



# Letter of Attestation

**Document:** 80066101

**Master Contract:** N/A

**Project:** 80066101

**Date Issued:** February 05, 2021

**Issued to:** Ningbo Sunways Technologies Co.,  
Ltd  
No. 1, Second Road, Green  
Industrial Zone, Chongshou Town,  
Cixi Ningbo, Zhejiang 315334  
China

**Attention:** Can Zhou

*CSA Group hereby confirms that it has completed an evaluation of:  
Transformerless Utility Interactive Inverter.*

*Models: STS-3KTL, STS-3.6KTL, STS-4.2KTL, STS-4.6KTL, STS-5KTL and STS-6KTL.*

*CSA Group hereby attests that the products identified above and described  
in test report 80066101 dated February 05, 2021  
complies with the following standards/tests, to the extent applicable:*

*CSA-C22.2 No. 107.1-16 - Power Conversion Equipment  
\*UL Std. No. 1741 - Inverters, Converters, Controllers and Interconnection  
System Equipment for Use With Distributed Energy Resources (Second Edition,  
Revision dated February 15, 2018)*

*\*Note: Conformity to UL 1741-Second Edition (February 15, 2018) includes compliance with  
applicable requirements of IEEE 1547-2003(R2008), IEEE 1547.1-2005 (R2011).*

*Issued by: Jason Lei*

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*CSA Group*



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*Following tests were performed on model STS-6KTL as representative:*

TEST PERFORMED	REFERENCE		Pass/Fail / NA
Output Ratings	UL1741	45.2	Pass
DC Input Range	UL1741	45.3	Pass
Temperature Test	UL1741	43	Pass
Harmonic Distortion	IEEE1547.1	5.11	Pass
DC Injection Measurements	IEEE1547.1	5.6	Pass
Dielectric Voltage Withstand Test	UL1741	44	Pass
	IEEE1547.1	5.5.3	
Class 2 Circuit Analysis	UL 1741	30.2	Pass
DC Ground Fault Detector (GFDI)	UL 1741	31	NA
Capacitor Discharge	UL 1741	11.2, 57	Pass
Output Overload	UL1741	47.2	Pass
Short-Circuit Test	UL1741	47.3	Pass
Reverse Polarity Test (DC Miswiring)	UL 1741	47.4	NA
Ventilation Test	UL1741	47.5	NA
Component short- and open- circuit Test	UL1741	47.6, 51	Pass
Load transfer test	UL 1741	47.7	NA
Loss of Control Circuit	UL1741	47.8	Pass
Grounding Impedance Test	UL1741	48	Pass
Resistance to Impact	UL 746C	56	NA



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TEST PERFORMED	REFERENCE		Pass/Fail / NA
Stability Test	UL1741	58	NA
Static Load Test	UL 1741	59	Pass
Compression Test	UL 1741	60	NA
Submersion Test	UL50E	8.10	NA
Storage Temperature Test	IEEE1547.1	5.1.2.2	NA
Dielectric test for paralleling device	IEEE 1547.1	5.5.3	NA
Utility Voltage and Frequency Variation Test, for adjustable settings, Response to abnormal voltage and frequency (before Surge/EMI)	IEEE1547.1	5.2, 5.3	Pass
Synchronization (before Surge/EMI)	IEEE1547.1	5.4	Pass
Protection from electromagnetic immunity (EMI): Radiated Immunity	IEEE1547.1	5.5.1	Pass
Surge Withstand Performance Test	IEEE1547.1	5.5.2	Pass
Surge Withstand Capability Test	IEEE1547.1	5.5.2	Pass
Utility Voltage and Frequency Variation Test, for adjustable settings, Response to abnormal voltage and frequency (after Surge/EMI and at extreme temperature )	IEEE1547.1	5.2, 5.3	Pass
Synchronization (after Surge/EMI)	IEEE1547.1	5.4	Pass
Anti-Islanding Test	IEEE1547.1	5.7	Pass
Open Phase Test	IEEE1547.1	5.9	NA
Reconnect Time Delay	IEEE1547.1	5.10	Pass



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***THIS LETTER OF ATTESTATION DOES NOT AUTHORIZE THE USE OF THE CSA MARK ON THE SUBJECT PRODUCTS.***

***QUOTATIONS FROM THE TEST REPORT OR THE USE OF THE NAME OF THE CANADIAN STANDARDS ASSOCIATION AND CSA GROUP OR ITS REGISTERED TRADEMARK, IN ANY WAY, IS NOT PERMITTED WITHOUT PRIOR WRITTEN CONSENT OF CSA GROUP***