



### Certification Summary Information Report

<b>Test Group</b>		VHYXT00.0401			<b>Evaporative/Refueling Family</b>		--			
<b>Models Covered by this Certificate</b>										
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup			
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	361 - Ioniq 9 AWD	California + CAA Section 177 states	All Wheel Drive	Automatic	1	No			
Hyundai Motor Company	1 - HYUNDAI MOTOR COMPANY	361 - Ioniq 9 AWD	Federal	All Wheel Drive	Automatic	1	No			
<b>Engine Description</b>										
<b>Hybrid Type</b>		--			<b>Hybrid Description</b>		--			
<b>Engine Type</b>		--			<b>Mfr Engine Description</b>		--			
<b>Engine Block Arrangement</b>		--			<b>Mfr Engine Block Arrangement Description</b>		--			
<b>Camless Valvetrain Indicator</b>		--			<b>Oil Viscosity/Classification</b>					
<b>Number of Cylinders/Rotors</b>		--			<b>Mechanically Variable Compression Ratio Indicator</b>		--			
<b>After Treatment Device(s) (ATD)</b>										
<b>Mfr After Treatment Device (ATD) Comments</b>		--								
<b>Direct Ozone Reduction (DOR) Device</b>		--								
<b>Mfr Emission Control Device Comments</b>		--								
<b>Official Test Numbers</b>										
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	--	--	--	--	--	--	--	--	--	--

## Certification Summary Information Report

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--
<b>Hybrid Electric Vehicle And Fuel Cell Information</b>			
<b>Rechargeable Energy Storage System</b>	Battery(s)	<b>Rechargeable Energy Storage System, if Other</b>	--
<b>Battery Type</b>	Lithium Ion	<b>Number of Battery Packs</b>	1
<b>Total Voltage of Battery Packs</b>	610	<b>Battery Energy Capacity</b>	180.9
<b>Battery Specific Energy</b>	176.4	<b>Battery Charger Type</b>	Both
<b>Number of Capacitors</b>	--	<b>Capacitor Rating (In Farads)</b>	--
<b>Mfr Capacitor Comments</b>	--		
<b>Hydraulic System Description</b>	--		
<b>Regenerative Braking Type</b>	Electrical Regen Brake		
<b>Regenerative Braking Source</b>	Both	<b>Driver Controlled Regenerative Braking</b>	Yes
<b>Mfr Regenerative Braking Description</b>	--		
<b>Drive Motor(s)/Generator(s)</b>	2		
<b>Motor/Generator Type 1</b>	PMSM	<b>Rated Motor/Generator Power</b>	160
<b>Motor/Generator Type 2</b>	PMSM	<b>Rated Motor/Generator Power</b>	66
<b>Mfr Fuel Cell Description</b>	--		
<b>Fuel Cell On-Board H2 Storage Capacity (kg)</b>	--	<b>Usable H2 Fill Capacity (kg)</b>	--
<b>Mfr Hybrid Electric/ Electric Vehicle Comments</b>	PMSM : Permanent Magnet Synchronous Motor		

### Certification Summary Information Report

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--
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**Emission Data Vehicle Information**

Vehicle ID / Configuration	ME1-AU5ESER090A / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	THYXV00.0401	Original Evaporative/Refueling Family	--
Original Test Vehicle Model Year	2026		
<b>Vehicle Model</b>			
Represented Test Vehicle Make	Hyundai	Represented Test Vehicle Model	Ioniq 9 AWD

**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	<b>Multiple Fuel Combustion</b>	--
Multiple Fuel Storage	--	<b>Rechargeable Energy Storage System Indicator</b>	Yes
Fuel Cell Indicator	No	<b>Rechargeable Energy Storage System, if 'Other'</b>	--
Rechargeable Energy Storage System	Battery(s)		
Off-board charge Capable Indicator	Yes	<b>Odometer Correction Factor</b>	0.9982
Odometer Correction -- Initial	0	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles	
Odometer Correction Sign			
Odometer Correction Units	Miles	<b>Rated Horsepower</b>	304
Engine Code	EM23	<b>Air Aspiration Method, if 'Other'</b>	
Displacement (liters)	0.001	<b>Air Aspiration Device Configuration</b>	--
Air Aspiration Method	Naturally Aspirated	<b>Drive Mode While Testing</b>	All Wheel Drive
Number of Air Aspiration Devices	--	<b>Aged Emission Components</b>	4,000 (mi)
Charge Air Cooler Type	--	<b>Equivalent Test Weight (pounds)</b>	6000
Shift Indicator Light Usage	Not equipped	<b>N/V Ratio</b>	147.1
Curb Weight (lbs)	5902	<b># of Transmission Gears</b>	1
GVWR (lbs)	7319	<b>Creeper Gear</b>	No
Axle Ratio	4.68		
Transmission Type	Automatic		
Transmission Lockup	No		

**Dynamometer Coefficients:**

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
<b>City/Highway/Evap</b>	35.178	0.18607	0.025684	-11.475	0.18104	0.02376	14.5

**Emission Control Device Comments**      This vehicle have two motors (front : 89hp / rear : 215hp)

### Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
<b>Manufacturer Test Vehicle Comments</b>	Ioniq 9 Long range AWD 20in. This vehicle have two different gear ration for front motors and rear motors. (front 2.263, Rear 2.810). NV ration was calculated by Rear motor ration.		

**Certification Summary Information Report**

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>THYX10087867</b>	<b>Test Procedure</b>	<b>77 - Multi-Cycle Test (MCT)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	08/20/2024	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	2310	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	Yes	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes

**PHEV/EV Charge Depleting Test Information**

<b>Recharge Event Voltage</b>	220	<b>Recharge Event Energy (kiloWatt-hours)</b>	120.917
<b>Charge Depleting Range (Calculated miles)</b>	523.872	<b>Charge Depleting Range (Actual miles)</b>	523.872
<b>Charge Depleting Range Highway (Calculated miles)</b>	420.63	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Equivalent All Electric Range (miles)</b>	523.872
<b>Number of Charge Depleting Bags/Phases Conducted</b>	8	<b>Transition Bag/Phase Number</b>	--

**Charge Depleting Bag/Phase #1**

<b>Test Result/Emission Name</b>	<b>Unrounded Test Result</b>
Actual Distance Driven (miles)	7.447
Carbon Monoxide	0
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.89
Drive Trace Energy Economy Rating	-2.78
Drive Trace Inertia Work Ratio Rating	-2.98
Integrated DC KW-HRS	1.62475
Manufacturer Fuel Economy	21.817455

**Charge Depleting Bag/Phase #2**

## Certification Summary Information Report

<b>Test Group</b>	VHYXT00.0401	Evaporative/Refueling Family	--
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Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	10.238
Carbon Monoxide	0
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	2.57
Drive Trace Energy Economy Rating	-0.9
Drive Trace Inertia Work Ratio Rating	2.39
Integrated DC KW-HRS	2.66219
Manufacturer Fuel Economy	26.002979

**Charge Depleting Bag/Phase #3**

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	7.453
Carbon Monoxide	0
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	-0.09
Drive Trace Energy Economy Rating	-1.09
Drive Trace Inertia Work Ratio Rating	-0.1
Integrated DC KW-HRS	1.57746
Manufacturer Fuel Economy	21.165453

**Charge Depleting Bag/Phase #4**

Test Result/Emission Name	Unrounded Test Result
Actual Distance Driven (miles)	259.589
Carbon Monoxide	0
Carbon-Related Exhaust Emissions	0
Drive Trace Absolute Speed Change Rating	0
Drive Trace Energy Economy Rating	-0.03
Drive Trace Inertia Work Ratio Rating	0
Integrated DC KW-HRS	87.48848
Manufacturer Fuel Economy	33.70269

**Charge Depleting Bag/Phase #5**

## Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--																		
<table border="1"> <thead> <tr> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>Actual Distance Driven (miles)</td> <td>7.542</td> </tr> <tr> <td>Carbon Monoxide</td> <td>0</td> </tr> <tr> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>Drive Trace Absolute Speed Change Rating</td> <td>1.56</td> </tr> <tr> <td>Drive Trace Energy Economy Rating</td> <td>-1.2</td> </tr> <tr> <td>Drive Trace Inertia Work Ratio Rating</td> <td>0.06</td> </tr> <tr> <td>Integrated DC KW-HRS</td> <td>1.52942</td> </tr> <tr> <td>Manufacturer Fuel Economy</td> <td>20.278651</td> </tr> </tbody> </table>				Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	7.542	Carbon Monoxide	0	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	1.56	Drive Trace Energy Economy Rating	-1.2	Drive Trace Inertia Work Ratio Rating	0.06	Integrated DC KW-HRS	1.52942	Manufacturer Fuel Economy	20.278651
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Drive Trace Inertia Work Ratio Rating	0.06																				
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Manufacturer Fuel Economy	20.278651																				
<b>Charge Depleting Bag/Phase #6</b>																					
<table border="1"> <thead> <tr> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>Actual Distance Driven (miles)</td> <td>10.254</td> </tr> <tr> <td>Carbon Monoxide</td> <td>0</td> </tr> <tr> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>Drive Trace Absolute Speed Change Rating</td> <td>3.18</td> </tr> <tr> <td>Drive Trace Energy Economy Rating</td> <td>-0.08</td> </tr> <tr> <td>Drive Trace Inertia Work Ratio Rating</td> <td>3.87</td> </tr> <tr> <td>Integrated DC KW-HRS</td> <td>2.62342</td> </tr> <tr> <td>Manufacturer Fuel Economy</td> <td>25.584326</td> </tr> </tbody> </table>				Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	10.254	Carbon Monoxide	0	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	3.18	Drive Trace Energy Economy Rating	-0.08	Drive Trace Inertia Work Ratio Rating	3.87	Integrated DC KW-HRS	2.62342	Manufacturer Fuel Economy	25.584326
Test Result/Emission Name	Unrounded Test Result																				
Actual Distance Driven (miles)	10.254																				
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Manufacturer Fuel Economy	25.584326																				
<b>Charge Depleting Bag/Phase #7</b>																					
<table border="1"> <thead> <tr> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>Actual Distance Driven (miles)</td> <td>7.443</td> </tr> <tr> <td>Carbon Monoxide</td> <td>0</td> </tr> <tr> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>Drive Trace Absolute Speed Change Rating</td> <td>0.33</td> </tr> <tr> <td>Drive Trace Energy Economy Rating</td> <td>-0.94</td> </tr> <tr> <td>Drive Trace Inertia Work Ratio Rating</td> <td>0.31</td> </tr> <tr> <td>Integrated DC KW-HRS</td> <td>1.53598</td> </tr> <tr> <td>Manufacturer Fuel Economy</td> <td>20.636525</td> </tr> </tbody> </table>				Test Result/Emission Name	Unrounded Test Result	Actual Distance Driven (miles)	7.443	Carbon Monoxide	0	Carbon-Related Exhaust Emissions	0	Drive Trace Absolute Speed Change Rating	0.33	Drive Trace Energy Economy Rating	-0.94	Drive Trace Inertia Work Ratio Rating	0.31	Integrated DC KW-HRS	1.53598	Manufacturer Fuel Economy	20.636525
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Drive Trace Inertia Work Ratio Rating	0.31																				
Integrated DC KW-HRS	1.53598																				
Manufacturer Fuel Economy	20.636525																				
<b>Charge Depleting Bag/Phase #8</b>																					

## Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
<b>Test Result/Emission Name</b>	<b>Unrounded Test Result</b>		
Actual Distance Driven (miles)	27.84		
Carbon Monoxide	0		
Carbon-Related Exhaust Emissions	0		
Drive Trace Absolute Speed Change Rating	17.1		
Drive Trace Energy Economy Rating	-0.23		
Drive Trace Inertia Work Ratio Rating	34.2		
Integrated DC KW-HRS	9.4541		
Manufacturer Fuel Economy	33.9587		
<b>Manufacturer Test Comments</b>	Ioniq 9 AWD 20in MCT Data over '99.99' have been set as '0' due to technical restrictions, but have actually obtained the following results: -> Charge Depleting Bag / Phase #4 DT-ASCR = 237.53, DT-IWRR = 475.04		

### Certification Summary Information Report

Test Group		VHYXT00.0401			Evaporative/Refueling Family						--	
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	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

### Certification Summary Information Report

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--
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Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

### Certification Summary Information Report

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--
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**Emission Data Vehicle Information**

Vehicle ID / Configuration	ME1-KU5ESER059A / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	THYXV00.0401	Original Evaporative/Refueling Family	--
Original Test Vehicle Model Year	2026		
<b>Vehicle Model</b>			
Represented Test Vehicle Make	Hyundai	Represented Test Vehicle Model	Ioniq 9 AWD

**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 Combustion	--
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	Yes
Fuel Cell Indicator	No	Rechargeable Energy Storage System, if 'Other'	--
Rechargeable Energy Storage System	Battery(s)		
Off-board charge Capable Indicator	Yes	Odometer Correction Factor	0.9981
Odometer Correction -- Initial	0	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles	
Odometer Correction Sign			
Odometer Correction Units	Miles	Rated Horsepower	304
Engine Code	EM23	Air Aspiration Method, if 'Other'	
Displacement (liters)	0.001	Air Aspiration Device Configuration	--
Air Aspiration Method	Naturally Aspirated	Drive Mode While Testing	All Wheel Drive
Number of Air Aspiration Devices	--	Aged Emission Components	4,000 (mi)
Charge Air Cooler Type	--	Equivalent Test Weight (pounds)	6000
Shift Indicator Light Usage	Not equipped	N/V Ratio	147.1
Curb Weight (lbs)	5818	# of Transmission Gears	1
GVWR (lbs)	7319	Creeper Gear	No
Axle Ratio	4.68		
Transmission Type	Automatic		
Transmission Lockup	No		

**Dynamometer Coefficients:**

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	35.178	0.18607	0.025684	-8.127	-0.05238	0.025512	14.5

**Emission Control Device Comments**      This vehicle have two motors (front : 89hp / rear : 215hp)

### Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
<b>Manufacturer Test Vehicle Comments</b>	Only for CANADA market (Ioniq 9 Long range AWD 20in.) This vehicle have two different gear ratio for front and rear motors. (front 2.263, Rear 2.810). NV ratio was calculated by Rear motor ratio. TYPO of Set Coefficients was corrected.		

## Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
<b>Test #</b>	<b>THYX10088301</b>	<b>Test Procedure</b>	<b>77 - Multi-Cycle Test (MCT)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	11/04/2024	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	772-1, Jangduck-Dong		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	2754	<b>Odometer Units</b>	M
<b>4WD Test Dyno</b>	Yes	<b>Diesel Adjustment Factor Usage</b>	--
<b>State of Charge Delta</b>	Yes		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV Charge Depleting Test Information</b>			
<b>Recharge Event Voltage</b>	220	<b>Recharge Event Energy (kiloWatt-hours)</b>	123.433
<b>Charge Depleting Range (Calculated miles)</b>	497.437	<b>Charge Depleting Range (Actual miles)</b>	497.437
<b>Charge Depleting Range Highway (Calculated miles)</b>	420.427	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Equivalent All Electric Range (miles)</b>	497.437
<b>Number of Charge Depleting Bags/Phases Conducted</b>	8	<b>Transition Bag/Phase Number</b>	--
<b>Charge Depleting Bag/Phase #1</b>			
<b>Test Result/Emission Name</b>		<b>Unrounded Test Result</b>	
Actual Distance Driven (miles)		7.443	
Carbon Monoxide		0	
Carbon-Related Exhaust Emissions		0	
Drive Trace Absolute Speed Change Rating		-2.88	
Drive Trace Energy Economy Rating		-2.61	
Drive Trace Inertia Work Ratio Rating		-2.96	
Integrated DC KW-HRS		1.78913	
Manufacturer Fuel Economy		24.0377	
<b>Charge Depleting Bag/Phase #2</b>			

## Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--																		
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<b>Charge Depleting Bag/Phase #5</b>																					

## Certification Summary Information Report

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Manufacturer Fuel Economy	22.121																				
<b>Charge Depleting Bag/Phase #8</b>																					

## Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
	<b>Test Result/Emission Name</b>	<b>Unrounded Test Result</b>	
	Actual Distance Driven (miles)	16.025	
	Carbon Monoxide	0	
	Carbon-Related Exhaust Emissions	0	
	Drive Trace Absolute Speed Change Rating	14.22	
	Drive Trace Energy Economy Rating	-0.12	
	Drive Trace Inertia Work Ratio Rating	28.13	
	Integrated DC KW-HRS	5.5354	
	Manufacturer Fuel Economy	34.5423	
<b>Manufacturer Test Comments</b>	This test results only for CANADA market vehicle of Ioniq 9 AWD 20in. MCT Data over '99.99' have been set as '99.99' due to technical restrictions, but have actually obtained the following results: -> Charge Depleting Bag / Phase #4 DT-ASCR = 289.10, DT-IWRR = 578.23		

### Certification Summary Information Report

Test Group		VHYXT00.0401				Evaporative/Refueling Family				--		
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	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CO	0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

### Certification Summary Information Report

Test Group		VHYXT00.0401				Evaporative/Refueling Family				--		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

  

<b>Fuel Properties</b>
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### Certification Summary Information Report

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--
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#### Consolidated List of Standards

**Exhaust Standards**

<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	Federal Tier 3 Bin 0
<b>Fuel</b>	Electricity	<b>Test Procedure</b>	Multi-Cycle Test (MCT)

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	0

<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert
<b>Vehicle Class</b>	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California ZEV
<b>Fuel</b>	Electricity	<b>Test Procedure</b>	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

<b>Cert Region</b>	Federal	<b>Cert/In-Use Code</b>	Cert
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<b>Fuel</b>	Electricity	<b>Test Procedure</b>	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

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>	--						
<b>Cert Region</b>	California + CAA Section 177 states	<b>Cert/In-Use Code</b>	Cert						
<b>Vehicle Class</b>	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	<b>Standard Level</b>	California ZEV						
<b>Fuel</b>	Electricity	<b>Test Procedure</b>	Multi-Cycle Test (MCT)						
<b>Useful Life</b>	<b>Emission Name</b>	<b>Rounded Result</b>	<b>RAF</b>	<b>NMOG / NMHC</b>	<b>Upward Diesel Adjustment Factor</b>	<b>Downward Diesel Adjustment Factor</b>	<b>Mult DF</b>	<b>Add DF</b>	<b>Std</b>
150,000 miles	CO	--	--	--	--	--	--	0	0
150,000 miles	CREE	--	--	--	--	--	--	0	0

## Certification Summary Information Report

Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
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

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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	
<b>Certification Region</b>					
CA	California + CAA Section 177 states		FA	Federal	
<b>Exhaust Emission Standard Level</b>					
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	

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Test Group	VHYXT00.0401	Evaporative/Refueling Family	--
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		
<b>Transmission Type Code</b>			
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)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive

**Certification Summary Information Report**

<b>Test Group</b>	VHYXT00.0401	<b>Evaporative/Refueling Family</b>		--
F	2-Wheel Drive, Front	A	All Wheel Drive	
R	2-Wheel Drive, Rear			
<b>Additional Terms and Acronyms</b>				
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	