OCPP 2.1

Part 5 - Certification Profiles

Edition 2, 2025-12-03

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Disclaimer

Version History

Version	Date	Description
2.1 Edition 2	2025-12-03	OCPP 2.1 Edition 2. This is the first published version of OCPP 2.1 Part 5.

Chapter 1. Introduction & Reading Guide

This document describes the certification profiles for OCPP 2.1. These profiles are sets of use cases that can be certified via the Open Charge Alliance. This document contains the details on what is part of the OCPP 2.1 Certification. This document contains:

- The certification profiles and an overview of the functionality per profile.

- The list of optional features. This list contains specific functionality that is not mandatory for certification, but which can optionally be certified.

- The list of test cases for each of the certification profiles.

- The overview of the controller components that must be implemented per profile for certification testing.

For clarity: in the context of the OCPP Certification Program, the term *test case* refers to a sequence of messages for testing a use case from OCPP. The term *feature* refers to a functionality, that can be tested with one or more test cases (see Features for a more detailed explanation). Instead of making specific test cases mandatory or optional, the certification program for OCPP 2.1 works with *features* that are optional. Depending on whether the System Under Test (SUT) has implemented a feature, the test case(s) that belong to this feature, must be successfully passed or not.
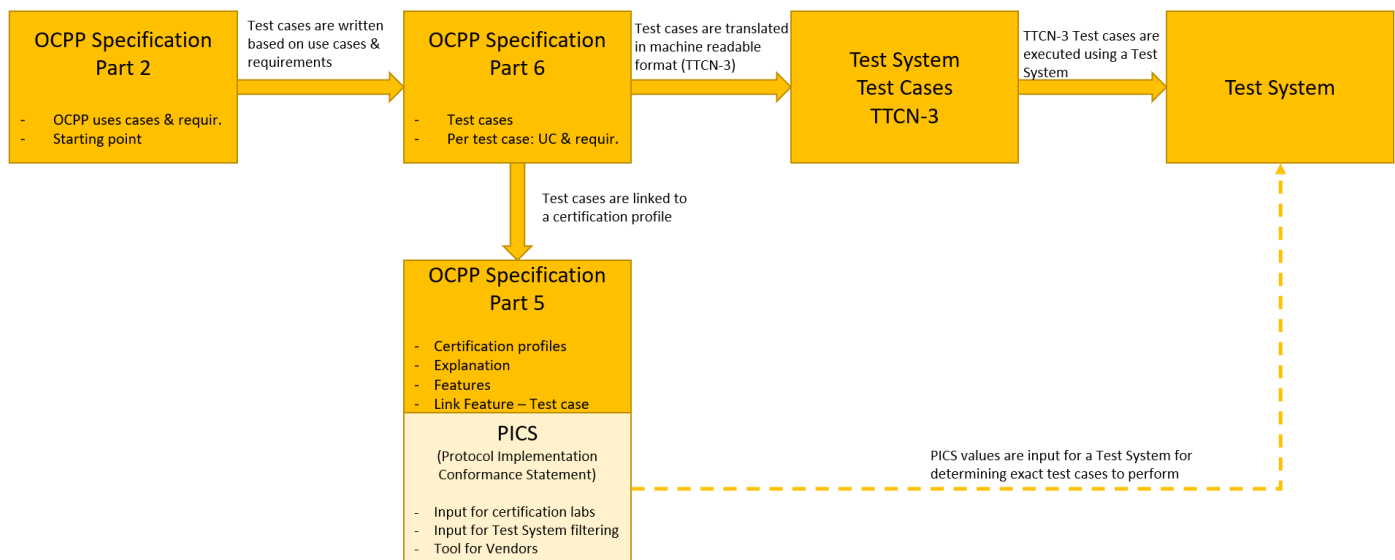

Figure 1. Link between different OCPP Documents in OCPP Certification Program

Chapter 2. Certification profiles

The OCPP protocol has been designed to support a wide variety of charging stations ranging from simple AC home chargers to advanced DC hyperchargers and megawatt chargers. It will be obvious that these charging stations and associated CSMSs will have very different capabilities. As a result it does not make sense to require every vendor to certify for the full OCPP functionality, when only subset is needed for the specific application.

The OCPP certification is built around certification profiles that describe a set of supported functions. A full OCPP certification comprises all certification profiles, but it is possible to get certified for a subset, since not all OCPP functionality may be needed for some vendors.

The OCPP "Core" profile must always be present. It contains the basic OCPP functionality. On top of that other profiles can be added to the certification. These profiles are independent of each other, the only exception being the "ISO 15118 support" profile, which requires a number of "Advanced security" and "Smart charging" test cases to be implemented.

The following table lists the certification profiles and an overview of the functionality per profile:

Table 1. Certification profiles

Certification Profile	Description
Core	Basic Authentication
	TLS - server-side certificate
	Update Charging Station Password for HTTP Basic Authentication
	Security Event Notification
	Booting a Charging Station
	Configuring a Charging Station
	Resetting a Charging Station / EVSE
	Authorization incl. GroupId
	Stop Transaction with a Master Pass
	Local start transaction - Cable plugin first & Authorization first
	Start / Stop transaction options
	Disconnect cable on EV-side
	Check Transaction status
	Remote start / stop transaction
	Remote unlock Connector
	Remote Trigger
	Change Availability - Charging Station / EVSE / Connector
	Clock-aligned Meter & Sampled Meter Values
	Install CA certificates
	Retrieve & delete certificates from Charging Station
	AdditionalRootCertificateCheck
	Retrieve Log Information
	Get / Clear Customer Information
	Secure Firmware Update
	Store / Clear Authorization Data in Authorization Cache
	Authorization through authorization cache
	Local Authorization List Management
	Authorization through local authorization list
	Send / Get Local Authorization List
	Advanced Device Management
	Get /Monitoring report
	Set Monitoring Base
	Set Variable Monitoring
	Set Monitoring Level
	Get Custom Report
	Clear / Remove Monitoring
	Event Notification
	Advanced User Interface
	Set / Get Display Message
	Clear a Display Message
	Show EV Driver Running / Final Total Cost During / After Charging
	Show EV Driver-specific Tariff Information
	Update Tariff Information During Transaction
	Configure Fallback Tariff Information & Total Cost Message
	Reservation
	Reserve a specific EVSE
	Reserve an unspecified EVSE
	Reserve a connector with a specific type
	Reservations using GroupIdToken
	Cancel reservation of an EVSE

Certification Profile	Description
	Payment **(2.1)** Set Default Tariff Local Cost Calculation Prepaid card Integrated Payment Terminal Standalone Payment Terminal Settlement QR codes
Advanced Security	TLS - Client-side certificate Update Charging Station Certificate Upgrade Charging Station Security Profile
Smart Charging (2.0.1 / 2.1)	Set charging profile Remote start transaction with charging profile Get Composite Schedule Get Charging Profile Clear Charging Profile Priority Charging **(2.1)** Dynamic Charging Profiles **(2.1)** *EMS Control* Dynamic charging profiles by external system External V2X control (Bidirectional Power Transfer) External V2X control (with ISO 15118-20)
ISO 15118 support (2.0.1 / 2.1)	This certification profile covers both ISO 15118-2 **(2.0.1 and 2.1)** as well as ISO 15118-20 **(2.1)**. *ISO 15118 Certificate Management:* Update Charging Station Certificate (Contract) Certificate Installation / Update EV Get Certificate Status Install V2G / MO / OEMRoot CA certificates Retrieve V2G / MO certificates from Charging Station Delete a certificate from a Charging Station *ISO 15118 EIM / PnC Authorization:* Authorization using External Identification Means Authorization using Contract Certificates *ISO 15118 Smart Charging:* Set charging profile Remote start transaction with charging profile Get Composite Schedule Get Charging Profile Clear Charging Profile Renegotiating a Charging Schedule ISO 15118 signed meter values
Bidirectional Power Transfer (2.1)	Central & Local V2X control Frequency support V2X Authorisation - ISO15118-20 Idle, minimizing energy consumption *Prerequisite for this certification profile is supporting the Certification profile Smart Charging.*

Certification Profile	Description
DER control (2.1)	Starting a V2X session with DER control Configure DER control settings at CS Charging station reporting a DER event

Chapter 3. Features

The concept of certification profiles is not enough to cover the variety in OCPP implementations. The OCPP specification contains many optional features, often in the form of optional message fields or configuration variables, that a vendor can use to support advanced functions. Whereas the certification profiles determine *which* OCPP functionality is implemented, the features describe *how much* of a certain functionality in a profile has been implemented.

A Test System uses the features to determine which test cases have to be executed for a charging station or CSMS. For example, the set of TxStartPoints that a charging station supports, has a big impact on the execution of certain test cases. The behavior of a charging station that starts a transaction based on a successful authorization is different from a charging station that starts a transaction as soon as a cable is connected. Similarly, a CSMS that only controls DC fast chargers will not need functionality to unlock a cable at the charging station. For such a CSMS the vendor may decide to not implement the feature Support for unlocking connector.

In most cases a feature corresponds the existence of a configuration variable or its value.

3.1. Optional feature list for charging station

The following table lists the optional features. These are features that are not mandatory to implement within a certification profile. Where applicable the associated configuration variable is mentioned in parenthesis.

Table 2. Optional features for charging stations

Id	Feature	Charging Station
Core		
C-01	Support for offline authorization of transactions	Conditional. Supporting this feature depends on whether at least one of the following feature combinations is supported; - Certification Profile: Local Authorization List Management AND at least one of the following local authorization options; C-30 or C-31 or C-32 - C-02: Support for allowing offline authorization for unknown ids AND at least one of the following local authorization options; C-30 or C-31 or C-32 or C-33 or C-34 - C-49: Authorization Cache AND at least one of the following local authorization options; C-30 or C-31 or C-32 - C-35: Local Authorization - NoAuthorization - start (Because there is no authorization, no local authorization mechanism is needed.)
C-02	Support for allowing Offline Authorization for Unknown Ids (OfflineTxForUnknownIdEnabled)	Optional
C-03	Support for maximizing energy for invalid ids (MaxEnergyOnInvalidId)	Optional
C-04	Support to limit StatusNotifications (MinimumStatusDuration)	Optional
C-06	Authorization status after cable disconnected on EV side (StopTxOnEVSideDisconnect)	(At least one of the suboptions below is required)
C-06.1	Support for maintaining authorization when cable disconnected on EV side	Optional
C-06.2	Support for not maintaining authorization when cable disconnected on EV side	Optional
C-07	Support for using a Master Pass for charging stations with UI (MasterPassGroupId)	Optional
C-08	Support for using a Master Pass for charging stations without UI (MasterPassGroupId)	Optional
C-09	Supported Transaction Start points (TxStartPoint)	(At least one of the suboptions below is required)
C-09.1	Start transaction options - EVConnected	Optional
C-09.2	Start transaction options - Authorized	Optional
C-09.3	Start transaction options - DataSigned	Optional
C-09.4	Start transaction options - PowerPathClosed	Optional
C-09.5	Start transaction options - EnergyTransfer	Optional
C-09.6	Start transaction options - ParkingBayOccupancy	Optional
C-10	Supported Transaction Stop points (TxStopPoint)	(At least one of the suboptions below is required)
C-10.1	Stop transaction option - EVConnected	Optional
C-10.2	Stop transaction option - Authorized	Optional
C-10.3	Stop transaction option - PowerPathClosed	Optional

Id	Feature	Charging Station
C-10.4	Stop transaction options - EnergyTransfer	Optional
C-10.5	Stop transaction options - ParkingBayOccupancy	Optional
C-12	Unlocking of connector when cable disconnected on EV side (UnlockOnEVSideDisconnect)	(At least one of the suboptions below is required)
C-12.1	Support for unlocking connector when cable disconnected on EV side	Optional
C-12.2	Support for not unlocking when cable disconnected on EV side	Optional
C-13	Support for Reset per EVSE (AllowReset)	Optional
C-14	Support for retrieving / deleting CustomerInformation - CustomerIdentifier	Optional
C-20	Allowing New Sessions Pending a FirmwareUpdate (AllowNewSessionsPendingFirmwareUpdate)	Optional
C-21	Support for queuing all or only Transaction related messages until they are delivered to the CSMS (QueueAllMessages)	Optional
Time related settings		
C-23	Supported time sources (TimeSource)	{ list } at least Heartbeat
C-25	Support for setting a TimeOffset (TimeOffset)	Optional
C-26	Support for setting the TimeZone (TimeZone)	Optional
C-28	Toggle sending clock aligned meter values when a transaction is ongoing / Idle (AlignedDataSendDuringIdle)	Optional
C-29	TriggerMessage	(Select all supported suboptions)
C-29.1	Trigger message - MeterValues	Optional
C-29.2	Trigger message - TransactionEvent	Optional
C-29.3	Trigger message - LogStatusNotification	Optional
C-29.4	Trigger message - FirmwareStatusNotification	Optional
C-29.5	Trigger message - StatusNotification	Optional
C-29.6	Trigger message - BootNotification	Optional
C-29.7 **(2.1)**	Trigger message - CustomTrigger	Optional
Authorization options for local start		
C-30	Authorization - using RFID ISO14443	Optional
C-31	Authorization - using RFID ISO15693	Optional
C-32	Authorization - using KeyCode	Optional
C-33	Authorization - using locally generated id	Optional
C-34	Authorization - MacAddress	Optional
C-35	Authorization - NoAuthorization	Optional
Authorization options for remote start (<u>mandatory</u> to support at least one)		
C-36	Authorization - using RFID ISO14443	Optional
C-37	Authorization - using RFID ISO15693	Optional
C-38	Authorization - using centrally, in the CSMS (or other server) generated id	Optional
C-39	Authorization - NoAuthorization	Optional
C-40	Supported MeterValue Measurands	(Please fill in the following fields)
C-40.1	SampledTxStartedMeasurands	{ list of supported } at least one
C-40.2	SampledTxUpdatedMeasurands	{ list of supported } at least one
C-40.3	SampledTxEndedMeasurands	{ list of supported } at least one
C-40.4	AlignedDataMeasurands	{ list of supported } at least one
C-40.5	AlignedDataTxEndedMeasurands	{ list of supported } at least one

Id	Feature	Charging Station
C-41	Supported Cipher Suites	{ list of cipher suites } → at least one of TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 OR TLS_RSA_WITH_AES_128_GCM_SHA256 TLS_RSA_WITH_AES_256_GCM_SHA384
C-42	Signed Metervalues (SampledDataSignReadings)	Optional
C-43	Install Firmware with ongoing transaction(s)	Optional
C-47	Support for falling back to default OCPP reconnection mechanism when NetworkConnection profile connection has failed	Optional
C-48	Authorization of remote start (AuthorizeRemoteStart)	(At least one of the suboptions below is required)
C-48.1	Option for authorization in case of a remote start	Optional
C-48.2	Option for no authorization in case of a remote start	Optional
C-58	Option for disabling remote authorization (DisableRemoteAuthorization)	Optional
C-49	Authorization Cache (AuthCacheEnabled)	Optional
C-59	Option for disabling remote authorization for cached invalid idTokens (AuthCacheDisablePostAuthorize)	Optional
C-51	Configurable TxStartPoint	Optional
C-52	Configurable TxStopPoint	Optional
C-53	Support for lifetime cached token (AuthCacheLifeTime)	Optional
C-54	Supported policies for replacing cached entries (AuthCachePolicy)	{ list of supported } at least one
C-56	Support for providing the SummaryInventory	Optional
C-57	Support for cancelling ongoing log file upload	Optional
C-60	Support for cancelling ongoing firmware update	Optional
C-61	Security Profile 1 - Unsecured Transport with Basic Authentication	Optional
C-62 **(2.1)**	Support for resuming transactions (ImmediateAndResume)	Optional
C-63 **(2.1)**	Support for transaction limits	Optional
C-64 **(2.1)**	Support for resuming transaction after interruption	Optional
C-65 **(2.1)**	Support for DataCollectorLog	Optional
Authorization options for local stop		
C-70	Authorization - using RFID ISO14443	Optional
C-71	Authorization - using RFID ISO15693	Optional
C-72	Authorization - using KeyCode	Optional
C-75	Authorization - NoAuthorization	Optional
Reservation		
R-0	Support for Reservation	Optional
R-1	Support for reservations of connectorType	Conditional. Supporting this feature depends on whether at least one connectorType is supported that is part of the ConnectorEnumType list from part 2 specification.
R-2	Support for reservation of unspecified EVSE (ReservationNonEvseSpecific)	Optional
R-3	Support for disabling Reservations (ReservationEnabled)	Optional
Advanced Device Management		
DM-0	Support for Advanced Device Management	Optional

Id	Feature	Charging Station
DM-3	Queue notifyEventRequest messages for specific severities (OfflineMonitoringEventQueuingSeverity)	Optional
Local Authorization List Management		
LA-0	Support for Local Authorization List Management	Optional
LA-1	Authorization list support (LocalAuthListEnabled)	Optional
LA-3	Option for disabling remote authorization for invalid idTokens stored at the Local Authorization List (LocalAuthListDisablePostAuthorize)	Optional
Advanced User Interface		
UI-0	Support for Advanced User Interface	Optional
UI-1	Supported message priorities (DisplayMessageSupportedPriorities)	(At least one of the suboptions below is required, if UI-0 is supported)
UI-1.1	AlwaysFront	Optional
UI-1.2	InFront	Optional
UI-1.3	NormalCycle	Optional
UI-2	Supported message formats (DisplayMessageSupportedFormats)	(At least one of the suboptions below is required, if UI-0 is supported)
UI-2.1	ASCII	Optional
UI-2.2	HTML	Optional
UI-2.3	URI	Optional
UI-2.4	UTF8	Optional
UI-3 **(2.1)**	Multi-language support	Optional, based on AQ-20
Payment **(2.1)**		
P-0	Support for Payment	Optional
P-1	Support for Tariff conditions	Optional
P-2	Supported Payment options	(At least one of the suboptions below is required, if P-0 is supported)
P-2.1	Payment by prepaid card	Optional
P-2.2	Integrated payment terminal	Optional
P-2.3	Stand alone payment terminal	Optional
P-2.4	QR code payment	Optional
Advanced Security		
AS-2	Additional root certificate check mechanism implemented (AdditionalRootCertificateCheck)	Optional
AS-3	Update Charging Station Certificate - CertificateSignedRequest Timeout (CertSigningWaitMinimum,CertSigningRepeatTimes)	Optional
AS-4	Security downgrades from profile 3 to 2 (AllowSecurityProfileDowngrade)	(At least one of the suboptions below is required)
AS-4.1	Support for disallowing security downgrades from profile 3 to 2	Optional
AS-4.2	Support for allowing security downgrades from profile 3 to 2	Optional
Smart Charging (2.0.1 / 2.1)		
SC-2	Supported charging rate units (ChargingScheduleChargingRateUnit)	(Select all supported suboptions)
SC-2.1	A	Optional
SC-2.2	W	Optional
SC-3 **(2.1)**	Support for limiting based on SoC (limitAtSoC)	Optional
SC-5 **(2.1)**	Support for using local time (useLocalTime)	(At least one of the suboptions below is required)
SC-5.1	TimeOffset	Optional
SC-5.2	TimeZone	Optional

Id	Feature	Charging Station
SC-6 **(2.1)**	Support for using priority charging (PriorityCharging)	Optional
SC-7 **(2.1)**	Support for using randomized delays (randomizedDelay)	Optional
SC-8 **(2.1)**	Support for dynamic charging profiles	Optional
SC-9 **(2.1)**	Support for operationMode Idle	Optional
SC-9.1 **(2.1)**	Support for operationMode Idle with EvseSleep	Optional
EMS Control **(2.1)**		
SC-10 **(2.1)**	Support for EMS Control	Optional
ISO 15118 support (2.0.1 / 2.1)		
ISO-1 **(2.1)**	Supported ISO 15118 version	(At least one of the suboptions below is required)
ISO-1.1	ISO 15118-2	Optional, required if ISO-1.2 is supported
ISO-1.2	ISO 15118-20	Optional
ISO-4	Support for retrieving / deleting CustomerInformation - CustomerCertificate	Optional
ISO-5	Charging Station can provide a contract certificate that it cannot validate to the CSMS (CentralContractValidationAllowed)	Optional
ISO-6 **(2.1)**	Support for ServiceRenegotiation	Optional
Bidirectional Power Transfer (2.1)		
BPT-1	Frequency support	Optional
BPT-2	Support for local loadbalancing (LocalLoadBalancing)	Optional
DER control (2.1)		
	No optional features for this profile	

3.2. Optional feature list for CSMS

The features of a CSMS are not determined by configuration variables. Features in the list below are allowed not to be supported by a CSMS.

Table 3. Optional features for CSMS

Id	Feature	CSMS
Core		
C-11	Support for unlocking connector for charging station with detachable cable (UnlockConnector message).	Optional
C-13	Support for Reset per EVSE	Optional
C-14	Support for retrieving / deleting CustomerInformation - CustomerIdentifier	Optional
C-15	Support for scheduled firmware updates	Optional
C-16	Support for checking the TransactionStatus	Optional
C-17	Support for retrieving the ConfigurationInventory	Optional
C-29	TriggerMessage	(Select all supported suboptions)
C-29.1	Trigger message - MeterValues	Optional
C-29.2	Trigger message - TransactionEvent	Optional
C-29.3	Trigger message - LogStatusNotification	Optional
C-29.4	Trigger message - FirmwareStatusNotification	Optional
C-29.5	Trigger message - StatusNotification	Optional
C-29.7 **(2.1)**	Trigger message - CustomTrigger	Optional
Authorization options for local start		
C-30	Authorization - using RFID ISO14443	Required
C-31	Authorization - using RFID ISO15693	Required
C-32	Authorization - using KeyCode	Optional

Id	Feature	CSMS
C-33	Authorization - using locally generated id	Optional
C-34	Authorization - MacAddress	Optional
C-35	Authorization - NoAuthorization	Required
Authorization options for remote start (mandatory to support at least one)		
C-36	Authorization - using RFID ISO14443	Required
C-37	Authorization - using RFID ISO15693	Required
C-38	Authorization - using centrally, in the CSMS (or other server) generated id	Optional
C-39	Authorization - NoAuthorization	Optional
C-44	Support for sending a BootNotification Pending before Accepting	Optional
C-45	Support for Multiple elements GetVariablesRequest	Optional
C-46	Support for Multiple elements SetVariablesRequest	Optional
C-50	GetBaseReport - FullInventory	(At least one of the suboptions below is required)
C-50.1	GetBaseReport - FullInventory - During onboarding	Optional
C-50.2	GetBaseReport - FullInventory - Manual trigger	Optional
C-61	Security Profile 1 - Unsecured Transport with Basic Authentication	Optional
C-65 **(2.1)**	Support for DataCollectorLog	Optional
C-76 **(2.1)**	Support for Battery Swapping Stations	Optional
Reservation		
R-0	Support for Reservation	Optional
R-1	Support for reservations of connectorType	Optional
R-2	Support for reservations of unspecified EVSE	Optional
Local Authorization List Management		
LA-0	Support for Local Authorization List Management	Optional
LA-2	Support for GetLocalListVersion	Optional
Advanced Device Management		
DM-0	Support for Advanced Device Management	Optional
Advanced User Interface		
UI-0	Support for Advanced User Interface	Optional
Payment **(2.1)**		
P-0	Support for Payment	Optional
Advanced Security		
	No optional features for this profile	
Smart Charging (2.0.1 / 2.1)		
SC-3 **(2.1)**	Support for limiting based on SoC (limitAtSoC)	Optional
SC-4	Support for TxDefaultProfile on EVSEID #0	Optional
SC-6 **(2.1)**	Support for using priority charging (PriorityCharging)	Optional
SC-7 **(2.1)**	Support for using randomized delays (randomizedDelay)	Optional
SC-10 **(2.1)**	Support for EMS Control	Optional
ISO 15118 support (2.0.1 / 2.1)		
ISO-4	Support for retrieving / deleting CustomerInformation - CustomerCertificate	Optional
Bidirectional Power Transfer (2.1)		
BPT-1	Frequency support	Optional
DER control (2.1)		
	No optional features for this profile	

Chapter 4. List of test cases

4.1. Introduction

This table lists the test cases that are part of the OCPP Certification program. For each of the test cases, the columns "Conf. Test for Charging Station" and "Conf. Test for CSMS" indicate whether the test case is mandatory or not within a Certification Profile. The abbreviations have the following meaning:

- M = Mandatory . This means that IF you implement the certification profile this test case belongs to, you MUST successfully pass this test case.

- C = Conditional. This means that IF you meet a condition, you MUST pass this test case. Most conditions refer to the optional features that are listed in the Features.

4.2. Test Cases Core

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Basic Authentication					
TC_A_01	Valid username/password combination	M	M			
TC_A_02	Username does not equal ChargingStationId		M			
TC_A_03	Invalid password		M			
	Update Charging Station Password for HTTP Basic Authentication					
TC_A_09	Accepted	M	M			
TC_A_10	Rejected	M	M			
	TLS - server-side certificate					
TC_A_04	Valid certificate	M	M			
TC_A_05	Invalid certificate	M				
TC_A_06	TLS version too low	M	M			
	Upgrade Charging Station Security Profile					
TC_A_19	Accepted	C	C		C-61 OR Advanced Security	
TC_A_20	No valid CSMSRootCertificate installed	C		If the last CSMSRootCertificate can be removed and Security Profile 1 is supported.	AQ-1 and C-61	Can the last CSMSRootCertificate be removed? Security Profile 1 - Unsecured Transport with Basic Authentication

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_A_22	Downgrade security profile - Rejected	M				
	Cold Boot Charging Station					
TC_B_01	Accepted	M	M			
TC_B_02	Pending	M	C	CSMS: If Pending mechanism is implemented	C-44	BootNotification Pending
TC_B_03	Rejected	M				
TC_B_30	Pending/Rejected - SecurityError	M	C	For CSMS: if CSMS can be configured to first respond to a BootNotificationRequest with status Pending or Rejected	C-44 or NOT AQ-16	BootNotification Pending or Does the CSMS reject unknown Charging Stations during websocket connection setup?
TC_B_31	Pending/Rejected - TriggerMessage		C	For CSMS: if CSMS can be configured to first respond to a BootNotificationRequest with status Pending or Rejected	C-44 or NOT AQ-16	BootNotification Pending or Does the CSMS reject unknown Charging Stations during websocket connection setup?
	Status change during offline period					
TC_B_51	> Offline Threshold	M				
TC_B_52	< Offline Threshold	M				
	Get Variables					
TC_B_06	single value	M	M			
TC_B_07	multiple values	M	C	If the CSMS supports multiple elements in a GetVariablesRequest	C-45	multiple values elements GetVariablesRequest
TC_B_32	Unknown component	M				
TC_B_33	Unknown variable	M				
TC_B_34	Not supported attribute type	M				
	Set Variables					
TC_B_09	single value	M	M			
TC_B_10	multiple values	M	C	If the CSMS supports multiple elements in a SetVariablesRequest	C-46	multiple values elements SetVariablesRequest
TC_B_35	Unknown component	M				
TC_B_36	Unknown variable	M				
TC_B_37	Not supported attribute type	M				
TC_B_11	invalidly formatted values	M				
TC_B_39	Read-only	M				
	Get Base Report					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_B_12	ConfigurationInventory	M	C		C-17 OR DM-0	ConfigurationInventory
TC_B_13	FullInventory	M	C		C-50.2	GetBaseReport - FullInventory - Manual trigger
TC_B_14	SummaryInventory	C			C-56 OR DM-0	
TC_B_15	Not Supported base report	C		For CS: If reportBase SummaryInventory is not supported. This is the case when Certification Profile *Advanced Device Management* is not supported.	Not C-56	
TC_B_53	Test mandatory DM variables via FullInventory	M				
	Reset Charging Station					
TC_B_20 (2.1)	Without ongoing transaction - OnIdle	C	M		NOT HFS-13	
TC_B_21 (2.1)	With Ongoing Transaction - OnIdle	C	M		NOT HFS-13	
TC_B_22	With Ongoing Transaction - Immediate	M	M			
TC_B_23	Unavailable persists reset	M				
TC_B_41 (2.1)	With multiple ongoing transactions - OnIdle	C		For CS: if no. of EVSEs > 1	HFS-8 > 1 AND NOT HFS-13	
	Reset EVSE					
TC_B_25	Without ongoing transaction	C	C		C-13	Reset per EVSE
TC_B_26	With Ongoing Transaction - OnIdle	C	C		C-13	Reset per EVSE
TC_B_27	With Ongoing Transaction - Immediate	C	C		C-13	Reset per EVSE
TC_B_28	Not Supported	C		For CS: Charging Station does not support resetting an individual EVSE	NOT C-13	Reset per EVSE
TC_B_29	With ongoing transaction - Not Supported	C		For CS: Charging Station does not support resetting an individual EVSE	NOT C-13	Reset per EVSE
	Reset ImmediateAndResume					
TC_B_101 (2.1)	With Ongoing Transaction - TxResumptionTimeout 0 or <omitted> - Rejected	M				
TC_B_102 (2.1)	With ongoing transaction - Energy Transfer Suspended	C			C-62	Support for resuming transactions
TC_B_103 (2.1)	With Ongoing Transaction - Resuming Energy Transfer	C	M		C-62	Support for resuming transactions

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_B_104 (2.1)	Without ongoing transaction	C	M		C-62	Support for resuming transactions
	Set new NetworkConnectionProfile					
TC_B_42	Accepted		M			
TC_B_43	Rejected	M				
TC_B_44	Failed		M			
	Set new NetworkConnectionProfile (2.1)					
TC_B_100 (2.1)	Identity and password	M	M			
TC_B_105 (2.1)	Add new NetworkConfiguration using SetVariables	M	M			
TC_B_107 (2.1)	Add and remove slot from NetworkConfigurationPriority	M				
TC_B_108 (2.1)	Prevent overwriting configured Network Profile slot	M				
TC_B_109 (2.1)	When changing SecurityCtrlr.Identity/BasicAuthPassword the NetworkProfiles.Identity/BasicAuthPassword must be cleared	M				
TC_B_110 (2.1)	No security downgrade to profile #1	M				
TC_B_111 (2.1)	No security downgrade to profile #1 - DM	M				
	Migrate to new ConnectionProfile					
TC_B_45	Success - Same CSMS Root	M		For CS: at least two configuration slots for networkConnectionProfiles must be supported		
TC_B_46	Fallback mechanism - Same CSMS Root	M		For CS: at least two configuration slots for networkConnectionProfiles must be supported		
TC_B_47	Fallback after NetworkProfileConnectionAttempts per NetworkConfigurationPriority failed - New CSMS Root - New CSMS	C		For CS: at least two configuration slots for networkConnectionProfiles must be supported	AS-2 and C-47	Additional Root Certificate check mechanism implemented & Reconnect after NetworkProfileConnectionAttempts

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_B_49	Fallback after NetworkProfileConnectionAttempts per NetworkConfigurationPriority failed - Same CSMS Root	C		For CS: at least two configuration slots for networkConnectionProfiles must be supported	C-47	Reconnect after NetworkProfileConnectionAttempts
TC_B_50	Success - New CSMS Root - New CSMS	M		For CS: at least two configuration slots for networkConnectionProfiles must be supported		
	Network Reconnection					
TC_B_57	After connection loss	M				
TC_B_58	WebSocket Subprotocol negotiation		M			
	Local start transaction					
TC_C_02	Authorization Invalid/Unknown	C	M	Charging Station: - The Charging Station supports at least one of the following local start authorization options C-30, C-31, C-32 - The Charging Station does NOT have a cable lock that prevents the EV driver to connect the EV and EVSE before authorization.	(C-30 or C-31 or C-32) and NOT AQ-2	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode and Does the Charging Station have a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization?
TC_C_06	Authorization Blocked	C	M	For CS: - The Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 - The Charging Station does NOT have a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization.	NOT AQ-2 and (C-30 or C-31 or C-32)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
TC_C_07	Authorization Expired	C	M	For CS: - The Charging Station supports at least one of the following local start authorization options : C-30, C-31, C-32 - The Charging Station does NOT have a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization.	NOT AQ-2 and (C-30 or C-31 or C-32)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_38 (2.1)	EV not ready	C	M	For CS: not supporting start transaction options EnergyTransfer	NOT C-09.5 and NOT Product Subtype "Mode 1/2-only Charging Station" AND NOT HFS-13	Start transaction options - EnergyTransfer
TC_C_56	Authorization Unknown	C		Charging Station: - The Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	(C-30 or C-31 or C-32) and NOT AQ-2	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
TC_C_05	Authorization invalid - Cable lock	C		For CS: - The Charging Station has a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization. - The Charging Station supports at least one of the following local start authorization options C-30, C-31, C-32 - The Charging Station does NOT have the following configuration: TxStartPoint ReadOnly AND value Authorized is NOT set.	(C-30 or C-31 or C-32) and AQ-2	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
TC_C_100 (2.1)	Authorization first - Cable plugin timeout	C		For CS: - The Charging Station supports at least one of the following local start authorization options C-30, C-31, C-32 - The Charging Station does NOT have the following configuration: TxStartPoint ReadOnly AND value Authorized is NOT set.	(C-30 or C-31 or C-32)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
	Local Stop Transaction					
TC_C_04	Different idToken	C		Charging Station: - The Charging Station supports at least one of the following local start authorization options: C-70, C-71, C-72	C-70 or C-71 or C-72	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
TC_E_06	Accepted	C		The Charging Station supports E07 Transaction locally stopped by IdToken with at least one of the following local start authorization options: C-70, C-71, C-72, C-75	C-70 or C-71 or C-72 or C-75	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode / NoAuthorization
	Authorization by GroupId					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_C_39	Success	C	M	For CS: the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	(C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
TC_C_45	Master pass - Not able to start transaction + groupId	C		For CS: the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 and Master Pass	((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) AND (C-07 OR C-08)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode and Master Pass
TC_C_42	Not stopped by GroupId	C		For CS: the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	(C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode
	Offline Authorization					
TC_C_26	Unknown Id	C		If the feature Unknown Offline Authorization is supported AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32, C-33, C-34	C-02 and (C-30 or C-31 or C-32 or C-33 or C-34)	Unknown Offline Authorization
	Stop Transaction with a Master Pass					
TC_C_47	With UI - All transactions	C	M	CS: If the feature Master Pass with UI is supported AND the Charging Station supports at least one of the following local start authorization options: C-70, C-71, C-72	C-07 and (C-70 or C-71 or C-72)	Master Pass - With UI
TC_C_48	With UI - With UI - Specific transactions	C	M	CS: If the feature Master Pass with UI is supported AND the Charging Station supports at least one of the following local start authorization options: C-70, C-71, C-72	C-07 and (C-70 or C-71 or C-72)	Master Pass - With UI
TC_C_49	Without UI	C	M	CS: If the feature Master Pass with UI is supported AND the Charging Station supports at least one of the following local start authorization options: C-70, C-71, C-72	C-08 and (C-70 or C-71 or C-72)	Master Pass - Without UI
	Store Authorization Data in the Authorization Cache					
TC_C_32	Persistent over reboot	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_C_33	Update on AuthorizeResponse	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_34	Update on TransactionResponse	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_36	AuthCacheCtrlr.LocalPreAuthorize = false	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_46	AuthCacheLifeTime	C		If the Charging Station has an authorization cache AND supports to set a lifetime for its entries AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and C-53 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache & AuthCacheLifeTime
	Clear Authorization Data in Authorization Cache					
TC_C_37	Accepted	C	M	If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_38	Rejected	C	M	If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
	Authorization by GroupId					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_C_41	Success with Authorization Cache	C		For CS: - The Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 - If the Charging Station has an authorization cache.	C-49 and ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72))	Authorization Cache
TC_C_44	Invalid status with Authorization Cache	C		For CS: - The Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 - If the Charging Station has an authorization cache.	C-49 and ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72))	Authorization Cache
	Authorization through authorization cache					
TC_C_08	Accepted	C	M	If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_09	Invalid & Not Accepted	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_12	Invalid & Accepted	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_10	Blocked	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_C_11	Expired	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_13	Accepted but cable not connected yet.	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 OR supports at least one of the following remote start authorization options: C-36, C-37	C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	Authorization Cache
TC_C_15	StopTxOnInvalidId = false, MaxEnergyOnInvalidId > 0	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 If MaxEnergyOnInvalidId is implemented.	C-49 and C-03 and ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72))	Authorization Cache & MaxEnergyOnInvalidId
TC_C_16	StopTxOnInvalidId = true	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	C-49 and ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72))	Authorization Cache
TC_C_17	StopTxOnInvalidId = false	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	C-49 and ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72))	Authorization Cache
TC_C_18	StopTxOnInvalidId = true, MaxEnergyOnInvalidId > 0	C		If the Charging Station has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32 If MaxEnergyOnInvalidId is implemented.	C-49 and C-03 and ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72))	Authorization Cache & MaxEnergyOnInvalidId
TC_C_20	Invalid		M			
TC_C_57	AuthCacheDisablePostAuthorize	C		If the Charging Station supports the option for disabling remote authorization for cached invalid idTokens AND has an authorization cache AND the Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32, C-34 OR supports at least one of the following remote start authorization options: C-36, C-37	C-59 and C-49 and (((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72)) or (C-36 or C-37))	

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Local start transaction - Cable plugin first					
TC_E_03	Success	C	M	Applicable if one or more of the local start authorization options is implemented.	NOT AQ-2 and (C-30 or C-31 or C-32 or C-33 or C-34 or C-35 or ISO 15118 support)	Authorization options for local start
	Local start transaction - Authorization first					
TC_E_04	Success	C	M	Applicable if one or more of the local start authorization options is implemented.	C-30 or C-31 or C-32 or C-33 or C-35	Authorization options for local start
TC_E_05 (2.1)	Cable plugin timeout	C		Applicable if one or more of the local start authorization options is implemented.	(C-30 or C-31 or C-32 or C-33 or C-35) AND NOT HFS-13	Authorization options for local start
TC_E_52	DisableRemoteAuthorization	C		If the Charging Station supports the option for disabling remote authorization and The Charging Station supports at least one of the following local start authorization options C-30, C-31, C-32 and Either Authorization Cache or Local Authorization List is supported.	C-58 and (C-30 or C-31 or C-32) and (C-49 or Local Authorization List Management)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode & Authorization Cache & Local Authorization List.
	Start transaction options					
TC_E_09	EVConnected	C	M	TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EVConnected is a supported value. And it should be possible to not set ParkingBayOccupancy.	(C-09.1 and (C-51 or NOT C-09.6)) and NOT AQ-2	
TC_E_10	Authorized - Local	C	M	TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value Authorized is a supported value. - If one or more of the local start authorization options is implemented.	C-09.2 and (C-30 or C-31 or C-32 or C-33 or C-34 or C-35 or ISO 15118 support)	Supported Transaction Start Points & Authorization options for local start & Authorization - eMAID
TC_E_13	Authorized - Remote	C		TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value Authorized is a supported value.	C-09.2	Supported Transaction Start points

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_11	DataSigned	C	M	CS: TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value DataSigned is a supported value. And it should be possible to not set ParkingBayOccupancy and EVConnected and Authorized. CSMS: Must at least be able to receive a signed MeterValue. It does not need to be able to read it.	C-09.3 and (C-51 or NOT (C-09.1 or C-09.2 or C-09.6))	Supported Transaction Start points
TC_E_01	PowerPathClosed	C	M	TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value PowerPathClosed is a supported value. And it should be possible to not set ParkingBayOccupancy and EVConnected and Authorized and DataSigned.	C-09.4 and (C-51 or NOT (C-09.1 or C-09.2 or C-09.3 or C-09.6))	Supported Transaction Start points
TC_E_02	EnergyTransfer	C	M	TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EnergyTransfer is a supported value. And it should be possible to not set ParkingBayOccupancy and EVConnected and Authorized and DataSigned and PowerPathClosed	C-09.5 and (C-51 or NOT (C-09.1 or C-09.2 or C-09.3 or C-09.4 or C-09.6))	Supported Transaction Start points
TC_E_12	ParkingBayOccupied	C	M	TxStartPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value ParkingBayOccupied is a supported value.	C-09.6	Supported Transaction Start points
	Stop transaction options					
TC_E_14 (2.1)	EVDisconnected - Charging Station side	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EVConnected is a supported value. And it should be possible to not set EnergyTransfer and PowerPathClosed and Authorized. Charging Station does NOT have a fixed cable.	HFS-1 and C-10.1 and (C-52 or NOT (C-10.2 or C-10.3 or C-10.4)) AND NOT HFS-13	Supported Transaction Stop points

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_20	EVDisconnected - EV side (able to charge IEC 61851-1 EV)	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EVConnected is a supported value. And it should be possible to not set EnergyTransfer and PowerPathClosed AND The Charging Station does NOT have following configuration combination; **StopTxOnEVSideDisconnect** mutability ReadOnly with value *true* AND TxStopPoint mutability is *ReadOnly* and contains *Authorized*	(C-10.1 AND (NOT (NOT C-52 AND (C-10.3 or C-10.4))) AND NOT (NOT C-06.1 AND NOT C-52 AND C-10.2)) AND (AQ-9 OR Product Subtype "Mode 1/2-only Charging Station") AND NOT Product Subtype "Wireless Charging Station"	Supported Transaction Stop points
TC_E_54 **(2.1)**	EVDisconnected - EV side (not able to charge IEC 61851-1 EV)	C		TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EVConnected is a supported value. And it should be possible to not set EnergyTransfer and PowerPathClosed AND The Charging Station does NOT have following configuration combination; **StopTxOnEVSideDisconnect** mutability ReadOnly with value *true* AND TxStopPoint mutability is *ReadOnly* and contains *Authorized*	C-10.1 AND (NOT (NOT C-52 AND (C-10.2 or C-10.3 or C-10.4))) AND (HFS-4 OR ISO 15118 support OR Product Subtype "Wireless Charging Station") AND NOT Product Subtype "Mode 1/2-only Charging Station" AND NOT HFS-13	Supported Transaction Stop points
TC_E_15	StopAuthorized - Local	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value Authorized is a supported value. The Charging Station supports E07 Transaction locally stopped by IdToken with at least one of the following local stop authorization options: C-70, C-71, C-72, C75	C-10.2 and (C-70 or C-71 or C-72 or C-75)	Supported Transaction Stop Points & Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode / NoAuthorization
TC_E_21	StopAuthorized - Remote	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value Authorized is a supported value.	C-10.2	Supported Transaction Stop points

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_16	Deauthorized - Invalid idToken	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value Authorized or PowerPathClosed is a supported value. Charging Station: If one or more of the local start authorization options is implemented. AND either a cache, local authorization list or UnknownIdtag (C15) is implemented.	(C-10.2 or C-10.3) and C-01 and NOT C-35	Supported Transaction Stop Points & Local Authorization options for local start
TC_E_17	Deauthorized - EV side disconnect	C	M	This testcase is applicable if the value Authorized is a supported value for TxStopPoint AND EVConnected, PowerPathClosed and EnergyTransfer must not be set as TxStopPoint AND StopTxOnEVSideDisconnect true must be a supported value.	C-10.2 and C-06.2 and AQ-9 and NOT (NOT C-52 AND (C-10.1 OR C-10.3 OR C-10.4))	Supported Transaction Stop points
TC_E_39 (2.1)	Deauthorized - timeout	C	M		NOT HFS-13	
TC_E_07	PowerPathClosed - Local stop	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value PowerPathClosed is a supported value. And it should be possible to not set Authorized. The Charging Station supports E07 Transaction locally stopped by IdToken with at least one of the following local stop authorization options: C-70, C-71, C-72, C75	C-10.3 and (C-52 or NOT C-10.2) and (C-70 or C-71 or C-72 or C-75)	Supported Transaction Stop Points & Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode / NoAuthorization
TC_E_35	PowerPathClosed - Remote stop	C		TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value PowerPathClosed is a supported value. And it should be possible to not set Authorized.	C-10.3 and (C-52 or NOT C-10.2)	Supported Transaction Stop points

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_37	PowerPathClosed - EV side disconnect	C		TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value PowerPathClosed is a supported value. And it should be possible to not set EnergyTransfer and EVConnected.	C-10.3 and (C-52 or NOT (C-10.1 or C-10.4)) AND (AQ-9 OR Product Subtype "Mode 1/2-only Charging Station" OR Product Subtype "Wireless Charging Station")	Supported Transaction Stop points
TC_E_08	EnergyTransfer stopped - StopAuthorized	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EnergyTransfer is a supported value. And it should be possible to not set PowerPathClosed and Authorized.	C-10.4 and (C-52 or NOT (C-10.2 or C-10.3))	Supported Transaction Stop points
TC_E_22	EnergyTransfer stopped - SuspendedEV	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value EnergyTransfer is a supported value.	C-10.4	Supported Transaction Stop points
TC_E_19	ParkingBayUnoccupied	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value ParkingBayOccupancy is a supported value. And it should be possible to not set EnergyTransfer and Authorized and PowerPathClosed and EVConnected.	C-10.5 and (C-52 or NOT (C-10.1 or C-10.2 or C-10.3 or C-10.4))	Supported Transaction Stop points
	Disconnect cable on EV-side					
TC_E_24	Deauthorize transaction - UnlockOnEVSideDisconnect is true	C		The Charging Station does NOT have a permanently attached cable. UnlockOnEVSideDisconnect can be set to true StopTxOnEVSideDisconnect can be set to true	HFS-1 and C-06.2 and C-12.1 and AQ-18 and NOT (HFS-4 or (ISO 15118 support and NOT AQ-9))	Support for not maintaining authorization when cable disconnected on EV side & Support for unlocking connector when cable disconnected on EV side
TC_E_25	Deauthorize transaction - UnlockOnEVSideDisconnect is false	C		UnlockOnEVSideDisconnect can be set to false StopTxOnEVSideDisconnect can be set to true	C-06.2 and C-12.2 and AQ-18 and NOT (HFS-4 or (ISO 15118 support and NOT AQ-9))	Support for not maintaining authorization when cable disconnected on EV side & Support for not unlocking connector when cable disconnected on EV side

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_26	Suspend transaction	C	M	TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value ParkingBayOccupancy or Authorized is a supported value. And it should be possible to not set EnergyTransfer and PowerPathClosed and EVConnected. UnlockOnEVSideDisconnect can be set to false StopTxOnEVSideDisconnect can be set to false	(C-10.2 or C-10.5) and (C-52 or NOT (C-10.1 or C-10.3 or C-10.4)) and C-06.1 and C-12.2 and NOT (HFS-4 or (ISO 15118 support and NOT AQ-9)) and NOT Product Subtype "Mode 1/2-only Charging Station"	
TC_E_27	Suspend transaction - Fixed cable connection timeout	C		TxStopPoint can either be ReadOnly with a subset of the values or have a valueList of supported values, that contains a subset. This testcase is applicable if the value ParkingBayOccupancy or Authorized is a supported value. And it should be possible to not set EnergyTransfer and PowerPathClosed and EVConnected. The Charging Station has a permanently attached cable at the Charging Station side. UnlockOnEVSideDisconnect can be set to false StopTxOnEVSideDisconnect can be set to false	(C-10.2 or C-10.5) and (C-52 or NOT (C-10.1 or C-10.3 or C-10.4)) and C-06.1 and C-12.2 and HFS-2 and NOT (HFS-4 or (ISO 15118 support and NOT AQ-9)) and NOT Product Subtype "Mode 1/2-only Charging Station"	
	Transactions with fixed cost, energy or time					
TC_E_100 (2.1)	CSMS specifies energy limit	C			C-63	Support for transaction limits
TC_E_101 (2.1)	CSMS calculates costs (through CostUpdatedRequest) and CS specifies limit	C			C-63	Support for transaction limits
TC_E_102 (2.1)	CSMS and CS both specify limits	C	C		CS: C-63 CSMS: P-0	CS: Support for transaction limits CSMS: Support for Payment
TC_E_103 (2.1)	CS calculates costs and CSMS specifies limit	C			C-63	Support for transaction limits
TC_E_104 (2.1)	CSMS calculates costs (through TransactionEventResponse) and specifies limit	C			C-63	Support for transaction limits
TC_E_105 (2.1)	CSMS specifies time limit	C			C-63	Support for transaction limits
TC_E_106 (2.1)	CS specifies energy limit	C	M		C-63	Support for transaction limits

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_107 (2.1)	CS specifies time limit	C	M		C-63	Support for transaction limits
TC_E_108 (2.1)	CS calculates costs and specifies limit	C	M		C-63	Support for transaction limits
TC_E_109 (2.1)	CSMS calculates costs and specifies cost limit		C		P-0	Support for Payment
TC_E_110 (2.1)	CSMS specifies energy limit		C		P-0	Support for Payment
TC_E_111 (2.1)	CSMS specifies time limit		C		P-0	Support for Payment
	Resuming transaction after interruption					
TC_E_112 (2.1)	TxResumptionTimeout not expired - TxAllowEnergyTransferResumption is false	C			C-64	Support for resuming transaction after interruption
TC_E_113 (2.1)	TxResumptionTimeout not expired - TxAllowEnergyTransferResumption is true	C	M		C-64	Support for resuming transaction after interruption
TC_E_114 (2.1)	Powerloss - TxResumptionTimeout absent	C			NOT C-62 AND NOT C-64	Support for resuming transaction after interruption
TC_E_115 (2.1)	Powerloss - TxResumptionTimeout = 0	C			C-64	Support for resuming transaction after interruption
TC_E_116 (2.1)	Powerloss - TxResumptionTimeout expired	C			C-64	Support for resuming transaction after interruption
	Retry sending transaction message when failed					
TC_E_41	Max retry count reached	M				
TC_E_42	Success before reaching the max retry count	M				
TC_E_50	Max retry count reached - CallError	M				
TC_E_51	Success before reaching the max retry count - CallError	M				
	Offline Behaviour					
TC_E_40	Connection loss during transaction	M				
TC_E_43	Transaction during offline period	C		Charging Station: If offline authorization is supported.	C-01	Offline transaction support
TC_E_44	Stop transaction during offline period	C		Charging Station: If one or more of the local stop authorization options is implemented.	C-70 or C-71 or C-72 or C-75 or ISO 15118 support	Local Authorization options for local start & Authorization - eMAID

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_E_45	Stop transaction during offline period - Same GroupId	C		For CS: the Charging Station supports at least one of the following local stop authorization options: C-30, C-31, C-32 and Local Authorization List or Authorization Cache	(C-70 or C-71 or C-72) AND (Local Authorization List Management or C-49)	Local Authorization - using RFID ISO14443 / RFID ISO15693 / KeyCode and Local Authorization List or Authorization Cache
	Check Transaction status					
TC_E_28	TransactionId unknown	M				
TC_E_29	Transaction with id ongoing - with message in queue	M	C		C-16	Check TransactionStatus
TC_E_30	Transaction with id ongoing - without message in queue	M	C		C-16	Check TransactionStatus
TC_E_31	Transaction with id ended - with message in queue	C	C	Charging Station: The following combination of conditions are NOT true: - No local authorization methods are supported AND - TxStopPoint mutability is ReadOnly and only contains Authorized AND - TxCtrlr.StopTxOnEVSideDisconnect mutability is false and value is false	CSMS: C-16 CS: NOT (NOT ((C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72) or (C-35 and C-75)) AND (NOT C-10.1 AND NOT C-10.3 AND NOT C-10.4 AND NOT C-10.5) AND NOT C-06.2)	CSMS: Check TransactionStatus
TC_E_32	Transaction with id ended - without message in queue	M				
TC_E_33	Without transactionId - with message in queue	M	C		C-16	Check TransactionStatus
TC_E_34	Without transactionId - without message in queue	M	C		C-16	Check TransactionStatus
	Reset Sequence Number					
TC_E_53	CSMS accepting *seqNo* = 0 at start of transaction		M			
	Remote start transaction					
TC_F_01	Cable plugin first	C	M	If the Charging Station does not have a cable lock.	NOT AQ-2 and (C-36 or C-37 or C-38 or C-39)	Authorization options for remote start
TC_F_02	Remote start first - AuthorizeRemoteStart is true	C	M	If AuthorizeRemoteStart can be set to true	C-48.1 and (C-36 or C-37 or C-38 or C-39)	Authorization options for remote start

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_F_03	Remote start first - AuthorizeRemoteStart is false	C	M	If AuthorizeRemoteStart can be set to false	C-48.2 and (C-36 or C-37 or C-38 or C-39)	Authorization options for remote start
TC_F_04 (2.1)	Remote start first - Cable plugin timeout	C	M		NOT HFS-13	
	Remote stop transaction					
TC_F_08	Success	M				
TC_F_09	Rejected	M				
	Remote unlock Connector					
TC_F_05	With ongoing transaction	C		If the Charging Station has a detachable cable, with a mechanized locking mechanism.	HFS-1 and AQ-18	
TC_F_06	Without ongoing transaction - Accepted	C	C	If the Charging Station has a detachable cable, with a mechanized locking mechanism. If the CSMS support the Unlocking connector for Charging Station with detachable cable (UnlockConnector) feature.	CSMS: C-11 CS: HFS-1 and AQ-18	
TC_F_07	Without ongoing transaction - No cable connected	C		If the Charging Station has a detachable cable, with a mechanized locking mechanism.	HFS-1 and AQ-18	
TC_F_10	Without ongoing transaction - UnknownConnector	C		If the Charging Station has a detachable cable, with a mechanized locking mechanism.	HFS-1 and AQ-18	
	Trigger message					
TC_F_11	MeterValues - Specific EVSE	C	C	If the SUT supports TriggerMessage for requestedMessage MeterValues for a specific EVSE.	C-29.1	TriggerMessage
TC_F_12	MeterValues - All EVSE	C	C	If the SUT supports TriggerMessage for requestedMessage MeterValues for a all EVSE.	C-29.1	TriggerMessage
TC_F_13	TransactionEvent - Specific EVSE	C	C	If the SUT supports TriggerMessage for requestedMessage TransactionEvent for a specific EVSE.	C-29.2	TriggerMessage
TC_F_14	TransactionEvent - All EVSE	C	C	If the SUT supports TriggerMessage for requestedMessage TransactionEvent for a all EVSE.	C-29.2	TriggerMessage
TC_F_15	LogStatusNotification - Idle	C	C	If the SUT supports TriggerMessage for requestedMessage LogStatusNotification.	C-29.3	TriggerMessage
TC_F_16	LogStatusNotification - Uploading	C		If the Charging Station supports TriggerMessage for requestedMessage LogStatusNotification.	C-29.3	TriggerMessage

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_F_17	FirmwareStatusNotification - Specific EVSE not relevant	C		If the Charging Station supports TriggerMessage for requestedMessage FirmwareStatusNotification.	C-29.4	TriggerMessage
TC_F_18	FirmwareStatusNotification - Idle	C	C	If the SUT supports TriggerMessage for requestedMessage FirmwareStatusNotification.	C-29.4	TriggerMessage
TC_F_19	FirmwareStatusNotification - Downloading	C		If the Charging Station supports TriggerMessage for requestedMessage FirmwareStatusNotification.	C-29.4	TriggerMessage
TC_F_20	Heartbeat	M	M			
TC_F_23	StatusNotification - Specific EVSE - Available	C	C	If the SUT supports TriggerMessage for requestedMessage StatusNotification for a specific EVSE.	C-29.5	TriggerMessage
TC_F_24	StatusNotification - Specific EVSE - Occupied	C	C	If the SUT supports TriggerMessage for requestedMessage StatusNotification for a specific EVSE.	C-29.5	TriggerMessage
TC_F_26	BootNotification - Rejected	C		If the Charging Station supports TriggerMessage for requestedMessage BootNotification.	C-29.6	TriggerMessage
TC_F_27	NotImplemented	C	M	For CS: can only be done when SignCombinedCertificate is notimplemented	NOT AQ-11	
TC_F_100	CustomTrigger	C	C		C-29.7	Trigger message
	Connector status Notification			Charging Station: This can either be implemented with the StatusNotification or NotifyEvent message. CSMS: Both StatusNotification and NotifyEvent must be supported.		
TC_G_01	Available to Occupied	M				
TC_G_02	Occupied to Available	M				
TC_G_20	Lock Failure		M			
	Change Availability EVSE			Charging Station: This can either be implemented with the StatusNotification or NotifyEvent message. CSMS: Both StatusNotification and NotifyEvent must be supported.		
TC_G_03	Operative to inoperative	M	M			

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_G_09	Operative to operative	M				
TC_G_04	Inoperative to operative	M	M			
TC_G_10	Inoperative to inoperative	M				
TC_G_11	With ongoing transaction	M	M			
TC_G_18	state persists across reboot	M				
	Change Availability Charging Station			Charging Station: This can either be implemented with the StatusNotification or NotifyEvent message. CSMS: Both StatusNotification and NotifyEvent must be supported.		
TC_G_05	Operative to inoperative	M	M			
TC_G_12	Operative to operative	M				
TC_G_06	Inoperative to operative	M	M			
TC_G_13	Inoperative to inoperative	M				
TC_G_21	state persists across reboot	M				
TC_G_14	With ongoing transaction	M	M			
	Change Availability Connector			Charging Station: This can either be implemented with the StatusNotification or NotifyEvent message. CSMS: Both StatusNotification and NotifyEvent must be supported.		
TC_G_07	Operative to inoperative	M	M			
TC_G_15	Operative to operative	M				
TC_G_08	Inoperative to operative	M	M			
TC_G_16	Inoperative to inoperative	M				
TC_G_17	With ongoing transaction	M	M			
TC_G_19	state persists across reboot	M				
	Clock-aligned Meter Values			Charging Station can choose which measurands are supported (At least one). This can either be implemented with the MeterValues or NotifyEvent message.		
TC_J_01	No transaction ongoing	M	M		C-40	Supported MeterValue Measurands
TC_J_02	Transaction ongoing	M	M		C-40	Supported MeterValue Measurands

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_J_03	EventType Ended	M	M		C-40	Supported MeterValue Measurands
TC_J_04	Signed	C	M	Charging Station: If signed MeterValues is implemented CSMS: Must at least be able to receive a signed MeterValue. It does not need to be able to read it.	C-42	Supported MeterValue Measurands & Signed Metervalues
TC_J_06	No Meter Values during transaction	C		If AlignedDataSendDuringIdle is supported.	C-28	AlignedDataSendDuringIdle
	Sampled Meter Values			Charging Station can choose which measurands are supported (At least one).		
TC_J_07	EventType Started - EVSE known	M	M		C-40	Supported MeterValue Measurands
TC_J_08	Context Transaction.Begin - EVSE not known	C	M		C-40 and NOT AQ-8 AND (C-09.2 OR C-09.6)	Supported MeterValue Measurands & possibility to enforce EVSE being known.
TC_J_09	EventType Updated	M	M		C-40	Supported MeterValue Measurands
TC_J_10	EventType Ended	M	M		C-40	Supported MeterValue Measurands
TC_J_11	Signed	C	M	Charging Station: If signed MeterValues is implemented CSMS: Must at least be able to receive a signed MeterValue. It does not need to be able to read it.	C-42	Supported MeterValue Measurands & Signed Metervalues
	Remote start transaction with charging profile					
TC_K_38	Ignore chargingProfile	C		The Charging Station does NOT support Smart Charging.	NOT Smart Charging	
	Secure Firmware Update					
TC_L_01	Installation successful	M	M			
TC_L_02	InstallScheduled	M	C		C-15	Scheduled firmware updates
TC_L_03	DownloadScheduled	M	C		C-15	Scheduled firmware updates
TC_L_04	RevokedCertificate		M			
TC_L_05	InvalidCertificate	M	M			
TC_L_06	InvalidSignature	M	M			
TC_L_07	DownloadFailed	M	M			
TC_L_08	InstallVerificationFailed or InstallationFailed	M	M			
TC_L_09	InstallationFailed		M			

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_L_10	AcceptedCanceled	C	M	The Charging Station supports cancellling an ongoing firmware update	C-60	
TC_L_11	Unable to cancel	C	M	The Charging Station does NOT supports cancellling an ongoing firmware update	NOT C-60	
TC_L_18	Missing firmware signing certificate and signature	M				
TC_L_12	Unable to download/install firmware with ongoing transaction - AllowNewSessionsPendingFirmwareUpdate is true	C		AllowNewSessionsPendingFirmwareUpdate is implemented. The Charging Station is unable to download AND install firmware while there is an ongoing transaction.	C-20 and NOT C-43 and NOT AQ-7 and HFS-8 > 1	AllowNewSessionsPendingFirmwareUpdate
TC_L_13	Unable to download/install firmware with ongoing transaction - AllowNewSessionsPendingFirmwareUpdate is false	C	M	AllowNewSessionsPendingFirmwareUpdate is implemented. The Charging Station is unable to download AND install firmware while there is an ongoing transaction.	NOT C-43 and NOT AQ-7	
TC_L_14	Unable to install and activate firmware with ongoing transaction - AllowNewSessionsPendingFirmwareUpdate is true	C		AllowNewSessionsPendingFirmwareUpdate is implemented. The Charging Station is unable to install firmware while there is an ongoing transaction	C-20 and NOT C-43 and AQ-7 and HFS-8 > 1	AllowNewSessionsPendingFirmwareUpdate
TC_L_15	Unable to install firmware with ongoing transaction - AllowNewSessionsPendingFirmwareUpdate is false	C		AllowNewSessionsPendingFirmwareUpdate is implemented. The Charging Station is unable to install firmware while there is an ongoing transaction	NOT C-43 and AQ-7	
TC_L_16	Able to update firmware with ongoing transaction	C		If the Charging Station supports Install Firmware with ongoing transaction(s)	C-43	Install Firmware with ongoing transaction(s)
	Retrieve certificates from Charging Station					
TC_M_12	CSMSRootCertificate	M				
TC_M_13	ManufacturerRootCertificate	M	M			
TC_M_17	CSMSRootCertificate & ManufacturerRootCertificate	M				
TC_M_18	All certificateTypes	M	M			
TC_M_19	No matching certificate found	M	M			
	Delete a certificate from a Charging Station					
TC_M_20	Success	M	M			
TC_M_21	Failed		M			

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_M_22	No matching certificate found	M				
	Install CA certificate					
TC_M_01	CSMSRootCertificate	M	M			
TC_M_02	ManufacturerRootCertificate	M	M			
TC_M_05	Failed		M			
TC_M_07	Rejected - Certificate invalid	M				
TC_M_09	AdditionalRootCertificateCheck - Rejected	C		If the Charging Station supports AdditionalRootCertificateCheck with value true	AS-2	Additional Root Certificate check mechanism implemented
TC_M_30	AdditionalRootCertificateCheck - Reconnect using new CSMS Root - Success	C		If the Charging Station supports AdditionalRootCertificateCheck with value true	AS-2	Additional Root Certificate check mechanism implemented
TC_M_31	AdditionalRootCertificateCheck - Reconnect using new CSMS Root - Fallback mechanism	C		If the Charging Station supports AdditionalRootCertificateCheck with value true	AS-2	Additional Root Certificate check mechanism implemented
	Retrieve Log Information					
TC_N_25	Diagnostics Log - Success	M	M			
TC_N_34	Rejected		M			
TC_N_26	Diagnostics Log - Upload failed	M				
TC_N_35	Security Log - Success	M	M			
TC_N_36	Second Request	C	M	If the Charging Station is able to cancel an ongoing log file upload.	C-57	
TC_N_100 (2.1)	DataCollectorLog - Success	C	C		CS: C-65 CSMS: C-65 OR Bidirectional Power Transfer OR DER Control	Support for DataCollectorLog
TC_N_101 (2.1)	Validations	C		Charging station supports HTTP or HTTPS file transfer protocol for logging	Supported file transfer protocols contains HTTP or HTTPS	
TC_N_102 (2.1)	Authentication - HTTP	C	M	Charging station supports HTTP file transfer protocol for logging	Supported file transfer protocols contains HTTP	
TC_N_103 (2.1)	Authentication - HTTPS	C	M	Charging station supports HTTPS file transfer protocol for logging	Supported file transfer protocols contains HTTPS	
	Get Customer Information					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_N_27	Accepted + data	C	M	For CS: The Charging Station needs to support Local Authorization and either the Local Authorization List or Authorization Cache. IdToken is used as customer information.	((C-30 and C-70) or (C-31 and C-71)) and (Local Authorization List Management or C-49)	
TC_N_28	Accepted + no data	C	M	For CS: The Charging Station needs to support Local Authorization and either the Local Authorization List or Authorization Cache. IdToken is used as customer information.	((C-30 and C-70) or (C-31 and C-71)) and (Local Authorization List Management or C-49)	
TC_N_29	Not Accepted		M			
	Clear Customer Information					
TC_N_30	Clear and report + data	C	M	For CS: The Charging Station needs to support Local Authorization or the Authorization Cache. IdToken is used as customer information.	((C-30 and C-70) or (C-31 and C-71)) and (Local Authorization List Management or C-49)	
TC_N_31	Clear and report + no data	C	M	For CS: The Charging Station needs to support Local Authorization or the Authorization Cache. IdToken is used as customer information.	((C-30 and C-70) or (C-31 and C-71)) and (Local Authorization List Management or C-49)	
TC_N_32	Clear and no report	M	M			
TC_N_62	Clear and report - customerIdentifier	C	C	Support for retrieving / deleting CustomerInformation - CustomerIdentifier	C-14	
	Data Transfer to the Charging Station					
TC_P_01	Rejected / Unknown VendorId / Unknown MessageId	M		Charging Station must be able to Reject the message.		
	Data Transfer to the CSMS					
TC_P_02	Rejected / Unknown VendorId / Unknown MessageId		M	CSMS must be able to Reject the message.		
	CustomData					
TC_P_03	Receive custom data	M	M			
	Battery Swap (2.1)					
TC_S_102	Remote Start - not enough batteries	C	C		CS: HFS-13 CSMS: C-76	CSMS: Support for Battery Swapping Stations

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_S_103	Remote Start - enough batteries available		C		C-76	Support for Battery Swapping Stations
TC_S_104	Charging - Variables validation	C			HFS-13	
TC_S_105	Charging - Battery Swap Charging	C			HFS-13	
	Local Authorization List Management					
	Offline authorization through local authorization list					
TC_C_21	Accepted	C		The Charging Station must support at least one of the following local start authorization options: C-30, C-31, C-32	LA-0 and C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72	
TC_C_22	Invalid	C		The Charging Station must support at least one of the following local start authorization options: C-30, C-31, C-32	LA-0 and (C-30 or C-31 or C-32)	
TC_C_23	Blocked	C		The Charging Station must support at least one of the following local start authorization options: C-30, C-31, C-32	LA-0 and (C-30 or C-31 or C-32)	
TC_C_24	Expired	C		The Charging Station must support at least one of the following local start authorization options: C-30, C-31, C-32	LA-0 and (C-30 or C-31 or C-32)	
TC_C_25	Local Authorization List > Authorization Cache	C		The Charging Station must support at least one of the following local start authorization options: C-30, C-31, C-32	LA-0 and C-49 and (C-30 or C-31 or (C-32 and C-72))	
	Online authorization through local authorization list					
TC_C_27	Accepted	C			LA-0	
TC_C_28	Invalid & Not Accepted	C			LA-0	
TC_C_31	Invalid & Accepted	C			LA-0	
TC_C_29	Blocked	C			LA-0	
TC_C_30	Expired	C			LA-0	
TC_C_58	LocalAuthListDisablePostAuthorize	C		The Charging Station supports the option for disabling remote authorization for invalid idTokens stored at the Local Authorization List.	LA-0 and LA-3	
	Authorization by GroupId					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_C_40	Success with Local Authorization List	C	C	For CS: - The Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	CS: LA-0 and C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72 CSMS: LA-0	
TC_C_43	Invalid status with Local Authorization List	C	C	For CS: - The Charging Station supports at least one of the following local start authorization options: C-30, C-31, C-32	CS: LA-0 and C-30 and C-70) or (C-31 and C-71) or (C-32 and C-72 CSMS: LA-0	
	Send Local Authorization List					
TC_D_01	Full	C	C		LA-0	
TC_D_02	Differential Update	C	C		LA-0	
TC_D_03	Differential Remove	C	C		LA-0	
TC_D_04	Full with empy list	C	C		LA-0	
TC_D_05	Differential with empty list	C			LA-0	
TC_D_06	VersionMismatch	C			LA-0	
TC_D_07	Persistent over reboot	C			LA-0	
	Get Local List Version					
TC_D_08	Success	C	C		CS: LA-0 CSMS: LA-0 and LA-2	GetLocalListVersion
TC_D_09	No list available		C		LA-0	
TC_D_10	Function disabled	C			LA-0	
	Clear Customer Information					
TC_N_46	Update Local Authorization List		C		LA-0	
				Reservation		
	Reset Charging Station					
TC_B_24	Reserved persists reset	C			R-0	
	Reserve a specific EVSE					
TC_H_01	Accepted - Valid idToken	C	C		R-0	
TC_H_02	Accepted - Different idToken	C			R-0	
TC_H_03	Occupied - EVSE Reserved	C			R-0	
TC_H_04	Occupied - EVSE Occupied	C			R-0	
TC_H_05	Faulted					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_H_06	Unavailable	C			R-0	
TC_H_07	Reservation Ended / not used	C	C		R-0	
TC_H_22	Configured to Reject	C	C	For CS: The configuration variable ReservationCtrlr.ReservationEnabled is implemented	CS: R-0 and R-3 CSMS: R-0	
TC_H_23	Replace reservation	C			R-0	
TC_H_19	Use a reserved EVSE with GroupId	C	C		R-0	
	Reserve an unspecified EVSE					
TC_H_08	Accepted	C	C	For CS: Depending on configuration variable ReservationNonSpecificEVSE	R-0 and R-2	Support reservations of unspecified EVSE
TC_H_09	Occupied - EVSE Reserved	C		Depending on configuration variable ReservationNonSpecificEVSE	R-0 and R-2	Support reservations of unspecified EVSE
TC_H_10	Occupied - EVSE Occupied	C		Depending on configuration variable ReservationNonSpecificEVSE	R-0 and R-2	Support reservations of unspecified EVSE
TC_H_12	Unavailable	C		Depending on configuration variable ReservationNonSpecificEVSE	R-0 and R-2	Support reservations of unspecified EVSE
TC_H_13	Rejected	C		Depending on the Charging Station not supporting the configuration variable ReservationNonSpecificEVSE	R-0 and NOT R-2	Support reservations of unspecified EVSE
TC_H_14	Amount of EVSEs available equals the amount of reservations	C	C	For CS: Depending on configuration variable ReservationNonSpecificEVSE For CSMS: this wil be tested with > 1 EVSE	R-0 and R-2	Support reservations of unspecified EVSE
TC_H_24	GroupIdToken	C		For CS: Depending on configuration variable ReservationNonSpecificEVSE	R-0 and R-2	Support reservations of unspecified EVSE
	Reserve a connector with a specific type					
TC_H_15	Success	C	C		R-0 and R-1	Support reservations of connectorType
TC_H_16	Amount of available connectors of a type equals the amount of reservations	C			R-0 and R-1	Support reservations of connectorType
	Cancel reservation of an EVSE					
TC_H_17	Success	C	C		R-0	
TC_H_18	Rejected	C			R-0	
TC_H_20	Charging Station cancels reservation when Faulted		C		R-0	

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_H_21	Charging Station cancels reservation when Unavailable	C			R-0	
			Payment			
	Set Default Tariff (2.1)					
TC_I_100	validFrom	C			P-0	
TC_I_101	startTimeOfDay, endTimeOfDay	C	C		P-0	
TC_I_102	TariffMaxElements	C	C		P-0	
TC_I_104	transaction with default tariff	C			P-0	
TC_I_105	TariffConditionsSupported is false	C	C		CS: P-0 and NOT P-1 CSMS: P-0	No Support for Tariff conditions
TC_I_106	validations	C	C		P-0	
	Receive Driver Tariff (2.1)					
TC_I_107	CS cannot process tariff - UseDefault/CentralCost	C			P-0	
TC_I_108	CS cannot process tariff - Deauthorize	C			P-0	
TC_I_109	Goodflow	C	C		P-0	
	Clear Tariffs (2.1)					
TC_I_110	DefaultTariff	C	C		P-0	
TC_I_111	Tariff in use	C			P-0	
	Local Cost Calculation (2.1)					
TC_I_113	Change transaction tariff - TariffMaxElements	C	C		P-0	
TC_I_114	Change transaction tariff - TariffConditionsSupported is false	C	C		P-0	
TC_I_115	Change transaction tariff - TariffConditionsSupported is true	C	C		CS: P-0 and P-1 CSMS: P-0	Support for Tariff conditions
TC_I_116	Change transaction tariff - goodflow	C			P-0	
TC_I_117	Change transaction tariff - validations	C			P-0	
TC_I_118	Cost Details of Transaction - no tariff conditions	C			P-0	
TC_I_119	Cost Details of Transaction - with tariff conditions	C			CS: P-0 and P-1 CSMS: P-0	Support for Tariff conditions

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_I_120	Cost Details of Transaction - reservation	C		Certification Profile: Reservation supported	P-0	
TC_I_121	Cost Details of Transaction - minCost/maxCost	C			P-0	
TC_I_122	Cost Details of Transaction		C		P-0	
	Authorization with Prepaid card (2.1)					
TC_C_103	Success	C	C		CS: P-0 and P-2.1 CSMS: P-0	Payment by prepaid card
TC_C_104	No credit	C	C		CS: P-0 and P-2.1 CSMS: P-0	Payment by prepaid card
	Integrated Payment Terminal (2.1)					
TC_C_105	CSMS rejects authorization	C			P-0 and P-2.2	Integrated payment terminal
TC_C_106	Only Payment Terminal authorises	C			P-0 and P-2.2	Integrated payment terminal
TC_C_107	Payment Terminal and CSMS authorises	C			P-0 and P-2.2	Integrated payment terminal
TC_C_108	VAT number validation	C	C		CS: P-0 and P-2.2 CSMS: P-0	Integrated payment terminal
TC_C_109	Cancelation prior to transaction - Only Payment Terminal authorised - EVConnectionTimeout	C			P-0 and P-2.2	Integrated payment terminal
TC_C_110	Cancelation prior to transaction - Payment Terminal and CSMS authorised - stopped by EV driver	C			P-0 and P-2.2	Integrated payment terminal
TC_C_111	Cancelation prior to transaction - Only Payment Terminal authorised - stopped by EV driver	C			P-0 and P-2.2	Integrated payment terminal
TC_C_112	Cancelation prior to transaction - Payment Terminal and CSMS authorised - EVConnectionTimeout	C			P-0 and P-2.2	Integrated payment terminal
TC_C_113	Cancelation after start of transaction - stopped by EV driver	C	C		CS: P-0 and P-2.2 CSMS: P-0	Integrated payment terminal
	Settlement at end of transaction (2.1)					
TC_C_114	Settled by CS, receipt by CS	C			P-0 and P-2.2	Integrated payment terminal
TC_C_115	Settled by CSMS	C			P-0 and P-2.2	Integrated payment terminal
TC_C_116	Settled by CS, receipt by CSMS	C			P-0 and P-2.2	Integrated payment terminal
TC_C_117	Settled by CSMS, receipt by CSMS		C		P-0	
TC_C_118	Settled by CS, receipt by CSMS		C		P-0	
	Settlement (2.1)					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_C_119	Is rejected or fails - Failed	C	C		CS: P-0 and P-2.2 CSMS: P-0	Integrated payment terminal
TC_C_120	Is rejected or fails - Rejected	C	C		CS: P-0 and P-2.2 CSMS: P-0	Integrated payment terminal
	Incremental authorization (2.1)					
TC_C_121	increasing enabled	C			P-0 and P-2.2	Integrated payment terminal
TC_C_122	increasing disabled	C			P-0 and P-2.2	Integrated payment terminal
	Ad hoc payment via stand-alone payment terminal (2.1)					
TC_C_123	Local cost calculation	C			P-0 and P-2.3	Stand alone payment terminal
TC_C_124	Central cost calculation	C			P-0 and P-2.3	Stand alone payment terminal
TC_C_125	Central cost calculation		C		P-0	
TC_C_126	Local cost calculation		C		P-0	
	Ad hoc payment via static or dynamic QR code (2.1)					
TC_C_127	No URL parameters	C			P-0 and P-2.4	QR code payment
TC_C_128	URL parameter maxTime	C			P-0 and P-2.4	QR code payment
TC_C_129	URL parameter maxCost	C			P-0 and P-2.4	QR code payment
TC_C_130	URL parameter maxEnergy	C			P-0 and P-2.4	QR code payment
TC_C_131	Success		C		P-0	
TC_C_132	Invalid URL parameters		C		P-0	
TC_C_133	Invalid totp		C		P-0	
	Advanced Device Management					
	Get Custom Report					
TC_B_16	with component criteria	C			DM-0	
TC_B_17	with component/variable	C			DM-0	
TC_B_18	with componentCriteria and component/variables	C	C		DM-0	
TC_B_54	with component/variable, but no instance	C			DM-0	
TC_B_55	with component/variable/instance	C			DM-0	
TC_B_56	with component/variable, but no evseId	C			DM-0	
	Get Monitoring Report					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_N_01	with monitoringCriteria	C	C		DM-0	
TC_N_02	with component/variable	C	C		DM-0	
TC_N_03	with component criteria and component/variable	C	C		DM-0	
TC_N_47	Report all	C	C		DM-0	
TC_N_60	with component criteria and list of components/variables		C		DM-0	
TC_N_104 (2.1)	TargetDeltaMonitoring	C	C		DM-0	
	Set Monitoring Base					
TC_N_05	success	C	C		DM-0	
TC_N_06	test removal custom monitors	C			DM-0	
	Set Variable Monitoring					
TC_N_08	One SetMonitoringData element	C	C		DM-0	
TC_N_09	Multiple elements on different component and variable	C			DM-0	
TC_N_10	Multiple monitors on the same component and variable	C			DM-0	
TC_N_11	Unknown component	C			DM-0	
TC_N_12	Value out of range - Delta monitor	C			DM-0	
TC_N_13	Value out of range - Threshold monitor	C			DM-0	
TC_N_15	Duplicate Variable type/severity combination	C			DM-0	
TC_N_24	Periodic event	C	C		DM-0	
TC_N_37	Unknown Variable	C			DM-0	
TC_N_39	Component/Variable combination does NOT correspond	C			DM-0	
TC_N_40	Replace Variable Monitor	C			DM-0	
TC_N_41	Return to FactoryDefault	C			DM-0	
TC_N_43	First SetMonitoringData and third SetMonitoringData are valid, but the second contains an out of range value	C			DM-0	
TC_N_51	Modifying a VariableMonitor and trigger	C			DM-0	
TC_N_52	Removing a VariableMonitor	C			DM-0	

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_N_105 (2.1)	Set Frequent Periodic Variable Monitoring - Periodic	C	C		DM-0	
TC_N_106 (2.1)	Set Frequent Periodic Variable Monitoring - CSMS rejects stream	C			DM-0	
TC_N_107 (2.1)	Get Periodic Event Streams - Goodflow		C		DM-0	
TC_N_108 (2.1)	Close Periodic Event Streams	C			DM-0	
TC_N_109 (2.1)	Adjust Periodic Event Streams	C			DM-0	
	Set Monitoring Level					
TC_N_16	Success	C	C		DM-0	
TC_N_17	Out of range	C	C		DM-0	
	Clear Monitoring					
TC_N_18	Success	C	C		DM-0	
TC_N_19	Not found	C			DM-0	
TC_N_44	Rejected	C	C	CS: If the Charging Station has at least one hardWired monitor.	CS: DM-0 and AQ-5 CSMS: DM-0	
	Alert Event					
TC_N_20	Threshold value exceeded	C			DM-0	
TC_N_21	HardWiredMonitor	C	C	CS: If the Charging Station has at least one hardWired monitor.	CS: DM-0 and AQ-5 CSMS: DM-0	
TC_N_45	Delta value exceeded	C			DM-0	
TC_N_48	Variable monitoring on write only	C		CS: if the CS supports Delta monitoring on the *SecurityCtrlr.BasicAuthPassword*	DM-0 and AQ-10	
TC_N_49	LowerThreshold/UpperThreshold cleared after reboot		C		DM-0	
TC_N_50	Periodic Triggered		C		DM-0	
TC_N_53	Persistant over reboot	C			DM-0	
TC_N_56	Delta value NOT numeric exceeded	C			DM-0	
	Offline Notification					
TC_N_22	OfflineMonitoringEventQueuingSeverity set equal or lower	C			DM-0 and DM-3	OfflineMonitoringEventQueuingSeverity

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_N_23	OfflineMonitoringEventQueuingSeverity set higher	C			DM-0 and DM-3	OfflineMonitoringEventQueuingSeverity
				Advanced User Interface		
	Show costs to EV Driver					
TC_I_01	Show EV Driver running total cost during charging	C	C		UI-0	
TC_I_02	Show EV Driver Final Total Cost After Charging	C	C		UI-0	
TC_I_07	Show EV Driver running total cost during charging - transactionEventResponse	C			UI-0	
	Set Display Message					
TC_O_01	Success	C	C		UI-0	UI-1 and UI-2: Supported MessagePriorities & Supported MessageFormats
TC_O_26	Rejected		C		UI-0	
TC_O_13	Display message at StartTime	C	C		UI-0	
TC_O_14	Remove message after EndTime	C	C		UI-0	
TC_O_17	NotSupportedPriority	C	C	CS: In case it does not support 1 of the MessagePriorities	CS: UI-0 and NOT (UI-1.1 and UI-1.2 and UI-1.3) CSMS: UI-0	
TC_O_18	NotSupportedState		C		UI-0	
TC_O_19	NotSupportedMessageFormat	C	C	CS: In case it does not support 1 of the MessageFormats	CS: UI-0 and NOT (UI-2.1 and UI-2.2 and UI-2.3 and UI-2.4) CSMS: UI-0	
TC_O_20	Persistent over reboot	C			UI-0	
TC_O_22	Multiple In front priority	C		If the Charging Station supports InFront priority	UI-0 and UI-1.2	Supported MessagePriorities InFront
TC_O_24	Second Alwaysfront priority	C		If the Charging Station supports AlwaysFront priority	UI-0 and UI-1.1	Supported MessagePriorities AlwaysFront
TC_O_36	State Charging	C			UI-0	
TC_O_37 **(2.1)**	State Idle	C			UI-0 AND NOT HFS-13	
TC_O_38	State Unavailable	C			UI-0	

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_O_12	Replace DisplayMessage	C	C		UI-0	
TC_O_100 (2.1)	unsupported language	C	C		CS: UI-0 and AQ-19 CSMS: UI-0	
TC_O_101 (2.1)	Language preference of the EV Driver	C	C		CS: UI-0 and UI-3 CSMS: UI-0	
	Set Display Message - Specific transaction					
TC_O_06	Success	C	C		UI-0	
TC_O_10	UnknownTransaction	C	C		UI-0	
TC_O_27	Display message at StartTime	C	C		UI-0	
TC_O_28	Remove message after EndTime	C	C		UI-0	
TC_O_30	Multiple In front priority	C		CS: If value "InFront" supported	UI-0 and UI-1.2	Supported MessagePriorities InFront
TC_O_32	Second Alwaysfront priority	C		CS: If value "AlwaysFront" supported	UI-0 and UI-1.1	Supported MessagePriorities AlwaysFront
	Get all Display Messages					
TC_O_02	Success	C	C		UI-0	
TC_O_03	No DisplayMessages configured	C	C		UI-0	
	Get a Specific Display Message					
TC_O_07	Id	C	C		UI-0	
TC_O_08	Priority	C	C		UI-0	UI-1: Supported MessagePriorities
TC_O_09	State	C	C		UI-0	
TC_O_11	Unknown parameters	C			UI-0	
TC_O_33	No DisplayMessages configured	C			UI-0	
TC_O_34	Known Id, but not matching State	C			UI-0	
TC_O_35	Known Id, but not matching Priority	C		Only if multiple messagePriorities supported	UI-0 and ((UI-1.1 and UI-1.2) or (UI-1.2 and UI-1.3) or (UI-1.3 and UI-1.1))	Supported MessagePriorities
	Clear Display Message					
TC_O_04	Success	C	C		UI-0	
TC_O_05	Unknown Key	C	C		UI-0	

4.3. Test Cases Advanced Security

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	TLS - Client-side certificate					
TC_A_07	valid certificate	M	M			
TC_A_08	Invalid certificate		M			
	Update Charging Station Certificate by request of CSMS					
TC_A_11	Success - Charging Station Certificate	M	M			
TC_A_14	Invalid certificate	M	M			
TC_A_15	SignCertificateRequest Rejected	M				
TC_A_23	CertificateSignedRequest Timeout	C		If the Charging Station supports CertificateSignedRequest Timeout	AS-3	
	Upgrade Charging Station Security Profile					
TC_A_21	No valid ChargingStationCertificate installed	C		If the last ChargingStationCertificate can be removed (Via other means than OCPP).	AQ-3	
	Delete a certificate from a Charging Station					
TC_M_23	Unable to delete the Charging Station Certificate	M				
	Set new NetworkConnectionProfile (2.1)					
TC_B_112 (2.1)	AllowSecurityDowngrade is false	C			AS-4.1	Support for disallowing security downgrades from profile 3 to 2
TC_B_113 (2.1)	AllowSecurityDowngrade = false - DM	C			AS-4.1	Support for disallowing security downgrades from profile 3 to 2

4.4. Test Cases Smart Charging

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Set Charging Profile					
TC_K_01	TxDefaultProfile - Specific EVSE	M	M	Remark: for CSMS TxDefaultProfile is mandatory, specific values ValidFrom/ValidTo, Duration and limit are tested.		
TC_K_10	TxDefaultProfile - All EVSE	M	C		SC-4	Support for TxDefaultProfile on EVSEID #0
TC_K_60	TxProfile with ongoing transaction on the specified EVSE	M	M	Remark for CSMS: combination TxProfile and Relative is mandatory		
TC_K_02	TxProfile without ongoing transaction on the specified EVSE	M				
TC_K_11	Unable to set TxProfile on all EVSE at once	M				
TC_K_03	ChargingStationMaxProfile	M	M	Remark: for CSMS ChargingStationMaxProfile is mandatory, specific values ValidFrom/ValidTo, Duration and limit are tested.		
TC_K_19	ChargingProfileKind is Recurring	M	M	Remark for CSMS: TxDefaultProfile or ChargingStationMaxProfile. Configurable recurrencyKind: weekly and Daily are mandatory		
TC_K_12	ChargerRateUnit Rejected	C		If only 1 of the 2 ChargingRateUnits is supported by the Charging Station	NOT (SC-2.1 and SC-2.2)	
TC_K_13	Persistent over reboot	M				
TC_K_14	Unexisting EVSEid	M				
TC_K_28	TxDefaultProfile with transaction ongoing	M				
TC_K_15	Not Supported		M			
TC_K_16	Unknown transactionId	M				
TC_K_21	ValidFrom	M				
TC_K_22	ValidTo	M				
TC_K_23	StartSchedule	M				
TC_K_70	Multiple Profiles		M	Remark for CSMS: at least two different stacklevels, amount of ChargingProfiles: at least 2 different id's		
TC_K_100 (2.1)	maxOfflineDuration	M	M			

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_K_102 (2.1)	limitAtSoc	C	C		SC-3	Support for limiting based on SoC
TC_K_103 (2.1)	Local time - TimeOffset	C			SC-5.1	Support for using local time (TimeOffset)
TC_K_136 (2.1)	Local time - TimeZone	C			SC-5.2	Support for using local time (TimeZone)
TC_K_104 (2.1)	PriorityCharging	C	C		SC-6	Support for using priority charging
TC_K_105 (2.1)	ChargingStationMaxProfile persistent over reboot	M				
TC_K_106 (2.1)	randomizedDelay	C	M		SC-7	Support for using randomized delays
TC_K_107 (2.1)	randomizedDelay - validations	C			SC-7	Support for using randomized delays
TC_K_108 (2.1)	randomizedDelay - random for each tx	C			SC-7	Support for using randomized delays
TC_K_129 (2.1)	PriorityCharging persistent over reboot	C			SC-6	Support for using priority charging
TC_K_130 (2.1)	PriorityCharging unsupported	C			NOT SC-6	
TC_K_131 (2.1)	LocalGeneration unsupported	C			Not supporting Bidirectional Power Transfer	
TC_K_132 (2.1)	useLocalTime unsupported	C			NOT SC-5	
TC_K_133 (2.1)	RandomizedDelay unsupported	C			NOT SC-7	
TC_K_134 (2.1)	LimitAtSoC unsupported	C			NOT SC-3	
TC_E_117 (2.1)	Resuming transaction after interruption - TxResumptionTimeout not expired - TxAllowEnergyTransferResumption is true		M			
	Replace charging profile					
TC_K_04	With chargingProfileId	M	M			

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Remote start transaction with charging profile					
TC_K_37	Success	M	M			
	Get Composite Schedule					
TC_K_39	No ChargingProfile installed on Charging Station	M				
TC_K_40	Stacking ChargingProfiles	M		Remark for Charging Station: At least max stacklevel 1	SC-2	ChargingRateUnit
TC_K_41	Combining chargingProfilePurposes	M		Remark for Charging Station: amount of ChargingProfiles at least 3		
TC_K_42	chargingRateUnit not supported	C		If one of the ChargingRateUnits is not supported.	NOT (SC-2.1 and SC-2.2)	
TC_K_43	Specific EVSE		M			
TC_K_44	Charging Station		M			
TC_K_47	Unknown EVSEId	M				
TC_K_112 (2.1)	randomizedDelay	C			SC-7	Support for using randomized delays
	Get Charging Profile					
TC_K_29	EvseId 0	M	M			
TC_K_30	EvseId > 0	M	M			
TC_K_31	No EvseId	M	M			
TC_K_32	chargingProfileId	M	M			
TC_K_33	EvseId > 0 + stackLevel	M	M			
TC_K_34	EvseId > 0 + chargingLimitSource	M	M			
TC_K_35	EvseId > 0 + chargingProfilePurpose	M	M			
TC_K_36	EvseId > 0 + chargingProfilePurpose + stackLevel	M	M			
	Clear Charging Profile					
TC_K_05	With chargingProfileId	M	M			
TC_K_06	With stackLevel/purpose combination for one profile	M	M			
TC_K_07	With unknown stackLevel/purpose combination	M				
TC_K_08	Without previous charging profile	M	M			
TC_K_09	Clearing a TxDefaultProfile - With ongoing transaction	M				
TC_K_24	With stackLevel/purpose combination for multiple profiles	C		Applicable if the Charging Station has more than one EVSE.	HFS-8 > 1	

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Priority charging					
TC_K_118	Requesting priority charging remotely	C	C		SC-6	Support for using priority charging
TC_K_119	Requesting priority charging locally	C			SC-6	Support for using priority charging
	Dynamic charging profiles from CSMS					
TC_K_121 (2.1)	Pull	C	C		SC-8	Support for dynamic charging profiles
TC_K_122 (2.1)	Push	C			SC-8	Support for dynamic charging profiles
TC_K_123 (2.1)	validations	C			SC-8	Support for dynamic charging profiles
	Idle operationMode					
TC_Q_125 (2.1)	Idle, minimizing energy consumption - Idle with EvseSleep	C	M		SC-9.1	Support for Idle operationMode with EvseSleep
TC_Q_126 (2.1)	Idle, minimizing energy consumption - Idle with EvseSleep unsupported	C			SC-9 AND NOT SC-9.1	Support for Idle operationMode
TC_Q_127 (2.1)	Idle, minimizing energy consumption - Charging profile validations	C			SC-9	Support for Idle operationMode
TC_K_135 (2.1)	Set Charging Profile - EvseSleep unsupported	C			NOT SC-9.1	
	EMS Control					
TC_K_48	Set / Update External Charging Limit (not on a transaction)		C		SC-10	Support for EMS control
TC_K_50	Reset / release external charging limit - Without ongoing transaction		C		SC-10	Support for EMS control
TC_K_51	Reset / release external charging limit - With ongoing transaction		C		SC-10	Support for EMS control
TC_K_52	Set External Charging Limit (not on a transaction) - ChargingStationExternalConstraints in report	C	C		SC-10	Support for EMS control
TC_K_120	Smart Charging with EMS and LocalGeneration	C			SC-10	Support for EMS control
TC_K_109	Set Charging Profile - MaxExternalConstraintsId	C	C		SC-10	Support for EMS control
TC_K_110	Set Charging Profile - MaxExternalConstraintsId - validations	C			SC-10	Support for EMS control

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Dynamic charging profiles by external system					
TC_K_124	No Dynamic charging profile configured	C			SC-10	Support for EMS control
TC_K_125	Dynamic charging profile configured	C			SC-10	Support for EMS control
	External V2X control					
TC_Q_114	With a charging profile from an External System - Dynamic external limits control	C		Bidirectional Power Transfer is supported	SC-10 AND Bidirectional Power Transfer	EMS Control
TC_Q_115	With a charging profile from an External System - Dynamic setpoint control	C		Bidirectional Power Transfer is supported	SC-10 AND Bidirectional Power Transfer	EMS Control
TC_Q_116	With a charging profile from an External System - Scheduled external limits control	C		Bidirectional Power Transfer is supported	SC-10 AND Bidirectional Power Transfer	EMS Control
TC_Q_111	With a charging profile from CSMS - setpoint	C	M	Bidirectional Power Transfer is supported	SC-10 AND Bidirectional Power Transfer	EMS Control
TC_Q_112	With a charging profile from CSMS - limit	C	M	Bidirectional Power Transfer is supported	SC-10 AND Bidirectional Power Transfer	EMS Control
TC_Q_113	With a charging profile from CSMS - Duration expired	C		Bidirectional Power Transfer is supported	SC-10 AND Bidirectional Power Transfer	EMS Control

4.5. Test Cases ISO 15118 Support

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Update Charging Station Certificate by request of CSMS					
TC_A_12	Success - V2G Certificate	M	M			
	Authorization using Contract Certificates 15118					
TC_C_50	Online - Local contract certificate validation - Accepted	M	M			
TC_C_51	Online - Local contract certificate validation - Rejected	M	M			
TC_C_52	Online - Central contract certificate validation - Accepted	C	M	Applicable if the Charging Station supports central contract validation.	ISO-5	
TC_C_53	Online - Central contract validation fails	C		Applicable if the Charging Station supports central contract validation.	ISO-5	
TC_C_54	Offline - ContractValidationOffline is true	M				
TC_C_55	Offline - ContractValidationOffline is false	M				
	End of charging process 15118					
TC_E_46	End of charging process 15118	M				
	Set Charging Profile					
TC_K_01	TxDefaultProfile - Specific EVSE	M	M			
TC_K_10	TxDefaultProfile - All EVSE	M	M			
TC_K_60	TxProfile with ongoing transaction on the specified EVSE	M	M			
TC_K_02	TxProfile without ongoing transaction on the specified EVSE	M				
TC_K_11	Unable to set TxProfile on all EVSE at once	M				
TC_K_03	ChargingStationMaxProfile	M	M			
TC_K_19	ChargingProfileKind is Recurring	M	M			
TC_K_12	ChargerRateUnit Rejected	C		If only 1 of the 2 ChargingRateUnits is supported by the Charging Station	NOT (SC-2.1 and SC-2.2)	
TC_K_13	Persistent over reboot	M				
TC_K_14	Unexisting EVSEid	M				
TC_K_28	TxDefaultProfile with transaction ongoing	M				
TC_K_16	Unknown transactionId	M				
TC_K_21	ValidFrom	M				

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_K_22	ValidTo	M				
TC_K_23	StartSchedule	M				
	Replace charging profile					
TC_K_04	With chargingProfileId	M	M			
	Get Composite Schedule					
TC_K_39	No ChargingProfile installed on Charging Station	M				
TC_K_40	Stacking ChargingProfiles	M				
TC_K_41	Combining chargingProfilePurposes	M				
TC_K_42	chargingRateUnit not supported	C		If one of the ChargingRateUnits is not supported.	NOT (SC-2.1 and SC-2.2)	
TC_K_43	Specific EVSE		M			
TC_K_44	Charging Station		M			
TC_K_47	Unknown EVSEId	M				
	Get Charging Profile					
TC_K_29	EvseId 0	M	M			
TC_K_30	EvseId > 0	M	M			
TC_K_31	No EvseId	M	M			
TC_K_32	chargingProfileId	M	M			
TC_K_33	EvseId > 0 + stackLevel	M	M			
TC_K_34	EvseId > 0 + chargingLimitSource	M	M			
TC_K_35	EvseId > 0 + chargingProfilePurpose	M	M			
TC_K_36	EvseId > 0 + chargingProfilePurpose + stackLevel	M	M			
	Clear Charging Profile					
TC_K_05	With chargingProfileId	M	M			
TC_K_06	With stackLevel/purpose combination for one profile	M	M			
TC_K_24	With stackLevel/purpose combination for multiple profiles	C		Applicable if the Charging Station has more than one EVSE.	HFS-8 > 1	
TC_K_07	With unknown stackLevel/purpose combination	M				
TC_K_08	Without previous charging profile	M	M			
TC_K_09	Clearing a TxDefaultProfile - With ongoing transaction	M				

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
	Charging with load leveling based on High Level Communication					
TC_K_53	Success	M	M			
TC_K_54	No SASchedule (rejected)	M				
TC_K_55	EV charging profile exceeds limits		M			
TC_K_56	Offline	M				
	Renegotiating a Charging Schedule ISO 15118-2					
TC_K_57	Initiated by EV	C	M		ISO-1.1	ISO 15118-2
TC_K_58	Initiated by CSMS	C	M		ISO-1.1	ISO 15118-2
TC_K_59	Initiated by CSMS - Send NotifyEVChargingNeeds		M			
	Renegotiating a Charging Schedule ISO 15118-20					
TC_K_113 (2.1)	Initiated by CSMS	C	M		ISO-1.2	ISO 15118-20
TC_K_114 (2.1)	Initiated by EV	C	M		ISO-1.2	ISO 15118-20
TC_K_116 (2.1)	Adjusting charging schedule when energy needs change	C			ISO-1.2	ISO 15118-20
	ISO 15118-20 Dynamic Control Mode					
TC_K_115 (2.1)	Success	C	M		ISO-1.2	ISO 15118-20
TC_K_117 (2.1)	Adjusting charging schedule		M			
TC_K_126 (2.1)	Sets no charging profile		M			
	Certificate Installation EV					
TC_M_26	Success	C	M		ISO-1.1	ISO 15118-2
TC_M_100 (2.1)	ISO 15118-20 - Success	C	M		ISO-1.2	ISO 15118-20
TC_M_27	Failed	M			ISO-1.1	ISO 15118-2
	Certificate Update EV					
TC_M_28	Success	C	M		ISO-1.1	ISO 15118-2
TC_M_29	Failed	C			ISO-1.1	ISO 15118-2
	Retrieve certificates from Charging Station					

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_M_14	V2GRootCertificate	M	M			
TC_M_15	V2GCertificateChain	M	M			
TC_M_16	MORootCertificate	M	M			
	Install CA certificate					
TC_M_03	V2GRootCertificate	M	M			
TC_M_04	MORootCertificate	M	M			
TC_M_101 (2.1)	OEMRootCertificate	C	M		ISO-1.2	ISO 15118-20
	Get Charging Station Certificate status					
TC_M_24	Success	M	M			
TC_M_25	Rejected	M				
	Clear Customer Information					
TC_N_63	Clear and report - customerCertificate	C	C	If Support for retrieving / deleting CustomerInformation - CustomerCertificate is supported.	ISO-4	

4.6. Test Cases Bidirectional Power Transfer (2.1)

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_Q_109	Central V2X control with dynamic CSMS setpoint - push	M	M			
TC_Q_110	Central V2X control with dynamic CSMS setpoint - pull	M	M			
TC_Q_122	Local V2X control for load balancing - threshold validations	C			BPT-2	Support for local loadbalancing
TC_Q_123	Local V2X control for load balancing - not supported	C			NOT BPT-2	
TC_Q_124	Local V2X control for load balancing - good flow		M			
TC_Q_128	Going offline during V2X operation - invalidAfterOfflineDuration = true	M				
TC_K_101	Set Charging Profile - Change operation mode	M	M			
TC_Q_100	V2X Authorisation - V2X Tx Measurands defined	M				
TC_B_116	Reset ImmediateAndResume - With Ongoing Transaction and SmartCharging - resuming energytransfer		M			
	V2X Authorisation - ISO15118-20					
TC_Q_101	Processing charging needs	C			ISO-1.2	ISO 15118-20
TC_Q_102	Charging only (V2X control) before starting V2X - Allowed Energy Transfer modes omitted	C	C	CSMS: ISO 15118 is supported	CS: ISO-1.2	CS: ISO 15118-20
TC_Q_103	Charging needs rejected	C	M	For CSMS: ISO 15118 is supported	CS: ISO-1.2 AND NOT ISO-6	CS: ISO 15118-20
TC_Q_130	has ISO15118ServiceRenegotiationSupport - Charging needs rejected	C			ISO-1.2 AND ISO-6	ISO 15118-20
TC_Q_104	Scheduled Control	C			ISO-1.2	ISO 15118-20
TC_Q_107	Charging only (V2X control) before starting V2X	C	C	For CSMS: ISO 15118 is supported	CS: ISO-1.2	CS: ISO 15118-20
TC_Q_108	Central V2X control with charging schedule		C	ISO 15118 is supported		
	Frequency support					
TC_Q_117	Central V2X control - push	C	C		BPT-1	Frequency support
TC_Q_118	Central V2X control - Duration expired	C			BPT-1	Frequency support
TC_Q_119	Local V2X control - Charging profile validations	C			BPT-1	Frequency support
TC_Q_120	Local V2X control - AFRR support	C	C		BPT-1	Frequency support

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_Q_121	Local V2X control		C		BPT-1	Frequency support

4.7. Test Cases DER Control (2.1)

TC Id	OCPP Compliance Testing Tool scenario	Conf. Test for Charging Station	Conf. test for CSMS	Condition / remark	Feature no.	Feature
TC_R_100	Starting a V2X session with DER control in EVSE - Persistent DERControls	M				
TC_R_101	Starting a V2X session with DER control in EVSE - Device model	M				
TC_R_102	Configure DER control settings at CS - clearing controlTypes	M				
TC_R_103	Configure DER control settings at CS - validations	M				
TC_R_104	Configure DER control settings at CS - superseding future DER control	M				
TC_R_105	Configure DER control settings at CS - superseding active DER control	M				
TC_R_106	Configure DER control settings at CS - Active DER control supersedes new DER control	M				
TC_R_107	Configure DER control settings at CS		M			
TC_R_108	Charging station reporting a DER event	C	M	ISO-1.2 AND HFS-4	ISO-1.2 AND HFS-4	ISO 15118-20

Chapter 5. OCPP 2.1 Mandatory Controller components per profile

Controller components contain variables that describe the supported features of a Charging Station and influence its behavior. In OCPP 2.1 we have configuration variables that are required or optional, but these are contained by controller components. Functionalities cannot be tested without the accompanying controller component, so for certification the following controller components are mandatory:

Certification Profile / Feature Id	Description
Core	OCPPCommCtrlr TxCtrlr DeviceDataCtrlr ClockCtrlr SecurityCtrlr SampledDataCtrlr AlignedDataCtrlr AuthCtrlr BatterySwapCtrlr (for product subtype Battery Swapping Charging Station only)
Core: DM-0	MonitoringCtrlr
Core: LA-0	LocalAuthListCtrlr
Core: UI-0	TariffCostCtrlr DisplayMessageCtrlr
Core: R-0	ReservationCtrlr
Core: P-0 (2.1)	TariffCostCtrlr WebPaymentsCtrlr
Advanced Security	SecurityCtrlr (already part of Core)
Smart Charging	SmartChargingCtrlr
ISO 15118 Support	ISO15118Ctrlr SmartChargingCtrlr
Bidirectional Power Transfer (2.1)	V2XChargingCtrlr
DER Control (2.1)	DCDERCtrlr (depending on AC vs DC Charging Station) ACDERCtrlr (depending on AC vs DC Charging Station)

Chapter 6. Appendix A: additional questions for the Protocol Implementation Conformance Statement

To perform the certification testing, the test lab need some additional information (for the test selection). This concerns the following questions:

6.1. Questions for Charging Stations

Id	Additional questions for lab testing
AQ-1	Can the last CSMSRootCertificate be removed?
AQ-2	Does the Charging Station have a cable lock, which prevents the EV driver to connect the EV and EVSE before authorization?
AQ-3	Can the last ChargingStationCertificate be removed (via other means than OCPP)?
AQ-4	Is there at least one unsupported NumberOfPhases?
AQ-5	Does the Charging Station have at least one hardWired monitor? If yes, which hardWired monitor should be used for the certification test
AQ-6	Does the Charging Station have a pre-configured monitor? If yes, which pre-configured monitor should be used for the certification test
AQ-7	Is your Charging Station able to download firmware while there is an ongoing transaction?
AQ-8	Does your Charging Station enforce a selection of EVSE (by design) prior to authorization?
AQ-9	Does your Charging Station support charging an EV using IEC 61851-1 (Mode 3)?
AQ-10	Does your Charging Station support setting a Delta monitor on the WriteOnly component.variable SecurityCtrlr.BasicAuthPassword?
AQ-11	Does your Charging Station support a combined charging station Certificate (for both OCPP and ISO 15118)
AQ-18	Does your Charging Station have at least one connector with an (automatic) mechanized locking mechanism on Charging Station side? (this is always true for connectorTypes; sType2 and sType3)
AQ-19	Does your Charging Station have at least 1 unsupported language code?
AQ-20	Does your Charging Station support more than 1 language?

6.2. Questions for CSMSs

Id	Additional questions for lab testing
AQ-12	Is a FullInventory requested during onboarding / booting test cases?
AQ-13	Does your CSMS support Absolute values for the following Charging Profiles:
AQ-13.1	*TxDefaultProfile*
AQ-13.2	*ChargingStationMaxProfile*
AQ-14	Does your CSMS support Recurring values for the following Charging Profiles:
AQ-14.1	*TxDefaultProfile*
AQ-14.2	*ChargingStationMaxProfile*
AQ-16	Does the CSMS reject unknown Charging Stations during websocket connection setup?
AQ-17	Can your CSMS be configured to first respond to a BootNotificationRequest with status Pending or Rejected?

Chapter 7. Appendix B: Hardware feature set

The table below gives an overview of the hardware feature set Ids that are used for determining whether test cases are needed / applicable for certification.

Table 4. Hardware features

Id	Hardware Feature
HFS-1	Charging Station has a detachable cable
HFS-2	Charging Station has a fixed cable
HFS-3	Charging Station has AC support
HFS-4	Charging Station has DC support
HFS-5	Charging Station has 1 phase support
HFS-6	Charging Station has 2 phase support
HFS-7	Charging Station has 3 phase support
HFS-8	No. EVSEs of Charging Station
HFS-9	Communication technology
HFS-10	RFID readers
HFS-11	DC power level (kW)
HFS-12	Number of displays
HFS-13	Charging Station has Battery Swapping support

Chapter 8. Appendix C: Features vs. OCPP use cases

The table below gives an overview of the use cases / configuration variables that the features are applicable for / referring to in the OCPP 2.1 Specificiation Part 2.

Table 5. Optional features vs. related use cases

Id	Feature	Related use cases
Core		
C-01	Support for offline authorization of transactions	C15, C10, C11, C12
C-02	Support for allowing Offline Authorization for Unknown Ids (OfflineTxForUnknownIdEnabled)	C15
C-03	Support for maximizing energy for invalid ids (MaxEnergyOnInvalidId)	C15, E05
C-04	Support to limit StatusNotifications (MinimumStatusDuration)	Configuration Variable for G01
C-06	Authorization status after cable disconnected on EV side (StopTxOnEVSideDisconnect)	
C-06.1	Support for maintaining authorization when cable disconnected on EV side	E10
C-06.2	Support for not maintaining authorization when cable disconnected on EV side	E09
C-07	Support for using a Master Pass for charging stations with UI (MasterPassGroupId)	C16
C-08	Support for using a Master Pass for charging stations without UI (MasterPassGroupId)	C16
C-09	Supported Transaction Start points (TxStartPoint)	E01
C-09.1	Start transaction options - EVConnected	E01-S2
C-09.2	Start transaction options - Authorized	E01-S3
C-09.3	Start transaction options - DataSigned	E01-S4
C-09.4	Start transaction options - PowerPathClosed	E01-S5
C-09.5	Start transaction options - EnergyTransfer	E01-S6
C-09.6	Start transaction options - ParkingBayOccupancy	E01-S1
C-10	Supported Transaction Stop points (TxStopPoint)	E06
C-10.1	Stop transaction options - EVConnected	E06-S2
C-10.2	Stop transaction options - Authorized	E06-S3
C-10.3	Stop transaction options - PowerPathClosed	E06-S5
C-10.4	Stop transaction options - EnergyTransfer	E06-S6
C-10.5	Stop transaction options - ParkingBayOccupancy	E06-S1
C-12	Unlocking of connector when cable disconnected on EV side (UnlockOnEVSideDisconnect)	E09, E10
C-12.1	Support for unlocking connector when cable disconnected on EV side	E09, E10
C-12.2	Support for not unlocking when cable disconnected on EV side	E09, E10
C-13	Support for Reset per EVSE (AllowReset)	B11, B12
C-14	Support for retrieving / deleting CustomerInformation - CustomerIdentifier	N09, N10
C-20	Allowing New Sessions Pending a FirmwareUpdate (AllowNewSessionsPendingFirmwareUpdate)	Configuration Variable for L01
C-21	Support for queuing all or only Transaction related messages until they are delivered to the CSMS (QueueAllMessages)	Optional
Time related settings		
C-23	Supported time sources (TimeSource)	
C-25	Support for setting a TimeOffset (TimeOffset)	Configuration Variable (B05, B06)
C-26	Support for setting the TimeZone (TimeZone)	Configuration Variable (B05, B06)
C-28	Toggle sending clock aligned meter values when a transaction is ongoing / Idle (AlignedDataSendDuringIdle)	Configuration Variable for J01
C-29	TriggerMessage	F06
C-29.1	Trigger message - MeterValues	F06
C-29.2	Trigger message - TransactionEvent	F06

Id	Feature	Related use cases
C-29.3	Trigger message - LogStatusNotification	F06
C-29.4	Trigger message - FirmwareStatusNotification	F06
C-29.5	Trigger message - StatusNotification	F06
C-29.6	Trigger message - BootNotification	F06
C-29.7 **(2.1)**	Trigger message - CustomTrigger	F06
Authorization options for local start		
C-30	Authorization - using RFID ISO14443	C01
C-31	Authorization - using RFID ISO15693	C01
C-32	Authorization - using KeyCode	C04
C-33	Authorization - using locally generated id	C06
C-34	Authorization - MacAddress	C06
C-35	Authorization - NoAuthorization	C02
Authorization options for remote start (<u>mandatory</u> to support at least one)		
C-36	Authorization - using RFID ISO14443	C01
C-37	Authorization - using RFID ISO15693	C01
C-38	Authorization - using centrally, in the CSMS (or other server) generated id	C05
C-39	Authorization - NoAuthorization	C02
C-40	Supported MeterValue Measurands (SampledDataTx{Started,Updated,Ended}Measurands, AlignedDataMeasurands)	J01, J02
C-41	Supported Cipher Suites	See requirement A00.FR.318, A00.FR.319, A00.FR.421, A00.FR.422
C-42	Signed Metervalues (SampledDataSignReadings)	J01, J02
C-43	Install and activate Firmware with ongoing transaction(s) (AllowNewSessionsPendingFirmwareUpdate)	Configuration Variable for L01
C-47	Support for falling back to default OCPP reconnection mechanism when NetworkConnection profile connection has failed	B10 (FR.07)
C-48	Authorization of remote start (AuthorizeRemoteStart)	F01, F02
C-48.1	Option for authorization in case of a remote start	F01, F02
C-48.2	Option for no authorization in case of a remote start	F01, F02
C-58	Option for disabling remote authorization (DisableRemoteAuthorization)	Configuration Variable (B05, B06)
C-49	Authorization Cache (AuthCacheEnabled)	C10, C11, C12
C-59	Option for disabling remote authorization for cached invalid idTokens (AuthCacheDisablePostAuthorize)	Configuration Variable for C10, C12
C-51	Configurable TxStartPoint	Configuration Variable for E01
C-52	Configurable TxStopPoint	Configuration Variable for E06
C-53	Support for lifetime cached token (AuthCacheLifeTime)	Configuration Variable for C10
C-54	Supported policies for replacing cached entries (AuthCachePolicy)	Configuration Variable for C10, C11, C12
C-56	Support for providing the SummaryInventory	B07
C-57	Support for cancelling ongoing log file upload	N01 (AcceptedCanceled)
C-60	Support for cancelling ongoing firmware update	L01, L02 (AcceptedCanceled)
C-61	Security Profile 1 - Unsecured Transport with Basic Authentication	A01
C-62 **(2.1)**	Support for resuming transactions (ImmediateAndResume)	B13
C-63 **(2.1)**	Support for transaction limits	E16
C-64 **(2.1)**	Support for resuming transaction after interruption	E17
C-65 **(2.1)**	Support for DataCollectorLog	N01
Authorization options for local stop		

Id	Feature	Related use cases
C-70	Authorization - using RFID ISO14443	C01
C-71	Authorization - using RFID ISO15693	C01
C-72	Authorization - using KeyCode	C04
C-75	Authorization - NoAuthorization	C02
C-76 **(2.1)**	Support for Battery Swapping Stations	S01-S04
Reservation		
R-0	Support for Reservation	H01-H04
R-1	Support for reservations of connectorType	H01.S3
R-2	Support for reservations of unspecified EVSE (ReservationNonEvseSpecific)	H01.S1
R-3	Support for disabling Reservations (ReservationEnabled)	Configuration Variable for H01
Advanced Device Management		
DM-0	Support for Advanced Device Management	Optional
DM-3	Queue notifyEventRequest messages for specific severities (OfflineMonitoringEventQueuingSeverity)	Configuration Variable for N07
Local Authorization List Management		
LA-0	Support for Local Authorization List Management	D01-D02
LA-1	Authorization list support (LocalAuthListEnabled)	Configuration Variable for C13
LA-2	Support for GetLocalListVersion	D02
LA-3	Option for disabling remote authorization for invalid idTokens stored at the Local Authorization List (LocalAuthListDisablePostAuthorize)	Configuration Variable for C14
Advanced User Interface		
UI-0	Support for Advanced User Interface	N02-N15
UI-1	Supported message priorities (DisplayMessageSupportedPriorities)	O01
UI-2	Supported message formats (DisplayMessageSupportedFormats)	O01
Payment **(2.1)**		
P-0	Support for Payment	C17-C-25
P-1	Support for Tariff conditions	I07
P-2	Supported Payment options	
P-2.1	Payment by prepaid card	C17
P-2.2	Integrated payment terminal	C18
P-2.3	Stand alone payment terminal	C24
P-2.4	QR code payment	C25
Advanced Security		
AS-2	Additional root certificate check mechanism implemented (AdditionalRootCertificateCheck)	Configuration Variable for M05
AS-3	Update Charging Station Certificate - CertificateSignedRequest Timeout (CertSigningWaitMinimum,CertSigningRepeatTimes)	Configuration Variable for A02, A03
Smart Charging		
SC-2	Supported charging rate units (ChargingScheduleChargingRateUnit)	K01
SC-3 **(2.1)**	Support for limiting based on SoC (limitAtSoC)	K01
SC-4	Support for TxDefaultProfile on EVSEID #0	K01
SC-5 **(2.1)**	Support for using local time (useLocalTime)	
SC-5.1	TimeOffset	K01
SC-5.2	TimeZone	K01
SC-6 **(2.1)**	Support for using priority charging (PriorityCharging)	K01
SC-7 **(2.1)**	Support for using randomized delays (randomizedDelay)	K01
SC-8 **(2.1)**	Support for dynamic charging profiles	K28-K29
SC-9 **(2.1)**	Support for operationMode Idle	Q10
SC-9.1 **(2.1)**	Support for operationMode Idle with EvseSleep	Q10

Id	Feature	Related use cases
EMS Control **(2.1)**		
SC-10 **(2.1)**	Support for EMS Control	K23-K27
ISO 15118 support		
ISO-1 **(2.1)**	Supported ISO 15118 version	
ISO-1.1	ISO 15118-2	C01-C08, M01-M06
ISO-1.2	ISO 15118-20	C01-C08, M01-M07, Q01
ISO-4	Support for retrieving / deleting CustomerInformation - CustomerCertificate	N09/N10
ISO-5	Charging Station can provide a contract certificate that it cannot validate to the CSMS	Configuration Variable for C07
ISO-6 **(2.1)**	Support for ServiceRenegotiation	Q01-Q02
Bidirectional Power Transfer (2.1)		
BPT-1	Frequency support	Q07-Q08
BPT-2	Support for local loadbalancing (LocalLoadBalancing)	Q09