TECHNICAL REPORT

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Differences between the driving licences based on the ISO/IEC 18013 series and the European Union specifications

Différences entre les permis de conduire basés sur la série ISO/IEC 18013 et les spécifications de l'Union Européenne

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/IEC JTC 1 *Information technology*, SC 17 *Cards and personal identification.*

Introduction

The Commission Regulation EU 383/2012 of 4 May 2012 defines the general requirements for the European driving licences which include a microchip. Based on standard encoding for ICCs with contacts and for PICCs as defined in the ISO/IEC 18013- series, the commission has introduced some modifications. The objective of this Technical Report is to report the differences with the ISO/IEC 18013-series including test methods.

Differences between the driving licences based on the ISO/IEC 18013 series and the European Union specifications

1 Scope

This Technical Report is applicable to driving licences which include a microchip and claim compliance to the EU Regulation on driving licences.

This Technical Report proposes:

— details that are missing for the implementation of Commission Regulation (EU) No 383/2012 Annex II item 1 – 10;

— the subset of the ISO/IEC 18013-4:2011 test methods that are applicable to Commission Regulation (EU) No 383/2012 Annex II item 12;

— further test methods that are applicable to Commission Regulation (EU) No 383/2012 Annex II item 12; these test methods are due to EU driving licence requirements that are incompatible with ISO/IEC 18013-2:2008.

The following Commission Regulation (EU) No 383/2012 Annex II requirements are out of the scope of this Technical Report:

— item 11 extended access restriction – EAC;

— item 13: requirements on the security certificate;

— item 14 functional certificate - smart card testing according to the ISO/IEC 10373- series.

2 Normative references

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

Not applicable.

3 Terms, definitions and abbreviated terms

ASN.1	Abstract Syntax Notation One
EDL	European Driving Licence
RT	Room temperature
Test case	Description of test purpose, unique test case identifier, test inputs, test execution conditions, test steps, and the results required to pass the test
Test case specification	Collection of test cases, and general test data applicable to the test cases

4 File structure

The file structure defined in ISO/IEC 18013-2:2008, C.4 is applicable except for the differences described below.

The European driving licence application is defined as one DF. The DF is identified as legislated in EU Commission Regulation EU 383/2012 of 4 May 2012:

— ‘A0 00 00 04 56 45 44 4C 2D 30 31’

Mandatory and optional data groups differ from ISO/IEC 18013 and are presented in Table 1.

Table 1 — Assignment of file identifiers and Data Group tags

Elementary file	Name	Short EF identifier	EFID	Tag	M/O[a]
EF.COM	Common data	‘1E’	‘001E’	‘60’	M
EF.DG1	Mandatory data	‘01’	‘0001’	‘61’	M
EF.DG2	Optional licence holder details	‘02’	‘0002’	‘6B’	O
EF.DG3	Optional issuing authority details	‘03’	‘0003’	‘6C’	O
EF.DG4	Optional portrait image	‘04’	‘0004’	‘65’	O
EF.DG5	Mandatory signature/usual mark image	‘05’	‘0005’	‘67’	M
EF.DG6	Mandatory facial biometric template	‘06’	‘0006’	‘75’	M
EF.DG7	Optional finger biometric template	‘07’	‘0007’	‘63’	O
EF.DG8	Optional iris biometric template	‘08’	‘0008’	‘76’	O
EF.DG11	Optional domestic application data	‘0B’	‘000B’	‘6D’	O
EF.SOD	Document Security Object	‘1D’	‘001D’	‘77’	M
EF.DG13	Active authentication	‘0D’	‘000D’	‘6F’	O
[a] M/O mean Mandatory/Optional.					

NOTE The presence or absence of EF.DG9 and EF.DG10 files is out of the scope of this Technical Report.

5 Data groups

5.1 General

EF.DG1 data is structured as specified in 5.2. Data contained in other DGs are stored according to ISO/IEC 18013-2, Annex C.

NOTE The tags definition in this clause is not ISO/IEC 7816-6 compliant. Tags values are dictated by EU Regulation and hence do not comply with basic encoding rules of ASN.1”.

5.2 EF.DG1 Data Group 1

This EF contains the Type approval number, the mandatory demographic data elements and vehicle categories/restrictions/conditions as described in Table 2.

The elements contained in EF.DG1 have a fixed or variable length. In ISO/IEC 18013-2, variable lengths are limited to maximum values. In the EU driving licence, variable lengths are not limited.

Table 2 — DG1 content

Tag	Length	Value
‘5F 01’	x	Type approval number. Refer to Table 3
‘5F 02’	x	Constructed data object of demographic data elements. Refer to Table 4
‘7F 63’	x	Constructed data object of vehicle categories/ restrictions/conditions. Refer to ISO/IEC 18013-2, Table C.6

5.2.1 Type approval number Tag = '5F 01'

The type approval number is defined by the issuing country and doesn't have a maximum fixed length.

Table 3 — Type approval number

Tag	Name	Length	Mandatory / Optional	Format	Example
'5F 01'	Type approval number	V	M	*L* ANS[a]	123456789ABCDE, L= 14
a *L* depends on issuing country.					

5.2.2 Constructed data object of demographic data elements Tag = '5F 02'

Table 4 defines the fields contained in the constructed data object of demographic data. Each variable is under Tag / Length / value format.

Table 4 — Constructed data object of demographic data elements

Tag	Name	Length	Mandatory / Optional	Format	Example
'5F 03'	Issuing country (per ISO 3166-1)	3 bytes	M	3A	FRA
'5F 04'	Family name	V	M	AS	Dupont
'5F 05'	Given[a] names	V	M	AS	Laurent
'5F 06'	Date of birth (ddmmyyyy)[d]	4 bytes	M	8N	29031970
'5F 07'	Place of birth[b]	V	M	ANS	Saint Denis
'5F 08'	Nationality (per ISO 3166-1)	3 bytes	O	3A	FRA
'5F 09'	Gender[c]	1 byte	O	1A	M(M = Male, F=Female, U=Undefined)
'5F 0A'	Date of issue (ddmmyyyy)[d]	4 bytes	M	8N	14052008
'5F 0B'	Date of expiry (ddmmyyyy)[d]	4 bytes	M	8N	14052018
'5F 0C'	Issuing authority	V	M	ANS	Préfecture de police
'5F 0D'	Administrative number	V	O	ANS	123456789B
'5F 0E'	Licence number	V	M	AN	123456789012345
'5F 0F'	Normal place of residence[e]	V	O	ANS	12, ALLEE DE CRAPANNE 13300 SALON DE PROVENCE, FRANCE

a No titles and/or suffixes are included.

b Place of birth is also contained in EF.DG2 but under a different format based on delimiters.

c Gender is also contained in EF.DG2 but as defined in ISO/IEC 5218 (Male = 1, Female = 2).

d **WARNING**: ISO/IEC 18013-2, Annex C uses a different date format: yyyymmdd.

e Normal place of residence is also contained in EF.DG2 but under a different format based on delimiters.

NOTE The coding rules of date code are legislated in EU Commission Regulation EU 383/2012 of 4 May 2012 and differ from ISO/IEC 18013.

5.2.3 Categories of vehicles/restrictions/conditions – Tag = '7F63'

ISO/IEC 18013-2, C.6.2.2 is applicable using date format **ddmmyyyy** for date of issue and Date of expiry.

Only the vehicle category codes specified in Article 4 of Directive 2006/126/EC is used. These EU vehicle categories differ from the ISO/IEC 18013 vehicle categories. Domestic vehicle categories have to be accommodated too in EF.DG11.

5.3 EF.DG5 Data Group 5

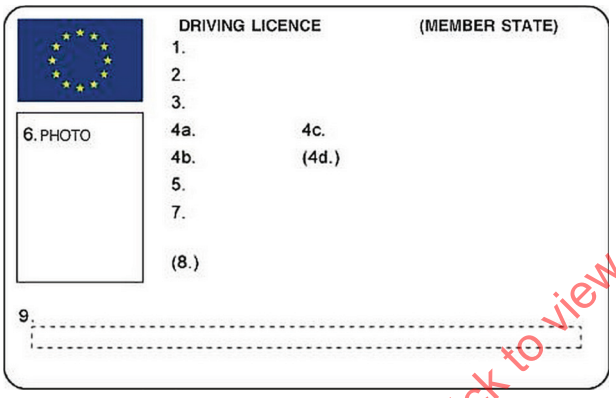
Only **JPEG** or **JPEG2000** format is used.

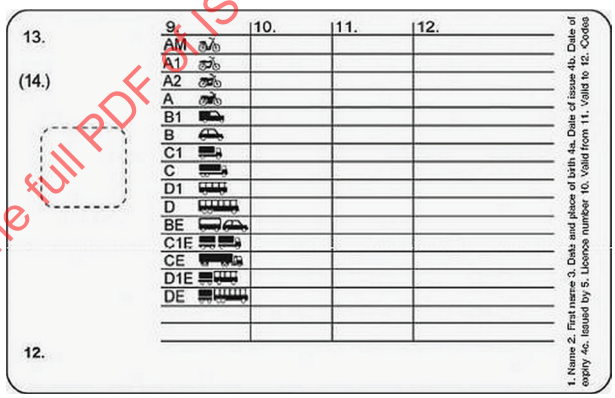
5.4 EF.DG6 Data Group 6

Only **JPEG** or **JPEG2000** format is used.

6 European Union model driving licence

The European driving licence layout is defined in the COMMISSION DIRECTIVE 2011/94/EU of 28 November 2011 amending Directive 2006/126/EC of the European Parliament and of the Council on driving licences.





7 Authenticity verification

All DGs stored in the EU driving licence application is protected with passive authentication as defined in ISO/IEC 18013-3:2009, § 8.1 Passive Authentication.

Active Authentication mechanisms are allowed to be applied to ensure that the original microchip has not been replaced.

8 Access to data group

The Basic Access Protection mechanism (BAP) is applied for all data in the EU driving licence application profile. It is mandatory to use the one-line SAI MRZ, as specified in ISO/IEC 18013-3:2009.

The K_{doc} document key used to access the chip is generated from the one-line SAI MRZ, which can be entered either manually or using an Optical Character Recognition (OCR) reader. The BAP 1 configuration defined for a one-line MRZ is applied.

The Extended Access Control (EAC) as defined in in ISO/IEC 18013-3:2009 is used to protect more sensitive data if necessary.

The European driving licence profile doesn't allow EAP mechanism.

9 Complementary tests methods for European driving licence

9.1 Scope

This paragraph specifies the complementary test methods to ISO/IEC 18013-4 used for conformity testing the European Application profile and determining whether a driving licence can be considered to comply with the requirements of the European Regulation on driving licence in complement to ISO/IEC 18013-4 for:

— machine-readable technologies EU regulation; and

— access control, authentication and integrity validation (ISO/IEC 18013-3).

The test methods specified in this clause are based on EU specifications, ISO/IEC 18013-2 and ISO/IEC 18013-3 and underlying normative specifications.

This Technical Report deals with test methods specific to EU and ISO-compliant driving licence (IDL) requirements. Test methods applicable to (smart) cards in general (e.g. those specified in the ISO/IEC 10373- series) are outside the scope of this Technical Report.

Hence, this clause of the Technical Report concerns:

— EU DL implementers with requirements for conformity evaluation;

— EU DL issuing authorities with requirements for quality assurance;

— Test laboratories and test tool providers with test suite requirements.

To avoid information duplication, this clause refers to ISO/IEC 18013-4 as far as possible.

The test methods defined in this clause are run on one sample at RT and 1,5 A/m(rms) using the nominal values defined below:

Table 5 — Nominal values (1 of 3)

Parameter	Value	To be applied to
Parameters applicable for all bit rates		
Environment temperature	room temperature	Type A and Type B
Relative humidity	25 % to 75 %[a]	Type A and Type B
Start Of Frame timing (SOF)	10 etu “0” followed by 2 etu “1”	Type B
End Of Frame timing (EOF)	10 etu “0”	Type B
Extra Guard Time (EGT)	0 etu	Type B
Parameters applicable for bit rate *fc*/128		
Modulation	100 %	Type A
t_1	40/*fc*	Type A
t_2	7/*fc*	Type A
t_3	12/*fc*	Type A
t_4	6/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	12/*fc*	Type B
Parameters applicable for bt rate *fc*/64		
a	0,1	Type A

Table 5 *(continued)*

Parameter	Value	To be applied to
t_1	18/*fc*	Type A
t_5	15/*fc*	Type A
t_6	9/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	10/*fc*	Type B
Parameters applicable for bit rate *fc*/32		
a	0,2	Type A
t_1	9/*fc*	Type A
t_5	7/*fc*	Type A
t_6	8/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	8/*fc*	Type B

Table 5 — Nominal values (2 of 3)

Parameter	Value	To be applied to
Parameters applicable for bit rate *fc*/16		
a	0,4	Type A
t_1	5/*fc*	Type A
t_5	4/*fc*	Type A
t_6	5/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	6/*fc*	Type B
Parameters applicable for all bit rates		
Environment temperature	room temperature	Type A and Type B
Relative humidity	25 % to 75 %[a]	Type A and Type B
Start Of Frame timing (SOF)	10 etu “0” followed by 2 etu “1”	Type B
End Of Frame timing (EOF)	10 etu “0”	Type B
Extra Guard Time (EGT)	0 etu	Type B
Parameters applicable for bit rate *fc*/128		
Modulation	100 %	Type A
t_1	40/*fc*	Type A
t_2	7/*fc*	Type A
t_3	12/*fc*	Type A
t_4	6/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	12/*fc*	Type B
Parameters applicable for bt rate *fc*/64		

Table 5 *(continued)*

Parameter	Value	To be applied to
a	0,1	Type A
t_1	18/*fc*	Type A
t_5	15/*fc*	Type A
t_6	9/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	10/*fc*	Type B

Table 5 — Nominal values (3 of 3)

Parameter	Value	To be applied to
Parameters applicable for bit rate *fc*/32		
a	0,2	Type A
t_1	9/*fc*	Type A
t_5	7/*fc*	Type A
t_6	8/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	8/*fc*	Type B
Parameters applicable for bit rate *fc*/16		
a	0,4	Type A
t_1	5/*fc*	Type A
t_5	4/*fc*	Type A
t_6	5/*fc*	Type A
Overshoot	0 %	Type A and Type B
Modulation index *m*	12 %	Type B
Rise time t_r, fall time t_f	6/*fc*	Type B
[a] Any convenient relative humidity within the specified range.		

NOTE The laboratory may choose another field value other than 1.5A/m.

The regulation has defined a specific AID for the European driving licence application. In the following clauses, selecting application uses the AID 'A0 00 00 04 56 45 44 4C 2D 30 31' unless described explicitly.

9.2 Test case specification: LDS in SE on SIC

9.2.1 Introduction

Refer to ISO/IEC 18013-4:2011, A.1.

9.2.2 General test requirements

9.2.2.1 Preconditions for testing

Refer to ISO/IEC 18013-4:2011, A.2.1.

9.2.2.2 Test Setup

Refer to ISO/IEC 18013-4:2011, A.2.2.

9.2.2.3 Implementation conformance statement

Refer to ISO/IEC 18013-4:2011, A.2.3 and add in Table A.1 the following profile:

EU	European Union		

Complete Table A.2 with the following information:

Type approval number	Provide the length of Type approval Number

The following additional test cases are dedicated to the EU profile.

9.2.3 Test Layer SE_LDS – Logical Data Structure Tests

9.2.3.1 Test Unit SE_LDS_COM – Tests for EF.COM

The test cases defined in ISO/IEC 18013-4:2011, A.3.1 are executed.

The following test case completes the SE_LDS_COM Test unit:

Test Case-ID	SE_LDS_COM_EU
Purpose	This test checks that mandatory Data Group 5 and 6 are present in EF.COM
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.4.2
Profile	EU
Preconditions	1. EF.COM has been retrieved from the EDL.
Test Scenario	1. Verify if mandatory data groups DG5 and DG6 are present in the Data Group Tag List.
Expected Results	1. The Data Group Tag List contains the tags for the mandatory data groups '67', '75'.

9.2.3.2 Test Unit SE_LDS_DG1 – Tests for EF.DG1

The test unit SE_LDS_DG1 described in ISO/IEC 18013-4 cannot be applied. The DG1 structure defined in the regulation is not compliant with the International Standard.

The following test unit defines new test cases in line with the regulation.

Test Unit ID	SE_LDS_DG1 (Standard Encoding – Data Group 1)
Purpose	The test cases in this test unit verify the structure and contents of the EDL LDS Data Group 1.
References	ISO/IEC 8859-1:1998 ISO 3166-1:2013 COMMISSION REGULATION (EU) No 383/2012 ISO/IEC 18013-2:2008

9.2.3.2.1 Test Case SE_LDS_DG1_EU_001

Test Case-ID	SE_LDS_ DG1_EU_001
Purpose	This test checks the template tag that the encoded EF.DG1 element starts with.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL.
Test Scenario	1. Check the very first byte of the EF.DG1 element.
Expected Results	1. First byte is '61'.

9.2.3.2.2 Test Case SE_LDS_DG1_EU_002

Test Case-ID	SE_LDS_ DG1_EU_002
Purpose	This test checks the encoding of EF.DG1 element length.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL.
Test Scenario	1. Analyze the encoding of the bytes that follow the template tag. 2. Verify the length of the EF.DG1 object.
Expected Results	1. The bytes that follow the template tag contain a valid length encoding (according to ASN.1 encoding rules). 2. The encoded length matches the size of the given EF.DG1 object.

9.2.3.2.3 Test Case SE_LDS_DG1_EU_003

Test Case-ID	SE_LDS_ DG1_EU_003
Purpose	This test checks the encoding of Mandatory Type approval Number (Tag '5F01') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL.
Test Scenario	1. Search for the Type approval Number (Tag '5F 01') inside EF.DG1. 2. Analyse the encoding of the bytes that follow the template tag. 3. Verify the length of the DO with Tag '5F01'.
Expected Results	1. Tag '5F 01' is present. 2. The bytes that follow the Tag '5F01' contains a valid length encoding (according to ASN.1 encoding rules). 3. The encoded length matches the size of the DO with the Tag '5F01'. The Type approval Number is encoded as *L* ANS, *L* is provided by the EDL provider in Table A.2.

9.2.3.2.4 Test Case SE_LDS_DG1_EU_004

Test Case-ID	SE_LDS_ DG1_ EU_004
Purpose	This test checks the encoding of Mandatory Demographic Data (Tag '5F02') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL.
Test Scenario	1. Search for the Mandatory Demographic Data (Tag '5F 02') inside EF.DG1. 2. Analyse the encoding of the bytes. 3. Verify the length of the DO with Tag '5F02'.
Expected Results	1. Tag '5F 02' is present. 2. The bytes that follow the Tag '5F02' contains a valid length encoding (according to ASN.1 encoding rules). 3. The encoded length matches the size of the DO with the Tag '5F02'.

9.2.3.2.5 Test Case SE_LDS_DG1_EU_005

Test Case-ID	SE_LDS_ DG1_EU_005
Purpose	This test checks the encoding of the Mandatory Issuing Member State (Tag '5F03') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1.
Test Scenario	1. Search the encoding of the Mandatory Issuing Member State (Tag '5F 03') in the constructed data object of demographic data elements. 2. Check the Issuing Member State field length. 3. Check the Issuing Member State format. 4. Check that the Issuing Member State element is valid.
Expected Results	1. Tag '5F03' is present. 2. The Issuing Member State field is encoded on the 3 bytes. 3. The Issuing Member State is encoded in Alpha characters only. 4. The Issuing Member State is a valid value as defined in the regulation.

9.2.3.2.6 Test Case SE_LDS_DG1_EU_006

Test Case-ID	SE_LDS_ DG1_EU_006
Purpose	This test checks the encoding of the Mandatory Surname(s) of the holder (Tag '5F04') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1.
Test Scenario	1. Search for the encoding of the Surnames(s) of the holder (Tag '5F 04') in the constructed data object of demographic data elements. 2. Check the Surname(s) of the holder field length. 3. Check the Surname(s) of the holder format.
Expected Results	1. Tag '5F04' is present. 2. The encoded length matches the size of the DO with the Tag '5F04'. 3. Surname(s) of the holder do not contain numeric characters.

9.2.3.2.7 Test Case SE_LDS_DG1_EU_007

Test Case-ID	SE_LDS_ DG1_EU_007
Purpose	This test checks the encoding of the Mandatory Other name(s) of the holder (Tag '5F05') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1.
Test Scenario	1. Search the encoding of the Other name(s) of the holder (Tag '5F 05') in the constructed data object of demographic data elements. 2. Check the Other name(s) of the holder field length. 3. Check the Other name(s) of the holder format.
Expected Results	1. Tag '5F05' is present. 2. The encoded length matches the size of the DO with the Tag '5F05'. 3. The Other name(s) of the holder do not contain numeric characters.

9.2.3.2.8 Test Case SE_LDS_DG1_EU_008

Test Case-ID	SE_LDS_ DG1_EU_008
Purpose	This test checks the encoding of the Mandatory Date of Birth (Tag '5F06') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1.
Test Scenario	1. Search the encoding of the Date of Birth (Tag '5F 06') in the constructed data object of demographic data elements. 2. Check the Date of Birth field length. 3. Check the Date of Birth format. 4. Check that the Date of Birth element contains a valid date.
Expected Results	1. Tag '5F06' is present. 2. The length is 04h. 3. Date of Birth is encoded in DDMMYYYY BCD format. 4. The Date of Birth should be reasonable. It specifies an existing day. 5. The Date of Birth should be reasonable. It should be a date in the past.

9.2.3.2.9 Test Case SE_LDS_DG1_EU_009

Test Case-ID	SE_LDS_ DG1_EU_009
Purpose	This test checks the encoding of the Mandatory Place of Birth (Tag '5F07') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1.
Test Scenario	1. Search the encoding of the Place of Birth (Tag '5F 07') in the constructed data object of demographic data elements. 2. Check the length of the Place of Birth. 3. Check the length and format of the Place of Birth.
Expected Results	1. Tag '5F07' is present. 2. The encoded length matches the size of the DO with the Tag '5F07'. 3. The Place of Birth field is encoded as ANS.

9.2.3.2.10 Test Case SE_LDS_DG1_EU_010

Test Case-ID	SE_LDS_ DG1_EU_010
Purpose	This test checks the encoding of the Nationality (Tag '5F08') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search the encoding of the Nationality (Tag '5F 08') in the constructed data object of demographic data elements. 2. Check the Nationality field length. 3. Check the Nationality format. 4. Check that the Nationality element is valid.
Expected Results	1. Tag '5F08' may be present. 2. The Nationality field is encoded on the 3 bytes. 3. The Nationality is encoded in Alpha characters only. 4. The Nationality is a valid value as defined in ISO 3166-1.

9.2.3.2.11 Test Case SE_LDS_DG1_EU_011

Test Case-ID	SE_LDS_ DG1_EU_011
Purpose	This test checks the encoding of the Gender (Tag '5F09') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1.
Test Scenario	1. Search the encoding of the Gender (Tag '5F 09') in the constructed data object of demographic data elements. 2. Check the Gender field length. 3. Check the Gender format.
Expected Results	1. Tag '5F09' may be present. 2. The Gender field is encoded on 1 byte. 3. The Gender format is encoded with the letter M for Male / F for Female and U for Not Applicable.

9.2.3.2.12 Test Case SE_LDS_DG1_EU_012

Test Case-ID	SE_LDS_ DG1_EU_012
Purpose	This test checks the encoding of the Mandatory Date of Issue of the licence (Tag '5F0A') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search the encoding of the Date of Issue of the licence (Tag '5F 0A') in the constructed data object of demographic data elements. 2. Check the Date of Issue of the licence field length. 3. Check the Date of Issue of the licence format. 4. Check that Date of Issue of the licence element contains a valid date.
Expected Results	1. Tag '5F0A' is present. 2. The Date of Issue of the licence field is encoded on the 4 bytes. 3. Date of Issue of the licence is encoded in DDMMYYYY format. 4. The Date of Issue of the licence should be reasonable. It specifies an existing day. 5. Date of Issue of the licence should be reasonable. It is either the current date or a date in the past.

9.2.3.2.13 Test Case SE_LDS_DG1_EU_013

Test Case-ID	SE_LDS_ DG1_ EU_013
Purpose	This test checks the encoding of the Mandatory Date of Expiry of the licence (Tag '5F0B') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search the encoding of the Date of Expiry of the licence (Tag '5F 0B') in the constructed data object of demographic data elements. 2. Check the Date of Expiry of the licence field length. 3. Check the Date of Expiry of the licence format. 4. Check that the Date of Expiry of the licence element contains a valid date.
Expected Results	1. Tag '5F0B' is present. 2. The Date Of Expiry of the licence field is encoded on the 4 bytes. 3. Date of Expiry of the licence is encoded in DDMMYYYY format. 4. The Date of Expiry of the licence should be reasonable. It specifies an existing day. 5. The Date of Expiry of the licence should be reasonable. It specifies a date after the Date of Issue.

9.2.3.2.14 Test Case SE_LDS_DG1_EU_014

Test Case-ID	SE_LDS_ DG1_EU_014
Purpose	This test checks the encoding of the Mandatory Issuing Authority (Tag '5F0C') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search the encoding of the Issuing Authority (Tag '5F 0C') in the constructed data object of demographic data elements. 2. Check the Issuing Authority field length. 3. Check the Issuing Authority format.
Expected Results	1. Tag '5F0C' is present. 2. The encoded length matches the size of the DO with the Tag '5F0C'. 3. The Issuing Authority field is encoded as ANS.

9.2.3.2.15 Test Case SE_LDS_DG1_EU_015

Test Case-ID	SE_LDS_ DG1_EU_015
Purpose	This test checks the encoding of the Administrative Number (Tag '5F0D') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search the encoding of the Administrative Number (Tag '5F 0D') in the constructed data object of demographic data elements. 2. Check the Administrative Number field length. 3. Check the Administrative Number format.
Expected Results	1. Tag '5F0D' may be present. 2. The encoded length matches the size of the DO with the Tag '5F0D'. 3. The Administrative Number field is encoded as ANS.

9.2.3.2.16 Test Case SE_LDS_DG1_EU_016

Test Case-ID	SE_LDS_ DG1_EU_016
Purpose	This test checks the encoding of the Mandatory Document Number (Tag '5F0E') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search the encoding of the Document Number (Tag '5F 0E') in the constructed data object of demographic data elements. 2. Check the Document Number field length. 3. Check the Document Number format.
Expected Results	1. Tag '5F0E' is present. 2. The encoded length matches the size of the DO with the Tag '5F0E'. 3. Document Number is coded on Alpha and Numeric characters only.

9.2.3.2.17 Test Case SE_LDS_DG1_EU_017

Test Case-ID	SE_LDS_ DG1_EU_017
Purpose	This test checks the encoding of the Permanent place of Residence (Tag '5F0F') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL 2. The constructed data object of demographic data elements has been retrieved from EF.DG1
Test Scenario	1. Search for the Permanent place Of Residence (Tag '5F 0F') in the constructed data object of demographic data elements. 2. Check the length of the DO with Tag '5F 0F''. 3. Check the length and format of the DO with Tag '5F 0F'. 4. Check the value of Permanent place of Residence.
Expected Results	1. Tag '5F 0F' may be present. 2. The length has a value in the range '00'h .. '71'h. 3. The Permanent place of Residence field is encoded as ANS.

9.2.3.2.18 Test Case SE_LDS_DG1_EU_018

Test Case-ID	SE_LDS_ DG1_EU_018
Purpose	This test checks the encoding of Categories of Vehicles/Restrictions/Conditions (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL
Test Scenario	1. Search for the Categories of Vehicles/Restrictions/Conditions (Tag '7F 63') inside EF.DG1. 2. Analyse the encoding of the bytes that follow the template tag. 3. Verify the length of the DO with Tag '7F 63'.
Expected Results	1. Tag '7F 63' is present. 2. The bytes that follow the Tag '7F63' contains a valid length encoding (according to ASN.1 encoding rules). 3. The encoded length matches the size of the DO with the Tag '7F63'.

9.2.3.2.19 Test Case SE_LDS_DG1_EU_019

Test Case-ID	SE_LDS_ DG1_EU_019
Purpose	This test checks the "Number of Entries" DO in the "Categories of Vehicles/Restrictions/Conditions" DO (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	1. Search for the Number of Entries (Tag '02') inside Categories of Vehicles/Restrictions/Conditions object. 2. Analyse the encoding of the length of the Number of Entries DO coded with tag '02'. 3. Check the value encoded in the Number of Entries DO.
Expected Results	1. Tag '02' is present. 2. The length encoded in the Number of Entries DO is '01'h. 3. The Number of Entries matches the number of occurrences of tag '87' in the Categories of Vehicles/Restrictions/Conditions object.

9.2.3.2.20 Test Case SE_LDS_DG1_EU_020

Test Case-ID	SE_LDS_ DG1_EU_020
Purpose	This test checks the length of each "Category of Vehicle/Restriction/Condition" entry in the "Categories of Vehicles/Restrictions/Conditions" DO (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the "Category of Vehicle/Restriction/Condition" entries: 1. Analyse the encoding of the bytes that follow the tag '87'. 2. Verify the length of the DO with Tag '87'. 3. Check the number of sub fields in the value of the DO with Tag '87'.
Expected Results	1. The bytes that follow the Tag '87' contain a valid length encoding (according to ASN.1 encoding rules). 2. The encoded length matches the size of the DO with the Tag '87'. 3. The value of the DO with Tag '87' contains 6 sub-fields, separated by a sub-field delimiter ";"

9.2.3.2.21 Test Case SE_LDS_DG1_EU_021

Test Case-ID	SE_LDS_ DG1_EU_021
Purpose	This test checks the Vehicle Category Code of each "Category of Vehicle/Restriction/Condition" entry in the "Categories of Vehicles/Restrictions/Conditions" DO (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the "Category of Vehicle/Restriction/Condition" entries: 1. Check the format of the Vehicle Category Code (sub-field #1).
Expected Results	1. The Vehicle Category Code matches a value specified in Article 4 of Directive 2006/126/EC. Values of vehicle categories are also valid values.

9.2.3.2.22 Test Case SE_LDS_DG1_EU_022

Test Case-ID	SE_LDS_ DG1_EU_022
Purpose	This test checks the Date of Issue (if present) of each "Category of Vehicle/Restriction/Condition" entry in the "Categories of Vehicles/Restrictions/Conditions" DO (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the "Category of Vehicle/Restriction/Condition" entries: 1. Check the length of the Date of Issue (sub-field #2). 2. Check the format of the Date of Issue. 3. Check that the Date of Issue field contains a valid date.
Expected Results	1. The Date of Issue has a length of 4 bytes. 2. Date of Issue is encoded in DDMMYYYY BCD format. 3. The Date of Issue should be reasonable. It specifies an existing date.

9.2.3.2.23 Test Case SE_LDS_DG1_EU_023

Test Case-ID	SE_LDS_ DG1_EU_023
Purpose	This test checks the Date of Expiry (if present) of each "Category of Vehicle/Restriction/Condition" entry in the "Categories of Vehicles/Restrictions/Conditions" DO (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the "Category of Vehicle/Restriction/Condition" entries: 1. Check the length of the Date of Expiry (sub-field #3). 2. Check the format of the Date of Expiry. 3. Check that the Date of Expiry field contains a valid date.
Expected Results	1. The Date of Expiry has a length of 4 bytes. 2. Date of Expiry is encoded in DDMMYYYY BCD format. 3. The Date of Expiry should be reasonable. It specifies an existing date.

9.2.3.2.24 Test Case SE_LDS_DG1_EU_024

Test Case-ID	SE_LDS_ DG1_EU_024
Purpose	This test checks the Code (if present) of each "Category of Vehicle/Restriction/Condition" entry in the "Categories of Vehicles/Restrictions/Conditions" DO (Tag '7F63') in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1 ISO/IEC 18013-2, A.5.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the "Category of Vehicle/Restriction/Condition" entries: 1. Check the format of the Code (sub-field #4). 2. Check the value of the Code.
Expected Results	1. Code is encoded in ANS characters. 2. The value of the Code is one of the item 12 of the harmonised data elements in Annex I of Directive 2006/126/EC.

9.2.3.2.25 Test Case SE_LDS_DG1_EU_025

Test Case-ID	SE_LDS_ DG1_EU_025
Purpose	This test checks the Sign (if present) of each “Category of Vehicle/Restriction/Condition” entry in the “Categories of Vehicles/Restrictions/Conditions” DO (Tag ‘7F63’) in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the “Category of Vehicle/Restriction/Condition” entries: 1. Check the format of the Sign (sub-field #5). 2. Check the value of the Sign. 3. Check the Sign only occurs in combination with an applicable Code. 4. Check the Sign only occurs in combination with a Value field.
Expected Results	1. Sign is encoded in a Special characters. 2. The value of the Sign is one of the values specified in ISO/IEC 18013-2:2008, A.5.1 (i.e. “<”,”=”,”>”,”<=”,”=<”,”<>”,”><”,”>=”,”=>”,”==”). 3. The sign is used in combination of applicable code (Valid values up to code 100 must be specified). No combination of valid values for domestic codes above 100 can be tested in an automated manner. 4. The Value field is not empty.

9.2.3.2.26 Test Case SE_LDS_DG1_EU_026

Test Case-ID	SE_LDS_ DG1_EU_026
Purpose	This test checks the Value (if present) of each “Category of Vehicle/Restriction/Condition” entry in the “Categories of Vehicles/Restrictions/Conditions” DO (Tag ‘7F63’) in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL. 2. The Categories of Vehicles/Restrictions/Conditions object has been retrieved from EF.DG1.
Test Scenario	Perform the following checks for each of the “Category of Vehicle/Restriction/Condition” entries: 1. Check the format of the Value. 2. Check the Value only occurs in combination with a Code. 3. Check the Value only occurs in combination with a Sign.
Expected Results	1. The Value field is encoded in ANS format. 2. The Code field is not empty. 3. The Sign field is not empty.

9.2.3.2.27 Test Case SE_LDS_DG1_EU_027

Test Case-ID	SE_LDS_ DG1_EU_027
Purpose	This test verifies the no presence of Tag ‘5F1F’ in EF.DG1.
Version	2.0
References	COMMISSION REGULATION (EU) No 383/2012, Annex I.6.1.
Profile	EU
Preconditions	1. EF.DG1 has been retrieved from the EDL
Test Scenario	1. Search for the Tag ‘5F 1F’ inside EF.DG1.
Expected Results	1. Tag ‘5F 1F’ is not present.