

Cinnamon Bay SBC Based on the Intel® Atom™ Z510P, Z530P and Extended Temperature Z520PT Processors



At 88x110mm, ADI Engineering's innovative new Cinnamon Bay SBC product line is the industry's smallest and lowest cost family of full-function, expandable Single Board Computers (SBCs) for the new Intel Atom Z510P, Z530P and extended temperature Z520PT processors. ADI's Cinnamon Bay SBC family consists of three models targeting a wide range of embedded applications of Atom such as digital signage, IP media, interactive kiosks, panel PCs, thin clients, military, medical, wireless, industrial controls, general-purpose embedded computing, gaming, and point of sale (PoS) terminals.

Cinnamon Bay SBC can be used standalone in many applications. When expansion is required, off-the-shelf or custom daughtercards meet unique requirements for HD or SD video, audio, networking, and other features.



Cinnamon Bay SBC (with 802.3at Power Over Ethernet Option Module)

Cinnamon Bay SBC Advantages

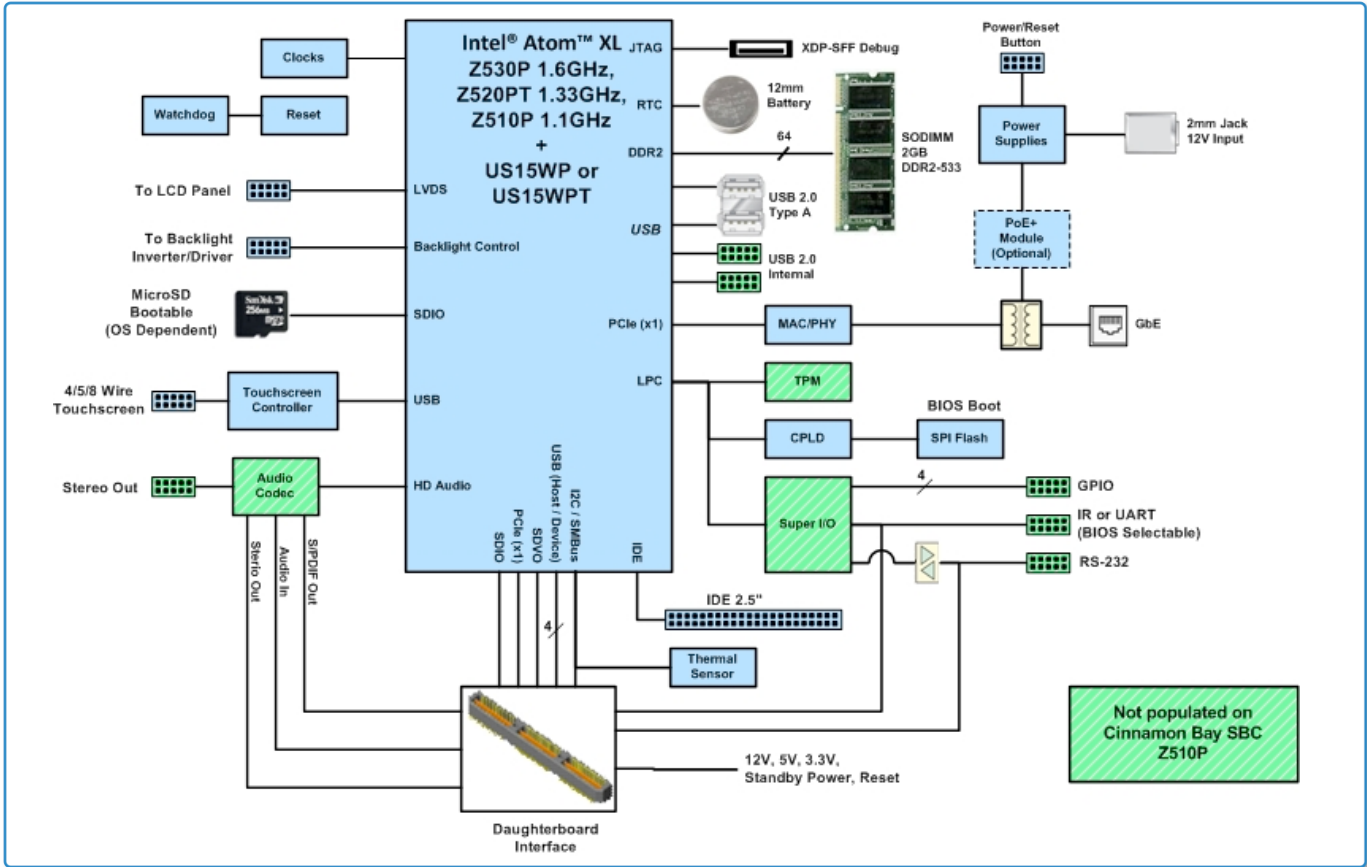
As one of a select few Intel "early access" partners for Atom, ADI developed Cinnamon Bay SBC to bring significant innovations to the market:

- At 88x110mm, Cinnamon Bay SBC is the smallest full-function, expandable embedded Atom SBC.
- First Atom SBC offering an optional 802.3at Power over Ethernet (PoE+) input, in addition to a conventional 12V power input jack. ADI's PoE+ Option Module seamlessly adds PoE+ to Cinnamon Bay SBC's Gb Ethernet port, and provides up to 20 watts of spare power for peripherals and daughtercards.
- First Atom SBC offering true -40C to +85C extended temperature operation.
- Lowest power full-function Atom SBC on the market: As low as 3.5W running (S0), and sleep power of 500mW in S3 and a mere 160mW in S4 and S5.
- Only Atom SBC that, without an enclosure, is certified as an FCC Part 15 compliant system and meets CE CISPR22 emissions standards. In most cases, OEMs can add their choice of enclosure and compliant peripherals to Cinnamon Bay SBC and achieve automatic FCC compliance of their final system.
- Lowest cost embedded Atom SBC, without sacrificing robustness, flexibility, or functionality. ADI's real cost advantages result from the new Atom XL chipset and a painstaking design that eliminates needlessly expensive PCB technologies required by earlier generation Atom chipsets.
- First Atom SBC offering hardware support for IEEE 1588 Ethernet packet timestamping and 802.1as synchronization.
- First Atom SBC offering DDR2 scalability from 256MB to 2GB via SO-DIMM, allowing memory size and cost to be optimized for every application.
- Only Atom SBC supported by ADI's unique **Open IP** model of IP licensing and "You Build / We Build" manufacturing. **COTS, Customize or License: You choose!**

Cinnamon Bay SBC Product Line Feature Set

Feature	Cinnamon Bay SBC A530P	Cinnamon Bay SBC A510P	Extended Temperature Cinnamon Bay SBC A520PT
Form Factor	88x110mm	88x110mm	88x110mm
Atom CPU	Z530P 1.6 GHz	Z510P 1.1 GHz	Z520PT 1.33 GHz, ext. temp.
Chipset	US15WP	US15WP	US15WPT, ext. temp.
DDR2	SODIMM – 256MB to 2GB	SODIMM – 256MB to 2GB	SODIMM – 256MB to 2GB
Ethernet	1 GbE RJ45, Optional PoE+	1 GbE RJ45, Optional PoE+	1 GbE RJ45, Optional PoE+
IEEE 1588 Packet Timestamping and 802.1as Synchronization	Yes	Yes	Yes
802.3at PoE+ (Backwards compatible with 802.3af)	Via Option Module	Via Option Module	Via Option Module
USB 2.0 Host	2 Type A + 2 via header	2 Type A	2 Type A + 2 via header
RS-232	1 header		1 header
IR Port / UART (BIOS-selectable)	1 header		1 header
ADI Daughtercard Connector	Yes	Yes	Yes
Video (24-bit LVDS)	1 conn	1 conn	1 conn
Hardware Offloaded Video Decoder (MPEG2, MPEG4, H.264, VC1, WMV9 – up to 1080p)	Yes	Yes	Yes
LCD Backlight Power (5V, 12V)	1 conn	1 conn	1 conn
Analog Resistive Touchscreen Controller	Yes, supports 4, 5 and 8 wire	Same	Same
Audio CODEC + Stereo Audio Out (Analog)	Yes		Yes
Micro-SD slot	1	1	1
PATA 2.5" Notebook Port	1 header	1 header	1 header
Watchdog Timer	1	1	1
RTC + Battery	12mm coin cell	12mm coin cell	12mm coin cell
Trusted Platform Module	1		1
Discrete I/O	4 bits via header		4 bits via header
Power Input	12V and Optional PoE+	12V and Optional PoE+	12V and Optional PoE+
LEDs	Power, HDD	Power, HDD	Power, HDD
Debug Connector	XDP-SFF	XDP-SFF	XDP-SFF
Operating Temperature Rating	0 to 70C	0 to 70C	-40 to +85C
Power Consumption	3.5W+ S0, 500mW S3, 160mW S4 & S5	Same	Same
Regulatory Compliance (Without Enclosure)	FCC Part 15 Class B, CISPR22 Class B	Same	Same

Cinnamon Bay SBC Block Diagram



Daughtercards for Cinnamon Bay SBC

ADI offers three off-the-shelf daughtercards for Cinnamon Bay SBC. When needed, ADI or its customers can easily create application-specific daughtercards, transforming Cinnamon Bay SBC into a differentiated end product with low cost and quick time to market.

IP Media Daughtercard: Adds digital and analog HD and SD video outputs, digital and analog audio I/O, and expansion slots for Wi-Fi and cellular radios, and tuners (shown with Cinnamon Bay SBC).



DVI or VGA Expansion Daughtercards: Adds DVI or VGA output, PCI Express x1 slot, additional USB and RS-232 ports, and discrete I/O (shown with Cinnamon Bay SBC).



802.3at PoE+ Option Module: Adds 802.3at to Cinnamon Bay SBC's on-board Gb Ethernet port. After powering Cinnamon Bay SBC, up to 20 watts are left over to power daughtercards or user-supplied peripherals – backlit displays, cameras, radios, mass storage, and other add-ons – allowing rapid creation of complete PoE+ powered systems.



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