

ISO 15118-4:2018-02 (E)

Road vehicles - Vehicle to grid communication interface - Part 4: Network and application protocol conformance test

Contents		Page
Foreword		vii
Introduction		viii
1	Scope	1
2	Normative references	2
3	Terms and definitions	2
4	Symbols (and abbreviated terms)	7
5	Conventions	8
5.1	Requirement structure	8
5.2	Test system description	9
6	Test architecture reference model	9
6.1	General information	9
6.2	Platform adapter interface	10
6.3	SUT adapter interfaces	10
6.4	Codecs	11
7	Test suite conventions	11
7.1	General information	11
7.2	Test suite structure (TSS)	11
7.3	Test profiles	13
7.4	Test suite identifiers	62
7.5	Test suite coverage	67
7.6	Test case description	184
7.7	Test case specification	185
8	Test case descriptions for 15118-2 V2GTP	198
8.1	General information	198
8.2	SECC test cases	198
8.3	EVCC test cases	202
9	Test case descriptions for 15118-2 SDP messages	208
9.1	General information	208
9.2	SECC test cases	208
9.3	EVCC test cases	211
10	Test case descriptions for 15118-2 V2G application layer messages	236
10.1	General information	236
10.2	SECC test cases	236
10.3	EVCC test cases	405
Annex A (normative)	Configuration specifications	671
A.1	Timer configuration	671
A.2	PICS configuration	671
A.3	PIXIT configuration	673

Annex B (normative) Control part specification	675
B.1 SECC control parts	675
B.1.1 AC specific control parts	675
B.1.2 DC specific control parts	675
B.2 EVCC control parts	688
B.2.1 AC specific control parts	702
B.2.2 DC specific control parts	702
Annex C (normative) Test-case specifications for 15118-2 V2GTP	745
C.1 SECC test cases	745
C.2 EVCC test cases	745
Annex D (normative) Test-case specifications for 15118-2 SDP messages	752
D.1 SECC test cases	752
D.2 EVCC test cases	752
Annex E (normative) Test-case specifications for 15118-2 V2G application layer messages	773
E.1 SECC test cases	773
E.1.1 V2G protocol handshake	773
E.1.1.1 SECC test cases for SupportedAppProtocol	773
E.1.2 V2G messages	773
E.1.2.1 SECC test cases for SessionSetup	775
E.1.2.2 SECC test cases for ServiceDiscovery	775
E.1.2.3 SECC test cases for ServiceDetail	782
E.1.2.4 SECC test cases for PaymentServiceSelection	784
E.1.2.5 SECC test cases for PaymentDetails	788
E.1.2.6 SECC test cases for Authorization	794
E.1.2.7 SECC test cases for ChargeParameterDiscovery	794
E.1.2.8 SECC test cases for PowerDelivery	799
E.1.2.9 SECC test cases for CertificateUpdate	824
E.1.2.10 SECC test cases for CertificateInstallation	839
E.1.2.11 SECC test cases for SessionStop	839
E.1.2.12 SECC test cases for ChargingStatus	842
E.1.2.13 SECC test cases for MeteringReceipt	846
E.1.2.14 SECC test cases for CableCheck	848
E.1.2.15 SECC test cases for PreCharge	852
E.1.2.16 SECC test cases for CurrentDemand	855
E.1.2.17 SECC test cases for WeldingDetection	859
E.2 EVCC test cases	860
Annex F (normative) Function specifications for supporting test execution	1009
F.1 Configuration functions	1009
F.2 Pre-condition functions	1009
F.2.1 SECC functions	1011
F.2.2 EVCC functions	1027
F.3 Post-condition functions	1027
F.3.1 SECC functions	1038
F.3.2 EVCC functions	1038
F.4 Common behavior functions	1039
F.4.1 SECC functions	1040
F.4.2 EVCC functions	1042
F.5 Library functions	1044
Annex G (normative) Function specifications for 15118-2 V2GTP	1051
G.1 SECC functions	1051

G.2	EVCC functions	1053
Annex H (normative) Function specifications for 15118-2 SDP messages		1056
H.1	SECC functions	1056
H.2	EVCC functions	1057
Annex I (normative) Function specifications for 15118-2 V2G application layer messages		1061
I.1	SECC functions	1061
I.1.1	V2G protocol handshake	1061
I.1.1.1	SECC functions for SupportedAppProtocol	1061
I.1.2	V2G messages	1063
I.1.2.1	SECC functions for SessionSetup	1063
I.1.2.2	SECC functions for ServiceDiscovery	1064
I.1.2.3	SECC functions for ServiceDetail	1072
I.1.2.4	SECC functions for PaymentServiceSelection	1080
I.1.2.5	SECC functions for PaymentDetails	1087
I.1.2.6	SECC functions for Authorization	1091
I.1.2.7	SECC functions for ChargeParameterDiscovery	1104
I.1.2.8	SECC functions for PowerDelivery	1140
I.1.2.9	SECC functions for CertificateUpdate	1154
I.1.2.10	SECC functions for CertificateInstallation	1167
I.1.2.11	SECC functions for SessionStop	1176
I.1.2.12	SECC functions for ChargingStatus	1176
I.1.2.13	SECC functions for MeteringReceipt	1185
I.1.2.14	SECC functions for CableCheck	1197
I.1.2.15	SECC functions for PreCharge	1203
I.1.2.16	SECC functions for CurrentDemand	1207
I.1.2.17	SECC functions for WeldingDetection	1213
I.2	EVCC functions	1217
Annex J (normative) Template specifications for V2G TCP/TLS Port Control		1373
Annex K (normative) Template specifications for 15118-2 V2GTP		1375
K.1	Common templates	1375
Annex L (normative) Template specifications for 15118-2 SDP messages		1376
L.1	Common templates	1376
Annex M (normative) Template specifications for 15118-2 V2G application layer messages 1377		
M.1	Common templates	1377
M.1.1	V2G protocol handshake	1378
M.1.1.1	CMN templates for SupportedAppProtocol	1378
M.1.2	V2G messages	1378
M.1.2.1	CMN templates for SessionSetup	1378
M.1.2.2	CMN templates for ServiceDiscovery	1378
M.1.2.3	CMN templates for Authorization	1381
M.1.2.4	CMN templates for PowerDelivery	1381
M.1.2.5	CMN templates for SessionStop	1383
M.1.2.6	CMN templates for ChargingStatus	1384
M.1.2.7	CMN templates for CableCheck	1384
M.1.2.8	CMN templates for PreCharge	1385
M.1.2.9	CMN templates for CurrentDemand	1385
M.1.2.10	CMN templates for WeldingDetection	1387
M.2	SECC templates	1387
M.3	EVCC templates	1397
Annex N (normative) Template specifications for Security		1430

N.1	Common templates	1430
	Annex O (normative) Data type definitions	1434
O.1	Data types for PICS	1434
O.2	Data types for PIXIT	1434
O.3	Data types for V2G TCP/TLS Port Control	1436
O.4	Data types for V2GTP	1437
O.5	Data types for SDP messages	1438
O.6	Data types for V2G messages	1438
O.7	Data types for Security	1457