

Tesla Inc.  
3500 Deer Creek Road,  
Palo Alto, CA 94304  
USA

2024-11-06

Report Number: 32195916.003  
Project Number: P01634821  
Equipment Type: Battery Energy Storage System  
Grid Support Utility Interactive Inverter  
Model(s): 1850000-XX-Y (XX=00-99; Y=A-Z)

Dear Mr. Mehran Zamani,

Based on the evaluations undertaken, the model(s) of the below product have been found to comply with the requirements of the below referenced specifications.

|                                                        |                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nationally Recognized Testing Laboratory (NRTL)</b> | TUV Rheinland of North America, Inc.                                                                                                                                                                                                                                                                                                                |
| <b>NRTL Issuing Office Address</b>                     | 1279 Quarry Lane, Suite A, Pleasanton, CA 94566                                                                                                                                                                                                                                                                                                     |
| <b>Applicant Name</b>                                  | Tesla, Inc.                                                                                                                                                                                                                                                                                                                                         |
| <b>Applicant Address</b>                               | 3500 Deer Creek Road, Palo Alto, CA 94304, USA                                                                                                                                                                                                                                                                                                      |
| <b>Model Numbers</b>                                   | 1850000-XX-Y consists of: <ul style="list-style-type: none"><li>• ACPW (1092170-XX-Y or 2012170-XX-Y or 3012170-XX-Y)</li><li>• PVI (1538000-XX-Y)</li></ul>                                                                                                                                                                                        |
| <b>Software/Firmware Version</b>                       | PV Inverter MD5 Firmware Checksum:<br>1217B43E9B859EAB26ECB10B5FBECC64<br><br>AC Powerwall2 Firmware Checksum:<br>3700B98CF516D8D8421D23891E9AD8D5<br><br>*Site Master Controller (SMC) MD5 Firmware checksum:<br>dcq8OiBXbQWYnK9UhCAjvl02/py2MZymmWAQYOn8jSc=<br><br>Note:*Site Master Controller (SMC) is required to full compliance to UL1741SB |
| <b>Standard(s)</b>                                     | ANSI/UL-9540:2020 Energy Storage Systems and Equipment                                                                                                                                                                                                                                                                                              |

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|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | <p>UL 1741:2021 Edition 3: Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources</p> <p>UL 1741:2021 Edition 3 Supplement SA- GRID SUPPORT UTILITY INTERACTIVE EQUIPMENT</p> <p>UL 1741:2021 Edition 3 Supplement SB, Sept. 28, 2021– GRID SUPPORT UTILITY-INTERACTIVE INVERTERS AND CONVERTERS BASED UPON IEEE 1547-2018 and IEEE 1547.1-2020</p> <p>IEEE 1547.1-2020- IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces</p> <p>IEEE 1547a:2020 - IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces<br/>Amendment 1: To Provide More Flexibility for Adoption of Abnormal Operating Performance Category III</p> <p>Default New England Bulk System Area Settings Requirement</p> |
| <b>Source Requirements Document</b> | <p>IEEE 1547:2018 - IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces</p> <p>Hawaiian Electric's SRD V2.0</p> <p>Electric Rule No.21-2020 Generating Facility Interconnections</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Performance Categories</b>       | <p>Normal Operating Performance Category B</p> <p>Abnormal Operating Performance Categories III</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Communication Protocol</b>       | IEEE 2030.5 protocol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Reference reports:</b>           | <p>This document should be read together with 32195333.001, 32195333.002, 32195333.003, 32195333.004, US23BJDO.001 and US23BJDO.002</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Product Ratings**

|                                           |                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal Battery Energy                    | 13.5 kWh                                                                                                                                                                                                                                                                                                                                                       |
| System Nominal Grid Voltage               | 240 VAC                                                                                                                                                                                                                                                                                                                                                        |
| Maximum continuous Output Power On Grid   | 7.6kVA                                                                                                                                                                                                                                                                                                                                                         |
| Maximum continuous Input Power            | 5.8kVA                                                                                                                                                                                                                                                                                                                                                         |
| Maximum continuous Output Power Off Grid  | 9.6kVA                                                                                                                                                                                                                                                                                                                                                         |
| Frequency                                 | 60 Hz                                                                                                                                                                                                                                                                                                                                                          |
| Phase                                     | 2 wire + neutral + ground                                                                                                                                                                                                                                                                                                                                      |
| Maximum Continuous Output Current On Grid | 32A AC                                                                                                                                                                                                                                                                                                                                                         |
| ACPW Continuous Input Current             | 24 A                                                                                                                                                                                                                                                                                                                                                           |
| Maximum continuous Power Off Grid         | 40A AC                                                                                                                                                                                                                                                                                                                                                         |
| PV Operating DC Input Voltage range       | 60-550 VDC                                                                                                                                                                                                                                                                                                                                                     |
| PV Max. Input Current                     | 13A DC                                                                                                                                                                                                                                                                                                                                                         |
| Software/Firmware version                 | <p>PV Inverter MD5 Firmware Checksum:<br/>1217B43E9B859EAB26ECB10B5FBECC64</p> <p>AC Powerwall2 Firmware Checksum:<br/>3700B98CF516D8D8421D23891E9AD8D5</p> <p>*Site Master Controller (SMC) MD5 Firmware checksum:<br/>dcq8OiBXbQWYnK9UhCAjvl02/py2MZymmwaQYOn8jSc=</p> <p>Note: *Site Master Controller (SMC) is required to full compliance to UL1741SB</p> |
| Enclosure Type                            | Type 3R                                                                                                                                                                                                                                                                                                                                                        |
| Rated ambient temperature [°C]            | -20°C to +50°C (Derated at 43°C to 50°C)                                                                                                                                                                                                                                                                                                                       |

Thank you for the opportunity to service your product testing needs. Please do not hesitate to contact our engineering or sales team for any questions you may have.

Evaluated by:

Reviewed by:

**Liu Han**

**Howard Liu**

*Test Engineer*

*Manager, Power Electronics  
Segment – Americas*

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**Appendix 1: Revision History**

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|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12/17/2021-Liu Han | -Original                                                                                                                                                                                                                                                                                                                                                          |
| 11/10/2022-Liu Han | <ul style="list-style-type: none"><li>-Removed 208V rating from this letter</li><li>-Added Gateway 2.0 with Site Master Controller (SMC) MD5 Firmware checksum</li><li>-Updated the standard to ANSI/UL-9540:2020 and UL 1741:2021 Edition 3</li><li>-Added UL 1741 SB, IEEE 1547.1 2020, IEEE 1547a 2020, IEEE 1547 2018, HECO SRD V2.0 in this letter.</li></ul> |
| 11/06/2024-Liu Han | <ul style="list-style-type: none"><li>-Updated the wording from Gateway 2.0 with Site Master Controller to Site Master Controller</li><li>-Added US23BJDO.001 and US23BJDO.002 as reference reports.</li></ul>                                                                                                                                                     |

-----End of the Letter-----