



**ST SA0022 SFI
Secure Future
Initiative**



ST SA0022 SFI Secure Future Initiative Owner's Manual

[Home](#) » [ST](#) » ST SA0022 SFI Secure Future Initiative Owner's Manual 

Contents

- [1 ST SA0022 SFI Secure Future Initiative](#)
- [2 Specifications](#)
- [3 FAQ](#)
- [4 Overview](#)
- [5 Affected products](#)
- [6 Description](#)
- [7 Revision history](#)
- [8 Documents / Resources](#)
 - [8.1 References](#)
- [9 Related Posts](#)



ST SA0022 SFI Secure Future Initiative



Specifications

- Product: STM32CubeProgrammer (STM32CubeProg)
- Versions Affected: V2.17, V2.16, V2.15, V2.14

FAQ

Q: How can I identify if my version is affected?

A: Check the version of the SFI RSSe binary file used in your secure programming tool against the list of affected versions provided in the user manual.

Q: How do I update to the fixed version?

A: Download and integrate the correct SFI RSSe binary files delivered within X-CUBE-RSSe v1.0.0 or higher as specified in the remediation steps.

Q: Where can I get further information or support?

A: For further information or assistance, contact your local STMicroelectronics sales office or visit www.st.com.

Overview

This security advisory pertains to the SFI security enhancement for STM32H5, STM32U5, STM32L5, and STM32WL5 microcontrollers.

STM32 SFI solution is implemented through an RSSe binary, which must be integrated inside the customer secure programming tool. Refer to Introduction to secure firmware install (SFI) for STM32 MCUs (AN4992).

Affected products

Product	Version	Type	Note
STM32CubeProgrammer (STM32CubeProg)	V2.17, V2.16, V2.15, V2.14	Tools	The tool itself is not affected, but some of the SFI RSSe binaries delivered as part of the tool are.

The user can get the STM32CubeProgrammer version from the listed path relative to the STM32CubeProgrammer installation directory:

- Under Windows®:
Path: `./STM32CubeProgrammer/bin/`
Command: `STM32_Programmer_CLI.exe -version`
- Under Linux®:
Path: `./STM32CubeProgrammer/bin/`
Command: `./STM32_Programmer_CLI -version`
- Under macOS®:
Path: `./STM32CubeProgrammer/bin/`
Command: `./STM32_Programmer_CLI -version`
- The user can get the SFI RSSe binary version by editing the RSSe binary file. The version "x.y.z" is located in bytes [24:26]:
Byte 24: z digit – Byte 25: y digit
Byte 26: x digit
The impacted versions of the SFI RSSe binary file used in the secure programming tool are the following:

Table 1. SFI RSSe binary file versions used in the secure programming tool

STM32 product	SFI RSSe binary file location	Affected version
STM32H562/563/573	<code>./STM32CubeProgrammer/bin/RSSe/H5/enc_signed_RSSe_SFI_STM32H5_v2.0.1.0.bin</code>	v2.0.1
STM32H562/563/573	<code>./STM32CubeProgrammer/bin/RSSe/H5/enc_signed_RSSe_SFI_STM32H5_v2.0.0.0.bin</code>	v2.0.0
STM32H523/533	<code>./STM32CubeProgrammer/bin/RSSe/H5/enc_signed_RSSe_SFI_STM32H5_512K_v1.0.0.0.bin</code>	v1.0.0
STM32U575/585	<code>./STM32CubeProgrammer/bin/RSSe/U5/enc_signed_RSSe_sfi_U5_2M.bin</code>	v4.0.0
STM32U59x/5Ax	<code>./STM32CubeProgrammer/bin/RSSe/U5/enc_signed_RSSe_sfi_U5_4M.bin</code>	v4.0.0
STM32U5Fx/5Gx	<code>./STM32CubeProgrammer/bin/RSSe/U5/enc_signed_RSSe_sfi_U5_4M_Tiger.bin</code>	v4.0.0
STM32U535/545	<code>./STM32CubeProgrammer/bin/RSSe/U5/enc_signed_RSSe_sfi_U5_512k.bin</code>	v4.0.0
STM32L552/562	<code>./STM32CubeProgrammer/bin/RSSe/L5/enc_signed_RSSe_sfi.bin</code>	v5.0.0
STM32WL5x	<code>./STM32CubeProgrammer/bin/RSSe/WL/enc_signed_RSSe_sfi.bin</code>	v5.0.0

Description

When using the affected versions of the SFI RSSe binary, an attacker can corrupt the SFI image, leading to an erroneous application execution after the SFI procedure.

Impact

The execution of the application might be erroneous, leading to a denial of service.

Remediation

The user must use the SFI RSSe binary files delivered within the X-CUBE-RSSe v1.0.0 or higher:

Table 2. SFI RSSe binary files delivered within the X-CUBE-RSSe v1.0.0 or higher

STM32 product	SFI RSSe binary file location	Version fixing the problem
STM32H562/563 /573	RSSe binary: RSSe_SFI_H56x_H573_v3.0.0.bin	v3.0.0
	Personalization data file: Perso_Data_H56x_H573_48402011_SFI._v3.0.0.bin	v3.0.0
STM32H523/533	RSSe binary: RSSe_SFI_H523_H533_v2.0.0.bin	V2.0.0
	Personalization data files: Perso_Data_H523_H533_4780101B_SFI._v2.0.0.bin	V2.0.0
	RSSe binary: RSSe_SFI_U575_U585_v5.0.0.bin	V5.0.0
STM32U575/585	Personalization data files:	
	• Perso_Data_U575_U585_4820200B_SFI._v5.0.0.bin	V5.0.0
	• Perso_Data_U575_U585_4820200B_SFIA_v5.0.0.bin	V5.0.0
	RSSe binary: RSSe_SFI_U59x_U5Ax_v5.0.0.bin	V5.0.0
STM32U59x/5Ax	Personalization data files:	
	• Perso_Data_U59x_U5Ax_4810200F_SFI._v5.0.0.bin	V5.0.0
	• Perso_Data_U59x_U5Ax_4810200F_SFIA_v5.0.0.bin	V5.0.0
	RSSe binary: RSSe_SFI_U5Fx_U5Gx_v5.0.0.bin	V5.0.0
STM32U5Fx/5Gx	Personalization data files:	
	• Perso_Data_U5Fx_U5Gx_47601016_SFI._v5.0.0.bin	V5.0.0
	• Perso_Data_U5Fx_U5Gx_47601016_SFIA_v5.0.0.bin	V5.0.0
	RSSe binary: RSSe_SFI_U535_U545_v5.0.0.bin	V5.0.0
STM32U535/545	Personalization data files:	
	• Perso_Data_U535_U545_45501015_SFI._v5.0.0.bin	V5.0.0
	• Perso_Data_U535_U545_45501015_SFIA_v5.0.0.bin	V5.0.0
STM32L552/562	RSSe binary: RSSe_SFI_L552_L562_v6.0.0.bin	V6.0.0
	Personalization data file: Perso_Data_L555_L562_47201003_SFI._v6.0.0.bin	V6.0.0
STM32WL5x	RSSe binary: RSSe_SFI_WL5x_v6.0.0.bin	V6.0.0
	Personalization data file: Perso_Data_WL5x_49701005_SFI._v6.0.0.bin	V6.0.0

- During the SFI firmware image creation process, the user must use an SFI RSSe binary with associated personalization data file version as described in the table above.

- For firmware image secure programming in production, the user must use a programmer tool supporting an SFI RSSe binary version as described in the table above.
- A new HSM must be programmed with a personalization data file version as described in the table above.

Contact information

psirt@st.com

Revision history

Table 3. Document revision history

Date	Version	Changes
16-Oct-2024	1	Initial release.

IMPORTANT NOTICE – READ CAREFULLY

- The STMicroelectronics group of companies (ST) places a high value on product security, and strives to continuously improve its products. However, no level of security certification and/or built-in security measures can guarantee that ST products are resistant to all forms of attack including, for example, against advanced attacks which have not been tested for, against new or unidentified forms of attack, or against any form of attack when using an ST product outside of its specification or intended use, or in conjunction with other components or software which are used by a customer to create their end product or application. As such, regardless of the incorporated security features and/or any information or support that may be provided by ST, each customer is responsible for determining if the level of security protection in and ST product meets their needs, both in relation to the ST product alone and when incorporated into a customer end product or application.
- ST Technical Notes, security bulletins, security advisories, and the like (including suggested mitigations), and security features of ST products (inclusive of any hardware, software, documentation, and the like), together with any enhanced security features added by ST and any technical assistance and/or recommendations provided by ST, are provided on an “AS IS” BASIS. AS SUCH, TO THE EXTENT PERMITTED BY APPLICABLE LAW, ST DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, unless the applicable written and signed contract terms specifically provide otherwise.
- ST reserves the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Customer should obtain the latest relevant information on ST products before placing orders.
- Customers are solely responsible for the choice, selection, and use of ST products, and ST assumes no liability for application assistance or the design of customers’ products.
- No license, express or implied, to any intellectual property right is granted by ST herein.
- Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.
- ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.
- Information in this document supersedes and replaces information previously supplied in any prior versions of

this document.

© 2024 STMicroelectronics – All rights reserved

Documents / Resources

	<p>ST SA0022 SFI Secure Future Initiative [pdf] Owner's Manual SA0022 SFI Secure Future Initiative, SA0022, SFI Secure Future Initiative, Future Initiative, Initiative</p>
-----------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.