TOYOTA

Application For Certification - Part 1
2027 Model Year

Durability Group : VTYXHHGNNB2K
Evap/refueling Families : VTYXR0165J42
Test Group : VTYXJ02.5VEA
Durability Group Description : Four Stroke, Otto Cycle, Gasoline Fueled,
: Ported FI, Catalyst code : 3-IIZ62+3-IIq3
Test Group Description : 2.5 Liter I4 LDV(FF)
LDT2(AWD)
Applicable Standards : Federal State : Tier 4-Bin 20 - LDV/LDT1
: California : See Federal
Carlines Covered : RAV4, RAV4 AWD, RAV4 AWD XLE, RAV4 AWD LTD/XSE, RAV4 AWD WOODLAND EDITION
Engine Series : A25A-FXS
Vehicles Tested :

Vehicle I.D.	Config.	Test	Test Number
27-AA1H	00	FTP	VTYX10095044
27-AA1H	00	FTP(Partial soak)	VTYX10095140
27-AA1H	00	HWY	VTYX10095047
27-AA1H	00	SFTP (US06)	VTYX10095045
27-AA1H	00	SFTP (SC03)	VTYX10095046
24-AS2H	00	EVAP	RTYX10078420, RTYX10078421
24-AS2H	00	Running Loss	RTYX10078422
20-AU1H	00	Refueling	LTYX10061147
27-AA1H	00	C.CO,C.HC	VTYX10095040

EPA Response Requested By : October 16, 2026

For Questions, Contact : Lisa Florida 734-695-2697

Note : Conditional certificate requested

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1. Correspondence and Communications

Please refer to the FOI common file.

2. Durability Group Description

Durability Group Name : VTYXHHGNNB2K

Please refer to the common file for details.

3. Evaporative/Refueling Family Description

Evaporative/Refueling Family Name : VTYXR0165J42

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 Certification Summary Information Report in Section 7 or FOI common file.

5. Test Group Description

5.1	Test group name	:	VTYXJ02.5VEA
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	:	LDV(FF)
		:	LDT2(AWD)
5.5	Federal emission standards class	:	Tier 4-Bin20 – LDV/LDT1
		:	

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 27MY RAV4 is the representative DDV in this Durability Group. RAV4 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, we judged 27MY RAV4 is the representative EDV in this Test Group. [insert model name] 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.

Certification Summary Information Report

Manufacturer	Toyota Motor Corporation	**Manufacturer Code**	TYX
Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42
Certificate Number	--	**CARB Executive Order #**	--
Certificate Issue Date	--	**Certificate Revision Date**	--
Certificate Effective Date	--	**Conditional Certificate**	--
CSI Revision #	--	**CSI Submission/Revision Date**	08/19/2026 10:09:30 PM
Model Year	2027		

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test Group Information

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

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity	--	No

Drive Source #2: Combustion Engine

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**	No
Fuel Cell Indicator	No	**EPA Vehicle Class**	LDT2, LDV
Federal Clean Fuel Vehicle	No	**Federal Clean Fuel Vehicle Standard**	--
Federal Clean Fuel Vehicle ILEV	No	**California Partial Zero Emissions Vehicle Indicator**	No
Durability Group Name	VTYXHHGNNB2K	**Durability Group Equivalency Factor**	0.7
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	Not Applicable	**SFTP Tier 2 Composite CO Option**	No
SFTP LEV-III Composite Compliance Indicator	No		
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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Evaporative/Refueling Family Information

Evaporative Summary Information Type	New	**Submission/Correction Date**	05/13/2026 09:57:24 PM
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	--		

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Toyota Motor Corporation	1 - TOYOTA	160 - RAV4	Federal	2-Wheel Drive, Front	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	165 - RAV4 AWD	California + CAA Section 177 states	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	166 - RAV4 AWD LTD/XSE	Federal	All Wheel Drive	Continuously Variable	1	No
Toyota Motor Corporation	1 - TOYOTA	167 - RAV4 AWD XLE	Federal	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	162 - RAV4 AWD WOODLAND EDITION	California + CAA Section 177 states	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	165 - RAV4 AWD	Federal	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	166 - RAV4 AWD LTD/XSE	California + CAA Section 177 states	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	166 - RAV4 AWD LTD/XSE	California + CAA Section 177 states	All Wheel Drive	Continuously Variable	1	No
Toyota Motor Corporation	1 - TOYOTA	160 - RAV4	California + CAA Section 177 states	2-Wheel Drive, Front	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	167 - RAV4 AWD XLE	California + CAA Section 177 states	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	162 - RAV4 AWD WOODLAND EDITION	Federal	All Wheel Drive	Selectable Continuously Variable (e.g. CVT with paddles)	6	No
Toyota Motor Corporation	1 - TOYOTA	166 - RAV4 AWD LTD/XSE	Federal	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-8
Number of Cylinders/Rotors	4	**Mechanically Variable Compression Ratio Indicator**	N

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

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	ATD #2 contains TWC and GPF.
Direct Ozone Reduction (DOR) Device	Not Equipped
Mfr Emission Control Device Comments	--

Engine Configuration Number 1

Engine Displacement (liters)	2.5	**Engine Rated Horsepower**	178
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
Gasoline	VTYX10095044	VTYX10095045	VTYX10095046	VTYX10095040	VTYX10095047	179.4	30.5	130.9	29.7	--
Electricity	VTYX10095044	VTYX10095045	VTYX10095046	VTYX10095040	VTYX10095047	--	--	--	--	--

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Hybrid Electric Vehicle And Fuel Cell Information

Rechargable Energy Storage System	Battery(s)	**Rechargable Energy Storage System, if Other**	--
Battery Type	Lithium Ion	**Number of Battery Packs**	1
Total Voltage of Battery Packs	248	**Battery Energy Capacity**	4.2
Battery Specific Energy	41	**Battery Charger Type**	On-Board
Number of Capacitors	--	**Capacitor Rating (In Farads)**	--
Mfr Capacitor Comments	--		
Hydraulic System Description	Battery Energy Capacity: 4.1 and 4.3 available. Battery Specific Energy: 43 and 44 available		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Front Wheels	**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**	100
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	"40kWatt" of Rated Motor/Generator Power is only for AWD. Regenerative Braking Source "Both" is for AWD..		

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Emission Data Vehicle Information

Vehicle ID / Configuration	20-AU1H / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	LTYXT02.5P34	**Original Evaporative/Refueling Family**	LTYXR0165J82
Original Test Vehicle Model Year	2020		

Vehicle Model

Represented Test Vehicle Make	TOYOTA	**Represented Test Vehicle Model**	HIGHLANDER HYBRID AWD LTD/PLAT

Leak Family Details

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

Drive Sources and Fuel System Details

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

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	29	**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**	186
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 eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4595	**Equivalent Test Weight (pounds)**	5000
GVWR (lbs)	6065	**N/V Ratio**	22.4
Axle Ratio	3.64		
Transmission Type	Continuously Variable	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Dynamometer Coefficients:

Coefficient Category	Target Coefficients A (lbf)	Target Coefficients B (lbf/mph)	Target Coefficients C (lbf/mph**2)	Set Coefficients A (lbf)	Set Coefficients B (lbf/mph)	Set Coefficients C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	40.829	0.21956	0.025369	25.284	0.08413	0.025532	15.4
Cold CO	44.912	0.24151	0.027906	21.298	0.01124	0.028196	N/A
US06	40.829	0.21956	0.025369	25.284	0.08413	0.025532	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments T/M MODE IS SPORT

Test #	**LTYX10061147**	**Test Procedure**	**24 - Federal fuel refueling test (ORVR)**
Exhaust Test # for this Evap Test	LTYX10061109	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	08/22/2019	**Fuel**	Gasoline
Fuel Batch ID	1F9-04	**Fuel Calibration Number**	1
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	4394	**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)	0.0027622	--

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	0.003	0.000	0.00	0.20	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.003	0.000	0.00	0.20	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Emission Data Vehicle Information

Vehicle ID / Configuration	24-AS2H / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	RTYXT02.5P34	**Original Evaporative/Refueling Family**	RTYXR0165J82
Original Test Vehicle Model Year	2024		

Vehicle Model

Represented Test Vehicle Make	TOYOTA	**Represented Test Vehicle Model**	GRAND HIGHLANDER HYBRID

Leak Family Details

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

Drive Sources and Fuel System Details

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

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	8	**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	08	**Rated Horsepower**	187
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 eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4475	**Equivalent Test Weight (pounds)**	4750
GVWR (lbs)	6030	**N/V Ratio**	22.8
Axle Ratio	3.64		
Transmission Type	Continuously Variable	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Dynamometer Coefficients:

Coefficient Category	Target Coefficients A (lbf)	Target Coefficients B (lbf/mph)	Target Coefficients C (lbf/mph**2)	Set Coefficients A (lbf)	Set Coefficients B (lbf/mph)	Set Coefficients C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	33.813	-0.03755	0.030269	12.299	0.04203	0.028401	14.3
US06	33.813	-0.03755	0.030269	12.299	0.04203	0.028401	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments DRIVE MODE IS ECO.

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**RTYX10078420**	**Test Procedure**	**23 - 2-day evap**
Exhaust Test # for this Evap Test	RTYX10078383	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	11/30/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	6
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	3850	**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)	0.1922	--

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=0.0181, 1ST DBL=0.1741, 2ND DBL=0.1354, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0002GRAM)

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	0.1922	0.0000	0.192	0.300	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1922	0.0000	0.192	0.300	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**RTYX10078421**	**Test Procedure**	**34 - Federal fuel 3-day evap**
Exhaust Test # for this Evap Test	RTYX10078382	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/07/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	7
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	3889	**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)	0.1858	--

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=0.0335, 1ST DBL=0.1523, 2ND DBL=0.1225, 3RD DBL=0.1148, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0002GRAM)

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	0.1858	0.0000	0.186	0.300	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1858	0.0000	0.186	0.300	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**RTYX10078422**	**Test Procedure**	**32 - Federal Fuel Running Loss**
Exhaust Test # for this Evap Test	RTYX10078382	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	12/07/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	7
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	3889	**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)	0.0000012	--

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

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

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	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.000	0.000	0.00	0.05	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.000	0.000	0.00	0.01	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Emission Data Vehicle Information

Vehicle ID / Configuration	27-AA1H / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	VTYXJ02.5VEA	**Original Evaporative/Refueling Family**	VTYXR0165J42
Original Test Vehicle Model Year	2027		

Vehicle Model

Represented Test Vehicle Make	TOYOTA	**Represented Test Vehicle Model**	RAV4 AWD WOODLAND EDITION

Leak Family Details

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

Drive Sources and Fuel System Details

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

Hybrid Indicator	Yes		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	No	**Rechargeable Energy Storage System Indicator**	Yes
Rechargeable Energy Storage System	Battery(s)	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	No		
Odometer Correction -- Initial	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	01	**Rated Horsepower**	178
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 eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	3885	**Equivalent Test Weight (pounds)**	4250
GVWR (lbs)	4920	**N/V Ratio**	24.2
Axle Ratio	3.61		
Transmission Type	Continuously Variable	**# of Transmission Gears**	1
Transmission Lockup	No	**Creeper Gear**	No

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Dynamometer Coefficients:

Coefficient Category	Target Coefficients A (lbf)	Target Coefficients B (lbf/mph)	Target Coefficients C (lbf/mph**2)	Set Coefficients A (lbf)	Set Coefficients B (lbf/mph)	Set Coefficients C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	30.621	0.15329	0.026358	16.114	-0.09582	0.027924	13.9
Cold CO	33.683	0.16862	0.028994	18.287	-0.22829	0.031771	N/A
US06	30.621	0.15329	0.026358	16.114	-0.09582	0.027924	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments DRIVE MODE IS SPORT

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**VTYX10095040**	**Test Procedure**	**11 - Cold CO**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	05/23/2026	**Fuel**	Gasoline
Fuel Batch ID	2M3A01	**Fuel Calibration Number**	25
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000), LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4096	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	U
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	11.0319105	--
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.5874125	--
CO2 BAG 1 (Bag 1 Carbon Dioxide)	332.0426912	--
CO BAG 1 (Bag 1 Carbon Monoxide)	1.3319775	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CH4 BAG 1 (Bag 1 Methane)	0.025282	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.1609398	--
WATT-HRS BAG 1 (Bag 1 Watt Hours)	0	--
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.8519037	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	235.9508502	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.0286121	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CH4 BAG 2 (Bag 2 Methane)	0.0008507	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.0002387	--
WATT-HRS BAG 2 (Bag 2 Watt Hours)	0	--
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.5925943	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	242.8587921	--
CO BAG 3 (Bag 3 Carbon Monoxide)	0.0926539	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CH4 BAG 3 (Bag 3 Methane)	0.0016113	--
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.0000186	--
WATT-HRS BAG 3 (Bag 3 Watt Hours)	0	--
METHANE (CH4 - Methane)	0.0061259	--
CO (Carbon Monoxide)	0.316489	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.03	--
DT-EER (Drive Trace Energy Economy Rating)	-0.06	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.03	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.008111	--
N2O (Nitrous Oxide)	0.0005613	--
HC-NM (Non-methane Hydrocarbon)	0.0303539	--

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

NMOG (Non-methane organic gases)	0.0335005	--
HC-TOTAL (Total Hydrocarbon)	0.0358319	--
WATT-HRS (Watt Hours)	0	--

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	257.7762638	--

Manufacturer Test Comments Bag1:NMOG = HC-NM x 1.1036, Bag2:NMOG = HC-NM x 1.1235, Bag3:NMOG = HC-NM x 1.0505

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 4 Bin 20	CO	0.32	--	--	--	0.01	--	0.3	10.0	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG	0.0335	1	1.10	--	0.0007	--	0.034	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG+NOX	0.0416	1	1.10	--	--	--	0.043	0.200	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NOX	0.0081	--	--	--	0.0003	--	0.008	999.999	Pass
CA	50,000 miles	California LEV-IV SULEV20	CO	0.32	--	--	--	0.01	--	0.3	10.0	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**VTYX10095044**	**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	05/29/2026	**Fuel**	Gasoline
Fuel Batch ID	2E5-03	**Fuel Calibration Number**	3
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4195	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	U
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	14.8981259	--
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.591392	--
CO2 BAG 1 (Bag 1 Carbon Dioxide)	233.1426693	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.2510845	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CH4 BAG 1 (Bag 1 Methane)	0.0031378	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.023444	--
WATT-HRS BAG 1 (Bag 1 Watt Hours)	0	--
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.8575999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	190.9236751	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.0306201	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CH4 BAG 2 (Bag 2 Methane)	0.0007807	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--
WATT-HRS BAG 2 (Bag 2 Watt Hours)	0	--
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.5904006	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	216.1904376	--
CO BAG 3 (Bag 3 Carbon Monoxide)	0.0712699	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CH4 BAG 3 (Bag 3 Methane)	0.0015408	--
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0.0000226	--
WATT-HRS BAG 3 (Bag 3 Watt Hours)	0	--
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.8587335	--
CO2 BAG 4 (Bag 4 Carbon Dioxide)	190.0629894	--
CO BAG 4 (Bag 4 Carbon Monoxide)	0.0195758	--
FE BAG 4 (Bag 4 Fuel Economy)	999	999
CH4 BAG 4 (Bag 4 Methane)	0.000735	--
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0	--
WATT-HRS BAG 4 (Bag 4 Watt Hours)	0	--
METHANE (CH4 - Methane)	0.0014647	--
CO (Carbon Monoxide)	0.0842328	--

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.41	--
DT-EER (Drive Trace Energy Economy Rating)	0.2	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.56	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0011808	--
N2O (Nitrous Oxide)	0.0000124	--
HC-NM (Non-methane Hydrocarbon)	0.00441	--
NMOG (Non-methane organic gases)	0.0048563	--
PM (Particulate Matter)	0.0000281	--
HC-TOTAL (Total Hydrocarbon)	0.0057391	--
WATT-HRS (Watt Hours)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	206

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	206.3638674	--

Manufacturer Test Comments NMOG = HC-NM x 1.1012, Bag1:NMOG = HC-NM x 1.1036, Bag2 Bag4:NMOG = HC-NM x 1.1235, Bag3:NMOG = HC-NM x 1.0505

Certification Summary Information Report

Test Group VTYXJ02.5VEA **Evaporative/Refueling Family** VTYXR0165J42

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 4 Bin 20	CO	0.08	--	--	--	0.01	--	0.1	1.7	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	CREE	206	--	--	0.0 UP	0.014	--	206	--	--
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG	0.0049	1	1.10	--	0.0007	--	0.006	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG+NOX	0.0061	1	1.10	--	--	--	0.007	0.020	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NOX	0.0012	--	--	--	0.0003	--	0.002	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	PM	0.00003	--	--	--	0.00000	--	0.0000	0.0005	Pass
CA	150,000 miles	California LEV-IV SULEV20	CO	0.08	--	--	--	0.01	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV20	METHANE	0.0015	--	--	--	0.0029	--	0.004	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV20	N2O	0.0000	--	--	--	0.0005	--	0.000	0.010	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG	0.0049	1	1.10	--	0.0007	--	0.006	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG+NOX	0.0061	1	1.10	--	--	--	0.007	0.020	Pass
CA	150,000 miles	California LEV-IV SULEV20	NOX	0.0012	--	--	--	0.0003	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	PM	0.0000	--	--	--	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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**VTYX10095140**	**Test Procedure**	**58 - Partial Soak (PS) - 40 minute**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	06/19/2026	**Fuel**	Gasoline
Fuel Batch ID	2E5-03	**Fuel Calibration Number**	4
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4254	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	U
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	14.9154419	--
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	3.5924204	--
CO2 BAG 1 (Bag 1 Carbon Dioxide)	218.2034682	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.091034	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CH4 BAG 1 (Bag 1 Methane)	0.0030398	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0074728	--
WATT-HRS BAG 1 (Bag 1 Watt Hours)	0	--
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	3.8645702	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	192.7155186	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.0262641	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CH4 BAG 2 (Bag 2 Methane)	0.0008492	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0	--
WATT-HRS BAG 2 (Bag 2 Watt Hours)	0	--
ACT-DISTANCE BAG 3 (Bag 3 Actual Distance)	3.5928924	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	218.5112537	--
CO BAG 3 (Bag 3 Carbon Monoxide)	0.0588405	--
FE BAG 3 (Bag 3 Fuel Economy)	999	999
CH4 BAG 3 (Bag 3 Methane)	0.0015804	--
NMOG BAG 3 (Bag 3 Non-methane organic gases)	0	--
WATT-HRS BAG 3 (Bag 3 Watt Hours)	0	--
ACT-DISTANCE BAG 4 (Bag 4 Actual Distance)	3.8636923	--
CO2 BAG 4 (Bag 4 Carbon Dioxide)	191.0444158	--
CO BAG 4 (Bag 4 Carbon Monoxide)	0.0166961	--
FE BAG 4 (Bag 4 Fuel Economy)	999	999
CH4 BAG 4 (Bag 4 Methane)	0.0009172	--
NMOG BAG 4 (Bag 4 Non-methane organic gases)	0	--
WATT-HRS BAG 4 (Bag 4 Watt Hours)	0	--
METHANE (CH4 - Methane)	0.0015239	--
CO (Carbon Monoxide)	0.0458026	--

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

DT-ASCR (Drive Trace Absolute Speed Change Rating)	-9999	--
DT-EER (Drive Trace Energy Economy Rating)	-9999	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-9999	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0010045	--
N2O (Nitrous Oxide)	0.000306	--
HC-NM (Non-methane Hydrocarbon)	0.0014027	--
NMOG (Non-methane organic gases)	0.0015446	--
HC-TOTAL (Total Hydrocarbon)	0.0026616	--
WATT-HRS (Watt Hours)	0	--

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	204.5866633	--

Manufacturer Test Comments NMOG = HC-NM x 1.1012, Bag1:NMOG = HC-NM x 1.1036, Bag2 Bag4:NMOG = HC-NM x 1.1235, Bag3:NMOG = HC-NM x 1.0505

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 4 Bin 20	NMOG	0.0015	1	1.10	--	0.0007	--	0.002	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG+NOX	0.0025	1	1.10	--	--	--	0.004	0.015	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NOX	0.0010	--	--	--	0.0003	--	0.001	999.999	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**VTYX10095047**	**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	05/28/2026	**Fuel**	Gasoline
Fuel Batch ID	2E5-03	**Fuel Calibration Number**	3
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4151	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	U
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	10.2548	--
METHANE (CH4 - Methane)	0.0003058	--
CO (Carbon Monoxide)	0.0596832	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.07	--
DT-EER (Drive Trace Energy Economy Rating)	0.1	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.38	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0007645	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0.0002085	--
WATT-HRS (Watt Hours)	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	0	194

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	194.1894853	--

Manufacturer Test Comments NMOG = HC-NM x 1.0300

Certification Summary Information Report

Test Group VTYXJ02.5VEA **Evaporative/Refueling Family** VTYXR0165J42

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 4 Bin 20	CREE	194	--	--	0.0 UP	0.014	--	194	--	--
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG	0.0000	1	1.03	--	0.0007	--	0.001	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG+NOX	0.0008	1	1.03	--	--	--	0.002	0.020	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NOX	0.0008	--	--	--	0.0003	--	0.001	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG	0.0000	1	1.03	--	0.0007	--	0.001	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG+NOX	0.0008	1	1.03	--	--	--	0.002	0.020	Pass
CA	150,000 miles	California LEV-IV SULEV20	NOX	0.0008	--	--	--	0.0003	--	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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**VTYX10095045**	**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	05/28/2026	**Fuel**	Gasoline
Fuel Batch ID	2E5-03	**Fuel Calibration Number**	3
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4171	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	U
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	8.0045043	--
ACT-DISTANCE BAG 1 (Bag 1 Actual Distance)	1.7703985	--
CO2 BAG 1 (Bag 1 Carbon Dioxide)	365.6301642	--
CO BAG 1 (Bag 1 Carbon Monoxide)	0.0793269	--
FE BAG 1 (Bag 1 Fuel Economy)	999	999
CH4 BAG 1 (Bag 1 Methane)	0.0016192	--
NMOG BAG 1 (Bag 1 Non-methane organic gases)	0.0027338	--
WATT-HRS BAG 1 (Bag 1 Watt Hours)	0	--
ACT-DISTANCE BAG 2 (Bag 2 Actual Distance)	6.2341058	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	235.7457945	--
CO BAG 2 (Bag 2 Carbon Monoxide)	0.1065607	--
FE BAG 2 (Bag 2 Fuel Economy)	999	999
CH4 BAG 2 (Bag 2 Methane)	0.0014898	--
NMOG BAG 2 (Bag 2 Non-methane organic gases)	0.001042	--
WATT-HRS BAG 2 (Bag 2 Watt Hours)	0	--
METHANE (CH4 - Methane)	0.0015184	--
CO (Carbon Monoxide)	0.1005372	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.3	--
DT-EER (Drive Trace Energy Economy Rating)	0.29	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.46	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0087847	--
N2O (Nitrous Oxide)	0.0003528	--
HC-NM (Non-methane Hydrocarbon)	0.0013749	--
NMOG (Non-methane organic gases)	0.0014161	--
PM (Particulate Matter)	0.0000695	--
HC-TOTAL (Total Hydrocarbon)	0.0027977	--
WATT-HRS (Watt Hours)	0	--

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

Certification Summary Information Report

Test Group VTYXJ02.5VEA **Evaporative/Refueling Family** VTYXR0165J42

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	264.4730069	--

Manufacturer Test Comments NMOG = HC-NM x 1.0300

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 4 Bin 20	CO	0.10	--	--	--	0.01	--	0.1	9.6	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG	0.0014	1	1.03	--	0.0007	--	0.002	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG+NOX	0.0102	1	1.03	--	--	--	0.011	0.020	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NOX	0.0088	--	--	--	0.0003	--	0.009	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	PM	0.00007	--	--	--	0.00000	--	0.0001	0.0005	Pass
CA	150,000 miles	California LEV-IV SULEV20	CO	0.10	--	--	--	0.01	--	0.1	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG	0.0014	1	1.03	--	0.0007	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG+NOX	0.0102	1	1.03	--	--	--	0.011	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV20	NOX	0.0088	--	--	--	0.0003	--	0.009	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	PM	0.0001	--	--	--	0.0000	--	0.000	0.003	Pass

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Test #	**VTYX10095046**	**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	05/14/2026	**Fuel**	Gasoline
Fuel Batch ID	2E5-03	**Fuel Calibration Number**	3
Vehicle Class	LDV/Passenger Car	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4051	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	U
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	**Road Speed Fan Usage**	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
ACT-DISTANCE (Actual Distance Driven (miles))	3.5784867	--
METHANE (CH4 - Methane)	0.001743	--
CO (Carbon Monoxide)	0.067645	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.41	--
DT-EER (Drive Trace Energy Economy Rating)	-0.31	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.49	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.001908	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0.001569	--
WATT-HRS (Watt Hours)	0	--

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	252.942855	--

Manufacturer Test Comments NMOG = HC-NM x 1.0300

Certification Summary Information Report

Test Group VTYXJ02.5VEA **Evaporative/Refueling Family** VTYXR0165J42

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NMHC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 4 Bin 20	CO	0.07	--	--	--	0.01	--	0.1	1.7	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG	0.0000	1	1.03	--	0.0007	--	0.001	999.999	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NMOG+NOX	0.0019	1	1.03	--	--	--	0.003	0.020	Pass
Fed	150,000 miles	Federal Tier 4 Bin 20	NOX	0.0019	--	--	--	0.0003	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	CO	0.07	--	--	--	0.01	--	0.1	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG	0.0000	1	1.03	--	0.0007	--	0.001	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV20	NMOG+NOX	0.0019	1	1.03	--	--	--	0.003	0.020	Pass
CA	150,000 miles	California LEV-IV SULEV20	NOX	0.0019	--	--	--	0.0003	--	0.002	999.999	Pass

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

Fuel Properties

Fuel Batch ID	**2E5-03**	**Fuel Calibration Number**	**3**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	05/27/2025
Fuel Batch Calibration Effective Date	05/13/2026	**Fuel Batch Calibration Ineffective Date**	05/31/2026
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)**	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.528	**Fuel Carbon Mass Fraction (E10)**	0.826
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	**Weight Fraction CO2**	--
Fuel Batch ID	**2F2A12**	**Fuel Calibration Number**	**7**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	06/09/2022
Fuel Batch Calibration Effective Date	12/01/2022	**Fuel Batch Calibration Ineffective Date**	12/31/2022
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 (%)	10	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17820
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	**2E5-03**	**Fuel Calibration Number**	**4**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	05/27/2025
Fuel Batch Calibration Effective Date	06/01/2026	**Fuel Batch Calibration Ineffective Date**	06/30/2026
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)**	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.528	**Fuel Carbon Mass Fraction (E10)**	0.826
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	**Weight Fraction CO2**	--
Fuel Batch ID	**2M3A01**	**Fuel Calibration Number**	**25**
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	**Fuel Batch Calibration Date**	12/22/2023
Fuel Batch Calibration Effective Date	05/01/2026	**Fuel Batch Calibration Ineffective Date**	05/31/2026

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	0.825
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)**	--
Fuel Net Heat of Combustion (E10) (MJ/kg)	41.552	**Fuel Carbon Mass Fraction (E10)**	0.825
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	--	**Weight Fraction CO2**	--
Fuel Batch ID	**1F9-04**	**Fuel Calibration Number**	**1**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	06/05/2019
Fuel Batch Calibration Effective Date	07/25/2019	**Fuel Batch Calibration Ineffective Date**	07/31/2019
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)**	17823
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	**2F2A12**	**Fuel Calibration Number**	**6**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	06/09/2022
Fuel Batch Calibration Effective Date	11/15/2022	**Fuel Batch Calibration Ineffective Date**	11/30/2022
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 (%)	10	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17820
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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Consolidated List of Standards

Exhaust Standards

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 4 Bin 20
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	--	--	--	--	--	--	0.01	9.6
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999
150,000 miles	PM	--	--	--	--	--	--	0.00000	0.0005

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California LEV-IV SULEV20
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	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California LEV-IV SULEV20
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	--	--	--	--	--	--	0.01	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	METHANE	--	--	--	--	--	--	0.0029	0.030
150,000 miles	N2O	--	--	--	--	--	--	0.0005	0.010
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.001

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDT2 (LVW 3751-5750, GVW 0-6000)	**Standard Level**	Federal Tier 4 Bin 20
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
150,000 miles	CO	--	--	--	--	--	--	0.01	10.0
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0010	0.200
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999
150,000 miles	PM	--	--	--	--	--	--	0.00000	0.0005

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California LEV-IV SULEV20
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	10.0

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California LEV-IV SULEV20
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	--	--	--	--	--	--	0.01	1.0
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California LEV-IV SULEV20
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	--	0.040
4,000 miles	NOX	--	--	--	--	--	--	--	999.999

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 4 Bin 20
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	--	--	--	--	--	--	0.01	1.7
150,000 miles	CREE	--	--	--	0.0	--	--	0.014	999.9999
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	1	1.10	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999
150,000 miles	PM	--	--	--	--	--	--	0.00000	0.0005

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 4 Bin 20
Fuel	Gasoline	**Test Procedure**	Partial Soak (PS) - 40 minute

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	1.10	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.10	--	--	--	0.0010	0.015
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 4 Bin 20
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	--	--	--	--	--	--	0.01	1.7
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	Federal Tier 4 Bin 20
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	--	--	--	0.0	--	--	0.014	999.9999
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0010	0.020
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**Standard Level**	California LEV-IV SULEV20
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	--	--	--	--	--	--	0.01	9.6
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0007	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0010	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0003	999.999
150,000 miles	PM	--	--	--	--	--	--	0.0000	0.003

Evaporative/Refueling Standards

Evaporative/Refueling Family	VTYXR0165J42	**Cert Region**	Federal
Cert/In-Use Code	Cert	**Standard Level**	Federal Tier 3 Evap
Test Procedure	Federal Fuel Running Loss		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0.000

Evaporative/Refueling Family	VTYXR0165J42	**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	--	0.300	0.0000

Evaporative/Refueling Family	VTYXR0165J42	**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

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42

Evaporative/Refueling Family	VTYXR0165J42	**Cert Region**	Federal
Cert/In-Use Code	Cert	**Standard Level**	Federal Tier 3 Evap
Test Procedure	Federal fuel 3-day evap		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0.0000

Evaporative/Refueling Family	VTYXR0165J42	**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	VTYXR0165J42	**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 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	VTYXR0165J42	**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	0.00

Evaporative/Refueling Family	VTYXR0165J42	**Cert Region**	Federal
Cert/In-Use Code	Cert	**Standard Level**	Federal Tier 3 Evap
Test Procedure	2-day evap		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0.0000

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42
Evaporative/Refueling Family	VTYXR0165J42	**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 3-day evap		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.300	0.0000

Certification Summary Information Report

Test Group	VTYXJ02.5VEA	Evaporative/Refueling Family	VTYXR0165J42

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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42
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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42
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	VTYXJ02.5VEA	**Evaporative/Refueling Family**	VTYXR0165J42
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

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	VTYX10095044	VTYX10095045	VTYX10095046	VTYX10095040	VTYX10095047	33.4	30.2	31.6	29.5

2. Interim/In-Use Standard

Not applicable

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/LEVIV Evaporative Leak Standard
- Tier4 Cold Temperature PM

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 : VTYXHHGNNB2K
Test Group : VTYXJ02.5VEA
Evap./Refueling Family : VTYXR0165J42
Emission Control System : DFI+SFI,EGR,EGRC,WR-HO2S(2),TWC,TWC+GPF

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
RAV4	TOYOTA RAV4 XLE PREMIUM FWD	AXAL62L-ANXMBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/60R18 AS	22.4	4000	55	178@6000
		AXAL62L-CNXMBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/60R18 AS	22.4	4000	55	178@6000
	TOYOTA RAV4 SE FWD	AXAL62L-ANXSBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/60R18 AS	22.4	4000	55	178@6000
		AXAL62L-CNXSBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/60R18 AS	22.4	4000	55	178@6000
	TOYOTA RAV4 LE FWD	AXAL62L-ANXXBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/65R17 AS	22.4	4000	55	178@6000
		AXAL62L-ANXXBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/65R17 SM#2	22.4	4000	55	178@6000
		AXAL62L-CNXXBA	03	4	2.487	50	PB11-C (S6-3 SS) / N/A	N/A	235/65R17 AS	22.4	4000	55	178@6000

Note*1: AS :All-season tire
*2: The number after "-" indicates the number of transmission mode.

12.1 Vehicle parameters

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
RAV4 AWD	TOYOTA RAV4 SE AWD	AXAL64L-ANXSBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/60R18 AS	24.2	4000	55	178@6000
		AXAL64L-CNXSBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/60R18 AS	24.2	4000	55	178@6000
	TOYOTA RAV4 LE AWD	AXAL64L-ANXXBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/65R17 AS	24.2	4000	55	178@6000
		AXAL64L-ANXXBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/65R17 SM#2	24.2	4000	55	178@6000
		AXAL64L-CNXXBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/65R17 AS	24.2	4000	55	178@6000
RAV4 AWD WOODL AND EDITION	TOYOTA RAV4 WOODLAND AWD	AXAL64L-CNXVBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/65R18 AS	24.2	4250	55	178@6000
RAV4 AWD XLE	TOYOTA RAV4 XLE PREMIUM AWD	AXAL64L-ANXMBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/60R18 AS	24.2	4250	55	178@6000
		AXAL64L-CNXMBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/60R18 AS	24.2	4250	55	178@6000

12.1 Vehicle parameters

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
RAV4 AWD LTD/XSE	TOYOTA RAV4 LIMITED AWD	AXAL64L-ANXGBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-ANXGBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/60R18 AS	24.2	4250	55	178@6000
		AXAL64L-ANXGBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-ANXGBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/50R20 SM	24.1	4250	55	178@6000
		AXAL64L-ANXGBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/60R18 AS	24.2	4250	55	178@6000
		AXAL64L-ANXGBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/60R18 SM#2	24.2	4250	55	178@6000
		AXAL64L-CNXGBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-CNXGBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/60R18 AS	24.2	4250	55	178@6000
		AXAL64L-CNXGBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-CNXGBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/60R18 AS	24.2	4250	55	178@6000
	TOYOTA RAV4 XSE AWD	AXAL64L-ANXPBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-ANXPBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-CNXPBA	01	4	2.487	50	PB11-D (S6-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000
		AXAL64L-CNXPBA	02	4	2.487	50	PB11-D (AV-3 SS) / N/A	N/A	235/50R20 AS	24.1	4250	55	178@6000

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. <u>Request for Certificate</u>

Test group : VTYXJ02.5VEA
Evap/refueling family : VTYXR0165J42

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: Tier 4	X	X	20

California: See Federal

Kevin D. Webber

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

15 Other Information

15.1 Fee filing form

Invoice No.:EPA2027MY015

US EPA Fee Form

Help and EPA Instructions

* Required Field

Tracking Information

Pay.gov Tracking ID: 284DMU8Q

Agency Tracking ID: 77458249050

General Information

Date: 07/23/2026

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

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.

Engine Family / Evaporative Family / Test Group *

VTYXJ02.5VEA

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)

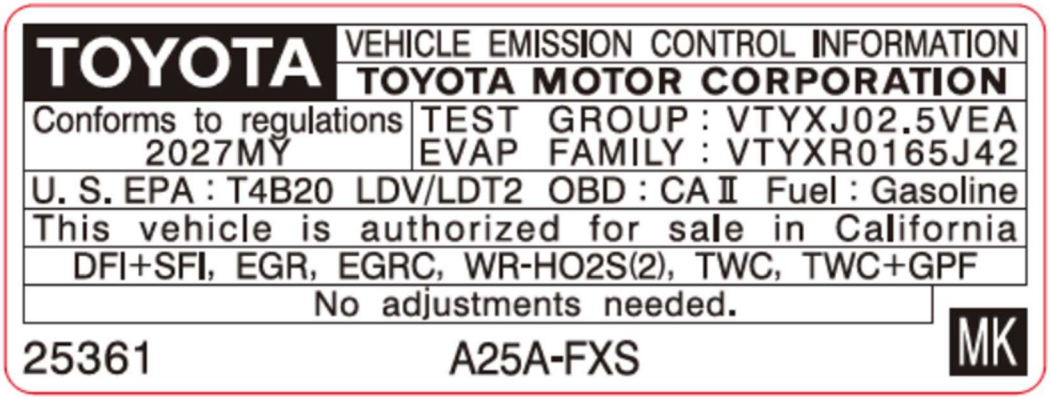
ICI VIN Number (Required for ICIs Only)

Do you qualify for a Reduced Fee? *

No

The content of this document may contain Sensitive But Unclassified (SBU) data and/or Controlled Unclassified Information (CUI).

16 Confidential Information

Please refer to the CBI common file.

17.8.1 Emission Control Information Labels