal Tier 1	HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
PZEV	California PZEV	HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L2LEV160	California LEV-II LEV160	HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L2ULEV125	California LEV-II ULEV125	HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L2SULEV30	California LEV-II SULEV30	HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2LEV395	California LEV-II LEV395	L4SULEV100	California LEV-IV SULEV100	
L2ULEV340	California LEV-II ULEV340	L4SULEV125	California LEV-IV SULEV125	
L2LEV630	California LEV-II LEV630	L4SULEV15	California LEV-IV SULEV15	
L2ULEV570	California LEV-II ULEV570	L4SULEV150	California LEV-IV SULEV150	
L3LEV160	California LEV-III LEV160	L4SULEV170	California LEV-IV SULEV170	
L3ULEV125	California LEV-III ULEV125	L4SULEV175	California LEV-IV SULEV175	
L3ULEV70	California LEV-III ULEV70	L4SULEV20	California LEV-IV SULEV20	
L3ULEV50	California LEV-III ULEV50	L4SULEV200	California LEV-IV SULEV200	
L3SULEV30	California LEV-III SULEV30	L4SULEV230	California LEV-IV SULEV230	
L3SULEV20	California LEV-III SULEV20	L4SULEV25	California LEV-IV SULEV25	
L3LEV395	California LEV-III LEV395	L4SULEV30	California LEV-IV SULEV30	
L3ULEV340	California LEV-III ULEV340	L4SULEV75	California LEV-IV SULEV75	
L3ULEV250	California LEV-III ULEV250	L4SULEV85	California LEV-IV SULEV85	
L3ULEV200	California LEV-III ULEV200	L4ULEV125	California LEV-IV ULEV125	

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Test Group		VBMXV03.OSM3	Evaporative/Refueling Family		VBMXR0150G3F
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	