TECHNICAL SPECIFICATION

ISO/TS 16410-1

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Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-3 —

Part 1: Test suite structure and test purposes

Perception du télépéage — Évaluation de la conformité de l'équipement à l'ISO/TS 17575-3 —

Partie 1: Structure de la suite d'essais et objectifs des essais

Reference number
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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 16410-1 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*, in collaboration with Technical Committee CEN/TC 278, *Road Transport and Traffic Telematics*.

ISO/TS 16410 consists of the following parts, under the general title *Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-3*:

— *Part 1: Test suite structure and test purposes*

— *Part 2: Abstract test suites*

Introduction

This part of ISO 16410 is part of a set of standards that supports interoperability of autonomous EFC-systems, which includes ISO/TS 17575 parts 1 to 4 that define the EFC context data, their charge reports and their use of communication infrastructure.

Within the suite of EFC standards this conformance evaluation procedure defines the process and tests for conformity evaluation of Front End and Back End that comply with the requirements in ISO/TS 17575-3.

This part of ISO 16410 is intended to

— assess Front End and Back End capabilities,

— assess Front End and Back End behaviour,

— serve as a guide for Front End and Back End conformance evaluation and type approval,

— achieve comparability between the results of the corresponding tests applied in different places at different times, and

— facilitate communications between parties.

This part of ISO 16410 is based on

— ISO/TS 17575-3, and

— the ISO 9646 family of standards on conformance test methodology.

Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-3 —

Part 1:
Test suite structure and test purposes

1 Scope

This part of ISO/TS 16410 specifies the test suite structure (TSS) and test purposes (TP) to evaluate the conformity of Front End and Back End to ISO/TS 17575-3.

The objective of this part of ISO/TS 16410 is to provide a basis for conformance tests for the Front End and the Back End in Electronic Fee Collection (EFC) based on autonomous on-board equipment (OBE) to enable interoperability between different equipment supplied by different manufacturers.

Autonomous OBE operates without relying on dedicated road-side infrastructure by employing wide-area technologies such as Global Navigation Satellite Systems (GNSS) and Cellular Communications Networks (CN). These EFC systems are referred to by a variety of names. Besides the terms autonomous systems and GNSS/CN systems, also the terms GPS/GSM systems and wide-area charging systems are in use.

Autonomous systems use satellite positioning, often combined with additional sensor technologies such as gyroscopes, odometers, and accelerometers, to localise the vehicle and to find its position on a map containing the charged geographic objects, such as charged roads or charged areas. From the charged objects, the vehicle characteristics, the time of day and other data that are relevant for describing road use, the tariff and ultimately the road usage fee is determined.

For more information regarding autonomous systems, please refer to ISO/TS 17575-3.

Testing of the following behaviours and functionalities is outside of the scope of this part of ISO/TS 16410:

— dynamic behaviour, i.e. sequence of messages and triggering events that must be exchanged/happen to fulfil certain charging scenarios;

— profiles and business logic built on top of particular pricing schemas;

— authentication, as its handling is not described in ISO/TS 17575-3;

— Front End behaviour with respect to optional data elements in ChargeReportConfiguration, as handling of configurations requesting presence/absence of parent data element, and absence/presence of child data element is not specified in ISO/TS 17575-3.

As ISO/TS 17575-3 does not specify any invalid behaviour of Front End and Back End, BI test purposes are not applicable for any test purpose group.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 9646-6, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 6: Protocol profile test specification*

ISO/TS 17575-1, *Electronic fee collection — Application interface definition for autonomous systems — Part 1: Charging*

ISO/TS 17575-3, *Electronic fee collection — Application interface definition for autonomous systems — Part 3: Context data*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
area pricing
charging process based on road usage occurring within a given area

[ISO/TS 17575-1:2010, definition 3.1]

3.2
attribute
application information formed by one or by a sequence of data elements, and that is managed by different actions used for implementation of a transaction

[ISO 14906:2011, definition 3.3]

3.3
authenticator
data appended to, or a cryptographic transformation of, a data unit that allows a recipient of the data unit to prove the source and/or the integrity of the data unit and protect against forgery

[ISO 14906:2011, definition 3.4]

3.4
Back End
generic name for the computing and communication facilities of the Service Provider and the Toll Charger exchanging data with the Front End

NOTE 1 Adapted from ISO/TS 17575-1.

NOTE 2 According to the architecture defined in ISO 17573, it is assumed in this part of ISO/TS 16410 that the Front End in general communicates with the Back End typically controlled and operated by the Service Provider.

3.5
charge object
any object that is part of the toll context description, including toll objects but also used for parking fees, etc.

NOTE Adapted from ISO/TS 17575-1.

3.6
charge report
data structure transmitted from the Front End to the Back End to report road usage data and supplementary related information

[ISO/TS 17575-1:2010, definition 3.5]

3.7
contract
expression of an agreement between two or more parties concerning the use of the road infrastructure

[ISO 14906:2011, definition 3.7]

3.8
cordon
border line of an area

[ISO/TS 17575-1:2010, definition 3.8]

3.9
cordon pricing
charging process based on registering passages of a cordon

[ISO/TS 17575-1:2010, definition 3.9]

3.10
data element
datum, which might itself consist of lower level data elements

[ISO/TS 17575-1:2010, definition 3.10]

3.11
Front End
part(s) of the toll system where road usage data for an individual road user are collected, processed and delivered to the Back End

NOTE The Front End comprises the on-board equipment and an optional proxy.

[ISO/TS 17575-1:2010, definition 3.13]

3.12
service provider
operator that accepts the user's payment means and in return provides a road-use service to the user

NOTE Taken from ISO 14906:2004.

3.13
tester
combination of equipment and processes which is able to perform conformance tests according to this part of ISO/TS 16410

NOTE Adapted from ISO/TS 14907-2.

3.14
toll charger
legal entity charging a toll for vehicles in a toll domain

[ISO/TS 17574:2009, definition 3.27]

3.15
toll context
logical view of a toll scheme as defined by attributes and functions

[ISO/TS 17575-1:2010, definition 3.22]

3.16
toll regime
set of rules, including enforcement rules, governing the collection of toll in a toll

[ISO/TS 17575-1:2010, definition 3.25]

4 Abbreviated terms

For the purposes of this document, the following abbreviated terms apply, unless otherwise specified.

ADU Application data unit (ISO/TS 17575-1)

ASN.1 Abstract Syntax Notation One (ISO/IEC 8824-1:2002)

ATS Abstract Test Suite

BI Invalid Behaviour

BV Valid Behaviour

CCC Compliance Check Communication (ISO/TS 12813)

CN Cellular network (ISO/TS 17575-1)

DUT Device Under Test

EFC Electronic Fee Collection (ISO 17573)

GNSS Global Navigation Satellite Systems (ISO/TS 17575-1)

HMI Human Machine Interface (ISO/TS 17575-1)

ID Identifier

OBE On-board Equipment (ISO/TS 17575-1)

PCTR Proforma Conformance Test Report

PICS Protocol Implementation Conformance Statements

TP Test Purposes

TSS Test Suite Structure

VAT Value Added Tax (ISO/TS 17575-1)

5 Test Suite Structure (TSS)

5.1 Structure

Table 1 — Test Suite Structures shows the Test Suite Structure (TSS).

Table 1 — Test Suite Structures

Group	Type of DUT	Behaviour
Procedural	Back End	Valid Behaviour
		Invalid Behaviour not applicable
ADU Header	Back End	Valid Behaviour
		Invalid Behaviour not applicable

ADU Body – Attribute general	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Toll Context Overview	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Tariff Table	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Tariff Class Definition	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Local Vehicle Class Definition	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Time Class Definition	Back End	Valid Behaviour
		Invalid Behaviour not applicable
User Class Definition	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Toll Context Layout	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Toll Context Layout for Section Pricing	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Toll Context Layout for Area Pricing	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Toll Context Layout for Cordon Pricing	Back End	Valid Behaviour
		Invalid Behaviour not applicable
Context Handling	Front End	Valid Behaviour
		Invalid Behaviour not applicable
Charge Report	Front End	Valid Behaviour
		Invalid Behaviour not applicable

Front End related Test Purposes uses Charge Report message for validation which is specified in ISO/TS 17575-1. As a precondition to run those test purposes the compliance to ISO/TS 17575-1 shall be validated.

5.2 Reference to conformance test specifications

This part of ISO/TS 16410 takes into account already defined test purposes for conformance to the base standards by referencing them, so that

a) for test purposes that are **identical** to those defined in this specification or the base standards conformance test cases direct reference is reported; for reader's convenience, the title or a verbal description of the referenced test purpose is given, together with the reference,

b) for test purposes that are **derived** from those defined in the base standards conformance test cases, a direct reference is reported, plus an indication on how the referred test purpose has to be modified for the profile conformance testing,

c) for test purposes that are **specific** to ISO/TS 17575-3, a complete description is given, and

d) an indication on whether a test purpose is **identical**, **derived**, or **specific** is given in each test purpose.

5.3 Test Purposes (TP)

5.3.1 TP definition conventions

The TPs are defined following the rules shown in Table 2 — TP Definition Rules below. All test purposes are defined in Annex A and Annex B, including the special notation and symbol conventions that shall be used. The data structures that shall be used are specified in Annex C and defined in ISO/TS 17575-1 and ISO/TS 17575-3.

Table 2 — TP Definition Rules

TP ID according to the TP naming conventions	Title
	Reference
	TP origin
	Initial condition
	Stimulus and expected behaviour

TP ID	The TP ID is a unique identifier. It shall be specified according to the TP naming conventions defined in the sub-clause below.
Title	Short description of Test Purpose objective.
Reference	The reference should contain the references of the subject to be validated by the actual TP (specification reference, clause, paragraph), or the reference to the standard document defining the TP.
TP origin	Indicates if the TP is **identical** to a TP defined in another test standard, **derived** from a TP defined in another test standard, or **specific** for this standard profile.
Initial condition	The condition defines in which initial state the DUT has to be to apply the actual TP.
Stimulus and expected behaviour	Definition of the events the tester performs, and the events that are expected from the DUT to conform to the base specification.

5.3.2 TP naming conventions

Each TP is given a unique identification. This unique identification is built up to contain the following string of information:

TP/<group>/<dut>/<x>-<nn>

TP : to indicate that it is a Test Purpose;

<group> : which group TP belongs to;

<dut> : type of DUT (i.e. FE or BE);

X : type of testing (i.e. Valid Behaviour tests – BV, or Invalid Behaviour tests – BI)

<nn> : sequential TP number (01-99)

The naming conventions are as described in Table 3.

Table 3 — TP naming convention

Identifier: TP/<group>/<dut>/<x>-<nn>		
<group>		
applicable for BE	PRO	Procedural
applicable for BE	ADUH	ADU Header
applicable for BE	ADUB	ADU Body – Attribute general
applicable for BE	ATTR-11	Toll Context Overview
applicable for BE	ATTR-21	Tariff Table
applicable for BE	ATTR-22	Tariff Class Definition
applicable for BE	ATTR-23	Local Vehicle Class Definition
applicable for BE	ATTR-24	Time Class Definition
applicable for BE	ATTR-25	User Class Definition
applicable for BE	ATTR-31	Toll Context Layout
applicable for BE	ATTR-31S	Toll Context Layout for Section Pricing
applicable for BE	ATTR-31A	Toll Context Layout for Area Pricing
applicable for BE	ATTR-31C	Toll Context Layout for Cordon Pricing
applicable for FE	CH	Context Handling
applicable for FE	CR	Charge Report
<dut> = type of DUT	FE	Front End
	BE	Back End
x = Type of testing	BV	Valid Behaviour Tests
	BI	Invalid Behaviour Tests
<nn> = sequential number	(01-99)	Test Purpose Number

5.4 Conformance test report

The supplier of the Front End and Back End, respectively, is responsible for providing a conformance test report.

The supplier of the Front End shall complete the proforma conformance test report (PCTR) for Front End as defined in Annex D.

The supplier of the Back End shall complete the proforma conformance test report (PCTR) for Back End as defined in Annex E.

Annex A
(normative)

Test Purposes (TP) for Front End

A.1 Introduction

This annex contains the test purposes (TP) for the conformity evaluation of Front End to ISO/TS 17575-3.

A.1.1 TP symbols conventions

A special notation and symbol convention shall be used, as defined in what follows.

Symbols are used in the description of the TPs, with meanings according to Table A.1 below.

Table A.1 — Description of TP Symbols

SYMBOL	DESCRIPTION
XXX.rq ⇒	The Tester sends the XXX.rq to the DUT
⇐ YYY.rs	The DUT sends the YYY.rs to the Tester
⇐ YYY.rs = {attribute1, attribute2, attribute3}	The DUT sends the YYY.rs to the Tester. YYY.rs shall not consist of any attributes different than attribute1, attribute2, attribute3. If any of attributes in the list is optional it may be missing in YYY.rs.
⇐ YYY.rs = {attribute1= value1}	The DUT sends the YYY.rs to the Tester with attribute1. Value of attribute1, i.e. value1 shall be stored by the tester and will be utilized in further TP steps.
A ≡ B	A “is equal to” B
A → B	A “is transformed” into B
Ø	Means “empty” or “not set”.

A.2 Context Handling

These test purposes apply to Iso17575-3Adu as claimed in ISO/TS 17575-3 Clause B.5.4.1/1, EFC Attributes as claimed in ISO/TS 17575-3 Clause B.5.4.3/1-9.

NOTE 1 No claims related to optional items of PICS proforma are covered, as there is no means to observe any behaviour of Front End proving support of these items.

NOTE 2 No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Front End.

NOTE 3 No dynamic behaviour is covered by this specification. Dynamic behaviour is e.g. selection of applicable Tariff Class by the Front End depending on vehicle, time, user, location criteria.

NOTE 4 A Charge Report sent by the DUT may or may not include all data elements listed in the structure as almost all of them are optional.

A.2.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to the context activation;

— to test the behaviour of the DUT in relation to handling of multiple contexts;

— to test usage of communication services by DUT,

by means of the syntactically and contextual correct ADUs:

— single ADU consisting of all necessary attributes to activate the context, and/or

— several consecutive ADUs consisting of all necessary attributes to activate the context.

TP/CH/FE/BV/01	**Verify that DUT activates toll context – toll charger attribute check**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		**DUT**
1	**ContextData1**	⇒	
2	Event defined in **ContextData1** occurred		
3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (ChargeReport not received)
	THEN TP failed
	ENDIF
	
	IF (tollCharger in **ChargeReport** equals to tollContextOverview.tollCharger in **ContextData1**)
	THEN TP passed
	ELSE TP failed
	
	ENDIF		

TP/CH/FE/BV/03	**Verify that DUT activates toll context (sent in many ADUs) – toll charger attribute check**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT
1	**ContextData2**	⇒	
2	**ContextData3**	⇒	
3	**ContextData4**	⇒	
4	**ContextData5**	⇒	
5	**ContextData6**	⇒	
6	**ContextData7**	⇒	
7	**ContextData8**	⇒	
8	**ContextData9**	⇒	
9	**ContextData10**	⇒	
10	Event defined in **ContextData9** occurred		
11		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

12	IF (ChargeReport not received)
	THEN TP failed
	ENDIF
	
	IF (tollCharger in **ChargeReport** equals to tollContextOverview.tollCharger in **ContextData2**)
	THEN TP passed
	ELSE TP failed
	
	ENDIF		

TP/CH/FE/BV/06	Verify that DUT handles contexts of different Toll Chargers
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in both Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT
1	**ContextData1**	⇒	
2	**ContextData12**	⇒	
3	Event defined in **ContextData1** occurred		
4		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

5	IF (ChargeReport not received)
	THEN TP failed
	ENDIF
	IF (tollCharger in **ChargeReport** NOT equal to tollContextOverview.tollCharger in **ContextData1**)
	THEN TP failed
	ENDIF		

6	Event defined in **ContextData12** occurred		
7		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

8	IF (ChargeReport not received)
	THEN TP failed
	ENDIF
	IF (tollCharger in **ChargeReport** NOT equal to tollContextOverview.tollCharger in **ContextData12**)
	THEN TP failed
	ELSE TP passed
	ENDIF		

TP/CH/FE/BV/07	**Verify that DUT updates its Context Data**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.2
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in both Context Data ADUs. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT
1	**ContextData1**	⇒	
2	**ContextData13**	⇒	
3	Event defined in **ContextData1** occurred		
4		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

5	IF (ChargeReport content according to **ContextData13**)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CH/FE/BV/07	Verify the usage of communication services
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 6.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT
1	**ContextData1**	⇒	
2	Event defined in **ContextData1** occurred		
3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}
4	Verify that communication services are used to transmit the ADU as defined in ISO/TS 17575-3 Clause 6.1		

A.2.2 BI test purposes

No BI test purposes are applicable for this TP group.

A.3 Charge Report

These test purposes apply to ChargeReportConfiguration as claimed in ISO/TS 17575-3 Clause B.5.4.3/9.

NOTE 1 No claims related to optional items of PICS proforma are covered, as there is no means to observe any behaviour of Front End proving support of these items.

NOTE 2 No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Front End.

NOTE 3 No dynamic behaviour is covered by this specification. Dynamic behaviour is e.g. selection of applicable Tariff Class by the Front End depending on vehicle, time, user, location criteria.

A.3.1 BV test purposes

Test subgroup objective:

— to test the presence of particular data elements in Charge Report sent by DUT in relation to Charge Report Configuration;

— to test the absence of particular data elements in Charge Report sent by DUT in relation to Charge Report Configuration;

by means of the syntactically and contextual correct ADUs:

— single ADU consisting of all necessary attributes;

— several consecutive ADUs consisting of all necessary attributes to activate the context.

TP/CR/FE/BV/01	Verify the presence of obeID data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = T,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (obeId present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/02	Verify the absence of obeID data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	Iso17575-3Adu = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = F,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (obeId NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/03	Verify the presence of paymentMeans data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = T,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (paymentMeans present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/04	Verify the absence of paymentMeans data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = F,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (paymentMeans NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/05	Verify the presence of tollCharger data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = T,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (tollCharger present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/06	Verify the absence of tollCharger data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = F,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (tollCharger NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/07	Verify the presence of versionInfo data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = T,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (versionInfo present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/08	Verify the absence of versionInfo data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = F,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (versionInfo NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/09	Verify the presence of vatForThisSession data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = T,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (vatForThisSession present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/10	Verify the absence of vatForThisSession data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = F,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (vatForThisSession NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/11	Verify the presence of accountStatus data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = T,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (accountStatus present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/12	Verify the absence of accountStatus data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = F,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (accountStatus NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/13	**Verify the presence of transactionCounter data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = T,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (transactionCounter present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/14	Verify the absence of transactionCounter data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = F,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (transactionCounter NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/15	Verify the presence of mileage data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = T,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (mileage present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/16	Verify the absence of mileage data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = F,
	listOfCCCAttributes = any,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		
3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (mileage NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/17	**Verify the presence of listOfCCCAttributes data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = T,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (listOfCCCAttributes present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/18	**Verify the absence of listOfCCCAttributes data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = F,
	authenticator = any
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		
3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (listOfCCCAttributes NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/19	Verify the presence of authenticator data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = T
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (authenticator present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/20	Verify the absence of authenticator data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.1;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = {
	obeId = any,
	paymentMeans = any,
	tollCharger = any,
	versionInfo = any,
	vatForThisSession = any,
	accountStatus = any,
	transactionCounter = any,
	mileage = any,
	listOfCCCAttributes = any,
	authenticator = F
	}
	usageStatementContent = any,
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (authenticator NOT present)
	THEN TP passed
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/21	Verify the presence of usageStatementID data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = T,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (usageStatementID present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/22	Verify the absence of usageStatementID data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = F,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (usageStatementID NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/23	Verify the presence of regimeID data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = T,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (regimeID present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/24	Verify the absence of regimeID data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = F,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (regimeID NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/25	Verify the presence of aggregatedFee data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = T,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (aggregatedFee present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/26	Verify the absence of aggregatedFee data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = F,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (aggregatedFee NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/27	**Verify the presence of aggregatedSingleTariffClassSession data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	T,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (aggregatedSingleTariffClassSession present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/28	**Verify the absence of aggregatedSingleTariffClassSession data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	F,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (aggregatedSingleTariffClassSession NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/29	**Verify the presence of listOfChargeObjects data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = T,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (listOfChargeObjects present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/30	**Verify the absence of listOfChargeObjects data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = F,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents oc urred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (listOfChargeObjects NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/31	**Verify the presence of listOfDSRCUsageData data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = T,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (listOfDSRCUsageData present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/32	**Verify the absence of listOfDSRCUsageData data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = F,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (listOfDSRCUsageData NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/33	**Verify the presence of listOfRawUsageData data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = T,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (listOfRawUsageData present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/34	**Verify the absence of listOfRawUsageData data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = F,
	noUsage = any,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	    THEN
	    IF (listOfRawUsageData NOT present in each UsageStatement data element of usageStatementList)
	        THEN TP passed
	        ELSE TP failed
	    ENDIF
	    ELSE TP failed
	ENDIF		

TP/CR/FE/BV/35	Verify the presence of noUsage data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = T,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (noUsage present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/36	Verify the absence of noUsage data element in Charge Report
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = F,
	usageAuthenticator = any
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	At least one UsageStatement can be reported by Front End and Event1 occurred NOTE It is recommended to use absolute time or relative time based events.		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (noUsage NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/37	**Verify the presence of usageAuthenticator data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = T
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (usageAuthenticator present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/38	**Verify the absence of usageAuthenticator data element in Charge Report**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.5.2.2;
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview =
	value as in ContextData1),
	(tariffTable =
	value as in ContextData1),
	(tariffClassDefinition =
	value as in ContextData1),
	(localVehicleClassDefinition =
	value as in ContextData1),
	(timeClassDefinition =
	value as in ContextData1),
	(userClassDefinition =
	value as in ContextData1),
	(tollContextLayout =
	value as in ContextData1),
	(chargeReportingEvents =
	value as in ContextData1),
	(chargeReportConfiguration = v1)
	}
	}
	where:
	v1 = { chargeReportContent = any,
	usageStatementContent = {
	usageStatementId = any,
	regimeId = any,
	aggregatedFee = any,
	aggregatedSingleTariffClassSession =
	any,
	listOfChargeObjects = any,
	listOfDSRCUsageData = any,
	listOfRawUsageData = any,
	noUsage = any,
	usageAuthenticator = F
	}
	chargeReportConfigurationVersion = {
	version = as in ContextData1,
	validFrom = as in ContextData1
	}
	}
		⇒	

2	Event defined in 41'D – ChargeReportingEvents occurred		

3		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

4	IF (usageStatementList present)
	THEN
	IF (usageAuthenticator NOT present in each UsageStatement data element of usageStatementList)
	THEN TP passed
	ELSE TP failed
	ENDIF
	ELSE TP failed
	ENDIF		

TP/CR/FE/BV/39	**Verify that DUT reports data elements requested by Context Data (sent in many ADUs)**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.1
Initial Condition	Front End is initialized and can accept Context Data. OBU belonging to the Front End is located within geographic borders defined in Context Data. Version of any data element of context data is known for the Front End. No authentication is required by the Front End.

Stimulus and Expected Behaviour

	Tester		DUT
1	**ContextData2**	⇒	
2	**ContextData3**	⇒	
3	**ContextData4**	⇒	
4	**ContextData5**	⇒	
5	**ContextData6**	⇒	
6	**ContextData7**	⇒	
7	**ContextData8**	⇒	
8	**ContextData9**	⇒	
9	**ContextData10**	⇒	
10	At least one UsageStatement can be reported by Front End and Event defined in **ContextData9** occurred		
11		⇐	**ChargeReport** = { obeId, vehicleLPNr, paymentMeans, serviceProviderContract, tollCharger, timeOfReport, reportPeriod, versionInfo, usageStatementList, vatForThisSession, accountStatus, transactionCounter, mileage, listOfCCCAttributes, authenticator}

12	IF (**ChargeReport** not received)
	THEN TP failed
	ENDIF
	IF (usageStatementList empty)
	THEN TP failed
	ENDIF
	IF (**ChargeReport** content according to **ContextData10**)
	THEN TP passed
	ELSE TP failed
	ENDIF		

A.3.2 BI test purposes

No BI test purposes are applicable for this TP group.

Annex B
(normative)

Test purposes (TP) for Back End

B.1 Introduction

This annex contains the test suite structure (TSS) and test purposes (TP) for the conformity evaluation of Back End to ISO/TS 17575-3.

B.1.1 TP symbols conventions

A special notation and symbol convention is used, as defined in what follows.

Symbols are used in the description of the TPs, with meanings according to Table B.1.

Table B.1 — Description of TP Symbols

SYMBOL	DESCRIPTION
XXX.rq ⇒	The DUT sends the XXX.rq PDU to the Tester. If **ContextDataX** notation is used, the data element **ContextDataX** which is defined in Annex C is sent to DUT.
XXX.rq = {attribute1, attribute2, attribute3} ⇒	The DUT sends the XXX.rq to the Tester. XXX.rq shall not consist of any attributes different than attribute1, attribute2, attribute3. If any of attributes in the list is optional it may be missing in XXX.rq.
XXX.rq = {attribute1= value1} ⇒	The DUT sends the XXX.rq to the Tester with attribute1. Value of attribute1, i.e. value1 shall be stored by the tester and will be utilized in further TP steps.
⇐ YYY.rs	The Tester sends the YYY.rs PDU to the DUT
A ≡ B	A “is equal to” B
A → B	A “is transformed” into B
Ø	Means “empty” or “not set”.

In addition, it has to be noted that the sequence of ADUs issued by a Back End is not constrained by ISO/TS 17575-3. This means that ADU cannot in general be forced to be generated by the DUT. To execute the test purposes it may be needed to filter out some ADUs, as they might be applicable for TP, e.g. some ADUs are applicable for different toll regime. Such situation is illustrated in Figure B.1.

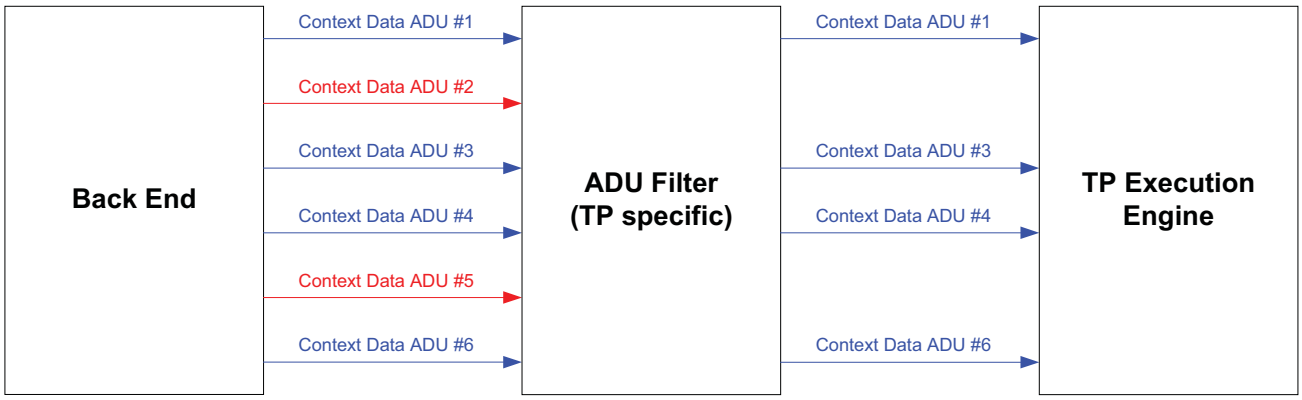

Figure B.1 — Handling of ADUs applicable for particular TP

B.2 Procedural test purposes

These test purposes apply to Communication services support as claimed in ISO/TS 17575-3 Clause B.6.4.2/1, and EFC Attributes as claimed in ISO/TS 17575-3 Clause B.6.4.3/1-9.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.2.1 BV test purposes

Test subgroup objective:

— to test the usage of communication services;

— to test the behaviour of the DUT in relation to handling versions.

TP/PRO/BE/BV/01	**Verify the usage of communication services**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 6.1
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		**Tester**
1	**Iso17575-3Adu** = {aduHeader, attributeList}	⇒	
2			Verify that communication services are used to transmit the ADU as defined in ISO/TS 17575-3 Clause 6.1

TP/PRO/BE/BV/02	Verify version and validity handling
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 6.2
Initial Condition	Back End is initialized and can send a complete set of Context Data.

Stimulus and Expected Behaviour

	DUT		Tester
1	**Iso17575-3Adu** = {aduHeader, aduBody = A1}	⇒	
2			Verify structure of sent **Iso17575-3Adu(s)**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
			IF verify NOT “OK” THEN TP failed
3	Toll Context properties changed. DUT needs to provision up-to-date context data.		
4	**Iso17575-3Adu** = {aduHeader, aduBody = A2}	⇒	
5			Verify structure of sent **Iso17575-3Adu(s)**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
6			IF verify NOT “OK” THEN TP failed

7			Compare the corresponding data elements in A1 and A2 consisting of Version information indicator (data type: VersionAndValidity).
			For each *dataelement:*
			IF A1.*dataelement* ≠ A2.*dataelement* THEN
			IF A1.*dataelement*.*dataelement*Version.version >= A2.*dataelement*.*dataelement*Version.version
			THEN TP failed
			ENDIF
			ENDIF
			IF TP not failed THEN TP passed

B.2.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.3 ADU Header test purposes

These Test Purposes apply to Iso17575-3Adu as claimed in ISO/TS 17575-3 Clause B.6.4.1/1.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.3.1 BV test purposes

Test subgroup objective:

— to test the uniqueness of Context ID within the Toll Charger;

— to test the behaviour of the DUT in relation to ADU Sequence Number.

TP/ADUH/BE/BV/01	**Uniqueness of Context ID within the Toll Charger**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 7.2
Initial Condition	Back End is initialized and has n Toll Contexts defined. Back End sends Context Data for each Toll Context.

Stimulus and Expected Behaviour

	DUT		**Tester**
1	**Iso17575-3Adu** = {aduHeader = A1, aduBody }	⇒	
2	**Iso17575-3Adu** = {aduHeader = A2, aduBody}	⇒	
...			
n	**Iso17575-3Adu** = {aduHeader = An, aduBody }	⇒	
n+1			Verify structure of sent **Iso17575-3Adu**s, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
n+2			IF verify NOT “OK” THEN TP failed
n+3			IF each Ai.contextID (where i=1..n) is unique THEN TP passed ELSE TP failed ENDIF

TP/ADUH/BE/BV/02	**Verify handling of aduSequenceNumber**		
TP Origin	Specific		
Reference	ISO/TS 17575-3, Clause 7.2		
Initial Condition	Back End is initialized and sends Context Data.		
Stimulus and Expected Behaviour			
	DUT		**Tester**
1	**Iso17575-3Adu** = {aduHeader = A1, aduBody }	⇒	
2	**Iso17575-3Adu** = {aduHeader = A2, aduBody }	⇒	
3			Verify structure of sent **Iso17575-3Adu**s, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
4			IF verify NOT "OK" THEN TP failed

5			IF (A2.aduSequenceNumber) equals to (A1.aduSequenceNumber + 1)
			THEN TP passed
			ELSE TP failed
			ENDIF

B.3.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.4 Attribute general test purposes

These Test Purposes apply to EFCAttributes as claimed in ISO/TS 17575-3 Clause B.6.4.3/1-9.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.4.1 BV test purposes

Test subgroup objective:

— to test the availability of all mandatory attributes.

TP/ADUB/BE/BV/11	**Verify the availability of Context Data attributes to allow the Front End to operate in a toll regime**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.1
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		Tester
1	**Iso17575-3Adu** = {aduHeader, aduBody} Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.	⇒	
2			Verify structure of sent **Iso17575-3Adu(s)**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Verify the presence of aduBody.tollContextOverview attribute in sent ADU(s).
5			IF verify NOT “OK” THEN TP failed
6			Verify the presence of aduBody.tariffTable attribute in sent ADU(s).
7			IF verify NOT “OK” THEN TP failed
8			Verify the presence of aduBody.tariffClassDefinition attribute in sent ADU(s).
9			IF verify NOT “OK” THEN TP failed
10			Verify the presence of aduBody.localVehicleClassDefinition attribute in sent ADU(s).
11			IF verify NOT “OK” THEN TP failed
12			Verify the presence of aduBody.tollContextLayout attribute in sent ADU(s).
13			IF verify NOT “OK” THEN TP failed
14			Verify the presence of aduBody.chargeReportingEvents attribute in sent ADU(s).
15			IF verify NOT “OK” THEN TP failed
16			Verify the presence of aduBody.chargeReportConfiguration attribute in sent ADU(s).
17			IF verify NOT “OK” THEN TP failed ELSE TP passed ENDIF

B.4.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.5 Toll Context Overview test purposes

These Test Purposes apply to TollContextOverview as claimed in ISO/TS 17575-3 Clause B.6.4.3/1 and OperationalStatus as claimed in ISO/TS 17575-3 Clause B.6.4.6.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.5.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to Toll Context Overview attribute.

TP/ATTR-11/BE/BV/02	**Uniqueness of Toll Context within the Toll Charger**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.2
Initial Condition	Back End is initialized and has n Toll Contexts defined. Back End sends Context Data for each Toll Context.

Stimulus and Expected Behaviour

	DUT		**Tester**
1	**Iso17575-3Adu** = {aduHeader, aduBody = A1 }	⇒	
2	**Iso17575-3Adu** = {aduHeader, aduBody = A2 }	⇒	
...			
n	**Iso17575-3Adu** = {aduHeader, aduBody = An}	⇒	
n+1			Verify structure of sent **Iso17575-3Adu**s, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
n+2			IF verify NOT “OK” THEN TP failed
n+3			IF each Ai.tollContextOverview.tollContext (where i=1..n) is unique THEN TP passed ELSE TP failed ENDIF

TP/ATTR-11/BE/BV/03	Verify whether Stops Operation At is not earlier than Starts Operation At in Operational Status
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.2
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		Tester
1	**Iso17575-3Adu** = {aduHeader, aduBody = A1} Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.	⇒	
2			Verify structure of sent **Iso17575-3Adu(s)**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF A1.tollContextOverview.operationalStatus.startsOperationAt > A1.tollContextOverview.operationalStatus.stopsOperationAt) THEN TP failed ELSE TP passed ENDIF

B.5.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.6 Tariff Table test purposes

These Test Purposes apply to TariffTable as claimed in ISO/TS 17575-3 Clause B.6.4.3/2, Toll Scheme Types as claimed in ISO/TS 17575-3 Clause B.6.4.5.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.6.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to Tariff Table attribute.

TP/ATTR-21/BE/BV/02	Verify that type of Charge Unit is compliant to Toll Scheme Type
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.2.2
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed

4			IF A11.tollSchemeType = 0 THEN
			IF each A21.tariffs[i].chargeUnit is DISTANCE OR EVENT (where i=1..number of tariffs)
			THEN TP passed
			ELSE TP failed
			ENDIF
			ENDIF
			IF A11. tollSchemeType = 1 OR A11. tollSchemeType = 2
			THEN
			IF each A21.tariffs[i].chargeUnit is DISTANCE OR TIME (where i=1..number of tariffs)
			THEN TP passed
			ELSE TP failed
			ENDIF
			ENDIF
			IF A11.tollSchemeType = 3 THEN
			IF each A21.tariffs[i].chargeUnit is EVENT (where i=1..number of tariffs)
			THEN TP passed
			ELSE TP failed
			ENDIF
			ENDIF

TP/ATTR-21/BE/BV/03	Verify that Tariff Class ID is unique within one toll context
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.2.2
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A21.tariffs[i].tariffClassId is unique (where i=1..number of tariffs) THEN TP passed ELSE TP failed ENDIF

B.6.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.7 Tariff Class Definition test purposes

These Test Purposes apply to TariffClassDefinition as claimed in ISO/TS 17575-3 Clause B.6.4.3/3 and B.6.4.8.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.7.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to Tariff Class Definition attribute.

TP/ATTR-22/BE/BV/01	**Verify that each combination of vehicle, time, location and user class leads to one and only one Tariff Class**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.3
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		**Tester**

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Verify whether each combination of time, vehicle, location and user class leads to exactly one Tariff Class in A22.tariffClasses[i]
5			IF verify NOT “OK” THEN TP failed ELSE TP passed

TP/ATTR-22/BE/BV/02	**Verify that Tariff Class ID is unique within one toll context within TariffClassDefinition attribute**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.3.2
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A22.tariffClasses[i].tariffClassId is unique (where i=1..number of tariffClasses) THEN TP passed ELSE TP failed ENDIF

B.7.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.8 Local Vehicle Class Definition test purposes

These Test Purposes apply to LocalVehicleClassDefinition as claimed in ISO/TS 17575-3 Clause B.6.4.3/4.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.8.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to Local Vehicle Class Definition attribute.

TP/ATTR-23/BE/BV/01	**Verify that Local Vehicle Class ID is unique**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.4.1
Initial Condition	Back End is initialized and can send Context Data. Local Vehicle Class Definition is present in ADU.

Stimulus and Expected Behaviour

	DUT		**Tester**

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A23.localVehicleClasses[i].localVehicleClassId is unique (where i=1..number of localVehicleClasses) THEN TP passed ELSE TP failed ENDIF

TP/ATTR-23/BE/BV/02	Verify that Priority Level is different for overlapping Vehicle Classes
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.4.1
Initial Condition	Back End is initialized and can send Context Data. Local Vehicle Class Definition is present in ADU.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Group localVehicleClasses that overlap at least with one criterion within nominalElements or ordinalElements. Verify that priorityValue is present AND each localVehicleClass gets different priorityValue within each group

5			IF verify “OK” THEN
			THEN TP passed
			ELSE TP failed
			ENDIF

B.8.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.9 Time Class Definition test purposes

These Test Purposes apply to TimeClassDefinition as claimed in ISO/TS 17575-3 Clause B.6.4.3/5, and Priority Value as claimed in ISO/TS 17575-3 Clause B.6.4.12/1.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.9.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to Time Class Definition attribute.

TP/ATTR-24/BE/BV/01	**Verify that Time Class ID is unique**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.5.1
Initial Condition	Back End is initialized and can send Context Data. Time Class Definition is present in ADU.

Stimulus and Expected Behaviour

	DUT		**Tester**

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A24.timeClasses[i].timeClassId is unique (where i=1..number of timeClasses) THEN TP passed ELSE TP failed ENDIF

TP/ATTR-24/BE/BV/02	Verify that Priority Level is different for overlapping Time Classes
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.5.1
Initial Condition	Back End is initialized and can send Context Data. Time Class Definition is present in ADU.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Group timeClasses that overlap at least with one criterion within nominalElements or ordinalElements.. Verify that priorityValue is present AND each timeClass gets different priorityValue within each group

5			IF verify “OK” THEN
			THEN TP passed
			ELSE TP failed
			ENDIF

B.9.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.10 User Class Definition test purposes

These Test Purposes apply to UserClassDefinition as claimed in ISO/TS 17575-3 Clause B.6.4.3/6.

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.10.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to User Class Definition attribute.

TP/ATTR-25/BE/BV/01	**Verify that User Class ID is unique**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.6.1
Initial Condition	Back End is initialized and can send Context Data. User Class Definition is present in ADU.

Stimulus and Expected Behaviour

	DUT		**Tester**

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A25.userClasses[i].userClassId is unique (where i=1..number of userClasses) THEN TP passed ELSE TP failed ENDIF

TP/ATTR-25/BE/BV/02	Verify that User Classes do not overlap
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.3.6.1
Initial Condition	Back End is initialized and can send Context Data. User Class Definition is present in ADU.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Group userClasses that have exactly the same values of following data elements: contractTypes and numberOfPassangers. Verify that each group consists of exactly one user class.

5			IF verify “OK” THEN
			THEN TP passed
			ELSE TP failed
			ENDIF

B.10.2 BI test purposes

No BI test purposes are applicable for this TP group.

B.11 Toll Context Layout test purposes

These Test Purposes apply to

— TollContextLayout as claimed in ISO/TS 17575-3 Clause B.6.4.3/7;

— Layout Description Type as claimed in ISO/TS 17575-3 B.6.4.17;

— Section Pricing Layout Description as claimed in ISO/TS 17575-3 B.6.4.18 (ATTR-31S);

— Area Pricing Layout Description as claimed in ISO/TS 17575-3 B.6.4.19 (ATTR-31A);

— Road Network object as claimed in ISO/TS 17575-3 B.6.4.23 (ATTR-31A);

— Cordon Pricing Layout Description as claimed in ISO/TS 17575-3 B.6.4.24 (ATTR-31A);

— Cordon Entry Location Description as claimed in ISO/TS 17575-3 B.6.4.25 (ATTR-31A);

— Cordon Exit Location Description as claimed in ISO/TS 17575-3 B.6.4.26 (ATTR-31A).

NOTE No test purposes for invalid behaviour are specified (BI), as ISO/TS 17575-3 does not specify any invalid behaviour of Back End.

B.11.1 BV test purposes

Test subgroup objective:

— to test the behaviour of the DUT in relation to Toll Context Layout attribute for section layout description (ATTR-31S), Section List for section layout description (ATTR-31L), area layout description (ATTR-31A), and cordon layout description (ATTR-31C).

TP/ATTR-31/BE/BV/01	**Verify that Layout Description is compliant to Toll Scheme Type**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4
Initial Condition	Back End is initialized and can send Context Data.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed

4			IF A11.tollSchemeType = 0 THEN
			IF A31.layoutDescription is SECTIONLAYOUT
			THEN TP passed
			ELSE TP failed
			ENDIF
			ENDIF
			IF A11. tollSchemeType = 1 OR A11. tollSchemeType = 2
			THEN
			IF A31.layoutDescription is AREALAYOUT
			THEN TP passed
			ELSE TP failed
			ENDIF
			ENDIF
			IF A11. tollSchemeType = 3 THEN
			IF A31.layoutDescription is CORDONLAYOUT
			THEN TP passed
			ELSE TP failed
			ENDIF
			ENDIF

B.11.1.1 Toll Context Layout test purposes for Section pricing scheme

TP/ATTR-31S/BE/BV/01	**Verify that Charge Object ID is unique**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.1
Initial Condition	Back End is initialized and can send Context Data. Section pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A31.sectionPricingLayout [i].chargeObjectID is unique (where i=1..number of sectionLayouts) THEN TP passed ELSE TP failed ENDIF

TP/ATTR-31S/BE/BV/02	Verify that Point ID is unique
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.1
Initial Condition	Back End is initialized and can send Context Data. Section pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed

4			For each A31.sectionPricingLayout [i] (where i=1..number of sectionLayouts)
			IF (each networkPoints[j].pointId is unique within sectionLayout (where j=1..number of usedPoints))
			OR (networkPoints=ø)
			THEN GOTO next sectionLayout
			ELSE TP failed
			ENDIF

5			IF TP not failed THEN TP passed

TP/ATTR-31S/BE/BV/03	Verify that Link ID is unique
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.1.1
Initial Condition	Back End is initialized and can send Context Data. Section pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed

4			IF (each A31.sectionPricingLayout[i].tollPath.linkID is unique (where i=1..number of sectionLayouts))
			THEN TP passed
			ELSE TP failed
			ENDIF

TP/ATTR-31S/BE/BV/06	**Verify that Point identified by Point ID in Link has been defined in Network Points**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.1.1
Initial Condition	Back End is initialized and can send Context Data. Section pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Verify that each point (i.e. startPoint, endPoint, listOfIntermediatePoints) defined in each Link of TollContextLayout which is identified by pointIdentifier is defined in A31.networkPoints
5			IF verify “OK” THEN TP passed ELSE TP failed ENDIF

TP/ATTR-31S/BE/BV/08	**Verify that Point identified by Point ID in Liability Rules has been defined in Network Points**
TP Origin	Identical to TP/ATTR-31S/BE/BV/06
Reference	ISO/TS 17575-3, Clause 8.3.4.1.2
Initial Condition	See TP/ATTR-31S/BE/BV/06
Stimulus and Expected Behaviour	
See TP/ATTR-31S/BE/BV/06	
NOTE Link type is replaced by LiabilityRules type	

TP/ATTR-31S/BE/BV/10	**Verify that Point identified by Point ID in Supporting Information has been defined in Network Points**
TP Origin	Identical to TP/ATTR-31S/BE/BV/06
Reference	ISO/TS 17575-3, Clause 8.3.4.1.3
Initial Condition	See TP/ATTR-31S/BE/BV/06
Stimulus and Expected Behaviour	
See TP/ATTR-31S/BE/BV/06	
NOTE Link type is replaced by SupportingPoints type	

TP/ATTR-31S/BE/BV/11	**Verify that Applicable Time Classes for Section Layout are present in Time Class Definition**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.1
Initial Condition	Back End is initialized and can send Context Data. Section pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Verify that timeClassId(s) specified in applicableTimeClasses for each A31.sectionPricingLayout [i] (where i=1..number of sectionLayouts) are defined in A24. NOTE If applicableTimeClasses = ø, result of the verification for particular sectionPricingLayout is OK.
5			IF verify “OK” OR applicableTimeClasses = ø THEN TP passed ELSE TP failed ENDIF

B.11.1.2 Toll Context Layout test purposes for Area pricing scheme

TP/ATTR-31A/BE/BV/01	**Verify that Area ID is unique**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.2
Initial Condition	Back End is initialized and can send Context Data. Area pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		**Tester**

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A31.areaPricingLayout [i].areaId is unique (where i=1..number of areaLayouts) THEN TP passed ELSE TP failed ENDIF

TP/ATTR-31A/BE/BV/02	**Verify that Charge Object ID is unique**
TP Origin	Identical to TP/ATTR-31S/BE/BV/01
Reference	ISO/TS 17575-3, Clause 8.3.4.2
Initial Condition	Back End is initialized and can send Context Data. Area pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

See TP/ATTR-31S/BE/BV/01

NOTE Replace sectionPricingLayout by areaPricingLayout. Execute test purpose for roadNetwork data element

TP/ATTR-31A/BE/BV/03	Verify that Point ID is unique
TP Origin	Identical to TP/ATTR-31S/BE/BV/02
Reference	ISO/TS 17575-3, Clause 8.3.4.2
Initial Condition	Back End is initialized and can send Context Data. Area pricing scheme is used for the Toll Context.
Stimulus and Expected Behaviour	
See TP/ATTR-31S/BE/BV/02	
NOTE Replace sectionPricingLayout by areaPricingLayout. Execute test purpose for roadNetwork data element	

TP/ATTR-31A/BE/BV/04	Verify that Link ID is unique
TP Origin	Identical to TP/ATTR-31S/BE/BV/03
Reference	ISO/TS 17575-3, Clause 8.3.4.2
Initial Condition	Back End is initialized and can send Context Data. Area pricing scheme is used for the Toll Context.
Stimulus and Expected Behaviour	
See TP/ATTR-31S/BE/BV/03	
NOTE Replace sectionPricingLayout by areaPricingLayout. Execute test purpose for roadNetwork data element	

TP/ATTR-31A/BE/BV/06	Verify that Point is identified by Point ID or coordinates within Link
TP Origin	Identical to TP/ATTR-31S/BE/BV/06
Reference	ISO/TS 17575-3, Clause 8.3.4.2
Initial Condition	Back End is initialized and can send Context Data. Area pricing scheme is used for the Toll Context.
Stimulus and Expected Behaviour	
See TP/ATTR-31S/BE/BV/06	
NOTE Replace sectionPricingLayout by areaPricingLayout. Execute test purpose for roadNetworks data element	

TP/ATTR-31A/BE/BV/08	Verify that Point identified by Point ID in Supporting Information has been defined in Network Points
TP Origin	Identical to TP/ATTR-31S/BE/BV/10
Reference	ISO/TS 17575-3, Clause 8.3.4.2
Initial Condition	Back End is initialized and can send Context Data. Area pricing scheme is used for the Toll Context.
Stimulus and Expected Behaviour	
See TP/ATTR-31S/BE/BV/10	
NOTE Replace sectionPricingLayout by areaPricingLayout. Execute test purpose for roadNetworks data element	

B.11.1.3 Toll Context Layout test purposes for Cordon pricing scheme

TP/ATTR-31C/BE/BV/01	**Verify that Cordon ID is unique**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.3
Initial Condition	Back End is initialized and can send Context Data. Cordon pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			IF each A31.cordonPricingLayout [i].cordonId is unique (where i=1..number of cordonLayouts) THEN TP passed ELSE TP failed ENDIF

TP/ATTR-31C/BE/BV/02	**Verify that Applicable Time Classes for Cordon Layout are present in Time Class Definition (Cordon Entry Locations)**
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.3.1
Initial Condition	Back End is initialized and can send Context Data. Cordon pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			Verify that timeClassId(s) specified in applicableTimeClasses for each A31.cordonPricingLayout [i].cordonBorderPolygon[j].cordonEntryLocation are defined in A24. (where i=1..number of cordonLayouts) (where j=1..number of cordonBorderSegment in particular cordonLayout) NOTE If applicableTimeClasses = ø, result of the verification for particular cordonEntryLocations is OK.
5			IF verify “OK” THEN TP passed ELSE TP failed ENDIF

TP/ATTR-31C/BE/BV/03	Verify that Applicable Time Classes for Cordon Layout are present in Time Class Definition (Cordon Exit Locations)
TP Origin	Identical to TP/ATTR-31C/BE/BV/02
Reference	ISO/TS 17575-3, Clause 8.3.4.3.1
Initial Condition	See TP/ATTR-31C/BE/BV/02
Stimulus and Expected Behaviour	
See TP/ATTR-31C/BE/BV/02	
NOTE TP applicable for cordonExitLocation instead of cordonEntryLocation	

TP/ATTR-31C/BE/BV/04	Verify that Cordon Segment ID is unique
TP Origin	Specific
Reference	ISO/TS 17575-3, Clause 8.3.4.3.1
Initial Condition	Back End is initialized and can send Context Data. Cordon pricing scheme is used for the Toll Context.

Stimulus and Expected Behaviour

	DUT		Tester

1	**Iso17575-3Adu** = {aduHeader,
	aduBody = {
	(tollContextOverview = A11),
	(tariffTable = A21),
	(tariffClassDefinition = A22),
	(localVehicleClassDefinition = A23),
	(timeClassDefinition = A24),
	(userClassDefinition = A25),
	(tollContextLayout = A31),
	(chargeReportingEvents = A41),
	(chargeReportConfiguration = A42)
	}
	}
	Back End may send the attributes in several **Iso17575-3Adus.** TollCharger and ContextID data elements contained in ADU Header shall be the same in each ADU.
		⇒	

2			Verify structure of sent **Iso17575-3Adu**, taking presence and absence of optional data elements into account and verify allowed values of present data elements according to Table C.1 — General Structure of Context Data
3			IF verify NOT “OK” THEN TP failed
4			For each A31.cordonPricingLayout [i] (where i=1..number of cordonLayouts) IF each cordonBorderPolygon[j].cordonSegmentId is unique (where j=1..number of cordonBorderSegment) THEN TP passed ELSE TP failed ENDIF

B.11.2 BI test purposes

No BI test purposes are applicable for this TP group.

Annex C
(normative)

Data Structures

C.1 General Structure of Context Data and Charge Report

C.1.1 General Structure of Context Data

The Context Data general structure, as is transmitted to the Front End, is described in Table C.1 — General Structure of Context Data. For more details please refer to ISO/TS 17575-3.

Table C.1 — General Structure of Context Data

ADU Header	informationSender	Defined in ISO/TS 17575-3
	informationOriginator	Defined in ISO/TS 17575-3
	tollCharger	Defined in ISO/TS 17575-3
	contextId	Defined in ISO/TS 17575-3
	adu Number	Defined in ISO/TS 17575-3
	aduAuthenticator	Defined in ISO/TS 17575-3
ADU Body	TollContextOverview	Defined in ISO/TS 17575-3
	TariffTable	Defined in ISO/TS 17575-3
	TariffClassDefinition	Defined in ISO/TS 17575-3
	LocalVehicleClassDefinition	Defined in ISO/TS 17575-3
	TimeClassDefinition	Defined in ISO/TS 17575-3
	UserClassDefinition	Defined in ISO/TS 17575-3
	TollContextLayout	Defined in ISO/TS 17575-3
	ChargeReportingEvents	Defined in ISO/TS 17575-3
	ChargeReportConfiguration	Defined in ISO/TS 17575-3

C.1.2 General Structure of Charge Report

The Charge Report general structure, as is transmitted to the Back End, is described in Table C.2 — General Structure of Charge Report. For more details please refer to ISO/TS 17575-1.

Table C.2 — General Structure of Charge Report

obeId	Defined in ISO/TS 17575-1
vehicleLPNr	Defined in ISO/TS 17575-1
paymentMeans	Defined in ISO/TS 17575-1
serviceProviderContract	Defined in ISO/TS 17575-1
tollCharger	Defined in ISO/TS 17575-1
timeOfReport	Defined in ISO/TS 17575-1
reportPeriod	Defined in ISO/TS 17575-1
versionInfo	Defined in ISO/TS 17575-1
usageStatementList	Defined in ISO/TS 17575-1
vatForThisSession	Defined in ISO/TS 17575-1
accountStatus	Defined in ISO/TS 17575-1
transactionCounter	Defined in ISO/TS 17575-1
Mileage	Defined in ISO/TS 17575-1
listOfCCCAttributes	Defined in ISO/TS 17575-1
Authenticator	Defined in ISO/TS 17575-1

C.2 Data Structures

C.2.1 Context Data

For the purpose of this conformance test, the following Context Data described in:

— Table C.3 — ContextData1

— Table C.4 — ContextData2

— Table C.5 — ContextData3

— Table C.6 — ContextData4

— Table C.7 — ContextData5

— Table C.8 — ContextData6

— Table C.9 — ContextData7

— Table C.10 — ContextData8

— Table C.11 — ContextData9

— Table C.12 — ContextData10

— Table C.13 — ContextData11

— Table C.14 — ContextData12

— Table C.15 — ContextData13

are transmitted to the DUT. They are referenced in the respective Test Purposes.

Table C.3 — ContextData1

					Value
ADU Header		informationSender			As defined in ISO/TS 17575-3
		informationOriginator			As defined in ISO/TS 17575-3
		tollCharger			As defined in ISO/TS 17575-3
		contextId			As defined in ISO/TS 17575-3
		adu Number			As defined in ISO/TS 17575-3
ADU Body	tollContextOverview	tollCharger	efcOperator		= ADUHeader.tollCharger
			recipient		As defined in ISO/TS 17575-3
		tollContext			=ADUHeader.contextId
		tollSchemeName			As defined in ISO/TS 17575-3
		tollSchemeType			As defined in ISO/TS 17575-3
		operationalStatus	startsOperationAt		Date and time value in the past
		timeZone			As defined in ISO/TS 17575-3
		tollContextOverviewVersion		version	As defined in ISO/TS 17575-3
				validFrom	Date and time value in the past
	tariffTable				As defined in ISO/TS 17575-3
	tariffClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType
	localVehicleClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType
	timeClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType NOTE 1 This is an optional attribute.
	userClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType NOTE 2 This is an optional attribute.
	tollContextLayout				As defined in ISO/TS 17575-3 specific for tollSchemeType
	chargeReportingEvents				As defined in ISO/TS 17575-3 Recommended to use absolute time or relative time based events.
	chargeReport Configuration	chargeReportContent	obeId		T
			paymentMeans		F
			tollCharger		T
			versionInfo		F
			vatForThisSession		F
			accountStatus		F
			transactionCounter		F
			Mileage		F
			listOfCCCAttributes		F
			authenticator		F
		usageStatementContent	usageStatementID		T
			regimeID		T
			aggregatedFee		F
			aggregatedSingleClass TariffSession		F

			listOfChargeObjects	F
			listOfDSRCUsageData	F
			listOfRawUsageData	F
			noUsage	F
			usageAuthenticator	F
		chargeReportConfiguration Version	version	As defined in ISO/TS 17575-3
			validFrom	Date and time value in the past

Table C.4 — ContextData2

					Value
ADU Header		informationSender			As defined in ISO/TS 17575-3
		informationOriginator			As defined in ISO/TS 17575-3
		tollCharger			As defined in ISO/TS 17575-3
		contextId			As defined in ISO/TS 17575-3
		adu Number			As defined in ISO/TS 17575-3
ADU Body	tollContextOverview	tollCharger	efcOperator		= ADUHeader.tollCharger
			recipient		As defined in ISO/TS 17575-3
		tollContext			=ADUHeader.contextId
		tollSchemeName			As defined in ISO/TS 17575-3
		tollSchemeType			As defined in ISO/TS 17575-3
		operationalStatus	startsOperationAt		Date and time value in the past
		timeZone			As defined in ISO/TS 17575-3
		tollContextOverviewVersion		version	As defined in ISO/TS 17575-3
				validFrom	Date and time value in the past

Table C.5 — ContextData3

		Value
ADU Header	informationSender	Equals to informationSender in Table C.4
	informationOriginator	Equals to informationOriginator in Table C.4
	tollCharger	Equals to tollCharger in Table C.4
	contextId	Equals to contextId in Table C.4
	adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	tariffTable	As defined in ISO/TS 17575-3

Table C.6 — ContextData4

			Value
ADU Header		informationSender	Equals to informationSender in Table C.4
		informationOriginator	Equals to informationOriginator in Table C.4
		tollCharger	Equals to tollCharger in Table C.4
		contextId	Equals to contextId in Table C.4
		adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	tariffClassDefinition		As defined in ISO/TS 17575-3

			Value
ADU Header		informationSender	Equals to informationSender in Table C.4
		informationOriginator	Equals to informationOriginator in Table C.4
		tollCharger	Equals to tollCharger in Table C.4
		contextId	Equals to contextId in Table C.4
		adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	tariffTable		As defined in ISO/TS 17575-3

Table C.7 — ContextData5

			Value
ADU Header		informationSender	Equals to informationSender in Table C.4
		informationOriginator	Equals to informationOriginator in Table C.4
		tollCharger	Equals to tollCharger in Table C.4
		contextId	Equals to contextId in Table C.4
		adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	localVehicleClassDefinition		As defined in ISO/TS 17575-3

Table C.8 — ContextData6

			Value
ADU Header		informationSender	Equals to informationSender in Table C.4
		informationOriginator	Equals to informationOriginator in Table C.4
		tollCharger	Equals to tollCharger in Table C.4
		contextId	Equals to contextId in Table C.4
		adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	timeClassDefinition		As defined in ISO/TS 17575-3

Table C.9 — ContextData7

			Value
ADU Header		informationSender	Equals to informationSender in Table C.4
		informationOriginator	Equals to informationOriginator in Table C.4
		tollCharger	Equals to tollCharger in Table C.4
		contextId	Equals to contextId in Table C.4
		adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	userClassDefinition		As defined in ISO/TS 17575-3

Table C.10 — ContextData8

			Value
ADU Header		informationSender	Equals to informationSender in Table C.4
		informationOriginator	Equals to informationOriginator in Table C.4
		tollCharger	Equals to tollCharger in Table C.4
		contextId	Equals to contextId in Table C.4
		adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	tollContextLayout		As defined in ISO/TS 17575-3

Table C.11 — ContextData9

		Value
ADU Header	informationSender	Equals to informationSender in Table C.4
	informationOriginator	Equals to informationOriginator in Table C.4
	tollCharger	Equals to tollCharger in Table C.4
	contextId	Equals to contextId in Table C.4
	adu Number	Equals to (adu Number in Table C.4) + 1
ADU Body	chargeReportingEvents	As defined in ISO/TS 17575-3

Table C.12 — ContextData10

				Value
ADU Header		informationSender		As defined in ISO/TS 17575-3
		informationOriginator		As defined in ISO/TS 17575-3
		tollCharger		As defined in ISO/TS 17575-3
		contextId		As defined in ISO/TS 17575-3
		adu Number		As defined in ISO/TS 17575-3
ADU Body	chargeReport Configuration	chargeReportContent	obeId	T
			paymentMeans	F
			tollCharger	T
			versionInfo	F
			vatForThisSession	F
			accountStatus	F
			transactionCounter	F
			Mileage	F
			listOfCCCAttributes	F
			authenticator	F
		usageStatementContent	usageStatementID	T
			regimeID	T
			aggregatedFee	F
			aggregatedSingleClass TariffSession	F
			listOfChargeObjects	F
			listOfDSRCUsageData	F
			listOfRawUsageData	F
			noUsage	F
			usageAuthenticator	F
		chargeReportConfiguration Version	version	As defined in ISO/TS 17575-3
			validFrom	Date and time value in the past

Table C.13 — ContextData11

					Value
ADU Header		informationSender			= value in ContextData1
		informationOriginator			= value in ContextData1
		tollCharger			= value in ContextData1
		contextId			≠ value in ContextData1
		adu Number			= value in ContextData1 + 1
ADU Body	tollContextOverview	tollCharger	efcOperator		= value in ContextData1
			recipient		= value in ContextData1
		tollContext			=ADUHeader.contextId
		tollSchemeName			≠ value in ContextData1
		tollSchemeType			As defined in ISO/TS 17575-3
		operationalStatus	startsOperationAt		Date and time value in the past
		timeZone			As defined in ISO/TS 17575-3
		tollContextOverviewVersion		version	= value in ContextData1
				validFrom	= value in ContextData1
	tariffTable				As defined in ISO/TS 17575-3
	tariffClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType
	localVehicleClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType
	timeClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType NOTE 1 This is an optional attribute.
	userClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType NOTE 2 This is an optional attribute.
	tollContextLayout				As defined in ISO/TS 17575-3 specific for tollSchemeType
	chargeReportingEvents				≠ value in ContextData1 Recommended to use absolute time or relative time based events.
	chargeReport Configuration	chargeReportContent	obeId		= value in ContextData1
			paymentMeans		= value in ContextData1
			tollCharger		= value in ContextData1
			versionInfo		= value in ContextData1
			vatForThisSession		= value in ContextData1
			accountStatus		= value in ContextData1
			transactionCounter		= value in ContextData1
			Mileage		= value in ContextData1
			listOfCCCAttributes		= value in ContextData1
			authenticator		= value in ContextData1
		usageStatementContent	usageStatementID		= value in ContextData1
			regimeID		= value in ContextData1
			aggregatedFee		= value in ContextData1
			aggregatedSingleClass TariffSession		= value in ContextData1

			listOfChargeObjects	= value in ContextData1
			listOfDSRCUsageData	= value in ContextData1
			listOfRawUsageData	= value in ContextData1
			noUsage	= value in ContextData1
			usageAuthenticator	= value in ContextData1
		chargeReportConfiguration Version	version	= value in ContextData1
			validFrom	= value in ContextData1

Table C.14 — ContextData12

					Value
ADU Header		informationSender			= value in ContextData1
		informationOriginator			= value in ContextData1
		tollCharger			≠value in ContextData1
		contextId			≠ value in ContextData1
		adu Number			= value in ContextData1 + 1
ADU Body	tollContextOverview	tollCharger	efcOperator		≠value in ContextData1
			recipient		≠ value in ContextData1
		tollContext			=ADUHeader.contextId
		tollSchemeName			≠ value in ContextData1
		tollSchemeType			As defined in ISO/TS 17575-3
		operationalStatus	startsOperationAt		Date and time value in the past
		timeZone			As defined in ISO/TS 17575-3
		tollContextOverviewVersion		version	= value in ContextData1
				validFrom	= value in ContextData1
	tariffTable				As defined in ISO/TS 17575-3
	tariffClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType
	localVehicleClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType
	timeClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType NOTE 1 This is an optional attribute.
	userClassDefinition				As defined in ISO/TS 17575-3 specific for tollSchemeType NOTE 2 This is an optional attribute.
	tollContextLayout				As defined in ISO/TS 17575-3 specific for tollSchemeType
	chargeReportingEvents				≠ value in ContextData1 Recommended to use absolute time or relative time based events.
	chargeReport Configuration	chargeReportContent	obeId		= value in ContextData1
			paymentMeans		= value in ContextData1
			tollCharger		= value in ContextData1
			versionInfo		= value in ContextData1
			vatForThisSession		= value in ContextData1
			accountStatus		= value in ContextData1
			transactionCounter		= value in ContextData1
			Mileage		= value in ContextData1
			listOfCCCAttributes		= value in ContextData1
			authenticator		= value in ContextData1
		usageStatementContent	usageStatementID		= value in ContextData1
			regimeID		= value in ContextData1
			aggregatedFee		= value in ContextData1
			aggregatedSingleClass TariffSession		= value in ContextData1

			listOfChargeObjects	= value in ContextData1
			listOfDSRCUsageData	= value in ContextData1
			listOfRawUsageData	= value in ContextData1
			noUsage	= value in ContextData1
			usageAuthenticator	= value in ContextData1
		chargeReportConfiguration Version	version	= value in ContextData1
			validFrom	= value in ContextData1

Table C.15 — ContextData13

				Value
ADU Header		informationSender		= value in ContextData1
		informationOriginator		= value in ContextData1
		tollCharger		= value in ContextData1
		contextId		= value in ContextData1
		adu Number		= value in ContextData1 + 1
ADU Body	chargeReport Configuration	chargeReportContent	obeId	T
			paymentMeans	F
			tollCharger	F
			versionInfo	F
			vatForThisSession	F
			accountStatus	F
			transactionCounter	F
			Mileage	F
			listOfCCCAttributes	F
			authenticator	F
		usageStatementContent	usageStatementID	F
			regimeID	F
			aggregatedFee	F
			aggregatedSingleClass TariffSession	F
			listOfChargeObjects	F
			listOfDSRCUsageData	F
			listOfRawUsageData	F
			noUsage	F
			usageAuthenticator	F
		chargeReportConfiguration Version	version	≠ value in ContextData1
			validFrom	Date and time value in the past

Annex D
(normative)

PCTR for Front End

The proforma conformance test report (PCTR) is based on ISO/IEC 9646-6, which can be consulted for any necessary additional information.

D.1 Identification summary

D.1.1 Protocol conformance test report

Table D.1 — Protocol conformance test report

PCTR Number:	
PCTR Date:	
Corresponding SCTR Number:	
Corresponding SCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature	

D.1.2 DUT identification

Table D.2 — DUT identification

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

D.1.3 Testing environment

Table D.3 — Testing environment

PIXIT Number:	
ATS Specification:	
Abstract Test Method:	
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

D.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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D.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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D.2 DUT Conformance status

This DUT has or has not been shown by conformance assessment to be non conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this DUT is consistent with the static conformance requirements (as specified in D.3 in this part of ISO/TS 16410) and there are no "FAIL" verdicts to be recorded (as specified in D.6 in this part of ISO/TS 16410) strike the words "has or", otherwise strike the words "or has not".

D.3 Static conformance summary

The PICS for this DUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

D.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the DUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in D.6 of this part of ISO/TS 16410) strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of test:

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D.5 Static conformance review report

If Clause D.3 indicates non-conformance, this Clause itemises the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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D.6 Test campaign report

Table D.4 — Test campaign report

ATS Reference	Selected?	Run?	Verdict	Observations (Reference to any observations made in Clause D.7)
TP/CH/FE/BV/01	Yes/No	Yes/No		
TP/CH/FE/BV/03	Yes/No	Yes/No		
TP/CH/FE/BV/06	Yes/No	Yes/No		
TP/CH/FE/BV/07	Yes/No	Yes/No		
TP/CH/FE/BV/07	Yes/No	Yes/No		
TP/CR/FE/BV/01	Yes/No	Yes/No		
TP/CR/FE/BV/02	Yes/No	Yes/No		
TP/CR/FE/BV/03	Yes/No	Yes/No		
TP/CR/FE/BV/04	Yes/No	Yes/No		
TP/CR/FE/BV/05	Yes/No	Yes/No		
TP/CR/FE/BV/06	Yes/No	Yes/No		
TP/CR/FE/BV/07	Yes/No	Yes/No		
TP/CR/FE/BV/08	Yes/No	Yes/No		
TP/CR/FE/BV/09	Yes/No	Yes/No		
TP/CR/FE/BV/10	Yes/No	Yes/No		
TP/CR/FE/BV/11	Yes/No	Yes/No		
TP/CR/FE/BV/12	Yes/No	Yes/No		
TP/CR/FE/BV/13	Yes/No	Yes/No		
TP/CR/FE/BV/14	Yes/No	Yes/No		
TP/CR/FE/BV/15	Yes/No	Yes/No		
TP/CR/FE/BV/16	Yes/No	Yes/No		
TP/CR/FE/BV/17	Yes/No	Yes/No		
TP/CR/FE/BV/18	Yes/No	Yes/No		
TP/CR/FE/BV/19	Yes/No	Yes/No		
TP/CR/FE/BV/20	Yes/No	Yes/No		
TP/CR/FE/BV/21	Yes/No	Yes/No		
TP/CR/FE/BV/22	Yes/No	Yes/No		
TP/CR/FE/BV/23	Yes/No	Yes/No		
TP/CR/FE/BV/24	Yes/No	Yes/No		
TP/CR/FE/BV/25	Yes/No	Yes/No		
TP/CR/FE/BV/26	Yes/No	Yes/No		
TP/CR/FE/BV/27	Yes/No	Yes/No		
TP/CR/FE/BV/28	Yes/No	Yes/No		
TP/CR/FE/BV/29	Yes/No	Yes/No		
TP/CR/FE/BV/30	Yes/No	Yes/No		
TP/CR/FE/BV/31	Yes/No	Yes/No		
TP/CR/FE/BV/32	Yes/No	Yes/No		
TP/CR/FE/BV/33	Yes/No	Yes/No		
TP/CR/FE/BV/34	Yes/No	Yes/No		
TP/CR/FE/BV/35	Yes/No	Yes/No		
TP/CR/FE/BV/36	Yes/No	Yes/No		
TP/CR/FE/BV/37	Yes/No	Yes/No		
TP/CR/FE/BV/38	Yes/No	Yes/No		
TP/CR/FE/BV/39	Yes/No	Yes/No		

D.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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Annex E
(normative)

PCTR for Back End

The proforma conformance test report (PCTR) is based on ISO/IEC 9646-6, which can be consulted for any necessary additional information.

E.1 Identification summary

E.1.1 Protocol conformance test report

Table E.1 — Protocol conformance test report

PCTR Number:	
PCTR Date:	
Corresponding SCTR Number:	
Corresponding SCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature	

E.1.2 DUT identification

Table E.2 — DUT identification

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

E.1.3 Testing environment

Table E.3 — Testing environment

PIXIT Number:	
ATS Specification:	
Abstract Test Method:	
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

E.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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E.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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E.2 DUT Conformance status

This DUT has or has not been shown by conformance assessment to be non conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this DUT is consistent with the static conformance requirements (as specified in E.3 in this part of ISO/TS 16410) and there are no "FAIL" verdicts to be recorded (as specified in E.6 in this part of ISO/TS 16410) strike the words "has or", otherwise strike the words "or has not".

E.3 Static conformance summary

The PICS for this DUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

E.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the DUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (as specified in E.6 of this part of ISO/TS 16410) strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of test:

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E.5 Static conformance review report

If E.3 indicates non-conformance, this clause itemises the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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E.6 Test campaign report

Table E.4 — Test campaign report

ATS Reference	Selected?	Run?	Verdict	Observations (Reference to any observations made in Clause E.7)
TP/PRO/BE/BV/01	Yes/No	Yes/No		
TP/PRO/BE/BV/02	Yes/No	Yes/No		
TP/ADUH/BE/BV/01	Yes/No	Yes/No		
TP/ADUH/BE/BV/02	Yes/No	Yes/No		
TP/ADUB/BE/BV/11	Yes/No	Yes/No		
TP/ATTR-11/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-11/BE/BV/03	Yes/No	Yes/No		
TP/ATTR-21/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-21/BE/BV/03	Yes/No	Yes/No		
TP/ATTR-22/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-22/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-23/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-23/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-24/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-24/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-25/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-25/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-31/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/03	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/06	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/08	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/10	Yes/No	Yes/No		
TP/ATTR-31S/BE/BV/11	Yes/No	Yes/No		
TP/ATTR-31A/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-31A/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-31A/BE/BV/03	Yes/No	Yes/No		
TP/ATTR-31A/BE/BV/06	Yes/No	Yes/No		
TP/ATTR-31A/BE/BV/08	Yes/No	Yes/No		
TP/ATTR-31C/BE/BV/01	Yes/No	Yes/No		
TP/ATTR-31C/BE/BV/02	Yes/No	Yes/No		
TP/ATTR-31C/BE/BV/03	Yes/No	Yes/No		
TP/ATTR-31C/BE/BV/04	Yes/No	Yes/No		

E.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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