

Active Errata List

- During UART reception, clearing REN may generate unexpected IT
- Timer 2 – Baud rate generator – Long start time
- Flash – Frequency limitation for flash programming sequence
- Flash - Bank1 or bank2 corruption while programming bank0
- Crystal - Determine the correct capacitors on Xtal1 and Xtal2

Errata History

Lot Number	Errata List
All	1, 2, 3, 4, 5
Lot 5T7244 and above	1, 2, 4, 5

Errata Descriptions

1. During UART reception, clearing REN may generate unexpected IT

During UART reception, if the REN bit is cleared between start bit detection and the end of reception, the UART will not discard the data (RI is set).

Workaround

Test REN at the beginning of Interrupt routine directly after CLR RI, and run the Interrupt routine code only if REN is set.

2. Timer 2 – Baud rate generator – Long start time

When Timer 2 is used as a baud rate generator, TH2 is not loaded with RCAP2H at the beginning, then UART is not operational before 10,000 machine cycles.

Workaround

Add the initialization of TH2 and TL2 in the initialization of Timer 2.

3. Flash – Frequency limitation for flash programming sequence

When a flash programming sequence is launched from the application or the boot-loader, at a very slow frequency, the program is frozen until a new reset.

Workaround

Consequently, the product limitation if the application wants store data in the flash, is a minimum external frequency of 7 MHz.

4. Crystal – Determine the correct capacitors on Xtal1 and Xtal2

Due to new characteristics of the internal oscillator and to ensure a good start-up of this oscillator, we advise customer to look the application note “Analyzing the Behavior of an Oscillator and Ensuring Good startup” available on the web site.



80C51 MCUs

AT89C51RE2

Errata Sheet



5. Flash – Bank1 or bank2 corruption while programming bank0 or common bank

When the bank1 or the bank2 is mapped in the upper 32K, if the application running in the common bank wants to program data in common bank or bank0, the same data are duplicated in bank1 or bank2.

MCU configuration		with upper 32K mapped with ...					
		Bank0		Bank1		Bank2	
If data is written in ...	Common bank	then the data read from ...	is ...	then the data read from ...	is ...	then the data read from ...	is ...
		Common Bank	OK	Common Bank	OK	Common Bank	OK
		Bank0	OK	Bank0	OK	Bank0	OK
		Bank1	OK	Bank1	Corrupted	Bank1	Corrupted
		Bank2	OK	Bank2	OK	Bank2	OK
	Bank0	then the data read from ...	is ...	then the data read from ...	is ...	then the data read from ...	is ...
		Common Bank	OK	Common Bank	OK	Common Bank	OK
		Bank0	OK	Bank0	OK	Bank0	OK
		Bank1	OK	Bank1	OK	Bank1	OK
		Bank2	OK	Bank2	Corrupted	Bank2	Corrupted
	Bank1	then the data read from ...	is ...	then the data read from ...	is ...	then the data read from ...	is ...
		Common Bank	OK	Common Bank	OK	Common Bank	OK
		Bank0	OK	Bank0	OK	Bank0	OK
		Bank1	OK	Bank1	OK	Bank1	OK
		Bank2	OK	Bank2	OK	Bank2	OK
	Bank2	then the data read from ...	is ...	then the data read from ...	is ...	then the data read from ...	is ...
		Common Bank	OK	Common Bank	OK	Common Bank	OK
		Bank0	OK	Bank0	OK	Bank0	OK
		Bank1	OK	Bank1	OK	Bank1	OK

Workaround

When the application requires program data in a specific bank, set the MBO2 bit at 0 in BMSEL register for flash programming operations. This means it is not possible to program common bank or bank0 from bank1 or bank2.



Atmel Corporation

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 487-2600

Regional Headquarters

Europe

Atmel Sarl
Route des Arsenaux 41
Case Postale 80
CH-1705 Fribourg
Switzerland
Tel: (41) 26-426-5555
Fax: (41) 26-426-5500

Asia

Room 1219
Chinachem Golden Plaza
77 Mody Road Tsimshatsui
East Kowloon
Hong Kong
Tel: (852) 2721-9778
Fax: (852) 2722-1369

Japan

9F, Tonetsu Shinkawa Bldg.
1-24-8 Shinkawa
Chuo-ku, Tokyo 104-0033
Japan
Tel: (81) 3-3523-3551
Fax: (81) 3-3523-7581

Atmel Operations

Memory

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 436-4314

Microcontrollers

2325 Orchard Parkway
San Jose, CA 95131, USA
Tel: 1(408) 441-0311
Fax: 1(408) 436-4314

La Chantrierie
BP 70602
44306 Nantes Cedex 3, France
Tel: (33) 2-40-18-18-18
Fax: (33) 2-40-18-19-60

ASIC/ASSP/Smart Cards

Zone Industrielle
13106 Rousset Cedex, France
Tel: (33) 4-42-53-60-00
Fax: (33) 4-42-53-60-01

1150 East Cheyenne Mtn. Blvd.
Colorado Springs, CO 80906, USA
Tel: 1(719) 576-3300
Fax: 1(719) 540-1759

Scottish Enterprise Technology Park
Maxwell Building
East Kilbride G75 0QR, Scotland
Tel: (44) 1355-803-000
Fax: (44) 1355-242-743

RF/Automotive

Theresienstrasse 2
Postfach 3535
74025 Heilbronn, Germany
Tel: (49) 71-31-67-0
Fax: (49) 71-31-67-2340

1150 East Cheyenne Mtn. Blvd.
Colorado Springs, CO 80906, USA
Tel: 1(719) 576-3300
Fax: 1(719) 540-1759

Biometrics/Imaging/Hi-Rel MPU/ High Speed Converters/RF Datacom

Avenue de Rochepleine
BP 123
38521 Saint-Egreve Cedex, France
Tel: (33) 4-76-58-30-00
Fax: (33) 4-76-58-34-80

Literature Requests

www.atmel.com/literature

Disclaimer: The information in this document is provided in connection with Atmel products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Atmel products. **EXCEPT AS SET FORTH IN ATMEL'S TERMS AND CONDITIONS OF SALE LOCATED ON ATMEL'S WEB SITE, ATMEL ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL ATMEL BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION, OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF ATMEL HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.** Atmel makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Atmel does not make any commitment to update the information contained herein. Unless specifically provided otherwise, Atmel products are not suitable for, and shall not be used in, automotive applications. Atmel's products are not intended, authorized, or warranted for use as components in applications intended to support or sustain life.

©2008 Atmel Corporation. All rights reserved. Atmel®, logo and combinations thereof, and Everywhere You Are® are the trademarks or registered trademarks, of Atmel Corporation or its subsidiaries. Other terms and product names may be trademarks of others.



Printed on recycled paper.

7665D-8051-03/08