March 21, 2022



Pipeline and Hazardous Materials Safety Administration 1200 New Jersey Avenue, SE Washington, DC 20590

DOT-SP 21304

# EXPIRATION DATE: 2024-02-29

# (FOR RENEWAL, SEE 49 CFR 107.109)

1. <u>GRANTEE</u>: Freewire Technologies, Inc. San Leandro, CA

# 2. <u>PURPOSE AND LIMITATION</u>:

a. This special permit authorizes the transportation in commerce of certain lithium ion batteries (EV charging batteries) that exceed 35 kg and other lithium ion batteries that are contained in equipment (air conditioning unit) in alternate packaging, by cargo-only aircraft. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.

c. No party status will be granted to this special permit.

d. This special permit serves as an approval under Special Provision A99 and the fourth paragraph of IA.2 of Packing Instruction 965 of the ICAO TI and 49 CFR § 173.185(b)(5) and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.

- 3. <u>REGULATORY SYSTEM AFFECTED</u>: 49 CFR Parts 106, 107 and 171-180 and the ICAO TI.
- 4. <u>REGULATIONS FROM WHICH EXEMPTED</u>: 49 CFR § 172.101 Hazardous Materials Table Column (9B) in that a battery may not exceed 35 kg and 49 CFR §173.24(e)(4), in that hazardous materials may not be packed or mixed together in the same outer packaging with other hazardous or nonhazardous materials, except as specified herein.

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5. <u>BASIS</u>: This special permit is based on the application of Freewire Technologies, Inc. dated November 16, 2021, submitted in accordance with § 107.105 and the public proceeding thereon.

# 6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identi- fication Number	Packing Group
Lithium ion batteries including lithium ion polymer batteries	9	UN3480	N/A
Lithium ion batteries contained in equipment	9	UN3481	N/A
Refrigerating machines, containing non- flammable, non-toxic gases, or ammonia solutions (UN2672)	2.2	UN2857	N/A

## 7. <u>SAFETY CONTROL MEASURES</u>:

#### a. <u>SAFETY CONTROLS</u>:

(1) Only the following battery assemblies and batteries contained in equipment are authorized to be transported under the terms of this special permit:

(i) Battery assembly: The lithium-ion battery assembly consists of 8 strings of batteries with each string consisting of 12 of 8.8 kg (1.67 kWh) modules identified as AESCCP-201-239-01 in the test summary and is used to charge power to electrical vehicles. Each module is comprised of  $4^{th}$  generation cells identified as 299A0 5SA0A in a configuration as described in the supplemental information dated February 9, 2022. The nominal rated energy capacity of the battery assembly is 160 kWh.

(ii) Battery contained in equipment (refrigerating machine): A lithium ion battery (RELi3ON model RB24V20) is comprised of cells in a 6S8P configuration and supplies power to equipment including the air conditioning unit and coolant pump. The nominal rated energy capacity of the battery is 512 Wh.

(iii) The battery assembly and the battery contained in equipment must be housed in a casing constructed of suitable material and design.

(2) Cells, battery modules, batteries contained in equipment and battery assemblies must be protected against short-circuiting.

(3) The battery assemblies and the batteries contained in equipment (refrigeration machine) must be offered for transportation at a state of charge not greater than 30%.

(4) Battery modules, battery assemblies or the batteries contained in equipment with cells, modules, or batteries connected in parallel must be equipped with an effective means to prevent dangerous reverse current flow.

(5) The battery assemblies must be equipped with a battery management system that has been verified as preventing overcharge, short circuits, and overdischarge between the modules.

(6) The battery modules, battery assemblies, and the batteries contained in equipment must be secured to prevent inadvertent movement and the terminals may not support the weight of other superimposed elements.

(7) The aggregate net quantity of R134a refrigerant in the refrigeration machine may not exceed 0.75 kilograms (1.7 pounds).

## b. <u>TESTING REQUIREMENTS</u>:

(1) Each cell (299A0 5SA0A) type within each battery assembly must have passed the required tests in accordance with the UN Manual of Tests and Criteria, 5th Revised Edition.

(2) Each battery module (29589 5S80A, 29589 5S81A, 29589 5S82A, 29589 5S83A, 29589 5S84A, 29589 5S85A, 29589 5SH0D, or 29589 5SH1D) comprising the battery assembly must be of a type that has have passed the required tests in accordance with the UN Manual of Tests and Criteria, 7th Revised Edition.

(3) Each cell type within the battery contained in equipment (refrigerating machine) must have passed the required tests in accordance with the UN Manual of Tests and Criteria, 6th Revised Edition.

(4) Each battery (Model RB24V20) contained in equipment must be of a type that has passed the required tests in accordance with the UN Manual of Tests and Criteria, 6th Revised Edition

### c. <u>PACKAGING</u>:

(1) The battery assembly and the battery contained in equipment (refrigerating machine, coolant delivery, etc.) must be securely mounted within the rigid and robust framing of the electric vehicle (EV) charging unit.

(2) The entire EV charging unit is shrink-wrapped to secure the external charging cable and to prevent moisture intrusion.

(3) The entire shrink-wrapped EV charging unit must be placed in and secured to a wooden crate.

(4) A corrugated cardboard sleeve is placed around the wooden crate and serves as a strong outer packaging.

(5) Not more than one battery assembly and one battery contained in equipment may be packaged in a strong outer packaging.

(6) The net weight of the battery assembly within each package must not exceed 845 kg (1,863 pounds).

(7) The net weight of the battery contained in equipment within each package must not exceed 12 kg (26 pounds).

(8) The gross weight of a package may not exceed 1,742 kg (3,838 pounds).

d. <u>Marking Requirements</u>: Each package, and overpack if used, prepared under the provisions of this special permit must be plainly marked with the special permit number: DOT-SP 21304.

#### 8. <u>SPECIAL PROVISIONS</u>:

a. Under the terms of this special permit, the grantee may only offer hazardous materials (i.e., the grantee is not authorized as a carrier).

b. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit, the HMR, and the ICAO TI.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. This special permit in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of countries of origin, transit, and destination and the State of the Operator.

e. The special permit holder must maintain a record of all activity conducted under the authority granted in this special permit. The record must contain a complete listing and number of shipments made to include and upon request make this information available to a DOT representative or an enforcement official. The record must contain a listing and number of shipments made to include:

- (1) Dates of shipment; and
- (2) Description of each type of shipment.
- 9. <u>MODES OF TRANSPORTATION AUTHORIZED</u>: Cargo-only aircraft.
- 10. <u>MODAL REQUIREMENTS</u>: A current copy of this special permit must be carried aboard each aircraft used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
- 11. <u>COMPLIANCE</u>: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 <u>et seq</u>:
  - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
  - o Registration required by § 107.601 <u>et seq</u>., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005),

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amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. <u>REPORTING REQUIREMENTS</u>: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:

Water By

for William Schoonover Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-13, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at <u>https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search</u>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Steve H/ae