Information Technology Laboratory

COMPUTER SECURITY RESOURCE CENTER



PROJECTS

CRYPTOGRAPHIC MODULE VALIDATION PROGRAM

Cryptographic Module Validation Program

Certificate #3523

Details

Module Name Apple Secure Key Store Cryptographic Module, v9.0

Standard FIPS 140-2 Status Active **Sunset Date** 9/9/2024 **Validation Dates** 9/10/2019 Overall Level

Caveat When operated in FIPS mode Security Level Exceptions • Mitigation of Other Attacks: N/A

Module Type Hardware **Embodiment** Single Chip

Description The Apple Secure Key Store Cryptographic Module, v9.0 is a single-chip standalone hardware cryptographic module

running on a multi-chip device and provides services intended to protect data in transit and at rest.

Tested Configuration(s) • SEPOS running on Apple iMac Pro 2017 with Apple T2 CPU[2]

- SEPOS running on Apple MacBook Pro with Apple T2 CPU[2]
- SEPOS running on Apple TV 4K with Apple A10X Fusion CPU[2]
- SEPOS running on Apple Watch Series 1 with Apple S1P CPU[2]
- SEPOS running on Apple Watch Series 3 with Apple S3 CPU[2]
- SEPOS running on Apple Watch Series 4 with Apple S4 CPU[2]
- SEPOS running on iPad Air 2 with Apple A8X CPU[1]
- SEPOS running on iPad Pro with Apple A12X Bionic CPU[2]
- SEPOS running on iPad Pro with Apple A9X CPU[2], SEPOS running on iPad Pro with Apple A10X Fusion CPU[2]
- SEPOS running on iPhone 5S with Apple A7 CPU[1]
- SEPOS running on iPhone 6 (iPhone 6 and iPhone 6 Plus) with Apple A8 CPU[1]
- SEPOS running on iPhone 6S (iPhone 6S and iPhone 6S Plus) with Apple A9 CPU[2]
- SEPOS running on iPhone 7 (iPhone 7 and iPhone 7 Plus) with Apple A10 Fusion CPU[2]
- SEPOS running on iPhone 8 and iPhone X (iPhone 8, iPhone 8 Plus, iPhone X) with Apple A11 Bionic CPU[2]
- SEPOS running on iPhone XS (iPhone XS, iPhone XS Max, iPhone XR) with Apple A12 Bionic CPU[2]

FIPS Algorithms

AES Certs. #5260, #5261, #5270, #5271, #5272, #5273, #5274, #5275, #5276, #5278, #5279, #C87, #C88, #C89, #C90, #C91, #C92, #C93, #C94, #C151, #C152, #C153, #C154, #C155, #C156, #C157, #C158, #C159, #C160, #C161, #C162, #C163, #C164, #C165, #C166, #C167, #C168, #C169, #C192, #C199, #C200, #C201, #C202, #C191, #C192, #C192, #C193, #C194, #C194,#C203, #C204, #C205, #C206, #C207, #C208, #C258, #C260, #C261, #C262, #C263, #C264, #C265, #C266,

 $\#\underline{C267}, \#\underline{C268}, \#\underline{C270}, \#\underline{C271}, \#\underline{C273}, \#\underline{C274}, \#\underline{C275}, \#\underline{C277}, \#\underline{C278}, \#\underline{C279}, \#\underline{C280}, \#\underline{C282}, \#\underline{C283}, \#\underline{C284}, \#\underline{C281}, \#\underline{C$ #C286, #C288, #C289, #C290, #C291, #C292, #C293, #C294, #C296, #C298, #C299, #C300, #C301, #C305, #C306, #C307, #C308, #C309, #C310, #C311, #C312, #C313, #C314, #C315, #C317, #C318, #C319, #C320, #C322, #C323, #C324, #C325, #C326, #C330, #C331, #C358, #C359, #C360, #C361, #C362, #C363, #C364, #C365, #C366, #C367, #C368 and #C369

CKG vendor affirmed

CVL Certs. #C162, #C163, #C164, #C165, #C166, #C167, #C168, #C169, #C258, #C260, #C290, #C296, #C310, #C363 and #C364

DRBG Certs. #2013, #2014, #2020, #2021, #2022, #2023, #2024, #2025, #2026, #2028, #2029, #C323, #C324 and #C331

ECDSA Certs. #C162, #C163, #C164, #C165, #C166, #C167, #C168, #C169, #C258, #C260, #C290, #C296, #C310, #C363 and #C364

HMAC Certs. #C162, #C163, #C164, #C165, #C166, #C167, #C168, #C169, #C258, #C260, #C268, #C270, #C271, #C277, #C278, #C279, #C280, #C282, #C283, #C284, #C290, #C292, #C296, #C300, #C301, #C309, #C310, #C363, #C364 and #C369

KTS AES Certs. #C87, #C88, #C89, #C90, #C91, #C92, #C93, #C94, #C161, #C162, #C163, #C164, #C165, #C166, #C167, #C168, #C169, #C192, #C258, #C260, #C288, #C290, #C293, #C296, #C306, #C310, #C360, #C362, #C363 and #C364; key establishment methodology provides between 128 and 256 bits of encryption strength

PBKDF vendor affirmed

Certs. #C162, #C163, #C164, #C165, #C166, #C167, #C168, #C169, #C258, #C260, #C268, #C270, #C271, #C277, #C278, #C279, #C280, #C282, #C283, #C284, #C290, #C292, #C296, #C300, #C301, #C309, #C310, #C363, #C364 and #C369

NDRNG Allowed Algorithms **Hardware Versions** 1.2[1], 2.0[2] SEPOS **Firmware Versions**

Product URL http://support.apple.com/en-us/HT202739

Vendor

Apple Inc.

One Apple Park Way MS: 927-1CPS Cupertino, CA 95014

USA

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Consolidated Certificate

Lab

ATSEC INFORMATION SECURITY CORP NVLAP Code: 200658-0

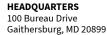








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