PhyFLEX-i.MX6 Linux BSP-PD14.1.0 EA2 Yocto Release Notes

Operating System	Linux
BSP Release Status	RELEASED
Release Date	11 Sep 2014
Repository	
Binaries	ftp://ftp.phytec.com/products/PFL-A-02_phyFLEX-iMX6/Linux/PD14.1.0_EA2_Yocto/ ⓘ Click here for hardware compatibility note
Source Archive	
Release Notes	Click Here

- Introduction
- Versioning
- BSP Download
- Quickstart
- What's Supported
- What's Not Supported
- Fixed in this Release
- New in this Release
- Known Issues
- Upgrade and Compatibility Information
- Dependencies
- Validation Information
- Technical Support

Introduction

This BSP provides a basis for development, deployment and execution of Linux based applications on the phyFLEX-i.MX6 System on Module (SOM). For detailed information on the various software components included in the release and how to use them, please refer to the Quickstart.

Versioning

Component	Version
Yocto	1.6 (Daisy)
Linux Kernel	3.14.14
Barebox	2013.08.0

This Release is compatible with the following hardware:

BSP Release Version	BSP Release Date	SOM PCB Version	FLEX Mapper Board Version	FLEX Baseboard Version
PD14.1.0_EA2	August 11th, 2014	1362.2	1367.3	1364.4
		1362.1	1367.2 [A]	1364.3 [B]
			1367.1 [B]	1364.2 [A]

[A] Does not fully support PCIe. FLEX Mapper board does not include nPCIe0_PERST. FLEX Baseboard missing 100 termination resistor on PCIe clock and reset for an extra PCIe.[B] Hardware interface does not support Camera0 interface extension and full 18-bit Camera0 (missing J6 and J7 for CSI0_DAT3 and CSI0_DAT2 signal multiplexing). Different reset out circuitry for Camera0 and Camera1. JP12 does not exist (X_CAMERA1_CLK & X_CAMERA0_CLK).

BSP Download

Release PD14.1.0_EA2_Yocto can be downloaded from the link below.

ftp://ftp.phytec.com/products/PFL-A-02_phyFLEX-iMX6/Linux/PD14.1.0_EA2_Yocto/

Note:

There are a wide variety of configurations (Quad/DualLite/Solo, RAM sizes, and WiFi) for the phyFLEX-i.MX6 SOM. Please note that there are different versions of software for each configuration.

Current support is available for the i.MX6 Quad with 1 GB, 1 bank of RAM. Additional configurations are targeted to be supported in the next BSP release.

Quickstart

Release PD14.1.0_EA2_Yocto should be used in conjunction with Quickstart version PD14.1.0_EA2_Yocto:

- PhyFLEX-i.MX6_Linux_Quickstart_PD14.1.0_EA2_Yocto

What's Supported

This BSP Release supports the following components:

- **i.MX6**: Quad
- NAND Flash
- NOR Flash
- RAM: MT41J128M16HA-15E IT DDR3

Quad: 1GB, 1GB_1bank, 4GB[1]

- UART: UART0; UART1
- USB: USB1 HS Host [2]
- Ethernet: 10/100/1000 Mbit/s – ETH0 from RGMII
- CAN: CAN0
- SD/MMC: SD2; SD3
- WiFi: TiWi-BLE 2.4 GHz IEEE 802.11 b/g/n WiFi on SD3[3]
- SATA
- I2C driver: I2C0, I2C1 enabled
- EEPROM: at24 on I2C1
- PMIC: DA9063 on I2C1
- RTC: RTC-8564 Real-Time Clock on I2C0 (device on Baseboard)
- Touch

Capacitive: FocalTech FT5306 on I2C0 (device on LCD-018-070-KAP board) - defaultResistive: STMPE811 on I2C0 (device on Baseboard)

- Display

EDT ETM0700G0DH6 TTL (LCD-018-070-KAP) - defaultPrime View PM070WL4 LVDS (LCD-017-070W)

- Graphics: DirectFB

Note:

Signal names may change between processor and PCBs. Please refer to phyFLEX-i.MX6 Hardware Manual for signal name mapping.

What's Not Supported

This BSP Release does not support the following components:

- i.MX6 Dual Lite or Solo (requires new machine config files)
- USB: USB0 HS OTG
- WLAN: multirole mode
- Video encoder: Streaming, TV
- Camera (untested)
- PCIe (untested)
- Display

Prime View PD050VL1 LVDS (LCD-017-050V)Prime View PD104SLF LVDS (LCD-017-104S)DVI / HDMI

- Audio [4]
- DVFS

Fixed in this Release

- ETH0: eth0 can be brought down with ifconfig while another network interface is up.
- USBH: enabled, and host mode reset no longer triggering.

New in this Release

- Sync with 3.14.14 with linux-fslc
- Integration of LCD-018-070-KAP - EDT ETM0700G0DH6 TTL / FocalTech FT5306 capacitive touch
- Migration to direct-fb framebuffer support

Known Issues

- [1] i.MX6 Quad is only tested with 1 GB RAM values
- Using Barebox to flash Barebox to NAND does not work
- Saving default environment to SD Card does not work, but forcing use of NOR on SDBoot is available.
- CAN: will not work correct with 1 Mbit/s
- [2] USBH: Requires devices to be plugged in on boot.
- [3] WiFi: SD3 SDIO lines for WiFi are shared with the SD interface that is used to boot the kernel and root filesystem. Therefore, you cannot boot from SD card and enable WiFi at the same time.

Workaround: Boot the kernel and root filesystem from network or the kernel and root filesystem from the SD2 interface.

- [4] Audio: Does not create a soundcard.
- UBIFS: The partition generation process isn't creating a root filesystem that barebox will recognize. Claims mismatch.

Workaround: Use NFS-based root filesystem or sd-card based root filesystem.Required Fix: The MKUBIFS_ARGS setting must be configured to match how barebox is reading the partition, or the partition scheme itself is offset incorrectly.

- LiveDVD runs Ubuntu 12.04 LTS which requires a security update for OpenSSL to protect against the heartbleed bug.

Upgrade and Compatibility Information

This BSP is not backwards compatible and has no workaround for 1362.0 SOM and 1364.1 Baseboard due to a change in PCB pinout, see Modification of the pinout for the phyFLEX-i.MX6 (PLF-A-XL1).

Dependencies

N/A

Validation Information

Drivers have been tested with in-house test cases.

Technical Support

For further support please visit PHYTEC's Support Portal.