ES_LPC111xLV/LPC11xxLVUK

Errata sheet LPC111xLV/LPC11xxLVUK

Rev. 2 — 17 January 2013 **Errata sheet**

Document information

Info	Content
Keywords	LPC1101LVUK, LPC1102LVUK, LPC1112LVFHN24, LPC1114LVFHN24, LPC1112LVFHI33, LPC1114LVFHI33 errata
Abstract	This errata sheet describes both the known functional problems 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.

Revision history

Rev	Date	Description
2	20130117	• Added I2C.1.
1	20120815	• Initial version

Contact information

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1. Product identification

The LPC11xxLVUK devices typically have the following top-side marking:

110xL

xxxxxx

xxxyww

The LPC111xLV devices typically have the following top-side marking:

1xLV

xxxx xxxx

ywwxRxx

The letter 'R' will identify the device revision (LPC111xLV only). This Errata Sheet covers the following revisions of the LPC111xLV/11xxLVUK:

Table 1. Device revision table

Revision identifier (R)	Revision description
'A'	Initial device revision

Field 'y' states the year the device was manufactured. Field 'ww' states the week the device was manufactured during that year.

2. Errata overview

Table 2. Functional problems table

Functional problems	Short description	Revision identifier	Detailed description
I2C.1	In the slave-transmitter mode, the device set in the monitor mode must write a dummy value of 0xFF into the DAT register.	'A'	Section 3.1

Table 3. AC/DC deviations table

AC/DC deviations	Short description	Revision identifier	Detailed description
n/a	n/a	n/a	n/a

Table 4. Errata notes

Note	Short description	Revision identifier	Detailed description
n/a	n/a	n/a	n/a

3. Functional problems detail

3.1 I2C.1: In the slave-transmitter mode, the device set in the monitor mode must write a dummy value of 0xFF into the DAT register

Introduction:

The I2C monitor allows the device to monitor the I2C traffic on the I2C bus in a non-intrusive way.

Problem:

In the slave-transmitter mode, the device set in the monitor mode must write a dummy value of 0xFF into the DAT register. If this is not done, the received data from the slave device will be corrupted. To allow the monitor mode to have sufficient time to process the data on the I2C bus, the device may need to have the ability to stretch the I2C clock. Under this condition, the I2C monitor mode is not 100% non-intrusive.

Work-around:

When setting the device in monitor mode, enable the ENA_SCL bit in the MMCTRL register to allow clock stretching.

Software code example to enable the ENA_SCL bit:

```
LPC_I2C_MMCTRL |= (1<<1); //Enable ENA_SCL bit
```

In the I2C ISR routine, for the status code related to the slave-transmitter mode, write the value of 0xFF into the DAT register to prevent data corruption. In order to avoid stretching the SCL clock, the data byte can be saved in a buffer and processed in the Main loop. This ensures the SI flag is cleared as fast as possible.

Software code example for the slave-transmitter mode:

```
case 0xA8:     // Own SLA + R has been received, ACK returned
case 0xB0:
case 0xB8:     // data byte in DAT transmitted, ACK received
case 0xC0:     // (last) data byte transmitted, NACK received
case 0xC8:     // last data byte in DAT transmitted, ACK received
    DataByte = LPC_I2C->DATA_BUFFER;//Save data. Data can be process in Main loop
    LPC_I2C->DAT = 0xFF;            // Pretend to shift out 0xFF
    LPC_I2C->CONCLR = 0x08;         // clear flag SI
break;
```

4. AC/DC deviations detail

No known errata.

5. Errata notes

No known errata.

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Date of release: 17 January 2013
Document identifier: ES_LPC111XLV_LPC11XXLVUK