

TOYOTA

Application For Certification - Part 1 **2027 Model Year**

Durability Group : VTYXHHGNNE21
Evap/refueling Families : VTYXR0165J52
Test Group : VTYXT02.5H3Y
Durability Group Description : Four Stroke, Otto Cycle, Gasoline/Electricity Fueled,
Ported FI, Catalyst code : 3-IIZ54 +3-IIq2
Test Group Description : 2.5 Liter I4 LDT2
Applicable Standards : Federal State: Interim-Tier4-Bin 30-LDT2
California: See Federal
Carlines Covered : RX 450h+ AWD
Engine Series : A25A-FXS
Vehicles Tested :

Vehicle I.D.	Config.	Test	Test Number
26-AL1H	00	FTP	TTYX10090069
26-AL1H	00	HWY	TTYX10090110
26-AL1H	00	HWY	*TTYX10090111
26-AL1H	00	SFTP (US06)	TTYX10090073
26-AL1H	00	SFTP (SC03)	TTYX10090075
24-AL1H	00	EVAP	RTYX10079330, RTYX10079367
24-AL1H	00	Running Loss	RTYX10079366
21-AP2H	00	Refueling	MTYX10063476
26-AL1H	00	C.CO,C.HC	TTYX10090078

*: Charge mode for CARB

EPA Response Requested By : September 11, 2026
For Questions, Contact : Lisa Florida 734-695-2697

Note :

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1. **Correspondence and Communications**

Please refer to the FOI common file.

2. **Durability Group Description**

Durability Group Name : VTYXHHGNNE21

Please refer to the common file for details.

3. **Evaporative/Refueling Family Description**

Evaporative/Refueling Family Name : VTYXR0165J52

Please refer to the FOI common file for details.

4. **Durability Procedure Description**

4.1 Exhaust Durability Test Procedure

4.2 Durability Showing

4.3 Evap/refueling Durability Test Procedure

Please refer to the CBI common file.

4.4 Exhaust Emission Deterioration Factors

4.5 Evap/refueling Emission Deterioration Factors

4.6 Equivalency Factor

Please refer to the Certification Summary Information Report in Section 7 or FOI common file.

5. Test Group Description

- | | | |
|-----|-------------------------------------|-------------------------------------|
| 5.1 | Test group name | : VTYXT02.5H3Y |
| 5.2 | Engine displacements covered | : 2,487 cm ³ (151.8 CID) |
| 5.3 | Arrangement and number of cylinders | : I4 |
| 5.4 | Vehicle class (es) covered | : LDT2 |
| 5.5 | Federal emission standards class | : Interim Tier4-Bin30-LDT2 |
| 5.6 | Applicable emission standards | |

Please refer to Certification Summary Information Report in Section 7.

6. Test Vehicle Description

DDV: Utilizing good engineering judgement that considered vehicle curb weight, road load coefficients, catalyst heat stress, we judged 26MY Grand Highlander Hybrid in TTYXHHGNNB2E covers this Durability Group is the representative DDV. Grand Highlander Hybrid was chosen as representative DDV because it has the same engine (A25A-FXS), same ECS, and the exact same catalyst specification.

EDV: Utilizing good engineering judgement that considered vehicle curb weight, road load coefficients, catalyst heat stress, and CD, CS emission results, we judged 26MY RX 450h+ is the representative EDV in this Test Group. RX 450h+ was chosen as representative EDV because it has the same engine (A25A-FXS), same ECS, and the exact same catalyst specification.

For complete vehicle description, refer to Certification Summary Information Report Sheet, enclosed in Section 7 of this application.

Battery and Vehicle Pre-Conditioning Procedures

The HV battery and vehicle does not require any pre-conditioning to enable the vehicle system.

Vehicle Break-in Range

Break in Period of Vehicle	Break in mile of Vehicle
N/A	2,000 mile

Certification Summary Information Report

Manufacturer	Toyota Motor Corporation	Manufacturer Code	TYX
Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Certificate Number	--	CARB Executive Order #	--
Certificate Issue Date	--	Certificate Revision Date	--
Certificate Effective Date	--	Conditional Certificate	--
CSI Revision #	--	CSI Submission/Revision Date	07/09/2026 12:20:01 AM
Model Year	2027		

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52						
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								
	<table border="1"> <tr> <th>Fuel</th><th>Basic Fuel Metering System</th><th>Lean Burn Strategy Indicator</th></tr> <tr> <td>Electricity</td><td>--</td><td>No</td></tr> </table>	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator	Electricity	--	No		
Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator							
Electricity	--	No							
Drive Source #2:	Combustion Engine								
	<table border="1"> <tr> <th>Fuel</th><th>Basic Fuel Metering System</th><th>Lean Burn Strategy Indicator</th></tr> <tr> <td>Gasoline</td><td>Spark Ignition direct & ported injection</td><td>No</td></tr> </table>	Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator	Gasoline	Spark Ignition direct & ported injection	No		
Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator							
Gasoline	Spark Ignition direct & ported 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	LDT2						
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	VTYXHHGNNE21	Durability Group Equivalency Factor	1.1						
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA						
Complies with HD GHG 2b/3 regulations?	No								
Introduction into Commerce Date	--	CAP2000 Conditional Certificate?	N/A						
Independent Commercial Importer?	--	Alternative Fuel Converter Certificate?	--						
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	No						
SFTP LEV-III Composite Compliance Indicator	Yes								
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VTYXT02.4H3A						
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0						
OBD Deficiencies Comments	--								
Mfr Test Group Comments	--								
Mfr Exhaust / Evap Standards Comments	--								

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	07/07/2026 08:29:45 AM				
Integrated ORVR?	No	Fuel(s)	Electricity, Gasoline				
Multiple Fuel Storage	Fuels Stored Together						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	EVOH				
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)	165	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	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
Toyota Motor Corporation	2 - LEXUS	147 - RX 450h+ AWD	Federal	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	2 - LEXUS	147 - RX 450h+ AWD	California + CAA Section 177 states	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Engine Description							
Hybrid Type	IC Engine/Electric Motor	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	0W-16				
Number of Cylinders/Rotors	4	Mechanically Variable Compression Ratio Indicator	N				

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52								
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	Platinum + Rhodium	Ceramic	Monolith							
Mfr After Treatment Device (ATD) Comments											
--											
Direct Ozone Reduction (DOR) Device											
Not Equipped											
Mfr Emission Control Device Comments											
--											
Engine Configuration Number 1											
Engine Displacement (liters)	2.5	Engine Rated Horsepower	180								
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2								
Air Aspiration Method	Naturally Aspirated	Number of Air Aspiration Devices	--								
Air Aspiration Device Configuration	--	Charge Air Cooler Type	N/A								
Air Aspiration Drive Method(s)	--										
Cylinder Deactivation	No										
Cylinder Deactivation Description	--										
Variable Valve Timing	Yes										
Variable Valve Timing System Description	Intake and exhaust										
Variable Valve Lift?	No										
Variable Valve Lift System Description	--										
Number of Knock Sensors	1	Number of Air/Fuel Sensors	2								
Air/Fuel Sensor # 1 Type	Heated air fuel	Air/Fuel Sensor # 1 Description	--								
Air/Fuel Sensor # 2 Type	Heated air fuel	Air/Fuel Sensor # 2 Description	--								
Mfr Air/Fuel Sensor Comments	--										
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	Yes								
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'	--								
Closed Loop Air Injection System	No										
Air Injection Type	Not Applicable	Air Injection Type if 'Other'	--								
Mfr Engine Configuration Comments	--										
Official Test Numbers											
Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity		TTYX10090069	TTYX10090073	TTYX10090075	TTYX10090078	TTYX10090110	--	--	--	--	--
Gasoline		TTYX10090069	TTYX10090073	TTYX10090075	TTYX10090078	TTYX10090110	999.9	228.2	999.9	286.1	--

Certification Summary Information Report

Test Group		VTYXT02.5H3Y		Evaporative/Refueling Family		VTYXR0165J52	
SFTP LEV-III Official Test Numbers							
Test Group Fuel		FTP		US06		SC03	
Gasoline		TTYX10090069		TTYX10090073		TTYX10090075	
Electricity		TTYX10090069		TTYX10090073		TTYX10090075	
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		355		Battery Energy Capacity		49	
Battery Specific Energy		112		Battery Charger Type		On-Board	
Number of Capacitors		--		Capacitor Rating (In Farads)		--	
Mfr Capacitor Comments		--					
Hydraulic System Description		--					
Regenerative Braking Type		Electrical Regen Brake					
Regenerative Braking Source		Both		Driver Controlled Regenerative Braking		No	
Mfr Regenerative Braking Description		--					
Drive Motor(s)/Generator(s)		2					
Motor/Generator Type 1		AC Synchronous		Rated Motor/Generator Power		134	
Motor/Generator Type 2		AC Synchronous		Rated Motor/Generator Power		40	
Mfr Fuel Cell Description		--					
Fuel Cell On-Board H2 Storage Capacity (kg)		--		Usable H2 Fill Capacity (kg)		--	
Mfr Hybrid Electric/ Electric Vehicle Comments		Batteries are charged from an external power supply through the charger.					

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52									
Emission Data Vehicle Information												
Vehicle ID / Configuration	21-AP2H / 0	Manufacturer Vehicle Configuration Number	0									
Original Test Group Name	MTYXT02.5P33	Original Evaporative/Refueling Family	MTYXR0165J82									
Original Test Vehicle Model Year	2021											
Vehicle Model												
Represented Test Vehicle Make	TOYOTA	Represented Test Vehicle Model	RAV4 PRIME AWD									
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> <tr> <td>2</td><td>Electric Motor</td><td>Electricity</td></tr> </tbody> </table>				Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline	2	Electric Motor	Electricity
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	14	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	01	Rated Horsepower	177									
Displacement (liters)	2.487											
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'										
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--									
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front									
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)									
Curb Weight (lbs)	4300	Equivalent Test Weight (pounds)	4500									
GVWR (lbs)	5530	N/V Ratio	22									
Axle Ratio	3.41											
Transmission Type	Continuously Variable	# of Transmission Gears	1									
Transmission Lockup	No	Creep Gear	No									

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
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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	28.089	0.14349	0.025579	12.716	0.02442	0.025499	13.2
US06	28.089	0.14349	0.025579	12.716	0.02442	0.025499	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments T/M MODE IS SPORT

Test #	MTYX10063476	Test Procedure	24 - Federal fuel refueling test (ORVR)
Exhaust Test # for this Evap Test	MTYX10063424	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/30/2020	Fuel	Gasoline
Fuel Batch ID	1G9-01	Fuel Calibration Number	2
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	5016	Odometer Units	M
4WD Test Dyno	No	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)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0043324	--

Manufacturer Test Comments --

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	0.004	0.000	0.00	0.20	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.004	0.000	0.00	0.20	Pass

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
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Emission Data Vehicle Information

Vehicle ID / Configuration	24-AL1H / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	RTYXT02.5P33	Original Evaporative/Refueling Family	RTYXR0165J82
Original Test Vehicle Model Year	2024		

Vehicle Model

Represented Test Vehicle Make	LEXUS	Represented Test Vehicle Model	RX 450h+ AWD
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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	9	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	03	Rated Horsepower	180
Displacement (liters)	2.487		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	4815	Equivalent Test Weight (pounds)	5000
GVWR (lbs)	6000	N/V Ratio	23.9
Axle Ratio	3.64		
Transmission Type	Continuously Variable	# of Transmission Gears	1
Transmission Lockup	No	Creep Gear	No

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family		VTYXR0165J52	
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	32.963	0.34363	0.024479	15.69	0.13738	0.02495	14.8	
Cold CO	36.259	0.37799	0.026927	16.107	0.02488	0.02802	N/A	
US06	32.963	0.34363	0.024479	15.69	0.13738	0.02495	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		DRIVE MODE IS SPORT						

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	RTYX10079330	Test Procedure	23 - 2-day evap
Exhaust Test # for this Evap Test	RTYX10079329	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	03/15/2023	Fuel	Gasoline
Fuel Batch ID	2M2A03	Fuel Calibration Number	3
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4163	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
MFR FE (Manufacturer Fuel Economy)	999	999
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1381	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments HSL=0.0143, 1ST DBL=0.1238, 2ND DBL=0.0842, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0086GRAM)

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	0.1381	0.0000	0.138	0.400	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1381	0.0000	0.138	0.400	Pass

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	RTYX10079367	Test Procedure	38 - CA fuel 3-day evap.
Exhaust Test # for this Evap Test	RTYX10079365	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	03/20/2023	Fuel	Gasoline
Fuel Batch ID	2L2-10	Fuel Calibration Number	2
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4273	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
MFR FE (Manufacturer Fuel Economy)	999	999
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.1866	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments HSL=0.0338, 1ST DBL=0.1528, 2ND DBL=0.0837, 3RD DBL=0.0798, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0086GRAM)

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	0.1866	0.0000	0.187	0.400	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1866	0.0000	0.187	0.400	Pass

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	RTYX10079366	Test Procedure	37 - California Fuel Running Loss
Exhaust Test # for this Evap Test	RTYX10079365	Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline
Test Date	03/20/2023	Fuel	Gasoline
Fuel Batch ID	2L2-10	Fuel Calibration Number	2
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4273	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--	
CO BAG 1 (Bag 1 Carbon Monoxide)	0	--	
FE BAG 1 (Bag 1 Fuel Economy)	999	999	
CH4 BAG 1 (Bag 1 Methane)	0	--	
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0	--	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--	
CO BAG 2 (Bag 2 Carbon Monoxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	999	999	
CH4 BAG 2 (Bag 2 Methane)	0	--	
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--	
CO BAG 3 (Bag 3 Carbon Monoxide)	0	--	
FE BAG 3 (Bag 3 Fuel Economy)	999	999	
CH4 BAG 3 (Bag 3 Methane)	0	--	
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--	
MFR FE (Manufacturer Fuel Economy)	999	999	
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0000461	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	0	--	

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Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
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Emission Data Vehicle Information

Vehicle ID / Configuration	26-AL1H / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	TTYXT02.5H3Y	Original Evaporative/Refueling Family	TTYXR0165J52
Original Test Vehicle Model Year	2026		

Vehicle Model

Represented Test Vehicle Make	LEXUS	Represented Test Vehicle Model	RX 450h+ AWD
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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 - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	03	Rated Horsepower	180
Displacement (liters)	2.487		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	4810	Equivalent Test Weight (pounds)	5000
GVWR (lbs)	5995	N/V Ratio	22.6
Axle Ratio	3.64		
Transmission Type	Continuously Variable	# of Transmission Gears	1
Transmission Lockup	No	Creep Gear	No

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family		VTYXR0165J52	
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	32.14	0.33787	0.024025	15.632	0.17066	0.02406	14.5	
Cold CO	35.354	0.37166	0.026427	12.102	0.1038	0.026898	N/A	
US06	32.14	0.33787	0.024025	15.632	0.17066	0.02406	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		DRIVE MODE IS SPORT						

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090069	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/31/2025	Fuel	Gasoline
Fuel Batch ID	2A4A01	Fuel Calibration Number	11
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4033	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CO2 BAG 4 (Bag 4 Carbon Dioxide)	0	--
FE BAG 4 (Bag 4 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0029048	--
CO (Carbon Monoxide)	0.0589516	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.25	--
DT-EER (Drive Trace Energy Economy Rating)	-0.06	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.47	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.001338	--
N2O (Nitrous Oxide)	0.0001544	--
HC-NM (Non-methane Hydrocarbon)	0.0092004	--
NMOG (Non-methane organic gases)	0.0101315	--
PM (Particulate Matter)	0.0000934	--
HC-TOTAL (Total Hydrocarbon)	0.0119536	--

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family				VTYXR0165J52			
		Test Result Name		Unrounded Test Result		Verify Calculated CREE/OPT-CREE						
		Carbon-Related Exhaust Emissions		0		999						
		Test Result Name		Unrounded Test Result		Verify Calculated CO2						
		Carbon dioxide		0		--						
Manufacturer Test Comments		NMOG = HC-NM x 1.1012										
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	0.06	--	--	--	0.05	--	0.1	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.15	--	--	--	0.05	--	0.2	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CREE	999	--	--	--	0.057	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0101	1	1.10	--	0.0032	--	0.013	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0114	1	1.10	--	--	--	0.015	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0100	1	1.03	--	0.0040	--	0.010	0.040	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0013	--	--	--	0.0008	--	0.002	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0001	--	--	--	0.0000	--	0.000	0.003	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.06	--	--	--	0.05	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	METHANE	0.0029	--	--	--	0.0038	--	0.007	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	N2O	0.0002	--	--	--	0.0004	--	0.001	0.010	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0101	1	1.10	--	0.0032	--	0.013	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0114	1	1.10	--	--	--	0.015	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0013	--	--	--	0.0008	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0001	--	--	--	0.0000	--	0.000	0.001	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	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090078	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	01/16/2025	Fuel	Gasoline
Fuel Batch ID	2M3A01	Fuel Calibration Number	9
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3846	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CO2 BAG 4 (Bag 4 Carbon Dioxide)	0	--
METHANE (CH4 - Methane)	0.0070307	--
CO (Carbon Monoxide)	0.3740836	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.91	--
DT-EER (Drive Trace Energy Economy Rating)	0.73	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.48	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0014459	--
N2O (Nitrous Oxide)	0.0002935	--
HC-NM (Non-methane Hydrocarbon)	0.0586914	--
HC-TOTAL (Total Hydrocarbon)	0.065299	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Certification Summary Information Report

Test Group		VTYXT02.5H3Y				Evaporative/Refueling Family				VTYXR0165J52		
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		0			--					
Manufacturer Test Comments		--										
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	0.37	--	--	--	0.01	--	0.4	12.5	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.06	--	--	--	0.00	--	0.1	0.3	Pass
CA	50,000 miles	California LEV-IV SULEV30	CO	0.37	--	--	--	0.01	--	0.4	12.5	Pass

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090110	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	01/31/2025	Fuel	Gasoline
Fuel Batch ID	2A4A01	Fuel Calibration Number	11
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4048	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
METHANE (CH4 - Methane)	0.0004279	--
CO (Carbon Monoxide)	0.0241702	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.18	--
DT-EER (Drive Trace Energy Economy Rating)	0.01	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.29	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0004595	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0000986	--
NMOG (Non-methane organic gases)	0.0001016	--
HC-TOTAL (Total Hydrocarbon)	0.0005042	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments NMOG = HC-NM x 1.03

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family					VTYXR0165J52		
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	CREE	999	--	--	--	0.057	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0001	1	1.03	--	0.0032	--	0.003	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0006	1	1.03	--	--	--	0.005	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0005	--	--	--	0.0008	--	0.001	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0001	1	1.03	--	0.0032	--	0.003	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0006	1	1.03	--	--	--	0.005	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0005	--	--	--	0.0008	--	0.001	999.999	Pass

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

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090111	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	01/31/2025	Fuel	Gasoline
Fuel Batch ID	2A4A01	Fuel Calibration Number	11
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4084	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
METHANE (CH4 - Methane)	0.0004096	--
CO (Carbon Monoxide)	0.0608856	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.52	--
DT-EER (Drive Trace Energy Economy Rating)	0.05	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.68	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0002007	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0000957	--
NMOG (Non-methane organic gases)	0.0000986	--
HC-TOTAL (Total Hydrocarbon)	0.0004839	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	999

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	0	--

Manufacturer Test Comments

NMOG = HC-NM x 1.03,CHG mode for CARB

Certification Summary Information Report

Test Group		VTYXT02.5H3Y				Evaporative/Refueling Family				VTYXR0165J52		
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	CREE	999	--	--	--	0.057	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0001	1	1.03	--	0.0032	--	0.003	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0003	1	1.03	--	--	--	0.004	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0002	--	--	--	0.0008	--	0.001	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0001	1	1.03	--	0.0032	--	0.003	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0003	1	1.03	--	--	--	0.004	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0002	--	--	--	0.0008	--	0.001	999.999	Pass

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

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090073	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/31/2025	Fuel	Gasoline
Fuel Batch ID	2A4A01	Fuel Calibration Number	11
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4068	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--	
FE BAG 1 (Bag 1 Fuel Economy)	999	999	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--	
FE BAG 2 (Bag 2 Fuel Economy)	999	999	
METHANE (CH4 - Methane)	0.0018423	--	
CO (Carbon Monoxide)	0.1791818	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.23	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.01	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.37	--	
MFR FE (Manufacturer Fuel Economy)	999	999	
NOX (Nitrogen Oxide)	0.0012151	--	
N2O (Nitrous Oxide)	0	--	
HC-NM (Non-methane Hydrocarbon)	0.0035887	--	
NMOG (Non-methane organic gases)	0.0036964	--	
PM (Particulate Matter)	0.0003704	--	
HC-TOTAL (Total Hydrocarbon)	0.0053348	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	0	--	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	0	--	

Certification Summary Information Report

Test Group		VTYXT02.5H3Y				Evaporative/Refueling Family				VTYXR0165J52		
Manufacturer Test Comments		NMOG = HC-NM x 1.03										
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	PM	0.0004	--	--	--	0.0000	--	0.000	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.18	--	--	--	0.05	--	0.2	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0037	1	1.03	--	0.0032	--	0.007	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0049	1	1.03	--	--	--	0.009	0.036	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0012	--	--	--	0.0008	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0004	--	--	--	0.0000	--	0.000	0.006	Pass

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090075	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/17/2025	Fuel	Gasoline
Fuel Batch ID	2A4A01	Fuel Calibration Number	11
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3881	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
METHANE (CH4 - Methane)	0.0024328	--
CO (Carbon Monoxide)	0.0862113	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.23	--
DT-EER (Drive Trace Energy Economy Rating)	0.03	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.14	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0005349	--
N2O (Nitrous Oxide)	0.0004176	--
HC-NM (Non-methane Hydrocarbon)	0.0011557	--
NMOG (Non-methane organic gases)	0.0011904	--
HC-TOTAL (Total Hydrocarbon)	0.003442	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	--

Certification Summary Information Report

Test Group		VTYXT02.5H3Y				Evaporative/Refueling Family				VTYXR0165J52		
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		0			--					
Manufacturer Test Comments		NMOG = HC-NM x 1.03										
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
CA	150,000 miles	California LEV-IV SULEV30	CO	0.09	--	--	--	0.05	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0012	1	1.03	--	0.0032	--	0.004	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0017	1	1.03	--	--	--	0.006	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0005	--	--	--	0.0008	--	0.001	999.999	Pass

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
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Emission Data Vehicle Information

Vehicle ID / Configuration	26-AL1H / 2	Manufacturer Vehicle Configuration Number	2
Original Test Group Name	TTYXT02.5H3Y	Original Evaporative/Refueling Family	TTYXR0165J52
Original Test Vehicle Model Year	2026		

Vehicle Model

Represented Test Vehicle Make	LEXUS	Represented Test Vehicle Model	RX 450h+ AWD
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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	Electric Motor	Electricity
2	Combustion Engine	Gasoline

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	Multiple Fuel Combustion	--
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--
Off-board charge Capable Indicator	Yes		
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	03	Rated Horsepower	180
Displacement (liters)	2.487		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	4810	Equivalent Test Weight (pounds)	5000
GVWR (lbs)	5995	N/V Ratio	22.6
Axle Ratio	3.64		
Transmission Type	Continuously Variable	# of Transmission Gears	1
Transmission Lockup	No	Creep Gear	No

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Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090115	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	02/20/2025	Fuel	N/A
Fuel Batch ID	2G4A01	Fuel Calibration Number	3
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4340	Odometer Units	M
4WD Test Dyno	No	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	240.1	Recharge Event Energy (kiloWatt-hours)	14.928
Charge Depleting Range (Calculated miles)	48.418	Charge Depleting Range (Actual miles)	48.418
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	2017
All Electric Range Unadjusted (miles)	47.971	Equivalent All Electric Range (miles)	48.418
Number of Charge Depleting Bags/Phases Conducted	6	Transition Bag/Phase Number	5
Charge Depleting Bag/Phase #1			

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.256	
	Average System Voltage	381	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	1.44	
	Drive Trace Energy Economy Rating	0.1	
	Drive Trace Inertia Work Ratio Rating	1.87	
	Integrated Amp-hours	7.625	
	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	2.905125	
	System Start State of Charge Watt-hours	0	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.262	
	Average System Voltage	364	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.14	
	Drive Trace Energy Economy Rating	0.03	
	Drive Trace Inertia Work Ratio Rating	0.22	
	Integrated Amp-hours	15.445	
	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	5.751605	
	System Start State of Charge Watt-hours	2.905125	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.262	
	Average System Voltage	351.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.17	
	Drive Trace Energy Economy Rating	0	
	Drive Trace Inertia Work Ratio Rating	0.22	
	Integrated Amp-hours	23.374	
	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	8.5386485	
	System Start State of Charge Watt-hours	5.751605	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.262	
	Average System Voltage	344.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.88	
	Drive Trace Energy Economy Rating	0.05	
	Drive Trace Inertia Work Ratio Rating	1.19	
	Integrated Amp-hours	31.59	
	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	11.3690605	
	System Start State of Charge Watt-hours	8.5386485	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.259	
	Average System Voltage	338.5	
	CH4 - Methane	0.002	
	Carbon Monoxide	0.06	
	Carbon dioxide	62	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	1.16	
	Drive Trace Energy Economy Rating	0.01	
	Drive Trace Inertia Work Ratio Rating	1.51	
	Integrated Amp-hours	37.5	
	Manufacturer Fuel Economy	140.1421341	
	Nitrogen Oxide	0.0017	
	Nitrous Oxide	0.001	
	Non-methane Hydrocarbon	0.0144	
	Non-methane organic gases	0.014832	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.3695955	
	System Start State of Charge Watt-hours	11.3690605	
	Total Hydrocarbon	0.016	

Charge Depleting Bag/Phase #6

Manufacturer Test Comments
The state of charge unit input in kilo-watt-hours. 4000MILES. HWY CD-RANGE TEST. NMOG=HC-NM x 1.03. Changed TestFuelTypeID from 48 to 61 and FuelBatchID from 2A4A01 to 2G4A01 and FuelCalibrationNumber from 12 to 3. Calculate E10 fuel economy using 0.81 R factor for PHEV calculator

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10090131	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	03/05/2025	Fuel	N/A
Fuel Batch ID	2G4A01	Fuel Calibration Number	3
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4204	Odometer Units	M
4WD Test Dyno	No	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	240	Recharge Event Energy (kiloWatt-hours)	15.157
Charge Depleting Range (Calculated miles)	58.579	Charge Depleting Range (Actual miles)	58.579
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	2017
All Electric Range Unadjusted (miles)	58.586	Equivalent All Electric Range (miles)	58.579
Number of Charge Depleting Bags/Phases Conducted	10	Transition Bag/Phase Number	8
Charge Depleting Bag/Phase #1			

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.458	
	Average System Voltage	383	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.32	
	Drive Trace Energy Economy Rating	-0.16	
	Drive Trace Inertia Work Ratio Rating	0.52	
	Integrated Amp-hours	4.567	
	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	1.749161	
	System Start State of Charge Watt-hours	0	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.454	
	Average System Voltage	373	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.2	
	Drive Trace Energy Economy Rating	-0.14	
	Drive Trace Inertia Work Ratio Rating	0.47	
	Integrated Amp-hours	9.171	
	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	3.466453	
	System Start State of Charge Watt-hours	1749.161	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.449	
	Average System Voltage	364.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.53	
	Drive Trace Energy Economy Rating	-0.06	
	Drive Trace Inertia Work Ratio Rating	0.9	
	Integrated Amp-hours	13.871	
	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	5.179603	
	System Start State of Charge Watt-hours	3.466453	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.452	
	Average System Voltage	356	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.67	
	Drive Trace Energy Economy Rating	0.1	
	Drive Trace Inertia Work Ratio Rating	1.09	
	Integrated Amp-hours	18.665	
	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	6.886267	
	System Start State of Charge Watt-hours	5.179603	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.461	
	Average System Voltage	349	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.27	
	Drive Trace Energy Economy Rating	-0.09	
	Drive Trace Inertia Work Ratio Rating	0.5	
	Integrated Amp-hours	23.494	
	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	8.571588	
	System Start State of Charge Watt-hours	6.886267	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.456	
	Average System Voltage	346	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.38	
	Drive Trace Energy Economy Rating	0.06	
	Drive Trace Inertia Work Ratio Rating	0.68	
	Integrated Amp-hours	28.36	
	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	10.255224	
	System Start State of Charge Watt-hours	8.571588	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #7

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.449	
	Average System Voltage	342	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.36	
	Drive Trace Energy Economy Rating	-0.11	
	Drive Trace Inertia Work Ratio Rating	0.6	
	Integrated Amp-hours	33.288	
	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	11.9406	
	System Start State of Charge Watt-hours	10.255224	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #8

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.451	
	Average System Voltage	336.5	
	CH4 - Methane	0.0022	
	Carbon Monoxide	0.09	
	Carbon dioxide	40	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.62	
	Drive Trace Energy Economy Rating	0.03	
	Drive Trace Inertia Work Ratio Rating	0.97	
	Integrated Amp-hours	37.519	
	Manufacturer Fuel Economy	216.6121569	
	Nitrogen Oxide	0.0023	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0175	
	Non-methane organic gases	0.0193	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.3643315	
	System Start State of Charge Watt-hours	11.9406	
	Total Hydrocarbon	0.02	

Charge Depleting Bag/Phase #9

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.457	
	Average System Voltage	332.5	
	CH4 - Methane	0.0024	
	Carbon Monoxide	0.04	
	Carbon dioxide	164	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.28	
	Drive Trace Energy Economy Rating	0.12	
	Drive Trace Inertia Work Ratio Rating	0.59	
	Integrated Amp-hours	37.764	
	Manufacturer Fuel Economy	53.0804887	
	Nitrogen Oxide	0.0007	
	Nitrous Oxide	0.001	
	Non-methane Hydrocarbon	0.001	
	Non-methane organic gases	0.0011	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.445794	
	System Start State of Charge Watt-hours	13.3643315	
	Total Hydrocarbon	0.003	

Charge Depleting Bag/Phase #10

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52																																										
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>7.457</td></tr><tr><td>Average System Voltage</td><td>333</td></tr><tr><td>CH4 - Methane</td><td>0.0026</td></tr><tr><td>Carbon Monoxide</td><td>0.04</td></tr><tr><td>Carbon dioxide</td><td>169</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>0</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>0.48</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>-0.02</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>0.79</td></tr><tr><td>Integrated Amp-hours</td><td>37.7</td></tr><tr><td>Manufacturer Fuel Economy</td><td>51.5097401</td></tr><tr><td>Nitrogen Oxide</td><td>0.001</td></tr><tr><td>Nitrous Oxide</td><td>0</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0.0018</td></tr><tr><td>Non-methane organic gases</td><td>0.002</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>0</td></tr><tr><td>System End State of Charge Watt-hours</td><td>13.424482</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>13.445794</td></tr><tr><td>Total Hydrocarbon</td><td>0.004</td></tr></table>			Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	7.457	Average System Voltage	333	CH4 - Methane	0.0026	Carbon Monoxide	0.04	Carbon dioxide	169	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	0.48	Drive Trace Energy Economy Rating	-0.02	Drive Trace Inertia Work Ratio Rating	0.79	Integrated Amp-hours	37.7	Manufacturer Fuel Economy	51.5097401	Nitrogen Oxide	0.001	Nitrous Oxide	0	Non-methane Hydrocarbon	0.0018	Non-methane organic gases	0.002	Non-methane organic gases plus Nitrogen Oxides	999.999	Optional Carbon-Related Exhaust Emissions	0	System End State of Charge Watt-hours	13.424482	System Start State of Charge Watt-hours	13.445794	Total Hydrocarbon	0.004
Test Result/Emission Name	Unrounded Test Result																																												
Actual Distance Driven (miles)	7.457																																												
Average System Voltage	333																																												
CH4 - Methane	0.0026																																												
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Integrated Amp-hours	37.7																																												
Manufacturer Fuel Economy	51.5097401																																												
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System End State of Charge Watt-hours	13.424482																																												
System Start State of Charge Watt-hours	13.445794																																												
Total Hydrocarbon	0.004																																												
Manufacturer Test Comments The state of charge unit input in kilo-watt-hours. 4000MILES. URBAN CD-RANGE TEST. NMOG=HC-NM x 1.1012. Changed TestFuelTypeID from 48 to 61 and FuelBatchID from 2A4A01 to 2G4A01 and FuelCalibrationNumber from 12 to 3. Calculate E10 fuel economy using 0.81 R factor for PHEV calculator																																													

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
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Emission Data Vehicle Information

Vehicle ID / Configuration	26-AZ3H / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	TTYXT02.5H3Y	Original Evaporative/Refueling Family	TTYXR0165J52
Original Test Vehicle Model Year	2026		

Vehicle Model

Represented Test Vehicle Make	LEXUS	Represented Test Vehicle Model	NX 450h+ AWD
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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 - Initial system miles) * Correction factor		
Odometer Correction Units	Miles		
Engine Code	02	Rated Horsepower	181
Displacement (liters)	2.487		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	N/A	Drive Mode While Testing	2-Wheel Drive, Front
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	4475	Equivalent Test Weight (pounds)	4750
GVWR (lbs)	5600	N/V Ratio	24.3
Axle Ratio	3.41		
Transmission Type	Continuously Variable	# of Transmission Gears	1
Transmission Lockup	No	Creep Gear	No

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Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10091234	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	04/18/2025	Fuel	N/A
Fuel Batch ID	2G4A01	Fuel Calibration Number	5
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3843	Odometer Units	M
4WD Test Dyno	No	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	240.1	Recharge Event Energy (kiloWatt-hours)	15.174
Charge Depleting Range (Calculated miles)	57.88	Charge Depleting Range (Actual miles)	57.88
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	2017
All Electric Range Unadjusted (miles)	58.102	Equivalent All Electric Range (miles)	57.88
Number of Charge Depleting Bags/Phases Conducted	9	Transition Bag/Phase Number	8
Charge Depleting Bag/Phase #1			

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.458	
	Average System Voltage	383.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.64	
	Drive Trace Energy Economy Rating	0.06	
	Drive Trace Inertia Work Ratio Rating	0.97	
	Integrated Amp-hours	4.607	
	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	1.7667845	
	System Start State of Charge Watt-hours	0	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.451	
	Average System Voltage	373.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.39	
	Drive Trace Energy Economy Rating	0	
	Drive Trace Inertia Work Ratio Rating	0.57	
	Integrated Amp-hours	9.258	
	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	3.503933	
	System Start State of Charge Watt-hours	1.7667845	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.446	
	Average System Voltage	364	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.27	
	Drive Trace Energy Economy Rating	0.16	
	Drive Trace Inertia Work Ratio Rating	0.25	
	Integrated Amp-hours	14.024	
	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	5.238757	
	System Start State of Charge Watt-hours	3.503933	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.45	
	Average System Voltage	356	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.22	
	Drive Trace Energy Economy Rating	-0.03	
	Drive Trace Inertia Work Ratio Rating	0.19	
	Integrated Amp-hours	18.894	
	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	6.972477	
	System Start State of Charge Watt-hours	5.238757	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.455	
	Average System Voltage	349.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.23	
	Drive Trace Energy Economy Rating	-0.09	
	Drive Trace Inertia Work Ratio Rating	0.4	
	Integrated Amp-hours	23.804	
	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	8.688522	
	System Start State of Charge Watt-hours	6.972477	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.451	
	Average System Voltage	345.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.14	
	Drive Trace Energy Economy Rating	-0.14	
	Drive Trace Inertia Work Ratio Rating	0.2	
	Integrated Amp-hours	28.751	
	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	10.3977105	
	System Start State of Charge Watt-hours	8.688522	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #7

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.447	
	Average System Voltage	342	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.4	
	Drive Trace Energy Economy Rating	0.1	
	Drive Trace Inertia Work Ratio Rating	0.47	
	Integrated Amp-hours	33.786	
	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	12.1196805	
	System Start State of Charge Watt-hours	10.3977105	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #8

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	7.45	
	Average System Voltage	336.5	
	CH4 - Methane	0.0024	
	Carbon Monoxide	0.08	
	Carbon dioxide	58	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.54	
	Drive Trace Energy Economy Rating	0.06	
	Drive Trace Inertia Work Ratio Rating	0.77	
	Integrated Amp-hours	37.651	
	Manufacturer Fuel Economy	149.6387195	
	Nitrogen Oxide	0.0026	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0205	
	Non-methane organic gases	0.0226	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.420253	
	System Start State of Charge Watt-hours	12.1196805	
	Total Hydrocarbon	0.023	

Charge Depleting Bag/Phase #9

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52																																										
	<table><tr><th>Test Result/Emission Name</th><th>Unrounded Test Result</th></tr><tr><td>Actual Distance Driven (miles)</td><td>7.452</td></tr><tr><td>Average System Voltage</td><td>332.5</td></tr><tr><td>CH4 - Methane</td><td>0.0025</td></tr><tr><td>Carbon Monoxide</td><td>0.03</td></tr><tr><td>Carbon dioxide</td><td>156</td></tr><tr><td>Carbon-Related Exhaust Emissions</td><td>0</td></tr><tr><td>Drive Trace Absolute Speed Change Rating</td><td>0.3</td></tr><tr><td>Drive Trace Energy Economy Rating</td><td>0.02</td></tr><tr><td>Drive Trace Inertia Work Ratio Rating</td><td>0.49</td></tr><tr><td>Integrated Amp-hours</td><td>38.154</td></tr><tr><td>Manufacturer Fuel Economy</td><td>55.8069248</td></tr><tr><td>Nitrogen Oxide</td><td>0.0004</td></tr><tr><td>Nitrous Oxide</td><td>0</td></tr><tr><td>Non-methane Hydrocarbon</td><td>0.0009</td></tr><tr><td>Non-methane organic gases</td><td>0.001</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>0</td></tr><tr><td>System End State of Charge Watt-hours</td><td>13.5875005</td></tr><tr><td>System Start State of Charge Watt-hours</td><td>13.420253</td></tr><tr><td>Total Hydrocarbon</td><td>0.003</td></tr></table>			Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	7.452	Average System Voltage	332.5	CH4 - Methane	0.0025	Carbon Monoxide	0.03	Carbon dioxide	156	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	0.3	Drive Trace Energy Economy Rating	0.02	Drive Trace Inertia Work Ratio Rating	0.49	Integrated Amp-hours	38.154	Manufacturer Fuel Economy	55.8069248	Nitrogen Oxide	0.0004	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	13.5875005	System Start State of Charge Watt-hours	13.420253	Total Hydrocarbon	0.003
	Test Result/Emission Name	Unrounded Test Result																																											
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	Non-methane organic gases plus Nitrogen Oxides	999.999																																											
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	System End State of Charge Watt-hours	13.5875005																																											
	System Start State of Charge Watt-hours	13.420253																																											
	Total Hydrocarbon	0.003																																											
	Manufacturer Test Comments		The state of charge unit input in kilo-watt-hours. 4000MILES. URBAN CD-RANGE TEST. NMOG=HC-NM x 1.1012. Changed TestFuelTypeID from 48 to 61 and FuelBatchID from 2A4A01 to 2G4A01 and FuelCalibrationNumber from 14 to 5. Calculate E10 fuel economy using 0.81 R factor for PHEV calculator																																										

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Test #	TTYX10091235	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/08/2025	Fuel	N/A
Fuel Batch ID	2G4A01	Fuel Calibration Number	5
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3976	Odometer Units	M
4WD Test Dyno	No	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	239.5	Recharge Event Energy (kiloWatt-hours)	15.017
Charge Depleting Range (Calculated miles)	47.723	Charge Depleting Range (Actual miles)	47.723
Charge Depleting Range Highway (Calculated miles)	--	Derived 5-Cycle Coefficient Model Year	2017
All Electric Range Unadjusted (miles)	47.373	Equivalent All Electric Range (miles)	47.723
Number of Charge Depleting Bags/Phases Conducted	7	Transition Bag/Phase Number	5
Charge Depleting Bag/Phase #1			

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.254	
	Average System Voltage	381	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	1.84	
	Drive Trace Energy Economy Rating	-0.02	
	Drive Trace Inertia Work Ratio Rating	2.36	
	Integrated Amp-hours	7.818	
	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	2.978658	
	System Start State of Charge Watt-hours	0	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #2

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.257	
	Average System Voltage	364.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	2.06	
	Drive Trace Energy Economy Rating	0.28	
	Drive Trace Inertia Work Ratio Rating	2.38	
	Integrated Amp-hours	15.833	
	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	5.9001255	
	System Start State of Charge Watt-hours	2.978658	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #3

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.256	
	Average System Voltage	351.5	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	2.11	
	Drive Trace Energy Economy Rating	0.02	
	Drive Trace Inertia Work Ratio Rating	2.72	
	Integrated Amp-hours	23.986	
	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	8.765905	
	System Start State of Charge Watt-hours	5.9001255	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #4

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.257	
	Average System Voltage	344	
	CH4 - Methane	0	
	Carbon Monoxide	0	
	Carbon dioxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	2.32	
	Drive Trace Energy Economy Rating	0.26	
	Drive Trace Inertia Work Ratio Rating	3.09	
	Integrated Amp-hours	32.384	
	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	11.654817	
	System Start State of Charge Watt-hours	8.765905	
	Total Hydrocarbon	0	

Charge Depleting Bag/Phase #5

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.259	
	Average System Voltage	338	
	CH4 - Methane	0.0015	
	Carbon Monoxide	0.04	
	Carbon dioxide	76	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	1.62	
	Drive Trace Energy Economy Rating	-0.02	
	Drive Trace Inertia Work Ratio Rating	2.17	
	Integrated Amp-hours	37.871	
	Manufacturer Fuel Economy	114.4265752	
	Nitrogen Oxide	0.0029	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.014	
	Non-methane organic gases	0.01442	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.509423	
	System Start State of Charge Watt-hours	11.654817	
	Total Hydrocarbon	0.015	

Charge Depleting Bag/Phase #6

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.257	
	Average System Voltage	334	
	CH4 - Methane	0.0005	
	Carbon Monoxide	0.04	
	Carbon dioxide	186	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	0.47	
	Drive Trace Energy Economy Rating	-0.05	
	Drive Trace Inertia Work Ratio Rating	0.64	
	Integrated Amp-hours	37.863	
	Manufacturer Fuel Economy	46.806678	
	Nitrogen Oxide	0.0006	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0001	
	Non-methane organic gases	0.000103	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.506751	
	System Start State of Charge Watt-hours	13.509423	
	Total Hydrocarbon	0.001	

Charge Depleting Bag/Phase #7

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
	Test Result/Emission Name	Unrounded Test Result	
	Actual Distance Driven (miles)	10.258	
	Average System Voltage	334	
	CH4 - Methane	0.0012	
	Carbon Monoxide	0.04	
	Carbon dioxide	194	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	1.99	
	Drive Trace Energy Economy Rating	0.02	
	Drive Trace Inertia Work Ratio Rating	2.56	
	Integrated Amp-hours	37.802	
	Manufacturer Fuel Economy	44.8741878	
	Nitrogen Oxide	0.0007	
	Nitrous Oxide	0	
	Non-methane Hydrocarbon	0.0036	
	Non-methane organic gases	0.003708	
	Non-methane organic gases plus Nitrogen Oxides	999.999	
	Optional Carbon-Related Exhaust Emissions	0	
	System End State of Charge Watt-hours	13.486377	
	System Start State of Charge Watt-hours	13.506751	
	Total Hydrocarbon	0.005	
Manufacturer Test Comments		The state of charge unit input in kilo-watt-hours. 4000MILES. HWY CD-RANGE TEST. NMOG=HC-NM x 1.03. Changed TestFuelTypeID from 48 to 61 and FuelBatchID from 2A4A01 to 2G4A01 and FuelCalibrationNumber from 15 to 5. Calculate E10 fuel economy using 0.81 R factor for PHEV calculator	

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Fuel Properties			
Fuel Batch ID	2A4A01	Fuel Calibration Number	11
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	01/29/2024
Fuel Batch Calibration Effective Date	01/06/2025	Fuel Batch Calibration Ineffective Date	01/31/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.739
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17839
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--
Fuel Batch ID	2G4A01	Fuel Calibration Number	3
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	07/28/2024
Fuel Batch Calibration Effective Date	03/03/2025	Fuel Batch Calibration Ineffective Date	03/31/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.736
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18484
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.865	Weight Fraction CO2	--
Fuel Batch ID	2M2A03	Fuel Calibration Number	3
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	12/01/2022
Fuel Batch Calibration Effective Date	03/01/2023	Fuel Batch Calibration Ineffective Date	03/31/2023
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.739
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17847
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--
Fuel Batch ID	2G4A01	Fuel Calibration Number	5
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	07/28/2024
Fuel Batch Calibration Effective Date	05/01/2025	Fuel Batch Calibration Ineffective Date	05/31/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.736
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18484
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.865	Weight Fraction CO2	--
Fuel Batch ID	2M3A01	Fuel Calibration Number	9
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	Fuel Batch Calibration Date	12/22/2023
Fuel Batch Calibration Effective Date	01/06/2025	Fuel Batch Calibration Ineffective Date	01/31/2025
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.735
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17854
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--
Fuel Batch ID	1G9-01	Fuel Calibration Number	2
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	07/13/2019
Fuel Batch Calibration Effective Date	01/01/2020	Fuel Batch Calibration Ineffective Date	01/31/2020
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.74
Fuel Ethanol Volume Percent (%)	9.6	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17841
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	2L2-10	Fuel Calibration Number	2
Test Fuel Type	46 - CARB LEV3 E10 Regular Gasoline	Fuel Batch Calibration Date	11/18/2022
Fuel Batch Calibration Effective Date	03/01/2023	Fuel Batch Calibration Ineffective Date	03/31/2023
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.74
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17848
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--

Certification Summary Information Report

Test Group	VTYXT02.5H3Y	Evaporative/Refueling Family	VTYXR0165J52

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family		VTYXR0165J52		
Consolidated List of Standards									
Exhaust Standards									
Cert Region		Federal			Cert/In-Use Code		Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level		Federal Tier 3 Bin 30		
Fuel		Gasoline			Test Procedure		Federal fuel 2-day exhaust (w/can load)		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.05	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0.05	4.2
150,000 miles	CREE	--	--	--	--	--	--	0.057	999.9999
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0032	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0040	0.030
150,000 miles	NMOG+NOX-COMP	--	1	1.03	--	--	--	0.0040	0.040
150,000 miles	NOX	--	--	--	--	--	--	0.0008	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.003
Cert Region		California + CAA Section 177 states			Cert/In-Use Code		Cert		
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level		California LEV-IV SULEV30		
Fuel		Gasoline			Test Procedure		Federal fuel 2-day exhaust (w/can load)		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.05	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	METHANE	--	--	--	--	--	--	0.0038	0.030
150,000 miles	N2O	--	--	--	--	--	--	0.0004	0.010
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0032	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0040	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0008	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.001

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family			VTYXR0165J52	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
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	--	--	--	--	--	--	0.05	9.6
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0032	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0040	0.036
150,000 miles	NOX	--	--	--	--	--	--	0.0008	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.006
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			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
150,000 miles	CREE	--	--	--	--	--	--	0.057	999.9999
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0032	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0040	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0008	999.999
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
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	--	--	--	--	--	--	0.05	1.0
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0032	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0040	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0008	999.999

Certification Summary Information Report

Test Group		VTYXT02.5H3Y			Evaporative/Refueling Family			VTYXR0165J52	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
Fuel		Gasoline			Test Procedure			CA fuel 50 Deg(F) exhaust test	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
4,000 miles	CO	--	--	--	--	--	--	--	1.0
4,000 miles	HCHO	--	--	--	--	--	--	--	0.008
4,000 miles	NMOG	--	1	1.10	--	--	--	--	999.999
4,000 miles	NMOG+NOX	--	1	1.10	--	--	1	--	0.060
4,000 miles	NOX	--	--	--	--	--	--	--	999.999
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			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	--	--	--	--	--	--	0.01	12.5
120,000 miles	HC-NM	--	--	--	--	--	--	0.00	0.3
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			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	PM	--	--	--	--	--	--	0.0000	0.006
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT2 (LVW 3751-5750, GVW 0-6000)			Standard Level			California LEV-IV SULEV30	
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	--	--	--	--	--	--	0.01	12.5

Certification Summary Information Report

Test Group	VTYXT02.5H3Y				Evaporative/Refueling Family			VTYXR0165J52	
Cert Region	California + CAA Section 177 states				Cert/In-Use Code			Cert	
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)				Standard Level			California LEV-IV SULEV30	
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
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0032	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0040	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0008	999.999

Evaporative/Refueling Standards

Evaporative/Refueling Family		VTYXR0165J52		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	--	0.400	0.0000		

Evaporative/Refueling Family		VTYXR0165J52		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0.0000		

Evaporative/Refueling Family		VTYXR0165J52		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Spitback					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	4,000 miles	SPITBACK	--	1.0	--		

Evaporative/Refueling Family	VTYXR0165J52		Cert Region	California + CAA Section 177 states		
Cert/In-Use Code	Cert		Standard Level	California LEV-IV Zero Evap (Option 2)		
Test Procedure	2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF	
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0.0000	

Certification Summary Information Report

Test Group		VTYXT02.5H3Y		Evaporative/Refueling Family		VTYXR0165J52	
Evaporative/Refueling Family		VTYXR0165J52		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.01	0.000		
Evaporative/Refueling Family		VTYXR0165J52		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.400	0.0000		
Evaporative/Refueling Family		VTYXR0165J52		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-TOTAL-EQUIV	--	0.20	0.000		
Evaporative/Refueling Family		VTYXR0165J52		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-IV Zero Evap (Option 2)	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.20	0.000		
Evaporative/Refueling Family		VTYXR0165J52		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0.000		

Certification Summary Information Report

Test Group		VTYXT02.5H3Y	Evaporative/Refueling Family		VTYXR0165J52
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		VTYXT02.5H3Y	Evaporative/Refueling Family		VTYXR0165J52
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		VTYXT02.5H3Y	Evaporative/Refueling Family		VTYXR0165J52
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		VTYXT02.5H3Y	Evaporative/Refueling Family		VTYXR0165J52
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	

7. Test Results

Test group: VTYXT02.5H3Y

1. Litmus test result

Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	City Litmus Value	City Litmus Threshold	Highway Litmus Value	Highway Litmus Threshold
Gasoline	TTYX10090069	TTYX10090073	TTYX10090075	TTYX10090078	TTYX10090110	37.0	35.8	33.9	31.9

2. Interim/In-Use Standard

	Federal	California
FTP	Not applicable	Not applicable
FTP (QDA)	-	Not applicable
SFTP (Composite)	Not applicable	-
SFTP (US06)	-	-

8. **Emission testing waiver statements**

Please refer to the FOI common file for the following test waiver statements:

- High Altitude Exhaust Emissions
- High Altitude Evap/Refueling Emissions
- 91 RON fuel testing
- Formaldehyde (HCHO)
- Spitback
- Tier 4 Evaporative Leak Standard

9. **OBD System Description**

Please refer to OBD documents.

Toyota states that the OBD application meets the requirements of 40 CFR 86.1806-17 and 86.1844-01(d)(9) and is considered part of the Part 1 certification application.

10. **Description of Alternate-fueled Vehicles**

Please refer to the FOI common file.

11. AECD Descriptions

11.1 AECD and EI-AECD Descriptions

Confidential information

11.2 SFTP / Lean Best Torque (LBT) Air fuel Ratio Information

Please refer to the CBI common file.

12. Description of Vehicles Covered by Certificate and Test Parameters**12.1 Vehicle parameters**

Durability Group : VTYXHHGNNE21
 Test Group : VTYXT02.5H3Y
 Evap./Refueling Family : VTYXR0165J52
 Emission Control System : DFI+SFI,EGR,EGRC,WR-HO2S(2),TWC(2)

Car line	Model name	Model code	Engine Code	Valves/cyl	Engine Disp. (L)	Sales Area	Transmission*2/ Overdrive	SIL	Tire*1	N/V	ETW (lb.)	Fuel tank volume (L)	Rated HP
RX 450h+ AWD	LEXUS RX 450h+ PREMIUM AWD /LEXUS RX 450h+ LUXURY AWD	AALH16L-AWXGBA	03	4	2.487	50	P810-J (S6-3 SS) / N/A	N/A	235/50R21 AS	22.6	5000	55	180@6000

Note*1: AS : All-season tire

*2: The number after “-“ indicates the number of transmission mode.

12.2 Test Parameters

Please refer to the FOI common file.

13. Projected Sales and Compliance Plans

Please refer to the CBI common file.

14. Request for Certificate

Test group : VTYXT02.5H3Y
Evap/refueling family : VTYXR0165J52

TOYOTA MOTOR CORPORATION requests that EPA/CARB issue a 2027 model year certificate of conformity and Executive Order for the above specified test group/evaporative family combination more fully described in this application. This combination complies with the following emission standards:

	low-altitude	high altitude	Bin No
Federal: Interim Tier4	<u>X</u>	<u>X</u>	<u>30</u>
California: See Federal			



Kevin Webber
General Manager
Regulatory Affairs & Environmental Sustainability
Toyota Motor North America, Inc.

15. Other Information

15.1 Fee filing form

Invoice No.:EPA2027MY010

US EPA Fee Form

[Help and EPA Instructions](#)

* Required Field

Tracking Information

Pay.gov Tracking ID: 282SM5SD

Agency Tracking ID: 77406627815

calendar year in which the complete certification application is received, not the model year.

Engine Family / Evaporative Family / Test Group *

VTYXT02.5H3Y

Certificate Request Type (Industry Sector Code)

Certificate Request Type *

- ☒ On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)
- ☐ On-Highway HDE Dyno Cert (Federal) (E, H)
- ☐ On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)
- ☐ On-Highway Motorcycle (C)
- ☐ On-Highway HDV Evap (F)
- ☐ On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)
- ☐ On-Highway HDE Dyno Cert (California-Only) (E, H)
- ☐ Nonroad CI (L)
- ☐ Nonroad SI (B, S)
- ☐ Locomotive (G, K)
- ☐ All Nonroad Recreational, excluding Marine engines (X, Y)
- ☐ All Marine (Including IMO) (M, N, W)
- ☐ Component Certification for Evaporative Emissions (P)

IMO Name (Required for dual US/IMO Marine Only)

ICI VIN Number (Required for ICIs Only)

Do you qualify for a Reduced Fee? *

No

General Information

Date: 06/02/2026

Process Code *

Submit New Fee Filing Form

Manufacturer Code *

TYX

Manufacturer Name *

Toyota Motor Corporation

Contact Name *

Keisha Anderson

Contact Email Address *

keisha.anderson@toyota.com

Contact Phone *

734-995-3552

Calendar Year complete application submitted to EPA *

2026

PLEASE NOTE: These fees apply to complete certification applications received by EPA from January 1, 2026, through December 31, 2026. The applicable fee is determined by the

Payment Information

Amount Owed

\$32,317.00

Payment Type *

Offline ACH

Comments

EPA Form Number 3520-29

OMB Control No. 2060-0545

Approval expires 7/31/2027

The public reporting and recordkeeping burden for this collection of information is estimated to average 12 minutes per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

16. Confidential Information

Please refer to the CBI common file.

17.8.1 Emission Control Information Labels

LEXUS	VEHICLE EMISSION CONTROL INFORMATION	
	TOYOTA	TOYOTA MOTOR CORPORATION
Conforms to regulations 2027MY	TEST GROUP : VTYXT02.5H3Y	
	EVAP FAMILY : VTYXR0165J52	
	BDF02 : BMF01	
U. S. EPA : IT4B30 LDT2 OBD : CAII	Fuel : Gasoline	
This vehicle is authorized for sale in California	/Electricity	
No adjustments needed. DFI+SFI, EGR, EGRC, WR-HO2S(2), TWC(2)		
25246	A25A-FXS	QL