Certification Summary Information Report

Manufacturer	Toyota Motor Corporation	**Manufacturer Code**	TYX
Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42
Certificate Number	VTYXJ02.4H3B-022	**CARB Executive Order #**	--
Certificate Issue Date	08/13/2026	**Certificate Revision Date**	--
Certificate Effective Date	08/13/2026	**Conditional Certificate**	No
CSI Revision #	--	**CSI Submission/Revision Date**	07/08/2026 10:22:59 PM
Model Year	2027		

Test Group Information

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

Drive Sources and Fuel(s)

Drive Source #1: Combustion Engine

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Gasoline	Spark Ignition direct & ported injection	No

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Rechargeable Energy Storage System Indicator**	--
Multiple Fuel Combustion	--	**Off-board Charge Capable Indicator**	--
Fuel Cell Indicator	--	**EPA Vehicle Class**	LDV, LDT3, 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	VTYXGPGNN62X	**Durability Group Equivalency Factor**	1.0
Reduced Fee Test Group	No	**Certification Region Code(s)**	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	10/01/2026	**CAP2000 Conditional Certificate?**	No
Independent Commercial Importer?	No	**Alternative Fuel Converter Certificate?**	No
SFTP Federal Composite Compliance Identifier	Tier 3	**SFTP Tier 2 Composite CO Option**	No
SFTP LEV-III Composite Compliance Indicator	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	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Evaporative/Refueling Family Information

Evaporative Summary Information Type	New	**Submission/Correction Date**	07/06/2026 08:33:51 AM
Integrated ORVR?	Yes	**Fuel(s)**	Gasoline
Multiple Fuel Storage	--		
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	1	**Bleed Canister Total Working Capacity (grams)**	2
Mfr Evaporative/Refueling Family Comments	--		

Leak Family Details

Leak Family Indicator	No		
Canister Bleed Test Indicator	Yes	**Applicability of Evaporative Canister Bleed Test**	50 State
Evaporative Canister Bleed Test Comments	--		
CARB Fuel Only (Rig) Test Indicator	No	**Applicability of CARB Fuel Only (Rig) Test**	--
CARB Fuel Only (Rig) Test Comments	--		

Models Covered by this Certificate

Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Toyota Motor Corporation	2 - LEXUS	145 - RX 350 AWD	Federal	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	2 - LEXUS	145 - RX 350 AWD	California + CAA Section 177 states	All Wheel Drive	Semi-Automatic	8	Yes
Toyota Motor Corporation	2 - LEXUS	140 - RX 350	Federal	2-Wheel Drive, Front	Semi-Automatic	8	Yes
Toyota Motor Corporation	2 - LEXUS	140 - RX 350	California + CAA Section 177 states	2-Wheel Drive, Front	Semi-Automatic	8	Yes

Engine Description

Hybrid Type	--	**Hybrid Description**	--
Engine Type	4-Stroke Spark Ignition	**Mfr Engine Description**	--
Engine Block Arrangement	Inline	**Mfr Engine Block Arrangement Description**	--
Camless Valvetrain Indicator	No	**Oil Viscosity/Classification**	0W-20
Number of Cylinders/Rotors	4	**Mechanically Variable Compression Ratio Indicator**	N

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

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)	2.4	**Engine Rated Horsepower**	275
Number of Inlet Valves Per Cylinder	2	**Number of Exhaust Valves Per Cylinder**	2
Air Aspiration Method	Turbocharged	**Number of Air Aspiration Devices**	1
Air Aspiration Device Configuration	Single	**Charge Air Cooler Type**	Liquid
Air Aspiration Drive Method(s)	Mechanical		
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	No	**Cooled Exhaust Gas Recirculation**	No
EGR Type	--	**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	APPLIED TO RX 350, TX 350		

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Engine Configuration Number 2

Engine Displacement (liters)	2.4	**Engine Rated Horsepower**	265
Number of Inlet Valves Per Cylinder	2	**Number of Exhaust Valves Per Cylinder**	2
Air Aspiration Method	Turbocharged	**Number of Air Aspiration Devices**	1
Air Aspiration Device Configuration	Single	**Charge Air Cooler Type**	Liquid
Air Aspiration Drive Method(s)	Mechanical		
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	No	**Cooled Exhaust Gas Recirculation**	No
EGR Type	--	**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	APPLIED TO GRAND HIGHLANDER		

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	RTYX10078510	RTYX10078509	RTYX10078508	RTYX10078511	RTYX10078507	999.9	228.2	999.9	286.1	--

SFTP LEV-III Official Test Numbers

Test Group Fuel	FTP	US06	SC03
Gasoline	RTYX10078510	RTYX10078509	RTYX10078508

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Emission Data Vehicle Information

Vehicle ID / Configuration	17-GL4A / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	HTYXT03.5M5M	**Original Evaporative/Refueling Family**	HTYXR0165P82
Original Test Vehicle Model Year	2017		

Vehicle Model

Represented Test Vehicle Make	TOYOTA	**Represented Test Vehicle Model**	SIENNA AWD

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

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	--	**Rechargeable Energy Storage System Indicator**	--
Rechargeable Energy Storage System	--	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	--		
Odometer Correction -- Initial	4	**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**	295
Displacement (liters)	3.456		
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)	4750	**Equivalent Test Weight (pounds)**	5000
GVWR (lbs)	5995	**N/V Ratio**	25.2
Axle Ratio	3		
Transmission Type	Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper Gear**	No

Dynamometer Coefficients:

	Target Coefficients			Set Coefficients			
Coefficient Category	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**A (lbf)**	**B (lbf/mph)**	**C (lbf/mph**2)**	**EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients**
City/Highway/Evap	50.255	0.27049	0.026423	29.422	-0.13108	0.028279	17.3
US06	50.255	0.27049	0.026423	29.422	-0.13108	0.028279	N/A

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Emission Control Device Comments	--
Manufacturer Test Vehicle Comments	POWER SHIFT PATTERN

Test #	**HTYX10041720**	**Test Procedure**	**24 - Federal fuel refueling test (ORVR)**
Exhaust Test # for this Evap Test	HTYX10041718	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	03/31/2016	**Fuel**	Gasoline
Fuel Batch ID	WL5-32	**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	4951	**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**	No

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0048358	--

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	0.005	0	0	0.2	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.005	0	0	0.2	Pass

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Emission Data Vehicle Information

Vehicle ID / Configuration	24-TS1A / 0	**Manufacturer Vehicle Configuration Number**	0
Original Test Group Name	RTYXT02.4P3P	**Original Evaporative/Refueling Family**	RTYXR0165P82
Original Test Vehicle Model Year	2024		

Vehicle Model

Represented Test Vehicle Make	TOYOTA	**Represented Test Vehicle Model**	GRAND HIGHLANDER AWD LIMITED/PLATINUM

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

Hybrid Indicator	No		
Multiple Fuel Storage	--	**Multiple Fuel Combustion**	--
Fuel Cell Indicator	--	**Rechargeable Energy Storage System Indicator**	--
Rechargeable Energy Storage System	--	**Rechargeable Energy Storage System, if 'Other'**	--
Off-board charge Capable Indicator	--		
Odometer Correction -- Initial	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	06	**Rated Horsepower**	265
Displacement (liters)	2.393		
Air Aspiration Method	Turbocharged	**Air Aspiration Method, if 'Other'**	
Number of Air Aspiration Devices	1	**Air Aspiration Device Configuration**	Single
Charge Air Cooler Type	Liquid	**Drive Mode While Testing**	2-Wheel Drive, Front
Shift Indicator Light Usage	Not eqipped	**Aged Emission Components**	4,000 (mi)
Curb Weight (lbs)	4620	**Equivalent Test Weight (pounds)**	5000
GVWR (lbs)	6195	**N/V Ratio**	25.4
Axle Ratio	3.33		
Transmission Type	Automatic	**# of Transmission Gears**	8
Transmission Lockup	Yes	**Creeper Gear**	No

Test Group	VTYXJ02.4H3B	Evaporative/Refueling Family	VTYXR0165P42

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	37.266	0.13991	0.029041	18.633	0.02798	0.029041	15.6
Cold CO	40.993	0.1539	0.031946	13.791	-0.11493	0.030159	N/A
US06	37.266	0.13991	0.029041	18.633	0.02798	0.029041	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments Drive mode is SPORT.

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078510**	**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	11/18/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	6
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	3888	**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)	0.0048739	--
CO (Carbon Monoxide)	0.1653927	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.67	--
DT-EER (Drive Trace Energy Economy Rating)	0.11	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.06	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.005576	--
N2O (Nitrous Oxide)	0.0002293	--
HC-NM (Non-methane Hydrocarbon)	0.005514	--
NMOG (Non-methane organic gases)	0.006072	--
PM (Particulate Matter)	0.0002088	--
HC-TOTAL (Total Hydrocarbon)	0.0099813	--

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

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	Evaporative/Refueling Family	VTYXR0165P42

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	0.17	--	--	--	0	--	0.2	1.0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CO-COMP	0.22	--	--	--	0	--	0.2	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	CREE	999	--	--	--	0.015	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG	0.0061	1	1.1	--	0.0036	--	0.01	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0117	1	1.1	--	--	--	0.018	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX-COMP	0.0163	1	1.03	--	0.0059	--	0.016	0.040	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0056	--	--	--	0.0023	--	0.008	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	PM	0.0002	--	--	--	0	--	0	0.003	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.17	--	--	--	0	--	0.2	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	METHANE	0.0049	--	--	--	0.0112	--	0.016	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	N2O	0.0002	--	--	--	0.0008	--	0.001	0.010	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0061	1	1.1	--	0.0036	--	0.01	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0117	1	1.1	--	--	--	0.018	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0056	--	--	--	0.0023	--	0.008	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0002	--	--	--	0	--	0	0.003	Pass

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

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078511**	**Test Procedure**	**11 - Cold CO**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	28 - Cold CO E10 Regular Gasoline (Tier 3)
Test Date	12/14/2022	**Fuel**	Gasoline
Fuel Batch ID	2L2A02	**Fuel Calibration Number**	1
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	4095	**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)	0.0141989	--
CO (Carbon Monoxide)	0.5134237	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.38	--
DT-EER (Drive Trace Energy Economy Rating)	0.56	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.01	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.009607	--
N2O (Nitrous Oxide)	0.0182673	--
HC-NM (Non-methane Hydrocarbon)	0.0577306	--
HC-TOTAL (Total Hydrocarbon)	0.0697335	--

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	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

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	0.51	--	--	--	0	--	0.5	10.0	Pass
Fed	120,000 miles	Federal Tier 3 Bin 30	HC-NM	0.06	--	--	--	0	--	0.1	0.3	Pass
CA	50,000 miles	California LEV-IV SULEV30	CO	0.51	--	--	--	0	--	0.5	10.0	Pass

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078507**	**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	11/18/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	6
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	3899	**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)
METHANE (CH4 - Methane)	0.0004876	--
CO (Carbon Monoxide)	0.1025746	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.08	--
DT-EER (Drive Trace Energy Economy Rating)	0.07	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.35	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.000895	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0.0000086	--
NMOG (Non-methane organic gases)	0.0000089	--
HC-TOTAL (Total Hydrocarbon)	0.0004611	--

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	VTYXJ02.4H3B	Evaporative/Refueling Family	VTYXR0165P42

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 3 Bin 30	NMOG	0	1	1.03	--	0.0036	--	0.004	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NMOG+NOX	0.0009	1	1.03	--	--	--	0.007	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 30	NOX	0.0009	--	--	--	0.0023	--	0.003	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0	1	1.03	--	0.0036	--	0.004	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0009	1	1.03	--	--	--	0.007	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0009	--	--	--	0.0023	--	0.003	999.999	Pass

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078527**	**Test Procedure**	**34 - Federal fuel 3-day evap**
Exhaust Test # for this Evap Test	RTYX10078521	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/12/2023	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	8
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	4217	**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)	0.1778	--

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=0.0547, 1ST DBL=0.1231, 2ND DBL=0.0948, 3RD DBL=0.0850, 1ST DBL IS ADDED KEY OFF MONITOR LOSS(0.0008GRAM)

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	0.1778	0	0.178	0.3	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.1778	0	0.178	0.3	Pass

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078526**	**Test Procedure**	**32 - Federal Fuel Running Loss**
Exhaust Test # for this Evap Test	RTYX10078521	**Test Fuel Type**	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/12/2023	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	8
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	4217	**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)	0.0001649	--

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

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

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	0	0	0.05	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0	0	0	0.01	Pass

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078509**	**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	11/18/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	6
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	3919	**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)	0.0033224	--
CO (Carbon Monoxide)	0.3897023	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.13	--
DT-EER (Drive Trace Energy Economy Rating)	-0.36	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.21	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0100291	--
N2O (Nitrous Oxide)	0.0022034	--
HC-NM (Non-methane Hydrocarbon)	0.0053096	--
NMOG (Non-methane organic gases)	0.0054689	--
PM (Particulate Matter)	0.0015311	--
HC-TOTAL (Total Hydrocarbon)	0.0083927	--

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 VTYXJ02.4H3B **Evaporative/Refueling Family** VTYXR0165P42

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	0.0015	--	--	--	0	--	0.002	0.006	Pass
CA	150,000 miles	California LEV-IV SULEV30	CO	0.39	--	--	--	0	--	0.4	9.6	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0055	1	1.03	--	0.0036	--	0.009	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0155	1	1.03	--	--	--	0.021	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.01	--	--	--	0.0023	--	0.012	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	PM	0.0015	--	--	--	0	--	0.002	0.003	Pass

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Test #	**RTYX10078508**	**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	11/30/2022	**Fuel**	Gasoline
Fuel Batch ID	2F2A12	**Fuel Calibration Number**	6
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	4037	**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)
METHANE (CH4 - Methane)	0.0037057	--
CO (Carbon Monoxide)	0.1459838	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.18	--
DT-EER (Drive Trace Energy Economy Rating)	0.14	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.18	--
MFR FE (Manufacturer Fuel Economy)	999	999
NOX (Nitrogen Oxide)	0.0040561	--
N2O (Nitrous Oxide)	0.0148639	--
HC-NM (Non-methane Hydrocarbon)	0.0010406	--
NMOG (Non-methane organic gases)	0.0010718	--
HC-TOTAL (Total Hydrocarbon)	0.0045432	--

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 NMOG = HC-NM x 1.03

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	Evaporative/Refueling Family	VTYXR0165P42

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
CA	150,000 miles	California LEV-IV SULEV30	CO	0.15	--	--	--	0	--	0.2	1.0	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG	0.0011	1	1.03	--	0.0036	--	0.005	999.999	Pass
CA	150,000 miles	California LEV-IV SULEV30	NMOG+NOX	0.0052	1	1.03	--	--	--	0.011	0.030	Pass
CA	150,000 miles	California LEV-IV SULEV30	NOX	0.0041	--	--	--	0.0023	--	0.006	999.999	Pass

Test #	**RTYX10079096**	**Test Procedure**	**65 - Evap Canister Bleed Test**
Exhaust Test # for this Evap Test	--	**Test Fuel Type**	46 - CARB LEV3 E10 Regular Gasoline
Test Date	11/16/2022	**Fuel**	Gasoline
Fuel Batch ID	--	**Fuel Calibration Number**	--
Vehicle Class	N/A	**DF Type**	Mfr. Determined
Verify Test Lab ID	Toyota Motor Corporation		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4217	**Odometer Units**	M
4WD Test Dyno	No	**Diesel Adjustment Factor Usage**	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	--	**Road Speed Fan Usage**	--

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.00518	--

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	0.0052	0	0.005	0.02	Pass
CA	150,000 miles	California LEV-IV Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.0052	0	0.005	0.02	Pass

Test Group	VTYXJ02.4H3B	Evaporative/Refueling Family	VTYXR0165P42

Fuel Properties

Fuel Batch ID	**WL5-32**	**Fuel Calibration Number**	**2**
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	**Fuel Batch Calibration Date**	11/27/2015
Fuel Batch Calibration Effective Date	03/01/2016	**Fuel Batch Calibration Ineffective Date**	03/31/2016
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 (%)	--	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17829
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**	--
Fuel Batch ID	**2F2A12**	**Fuel Calibration Number**	**8**
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	01/01/2023	**Fuel Batch Calibration Ineffective Date**	01/31/2023
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 (%)	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	**2L2A02**	**Fuel Calibration Number**	**1**
Test Fuel Type	28 - Cold CO E10 Regular Gasoline (Tier 3)	**Fuel Batch Calibration Date**	11/04/2022
Fuel Batch Calibration Effective Date	12/12/2022	**Fuel Batch Calibration Ineffective Date**	12/31/2022

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42
Carbon Weight Fraction NMHC	--	**Carbon Weight Fraction HC**	--
Exhaust Carbon Weight Fraction	--	**Fuel Methanol Volume Fraction**	--
Fuel Density (grams/cubic ft)	--	**Fuel Specific Gravity**	0.738
Fuel Ethanol Volume Percent (%)	10	**Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)**	17799
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**	--

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Consolidated List of Standards

Exhaust Standards

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	1.0
150,000 miles	CO-COMP	--	--	--	--	--	--	0	4.2
150,000 miles	CREE	--	--	--	--	--	--	0.015	999.999
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	NMOG	--	1	1.1	--	--	--	0.0036	999.999
150,000 miles	NMOG+NOX	--	1	1.1	--	--	--	0.0059	0.030
150,000 miles	NMOG+NOX-COMP	--	1	1.03	--	--	--	0.0059	0.040
150,000 miles	NOX	--	--	--	--	--	--	0.0023	999.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	1.0
150,000 miles	HCHO	--	--	--	--	--	--	--	0.004
150,000 miles	METHANE	--	--	--	--	--	--	0.0112	0.030
150,000 miles	N2O	--	--	--	--	--	--	0.0008	0.010
150,000 miles	NMOG	--	1	1.1	--	--	--	0.0036	999.999
150,000 miles	NMOG+NOX	--	1	1.1	--	--	--	0.0059	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0023	999.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	NMOG	--	1	1.03	--	--	--	0.0036	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0059	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0023	999.999

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	1.0
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0036	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0059	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0023	999.999

Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	10.0
120,000 miles	HC-NM	--	--	--	--	--	--	0	0.3

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

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	9.6
150,000 miles	NMOG	--	1	1.03	--	--	--	0.0036	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0059	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0023	999.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	1.1	--	--	--	--	999.999
4,000 miles	NMOG+NOX	--	1	1.1	--	--	1	--	0.060
4,000 miles	NOX	--	--	--	--	--	--	--	999.999

Cert Region	California + CAA Section 177 states	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	--	--	--	0.0036	999.999
150,000 miles	NMOG+NOX	--	1	1.03	--	--	--	0.0059	0.030
150,000 miles	NOX	--	--	--	--	--	--	0.0023	999.999

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42
Cert Region	Federal	**Cert/In-Use Code**	Cert
Vehicle Class	LDV/Passenger Car	**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	0.006

Evaporative/Refueling Standards

Evaporative/Refueling Family	VTYXR0165P42	**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

Evaporative/Refueling Family	VTYXR0165P42	**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

Evaporative/Refueling Family	VTYXR0165P42	**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

Evaporative/Refueling Family	VTYXR0165P42	**Cert Region**	California + CAA Section 177 states
Cert/In-Use Code	Cert	**Standard Level**	California LEV-IV Zero Evap (Option 2)
Test Procedure	Evap Canister Bleed Test		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.020	0

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Evaporative/Refueling Family	VTYXR0165P42	**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

Evaporative/Refueling Family	VTYXR0165P42	**Cert Region**	Federal
Cert/In-Use Code	Cert	**Standard Level**	Federal Tier 3 Evap
Test Procedure	Evap Canister Bleed Test		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.020	0

Evaporative/Refueling Family	VTYXR0165P42	**Cert Region**	Federal
Cert/In-Use Code	Cert	**Standard Level**	Federal Tier 3 Evap
Test Procedure	Federal Fuel Running Loss		

Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0

Evaporative/Refueling Family	VTYXR0165P42	**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

Evaporative/Refueling Family	VTYXR0165P42	**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

Evaporative/Refueling Family	VTYXR0165P42	**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	--

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42

Evaporative/Refueling Family	VTYXR0165P42	**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

Certification Summary Information Report

Test Group	VTYXJ02.4H3B	Evaporative/Refueling Family	VTYXR0165P42

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	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42
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

Test Group	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42
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	VTYXJ02.4H3B	**Evaporative/Refueling Family**	VTYXR0165P42
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