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RICOH IM 550/600/600SR

Common Criteria Guide

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1 About this Guide

1.1 Overview

1 This guide provides supplemental instructions to achieve the Common Criteria evaluated configuration of the Ricoh IM 550/600/600SR and related information.

1.2 Audience

2 This guide is intended for system administrators and the various stakeholders involved in the Common Criteria evaluation. It is assumed that readers will use this guide in conjunction with the related documents listed in Table 5.

1.3 About the Common Criteria Evaluation

3 The Common Criteria for Information Technology Security Evaluation (ISO/IEC 15408) is an international standard for security certification of IT products and systems. More information is available at <https://www.commoncriteriaportal.org/>

1.3.1 Protection Profile Conformance

4 The Common Criteria evaluation was performed against the requirements of the Protection Profile for Hardcopy Devices (HCD PP) v1.0 and Protection Profile for Hardcopy Devices, v1.0, Errata #1, June 2017 available at <https://www.niap-ccevs.org/Profile/PP.cfm>

1.3.2 Evaluated Software and Hardware

5 The TOE includes the RICOH MFP models: RICOH IM 550, RICOH IM 600, and IM 600SR labeled and marketed under different Ricoh Family Group brand names as noted in **Table 1**.

6 The TSF is executed by the main controller and the operation unit respectively. For all TOE models, the main controller has an Intel® Atom Processor Apollo Lake (E3940 or E3930) and runs LPUX 6.0 OS, a customized OS based on NetBSD; the operation unit has an ARM Cortex-A9 Quad Core processor and runs a customized Linux 3.18 OS.

7 The first two numeric digits in the TOE model number correspond to copy speed, e.g. 550 performs 55 copies per minute, 600 performs 60 copies per minute, the alphabetic suffix corresponds to regional fonts and printer languages.

8 Differences between models with different printing speeds are limited to print engine components; differences between branding variants are limited to labels, displays, packaging materials, and documentation. The differences are not security relevant. All TOE models are version JE-1.10-H. Table 2 below lists the names and version of the firmware components that make-up the TOE firmware; and Table 3 identifies printer and fax drivers included in the TOE.

Table 1: TOE Models

Branding	Model
RICOH	IM550F

Branding	Model
	IM600F
	IM600SRF
	IM600SRFG
SAVIN	IM550F
	IM600SRF
	IM600SRFG
LANIER	IM550F
	IM600SRF
	IM600SRFG
nashuatec	IM550F
	IM600F
	IM600SRF
Rex Rotary	IM550F
	IM600F
	IM600SRF
Gestetner	IM550F
	IM600F
	IM600SRF

Table 2: Machine Firmware and Hardware for TOE version E-1.10-H

Primary Classification	Secondary Classification	Version
Firmware	System/Copy	6.17.1
	Network Support	18.85
	Web Support	5.02

Primary Classification	Secondary Classification	Version
	Fax	06.01.00
	Scanner	06.01
	Web Uapl	5.00
	NetworkDocBox	6.16
	animation	3.02
	Printer	6.16
	GraphicData	2.04
	MovieData	1.01
	MovieData2	1.01
	MovieData3	1.01
	Data Erase Onb	1.05
	GWFCU3.8-21(WW)	08.00.00
	CheetahSystem	6.17
	decolet	3.01.00
	iwnnimeml	2.8.201
	simpleprinter	1.01
smartprtstoredj	1.02	
smartcopy	1.02	

Primary Classification	Secondary Classification	Version
	smartdocumentbo	1.02
	smartfax	1.03
	smartscanner	1.01
	stopwidget	2.02
Hardware	Ic Ctlr	03
	Ic Key	01024704

Table 3: Drivers

Drivers	Model
Printer Driver	PCL6 Driver 1.54.0.0
LAN-Fax Driver	LAN-Fax Driver 9.5.0.0

1.3.3 Evaluated Functions

9

The following functions have been evaluated under Common Criteria:

- a) **Security Audit.** The TOE generates audit records of user and administrator actions. It stores audit records both locally and on a remote syslog server.
- b) **Cryptographic Support.** The TOE includes a cryptographic module for the cryptographic operations that it performs. The relevant CAVP certificate numbers are noted in the Security Target.
- c) **Access Control.** The TOE enforces access control policy to restrict access to user data. The TOE ensures that documents, document processing job information, and security-relevant data are accessible only to authenticated users who have the appropriate access permissions.
- d) **Storage Data Encryption.** The TOE encrypts data on the HDD and in NVRAM to protect documents and confidential system information if those devices are removed from the TOE.
- e) **Identification and Authentication.** Except for a defined minimal set of actions that can be performed by an unauthenticated user, the TOE ensures that all users must be authenticated before accessing its functions and data. Users login to the TOE by entering their credentials on the local operation panel, through WIM login, through print or fax drivers, or using network authentication services.

- f) **Administrative Roles.** The TOE provides the capability for managing its functions and data. Role-based access controls ensure that the ability to configure the security settings of the TOE is available only to the authorized administrators. Authenticated users can perform copy, printer, scanner, document server and fax operations based on the user role and the assigned permissions.
- g) **Trusted Operations.** The TOE performs power-on self-tests to ensure the integrity of the TSF components. It provides a mechanism for performing trusted update that verifies the integrity and authenticity of the upgrade software before applying the updates. It uses an NTP server for accurate time.
- h) **TOE Access.** Interactive user sessions at the local and remote user interfaces are automatically terminated by the TOE after a configured period of inactivity.
- i) **Trusted Communications.** The TOE protects communications from its remote users using TLS/HTTPS, and communications with the LDAP, FTP, and NTP, syslog, and SMTP servers using IPsec. Optionally the TOE can be configured at initial configuration to use a TLS trusted channel for communication with a Syslog or an SMTP server.
- j) **PSTN Fax-Network Separation.** The TOE restricts information received from or transmitted to the telephone network to only fax data and fax protocols. It ensures that the fax modem cannot be used to bridge the LAN.
- k) **Image Overwrite.** the TOE actively overwrites residual image data stored on the HDD after a document processing job has been completed or cancelled.

10 **NOTE:** No claims are made regarding any other security functionality.

1.3.4 Evaluation Assumptions

11 The following assumptions were made in performing the Common Criteria evaluation. The guidance shown in the table below should be followed to uphold these assumptions in the operational environment.

Table 4: Evaluation Assumptions

Assumption	Guidance
A.PHYSICAL — Physical security, commensurate with the value of the TOE and the data it stores or processes, is assumed to be provided by the environment.	Ensure that the device is hosted in a physically secure environment and that adequate security measures are in place to protect access.
A.NETWORK — The Operational Environment is assumed to protect the TOE from direct, public access to its LAN interface.	Ensure that the device is hosted on a protected network environment.
A.TRUSTED_ADMIN — TOE Administrators are trusted to administer the TOE according to site security policies	Ensure that administrators are trustworthy – e.g. implement background checks or similar controls.
A.TRAINED_USERS — Authorized Users are trained to use the TOE according to site security policies	Ensure that authorized users receive adequate training.

1.4 Conventions

12 The following conventions are used in this guide:

- a) **CLI Command** <replaceable> - This style indicates to you that you can type the word or phrase on the command line and press [Enter] to invoke a command. Text within <> is replaceable. For example:
 Use the `cat <filename>` command to view the contents of a file
- b) **[key]** or **[key-combo]** – key or key combination on the keyboard is shown in this style. For example:
 The [Ctrl]-[Alt]-[Backspace] key combination exits your graphical session and returns you to the graphical login screen or the console.
- c) **GUI => Reference** – denotes a sequence of GUI screen interactions. For example:
 Select **File => Save** to save the file.
- d) **[REFERENCE] Section** – denotes a document and section reference from Table 5. For example:
 Follow [ADMIN] *Configuring Users* to add a new user.

1.5 Related Documents

13 This guide supplements the below documents which are available on the [Ricoh Support site](#) help pages.

Table 5: Related Documents

Reference	Document
[ADMIN]	RICOH IM 550/600 Series User Guide User Guide
[SECURITY]	RICOH IM 550/600 Series User Guide User Guide Security Guide User Guide Security Reference

14 **NOTE:** The information in this guide supersedes related information in other documentation.

2 Secure Acceptance and Update

2.1 Obtaining the TOE

15 The TOE is delivered via commercial carrier.

2.2 Verifying the TOE

16 To verify the TOE Model, check that the machine's model number on the label to the rear of the machine ends with -17, -27, -29 or -51 which correspond to the branding variants of IM550/600 series included in the evaluated configuration.

17 To verify the TOE firmware, the authorized administrator login and use the following steps:

18 On the Operation Panel:

- a) -Press [Settings]
- b) -Press [Machine Features Settings]
- c) -Press [System Settings]
- d) -Press [Administrator Tools]
- e) -Press [Firmware version]

The firmware list is displayed

On the WIM:

- a) -Device Management -> Configuration->Firmware Update

This lists all the firmware except for the TPM device driver which is only shown in the Ops panel firmware listing.

2.3 Power-on Self-Tests

19 At system start-up, the TOE performs a firmware validity test to determine if the firmware is valid. If an error occurs and the test fails, a verification error is displayed on the control panel. The firmware validity test error will also display on the Web Image Monitor after the machine starts.

20 The TOE also performs software integrity test at TOE start-up by verifying the digital signature on the TOE software. Any errors are displayed on the Control Panel or on the WIM interface.

21 Additional details on the Power-on self-tests can be found online in Taking Measures to Prevent Security Threats.

2.4 Updating the TOE

22 TOE updates are hand delivered by Ricoh service personnel. The update packages are digitally signed and uploaded to the TOE using WIM.

23 For MFP Control or FCU Software, the TOE performs the following verifications installing the package:

- a) Identifies the type of software (e.g., MFP Control, Operation Panel, FCU);

- b) Verifies that the software model name matches the TOE;
- c) Verifies the digital signature on the update package.

1 For Operation Panel software, the TOE performs the following verifications before the installing the package:

- a) Identifies the type of software (e.g., MFP Control, Operation Panel, FCU);
- b) Verifies that the software model name matches the TOE;
- c) Verifies the digital signature

3 Configuration Guidance

3.1 Installation

24 The TOE is delivered pre-installed with initial settings for CC-mode configuration performed by a Ricoh Authorized Service representative. CC conformance requires an authorized service representative to perform the initial setup of the TOE.

3.1.1 Printer and Fax Driver

25 The printer and LAN-Fax driver are downloaded from Ricoh support site. To install the printer driver, enter the machine's IP address or host name in the [URL] box as follows:

`https://(machine's IP address or host name)/printer`

26 To install the LAN-Fax driver, enter the following URL in the [Printer URL] box as follow:

`https://(machine's IP address or host name)/printer`

27 Install the LAN-Fax driver (INF file) in the following location:

28 32-bit driver

29 X86\DRIVERS\LAN-FAX\X86\DISK1

30 64-bit driver

31 X64\DRIVERS\LAN-FAX\X64\DISK1

3.2 Administration Interfaces

32 The TOE provides the following administrator interfaces:

- a) **Operation Panel of the MFP** is an LCD touch screen interface that provides a local user interface where users can perform copy, fax print, network transmission of documents operations. The administrator user can configure the MFP via this local interface.
- b) **Web Image Monitor (WIM)** this is the remote user interface accessible via TLS/HTTPS where users can perform print, copy, fax, storage operations on documents. This interface provides various settings for administrators to perform limited configuration of the MFP.


3.3 Initial Configuration

33 Both the Operation Panel and the WIM are used to setup initial configuration of the MFP TOE. Authorized administrator must be registered during the initial setup by entering a username/password combination. Procedures 1 through 3 describe the sequential steps for initial configuration of the TOE.

34 Change the screen type from "Classic" to "Standard" in "Switch Screen Type" in "Administrator Tools" in "System Settings" in "Settings" and reboot the machine.

35 The following warnings are noted:

- a) Before using the MFP, the encryption key to encrypt the data in the machine must be provided by the service representative or be newly created.
- b) Back up the encryption key only when the machine is not operating.

- c) Security attributes are modified at the time they are submitted to the system with the "OK" button. Currently logged in user's access rights will be updated at this time, and it is unnecessary to logout and log back in for the access changes to be reflected.
- d) For faxing, use the public switched telephone network. IP-Fax and Internet Fax are not CC conformant.
- e) For print jobs and fax transmissions from the client computer, use IPP-SSL authentication.
- f) If the message "SD Card authentication has failed" is displayed, contact Ricoh Service Representative.
- g) In the event of a hard disk error, the machine will display options to initialize the disk or not. Note that user authentication might fail after a hard disk initialization, if this happens, contact the service representative.
- h) To send files by e-mail using the scanner or fax function, install the user certificate when registering a user in the address book and set the encryption setting to [Encrypt All]. When you display addresses to send an e-mail, a  icon will appear next to destinations for which [Encrypt All] has been set.
- i) When using Scan to Folder make sure IPsec is enabled and complete the following steps:
 1. The Scan to Folder destination (FTP or SMB server) must be registered in the address book by the administrator.
 2. When you register the Scan to Folder destination in the address book, go to "Protection -> Protect Destination -> Access Privileges" Click [Change] and then and then select [Read- onl y] for users who are allowed to access the Scan to Folder destination.
 3. Configure IPsec for the server selected as the Scan to Folder destination
- j) Before receiving faxes, specify "Stored Reception File User Setting" in the Fax setting.
- k) When you configure "Program Special Sender" in the fax mode, do not specify "Forwarding per Sender" or "Memory Lock RX per Sender" before registering or changing special senders.
- l) The file creator (owner) has the authority to grant [Full Control] privileges to other users for stored documents in the Document Server. However, administrators should tell users that [Full Control] privileges are meant only for the file creator (owner).
- m) When using Web Image Monitor, users should not access other Web sites. Users should logout of WIM when it is not being used.
- n) Obtain log files by downloading them via Web Image Monitor or by automatic log collection.
- o) To prevent incorrect timestamps from being recorded in the audit log, ensure that the Audit Server that connects to the MFP is synchronized with the MFP.
- p) If the power plug is pulled out before the main power is turned off so that the machine is shut down abnormally, the date and time when the main power is turned off (the value for "Main Power Off", which is an attribute of the eco log) is not registered correctly to the "eco" log.

- q) When you specify "HDD Erase Method" in "Erase All Memory", do not select "Format".
- r) Do not assign "Reception File Settings" to a Quick Operation key in Fax mode.
- s) When you delete all logs, make sure that the following functions are not being used:
 - i) Scan file transmission
 - ii) When switching from \ [On] to [Off] in [Document Server Function] in [Administrator Tools] in [System Settings], delete all the received fax documents and specify the following settings again:
 1. System Settings
 2. Administrator Tools -> File Management -> Document Server Function -> Select [On]
 3. Fax Settings
 4. Reception Settings -> Reception File Settings -> Store [On]
 5. Reception Settings -> Reception File Settings -> Print [Off]
- t) If [SHA1] in [DIGEST] in [TCP/IP] in [Network Security] in [Security] in [Configuration] in [Device Management] has been switched from [Active] to [Inactive] on Web Image Monitor, [SSL3.0] is automatically set to [Active]. In such a case set [SHA1] to [Inactive], and then, in [Configuration] in [Device Management] on Web Image Monitor, specify the following setting:
 - i) Security -> Network Security -> SSL/TLS
 - ii) Set "TLS1.2" to [Active] and "TLS1.3", "TLS1.1", "TLS1.0" and "SSL3.0" to [Inactive].

3.3.1 Procedure 1 – Settings using the Operation Panel

36 Follow the instructions in "[Registering Administrators Before Using the Machine](#)" to activate the administrator account that would configure the machine. Enter passwords for administrator and supervisor, these are the authorized administrators roles that comprise U.ADMIN and the only roles with permissions to configure the TOE and the TSF.

37 Login to the operation panel as the administrator to configure the settings below.

38 Delete all icons on the Home screen except for "Copy", "Scanner", "Fax" "settings", "Quick Print Release", "Printer", "Document Server", "Address Book", "fax RX File Widget" and "Change Language" Do not re-register the deleted icons.

39 Uninstall the following applications according to [Uninstalling an Application] in [Installing an Application from Application Site] in [Introduction and Basic Operations].

- CAP Java Card Plug-in
- CAP NFC Plug-in
- CAP [uma]-G2 Plug-in
- CAP User Config.
- CAP V2 Auth. UI
- ELP NX

3.3.1.1 System Settings

40 The administrator must specify the settings in [System Settings] within the ranges shown in Table 6.

Table 6: System Settings 1


Tab	Item	Settings
Wireless & networks	Interface Settings ▶ Interface Settings	[Wi-Fi Connection]
Wireless & networks	Proxy Settings ▶ Use Proxy	[OFF] (Clear)
Wireless & networks	Wi-Fi	[OFF] (Clear)
Wireless & networks	Wireless Direct Settings	[OFF] (Clear)
Wireless & networks	Bluetooth	[OFF] (Clear)
Personal	Security ▶ Setting for Entering Authentication Password ▶ Characters to be Used for Entering Password	[Only 1 Byte Characters]
System	Screen Device Settings ▶ Screen SD Card Slot	[Inactive]
System	Screen Device Settings ▶ Screen USB Memory Slot	[Inactive]
System	Screen Device Settings ▶ Server Settings ▶ Server Function ▶ Server Function	[Inactive]

Tab	Item	Settings
System	Screen Device Settings ▶ External Interface Software Settings ▶ Select IC Card Reader	[Do not Use]
System	Screen Device Settings ▶ User's Own Customization	[Prohibit]
Timer Settings	Time Zone	Set the appropriate time zone. The specified setting is applied after the machine reboots.
Timer Settings	Daylight Saving Time	Set the appropriate daylight saving time. The specified setting is applied after the machine reboots. Reboot the machine after configuring this setting.
Timer Settings	Set Date	Set the appropriate date.
Timer Settings	Set Time	Set the appropriate time.
Timer Settings	Auto Logout Timer	Select [On], and then set the range for the timer between 10-999 seconds. Note: The auto-logout timer is interfered with by the Timer setting 'auto-sleep timer'. The 'auto-sleep timer' will turn off the unit after the time has elapsed. Basically, the lower of the two timer settings ('auto-logout' and 'auto-sleep') will log the user out. Set the same range of minutes for both settings.

Tab	Item	Settings
Interface Settings	Network/USB ▶ Machine IPv4 Address Configuration	Specifying a static IPv4 address Enter the IPv4 address and subnet mask. Obtaining the DHCP server address automatically Select [Auto-Obtain (DHCP)].
Interface Settings	Network/USB ▶ IPv4 Gateway Address	Enter the IPv4 gateway address.
Interface Settings	Network/USB ▶ DNS Configuration	Specify this only if you are using a static DNS server. Specifying a static DNS server Enter the IPv4 address in "DNS Server 1", "DNS Server 2", and "DNS Server 3". (Specify DNS Server 2 and 3 if required.) Obtaining the DHCP server address automatically Select [Auto-Obtain (DHCP)].
Interface Settings	Network/USB ▶ Effective Protocol ▶ IPv4	[Active]
Interface Settings	Network/USB ▶ Effective Protocol ▶ IPv6	[Inactive]
Interface Settings	Network/USB ▶ SMB Client Advanced Settings ▶ SMBv2/SMBv3	[Active]
File Transfer	Fax Email Account	[Do not Receive]

Tab	Item	Settings
Administrator Tools	Administrator Authentication Management ▶ User Management	Set [Administrator Authentication] to [On], and then select [Administrator Tools] in [Available Settings].
Administrator Tools	Administrator Authentication Management ▶ Machine Management	Set [Administrator Authentication] to [On], and then select [General Features], [Tray Paper Settings], [Timer Settings], [Interface Settings], [File Transfer], and [Administrator Tools] in [Available Settings].
Administrator Tools	Administrator Authentication Management ▶ Network Management	Set [Administrator Authentication] to [On], and then select [Interface Settings], [File Transfer], and [Administrator Tools] in [Available Settings].
Administrator Tools	Administrator Authentication Management ▶ File Management	Set [Administrator Authentication] to [On], and then select [Administrator Tools] in [Available Settings].
Administrator Tools	▶ Program/Change Administrator ▶ Administrator 1-4	Specify settings for one or more administrators. Specify the administrator's "Login User Name" and "Login Password".
Administrator Tools	▶ Program/Change Administrator ▶ Set Administrator Privileges	Assign all administrator roles (user administrator, machine administrator, network administrator, and file administrator) to a single administrator.
Administrator Tools	▶ Program/Change Administrator ▶ Supervisor	Change the supervisor's "Login User Name" and "Login Password". Note: This operation can only be performed by the supervisor.

Tab	Item	Settings
Administrator Tools	Media Slot Use ▶ Store to Memory Device	[Prohibit]
Administrator Tools	Media Slot Use ▶ Print from Memory Storage Device	[Prohibit]
Administrator Tools	Extended Security ▶ Restrict Display of User Information	[On]
Administrator Tools	Extended Security ▶ Restrict Use of Destinations (Fax)	[On]
Administrator Tools	Extended Security ▶ Restrict Use of Destinations (Scanner)	[On]
Administrator Tools	Extended Security ▶ Transfer to Fax Receiver	[Prohibit]
Administrator Tools	Extended Security ▶ Authenticate Current Job	[Access Privilege]
Administrator Tools	Extended Security ▶ Update Firmware	[Prohibit]
Administrator Tools	Extended Security ▶ Change Firmware Structure	[Prohibit] After specifying this setting, be sure to click [OK].
Administrator Tools	Extended Security ▶ Password Policy	Set "Complexity Setting" to [Level 1] or [Level 2], press [Change] on the right of "Minimum Character No.", and then set the number of characters to 15 or more.

Tab	Item	Settings
		<p>For example, to set the number of characters to 15, press the number key "1", "5", and then "#".</p> <p>Even if you change the password policy, passwords that have already been registered can still be used. The changed password policy will be applied only to passwords specified or changed subsequently.</p> <p>Regardless of policy settings, all passwords are obfuscated during password entry.</p>
Administrator Tools	Extended Security  Security Setting for Access Violation	[Off]
Administrator Tools	Auto Delete File in Document Server	Select [Specify Days], [Specify Hours] or [Off]
Administrator Tools	LDAP Search	[Off]
Administrator Tools	Service Mode Lock	[On]
Administrator Tools	Auto Erase Memory Setting	<p>Select [On], and then select [NSA], [DoD], or [Random Numbers].</p> <p>If you set this to [Random Numbers], set [Number of Erase] to three or more.</p>
Administrator Tools	Transfer Log Setting	<p>[Do not Forward]</p> <p>Log forwarding will be configured in the WIM as specified in section 3.3.3 below.</p>
Administrator Tools	Machine Data Encryption Settings	<p>Ensure that the current data has been encrypted.</p> <p>If the data has been encrypted, the following message will</p>

Tab	Item	Settings
		appear: "The current data in the machine has been encrypted."
Administrator Tools	Central Management ▶ Address Book	[Do not Manage Centrally]
Administrator Tools	Application Authentication Management	Set [Copier Function], [Printer Function], [Document Server Function], [Fax Function] and [Scanner Function] to [On].
Administrator Tools	Document Server Function	Select [On]
Administrator Tools	Menu Protect	[Level 2]

3.3.1.2 User Authentication Settings

41 The TOE supports local authentication labeled 'Basic Authentication' and external authentication via LDAP labeled 'LDAP Authentication'. The authorized administrator specifies the settings for user authentication in "User Authentication Management" -> "Administrator Tools" -> "System Settings". The administrator configures the active authentication methods as either Basic Authentication or LDAP Authentication options using the following settings:

3.3.1.2.1 Basic Authentication Settings

Table 7: Basic Authentication

Tab	Item	Settings
Administrator Tools	User Authentication Management	[Basic Authentication.]
Administrator Tools	User Authentication Management ▶ Basic Authentication. ▶ Available Functions	Specify this in accordance with your operating environment. Set the browser to [Unavailable].

Tab	Item	Settings
Administrator Tools	User Authentication Management <ul style="list-style-type: none"> ▶ Basic Authentication. ▶ Printer Job Authentication 	[Entire]

3.3.1.2.2 LDAP Authentication Settings

42 Prior to configuring the LDAP Authentication settings, an LDAP server must be configured and available for used by the TOE. For details on preparing the LDAP Server in the operational environment, see the Security Guide Section '[Preparing the Server to Use for User Authentication](#)' and the Settings section "[Programming the LDAP Server](#)".

Table 8: LDAP Authentication

Tab	Item	Settings
Administrator Tools	User Authentication Management	[LDAP Authentication.]
Administrator Tools	User Authentication Management <ul style="list-style-type: none"> ▶ LDAP Authentication. ▶ LDAP Servers 	Select the LDAP server to authenticate.
Administrator Tools	User Authentication Management <ul style="list-style-type: none"> ▶ LDAP Authentication. ▶ Available Functions 	Specify this in accordance with your operating environment. Set the browser to [Unavailable].
Administrator Tools	User Authentication Management <ul style="list-style-type: none"> ▶ LDAP Authentication. ▶ Printer Job Authentication 	[Entire]

3.3.1.3 Printer Settings

43 The administrator must configure the printer settings within the range specified in Table 9.

Table 9: Printer Settings

Tab	Item	Settings
Data Management	Menu Protect	[Level 2]
Data Management	List / Test Print Lock	[On]
Data Management	Auto Delete Temporary Print Jobs	Select [On] or [Off].
Data Management	Auto Delete Stored Print Jobs	Select [On] or [Off].
Data Management	Jobs Not Printed As Machine Was Off	[Do not Print]
Data Management	Auto Store Jobs without User Authentication Information	Select [Off]

3.3.1.4 Scanner Settings

44 The administrator must configure the scanner settings must be set within the range specified in Table 10.

Table 10: Scanner Settings

Tab	Item	Settings
Initial Settings	Menu Protect	[Level 2]
General Settings	Print & Delete Scanner Records	[Do not Print: Delete Oldest] or [Do not Print: Disable Send]

Tab	Item	Settings
General Settings	Download File Directly From URL Link	[Off] Note: If [Download File Directly from URL Link] in [General Settings] in [Scanner Settings] is set to [Off], the URL of the scanned and stored files cannot be sent by e-mail.

3.3.1.5 Fax Settings

45 The administrator must configure the fax settings within the range specified in Table 11.

Table 11: Fax Settings

Tab	Item	Settings
General Settings	Box Setting	Set all items to [* Not Programmed].
Send Settings	Backup File TX Setting	[Off]
Reception Settings	Reception File Settings ▶Store	[On]
Reception Settings	Reception File Settings ▶Forwarding	[Off]
Reception Settings	Reception File Settings ▶Print	[Off]
Reception Settings	Reception File Settings ▶Memory Lock Reception	[Off]
Initial Settings	Menu Protect	[Level 2]

Tab	Item	Settings
Detailed Initial Settings	Parameter Setting ▶switch 40, bit 0	[1] If the memory for stored received faxes become full, the MFP stops receiving new faxes and keeps the stored ones without printing or deleting them.
Detailed Initial Settings	Parameter Setting ▶switch 10, bit 0	[1] Only users who are authorized by the administrator can access, from the control panel, received faxes that are stored.
Detailed Initial Settings	Parameter Setting ▶switch 04, bit 7	[0] If this is enabled, previews will not be included in the reports.
Detailed Initial Settings	Internet Fax Setting	[Off]
Detailed Initial Settings	Email Setting	[Off]
Detailed Initial Settings	Folder Setting	[Off]

3.3.2 Procedure 2 – Using the Web Image Monitor (WIM)

46 The administrator login to the WIM interface using a web browser from a client computer to configure values for various MFP settings including Device, Printer, Fax, Network, Security and Webpage. For details on launching the WIM interface see the Using Web Image Monitor page in the User Guide.

3.3.2.1 Device Settings

47 The administrator sets the values in [Device Settings] as specified in Table 12.

Table 12: Device Settings

Category	Item	Settings
Device Settings	System ▶Prohibit printing stored files from Web Image Monitor	[Prohibit]

Category	Item	Settings
Device Settings	Logs ▶Collect Job Logs	[Active]
Device Settings	Logs ▶Job Log Collect Level	[Level 1]
Device Settings	Logs ▶Collect Access Logs	[Active]
Device Settings	Logs ▶Access Log Collect Level	[Level 2]
Device Settings	Logs ▶Collect Eco-friendly Logs	[Active]
Device Settings	Logs ▶Eco-friendly Log Collect Level	[Level 2]
Device Settings	Logs ▶Common Settings for All Logs ▶Transfer Logs	[Inactive]
Device Settings	SYSLOG Transfer ▶Transfer SYSLOG Server	[Active] Note: Syslog server in the TOE operational environment must be capable of reading RFC 6587 conformant record types.
Device Settings	Email ▶Administrator Email Address	Enter the administrator's email address.

Category	Item	Settings
Device Settings	Email ▶SMTP Server Name	Enter the SMTP server name or IP address.

3.3.2.2 Printer Settings

48 On the WIM interface, the administrator configures the settings for [printer] with the values specified in Table 13.

Table 13: Printer Settings

Category	Item	Settings
Printer	Basic Settings ▶Virtual Printer	[Inactive]
Printer	Permissions for Printer Language to Operate File System ▶PDF,PostScript	[Do not Permit]
Printer	Google Cloud Print Settings ▶Google Cloud Print	Select [Off], and then press [Start registration].

3.3.2.3 Fax Settings

49 On the WIM interface, the administrator configures the settings for [Fax] with the values specified in Table 14Table 13.

Table 14: Fax Settings

Category	Item	Settings
Fax	IP-Fax Settings ▶Enable H.323	[Off]
Fax	IP-Fax Settings ▶Enable SIP	[Off]

Category	Item	Settings
Fax	Parameter Settings ▶ LAN-Fax Result Report	[Off]

3.3.2.4 Network Settings

50 The administrator login to the WIM to configures the network settings listed in Table 15.

Table 15: Network Settings

Category	Item	Settings
Network	IPv4 ▶ LLMNR	[Inactive]

3.3.2.5 Security Settings

- 51 The TOE includes FIPS validated cryptographic module which it uses to provide its cryptographic services. The TOE uses IPsec for communication with LDAP, FTP, Syslog, SMTP and NTP servers. The TOE uses TLSv1.2 for remote administration via WIM and for communication with remote non-administrative users.
- 52 If the TLS channel for remote administration is broken unintentionally, the MFP will attempt to re-establish the connection automatically or by prompting the user to retry manually.
- 53 If the IPsec trusted channel with a remote server is unintentionally disrupted, the TOE will automatically attempt to re-establish the connection and a message will be displayed on the operation panel.
- 54 While the trusted channel to a remote syslog server is disrupted, the TOE will store audit records locally on the MFP up to the document storage limits. Once the disruption has been corrected the TOE will automatically resume transmission. All LDAP user authentication attempts will be denied while the trusted channel to an LDAP server is disrupted.
- 55 All pre-shared keys, symmetric keys, and private keys are encrypted and are not accessible through normal interfaces during operation. Instructions for clearing the machine before disposal are provided in the [Security Guide](#).
- 56 The TOE stores keys and certificates in encrypted form in NVRAM and Flash memory. Destruction of old keys is performed directly without delay in NVRAM; in Flash, it is performed by an internal microcontroller in concert with wear-leveling, bad block management, and garbage collection processes. There are no situations where key destruction may be delayed at the physical layer.

3.3.2.5.1 IPSEC

57 The TOE supports only IKEv1 Main Mode. IKEv1 Aggressive mode must be disabled by using telnet to login to the MFP. In the evaluated configuration, Telnet is disabled by default, enable it using the WIM and go to Security->Network Security and select 'Enable telnet for IPv4. Use the following steps to disable aggressive mode; disable telnet again once the steps are completed.

58 -Telnet to the MFP using the admin account for login

- a) -At the the "msh>" command prompt enter the command "ipsec aggressive_mode off"
- b) -At the "msh>" command prompt exit the system by enter the command "logout"
- c) -At the "Do you save configuration data? (yes/no/return)" prompt enter "yes".

59 Launch the WIM to configure the following settings

3.3.2.5.2 Installing a certificate on an IPsec Server

60 The authorized administrator must generate a certificate from the MFP, export it and install it on the server. Use the following the following steps to export and install the certificate the certificate:

61 -Log in to the administrator with WIM

62 -On the home screen click on Device Management ->Configuration -> Device Certificate -> Export

63 -Select "Base 64 encoded X.509" and export

64 -Place the exported certificate into a location where your IPsec endpoint can make use of it.

65 -In the "Encryption Key Auto Exchange Settings" in "IPsec" in "Security" setting screen, you can select tabs. The tab has "Settings 1" to "Settings 4" and "Default Settings". "Settings 1" to "Settings 4" are applied in order when connecting to IPsec, and if any connection cannot be established, the settings of "Default Settings" are applied.

3.3.2.5.3 Cryptographic Settings –

66 The authorized administrator must configure the following cryptographic parameters using the WIM.

Table 16: Security Settings

Category	Item	Settings
Security	Device Certificate ▶ Certificate 1 ▶ Create	<p>Configure this to create and install the device certificate (self-signed certificate)</p> <p>Set "Algorithm Signature" to one of the following:</p> <ul style="list-style-type: none"> sha512WithRSA-4096 sha512WithRSA-2048 sha256WithRSA-4096 sha256WithRSA-2048 <p>See the Security Guide for the other necessary settings.</p>
Security	Device Certificate ▶ Certificate 1 ▶ Request	<p>Configure this to create the request form for the certificate authority to issue the device certificate.</p> <p>If you are using a self-signed device certificate, you do not need to configure this setting.</p> <p>Of the settings for the device certificate (certificate issued by the certificate authority), set "Algorithm Signature" to one of the following:</p> <ul style="list-style-type: none"> sha512WithRSA-4096 sha512WithRSA-2048 sha256WithRSA-4096 sha256WithRSA-2048 <p>Submit the application form to request that the certificate authority issue the device certificate.</p> <p>The request method depends on the certificate authority. For details, contact the certificate authority.</p> <p>You can install the certificate issued by the certificate authority via Web Image Monitor.</p>

Category	Item	Settings
Security	Device Certificate ▶Install	To use the device certificate (issued by the certificate authority), install the certificate by configuring this setting. If using the intermediate certificate as well, install that too.
Security	Device Certificate ▶Install Intermediate Certificate	When using an intermediate certificate, configure this setting to install the certificate.
Security	Device Certificate ▶Certification ▶S/MIME	Select the installed device certificate.
Security	Device Certificate ▶Certification ▶IPsec	Select the installed device certificate.
Security	Network Security ▶Security Level	[FIPS 140] After setting this to [FIPS 140], be sure to click [OK].
Security	Network Security ▶TCP/IP ▶IPv6	[Inactive]
Security	Network Security ▶HTTP - Port 80 ▶IPv4	[Close] Doing this will also set "IPv4" to [Close] in "Port 80" in "IPP".
Security	Network Security ▶SSL/TLS Version	Set "TLS1.2" to [Active], and "TLS1.3", "TLS1.1", "TLS1.0", and "SSL3.0" to [Inactive].
Security	Network Security ▶Encryption Strength Setting	Check "AES128" and/or "AES256", and uncheck "RC4", "3DES" and "CHACHA20".

Category	Item	Settings
Security	Network Security ▶TCP/IP ▶KEY EXCHANGE ▶RSA	[Inactive]
Security	Network Security ▶TCP/IP ▶DIGEST ▶SHA1	[Inactive]
Security	Network Security ▶FTP ▶IPv4	[Inactive]
Security	Network Security ▶WSD (Device) ▶IPv4	[Inactive]
Security	Network Security ▶WSD (Printer)	[Inactive]
Security	Network Security ▶WSD (Scanner)	[Inactive]
Security	Network Security ▶SNMP	[Inactive]
Security	S/MIME ▶Encryption Algorithm	Select [AES-256 bit], or [AES-128 bit]. When using S/MIME, it is necessary to register the user certificate. Note: It is mandatory to ensure that certificate has an email address RDN that matches the email address the user used in Table 12.

Category	Item	Settings
Security	S/MIME ▶ Digest Algorithm	Select [SHA-512 bit], [SHA-384 bit], or [SHA-256 bit].
Security	S/MIME ▶ When Sending Email by Scanner	[Use Signatures]
Security	S/MIME ▶ When Transferring by Fax	[Use Signatures]
Security	S/MIME ▶ When Sending Email by Fax	[Use Signatures]
Security	S/MIME ▶ When Emailing TX Results by Fax	[Use Signatures]
Security	S/MIME ▶ When Transferring Files Stored in Document Server (Utility)	[Use Signatures]
Security	IPsec ▶ IPsec	Select [Active] or [Inactive]. If you set this to [Inactive], do not use Scan to Folder, and delete Scan to Folder destinations registered in the address book.
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Address Type	[IPv4]

Category	Item	Settings
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Local Address	The machine's IP address
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Remote Address	Connected server's IP address Set the IP addresses of all servers that will be protected using IPsec traffic including: FTP server NTP server LDAP server Note: the TOE evaluated configuration supports protection of Syslog and SMTP traffic using IPsec.
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Security Level	[Authentication and High Level Encryption]
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Encapsulation Mode	[Transport Mode]

Category	Item	Settings
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Authentication Method	[Certificate] or [PSK]. If you select PSK, press the “Change” button for “PSK Text” to set PSK. “PSK Text” is limited (truncated) to 32 characters; is composed of any combination of upper and lower-case characters, numbers and special characters that include and (that include: “!”, “@”, “#”, “\$”, “%”, “^”, “&”, “*”, “(”, and “)”). Note: It is recommended that long “PSK Text” composed of all permitted characters should be chosen as this is considered more secure.
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Hash Algorithm	Select [SHA256], [SHA384], or [SHA512].
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Encryption Algorithm	Select [AES-128-CBC] or [AES-256-CBC].
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Diffie-Hellman Group	[14]
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Authentication Algorithm	Check [HMAC-SHA256-128], [HMAC-SHA384-192] and [HMAC-SHA512-256], and uncheck [HMAC-SHA1-96] and [HMAC-MD5-96].

Category	Item	Settings
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Encryption Algorithm Permissions	Check [AES-128], [AES-192] and [AES-256], and uncheck [Cleartext], [DES] and [3DES].
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ PFS	[14]
Security	User Lockout Policy ▶ Lockout	[Active]
Security	User Lockout Policy ▶ Number of Attempts before Lockout	1-10
Security	User Lockout Policy ▶ Lockout Release Timer	[Active]
Security	User Lockout Policy ▶ Lock Out User for	1-9999

3.3.2.6 Wim Auto Logout Settings

67 The administrator must configure the values for [Webpage] settings as specified in Table 17.

Table 17: Wim Auto Logout Settings

Category	Item	Settings
Webpage	Webpage ▶ Web Image Monitor Auto Logout Settings	3 – 60 minutes Note that the default setting is 60 minutes.

3.3.3 Procedure 3 – Additional Settings on the Operation Panel

68 After completing the configurations in Procedure 2 using the WIM interface, the administrator must go back to the Operation Panel and login to continue with the following settings.

3.3.3.1 System Settings

69 The administrator must configure the values for [System] settings specified in Table 18.

Table 18: System Settings 2

Tab	Item	Settings
System	Screen Device Settings ▶ Application Authentication Settings ▶ General Settings for Application Authentication	Select [Auth. Not Required] for all applications.
Interface Settings	Network/USB ▶ Effective Protocol ▶ Firmware Update (IPv4)	[Inactive]
Interface Settings	Network/USB ▶ Effective Protocol ▶ Firmware Update (IPv6)	[Inactive]
Interface Settings	Network/USB ▶ Effective Protocol ▶ @Remote Service	[Inactive]

3.3.3.2 Fax Settings

70 The administrator must configure in the address book the users and groups who are authorized to receive faxes stored by the MFP. See the User Guide Section on 'Registering Fax Numbers in the Address Book'. After users are entered in the address book, the administrator can configure the Fax settings in Table 19.

Table 19: Fax Settings

Tab	Item	Settings
Reception Settings	Stored Reception File User Setting	[On] After setting this to [On], specify the users or groups that can access stored reception files.

3.3.4 Verifying the MFP Settings

- 71 After completing procedure 1 through procedure 3, check the log data and ROM version with the following steps:
- a) Check that the machine is OFF
 - b) Turn the machine ON.
 - c) Check the details of the Log files that were stored in the machine. Check that the details for "Log Type", "Result", and "Module Name" in the recorded access log are as follows:
 - i) Log Type: Firmware: Structure
 - ii) Result: Succeeded
 - iii) Module Name: G3
 - iv) For additional details about logs, see "Collecting Logs", "Managing Devices", settings.
 - d) Login as admin to the Operation Panel and check the fax parameter settings with the following steps:
 - i) Press [Settings]
 - ii) Press [Fax Settings]
 - iii) Press [Detailed Initial Settings]
 - iv) Press [Parameter Settings: Print List]
 - v) Check that the following ROM version matches the one shown in the printed list: [ROM Version]
G3: 08.00.00 (Validation Data: 44B9)
 - e) Log off

3.4 Services

3.4.1 Firewall

72 See System Settings

3.4.2 Syslog Server

73 See Table 12: Device Settings. For additional information see "[Collecting Logs](#)" in the online User Guide.

3.4.3 LDAP Server

74 See Table 8: LDAP Authentication

3.4.4 NTP Server

75 Configure the NTP server using WIM
 76 Device Management -> Configuration -> Device Settings -> Date/Time
 77 Enter the IP address of the NTP server that the TOE will synchronize with.
 78 Note: The NTP server used by the TOE must be capable of NTPv3.

3.4.5 FTP Server

79 Configure the FTP server using WIM
 80 Device Settings-> File Transfer
 81 Enter 'FTP Username' and 'FTP password'
 82 Note: Do not set anything for SMB settings.

3.4.6 SMTP Server

83 See System Settings

3.4.7 CAC/PIV Authentication Solutions

84 For CAC/PIV authentication, follow the installation and configuration guidance in CAC/PIV/SIPR v4.1 Installation & Configuration Guide and CAC PIV SIPR ELPNX SOP Option v2.3 Installation Guide for v4.x.

3.5 Administration

3.5.1 Administration Interfaces

85 The TOE provides the following administrator interfaces:

- c) **Operation Panel of the MFP** is an LCD touch screen interface that provides a local user interface where users can perform copy, fax print, network transmission of documents operations. The administrator user can configure the MFP via this local interface.
- d) **Web Image Monitor (WIM)** this is the remote user interface accessible via TLS/HTTPS where users can perform print, copy, fax, storage operations on documents. This interface provides various settings for administrators to perform limited configuration of the MFP.

Table 20 below shows the management functions available at the different administration interfaces:

Table 20: Management Functions

Management Functions	Enable	Interface(s)
Manage user accounts (users, roles, privileges and available functions list)	Create, modify, delete	Operation Panel, WIM

Management Functions	Enable	Interface(s)
Manage the document user list for stored documents	Create, modify	Operation Panel, WIM
Configure audit transfer settings	Modify	WIM
Manage audit logs	Query, delete, export	Operation Panel, WIM
Manage Audit Functions	Enable, Disable	Operation Panel, WIM
Manage time and date settings	Modify	Operation Panel, WIM
Configure minimum password length	Modify	Operation Panel, WIM
Configure Password complexity settings	Modify	Operation Panel, WIM
Configure Operation Panel Auto Logout Time	Modify	Operation Panel, WIM
Configure WIM Auto Logout Time	Modify	WIM
Configure number of authentication failure before account lockout	Modify	WIM
Configure account release timer settings	Modify	WIM
Configure PSTN Fax-Line Separation Stored Reception File User	Modify	Operation Panel
Configure image overwrite	Modify	Operation Panel
Configure network settings for trusted communications (specify IP addresses and port to connect to the TOE)	Modify	Operation Panel, WIM
Manage HDD Cryptographic key	Create Delete	Operation Panel
Manage Device Certificates	Create, query, modify, delete, upload, downlad	Operation Panel, WIM
Manage TOE Trusted Update	Query, Modify	WIM
Configure FTP	Modify	WIM
Configure IPsec	Modify	WIM

Management Functions	Enable	Interface(s)
Configure SMTP	Modify	Operation Panel, WIM
Configure NTP	Modify	Operation Panel, WIM

3.6 Management of Security Functions

86 After initial configuration the TOE security functions can be modified and managed via the WIM or the Operation Panel.

3.6.1 Functions Managed via the Operation Panel

87 The following settings are available via Operation Panel to manage the TOE time services, network services, administrators, the password policy and the auto erase memory function.

Table 21: Changing System Settings

Tab	Item	Settings
Timer Settings	Time Zone	Set the appropriate time zone. The specified setting is applied after the machine reboots.
Timer Settings	Daylight Saving Time	Set the appropriate daylight saving time. The specified setting is applied after the machine reboots. Reboot the machine after configuring this setting.
Timer Settings	Set Date	Set the appropriate date.
Timer Settings	Set Time	Set the appropriate time.
Timer Settings	Auto Logout Timer	Select [On], and then set the range for the timer between 10-999 seconds.

Tab	Item	Settings
Interface Settings	Network/USB ▶ Machine IPv4 Address	Specifying a static IPv4 address Enter the IPv4 address and subnet mask. Obtaining the DHCP server address automatically Select [Auto-Obtain (DHCP)].
Interface Settings	Network/USB ▶ IPv4 Gateway Address	Enter the IPv4 gateway address.
Interface Settings	Network/USB ▶ DNS Configuration	Specify this only if you are using a static DNS server. Specifying a static DNS server Enter the IPv4 address in "DNS Server 1", "DNS Server 2", and "DNS Server 3". (Specify DNS Server 2 and 3 if required.) Obtaining the DHCP server address automatically Select [Auto-Obtain (DHCP)].
Administrator Tools	Program/Change Administrator ▶ Administrator 1-4	Specify settings for one or more administrators. Specify the administrator's "Login User Name" and "Login Password".
Administrator Tools	Program/Change Administrator ▶ Set Administrator Privileges	Assign all administrator roles (user administrator, machine administrator, network administrator, and file administrator) to a single administrator.
Administrator Tools	Program/Change Administrator ▶ Supervisor	Change the supervisor's "Login User Name" and "Login Password". Note: You must be login as the Supervisor admin to change the login information for the supervisor admin.

Tab	Item	Settings
Administrator Tools	Extended Security ▶ Password Policy	Set "Complexity Setting" to [Level 1] or [Level 2], press [Change] on the right of "Minimum Character No.", and then set the number of characters to 15 or more. For example, to set the number of characters to 15, press the number key "1", "5", and then "#". Changes to the password policy apply to passwords that are specified or changed after the policy has been updated.
Administrator Tools	Auto Erase Memory Setting	Select [On], and then select [NSA], [DoD], or [Random Numbers]. If you set this to [Random Numbers], set [Number of Erase] to three or more.
General Settings	Print & Delete Scanner Journal	[Do not Print: Delete Oldest] or [Do not Print: Disable Send]

3.6.2 Functions Managed via the WIM

88 The following settings are used to manage TOE functions via the WIM interface.

3.6.2.1 SMTP Settings

89 The TOE provides secure communication with an SMTP server. Use the following settings to manage the SMTP server.

Table 22: SMTP Settings

Category	Item	Settings
Device Settings	Email ▶ Administrator Email Address	Enter the administrator's email address.
Device Settings	Email ▶ SMTP Server Name	Enter the SMTP server name or IP address.

3.6.2.2 Security Settings

90 The following settings available on the WIM interface are used to manage the TOE cryptographic and trusted channel functions as well as the user lockout policy.

Table 23: Changing Security Settings

Category	Item	Settings
Security	Device Certificate ▶ Certificate 1 ▶ Create	<p>Configure this to create and install the device certificate (self-signed certificate).</p> <p>If you are using a certificate issued by the certificate authority, you do not need to configure this setting.</p> <p>Of the settings for the device certificate (self-signed certificate), set "Algorithm Signature" to one of the following:</p> <ul style="list-style-type: none"> sha512WithRSA-4096 sha512WithRSA-2048 sha256WithRSA-4096 sha256WithRSA-2048

Category	Item	Settings
Security	Device Certificate ▶Certificate 1 ▶Request	<p>Configure this to create the request form for the certificate authority to issue the device certificate.</p> <p>If you are using a self-signed device certificate, you do not need to configure this setting.</p> <p>Of the settings for the device certificate (certificate issued by the certificate authority), set "Algorithm Signature" to one of the following:</p> <ul style="list-style-type: none"> sha512WithRSA-4096 sha512WithRSA-2048 sha256WithRSA-4096 sha256WithRSA-2048 <p>Submit the application form to request that the certificate authority issue the device certificate.</p> <p>The request method depends on the certificate authority. For details, contact the certificate authority.</p> <p>You can install the certificate issued by the certificate authority via Web Image Monitor.</p>
Security	Device Certificate ▶Install	<p>To use the device certificate (issued by the certificate authority), install the certificate by configuring this setting.</p> <p>If using the intermediate certificate as well, install that too.</p>
Security	Device Certificate ▶Install Intermediate Certificate	<p>When using an intermediate certificate, configure this setting to install the certificate.</p>
Security	Device Certificate ▶Certification ▶S/MIME	<p>Select the installed device certificate.</p>

Category	Item	Settings
Security	Device Certificate ▶ Certification ▶ IPsec	Select the installed device certificate.
Security	S/MIME ▶ Encryption Algorithm	Select [AES-256 bit] or [AES-128 bit]. When using S/MIME, it is necessary to register the user certificate.
Security	S/MIME ▶ Digest Algorithm	Select [SHA-512 bit], [SHA-384 bit], or [SHA-256 bit].
Security	IPsec ▶ IPsec	Select [Active] or [Inactive]. If you set this to [Inactive], do not use Scan to Folder, and delete Scan to Folder destinations registered in the address book.
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Local Address	The machine's IP address
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Security Level	[Authentication and High Level Encryption]
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Encapsulation Mode	[Transport Mode]

Category	Item	Settings
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Remote Address	Connected server's IP address Set the following server IP addresses. FTP server NTP server LDAP server (Note: the evaluated configuration uses IPsec for trusted channel communication with these listed servers required in the TOE operational environment.)
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Authentication Method	[Certificate] or [PSK]. If you select PSK, press the "Change" button for "PSK Text" to set PSK. "PSK Text" is limited (truncated) to 32 characters; is composed of any combination of upper and lower-case characters, numbers and special characters that include and (that include: "!", "@", "#", "\$", "%", "^", "&", "*", "(", and ")"). Note: It is recommended that long "PSK Text" composed of all permitted characters should be chosen as this is considered more secure.
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Hash Algorithm	Select [SHA256], [SHA384], or [SHA512].
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Encryption Algorithm	Select [AES-128-CBC] or [AES-256-CBC].

Category	Item	Settings
Security	IPsec ▶ Encryption Key Auto Exchange Settings ▶ Authentication Algorithm	Check [HMAC-SHA256-128], [HMAC-SHA384-192] and [HMAC-SHA512-256], and uncheck [HMAC-SHA1-96] and [HMAC-MD5-96].
Security	User Lockout Policy ▶ Number of Attempts before Lockout	1-10
Security	User Lockout Policy ▶ Lock Out User for	1-9999

3.6.2.3 Auto Logout Settings

91 The TSF initiated termination function can be managed via the WIM with by configuring the value for the following setting.

Table 24: Auto Logout Settings

Category	Item	Settings
Webpage	Webpage ▶ Web Image Monitor Auto Logout Settings	3 – 60 minutes Note that the default setting is 60 minutes.

3.6.3 User Management

92 Users accessing the TOE functions are identified and authenticated and allowed to access only the functions that they have permissions to access. The TOE includes an address book of registered users accounts that stores individual user attributes including username, user role, available function lists. The instructions for managing users are provided in [Registering a User in the Address Book and Specifying the Login Information](#).

3.6.4 Administrator Roles

93 The System Settings in Procedure 1 include the settings for managing the administrator roles.

3.6.5 Default Passwords

94 The administrator and supervisor passwords are blank by default and must be set during initial configuration.

3.6.6 Password Management

95 The System Settings in Procedure 1 above includes settings to configure the password policy.

3.6.7 Setting Time

96 See Table 6: System Settings 1 for the Time settings and Table 16 for settings to configure access to an NTP server for time synchronization.

3.6.8 Audit Logging

97 The TOE collects audit data in 3 types of logs:

- a) Job log – which logs user actions such as printing, copying, storing documents or faxing documents.
- b) Access Log - which logs identification and authentication events, system events and security operations events. This log includes records of the use of the management functions, login and logout events.
- c) Eco -Friendly Log — Which logs power on and power off events.

98 Only the authorized administrator can access, configure and manage the audit settings. Only the authorized administrator can review and manage the audit logs

99 The TOE limits the number of audit records that it stores in the 3 logs: 4000 job logs, 12,000 access logs and 4,000 eco-friendly logs before the oldest audit record are overwritten. Using the WIM the authorized administrator can download the audit logs and delete them.

100 Additional instructions for managing the audit logs are available in the [Collecting Logs](#) Ricoh Help pages,

3.7 U_NORMAL User Access

101 The U_Normal user does not have administrator access to the TOE. They can access TOE protected user data and functions based on the available functions list configured for their user account. The user guide describes the job and operations accessible to the U_Normal user.

4 Clearing the machine for redeployment or at end-of-life

102 All pre-shared keys, symmetric keys, and private keys are encrypted and are not accessible through normal interfaces during operation.

103 To clear the machine of all customer-supplied information, perform the following steps:

- a) Replace the data encryption key
- b) Replace the device certificate
- c) Perform the Erase All Memory function

104 This deletion function is outside the scope of the evaluation. See the [Security Guide](#) for additional information.

5 Annex A: Log Reference

5.1 Format

105 The TOE generates audit records for all required auditable events. Each audit record includes time and date, type of events, user identify, outcome of events.

5.2 Events

106 The TOE generates the following log events.

Table 25: Audit Events

Requirement	Auditable Events	Example Event
FAU_GEN.1	Start-up and shutdown of the audit functions	<p>Tied to startup of the main power:</p> <pre>"2020-09-09T17:00:10.0","2020-09-09T17:00:10.0","Main Power On","Completed","Succeeded", "0x0000000000001beff",,,,"",""</pre> <p>Tied to shutdown of the main power:</p> <pre>"2020-09-09T16:58:47.0","2020-09-09T16:58:47.0","Main Power Off","Completed","Succeeded", "0x0000000000001bef",,,,"",""</pre>
FDP_ACF.1	Job Completion	<p>Print:</p> <pre>"2020-09-02T17:21:08.0","2020-09-02T17:21:14.0","Report Printing","Succeeded","Control Panel", "Completed",,"0xfffff88","admin1",,"0x0000000000001b303",,,,""</pre> <p>Report</p>

Requirement	Auditable Events	Example Event
		<pre> " Succeeded" "Completed" "" "0x000000000001bee9" "" "Scan File", "2020-09- 09T16:52:36.0", "2020-09- 09T16:52:40.0" " Succeeded" "Completed" "" "0x000000000001bee9" "" "Send", "2020- 09-09T16:52:40.0", "2020-09- 09T16:52:47.0", "u1d", "10.20.5.7 :/u1 Document Server: "2020-09-03T09:13:24.0", "2020- 09-03T09:13:28.0", "Document Server: Storing", "Succeeded", "C ontrol Panel", "Completed", "0x0 0000003", "u1", "0x00000000000 1b349" " Succeeded" "Completed" "" "0x000000000001b349" "" "Scan File", "2020-09- 03T09:13:24.0", "2020-09- 03T09:13:28.0" " Succeeded" "Completed" "" "0x000000000001b349" "" "Store", "2020- 09-03T09:13:24.0", "2020-09- 03T09:13:28.0", "903", "COP Y0012", "0" Copy: "2020-09-01T12:41:09.0", "2020- 09- 01T12:41:19.0", "Copier: Copyin </pre>

Requirement	Auditable Events	Example Event
		<pre>n", "0x000000000001bea1", "ip:1 72.16.200.10", "Authentication", " " ", "via Network" Completed" C ompleted"</pre>
<p>FMT_SMF.1</p>	<p>Use of a management function</p>	<pre>Setting authentication lockout policies: "2020-08-26T14:58:16.0", "2020- 08-26T14:58:16.0", "Machine Configuration", "Succeeded", "Su cceeded", "0xfffff88", "admin1", " 0x00000000000195bf", "Device Settings" User Lockout Policy" "Completed" "0x00000000000195bf" "Device Settings" "Num ber of Attempts before Lockout" "4" "Completed" "0x00000000000195bf" "Device Settings" Lock Out User for" "2" "Completed"</pre>

Requirement	Auditable Events	Example Event
		<p>Changing minimum password length:</p> <pre> "2020-09-03T11:29:15.0", "2020-09-03T11:29:15.0", "Machine Configuration", "Succeeded", "Succeeded", "0xffff88", "admin1", "0x0000000000001b41a", "Device Settings" "2020-09-09T16:35:46.0", "2020-09-09T16:35:46.0", "Machine Configuration", "Succeeded", "Succeeded", "0xffff88", "admin1", "0x0000000000001be8d", "Device Settings" </pre>

Requirement	Auditable Events	Example Event
		<pre> 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0 0 00 0 0 00 0 0 0 0 0 0 0 0 0 0 0000 0000 0 0 000000 </pre>
FTP_TRP.1 Remote non-admin users	Failure to establish a session	See remote administration
FTP_ITC.1	Failure to establish a session	<p>IPsec:</p> <pre> "2020-08-19T14:14:00.0", "2020-08-19T14:14:00.0", "Collect Encrypted Communication Logs", "Failed", "Communication Failure", "0x00000000", "0x00000000000015c94", "Network Attack Detection/Encrypted Communication" 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0 0 00 0 0 00 0 0 0 0 0 0 0 0 0 0 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0 0 00 0 0 00 0 0 0 0 0 0 0 0 0 0 Encryption Communication, "500", "UDP", "ip:10.20.5.3", "500", "IPsec", "IPsec", "Communication Start Request Sender (Out)", "Start", "Failed" 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0 0 00 0 0 00 0 0 0 0 0 0 0 0 0 0 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0 0 00 0 0 00 0 0 0 0 0 0 0 0 0 0 </pre> <p>TLS:</p> <pre> {"parentLogId":"0000000000018f5f", "subLogId":"000800000000006500000000000018f5f", "subJobType":"destination.network", "desNetSubState":"ended-incomplete", "desNetStartTime":"2020-08-25T20:29:51Z", "desNetStartTimeValidTimeFlag":"on", "desNetEndTime":"2020-08-25T20:30:01Z", "desNetEndTimeValidTimeFlag":"on", "desNetAddressName":"u1d", "desNetAddress":"u1@example.com", "desNetSendKind":"mail", "desNetSendOwner":"u1d", "desNetSendMode":"document", "desNetSendPages": "", "desNetFileNo": "", "desNetErrorInfo": "", "desNetSubStatusDetail":"dest-connect-fail", "logPart":"1of1"} </pre>

