

ERRATA SHEET

Date: 2008 Jul 18
Document Release: Version 1.1
Device Affected: P89LPC954

This errata sheet describes both the functional deviations and any deviations from the electrical specifications known at the release date of this document.

Each deviation is assigned a number and its history is tracked in a table at the end of the document.

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Identification:

The typical P89LPC954 devices have the following top-side marking:

P89LPC954x x
xxxxxx xx
xxYYWW R

The last letter in the third line (field 'R') will identify the device revision. This Errata Sheet covers the following revisions of the P89LPC954:

Revision Identifier (R)	Comment
'_'	Initial device revision
'A'	Second device revision
'B'	Third device revision

Field 'YY' states the year the device was manufactured. Field 'WW' states the week the device was manufactured during that year.

Errata Overview - Functional Problems

Functional Problem	Short Description	occurs in revision	added
INTERRUPTS.1	Interrupts are not handled in background during debug mode	B	v1.0
DIVM.1	Using DIVM in power-down mode	B	v1.0
I/O.1	Port 5 can not be driven to 5V in open-drain mode	B	v1.1

Errata Notes

Note	Short Description	added
IRC.1	Internal RC oscillator accuracy	v1.0

Functional Deviations of P89LPC954

Interrupts.1: Interrupts are not handled in background during debug mode

- Introduction: The LPC954 JTAG debug interface has the capability to keep running interrupt service routines while the debug is stopped or single stepping. The servicing of interrupt service routines can either be enabled or disabled in XSFUs.
- Problem: On the first engineering samples of the LPC954 marked with Rev - the interrupt service routines are always turned off in debug mode.
- Workarounds: No known workaround.

DIVM.1: Using DIVM in power-down mode

- Introduction: The LPC954 has a DIVM register that can be used to divide the clock down. Using DIVM can greatly reduce power when in active mode.
- Problem: When DIVM is used in active mode and power-down mode is then entered the LPC954 can not be waken up from power down mode.
- Workaround: Before entering powerdown mode set DIVM back to 0x00. This way the LPC954 will be operating full speed for one instruction before entering power-down mode. After the LPC954 has been waken up DIVM can be set back to its original value.

I/O.1: Port 5 can not be driven to 5V in open-drain mode

- Introduction: Port 5 has high current sourcing/sinking (20 mA) for all Port 5 pins. All other port pins have high sinking capability (20 mA).
- Problem: In open-drain mode, the Port 5 pins can not be pulled up to 5V, they can only be driven to Vdd+0.7V.
- Workaround: No known workaround.

Errata Notes

IRC.1: Internal RC oscillator accuracy

To be able to guarantee the Internal RC oscillator accuracy over the full operating range the V_{DD} supply has to be decoupled sufficiently. Sufficient decoupling is dependant on the noise level in the application, typically a 0.1uF should be sufficient for most applications.

Noise on the V_{DD} supply pins can cause the Internal RC oscillator to go slightly outside of the specified range.