

BSP Yocto Yogurt AM335x PD16.2.0 - phyCORE AM335x Supported Features



This software release is maintained by www.phytec.de.

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Versioning

Software

This BSP release supports various configurations of the phyCORE-AM335x SOM and Rapid Development Kit. **You will need to know which Yocto machine configuration corresponds to your kit in order to build the appropriate BSP.** By default, only the standard kit configurations are shown in the table. If you have a different kit, use the filters below to search by SOM part number or population. The barebox MLO images and kernel device tree file names are important when creating custom u-boot and kernel images outside of Yocto development.

Yocto Machine Config	SOM Description (RAM / NAND / SPI Flash)	SOM Part Numbers	Modules	Barebox MLO Images	Kernel Device Tree File
phycore-am335x-1	Standard Kit SOM 512MiB / 512MiB / 8MiB	PCM-051-12102F0C.A1		<i>MLO:</i> barebox-am33xx-phytec-phycore-mlo-512mb.img <i>Barebox:</i> barebox-am33xx-phytec-phycore.img	am335x-phycore-rdk.dts
phycore-am335x-7	Standard Kit SOM 512MiB / 512MiB / 8MiB	PCM-051-12102F0C.A1	WiFi Module PCM-958	<i>MLO:</i> barebox-am33xx-phytec-phycore-mlo-512mb.img <i>Barebox:</i> barebox-am33xx-phytec-phycore.img	am335x-phycore-rdk-wifi.dts

Linux Devicetree Summary



The following is an example describing the structure of the device tree for the standard phyCORE-AM335x RDK (machine configuration phycore-am335x-1).

Please look at the dts file corresponding to your machine configuration for the included dtsi files.

Default dts target	am335x-phycore-rdk.dtb
Default dtsi include description	Default dtsi include list
SOM	am335x-phycore-som.dtsi
Carrier Board	am335x-pcm-953.dtsi
LCD	am335x-phytec-lcd.dtsi

Supported Hardware Versions

Hardware Description	Part Number	PCB Version
Standard phyCORE-AM335x SOM	PCM-051-12102F0C.A1	
Carrier Board	PCM-953.A3	

Compatible Expansion Boards and Accessories

Module Name	Part Number	Description
WiFi Module	PCM-958	LS Research TiWi-R2 WiFi/Bluetooth module

The following LCD displays are supported in the BSP. The default LCD for all Yocto machine configurations is in **bold**. See this [How-To Guide](#) for instructions on enabling expansion boards in Barebox.

LCD Display	Description
LCD-018-043-KAP	Display 4,3" Capacitive touch
LCD-018-057-KAP	Display 5,7" Capacitive touch
LCD-018-070-KAP.A1	Display 7,0" AC138 Capacitive touch
LCD-018-070-KAP.A2	Display 7,0" AC158 Capacitive touch
LCD-018-070-RES.A0	Display 7,0" resistive

Quickstart

Quickstarts for phyCORE-AM335x-PD16.2.0:

[PhyCORE-AM335x RDK Linux Quickstart PD15.2.x](#)

BSP Features

The following table lists the interfaces available from the phyCORE-AM335x SOM.

- **Implemented** - driver support exists in the kernel.
- **Tested** - the interface has been configured in the device tree and was tested by PHYTEC
- **Enabled in DTS** - the corresponding device tree nodes are enabled in the device tree am335x-phycore-rdk.dts



The "Enabled in DTS" column is specifically for the standard phyCORE-AM335x RDK (machine configuration phycore-am335x-1).

Please look at the dts file corresponding to your machine configuration for differences.

Interface	Detail	Implemented	Tested	Enabled in DTS	Notes
UART	uart0	Yes	Yes	Yes	(RS-232) on Connector X18
	uart1	Yes	Yes	No	Signals conflicts with can1
	uart2	Yes	Yes	Yes	Expansion Connector X5
	uart3	Yes	Yes	Yes	Expansion Connector X5
	uart4	Yes	No	[click for info]	
	uart5	Yes	No	[click for info]	
I2C	i2c0	Yes	Yes	Yes	Expansion Connector X5

	i2c1	Yes	No	[click for info]	
	i2c2	Yes	No	[click for info]	
Ethernet	eth0	Yes	Yes	Yes	RGMII Mode 10/100 on SoM
	eth1	Yes	Yes	Yes	RGMII Mode 10/100/1000 on Carrier Board
MCASP	mcas0	Yes	Yes	Yes	Used by WM8974 on Carrier Board
	mcas1	Yes	No	[click for info]	
MMC/SDIO	mmc1	Yes	Yes	Yes	SD/MMC Card on Connector X20
	mmc2	Yes	No	[click for info]	
	mmc3	Yes	No	[click for info]	
Communication	TiWi-BLE Bluetooth	No	No		
	TiWi-BLE WiFi (module PCM-953)	Yes	Yes	No	Use Yocto machine configuration "phycore-am335x-7" to enable WiFi <ul style="list-style-type: none"> uses kernel dts "am335x-phycore-rdk-wifi.dts" builds root filesystem with WiFi support
USB	usb0	Yes	Yes	Yes	USB 2.0 Mini-AB OTG Connector X7
	usb1	Yes	Yes	Yes	USB 2.0 Standard-A Connector X8 (Host)
CAN	can0	Yes	No	[click for info]	
	can1	Yes	Yes	Yes	DB9 Male Connector X13
SPI	spi0	Yes	Yes	Yes	Expansion Connector X5
	spi1	Yes	No	[click for info]	
Display and Touch	LCD (24-bit Interface)	Yes	Yes	Yes	Requires LCD-018-070-KAP option Connectors X4 and X31
	Analog LCD Touch	Yes	Yes	Yes	Capacitive: ETM-FT5x06 (on LCD-018-070-KAP) Touch Controller - i2c_ts (i2c0)
	HDMI	Yes	Yes	No	Display pins configured for LCD
	Backlight	Yes	Yes	Yes	Requires LCD-018-070-KAP option
GPIO	User Buttons and LEDs	Yes	Yes	Yes	User buttons: btn1, btn2 User leds: led1, led2 Bus enable GPIOs: gpio1_8 and gpio1_9 pulled LOW
Memory	8/16-bit NAND Flash (GPMC)	Yes	Yes	Yes	
	SPI NOR Flash	Yes	Yes	Yes	S25FL064 on spi0
	EEPROM	Yes	Yes	Yes	at24c32 on i2c0
RTC	External RTC	Yes	Yes	Yes	RV-4162-C7 on i2c0
	PMIC RTC	Yes	Yes	Yes	TPS65910A3 on i2c0
	AM335x RTC	No	No		Planned for Future
Power Management	PMIC	Yes	Yes	Yes	TPS65910A3 on i2c0
Audio	WM8974	Yes	Yes	Yes	WM8974 on i2c0 (codec on carrier board PCM-953))
JTAG	JTAG	N/A	N/A		Connector X21
Temperature Sensor	tmp102	Yes	Yes	No	Only available phyCORE-AM335x R2 (PCM-060) SOMs. on i2c0

[1] 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 the Pin Attributes listed in [TI's AM335x datasheet](#) for more information on the various modes each pin can be muxed to.

For further information or to report any problems, visit the [PHYTEC Support Portal](#)