

Certification Summary Information Report

Manufacturer	Hyundai Motor Company	Manufacturer Code	HYX
Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Certificate Number	RHYXV00.0201-021	CARB Executive Order #	--
Certificate Issue Date	03/22/2023	Certificate Revision Date	--
Certificate Effective Date	03/22/2023	Conditional Certificate	No
CSI Revision #	--	CSI Submission/Revision Date	03/06/2023 01:46:27 AM
Model Year	2024		

Test Group Information

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

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

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

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	Yes
Fuel Cell Indicator	No	EPA Vehicle Class	LDV
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	--	California Partial Zero Emissions Vehicle Indicator	No
Durability Group Name	RHYXEEENN201	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	07/01/2023	CAP2000 Conditional Certificate?	No
Independent Commercial Importer?	No	Alternative Fuel Converter Certificate?	No
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	RHYXV00.0201
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	Battery Electric Vehicle is exempted from OBD compliance.		
Mfr Test Group Comments	5cycles Adjustment Factor for 18inch tire is 0.747. (TEST NO. FTP:PHYX10076736 / HWY:PHYX10076735 / US06:PHYX10076699 / SC03:PHYX10076701 / 20F FTP:PHYX10076700) 5cycles Adjustment Factor for 20inch tire is 0.759. (TEST NO. FTP:PHYX10076818 / HWY:PHYX10076819 / US06:PHYX10076820 / SC03:PHYX10076821 / 20F FTP:PHYX10076826)		
Mfr Exhaust / Evap Standards Comments	--		

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Test Group		RHYXV00.0201			Evaporative/Refueling Family			--			
Models Covered by this Certificate											
Carline Manufacturer		Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears		Trans - Lockup		
Hyundai Motor Company		1 - HYUNDAI MOTOR COMPANY	251 - Ioniq 6 Long range RWD (18" Wheels)	Federal	2-Wheel Drive, Rear	Automatic	1		No		
Hyundai Motor Company		1 - HYUNDAI MOTOR COMPANY	251 - Ioniq 6 Long range RWD (18" Wheels)	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	1		No		
Hyundai Motor Company		1 - HYUNDAI MOTOR COMPANY	252 - Ioniq 6 Long range RWD (20" Wheels)	Federal	2-Wheel Drive, Rear	Automatic	1		No		
Hyundai Motor Company		1 - HYUNDAI MOTOR COMPANY	252 - Ioniq 6 Long range RWD (20" Wheels)	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	1		No		
Engine Description											
Hybrid Type			--		Hybrid Description			--			
Engine Type			--		Mfr Engine Description			--			
Engine Block Arrangement			--		Mfr Engine Block Arrangement Description			--			
Camless Valvetrain Indicator			--		Oil Viscosity/Classification			--			
Number of Cylinders/Rotors			--		Mechanically Variable Compression Ratio Indicator			--			
After Treatment Device(s) (ATD)											
Mfr After Treatment Device (ATD) Comments			--								
Direct Ozone Reduction (DOR) Device			--								
Mfr Emission Control Device Comments			--								
Official Test Numbers											
Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity		--	--	--	--	--	--	--	--	--	--
Official Charge Depleting Test Numbers											
Test Group Fuel		UDDS			Highway						
Electricity		PHYX10078233			PHYX10078234						
Electricity		PHYX10076816			PHYX10076817						

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Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Hybrid Electric Vehicle And Fuel Cell Information			
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if Other	--
Battery Type	Lithium Ion	Number of Battery Packs	1
Total Voltage of Battery Packs	697	Battery Energy Capacity	111.2
Battery Specific Energy	161.5	Battery Charger Type	Both
Number of Capacitors	--	Capacitor Rating (In Farads)	--
Mfr Capacitor Comments	--		
Hydraulic System Description	--		
Regenerative Braking Type	Electrical Regen Brake		
Regenerative Braking Source	Rear Wheels	Driver Controlled Regenerative Braking	Yes
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	1		
Motor/Generator Type 1	PMSM	Rated Motor/Generator Power	168
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	PMSM : Permanent Magnet Synchronous Motor		

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
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Emission Data Vehicle Information

Vehicle ID / Configuration	CE1U467EA114R / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	PHYXV00.0201	Original Evaporative/Refueling Family	--
Original Test Vehicle Model Year	2023		
Vehicle Model			
Represented Test Vehicle Make	Hyundai	Represented Test Vehicle Model	Ioniq 6 Long range RWD (18" Wheels)

Leak Family Details

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

Drive Source and Fuel#	Drive Source	Fuel
1	Electric Motor	Electricity

Hybrid Indicator	No		
Multiple Fuel Storage	--	Multiple Fuel Combustion	--
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--
Off-board charge Capable Indicator	Yes		
Odometer Correction -- Initial	0	Odometer Correction Factor	0.9985
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	EM17	Rated Horsepower	225
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	--	Drive Mode While Testing	2-Wheel Drive, Rear
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	4222	Equivalent Test Weight (pounds)	4500
GVWR (lbs)	5313	N/V Ratio	126.6
Axle Ratio	4.47		
Transmission Type	Automatic	# of Transmission Gears	1
Transmission Lockup	No	Creep Gear	No

Certification Summary Information Report

Test Group		RHYXV00.0201			Evaporative/Refueling Family			--
Dynamometer Coefficients:								
		Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	23.958	0.15007	0.015929	12.58	0.00356	0.016312	9.5	
Cold CO	26.354	0.16508	0.017522	6.947	-0.06573	0.018539	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		Ioniq 6 Long range RWD 18inch tire. Revision. 1. Add the Cold CO coefficients. 2. Vehicle maker and model. 3. Vehicle model name was corrected.						

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076736	Test Procedure	2 - CVS 75 and later (w/o can. load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	06/20/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3088	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 (kilowatt-hour per 100 miles)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	5.662	595.1960438
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	7.135	472.3195515
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	5.5582	606.3113958
CO2 BAG 4 (Bag 4 Carbon Dioxide)	0	--
FE BAG 4 (Bag 4 Fuel Economy)	7.2627	464.0147604
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.47	--
DT-EER (Drive Trace Energy Economy Rating)	-0.12	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.28	--
MFR FE (Manufacturer Fuel Economy)	6.3352	531.9484783

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

Manufacturer Test Comments

These results came from FTP/HWY combination test mode. 1. test mode : UDDS1 - UDDS2 - HWY. 2. DC energy consumption phase1 = 176.6 Wh/mi; phase2 = 140.2 Wh/mi; phase3 = 179.9 Wh/mi 3. Drive trace information for all FTP Bag phases (IWRR/ASCR/EER) FTP Bag1 : -/0.47/-0.12, FTP Bag2 : 0.47/0.00/-0.45, FTP Bag3 : -0.16/-0.42/-0.13

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076735	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	06/20/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3088	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 (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	5.54	--
DT-EER (Drive Trace Energy Economy Rating)	0	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	6.37	--
MFR FE (Manufacturer Fuel Economy)	5.4946	613.3294507

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

Manufacturer Test Comments

These results came from FTP/HWY combination test mode. 1. test mode : UDDS1 - UDDS2 - HWY. 2. DC energy consumption = 182.0 Wh/mi

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076699	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	06/29/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4368	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 (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.75	--
DT-EER (Drive Trace Energy Economy Rating)	-1.25	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.75	--
MFR FE (Manufacturer Fuel Economy)	4.372	770.8142726
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0	--

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

Manufacturer Test Comments

This is a US06 raw data for 5-cycle coefficient from Combo MCT with US06. 1. test mode : UDDS1 - HFEDS1 - UDDS2 - US06 - CSC - US06 - UDDS - HFEDS2 - UDDS - CSC 2. DC energy consumption Phase1(Highway) = 239.4 Wh/mi; Phase2(City) = 228.7 Wh/mi 3. Drive trace information for US06 (IWRR/ASCR/EER) US06 City : -1.75/-1.75/-1.25, US06 Highway : -14.93/-11.22/-0.18

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076701	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	06/13/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	2392	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 (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.47	--
DT-EER (Drive Trace Energy Economy Rating)	-0.19	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.49	--
MFR FE (Manufacturer Fuel Economy)	4.9756	677.3052496
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0	--

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

Manufacturer Test Comments

This is SC03 raw data for 5-cycle coefficient. 1. test mode : UDDS Prep - UDDS Prep - SC03 - SC03 2. DC energy consumption = 200.979 Wh/mi

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076700	Test Procedure	86 - Charge Depleting 20 Degree F FTP
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	06/23/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	3596	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
PHEV/EV Charge Depleting Test Information			
Recharge Event Voltage	220	Recharge Event Energy (kiloWatt-hours)	72.722
Charge Depleting Range (Calculated miles)	365.763	Charge Depleting Range (Actual miles)	365.763
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	365.763		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--
Charge Depleting Bag/Phase			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	Bag 1 Carbon Dioxide	0	
2	Bag 1 Fuel Economy	2.4951	
3	Bag 2 Carbon Dioxide	0	
4	Bag 2 Fuel Economy	3.7741	
5	Bag 3 Carbon Dioxide	0	
6	Bag 3 Fuel Economy	2.3117	
7	Bag 4 Carbon Dioxide	0	
8	Bag 4 Fuel Economy	4.3588	
9	Carbon-Related Exhaust Emissions	0	
10	Drive Trace Absolute Speed Change Rating	0.84	
11	Drive Trace Energy Economy Rating	-0.19	
12	Drive Trace Inertia Work Ratio Rating	1.89	
13	Manufacturer Fuel Economy	5.0296	
14	System End State of Charge Watt-hours	0	
15	System Start State of Charge Watt-hours	0	

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Manufacturer Test Comments	1. Drive trace information for 20F FTP (IWRR/ASCR/EER) Bag1 : 1.89/0.84/-0.19, Bag3 : 1.39/0.49/-0.40, CD : 1.38/0.55/-0.29 2. DC energy consumption Phase1 = 400.8 Wh/mi; Phase3 = 432.6 Wh/mi; Total charge depleting energy = 198.8 Wh/mi		

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10078233	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	12/13/2022	Fuel	Electricity
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	15, Sincheoksandan 3-ro		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	8822	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	243	Recharge Event Energy (kiloWatt-hours)	85.7284
Charge Depleting Range (Calculated miles)	530.495	Charge Depleting Range (Actual miles)	530.495
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	530.495		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	0.22
3	Drive Trace Energy Economy Rating	-0.59
4	Drive Trace Inertia Work Ratio Rating	0.03
5	Manufacturer Fuel Economy	16.1601
6	System End State of Charge Watt-hours	0
7	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

Tested in EPA (Test no : 20220222013) These results came from a multi-cycle test. 1. DC energy consumption UDDS1 = 164.9 Wh/mi; UDDS2 = 149.8 Wh/mi; UDDS3 = 145.1 Wh/mi; UDDS4 = 145.9 Wh/mi 2. Drive trace information for all UDDS phases (IWRR/ASCR/EER) UDDS1 : 0.03/0.22/-0.59 UDDS2 : 1.41/1.08/0.60 UDDS3 : -0.04/0.07/-0.37 UDDS4 : 1.00/0.35/-0.13

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 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10078234	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	12/13/2022	Fuel	Electricity
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	15, Sincheeksandan 3-ro		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	8822	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	243	Recharge Event Energy (kiloWatt-hours)	85.7284
Charge Depleting Range (Calculated miles)	442.232	Charge Depleting Range (Actual miles)	442.232
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	442.232		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	1.01
3	Drive Trace Energy Economy Rating	0.32
4	Drive Trace Inertia Work Ratio Rating	1.4
5	Manufacturer Fuel Economy	19.3854
6	System End State of Charge Watt-hours	0
7	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

Tested in EPA (Test no : 20220222013) These results came from a multi-cycle test. 1. DC energy consumption HWFE1 = 178.9 Wh/mi; HWFE2 = 174.3 Wh/mi 2. Drive trace information for all HWY phases (IWR/ASCR/EER) HWY1 : 1.40/1.01/0.32 HWY2 : 3.75/3.00/1.28

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 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Emission Data Vehicle Information			
Vehicle ID / Configuration	CE1U467EA114R / 1	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	PHYXV00.0201	Original Evaporative/Refueling Family	--
Original Test Vehicle Model Year	2023		
Vehicle Model			
Represented Test Vehicle Make	Hyundai	Represented Test Vehicle Model	Ioniq 6 Long range RWD (20" Wheels)
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
Hybrid Indicator	No		
Multiple Fuel Storage	--	Multiple Fuel Combustion	--
Fuel Cell Indicator	No	Rechargeable Energy Storage System Indicator	Yes
Rechargeable Energy Storage System	Battery(s)	Rechargeable Energy Storage System, if 'Other'	--
Off-board charge Capable Indicator	Yes		
Odometer Correction -- Initial	0	Odometer Correction Factor	0.9985
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	EM17	Rated Horsepower	225
Displacement (liters)	0.001		
Air Aspiration Method	Naturally Aspirated	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	--	Air Aspiration Device Configuration	--
Charge Air Cooler Type	--	Drive Mode While Testing	2-Wheel Drive, Rear
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)
Curb Weight (lbs)	4277	Equivalent Test Weight (pounds)	4500
GVWR (lbs)	5313	N/V Ratio	126.3
Axle Ratio	4.47		
Transmission Type	Automatic	# of Transmission Gears	1
Transmission Lockup	No	Creep Gear	No

Certification Summary Information Report

Test Group		RHYXV00.0201			Evaporative/Refueling Family			--
Dynamometer Coefficients:								
		Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	32.53	0.16204	0.019041	35.783	0.17824	0.020945	11.8	
Cold CO	14.798	0.03659	0.018883	12.302	-0.06358	0.021589	N/A	
Emission Control Device Comments		--						
Manufacturer Test Vehicle Comments		Ioniq 6 Long range RWD 20inch tire. Revision. 1. Vehicle maker and model. 2. Vehicle model name was corrected.						

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076818	Test Procedure	2 - CVS 75 and later (w/o can. load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	08/05/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5129	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 (kilowatt-hour per 100 miles)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	0	--
FE BAG 1 (Bag 1 Fuel Economy)	5.065	665.3504442
CO2 BAG 2 (Bag 2 Carbon Dioxide)	0	--
FE BAG 2 (Bag 2 Fuel Economy)	6.5249	516.4830112
CO2 BAG 3 (Bag 3 Carbon Dioxide)	0	--
FE BAG 3 (Bag 3 Fuel Economy)	5.1225	657.8818936
CO2 BAG 4 (Bag 4 Carbon Dioxide)	0	--
FE BAG 4 (Bag 4 Fuel Economy)	6.4977	518.645059
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-1.37	--
DT-EER (Drive Trace Energy Economy Rating)	-0.22	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.75	--
MFR FE (Manufacturer Fuel Economy)	5.742	586.9035179

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

Manufacturer Test Comments

These results came from FTP/HWY combination test mode. 1. test mode : UDDS1 - UDDS2 - HWY. 2. DC energy consumption phase1 = 197.4 Wh/mi; phase2 = 153.3 Wh/mi; phase3 = 195.2 Wh/mi 3. Drive trace information for all FTP Bag phases (IWRR/ASCR/EER) phase1 : -1.75/-1.37/-0.22, phase2 : 0.47/0.00/-0.45, phase3 : -0.16/-0.42/-0.13

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076819	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	08/05/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5129	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 (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	3.38	--
DT-EER (Drive Trace Energy Economy Rating)	-0.03	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.06	--
MFR FE (Manufacturer Fuel Economy)	4.7335	711.9467624

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

Manufacturer Test Comments

These results came from FTP/HWY combination test mode. 1. test mode : UDDS1 - UDDS2 - HWY. 2. DC energy consumption = 211.3 Wh/mi

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076820	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	08/10/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5625	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 (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.65	--
DT-EER (Drive Trace Energy Economy Rating)	-1.45	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.8	--
MFR FE (Manufacturer Fuel Economy)	3.8111	884.2591378
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0	--

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

Manufacturer Test Comments

This is a US06 raw data for 5-cycle coefficient from Combo MCT with US06. 1. test mode : UDDS1 - HFEDS1 - UDDS2 - US06 - CSC - US06 - UDDS - HFEDS2 - UDDS - CSC 2. DC energy consumption Phase1(Highway) = 284.8 Wh/mi; Phase2(City) = 262.4 Wh/mi 3. Drive trace information for US06 (IWRR/ASCR/EER) Phase1(Highway): -13.99/-10.53/-0.19, Phase2(City): -1.80/-2.65/-1.45

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076821	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	08/02/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4886	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 (kilowatt-hour per 100 miles)
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.11	--
DT-EER (Drive Trace Energy Economy Rating)	-0.18	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-1.96	--
MFR FE (Manufacturer Fuel Economy)	4.5298	743.9622058
HC-NM+NOX (SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03)	0	--

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

Manufacturer Test Comments

This is SC03 raw data for 5-cycle coefficient. LongRange RWD 20inch tire. 1. test mode : UDDS Prep - UDDS Prep - SC03 - SC03 2. DC energy consumption = 220.8 Wh/mi

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076816	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	08/17/2022	Fuel	Electricity
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6195	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	220	Recharge Event Energy (kiloWatt-hours)	85.7829
Charge Depleting Range (Calculated miles)	454.467	Charge Depleting Range (Actual miles)	454.467
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	454.467		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	-1.07
3	Drive Trace Energy Economy Rating	-0.54
4	Drive Trace Inertia Work Ratio Rating	-1.15
5	Manufacturer Fuel Economy	18.8755
6	System End State of Charge Watt-hours	0
7	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

These results came from a multi-cycle test with US06. 1. DC energy consumption UDDS1 = 181.5 Wh/mi; UDDS2 = 174.5 Wh/mi; UDDS3 = 168.4 Wh/mi; UDDS4 = 171.9 Wh/mi 2. Drive trace information for all UDDS phases (IWRR/ASCR/EER) UDDS1 : -1.15/-1.07/-0.54 UDDS2 : -1.05/-1.20/-0.55 UDDS3 : -1.33/-1.78/-0.60 UDDS4 : -1.21/-1.56/-0.55 Revision. 1. Manufacture comments was corrected.

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 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076817	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	06/29/2022	Fuel	Electricity
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	LDV/Passenger Car	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	6195	Odometer Units	M
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--
State of Charge Delta	Yes		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	220	Recharge Event Energy (kiloWatt-hours)	85.7829
Charge Depleting Range (Calculated miles)	368.915	Charge Depleting Range (Actual miles)	368.915
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	368.915		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Carbon-Related Exhaust Emissions	0
2	Drive Trace Absolute Speed Change Rating	3.33
3	Drive Trace Energy Economy Rating	-0.03
4	Drive Trace Inertia Work Ratio Rating	4.42
5	Manufacturer Fuel Economy	23.2528
6	System End State of Charge Watt-hours	0
7	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

These results came from a multi-cycle test with US06. 1. DC energy consumption HWFE1 = 213.5 Wh/mi; HWFE2 = 209.7 Wh/mi 2. Drive trace information for all HWY phases (IWRR/ASCR/EER) HWY1 : 4.42/3.33/-0.03 HWY2 : 4.29/3.30/-0.01

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 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Test #	PHYX10076826	Test Procedure	86 - Charge Depleting 20 Degree F FTP
Exhaust Test # for this Evap Test	--	Test Fuel Type	62 - Electricity
Test Date	08/08/2022	Fuel	N/A
Fuel Batch ID	--	Fuel Calibration Number	--
Vehicle Class	N/A	DF Type	Mfr. Determined
Verify Test Lab ID	772-1, Jangduck-Dong		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	5264	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

PHEV/EV Charge Depleting Test Information

Recharge Event Voltage	220	Recharge Event Energy (kiloWatt-hours)	73.535
Charge Depleting Range (Calculated miles)	328.436	Charge Depleting Range (Actual miles)	328.436
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	328.436		
Number of Charge Depleting Bags/Phases Conducted	1	Transition Bag/Phase Number	--

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Bag 1 Carbon Dioxide	0
2	Bag 1 Fuel Economy	2.2723
3	Bag 2 Carbon Dioxide	0
4	Bag 2 Fuel Economy	3.5246
5	Bag 3 Carbon Dioxide	0
6	Bag 3 Fuel Economy	2.1175
7	Bag 4 Carbon Dioxide	0
8	Bag 4 Fuel Economy	4.1551
9	Carbon-Related Exhaust Emissions	0
10	Drive Trace Absolute Speed Change Rating	0.93
11	Drive Trace Energy Economy Rating	-0.13
12	Drive Trace Inertia Work Ratio Rating	1.94
13	Manufacturer Fuel Economy	4.4664
14	System End State of Charge Watt-hours	0
15	System Start State of Charge Watt-hours	0

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
Manufacturer Test Comments	1. Drive trace information for 20F FTP (IWRR/ASCR/EER) phase1 : 1.94/0.93/-0.13, phase3 : 1.60/0.65/-0.12, total CD : 1.33/0.55/-0.20 2. DC energy consumption Phase1 = 440.1 Wh/mi; Phase3 = 472.3 Wh/mi; Total charge depleting energy = 223.9 Wh/mi		
Fuel Properties			

Certification Summary Information Report

Test Group		RHYXV00.0201			Evaporative/Refueling Family			--		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV		
Fuel		Electricity			Test Procedure			Charge Depleting UDDS		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
150,000 miles	CREE	--	--	--	--	--	--	0	999	
Exhaust Standards										
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure			Charge Depleting Highway		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
150,000 miles	CREE	--	--	--	--	--	--	0	999	
Exhaust Standards										
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0		
Fuel		Electricity			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	CO	--	--	--	--	--	--	0	0	
Exhaust Standards										
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV		
Fuel		Electricity			Test Procedure			CVS 75 and later (w/o 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	0	

Certification Summary Information Report

Test Group		RHYXV00.0201			Evaporative/Refueling Family			--		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure			Charge Depleting UDDS		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
150,000 miles	CREE	--	--	--	--	--	--	0	999	

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV		
Fuel		Electricity			Test Procedure			Charge Depleting Highway		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
150,000 miles	CREE	--	--	--	--	--	--	0	999	

Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure			CVS 75 and later (w/o 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	0	

Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure			SC03		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	

Certification Summary Information Report

Test Group		RHYXV00.0201			Evaporative/Refueling Family			--		
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			Federal Tier 3 Bin 0		
Fuel		Electricity			Test Procedure			Federal fuel 3-day exhaust		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV		
Fuel		Electricity			Test Procedure			SC03		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV		
Fuel		Electricity			Test Procedure			US06		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDV/Passenger Car			Standard Level			California ZEV		
Fuel		Electricity			Test Procedure			Charge Depleting 20 Degree F FTP		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0	0	

Certification Summary Information Report

Test Group	RHYXV00.0201		Evaporative/Refueling Family			--			
Cert Region	Federal		Cert/In-Use Code			Cert			
Vehicle Class	LDV/Passenger Car		Standard Level			Federal Tier 3 Bin 0			
Fuel	Electricity		Test Procedure			Charge Depleting 20 Degree F FTP			
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0
Cert Region	California + CAA Section 177 states		Cert/In-Use Code			Cert			
Vehicle Class	LDV/Passenger Car		Standard Level			California ZEV			
Fuel	Electricity		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	CO	--	--	--	--	--	--	0	0
Cert Region	Federal		Cert/In-Use Code			Cert			
Vehicle Class	LDV/Passenger Car		Standard Level			Federal Tier 3 Bin 0			
Fuel	Electricity		Test Procedure			US06			
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0	0

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
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	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gases	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
Certification Region			
CA	California + CAA Section 177 states	FA	Federal
Exhaust Emission Standard Level			
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family		--
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630	
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570	
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400	
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270	
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230	
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125	
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110	
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85	
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70	
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50	
OT	Other	T3B30	Federal Tier 3 Bin 30	
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20	
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0	
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
Transmission Type Code				
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual	
A	Automatic	OT	Other	
AM	Automated Manual	SA	Semi-Automatic	
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)	
Drive System Code				
4	4-Wheel Drive	P	Part-time 4-Wheel Drive	
F	2-Wheel Drive, Front	A	All Wheel Drive	
R	2-Wheel Drive, Rear			

Certification Summary Information Report

Test Group	RHYXV00.0201	Evaporative/Refueling Family	--
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