



**Certificate Holder:** EL-Electric  
**Certificate Number:** OCA.0201.0020.CSMS  
**Product Type:** Charging Station Management System  
**Product Designation:** EL-CSMS  
**OCPP Software Version:** v1.0.0  
**Certification Date:** May 15, 2024

This certificate attests that the above mentioned product successfully completed certification testing in conformance with the reference specification OCPP 2.0.1 (Edition 2 FINAL, 2022-12-15 including Errata 2023-12). The optional OCPP protocol features that are covered by this certificate can be found in the Abstract of the Test Report that is part of this certificate.

Test cases have been performed as described in the test report referred to below. The results and remarks can be found in this complete test report.

Applied	Performed by / On	Document Evidence
Conformance testing according to the test specification referenced by the test report	Korea Smart Grid Association March 25, 2024	EL-ELECTRIC_PICS_CSM S_v1.3.0

The abstract of test report is an integral part of this certificate. This certificate is valid from the Certification Date specified above. This certificate is only applicable to the product designation described above and permits the use of the OCPP logo as laid down in the OCA certification logo license agreement on this product only.

This certificate shall neither be tendered nor accepted by any party as a guarantee covering quality of a product which includes OCPP. The Open Charge Alliance, and/or its agents, including, inter-alia, test laboratories, disclaim liability for any damages or losses incurred by the certified company or by any other party resulting from reliance on the results of OCPP certification testing.

For the Open Charge Alliance:

**ONOPH CARON**  
Chairman

## Abstract of the Test Report

### Test Report OCPP 2.0.1 Certification

<b>Test laboratory:</b>	<b>Korea Smart Grid Association</b>
Location:	Seoul, Korea
Test Report Reference:	KSGA-OCPP2.0.ITEST-002-2024
<b>Product Designation:</b>	<b>EL-CSMS</b>
Vendor name:	EL-Electric
Device Under Test:	Charging Station Management System
OCPP Software Version	v1.0.0

### Test Result Summary for the Certified Functionalities

Certification Profile	Test Result	Description
Core	Pass	Basic Charging Station functionality for booting, authorization, configuration, transactions, remote control, including basic security.
Advanced Security	Pass	Support for TLS with client authentication.
Local Authorization List Management	Not Tested	Support for local authorization list management and optionally of an authorization cache.
Smart Charging	Not Tested	Support for Smart Charging, to control charging.
Advanced Device Management	Not Tested	Support for the OCPP Device Model and advanced logging and monitoring.
Reservation	Not Tested	Support for reservation of a connector of a Charging Station.
Advanced User Interface	Not Tested	Support for tariff & cost and DisplayMessage functionality.
ISO 15118 Support	Not Tested	Support for ISO 15118 Smart Charging and Plug and Charge authorization.

## Optional Features

### Core

ID	Core Features	Supported / Present
C-11	Support for unlocking connector for charging station with detachable cable.	No
C-13	Support for Reset per EVSE	No
C-14	Support for retrieving / deleting CustomerInformation - CustomerIdentifier	No
C-15	Support for scheduled firmware updates	No
C-16	Support for checking the TransactionStatus	No
C-17	Support for retrieving the ConfigurationInventory	No
C-29	TriggerMessage	Select all supported suboptions
C-29.1	Trigger message - MeterValues	Yes
C-29.2	Trigger message - TransactionEvent	Yes
C-29.3	Trigger message - LogStatusNotification	Yes
C-29.4	Trigger message - FirmwareStatusNotification	Yes
C-29.5	Trigger message - StatusNotification	Yes

ID	Authorization Options for Local Start	Tested During Certification
C-30	Authorization - using RFID ISO14443	Yes
C-31	Authorization - using RFID ISO15693	Yes
C-32	Authorization - using KeyCode	No
C-33	Authorization - using locally generated id	No
C-34	Authorization - MacAddress	No
C-35	Authorization - NoAuthorization	Yes

ID	Authorization Options for Remote Start	Tested During Certification
C-36	Authorization - using RFID ISO14443	Yes
C-37	Authorization - using RFID ISO15693	Yes
C-38	Authorization - using centrally, in the CSMS generated id	Yes
C-39	Authorization - NoAuthorization	Yes

ID	Core Features	Supported / Present
C-44	Support for sending a BootNotification Pending before Accepting	No
C-45	Support for Multiple elements GetVariablesRequest	No
C-46	Support for Multiple elements SetVariablesRequest	No
C-50	GetBaseReport - FullInventory	
C-50.1	GetBaseReport - FullInventory - During onboarding	Yes
C-50.2	GetBaseReport - FullInventory - Manual trigger	No

## Additional Questions

ID	Additional Questions for Lab Testing:	Supported / Present
AQ-1	Can your CSMS be configured to first respond to a BootNotificationRequest with status Pending or Rejected?	Yes
AQ-2	Is a FullInventory requested during onboarding / booting test cases?	No
AQ-6	Does the CSMS reject unknown Charging Stations during websocket connection setup?	Yes

## Performance Measurement Result

Name	Max Value	Unit	Description
OCPP response time	30	seconds	The response time for when waiting for an OCPP response message after sending an OCPP request message. This entails all OCPP messages, excluding Authorize. Messages to the DUT can be handled within this timeout.
Response time Authorize	60	seconds	The response time for the Authorize message.

Name	Min Value	Max Value	Average Value	Unit
OCPP response time	0.31	0.97	0.39	seconds
Response time Authorize	0.29	0.98	0.43	seconds

Communication technology used during performance measurement:	Ethernet
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## Statement of Approval

Vendor		
Name	Park Jeonggeun	Date: 15-05-2024
Company	EL-Electric	Signature:
Department	-	
Position	CEO	
Location	Namyangju, Korea	

Test Laboratory		
Name	Philip YANG	Date: 15-05-2024
Company	Korea Smart Grid Association	Signature:
Department	Quality Certification Center	
Position	Chief Researcher	
Location	Seoul, Korea	