OCPP 1.6
Subset Certificate

OCPP 1.6
Subset
Certified

Certificate holder:	LS ELECTRIC CO., LTD.
Certificate number:	OCA.0016.0408.CS
Product type:	Charging Station
Product designation:	LECS007-1CH02CW OCPP Software version: V1.3.337 Hardware features set as below
Certification date:	July 12, 2023

This certificate attests that the above mentioned product successfully completed certification testing in conformance with the reference specification OCPP 1.6 – Edition 2 with OCPP 1.6 Errata sheet (v4.0 Release, 2019-10-23). The optional features of the protocol covered by this certificate can be found in the abstract 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 the complete test report.

Applied tests	Performed by / on	Document evidence
Conformance testing according to the test specification referenced by the test report	*Korea Smart Grid Association,* *July 12, 2023*	*(KSGA)LS ELECTRIC_Test Report template_LECS007-1CH02CW_230712*

The abstract of test report in the Annex 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 test report

Test Result Summary

<table>
<tr><td colspan="2">Test Report OCPP 1.6 Certification</td></tr>
<tr><td>Test laboratory:</td><td>Korea Smart Grid Association</td></tr>
<tr><td>Location:</td><td>Seoul , Korea</td></tr>
<tr><td>Test Report Reference:</td><td>KSGA-OCPP1.6TEST-114-2023</td></tr>
<tr><td>Vendor name:</td><td>LS ELECTRIC CO., LTD.</td></tr>
<tr><td>Device Under Test:</td><td>Charging Station</td></tr>
<tr><td>Communication:</td><td>JSON</td></tr>
<tr><td>OCPP Software version:</td><td>V1.3.337</td></tr>
</table>

<table>
<tr><td colspan="3">Test Result Summary for the certified functionalities</td></tr>
<tr><td>Functionalities</td><td>OCPP 1.6 Certification Test Results</td><td>Description</td></tr>
<tr><td>Core</td><td>Pass</td><td>Basic Charging Station functionality for booting, authorization (incl. cache if available), configuration, transactions, remote control.</td></tr>
<tr><td colspan="3">Optional features</td></tr>
<tr><td>Firmware Management</td><td>N/A</td><td>Support for (remote) firmware update management and diagnostic log file download.</td></tr>
<tr><td>Smart Charging</td><td>N/A</td><td>Support for Smart Charging (all profile types, including stacking), to control charging.</td></tr>
<tr><td>Reservation</td><td>N/A</td><td>Support for reservation of a connector of a Charging Station.</td></tr>
<tr><td>Local Authorization List Manageme</td><td>N/A</td><td>Features to manage a local list in the charging station containing authorization data for whitelisting users.</td></tr>
<tr><td>Remote Trigger</td><td>N/A</td><td>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.</td></tr>
</table>

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Performance Measurement Results

Name	PICS value	Measured value	Description
OCPP triggered function timeout:	60s	00:00:56	The response time for when waiting for an OCPP function with its corresponding request message. (Firmware update, Diagnostics and Reboot are excluded from this measurement.)
OCPP response timeout:	10s	00:00:04	The response time for when waiting for an OCPP response message.
Response time RemoteStartTransaction:	10s	00:00:04	The response time for the RemoteStartTransaction message.

Test Configuration

Vendor	LS ELECTRIC CO., LTD.
DUT / SUT	Charging Station
Communication	JSON
Type	LECS007-1CH02CW
OCPP Software version	V1.3.337
OCTT version	OCTT 1.6 v1.4.3

Hardware feature set	
Feature	**Configuration**
Socket(s) / connector(s)	Single
Fixed cable	<Yes>
Communication technology	Ethernet
RFID readers	Single

Non-OCPP Charge Point Configuration	
Configuration key	**Value**
< >	< >

All other relevant limits and non-OCPP settings that are relevant for the test laboratory and for the correct functioning of the CSMS:	
Limit / setting	**Value**
Device supports sending milliseconds in timestamps.	Yes

OCPP Charging Station Configuration

Configuration key	Value
AllowOfflineTxForUnknownId	-
AuthorizationCacheEnabled	-
AuthorizeRemoteTxRequests	FALSE
BlinkRepeat	-
ClockAlignedDataInterval	0
ConnectionTimeOut	30
ConnectorPhaseRotation	NotApplicable
ConnectorPhaseRotationMaxLength	-
GetConfigurationMaxKeys	20
HeartbeatInterval	20
LightIntensity	-
LocalAuthorizeOffline	FALSE
LocalPreAuthorize	FALSE
MaxEnergyOnInvalidId	-
MessageTimeout	-
MeterValuesAlignedData	Energy.Active.Import.Register
MeterValuesAlignedDataMaxLength	120
MeterValuesSampledData	Energy.Active.Import.Register,Current.Import, Voltage,SoC,Power.Active.Import
MeterValuesSampledDataMaxLength	120
MeterValueSampleInterval	15
MinimumStatusDuration	0
NumberOfConnectors	1
ResetRetries	0
StopTransactionMaxMeterValues	-
StopTransactionOnEVSideDisconnect	TRUE
StopTransactionOnInvalidId	FALSE
StopTxnAlignedData	-
StopTxnAlignedDataMaxLength	120
StopTxnSampledData	Energy.Active.Import.Register
StopTxnSampledDataMaxLength	120
SupportedFeatureProfiles	Core
SupportedFeatureProfilesMaxLength	-
TransactionMessageAttempts	0
TransactionMessageRetryInterval	15
UnlockConnectorOnEVSideDisconnect	FALSE
WebSocketPingInterval	-
LocalAuthListEnabled	-
LocalAuthListMaxLength	-
SendLocalListMaxLength	-
ReserveConnectorZeroSupported	-
ChargeProfileMaxStackLevel	-
ChargingScheduleAllowedChargingRateUnit	-
ChargingScheduleMaxPeriods	-
ConnectorSwitch3to1PhaseSupported	-
MaxChargingProfilesInstalled	-
SupportedFileTransferProtocols	-

Statement of Approval

Vendor		Date: 2023.07.12
Name	Dongsu Kim	Signature
Company	LS ELECTRIC CO., LTD.	
Department	Digital Solution Team	
Position	Manager	
Location	Cheongju, Korea	

Test laboratory		Date: 2023.07.12
Name	Philip YANG	Signature
Company	Korea Smart Grid Association	
Department	Quality Certification Center	
Position	Chief Researcher	
Location	Seoul, Korea	