Software Release Note (SRN)

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Project : ISLU_SNSR

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Released by: Sanoj

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SRN Revision History:

Date	Rev No.	Description	By
29-04-2013	A1	Release note for software version 1.0.2.1	Sanoj
25-06-2013	A2	Release note for software version 1.1.2.1	Sanoj
25-09-2013	A3	Release note for software version 1.2.2.1	Sanoj
09-10-2013	A4	Release note for software version 1.3.2.1	Sanoj

Table of Contents

1 RELEASE 1.3.2.1

1.1 Introduction

This release contains the ALS (Ambient Light Sensor) RGB sensor Driver package, Android test application and Driver integration document.

1.1.1 Platforms supported

The sensor device driver for ISL29125 provided in this release can be integrated with Android ICS (4.0.3) operating system and Android Jelly-Bean (4.2) operating system for panda-board.

1.2 Driver integration steps

To integrate and use this driver on panda board android Linux kernel, please refer following document:

S.NO	Description	Version	Date
1	VVDN_ISLU_SNSR_DRIVER_INTEGRATION_GUIDE.pdf	A1	25-06-2013
2	VVDN_ISLU_SNSR_APP_PROG_GUIDE_A1.pdf	A1	25-06-2013
3	VVDN_ISLU_SNSR_APP_PROG_GUIDE_A2.pdf	A2	25-09-2013

1.3 Features

Important Note:

The third version of the ALS RGB sensor driver released by VVDN is fully functional auto-ranging supported, Polling and interrupt mode supported android driver for ISL29125.

Following are the features supported by the ISL29125 device driver in this release:

1. Configurable operation mode of sensor as explained in the application programmer's guide in this release.
2. Readable Red, Blue and Green Lux values.
3. Selectable ADC resolution bits 12/16.
4. Dynamic auto ranging supported for two Lux ranges 330 Lux and 4000 Lux (Based upon Green Lux response of RGB sensor).
5. The single driver supports both Interrupt mode and polling mode i2c functionality (Separated by a macro).
6. CCT calculation is done as per the client requirement and is calculated by user android application.

1.4 Test report

1. Fixed logical bug.
2. Optimized in terms of memory

All features supported in this release are tested and validated.

1.5 Known issues

None

2 RELEASE 1.2.2.1

2.1 Introduction

This release contains the ALS (Ambient Light Sensor) RGB sensor Driver package, Android test application and Driver integration document.

2.1.1 Platforms supported

The sensor device driver for ISL29125 provided in this release can be integrated with Android ICS (4.0.3) operating system and Android Jelly-Bean (4.2) operating system for panda-board.

2.2 Driver integration steps

To integrate and use this driver on panda board android Linux kernel, please refer following document:

S.NO	Description	Version	Date
1	VVDN_ISLU_SNSR_DRIVER_INTEGRATION_GUIDE.pdf	A1	25-06-2013
2	VVDN_ISLU_SNSR_APP_PROG_GUIDE_A1.pdf	A1	25-06-2013
3	VVDN_ISLU_SNSR_APP_PROG_GUIDE_A2.pdf	A2	25-09-2013

2.3 Features

Important Note:

The third version of the ALS RGB sensor driver released by VVDN is fully functional auto-ranging supported, Polling and interrupt mode supported android driver for ISL29125.

Following are the features supported by the ISL29125 device driver in this release:

7. Configurable operation mode of sensor as explained in the application programmer's guide in this release
8. Readable Red, Blue and Green Lux values
9. Selectable ADC resolution bits 12/16.
10. Dynamic auto ranging supported for two Lux ranges 330 Lux and 4000 Lux (Based upon Green Lux response of RGB sensor)
11. The single driver supports both Interrupt mode and polling mode i2c functionality (Separated by a macro).
12. CCT calculation is done as per the client requirement and is calculated by user android application.

2.4 Test report

All features supported in this release are tested and validated.

2.5 Known issues

None

3 RELEASE 1.1.2.1

3.1 Introduction

This release contains the ALS (Ambient Light Sensor) RGB sensor Driver package, Android test application and Driver integration document.

3.1.1 Platforms supported

The sensor device driver for ISL29125 provided in this release can be integrated with Android ICS (4.0.3) operating system and Android JellyBean(4.2) operating system for Panda-board.

3.2 Driver integration steps

To integrate and use this driver on panda board android Linux kernel, please refer following document:

S.NO	Description	Version	Date
1	VVDN_ISLU_SNSR_DRIVER_INTEGRATION_GUIDE.pdf	A1	25-06-2013
2	VVDN_ISLU_SNSR_APP_PROG_GUIDE.pdf	A1	25-06-2013

3.3 Features

Important Note: *The second version of the ALS RGB sensor driver released by VVDN is fully functional auto-ranging supported Polling mode driver for ISL29125.*

Following are the features supported by the ISL29125 device driver in this release:

13. Configurable operation mode of sensor as explained in the application programmer's guide in this release
14. Readable Red, Blue and Green Lux values
15. Selectable ADC resolution bits 12/16.
16. Dynamic auto ranging supported for two Lux ranges 330 Lux and 4000 Lux (Based upon Green Lux response of RGB sensor)

3.4 Test report

All features supported in this release are tested and validated.

3.5 Known issues

None

4 RELEASE 1.0.2.1

4.1 Introduction

This release contains the device driver source code for Intersil's ISL29125 (polling mode) and a complete android ICS image to test the sensor functionalities with an android application for panda-board.

4.1.1 Platform supported

This application is supported on Android ICS (4.0.3) Operating system.

4.2 Installation steps

To flash the android image and run the demo application please refer APPENDIX-I.

4.3 Features

Following are the features supported in this release:

1. Demo application continuously reads Red, Green, Blue Lux values.
2. The continuous Lux reading can be started or stopped as required.
3. The demo application has a configuration panel for setting the operating mode, adc resolution and CCT coefficients
4. CCT calculation is based on Red, Green and Blue Lux values 5. Driver supports auto ranging for two Lux ranges (330 Lux and 4000 Lux)

Note: *The driver source code is present in the release as VVDN_ISLU_SNSR_DRIVER_1.0.2.1.tar.bz2. Please refer to README file inside this archive for notes on integration of the driver with Linux kernel.*

4.4 Test report

This release is non-QA tested.

4.5 Known issues

None

5 APPENDIX-I

PANDA-BOARD SD-MMC FLASH GUIDE

1. Open a terminal in a Linux machine and change to root user.

2. Extract the android image file VVDN_ISLU_SNSR_DEMO_1.0.2.1.tar.bz2 present in the release files.

```
#tar xvf VVDN_ISLU_SNSR_DEMO_1.0.2.1.tar.bz2
```

3. A directory named VVDN_ISLU_SNSR_DEMO is created.

4. Change directory to VVDN_ISLU_SNSR_DEMO. This directory has all the required images to be flashed onto SD card.

```
#cd  VVDN_ISLU_SNSR_DEMO
```

5. Have a SD card of minimum size 2GB plugged on the Panda-board SD card slot.

6. Run the following script from the current directory in Linux machine

```
# ./flash_fastboot_images.sh all
```

7. Once messages “Waiting for device OMAP4xxx” is printed in the host machine prompt Press the GPIO_121 switch (SW2) present in Panda-board and connect a USB OTG cable from the Panda-board to the Linux machine.

8. Keep the switch pressed until the image flashing messages start to appear on the terminal. Then the switch can be released.

9. This process will continue and all the android images will be flashed successfully. After this the board will be rebooted automatically.

10. At this stage connect a 5V DC adapter to power jack of panda board. Connect a HDMI cable from Panda-board to a HDMI TV. In few minutes android will boot and Home screen will appear.

11. Connect a USB mouse to Panda-board USB host port. On top right of android home screen an application icon will be present. Click on it to invoke application menu.

12. The intersil test application could be found in that menu with intersil icon.

13. Click on the intersil test application to verify the driver functionality.