# OPTIGA™ Trust M

## Product Version: V3

## About this document

### Scope and purpose

The scope of this document is to provide the certificates to be considered while integrating the OPTIGA™ Trust M solution.

### Intended audience

This document addresses the audience: Customers, solution providers and system integrators.

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# 1 Abbreviations

**Table 1 Abbreviations**

| Abbreviation | Definition |
|---|---|
| CA | Certificate Authority |
| PKI | Public Key Infrastructure |
| NIST | National Institute of Standards and Technology |

# 2 References

None

# 3 Infineon Test Certificates

The Infineon test certificates include the Infineon Test CA certificate and Infineon End Device Test certificate as shown in PKI hierarchy.

*Note: Engineering Samples come with Test Certificates in Security Chip and Test CA on local host platform. These are not meant to be used for final product. Please use productive samples and productive CA for final product rollout.*

The Infineon End Device Certificate is in default loaded in OPTIGA™ Trust M security chip Engineering samples. The Infineon Test CA is to be integrated to respective Host platform to perform device authentication.

## 3.1 PKI Hierarchy for Test Certificates

The PKI hierarchy of the OPTIGA™ Trust M Test certificates is as given below.

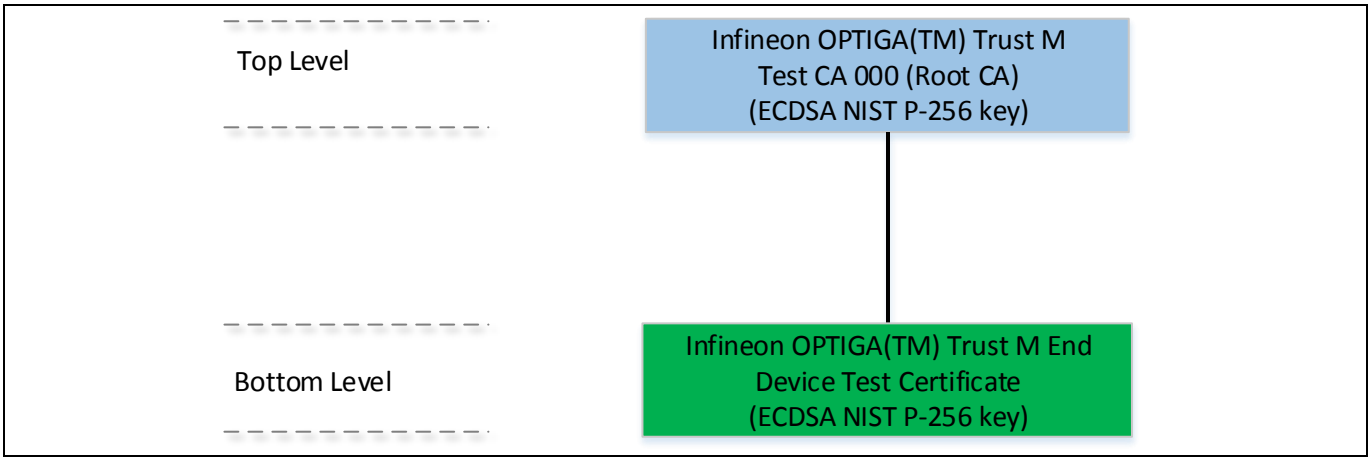


**Figure 1 PKI Hierarchy – Test Certificates**

## 3.2 Infineon Test CA Certificate

The details of the Infineon Test CA are given below.

**Table 2 Infineon Test CA Certificate**

| Type of Data | Data in Hex |
|---|---|
| Certificate Data | 30 82 02 5F 30 82 02 05 A0 03 02 01 02 02 09 00<br>FB E1 CA 1A 90 F5 20 64 30 0A 06 08 2A 86 48 CE<br>3D 04 03 02 30 77 31 0B 30 09 06 03 55 04 06 13<br>02 44 45 31 21 30 1F 06 03 55 04 0A 0C 18 49 6E<br>66 69 6E 65 6F 6E 20 54 65 63 68 6E 6F 6C 6F 67<br>69 65 73 20 41 47 31 13 30 11 06 03 55 04 0B 0C<br>0A 4F 50 54 49 47 41 28 54 4D 29 31 30 30 2E 06<br>03 55 04 03 0C 27 49 6E 66 69 6E 65 6F 6E 20 4F<br>50 54 49 47 41 28 54 4D 29 20 54 72 75 73 74 20<br>4D 20 54 65 73 74 20 43 41 20 30 30 30 30 1E 17<br>0D 31 38 30 36 31 35 31 34 32 39 35 33 5A 17 0D<br>34 33 30 36 30 39 31 34 32 39 35 33 5A 30 77 31<br>0B 30 09 06 03 55 04 06 13 02 44 45 31 21 30 1F<br>06 03 55 04 0A 0C 18 49 6E 66 69 6E 65 6F 6E 20<br>54 65 63 68 6E 6F 6C 6F 67 69 65 73 20 41 47 31<br>13 30 11 06 03 55 04 0B 0C 0A 4F 50 54 49 47 41<br>28 54 4D 29 31 30 30 2E 06 03 55 04 03 0C 27 49<br>6E 66 69 6E 65 6F 6E 20 4F 50 54 49 47 41 28 54<br>4D 29 20 54 72 75 73 74 20 4D 20 54 65 73 74 20<br>43 41 20 30 30 30 30 59 30 13 06 07 2A 86 48 CE<br>3D 02 01 06 08 2A 86 48 CE 3D 03 01 07 03 42 00<br>04 1B 51 FD AC 28 A5 BD 0B 39 57 41 A7 00 6E 23<br>64 F8 D3 C4 08 C7 5C A0 80 5E 35 F6 6E 9F 10 1F<br>25 8C 56 F6 21 33 D5 D9 45 2E 5F A7 70 29 EC F9<br>99 B3 4A 73 A5 9B 98 AA 96 F8 0A 35 37 0A 88 8E<br>67 A3 7A 30 78 30 12 06 03 55 1D 13 01 01 FF 04<br>08 30 06 01 01 FF 02 01 00 30 0B 06 03 55 1D 0F<br>04 04 03 02 02 04 30 1D 06 03 55 1D 0E 04 16 04<br>14 53 1B 46 32 F2 BA 1B EC 35 23 B0 C6 84 E2 BC<br>7F 11 DA A2 2E 30 1F 06 03 55 1D 23 04 18 30 16<br>80 14 53 1B 46 32 F2 BA 1B EC 35 23 B0 C6 84 E2<br>BC 7F 11 DA A2 2E 30 15 06 03 55 1D 20 04 0E 30<br>0C 30 0A 06 08 2A 82 14 00 44 01 14 01 30 0A 06<br>08 2A 86 48 CE 3D 04 03 02 03 48 00 30 45 02 20<br>1B B3 72 A2 3E 36 85 CF 21 A3 E2 95 4F 67 0C 44<br>69 45 70 D8 A8 8E 2F 76 B0 5C 0F 5F 27 F2 EB F1<br>02 21 00 AD F0 D3 E1 8B F2 E2 5F 45 98 48 0C B6<br>43 18 2F A3 8F E0 8A 6E F3 DD 2A F1 EF 7C 27 6A<br>44 B6 0F |
| SHA1 Thumbprint | b5 11 84 30 f2 94 05 b3 03 84 08 94 7b e1 ce 50 19 e1 6b de |
| Sign and Hash Algorithm | SHA256 ECDSA |
| Public Key parameters | ECDSA NIST P-256 |
| Public Key | 04<br>1B 51 FD AC 28 A5 BD 0B 39 57 41 A7 00 6E 23 64<br>F8 D3 C4 08 C7 5C A0 80 5E 35 F6 6E 9F 10 1F 25<br>8C 56 F6 21 33 D5 D9 45 2E 5F A7 70 29 EC F9 99<br>B3 4A 73 A5 9B 98 AA 96 F8 0A 35 37 0A 88 8E 67 |

## 3.3 Infineon End Device Test Certificate

The details of the Infineon End Device Test certificate are given in the below.

*Note: The Infineon end device certificate will be different in the OPTIGA™ Trust M samples if personalized for the unique keys and certificates.*

**Table 3 Infineon End Device Test Certificate**

| Certificate Field | Data in Hex |
|---|---|
| Certificate Data (In Hex) | 30 82 01 DD 30 82 01 82 A0 03 02 01 02 02 03 10<br>00 01 30 0A 06 08 2A 86 48 CE 3D 04 03 02 30 77<br>31 0B 30 09 06 03 55 04 06 13 02 44 45 31 21 30<br>1F 06 03 55 04 0A 0C 18 49 6E 66 69 6E 65 6F 6E<br>20 54 65 63 68 6E 6F 6C 6F 67 69 65 73 20 41 47<br>31 13 30 11 06 03 55 04 0B 0C 0A 4F 50 54 49 47<br>41 28 54 4D 29 31 30 30 2E 06 03 55 04 03 0C 27<br>49 6E 66 69 6E 65 6F 6E 20 4F 50 54 49 47 41 28<br>54 4D 29 20 54 72 75 73 74 20 4D 20 54 65 73 74<br>20 43 41 20 30 30 30 30 1E 17 0D 31 38 30 39 32<br>34 31 34 32 39 35 33 5A 17 0D 33 38 30 39 32 34<br>31 34 32 39 35 33 5A 30 1C 31 1A 30 18 06 03 55<br>04 03 0C 11 49 6E 66 69 6E 65 6F 6E 20 49 6F 54<br>20 4E 6F 64 65 30 59 30 13 06 07 2A 86 48 CE 3D<br>02 01 06 08 2A 86 48 CE 3D 03 01 07 03 42 00 04<br>5D F7 36 9A 8B 47 E8 61 A6 94 5C 9D EC 18 EF 4A<br>6F BE 55 1C 78 23 74 A6 06 29 D4 65 9B 81 C2 5D<br>9F F5 1F 70 8A 4D 3F 19 36 70 C3 10 51 DD 67 12<br>DC F2 B6 2A 8A 70 53 92 13 95 2D 05 D2 90 38 07<br>A3 58 30 56 30 0C 06 03 55 1D 13 01 01 FF 04 02<br>30 00 30 0E 06 03 55 1D 0F 01 01 FF 04 04 03 02<br>07 80 30 1F 06 03 55 1D 23 04 18 30 16 80 14 53<br>1B 46 32 F2 BA 1B EC 35 23 B0 C6 84 E2 BC 7F 11<br>DA A2 2E 30 15 06 03 55 1D 20 04 0E 30 0C 30 0A<br>06 08 2A 82 14 00 44 01 14 01 30 0A 06 08 2A 86<br>48 CE 3D 04 03 02 03 49 00 30 46 02 21 00 A6 BF<br>28 A3 EF AE 18 3A DE 0A 0B 49 32 1D A2 C2 E0 CF<br>AF 4E D6 F2 FF 80 57 1E 4E 50 EF C3 0D 5D 02 21<br>00 F6 B9 E4 74 07 91 B4 2C 99 4B 45 C8 07 F3 1D<br>BE BF 7B 54 73 3B 0E 63 E6 0C 11 0E 09 11 13 43<br>19 |
| SHA1 Thumbprint | 2d e9 11 cc 92 1f b3 ca 43 3a 20 3a 7a 47 4d 3b fa 93 39 45 |
| Sign and Hash Algorithm | SHA256 ECDSA |
| Public Key parameters | ECDSA NIST P-256 |
| Public Key | 04<br>5D F7 36 9A 8B 47 E8 61 A6 94 5C 9D EC 18 EF 4A<br>6F BE 55 1C 78 23 74 A6 06 29 D4 65 9B 81 C2 5D<br>9F F5 1F 70 8A 4D 3F 19 36 70 C3 10 51 DD 67 12<br>DC F2 B6 2A 8A 70 53 92 13 95 2D 05 D2 90 38 07 |

# Revision History

**Major changes since the last revision**

| Page or Reference | Description of change |
|---|---|
| All | Revision 0.50, Initial version |
| All | Revision 3.00, ES Release |
| | |
| | |
| | |

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