

RALINK TECHNOLOGY, CORP.

Ralink APSoc SDK Important Change Log

Copyright © 2010 Ralink Technology, Corp.

All Rights Reserved.

This document is property of Ralink Technology Corporation Transmittal, receipt, or possession of this document does not express, license, or imply any rights to use, sell, design, or manufacture from this information or the software documented herein. No reproduction, publication, or disclosure of this information, in whole or in part, shall be allowed, unless the prior written consent of Ralink Technology Corporation is obtained.

Note: THIS DOCUMENT CONTAINS SENSITIVE INFORMATION AND HAS RESTRICTED DISTRIBUTION.

Proprietary Notice and Liability Disclaimer

The confidential Information, technology or any Intellectual Property embodied therein, including without limitation, specifications, product features, data, source code, object code, computer programs, drawings, schematics, know-how, notes, models, reports, contracts, schedules and samples, constitute the Proprietary Information of Ralink (hereinafter "Proprietary Information")

All the Proprietary Information is provided "AS IS". No Warranty of any kind, whether express or implied, is given hereunder with regards to any Proprietary Information or the use, performance or function thereof. Ralink hereby disclaims any warranties, including but not limited warranties of non-infringement, merchantability, completeness, accuracy, fitness for any particular purpose, functionality and any warranty related to course of performance or dealing of Proprietary Information. In no event shall Ralink be liable for any special, indirect or consequential damages associated with or arising from use of the Proprietary Information in any way, including any loss of use, data or profits.

Ralink retains all right, title or interest in any Proprietary Information or any Intellectual Property embodied therein. The Proprietary Information shall not in whole or in part be reversed, decompiled or disassembled, nor reproduced or sublicensed or disclosed to any third party without Ralink's prior written consent.

Ralink reserves the right, at its own discretion, to update or revise the Proprietary Information from time to time, of which Ralink is not obligated to inform or send notice. Please check back if you have any question. Information or items marked as "not yet supported" shall not be relied on, nor taken as any warranty or permission of use.

Ralink Technology Corporation (Taiwan)

5F, No.5, Tai-Yuen 1st Street,

Chupei City

HsinChu Hsien 302, Taiwan, ROC

Tel +886-3-560-0868

Fax +886-3-560-0818

Sales Taiwan: Sales@ralinktech.com.tw

Technical Support Taiwan: FAE@ralinktech.com.tw

<http://www.ralinktech.com/>

Content

1. Introduction.....	4
----------------------	---

Ralink Website document

**for stevej@cradlepoint.com
And Company Use Only**

1. Introduction

Due to increase SDK's quality, we fix bugs and improve functions constantly. The following shows you updated history of this version:

The red lines are MUST and MAJOR changes.

Version 3.5.2.0

[RT3052/RT3050]

- Improve the WebUI (minor bug fix)
- Add always check the erased word after erasing flash sector. (to enhance the compatibility with some NOR flash)
- Update the SPI CLK "BUS_CLK/4 => BUS_CLK/8". (to enhance the compatibility with some SPI flash)

[RT3352]

- Fix IPv6 neighbor solicitation issue for RT3352 and RT5350 (IPv6 neighbor solicitation will fail if no fix)
- Fix the RT3352 Uboot memory size display error issue (display will not correct if no fix)
- Fix the IGMP Proxy Makefile to support RT3352 and RT5350 (the RT3352 and RT5350 may not provide IGMP Proxy feature if no fix)
- RT3352/RT5350 support CPU Auto-Frequency adjustment (new feature)
- RT3352/RT5350 Uboot support SDR pre-charge power down (new feature)
- RT3352 Uboot support DDR self-refresh power save (new feature)
- Improve the WebUI (minor bug fix)
- Add always check the erased word after erasing flash sector. (to enhance the compatibility with some NOR flash)
- Update the SPI CLK "BUS_CLK/4 => BUS_CLK/8". (to enhance the compatibility with some SPI flash)

[RT5350]

- Fix IPv6 neighbor solicitation issue for RT3352 and RT5350 (IPv6 neighbor solicitation will fail if no fix)
- Fix the IGMP Proxy Makefile to support RT3352 and RT5350 (the RT3352 and RT5350 may not provide IGMP Proxy feature if no fix)
- Fix RT5350 CPU/SYSCLK setting issue (the display may not correct and the timer may not correct when operate at lower cpu clock if no fix)



Ralink APSoc SDK Important Change Log

- RT5350 Uboot support CPU PLL adjustment (new feature)
- RT3352/RT5350 support CPU Auto-Frequency adjustment (new feature)
- RT3352/RT5350 Uboot support SDR pre-charge power down (new feature)
- RT5350 ethernet LED control setting to optimize power save for Ralink reference board (new feature)
- Improve the WebUI (minor bug fix)
- Add always check the erased word after erasing flash sector. (to enhance the compatibility with some NOR flash)
- Update the SPI CLK "BUS_CLK/4 => BUS_CLK/8". (to enhance the compatibility with some SPI flash)

[RT3883/RT3662]

- Fix Ethernet driver compile error while enable RT3883 GMAC2 (GMAC2 function will not work if no fix)
- Fix RT3883 to set write correct value to FLASH_CS0_CFG not DRAM_ARB_CFG. (the DRAM arbiter may not work properly at NOR flash based system if no fix)
- Improve the WebUI (minor bug fix)
- Add always check the erased word after erasing flash sector. (to enhance the compatibility with some NOR flash)
- Update the SPI CLK "BUS_CLK/4 => BUS_CLK/8". (to enhance the compatibility with some SPI flash)
- Update RT3883 Uboot to turn ON external DRAM ODT as 150 ohm when write DRAM. (1000034C=0x452) *note
- Update RT3883 Uboot to turn ON RT3883 DDR IO ODT as 150 ohm when read DRAM. (10000014=0x03610180) *note

*note

We found system hang issues in our new RT3883 reference board and found the old settings might be too sensitive to PCB layout. Thus, we decided to turn on the ODT (On-Die Termination) feature for better matching. We suggest all customers who followed our reference board layout adapt this new settings. It is strongly suggested that customers should perform high/low temperature test after adapting the new ODT setting since we have no way to check if they followed our layout or not.

We will assume there is no on-board termination resisters when ODT is turned on, since one of the main purposes of ODT is to save the RBOM cost. Please inform our customers to remove the on-board termination resisters (on the data and address bus) if they have and would like to enable the ODT function.

PS: we don't have on-board termination resisters for the data and address bus in our HDK.