

# **i.MX28 10.05.02 Linux Standard**

## **Release Notes**

This document contains important information about the package contents, supported features, and known issues/limitations.

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# 1 Release Contents

## 1.1 Contents

This release consists of three ZIP files: L2.6.31\_10.05.02\_ER\_source.tar.gz, L2.6.31\_10.05.02\_ER\_images\_MX28.tar.gz, and L2.6.31\_10.05.02\_ER\_docs.tar.gz. Tools binary are in mfg.zip

L2.6.31\_10.05.02\_ER\_source.tar.gz contains the following files:

File	Description
EULA	Freescale End User License Agreement
install	install script for LTIB
ltib.tar.gz	Ltlib (Linux Target Image Builder)
package_manifest.txt	Freescale LTIB package lists
Pkgs	Source and patches for root file system
pkgs/imx-test-10.05.02.tar.gz	Source of unit tests
pkgs/imx-lib-10.05.02.tar.gz	Source of libraries
pkgs/imx-bootlets-src-10.05.02.tar.gz	Source of bootlets
pkgs/linux-2.6.31-imx_10.05.02.bz2	Freescale 2.6.31-10.05.02 kernel patches
pkgs/tc-fsl-x86lnx-armeabi-nptl-4.1.2-3.i386.rpm	Open source tool chain for ARM9 and ARM11
pkgs/u-boot-v2009.08-imx_10.05.02.tar.bz2	Patches of u-boot
tftp.zip	A Windows TFTP server program

L2.6.31\_10.05.02\_ER\_images\_MX28.tar.gz contains the following files:

File	Description
imx28/rootfs.ext2.gz	Root file system ext2 image for the Linux 2.6.31 kernel
imx28/imx28_linux.sb	SB format file combined bootlets and zImage
imx28/imx28_uboot.sb	SB format file combined bootlets and uboot image
imx283/ulimage	Binary kernel image for uBoot

L2.6.31\_10.05.02\_ER\_docs.tar.gz contains the following files:

File	Description
EULA	Freescale End User License Agreement
readme.html	Readme
doc/mx28	i.MX28 Linux BSP release notes and User Guide.

mfg.zip Manufacturing tool contains the following files

File	Description
sb_loader.exe	Windows tools. Load sb image from USB to RAM and run it.
cfimager.exe	Windows tools. Writes a boot stream and rootfs to an SD card

File	Description
sdimage	Linux host tools. Write boot steam to SD card
MfgTool.exe	Mfgtool host tools

## 1.2 License

- All BSP source-code files are GPL or LGPL or another open source license.
- Some binary files contained in the included root file systems are built from proprietary source code (source not included in the BSP):
  - Files in package csr-bt-bin-1.2.0.tar.gz
  - Files in package gl-gps-1.2.3.tar.gz

## 2 System Requirements

### 2.1 Linux Host server

A Linux host running Ubuntu 9.04 is recommended to install and run LTIB.

### 2.2 Manufacturing tool

Windows XP SP3

### 2.3 i.MX28 EVK Components

This EVK contains the following items:

**Table 2.1 Kit Components**

Hardware Modules	Comments
iMX28 EVK Main board	
iMX28 EVK WVGA LCD Panel	
MMC/SD card	
Power Supply (5V)	
USB Cable	

## 3 What's New

The section describes the new changes in this release, including new features and defect fixes. This is first release of mx28 Linux BSP. Here just lists new features.

### 3.1. New Features

Here just lists the main new features:

- Ethernet IEEE 1588 (Driver only with IXAAT API)
- Ethernet Switch
- Support Suspend
- Support CPU Frequency
- Manufacturing Tool
- Dual Ethernet support
- Merge dcp-bootstream driver to DCP driver

### 3.2. Highlighted Defect Fixes

- ENGR00122915 Fix iMX28 SDIO INT Handle problem
- ENGR00122687: [MX28\_EVK\_BSP] WIFI: Can not download files with large size
- ENGR00122127 iMX28 turn off usb0 vbus power by default.
- ENGR00122136 MX28 ALSA: Fail to playback wavfiles with sample rate over 48 KHz
- ENGR00122385 [MX28\_BSP\_EVK] SD: There are I/O errors when insert an SD card in SD1.
- ENGR00122127 [MX28\_BSP\_EVK] Battery: Battery status is Charging even if no usb cable connected.
- bootlets fails to boot kernel when using nand mtblock1 for rootfs in bootlets command line

## 4 LTIB profile

Only the FSL gnome release package profile of LTIB profile was tested in this release.

## 5 BSP Supported Features

The following table describes the features that are supported in this BSP.

Feature	Supported?	Comments
<b>Kernel</b>		
Kernel	Y	Kernel version: 2.6.31
File System	Y	EXT2 used as the file system in SD/MMC
<b>Bootloader</b>		
uBoot	Y	Support Ethernet download and SD/MMC boot
<b>Machine Specific Layer</b>		
ARM Core	Y	Support ARM9
Interrupt	Y	
Timer (GPT)	Y	System timer tick support
GPIO/EDIO	Y	
IOMUX	Y	Provides the interfaces for IO configuration
DMA	Y	
<b>Character Device Drivers</b>		
Debug UART	Y	Console support via internal Debug UART..

Feature	Supported?	Comments
Application UART	Y	
<b>Graphic Drivers</b>		
Frame Buffer Driver	Y	MXC Frame buffer driver
WVGA	Y	Support WVGA panel.
Backlight	Y	
<b>MultiMedia Drivers</b>		
V4L2 Output (PXP)	Y	Provide V4L2 implementations
Camera	N	
<b>Power Management Drivers</b>		
Power Management Unit	Y	
Lower Power mode	Y	Support stop mode in “standby” state.
CPUFreq	Y	CPUFreq can be used for CPU frequency adjustment and bus scaling.
<b>Sound Drivers</b>		
SAIF and external audio codec	Y	
SPDIF	Y	
<b>Input Device Drivers</b>		
LRADC	Y	
Keypad	Y	Support keypad driver
Touch panel	Y	
USB devices	Y	Support USB mouse and USB keypad via USB ports
<b>MTD driver</b>		
SPI NOR	N	
NAND	Y	
<b>Networking Drivers</b>		
Single ENET	Y	
<b>USB Drivers</b>		
USB Host	Y	
USB Device	Y	Support USB OTG device mode
<b>Security Drivers</b>		
Security drivers(DCP)	Y	
<b>General drivers</b>		
MMC/SD/SDIO	Y	
WatchDog	Y	Support Watchdog reset
RTC	Y	
I2C	Y	Support I2C master. Support I2C1, I2C2
ERP	Y	
PWM	Y	Support backlight driver via PWM
LED	Y	0~255 level brightness
flexCAN	Y	
Battery	Y	

## 6 Supported NAND Flash

Tested NAND Flash

Manufacturer	Part Number	Chip Count	Medium Size	Page Geometry
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Manufacturer	Part Number	Chip Count	Medium Size	Page Geometry
SAMSUNG	K9LBG08U0D	1	1GB	4KiB+128

## 7 Known Issues/Limitations

Here list some key known issues and workaround:

Features	Category	Description	Workaround
CPU Frequency	BSP	Default CPU frequency is 261MHz	echo -n 454736 > /sys/devices/system/cpu/cpu0/cpufreq/scaling_setspeed

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