



Certificate Holder: ELECTREE
Certificate Number: OCA.0016.0838.CS
Product Type: Charging Station
Product Designation: ELT-FLSD-050-03
OCPP Software Version: ELECTREE V1.00
Certification Date: July 31, 2024

This certificate attests that the above mentioned product successfully completed certification testing in conformance with the reference specification OCPP 1.6 (Edition 2 FINAL, 2017-09-28 including Errata v4.0 Release, 2019-10-23). 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 July 31, 2024	ELECTREE_PICS 1.6 CS_ELT-FLSD-050-03_v1.1.4

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 1.6 Certification

Test laboratory:	Korea Smart Grid Association
Location:	Seoul, Korea
Test Report Reference:	KSGA-OCPP1.6TEST-106-2024
Test Location	ELECTREE
Product Designation:	ELT-FLSD-050-03
Vendor name:	ELECTREE
Device Under Test:	Charging Station
OCPP Software Version	ELECTREE V1.00

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.
Firmware Management	Not Tested	Support for firmware update management and diagnostic log file download.
Local Authorization List Management	Pass	Features to manage a local list in the charging station containing authorization data for whitelisting users.
Smart Charging	Not Tested	Support for Smart Charging, to control charging.
Remote Trigger	Pass	Support for remotely triggering messages that originate from a Charging Station. This can be used for resending messages or for getting the latest information from the Charging Station.
Reservation	Not Tested	Support for reservation of a connector of a Charging Station.

Hardware Feature Set

ID	Feature	Supported / Present
HFS-1	Has a detachable cable	No
HFS-2	Has a fixed cable	Yes
HFS-3	Has AC support	No
HFS-4	Has DC support	Yes
HFS-5	Has 1 phase support	No
HFS-6	Has 2 phase support	No
HFS-7	Has 3 phase support	No
HFS-8	No. Connectors	1
HFS-9	Communication technology	Ethernet
HFS-10	RFID readers	Single

Connector	Current	Phases	Type	Cable Type
1	DC		cCCSI	Fixed Cable

Optional Features

Core

ID	Core Features	Supported / Present
C-01	Support for offline authorization of transactions	Yes
C-02	Support for allowing Offline Authorization for Unknown Ids	No
C-03	Support for maximizing energy for invalid ids	Yes
C-04	Authorization Cache	Yes
C-05	Support to limit StatusNotifications	Yes
C-06	Authorization status after cable disconnected on EV side	
C-06.1	Support for maintaining authorization when cable disconnected on EV side	No
C-06.2	Support for not maintaining authorization when cable disconnected on EV side	Yes
C-07	Support for local start	Yes
C-08	Support for local stop	Yes

ID	Metervalues	Tested During Certification	Supported According to Vendor
C-09	Supported MeterValue Measurands		
C-09.1	MeterValuesSampledData	Current.Export Energy.Active.Import.Register Voltage Power.Active.Import Power.Offered SoC	Energy.Active.Import.Register SoC Power.Active.Import Power.Offered Voltage Current.Export
C-09.2	MeterValuesAlignedData	Current.Export Energy.Active.Import.Register Voltage Power.Active.Import Power.Offered SoC	Energy.Active.Import.Register SoC Power.Active.Import Power.Offered Voltage Current.Export

Additional Questions

ID	Additional Questions for Lab Testing	Supported / Present
AQ-1	Can the last CentralSystemRootCertificate can be removed?	No
AQ-2	Does the Charging Station have a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization?	No
AQ-3	Can the last ChargePointCertificate be removed?	No
AQ-4	Is your Charging Station able to download firmware while there is an ongoing transaction?	No
AQ-5	Does your Charging Station enforce a selection of EVSE prior to authorization?	No
AQ-6	Does your Charging Station support charging an EV using IEC 61851-1?	No
AQ-7	Reporting of StopTransaction after power loss	
AQ-7.1	Charge Point configured to report StopTransaction before going down.	No
AQ-7.2	Charge Point configured to report StopTransaction after going down and being back online again.	Yes

Other Relevant Settings

ID	Limit / Setting	Value
ORS-1	GetConfigurationMaxKeys	6
ORS-4	Minimum MeterValueSampleInterval supported	1
ORS-5	Maximum MeterValueSampleInterval supported	65535
ORS-6	Minimum HeartbeatInterval supported	1
ORS-7	Maximum HeartbeatInterval supported	65535
ORS-8	StopTransactionMaxMeterValues	1
ORS-11	WebSocketPingInterval	300

ID	Certification Profile: Local Authorization List Management	Value
ORS-12	LocalAuthListMaxLength	9999
ORS-13	SendLocalListMaxLength	9999


Performance Measurement Result

Name	Max Value	Unit	Description
OCPP response timeout	60	seconds	The timeout used for exchanging OCPP response messages. Messages to the DUT can be handled within this timeout.
OCPP triggered function timeout	60	seconds	The timeout used for when waiting for an OCPP function with its corresponding request message. Messages to the DUT can be handled within this timeout. This value excludes firmware, diagnostics and rebooting
Transaction authorization time by RemoteStartTransaction	120	seconds	The time between the RemoteStartTransaction.req message and the corresponding StartTransaction.req. Only cases where the RemoteStartTransaction immediately results in an authorization followed by a StartTransaction.req are included.
Transaction authorization end time by RemoteStopTransaction	120	seconds	The time between the RemoteStopTransaction.req message and the corresponding StopTransaction.req. Only cases where the RemoteStopTransaction immediately results in an end of the authorization followed by a StopTransaction.req are included.

Name	Min Value	Max Value	Average Value	Unit
OCPP response timeout	0.26	0.53	0.29	seconds
OCPP triggered function timeout	1.14	2.61	2.01	seconds
Transaction authorization time by RemoteStartTransaction	24.51	24.51	24.51	seconds
Transaction authorization end time by RemoteStopTransaction	4.33	4.33	4.33	seconds

Communication technology used during performance measurement:	Ethernet
---	----------

Statement of Approval

Vendor		
Name	Yeonwoo Lee	Date: 2024-07-31
Company	ELECTREE	Signature:
Department	Research and Development center	
Position	Director	
Location	Seoul, Korea	

Test Laboratory		
Name	Philip YANG	Date: 2024-07-31
Name reviewer	Joe Lee	Signature:
Company	Korea Smart Grid Association	
Department	Quality Certification Center	
Position	Chief Researcher	
Location	Seoul, Korea	