

BeagleBone Black Description

The BeagleBone Black is the newest member of the BeagleBoard family. It is a lower-cost, high-expansion focused BeagleBoard using a low cost Sitara XAM3359AZCZ100 Cortex A8 ARM processor from Texas Instruments. It is similar to the Beaglebone, but with some features removed and some features added. The table below gives the high points on the differences between the BeagleBone and BeagleBone Black.

	BeagleBone Black \$55	BeagleBone \$89
Processor	AM3358BZCZ100, 1GHZ	AM3359ZCZ72, 720MHz
Video Out	HDMI	None
DRAM	512MB DDR3L 800MHZ	256MB DDR2 400MHz
Flash	4GB eMMC, uSD	uSD
Onboard JTAG	Optional	Yes, over USB
Serial	Header	Via USB
PWR Exp Header	No	Yes
Power	210-460 mA@5V	300-500 mA@5V

BeagleBone Black Features

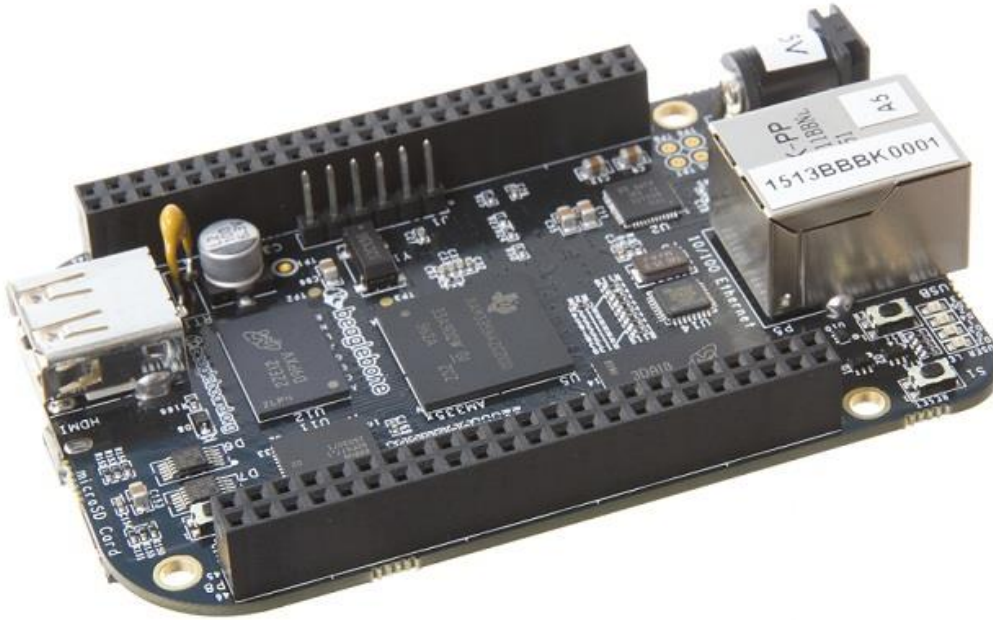
The following table lists the key features of the BeagleBone Black.

	Feature
Processor	Sitara AM3358BZCZ100 1GHz, 2000 MIPS
Graphics Engine	SGX530 3D, 20M Polygons/S
SDRAM Memory	512MB DDR3L 800MHZ
Onboard Flash	4GB, 8bit Embedded MMC
PMIC	TPS65217C PMIC regulator and one additional LDO.
Debug Support	Optional Onboard 20-pin CTI JTAG, Serial Header
Power Source	miniUSB USB or DC Jack 5VDC External Via Expansion Header
PCB	3.4" x 2.1" 6 layers
Indicators	1-Power, 2-Ethernet, 4-User Controllable LEDs
HS USB 2.0 Client Port	Access to USB0, Client mode via miniUSB
HS USB 2.0 Host Port	Access to USB1, Type A Socket, 500mA LS/FS/HS
Serial Port	UART0 access via 6 pin 3.3V TTL Header. Header is populated
Ethernet	10/100, RJ45
SD/MMC Connector	microSD, 3.3V
User Input	Reset Button Boot Button Power Button
Video Out	16b HDMI, 1280x1024 (MAX) 1024x768, 1280x720, 1440x900, 1920x1080@24Hz w/EDID Support
Audio	Via HDMI Interface, Stereo
Expansion Connectors	Power 5V, 3.3V, VDD_ADC(1.8V) 3.3V I/O on all signals McASP0, SPI1, I2C, GPIO(69 max), LCD, GPMC, MMC1, MMC2, 7 AIN(1.8V MAX), 4 Timers, 4 Serial Ports, CAN0, EHRPWM(0,2), XDMA Interrupt, Power button, Expansion Board ID (Up to 4 can be stacked)
Weight	1.4 oz (39.68 grams)
Power	Refer to Section 6.1.7

In the box is (1) BeagleBone Black board, (1) USB cable, and (1) card that should be read.

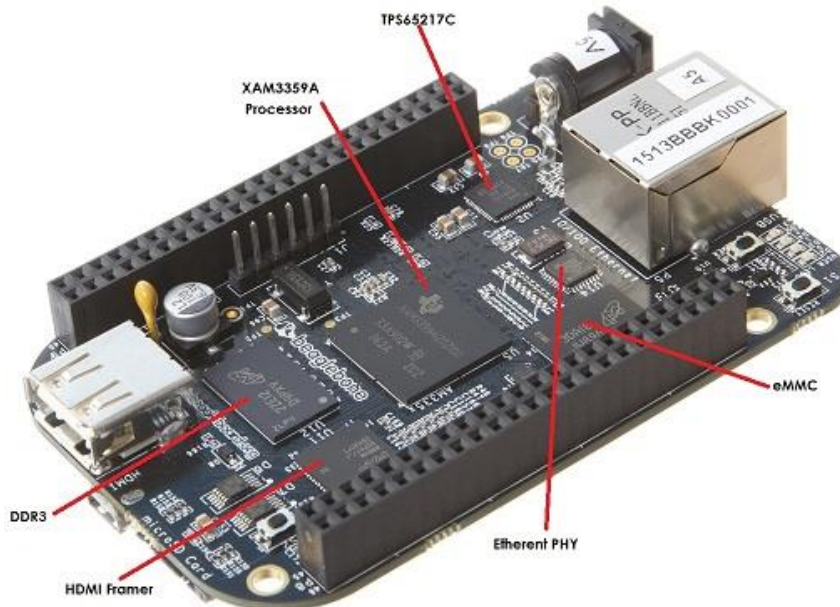
BeagleBone Black Picture

Here is a picture of the Rev A5A board.



BeagleBone Black Key Component Locations

Here are the locations of the key components on the Rev A5A.



BeagleBone Black Connector and Switch Locations

Below is the location of the connectors and switches on the Rev A5A board.

The Power Button and Battery Connections are new additions to the Rev A5A.

