OCPP 1.6
Full Certificate

OCPP 1.6 Fully Certified

Certificate holder:	Wanbang Digital Energy Co., Ltd.
Certificate number:	OCA.0016.0333.CS
Product type:	Charging Station
Product designation:	Nova V2 OCPP Software version: 1.7.4.51 Hardware feature set as stated below
Certification date:	April 6, 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 are also covered by this certification.

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	*DNV Singapore Pte. Ltd., April 6, 2023*	*DNV_OCPP 1.6 Test Report_CP_Wanbang Digital Energy*

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" align="center">Test Report OCPP 1.6 Certification</td></tr>
<tr><td>Test laboratory:</td><td>DNV Singapore Pte. Ltd.</td></tr>
<tr><td>Location:</td><td>Singapore</td></tr>
<tr><td>Test Report Reference:</td><td>DNV_OCPP1.6TEST_CP_20230406</td></tr>
<tr><td>Vendor name:</td><td>Wanbang Digital Energy 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>1.7.4.51</td></tr>
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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	Pass	Support for (remote) firmware update management and diagnostic log file download.
Smart Charging	Pass	Support for Smart Charging (all profile types, including stacking), to control charging.
Reservation	Pass	Support for reservation of a connector of a Charging Station.
Local Authorization List Management	Pass	Features to manage a local list in the charging station containing authorization data for whitelisting users.
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.

Performance Measurement Results

Name	PICS value	Measured value	Description
OCPP triggered function timeout:	10 seconds	9 seconds	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:	10 seconds	1 seconds	The response time for when waiting for an OCPP response message.
Response time RemoteStartTransaction:	10 seconds	1 seconds	The response time for the RemoteStartTransaction message.

Test Configuration

Vendor	Wanbang Digital Energy Co., Ltd.
DUT / SUT	Charge Point
Communication	JSON
Type	Nova V2
OCPP Software version	1.7.4.51
OCTT version	OCTT 1.6 v 1.4.3

Hardware feature set	
Feature	**Configuration**
Socket(s) / connector(s)	Multiple
Fixed cable	Yes
Communication technology	WiFi / 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	FALSE
AuthorizeRemoteTxRequests	TRUE
BlinkRepeat	-
ClockAlignedDataInterval	0
ConnectionTimeOut	30
ConnectorPhaseRotation	NotApplicable
ConnectorPhaseRotationMaxLength	1
GetConfigurationMaxKeys	5
HeartbeatInterval	60
LightIntensity	-
LocalAuthorizeOffline	TRUE
LocalPreAuthorize	FALSE
MaxEnergyOnInvalidId	-
MessageTimeout	-
MeterValuesAlignedData	Energy.Active.Import.Register,Voltage,Current.Import,Power.Offered,Power.Active.Import
MeterValuesAlignedDataMaxLength	9
MeterValuesSampledData	Energy.Active.Import.Register,Voltage,Current.Import,Power.Offered,Power.Active.Import,SoC
MeterValuesSampledDataMaxLength	8
MeterValueSampleInterval	0
MinimumStatusDuration	0
NumberOfConnectors	2
ResetRetries	2
StopTransactionMaxMeterValues	-
StopTransactionOnEVSideDisconnect	TRUE
StopTransactionOnInvalidId	TRUE
StopTxnAlignedData	""
StopTxnAlignedDataMaxLength	0
StopTxnSampledData	""
StopTxnSampledDataMaxLength	0
SupportedFeatureProfiles	Core,FirmwareManagement,LocalAuthListManagement,Reservation,SmartCharging,RemoteTrigger
SupportedFeatureProfilesMaxLength	6
TransactionMessageAttempts	5
TransactionMessageRetryInterval	5
UnlockConnectorOnEVSideDisconnect	FALSE
WebSocketPingInterval	20
LocalAuthListEnabled	TRUE
LocalAuthListMaxLength	4000
SendLocalListMaxLength	400
ReserveConnectorZeroSupported	TRUE
ChargeProfileMaxStackLevel	20
ChargingScheduleAllowedChargingRateUnit	Current,Power
ChargingScheduleMaxPeriods	20
ConnectorSwitch3to1PhaseSupported	FALSE
MaxChargingProfilesInstalled	40
SupportedFileTransferProtocols	http, https, ftp, ftps

Statement of Approval

Vendor		Date: 2023.04.06
Name	Shao Jia Nan	Signature
Company	Wanbang Digital Energy Co., Ltd.	
Department	Product R&D center	*Shao Jia Nan*
Position	Product director	
Location	Changzhou, China	

Test laboratory		Date: 2023.04.06
Name	Sukoco	Signature
Company	DNV Singapore Pte. Ltd.	
Department	Energy Systems	
Position	Senior Consultant	
Location	Singapore	