

S12ZVM Boot Loader

Release Notes

PRODUCT:	S12ZVM Bootloader
PRODUCT VERSION:	V 1.2
DESCRIPTION:	
RELEASE DATE:	Apr ,23 th , 2015

© Freescale Semiconductor, Inc., 2015. All rights reserved.

How to Reach Us:

Home Page:

www.freescale.com

Web Support:

<http://www.freescale.com/support>

USA/Europe or Locations Not Listed:

Freescale Semiconductor, Inc.
Technical Information Center, EL516
2100 East Elliot Road
Tempe, Arizona 85284
1-800-521-6274 or +1-480-768-2130
www.freescale.com/support

Europe, Middle East, and Africa:

Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
+33 1 69 35 48 48 (French)
www.freescale.com/support

Japan:

Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku,
Tokyo 153-0064
Japan
0120 191014 or +81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:

Freescale Semiconductor China Ltd.
Exchange Building 23F
No. 118 Jianguo Road
Chaoyang District
Beijing 100022
China
+86 10 5879 8000
support.asia@freescale.com

For Literature Requests Only:

Freescale Semiconductor Literature Distribution Center
P.O. Box 5405
Denver, Colorado 80217
1-800-441-2447 or +1-303-675-2140
Fax: +1-303-675-2150
LDCForFreescaleSemiconductor@hibbertgroup.com

Information in this document is provided solely to enable system and software implementers to use Freescale Semiconductor products. There are no express or implied copyright licenses granted hereunder to design or fabricate any integrated circuits or integrated circuits based on the information in this document.

Freescale Semiconductor reserves the right to make changes without further notice to any products herein. Freescale Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters that may be provided in Freescale Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals", must be validated for each customer application by customer's technical experts. Freescale Semiconductor does not convey any license under its patent rights nor the rights of others. Freescale Semiconductor products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale Semiconductor product could create a situation where personal injury or death may occur. Should Buyer purchase or use Freescale Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold Freescale Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale Semiconductor was negligent regarding the design or manufacture of the part.



Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. ARC, the ARC logo, ARCangel, ARCform, ARCHitect, ARCompact, ARCTangent, BlueForm, CASSEIA, High C/C++, High C++, iCon186, MetaDeveloper, MQX, Precise Solution, Precise/BlazeNet, Precise/EDS, Precise/MFS, Precise/MQX, Precise/MQX Test Suites, Precise/RTCS, RTCS, SeeCode, TotalCore, Turbo186, Turbo86, V8 µRISC, V8 microRISC, and VAutomation are trademarks of ARC International. High C and MetaWare are registered under ARC International. All other product or service names are the property of their respective owners.

© Freescale Semiconductor, Inc. 2013. All rights reserved.

Rev. 1
2/2013

Table of Contents

1	Read Me First.....	2
1.1	Requirements.....	2
1.1.1	Development Tools	2
1.1.2	System Requirements	2
1.1.3	Target Requirements	2
1.2	Special Instructions	2
1.2.1	Overview	2
2	What is New?	3
3	Release Content	3
4	What is Missing	4
5	Known Issues and Limitations	4
6	Note	4
7	Change Log.....	5

1 Read Me First

1.1 Requirements

1.1.1 Development Tools

This release of S12ZVM Bootloader was compiled and tested with the following development tools:

- CodeWarrior™ Development Studio for S12ZVM Version 10.6
- Rappid Bootloader Version 1.6.6.27

1.1.2 System Requirements

The system requirements are defined by the development tools requirements. There are no special host system requirements for hosting the S12ZVM Bootloader itself.

1.1.3 Target Requirements

The S12ZVM Bootloader v1.0 in this release is targeted to all Freescale S12ZVM. However, the program was tested and demonstrated on the following evaluation boards. There are no special requirements for the target hardware which would be out of scope of what each board requires for its operation (power supply, cabling, jumper settings etc).

- S12ZVM32 EVB rev X1
- S12ZVMx12EVB rev A2
- S12ZVMx12EVB rev X3

1.2 Special Instructions

There is no special instruction needed.

1.2.1 Overview

The overview of Bootloader can be seen in the Flow Chat below:

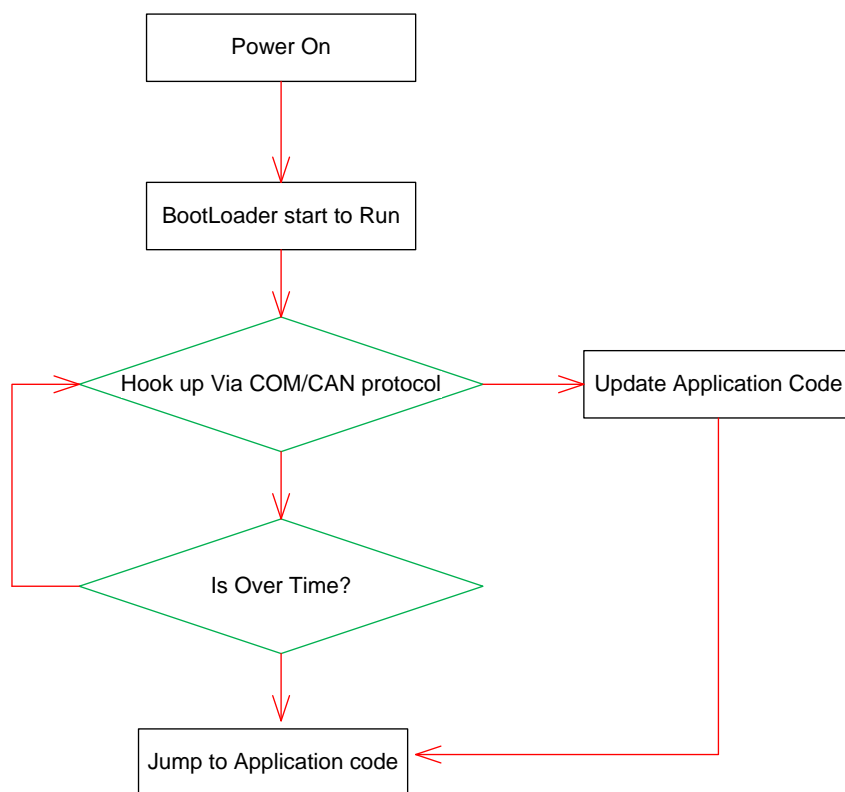


Figure 1: Software Flow Chat

2 What is New?

- Please see in 6.Change Log

3 Release Content

This section gives an overview about the release content.

Deliverable	Location	Description
RBF	[install-dir]/ RBF	Include two rbf file for S12ZVM: <ul style="list-style-type: none"> - S12ZVM.rbf for UART only. - S12ZVMC.rbf for CAN and UART.
TC005_conve rt_tool	[install-dir]/ TC005_convert_tool	Window application for comparing two sx file in test case 5.
Test_Log_an d_Report	[install-dir]/ Test_Log_and_Report	Test cases and reports
Source	[install-dir]/source/app	Include source code for user application sample and test cases.

	[install-dir]/source/boot	Include source code for bootloader
	[install-dir]/source/Document	Include Specification and Release note.
	[install-dir]/source/Project	Include projects for bootloader and user application for all board.

4 What is Missing

N/A

5 Known Issues and Limitations

- The Rappid bootloader tool read/write the flash each 32 bytes, sometimes lead to some issues.
- The tested boards is not many.
- Modify the interrupt vectors table address is a must.

6 Note

1. Because the default interrupt vector table is located in bootloader location, Interrupt vector table address of appsource code is needed to relocate outside bootloader area as the following figure:

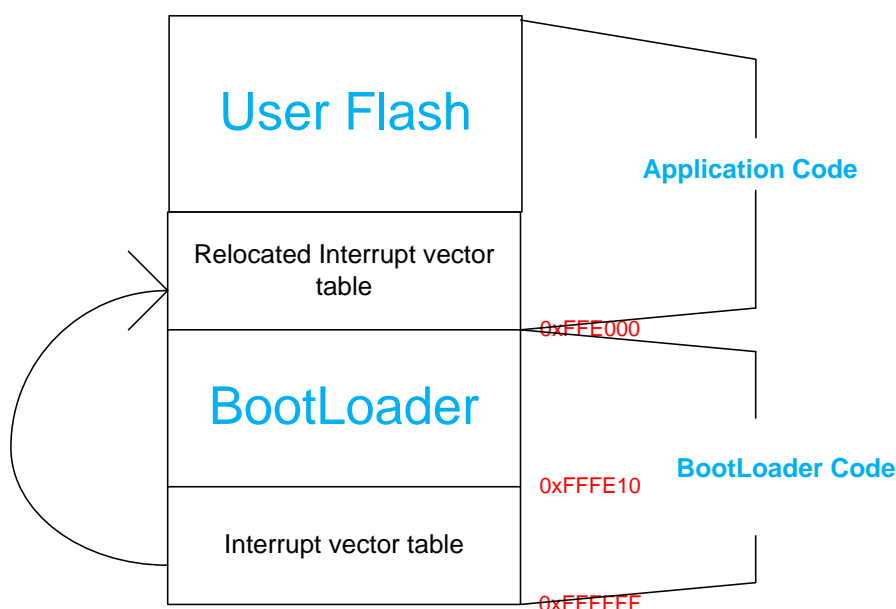


Figure 2: Flash memory map

For example, if Application Code is generated by Processor Expert, User needs to relocate the default Interrupt vector table address in the file “**Vectors.c**” by modifying the below constants:

```
const InterruptTableEntry _InterruptVectorTable[123] @0x00FFFE10U
```

```
const InterruptTableEntry _ResetVectorTable[1] @0x00FFFFFCU
```

to the new address:

```
const InterruptTableEntry _InterruptVectorTable[123] @0x00FFDE10U
```

```
const InterruptTableEntry _ResetVectorTable[1] @0x00FFDFFCU
```

and user also needs to update IVBR register with new value (0xFFDEU)

2. Bootloader noticed error when any address of application code is belonged to bootloader code area or outside of flash.
3. CAN pins are at PS0 and PS1.
4. SCI1 pins are at PS2 and PS3.

7 Change Log

Effective Date	Version	Change Item	*A,D,M	Change description
27-Mar-15	0.1		A	Create new
30-Mar-15	1.0	S12ZVM32EVB	A	Add test results on S12ZVM32 EVB
2-Apr-15	1.1	S12ZVMx12EVB	A,M	Update test results on S12ZVM32 EVB Add test results on 2 board S12ZVMx12EVB Rev X3 and Rev A2
16-Apr-15	1.2	S12ZVMx12EVB Rev X3 CAN	A	Add test results on S12ZVMx12EVB Rev X3 with CAN protocol Add test case 13 for all board
23-Apr-15	1.2		M	Remove the update IVBR register on boot code.