Certification Report

IDeal Drive DT V3.0 (Applet code version 416304)

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Certificate

Standard

Common Criteria for Information Technology Security Evaluation (CC), Version 3.1 Revision 5 (ISO/IEC 15408)

Certificate number **CC-20-200716**

TÜV Rheinland Nederland B.V. certifies:

Certificate holder and developer

IDEMIA

2 Place Samuel de Champlain, 92400 Courbevoie, France

Product and assurance level

IDeal Drive DT V3.0 (Applet code version 416304)

Assurance Package:

- EAL4 augmented with ALC_DVS.2, ATE_DPT.2 and AVA_VAN.5

Protection Profile Conformance:

- Digital Tachograph – Tachograph Card, registered under the reference BSI-CC-PP-0070, Version 1.02, 15 November 2011
- Digital Tachograph – Tachograph Card, registered under the reference BSI-CC-PP-0091b, Version 1.0, 9 May 2017

Project number **200716**

Evaluation facility

Brightsight BV located in Delft, the Netherlands

Applying the Common Methodology for Information Technology Security Evaluation (CEM), Version 3.1 Revision 5 (ISO/IEC 18045)

The IT product identified in this certificate has been evaluated at an accredited and licensed/approved evaluation facility using the Common Methodology for IT Security Evaluation version 3.1 Revision 5 for conformance to the Common Criteria for IT Security Evaluation version 3.1 Revision 5. This certificate applies only to the specific version and release of the product in its evaluated configuration and in conjunction with the complete certification report. The evaluation has been conducted in accordance with the provisions of the Netherlands scheme for certification in the area of IT security [NSCIB] and the conclusions of the evaluation facility in the evaluation technical report are consistent with the evidence adduced. This certificate is not an endorsement of the IT product by TÜV Rheinland Nederland B.V. or by other organisation that recognises or gives effect to this certificate, and no warranty of the IT product by TÜV Rheinland Nederland B.V. or by any other organisation that recognises or gives effect to this certificate, is either expressed or implied.

Common Criteria Recognition Arrangement for components up to EAL2

SOGIS Mutual Recognition Agreement for components up to EAL7

Validity

Date of 1st issue : **11-01-2019**

Date of 2nd issue : **08-01-2020**

Certificate expiry : **11-01-2024**

PRODUCTS
RvA C078
Accredited by the Dutch Council for Accreditation

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Foreword

The Netherlands Scheme for Certification in the Area of IT Security (NSCIB) provides a third-party evaluation and certification service for determining the trustworthiness of Information Technology (IT) security products. Under this NSCIB, TÜV Rheinland Nederland B.V. has the task of issuing certificates for IT security products, as well as for protection profiles and sites.

Part of the procedure is the technical examination (evaluation) of the product, protection profile or site according to the Common Criteria assessment guidelines published by the NSCIB. Evaluations are performed by an IT Security Evaluation Facility (ITSEF) under the oversight of the NSCIB Certification Body, which is operated by TÜV Rheinland Nederland B.V. in cooperation with the Ministry of the Interior and Kingdom Relations.

An ITSEF in the Netherlands is a commercial facility that has been licensed by TÜV Rheinland Nederland B.V. to perform Common Criteria evaluations; a significant requirement for such a license is accreditation to the requirements of ISO Standard 17025 “General requirements for the accreditation of calibration and testing laboratories”.

By awarding a Common Criteria certificate, TÜV Rheinland Nederland B.V. asserts that the product or site complies with the security requirements specified in the associated (site) security target, or that the protection profile (PP) complies with the requirements for PP evaluation specified in the Common Criteria for Information Security Evaluation. A (site) security target is a requirements specification document that defines the scope of the evaluation activities.

The consumer should review the (site) security target or protection profile, in addition to this certification report, in order to gain an understanding of any assumptions made during the evaluation, the IT product's intended environment, its security requirements, and the level of confidence (i.e., the evaluation assurance level) that the product or site satisfies the security requirements stated in the (site) security target.

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Recognition of the certificate

Presence of the Common Criteria Recognition Arrangement and SOG-IS logos on the certificate indicates that this certificate is issued in accordance with the provisions of the CCRA and the SOG-IS agreement and will be recognised by the participating nations.

International recognition

The CCRA has been signed by the Netherlands in May 2000 and provides mutual recognition of certificates based on the CC. Starting September 2014 the CCRA has been updated to provide mutual recognition of certificates based on cPPs (exact use) or STs with evaluation assurance components up to and including EAL2+ALC_FLR. The current list of signatory nations and approved certification schemes can be found on: http://www.commoncriteriaportal.org.

European recognition

The European SOGIS-Mutual Recognition Agreement (SOGIS-MRA) version 3 effective from April 2010 provides mutual recognition of Common Criteria and ITSEC certificates at a basic evaluation level for all products. A higher recognition level for evaluation levels beyond EAL4 (resp. E3-basic) is provided for products related to specific technical domains. This agreement was initially signed by Finland, France, Germany, The Netherlands, Norway, Spain, Sweden and the United Kingdom. Italy joined the SOGIS-MRA in December 2010. The current list of signatory nations, approved certification schemes and the list of technical domains for which the higher recognition applies can be found on: http://www.sogisportal.eu.

eIDAS-Regulation

TÜV Rheinland Nederland BV, operating the Netherlands Scheme for Certification in the Area of IT Security (NSCIB), has been notified as a Designated Certification Body from The Netherlands under Article 30(2) and 39(2) of Regulation 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 July 2014.

1 Executive Summary

This Certification Report states the outcome of the Common Criteria security evaluation of the IDeal Drive DT V3.0 (Applet code version 416304). The developer of the IDeal Drive DT V3.0 (Applet code version 416304) is Idemia located in Courbevoie, France and they also act as the sponsor of the evaluation and certification. A Certification Report is intended to assist prospective consumers when judging the suitability of the IT security properties of the product for their particular requirements.

The TOE is the IDeal Drive DT v3.0, a Digital Tachograph second generation card compliant to the European Union regulation 2014/165 and its Commission implementation [EU – 2016/799] amended by [EU – 2018/502].

The TOE can be used in a recording equipment (or Vehicle Unit) of both Generation 1 as well as Generation 2. The TOE supports a single Tachograph Applet that provides both Generation 1 and Generation 2 functionalities with two configurations:

1. Configuration 1: Supporting Generation 1 only functionalities (compliant to [PP-GEN1]).
2. Configuration 2: Supporting both Generation 1 and Generation 2 functionalities (compliant to [PP-GEN2]).

The TOE can be configured during personalization phase to operate as Driver Card, Company Card, Workshop Card or Controller Card.

The TOE has been originally evaluated by Brightsight B.V. located in Delft, The Netherlands and was certified on 11 January 2019 and maintenance activities performed 21 May 2019 and 26 November 2019. This re-evaluation also took place by Brightsight B.V. and was completed on 17 December 2019 with the approval of the ETR. The re-certification procedure has been conducted in accordance with the provisions of the Netherlands Scheme for Certification in the Area of IT Security *[NSCIB]*.

Note that this second issue of the certification report is a result of recertification to add a new configuration for Tachograph Generation 1 claiming conformance to [PP-GEN1].

The scope of the evaluation is defined by the security target *[ST]*, which identifies assumptions made during the evaluation, the intended environment for the IDeal Drive DT V3.0 (Applet code version 416304), the security requirements, and the level of confidence (evaluation assurance level) at which the product is intended to satisfy the security requirements. Consumers of the IDeal Drive DT V3.0 (Applet code version 416304) are advised to verify that their own environment is consistent with the security target, and to give due consideration to the comments, observations and recommendations in this certification report.

The results documented in the evaluation technical report *[ETR]*[1]for this product provides sufficient evidence that the TOE meets the EAL4 augmented (EAL4(+)) assurance requirements for the evaluated security functionality. This assurance level is augmented with ALC_DVS.2 (Sufficiency of security measures) ATE_DPT.2 (Testing security enforcing modules) and AVA_VAN.5 (Advanced methodical vulnerability analysis).

The evaluation was conducted using the Common Methodology for Information Technology Security Evaluation, Version 3.1 Revision 5 *[CEM],* for conformance to the Common Criteria for Information Technology Security Evaluation, version 3.1 Revision 5 *[CC]*.

TÜV Rheinland Nederland B.V., as the NSCIB Certification Body, declares that the evaluation meets all the conditions for international recognition of Common Criteria Certificates and that the product will be listed on the NSCIB Certified Products list. It should be noted that the certification results only apply to the specific version of the product as evaluated.

[1] The Evaluation Technical Report contains information proprietary to the developer and/or the evaluator, and is not releasable for public review.

2 Certification Results

2.1 Identification of Target of Evaluation

The Target of Evaluation (TOE) for this evaluation is the IDeal Drive DT V3.0 (Applet code version 416304) from Idemia located in Courbevoie, France.

The TOE is comprised of the following main components:

Delivery item type	Identifier	Version
Hardware	Infineon security controller	IFX_CCI_000005 IFX_CCI_000008 IFX_CCI_000014
	Software Library - HSL	V01.22.4346-SLCx2_C65.lib
	Software Library - MCS (Mifare lib)	V02.03.3446
	Java Card Platform - ID-ONE COSMO V9 ESSENTIAL	SAAAAR 089233
Software	IDeal Drive DT v3.0	SAAAAR 416304

To ensure secure usage a set of guidance documents is provided together with the IDeal Drive DT V3.0 (Applet code version 416304). Details can be found in section “Documentation” of this report.

For a detailed and precise description of the TOE lifecycle refer to the *[ST-Lite]*, chapter 4.

2.2 Security Policy

IDeal Drive DT V3.0 is a contact Tachograph card that implements the EU directive [EU-TACH], which comprises the following main functions:

- Store card and cardholder identification data. This data is used by the Vehicle Unit to identify the cardholder, provide services and data access rights accordingly, and ensure cardholder accountability for his activities.
- Store cardholder activities data, events and faults, and control activities data.

IDeal Drive DT V3.0 supports the configuration to the following Tachograph card types: Driver card, Workshop card, Control card and Company card.

The main security features of the TOE are the following:

- Prevent and detect unauthorised data access or manipulation.
- Enforce integrity and authenticity of the data exchanged with the recording equipment.

2.3 Assumptions and Clarification of Scope

2.3.1 Assumptions

The assumptions defined in the Security Target are not covered by the TOE itself. These aspects lead to specific Security Objectives to be fulfilled by the TOE-Environment. Detailed information on these security objectives that must be fulfilled by the TOE environment can be found in section 6.5 of the *[ST-Lite]*.

2.3.2 Clarification of scope

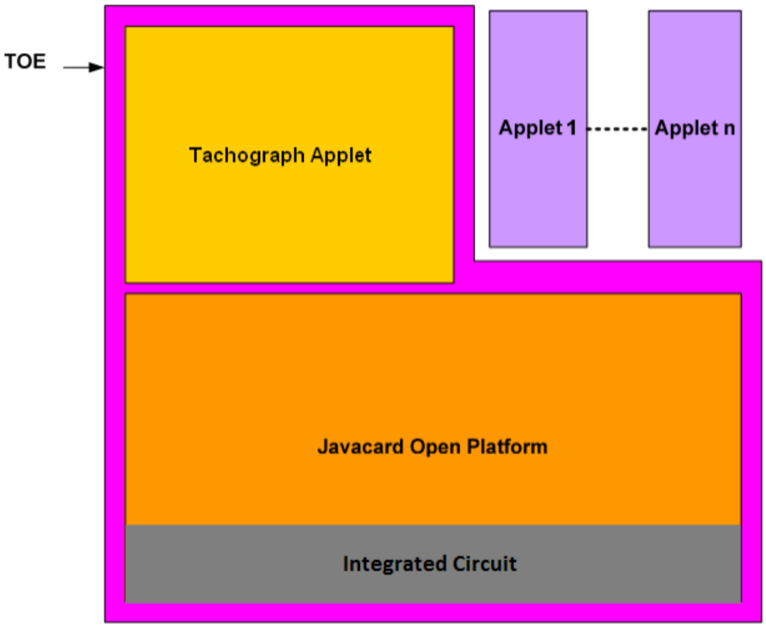
The evaluation did not reveal any threats to the TOE that are not countered by the evaluated security functions of the product.

Refer to the certification report NSCIB-CC-200833-CR for clarification of the scope of the evaluation of the underlying Java Card platform.

2.4 Architectural Information

The TOE is an Integrated Circuit and its embedded software, composed of the Tachograph Java Card applet on top of a Java Card Open Platform ID-One Cosmo v9.0 Essential. The “Tachograph Applet” is a Java Card package implementing the Tachograph functionality, which is composed of three subsystems: a tachograph personalisation applet that is deleted after personalisation and before entering the usage phase, and the tachograph applet for the usage phase and a supporting library used by these two applets.

The scope of the TOE is as follows:



2.5 Documentation

The following documentation is provided with the product by the developer to the customer:

Identifier	Version
[AGD_OPE] IDeal Drive DT v3.0 AGD_OPE	FQR 401 7909 Ed 4
[AGD_PRE] IDeal Drive DT v3.0 AGD_PRE	FQR 401 7997 Ed 7
[AGD_OPE_JOP] ID-One COSMO V9 Essential Reference Guide	FQR 110 8823, Ed5, 22/10/2018
[AGD_PRE_JOP] ID-One COSMO V9 Essential Pre-Perso Guide	FQR 110 8797, Ed5, 22/10/2018
[LOAD_GUIDE] ID-One COSMO V9 Essential Application Loading Protection Guidance	FQR 110 8798, Ed1, 24/05/2018
[PLT_API] Java Card API on ID-One Cosmo V9 platform	FQR 110 8827, Ed1, 23/04/2018

[SEC_ACCPT] Secure acceptance and delivery of sensitive elements	FQR 110 8921, Ed1, 24/09/2018
[SEC_REC] Applet Security Recommendations	FQR 110 8794, Ed4, 29/10/2018

2.6 IT Product Testing

Testing (depth, coverage, functional tests, independent testing): The evaluators examined the developer's testing activities documentation and verified that the developer has met their testing responsibilities.

2.6.1 Testing approach and depth

The developer has performed extensive testing of TSFIs for Generation 1 and Generation 2 functionalities for all the tachograph types (Driver, Workshop, Control and Company) which covers the expected behaviour defined in [EU – 2016/799]. All the APDU commands have been tested for positive/negative cases. The developer has also performed unit testing of the modules' interfaces. The interaction between the TOE's subsystems has been tested using these two sets of tests. The security mechanisms which could not be tested at the interfaces have been verified through code review.

The evaluator has repeated part of the developer tests by witnessing on site, and defined a set of complementary tests of TOE identification, hidden commands, specific access conditions and control flow.

2.6.2 Independent Penetration Testing

The independent penetration test plan has been designed based on the evaluator's white box vulnerability analysis, in compliance with the attack methodology [JIL-AM] for products claiming resistance to attackers with high attack potential (AVA_VAN.5) and the composite evaluation methodology [JIL-COMP].

The vulnerability analysis has followed the two main steps of the method described in [AIS34]:

- Examine sources publicly available.
- Conduct a methodical analysis of TOE evidence including the platform ETR for composition [PL-ETRfC] and the implementation representation.

The vulnerability analysis gave rise to one side-channel penetration test.

2.6.3 Test Configuration

Developer's testing has been performed on the originally certified version of the TOE, namely applet version 41630 on Java Card platform version 089233.

Evaluator's independent and penetration testing has been performed on applet version 416303 on Java Card platform version 089232. The evaluator has analysed the differences between platform versions 089232 and 089233 and concluded that the results are valid for 089233 since the modifications do not impact the security or the behaviour of the TOE.

After the original evaluation of applet version 416303 the assurance maintenance activity NSCIB-CC-200716-MA was performed on the updated TOE applet code version 416304. During that maintenance activity the evaluators analysed the changes in the applet code and concluded they were functional with no impact in the TOE security. As a result, the penetration testing previously performed for applet code version 416303 was considered to still be valid for the applet code version 416304.

2.6.4 Testing Results

The testing activities, including configurations, procedures, test cases, expected results and observed results are summarised in the *[ETR]*, with references to the documents containing the full details.

The developer's tests and the independent functional tests produced the expected results, giving assurance that the TOE behaves as specified in its *[ST]* and functional specification.

No exploitable vulnerabilities were found with the independent penetration tests. No residual vulnerabilities were found.

The algorithmic security level of cryptographic functionality has not been rated in this certification process, but the current consensus on the algorithmic security level in the open domain, i.e. from the current best cryptanalytic attacks published, has been taken into account. The strength of the implementation of the cryptographic functionality has been assessed as part of the evaluation of the underlying Java Card Platform - ID-ONE COSMO V9 ESSENTIAL.

Not all key sizes specified in the *[ST]* have sufficient cryptographic strength for satisfying the AVA_VAN.5 "high attack potential". The TOE uses cryptographic primitives with security level lower than 100 bits, namely two-key TDES, 1024-bit RSA and SHA-1. The usage of such cryptographic primitives is required by the EU regulation [EU-TACH] for backward compatibility with 1st Generation tachograph cards. This is compliant with NSCIB Scheme Interpretation [NSI_08] since the TOE does not support composition on top of it.

The TOE supports a wider range of key sizes (see [ST]), including those with sufficient algorithmic security level to exceed 100 bits as required for high attack potential (AVA_VAN.5).

2.7 Re-used evaluation results

This is a re-certification. Documentary evaluation results of the earlier version of the TOE have been re-used, including vulnerability analysis and penetration testing, which has not been renewed.

There has been extensive re-use of the ALC aspects for the sites involved in the development and production of the TOE, by use of site certificates and Site Technical Audit Re-use report approaches.

The sites involved in the development and production of the IC were re-used by composition through the Java Card platform certificate [PL-CERT].

No sites have been visited as part of this evaluation.

2.8 Evaluated Configuration

The TOE is defined uniquely by its name and version number IDeal Drive DT V3.0 (Applet code version **416304)**, which refers to the hardware and software components identified in section 2.1.

2.9 Results of the Evaluation

The evaluation lab documented their evaluation results in the *[ETR]*[2] and which references a ASE Intermediate Report and other evaluator documents. The verdict of each claimed assurance requirement is "**Pass**".

Based on the above evaluation results the evaluation lab concluded the IDeal Drive DT V3.0 (Applet code version 416304), to be **CC Part 2 extended, CC Part 3 conformant**, and to meet the requirements of **EAL 4 augmented with ALC_DVS.2, ATE_DPT.2 and AVA_VAN.5**. This implies that the product satisfies the security requirements specified in Security Target *[ST]*.

The Security Target claims 'strict' conformance to the Protection Profiles *[PP-GEN1]* and *[PP-GEN2]*.

2.10 Comments/Recommendations

The user guidance as outlined in section 2.5 contains necessary information about the usage of the TOE. Certain aspects of the TOE's security functionality, in particular the countermeasures against attacks, depend on accurate conformance to the user guidance of both the software and the hardware part of the TOE. There are no particular obligations or recommendations for the user apart from following the user guidance. Please note that the documents contain relevant details with respect to the resistance against certain attacks.

In addition all aspects of assumptions, threats and policies as outlined in the Security Target not covered by the TOE itself need to be fulfilled by the operational environment of the TOE.

The customer or user of the product shall consider the results of the certification within his system risk management process. In order for the evolution of attack methods and techniques to be covered, he should define the period of time until a re-assessment for the TOE is required and thus requested from the sponsor of the certificate.

The strength of the cryptographic algorithms and protocols was not rated in the course of this evaluation. This specifically applies to the following proprietary or non-standard algorithms, protocols and implementations: none.

Not all key sizes specified in the *[ST]* have sufficient cryptographic strength for satisfying the AVA_VAN.5 “high attack potential”. In order to be protected against attackers with a "high attack potential", appropriate cryptographic algorithms with sufficiently large cryptographic key sizes shall be used (references can be found in national and international documents and standards).

3 Security Target

The Security Target of IDeal Drive DT v3.0, Reference: FQR 401 7925 Ed 8 – ST, 12 November 2019 *[ST]* is included here by reference.

Please note that for the need of publication a public version *[ST-lite]* has been created and verified according to *[ST-SAN]*.

4 Definitions

This list of Acronyms and the glossary of terms contains elements that are not already defined by the CC or CEM:

DES	Data Encryption Standard
IC	Integrated Circuit
JIL	Joint Interpretation Library
NSCIB	Netherlands Scheme for Certification in the area of IT security
PP	Protection Profile
RSA	Rivest-Shamir-Adleman Algorithm
SHA	Secure Hash Algorithm
TOE	Target of Evaluation

5 Bibliography

This section lists all referenced documentation used as source material in the compilation of this report:

[AIS34] Evaluation Methodology for CC Assurance Classes for EAL5+ and EAL6, version 3, 03.09.2009, Bundesamt für Sicherheit in der Informationstechnik.

[CC] Common Criteria for Information Technology Security Evaluation, Parts I, II and III, Version 3.1 Revision 5, April 2017.

[CEM] Common Methodology for Information Technology Security Evaluation, Version 3.1 Revision 5, April 2017.

[ETR] Evaluation Technical Report IDeal Drive DT V3.0 (Applet code version 416304), 19-RPT-669, Version 11.0, 16 December 2019.

[EU-TACH] [EU – 2016/799] Commission Implementing Regulation (EU) 2016/799 of 18 March 2016 implementing Regulation (EU) 165/2014 of the European Parliament and of the Council laying down the requirements for the construction, testing, installation, operation and repair of tachographs and their components.
[EU – 2018/502] Commission Implementing Regulation (EU) 2018/502 of 28 February 2018 amending Implementing Regulation (EU) 2016/799 laying down the requirements for the construction, testing, installation, operation and repair of tachographs and their components.
[EU – 1360/2002] Commission Regulation (EC) No. 1360/2002 ‘Requirements for construction, testing, installation and inspection’, 05.08.2002, Annex 1B, and last amended by CR (EC) No. 432/2004 and corrigendum dated as of 13.03.2004.

[JIL-AM] Attack Methods for Smartcards and Similar Devices, Version 2.3, April 2019 (controlled distribution).

[JIL-COMP] Composite product evaluation for Smart Cards and similar devices, Version 1.5.1, Joint Interpretation Library, May 2018.

[NSCIB] Netherlands Scheme for Certification in the Area of IT Security, Version 2.5, 28 March 2019.

[NSI_08] NSCIB Scheme Instruction 08, Performing Testing, Version 2.4, 1 June 2018.

[PL-CERT] Certification Report ID-ONE Cosmo V9 Essential version 3 (Cosmo V9), NSCIBCC-200833-MA, Version 1, 01 August 2019

[PL-ETRfC] Evaluation Technical Report for Composition ID-ONE Cosmo V9 Essential - EAL5+, 18-RPT-647, Version 6.0, 29 July 2019.

[PP-GEN1] Digital Tachograph – Tachograph Card, registered under the reference BSI-CC-PP-0070, Version 1.02, 15 November 2011

[PP-GEN2] Digital Tachograph – Tachograph Card (TC PP), registered under the reference BSI-CC-PP-0091, Version 1.0, 9 May 2017.

[ST] Security Target of IDeal Drive DT v3.0, Reference: FQR 401 7925 Ed 8 – ST, 12 November 2019.

[ST-lite] IDeal Drive DT v3.0, Public Security Target, FQR 550 0046, v1.0, 14 November 2019

[ST-SAN] ST sanitising for publication, CC Supporting Document CCDB-2006-04-004, April 2006.

(This is the end of this report).