ADI Engineering RCCVE Bootrom Software Release Notes

Contents

The RCC-VE platform is based on the Intel Intel AtomTM C2000 processor (previously referred to as Rangeley/Avoton). The C2000 is a multi-core (up to 4 for RCC-VE) Intel Atom based SOC product featuring high levels of I/O integration and an Intel QuickAssist hardware acceleration engine, targeting for the routers and security communications market segment.

This document serves as the release notes for ADI RCC-VE bootrom that resides in the 8M SPI flash. The SPI flash can be updated using either an external programmer or the flashrom Linux utility provided by ADI. Please refer to RCC-VE Platform User's Manual for details.

1 RELEASE ADI_RCCVE-00.00.00.01

Release Date : 8/28/2014

The FSP and microcode version used in this release:
RANGELEY_FSP_POSTGOLD_001_20131218.

1.1 New Features

This is the initial release of the RCC-VE bootrom software.

The RCC-VE bootrom is an Intel Firmware Support Package (FSP) and Open Source coreboot (http://coreboot.org) based boot loader. It performs basic initialization for the C2000 SoC and its memory subsystem. It uses seabios as payload and supports booting OS from the on-board eMMC, external SATA or mSATA drive, or external USB drive. sgabios VGA emulator is loaded as option rom to redirect VGA output to console.

1.2 Bug Fixes

None.

1.3 Known Issues & Limitations

1.3.1 Hardware Reset Does Not Work

The CPU hard reset does not work in this release. Pushing the reset button results in system hang. Only power cycling the board could recover the system. This issue is being investigated.

1.3.2 Issue with Linux Installation CD

It has been observed in ADI lab that the boot process stalls when booting from a Linux installation CD connected via SATA port. The issue is being investigated.

2 RELEASE ADI_RCCVE-01.00.00.00

Release Date: 12/10/2014

The RCC-VE bootrom is based on Intel Firmware Support Package (FSP) and Sagebios (open source coreboot based). It supports booting OS from the on-board eMMC, external SATA or mSATA drive, external USB drive, and ipxe network boot. sgabios VGA emulator is loaded as option rom to redirect VGA output to console.

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD_001_20131218: (December 18, 2013).
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

2.1 New Features

2.1.1 Migration to SageBIOS

The code base for coreboot and all the payloads, option ROMs included in this release has been migrated from public open source repository to SageBios for Rangeley reference platform Mohon Peak (SageBios_Mohon_Peak_292). Customization has been performed for RCC-VE by ADI Engineering.

2.2 Bug Fixes

2.2.1 Hardware Reset Does Not Work

In release 00.00.00.01, the CPU hard reset did not work. Pushing the reset button resulted in system hang. Only power cycling the board would recover the system. This issue has been fixed in this release.

2.2.2 Reboot and shutdown failure

In previous release, rebooting and issuing shutdown command in Linux resulted in system hang. Only power cycling the board would recover the system. This issue has been fixed in this release.

2.3 Known Issues & Limitations

2.3.1 Issue with Linux Installation CD

It has been observed in ADI lab that the boot process stalls when booting from a Linux installation CD connected via SATA port or a Linux Live image on a USB memory stick. This issue is being investigated.

3 RELEASE ADI_RCCVE-01.00.00.01

Release Date: 01/27/2015

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD_001_20131218: (December 18, 2013).
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

3.1 New Features

3.1.1 Add sgabios option ROM

The sgabios option rom is added in this release to forward VGA BIOS and keyboard events over the serial port. This will allow bootloaders which requires a VGA BIOS, such as those for USB Live image or iso imag on DVD/CD, to function properly.

3.2 Bug Fixes

3.2.1 Issue with Linux Installation CD

In previous releases, booting from CD/DVD drive or a Linux Live image on a USB memory stick stalls. This issue has been fixed in this release with the new sgabios option ROM feature described in section 3.1.1.

3.3 Known Issues & Limitations

None.

4 RELEASE ADI_RCCVE-01.00.00.02

Release Date: 02/09/2015

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD_001_20131218: (December 18, 2013).
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

4.1 New Features

4.1.1 Add default boot order

The default boot order is added in this release. The default order is set to:

(1,2) external USB.

(3,4) internal SATA3 if available.

(5) msata.

(6-8) internal SATA2 if available.

(9-12) iPXE.

The boot menu (F12) can be used to manually select boot device that is not on the top of the default boot order list.

4.2 Bug Fixes

None.

4.3 Known Issues & Limitations

None.

5 RELEASE ADI_RCCVE-01.00.00.03

Release Date: 03/16/2015

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD_001_20131218: (December 18, 2013).
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

5.1 New Features

5.1.1 Serail number in SMBIOS region

The SageBIOS is enhanced in this release to install the board serial number into the SMBIOS serial number filed. The serial number can be programmed using the adi_flash_util tool that is also provided in this release.

5.1.2 No VGA emulator images

This release provide two additions images (ADI_RCCVE-01.00.00.03-nodebug-nosgabios.rom and ADI_RCCVE-01.00.00.03-nosgabios.rom) that do not have VGA emulator sgabios built in. This is to reduce the overhead for systems that do not need VGA redirection to the console.

5.2 Bug Fixes

None.

5.3 Known Issues & Limitations

None.

6 RELEASE ADI_RCCVE-01.00.00.04

Release Date: 05/11/2015

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD3.
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

6.1 New Features

6.1.1 New FSP

FSP is updated to RANGELEY_FSP_POSTGOLD3 in this release. Please refer to Intel RANGELEY_FSP_POSTGOLD3 release notes for details.

6.1.2 Allow multiple bootable hard disks in BEV

Seabios has been enhanced in this release to include all hard disks in its BEV (Boot Execution Vector) list. This enhancement will allow the system to boot from another hard disk (including USB storage devices) if one fails to boot.

6.2 Bug Fixes

6.2.1 Duplicated Characters in iPXE

In previous releases iPXE console output displayed double characters when sgabios is used. This issue has been fixed in this release.

6.3 Known Issues & Limitations

None.

7 RELEASE ADI_RCCVE-01.00.00.05

Release Date: 07/20/2015

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD3.
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

7.1 New Features

7.1.1 Support for RCC-DFF v2

Support for RCC-DFF v2 board is added in this release. RCC-DFF v2 is a derivative of RCC-VE. RCC-DFF product information can be found at http://www.adiengineering.com/products/rcc-dff. Support added in this releases includes:

1. boot order for RCC-DFF v2.
2. ipxe support for M88E1514 PHY used on RCC-DFF v2.

7.2 Bug Fixes

None.

7.3 Known Issues & Limitations

None.

8 RELEASE ADI_RCCVE-01.00.00.06

Release Date: 11/09/2015

The versions of software components used in this release are:

- SageBIOS: SageBios_Mohon_Peak_292.
- FSP: RANGELEY_FSP_POSTGOLD3.
- microcode: M01406D8125 for B0 stepping.
- Descriptor: ADI unlocked.

8.1 New Features

8.1.1 Setup menu to change boot order

A Setup entry is added in the boot menu in this release to allow user to change boot order and save the changes in flash.

8.1.2 Fan speed control for RCC-VE

The RCC-VE on board EMC2104 PWM fan controller operated at default 100% speed in previous releases. In this release, the fan controller Look-Up Table for fan #1 (Header J4) is programmed and enabled with fan drive settings and corresponding temperature thresholds. The fan will spin up and down based on the programmed temperature thresholds.

Note that this feature is for RCC-VE only. It does not apply to DFFv2.

8.1.3 Flash utility update for serial number programming

The ADI flash utility (ADI_flash_util) is updated in this releases to partially program the flash when only serial number is programmed. This update is to reduce flash programming time when entire flash image update is not required.

8.2 Bug Fixes

8.2.1 Boot order for DFFv2 front USB port

In previous release, the boot order for DFFv2 front USB port was not programmed and this resulted in the USB port being the lowest on boot order list. The front USB port is programmed with high boot priority in this release.

8.3 Known Issues & Limitations

None.