mikroprojekt

KONDOR AX

Advanced System Development Board

Linux BSP Build Setup Guide

UM0027

Rev. 1.2

2.10.2015.

Table of contents

Revision History

Revision	Date	Author	Modification
1.0	11.02.2015.	DM	Initial
1.1	25.03.2015.	DM	Minor fixes
1.2	02.10.2015.	IP	Revamp

Related Documents

ID	Code	Description
1	UM0026	KONDOR AX – User Manual
3	UM0028	KONDOR AX – Basic Demos Guide
4	UM0029	KONDOR AX – Basic Demos Reference Design Guide

1 Introduction

1.1 Audience

This document is intended for software, hardware and system engineers who are planning to use the product, as well as anyone who wants to understand more about the product.

1.2 What this document contains

This document describes how to test/evaluate the KONDOR AX – Advanced System Development Board, and install software tools for customizing its behavior and development of drivers and applications.

2 Getting files

It is recommend to acquire all the files listed below. Files on FreeScale web site may require user registration.

File	Purpose	Link
L3.0.35_4.1.0_docs.tar.gz	LTIB build environment installation package	https://www.freescale.com/webapp/Download?colCode=L3.0.35_4.1.0_ER_SOURCE_BSP
L3.0.35_4.1.0_docs.tar.gz	LTIB documentation	https://www.freescale.com/webapp/Download?colCode=L3.0.35_4.1.0_LINUX_DOCS
Ubuntu installation image	Installation of operating system for building software	http://old-releases.ubuntu.com/releases/9.04/
ecp5com.docs.zip	KONDOR AX - Advanced System Development Board documentation	
mfg-tool.zip	Reference boot-up files and file system for flashing an empty board	

3 Installing software

Please follow the instructions in "KONDOR AX – User Manual" document, that describes how to install all the necessary software to a KONDOR AX – Advanced

System Development Board. The described procedures work even if the board is completely new, or you've made it non-functional by flashing faulty software.

mfg-tool.zip archive contains all the required files.

4 Preparing a PC for development

4.1 Installing Linux

Please use only Ubuntu 9.04 (Jaunty Jackalope) Desktop version. The rest of the required software may not work on other versions. Ubuntu can be downloaded from: `http://old-releases.ubuntu.com/releases/9.04/`

Both a physical installation on a partition on hard disk, as well as installation in a virtual machine like VMware Player, should work. Default settings offered by VMware Player (20 GB hard disk, 1 GB RAM) should be fine.

4.2 Installing LTIB

Installation of LTIB consists of two phases, preparation and installation. Follow the instructions in Setting_up_LTIB_host.pdf to prepare new Ubuntu installation, up to chapter 1.5 including; the remaining chapters are optional.

Next, copy `L3.0.35_4.1.0_130816_source.tar.gz` file to `/home/user/Documents` folder.

Uncompress it with command:

```
> tar zxvf L3.0.35_4.1.0_130816_source.tar.gz
```

Run installation script:

```
> ./L3.0.35_4.1.0_130816_source/install
```

When asked "Where do you want to install LTIB?", just press enter (/ltib folder will be appended to path being offered).

Go to ltib folder:

```
> cd /home/user/Documents/ltib
```

Launch it:

```
> ./ltib
```

Platform choice: select "Freescale iMX reference boards". Save and exit.

Choose the platform type: select "imx6q".

Choose the packages profile: select "FSL gnome release package".

Board: select "mx6solo_sabresd" (it's the most similar to KONDOR AX - Advanced System Development Board).

This might take a long time to complete.

Initialize compilation of u-boot:

```
> ./ltib -p u-boot -m prep
```

4.3 Installing KONDOR AX source code

Uncompress ecp5com.tar.gz archive containing KONDOR AX - Advanced System Development Board support source code over LTIB's original source files.

Verify that ECP5COM Board is selected:

```
> ./ltib -m selectype
```

Platform type should be imx6q; packages profile should be FSL gnome release package; board name must contain "ecp5com" string. Exit, save.

On next configuration screen, toolchain should be gcc-4.6.2, bootloader should be u-boot v2009.08, board should be mx6_ecp5com, kernel should be Linux 3.0.35-imx. Exit, save.

5 Using a PC for development

5.1 Compiling boot

Next commands compile boot source code and generate final binary executable file:

```
> ./ltib -p u-boot -m scbuild

> ./ltib -p u-boot -m scdeploy
```

5.2 Compiling manufacturer boot

Use the instructions in "How to rebuild MfgTools firmware on new device.pdf" document, only adjust for ECP5COM Board instead of SabreSD.

5.3 Compiling kernel

Next commands compile kernel source code and generate final binary executable file:

```
> ./ltib -p kernel -m scbuild

> ./ltib -p kernel -m scdeploy
```

5.4 Compiling drivers

Using terminal, navigate to folder containing ECP5COM drivers and applications source code created by uncompressing ecp5com.tar.gz archive, then run supplied initialization script:

```
> ./init.sh
```

Then, navigate to folder containing particular driver, optionally modify source code, and compile it using:

```
> make
```

5.5 Compiling applications

Applications are compiled similar to drivers, navigate to folder containing particular application, optionally modify source code, and compile it using:

```
> make
```

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