

Issue Date: May 27, 2022

Revision Date: None

Dear James Wang  
ShenZhen Lux power Technology Co., LTD  
5th Floor, Building 11, Phase 3 of Yangbei Industrial Park, Huangtian Community, Hangcheng Street, Bao'an District, Shenzhen, China

Subject: Evidence of inverter support for IEEE 2030.5/Rule 21 CSIP Phase 2 and Phase 3 Function 1, 2, 3 and 8 Functionality.

Dear James Wang

This letter confirms that Intertek Testing Services Shenzhen Ltd. Guangzhou Branch. witnessed the Appendix C testing listed in Resolution E-5000 from the California Public Utilities Commission Draft dated July 11, 2019. The Resolution requires the verification of five tests cased for inverters that do not directly implement IEEE 2030.5 client functionality. During the test, the inverter is to be connected to a SunSpec Certified IEEE 2030.5/CSIP gateway. The five tests are listed below and specified in the SunSpec IEEE 2030.5/CSIP test procedures:

- Inverter Status (BASIC-028)
- Inverter Meter Reading (BASIC-029)
- Basic Inverter Control – Volt/Var (BASIC-006)
- Basic Inverter Control – Fixed Power Factor (BASIC-008)
- Basic Inverter Control – Volt-Watt (BASIC-011)

Following tests were also performed:

The UL 1741 SA17 Disable Permit Service, which is required by California, Electric Rule 21, Generating Facility Interconnections, Phase 3, Function 2.

The UL 1741 SA18 Limit Active Power, which is required by CA Rule 21, Phase 3, Function 3,

The tests were performed using ShenZhen Lux Power Technology Co., LTD aggregator listed in Table 1 connected to the below Inverter manufacturer models listed in Table 2.

**Inverter Manufacture:**  
**ShenZhen Lux power Technology Co., LTD**

5th Floor, Building 11, Phase 3 of Yangbei Industrial Park, Huangtian Community, Hangcheng Street, Bao'an District, Shenzhen, China

Table 1: Aggregator Information

Manufacturer	Product Name	Product Model#	Software Checksum
ShenZhen Lux Power Technology Co., LTD	Lux Power Management System	LUX1.1	0xC5BD19F9

Table 2: Inverter Models Information

Inverter Manufacturer	Inverter Model#	EUT Serial#	Date Tested / Comments
ShenZhen Lux Power Technology Co., LTD	LXP-LB-US 12K	2044035052	2022-05-11
	LXP-LB-US 10K	NA	Same Communication Protocol as LXP-LB-US 12K
	LXP-LB-US 8K	NA	Same Communication Protocol as LXP-LB-US 12K

Note: All above inverter models have same communication hardware ;The 8KW/10KW communication software is the same, while the 12KW communication software is slightly different.

Checksum for 8KW/10KW

EA1.0 HybridDSP Date.Hex checksum: 0x45414132

EA1.0 HybridM0\_Date.Hex checksum: 0x45424233

EA 1.0 HybridApp\_Date.Hex checksum: 0x45434334

Checksum for 12KW

fA1.0 12kHybridDSP Date.Hex checksum: 0x55414132

fA1.0 12kHybridM0\_Date.Hex checksum: 0x55424233

fA 1.0 12kHybridApp\_Date.Hex checksum: 0x55434334

The inverter under test was subjected to testing conditions as follows:

- The inverter was operating during test harness verification procedure
- The ShenZhen Lux Power Technology Co., LTD IEEE2030.5 DER Client listed in Table 1 was given stimuli in the form of IEEE 2030.5 commands (Inverter Status, Inverter Meter Reading, Volt/VAR, Fixed Power Factor, and Volt/Watt) sent from an IEEE 2030.5 server that were subsequently translated to signals understood by the inverter.
- The inverter parameters were verified: a) to change during the test cases for Volt-VAR, Fixed Power Factor, and Volt-Watt and b) report monitored data during the test cases for Inverter Status and Inverter Meter Reading. Based on this procedure, the requirements from Appendix C of the resolution were verified.
- The inverter was verified that it can perform Disable Permit Service and Limit Active Power functions with the DER Client listed in Table 1, under the commands sent out by IEEE 2030.5 server.

Very truly yours,

Tested By,  
Belle Huang



Engineer  
Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch.

Approved By,  
Runze Hu



Reviewer  
Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch.

## REPORT REVISIONS

Date/ Proj.#	Project Handler/ Reviewer	Description of Change
NA	NA	NA