OCPP 1.6
Subset Certificate

Certificate holder: AppleMango Co., Ltd

Certificate number: OCA.0016.0291.CS

Product type: Charging Station

Product designation: EVD100DK-PE
OCPP Software version: 1.01
Hardware feature set as stated below

Certification date: February 23, 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,* February 23, 2023	*(KSGA)APPLEMANGO_ Test Report template_EVD100DK-PE_230223*

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 Report Reference:	KSGA-OCPP1.6TEST-034-2023
Vendor name:	**APPLEMANGO CO.,LTD**
Device Under Test:	Charging Station
Communication:	JSON
OCPP Software version:	1,01

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 Manageme	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:	60s	00:00:36	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:	60s	00:00:01	The response time for when waiting for an OCPP response message.
Response time RemoteStartTransaction:	60s	00:00:00	The response time for the RemoteStartTransaction message.

Test Configuration

Vendor	APPLEMANGO CO.,LTD
DUT / SUT	Charging Station
Communication	JSON
Type	EVD100DK-PE
OCPP Software version	1.01
OCTT version	OCTT 1.6 v1.4.3

Hardware feature set	
Feature	**Configuration**
Socket(s) / connector(s)	Multiple
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	FALSE
AuthorizationCacheEnabled	FALSE
AuthorizeRemoteTxRequests	TRUE
BlinkRepeat	-
ClockAlignedDataInterval	0
ConnectionTimeOut	60
ConnectorPhaseRotation	NotApplicable
ConnectorPhaseRotationMaxLength	-
GetConfigurationMaxKeys	15
HeartbeatInterval	20
LightIntensity	-
LocalAuthorizeOffline	FALSE
LocalPreAuthorize	FALSE
MaxEnergyOnInvalidId	-
MessageTimeout	-
MeterValuesAlignedData	Current.Import, Current.Offered, Energy.Active.Import.Register, Energy.Active.Import.Interval, Power.Offered, SoC, Temperature, Voltage, ChargingRemainTime
MeterValuesAlignedDataMaxLength	-
MeterValuesSampledData	Current.Import, Current.Offered, Energy.Active.Import.Register, Energy.Active.Import.Interval, Power.Offered, SoC, Temperature, Voltage, ChargingRemainTime
MeterValuesSampledDataMaxLength	-
MeterValueSampleInterval	60
MinimumStatusDuration	-
NumberOfConnectors	2
ResetRetries	1
StopTransactionMaxMeterValues	-
StopTransactionOnEVSideDisconnect	TRUE
StopTransactionOnInvalidId	TRUE
StopTxnAlignedData	Current.Import, Current.Offered, Energy.Active.Import.Register, Energy.Active.Import.Interval, Power.Offered, SoC, Temperature, Voltage, ChargingRemainTime
StopTxnAlignedDataMaxLength	-
StopTxnSampledData	Current.Import, Current.Offered, Energy.Active.Import.Register, Energy.Active.Import.Interval, Power.Offered, SoC, Temperature, Voltage, ChargingRemainTime
StopTxnSampledDataMaxLength	-
SupportedFeatureProfiles	Core
SupportedFeatureProfilesMaxLength	-
TransactionMessageAttempts	1
TransactionMessageRetryInterval	30
UnlockConnectorOnEVSideDisconnect	TRUE
WebSocketPingInterval	0

LocalAuthListEnabled	
LocalAuthListMaxLength	
SendLocalListMaxLength	
ReserveConnectorZeroSupported	
ChargeProfileMaxStackLevel	
ChargingScheduleAllowedChargingRateUnit	
ChargingScheduleMaxPeriods	
ConnectorSwitch3to1PhaseSupported	
MaxChargingProfilesInstalled	
SupportedFileTransferProtocols	

Page **3** from **4**

Statement of Approval

Vendor		Date: 2023.02.23	
Name	Dong Ju Kang	Signature	
Company	AppleMango CO.,LTD		
Department	-		
Position	CEO		
Location	Pyeongtaek-si, Gyeonggi-do, Korea		

Test laboratory		Date: 2023.02.23	
Name	Philip YANG	Signature	
Company	Korea Smart Grid Association		
Department	Quality Certification Center		
Position	Chief Researcher		
Location	Seoul, Korea		