



# LuxTrust Global Root CA

-

## Certificate specifications

Version number: 1.14

Publication Date: 06/12/2013

Effective Date : 20/12//2013



Copyright © 2013  
All rights reserved

## Document Information

|                            |  |
|----------------------------|--|
| Document title:            | LuxTrust Global Root CA - Certificate specifications |
| Document Code              | N/A  |
| Project Reference:         | LuxTrust S.A.  |
| Document Type              | Technical Specification                              |
| Document Distribution List | Any  |
| Document Classification    | Public   |
| Document Owner             | CSP Board  |

## Version History

| Version | Who        | Date       | Reason of modification   |
|---------|------------|------------|--|
| 1.0     | MSC        | 29/08/2011 | Initial Version DRAFT  |
| 1.01    | MSC        | 27/10/2011 | Added CRL validity period, revision  |
| 1.02    | MSC        | 24/11/2011 | Modified – Document OIDs for CAs   |
| 1.03    | MSC        | 09/02/2012 | Modified – Added LCP for integration purposes.   |
| 1.04    | MSC        | 01/03/2012 | Modified: <ul style="list-style-type: none"> <li>Added LCP for integration purposes for CSS</li> <li>Table for OIDs</li> <li>Modification of the CRL issuance algorithm (SHA256 to SHA1)</li> </ul>  |
| 1.05    | MSC        | 19/03/2012 | Modifications following review by Chris Quaresimin and Laurent Breuskin: <ul style="list-style-type: none"> <li>Removal of + <b>Netscape proprietary extension: NetscapeCertificateType: sslClient, smime</b> for non-SSL products</li> <li>Display text for CSS integration product</li> <li>Correct CRL and AIA for CSS integration product</li> <li>SSL Object certificate profile</li> </ul> |
| 1.06    | MSC        | 26/03/2012 | Modifications for CSS certificates, signature will be performed using SHA1WithRsa. Changes performed in CSS certificate profile for prod and integration, page 43 and 51.  |
| 1.07    | MSC        | 14/06/2012 | Added: TimeStamping CA and TimeStamping certificate profile  |
| 1.08    | MSC        | 29/06/2012 | Added: Private key usage Period in TSP   |
| 1.09    | LBR        | 01/08/2012 | Added: Certificate Profiles under <b>LuxTrust Global Qualified CA</b> <ul style="list-style-type: none"> <li>SC LORA &amp; LRS Certificate</li> </ul> Modified: <ul style="list-style-type: none"> <li>Table for OIDs &amp; LuxTrust CA Hierarchy</li> </ul>   |
| 1.09.1  | LBR        | 02/08/2012 | Update of OID Page 22  |
| 1.09.2  | MSC        | 07/08/2012 | Added: Certificate profile for Extended Validation Certificates : <ul style="list-style-type: none"> <li>EVCP – ETSI TS 102 042</li> <li>EVCP+ - ETSI TS 102 042</li> </ul> Added: Certificate profile for Secure Online File Exchange (SOFiE)   |
| 1.10    | YNU        | 23/08/2012 | Review for validation of CP  |
| 1.10    | CSPBoard   | 24/08/2012 | Validation   |
| 1.11    | CSPBoard   | 20/09/2012 | Typo update  |
| 1.12    | YNU<br>TKO | 21/12/2012 | Added CP SSL/TLS Certificate for Client Authentication <ul style="list-style-type: none"> <li>Added CP non SSCD NCP+ Certificates supporting Advanced Electronic Signatures for Mass Signature Services</li> <li>Various syntactical and format corrections</li> </ul>   |



---

|      |           |            |   |
|------|-----------|------------|---|
| 1.13 | CSP Board | 23/04/2013 | insertion of ILNAS logo including accreditation reference and technical standards reference |
| 1.14 | YNU       | 29/11/2013 | Update specific requirements for CP under the SSL CA  |

# Table of content

|   |           |
|---|-----------|
| DOCUMENT INFORMATION .....  | 2         |
| VERSION HISTORY .....   | 2         |
| TABLE OF CONTENT.....   | 4         |
| INTELLECTUAL PROPERTY RIGHTS .....  | 6         |
| REFERENCES .....  | 7         |
| <b>1 INTRODUCTION.....</b>  | <b>8</b>  |
| 1.1 THE LUXTRUST PROJECT .....  | 8         |
| 1.2 GOAL OF THE LUXTRUST PKI.....   | 8         |
| 1.3 LUXTRUST PKI HIERARCHY .....  | 8         |
| <b>2 LUXTRUST CERTIFICATION AUTHORITIES.....</b>  | <b>9</b>  |
| 2.1 TWO-LEVEL CA HIERARCHY .....  | 9         |
| <b>3 CERTIFICATE AND CRL PROFILES.....</b>  | <b>11</b> |
| 3.1 CERTIFICATE TYPES .....   | 11        |
| 3.2 LUXTRUST CERTIFICATION AUTHORITIES – CERTIFICATES PROFILES .....  | 25        |
| 3.2.1 <i>LuxTrust Global Root CA</i> .....  | 25        |
| 3.2.2 <i>LuxTrust Global Qualified CA</i> .....   | 26        |
| 3.2.3 <i>LuxTrust Privacy+ CA</i> .....   | 27        |
| 3.2.4 <i>LuxTrust SSL CA</i> .....  | 28        |
| 3.2.5 <i>LuxTrust TEST CA</i> .....   | 29        |
| 3.2.6 <i>LuxTrust Internal CA</i> .....   | 30        |
| 3.2.7 <i>LuxTrust TSA (Timestamping) CA</i> .....   | 31        |
| 3.2.8 <i>LuxTrust e-Government CA</i> .....   | 32        |
| 3.2.9 <i>Certificate extensions</i> .....   | 34        |
| 3.2.10 <i>Algorithm object identifiers</i> .....  | 34        |
| 3.2.11 <i>Name forms</i> .....  | 34        |
| 3.2.12 <i>Name constraints</i> .....  | 34        |
| 3.2.13 <i>Certificate policy object identifier</i> .....  | 34        |
| 3.2.14 <i>Usage of Policy Constraints extension</i> .....   | 34        |
| 3.2.15 <i>Policy qualifiers syntax and semantics</i> .....  | 34        |
| 3.3 LUXTRUST END-ENTITY – CERTIFICATES PROFILES .....   | 34        |
| 3.3.1 <i>Certificate profiles</i> .....   | 34        |
| 3.3.2 <i>Version number(s)</i> .....  | 35        |
| 3.3.3 <i>LuxTrust SSCD QCP+ Certificates supporting Qualified Signatures</i> .....  | 35        |
| 3.3.4 <i>LuxTrust SSCD NCP+ Certificates supporting Authentication &amp; Encryption</i> .....   | 38        |
| 3.3.5 <i>LuxTrust non SSCD QCP Certificates supporting Advanced Electronic Signatures</i> .....   | 41        |
| 3.3.6 <i>LuxTrust non SSCD NCP Certificates supporting Authentication &amp; Encryption</i> .....  | 44        |
| 3.3.7 <i>LuxTrust Signing Server Account NCP Certificates supporting Signature, Authentication &amp; Encryption</i> .....                           | 47        |
| 3.3.8 <i>LuxTrust NCP+ Certificates supporting Mass Signature Services</i> .....  | 50        |
| 3.3.9 <i>LuxTrust SSCD LCP+ Integration Certificates supporting Electronic Signatures</i> .....   | 53        |
| 3.3.10 <i>LuxTrust SSCD LCP+ Integration Certificates supporting Authentication &amp; Encryption</i> .....  | 55        |
| 3.3.11 <i>LuxTrust Signing Server Account LCP Certificates supporting Signature, Authentication &amp; Encryption for integration purposes</i> ..... | 57        |



|        |   |    |
|--------|---|----|
| 3.3.12 | <i>LuxTrust Smartcard LORA Certificates supporting Signature for LRAO purposes</i>  | 59 |
| 3.3.13 | <i>LuxTrust Smartcard LORA Certificates supporting Authentication &amp; Encryption for LRAO purposes</i>                          | 62 |
| 3.3.14 | <i>LuxTrust non SSCD Mass LRAO QCP Certificates supporting Advanced Electronic Signatures</i>                                     | 64 |
| 3.3.15 | <i>LuxTrust SSL/TLS Standard Server Certificates – LCP certificates supporting Signature, Authentication &amp; Encryption</i>     | 67 |
| 3.3.16 | <i>SSL/TLS Extended Validation Server Certificates – EVCP certificates supporting Signature, Authentication &amp; Encryption</i>  | 72 |
| 3.3.17 | <i>SSL/TLS Extended Validation Server Certificates - EVCP+ certificates supporting Signature, Authentication &amp; Encryption</i> | 78 |
| 3.3.18 | <i>LuxTrust Object (or Code) Signing Certificates</i>   | 85 |
| 3.3.19 | <i>LuxTrust SSL/TLS Certificate for Client Authentication</i>   | 88 |
| 3.3.20 | <i>Timestamping Certificate Profile</i>   | 91 |
| 3.3.21 | <i>Certificate extensions</i>   | 93 |
| 3.3.22 | <i>Algorithm object identifiers</i>   | 93 |
| 3.3.23 | <i>Name forms</i>   | 93 |
| 3.3.24 | <i>Name constraints</i>   | 93 |
| 3.3.25 | <i>Certificate policy object identifier</i>   | 93 |
| 3.3.26 | <i>Usage of Policy Constraints extension</i>  | 93 |
| 3.3.27 | <i>Policy qualifiers syntax and semantics</i>   | 93 |
| 3.3.28 | <i>Processing semantics for the critical Certificate Policies</i>   | 93 |
| 3.4    | <b>CRL PROFILE</b>  | 93 |
| 3.4.1  | <i>Version number(s)</i>  | 94 |
| 3.4.2  | <i>CRL entry extensions</i>   | 94 |
| 3.5    | <b>OCSP PROFILE</b>   | 94 |
| 3.5.1  | <i>Version number(s)</i>  | 94 |
| 3.5.2  | <i>OCSP extensions</i>  | 94 |

## **Intellectual Property Rights**

Without limiting the “all rights reserved” copyright on the present document, and except as duly licensed under written form, no part of this publication may be reproduced, stored in or introduced into a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without prior written permission of LuxTrust S.A..

## References

- [1] The European Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures.
- [2] European Data Protection Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regards to the processing of personal data and on the free movement of such data.
- [3] ETSI TS 101 456 – Electronic Signatures and Infrastructures (ESI); Policy requirements for certification authorities issuing qualified certificates.
- [4] ETSI TS 102 042 – Electronic Signatures and Infrastructures (ESI); Policy requirements for certification authorities issuing public key certificates.
- [5] ICAO (International Civil Aviation Organization) – Machine Readable Travel Documents – Technical Report – PKI for Machine Readable Travel Documents offering ICC Read-Only Access, version 1.1, October 01, 2004
- [6] ETSI TS 102 023 – Electronic Signatures and Infrastructures (ESI); Policy requirements for time-stamping authorities.
- [7] Loi du 22 mars 2000 relative à la création d'un Registre national d'accréditation, d'un Conseil national d'accréditation, de certification, de normalisation et de promotion de la qualité et d'un organisme luxembourgeois de normalisation.
- [8] Loi modifiée du 14 août 2000 relative au commerce électronique modifiant le code civil, le nouveau code de procédure civile, le code de commerce, le code pénal et transposant la directive 1999/93/EC relative à un cadre communautaire pour les signatures électroniques, la directive relative à certains aspects juridiques des services de la société de l'information, certaines dispositions de la directive 97/7/CEE concernant la vente à distance des biens et des services autres que les services financiers.
- [9] Règlement Grand-Ducal du 28 décembre 2001 portant détermination d'un système d'accréditation des organismes de certification et d'inspection, ainsi que des laboratoires d'essais et d'étalonnage et portant création de l'Office Luxembourgeois d'Accréditation et de Surveillance, d'un Comité d'accréditation et d'un Recueil national des auditeurs qualité et techniques.
- [10] Règlement Grand-Ducal du 1<sup>er</sup> juin 2001 relatif aux signatures électroniques, au paiement électronique et à la création du Comité « Commerce Electronique ».
- [11] Règlement Grand-Ducal du 21 décembre 2004 portant organisation de la notification des prestataires de services délivrant des certificats qualifiés mettant en place un système d'accréditation des prestataires de service de certification, créant un comité signature électronique et déterminant la procédure d'agrément des auditeurs externes.
- [12] LuxTrust Time Stamping Policy. Document OID 1.3.171.1.1.3.1.0, latest version in force.
- [13] Guidelines for the Issuance And Management Of Extended Validation Certificates. CA/Browser Forum. Latest version in force.
- [14] Baseline Requirements for the Issuance and Management of Publicly-Trusted Certificates. CA/Browser Forum. Latest version in force.

# 1 INTRODUCTION

## 1.1 The LuxTrust project

The LuxTrust project was created in the form of a Trusted Third Party (hereafter also “TTP”), with an international reach, aiming to establish a national expertise centre for Luxembourg. LuxTrust as TTP especially focuses on providing support for any existing business needs in terms of security and also promotes new “e-business” and “e-government” opportunities, making the best possible use of existing legal and commercial assets which are unique to Luxembourg.

Established in November 2005 through a partnership between the Luxembourg government and the major private financial actors in Luxembourg, LUXTRUST S.A. was created to become a provider of certification services as defined in the law of the Grand-Duchy of Luxembourg modified on 14/08/2000 [7] itself derived from the European Directive on electronic signatures (1999/93/EC; cf. [1]). These laws and directives set out the legal framework for electronic signatures in the Grand-Duchy of Luxembourg as well as for LuxTrust activities as TTP.

LuxTrust S.A. acts as Financial Sector Professional providing Public Key Infrastructure (PKI) services for the whole economic marketplace in Luxembourg, for both private and public organisations.

## 1.2 Goal of the LuxTrust PKI

The Goal of LuxTrust PKI is to provide to each end-user, in Luxembourg but also outside its national borders, one single shared platform to secure both Government and Private e-applications. Security services supported and provided by the LuxTrust PKI will primarily cover the following services for all applications:

- Strong Authentication;
- Electronic Signatures;
- Encryption facilities;
- Trusted Time Stamping;

LuxTrust will also promote these services towards application service providers in order to facilitate the emergence of e-applications and accelerate eLuxembourg. Within this context, LuxTrust will form the catalyser of such services and applications.

## 1.3 LuxTrust PKI Hierarchy

LuxTrust S.A., acting as CSP as described in the law of Grand-Duchy of Luxembourg modified on 14/08/2000 [7], is using several Certification Authorities (CAs), as shown in the certificates hierarchy, to issue LuxTrust end-users certificates. These top level CAs are displayed on Figure 1.

In all (CA-) certificates issued to these CAs, LuxTrust S.A. is referred to as the legal entity being the certificate issuing authority, assuming final responsibility and liability for all LuxTrust CAs and services used by LuxTrust S.A. for provision of LuxTrust certifications services through any one of its CAs.

This responsibility and liability is still valid when LuxTrust S.A. acting as CSP through any of its CAs is sub-contracting services or part of services process to third parties. Sub-contracting agreements shall include back-to-back provisions to ensure that sub-contractors shall support the liability and responsibility for the sub-contracted provisioned services.



## 2 LuxTrust Certification Authorities

As described in section 1.3, LuxTrust S.A. acting as CSP is using several Certification Authorities (CAs) to issue LuxTrust Certificates.

### 2.1 Two-level CA hierarchy

The top level is the *LuxTrust Global Root CA*, the highest level of authority managed by LuxTrust. The LuxTrust PKI is formed using additional subordinates, cross signed CAs: The legal person (organisation) responsible for these CAs is LuxTrust S.A. acting as CSP.

The LuxTrust PKI consists in a two-level CA hierarchy:

- One "LuxTrust Global Root CA" root-signing all subordinates LuxTrust CAs
  
- Cross-signed LuxTrust subordinate CAs. Each of these CAs is root-signed by the LuxTrust Global Root CA. Currently, the following CAs are foreseen:
  - o LuxTrust Global Qualified CA
  - o LuxTrust Privacy+ CA
  - o LuxTrust SSL CA
  - o LuxTrust TEST CA
  - o LuxTrust Internal CA
  - o LuxTrust Time Stamping Authority
  - o LuxTrust eGovernment CA
  
- Additional CAs or CA hierarchies might be signed in the future under the LuxTrust Global Root CA

Cross-signed CAs are operating within a grant of authority for issuing certificates under the LuxTrust CPS and the applicable CP. This grant has been provided by the "LuxTrust Global Root CA" (hereafter "LTGRCA") under the responsibility and authority of LuxTrust S.A. acting as CSP.

*Note 1: Unless explicitly otherwise indicated, "the CA", refers to the LuxTrust Global Root CA granted to issue CA Certificates under responsibility of LuxTrust S.A. acting as CSP. "The CA" is thus legally designating LuxTrust S.A. acting as CSP.*

LuxTrust S.A. acting as CSP ensures the availability of all services pertaining to the Certificates, including the issuance, suspension/un-suspension/revocation and renewal services as they may become available or required in specific applications.

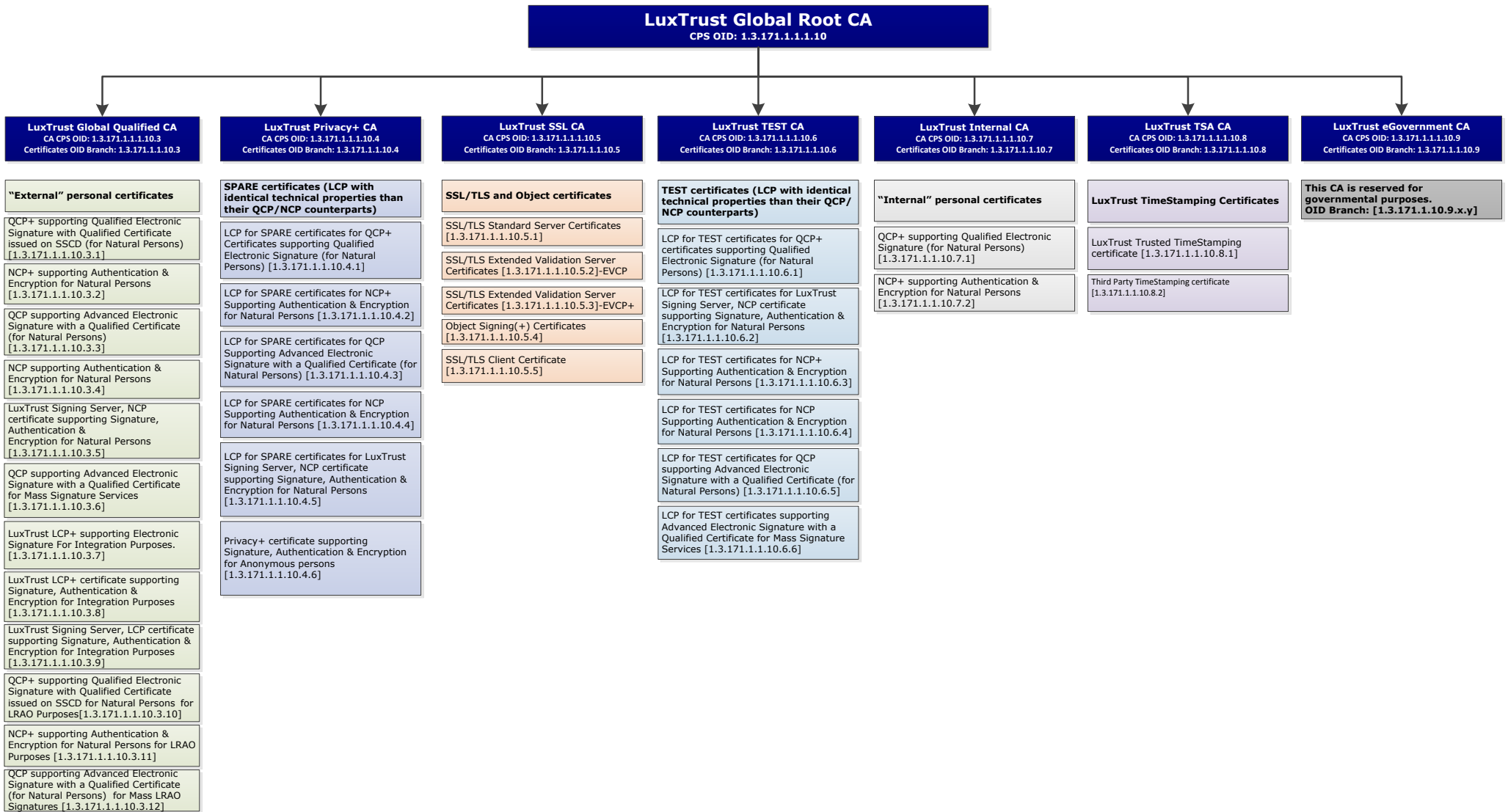


Figure 1 - LuxTrust CA Hierarchy

## 3 CERTIFICATE AND CRL PROFILES

### 3.1 Certificate types

The following table indicates and shortly describes the various types of certificates that are to be issued by LuxTrust under the new LuxTrust Global Root CA:

| CP identification  | CP OID                    | Document OID   | Short Description   | Ref. <sup>1</sup>  |
|--|---------------------------|--|---|--|
| <b>LuxTrust Qualified Certification Authority</b>  |                           |  |   |  |
| QCP+ supporting Qualified Electronic Signature (for Natural Persons)<br><b>issued by LuxTrust Global Qualified CA</b>                            | <b>1.3.171.1.1.10.3.1</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 101 456 QCP+ compliant Qualified Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048 bit key size and three (3) years validity, and with a key usage limited to the support of qualified electronic signature.<br><br>These Certificates are covered by the ILNAS accreditation as registered under the reference N° 2011/8/001 by the national registry of Accredited Certification Service Providers.  | LuxTrust SSCD QCP+ Certificates supporting Qualified Signatures              |
| NCP+ supporting Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Global Qualified CA</b>                                 | <b>1.3.171.1.1.10.3.2</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 NCP+ compliant Normalised Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption.<br><br>These Certificates are covered by the ILNAS accreditation as registered under the reference N° 2011/8/001 by the national registry of Accredited Certification Service Providers. | LuxTrust SSCD NCP+ Certificates supporting Authentication & Encryption       |
| QCP supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons)<br><b>issued by LuxTrust Global Qualified CA</b> | <b>1.3.171.1.1.10.3.3</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 101 456 QCP compliant Qualified Certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to the support of advanced electronic signature with a qualified certificate.   | LuxTrust non SSCD QCP Certificates supporting Advanced Electronic Signatures |

<sup>1</sup> Corresponding CP will be defined later when field is empty.

| CP identification   | CP OID                    | Document OID   | Short Description  | Ref. <sup>1</sup>  |
|---|---------------------------|--|--|--|
| NCP supporting Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Global Qualified CA</b>   | <b>1.3.171.1.1.10.3.4</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 NCP compliant Normalised Certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption.                         | LuxTrust non SSCD NCP Certificates supporting Authentication & Encryption                          |
| LuxTrust Signing Server, NCP certificate supporting Signature, Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Global Qualified CA</b> | <b>1.3.171.1.1.10.3.5</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 NCP compliant Normalised Certificate issued on a <b>non</b> SSCD centralized hardware token (i.e., LuxTrust Signing Server), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to signature, authentication purpose and/or key & data encryption. | LuxTrust Signing Server Account NCP Certificates supporting Signature, Authentication & Encryption |
| NCP+ supporting Advanced Electronic Mass Signature Services<br><b>issued by LuxTrust Global Qualified CA</b>  | <b>1.3.171.1.1.10.3.6</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 NCP+ compliant Normalised Certificate on Secure User Device (HSM), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to the support of advanced electronic Mass Signature Services.   | LuxTrust NCP+ Certificates supporting Mass Signature Services                                      |
| LCP for INTEGRATION certificates LCP compliant certificates supporting integration Electronic Signature<br><b>issued by LuxTrust Global Qualified CA</b>        | <b>1.3.171.1.1.10.3.7</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant certificate, on SSCD, Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048 bit key size and three (3) years validity, and with a key usage limited to the support of electronic signature for INTEGRATION purposes of QCP+ signature certificates.                 | LuxTrust SSCD LCP+ Integration Certificates supporting Electronic Signatures                       |



| CP identification   | CP OID              | Document OID   | Short Description   | Ref. <sup>1</sup>   |
|---|---------------------|--|---|---|
| LCP for INTEGRATION certificates LCP+ supporting Authentication & Encryption issued by LuxTrust Global Qualified CA   | 1.3.171.1.1.10.3.8  | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048-bit key size and three (3) years, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption for INTEGRATION purposes of NCP+ authentication and encryption certificates. | LuxTrust SSCD LCP+ Integration Certificates supporting Authentication & Encryption  |
| LCP for INTEGRATION certificates for NCP+ supporting Authentication & Encryption issued by LuxTrust Global Qualified CA   | 1.3.171.1.1.10.3.9  | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Normalised Certificate issued on a non SSCD centralized hardware token (i.e., LuxTrust Signing Server), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to signature, authentication purpose and/or key & data encryption for INTEGRATION PURPOSES.                                | LuxTrust Signing Server Account LCP Certificates supporting Signature, Authentication & Encryption for integration purposes |
| QCP+ supporting Qualified Electronic Signature with Qualified Certificate issued on SSCD for Natural Persons for LRAO Purposes issued by LuxTrust Global Qualified CA | 1.3.171.1.1.10.3.10 | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 101 456 QCP+ compliant Qualified Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048 bit key size and three (3) years validity, and with a key usage limited to the support of qualified electronic signature for LRAO Purposes.   | LuxTrust Smartcard LORA Certificates supporting Signature for LRAO purposes   |
| NCP+ supporting Authentication & Encryption for Natural Persons for LRAO Purposes issued by LuxTrust Global Qualified CA  | 1.3.171.1.1.10.3.11 | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 NCP+ compliant Normalised Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption for LRAO Purposes.                                      | LuxTrust Smartcard LORA Certificates supporting Authentication & Encryption for LRAO purposes                               |



| CP identification  | CP OID                     | Document OID   | Short Description   | Ref. <sup>1</sup>  |
|--|----------------------------|--|---|--|
| QCP supporting Advanced Electronic Signature with a Qualified Certificate for Mass LRAO Signature <b>issued by LuxTrust Global Qualified CA</b>                      | <b>1.3.171.1.1.10.3.12</b> | 1.3.171.1.1.1.10.2.3<br>.x(version)<br>.y(sub-version) | ETSI TS 101 456 QCP compliant Qualified Certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to the support of advanced electronic signature with a qualified certificate for Mass LRAO Signatures.  | LuxTrust non SSCD Mass LRAO QCP Certificates supporting Advanced Electronic Signatures |
| <b>LuxTrust Privacy+ Certification Authority</b>   |                            |  |   |  |
| LCP for SPARE certificates for QCP+ certificates supporting Qualified Electronic Signature (for Natural Persons) <b>issued by LuxTrust Privacy+ CA</b>               | <b>1.3.171.1.1.10.4.1</b>  | 1.3.171.1.1.1.10.2.4<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant certificate, on SSCD, Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048 bit key size and three (3) years validity, and with a key usage limited to the support of electronic signature for SPARE purposes of QCP+ signature certificates.  |  |
| LCP for SPARE certificates for NCP+ supporting Authentication & Encryption for Natural Persons <b>issued by LuxTrust Privacy+ CA</b>                                 | <b>1.3.171.1.1.10.4.2</b>  | 1.3.171.1.1.1.10.2.4<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048-bit key size and three (3) years, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption for SPARE purposes of NCP+ authentication and encryption certificates. |  |
| LCP for SPARE certificates for QCP supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons) <b>issued by LuxTrust Privacy+ CA</b> | <b>1.3.171.1.1.10.4.3</b>  | 1.3.171.1.1.1.10.2.4<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to the support of advanced electronic signature with a qualified certificate for SPARE purposes of QCP signature certificates.  |  |

| CP identification  | CP OID                    | Document OID   | Short Description   | Ref. <sup>1</sup>  |
|--|---------------------------|--|---|--|
| LCP for SPARE certificates for NCP supporting Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Privacy+ CA</b>   | <b>1.3.171.1.1.10.4.4</b> | 1.3.171.1.1.1.10.2.4<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption for SPARE purposes of NCP authentication and encryption certificates.                                    |  |
| LCP for SPARE certificates for LuxTrust Signing Server, NCP certificate supporting Signature, Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Privacy+ CA</b> | <b>1.3.171.1.1.10.4.5</b> | 1.3.171.1.1.1.10.2.4<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate issued on a <b>non</b> SSCD centralised hardware token (i.e., LuxTrust Signing Server), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to signature, authentication purpose and/or key & data encryption for SPARE purposes of NCP authentication, encryption and signature certificates. |  |
| Privacy+ certificate supporting Signature, Authentication & Encryption for Anonymous persons<br><b>issued by LuxTrust Privacy+ CA</b>  | <b>1.3.171.1.1.10.4.6</b> | 1.3.171.1.1.1.10.2.4<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate issued on a <b>non</b> SSCD hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to signature, authentication purpose and/or key & data encryption for authentication, encryption and signature certificates.   |  |
| <b>LuxTrust SSL Certification Authority</b>  |                           |  |   |  |
| SSL/TLS(+) Standard Server Certificates<br><b>issued by LuxTrust SSL CA</b>  | <b>1.3.171.1.1.10.5.1</b> | 1.3.171.1.1.1.10.2.5<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 <b>LCP</b> compliant certificate, on SCD, produced by SSL CA, with creation of the keys by the Subscriber, 2048-bit key size, (1) or (3) years validity, and a key usage combining digital signature (dS bit), key and data encryption as well as extended key usage for server and client authentication and secure e-mail.  | LuxTrust SSL/TLS Standard Server Certificates – LCP certificates supporting Signature, Authentication & Encryption |

| CP identification  | CP OID                    | Document OID   | Short Description   | Ref. <sup>1</sup>  |
|--|---------------------------|--|---|--|
| SSL/TLS(+) Extended Validation Server Certificates - EVCP<br><b>issued by LuxTrust SSL CA</b>  | <b>1.3.171.1.1.10.5.2</b> | 1.3.171.1.1.1.10.2.5<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 <b>EVCP</b> compliant certificate, produced by SSL CA, with creation of the keys by the Subscriber, 2048-bit key size, (1) or (2) years validity, and a key usage combining digital signature (dS bit), key and data encryption as well as extended key usage for server and client authentication and secure e-mail. | SSL/TLS Extended Validation Server Certificates – EVCP certificates supporting Signature, Authentication & Encryption  |
| SSL/TLS(+) Extended Validation Server Certificates – EVCP+<br><b>issued by LuxTrust SSL CA</b> | <b>1.3.171.1.1.10.5.3</b> | 1.3.171.1.1.1.10.2.5<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 <b>EVCP+</b> compliant certificate, on Secure User Device, produced by SSL CA, 2048-bit key size, (1) or (2) years validity, and a key usage combining digital signature (dS bit), key and data encryption as well as extended key usage for server and client authentication and secure e-mail.                      | SSL/TLS Extended Validation Server Certificates – EVCP+ certificates supporting Signature, Authentication & Encryption |
| Object Signing(+) Certificates<br><b>issued by LuxTrust SSL CA</b>                             | <b>1.3.171.1.1.10.5.4</b> | 1.3.171.1.1.1.10.2.5<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 <b>LCP</b> compliant certificate produced by SSL CA, with creation of the keys by the Subscriber, 2048-bit key size, (1) or (3) years validity, and a key usage combining digital signature (dS bit), key and data encryption.  | LuxTrust Object (or Code) Signing Certificates   |
| LuxTrust SSL/TLS Certificate for Client Authentication<br><b>issued by LuxTrust SSL CA</b>     | <b>1.3.171.1.1.10.5.5</b> | 1.3.171.1.1.1.10.2.5<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 <b>LCP</b> compliant certificate produced by SSL CA, with creation of the keys by the Subscriber, 2048-bit key size, (1) or (3) years validity, and a key usage combining digital signature (dS bit), key and data encryption as well as extended key usage for client authentication and secure e-mail.              | LuxTrust SSL/TLS Certificate for Client Authentication   |



| CP identification  | CP OID                    | Document OID   | Short Description   | Ref. <sup>1</sup> |
|--|---------------------------|--|---|-------------------|
| <b>LuxTrust TEST Certification Authority</b>   |                           |  |   |                   |
| LCP for TEST certificates for QCP+ certificates supporting Qualified Electronic Signature (for Natural Persons)<br><b>issued by LuxTrust Test CA</b>               | <b>1.3.171.1.1.10.6.1</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant certificate, on SSCD, Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048 bit key size and three (3) years validity, and with a key usage limited to the support of electronic signature for TEST purposes of QCP+ signature certificates.   |                   |
| LCP for TEST certificates for NCP+ supporting Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Test CA</b>                                 | <b>1.3.171.1.1.10.6.2</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate on SSCD Hardware token (e.g., LuxTrust Smart Card), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption for TEST purposes of NCP+ authentication and encryption certificates. |                   |
| LCP for TEST certificates for QCP supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons)<br><b>issued by LuxTrust Test CA</b> | <b>1.3.171.1.1.10.6.3</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to the support of advanced electronic signature with a qualified certificate for TEST purposes of QCP signature certificates.   |                   |
| LCP for TEST certificates for NCP supporting Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Test CA</b>                                  | <b>1.3.171.1.1.10.6.4</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to authentication purpose (to the exclusion of electronic signature) and key & data encryption for TEST purposes of NCP authentication and encryption certificates.                   |                   |

| CP identification   | CP OID                    | Document OID   | Short Description  | Ref. <sup>1</sup> |
|---|---------------------------|--|--|-------------------|
| LCP for TEST certificates for LuxTrust Signing Server, NCP certificate supporting Signature, Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Test CA</b> | <b>1.3.171.1.1.10.6.5</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | ETSI TS 102 042 LCP compliant Certificate issued on a <b>non</b> SSCD centralised hardware token (i.e., LuxTrust Signing Server), with creation of the keys by the CSP, 2048-bit key size and three (3) years validity or validity, and with a key usage limited to signature, authentication purpose and/or key & data encryption for TEST purposes of NCP authentication, encryption and signature certificates. |                   |
| LCP for TEST certificates supporting Advanced Electronic Signature with a Qualified Certificate for Mass Signature Services<br><b>issued by LuxTrust Test CA</b>                  | <b>1.3.171.1.1.10.6.6</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | ETSI TS 101 456 QCP compliant Qualified Certificate not issued on SSCD Hardware token, with creation of the keys by the CSP, 2048-bit key size and three (3) years validity, and with a key usage limited to the support of advanced electronic signature with a qualified certificate for Mass Signature Services.  |                   |
| <b>LuxTrust Internal Certification Authority</b>  |                           |  |  |                   |
| QCP+ supporting Qualified Electronic Signature (for Natural Persons)<br><b>issued by LuxTrust Internal CA</b>   | <b>1.3.171.1.1.10.7.1</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) |  |                   |
| NCP+ supporting Authentication & Encryption for Natural Persons<br><b>issued by LuxTrust Internal CA</b>  | <b>1.3.171.1.1.10.7.2</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) |  |                   |

| CP identification   | CP OID                    | Document OID   | Short Description   | Ref. <sup>1</sup>                |
|---|---------------------------|--|---|----------------------------------|
| <b>LuxTrust TSA (Timestamping) Certification Authority</b>          |                           |  |   |                                  |
| LuxTrust Trusted TimeStamping certificate issued by LuxTrust TSA CA | <b>1.3.171.1.1.10.8.1</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) | LuxTrust certificate compliant with ETSI TS 102 023. Sole authorised usage: Signature of LuxTrust Trusted Time Stamp tokens generated by LuxTrust time-stamping authority.<br><br>These Certificates are covered by the ILNAS accreditation as registered under the reference N° 2011/8/001 by the national registry of Accredited Certification Service Providers. | Timestamping Certificate Profile |
| Third Party TimeStamping certificate issued by LuxTrust TSA CA      | <b>1.3.171.1.1.10.8.2</b> | 1.3.171.1.1.1.10.2.6<br>.x(version)<br>.y(sub-version) |   |                                  |

Subscriber's Agreement (Purchase Orders and General Terms and Conditions) is made available to customers by LuxTrust S.A. acting as CSP.

In addition to these "external" certificate types, "Internal Certificate Policies" are exclusively reserved by LuxTrust S.A. acting as CSP for issuance of security credentials (and certificates) within the management and operation domains of the LuxTrust PKI. This encompasses but is not limited to PKI component services provider's entities (e.g., RA, SRA, TSAs, devices, components, etc.), specific officers considered as security officers, etc.

Within the present document, Certificates issued by LuxTrust S.A. acting as CSP are collectively called the "Certificates" regardless of their type, unless they are more clearly and specifically identified.

In addition to the above described certifications services, the LuxTrust CSP activities include the LuxTrust Time Stamping Services (TSS). These services consist of the management of the infrastructure, and the provisioning of Time Stamp Tokens according to the LuxTrust Time Stamping Policy [12].

These services are provided by LuxTrust S.A. acting as LuxTrust Trusted Time Stamping Services Provider (TTSSP) to the Subscribers and are an integral part of the LuxTrust PKI. Hereafter the term CSP includes the activities and provision of trusted time stamping services as expressed in the European Directive on electronic signatures (cf. [1]). LuxTrust Trusted Time Stamping services are covered within the LuxTrust Trusted Time Stamping V2 policy [12].

The LuxTrust CSP Board acts as Policy Approval Authority for LuxTrust S.A.. In particular the CSP board manages the LuxTrust Certification Practice Statement (CPS) and all related CPs, covering the statements of the practices followed by LuxTrust S.A. acting as CSP in issuing CA and end-entities certificates as well as in issuing TSTs through its TSAs.

By means of the CPS and related CPs, LuxTrust S.A. acting as CSP indicates and guarantees that it complies with regulatory and standard texts applicable, and whether or not this guarantee is supported by an accreditation as well as the name and coordinates of the accreditation body.

|                               |  |           |      |  |                |
|-------------------------------|--|-----------|------|--|----------------|
| LuxTrust S.A. OID : 1.3.171.1 |  | ETSI OIDs | QCP+ |  | 0.4.0.1456.1.1 |
| LuxTrust PKI: 1.3.171.1.1     |  | for info  | QCP  |  | 0.4.0.1456.1.2 |
|                               |  |           | NCP  |  | 0.4.0.2042.1.1 |
|                               |  |           | NCP+ |  | 0.4.0.2042.1.2 |
|                               |  |           | LCP  |  | 0.4.0.2042.1.3 |

| Document category                                 | Document                       | Sub-document - description      | LuxTrust Product             | Version | Sub-version | Complete OID           | ETSI OID               |     |
|---|--------------------------------|---------------------------------|------------------------------|---------|-------------|------------------------|------------------------|-----|
| <b>LuxTrust Certification Practice Statements</b> |                                |                                 |                              |         |             |                        |                        |     |
| 1<br>CPS LuxTrust                                 | 1<br>CPS Summary               | 0 (master)                      |                              | x       | y           | 1.3.171.1.1.1.1.0.x.y  | N/A                    |     |
|   |                                |                                 |                              |         |             |                        | N/A                    |     |
|   | 2<br>Full CPS GTE Chain        | 0                               | Not Used                     |         | N/A         | N/A                    | not used               | N/A |
|   |                                | 1                               | First document               |         | x           | y                      | 1.3.171.1.1.1.2.1.x.y  | N/A |
|   |                                | 2                               | Second document              |         | x           | y                      | 1.3.171.1.1.1.2.2.x.y  | N/A |
|   |                                | 3                               | Third document               |         | x           | y                      | 1.3.171.1.1.1.2.3.x.y  | N/A |
|   |                                | 4                               | Fourth document              |         | x           | y                      | 1.3.171.1.1.1.2.4.x.y  | N/A |
|   |                                | etc.                            |                              | x       | y           | 1.3.171.1.1.1.2.5.x.y  | N/A                    |     |
|   | 10<br>CPS LuxTrust Global Root | 0                               | 0 Reserved                   |         | N/A         |                        |                        | N/A |
|   |                                | 1                               | Reserved                     |         | N/A         |                        |                        | N/A |
|   |                                | 2                               | LuxTrust Global Root CA      |         | x           | y                      | 1.3.171.1.1.1.10.2.x.y | N/A |
|   |                                | 3                               | LuxTrust Global Qualified CA |         | x           | y                      | 1.3.171.1.1.1.10.3.x.y | N/A |
|   |                                | 4                               | LuxTrust Privacy+ CA         |         | x           | y                      | 1.3.171.1.1.1.10.4.x.y | N/A |
|   |                                | 5                               | LuxTrust SSL CA              |         | x           | y                      | 1.3.171.1.1.1.10.5.x.y | N/A |
|   |                                | 6                               | LuxTrust TEST CA             |         | x           | y                      | 1.3.171.1.1.1.10.6.x.y | N/A |
|   |                                | 7                               | LuxTrust Internal CA         |         | x           | y                      | 1.3.171.1.1.1.10.7.x.y | N/A |
|   | 8                              | LuxTrust Global Timestamping CA |                              | x       | y           | 1.3.171.1.1.1.10.8.x.y | N/A                    |     |
|   |                                | 9                               | LuxTrust eGovernment CA      |         | x           | y                      | 1.3.171.1.1.1.10.9.x.y | N/A |
| <b>LuxTrust Certificate Policies</b>              |                                |                                 |                              |         |             |                        |                        |     |
| 10<br>CP's LuxTrust Global Chain                  | 1                              | Reserved                        |                              |         |             |                        | N/A                    |     |
|   | 2                              | Reserved                        |                              |         |             |                        | N/A                    |     |



| Document category | Document   | Sub-document - description  | LuxTrust Product   | Version                              | Sub-version | Complete OID           | ETSI OID            |
|-------------------|--|---|--|--------------------------------------|-------------|------------------------|---------------------|
|                   |  | <b>0</b> Master document  | N/A  | x                                    | y           | 1.3.171.1.1.10.3.0.x.y | N/A                 |
|                   | 3<br>LuxTrust Global Qualified CA Certificates issued to Natural Persons | 1 QCP+ supporting Advanced Electronic Signature with Qualified Certificate issued on SSCD (for Natural Persons) |  | -                                    | -           | 1.3.171.1.1.10.3.1     | 0.4.0.1456.1.1      |
|                   |  | 2 NCP+ supporting Authentication & Encryption for Natural Persons   | SmartCard PRI/PRO Authentication Certificate   | -                                    | -           | 1.3.171.1.1.10.3.2     | 0.4.0.2042.1.2      |
|                   |  | 3 QCP supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons)               | Signing Stick PRI/PRO Signature Certificate  | -                                    | -           | 1.3.171.1.1.10.3.3     | 0.4.0.1456.1.2      |
|                   |  | 4 NCP Authentication & Encryption   | Signing Stick PRI/PRO Authentication Certificate   | -                                    | -           | 1.3.171.1.1.10.3.4     | 0.4.0.2042.1.1      |
|                   |  | 5 NCP Authentication, Encryption & Signature [LuxTrust Signing Server]  | Signing Server Certificate   | -                                    | -           | 1.3.171.1.1.10.3.5     | 0.4.0.2042.1.1      |
|                   |  | 6 NCP+ supporting AdES with a qualified certificate for Mass Signature Services                                 | Mass Signature Service signature Certificate   | -                                    | -           | 1.3.171.1.1.10.3.6     | 0.4.0.2042.1.1      |
|                   |  | 7 LuxTrust LCP+ supporting Electronic Signature For Integration purposes.                                       | Integration SmartCard Signature Certificate  | -                                    | -           | 1.3.171.1.1.10.3.7     | 0.4.0.2042.1.3      |
|                   |  | 8 LuxTrust LCP+ certificate supporting Signature, Authentication & Encryption for Integration purposes          | Integration SmartCard Authentication Certificate   | -                                    | -           | 1.3.171.1.1.10.3.8     | 0.4.0.2042.1.3      |
|                   |  | 9 LuxTrust LCP Certificates supporting Signature, Authentication & Encryption for integration purposes          | Integration Signing Server Certificate   | -                                    | -           | 1.3.171.1.1.10.3.9     | 0.4.0.2042.1.3      |
|                   |  |   | 10 QCP+ supporting Advanced Electronic Signature with Qualified Certificate issued on SSCD (for Natural Persons) for Natural | SmartCard LORA Signature Certificate | -           | -                      | 1.3.171.1.1.10.3.10 |



| Document category                | Document | Sub-document - description | LuxTrust Product   | Version  | Sub-version | Complete OID | ETSI OID               |                |
|----------------------------------|----------|----------------------------|--|--|-------------|--------------|------------------------|----------------|
| 10<br>CP's LuxTrust Global Chain |          | Persons for LRAO Purposes  |  |  |             |              |                        |                |
|                                  |          | 11                         | NCP+ supporting Authentication & Encryption for Natural Persons for LRAO Purposes  | SmartCard LORA Authentication Certificate      | -           | -            | 1.3.171.1.1.10.3.11    | 0.4.0.2042.1.2 |
|                                  |          | 12                         | QCP supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons) for Mass LRAO Signatures [1.3.171.1.1.10.3.12] | Mass LRAO Signature Certificate                | -           | -            | 1.3.171.1.1.10.3.12    | 0.4.0.1456.1.2 |
|                                  |          | 0                          | Master document  |  | x           | y            | 1.3.171.1.1.10.4.0.x.y | N/A            |
|                                  |          | 1                          | LCP for SPARE certificates for QCP+ Certificates supporting Qualified Electronic Signature (for Natural Persons)                               | SmartCard SPARE Signature certificate          | -           | -            | 1.3.171.1.1.10.4.1     | 0.4.0.2042.1.3 |
|                                  |          | 2                          | LCP for SPARE certificates for NCP+ Supporting Authentication & Encryption for Natural Persons   | SmartCard SPARE Authentication Certificate     | -           | -            | 1.3.171.1.1.10.4.2     | 0.4.0.2042.1.3 |
|                                  |          | 3                          | LCP for SPARE certificates for QCP Supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons)                 | Signing Stick SPARE Signature Certificate      | -           | -            | 1.3.171.1.1.10.4.3     | 0.4.0.2042.1.3 |
|                                  |          | 4                          | LCP for SPARE certificates for NCP Supporting Authentication & Encryption for Natural Persons  | Signing Stick SPARE Authentication Certificate | -           | -            | 1.3.171.1.1.10.4.4     | 0.4.0.2042.1.3 |
|                                  |          | 5                          | LCP for SPARE certificates for LuxTrust Signing Server, NCP certificate supporting Signature, Authentication & Encryption for Natural Persons  | Signing Server SPARE certificate               | -           | -            | 1.3.171.1.1.10.4.5     | 0.4.0.2042.1.3 |
|                                  |          | 6                          | Privacy+ certificate supporting Signature, Authentication & Encryption for Anonymous persons   | Signing Server Privacy+ Certificate            | -           | -            | 1.3.171.1.1.10.4.6     |                |
|                                  | 5        | 0                          | Master document  | N/A  | x           | y            | 1.3.171.1.1.10.5.0.x.y | N/A            |
|                                  |          | 1                          | SSL/TLS Standard Server Certificates   | SSL/TLS Standard                               | -           | -            | 1.3.171.1.1.10.5.1     | 0.4.0.2042.1.3 |



| Document category | Document              | Sub-document - description | LuxTrust Product   | Version  | Sub-version | Complete OID | ETSI OID           |                |
|-------------------|-----------------------|----------------------------|--|--|-------------|--------------|--------------------|----------------|
|                   |                       |                            | Server Certificates  |  |             |              |                    |                |
|                   |                       | 2                          | SSL/TLS(+) Extended Validation Server Certificates - EVCP  | SSL/TLS Extended Validation Server Certificates                  | -           | -            | 1.3.171.1.1.10.5.2 | 0.4.0.2042.1.4 |
|                   |                       | 3                          | SSL/TLS(+) Extended Validation Server Certificates - EVCP+   | SSL/TLS Extended Validation Server Certificates on Secure Device | -           | -            | 1.3.171.1.1.10.5.3 | 0.4.0.2042.1.5 |
|                   |                       | 4                          | Object Signing(+ ) Certificates  | Object Signing(+ ) Certificates                                  | -           | -            | 1.3.171.1.1.10.5.4 | 0.4.0.2042.1.3 |
|                   |                       | 5                          | SSL/TLS Client Certificate   | SSL/TLS Client Certificate                                       |             |              | 1.3.171.1.1.10.5.5 | 0.4.0.2042.1.3 |
|                   | 6<br>LuxTrust TEST CA | 0                          | <b>Master document</b>   | <b>N/A</b>   | <b>x</b>    | <b>y</b>     | 1.3.171.1.1.10.6.0 | N/A            |
|                   |                       | 1                          | LCP for TEST certificates for QCP+ certificates supporting Qualified Electronic Signature (for Natural Persons)                              |  | -           | -            | 1.3.171.1.1.10.6.1 | 0.4.0.2042.1.3 |
|                   |                       | 2                          | LCP for TEST certificates for LuxTrust Signing Server, NCP certificate supporting Signature, Authentication & Encryption for Natural Persons |  | -           | -            | 1.3.171.1.1.10.6.2 | 0.4.0.2042.1.3 |
|                   |                       | 3                          | LCP for TEST certificates for NCP+ Supporting Authentication & Encryption for Natural Persons  |  | -           | -            | 1.3.171.1.1.10.6.3 | 0.4.0.2042.1.3 |
|                   |                       | 4                          | LCP for TEST certificates for NCP Supporting Authentication & Encryption for Natural Persons   |  | -           | -            | 1.3.171.1.1.10.6.4 | 0.4.0.2042.1.3 |
|                   |                       | 5                          | LCP for TEST certificates for QCP supporting Advanced Electronic Signature with a Qualified Certificate (for Natural Persons)                |  | -           | -            | 1.3.171.1.1.10.6.5 | 0.4.0.2042.1.3 |
|                   |                       | 6                          | LCP for TEST certificates supporting Advanced Electronic Signature with a Qualified Certificate for Mass Signature Services                  |  | -           | -            | 1.3.171.1.1.10.6.6 | 0.4.0.2042.1.3 |

| Document category | Document                             | Sub-document - description     | LuxTrust Product   | Version                                   | Sub-version | Complete OID | ETSI OID           |                |
|-------------------|--------------------------------------|--------------------------------|--|---|-------------|--------------|--------------------|----------------|
|                   | 7<br>LuxTrust Internal CA            | 0                              | Master document  | N/A                                       | x           | y            | 1.3.171.1.1.10.7.0 | N/A            |
|                   |                                      | 1                              | QCP+ supporting Qualified Electronic Signature (for Natural Persons) | RA SmartCard Signature certificate        | -           | -            | 1.3.171.1.1.10.7.1 | 0.4.0.1456.1.2 |
|                   |                                      | 2                              | NCP+ supporting Authentication & Encryption for Natural Persons      | RA SmartCard Authentication certificate   | -           | -            | 1.3.171.1.1.10.7.2 | 0.4.0.2042.1.2 |
|                   | 8<br>LuxTrust Global TimeStamping CA | 0                              | Master document  | N/A                                       |             |              | 1.3.171.1.1.10.8.0 | N/A            |
|                   |                                      | 1                              | LuxTrust Trusted TimeStamping certificate                            | LuxTrust Trusted TimeStamping certificate |             |              | 1.3.171.1.1.10.8.1 |                |
|                   |                                      | 2                              | Third Party TimeStamping certificate                                 | Third Party TimeStamping certificate      |             |              | 1.3.171.1.1.10.8.2 |                |
|                   | 8<br>LuxTrust eGovernment CA         | 0                              | Master document  | N/A                                       |             |              | 1.3.171.1.1.10.9.0 | N/A            |
|                   |                                      | <b>Reserved for future use</b> |  |   |             |              |                    |                |





## 3.2 LuxTrust Certification Authorities – Certificates profiles

LuxTrust certificates are X.509 v3, compliant with RFC 5280.

LuxTrust CAs certificate profiles description is available as follows:

### 3.2.1 LuxTrust Global Root CA

| LuxTrust Global Root CA       |                       |          |                   |  |       |
|-------------------------------|-----------------------|----------|-------------------|--|-------|
| Base Profile                  | OID                   | Included | Critical          | Value  |       |
| <b>Version</b>                |                       | X        |                   | V3   |       |
| <b>SerialNumber</b>           |                       | X        |                   | As provided by CA or by LuxTrust S.A.  |       |
| <b>SignatureAlgorithm</b>     |                       |          |                   |  |       |
| Algorithm                     | 1.2.840.113549.1.1.11 | X        |                   | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>         |                       | X        |                   | Issuing CA Signature   |       |
| <b>Validity</b>               |                       |          |                   |  |       |
| NotBefore                     |                       | X        |                   | Key Generation Process Date/Time   |       |
| NotAfter                      |                       | X        |                   | Key Generation Process Date/Time + <b>10 years</b>                                       | Fixed |
| <b>SubjectPublicKeyInfo</b>   |                       | X        |                   | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| <b>Issuer</b>                 |                       |          |                   |  |       |
| CountryName                   | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                    | { id-at-3 }           | X        |                   | LuxTrust Global Root   | Fixed |
| organizationName              |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>Subject</b>                |                       |          |                   |  |       |
| CountryName                   | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                    | { id-at-3 }           |          |                   | LuxTrust Global Root   | Fixed |
| organizationName              |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>KeyUsage</b>               | {id-ce 15}            | X        | TRUE <sup>2</sup> |  |       |
| CertificateSigning            |                       |          |                   | Set  | Fixed |
| crlSigning                    |                       |          |                   | Set  | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35}            | X        | FALSE             |  |       |
| KeyIdentifier                 |                       | X        |                   | SHA-1 Hash   |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14}            | X        | FALSE             |  |       |
| KeyIdentifier                 |                       | X        |                   | SHA-1 Hash   |       |
| <b>BasicConstraints</b>       | {id-ce 19}            | X        | TRUE <sup>2</sup> |  |       |
| CA                            |                       | X        |                   | TRUE   | Fixed |

| LuxTrust Global Root CA |     |          |          |       |       |
|-------------------------|-----|----------|----------|-------|-------|
| Base Profile            | OID | Included | Critical | Value |       |
| pathLenConstraint       |     | X        |          | None  | Fixed |

### 3.2.2 LuxTrust Global Qualified CA

| LuxTrust Global Qualified CA  |                       |          |                   |  |       |
|-------------------------------|-----------------------|----------|-------------------|--|-------|
| Base Profile                  | OID                   | Included | Critical          | Value  |       |
| <b>Version</b>                |                       | X        |                   | V3   |       |
| <b>SerialNumber</b>           |                       | X        |                   | As provided by CA or by LuxTrust S.A.  |       |
| <b>SignatureAlgorithm</b>     |                       |          |                   |  |       |
| Algorithm                     | 1.2.840.113549.1.1.11 | X        |                   | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>         |                       | X        |                   | Issuing LTGRCA Signature   |       |
| <b>Validity</b>               |                       |          |                   |  |       |
| NotBefore                     |                       | X        |                   | Key Generation Process Date/Time   |       |
| NotAfter                      |                       | X        |                   | Key Generation Process Date/Time <b>+up to 6 years</b>                                   | Fixed |
| <b>SubjectPublicKeyInfo</b>   |                       | X        |                   | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| <b>Issuer</b>                 |                       |          |                   |  |       |
| CountryName                   | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                    | { id-at-3 }           | X        |                   | LuxTrust Global Root   | Fixed |
| organizationName              |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>Subject</b>                |                       |          |                   |  |       |
| CountryName                   | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                    | { id-at-3 }           |          |                   | LuxTrust Global Qualified CA   | Fixed |
| organizationName              |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>CertificatePolicies</b>    | {id-ce 32}            | X        | FALSE             |  |       |
| policyIdentifier              |                       | X        |                   | 1.3.171.1.1.1.10.3   | Fixed |
| policyQualifiers              |                       |          |                   | N/a  |       |
| policyQualifierId             | { id-qt-1 }           | X        |                   | CPS  | Fixed |
| Qualifier                     | CPSuri                | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>              | Fixed |
| <b>KeyUsage</b>               | {id-ce 15}            | X        | TRUE <sup>2</sup> |  |       |
| keyCertSign                   |                       |          |                   | Set  | Fixed |
| crlSign                       |                       |          |                   | Set  | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35}            | X        | FALSE             |  |       |
| KeyIdentifier                 |                       | X        |                   | SHA-1 Hash of Authority public key   |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14}            | X        | FALSE             |  |       |

| LuxTrust Global Qualified CA |            |          |                   |   |       |
|------------------------------|------------|----------|-------------------|---|-------|
| Base Profile                 | OID        | Included | Critical          | Value   |       |
| KeyIdentifier                |            | X        |                   | SHA-1 Hash of Subject public key  |       |
| cRLDistributionPoints        | {id-ce 31} | X        | FALSE             |   |       |
| distributionPoint            |            |          |                   |   |       |
| FullName                     |            | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a> | Fixed |
| BasicConstraints             | {id-ce 19} | X        | TRUE <sup>2</sup> | N/A   |       |
| CA                           |            | X        |                   | TRUE  | Fixed |
| pathLenConstraint            |            | X        |                   | 0 (Zero)  | Fixed |

### 3.2.3 LuxTrust Privacy+ CA

| LuxTrust Privacy+ CA |                       |          |          |  |       |
|----------------------|-----------------------|----------|----------|--|-------|
| Base Profile         | OID                   | Included | Critical | Value  |       |
| Version              |                       | X        |          | V3   |       |
| SerialNumber         |                       | X        |          | As provided by CA or by LuxTrust S.A.  |       |
| SignatureAlgorithm   |                       |          |          |  |       |
| Algorithm            | 1.2.840.113549.1.1.11 | X        |          | SHA256 with RSA Encryption   | Fixed |
| SignatureValue       |                       | X        |          | Issuing LTGRCA Signature   |       |
| Validity             |                       |          |          |  |       |
| NotBefore            |                       | X        |          | Key Generation Process Date/Time   |       |
| NotAfter             |                       | X        |          | Key Generation Process Date/Time<br><b>+up to 6 years</b>                                | Fixed |
| SubjectPublicKeyInfo |                       | X        |          | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| Issuer               |                       |          |          |  |       |
| CountryName          | { id-at-6 }           | X        |          | LU   | Fixed |
| CommonName           | { id-at-3 }           | X        |          | LuxTrust Global Root   | Fixed |
| organizationName     |                       | X        |          | LuxTrust S.A.  | Fixed |
| Subject              |                       |          |          |  |       |
| CountryName          | { id-at-6 }           | X        |          | LU   | Fixed |
| CommonName           | { id-at-3 }           |          |          | LuxTrust Privacy+ CA   | Fixed |
| organizationName     |                       | X        |          | LuxTrust S.A.  | Fixed |
| CertificatePolicies  | {id-ce 32}            | X        | FALSE    |  |       |
| policyIdentifier     |                       | X        |          | 1.3.171.1.1.1.10.4   | Fixed |
| policyQualifiers     |                       |          |          | N/a  |       |
| policyQualifierId    | { id-qt-1 }           | X        |          | CPS  | Fixed |

<sup>2</sup> Criticality of this extension should be carefully considered with regards to the compliance with RFC 5280 stating in its section 4.2.1.10 that "This extension MUST appear as a critical extension in all CA certificates that contain public keys used to validate digital signatures on certificates. This extension MAY appear as a critical or non-critical extension in CA certificates that contain public keys used exclusively for purposes other than validating digital signatures on certificates".

| LuxTrust Privacy+ CA          |            |          |                   |   |       |
|-------------------------------|------------|----------|-------------------|---|-------|
| Base Profile                  | OID        | Included | Critical          | Value   |       |
| Qualifier                     |            | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>       | Fixed |
| <b>KeyUsage</b>               | {id-ce 15} | X        | TRUE <sup>2</sup> |   |       |
| keyCertSign                   |            |          |                   | Set   | Fixed |
| crlSign                       |            |          |                   | Set   | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35} | X        | FALSE             |   |       |
| KeyIdentifier                 |            | X        |                   | SHA-1 Hash of Authority public key  |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14} | X        | FALSE             |   |       |
| KeyIdentifier                 |            | X        |                   | SHA-1 Hash of Subject public key  |       |
| <b>cRLDistributionPoints</b>  | {id-ce 31} | X        | FALSE             |   |       |
| distributionPoint             |            |          |                   |   |       |
| FullName                      |            | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a> | Fixed |
| <b>BasicConstraints</b>       | {id-ce 19} | X        | TRUE <sup>2</sup> | N/a   |       |
| CA                            |            | X        |                   | TRUE  | Fixed |
| pathLenConstraint             |            | X        |                   | 0 (Zero)  | Fixed |

### 3.2.4 LuxTrust SSL CA

| LuxTrust SSL CA             |                       |          |          |  |       |
|-----------------------------|-----------------------|----------|----------|--|-------|
| Base Profile                | OID                   | Included | Critical | Value  |       |
| <b>Version</b>              |                       | X        |          | V3   |       |
| <b>SerialNumber</b>         |                       | X        |          | As provided by CA or by LuxTrust S.A.  |       |
| <b>SignatureAlgorithm</b>   |                       |          |          |  |       |
| Algorithm                   | 1.2.840.113549.1.1.11 | X        |          | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>       |                       | X        |          | Issuing LTGRCA Signature   |       |
| <b>Validity</b>             |                       |          |          |  |       |
| NotBefore                   |                       | X        |          | Key Generation Process Date/Time   |       |
| NotAfter                    |                       | X        |          | Key Generation Process Date/Time<br><b>+up to 6 years</b>                                | Fixed |
| <b>SubjectPublicKeyInfo</b> |                       | X        |          | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| <b>Issuer</b>               |                       |          |          |  |       |
| CountryName                 | { id-at-6 }           | X        |          | LU   | Fixed |
| CommonName                  | { id-at-3 }           | X        |          | LuxTrust Global Root   | Fixed |
| organizationName            |                       | X        |          | LuxTrust S.A.  | Fixed |
| <b>Subject</b>              |                       |          |          |  |       |
| CountryName                 | { id-at-6 }           | X        |          | LU   | Fixed |
| CommonName                  | { id-at-3 }           |          |          | LuxTrust SSL CA  | Fixed |
| organizationName            |                       | X        |          | LuxTrust S.A.  | Fixed |

| LuxTrust SSL CA               |             |          |                   |   |       |
|-------------------------------|-------------|----------|-------------------|---|-------|
| Base Profile                  | OID         | Included | Critical          | Value   |       |
| <b>CertificatePolicies</b>    | {id-ce 32}  | X        | FALSE             |   |       |
| policyIdentifier              |             | X        |                   | 1.3.171.1.1.1.10.5  | Fixed |
| policyQualifiers              |             |          |                   | N/a   |       |
| policyQualifierId             | { id-qt-1 } | X        |                   | CPS   | Fixed |
| Qualifier                     |             | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>       | Fixed |
| <b>KeyUsage</b>               | {id-ce 15}  | X        | TRUE <sup>2</sup> |   |       |
| keyCertSign                   |             |          |                   | Set   | Fixed |
| crlSign                       |             |          |                   | Set   | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35}  | X        | FALSE             |   |       |
| KeyIdentifier                 |             | X        |                   | SHA-1 Hash of Authority public key  |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14}  | X        | FALSE             |   |       |
| KeyIdentifier                 |             | X        |                   | SHA-1 Hash of Subject public key  |       |
| <b>cRLDistributionPoints</b>  | {id-ce 31}  | X        | FALSE             |   |       |
| distributionPoint             |             |          |                   |   |       |
| FullName                      |             | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a> | Fixed |
| <b>BasicConstraints</b>       | {id-ce 19}  | X        | TRUE <sup>2</sup> | N/a   |       |
| CA                            |             | X        |                   | TRUE  | Fixed |
| pathLenConstraint             |             | X        |                   | 0 (Zero)  | Fixed |

### 3.2.5 LuxTrust TEST CA

| LuxTrust TEST CA            |                       |          |          |  |       |
|-----------------------------|-----------------------|----------|----------|--|-------|
| Base Profile                | OID                   | Included | Critical | Value  |       |
| <b>Version</b>              |                       | X        |          | V3   |       |
| <b>SerialNumber</b>         |                       | X        |          | As provided by CA or by LuxTrust S.A.  |       |
| <b>SignatureAlgorithm</b>   |                       |          |          |  |       |
| Algorithm                   | 1.2.840.113549.1.1.11 | X        |          | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>       |                       | X        |          | Issuing LTGRCA Signature   |       |
| <b>Validity</b>             |                       |          |          |  |       |
| NotBefore                   |                       | X        |          | Key Generation Process Date/Time   |       |
| NotAfter                    |                       | X        |          | Key Generation Process Date/Time<br><b>+up to 6 years</b>                                | Fixed |
| <b>SubjectPublicKeyInfo</b> |                       | X        |          | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| <b>Issuer</b>               |                       |          |          |  |       |
| CountryName                 | { id-at-6 }           | X        |          | LU   | Fixed |
| CommonName                  | { id-at-3 }           | X        |          | LuxTrust Global Root   | Fixed |

| LuxTrust TEST CA              |             |          |                   |   |       |
|-------------------------------|-------------|----------|-------------------|---|-------|
| Base Profile                  | OID         | Included | Critical          | Value   |       |
| organizationName              |             | X        |                   | LuxTrust S.A.   | Fixed |
| <b>Subject</b>                |             |          |                   |   |       |
| CountryName                   | { id-at-6 } | X        |                   | LU  | Fixed |
| CommonName                    | { id-at-3 } |          |                   | LuxTrust TEST CA  | Fixed |
| organizationName              |             | X        |                   | LuxTrust S.A.   | Fixed |
| <b>CertificatePolicies</b>    | {id-ce 32}  | X        | FALSE             |   |       |
| policyIdentifier              |             | X        |                   | 1.3.171.1.1.1.10.6  | Fixed |
| policyQualifiers              |             |          |                   | N/a   |       |
| policyQualifierId             | { id-qt-1 } | X        |                   | CPS   | Fixed |
| Qualifier                     |             | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>       | Fixed |
| <b>KeyUsage</b>               | {id-ce 15}  | X        | TRUE <sup>2</sup> |   |       |
| keyCertSign                   |             |          |                   | Set   | Fixed |
| crSign                        |             |          |                   | Set   | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35}  | X        | FALSE             |   |       |
| KeyIdentifier                 |             | X        |                   | SHA-1 Hash of Authority public key  |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14}  | X        | FALSE             |   |       |
| KeyIdentifier                 |             | X        |                   | SHA-1 Hash of Subject public key  |       |
| <b>cRLDistributionPoints</b>  | {id-ce 31}  | X        | FALSE             |   |       |
| distributionPoint             |             |          |                   |   |       |
| FullName                      |             | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a> | Fixed |
| <b>BasicConstraints</b>       | {id-ce 19}  | X        | TRUE <sup>2</sup> | N/A   |       |
| CA                            |             | X        |                   | TRUE  | Fixed |
| pathLenConstraint             |             | X        |                   | 0 (Zero)  | Fixed |

### 3.2.6 LuxTrust Internal CA

| LuxTrust Internal CA        |                       |          |          |  |       |
|-----------------------------|-----------------------|----------|----------|--|-------|
| Base Profile                | OID                   | Included | Critical | Value  |       |
| <b>Version</b>              |                       | X        |          | V3   |       |
| <b>SerialNumber</b>         |                       | X        |          | As provided by CA or by LuxTrust S.A.                                |       |
| <b>SignatureAlgorithm</b>   |                       |          |          |  |       |
| Algorithm                   | 1.2.840.113549.1.1.11 | X        |          | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>       |                       | X        |          | Issuing LTGRCA Signature   |       |
| <b>Validity</b>             |                       |          |          |  |       |
| NotBefore                   |                       | X        |          | Key Generation Process Date/Time                                     |       |
| NotAfter                    |                       | X        |          | Key Generation Process Date/Time<br><b>+up to 6 years</b>            | Fixed |
| <b>SubjectPublicKeyInfo</b> |                       | X        |          | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: |       |

| LuxTrust Internal CA          |             |          |                   |   |       |
|-------------------------------|-------------|----------|-------------------|---|-------|
| Base Profile                  | OID         | Included | Critical          | Value   |       |
|                               |             |          |                   | Fermat-4 (=010001).   |       |
| <b>Issuer</b>                 |             |          |                   |   |       |
| CountryName                   | { id-at-6 } | X        |                   | LU  | Fixed |
| CommonName                    | { id-at-3 } | X        |                   | LuxTrust Global Root  | Fixed |
| organizationName              |             | X        |                   | LuxTrust S.A.   | Fixed |
| <b>Subject</b>                |             |          |                   |   |       |
| CountryName                   | { id-at-6 } | X        |                   | LU  | Fixed |
| CommonName                    | { id-at-3 } |          |                   | LuxTrust Internal CA  | Fixed |
| organizationName              |             | X        |                   | LuxTrust S.A.   | Fixed |
| <b>CertificatePolicies</b>    | {id-ce 32}  | X        | FALSE             |   |       |
| policyIdentifier              |             | X        |                   | 1.3.171.1.1.1.10.7  | Fixed |
| policyQualifiers              |             |          |                   | N/a   |       |
| policyQualifierId             | { id-qt-1 } | X        |                   | CPS   | Fixed |
| Qualifier                     |             | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>       | Fixed |
| <b>KeyUsage</b>               | {id-ce 15}  | X        | TRUE <sup>2</sup> |   |       |
| keyCertSign                   |             |          |                   | Set   | Fixed |
| crlSign                       |             |          |                   | Set   | Fixed |
| digitalSignature              |             |          |                   | Set   | Fixed |
| nonRepudiation                |             |          |                   | Set   | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35}  | X        | FALSE             |   |       |
| KeyIdentifier                 |             | X        |                   | SHA-1 Hash of Authority public key  |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14}  | X        | FALSE             |   |       |
| KeyIdentifier                 |             | X        |                   | SHA-1 Hash of Subject public key  |       |
| <b>cRLDistributionPoints</b>  | {id-ce 31}  | X        | FALSE             |   |       |
| distributionPoint             |             |          |                   |   |       |
| FullName                      |             | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a> | Fixed |
| <b>BasicConstraints</b>       | {id-ce 19}  | X        | TRUE <sup>2</sup> | N/a   |       |
| CA                            |             | X        |                   | TRUE  | Fixed |
| pathLenConstraint             |             | X        |                   | 0 (Zero)  | Fixed |

### 3.2.7 LuxTrust TSA (Timestamping) CA

| LuxTrust Global Timestamping CA |     |          |          |                                       |  |
|---------------------------------|-----|----------|----------|---------------------------------------|--|
| Base Profile                    | OID | Included | Critical | Value                                 |  |
| <b>Version</b>                  |     | X        |          | V3                                    |  |
| <b>SerialNumber</b>             |     | X        |          | As provided by CA or by LuxTrust S.A. |  |
| <b>SignatureAlgorithm</b>       |     |          |          |                                       |  |



| LuxTrust Global Timestamping CA |                       |          |                   |  |       |
|---------------------------------|-----------------------|----------|-------------------|--|-------|
| Base Profile                    | OID                   | Included | Critical          | Value  |       |
| Algorithm                       | 1.2.840.113549.1.1.11 | X        |                   | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>           |                       | X        |                   | Issuing LTGRCA Signature   |       |
| <b>Validity</b>                 |                       |          |                   |  |       |
| NotBefore                       |                       | X        |                   | Key Generation Process Date/Time   |       |
| NotAfter                        |                       | X        |                   | Key Generation Process Date/Time<br><b>+up to 10 years</b>                               | Fixed |
| <b>SubjectPublicKeyInfo</b>     |                       | X        |                   | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| <b>Issuer</b>                   |                       |          |                   |  |       |
| CountryName                     | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                      | { id-at-3 }           | X        |                   | LuxTrust Global Root   | Fixed |
| organizationName                |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>Subject</b>                  |                       |          |                   |  |       |
| CountryName                     | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                      | { id-at-3 }           |          |                   | LuxTrust Global Timestamping CA  | Fixed |
| organizationName                |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>CertificatePolicies</b>      | {id-ce 32}            | X        | FALSE             |  |       |
| policyIdentifier                |                       | X        |                   | 1.3.171.1.1.1.10.8   | Fixed |
| policyQualifiers                |                       |          |                   | N/a  |       |
| policyQualifierId               | { id-qt-1 }           | X        |                   | CPS  | Fixed |
| Qualifier                       |                       | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>              | Fixed |
| <b>KeyUsage</b>                 | {id-ce 15}            | X        | TRUE <sup>2</sup> |  |       |
| keyCertSign                     |                       |          |                   | Set  | Fixed |
| crlSign                         |                       |          |                   | Set  | Fixed |
| <b>authorityKeyIdentifier</b>   | {id-ce 35}            | X        | FALSE             |  |       |
| KeyIdentifier                   |                       | X        |                   | SHA-1 Hash of Authority public key   |       |
| <b>subjectKeyIdentifier</b>     | {id-ce 14}            | X        | FALSE             |  |       |
| KeyIdentifier                   |                       | X        |                   | SHA-1 Hash of Subject public key   |       |
| <b>cRLDistributionPoints</b>    | {id-ce 31}            | X        | FALSE             |  |       |
| distributionPoint               |                       |          |                   |  |       |
| FullName                        |                       | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a>        | Fixed |
| <b>BasicConstraints</b>         | {id-ce 19}            | X        | TRUE <sup>2</sup> | N/a  |       |
| CA                              |                       | X        |                   | TRUE   | Fixed |
| pathLenConstraint               |                       | X        |                   | 0 (Zero)   | Fixed |

### 3.2.8 LuxTrust e-Government CA

#### LuxTrust eGovernment CA





| Base Profile                  | OID                   | Included | Critical          | Value  |       |
|-------------------------------|-----------------------|----------|-------------------|--|-------|
| <b>Version</b>                |                       | X        |                   | V3   |       |
| <b>SerialNumber</b>           |                       | X        |                   | As provided by CA or by LuxTrust S.A.  |       |
| <b>SignatureAlgorithm</b>     |                       |          |                   |  |       |
| Algorithm                     | 1.2.840.113549.1.1.11 | X        |                   | SHA256 with RSA Encryption   | Fixed |
| <b>SignatureValue</b>         |                       | X        |                   | Issuing LTGRCA Signature   |       |
| <b>Validity</b>               |                       |          |                   |  |       |
| NotBefore                     |                       | X        |                   | Key Generation Process Date/Time   |       |
| NotAfter                      |                       | X        |                   | Key Generation Process Date/Time<br><b>+up to 6 years</b>                                | Fixed |
| <b>SubjectPublicKeyInfo</b>   |                       | X        |                   | Public Key: Key length: 2048 up to 4096 bits (RSA); public exponent: Fermat-4 (=010001). |       |
| <b>Issuer</b>                 |                       |          |                   |  |       |
| CountryName                   | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                    | { id-at-3 }           | X        |                   | LuxTrust Global Root   | Fixed |
| organizationName              |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>Subject</b>                |                       |          |                   |  |       |
| CountryName                   | { id-at-6 }           | X        |                   | LU   | Fixed |
| CommonName                    | { id-at-3 }           |          |                   | LuxTrust eGovernment CA  | Fixed |
| organizationName              |                       | X        |                   | LuxTrust S.A.  | Fixed |
| <b>CertificatePolicies</b>    | {id-ce 32}            | X        | FALSE             |  |       |
| policyIdentifier              |                       | X        |                   | 1.3.171.1.1.1.10.9   | Fixed |
| policyQualifiers              |                       |          |                   | N/a  |       |
| policyQualifierId             | { id-qt-1 }           | X        |                   | CPS  | Fixed |
| Qualifier                     |                       | X        |                   | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>              | Fixed |
| <b>KeyUsage</b>               | {id-ce 15}            | X        | TRUE <sup>2</sup> |  |       |
| keyCertSign                   |                       |          |                   | Set  | Fixed |
| crlSign                       |                       |          |                   | Set  | Fixed |
| digitalSignature              |                       |          |                   | Set  | Fixed |
| nonRepudiation                |                       |          |                   | Set  | Fixed |
| <b>authorityKeyIdentifier</b> | {id-ce 35}            | X        | FALSE             |  |       |
| KeyIdentifier                 |                       | X        |                   | SHA-1 Hash of Authority public key   |       |
| <b>subjectKeyIdentifier</b>   | {id-ce 14}            | X        | FALSE             |  |       |
| KeyIdentifier                 |                       | X        |                   | SHA-1 Hash of Subject public key   |       |
| <b>cRLDistributionPoints</b>  | {id-ce 31}            | X        | FALSE             |  |       |
| distributionPoint             |                       |          |                   |  |       |
| FullName                      |                       | X        |                   | <a href="http://crl.luxtrust.lu/LTGRCA.crl">http://crl.luxtrust.lu/LTGRCA.crl</a>        | Fixed |
| <b>BasicConstraints</b>       | {id-ce 19}            | X        | TRUE <sup>2</sup> | N/a  |       |

| LuxTrust eGovernment CA |     |          |          |          |       |
|-------------------------|-----|----------|----------|----------|-------|
| Base Profile            | OID | Included | Critical | Value    |       |
| CA                      |     | X        |          | TRUE     | Fixed |
| pathLenConstraint       |     | X        |          | 0 (Zero) | Fixed |

### 3.2.9 Certificate extensions

X.509 v3 extensions are supported and used as indicated in the Certificates profiles as described in the present document.

### 3.2.10 Algorithm object identifiers

Algorithms OID are conforming to IETF RFC 3279 and RFC 5280.

### 3.2.11 Name forms

Name forms are in the X.500 distinguished name form as implemented in RFC 3739.

### 3.2.12 Name constraints

Name constraints are supported as per RFC 5280.

### 3.2.13 Certificate policy object identifier

Certificate policy object identifiers are used as per RFC 3739.

### 3.2.14 Usage of Policy Constraints extension

Usage of Policy Constraints extension is supported as per RFC 5280.

### 3.2.15 Policy qualifiers syntax and semantics

The use of policy qualifiers defined in RFC 5280 is supported.

## 3.3 LuxTrust End-entity – Certificates profiles

### 3.3.1 Certificate profiles

Under the new LuxTrust Global root and associated CAs, multiple types of certificates will be issued.

For the purpose of integration with current devices such as the smartcard, the signing stick and signing server, the following five types of LuxTrust Certificates will be issued under the LuxTrust Global Qualified CA. They are respectively issued to three types of end-user devices according to the following:

- **LuxTrust SSCD Smartcards:** These physical user devices contain two certificates, associated to two different key pairs, according to two certificate policies
  - One LuxTrust QCP+<sup>3</sup> Qualified Certificate for Natural Persons for the purpose of creating qualified electronic signatures, under the Certificate Policy OID **1.3.171.1.1.10.3.1**, and
  - One LuxTrust NCP+<sup>4</sup> certificate for Natural Persons for the purpose of data/entity authentication and encryption facilities, under the Certificate Policy OID **1.3.171.1.1.10.3.2**.
- **LuxTrust non SSCD Signing Sticks:** These physical user devices that are not considered as SSCD according to [1] (e.g., SIM type chips unless they can be certified as SSCD) contain two certificates, associated to two different key pairs, according to two certificate policies

<sup>3</sup> As defined by ETSI TS 101 456 (cf. [3]).

<sup>4</sup> As defined in ETSI TS 102 042 (cf. [4]).

- One LuxTrust QCP<sup>3</sup> Qualified Certificate for Natural Persons for the purpose of creating advanced electronic signatures supported by a qualified certificate, under the Certificate Policy OID **1.3.171.1.1.10.3.3**, and
  - One LuxTrust NCP<sup>4</sup> certificate for Natural Persons for the purpose of data/entity authentication and encryption facilities, under the Certificate Policy OID **1.3.171.1.1.10.3.4**.
- **LuxTrust Signing Server Accounts (Virtual Smartcards):** These centralised virtual user signature creation devices contain one certificate, associated to one key pair, according to one specific certificate policy
    - One LuxTrust NCP<sup>4</sup> certificate for Natural Persons for the combined purposes of electronic signature, data/entity authentication and encryption facilities, under the Certificate Policy OID **1.3.171.1.1.10.3.5**.

For the purpose of enabling Web-based data communication conduits via the TLS/SSL protocols and for verifying the authenticity of executable code, the following types of LuxTrust Certificates will be issued under the LuxTrust SSL CA:

- **LuxTrust SSL/TLS Standard Server Certificates:** SSL compliant ETSI TS 102 042 [4] Certificate not on SSCD Hardware token, under the Certificate OID Policy **1.3.171.1.1.10.5.1**.
- **LuxTrust SSL/TLS Extended Validation Server Certificates EVCP:** SSL compliant ETSI TS 102 042 [4] Certificate not on SSCD Hardware token, under the Certificate OID Policy **1.3.171.1.1.10.5.2**.
- **LuxTrust SSL/TLS Extended Validation Server Certificates EVCP+:** SSL compliant ETSI TS 102 042 [4] Certificate generated on Secure User Device, under the Certificate OID Policy **1.3.171.1.1.10.5.3**.
- **LuxTrust Object Signing (+) Certificates:** Compliant ETSI TS 102 042 [4] Certificate not on SSCD Hardware token, under the Certificate OID Policy **1.3.171.1.1.10.5.4**.
- **LuxTrust SSL/TLS Client Certificates:** Compliant ETSI TS 102 042 [4] Certificate not on SSCD Hardware token, under the Certificate OID Policy **1.3.171.1.1.10.5.5**.

### 3.3.2 Version number(s)

X.509 v3 is supported and used.

### 3.3.3 LuxTrust SSCD QCP+ Certificates supporting Qualified Signatures

LuxTrust SSCD QCP+ Certificates supporting Qualified Signatures are Qualified Certificates issued on SSCD, with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust SSCD QCP+ Certificates are compliant with and include the OID reference of the QCP+ certificate policy of the ETSI Technical Specifications 101 456 (i.e., 0.4.0.1456.1.1; cf. [3]).

The usage purpose of these LuxTrust SSCD QCP+ Certificates is limited to sole authorised usage of supporting the creation of qualified electronic signatures. The LuxTrust SSCD QCP+ Certificates include the corresponding LuxTrust QCP+ OID, i.e., < **OID 1.3.171.1.1.10.3.1**>.

The following table provides the description of the fields for LuxTrust SSCD QCP+ Certificates.

| LuxTrust SSCD QCP+ Certificate Profile |       |                 |                 |                  |                 |       |
|--|-------|-----------------|-----------------|------------------|-----------------|-------|
| Attribute                              | Field | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value |

<sup>5</sup> IN = Included: Attribute / field included within the certificate profile.

<sup>6</sup> CE = Critical Extension.

<sup>7</sup> O/M: O = Optional, M = Mandatory.

| LuxTrust SSCD QCP+ Certificate Profile |                  |                 |                 |                  |                 |   |
|--|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                              | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| Base Profile                           | Version          | ✓               | False           |                  |                 |   |
|  |                  |                 |                 |                  | S               | Version 3 Value = "2"   |
| SerialNumber                           |                  | ✓               | False           |                  |                 |   |
|  |                  |                 |                 |                  | FDV             | Validated on duplicates.  |
| signatureAlgorithm                     |                  | ✓               | False           |                  |                 |   |
|  | Algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.   |
| signatureValue                         |                  | ✓               | False           |                  |                 |   |
|  |                  |                 |                 |                  | D               | Issuing CA Signature.   |
| Issuer                                 |                  | ✓               | False           |                  | S               |   |
|  | countryName      | ✓               |                 |                  | S               | LU  |
|  | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified CA</b>   |
|  | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.   |
| Validity                               |                  | ✓               | False           |                  |                 |   |
|  | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.   |
|  | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months   |
| Subject                                |                  | ✓               | False           |                  |                 |   |
|  | serialNumber     | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>   |
|  | commonName       | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character.  |
|  | givenName        | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Given name(s) as on ID card  |
|  | surname          | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s)  |
|  | countryName      | ✓               |                 | M                | D               | <i>Nationality of holder (ISO3166)</i>  |
|  | emailAddress     | ✓               |                 | O                | D               | <i>Subject's email address</i>  |
|  | title            | ✓               |                 | M                | D               | <b>PRIVATE products:</b><br><i>Fixed value: "Private Person"</i><br><b>PRO products:</b><br><b>"Professional Person" (default) or "Professional Administrator"</b><br><i>(Other titles possible for special purpose certificates)</i> |

<sup>8</sup> CO = Content: S = Static, D = Dynamic, F = Formatted by CA, V = Validated by CA.

| LuxTrust SSCD QCP+ Certificate Profile |                          |                 |                 |  |                 |  |
|--|--------------------------|-----------------|-----------------|--|-----------------|--|
| Attribute                              | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup>                                 | CO <sup>8</sup> | Value  |
|  | organizationName         | ✓               |                 | M  | D               | <b>PRO products only:</b><br>Name of company/institution as in articles of association or equivalent documents, including the legal form.  |
|  | localityName             | ✓               |                 | M  | D               | <b>PRO products only:</b> Company/institution country of HQ (as in articles of association)  |
|  | organizationalUnitName 1 | ✓               |                 | M for PRO prod., conditional (O) for PRIV prod.) | D               | <b>PRO products:</b><br>Company/Institution VAT number (or if no VAT number available, other unique national company/institution identifier)<br><b>PRIVATE products:</b><br>If the holder is underage: "Mineur jusqu'à : " & (Date of birth + 18 years). |
|  | organizationalUnitName 2 | ✓               |                 | O  | D               | <b>PRO products only:</b><br>Company/institution department or other information item  |
| subjectPublicKeyInfo                   |                          | ✓               | False           |  |                 |  |
|  | Algorithm                | ✓               |                 |  |                 | Public Key: Key length: 2048bit (RSA); public exponent: Fermat-4 (=010001).  |
|  | subjectPublicKey         | ✓               |                 | M  |                 |  |
| <b>Extensions</b>                      |                          |                 |                 |  |                 |  |
| <b>Authority Properties</b>            |                          |                 |                 |  |                 |  |
| authorityKeyIdentifier                 |                          | ✓               | False           |  |                 |  |
|  | keyIdentifier            | ✓               |                 |  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key   |
| authorityInfoAccess                    |                          | ✓               | False           |  |                 |  |
|  | AccessMethod             | ✓               |                 |  |                 | Id-ad-2  |
|  | accessLocation           | ✓               |                 |  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|  | AccessMethod             | ✓               |                 |  |                 | Id-ad-1  |
|  | accessLocation           | ✓               |                 |  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint                   |                          | ✓               | False           |  |                 |  |
|  | distributionPoint        | ✓               |                 |  | S               |  |
|  | fullName                 | ✓               |                 |  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| <b>Subject Properties</b>              |                          |                 |                 |  |                 |  |
| subjectAltName                         |                          | ✓               | False           |  |                 |  |
|  | Rfc822Name               | ✓               |                 | O  | D               | Certificate Holder's email address   |
| subjectKeyIdentifier                   |                          | ✓               | False           |  |                 |  |

| LuxTrust SSCD QCP+ Certificate Profile |                   |                 |                 |                  |                 |  |
|--|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                              | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|  | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| Policy Properties                      |                   |                 |                 |                  |                 |  |
| keyUsage                               |                   | ✓               | True            |                  |                 |  |
|  | digitalSignature  | ✓               |                 |                  | S               | False  |
|  | nonRepudiation    | ✓               |                 |                  | S               | True   |
|  | keyEncipherment   | ✓               |                 |                  | S               | False  |
|  | dataEncipherment  | ✓               |                 |                  | S               | False  |
| certificatePolicies                    |                   | ✓               | False           |                  |                 |  |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.1   |
|  | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|  | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|  | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|  | noticeNumbers     |                 |                 |                  |                 |  |
|  | DisplayText       | ✓               |                 |                  |                 | LuxTrust Qualified Certificate on SSCD compliant with ETSI TS 101 456 QCP+ certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Support of Qualified Electronic Signature.  |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.1456.1.1   |
| QualifiedCertificateStat               |                   |                 |                 |                  |                 |  |
|  | QcCompliance      | ✓               |                 | M                | S               | 0.4.0.1862.1.1   |
|  | QcLimitValue      | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5]  |
|  | QcRetentionPeriod | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5]  |
|  | QcSSCD            | ✓               |                 | M                | D               | Set  |

### 3.3.4 LuxTrust SSCD NCP+ Certificates supporting Authentication & Encryption

LuxTrust SSCD NCP+ Certificates are Normalised Certificates issued on SSCD Hardware token such as LuxTrust Smartcard with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust SSCD NCP+ Certificates are compliant with and include the OID reference of the NCP+ certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.2; cf. [4]).

The usage purpose of these LuxTrust SSCD NCP+ Certificates is for the combined purpose of authentication and encryption. These Certificates include the corresponding LuxTrust SSCD NCP+ OID, i.e., <OID 1.3.171.1.1.10.3.2>.

The following table provides the description of the fields for the LuxTrust SSCD NCP+ Certificate type supporting Authentication and Encryption.



| LuxTrust SSCD NCP+ Certificate Profile |                  |                 |                 |                  |                 |  |
|--|------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                              | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| <b>Base Profile</b>                    |                  |                 |                 |                  |                 |  |
| Version                                |                  | ✓               | False           |                  |                 |  |
|  |                  |                 |                 |                  | S               | Version 3 Value = "2"  |
| SerialNumber                           |                  | ✓               | False           |                  |                 |  |
|  |                  |                 |                 |                  | FDV             | Validated on duplicates.   |
| signatureAlgorithm                     |                  | ✓               | False           |                  |                 |  |
|  | algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| signatureValue                         |                  | ✓               | False           |                  |                 |  |
|  |                  |                 |                 |                  | D               | Issuing CA Signature.  |
| issuer                                 |                  | ✓               | False           |                  | S               |  |
|  | countryName      | ✓               |                 |                  | S               | LU   |
|  | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA  |
|  | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.  |
| Validity                               |                  | ✓               | False           |                  |                 |  |
|  | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|  | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months  |
| subject                                |                  | ✓               | False           |                  |                 |  |
|  | serialNumber     | ✓               |                 | M                | D               | Serial Number as constructed by LRAO   |
|  | commonName       | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character  |
|  | givenName        | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Given name(s) as on ID card   |
|  | surname          | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s)   |
|  | countryName      | ✓               |                 | M                | D               | Nationality of holder (ISO3166)  |
|  | emailAddress     | ✓               |                 | O                | D               | Subject's email address  |
|  | title            | ✓               |                 | M                | D               | <b>PRIVATE products:</b><br>Fixed value: "Private Person"<br><b>PRO products:</b><br>"Professional Person" (default) or "Professional Administrator"<br>(Other titles possible for special purpose certificates) |
|  | organizationName | ✓               |                 | M                | D               | <b>PRO products only:</b><br>Name of company/institution as in articles of association or equivalent documents, including the legal form.  |

| LuxTrust SSCD NCP+ Certificate Profile |                          |                 |                 |  |                 |  |
|--|--------------------------|-----------------|-----------------|--|-----------------|--|
| Attribute                              | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup>                                 | CO <sup>8</sup> | Value  |
|  | localityName             | ✓               |                 | M  | D               | <b>PRO products only:</b> Company/institution country of HQ (as in articles of association)  |
|  | organizationalUnitName 1 | ✓               |                 | M for PRO prod., conditional (O) for PRIV prod.) | D               | <b>PRO products:</b><br>Company/Institution VAT number (or if no VAT number available, other unique national company/institution identifier)<br><b>PRIVATE products:</b><br>If the holder is underage: "Mineur jusqu'à : " & (Date of birth + 18 years). |
|  | organizationalUnitName 2 | ✓               |                 | O  | D               | <b>PRO products only:</b><br>Company/institution department or other information item  |
| subjectPublicKeyInfo                   |                          | ✓               | False           |  |                 |  |
|  | algorithm                | ✓               |                 |  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|  | subjectPublicKey         | ✓               |                 | M  |                 |  |
| <b>Extensions</b>                      |                          |                 |                 |  |                 |  |
| <b>Authority Properties</b>            |                          |                 |                 |  |                 |  |
| authorityKeyIdentifier                 |                          | ✓               | False           |  |                 |  |
|  | keyIdentifier            | ✓               |                 |  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key   |
| authorityInfoAccess                    |                          | ✓               | False           |  |                 |  |
|  | AccessMethod             | ✓               |                 |  |                 | Id-ad-2  |
|  | accessLocation           | ✓               |                 |  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|  | AccessMethod             | ✓               |                 |  |                 | Id-ad-1  |
|  | accessLocation           | ✓               |                 |  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint                   |                          | ✓               | False           |  |                 |  |
|  | distributionPoint        | ✓               |                 |  | S               |  |
|  | fullName                 | ✓               |                 |  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| <b>Subject Properties</b>              |                          |                 |                 |  |                 |  |
| subjectAltName                         |                          | ✓               | False           |  |                 |  |
|  | Rfc822Name               | ✓               |                 | O  | D               | Certificate Holder's email address   |
| subjectKeyIdentifier                   |                          | ✓               | False           |  |                 |  |
|  | keyIdentifier            |                 | ✓               |  |                 | Fixed<br>The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits).  |



| LuxTrust SSCD NCP+ Certificate Profile |                   |                 |                 |                  |                 |   |
|--|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                              | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| Policy Properties                      |                   |                 |                 |                  |                 |   |
| keyUsage                               |                   |                 | ✓               | True             |                 |   |
|  | digitalSignature  |                 | ✓               |                  | S               | True  |
|  | nonRepudiation    |                 |                 |                  | S               | False   |
|  | keyEncipherment   |                 | ✓               |                  | S               | True  |
|  | dataEncipherment  |                 | ✓               |                  | S               | True  |
| certificatePolicies                    |                   |                 | ✓               | False            |                 |   |
|  | PolicyIdentifier  |                 | ✓               |                  |                 | 1.3.171.1.1.10.3.2  |
|  | policyQualifierID |                 | ✓               |                  | S               | Id-qt-1 (CPS)   |
|  | qualifier         |                 | ✓               |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>   |
|  | policyQualifierID |                 | ✓               |                  | S               | Id-qt-2 (User Notice)   |
|  | noticeNumbers     |                 |                 |                  |                 |   |
|  | DisplayText       |                 | ✓               |                  |                 | LuxTrust Certificate on SSCD compliant with ETSI TS 102 042 NCP+ certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Data or Entity Authentication and Data Encryption. |
|  | PolicyIdentifier  |                 | ✓               |                  |                 | 0.4.0.2042.1.2  |

### 3.3.5 LuxTrust non SSCD QCP Certificates supporting Advanced Electronic Signatures

LuxTrust non SSCD QCP Certificates are Qualified Certificates **not** issued on SSCD, with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust non SSCD QCP Certificates are compliant with and include the OID reference of the QCP certificate policy of the ETSI Technical Specifications 101 456 (i.e., 0.4.0.1456.1.2; cf. [3]).

The usage purpose of these Certificates is limited to sole authorised usage of supporting the creation of non-qualified (advanced) electronic signatures supported by a qualified certificate. These Certificates include the corresponding LuxTrust QCP OID, i.e., < **OID 1.3.171.1.1.10.3.3**>.

The following table provides the description of the fields for LuxTrust non SSCD QCP Certificates.

| LuxTrust non SSCD QCP Certificate Profile |       |                 |                 |                  |                 |                       |
|---|-------|-----------------|-----------------|------------------|-----------------|-----------------------|
| Attribute                                 | Field | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value                 |
| Base Profile                              |       |                 |                 |                  |                 |                       |
| Version                                   |       | ✓               | False           |                  |                 |                       |
|   |       |                 |                 |                  | S               | Version 3 Value = "2" |
| SerialNumber                              |       | ✓               | False           |                  |                 |                       |

| LuxTrust non SSCD QCP Certificate Profile |                  |                 |                 |                  |                 |   |
|---|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                 | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   |                  |                 |                 |                  | FDV             | Validated on duplicates.  |
| <b>signatureAlgorithm</b>                 |                  | ✓               | False           |                  |                 |   |
|   | Algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.   |
| <b>signatureValue</b>                     |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | D               | Issuing CA Signature.   |
| <b>Issuer</b>                             |                  | ✓               | False           |                  | S               |   |
|   | countryName      | ✓               |                 |                  | S               | LU  |
|   | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified CA</b>   |
|   | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.   |
| <b>Validity</b>                           |                  | ✓               | False           |                  |                 |   |
|   | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.   |
|   | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months   |
| <b>Subject</b>                            |                  | ✓               | False           |                  |                 |   |
|   | serialNumber     | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>   |
|   | commonName       | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character   |
|   | givenName        | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Given name(s) as on ID card  |
|   | surname          | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s)  |
|   | countryName      | ✓               |                 | M                | D               | <i>Nationality of holder (ISO3166)</i>  |
|   | emailAddress     | ✓               |                 | O                | D               | <i>Subject's email address</i>  |
|   | Title            | ✓               |                 | M                | D               | <b>PRIVATE products:</b><br><i>Fixed value: "Private Person"</i><br><b>PRO products:</b><br><b>"Professional Person" (default) or "Professional Administrator"</b><br><i>(Other titles possible for special purpose certificates)</i> |

| LuxTrust non SSCD QCP Certificate Profile |                          |                 |                 |  |                 |  |
|---|--------------------------|-----------------|-----------------|--|-----------------|--|
| Attribute                                 | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup>                                 | CO <sup>8</sup> | Value  |
|   | organizationName         | ✓               |                 | M  | D               | <b>PRO products only:</b><br>Name of company/institution as in articles of association or equivalent documents, including the legal form.  |
|   | localityName             | ✓               |                 | M  | D               | <b>PRO products only:</b> Company/institution country of HQ (as in articles of association)  |
|   | organizationalUnitName 1 | ✓               |                 | M for PRO prod., conditional (O) for PRIV prod.) | D               | <b>PRO products:</b><br>Company/Institution VAT number (or if no VAT number available, other unique national company/institution identifier)<br><b>PRIVATE products:</b><br>If the holder is underage: "Mineur jusqu'à : " & (Date of birth + 18 years). |
|   | organizationalUnitName 2 | ✓               |                 | O  | D               | <b>PRO products only:</b><br>Company/institution department or other information item  |
|   | subjectPublicKeyInfo     | ✓               | False           |  |                 |  |
|   | Algorithm                | ✓               |                 |  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|   | subjectPublicKey         | ✓               |                 | M  |                 |  |
| <b>Extensions</b>                         |                          |                 |                 |  |                 |  |
| <b>Authority Properties</b>               |                          |                 |                 |  |                 |  |
|   | authorityKeyIdentifier   | ✓               | False           |  |                 |  |
|   | keyIdentifier            | ✓               |                 |  |                 | SHA-1 Hash of the LuxTrust <b>Qualified</b> CA public key  |
|   | authorityInfoAccess      | ✓               | False           |  |                 |  |
|   | AccessMethod             | ✓               |                 |  |                 | Id-ad-2  |
|   | accessLocation           | ✓               |                 |  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|   | AccessMethod             | ✓               |                 |  |                 | Id-ad-1  |
|   | accessLocation           | ✓               |                 |  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
|   | cRLDistributionPoint     | ✓               | False           |  |                 |  |
|   | distributionPoint        | ✓               |                 |  | S               |  |
|   | fullName                 | ✓               |                 |  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| <b>Subject Properties</b>                 |                          |                 |                 |  |                 |  |
|   | subjectAltName           | ✓               | False           |  |                 |  |
|   | Rfc822Name               | ✓               |                 | O  | D               | Certificate Holder's email address   |

| LuxTrust non SSCD QCP Certificate Profile |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                 | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| subjectKeyIdentifier                      |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| Policy Properties                         |                   |                 |                 |                  |                 |  |
| keyUsage                                  |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | False  |
|   | nonRepudiation    | ✓               |                 |                  | S               | True   |
|   | keyEncipherment   | ✓               |                 |                  | S               | False  |
|   | dataEncipherment  | ✓               |                 |                  | S               | False  |
| certificatePolicies                       |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.3   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |
|   | DisplayText       | ✓               |                 |                  |                 | LuxTrust Qualified Certificate <b>not</b> on SSCD compliant with ETSI TS 101 456 QCP certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Advanced Electronic Signature supported by a Qualified cert                   |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.1456.1.2   |
| QualifiedCertificateStat                  |                   |                 |                 |                  |                 |  |
|   | QcCompliance      | ✓               |                 | M                | S               | 0.4.0.1862.1.1   |
|   | QcLimitValue      | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5]  |
|   | QcRetentionPeriod | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5]  |
|   | QcSSCD            | ✓               |                 |                  |                 | NOT SET  |

### 3.3.6 LuxTrust non SSCD NCP Certificates supporting Authentication & Encryption

LuxTrust non SSCD NCP Certificates are Normalised Certificates **not** issued on SSCD Hardware token with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust non SSCD NCP Certificates are compliant with and include the OID reference of the NCP certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.1; cf. [4]).

The usage purpose of these NCP Certificates is for the combined purpose of authentication and encryption. These Certificates include the corresponding LuxTrust non SSCD NCP OID, i.e., <OID 1.3.171.1.1.10.3.4>.

The following table provides the description of the fields for the LuxTrust non SSCD NCP Authentication and Encryption Certificate type.

| LuxTrust non SSCD NCP Certificate Profile |                  |                 |                 |                  |                 |   |
|---|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                 | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| Base Profile                              | Version          | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | S               | Version 3 Value = "2"   |
| SerialNumber                              |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | FDV             | Validated on duplicates.  |
| signatureAlgorithm                        |                  | ✓               | False           |                  |                 |   |
|   | algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.   |
| signatureValue                            |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | D               | Issuing CA Signature.   |
| issuer                                    |                  | ✓               | False           |                  | S               |   |
|   | countryName      | ✓               |                 |                  | S               | LU  |
|   | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA   |
|   | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.   |
| Validity                                  |                  | ✓               | False           |                  |                 |   |
|   | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.   |
|   | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months   |
| subject                                   |                  | ✓               | False           |                  |                 |   |
|   | serialNumber     | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>   |
|   | commonName       | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b><br><i>Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character</i>   |
|   | givenName        | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> <i>Given name(s) as on ID card</i>   |
|   | surname          | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> <i>Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s)</i> |
|   | countryName      | ✓               |                 | M                | D               | <i>Nationality of holder (ISO3166)</i>  |
|   | emailAddress     | ✓               |                 | O                | D               | <i>Subject's email address</i>  |

| LuxTrust non SSCD NCP Certificate Profile |                          |                 |                 |  |                 |   |
|---|--------------------------|-----------------|-----------------|--|-----------------|---|
| Attribute                                 | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup>                                 | CO <sup>8</sup> | Value   |
|   | title                    | ✓               |                 | M  | D               | <p><b>PRIVATE products:</b></p> <p>Fixed value: "Private Person"</p> <p><b>PRO products:</b></p> <p>"Professional Person" (default) or "Professional Administrator"</p> <p>(Other titles possible for special purpose certificates)</p>   |
|   | organizationName         | ✓               |                 | M  | D               | <p><b>PRO products only:</b></p> <p>Name of company/institution as in articles of association or equivalent documents, including the legal form.</p>  |
|   | localityName             | ✓               |                 | M  | D               | <p><b>PRO products only:</b> Company/institution country of HQ (as in articles of association)</p>  |
|   | organizationalUnitName 1 | ✓               |                 | M for PRO prod., conditional (O) for PRIV prod.) | D               | <p><b>PRO products:</b></p> <p>Company/Institution VAT number (or if no VAT number available, other unique national company/institution identifier)</p> <p><b>PRIVATE products:</b></p> <p>If the holder is underage: "Mineur jusqu'à : " &amp; (Date of birth + 18 years).</p> |
|   | organizationalUnitName 2 | ✓               |                 | O  | D               | <p><b>PRO products only:</b></p> <p>Company/institution department or other information item</p>  |
| subjectPublicKeyInfo                      |                          | ✓               | False           |  |                 |   |
|   | algorithm                | ✓               |                 |  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).  |
|   | subjectPublicKey         | ✓               |                 | M  |                 |   |
| <b>Extensions</b>                         |                          |                 |                 |  |                 |   |
| <b>Authority Properties</b>               |                          |                 |                 |  |                 |   |
| authorityKeyIdentifier                    |                          | ✓               | False           |  |                 |   |
|   | keyIdentifier            | ✓               |                 |  |                 | SHA-1 Hash of the LuxTrust <b>Qualified</b> CA public key   |
| authorityInfoAccess                       |                          | ✓               | False           |  |                 |   |
|   | AccessMethod             | ✓               |                 |  |                 | Id-ad-2   |
|   | accessLocation           | ✓               |                 |  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>   |
|   | AccessMethod             | ✓               |                 |  |                 | Id-ad-1   |
|   | accessLocation           | ✓               |                 |  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>   |
| cRLDistributionPoint                      |                          | ✓               | False           |  |                 |   |
|   | distributionPoint        | ✓               |                 |  | S               |   |
|   | fullName                 | ✓               |                 |  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>   |

| LuxTrust non SSCD NCP Certificate Profile |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                 | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| <b>Subject Properties</b>                 |                   |                 |                 |                  |                 |  |
| subjectAltName                            |                   | ✓               | False           |                  |                 |  |
|   | Rfc822Name        | ✓               |                 | O                | D               | Certificate Holder's email address   |
| subjectKeyIdentifier                      |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                  |                   |                 |                 |                  |                 |  |
| keyUsage                                  |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | True   |
|   | nonRepudiation    |                 |                 |                  | S               | False  |
|   | keyEncipherment   | ✓               |                 |                  | S               | True   |
|   | dataEncipherment  | ✓               |                 |                  | S               | True   |
| certificatePolicies                       |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.4   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |
|   | DisplayText       | ✓               |                 |                  |                 | LuxTrust Certificate not on SSCD compliant with ETSI TS 102 042 NCP certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Data or Entity Authentication and Data Encryption.   |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.1   |

### 3.3.7 LuxTrust Signing Server Account NCP Certificates supporting Signature, Authentication & Encryption

LuxTrust Signing Server Account NCP Certificates are Normalised Certificates **not** issued on SSCD Hardware token with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust Signing Server Account NCP Certificates are compliant with and include the OID reference of the NCP certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.1; cf. [4]).

The usage purpose of these Certificates is for the combined purpose of electronic signature, authentication and encryption. These Certificates include the corresponding LuxTrust Signing Server Account NCP OID, i.e., <OID 1.3.171.1.1.10.3.5>.



The following table provides the description of the fields for the LuxTrust Signing Server Account NCP Signature, Authentication and Encryption Certificate type.

Note: Due to technical constraints within the Signing Server, the signature algorithm will be SHA1WithRsa instead of SHA256WithRsa.

| LuxTrust Signing Server NCP Certificate Profile |                  |                 |                 |                  |                 |  |
|---|------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| Base Profile                                    | Version          | ✓               | False           |                  |                 |  |
|   |                  |                 |                 |                  | S               | Version 3 Value = "2"  |
| SerialNumber                                    |                  | ✓               | False           |                  |                 |  |
|   |                  |                 |                 |                  | FDV             | Validated on duplicates.   |
| signatureAlgorithm                              |                  | ✓               | False           |                  |                 |  |
|   | algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.5" – SHA1 with RSA Encryption.   |
| signatureValue                                  |                  | ✓               | False           |                  |                 |  |
|   |                  |                 |                 |                  | D               | Issuing CA Signature.  |
| Issuer  |                  | ✓               | False           |                  | S               |  |
|   | countryName      | ✓               |                 |                  | S               | LU   |
|   | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA  |
|   | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.  |
| Validity  |                  | ✓               | False           |                  |                 |  |
|   | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|   | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months  |
| subject   |                  | ✓               | False           |                  |                 |  |
|   | serialNumber     | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>  |
|   | commonName       | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character      |
|   | givenName        | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Given name(s) as on ID card   |
|   | surname          | ✓               |                 | M                | D               | <b>PRO and PRIVATE products:</b> Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s) |
|   | countryName      | ✓               |                 | M                | D               | <i>Nationality of holder (ISO3166)</i>   |
|   | emailAddress     | ✓               |                 | O                | D               | <i>Subject's email address</i>   |



| LuxTrust Signing Server NCP Certificate Profile |                          |                 |                 |  |                 |  |
|---|--------------------------|-----------------|-----------------|--|-----------------|--|
| Attribute                                       | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup>                                 | CO <sup>8</sup> | Value  |
|   | title                    | ✓               |                 | M  | D               | <b>PRIVATE products:</b><br>Fixed value: "Private Person"<br><b>PRO products:</b><br>"Professional Person" (default) or "Professional Administrator"<br>(Other titles possible for special purpose certificates)   |
|   | organizationName         | ✓               |                 | M  | D               | <b>PRO products only:</b><br>Name of company/institution as in articles of association or equivalent documents, including the legal form.  |
|   | localityName             | ✓               |                 | M  | D               | <b>PRO products only:</b> Company/institution country of HQ (as in articles of association)  |
|   | organizationalUnitName 1 | ✓               |                 | M for PRO prod., conditional (O) for PRIV prod.) | D               | <b>PRO products:</b><br>Company/Institution VAT number (or if no VAT number available, other unique national company/institution identifier)<br><b>PRIVATE products:</b><br>If the holder is underage: "Mineur jusqu'à : " & (Date of birth + 18 years). |
|   | organizationalUnitName 2 | ✓               |                 | O  | D               | <b>PRO products only:</b><br>Company/institution department or other information item  |
| subjectPublicKeyInfo                            |                          | ✓               | False           |  |                 |  |
|   | algorithm                | ✓               |                 |  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|   | subjectPublicKey         | ✓               |                 | M  |                 |  |
| <b>Extensions</b>                               |                          |                 |                 |  |                 |  |
| <b>Authority Properties</b>                     |                          |                 |                 |  |                 |  |
| authorityKeyIdentifier                          |                          | ✓               | False           |  |                 |  |
|   | keyIdentifier            | ✓               |                 |  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified CA</b> public key   |
| authorityInfoAccess                             |                          | ✓               | False           |  |                 |  |
|   | AccessMethod             | ✓               |                 |  |                 | Id-ad-2  |
|   | accessLocation           | ✓               |                 |  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|   | AccessMethod             | ✓               |                 |  |                 | Id-ad-1  |
|   | accessLocation           | ✓               |                 |  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint                            |                          | ✓               | False           |  |                 |  |
|   | distributionPoint        | ✓               |                 |  | S               |  |
|   | fullName                 | ✓               |                 |  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |

| LuxTrust Signing Server NCP Certificate Profile |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field             | IN <sup>6</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| <b>Subject Properties</b>                       |                   |                 |                 |                  |                 |  |
| subjectAltName                                  |                   | ✓               | False           |                  |                 |  |
|   | Rfc822Name        | ✓               |                 | O                | D               | Certificate Holder's email address   |
| subjectKeyIdentifier                            |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                        |                   |                 |                 |                  |                 |  |
| keyUsage  |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | True   |
|   | nonRepudiation    |                 |                 |                  | S               | True   |
|   | keyEncipherment   | ✓               |                 |                  | S               | True   |
|   | dataEncipherment  | ✓               |                 |                  | S               | True   |
| certificatePolicies                             |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.5   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |
|   | DisplayText       | ✓               |                 |                  |                 | LuxTrust Certificate not on SSCD compliant with ETSI TS 102 042 NCP certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Signature, Data or Entity Authentication and Data Encryption.                                  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.1   |

### 3.3.8 LuxTrust NCP+ Certificates supporting Mass Signature Services

LuxTrust NCP+ Certificates for Advanced Mass Signature Services are Normalised Certificates certified as generated on Secure User Device, with creation of the keys by the Subscriber, with 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust Secure User Device NCP+ Certificates are compliant with and include the OID reference of the NCP+ certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.2; cf. [4]).

The usage purpose of these Certificates is limited to sole authorised usage of supporting the creation of non-qualified (advanced) electronic signatures supported by a normalised certificate for Mass Signature purposes. These Certificates include the corresponding LuxTrust QCP OID, i.e., < **OID 1.3.171.1.1.10.3.6** >.

The following table provides the description of the fields for LuxTrust Secure User Device NCP+ Certificates.



| LuxTrust non SSCD NCP+ Public Certificate Profile for Mass Signature Services |                          |                 |                 |                  |                 |   |
|---|--------------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute   | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| <b>Base Profile</b>   |                          |                 |                 |                  |                 |   |
| <b>Version</b>  |                          | ✓               | False           |                  |                 |   |
|   |                          |                 |                 |                  | S               | Version 3 Value = "2"   |
| <b>SerialNumber</b>   |                          | ✓               | False           |                  |                 |   |
|   |                          |                 |                 |                  | FDV             | Validated on duplicates.  |
| <b>signatureAlgorithm</b>   |                          | ✓               | False           |                  |                 |   |
|   | algorithm                |                 |                 |                  | S               | <i>OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption</i>   |
| <b>signatureValue</b>   |                          | ✓               | False           |                  |                 |   |
|   |                          |                 |                 |                  | D               | Issuing CA Signature.   |
| <b>Issuer</b>   |                          | ✓               | False           |                  | S               |   |
|   | countryName              | ✓               |                 |                  | S               | LU  |
|   | commonName               | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified CA</b>   |
|   | organizationName         | ✓               |                 |                  | S               | LuxTrust S.A.   |
| <b>Validity</b>   |                          | ✓               | False           |                  |                 |   |
|   | NotBefore                | ✓               |                 |                  | D               | Certificate generation process date/time.   |
|   | NotAfter                 | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36 Months</b>   |
| <b>subject</b>  |                          | ✓               | False           |                  |                 |   |
|   | commonName               | ✓               |                 | M                | D               | <i>Names as in articles of association, including the legal form (as specified in the memorandum and articles of association or an equivalent document)</i>         |
|   | countryName              | ✓               |                 | M                | D               | <i>Country in which the organization's registered office is established (as specified in the memorandum and articles of association). (ISO3166)</i>                 |
|   | stateOrProvinceName      | ✓               |                 | O                | D               |   |
|   | emailAddress             | ✓               |                 | O                | D               | <i>Subject's email address if available</i>   |
|   | organizationName         | ✓               |                 | M                | D               | <i>Names as in articles of association, including the legal form (as specified in the memorandum and articles of association or an equivalent document)</i>         |
|   | localityName             | ✓               |                 | M                | D               | <i>Location in which the organization's registered office is established (as specified in the memorandum and articles of association or an equivalent document)</i> |
|   | organizationalUnitName 1 | ✓               |                 | O                | D               | <i>As provided by Subscriber</i>  |
|   | organizationalUnitName 2 | ✓               |                 | O                | D               | <i>As provided by Subscriber</i>  |

| LuxTrust non SSCD NCP+ Public Certificate Profile for Mass Signature Services |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| subjectPublicKeyInfo  |                   | ✓               | False           |                  |                 |  |
|   | algorithm         | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA);<br>public exponent: Fermat-4 (=010001).  |
|   | subjectPublicKey  | ✓               |                 | M                |                 |  |
| Extensions  |                   |                 |                 |                  |                 |  |
| Authority Properties  |                   |                 |                 |                  |                 |  |
| authorityKeyIdentifier  |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key   |
| authorityInfoAccess   |                   | ✓               | False           |                  |                 |  |
|   | AccessMethod      | ✓               |                 |                  |                 | Id-ad-2  |
|   | accessLocation    | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|   | AccessMethod      | ✓               |                 |                  |                 | Id-ad-1  |
|   | accessLocation    | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint  |                   | ✓               | False           |                  |                 |  |
|   | distributionPoint | ✓               |                 |                  | S               |  |
|   | fullName          | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| Subject Properties  |                   |                 |                 |                  |                 |  |
| subjectAltName  |                   | ✓               | False           |                  |                 |  |
|   | Rfc822Name        | ✓               |                 | O                | D               | <i>Certificate Holder's email address</i>  |
| subjectKeyIdentifier  |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| Policy Properties   |                   |                 |                 |                  |                 |  |
| keyUsage  |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | False  |
|   | nonRepudiation    |                 |                 |                  | S               | True   |
|   | keyEncipherment   | ✓               |                 |                  | S               | False  |
|   | dataEncipherment  | ✓               |                 |                  | S               | False  |
| certificatePolicies   |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.6   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |

| LuxTrust non SSCD NCP+ Public Certificate Profile for Mass Signature Services |                  |                 |                 |                  |                 |   |
|---|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute   | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   | DisplayText      | ✓               |                 |                  |                 | LuxTrust Certificate on Secure User Device compliant with ETSI TS 102 042 NCP+ certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> <i>Advanced electronic massive signature services. GTC, CP and CPS on <a href="http://repository.luxtrust.lu">http://repository.luxtrust.lu</a>.</i> |
|   | PolicyIdentifier | ✓               |                 |                  |                 | 0.4.0.2042.1.2  |

### 3.3.9 LuxTrust SSCD LCP+ Integration Certificates supporting Electronic Signatures

LuxTrust SSCD LCP+ Certificates supporting Qualified Signatures are Certificates issued on SSCD, with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust SSCD LCP+ Certificates are compliant with and include the OID reference of the LCP+ certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.3; cf. [4]).

The usage purpose of these LuxTrust SSCD LCP+ Certificates is limited to sole authorised usage of supporting the creation of Integration electronic signatures for system integration purposes with non-repudiation signatures. The LuxTrust SSCD LCP+ Certificates include the corresponding LuxTrust OID, i.e., <OID 1.3.171.1.1.10.3.7>.

The following table provides the description of the fields for LuxTrust SSCD LCP Certificates.

| LuxTrust SSCD LCP+ Integration Certificate Profile |                  |                 |                 |                  |                 |   |
|--|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute  | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| <b>Base Profile</b>                                |                  |                 |                 |                  |                 |   |
| <b>Version</b>                                     |                  | ✓               | False           |                  |                 |   |
|  |                  |                 |                 |                  | S               | Version 3 Value = "2"                                       |
| <b>SerialNumber</b>                                |                  | ✓               | False           |                  |                 |   |
|  |                  |                 |                 |                  | FDV             | Validated on duplicates.                                    |
| <b>signatureAlgorithm</b>                          |                  | ✓               | False           |                  |                 |   |
|  | Algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption. |
| <b>signatureValue</b>                              |                  | ✓               | False           |                  |                 |   |
|  |                  |                 |                 |                  | D               | Issuing CA Signature.                                       |
| <b>Issuer</b>                                      |                  | ✓               | False           |                  | S               |   |
|  | countryName      | ✓               |                 |                  | S               | LU  |
|  | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA                         |
|  | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.   |
| <b>Validity</b>                                    |                  | ✓               | False           |                  |                 |   |
|  | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.                   |
|  | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months |
| <b>Subject</b>                                     |                  | ✓               | False           |                  |                 |   |

| LuxTrust SSCD LCP+ Integration Certificate Profile |                   |                 |                 |                  |                 |  |
|--|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute  | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|  | serialNumber      | ✓               |                 | M                | D               | Serial Number as constructed by LRAO   |
|  | commonName        | ✓               |                 | M                | D               | LGQCA XX SC PRI V3 (XX a number selected internally by LuxTrust)   |
|  | givenName         | ✓               |                 | M                | D               | LGQCA XX (XX a number selected internally by LuxTrust)   |
|  | surname           | ✓               |                 | M                | D               | SC PRI V3  |
|  | countryName       | ✓               |                 | M                | D               | LU   |
|  | emailAddress      | ✓               |                 | O                | D               | N/A  |
|  | title             | ✓               |                 | M                | D               | Private Person   |
| subjectPublicKeyInfo                               |                   | ✓               | False           |                  |                 |  |
|  | Algorithm         | ✓               |                 |                  |                 | Public Key: Key length: 2048bit (RSA); public exponent: Fermat-4 (=010001).  |
|  | subjectPublicKey  | ✓               |                 | M                |                 |  |
| Extensions   |                   |                 |                 |                  |                 |  |
| Authority Properties                               |                   |                 |                 |                  |                 |  |
| authorityKeyIdentifier                             |                   | ✓               | False           |                  |                 |  |
|  | keyIdentifier     | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key   |
| authorityInfoAccess                                |                   | ✓               | False           |                  |                 |  |
|  | AccessMethod      | ✓               |                 |                  |                 | Id-ad-2  |
|  | accessLocation    | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|  | AccessMethod      | ✓               |                 |                  |                 | Id-ad-1  |
|  | accessLocation    | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint                               |                   | ✓               | False           |                  |                 |  |
|  | distributionPoint | ✓               |                 |                  | S               |  |
|  | fullName          | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| Subject Properties                                 |                   |                 |                 |                  |                 |  |
| subjectAltName                                     |                   | ✓               | False           |                  |                 |  |
|  | Rfc822Name        | ✓               |                 | O                | D               | N/A  |
| subjectKeyIdentifier                               |                   | ✓               | False           |                  |                 |  |
|  | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| Policy Properties                                  |                   |                 |                 |                  |                 |  |
| keyUsage   |                   | ✓               | True            |                  |                 |  |
|  | digitalSignature  | ✓               |                 |                  | S               | False  |
|  | nonRepudiation    | ✓               |                 |                  | S               | True   |
|  | keyEncipherment   | ✓               |                 |                  | S               | False  |
|  | dataEncipherment  | ✓               |                 |                  | S               | False  |



| LuxTrust SSCD LCP+ Integration Certificate Profile |                   |                 |                 |                  |                 |  |
|--|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute  | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| certificatePolicies                                |                   | ✓               | False           |                  |                 |  |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.7   |
|  | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|  | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|  | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|  | noticeNumbers     |                 |                 |                  |                 |  |
|  | DisplayText       | ✓               |                 |                  |                 | LuxTrust INTEGRATION CERTIFICATE on SSCD compliant with ETSI TS 102 042 LCP+ certificate policy. Key Generation by CSP. <b>Sole Authorised Usage:</b> Support of Integration Electronic Signature. |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.3   |
| QualifiedCertificateStat                           |                   |                 |                 |                  |                 |  |
|  | QcCompliance      | ✓               |                 | O                | S               | Not Set  |
|  | QcLimitValue      | ✓               |                 | O                | D               | Not Set  |
|  | QcRetentionPeriod | ✓               |                 | O                | D               | Not Set  |
|  | QcSSCD            | ✓               |                 | M                | D               | Set  |

### 3.3.10 LuxTrust SSCD LCP+ Integration Certificates supporting Authentication & Encryption

LuxTrust SSCD LCP+ Certificates are Normalised Certificates issued on SSCD Hardware token such as LuxTrust Smartcard with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust SSCD LCP+ Certificates are compliant with and include the OID reference of the LCP+ certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.3; cf. [4]).

The usage purpose of these LuxTrust SSCD LCP+ Certificates is for the combined purpose of authentication and encryption. These Certificates include the corresponding LuxTrust SSCD LCP+ OID, i.e., <OID 1.3.171.1.1.10.3.8>.

The following table provides the description of the fields for the LuxTrust SSCD LCP+ Certificate type supporting Authentication and Encryption.

| LuxTrust SSCD LCP+ Integration Certificate Profile |           |                 |                 |                  |                 |   |
|--|-----------|-----------------|-----------------|------------------|-----------------|---|
| Attribute  | Field     | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| Base Profile                                       |           |                 |                 |                  |                 |   |
| Version  |           | ✓               | False           |                  |                 |   |
|  |           |                 |                 |                  | S               | Version 3 Value = "2"                                       |
| SerialNumber                                       |           | ✓               | False           |                  |                 |   |
|  |           |                 |                 |                  | FDV             | Validated on duplicates.                                    |
| signatureAlgorithm                                 |           | ✓               | False           |                  |                 |   |
|  | algorithm |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption. |
| signatureValue                                     |           | ✓               | False           |                  |                 |   |
|  |           |                 |                 |                  | D               | Issuing CA Signature.                                       |
| issuer   |           | ✓               | False           |                  | S               |   |

| LuxTrust SSCD LCP+ Integration Certificate Profile |                   |                 |                 |                  |                 |  |
|--|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute  | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|  | countryName       | ✓               |                 |                  | S               | LU   |
|  | commonName        | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA  |
|  | organizationName  | ✓               |                 |                  | S               | LuxTrust S.A.  |
| Validity   |                   | ✓               | False           |                  |                 |  |
|  | NotBefore         | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|  | NotAfter          | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months  |
| subject  |                   | ✓               | False           |                  |                 |  |
|  | serialNumber      | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>  |
|  | commonName        | ✓               |                 | M                | D               | <i>LGQCA XX SC PRI V3 (XX a number selected internally by LuxTrust)</i>  |
|  | givenName         | ✓               |                 | M                | D               | <i>LGQCA XX (XX a number selected internally by LuxTrust)</i>  |
|  | surname           | ✓               |                 | M                | D               | <i>SC PRI V3</i>   |
|  | countryName       | ✓               |                 | M                | D               | LU   |
|  | emailAddress      | ✓               |                 | O                | D               | N/A  |
|  | title             | ✓               |                 | M                | D               | <i>Private Person</i>  |
| subjectPublicKeyInfo                               |                   | ✓               | False           |                  |                 |  |
|  | algorithm         | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|  | subjectPublicKey  | ✓               |                 | M                |                 |  |
| Extensions   |                   |                 |                 |                  |                 |  |
| Authority Properties                               |                   |                 |                 |                  |                 |  |
| authorityKeyIdentifier                             |                   | ✓               | False           |                  |                 |  |
|  | keyIdentifier     | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key   |
| authorityInfoAccess                                |                   | ✓               | False           |                  |                 |  |
|  | AccessMethod      | ✓               |                 |                  |                 | Id-ad-2  |
|  | accessLocation    | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|  | AccessMethod      | ✓               |                 |                  |                 | Id-ad-1  |
|  | accessLocation    | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint                               |                   | ✓               | False           |                  |                 |  |
|  | distributionPoint | ✓               |                 |                  | S               |  |
|  | fullName          | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| Subject Properties                                 |                   |                 |                 |                  |                 |  |
| subjectAltName                                     |                   | ✓               | False           |                  |                 |  |
|  | Rfc822Name        | ✓               |                 | O                | D               | N/A  |
| subjectKeyIdentifier                               |                   | ✓               | False           |                  |                 |  |
|  | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including |



| LuxTrust SSCD LCP+ Integration Certificate Profile |                   |                 |                 |                  |                 |   |
|--|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute  | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|  |                   |                 |                 |                  |                 | the length and number of unused bit-string bits).   |
| Policy Properties                                  |                   |                 |                 |                  |                 |   |
| keyUsage   |                   | ✓               | True            |                  |                 |   |
|  | digitalSignature  | ✓               |                 |                  | S               | True  |
|  | nonRepudiation    |                 |                 |                  | S               | False   |
|  | keyEncipherment   | ✓               |                 |                  | S               | True  |
|  | dataEncipherment  | ✓               |                 |                  | S               | True  |
| certificatePolicies                                |                   | ✓               | False           |                  |                 |   |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.8  |
|  | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)   |
|  | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>   |
|  | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)   |
|  | noticeNumbers     |                 |                 |                  |                 |   |
|  | DisplayText       | ✓               |                 |                  |                 | LuxTrust INTEGRATION CERTIFICATE on SSCD compliant with ETSI TS 102 042 LCP+ certificate policy. Key Generation by CSP. <b>Sole Authorised Usage:</b> Authentication and Encryption for Integration Purposes. |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.3  |

### 3.3.11 LuxTrust Signing Server Account LCP Certificates supporting Signature, Authentication & Encryption for integration purposes

LuxTrust Signing Server Account NCP Certificates are Normalised Certificates **not** issued on SSCD Hardware token with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust Signing Server Account LCP Certificates are compliant with and include the OID reference of the LCP certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.3; cf. [4]).

The usage purpose of these Certificates is for the combined purpose of electronic signature, authentication and encryption. These Certificates include the corresponding LuxTrust Signing Server Account OID, i.e., **<OID 1.3.171.1.1.10.3.9>**.

The following table provides the description of the fields for the LuxTrust Signing Server Account LCP Signature, Authentication and Encryption Certificate type.

**Note:** Due to technical constraints within the Signing Server, the signature algorithm will be SHA1WithRsa instead of SHA256WithRsa.

| LuxTrust Signing Server LCP Certificate Profile |       |                 |                 |                  |                 |       |
|---|-------|-----------------|-----------------|------------------|-----------------|-------|
| Attribute                                       | Field | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value |
| Base Profile                                    |       |                 |                 |                  |                 |       |
| Version   |       | ✓               | False           |                  |                 |       |

| LuxTrust Signing Server LCP Certificate Profile |                   |                 |                 |                  |                 |   |
|---|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                       | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   |                   |                 |                 |                  | S               | Version 3 Value = "2"   |
| SerialNumber                                    |                   | ✓               | False           |                  |                 |   |
|   |                   |                 |                 |                  | FDV             | Validated on duplicates.  |
| signatureAlgorithm                              |                   | ✓               | False           |                  |                 |   |
|   | algorithm         |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.5" – SHA1 with RSA Encryption.                          |
| signatureValue                                  |                   | ✓               | False           |                  |                 |   |
|   |                   |                 |                 |                  | D               | Issuing CA Signature.   |
| Issuer  |                   | ✓               | False           |                  | S               |   |
|   | countryName       | ✓               |                 |                  | S               | LU  |
|   | commonName        | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA   |
|   | organizationName  | ✓               |                 |                  | S               | LuxTrust S.A.   |
| Validity  |                   | ✓               | False           |                  |                 |   |
|   | NotBefore         | ✓               |                 |                  | D               | Certificate generation process date/time.   |
|   | NotAfter          | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months                       |
| Subject   |                   | ✓               | False           |                  |                 |   |
|   | serialNumber      | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>                                       |
|   | commonName        | ✓               |                 | M                | D               | <i>LGQCA XX CSS (XX a number selected internally by LuxTrust)</i>                 |
|   | givenName         | ✓               |                 | M                | D               | <i>LGQCA XX (XX a number selected internally by LuxTrust)</i>                     |
|   | surname           | ✓               |                 | M                | D               | <i>CSS</i>  |
|   | countryName       | ✓               |                 | M                | D               | <i>LU</i>   |
|   | emailAddress      | ✓               |                 | O                | D               | <i>N/A</i>  |
|   | title             | ✓               |                 | M                | D               | <i>Private Person</i>   |
| subjectPublicKeyInfo                            |                   | ✓               | False           |                  |                 |   |
|   | algorithm         | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA);<br>public exponent: Fermat-4 (=010001).   |
|   | subjectPublicKey  | ✓               |                 | M                |                 |   |
| Extensions                                      |                   |                 |                 |                  |                 |   |
| Authority Properties                            |                   |                 |                 |                  |                 |   |
| authorityKeyIdentifier                          |                   | ✓               | False           |                  |                 |   |
|   | keyIdentifier     | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key                  |
| authorityInfoAccess                             |                   | ✓               | False           |                  |                 |   |
|   | AccessMethod      | ✓               |                 |                  |                 | Id-ad-2   |
|   | accessLocation    | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>   |
|   | AccessMethod      | ✓               |                 |                  |                 | Id-ad-1   |
|   | accessLocation    | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>                     |
| cRLDistributionPoint                            |                   | ✓               | False           |                  |                 |   |
|   | distributionPoint | ✓               |                 |                  | S               |   |
|   | fullName          | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a> |

| LuxTrust Signing Server LCP Certificate Profile |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| <b>Subject Properties</b>                       |                   |                 |                 |                  |                 |  |
| subjectAltName                                  |                   | ✓               | False           |                  |                 |  |
|   | Rfc822Name        | ✓               |                 | O                | D               | N/A  |
| <b>subjectKeyIdentifier</b>                     |                   |                 |                 |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                        |                   |                 |                 |                  |                 |  |
| keyUsage  |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | True   |
|   | nonRepudiation    |                 |                 |                  | S               | True   |
|   | keyEncipherment   | ✓               |                 |                  | S               | True   |
|   | dataEncipherment  | ✓               |                 |                  | S               | True   |
| <b>certificatePolicies</b>                      |                   |                 |                 |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.9   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |
|   | DisplayText       | ✓               |                 |                  |                 | INTEGRATION Certificate not on SSCD compliant with ETSI TS 102 042 LCP cert.policy. Key Generation by CSP. <b>Sole Authorised Usage:</b> Signature, Data or Entity Auth. and Data Enc. for integration purposes                                |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.3   |

### 3.3.12 LuxTrust Smartcard LORA Certificates supporting Signature for LRAO purposes

LuxTrust SSCD QCP+ Certificates supporting Qualified Signatures are Qualified Certificates issued on SSCD, with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust SSCD QCP+ Certificates are compliant with and include the OID reference of the QCP+ certificate policy of the ETSI Technical Specifications 101 456 (i.e., 0.4.0.1456.1.1; cf. [3]).

The usage purpose of these LuxTrust SSCD QCP+ Certificates is limited to sole authorised usage of supporting the creation of qualified electronic signatures for LRAO purposes. The LuxTrust SSCD QCP+ Certificates include the corresponding LuxTrust QCP+ OID, i.e., < **OID 1.3.171.1.1.10.3.10**>.



The following table provides the description of the fields for LuxTrust SSCD LORA QCP+ Certificate Profile.

| LuxTrust SSCD LORA QCP+ Certificate Profile |                          |                 |                 |                  |                 |  |
|---|--------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| <b>Base Profile</b>                         |                          |                 |                 |                  |                 |  |
| <b>Version</b>                              |                          | ✓               | False           |                  |                 |  |
|   |                          |                 |                 |                  | S               | Version 3 Value = "2"  |
| <b>SerialNumber</b>                         |                          | ✓               | False           |                  |                 |  |
|   |                          |                 |                 |                  | FDV             | Validated on duplicates.   |
| <b>signatureAlgorithm</b>                   |                          | ✓               | False           |                  |                 |  |
|   | Algorithm                |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| <b>signatureValue</b>                       |                          | ✓               | False           |                  |                 |  |
|   |                          |                 |                 |                  | D               | Issuing CA Signature.  |
| <b>Issuer</b>                               |                          | ✓               | False           |                  | S               |  |
|   | countryName              | ✓               |                 |                  | S               | LU   |
|   | commonName               | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA  |
|   | organizationName         | ✓               |                 |                  | S               | LuxTrust S.A.  |
| <b>Validity</b>                             |                          | ✓               | False           |                  |                 |  |
|   | NotBefore                | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|   | NotAfter                 | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months  |
| <b>Subject</b>                              |                          | ✓               | False           |                  |                 |  |
|   | serialNumber             | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>  |
|   | commonName               | ✓               |                 | M                | D               | <i>Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character.</i>     |
|   | givenName                | ✓               |                 | M                | D               | <i>Given name(s) as on ID card</i>   |
|   | surname                  | ✓               |                 | M                | D               | <i>Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s)</i> |
|   | countryName              | ✓               |                 | M                | D               | <i>Nationality of holder (ISO3166)</i>   |
|   | emailAddress             | ✓               |                 | O                | D               | <i>Subject's email address</i>   |
|   | title                    | ✓               |                 | M                | D               | <b>"LuxTrust RA Officer"</b>   |
|   | organizationName         | ✓               |                 | M                | D               | <i>Constructed by LuxTrust</i>   |
|   | localityName             | ✓               |                 | M                | D               | <i>Country of RA</i>   |
|   | organizationalUnitName 1 | ✓               |                 | M                | D               | <i>RA code Constructed by LuxTrust</i>   |
|   | organizationalUnitName 2 | ✓               |                 | M                | D               | <i>RAO code Constructed by LuxTrust</i>  |
| <b>subjectPublicKeyInfo</b>                 |                          | ✓               | False           |                  |                 |  |

| LuxTrust SSCD LORA QCP+ Certificate Profile |                        |                 |                 |                  |                 |  |
|---|------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field                  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | Algorithm              | ✓               |                 |                  |                 | Public Key: Key length: 2048bit (RSA); public exponent: Fermat-4 (=010001).  |
|   | subjectPublicKey       | ✓               |                 | M                |                 |  |
| Extensions                                  |                        |                 |                 |                  |                 |  |
| Authority Properties                        |                        |                 |                 |                  |                 |  |
|   | authorityKeyIdentifier | ✓               | False           |                  |                 |  |
|   | keyIdentifier          | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key   |
|   | authorityInfoAccess    | ✓               | False           |                  |                 |  |
|   | AccessMethod           | ✓               |                 |                  |                 | Id-ad-2  |
|   | accessLocation         | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|   | AccessMethod           | ✓               |                 |                  |                 | Id-ad-1  |
|   | accessLocation         | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
|   | cRLDistributionPoint   | ✓               | False           |                  |                 |  |
|   | distributionPoint      | ✓               |                 |                  | S               |  |
|   | fullName               | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| Subject Properties                          |                        |                 |                 |                  |                 |  |
|   | subjectAltName         | ✓               | False           |                  |                 |  |
|   | Rfc822Name             | ✓               |                 | O                | D               | <i>Certificate Holder's email address</i>  |
|   | subjectKeyIdentifier   | ✓               | False           |                  |                 |  |
|   | keyIdentifier          | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| Policy Properties                           |                        |                 |                 |                  |                 |  |
|   | keyUsage               | ✓               | True            |                  |                 |  |
|   | digitalSignature       | ✓               |                 |                  | S               | False  |
|   | nonRepudiation         | ✓               |                 |                  | S               | True   |
|   | keyEncipherment        | ✓               |                 |                  | S               | False  |
|   | dataEncipherment       | ✓               |                 |                  | S               | False  |
|   | certificatePolicies    | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier       | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.10  |
|   | policyQualifierID      | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier              | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID      | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers          |                 |                 |                  |                 |  |
|   | DisplayText            | ✓               |                 |                  |                 | LuxTrust Qualified Certificate on SSCD compliant with ETSI TS 101 456 QCP+ certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Support of Qualified Electronic Signature for LRAO purposes                             |
|   | PolicyIdentifier       | ✓               |                 |                  |                 | 0.4.0.1456.1.1   |

| LuxTrust SSCD LORA QCP+ Certificate Profile |                   |                 |                 |                  |                 |   |
|---|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                   | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| <b>QualifiedCertificateStat</b>             |                   |                 |                 |                  |                 |   |
|   | QcCompliance      | ✓               |                 | M                | S               | 0.4.0.1862.1.1                                      |
|   | QcLimitValue      | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5] |
|   | QcRetentionPeriod | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5] |
|   | QcSSCD            | ✓               |                 | M                | D               | Set   |

### 3.3.13 LuxTrust Smartcard LORA Certificates supporting Authentication & Encryption for LRAO purposes

LuxTrust SSCD NCP+ Certificates are Normalised Certificates issued on SSCD Hardware token such as LuxTrust Smartcard with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with a 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust SSCD NCP+ Certificates are compliant with and include the OID reference of the NCP+ certificate policy of the ETSI Technical Specifications 102 042 (i.e., 0.4.0.2042.1.2; cf. [4]).

The usage purpose of these LuxTrust SSCD NCP+ Certificates is for the combined purpose of authentication and encryption for LRAO purposes. These Certificates include the corresponding LuxTrust SSCD NCP+ OID, i.e., <OID 1.3.171.1.1.10.3.11>.

The following table provides the description of the fields for the LuxTrust SSCD LORA NCP+ Certificate Profile type supporting Authentication and Encryption.

| LuxTrust SSCD LORA NCP+ Certificate Profile |                  |                 |                 |                  |                 |   |
|---|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                   | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| <b>Base Profile</b>                         |                  |                 |                 |                  |                 |   |
| <b>Version</b>                              |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | S               | Version 3 Value = "2"                                       |
| <b>SerialNumber</b>                         |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | FDV             | Validated on duplicates.                                    |
| <b>signatureAlgorithm</b>                   |                  | ✓               | False           |                  |                 |   |
|   | algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption. |
| <b>signatureValue</b>                       |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | D               | Issuing CA Signature.                                       |
| <b>issuer</b>                               |                  | ✓               | False           |                  | S               |   |
|   | countryName      | ✓               |                 |                  | S               | LU  |
|   | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified</b> CA                         |
|   | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.   |
| <b>Validity</b>                             |                  | ✓               | False           |                  |                 |   |
|   | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.                   |
|   | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months |
| <b>subject</b>                              |                  | ✓               | False           |                  |                 |   |

| LuxTrust SSCD LORA NCP+ Certificate Profile |                          |                 |                 |                  |                 |   |
|---|--------------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                   | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   | serialNumber             | ✓               |                 | M                | D               | Serial Number as constructed by LRAO  |
|   | commonName               | ✓               |                 | M                | D               | Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character      |
|   | givenName                | ✓               |                 | M                | D               | Given name(s) as on ID card   |
|   | surname                  | ✓               |                 | M                | D               | Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s) |
|   | countryName              | ✓               |                 | M                | D               | Nationality of holder (ISO3166)   |
|   | emailAddress             | ✓               |                 | O                | D               | Subject's email address   |
|   | title                    | ✓               |                 | M                | D               | <b>"LuxTrust RA Officer"</b>  |
|   | organizationName         | ✓               |                 | M                | D               | Constructed by LuxTrust   |
|   | localityName             | ✓               |                 | M                | D               | Country of RA   |
|   | organizationalUnitName 1 | ✓               |                 | M                | D               | RA code Constructed by LuxTrust   |
|   | organizationalUnitName 2 | ✓               |                 | M                | D               | RAO code Constructed by LuxTrust  |
| subjectPublicKeyInfo                        |                          | ✓               | False           |                  |                 |   |
|   | algorithm                | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).                      |
|   | subjectPublicKey         | ✓               |                 | M                |                 |   |
| Extensions                                  |                          |                 |                 |                  |                 |   |
| Authority Properties                        |                          |                 |                 |                  |                 |   |
| authorityKeyIdentifier                      |                          | ✓               | False           |                  |                 |   |
|   | keyIdentifier            | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>Global Qualified</b> CA public key                                  |
| authorityInfoAccess                         |                          | ✓               | False           |                  |                 |   |
|   | AccessMethod             | ✓               |                 |                  |                 | Id-ad-2   |
|   | accessLocation           | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>                   |
|   | AccessMethod             | ✓               |                 |                  |                 | Id-ad-1   |
|   | accessLocation           | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>                                     |
| cRLDistributionPoint                        |                          | ✓               | False           |                  |                 |   |
|   | distributionPoint        | ✓               |                 |                  | S               |   |
|   | fullName                 | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>                 |
| Subject Properties                          |                          |                 |                 |                  |                 |   |
| subjectAltName                              |                          | ✓               | False           |                  |                 |   |
|   | Rfc822Name               | ✓               |                 | O                | D               | Certificate Holder's email address  |
| subjectKeyIdentifier                        |                          | ✓               | False           |                  |                 |   |

| LuxTrust SSCD LORA NCP+ Certificate Profile |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                    |                   |                 |                 |                  |                 |  |
| keyUsage                                    |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | True   |
|   | nonRepudiation    |                 |                 |                  | S               | False  |
|   | keyEncipherment   | ✓               |                 |                  | S               | True   |
|   | dataEncipherment  | ✓               |                 |                  | S               | True   |
| certificatePolicies                         |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.11  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |
|   | DisplayText       | ✓               |                 |                  |                 | LuxTrust Certificate on SSCD compliant with ETSI TS 102 042 NCP+ certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Data or Entity Authentication and Data Encryption for LRAO purposes.                              |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.2   |

### 3.3.14 LuxTrust non SSCD Mass LRAO QCP Certificates supporting Advanced Electronic Signatures

LuxTrust non SSCD QCP Certificates are Qualified Certificates **not** issued on SSCD, with creation of the keys by LuxTrust CSP according to the enrolment and issuing process and procedures described in the applicable CP, with 2048-bit key size and 3 years validity from issuing start date.

These LuxTrust non SSCD QCP Certificates are compliant with and include the OID reference of the QCP certificate policy of the ETSI Technical Specifications 101 456 (i.e., 0.4.0.1456.1.2; cf. [3]).

The usage purpose of these Certificates is limited to sole authorised usage of supporting the creation of non-qualified (advanced) electronic signatures supported by a qualified certificate for Mass LRAO Signature purposes. These Certificates include the corresponding LuxTrust QCP OID, i.e., < **OID 1.3.171.1.1.10.3.12** >.

The following table provides the description of the fields for LuxTrust non SSCD QCP Certificates.

### LuxTrust non SSCD QCP Mass LRAO Signatures Certificate Profile





| Attribute                 | Field                       | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|---------------------------|-----------------------------|-----------------|-----------------|------------------|-----------------|--|
| <b>Base Profile</b>       |                             |                 |                 |                  |                 |  |
| <b>Version</b>            |                             | ✓               | False           |                  |                 |  |
|                           |                             |                 |                 |                  | S               | Version 3 Value = "2"  |
| <b>SerialNumber</b>       |                             | ✓               | False           |                  |                 |  |
|                           |                             |                 |                 |                  | FDV             | Validated on duplicates.   |
| <b>signatureAlgorithm</b> |                             | ✓               | False           |                  |                 |  |
|                           | Algorithm                   |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| <b>signatureValue</b>     |                             | ✓               | False           |                  |                 |  |
|                           |                             |                 |                 |                  | D               | Issuing CA Signature.  |
| <b>Issuer</b>             |                             | ✓               | False           |                  | S               |  |
|                           | countryName                 | ✓               |                 |                  | S               | LU   |
|                           | commonName                  | ✓               |                 |                  | S               | LuxTrust <b>Global Qualified CA</b>  |
|                           | organizationName            | ✓               |                 |                  | S               | LuxTrust S.A.  |
| <b>Validity</b>           |                             | ✓               | False           |                  |                 |  |
|                           | NotBefore                   | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|                           | NotAfter                    | ✓               |                 |                  | D               | Certificate generation process date/time + <b>36</b> Months  |
| <b>Subject</b>            |                             | ✓               | False           |                  |                 |  |
|                           | serialNumber                | ✓               |                 | M                | D               | <i>Serial Number as constructed by LRAO</i>  |
|                           | commonName                  | ✓               |                 | M                | D               | <i>Concatenation of given name(s) and surname(s) as on ID card separated by a "Space" character</i>      |
|                           | givenName                   | ✓               |                 | M                | D               | <i>Given name(s) as on ID card</i>   |
|                           | surname                     | ✓               |                 | M                | D               | <i>Surname(s) as on ID card without indication "épouse", "ép." or similar and the subsequent name(s)</i> |
|                           | countryName                 | ✓               |                 | M                | D               | <i>Nationality of holder (ISO3166)</i>   |
|                           | emailAddress                | ✓               |                 | O                | D               | <i>Subject's email address</i>   |
|                           | Title                       | ✓               |                 | M                | D               | <i>"LuxTrust RA officer – LRS"</i>   |
|                           | organizationName            | ✓               |                 | M                | D               | <i>"RA" &amp; RA number &amp; " – " &amp; Name of the LuxTrust RA</i>                                    |
|                           | localityName                | ✓               |                 | M                | D               | <i>Country of RA (as in articles of association)</i>   |
|                           | organizationalUnitName<br>1 | ✓               |                 | M                | D               | <i>RA code Constructed by LuxTrust</i>   |

| LuxTrust non SSCD QCP Mass LRAO Signatures Certificate Profile |                             |                 |                 |                  |                 |  |
|--|-----------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute  | Field                       | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|  | organizationalUnitName<br>2 | ✓               |                 | O                | D               | RAO code Constructed by LuxTrust   |
|  | subjectPublicKeyInfo        | ✓               | False           |                  |                 |  |
|  | Algorithm                   | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|  | subjectPublicKey            | ✓               |                 | M                |                 |  |
| <b>Extensions</b>  |                             |                 |                 |                  |                 |  |
| <b>Authority Properties</b>                                    |                             |                 |                 |                  |                 |  |
|  | authorityKeyIdentifier      | ✓               | False           |                  |                 |  |
|  | keyIdentifier               | ✓               |                 |                  |                 | SHA-1 Hash of the <b>LuxTrust Global Qualified CA</b> public key   |
|  | authorityInfoAccess         | ✓               | False           |                  |                 |  |
|  | AccessMethod                | ✓               |                 |                  |                 | Id-ad-2  |
|  | accessLocation              | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGQCA.crt">http://ca.luxtrust.lu/LTGQCA.crt</a>  |
|  | AccessMethod                | ✓               |                 |                  |                 | Id-ad-1  |
|  | accessLocation              | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
|  | cRLDistributionPoint        | ✓               | False           |                  |                 |  |
|  | distributionPoint           | ✓               |                 |                  | S               |  |
|  | fullName                    | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGQCA.crl">http://crl.luxtrust.lu/LTGQCA.crl</a>  |
| <b>Subject Properties</b>                                      |                             |                 |                 |                  |                 |  |
|  | subjectAltName              | ✓               | False           |                  |                 |  |
|  | Rfc822Name                  | ✓               |                 | O                | D               | Certificate Holder's email address   |
|  | subjectKeyIdentifier        | ✓               | False           |                  |                 |  |
|  | keyIdentifier               | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                                       |                             |                 |                 |                  |                 |  |
|  | keyUsage                    | ✓               | True            |                  |                 |  |
|  | digitalSignature            | ✓               |                 |                  | S               | False  |
|  | nonRepudiation              | ✓               |                 |                  | S               | True   |
|  | keyEncipherment             | ✓               |                 |                  | S               | False  |
|  | dataEncipherment            | ✓               |                 |                  | S               | False  |
|  | certificatePolicies         | ✓               | False           |                  |                 |  |

| LuxTrust non SSCD QCP Mass LRAO Signatures Certificate Profile |                   |                 |                 |                  |                 |   |
|--|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute  | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.3.12   |
|  | policyQualifierID | ✓               |                 |                  | S               | ld-qt-1 (CPS)   |
|  | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>   |
|  | policyQualifierID | ✓               |                 |                  | S               | ld-qt-2 (User Notice)   |
|  | noticeNumbers     |                 |                 |                  |                 |   |
|  | DisplayText       | ✓               |                 |                  |                 | LuxTrust Qualified Certificate <b>not</b> SSCD compliant with ETSI TS 101 456 QCP certificate policy. Key Generation by CSP.<br><b>Sole Authorised Usage:</b> Support of Advanced Electronic Signature for Mass LRAO purposes |
|  | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.1456.1.2  |
| <b>QualifiedCertificateStat</b>                                |                   |                 |                 |                  |                 |   |
|  | QcCompliance      | ✓               |                 | M                | S               | 0.4.0.1862.1.1  |
|  | QcLimitValue      | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5]   |
|  | QcRetentionPeriod | ✓               |                 | O                | D               | As provided by LuxTrust S.A. in compliance with [5]   |
|  | QcSSCD            | ✓               |                 |                  |                 | <b>NOT SET</b>  |

### 3.3.15 LuxTrust SSL/TLS Standard Server Certificates – LCP certificates supporting Signature, Authentication & Encryption

LuxTrust SSL/TLS Standard Server Certificates are ETSI TS 102 042 LCP Certificates not certified as generated on SSCD, with creation of the keys by the Subscriber, with 2048-bit key size and one (1) or three (3) years validity from issuing start date.

These LuxTrust SSL/TLS Standard Server Certificates are compliant with and include the OID reference of the LCP certificate policy of the ETSI Technical Standard 102 042 (i.e., 0.4.0.2042.1.3).

The usage purpose of these LuxTrust SSL/TLS Standard Server Certificates is the combined purpose of digital signature, key and data encryption. The LuxTrust LCP Server Certificates include the corresponding **LuxTrust LCP OID for SSL/TLS server certificates**, i.e., <1.3.171.1.1.10.5.1>.

The following table provides the description of the fields for LuxTrust Server Certificates.

| LuxTrust SSL Server LCP Certificate Profile |       |                 |                 |                  |                 |                       |
|---|-------|-----------------|-----------------|------------------|-----------------|-----------------------|
| Attribute                                   | Field | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value                 |
| <b>Base Profile</b>                         |       |                 |                 |                  |                 |                       |
| <b>Version</b>                              |       | ✓               | False           |                  |                 |                       |
|   |       |                 |                 |                  | S               | Version 3 Value = "2" |
| <b>SerialNumber</b>                         |       | ✓               | False           |                  |                 |                       |

| LuxTrust SSL Server LCP Certificate Profile |                         |                 |                 |                  |                 |  |
|---|-------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field                   | IN <sup>6</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   |                         |                 |                 |                  | FDV             | Validated on duplicates.   |
| <b>signatureAlgorithm</b>                   |                         | ✓               | False           |                  |                 |  |
|   | algorithm               |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| <b>signatureValue</b>                       |                         | ✓               | False           |                  |                 |  |
|   |                         |                 |                 |                  | D               | Issuing CA Signature.  |
| <b>issuer</b>                               |                         | ✓               | False           |                  | S               |  |
|   | countryName             | ✓               |                 |                  | S               | LU   |
|   | commonName              | ✓               |                 |                  | S               | LuxTrust <b>SSL</b> CA   |
|   | organizationName        | ✓               |                 |                  | S               | LuxTrust S.A.  |
| <b>Validity</b>                             |                         | ✓               | False           |                  |                 |  |
|   | NotBefore               | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|   | NotAfter                | ✓               |                 |                  | D               | Certificate generation process date/time + <b>12;36</b> Months   |
| <b>subject</b>                              |                         | ✓               | False           |                  |                 |  |
|   | countryName             | ✓               |                 | M                | D               | Country in which the company's or institution's registered office is established (as specified in the memorandum and articles of association). (ISO3166) |
|   | stateOrProvinceName     | ✓               |                 | O                | D               |  |
|   | localityName            | ✓               |                 | M                | D               | Location in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)  |
|   | organizationName        | ✓               |                 | M                | D               | Names as in articles of association, including the legal form (as specified in the memorandum and articles of association or an equivalent document)     |
|   | organizationalUnitName1 | ✓               |                 | O                | D               | As provided by Subscriber  |
|   | organizationalUnitName2 | ✓               |                 | O                | D               | As provided by Subscriber  |
|   | commonName              | ✓               |                 | M                | D               | FQDN (Fully Qualified Domain Name) of application/server – Exact and full URL for a Web Server or IP address or unique name of server.                   |
|   | serialNumber            | ✓               |                 | O                | D               | Serial Number as provided by subscriber  |
|   | emailAddress            | ✓               |                 | O                | D               | Subject's email address  |
| <b>subjectPublicKeyInfo</b>                 |                         | ✓               | False           |                  |                 |  |
|   | algorithm               | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|   | subjectPublicKey        | ✓               |                 | M                |                 |  |
| <b>Extensions</b>                           |                         |                 |                 |                  |                 |  |

| LuxTrust SSL Server LCP Certificate Profile |                               |                 |                 |                  |                 |   |
|---|-------------------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                   | Field                         | IN <sup>6</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| <b>Authority Properties</b>                 |                               |                 |                 |                  |                 |   |
|   | <b>authorityKeyIdentifier</b> | ✓               | False           |                  |                 |   |
|   | keyIdentifier                 | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust SSL CA public key  |
|   | <b>authorityInfoAccess</b>    | ✓               | False           |                  |                 |   |
|   | AccessMethod                  | ✓               |                 |                  |                 | Id-ad-1   |
|   | accessLocation                | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>   |
|   | AccessMethod                  | ✓               |                 |                  |                 | Id-ad-2   |
|   | accessLocation                | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTSSLCA.crt">http://ca.luxtrust.lu/LTSSLCA.crt</a>   |
|   | <b>cRLDistributionPoint</b>   | ✓               | False           |                  |                 |   |
|   | distributionPoint             | ✓               |                 |                  | S               |   |
|   | fullName                      | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTSSLCA.crl">http://crl.luxtrust.lu/LTSSLCA.crl</a>   |
| <b>Subject Properties</b>                   |                               |                 |                 |                  |                 |   |
|   | <b>subjectAltName</b>         | ✓               | False           |                  |                 |   |
|   | Rfc822Name                    | ✓               |                 | O                | D               | <i>Certificate Holder's email address</i>   |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |
|   | <b>SubjectAltName-dNSName</b> | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server. |

| LuxTrust SSL Server LCP Certificate Profile |                        |                 |                 |                  |                 |   |
|---|------------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                   | Field                  | IN <sup>6</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server.                 |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server.                 |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server.                 |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |
|   | SubjectAltName-URL     | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server. |



| LuxTrust SSL Server LCP Certificate Profile |                    |                 |                 |                  |                 |  |
|---|--------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field              | IN <sup>6</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | SubjectAltName-URL | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server.  |
|   | SubjectAltName-URL | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact and full second URL for a Web Server or IP address or unique name of server.  |
| subjectKeyIdentifier                        |                    | ✓               | False           |                  |                 |  |
|   | keyIdentifier      | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                    |                    |                 |                 |                  |                 |  |
| keyUsage                                    |                    | ✓               | True            |                  |                 |  |
|   | digitalSignature   | ✓               |                 |                  | S               | True   |
|   | nonRepudiation     | ✓               |                 |                  | S               | False  |
|   | keyEncipherment    | ✓               |                 |                  | S               | True   |
|   | dataEncipherment   | ✓               |                 |                  | S               | True   |
| certificatePolicies                         |                    | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier   | ✓               |                 |                  |                 | 1.3.171.1.1.10.5.1   |
|   | policyQualifierID  | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier          | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID  | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers      |                 |                 |                  |                 |  |
|   | DisplayText        | ✓               |                 |                  |                 | LuxTrust Standard SSL/TLS Server Certificate. Not supported by SSCD, Key Generation by Subscriber. GTC, CP and CPS on <a href="http://repository.luxtrust.lu">http://repository.luxtrust.lu</a> .<br>Signed by a SSL CA.                       |
|   | PolicyIdentifier   | ✓               |                 |                  |                 | 0.4.0.2042.1.3   |
| Extended Key Usage                          |                    | ✓               | False           |                  |                 |  |
|   | serverAuth         | ✓               |                 |                  | S               | True   |
|   | clientAuth         | ✓               |                 |                  | S               | True   |
|   | emailProtection    | ✓               |                 |                  | S               | True   |
| <b>Netscape Proprietary</b>                 |                    |                 |                 |                  |                 |  |
| Netscape Certificate Type                   |                    | ✓               | False           |                  |                 |  |
|   | SSL Client         | ✓               |                 |                  | S               | Set  |



| LuxTrust SSL Server LCP Certificate Profile |            |                 |                 |                  |                 |       |
|---|------------|-----------------|-----------------|------------------|-----------------|-------|
| Attribute                                   | Field      | IN <sup>6</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value |
|   | SSL Server | ✓               |                 |                  | S               | Set   |
|   | S/MIME     | ✓               |                 |                  | S               | Set   |

### 3.3.16 SSL/TLS Extended Validation Server Certificates – EVCP certificates supporting Signature, Authentication & Encryption

LuxTrust SSL/TLS Extended Validation Server Certificates (hereinafter EV SSL Certificates) are ETSI TS 102 042 EVCP Certificates, with creation of the keys by the Subscriber, with 2048-bit key size and one (1) or two (2) years validity from issuing start date.

These LuxTrust SSL/TLS Extended Validation Server Certificates are compliant with and include the OID reference of the EVCP certificate policy of the ETSI Technical Standard 102 042 (i.e., 0.4.0.2042.1.4).

The usage purpose of these LuxTrust SSL/TLS Extended Validation Server Certificates is the combined purpose of digital signature, key and data encryption. The LuxTrust EVCP Server Certificates include the corresponding **LuxTrust EVCP OID for SSL/TLS extended validation server certificates**, i.e., **<1.3.171.1.1.10.5.2>**.

#### Appropriate Certificate uses:

The primary purposes of these Certificates are to:

- **Identify the legal entity that controls a Web site:** Provide a reasonable assurance to the user of an Internet browser that the Web site the user is accessing is controlled by a specific legal entity identified in the EV SSL Certificate by name, address of Place of Business, Jurisdiction of Incorporation or Registration and Registration Number or other disambiguating information; and
- **Enable encrypted communications with a Web site:** Facilitate the exchange of encryption keys in order to enable the encrypted communication of information over the Internet between the user of an Internet browser and a Web site.

The secondary purposes of these Certificates are to help establish the legitimacy of a business claiming to operate a Web site or distribute executable code, and to provide a vehicle that can be used to assist in addressing problems related to phishing, malware, and other forms of online identity fraud. By providing more reliable third-party verified identity and address information regarding the business, EV SSL Certificates may help to:

- Make it more difficult to mount phishing and other online identity fraud attacks using Certificates;
- Assist companies that may be the target of phishing attacks or online identity fraud by providing them with a tool to better identify themselves to users; and
- Assist law enforcement organizations in their investigations of phishing and other online identity fraud, including where appropriate, contacting, investigating, or taking legal action against the Subject.

#### Prohibited Certificate uses:

The EV SSL Certificates focus only on the identity of the Subject named in the Certificate, and not on the behavior of the Subject.

As such, these Certificates are not intended to provide any assurances, or otherwise represent or warrant:

- That the Subject named in the EV SSL Certificate is actively engaged in doing business;
- That the Subject named in the EV SSL Certificate complies with applicable laws;
- That the Subject named in the EV SSL Certificate is trustworthy, honest, or reputable in its business dealings; or
- That it is “safe” to do business with the Subject named in the EV SSL Certificate.

Moreover, usages of EV SSL Certificates for other purposes than those identified in the present CP are prohibited.



Verification of Applicant's Legal Existence and Identity:

For EV SSL Certificates, Applicant's legal existence and identity are verified in compliance with the EV Guidelines [13]:

- For Private Organization Subjects:
  - i. Verify the Applicant's Legal Existence as stipulated in the EV Guidelines [13];
  - ii. Verify the Applicant's Organization Name as stipulated in the EV Guidelines [13];
  - iii. Verify the Applicant's Registration Number as stipulated in the EV Guidelines [13];
  - iv. Verify the Applicant's Registered Agent as stipulated in the EV Guidelines [13].
- For Government Entity Subjects:
  - i. Verify the Applicant's Legal Existence as stipulated in the EV Guidelines [13];
  - ii. Verify the Applicant's Entity name as stipulated in the EV Guidelines [13];
  - iii. Verify the Applicant's Registration Number as stipulated in the EV Guidelines [13];

For EV SSL Certificates, LuxTrust SSL CA shall use a single naming convention as set forth in the EV Guidelines [13] and the Baseline Requirements [14] published by the CA/Browser Forum.

The following table provides the description of the fields for LuxTrust Server Certificates.

| SSL/TLS Extended Validation Server Certificates |                  |                 |                 |                  |                 |  |
|---|------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| Base Profile                                    |                  |                 |                 |                  |                 |  |
| Version   |                  | ✓               | False           |                  |                 |  |
|   |                  |                 |                 |                  | S               | Version 3 Value = "2"  |
| SerialNumber                                    |                  | ✓               | False           |                  |                 |  |
|   |                  |                 |                 |                  | FDV             | Validated on duplicates.                                       |
| signatureAlgorithm                              |                  | ✓               | False           |                  |                 |  |
|   | algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.    |
| signatureValue                                  |                  | ✓               | False           |                  |                 |  |
|   |                  |                 |                 |                  | D               | Issuing CA Signature.  |
| issuer  |                  | ✓               | False           |                  | S               |  |
|   | countryName      | ✓               |                 |                  | S               | LU   |
|   | commonName       | ✓               |                 |                  | S               | LuxTrust SSL CA  |
|   | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.  |
| Validity  |                  | ✓               | False           |                  |                 |  |
|   | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.                      |
|   | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + <b>12;24</b> Months |
| subject   |                  | ✓               | False           |                  |                 |  |

| SSL/TLS Extended Validation Server Certificates |   |                 |                 |                  |                 |  |
|---|---|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field   | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | countryName<br>(OID: 2.5.4.6)   | ✓               |                 | M                | D               | Country in which the company's or institution's registered office is established (as specified in the memorandum and articles of association). (ISO3166)   |
|   | jurisdictionOfIncorporationCountryName<br>(OID: 1.3.6.1.4.1.311.60.2.1.3)         | ✓               |                 | M                | D               | Contains the country information specified using the applicable ISO country code for the jurisdiction of Incorporation for the Incorporating Agency or Jurisdiction of Registration for a Registration Agency that operates at the country level, at state/pr.                                   |
|   | stateOrProvinceName<br>(OID: 2.5.4.8)   | ✓               |                 | M                | D               | State or Province in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)   |
|   | jurisdictionOfIncorporationStateOrProvinceName<br>(OID: 1.3.6.1.4.1.311.60.2.1.2) | ✓               |                 | O                | D               | Contains the jurisdiction for the applicable Incorporating Agency or Registration Agency at the state or province level MUST include both country and state or province information,   |
|   | localityName<br>(2.5.4.7)   | ✓               |                 | M                | D               | Location in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)  |
|   | jurisdictionOfIncorporationLocalityName<br>(1.3.6.1.4.1.311.60.2.1.1)             | ✓               |                 | O                | D               | Jurisdiction for the applicable Incorporating Agency or Registration Agency at the locality level MUST include the country and state or province information, where the state or province regulates the registration of the entities at the locality level, as well as the locality information. |
|   | organizationName<br>(OID: 2.5.4.10)   | ✓               |                 | M                | D               | Full legal organization name as listed in the official records of the Incorporating or Registration Agency in the Subject's Jurisdiction of Incorporation or Registration or as otherwise verified by the CA as provided herein.   |

| SSL/TLS Extended Validation Server Certificates |  |                 |                 |                  |                 |  |
|---|--|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field                                      | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | <b>businessCategory</b><br>(OID: 2.5.4.15) | ✓               |                 | M                | D               | Depending on the Subject qualifications, this field contains one of the following String: <ul style="list-style-type: none"> <li>Private Organization</li> <li>Government Entity</li> </ul>  |
|   | <b>serialNumber</b><br>(OID: 2.5.4.5)      | ✓               |                 | M                | D               | See EV Guidelines [13] :<br><br>For Private Organizations, this field MUST contain the Registration (or similar) Number assigned to the Subject by the Incorporating or Registration Agency in its Jurisdiction of Incorporation or Registration, as appropriate. If the Jurisdiction of Incorporation or Registration does not provide a Registration Number, then the date of Incorporation or Registration SHALL be entered into this field in any one of the common date formats.<br><br>For Government Entities that do not have a Registration Number or readily verifiable date of creation, the CA SHALL enter appropriate language to indicate that the Subject is a Government Entity. |
|   | <b>postalCode</b><br>(OID: 2.5.4.17)       | ✓               |                 | O                | D               | Postal code of the subject place of business.  |
|   | <b>streetAddress</b><br>(OID: 2.5.4.9)     | ✓               |                 | O                | D               | Number and Street of the physical location of the subject  |
|   | <b>subjectPublicKeyInfo</b>                | ✓               | False           |                  |                 |  |
|   | <b>algorithm</b>                           | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA);<br>public exponent: Fermat-4 (=010001).  |
|   | <b>subjectPublicKey</b>                    | ✓               |                 | M                |                 |  |
| <b>Extensions</b>                               |  |                 |                 |                  |                 |  |
| <b>Authority Properties</b>                     |  |                 |                 |                  |                 |  |
|   | <b>authorityKeyIdentifier</b>              | ✓               | False           |                  |                 |  |
|   | <b>keyIdentifier</b>                       | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>SSL</b> CA public key  |
|   | <b>authorityInfoAccess</b>                 | ✓               | False           |                  |                 |  |
|   | <b>AccessMethod</b>                        | ✓               |                 |                  |                 | Id-ad-1  |
|   | <b>accessLocation</b>                      | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
|   | <b>AccessMethod</b>                        | ✓               |                 |                  |                 | Id-ad-2  |
|   | <b>accessLocation</b>                      | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTSSLCA.crt">http://ca.luxtrust.lu/LTSSLCA.crt</a>  |

| SSL/TLS Extended Validation Server Certificates |                        |                 |                 |                  |                 |  |
|---|------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                       | Field                  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| cRLDistributionPoint                            |                        | ✓               | False           |                  |                 |  |
|   | distributionPoint      | ✓               |                 |                  | S               |  |
|   | fullName               | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTSSLCA.crl">http://crl.luxtrust.lu/LTSSLCA.crl</a>  |
| Subject Properties                              |                        |                 |                 |                  |                 |  |
| subjectAltName                                  |                        | ✓               | False           |                  |                 |  |
|   | SubjectAltName-dNSName | ✓               |                 | M                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates.  |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates.  |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates.. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates.  |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates.  |

| SSL/TLS Extended Validation Server Certificates |                        |                 |                 |                  |                 |   |
|---|------------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                       | Field                  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EV SSL Certificates. |
| subjectKeyIdentifier                            |                        | ✓               | False           |                  |                 |   |
|   | keyIdentifier          | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits).                      |
| <b>Policy Properties</b>                        |                        |                 |                 |                  |                 |   |
| keyUsage  |                        | ✓               | True            |                  |                 |   |
|   | digitalSignature       | ✓               |                 |                  | S               | True  |

| SSL/TLS Extended Validation Server Certificates |                   |                 |                 |                  |                 |   |
|---|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                       | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   | nonRepudiation    | ✓               |                 |                  | S               | False   |
|   | keyEncipherment   | ✓               |                 |                  | S               | True  |
|   | dataEncipherment  | ✓               |                 |                  | S               | True  |
| <b>certificatePolicies</b>                      |                   | ✓               | False           |                  |                 |   |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.5.2  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)   |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)   |
|   | noticeNumbers     |                 |                 |                  |                 |   |
|   | DisplayText       | ✓               |                 |                  |                 | ETSI TS 102 042 <b>EVCP</b> compliant certificate, produced by SSL CA, with creation of the keys by the Subscriber, 2048-bit key size, (1) or (2) years validity, and a key usage combining digital signature (dS bit), key and data encryption as well as extended key usage for server and client authentication. |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.4  |
| <b>Extended Key Usage</b>                       |                   | ✓               | False           |                  |                 |   |
|   | serverAuth        | ✓               |                 |                  | S               | True  |
|   | clientAuth        | ✓               |                 |                  | S               | True  |
|   | emailProtection   | ✓               |                 |                  | S               | False   |

### 3.3.17 SSL/TLS Extended Validation Server Certificates - EVCP+ certificates supporting Signature, Authentication & Encryption

LuxTrust SSL/TLS Extended Validation+ Server Certificates are ETSI TS 102 042 EVCP+ Certificates (hereinafter EVCP+ Certificates) certified as generated on Secure User Device, with creation of the keys by the Subscriber, with 2048-bit key size and one (1) or two (2) years validity from issuing start date.

These LuxTrust SSL/TLS Extended Validation+ Server Certificates are compliant with and include the OID reference of the EVCP+ certificate policy of the ETSI Technical Standard 102 042 (i.e., 0.4.0.2042.1.5).

The usage purpose of these LuxTrust SSL/TLS Extended Validation+ Server Certificates is the combined purpose of digital signature, key and data encryption. The LuxTrust EVCP+ Certificates include the corresponding **LuxTrust EVCP+ OID for SSL/TLS extended validation+ server certificates**, i.e., <1.3.171.1.1.10.5.3>.

Appropriate Certificate uses:

The primary purposes of these Certificates are to:

- **Identify the legal entity that controls a Web site:** Provide a reasonable assurance to the user of an Internet browser that the Web site the user is accessing is controlled by a specific legal entity identified in the EVCP+ Certificate by name,

address of Place of Business, Jurisdiction of Incorporation or Registration and Registration Number or other disambiguating information; and

- **Enable encrypted communications with a Web site:** Facilitate the exchange of encryption keys in order to enable the encrypted communication of information over the Internet between the user of an Internet browser and a Web site.

The secondary purposes of these Certificates are to help establish the legitimacy of a business claiming to operate a Web site or distribute executable code, and to provide a vehicle that can be used to assist in addressing problems related to phishing, malware, and other forms of online identity fraud. By providing more reliable third-party verified identity and address information regarding the business, EVCP+ Certificates may help to:

- Make it more difficult to mount phishing and other online identity fraud attacks using Certificates;
- Assist companies that may be the target of phishing attacks or online identity fraud by providing them with a tool to better identify themselves to users; and
- Assist law enforcement organizations in their investigations of phishing and other online identity fraud, including where appropriate, contacting, investigating, or taking legal action against the Subject.

Prohibited Certificate uses:

The EVCP+ Certificates focus only on the identity of the Subject named in the Certificate, and not on the behavior of the Subject.

As such, these Certificates are not intended to provide any assurances, or otherwise represent or warrant:

- That the Subject named in the EVCP+ Certificate is actively engaged in doing business;
- That the Subject named in the EVCP+ Certificate complies with applicable laws;
- That the Subject named in the EVCP+ Certificate is trustworthy, honest, or reputable in its business dealings; or
- That it is "safe" to do business with the Subject named in the EVCP+ Certificate.

Moreover, usages of EVCP+ Certificates for other purposes than those identified in the present CP are prohibited.

Verification of Applicant's Legal Existence and Identity:

For EVCP+ Certificates, Applicant's legal existence and identity are verified in compliance with the EV Guidelines [13]:

- For Private Organization Subjects:
  - v. Verify the Applicant's Legal Existence as stipulated in the EV Guidelines [13];
  - vi. Verify the Applicant's Organization Name as stipulated in the EV Guidelines [13];
  - vii. Verify the Applicant's Registration Number as stipulated in the EV Guidelines [13];
  - viii. Verify the Applicant's Registered Agent as stipulated in the EV Guidelines [13].
- For Government Entity Subjects:
  - iv. Verify the Applicant's Legal Existence as stipulated in the EV Guidelines [13];
  - v. Verify the Applicant's Entity name as stipulated in the EV Guidelines [13];
  - vi. Verify the Applicant's Registration Number as stipulated in the EV Guidelines [13];

For EVCP+ Certificates, LuxTrust SSL CA shall use a single naming convention as set forth in the EV Guidelines [13] and the Baseline Requirements [14] published by the CA/Browser Forum.



The following table provides the description of the fields for LuxTrust Server Certificates.

| SSL/TLS Extended Validation Server Certificates on Secure User Device |   |                 |                 |                  |                 |  |
|---|---|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field   | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| Base Profile  |   |                 |                 |                  |                 |  |
| Version   |   | ✓               | False           |                  |                 |  |
|   |   |                 |                 |                  | S               | Version 3 Value = "2"  |
| SerialNumber  |   | ✓               | False           |                  |                 |  |
|   |   |                 |                 |                  | FDV             | Validated on duplicates.   |
| signatureAlgorithm  |   | ✓               | False           |                  |                 |  |
|   | algorithm   |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| signatureValue  |   | ✓               | False           |                  |                 |  |
|   |   |                 |                 |                  | D               | Issuing CA Signature.  |
| issuer  |   | ✓               | False           |                  | S               |  |
|   | countryName   | ✓               |                 |                  | S               | LU   |
|   | commonName  | ✓               |                 |                  | S               | LuxTrust <b>SSL</b> CA   |
|   | organizationName  | ✓               |                 |                  | S               | LuxTrust S.A.  |
| Validity  |   | ✓               | False           |                  |                 |  |
|   | NotBefore   | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|   | NotAfter  | ✓               |                 |                  | D               | Certificate generation process date/time + <b>12;24</b> Months   |
| subject   |   | ✓               | False           |                  |                 |  |
|   | countryName<br>(OID: 2.5.4.6)   | ✓               |                 | M                | D               | Country in which the company's or institution's registered office is established (as specified in the memorandum and articles of association). (ISO3166)   |
|   | jurisdictionOfIncorporationCountryName<br>(OID: 1.3.6.1.4.1.311.60.2.1.3) | ✓               |                 | M                | D               | Contains the country information specified using the applicable ISO country code for the jurisdiction of Incorporation for the Incorporating Agency or Jurisdiction of Registration for a Registration Agency that operates at the country level, at state/pr. |
|   | stateOrProvinceName<br>(OID: 2.5.4.8)                                     | ✓               |                 | M                | D               | State or Province in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)   |



| SSL/TLS Extended Validation Server Certificates on Secure User Device |  |                 |                 |                  |                 |  |
|---|--|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | <b>jurisdictionOfIncorporationStateOrProvinceName</b><br>(OID: 1.3.6.1.4.1.311.60.2.1.2) | ✓               |                 | O                | D               | Contains the jurisdiction for the applicable Incorporating Agency or Registration Agency at the state or province level MUST include both country and state or province information,   |
|   | <b>localityName</b><br>(2.5.4.7)   | ✓               |                 | M                | D               | Location in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)  |
|   | <b>jurisdictionOfIncorporationLocalityName</b><br>(1.3.6.1.4.1.311.60.2.1.1)             | ✓               |                 | O                | D               | Jurisdiction for the applicable Incorporating Agency or Registration Agency at the locality level MUST include the country and state or province information, where the state or province regulates the registration of the entities at the locality level, as well as the locality information. |
|   | <b>organizationName</b><br>(OID: 2.5.4.10)   | ✓               |                 | M                | D               | Full legal organization name as listed in the official records of the Incorporating or Registration Agency in the Subject's Jurisdiction of Incorporation or Registration or as otherwise verified by the CA as provided herein  |
|   | <b>businessCategory</b><br>(OID: 2.5.4.15)   | ✓               |                 | M                | D               | Depending on the Subject qualifications, this field contains one of the following String: <ul style="list-style-type: none"> <li>• Private Organization</li> <li>• Government Entity</li> </ul>  |

| SSL/TLS Extended Validation Server Certificates on Secure User Device |  |                 |                 |                  |                 |  |
|---|--|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field                                  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | <b>serialNumber</b><br>(OID: 2.5.4.5)  | ✓               |                 | M                | D               | See EV Guidelines [13] :<br><br>For Private Organizations, this field MUST contain the Registration (or similar) Number assigned to the Subject by the Incorporating or Registration Agency in its Jurisdiction of Incorporation or Registration, as appropriate. If the Jurisdiction of Incorporation or Registration does not provide a Registration Number, then the date of Incorporation or Registration SHALL be entered into this field in any one of the common date formats.<br><br>For Government Entities that do not have a Registration Number or readily verifiable date of creation, the CA SHALL enter appropriate language to indicate that the Subject is a Government Entity. |
|   | <b>postalCode</b><br>(OID: 2.5.4.17)   | ✓               |                 | O                | D               | Postal code of the subject place of business.  |
|   | <b>streetAddress</b><br>(OID: 2.5.4.9) | ✓               |                 | O                | D               | Number and Street of the physical location of the subject  |
|   | <b>subjectPublicKeyInfo</b>            | ✓               | False           |                  |                 |  |
|   | <b>algorithm</b>                       | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA); public exponent: Fermat-4 (=010001).   |
|   | <b>subjectPublicKey</b>                | ✓               |                 | M                |                 |  |
| <b>Extensions</b>   |  |                 |                 |                  |                 |  |
| <b>Authority Properties</b>   |  |                 |                 |                  |                 |  |
|   | <b>authorityKeyIdentifier</b>          | ✓               | False           |                  |                 |  |
|   | <b>keyIdentifier</b>                   | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>SSL</b> CA public key  |
|   | <b>authorityInfoAccess</b>             | ✓               | False           |                  |                 |  |
|   | <b>AccessMethod</b>                    | ✓               |                 |                  |                 | Id-ad-1  |
|   | <b>accessLocation</b>                  | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
|   | <b>AccessMethod</b>                    | ✓               |                 |                  |                 | Id-ad-2  |
|   | <b>accessLocation</b>                  | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTSSLCA.crt">http://ca.luxtrust.lu/LTSSLCA.crt</a>  |
|   | <b>cRLDistributionPoint</b>            | ✓               | False           |                  |                 |  |
|   | <b>distributionPoint</b>               | ✓               |                 |                  | S               |  |
|   | <b>fullName</b>                        | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTSSLCA.crl">http://crl.luxtrust.lu/LTSSLCA.crl</a>  |

| SSL/TLS Extended Validation Server Certificates on Secure User Device |                        |                 |                 |                  |                 |  |
|---|------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field                  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| Subject Properties  |                        |                 |                 |                  |                 |  |
| subjectAltName  |                        | ✓               | False           |                  |                 |  |
|   | SubjectAltName-dNSName | ✓               |                 | M                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |

| SSL/TLS Extended Validation Server Certificates on Secure User Device |                        |                 |                 |                  |                 |  |
|---|------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field                  | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | SubjectAltName-dNSName | ✓               |                 | O                |                 | FQDN (Fully Qualified Domain Name) of application/server – Exact DNS for a Web Server or IP address or unique name of server, owned or controlled by the subject and to be associated with the Subject's server. Wildcard name not allowed for EVCP+ Certificates. |
|   | subjectKeyIdentifier   | ✓               | False           |                  |                 |  |



| SSL/TLS Extended Validation Server Certificates on Secure User Device |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute   | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits).   |
| <b>Policy Properties</b>  |                   |                 |                 |                  |                 |  |
| keyUsage  |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | True   |
|   | nonRepudiation    | ✓               |                 |                  | S               | False  |
|   | keyEncipherment   | ✓               |                 |                  | S               | True   |
|   | dataEncipherment  | ✓               |                 |                  | S               | True   |
| certificatePolicies   |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 1.3.171.1.1.10.5.3   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |
|   | DisplayText       | ✓               |                 |                  |                 | ETSI TS 102 042 <b>EVCP+</b> compliant certificate, on Secure User Device, produced by SSL CA, 2048-bit key size, (1) or (2) years validity, and a key usage combining digital signature (dS bit), key and data encryption as well as extended key usage for server and client authentication. |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | 0.4.0.2042.1.5   |
| Extended Key Usage  |                   | ✓               | False           |                  |                 |  |
|   | serverAuth        | ✓               |                 |                  | S               | True   |
|   | clientAuth        | ✓               |                 |                  | S               | True   |
|   | emailProtection   | ✓               |                 |                  | S               | False  |

### 3.3.18 LuxTrust Object (or Code) Signing Certificates

LuxTrust Code Signing Certificates are ETSI TS 102 042 LCP Certificates not certified as generated on SSCD, with creation of the keys by the Subscriber, with a 2048-bit key size and one (1) or three (3) years validity from issuing start date.

These LuxTrust Code Signing Certificates are compliant with and include the OID reference of the LCP certificate policy of the ETSI Technical Standard 102 042 (i.e., 0.4.0.2042.1.3).



The usage purpose of these LuxTrust Code Signing Certificates is the purpose of digital signature. The LuxTrust LCP Code Signing Certificates include the corresponding LuxTrust LCP OID, i.e., <1.3.171.1.1.10.5.4>.

The following table provides the description of the fields for LuxTrust Code Signing Certificates.

Items marked **Green** have to be provided by the requesting company; items marked **Red** can be provided optionally.

| LuxTrust LCP Code Signing Certificate Profile |                     |                 |                 |                  |                 |  |
|---|---------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                     | Field               | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| <b>Base Profile</b>                           |                     |                 |                 |                  |                 |  |
| Version                                       |                     | ✓               | False           |                  |                 |  |
|   |                     |                 |                 |                  | S               | Version 3 Value = "2"  |
| SerialNumber                                  |                     | ✓               | False           |                  |                 |  |
|   |                     |                 |                 |                  | FDV             | Validated on duplicates.   |
| signatureAlgorithm                            |                     | ✓               | False           |                  |                 |  |
|   | algorithm           |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| signatureValue                                |                     | ✓               | False           |                  |                 |  |
|   |                     |                 |                 |                  | D               | Issuing CA Signature.  |
| issuer  |                     | ✓               | False           |                  | S               |  |
|   | countryName         | ✓               |                 |                  | S               | LU   |
|   | commonName          | ✓               |                 |                  | S               | LuxTrust <b>SSL</b> CA   |
|   | organizationName    | ✓               |                 |                  | S               | LuxTrust S.A.  |
| validity                                      |                     | ✓               | False           |                  |                 |  |
|   | NotBefore           | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|   | NotAfter            | ✓               |                 |                  | D               | Certificate generation process date/time + <b>12; 36 months (1 or 3 years validity)</b>  |
| subject                                       |                     | ✓               | False           |                  |                 |  |
|   | countryName         | ✓               |                 | M                | D               | <i>Country in which the company's registered office is established (as specified in the memorandum and articles of association). (ISO3166)</i>                 |
|   | stateOrProvinceName | ✓               |                 | O                | D               |  |
|   | localityName        | ✓               |                 | M                | D               | <i>Location in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)</i> |
|   | organizationName    | ✓               |                 | M                | D               | <i>Names as in articles of association, including the legal form (as specified in the memorandum and articles of association or</i>                            |

| LuxTrust LCP Code Signing Certificate Profile |                         |                 |                 |                  |                 |   |
|---|-------------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                     | Field                   | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   |                         |                 |                 |                  |                 | <i>an equivalent document)</i>  |
|   | organizationalUnitName1 | ✓               |                 | O                | D               | <i>As provided by Subscriber</i>  |
|   | organizationalUnitName2 | ✓               |                 | O                | D               | <i>As provided by Subscriber</i>  |
|   | commonName              | ✓               |                 | M                | D               | <i>Names as in articles of association, including the legal form (as specified in the memorandum and articles of association or an equivalent document)</i>   |
|   | serialNumber            | ✓               |                 | O                | D               | <i>NA or Serial Number as provided by subscriber</i>  |
|   | emailAddress            | ✓               |                 | O                | D               | <i>Subject's email address if available</i>   |
| subjectPublicKeyInfo                          |                         | ✓               | False           |                  |                 |   |
|   | algorithm               | ✓               |                 |                  |                 | <i>Public Key: Key length: 2048 (RSA); public exponent: Fermat-4 (=010001).</i>   |
|   | subjectPublicKey        | ✓               |                 | M                |                 |   |
| <b>Extensions</b>                             |                         |                 |                 |                  |                 |   |
| <b>Authority Properties</b>                   |                         |                 |                 |                  |                 |   |
| authorityKeyIdentifier                        |                         | ✓               | False           |                  |                 |   |
|   | keyIdentifier           | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>SSL</b> CA public key   |
| authorityInfoAccess                           |                         | ✓               | False           |                  |                 |   |
|   | AccessMethod            | ✓               |                 |                  |                 | Id-ad-1   |
|   | accessLocation          | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>   |
|   | AccessMethod            | ✓               |                 |                  |                 | Id-ad-2   |
|   | accessLocation          | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTSSLCA.crt">http://ca.luxtrust.lu/LTSSLCA.crt</a>   |
| CRLDistributionPoint                          |                         | ✓               | False           |                  |                 |   |
|   | distributionPoint       | ✓               |                 |                  | S               |   |
|   | fullName                | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTSSLCA.crl">http://crl.luxtrust.lu/LTSSLCA.crl</a>   |
| <b>Subject Properties</b>                     |                         |                 |                 |                  |                 |   |
| subjectAltName                                |                         | ✓               | False           |                  |                 |   |
|   | Rfc822Name              | ✓               |                 | O                | D               | <i>Subject's email address</i>  |
| subjectKeyIdentifier                          |                         | ✓               | False           |                  |                 |   |
|   | keyIdentifier           | ✓               |                 |                  | Fixed           | <i>The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused</i> |

| LuxTrust LCP Code Signing Certificate Profile |                   |                 |                 |                  |                 |   |
|---|-------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                     | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
|   |                   |                 |                 |                  |                 | <i>bit-string bits).</i>  |
| <b>Policy Properties</b>                      |                   |                 |                 |                  |                 |   |
| keyUsage                                      |                   | ✓               | True            |                  |                 |   |
|   | digitalSignature  | ✓               |                 |                  | S               | True  |
|   | nonRepudiation    | ✓               |                 |                  | S               | False   |
|   | keyEncipherment   | ✓               |                 |                  | S               | False   |
|   | dataEncipherment  | ✓               |                 |                  | S               | False   |
| certificatePolicies                           |                   | ✓               | False           |                  |                 |   |
|   | PolicyIdentifier  | ✓               |                 |                  | S               | 1.3.171.1.1.10.5.4  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)   |
|   | qualifier         | ✓               |                 |                  | S               | <a href="http://repository.luxtrust.lu">http://repository.luxtrust.lu</a>   |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)   |
|   | noticeNumbers     |                 |                 |                  |                 |   |
|   | DisplayText       | ✓               |                 |                  | S               | LuxTrust Code Signing Certificate. Not supported by SSCD, Key Generation by Subscriber. GTC, CP and CPS on <a href="http://repository.luxtrust.lu">http://repository.luxtrust.lu</a> . Signed by an SSL CA. |
|   | PolicyIdentifier  | ✓               |                 |                  | S               | 0.4.0.2042.1.3  |
| Extended Key Usage                            |                   | ✓               | False           |                  |                 |   |
|   | Object Signing    | ✓               |                 |                  | S               | Set   |
| <b>Netscape Proprietary</b>                   |                   |                 |                 |                  |                 |   |
| NetscapeCertificateType                       |                   | ✓               | False           |                  |                 |   |
|   | Object Signing    | ✓               |                 |                  | S               | Set   |

### 3.3.19 LuxTrust SSL/TLS Certificate for Client Authentication

LuxTrust SSL/TLS Client Certificates are ETSI TS 102 042 LCP Certificates not certified as generated on SSCD, with creation of the keys by the Subscriber, with 2048-bit key size and one (1) or three (3) years validity from issuing start date.

These LuxTrust SSL/TLS Client Certificates are compliant with and include the OID reference of the LCP certificate policy of the ETSI Technical Standard 102 042 (i.e., 0.4.0.2042.1.3).

The usage purpose of these LuxTrust SSL/TLS Client Certificates is the combined purpose of digital signature, key and data encryption. The LuxTrust LCP Server Certificates include the corresponding **LuxTrust LCP OID for SSL/TLS client certificates**, i.e., **<1.3.171.1.1.10.5.5>**.

The following table provides the description of the fields for LuxTrust Server Certificates.





| LuxTrust SSL Client LCP Certificate Profile |                          |                 |                 |                  |                 |  |
|---|--------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
| Base Profile                                | Version                  | ✓               | False           |                  |                 |  |
|   |                          |                 |                 |                  | S               | Version 3 Value = "2"  |
| SerialNumber                                |                          | ✓               | False           |                  |                 |  |
|   |                          |                 |                 |                  | FDV             | Validated on duplicates.   |
| signatureAlgorithm                          |                          | ✓               | False           |                  |                 |  |
|   | algorithm                |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption.  |
| signatureValue                              |                          | ✓               | False           |                  |                 |  |
|   |                          |                 |                 |                  | D               | Issuing CA Signature.  |
| issuer                                      |                          | ✓               | False           |                  | S               |  |
|   | countryName              | ✓               |                 |                  | S               | LU   |
|   | commonName               | ✓               |                 |                  | S               | LuxTrust <b>SSL</b> CA   |
|   | organizationName         | ✓               |                 |                  | S               | LuxTrust S.A.  |
| Validity                                    |                          | ✓               | False           |                  |                 |  |
|   | NotBefore                | ✓               |                 |                  | D               | Certificate generation process date/time.  |
|   | NotAfter                 | ✓               |                 |                  | D               | Certificate generation process date/time + <b>12;36</b> Months   |
| subject                                     |                          | ✓               | False           |                  |                 |  |
|   | countryName              | ✓               |                 | M                | D               | Country in which the company's or institution's registered office is established (as specified in the memorandum and articles of association). (ISO3166) |
|   | stateOrProvinceName      | ✓               |                 | O                | D               |  |
|   | localityName             | ✓               |                 | M                | D               | Location in which the company's registered office is established (as specified in the memorandum and articles of association or an equivalent document)  |
|   | organizationName         | ✓               |                 | M                | D               | Names as in articles of association, including the legal form (as specified in the memorandum and articles of association or an equivalent document)     |
|   | organizationalUnitName 1 | ✓               |                 | O                | D               | As provided by Subscriber  |
|   | organizationalUnitName 2 | ✓               |                 | O                | D               | As provided by Subscriber  |
|   | commonName               | ✓               |                 | M                | D               | As provided by Subscriber  |
|   | serialNumber             | ✓               |                 | O                | D               | Serial Number as provided by subscriber  |
|   | emailAddress             | ✓               |                 | O                | D               | Subject's email address  |
| subjectPublicKeyInfo                        |                          | ✓               | False           |                  |                 |  |
|   | algorithm                | ✓               |                 |                  |                 | Public Key: Key length: 2048 bit (RSA);  |

| LuxTrust SSL Client LCP Certificate Profile |                   |                 |                 |                  |                 |  |
|---|-------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field             | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | subjectPublicKey  | ✓               |                 | M                |                 | public exponent: Fermat-4 (=010001).   |
| <b>Extensions</b>                           |                   |                 |                 |                  |                 |  |
| <b>Authority Properties</b>                 |                   |                 |                 |                  |                 |  |
| authorityKeyIdentifier                      |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust <b>SSL</b> CA public key  |
| authorityInfoAccess                         |                   | ✓               | False           |                  |                 |  |
|   | AccessMethod      | ✓               |                 |                  |                 | Id-ad-1  |
|   | accessLocation    | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
|   | AccessMethod      | ✓               |                 |                  |                 | Id-ad-2  |
|   | accessLocation    | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTSSLCA.crt">http://ca.luxtrust.lu/LTSSLCA.crt</a>  |
| cRLDistributionPoint                        |                   | ✓               | False           |                  |                 |  |
|   | distributionPoint | ✓               |                 |                  | S               |  |
|   | fullName          | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTSSLCA.crl">http://crl.luxtrust.lu/LTSSLCA.crl</a>  |
| <b>Subject Properties</b>                   |                   |                 |                 |                  |                 |  |
| subjectAltName                              |                   | ✓               | False           |                  |                 |  |
|   | Rfc822Name        | ✓               |                 | O                | D               | <i>Certificate Holder's email address</i>  |
| subjectKeyIdentifier                        |                   | ✓               | False           |                  |                 |  |
|   | keyIdentifier     | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                    |                   |                 |                 |                  |                 |  |
| keyUsage                                    |                   | ✓               | True            |                  |                 |  |
|   | digitalSignature  | ✓               |                 |                  | S               | True   |
|   | nonRepudiation    | ✓               |                 |                  | S               | False  |
|   | keyEncipherment   | ✓               |                 |                  | S               | True   |
|   | dataEncipherment  | ✓               |                 |                  | S               | True   |
| certificatePolicies                         |                   | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier  | ✓               |                 |                  |                 | <b>1.3.171.1.1.10.5.5</b>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier         | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers     |                 |                 |                  |                 |  |

| LuxTrust SSL Client LCP Certificate Profile |                  |                 |                 |                  |                 |  |
|---|------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                   | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | DisplayText      | ✓               |                 |                  |                 | LuxTrust Standard SSL/TLS Client Authentication Certificate. Not supported by SSCD, Key Generation by Subscriber. GTC, CP and CPS on <a href="http://repository.luxtrust.lu">http://repository.luxtrust.lu</a> . Signed by a SSL CA. |
|   | PolicyIdentifier | ✓               |                 |                  |                 | 0.4.0.2042.1.3   |
| Extended Key Usage                          |                  | ✓               | False           |                  |                 |  |
|   | serverAuth       | ✓               |                 |                  | S               | False  |
|   | clientAuth       | ✓               |                 |                  | S               | True   |
|   | emailProtection  | ✓               |                 |                  | S               | True   |

### 3.3.20 Timestamping Certificate Profile

LuxTrust Timestamping Certificates are issued by the LuxTrust Timestamping CA with keys located on HSM devices, with generation by LuxTrust CSP according to the processes and procedures described in the applicable CP, with a 2048-bit key size and 5 years validity from issuing start date.

The profiles of the public key certificates used by the LuxTrust TSA comply with the RFC 3161 [6]. The full set of rules used by LuxTrust S.A. for the issuing and management of these certificates that are issued by a LuxTrust CA, as well as their extensions, are described in the LuxTrust Internal Certificate Policy for PKI Participants other than Subscribers and Relying Parties.

| LuxTrust Timestamping Certificate Profile |                  |                 |                 |                  |                 |   |
|---|------------------|-----------------|-----------------|------------------|-----------------|---|
| Attribute                                 | Field            | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value   |
| Base Profile                              |                  |                 |                 |                  |                 |   |
| Version                                   |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | S               | Version 3 Value = "2"                                       |
| SerialNumber                              |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | FDV             | Validated on duplicates.                                    |
| signatureAlgorithm                        |                  | ✓               | False           |                  |                 |   |
|   | algorithm        |                 |                 |                  | S               | OID = "1.2.840.113549.1.1.11" - SHA256 with RSA Encryption. |
| signatureValue                            |                  | ✓               | False           |                  |                 |   |
|   |                  |                 |                 |                  | D               | Issuing CA Signature.                                       |
| issuer                                    |                  | ✓               | False           |                  | S               |   |
|   | countryName      | ✓               |                 |                  | S               | LU  |
|   | commonName       | ✓               |                 |                  | S               | LuxTrust <b>Global Timestamping CA</b>                      |
|   | organizationName | ✓               |                 |                  | S               | LuxTrust S.A.   |
| Validity                                  |                  | ✓               | False           |                  |                 |   |
|   | NotBefore        | ✓               |                 |                  | D               | Certificate generation process date/time.                   |
|   | NotAfter         | ✓               |                 |                  | D               | Certificate generation process date/time + 60 Months        |
| subject                                   |                  | ✓               | False           |                  |                 |   |

| LuxTrust Timestamping Certificate Profile |                                     |                 |                 |                  |                 |  |
|---|-------------------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                 | Field                               | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | commonName                          | ✓               |                 | M                | D               | <i>fts.luxtrust.lu</i>   |
|   | localityName                        | ✓               |                 | M                | D               | <i>Capellen</i>  |
|   | organizationName                    | ✓               |                 | M                | D               | <i>LuxTrust S.A.</i>   |
|   | organizationalUnitName 1            | ✓               |                 | M                | D               | <i>PKI Entity</i>  |
|   | countryName                         | ✓               |                 | O                | D               | <i>LU</i>  |
| subjectPublicKeyInfo                      |                                     | ✓               | False           |                  |                 |  |
|   | algorithm                           | ✓               |                 |                  |                 | Public Key: Key length: <b>2048</b> bit (RSA);<br>public exponent: Fermat-4 (=010001).   |
|   | subjectPublicKey                    | ✓               |                 | M                |                 |  |
| <b>Extensions</b>                         |                                     |                 |                 |                  |                 |  |
| <b>Authority Properties</b>               |                                     |                 |                 |                  |                 |  |
| authorityKeyIdentifier                    |                                     | ✓               | False           |                  |                 |  |
|   | keyIdentifier                       | ✓               |                 |                  |                 | SHA-1 Hash of the LuxTrust<br><b>Timestamping</b> CA public key  |
| authorityInfoAccess                       |                                     | ✓               | False           |                  |                 |  |
|   | AccessMethod                        | ✓               |                 |                  |                 | Id-ad-2  |
|   | accessLocation                      | ✓               |                 |                  |                 | <a href="http://ca.luxtrust.lu/LTGTSACA.crt">http://ca.luxtrust.lu/LTGTSACA.crt</a>  |
|   | AccessMethod                        | ✓               |                 |                  |                 | Id-ad-1  |
|   | accessLocation                      | ✓               |                 |                  |                 | <a href="http://ocsp.luxtrust.lu">http://ocsp.luxtrust.lu</a>  |
| cRLDistributionPoint                      |                                     | ✓               | False           |                  |                 |  |
|   | distributionPoint                   | ✓               |                 |                  | S               |  |
|   | fullName                            | ✓               |                 |                  |                 | <a href="http://crl.luxtrust.lu/LTGTSACA.crl">http://crl.luxtrust.lu/LTGTSACA.crl</a>  |
| <b>Subject Properties</b>                 |                                     |                 |                 |                  |                 |  |
| subjectAltName                            |                                     | ✓               | False           |                  |                 |  |
|   | Rfc822Name                          | ✓               |                 | O                | D               | <i>info@luxtrust.lu</i>  |
| subjectKeyIdentifier                      |                                     | ✓               | False           |                  |                 |  |
|   | keyIdentifier                       | ✓               |                 |                  | Fixed           | The Key Identifier comprises a four-bit field with a 0100 value, followed by the least significant 60 bits of the SHA-1 hash of the value or subjectPublicKey bit string (tag, not including the length and number of unused bit-string bits). |
| <b>Policy Properties</b>                  |                                     |                 |                 |                  |                 |  |
| keyUsage                                  |                                     | ✓               | True            |                  |                 |  |
|   | digitalSignature                    | ✓               |                 |                  | S               | True   |
|   | nonRepudiation                      | ✓               |                 |                  | S               | False  |
|   | keyEncipherment                     | ✓               |                 |                  | S               | False  |
|   | dataEncipherment                    | ✓               |                 |                  | S               | False  |
| Extended Key Usage                        |                                     | ✓               | False           |                  |                 |  |
|   | TimeStamping<br>(1.3.6.1.5.5.7.3.8) | ✓               |                 |                  | S               | Set  |
| Private Key Usage Period                  |                                     | ✓               | False           |                  |                 |  |

| LuxTrust Timestamping Certificate Profile |                          |                 |                 |                  |                 |  |
|---|--------------------------|-----------------|-----------------|------------------|-----------------|--|
| Attribute                                 | Field                    | IN <sup>5</sup> | CE <sup>6</sup> | O/M <sup>7</sup> | CO <sup>8</sup> | Value  |
|   | Usage period (2.5.29.16) | ✓               |                 | M                | D               | Certificate generation process date/time + 12 Months   |
| certificatePolicies                       |                          | ✓               | False           |                  |                 |  |
|   | PolicyIdentifier         | ✓               |                 |                  |                 | 1.3.171.1.1.10.8.1   |
|   | policyQualifierID        | ✓               |                 |                  | S               | Id-qt-1 (CPS)  |
|   | qualifier                | ✓               |                 |                  | S               | <a href="https://repository.luxtrust.lu">https://repository.luxtrust.lu</a>  |
|   | policyQualifierID        | ✓               |                 |                  | S               | Id-qt-2 (User Notice)  |
|   | noticeNumbers            |                 |                 |                  |                 |  |
|   | DisplayText              | ✓               |                 |                  |                 | LuxTrust LCP certificate compliant with ETSI TS 102 042. Sole authorised usage: Signature of LuxTrust Trusted Time Stamp tokens generated by LuxTrust time-stamping authority. |
|   | PolicyIdentifier         | ✓               |                 |                  |                 | 0.4.0.2042.1.3   |

### 3.3.21 Certificate extensions

X.509 v3 extensions are supported and used as indicated in the Certificates profiles as described in the present document.

### 3.3.22 Algorithm object identifiers

Algorithms OID are conforming to IETF RFC 3279 [10] and RFC 5280 [11].

### 3.3.23 Name forms

Name forms are in the X.500 distinguished name form as implemented in RFC 3739 [12].

### 3.3.24 Name constraints

Name constraints are supported as per RFC 5280 [11].

### 3.3.25 Certificate policy object identifier

Certificate policy object identifiers are used as per RFC 3739 [12].

### 3.3.26 Usage of Policy Constraints extension

Usage of Policy Constraints extension is supported as per RFC 5280 [11].

### 3.3.27 Policy qualifiers syntax and semantics

The use of policy qualifiers defined in RFC 5280 [11] is supported.

### 3.3.28 Processing semantics for the critical Certificate Policies

Not applicable.

## 3.4 CRL profile

In conformance with the IETF PKIX RFC 2459, the LuxTrust CAs support CRLs compliant with:

- Version numbers supported for CRLs
- CRL and CRL entry extensions populated and their criticality.



The profile of the CRL is provided in the table below:

| LuxTrust CRL Profile   |   |
|------------------------|---|
| Field                  | Comments  |
| Version                | v2  |
| Signature              | Sha1RSA   |
| Issuer                 | <subjectCA>   |
| thisUpdate             | <creation time>   |
| nextUpdate             | <creation time + 100 days for Global Root CA><br><creation time + 4,5 hours (4 hours and 30 minutes) for subordinate Qualified and SSL CAs><br><creation time + 24 hours for other subordinate CAs> |
| revokedCertificates    |   |
| userCertificate        | <certificate serial number>   |
| revocationDate         | <revocation time>   |
| crEntryExtensions      |   |
| reasonCode             | <Insert List of used revocation reason code>  |
| crExtensions           |   |
| cRLNumber              | Non-critical <subject key identifier CA>  |
| authorityKeyIdentifier | Non-critical <CA assigned unique number>  |

### 3.4.1 Version number(s)

See section 3.4.

The CA will support X.509 version 2 CRLs, retrievable by online at <http://crl.luxtrust.lu>.

As an alternative to CRLs the CA may provide other web based or “other” revocation checking service.

### 3.4.2 CRL entry extensions

See section 3.4.

## 3.5 OCSP profile

The OCSP profile follows IETF PKIX RFC 2560 OCSP v1 and v2. No OCSP extensions are supported. The LuxTrust CAs support signed status requests, and multiple Certificates status requests in one OCSP request as long as they are signed by the same CA.

### 3.5.1 Version number(s)

See section 3.5.

### 3.5.2 OCSP extensions

See section 3.5.