OCPP 1.6 Subset Certificate

OCPP 1.6 Subset Certified

Certificate holder:	CUS Co., Ltd
Certificate number:	OCA.0016.0577.CS
Product type:	Charging Station
Product designation:	CF100M-50K1 OCPP Software version: V1.0 Hardware feature set as stated below
Certification date:	November 28, 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*, November 28, 2023	*(KSGA)CUS_Test Report template_CF100M-50K1_v1.5*

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

Test Report OCPP 1.6 Certification

Test laboratory:	**Korea Smart Grid Association**
Location:	Seoul, Korea
Test execution location:	CROCUS INC (Incheon, Korea)
Test Report Reference:	KSGA-OCPP1.6TEST-215-2023
Vendor name:	**CUS Co., Ltd**
Device Under Test:	Charging Station
Communication:	JSON
OCPP Software version:	V1.0
Product designation:	CF100M-50K1

Test Result Summary for the certified functionalities

Functionalities	OCPP 1.6 Certification Test Results	Description
Core	Pass	Basic Charging Station functionality for booting, authorization (incl. cache if available), configuration, transactions, remote control.

Optional features		
Firmware Management	N/A	Support for (remote) firmware update management and diagnostic log file download.
Smart Charging	N/A	Support for Smart Charging (all profile types, including stacking), to control charging.
Reservation	N/A	Support for reservation of a connector of a Charging Station.
Local Authorization List Management	N/A	Features to manage a local list in the charging station containing authorization data for whitelisting users.
Remote Trigger	N/A	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.

Performance Measurement Results

Name	PICS value	Measured value	Description
OCPP triggered function timeout:	30s	0:00:22	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	00:00:01	The response time for when waiting for an OCPP response message.
Response time RemoteStartTransaction:	10s	00:00:00	The response time for the RemoteStartTransaction message.

Test Configuration

Vendor	CUS Co., Ltd
DUT / SUT	Charging Station
Communication	JSON
Type	CF100M-50K1
OCPP Software version	V1.0
OCTT version	OCTT 1.6 v1.4.3

Hardware feature set	
Feature	Configuration
Socket(s) / connector(s)	Single
Fixed cable	<Yes>
Communication technology	Ethernet, Mobile network
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	TRUE
AuthorizationCacheEnabled	TRUE
AuthorizeRemoteTxRequests	TRUE
BlinkRepeat	5
ClockAlignedDataInterval	10
ConnectionTimeOut	60
ConnectorPhaseRotation	RST
ConnectorPhaseRotationMaxLength	1
GetConfigurationMaxKeys	19
HeartbeatInterval	10
LightIntensity	0
LocalAuthorizeOffline	TRUE
LocalPreAuthorize	FALSE
MaxEnergyOnInvalidId	0
MessageTimeout	-
MeterValuesAlignedData	Energy.Active.Import.Register
MeterValuesAlignedDataMaxLength	10
MeterValuesSampledData	Energy.Active.Import.Register
MeterValuesSampledDataMaxLength	10
MeterValueSampleInterval	10
MinimumStatusDuration	0
NumberOfConnectors	1
ResetRetries	3
StopTransactionMaxMeterValues	10
StopTransactionOnEVSideDisconnect	FALSE
StopTransactionOnInvalidId	TRUE
StopTxnAlignedData	Energy.Active.Import.Register
StopTxnAlignedDataMaxLength	10
StopTxnSampledData	Energy.Active.Import.Register
StopTxnSampledDataMaxLength	10
SupportedFeatureProfiles	Core
SupportedFeatureProfilesMaxLength	10
TransactionMessageAttempts	3
TransactionMessageRetryInterval	60
UnlockConnectorOnEVSideDisconnect	FALSE
WebSocketPingInterval	10
LocalAuthListEnabled	-
LocalAuthListMaxLength	-
SendLocalListMaxLength	-
ReserveConnectorZeroSupported	-
ChargeProfileMaxStackLevel	-
ChargingScheduleAllowedChargingRateUnit	-
ChargingScheduleMaxPeriods	-
ConnectorSwitch3to1PhaseSupported	-
MaxChargingProfilesInstalled	-
SupportedFileTransferProtocols	-

Statement of Approval

Vendor		**Date**: 2023.11.28	
Name	Kim Ki Ok	Signature	
Company	CUS Co., Ltd		
Department	R&D		
Position	CEO		
Location	Incheon, Korea		

Test laboratory		**Date**: 2023.11.28	
Name	Philip YANG	Signature	
Company	Korea Smart Grid Association		
Department	Quality Certification Center		
Position	Chief Researcher		
Location	Seoul, Korea		