Swedish Certification Body for IT Security

Certification Report - KYOCERA TASKalfa 3253ci, TASKalfa 2553ci Series with Hard Disk and FAX System

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Table of Contents

1 Executive Summary

The Target of Evaluation (TOE) consists of the hardware and firmware of the following multifunction printer (MFP) models with Hard Disk and FAX System:

Kyocera:
TASKalfa 3253ci
TASKalfa 2553ci
TASKalfa 3253ciG
TASKalfa 2553ciG

Copystar:
CS 3253ci
CS 2553ci

TA Triumph-Adler:
3207ci
2507ci

UTAX:
3207ci
2507ci

The TSF and its execution environment are the same in all the listed models above. The only differences between them are print speed and sales destinations. The following firmware is used by the system:

System Firmware: 2VG_S0IS.C01.013
FAX Firmware : 3R2_5100.003.012

The MFP models with hard drive and fax system provide copying, scan to send, printing, faxing and box functionality.

The evaluated security features include user management, data access control, job authorization, hard drive encryption, overwrite-erase functionality, auditing, security management, self-test, and network protection (IPSec and TLS).

The following functionality is excluded from the evaluation:
- The maintenance interface
- Network authentication
- The installation of Java applications on the MFP

The ST claims demonstrable conformance to the following PP:

IEEE Std 2600.2-2009; "2600.2-PP, Protection Profile for Hardcopy Devices, Operational Environment B" (with NIAP CCEVS Policy Letter #20) ([PP2600.2]), version 1.0. The TOE claims conformance to the following SFR packages:

- 2600.2-PRT SFR Package for Hardcopy Device Print Functions, Operational Environment B Conformant
- 2600.2SCN SFR Package for Hardcopy Device Scan Functions, Operational Environment B Conformant
- 2600.2-CPY SFR Package for Hardcopy Device Copy Functions, Operational Environment B Conformant
- 2600.2-FAX SFR Package for Hardcopy Device Fax Functions, Operational Environment B Conformant
- 2600.2-DSR SFR Package for Hardcopy Device Document Storage and Retrieval (DSR) Functions, Operational Environment B Conformant
- 2600.2-SMI SFR Package for Hardcopy Device Shared-medium Interface Functions, Operational Environment B Conformant

The TOE is delivered to the customer by a courier trusted by KYOCERA Document Solutions Inc. The main MFP printer unit is delivered separately from the Hard Disk and FAX system add-ons. The TOE can be purchased from a KYOCERA Document Solutions Inc. group corporation directly or from a dealer. A service person from the organisation that sold the TOE will set it up for the customer.

The evaluation has been performed by Combitech AB in their premises in Sundbyberg and Bromma, Sweden with testing done in the developer's premises in Osaka, Japan and was completed on the 8th of November 2019.

The evaluation was conducted in accordance with the requirements of Common Criteria, version 3.1, revision 5, and the Common Methodology for IT Security Evaluation, version 3.1, revision 5. The evaluation conforms to evaluation assurance level EAL 2, augmented by ALC_FLR.2.

Combitech AB is a licensed evaluation facility for Common Criteria under the Swedish Common Critera Evaluation and Certification Scheme. Combitech AB is also accredited by the Swedish accreditation body SWEDAC according to ISO/IEC 17025:2005 for Common Criteria evaluation.

The certifier monitored the activities of the evaluator by reviewing all successive versions of the evaluation reports. The certifier determined that the evaluation results confirm the security claims in the Security Target [ST] and have been reached in agreement with the requirements of the Common Criteria and the Common Methodology for the evaluation assurance level EAL 2 + ALC_FLR.2.

The technical information in this report is based on the Security Target [ST] and the Final Evaluation Report [FER] produced by Combitech AB.

The certification results only apply to the version of the product indicated in the certificate, and on the condition that all the stipulations in the Security Target are met. This certificate is not an endorsement of the IT product by CSEC or any other organisation that recognises or gives effect to this certificate, and no warranty of the IT product by CSEC or any other organisation that recognises or gives effect to this certificate is either expressed or implied.

2 Identification

Certification Identification	
Certification ID	CSEC2018011
Name and version of the certified IT product	KYOCERA TASKalfa 3253ci/2553ci/3253ciG/2553ciG Copystar CS 3253ci/2553ci TA Triumph-Adler 3207ci/2507ci UTAX 3207ci/2507ci The HD-12 option for the above printer models The FAX System 12 option for the above printer models System Firmware: 2VG_S0IS.C01.013 FAX Firmware : 3R2_5100.003.012
Security Target Identification	TASKalfa 3253ci, TASKalfa 2553ci Series with Hard Disk and FAX System Security Target
EAL	EAL 2 + ALC_FLR.2
Sponsor	Kyocera Document Solutions Inc.
Developer	Kyocera Document Solutions Inc.
ITSEF	Combitech AB
Common Criteria version	3.1 revision 5
CEM version	3.1 revision 5
QMS version	1.23
Scheme Notes Release	14.0
Recognition Scope	CCRA, SOGIS, and EA/MLA
Certification date	2019-12-XX

3 Security Policy

The TOE consists of nine security functions, listed below together with a short description of each function.

3.1 User Management

Identifies and authenticates whether persons are authorized users when users intend to operate the TOE from the operation panel or client PCs.

When the TOE is used from the Operation Panel or a Web browser, the login screen is displayed and a user is required to enter his or her login user name and login password.

When the TOE is accessed from the printer driver or TWAIN driver, the TOE identifies and authenticates if the person is authorized by referring to the login user name and login user password obtained from the job sent by the user.

3.2 Data Access Control

Allows authorized users to only access their own image and job data stored in the TOE using each of the TOE basic function such as copy, scan to send, print, fax and box function. Users who own boxes can give other users permission to view the contents of a particular box, and also set a password to further protect the box.

3.3 Job Authorization Function

Allows only authorized users to use the TOE basic function such as copy, scan to send, print, fax and box function.

3.4 Hard Disk Drive Encryption

A function that encrypts information assets stored in the HDD in order to prevent leakage of data stored in the HDD inside the TOE.

3.5 Overwrite-Erase Function

After each basic function (such as scanning, printing, etc.) completes, the TOE deletes used image data on the HDD or flash memory. When deleting stored image data on the HDD, the overwrite-erase function overwrites the actual image data with meaningless character strings so that it disables re-usage of the data.

3.6 Audit Log

The audit log function generates, records and manages audit logs when auditable events occur.

3.7 Security Management

The security management function allows only authorized users to edit user information, set the TOE security functions, and manage TSF. The Security management function can be performed from the Operation Panel and Client PCs. Web browser is used for operation from Client PCs.

3.8 Self-Test Function

The self-test function performs the following self-tests at TOE startup:

- Check if HDD encryption is correctly performed.
- Check the integrity of the generated encryption key
- Check the integrity of executable module of the security function

3.9 Network Protection Function

The network protection function encrypts all data in transit over the network between the TOE and trusted IT products and prevents unauthorized alteration and disclosure.

This function also provides a feature to prevent forwarding of information from an external interface to an internal network through the TOE without permission.

4 Assumptions and Clarification of Scope

4.1 Usage Assumptions

The Security Target [ST] makes four assumptions on the usage and the operational environment of the TOE.

A.ACCESS.MANAGED

The TOE is located in a restricted or monitored environment that provides protection from unmanaged access to the physical components and data interfaces of the TOE.

A.USER.TRAINING

TOE Users are aware of the security policies and procedures of their organization, and are trained and competent to follow those policies and procedures.

A.ADMIN.TRAINING

Administrators are aware of the security policies and procedures of their organization, are trained and competent to follow the manufacturer's guidance and documentation, and correctly configure and operate the TOE in accordance with those policies and procedures.

A.ADMIN.TRUST

Administrators do not use their privileged access rights for malicious purposes.

4.2 Clarification of Scope

The Security Target contains six threats, which have been considered during the evaluation.

T.DOC.DIS

User Document Data may be disclosed to unauthorized persons.

T.DOC.ALT

User Document Data may be altered by unauthorized persons.

T.FUNC.ALT

User Function Data may be altered by unauthorized persons.

T.PROT.ALT

TSF Protected Data may be altered by unauthorized persons.

T.CONF.DIS

TSF Confidential Data may be disclosed to unauthorized persons.

T.CONF.ALT

TSF Confidential Data may be altered by unauthorized persons.

The Security Target contains five Organisational Security Policies (OSPs), which have been considered during the evaluation.

P.USER.AUTHORIZATION

To preserve operational accountability and security, Users will be authorized to use the TOE only as permitted by the TOE Owner.

P.SOFTWARE.VERIFICATION

To detect corruption of the executable code in the TSF, procedures will exist to self-verify executable code in the TSF.

P.AUDIT.LOGGING

To preserve operational accountability and security, records that provide an audit trail of TOE use and security-relevant events will be created, maintained, and protected from unauthorized disclosure or alteration, and will be reviewed by authorized personnel.

P.INTERFACE.MANAGEMENT

To prevent unauthorized use of the external interfaces of the TOE, operation of those interfaces will be controlled by the TOE and its IT environment.

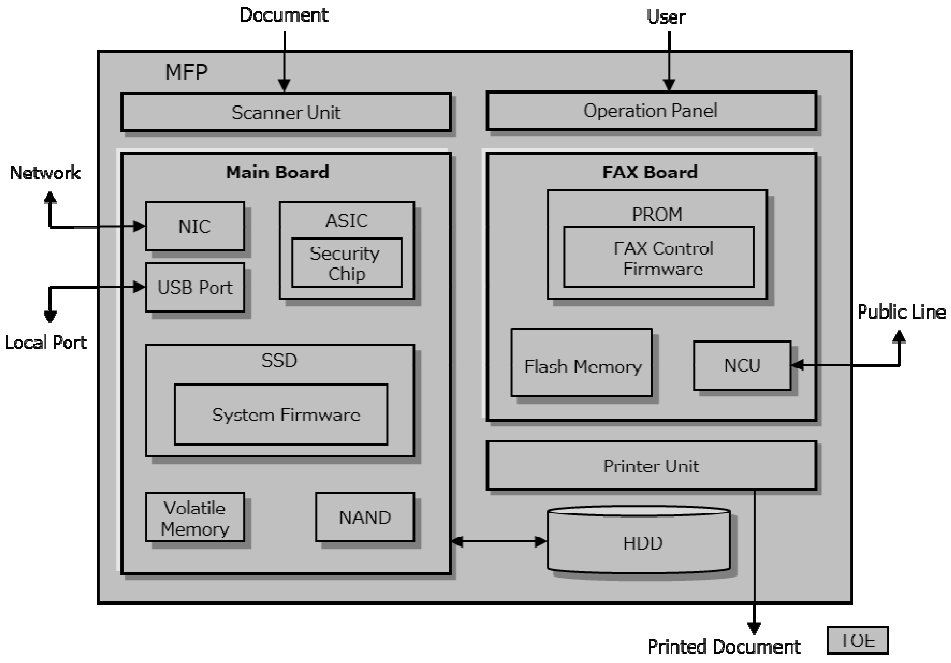
P.HDD.ENCRYPTION

To improve the confidentiality of the documents, User Data and TSF Data stored in HDD will be encrypted by the TOE.

5 Architectural Information

5.1 Physical configuration of the TOE

The TOE consists of an Operation Panel, a Scanner Unit, a Printer Unit, a Main Board, a FAX Board, HDD and SSD hardware, and the system firmware and fax firmware. The different parts are depicted in a diagram below.



The Operation Panel is the hardware that displays status and results upon receipt of input by the TOE user. The Scanner and Printer units are the hardware that input documents into the TOE and output documents as printed material.

The Main Board is the circuit board that controls the entire TOE. A system firmware is installed on an SSD which is positioned on the Main Board. The Main Board has a Network Interface (NIC) and a Local Interface (USB Port). There is also an ASIC on the Main Board. The ASIC includes a Security Chip which implements security arithmetic processing for the HDD encryption function and HDD Overwrite-Erase function.

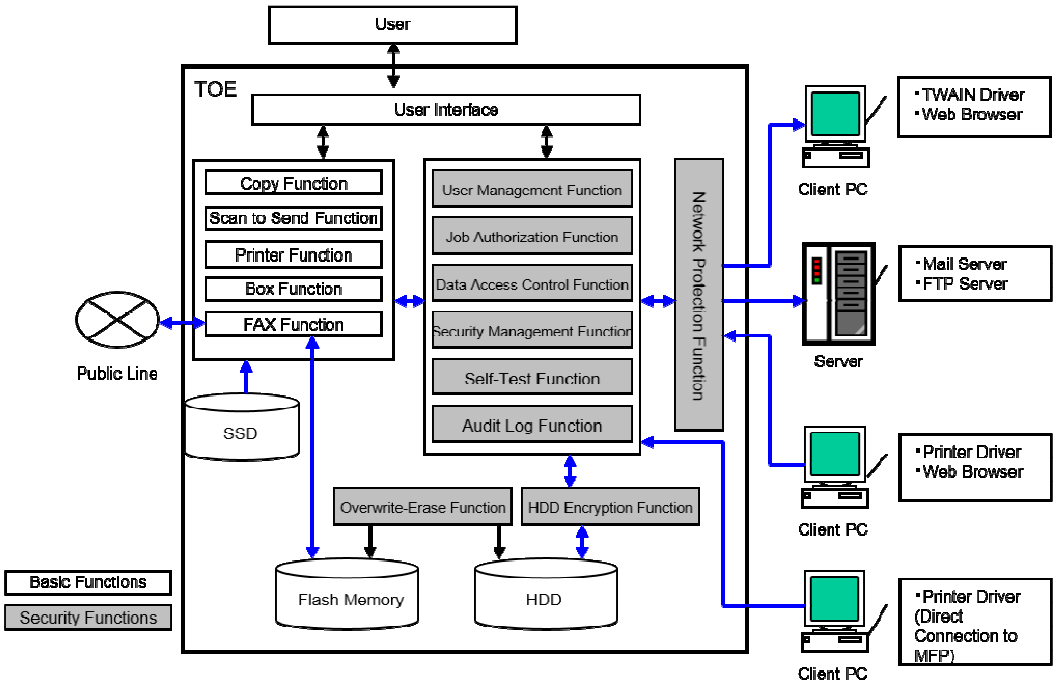
The FAX control firmware that controls FAX communication is installed on the PROM, which is positioned on the FAX Board. Additionally, the FAX Board has an NCU interface.

The NAND stores device settings while the Volatile Memory is used as working area.

The HDD that stores image data and job data is connected to the Main Board. Any of the above memory mediums are not removable. Only the FAX receive/send image is stored in the Flash Memory. Image data handled by other basic functions is stored on the HDD. Image data is not stored on the SSD.

5.2 Logical configuration of the TOE

The below diagram illustrates the logical scope of the TOE:



Please see section 1.4.3 in the [ST] for a more detailed description of the functionality shown in the diagram.

There is no interface for any user or administrator to directly interact with the TOE operating system, all interactions must go via one of the standard application functions or the hardware interfaces of the TOE.

6 Documentation

The following guidance documents are available:

[SG]
TASKalfa 2553ci / TASKalfa 3253ci / TASKalfa 4053ci / TASKalfa 5003i / TASKalfa 5053ci / TASKalfa 6003i / TASKalfa 6053ci Safety Guide

[OG-ci]
TASKalfa 6053ci, TASKalfa 5053ci, TASKalfa 4053ci, TASKalfa 3253ci, TASKalfa 2553ci Operation Guide

[OG-FAX]
FAX System 12 Operation Guide

[OG-DE]
Data Encryption/Overwrite Operation Guide

[UG-PR-ci]
TASKalfa 6053ci / TASKalfa 5053ci / TASKalfa 4053ci / TASKalfa 3553ci / TASKalfa 3253ci / TASKalfa 2553ci Printer Driver User Guide

[UG-CCRX]
Command Center RX User Guide

[IG-FAX]
FAX System 12 Installation Guide

[IG-HD]
HD-12 Installation Guide

[QG-ci]
TASKalfa 6053ci / TASKalfa 5053ci / TASKalfa 4053ci / TASKalfa 3253ci / TASKalfa 2553ci First Steps Quick Guide

[UG-DP]
KYOCERA Net Direct Print User Guide

[NOTICE]
Notice

7 IT Product Testing

7.1 Developer Testing

The developer performed extensive manual tests on the following printer models:

TASKalfa 3253ci
TASKalfa 2553ci

Since the TSF and its execution environment are the same in all the listed models above, and the only differences between them are print speed and sales destinations, this covers all of the TOE models listed in chapter 1.

The developer testing was done on the following firmware:

System Firmware: 2VG_S0IS.C01.013
FAXFirmware: 3R2_5100.003.012

The developer's testing covers the security functional behaviour of all TSFIs and most SFRs. Some gaps to the SFRs were identified and covered by evaluator independent testing. All test results were as expected. The testing was performed on the developer's premises in Osaka, Japan.

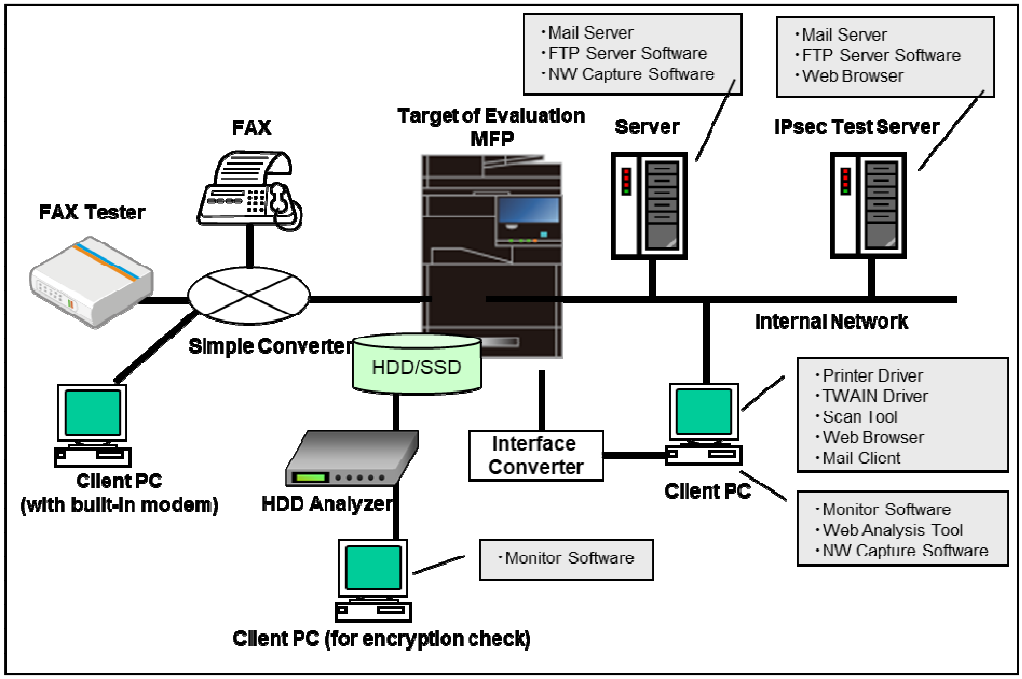
7.2 Evaluator Testing

The evaluator's independent tests were chosen to complement the developer's manual tests in order to complement the cover of the security functional behaviour of the SFRs. The evaluator repeated a sample of the developer's test cases and performed individual and penetration test cases. The tests included:

TOE Installation
Identification and Authentication
Job Authorization
Data Access Control
HDD Encryption/Overwrite-Erase
Audit Log
Security Management
Self Test
Network Protection

7.2.1 Test Environment

The evaluator performed the tests on the developer's premises in Osaka, Japan using the same test environment as the developer but only tested one hardware model, the TASKalfa 2553ci. This was accepted since all TOE models execute on the same main board with the same CPU running the same set of firmware. The test environment was set up according to the below diagram:



7.3 Penetration Testing

The evaluators penetration tested the TOE using the same test environment as described above in chapter 7.2.1. The following types of penetration tests were performed:

- Port scan
- Vulnerability scan including web application vulnerability scan
- JPG fuzzing

Port scans were run after installation and configuration had been done according the guidance documentation. The purpose was to check that no unexpected ports were opened unfiltered and no unexpected services available. The Nmap (www.nmap.org) port scan tool was used. Four different modes were used: TCP Connect, TCP SYN, UDP, and IP protocol scans. All possible 65535 ports were scanned for TCP/UDP.

Nessus (www.tenable.com) basic network vulnerability scans were run. No high, medium, or low severity issues concerning the evaluated configuration were found.

A JPG picture was fuzzed approximate 110 times using the Peach fuzzing tool.

All penetration testing had negative outcome, i.e. no vulnerabilities were found.

8 Evaluated Configuration

A notice [NOTICE] included with the TOE details verification procedures of the TOE, explains that use of applications on the TOE is not allowed in the evaluated configuration, and guides users to follow the Data Encryption/Overwrite Operation Guide [OG-DE] to configure the TOE. The Data Encryption/Overwrite Operation Guide [OG-DE] describes how to configure the TOE to reach evaluated configuration in the chapter named "After Installation". The instructions need to be followed in order to use the evaluated configuration.

8.1 Dependencies to Other Hardware, Firmware and Software

The TOE is the hardware and firmware of the various MFP models listed in chapter 1. To be fully operational, any combination of the following items may be connected to the MFP:

- A LAN for network connectivity.
- A telephone line for fax capability.
- IT systems that submit print jobs to the TOE via the network using standard print protocols.
- IT systems that send/and or receive faxes via the telephone line
- An SMTP server/FTP server/client PC/other FAX system/USB memory that will receive any input sent to the MFP if the MFP is configured to send it to them.
- A USB memory that can be used as an input source for print jobs (i.e. print from USB).

8.2 Excluded from TOE Evaluated Configuration

The following features of the TOE are outside of the evaluated configuration:

- The maintenance interface
- Network authentication
- Expanding functionality by installing Java applications is not allowed in the TOE evaluated configuration. The user manual [OG-ci] calls the Java applications "applications". More information can be found in chapter 5, "Application", in [OG-ci].

9 Results of the Evaluation

The evaluators applied each work unit of the Common Methodology [CEM] within the scope of the evaluation, and concluded that the TOE meets the security objectives stated in the Security Target [ST] for an attack potential of Basic.

The certifier reviewed the work of the evaluator and determined that the evaluation was conducted in accordance with the Common Criteria [CC].

The evaluator's overall verdict is PASS.

The verdicts for the assurance classes and components are summarized in the following table:

Assurance Class Name / Assurance Family Name	Short name (including component identifier for assurance families)	Verdict
Security Target Evaluation	ASE	PASS
ST Introduction	ASE_INT.1	PASS
Conformance claims	ASE_CCL.1	PASS
Security Problem Definition	ASE_SPD.1	PASS
Security objectives	ASE_OBJ.2	PASS
Extended components definition	ASE_ECD.1	PASS
Derived security requirements	ASE_REQ.2	PASS
TOE summary specification	ASE_TSS.1	PASS
Life-cycle support	ALC	PASS
Use of a CM system	ALC_CMC.2	PASS
Parts of the TOE CM Coverage	ALC_CMS.2	PASS
Delivery procedures	ALC_DEL.1	PASS
Flaw reporting procedures	ALC_FLR.2	PASS
Development	ADV	PASS
Security architecture description	ADV_ARC.1	PASS
Security-enforcing functional specification	ADV_FSP.2	PASS
Basic design	ADV_TDS.1	PASS
Guidance documents	AGD	PASS
Operational user guidance	AGD_OPE.1	PASS
Preparative procedures	AGD_PRE.1	PASS
Tests	ATE	PASS
Evidence of coverage	ATE_COV.1	PASS
Functional testing	ATE_FUN.1	PASS
Independent testing - sample	ATE_IND.2	PASS
Vulnerability Assessment	AVA	PASS
Vulnerability analysis	AVA_VAN.2	PASS

10 Evaluator Comments and Recommendations

None

11 Glossary

CEM	Common Methodology for Information Technology Security, document describing the methodology used in Common Criteria evaluations
CM	Configuration Management
EAL	Evaluation Assurance Level
HDD	Hard Disk Drive
IPSec	Internet Protocol Security
ISO	International Organization for Standardization
IT	Information Technology
ITSEF	IT Security Evaluation Facility, test laboratory licensed to operate within an evaluation and certification scheme
LAN	Local Area Network
MFP	Multi-Function Printer
NCU	Network Control Unit
OSP	Organizational Security Policy
PP	Protection Profile
SMTP	Simple Mail Transport Protocol
SSD	Solid State Drive
ST	Security Target, document containing security requirements and specifications , used as the basis of a TOE evaluation
TLS	Transport Layer Security
TOE	Target of Evaluation
TSF	TOE Security Functionality
TSFI	TSF Interface

12 Bibliography

12.1 General

CCp1	Common Criteria for Information Technology Security Evaluation, Part 1, version 3.1, revision 5, April 2017, CCMB-2017-04-001
CCp2	Common Criteria for Information Technology Security Evaluation, Part 2, version 3.1, revision 5, April 2017, CCMB-2017-04-002
CCp3	Common Criteria for Information Technology Security Evaluation, Part 3:, version 3.1, revision 5, April 2017, CCMB-2017-04-003
CEM	Common Methodology for Information Technology Security Evaluation, version 3.1, revision 5, April 2017, CCMB-2017-04-004
ST	TASKalfa 6053ci, TASKalfa 5053ci, TASKalfa 4053ci, TASK-alfa 3553ci Series with FAX System, Security Target, KYOCERA Document Solutions Inc., 2019-11-08, document version 1.07
PP	IEEE Standard Protection Profile for Hardcopy Devices in IEEE Std 2600-2008 Operational Environment B, Institute of Electrical and Electronics Engineers (IEEE), 26 February 2010, IEEE Std 2600.2-2009
CCEVS-PL20	NIAP policy for the use of IEEE Multifunction Function Device Protection Profiles (IEEE 2600.1 and IEEE 2600.2), National Information Assurance Partnership (NIAP), 2010-11-15
SP-002	SP-002 Evaluation and Certification, CSEC, 2019-09-24, document version 31.0
SP-188	SP-188 Scheme Crypto Policy, CSEC, 2019-09-25, document version 9.0

12.2 Documentation

SG	TASKalfa 2553ci / TASKalfa 3253ci / TASKalfa 4053ci / TASKalfa 5003i / TASKalfa 5053ci / TASKalfa 6003i / TASKalfa 6053ci Safety Guide, KYOCERA Document Solutions Inc., 2018-09, document version 302V85622001
OG-ci	TASKalfa 6053ci, TASKalfa 5053ci, TASKalfa 4053ci, TASKalfa 3253ci, TASKalfa 2553ci Operation Guide, KYOCERA Document Solutions Inc., 2018-09, document version 2V8KDEN000
OG-FAX	FAX System 12 Operation Guide, KYOCERA Document Solutions Inc., 2018-09, document version 303RK5671006
OG-DE	Data Encryption/Overwrite Operation Guide, KYOCERA Document Solutions Inc., 2019-11, document version 3MS2V8GEEN3
UG-PR-ci	TASKalfa 6053ci / TASKalfa 5053ci / TASKalfa 4053ci / TASKalfa 3553ci / TASKalfa 3253ci / TASKalfa 2553ci Printer Driver User Guide, KYOCERA Document Solutions Inc., 2018-09, document version 2V8CLKTEN730

UG-CCRX	Command Center RX User Guide, KYOCERA Document Solutions Inc., 2018-09, document version CCRXKDEN17
IG-FAX	FAX System 12 Installation Guide, KYOCERA Document Solutions Inc., 2018-10, document version 303RK5671006
IG-HD	HD-12 Installation Guide, KYOCERA Document Solutions Inc., 2016-04, document version 303S15631001
QG-ci	TASKalfa 6053ci / TASKalfa 5053ci / TASKalfa 4053ci / TASKalfa 3253ci / TASKalfa 2553ci First Steps Quick Guide, KYOCERA Document Solutions Inc., 2018-09, document version 302V85602001
UG-DP	KYOCERA Net Direct Print User Guide, KYOCERA Document Solutions Inc., 2016-02, document version DirectPrintKDEN1
NOTICE	Notice, KYOCERA Document Solutions Inc., 2019-11, document version 302VK5641004

Appendix A Scheme Versions

During the certification the following versions of the Swedish Common Criteria Evaluation and Certification scheme has been used.

A.1 Scheme/Quality Management System

Version	Introduced	Impact of changes
1.23	2019-10-14	None
1.22.3	2019-05-20	None
1.22.2	2019-05-02	None
1.22.1	2019-03-08	None
1.22	2019-02-01	None
1.21.5	Application	Original version

A.2 Scheme Notes

Scheme Note	Version	Title	Applicability
SN-15	3.0	Demonstration of test coverage	Clarify demonstration of test coverage at EAL2: evaluator + developer tests together provide full coverage of the TSFI.
SN-18	1.0	Highlighted Requirements on the Security Target	Clarifications on the content of the ST.
SN-22	1.0	Vulnerability Assessment	Vulnerability assessment needs to be redone if 30 days or more has passed between AVA and the final version of the final evaluation report.