

phyCORE-AM57xx-PD15.1-rc2 Release Notes

Operating System	Linux
BSP Release Status	UNKNOWN
Release Date	
Repository	
Binaries	
Source Archive	
Release Notes	Click Here



This is a Release Candidate BSP. Please use this BSP ONLY for evaluation purposes. PHYTEC does not recommend starting any development based on this BSP. As of 03 Nov 2015 TI has released a newer version 02.00.xx.xx SDK and we are working to utilize this for the next release.

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Introduction

This BSP provides a basis for development, deployment and execution of Linux based applications on the AM57xx System on Module (SOM) (PCM-057). For detailed information on the various software components included in the release and how to use them, please refer to the [Quickstart](#).

Versioning

Software

Component	Version
Android	4.1.2
Linux Kernel	3.2
Barebox	2013.07.0

Component	Version
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Linux Kernel	3.14.43 LTS (Based on TI Release 01.00.00.03)
Yocto	1.6 (Daisy) (Based on TI Release 01.00.00.03)
OpenGL	N/A
Qt	5.4
barebox	N/A
U-Boot	2014.07-gfb6ab76 (Based on TI Release 01.00.00.03)
Supported Yocto Image	arago-core-tisdk-image

Compatible Hardware

BSP Release Version	BSP Release Date	SOM PCB Version	CB PCB Version
phyCORE-AM57xx-PD15.1-rc1	04 Nov 2015	1428.2	1435.2

BSP Download

Prebuilt images of phyCORE-AM57xx-PD15.1-rc1 can be downloaded from the link below:

Please contact PHYTEC Support for software access: [PHYTEC Support Portal](#) (You may need to create an account)

Quickstart

Quickstarts for phyCORE-AM57xx-PD15.1-rc1:

[phyCORE-AM57x RDK Linux Quickstart PD15.1-rc1](#)

BSP Features

Interface	Detail	Implemented	Tested	Status	Notes
UART	uart3	Yes	Yes	enabled	Connector X18 (default serial console)
	uart4	Yes	No	[click for info]	
	uart5	Yes	No	[click for info]	Connector X17
	uart6	Yes	No	[click for info]	
	uart7	Yes	No	[click for info]	
	uart8	Yes	No	[click for info]	
	uart9	Yes	No	[click for info]	
	uart10	Yes	No	[click for info]	
I2C	i2c1	Yes	Yes	enabled	Available on expansion Connector X28
	i2c2	Yes	Yes	enabled	Connected to HDMI1_DDC
	i2c3	Yes	No	[click for info]	
	i2c4	Yes	Yes	enabled	Used for Audio Codec - available on expansion Connector X28
	i2c5	Yes	No	[click for info]	

Ethernet	cpsw_emac0 (RGMII0 on SoM)	Yes	Yes	enabled	RGMII0 - KSZ9031RNX SoM PHY Connector X7
	cpsw_emac1 (RGMII1 on CarrierBoard)	Yes	see Known Issues	enabled	RGMII1 - KSZ9031RNX Connector X8
Display and Touch	Analog Touch Control 1	Yes	see Known Issues	disabled	Capacitive: ETM-FT5x06 (on LCD-018), I2C4
	Analog Touch Control2	No	see Known Issues	disabled	Resistive: STMPE811 (on CB), I2C4
	PWM Backlight	Yes	Yes	disabled	ehrpwm0 (EHRPWM1A on CB)
	24-bit LCD Interface	Yes	see Known Issues	disabled	LVDS Connector X25 requires LCD-018
	HDMI	Yes	see Known Issues	disabled	hdmi1_ddc Connector X24 (encoder TPD12S on carrier board)
McASP	mcasp1	Yes	see Known Issues	disabled	disabled
	mcasp2	Yes	No	[click for info]	
	mcasp5	Yes	No	[click for info]	
	mcasp6	Yes	No	[click for info]	
	mcasp7	Yes	No	[click for info]	
	mcasp8	Yes	No	[click for info]	
eMMC/SD/SDIO	mmc1	Yes	Yes	enabled	Connector X2
	mmc2	Yes	Yes	enabled	eMMC on SOM
	mmc3	Yes	No	[click for info]	Connector X26 (WiFi/BT connector)
USB	usb1	Yes	Yes	enabled	USB 3.0 Standard-A Connector X30 (Host only)
	usb2	Yes	see Known Issues	enabled	USB 2.0 Mini-AB Connector X9 (device default); signals may also be routed to X19 (Standard-A)
CAN	can1	Yes	Yes	enabled	DB9 Connector X6
	can2	Yes	Yes	enabled	Pin Header Connector X5
MCSPi	spi1	Yes	No	[click for info]	
	spi2	Yes	No	[click for info]	
	spi3	Yes	No	[click for info]	
	spi4	Yes	No	[click for info]	
QSPI	qspi1	Yes	No	disabled	NOR Serial Flash on SOM
SATA	sata1	Yes	Yes	enabled	Connector X11 (SATA) and X12 (power connector)
PCIe	pcie1	Yes	see Known Issues	enabled	Connector X27 (PI6C557 4x PCIe Connector)
IPU	ipu1	Yes	Yes	enabled	
	ipu2	Yes	Yes	enabled	
DSP	dsp1	Yes	Yes	enabled	
	dsp2	Yes	Yes	enabled	
GPIO	User Buttons and LEDs	Yes	Yes	enabled	
Memory	EEPROM	Yes	Yes	enabled	M24C32 on I2C1
	NAND (8/16 bit)	Yes	No	disabled	No NAND populated
	QSPI NOR Flash	No	No	disabled	N25Q128A connected to QSPI1

	eMMC	Yes	Yes	enabled	mmc2 on SOM
RTC	Internal AM57xx	Yes	Yes	enabled	Internal to processor
	PMIC TPS659037	Yes	Yes	enabled	TPS659037 I2C1
	External RTC	Yes	Yes	enabled	RV-4162-C7 on I2C1
Audio	Stereo Codec on CarrierBoard	Yes	see Known Issues	disabled	TLV320AIC3007 codec; connected to McASP1 and I2C4
Communication	TiWi-BLE WiFi	No	No	disabled	Connector X26
	TiWi-BLE Bluetooth	No	No	disabled	Connector X26
Parallel Camera	VIN3 on i2c3	No	No	Not Configured	X23 (phyCAM-P connector)
Hardware Acceleration	Graphics (PowerVR SGX544)	Yes	see Known Issues	enabled	

[1] Interface requires additional configuration, such as pinmuxing. It may be possible to change the software configuration to utilize this interface even if it is not being set in the board's default configuration. Please see TI's AM57xx technical reference manual for more information on the various modes each pin can be muxed to.

New In This Release

- N/A

Fixed In This Release

- N/A

Known Issues

PHYTEC Known Issues

- **Kernel**
 - **Graphics:** omapdrm-pvr fails to load or results in kernel panic: When attempting to use either the HDMI or LCD interfaces with the Weston init scripts and other PowerVR examples, the system hangs on a kernel panic. As a result, HDMI, LCD, and DSS are currently disabled in software until the error is resolved.
 - **Audio:** aplay results in a mcasp transmit buffer underflow error and MMU/DSP failures. As a result tlv320aic3007 codec and related interfaces are currently disabled in the software until the error is resolved.
 - **Power:** VBUS_DET implementation prevents complete poweroff. USB2 uses the PMIC VBUS_DET circuit, and when VBUS is provided by the processor (USB2 in host mode), the USB2_VBUS signal connected to the PMIC generates a WAKE event. As a result, the PMIC powers the system back up as soon as the shutdown finishes.
 - **USB:** USB2 OTG fails to transition from host to device mode: USB2 is configured for 'otg' mode by default. When the system turns on, it will properly be detected as a device when plugged into a host machine. Plug and un-plug events are detected. If a device is plugged in to the USB2 port, triggering host mode behavior from the system, it will remain in host mode until the next warm reset or cold boot.
 - **Ethernet:** SOMs populated with AM572x silicon revision 2.0, ethernet auto-negotiates but fails to acquire an IP from DHCP or communicate when provided a static IP. There are no issues with silicon revision 1.0 or 1.1.
- **Yocto**
 - Package ltp-ddt fails to build with arago-core-tisdk-image. Current workaround: Remove ltp-ddt from sources/meta-arago/meta-arago-distro/recipes-core/packagegroups/[packagegroup-arago-test.bb](#)
- **U-boot**
 - Processor fan is not enabled in u-boot.

Texas Instruments Known Issues

Record ID	Details	Workaround
SDOCM00112698	Ducati decoded output frames are padded, and padding needs to be removed prior to waylandsink in GST pipeline	1. Use GST pipeline with kmssink, or 2. Use videocrop along with VPE for cropping and display, as shown in example above.
SDOCM00112703	LCD size isn't automatically detected to configure VPE to scale video and display on waylandsink	1. Use GST pipeline with kmssink, or 2. Use VPE static width, height for scaling, as shown in example above
SDOCM00115969	ti-vpe and ti-vip kernel modules are not automatically loaded at boot time	ti-vpe and ti-vip can be manually inserted in order: "modprobe ti-vpe"; "modprobe ti-vip";

SDOCM00115970	When HDMI is connected, booting with Weston/matrix GUI results in Kernel segfault. The crash happens when starting the Matrix GUI.	Disable Matrix GUI before the booting: go to directory /etc/rc5.d and rename S97matrix-gui-2.0 to K97matrix-gui-2.0
SDOCM00115971	GStreamer Plugin for Ducati Encoders doesn't work	IVAHD encoding can be done using videnc2test as in Matrix GUI
SDOCM00115972	SGX H/W recovery error (sometimes requires reboot) when surface is deleted and re-created in Waylandsink. For. e.g: At the end of playing clips using GSreamer with waylandsink.	Use GST pipeline with kmssink.
SDOCM00115973	Clicking/touching Qt5 demos outside of the demo app sends the demo to background, and no way to return to Matrix screen from touchscreen	Avoid clicking the background. If demo window goes into background, user can log into EVM to stop Matrix GUI via "/etc/init.d/matrix-gui-2.0 stop" to bring the demo back to foreground. Matrix GUI can be restarted via "/etc/init.d/matrix-gui-2.0 start".

Technical Support

For further support please visit [PHYTEC's Support Portal](#)