



**RIVIAN AUTOMOTIVE, LLC**

**Application for Certification - Part 1**

**2022 Model Year**

**EPA Manufacturer Code: RIV**

**Test Group: NRIVT00.0194**

**Durability Group: N.A.**

**Evaporative Family: N.A.**

<b>Test Group Description:</b>	Battery Electric Vehicle
<b>Applicable Standards:</b>	U.S. EPA: Tier 3 Bin 0 MDPV
	CA: ZEV MDV
<b>Carlines Covered:</b>	R1T, R1S

**For Questions, Contact:**

S. Zaker, SepZaker@rivian.com



13250 N Haggerty Rd  
Plymouth MI, 48170

Mr. Jim Snyder  
Compliance and Innovative Strategies Division  
Office of Mobile Sources  
Environmental Protection Agency  
2000 Traverwood, Ann Arbor, MI 48105

Subject: MY 2022 Rivian Medium Duty Passenger Vehicle Initial Application for issuance of Certificate of Conformity for Test Group NRIVT00.0194.

Rivian believes that all vehicles within this test group comply with all applicable regulations within Code of Federal Regulations Title 40 Parts 85, 86, 600, and California Code of Regulations Title 13.

Vehicle Category:	Medium Duty Passenger Vehicle (8532 lbs. GVW)
Test Group:	NRIVT00.0194
Evaporative Family:	N/A
Federal Standard:	Tier 3 Bin 0
California Standard:	ZEV

Test Group Description:  
1 - Rivian R1  
9- 9 Module Battery  
4 - 4 AC motors

Vehicles Covered by this certificate:	Rivian R1T Rivian R1S
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Your early review and issuance of the certificate will be greatly appreciated. If you have any questions, please email me at [sepzaker@Rivian.com](mailto:sepzaker@Rivian.com) or my phone number available on CDX.

Sepehr Zakeresfahani  
Sr. Homologation Engineer - Range & Environmental





13250 N Haggerty Rd  
Plymouth MI, 48170

Mr. Steven Hada  
Emissions Certification and Compliance Division (ECCD)  
Air Resources Board Laboratory  
9528 Telstar Avenue, El Monte, CA 91731

Subject: MY 2022 Rivian Medium-Duty Vehicles Initial Application for issuance of Certificate of Conformity for Test Group NRIVT00.0194.

Rivian believes that all vehicles within this test group comply with all applicable regulations within Code of Federal Regulations Title 40 Parts 85, 86, 600, and California Code of Regulations Title 13.

Vehicle Category:	Medium-Duty Vehicles (8532 lbs. GVW)
Test Group:	NRIVT00.0194
Evaporative Family:	N/A
Federal Standard:	Tier 3 Bin 0
California Standard:	ZEV

Test Group Description:

1 - Rivian R1  
9- 9 Module Battery  
4 - 4 AC motors

Vehicles Covered by this certificate:	Rivian R1T Rivian R1S
---------------------------------------	--------------------------

Your early review and issuance of the certificate will be greatly appreciated. If you have any questions, please email me at [sepzaker@Rivian.com](mailto:sepzaker@Rivian.com) or my phone number available on DMS.

Sepehr Zakeresfahani  
Sr. Homologation Engineer - Range & Environmental

A handwritten signature in black ink, appearing to read 'Sepehr Zakeresfahani', written over a white background.





13250 N Haggerty Rd  
Plymouth MI, 48170

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**01.00.00 Communications**

**01.01.00 Mailing Information**

Rivian Automotive, LLC  
13250 N Haggerty Rd  
Plymouth MI, 48170  
Attention: Sepehr Zakeresfahani

**01.01.01 Certification Information**

Rivian Automotive, LLC  
13250 N Haggerty Rd  
Plymouth MI, 48170

**01.01.02 Responsible official**

Primary Contact:  
Sepehr Zakeresfahani, Sr. Homologation Engineer.  
[SepZaker@rivian.com](mailto:SepZaker@rivian.com)

**02.00.00 Confidential Information**

**02.01.00 Statement of confidentiality**

**02.02.00 Test vehicle selection**

**02.03.00 Projected California annual model-year sales**

**03.00.00 Facilities, equipment, and test procedures**

**03.01.00 (Reserved)**

**03.02.00 Battery pre-conditioning procedures (if necessary)**

**03.03.00 Configurations and Sub configurations**

Carline	Configuration	Subconfiguration	Tires	A (lbf)	B (lbf/mph)	C (lbf/mph^2)	HP@50	ETW	N/V	Axle Ratio
R1T	9-Module	Conserve	275/55R21	44.81	0.9309	0.01765	18.1	7000	128.8	12.6:1
R1T	9-Module	Sport	275/55R21	48.47	0.7674	0.01799	17.6	7000	128.8	12.6:1
R1S	9-Module	Conserve	275/55R21	44.50	0.6890	0.01990	17.2	7000	128.8	12.6:1
R1S	9-Module	Sport	275/55R21	49.98	0.3654	0.02341	16.9	7000	128.8	12.6:1

**03.04.00 Test Procedures 03.04.01**

**Range Test Procedures 03.04.02**

**Description of Coastdown**

### 03.05.00 Special Test Instructions

#### Vehicle Setup:

Bleyer rigid bar fixation system. Front bar fixed to the front tow hook, and rear bar fixed to the tow hitch receiver.

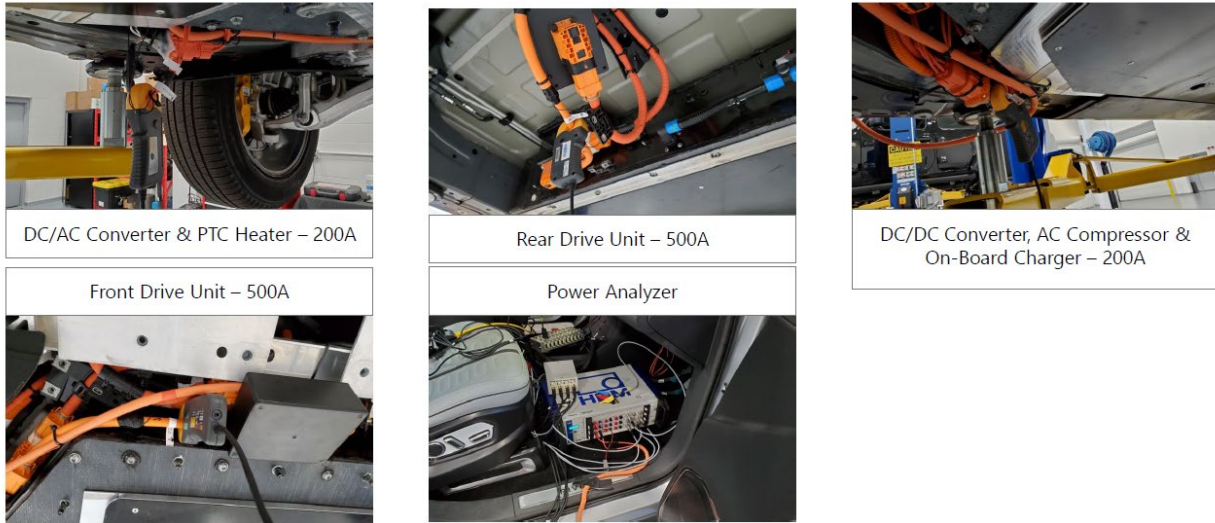




**Instrumentation:**

Battery voltage and current measurement were taken using a HBM Gen4TB power analyzer and Hioki CT684X-05 and current clamps.

- Clamps installed to minimize number of measured current channels.
- Current clamp sizes determined by maximum combined circuit current.



AC Level 2 240 V/ 48 A (11.5 kW) charger was used for charging.

**03.05.00 Statement of Compliance**

Every vehicle which is covered by this application conforms to US EPA Federal Tier 3 Bin 0 regulations applicable to new Medium Duty Passenger Vehicles and state of California ZEV regulations applicable to new Medium-Duty Vehicles for the 2022 Model Year.

**04.00.00 (Reserved)**

**05.00.00 (Reserved)**

**06.00.00 Maintenance**

**06.01.00 Test vehicle scheduled maintenance**

**06.02.00 Recommended customer maintenance schedule**

Rivian Service is our proactive and personal approach to vehicle care, centered around the lives of our owners. Through remote diagnostics, a large fleet of mobile service vans staffed with Rivian Technicians, a network of service centers, and a flexible loaner program. Our approach to vehicle care requires very little from you. Rivian maintenance intervals are determined by onboard prognostics. Vehicle and environment sensors measure or model the remaining life of maintenance items. Owners are informed when maintenance is approaching or due by scheduling necessary maintenance items only.

Our fleet of mobile service vans can perform most vehicle care needs at your home, place of work, or wherever your vehicle might be. In many instances, you don't even have to be present, so you can carry on with your day. Mobile service is available for all Rivian owners anywhere in the US and Canada. As we expand into other markets, our suite of Rivian vehicle care capabilities, including mobile service, will continue to be a key component of our strategy.

Time till repair (year)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Miles to repair equivalent	12.5K	25K	37.5K	50K	62.5K	75K	87.5K	90K	102.5K	115K
<b>R1T and R1S Maintenance Schedule</b>										
Multi-point inspection	X	X	X	X	X	X	X	X	X	X
Drive unit & gearbox fluid lubricant									X	

**06.03.00 Lubricants and heater fuels, if any**

**Transmission Oil:**

BOT 350 M3 transmission fluid for dry electric drive units.

Test	Method	Units	
SAE Grade		-	<b>75W</b>
Density @ 15C, Relative	ASTM D1298	g/ml	<b>0.852</b>
Appearance Visual		-	<b>clear</b>
Viscosity, Kinematic 100°C	ASTM D445	mm <sup>2</sup> /s	<b>6.3</b>
Viscosity, Kinematic 40°C	ASTM D445	mm <sup>2</sup> /s	<b>32</b>
Viscosity Index		-	<b>154</b>
Viscosity, Brookfield @ -40°C	ASTM D2983	mPa.s (cP)	<b>10000</b>
Pour Point	ASTM D97	°C	<b>-51</b>
Flash Point, COC	ASTM D92	°C	<b>226</b>

**Coolant: L228**

**Performance of L228 According to ASTM D3306**

**Table 1 – ASTM D3306 Results**

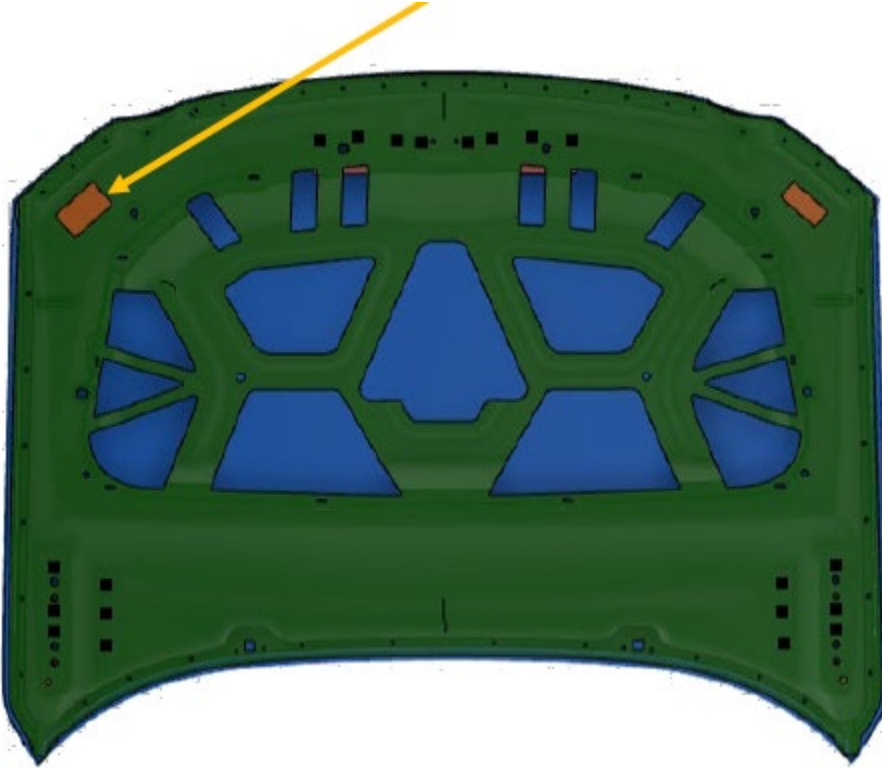
Item		ASTM D3306 Type I	CCI L228	
Color		Distinctive	Yellow	
Relative Density 15.5/15.5°C		1.110 ~ 1.145	1.128	
Freezing Point °C	50 vol% in DI water	-36.4 max.	-37	
Boiling Point °C	50 vol% in DI water	108 min.	109	
Ash content	mass%	5 max.	1.7	
pH	50 vol% in DI water	7.5 ~ 11.0	7.6	
Chloride	µ g/g	25 max.	<25	
Water	mass%	5 max.	3.8	
Reserve Alkalinity	mL	Report	8.0	
Effect on Automotive Finish		No Effect	Pass	
Corrosion in Glassware	Weight Loss <sup>(1)</sup> mg/Specimen	Copper	10 max.	0.2
		Solder	30 max.	4.3
		Brass	10 max.	1.9
		Steel	10 max.	0.7
		Cast Iron	10 max.	1.4
		Aluminum	30 max.	+0.2
Simulated Service Test	Weight Loss <sup>(1)</sup> mg/Specimen	Copper	20 max.	0.7
		Solder	60 max.	6.9
		Brass	20 max.	5.9
		Steel	20 max.	0.2
		Cast Iron	20 max.	3.3
		Aluminum	60 max.	0.1
Corrosion of Cast Aluminum Alloys at Heat-Rejecting Surfaces mg/cm <sup>2</sup> /week		1.0 max.	0.1	
Foaming	Volume mL	150 max.	20	
	Break Time s	5 max.	3	
Cavitation-Erosion Rating for pitting, cavitation, and erosion of the water pump		8 min.	9	

Note (1): A plus sign designates weight gain.

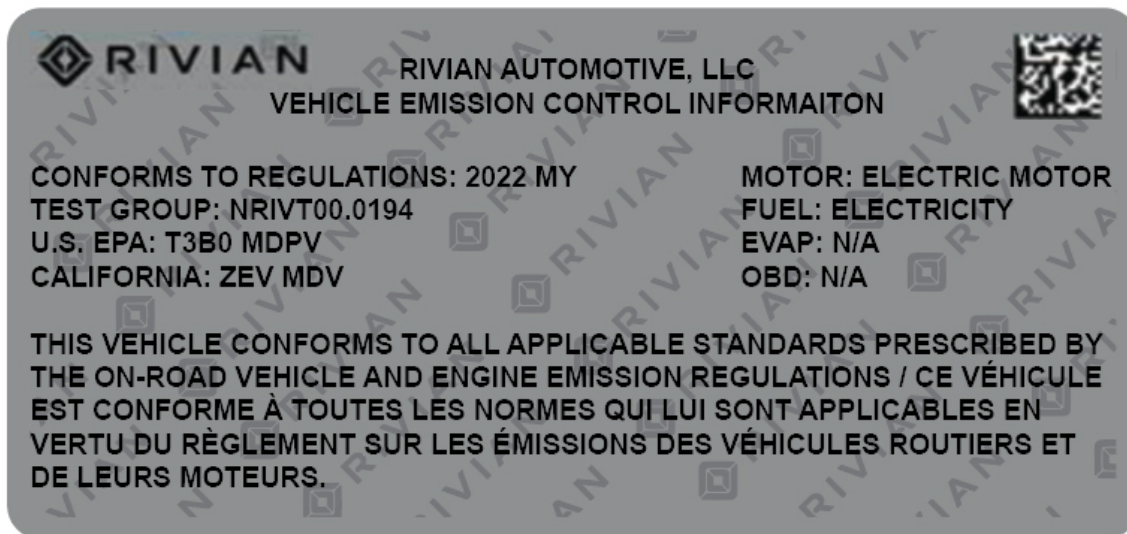
07.00.00 Vehicle Emission Control Information (VECI) and Environmental

07.01.00 VECI Label locations

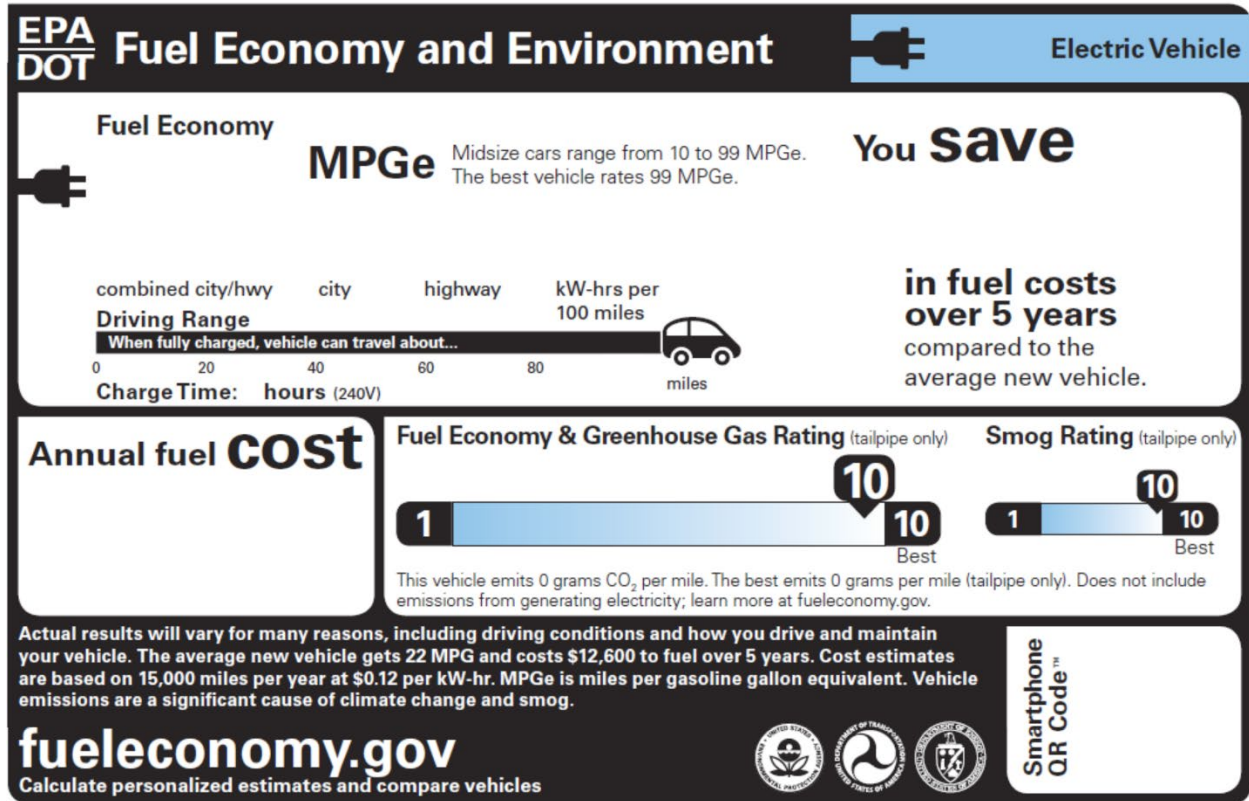
Under-hood, passenger-side, near front of the vehicle.



07.02.00 Sample VECI labels



07.03.00 Sample EP label (Formerly called the Smog Index label)



07.04.00 Statement of compliance

Every vehicle which is covered by this application conforms to US EPA Federal Tier 3 Bin 0 regulations applicable to new Medium Duty Passenger Vehicles and state of California ZEV regulations applicable to new Medium-Duty Vehicles for the 2022 Model Year.

08.00.00 General technical description

08.01.00 Description of Propulsion System

See 08.01.01 through 08.01.06.

08.01.01 Description of Vehicle Architecture

4 motors, full torque vectoring capability with 1 motor/gearset per wheel. Drive units are packaged inboard, with priority on maximizing half shaft length to each wheel to enable maximum durability and suspension articulation.

08.01.02 Description of Drive Unit Architecture

Front and rear drive units have high level of commonality. The motor, gearbox, and inverter are sub assembled into a drive unit to optimize mass, cost, and package spacing. The motors are the largest part of the drive unit, and the drive unit orientation in vehicle is adjusted to have the motors as low and towards the center of the vehicle as possible, reducing the center of gravity and the vehicle's polar moment of inertia.

08.01.03 Description of Motor(s)

#### **08.01.04 Description of Gearbox(s)**

Fully automatic, 2 stage, single speed reduction gearset for each wheel with 12.6:1 ratio on the front and rear drive units

#### **08.01.05 Description of Inverter(s)**

#### **08.01.06 Description of Drivetrain(s)**

#### **08.03.00 Description of Batteries**

The 9 cell modules are assembled into a fully sealed enclosure built from an aluminum frame structure. The lid includes a removable service access panel. A Battery Management System (BMS) communicates battery operation with other vehicle systems, controls the contactors, and monitors current, voltage, and isolation measurements.

#### **08.03.01 Battery charging capacity**

Battery pack nominal capacity is 360 Ah.

#### **08.03.02 Self-discharge information**

#### **08.03.03 Description of thermal management system**

The thermal management system for the high voltage battery is a liquid coolant system. A pump circulates coolant thru the battery and a refrigerant-cooled chiller to extract heat and lower the temperature of the battery. In cold weather, an in-line heating element is used to heat the coolant to raise the temperature of the battery.

#### **08.03.04 Definition of end-of-life**

The battery warranty for in vehicle use is 8 years or 175k miles, whichever occurs first. See section 08.03.05 for information on reuse strategy.

#### **08.03.05 Description of battery disposal plan**

Safe battery removal and discharge by Rivian service is recommended. Rivian service will determine which battery components meet standards for reuse. Rivian prioritizes the remanufacture of battery components into equivalent vehicle parts, and then consumption in 2nd life applications. For components which do not meet the necessary standards, Rivian approved partners will transport, break down, and recycle all materials used within the battery.

Rivian is pursuing UL 1973 certification of vehicle battery modules to enable their reuse for 2nd life grid storage applications. Rivian also plans to develop a process to evaluate the suitability of modules from field returned packs for reuse for grid storage applications in line with UL 1974 (Standard for Evaluation for Repurposing Batteries).

If a facility other than one approved by Rivian intends to dispose of the HV Battery or components, the vehicle owner and/or facility assume the responsibility to comply with any local or federal standards that may apply. A certificate from the recycler should be obtained as proof that the materials were properly and legally disposed of.

#### **08.04.00 Description of Controller/Inverter**

See Section 08.01.05

#### **08.05.00 Description of Transmission**

See Section 08.01.04

#### **08.06.00 Description of climate control system**

- Rivian's climate control is a Dual Zone system with Automatic Temperature control.
- HVAC predominantly includes Defrost mode, Panel mode, and Floor mode (or any combination of these three).
- The vehicle could be remotely conditioned to a comfortable climate setpoint using a Mobile Application.
- The system consists of four electronically controlled face vent to direct airflow around passengers.
- The recirculation door is independently controlled by the passengers.
- Auto humidity control.
- Auto/manual blower fan control.
- The system is equipped with Air Conditioning and PTC heater to provide adequate heating and cooling for individual zones.

#### **08.06.01 Electric Heat Pump**

N/A

#### **08.06.02 (Reserved)**

#### **08.06.03 Climate control system logic**

HVAC software has multiple modes which can be selected based on user preference:

- In Manual Mode, the user has complete control on blower speed, temperature, and airflow distribution to face or feet. Recirculation of air is also manually controlled by the user.
- In Auto mode, the software provides adequate heating and cooling requests to control the breathing temperature of both driver and passenger to the requested setpoint. In this mode, the airflow distribution and the blower speeds are automatically selected to maintain the desired temperature from the screen. The software estimates the breathing temperature of individual passenger based on airflow through ducts, In-Cabin sensors, external ambient temperature sensors, and solar load sensors. Recirculation of air inside the cabin is automatically selected based on humidity level inside the cabin.
- Additionally, defrost or demist mode is provided to the user for a clear view while driving. During defog mode, the software supplies conditioned air towards the windshield based on the dew point calculation. If the desired mode is Defrost, the PTC (Positive Temperature Coefficient) heater blows hot air towards the windshield to clear frost.

#### **08.06.04 (Reserved)**

#### **08.07.00 Description of Regenerative Braking System**

The regenerative braking system can use up to all 4 electric propulsion motors to convert the vehicles kinetic energy to electrical energy which is stored in the vehicles high voltage battery.

### **08.07.01 Control logic**

The regenerative control logic uses two main inputs, acceleration pedal position and vehicle speed to determine a desired regenerative braking torque. The requested braking torque is then distributed between the front and rear axles based on the vehicle state, axle disconnect status, and calculated normal force on each axle. The regenerative torque is limited when the vehicle experiences low wheel traction events (e.g. ice or snow).

### **08.07.02 Percentage of braking performed on road by each axle**

The percentage of braking performed on road by each axle is constantly changing and redistributing. It is based on the driver demanded torque and has been optimized for vehicle dynamics and range attributes.

### **08.07.03 Overlap of friction brakes and regenerative braking**

One pedal driving is the default, in this mode, fully releasing the pedal yields the maximum regen level. And about halfway through the pedal travel is the neutral point, where regen is limited. As the driver manually increases primary service brake pressure and friction braking torque, the vehicle regen level will proportionally ramp down to 0 Nm based on the driver braking pressure. The ramp profile is affected by many factors, such as those described in 08.07.01. When autohold is active and the vehicle approaches standstill, the braking torque will blend from motors to friction brakes.

### **08.08.00 Description of charger**

The Rivian R1T and R1S is capable of conductive charging using Electric Vehicle Supply Equipment (EVSE) off-board chargers for the following charge methods:

- AC Level 1 Charging at 120 V / 12 A
- AC Level 2 Charging at 240 V / 48 A
- DC Fast Charging at up to 210 kW

For Level 1 and Level 2 charging, the vehicle is equipped with an On-Board Charger that will convert the single-phase alternating current from the EVSE into DC current.

The vehicle is equipped with a SAE J1772 Type 1 Combo CCS inlet, located at the front left corner of the vehicle and covered by a charge port door.

### **08.08.01 Proper recharging procedures**

Detailed instructions can be found in the owner's guide.

- Put the vehicle in park (P).
- Open the charge port door, located at the front left corner of the vehicle.
- Plug the charger connector from the Electric Vehicle Supply Equipment (EVSE) into the vehicle's charge inlet, so that the connector is fully seated and latched.
- Follow any instructions provided by the EVSE to begin the charging session.
- When the charging session is complete, it is indicated by the vehicle's center touchscreen and by an indicator light at the vehicle's charge inlet.
- Stop the charge via the vehicle touchscreen or button at the charge port, or follow any instructions provided by the EVSE to end the charging session.
- Remove the charger connector and close the charge port door.

**The charge port light color indicates the charging status:**

- White (solid), Ready.
- White (pulsing), Starting to charge.
- Green (pulsing), Charging.
- Green (solid), Charge Complete.
- Blue (solid), Charge Scheduled.
- Red (solid), Error.
- Red (pulsing), Error.

**Select Trip, Extended, or Daily to set a charging limit based on your range needs.**

- Daily, requires less time to charge and maximizes battery efficiency.
- Extended, allows you to travel farther on one charge.
- Trip, maximizes range and requires more time to charge.

**To stop the charging session:**

- Select Stop Charge from Energy menu.
- Unplug the charge cable and return the plug to the charger.
- Store the cable neatly to prevent a tripping hazard.

**To turn on a charge schedule:**

Set up a schedule to charge at home when electricity costs are less or to stagger charging times between multiple vehicles.

- Select Charge Schedule from the Energy menu.
- Select days to schedule.
- Select times to start and stop charging.
- To disable the charge schedule, select Off.

**08.08.02 Power requirements necessary to recharge vehicle**

The Rivian R1T and R1S comply with industry standard SAE J1772 for AC Level 1 (120 VAC) and AC Level 2 (240 VAC) charging.

AC Level 1 charging requires a conventional 110-120 Volt AC grounded outlet capable of the rating of the EVSE to be used. A portable EVSE cordset that is capable of AC Level 1 charging is included with the vehicle.

AC Level 2 charging requires a 220-240 Volt AC outlet capable of the rating of the EVSE to be used. A portable EVSE cordset that is capable of AC Level 2 charging is included with the vehicle.

**08.09.00 Accessories which draw energy from the batteries**

Energy from the high voltage battery is used to power the electric heater and electric air conditioning. Energy is drawn by an on-board DC-DC converter that converts the high voltage to 14 Volts DC to maintain the low voltage battery system and power 12 Volt systems. Energy is also drawn by an on-board DC-AC converter to provide AC power to NEMA 15-5 outlets located in the vehicle.

**08.10.00 Other unique features (e.g. solar panels)**

N/A

**08.11.00 Description of warning system(s) for maintenance / malfunction**

The Rivian vehicles communicate maintenance and malfunction needs to the driver through easy to read timely notifications. If issues occur, the notification system uses a combination of telltales, texts, and visuals to explain the situation. Our notifications are simple to understand, communicate when the vehicle needs service, and alerts



the customer if an issue arises. The customer leaves the experience feeling confident knowing the system explains the proper actions to take. Any notifications that appears in the driver’s instrument cluster retire to the center display so the driver can recall still relevant notifications at a later time.

The Rivian R1T and R1S provides warning telltale lights on the driver’s display for minor and major defects. A message and an audible tone may also be provided for some major defects. Detailed descriptions of the warnings can be found in the Owner's Guide.

**08.11.01 Cut off terminal voltages for prevention of battery damage**

Battery management control system is programmed to prevent a state of under-voltage or over-voltage per the voltage limits defined by Rivian. Contactor opens and DTCs are set when voltage of the 9 module 135 kWh battery is below 216 V or above 459 V.

**09.00.00 (Reserved)**

**10.00.00 (Reserved)**

**11.00.00 Starting and shifting schedules**

**12.00.00 (Reserved)**

**13.00.00 (Reserved)**

**14.00.00 (Reserved)**

**15.00.00 (Reserved)**

**16.00.00 (Reserved)**

**17.00.00 California requirements**

**17.01.00 Statement of compliance**

Every vehicle which is covered by this application conforms to US EPA Federal Tier 3 Bin 0 regulations applicable to new Medium Duty Passenger Vehicles and state of California ZEV regulations applicable to new Medium-Duty Vehicles for the 2022 Model Year.

**17.01.01 General statement**

Rivian confirms that the production vehicles covered by this application will be substantially the same as the vehicles tested for the purposes of this application.

**17.01.02 Drivability statement**

**17.02.00 Supplemental Data and Certification Review Sheets**

See attached.

**17.03.00 (Reserved)**

**17.04.00 Credits**

**17.04.01 Description of multi-manufacturer arrangements**

N/A

**17.04.02 Credit calculation**

Rivian is a Battery Electric Vehicle manufacturer, all Rivian vehicles can be classified as ZEV and Tier3 Bin0. The number of credits will depend on the Unadjusted UDDS range and is dependent on vehicle type, high voltage battery capacity, and motor configurations.

Variant	# of Credits
R1T/R1S	4

### **17.05.00 Vehicle Safety**

The Rivian architecture comprises a body attached to a skateboard frame structure. The primary structure encompasses engineered crush zones used to, in case of a crash, absorb the crash energy. The “safety cage” comprises of body pillars, side impact bars, floor sills and roof rails (working with other structural elements) and with an advanced optimized restraint system to help properly restrain and protect occupants.

#### **17.05.01 All information for safe operation of vehicle**

See sections 03.04.00, 03.05.00, and 11.00.00.

#### **17.05.02 Information on safe handling of battery system**

The high voltage battery is to be serviced and handled only by technicians authorized by Rivian.

#### **17.05.03 Description of emergency procedures**

Emergency procedures are described in the Owner’s Guide. Please refer to the Owner’s Guide for details. Emergency procedures for first responders are described in the Emergency Response Guide provided for this vehicle.

#### **17.06.00 (Reserved)**

## Certification Summary Information Report

<b>Manufacturer</b>	Rivian Automotice LLC	<b>Manufacturer Code</b>	RIV
<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Certificate Number</b>	--	<b>CARB Executive Order #</b>	--
<b>Certificate Issue Date</b>	--	<b>Certificate Revision Date</b>	--
<b>Certificate Effective Date</b>	--	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	--	<b>CSI Submission/Revision Date</b>	08/24/2021 05:09:55 PM
<b>Model Year</b>	2022		
<b>Test Group Information</b>			
<b>CSI Type</b>	Update for Correction	<b>Running Change Reference Number</b>	1
<b>GHG Exempt Status</b>	Not Exempt		
<b>Drive Sources and Fuel(s)</b>			
<b>Drive Source #1:</b>	Electric Motor		
<b>Hybrid Indicator</b>	No		
<b>Multiple Fuel Storage</b>	--	<b>Rechargeable Energy Storage System Indicator</b>	Yes
<b>Multiple Fuel Combustion</b>	--	<b>Off-board Charge Capable Indicator</b>	Yes
<b>Fuel Cell Indicator</b>	No	<b>EPA Vehicle Class</b>	MDPV
<b>Federal Clean Fuel Vehicle</b>	Yes	<b>Federal Clean Fuel Vehicle Standard</b>	ZEV
<b>Federal Clean Fuel Vehicle ILEV</b>	No	<b>California Partial Zero Emissions Vehicle Indicator</b>	--
<b>Durability Group Name</b>	NRIVR0000194	<b>Durability Group Equivalency Factor</b>	1
<b>Reduced Fee Test Group</b>	No	<b>Certification Region Code(s)</b>	FA, CA
<b>Complies with HD GHG 2b/3 regulations?</b>	No		
<b>Introduction into Commerce Date</b>	09/10/2021	<b>CAP2000 Conditional Certificate?</b>	N/A
<b>Independent Commercial Importer?</b>	--	<b>Alternative Fuel Converter Certificate?</b>	--
<b>SFTP Federal Composite Compliance Identifier</b>	Not Applicable	<b>SFTP Tier 2 Composite CO Option</b>	No
<b>SFTP LEV-III Composite Compliance Indicator</b>	No		
<b>OBD Compliance Type</b>	CARB	<b>OBD Demonstration Vehicle Test Group</b>	NRIVT00.0194
<b>Test Group OBD Compliance Level</b>	Full - no deficiencies	<b>Number of Test Group OBD Deficiencies</b>	0
<b>OBD Deficiencies Comments</b>	OBD COMPLIANCE IS NOT APPLICABLE TO ZEV. PARAMETERS ARE PLACEHOLDERS TO ALLOW DATASET SUBMISSION.		
<b>Mfr Test Group Comments</b>	DURABILITY IS NOT APPLICABLE TO ZEV. PARAMETERS ARE PLACEHOLDERS TO ALLOW DATASET SUBMISSION.		
<b>Mfr Exhaust / Evap Standards Comments</b>	--		

## Certification Summary Information Report

Test Group		NRIVT00.0194		Evaporative/Refueling Family		--				
<b>Models Covered by this Certificate</b>										
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup			
Rivian Automotice LLC	1 - Rivian	2 - RIS	California + CAA Section 177 states	Part-time 4-Wheel Drive	Automatic	1	No			
Rivian Automotice LLC	1 - Rivian	2 - RIS	Federal	Part-time 4-Wheel Drive	Automatic	1	No			
Rivian Automotice LLC	1 - Rivian	1 - R1T	California + CAA Section 177 states	Part-time 4-Wheel Drive	Automatic	1	No			
Rivian Automotice LLC	1 - Rivian	1 - R1T	Federal	Part-time 4-Wheel Drive	Automatic	1	No			
<b>Engine Description</b>										
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			--			
<b>After Treatment Device(s) (ATD)</b>										
Mfr After Treatment Device (ATD) Comments			--							
Direct Ozone Reduction (DOR) Device			--							
Mfr Emission Control Device Comments			--							
<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	--	--	--	--	--	--	--	--	--	--
<b>SFTP LEV-III Official Test Numbers</b>										
Test Group Fuel	FTP	US06	SC03							
Electricity	--	--	--							
<b>Official Charge Depleting Test Numbers</b>										
Test Group Fuel	UDDS	Highway								
Electricity	NRIV10070151	NRIV10070149								
Electricity	NRIV10071339	NRIV10071338								
Electricity	NRIV10070949	NRIV10070948								
Electricity	NRIV10070932	NRIV10070931								

## Certification Summary Information Report

Test Group	NRIVT00.0194	Evaporative/Refueling Family	--
<b>Hybrid Electric Vehicle And Fuel Cell Information</b>			
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	400	Battery Energy Capacity	360
Battery Specific Energy	169	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	Front Wheels	Driver Controlled Regenerative Braking	Yes
Mfr Regenerative Braking Description	--		
Drive Motor(s)/Generator(s)	4		
Motor/Generator Type 1	AC Induction	Rated Motor/Generator Power	163
Motor/Generator Type 2	AC Induction	Rated Motor/Generator Power	163
Motor/Generator Type 3	AC Induction	Rated Motor/Generator Power	162
Motor/Generator Type 4	AC Induction	Rated Motor/Generator Power	162
Mfr Fuel Cell Description	--		
Fuel Cell On-Board H2 Storage Capacity (kg)	--	Usable H2 Fill Capacity (kg)	--
Mfr Hybrid Electric/ Electric Vehicle Comments	--		

**Certification Summary Information Report**

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Emission Data Vehicle Information</b>			
<b>Vehicle ID / Configuration</b>	Cinnamon / 2	<b>Manufacturer Vehicle Configuration Number</b>	2
<b>Original Test Group Name</b>	NRIVT00.0194	<b>Original Evaporative/Refueling Family</b>	--
<b>Original Test Vehicle Model Year</b>	2022		
<b>Vehicle Model</b>			
<b>Represented Test Vehicle Make</b>	Rivian	<b>Represented Test Vehicle Model</b>	R1T
<b>Leak Family Details</b>			
<b>Leak Family Identifier</b>	--	<b>Leak Family Name</b>	--
<b>Drive Sources and Fuel System Details</b>			
	<b>Drive Source and Fuel#</b>	<b>Drive Source</b>	<b>Fuel</b>
	1	Electric Motor	Electricity
<b>Hybrid Indicator</b>	No		
<b>Multiple Fuel Storage</b>	--	<b>Multiple Fuel Combustion</b>	--
<b>Fuel Cell Indicator</b>	No	<b>Rechargeable Energy Storage System Indicator</b>	Yes
<b>Rechargeable Energy Storage System</b>	Battery(s)	<b>Rechargeable Energy Storage System, if 'Other'</b>	--
<b>Off-board charge Capable Indicator</b>	Yes		
<b>Odometer Correction -- Initial</b>	3221	<b>Odometer Correction Factor</b>	1
<b>Odometer Correction Sign</b>	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
<b>Odometer Correction Units</b>	Miles		
<b>Engine Code</b>	132X2110X2OS	<b>Rated Horsepower</b>	872
<b>Displacement (liters)</b>	99.999		
<b>Air Aspiration Method</b>	Naturally Aspirated	<b>Air Aspiration Method, if 'Other'</b>	Electric
<b>Number of Air Aspiration Devices</b>	--	<b>Air Aspiration Device Configuration</b>	--
<b>Charge Air Cooler Type</b>	--	<b>Drive Mode While Testing</b>	Part-time 4-Wheel Drive
<b>Shift Indicator Light Usage</b>	Not equipped	<b>Aged Emission Components</b>	4,000 (mi)
<b>Curb Weight (lbs)</b>	6949	<b>Equivalent Test Weight (pounds)</b>	7000
<b>GVWR (lbs)</b>	--	<b>N/V Ratio</b>	128.8
<b>Axle Ratio</b>	9.99		
<b>Transmission Type</b>	Automatic	<b># of Transmission Gears</b>	1
<b>Transmission Lockup</b>	No	<b>Creeper Gear</b>	No

## Certification Summary Information Report

Test Group		NRIVT00.0194			Evaporative/Refueling Family			--
<b>Dynamometer Coefficients:</b>								
		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	44.81	0.9309	0.01765	-14.19	0.6393	0.01915	18.1	
Cold CO	49.29	1.024	0.01942	-16.72	0.051	0.02805	N/A	
US06	44.81	0.9309	0.01765	-14.19	0.6393	0.01915	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	Conserve Axle ratio is 12.6 Displacement is 0, Electric Vehicle. Data set as a placeholder.							

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070141</b>	<b>Test Procedure</b>	<b>2 - CVS 75 and later (w/o can. load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	04/29/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3221	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	3.17	--
DT-EER (Drive Trace Energy Economy Rating)	1.67	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.2	--
MFR FE (Manufacturer Fuel Economy)	38.74	86.990191
NOX (Nitrogen Oxide)	0	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--

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

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

## Manufacturer Test Comments

Drive Mode: Converve Bag1:31.75 Bag2:26.32 Bag3:30.30 Bag4:25.91



## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194		Evaporative/Refueling Family				--		
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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
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

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

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070142</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	04/29/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3221	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
<b>METHANE (CH4 - Methane)</b>	0	--
<b>CO (Carbon Monoxide)</b>	0	--
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	3.17	--
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	1.67	--
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	4.2	--
<b>MFR FE (Manufacturer Fuel Economy)</b>	30.86	109.2028516
<b>NOX (Nitrogen Oxide)</b>	0	--
<b>N2O (Nitrous Oxide)</b>	0	--
<b>HC-NM (Non-methane Hydrocarbon)</b>	0	--
<b>NMOG (Non-methane organic gases)</b>	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
<b>Carbon-Related Exhaust Emissions</b>	0	0
<b>Optional Carbon-Related Exhaust Emissions</b>	0	0

Test Result Name	Unrounded Test Result	Verify Calculated CO2
<b>Carbon dioxide</b>	0	--

## Manufacturer Test Comments

Drive Mode: Conserve

## Certification Summary Information Report

Test Group		NRIVT00.0194		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	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

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

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070145</b>	<b>Test Procedure</b>	<b>90 - US06</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	04/29/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3221	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	3.17	--
DT-EER (Drive Trace Energy Economy Rating)	1.67	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	4.2	--
MFR FE (Manufacturer Fuel Economy)	40.77	82.6588178
NOX (Nitrogen Oxide)	0	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--

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

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

## Manufacturer Test Comments

Bag 1 City 39.84 Bag 2 HWY 39.68 Bag 3 City 57.47 Combo City 44.64 kWh/100miles Drive Mode: Conserve

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070143</b>	<b>Test Procedure</b>	<b>95 - SC03</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/02/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3312	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.97	--
DT-EER (Drive Trace Energy Economy Rating)	0.9	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.56	--
MFR FE (Manufacturer Fuel Economy)	45.87	73.4684979
NOX (Nitrogen Oxide)	0	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--

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

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

## Manufacturer Test Comments

Drive Mode: Conserve

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--																																				
<b>Test #</b>	<b>NRIV10070152</b>	<b>Test Procedure</b>	<b>86 - Charge Depleting 20 Degree F FTP</b>																																				
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity																																				
<b>Test Date</b>	05/08/2021	<b>Fuel</b>	N/A																																				
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--																																				
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned																																				
<b>Verify Test Lab ID</b>	FEV Michigan																																						
<b>E10 Evaporative Test Measurement Method</b>	--																																						
<b>Test Start Odometer Reading</b>	3697	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes																																				
<b>PHEV/EV Charge Depleting Test Information</b>																																							
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	151.1																																				
<b>Charge Depleting Range (Calculated miles)</b>	357.28	<b>Charge Depleting Range (Actual miles)</b>	357.28																																				
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--																																				
<b>Equivalent All Electric Range (miles)</b>	357.28																																						
<b>Number of Charge Depleting Bags/Phases Conducted</b>	49	<b>Transition Bag/Phase Number</b>	--																																				
<b>Charge Depleting Bag/Phase</b>																																							
<table border="1"> <thead> <tr> <th>Charge Depleting Bag/Phase #</th> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CH4 - Methane</td> <td>0</td> </tr> <tr> <td>2</td> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>3</td> <td>Drive Trace Absolute Speed Change Rating</td> <td>0.35</td> </tr> <tr> <td>4</td> <td>Drive Trace Energy Economy Rating</td> <td>0.29</td> </tr> <tr> <td>5</td> <td>Drive Trace Inertia Work Ratio Rating</td> <td>0.57</td> </tr> <tr> <td>6</td> <td>Manufacturer Fuel Economy</td> <td>34.97</td> </tr> <tr> <td>7</td> <td>Nitrogen Oxide</td> <td>0</td> </tr> <tr> <td>8</td> <td>Nitrous Oxide</td> <td>0</td> </tr> <tr> <td>9</td> <td>Non-methane Hydrocarbon</td> <td>0</td> </tr> <tr> <td>10</td> <td>Non-methane organic gases</td> <td>999.999</td> </tr> <tr> <td>11</td> <td>Non-methane organic gases plus Nitrogen Oxides</td> <td>999.999</td> </tr> </tbody> </table>				Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	1	CH4 - Methane	0	2	Carbon-Related Exhaust Emissions	0	3	Drive Trace Absolute Speed Change Rating	0.35	4	Drive Trace Energy Economy Rating	0.29	5	Drive Trace Inertia Work Ratio Rating	0.57	6	Manufacturer Fuel Economy	34.97	7	Nitrogen Oxide	0	8	Nitrous Oxide	0	9	Non-methane Hydrocarbon	0	10	Non-methane organic gases	999.999	11	Non-methane organic gases plus Nitrogen Oxides	999.999
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result																																					
1	CH4 - Methane	0																																					
2	Carbon-Related Exhaust Emissions	0																																					
3	Drive Trace Absolute Speed Change Rating	0.35																																					
4	Drive Trace Energy Economy Rating	0.29																																					
5	Drive Trace Inertia Work Ratio Rating	0.57																																					
6	Manufacturer Fuel Economy	34.97																																					
7	Nitrogen Oxide	0																																					
8	Nitrous Oxide	0																																					
9	Non-methane Hydrocarbon	0																																					
10	Non-methane organic gases	999.999																																					
11	Non-methane organic gases plus Nitrogen Oxides	999.999																																					
<b>Manufacturer Test Comments</b>	Drive Mode: Conserve Driver Trace Ratings are for the full CD averaged. 124.93 kWh DC discharge energy. Recharge Event Energy data from MCT.																																						

### Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10071338</b>	<b>Test Procedure</b>	<b>84 - Charge Depleting Highway</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	08/12/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	EPA Ann Arbor		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	6100	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

**PHEV/EV Charge Depleting Test Information**

Recharge Event Voltage	240	Recharge Event Energy (kiloWatt-hours)	153.279
Charge Depleting Range (Calculated miles)	431.46	Charge Depleting Range (Actual miles)	431.46
All Electric Range Unadjusted (miles)	--	Derived 5-Cycle Coefficient Model Year	--
Equivalent All Electric Range (miles)	431.46		
Number of Charge Depleting Bags/Phases Conducted	2	Transition Bag/Phase Number	--

**Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	CH4 - Methane	0
2	Carbon-Related Exhaust Emissions	0
3	Drive Trace Absolute Speed Change Rating	0
4	Drive Trace Energy Economy Rating	0
5	Drive Trace Inertia Work Ratio Rating	0
6	Manufacturer Fuel Economy	35.5311
7	Nitrous Oxide	0
8	Non-methane Hydrocarbon	999.999
9	Non-methane organic gases	999.999

**Manufacturer Test Comments**

RIT Cinnamon Drive Mode: Conserve 129248 Wh DC discharge energy.

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

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--																																				
<b>Test #</b>	<b>NRIV10071339</b>	<b>Test Procedure</b>	<b>81 - Charge Depleting UDDS</b>																																				
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity																																				
<b>Test Date</b>	08/12/2021	<b>Fuel</b>	N/A																																				
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--																																				
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned																																				
<b>Verify Test Lab ID</b>	EPA Ann Arbor																																						
<b>E10 Evaporative Test Measurement Method</b>	--																																						
<b>Test Start Odometer Reading</b>	6100	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes																																				
<b>PHEV/EV Charge Depleting Test Information</b>																																							
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	153.279																																				
<b>Charge Depleting Range (Calculated miles)</b>	490.98	<b>Charge Depleting Range (Actual miles)</b>	490.98																																				
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--																																				
<b>Equivalent All Electric Range (miles)</b>	490.98																																						
<b>Number of Charge Depleting Bags/Phases Conducted</b>	4	<b>Transition Bag/Phase Number</b>	--																																				
<b>Charge Depleting Bag/Phase</b>																																							
<table border="1"> <thead> <tr> <th>Charge Depleting Bag/Phase #</th> <th>Test Result/Emission Name</th> <th>Unrounded Test Result</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CH4 - Methane</td> <td>0</td> </tr> <tr> <td>2</td> <td>Carbon-Related Exhaust Emissions</td> <td>0</td> </tr> <tr> <td>3</td> <td>Drive Trace Absolute Speed Change Rating</td> <td>0</td> </tr> <tr> <td>4</td> <td>Drive Trace Energy Economy Rating</td> <td>0</td> </tr> <tr> <td>5</td> <td>Drive Trace Inertia Work Ratio Rating</td> <td>0</td> </tr> <tr> <td>6</td> <td>Manufacturer Fuel Economy</td> <td>31.2238</td> </tr> <tr> <td>7</td> <td>Nitrogen Oxide</td> <td>0</td> </tr> <tr> <td>8</td> <td>Nitrous Oxide</td> <td>0</td> </tr> <tr> <td>9</td> <td>Non-methane Hydrocarbon</td> <td>0</td> </tr> <tr> <td>10</td> <td>Non-methane organic gases</td> <td>999.999</td> </tr> <tr> <td>11</td> <td>Non-methane organic gases plus Nitrogen Oxides</td> <td>999.999</td> </tr> </tbody> </table>				Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	1	CH4 - Methane	0	2	Carbon-Related Exhaust Emissions	0	3	Drive Trace Absolute Speed Change Rating	0	4	Drive Trace Energy Economy Rating	0	5	Drive Trace Inertia Work Ratio Rating	0	6	Manufacturer Fuel Economy	31.2238	7	Nitrogen Oxide	0	8	Nitrous Oxide	0	9	Non-methane Hydrocarbon	0	10	Non-methane organic gases	999.999	11	Non-methane organic gases plus Nitrogen Oxides	999.999
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result																																					
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4	Drive Trace Energy Economy Rating	0																																					
5	Drive Trace Inertia Work Ratio Rating	0																																					
6	Manufacturer Fuel Economy	31.2238																																					
7	Nitrogen Oxide	0																																					
8	Nitrous Oxide	0																																					
9	Non-methane Hydrocarbon	0																																					
10	Non-methane organic gases	999.999																																					
11	Non-methane organic gases plus Nitrogen Oxides	999.999																																					
<b>Manufacturer Test Comments</b>	RIT Cinnamon Drive Mode: Conserve 129248 Wh DC discharge energy.																																						



## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--					
<b>Emission Data Vehicle Information</b>								
<b>Vehicle ID / Configuration</b>	Cinnamon / 3	<b>Manufacturer Vehicle Configuration Number</b>	3					
<b>Original Test Group Name</b>	NRIVT00.0194	<b>Original Evaporative/Refueling Family</b>	--					
<b>Original Test Vehicle Model Year</b>	2022							
<b>Vehicle Model</b>								
<b>Represented Test Vehicle Make</b>	Rivian	<b>Represented Test Vehicle Model</b>	R1T					
<b>Leak Family Details</b>								
<b>Leak Family Identifier</b>	--	<b>Leak Family Name</b>	--					
<b>Drive Sources and Fuel System Details</b>								
	<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">Electric Motor</td> <td style="text-align: center;">Electricity</td> </tr> </tbody> </table>	Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity	
Drive Source and Fuel#	Drive Source	Fuel						
1	Electric Motor	Electricity						
<b>Hybrid Indicator</b>	No							
<b>Multiple Fuel Storage</b>	--	<b>Multiple Fuel Combustion</b>	--					
<b>Fuel Cell Indicator</b>	No	<b>Rechargeable Energy Storage System Indicator</b>	Yes					
<b>Rechargeable Energy Storage System</b>	Battery(s)	<b>Rechargeable Energy Storage System, if 'Other'</b>	--					
<b>Off-board charge Capable Indicator</b>	Yes							
<b>Odometer Correction -- Initial</b>	3221	<b>Odometer Correction Factor</b>	1					
<b>Odometer Correction Sign</b>	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles							
<b>Odometer Correction Units</b>	Miles							
<b>Engine Code</b>	132X2110X2OS	<b>Rated Horsepower</b>	872					
<b>Displacement (liters)</b>	99.999							
<b>Air Aspiration Method</b>	Naturally Aspirated	<b>Air Aspiration Method, if 'Other'</b>	Electric					
<b>Number of Air Aspiration Devices</b>	--	<b>Air Aspiration Device Configuration</b>	--					
<b>Charge Air Cooler Type</b>	--	<b>Drive Mode While Testing</b>	Part-time 4-Wheel Drive					
<b>Shift Indicator Light Usage</b>	Not equipped	<b>Aged Emission Components</b>	4,000 (mi)					
<b>Curb Weight (lbs)</b>	6949	<b>Equivalent Test Weight (pounds)</b>	7000					
<b>GVWR (lbs)</b>	--	<b>N/V Ratio</b>	999.9					
<b>Axle Ratio</b>	9.99							
<b>Transmission Type</b>	Automatic	<b># of Transmission Gears</b>	1					
<b>Transmission Lockup</b>	No	<b>Creeper Gear</b>	No					

## Certification Summary Information Report

Test Group		NRIVT00.0194			Evaporative/Refueling Family			--
<b>Dynamometer Coefficients:</b>								
		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	48.47	0.7674	0.01799	-6.75	0.4237	0.02018	17.6	
Cold CO	53.32	0.8441	0.01979	-15.88	0.0117	0.0257	N/A	
US06	48.47	0.7674	0.01799	-6.75	0.4237	0.02018	N/A	
Emission Control Device Comments	--							
Manufacturer Test Vehicle Comments	Sport N/V Ratio 128.75 Axle Ratio is 12.6:1 Data entered is a placeholder							

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070147</b>	<b>Test Procedure</b>	<b>2 - CVS 75 and later (w/o can. load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/24/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	5196	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.95	--
DT-EER (Drive Trace Energy Economy Rating)	-0.75	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.18	--
MFR FE (Manufacturer Fuel Economy)	42.6	79.1079812
NOX (Nitrogen Oxide)	0	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--

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

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

## Manufacturer Test Comments

Drive Mode: Sport

## Certification Summary Information Report

Test Group		NRIVT00.0194		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	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

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

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070146</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/24/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	5196	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.95	--
DT-EER (Drive Trace Energy Economy Rating)	-0.75	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-2.18	--
MFR FE (Manufacturer Fuel Economy)	33.78	99.7631735
NOX (Nitrogen Oxide)	0	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--

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

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

## Manufacturer Test Comments

Drive Mode: Sport

### Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<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
Fed	150,000 miles	Federal Tier 3 Bin 0	CO	0.0	--	--	--	0	--	0	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

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

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070144</b>	<b>Test Procedure</b>	<b>90 - US06</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/24/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	5196	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
<b>METHANE (CH4 - Methane)</b>	0	--
<b>CO (Carbon Monoxide)</b>	0	--
<b>DT-ASCR (Drive Trace Absolute Speed Change Rating)</b>	-0.95	--
<b>DT-EER (Drive Trace Energy Economy Rating)</b>	-0.75	--
<b>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</b>	-2.18	--
<b>MFR FE (Manufacturer Fuel Economy)</b>	42.19	79.876748
<b>NOX (Nitrogen Oxide)</b>	0	--
<b>N2O (Nitrous Oxide)</b>	0	--
<b>HC-NM (Non-methane Hydrocarbon)</b>	0	--
<b>NMOG (Non-methane organic gases)</b>	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
<b>Carbon-Related Exhaust Emissions</b>	0	--
<b>Optional Carbon-Related Exhaust Emissions</b>	0	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
<b>Carbon dioxide</b>	0	--

## Manufacturer Test Comments

Drive Mode: Sport 39.68 Bag 1 City 42.19 Bag 2 HYW 48.78 Bag 3 City Combo City 42.19 kWh/100miles FE 42.19 kWh/100miles

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070140</b>	<b>Test Procedure</b>	<b>95 - SC03</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/16/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4385	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

## Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (kilowatt-hour per 100 miles)
METHANE (CH4 - Methane)	0	--
CO (Carbon Monoxide)	0	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.54	--
DT-EER (Drive Trace Energy Economy Rating)	1.4	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	2.46	--
MFR FE (Manufacturer Fuel Economy)	49.26	68.4125051
NOX (Nitrogen Oxide)	0	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--

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

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

## Manufacturer Test Comments

Drive Mode: Sport



## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070149</b>	<b>Test Procedure</b>	<b>84 - Charge Depleting Highway</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/21/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4719	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV Charge Depleting Test Information</b>			
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	146.87
<b>Charge Depleting Range (Calculated miles)</b>	380.88	<b>Charge Depleting Range (Actual miles)</b>	380.88
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>Equivalent All Electric Range (miles)</b>	380.88		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	2	<b>Transition Bag/Phase Number</b>	--
<b>Charge Depleting Bag/Phase</b>			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	CH4 - Methane	0	
2	Carbon Monoxide	0	
3	Carbon dioxide	0	
4	Carbon-Related Exhaust Emissions	0	
5	Drive Trace Absolute Speed Change Rating	2.18	
6	Drive Trace Energy Economy Rating	-0.11	
7	Drive Trace Inertia Work Ratio Rating	9.28	
8	Manufacturer Fuel Economy	34.6	
9	Nitrogen Oxide	0	
10	Nitrous Oxide	0	
11	Non-methane Hydrocarbon	0	
12	Non-methane organic gases	999.999	
13	Non-methane organic gases plus Nitrogen Oxides	999.999	
<b>Manufacturer Test Comments</b>	Drive Mode: Sport Driver Trace Ratings are for the full MCT. 128.61 kWh DC discharge energy.		

### Certification Summary Information Report

Test Group		NRIVT00.0194				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	0	Pass
Fed	150,000 miles	Federal Tier 3 Bin 0	CREE	0	--	--	--	0	--	0	--	--
CA	150,000 miles	California ZEV	CO	0.0	--	--	--	0	--	0	0	Pass
CA	150,000 miles	California ZEV	CREE	0	--	--	--	0	--	0	--	--

### Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
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<b>Test #</b>	NRIV10070151	<b>Test Procedure</b>	81 - Charge Depleting UDDS
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/21/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4719	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

**PHEV/EV Charge Depleting Test Information**

<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	146.87
<b>Charge Depleting Range (Calculated miles)</b>	429.42	<b>Charge Depleting Range (Actual miles)</b>	429.42
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>Equivalent All Electric Range (miles)</b>	429.42		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	4	<b>Transition Bag/Phase Number</b>	--

**Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	CH4 - Methane	0
2	Carbon Monoxide	0
3	Carbon dioxide	0
4	Carbon-Related Exhaust Emissions	0
5	Drive Trace Absolute Speed Change Rating	2.18
6	Drive Trace Energy Economy Rating	-0.11
7	Drive Trace Inertia Work Ratio Rating	9.28
8	Manufacturer Fuel Economy	29.96
9	Nitrogen Oxide	0
10	Nitrous Oxide	0
11	Non-methane Hydrocarbon	0
12	Non-methane organic gases	999.999
13	Non-methane organic gases plus Nitrogen Oxides	999.999

**Manufacturer Test Comments**                      Drive Mode: Sport Driver Trace Ratings are for the full MCT. 128.61 kWh DC discharge energy.

## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070153</b>	<b>Test Procedure</b>	<b>86 - Charge Depleting 20 Degree F FTP</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	05/24/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	FEV Michigan		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	4532	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV Charge Depleting Test Information</b>			
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	146.9
<b>Charge Depleting Range (Calculated miles)</b>	186.17	<b>Charge Depleting Range (Actual miles)</b>	186.17
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>Equivalent All Electric Range (miles)</b>	186.17		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	25	<b>Transition Bag/Phase Number</b>	--
<b>Charge Depleting Bag/Phase</b>			
<b>Charge Depleting Bag/Phase #</b>	<b>Test Result/Emission Name</b>	<b>Unrounded Test Result</b>	
1	CH4 - Methane	0	
2	Carbon Monoxide	0	
3	Carbon dioxide	0	
4	Carbon-Related Exhaust Emissions	0	
5	Drive Trace Absolute Speed Change Rating	0.41	
6	Drive Trace Energy Economy Rating	0.22	
7	Drive Trace Inertia Work Ratio Rating	0.59	
8	Manufacturer Fuel Economy	39.53	
9	Nitrogen Oxide	0	
10	Nitrous Oxide	0	
11	Non-methane Hydrocarbon	0	
12	Non-methane organic gases	999.999	
13	Non-methane organic gases plus Nitrogen Oxides	999.999	
<b>Manufacturer Test Comments</b>	Drive Mode: Sport Driver Trace Ratings are for the full CD averaged. 73.55 kWh DC discharge energy. Recharge Event Energy is from MCT 146.9 kWh		

### Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
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**Emission Data Vehicle Information**

Vehicle ID / Configuration	Madison / 0	Manufacturer Vehicle Configuration Number	6
Original Test Group Name	NRIVT00.0194	Original Evaporative/Refueling Family	--
Original Test Vehicle Model Year	2022		

**Vehicle Model**

Represented Test Vehicle Make	Rivian	Represented Test Vehicle Model	R1S
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**Leak Family Details**

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

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

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	1
Odometer Correction -- Initial	3864	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles	
Odometer Correction Sign	Miles		
Odometer Correction Units	Miles	Rated Horsepower	872
Engine Code	132X2110X2OS	Air Aspiration Method, if 'Other'	Electric
Displacement (liters)	99.999	Air Aspiration Device Configuration	--
Air Aspiration Method	Naturally Aspirated	Drive Mode While Testing	Part-time 4-Wheel Drive
Number of Air Aspiration Devices	--	Aged Emission Components	4,000 (mi)
Charge Air Cooler Type	--	Equivalent Test Weight (pounds)	7000
Shift Indicator Light Usage	Not equipped	N/V Ratio	999.9
Curb Weight (lbs)	6916		
GVWR (lbs)	--	# of Transmission Gears	1
Axle Ratio	9.99	Creeper Gear	No
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	44.5	0.689	0.0199	-10.8	0.306	0.0227	17.2
US06	44.5	0.689	0.0199	-10.8	0.306	0.0227	N/A

### Certification Summary Information Report

Test Group	NRIVT00.0194	Evaporative/Refueling Family	--
<b>Emission Control Device Comments</b>	--		
<b>Manufacturer Test Vehicle Comments</b>	Conserve N/V Ratio 128.75 Axle Ratio is 12.6:1 Data entered is a placeholder		

### Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070931</b>	<b>Test Procedure</b>	<b>84 - Charge Depleting Highway</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	07/14/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	ATDS California		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	2902	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

**PHEV/EV Charge Depleting Test Information**

<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	151.83
<b>Charge Depleting Range (Calculated miles)</b>	449.87	<b>Charge Depleting Range (Actual miles)</b>	449.87
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>Equivalent All Electric Range (miles)</b>	449.87		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	2	<b>Transition Bag/Phase Number</b>	--

**Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	CH4 - Methane	0
2	Carbon-Related Exhaust Emissions	0
3	Drive Trace Absolute Speed Change Rating	2.435
4	Drive Trace Energy Economy Rating	0.39
5	Drive Trace Inertia Work Ratio Rating	3.33
6	Manufacturer Fuel Economy	33.7498
7	Nitrous Oxide	0
8	Non-methane Hydrocarbon	999.999
9	Non-methane organic gases	999.999

**Manufacturer Test Comments**

R1S Madison Drive Mode: Conserve Driver Trace Ratings are Avg of the two HWYs. 128823.66 Wh DC discharge energy.

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	NRIVT00.0194	Evaporative/Refueling Family	--
<b>Test #</b>	<b>NRIV10070932</b>	<b>Test Procedure</b>	<b>81 - Charge Depleting UDDS</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	07/14/2021	<b>Fuel</b>	N/A
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	ATDS California		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	2902	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes
<b>PHEV/EV Charge Depleting Test Information</b>			
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	151.83
<b>Charge Depleting Range (Calculated miles)</b>	503.47	<b>Charge Depleting Range (Actual miles)</b>	503.47
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>Equivalent All Electric Range (miles)</b>	503.47		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	4	<b>Transition Bag/Phase Number</b>	--
<b>Charge Depleting Bag/Phase</b>			
Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result	
1	CH4 - Methane	0	
2	Carbon-Related Exhaust Emissions	0	
3	Drive Trace Absolute Speed Change Rating	1.275	
4	Drive Trace Energy Economy Rating	1.2625	
5	Drive Trace Inertia Work Ratio Rating	1.895	
6	Manufacturer Fuel Economy	30.1567	
7	Nitrogen Oxide	0	
8	Nitrous Oxide	0	
9	Non-methane Hydrocarbon	0	
10	Non-methane organic gases	999.999	
11	Non-methane organic gases plus Nitrogen Oxides	999.999	
<b>Manufacturer Test Comments</b>	R1S Madison Drive Mode: Conserve Driver Trace Ratings are Avg of the 4 UDDSs. 128823.66 Wh DC discharge energy.		



## Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194		<b>Evaporative/Refueling Family</b>	--							
<b>Emission Data Vehicle Information</b>											
<b>Vehicle ID / Configuration</b>	Madison / 1		<b>Manufacturer Vehicle Configuration Number</b>	7							
<b>Original Test Group Name</b>	NRIVT00.0194		<b>Original Evaporative/Refueling Family</b>	--							
<b>Original Test Vehicle Model Year</b>	2022										
<b>Vehicle Model</b>											
<b>Represented Test Vehicle Make</b>	Rivian		<b>Represented Test Vehicle Model</b>	R1S							
<b>Leak Family Details</b>											
<b>Leak Family Identifier</b>	--		<b>Leak Family Name</b>	--							
<b>Drive Sources and Fuel System Details</b>											
<table border="1"> <thead> <tr> <th>Drive Source and Fuel#</th> <th>Drive Source</th> <th>Fuel</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Electric Motor</td> <td>Electricity</td> </tr> </tbody> </table>						Drive Source and Fuel#	Drive Source	Fuel	1	Electric Motor	Electricity
Drive Source and Fuel#	Drive Source	Fuel									
1	Electric Motor	Electricity									
<b>Hybrid Indicator</b>	No		<b>Multiple Fuel Combustion</b>	--							
<b>Multiple Fuel Storage</b>	--		<b>Rechargeable Energy Storage System Indicator</b>	Yes							
<b>Fuel Cell Indicator</b>	No		<b>Rechargeable Energy Storage System, if 'Other'</b>	--							
<b>Rechargeable Energy Storage System</b>	Battery(s)										
<b>Off-board charge Capable Indicator</b>	Yes		<b>Odometer Correction Factor</b>	1							
<b>Odometer Correction -- Initial</b>	3864										
<b>Odometer Correction Sign</b>	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles										
<b>Odometer Correction Units</b>	Miles										
<b>Engine Code</b>	132X2110X2OS		<b>Rated Horsepower</b>	872							
<b>Displacement (liters)</b>	99.999										
<b>Air Aspiration Method</b>	Naturally Aspirated		<b>Air Aspiration Method, if 'Other'</b>	Electric							
<b>Number of Air Aspiration Devices</b>	--		<b>Air Aspiration Device Configuration</b>	--							
<b>Charge Air Cooler Type</b>	--		<b>Drive Mode While Testing</b>	Part-time 4-Wheel Drive							
<b>Shift Indicator Light Usage</b>	Not equipped		<b>Aged Emission Components</b>	4,000 (mi)							
<b>Curb Weight (lbs)</b>	6916		<b>Equivalent Test Weight (pounds)</b>	7000							
<b>GVWR (lbs)</b>	--		<b>N/V Ratio</b>	999.9							
<b>Axle Ratio</b>	9.99										
<b>Transmission Type</b>	Automatic		<b># of Transmission Gears</b>	1							
<b>Transmission Lockup</b>	No		<b>Creeper Gear</b>	No							
<b>Dynamometer Coefficients:</b>											
<b>Target Coefficients</b>			<b>Set Coefficients</b>			<b>EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients</b>					
<b>Coefficient Category</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>	<b>C (lbf/mph**2)</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>		<b>C (lbf/mph**2)</b>				
<b>City/Highway/Evap</b>	49.975	0.36541	0.023407	-5.3	0.131		0.0247				
<b>US06</b>	49.975	0.36541	0.023407	-5.3	0.131	0.0247	16.9				
							N/A				

### Certification Summary Information Report

Test Group	NRIVT00.0194	Evaporative/Refueling Family	--
<b>Emission Control Device Comments</b>	--		
<b>Manufacturer Test Vehicle Comments</b>	Sport N/V Ratio 128.75 Axle Ratio is 12.6:1 Data entered is a placeholder		

### Certification Summary Information Report

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>NRIV10070948</b>	<b>Test Procedure</b>	<b>84 - Charge Depleting Highway</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity
<b>Test Date</b>	07/20/2021	<b>Fuel</b>	Electricity
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--
<b>Vehicle Class</b>	MDPV (Federal Tier 2, GVWR 8501-10000)	<b>DF Type</b>	EPA Assigned
<b>Verify Test Lab ID</b>	ATDS California		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Start Odometer Reading</b>	3396	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes

**PHEV/EV Charge Depleting Test Information**

<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	152.858
<b>Charge Depleting Range (Calculated miles)</b>	397.03	<b>Charge Depleting Range (Actual miles)</b>	397.03
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--
<b>Equivalent All Electric Range (miles)</b>	397.03		
<b>Number of Charge Depleting Bags/Phases Conducted</b>	2	<b>Transition Bag/Phase Number</b>	--

**Charge Depleting Bag/Phase**

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	CH4 - Methane	0
2	Carbon-Related Exhaust Emissions	0
3	Drive Trace Absolute Speed Change Rating	1.155
4	Drive Trace Energy Economy Rating	0.185
5	Drive Trace Inertia Work Ratio Rating	1.29
6	Manufacturer Fuel Economy	38.5006
7	Nitrous Oxide	0
8	Non-methane Hydrocarbon	999.999
9	Non-methane organic gases	999.999

**Manufacturer Test Comments**

R1S Madison Drive Mode: Sport Driver Trace Ratings are Avg of the two HWYs. 128848.31 Wh DC discharge energy.

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

<b>Test Group</b>	NRIVT00.0194	<b>Evaporative/Refueling Family</b>	--																																				
<b>Test #</b>	<b>NRIV10070949</b>	<b>Test Procedure</b>	<b>81 - Charge Depleting UDDS</b>																																				
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	62 - Electricity																																				
<b>Test Date</b>	07/20/2021	<b>Fuel</b>	N/A																																				
<b>Fuel Batch ID</b>	--	<b>Fuel Calibration Number</b>	--																																				
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	EPA Assigned																																				
<b>Verify Test Lab ID</b>	ATDS California																																						
<b>E10 Evaporative Test Measurement Method</b>	--																																						
<b>Test Start Odometer Reading</b>	3396	<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 86 (+/- 2 mph, +/- 1 sec)	<b>Road Speed Fan Usage</b>	Yes																																				
<b>PHEV/EV Charge Depleting Test Information</b>																																							
<b>Recharge Event Voltage</b>	240	<b>Recharge Event Energy (kiloWatt-hours)</b>	152.858																																				
<b>Charge Depleting Range (Calculated miles)</b>	443.5	<b>Charge Depleting Range (Actual miles)</b>	443.5																																				
<b>All Electric Range Unadjusted (miles)</b>	--	<b>Derived 5-Cycle Coefficient Model Year</b>	--																																				
<b>Equivalent All Electric Range (miles)</b>	443.5																																						
<b>Number of Charge Depleting Bags/Phases Conducted</b>	4	<b>Transition Bag/Phase Number</b>	--																																				
<b>Charge Depleting Bag/Phase</b>																																							
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Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result																																					
1	CH4 - Methane	0																																					
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6	Manufacturer Fuel Economy	34.4659																																					
7	Nitrogen Oxide	0																																					
8	Nitrous Oxide	0																																					
9	Non-methane Hydrocarbon	0																																					
10	Non-methane organic gases	999.999																																					
11	Non-methane organic gases plus Nitrogen Oxides	999.999																																					
<b>Manufacturer Test Comments</b>	R1S Madison Drive Mode: Sport Driver Trace Ratings are Avg of the 4 UDDSs. 128848.31 Wh DC discharge energy.																																						

**Fuel Properties**

## Certification Summary Information Report

Test Group		NRIVT00.0194			Evaporative/Refueling Family			--		
Consolidated List of Standards										
Exhaust Standards										
<b>Cert Region</b>		California + CAA Section 177 states			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		MDPV (Federal Tier 2, GVWR 8501-10000)			<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	
150,000 miles	CREE	--	--	--	--	--	--	0	0	
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		MDPV (Federal Tier 2, GVWR 8501-10000)			<b>Standard Level</b>			Federal Tier 3 Bin 0		
<b>Fuel</b>		Electricity			<b>Test Procedure</b>			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	
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>		MDPV (Federal Tier 2, GVWR 8501-10000)			<b>Standard Level</b>			California ZEV		
<b>Fuel</b>		Electricity			<b>Test Procedure</b>			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	
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>		MDPV (Federal Tier 2, GVWR 8501-10000)			<b>Standard Level</b>			California ZEV		
<b>Fuel</b>		Electricity			<b>Test Procedure</b>			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	0	

### Certification Summary Information Report

<b>Test Group</b>		NRIVT00.0194			<b>Evaporative/Refueling Family</b>			--		
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		MDPV (Federal Tier 2, GVWR 8501-10000)			<b>Standard Level</b>			Federal Tier 3 Bin 0		
<b>Fuel</b>		Electricity			<b>Test Procedure</b>			CVS 75 and later (w/o can. load)		
<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	
<b>Cert Region</b>		Federal			<b>Cert/In-Use Code</b>			Cert		
<b>Vehicle Class</b>		MDPV (Federal Tier 2, GVWR 8501-10000)			<b>Standard Level</b>			Federal Tier 3 Bin 0		
<b>Fuel</b>		Electricity			<b>Test Procedure</b>			Charge Depleting Highway		
<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	

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Test Group	NRIVT00.0194	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	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
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
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

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Test Group	NRIVT00.0194	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	
<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	
F	2-Wheel Drive, Front	A	All Wheel Drive	
R	2-Wheel Drive, Rear			



## Certification Summary Information Report

Test Group	NRIVT00.0194	Evaporative/Refueling Family	--
<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