DRIVING **EMBEDDED EXCELLENCE**

RTA-FBL FCA Port 1.1.0

Release Notes

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Contents

1   Introduction

This document contains the release note for RTA-FBL FCA Port 1.0.1 developed by ETAS.

1.1   Definitions and Abbreviations

Term/Abbreviation	Definition
CR	Change Request
NA	Not Applicable
FBL	Flash Bootloader
ECU	Electronic Control Unit
CAN	Controller Area Network
CAN-FD	Controller Area Network Flexible Datarate
MCAL	Microcontroller Abstraction Layer
UDS	Unified Diagnostic Services
NvM	Non-Volatile Memory
SW	Software
DID	Data Identifier
BSW	Basic Software
OS	Operative System
OI	Open Issue

1.2   References

Document Name	Description	Version
[1] CS.00101_ECU FLASH Reprogramming Requirements	FCA Reprogramming spec	Rev. C
[2] CS.00102_Standardized Diag Data	Diagnostic Data spec	Rev. D
[3] CS.00099_Diag Reqs UDS	Diagnostic Requests	Rev. C
[4] CS.00100_Diagnostic Services	Diagnostic Services spec	Rev. C

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1.3 Conventions

The following typographical conventions are used in this document:

Choose **File → · Open**.	Menu commands are shown in boldface.
Click **OK**.	Buttons are shown in boldface.
Press <ENTER>.	Keyboard commands are shown in angled brackets.
The "Open File" dialog box is displayed.	Names of program windows, dialog boxes, fields, etc. are shown in quotation marks.
`Select the file setup.exe`	Text in drop-down lists on the screen, program code, as well as path- and file names are shown in the Courier font.
A *distribution* is always a one-dimensional table of sample points.	General emphasis and new terms are set in italics.

1.4 User Documentation

The RTA-FBL FCA Port user's documentation in PDF format can be found as part of the Documentation of this product after installation.

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2 Product Definition

2.1 Functions at a glance

This FBL port implements features of the FCA FBL specification given in [1].

2.2 Intended Use

The scope of the project is to implement a Flash Bootloader for FCA OEM. A Flash Bootloader is a piece of software that resides in a permanent partition of the ECU's flash memory. The purpose of Flash Bootloader is to establish the ECU entry point upon power up or power on reset and to enable flash programming of application software and calibration data via a diagnostic protocol on some physical channel. The Flash Bootloader implements the startup sequence when the ECU is powered up or after power on reset. Flash programming of the ECU is required when application software or calibration data is missing or an update to these is required.

2.3 Safety-Relevance

The bootloader delivered in this release has been developed to a Quality-Management (QM) level. Therefore, the bootloader software is not certified to any safety level (including any ASIL-x level) and should not be used with any safety-relevant applications.

2.4 General Description

2.4.1 System Prerequisites

The following minimum system prerequisites have to be met:

Required Hardware	1,0 GHz PC
	1 GB RAM
	DVD-ROM drive
	Network adapter
	Graphics with a resolution of at least 1024 x 768, 32 MB RAM
Required Operating System	Windows® 10
Required Free Disk Space	500 MB (not including the size for application data)

The following system prerequisites are recommended:

Recommended Hardware	2,0 GHz Dual-Core PC or equivalent
	2 GB RAM
	DVD-ROM drive
	Network adapter
	Graphics with a resolution of 1280 x 1024, 128 MB RAM
Recommended Free Disk Space	>2,0 GB

2.5 Delivery

The software is delivered with an installer. All software documentation is available in the Portable Document Format (PDF), which requires Adobe® Reader®. You find the installation link in the Documentation directory on the installation. This document all provides information relevant to installation and licensing of this product.

2.6 Target Environment Description

2.6.1 Software Prerequisites/Dependencies

Software Name	Version No.	Description
Microsoft Windows	10	Software has been fully tested, including the provided GUI configuration tool in this version of Windows.

2.6.2 Software Tools

Tool Name	Version No.	Description
ISOLAR-B	8.0.1	AUTOSAR authoring tool.

2.7 Supported Buses

This FBL Port supports the following communication buses:

Bus Type	Specifications
CAN	CAN 2.0B, CAN-FD 1.0

2.8 Integration Notes

Refer to User Manual for notes on integration with application software.

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3 Product Limitation

3.1 Not Supported Features

Currently this release of RTA-FBL FCA Port is not supporting the following features:

Feature Name	Description
Bootloader Update	This version of RTA-FBL is currently not implementing the boot update feature. This means that the bootloader is not able of update itself, and thus production ECUs can't update the FBL on the field. This feature is indicated as optional by [1].
Compression	This version of RTA-FBL is currently not implementing any compression method. This feature is indicated as optional by [1].
SW Interlock	This version of RTA-FBL is currently not implementing any Software Interlock method. The SW interlock method indicated by FCA spec is the separate download of the flash driver and is indicated as optional in [1].
HTA Update	The HTA update feature is currently not supported.
Request Upload	This version of RTA-FBL is currently not implementing the request upload (0x35) diagnostic service. This feature is indicated as optional by [2].

3.2 Not Supported ECU Category

Currently this release of RTA-FBL FCA Port is not supporting the following ECU Categories described in [2]:

Not Supported Categoty	Description
C7	Mandatory for PROXI (BCM) / Vehicle Configuration Master.
C23	Mandatory if Boot Logical block is reprogrammable (see 3.1).
C13	Mandatory only when Firmware Over-The-Air (FOTA) is supported by ECU.

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4 Cybersecurity features

4.1 Security Solution Dependencies

The RTA-FBL FCA port has a strong dependency from the Security Stack integrated in the FBL project (i.e. Security Solution). There are two identified use case related to the Security Solution integration and dependency:

- Escrypt Solution
- 3rd Party Solution

4.1.1 Escrypt Solution

If the user choose to use Escrypt Security Solution, RTA-FBL is able to automatically generate the cybersecurity integration code. This will result in a much easier integration process, as the user needs only to copy and paste the Escrypt components inside the FBL project (an integration guidance is provided in the User Documentation in this case).

The Table below illustrates the needed Escrypt components and versions:

Security Component	Version No.	Description
FSM	QM 2.0	FCA Security Manager
CycurHSM	2.6.2.0 FCA	HSM Driver and Host interface

4.1.2 3rd Party Solution

If the user choose to use a 3rd party solution, it has to comply with the FBL Cybersecurity interface. More details can be found in the User Documentation.

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5 Changes, Fixes and Issues

This chapter describes changes with respect to the previous versions of this software.

5.1 What's New

The delivery has two hot fixes and integrates the BSW into the installation package: it is not necessary to install the compatible RTA-BSW version separately.

5.2 Compatibility to Earlier Releases

The delivery is fully compatible with the previous one.

5.3 Fixed Problems

Internal Issue Tracking No.	Customer Issue Tracking No.	Issue Name	Description
RTAFBL-1350	RHU-681	ECU is offline after switching to programming session	After executing security access in application ($27 05 and $27 06) and jumping into boot mode, ECU does not send and receive any messages.
RTAFBL-1351	RH-2034	DID F1A0 – Flow Control	When requesting DID $F1A0 using Flow Control of 3 bytes, the FBL does not send CF (Consecutive Frames).

5.4 Known Issue Reports

If a product issue develops, ETAS will prepare a Known Issue Report (KIR) and post it on the internet. The report includes information regarding the technical impact and status of the solution. Therefore, you must check the KIR applicable to this ETAS product version and follow the relevant instructions prior to operation of the product.

The Known Issue Report (KIR) can be found here:

http://www.etas.com/kir

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5.5   Known Issues

Issue Tracking No.	Issue Name	Description
RTAFBL-1529	FBL BSW generation is not consistent with EcuC values	Modifying any parameters that trigger BSW changes, the corresponding EcuC arxml is generated but the code generated using RTA Code Generator window does not reflect the new EcuC file. As a workaround, you should generate the BSW twice after any FBL configuration changes that modify the BSW configuration.
RTAFBL-1527	Only one port allowed to be installed	It is not possible to install and use multiple ports at the same time.
RTAFBL-1274	Security Access delay timer	Depending on the ECU type and configuration, the delay timer may be slightly inaccurate.
RTAFBL-1278	Service $37 – wrong NRC	If service $37 is not correctly sent as part of the download sequence, the wrong NRC is returned.

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5.6   Known Limitations

Limitation Tracking No.	Issue Name	Description
RTAFBL-1530	String input cannot be padded with spaces	If a string input parameters ends with spaces, the spaces are truncated during FBL generation.
RTAFBL-432	Service $34 - NRC in case of wrong AALFI	AALFI is evaluated before DataFormatIdentifier, and NRC returned is $13 instead of $31.
RTAFBL-1326	SPRMIB	If a UDS request without sub function is received after SPRMIB was set to TRUE, the SPRMIB is managed as TRUE until a new UDS request with a sub function is received.

6   Contact, Support and Problem Reporting

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the ETAS website:

ETAS subsidiaries	WWW:	www.etas.com/en/contact.php
ETAS technical support	WWW:	www.etas.com/en/hotlines.php

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