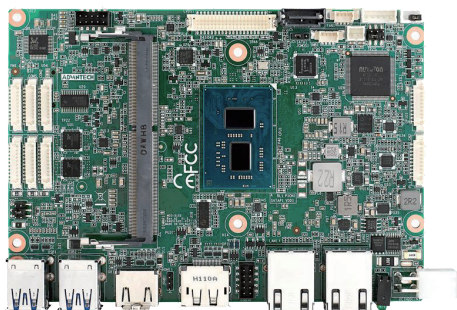


IPC-B3A5152

Intel® Atom® x6000E series and
Intel® Celeron® N and J series 3.5" SBC



Features

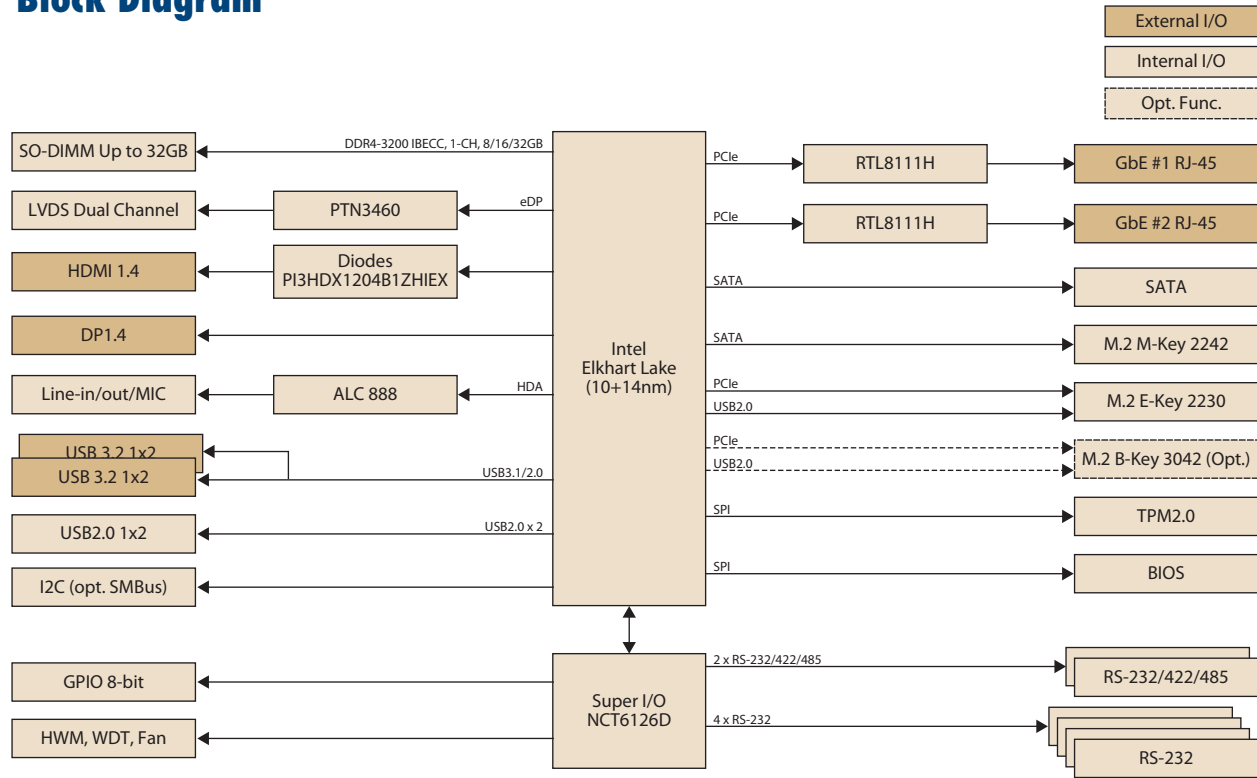
- Atom® x6000E series and Intel® Celeron® J and N series with Quad/Dual Cores, TDP 6W/ 10W/ 12W
- Single Channel DDR4-3200 up to 32GB
- 3 independent displays via LVDS, DP1.4, and HDMI2.0 up to 4K@60Hz
- Dual GbE, 6 USB, 6 UART, TPM2.0
- CE/FCC Class B, Coastline I/O ESD 8KV/15KV Criteria A
- Support Windows 10 LTSC & Ubuntu 20.04 LTS, embedded software APIs

Specifications

		Intel® Celeron® J6412	Intel® Celeron® N6210	Intel Atom® x6425E
Platform	Processor	Intel® Celeron® J6412	Intel® Celeron® N6210	Intel Atom® x6425E
	Max Frequency	2.6GHz	2.6GHz	3.0GHz
	Base Frequency	2.0GHz	1.2GHz	2.0GHz
	Core/Thread	4/4	2/2	4/4
	LLC	L2	L2	L2
	CPU TDP	10W	6.5W	12W
	Chipset	Intel® Chipset (SoC Integrated)		
	BIOS	AMI EFI 256Mbit		
Memory	Technology	DDR4-3200 SDRAM		
	Max Capacity	32GB		
	Channel/Socket	Single Channel/ 1 Socket		
	ECC Support	N/A	N/A	In-Band ECC Supported by SoC
Graphic	Controller	Intel Gen11 Graphics Engines (SoC integrated)		
	Max Frequency	800MHz	750MHz	750MHz
	Base Frequency	400MHz	250MHz	500MHz
	Graphic Memory	TBU		
	3D/HW Acceleration	DX12, OGL4.5, OCL1.2, Vulkan 1.1, MPEG2, H.264, JPEG/MJPEG, H.265 (HEVC)		
Display I/F	LCD	1 x LVDS: Dual Channel 18/24-bit, up to 1920 x 1200		
	HDMI/DP	1 x HDMI2.0 up to 4096 x 2160 x 24bpp @ 60Hz 1 x DP1.4a, up to 4096 x 2160 x 36bpp@60Hz		
	Triple Display	3 simultaneous displays with LVDS, HDMI, DP		
External I/O	Ethernet	2 x RJ-45; LAN1: Realtek RTL8111H, LAN2: Realtek RTL8111H		
	HDMI/DP	1/1		
	USB3.2	4 x TypeA; 4 x USB3.2 Gen2 (10Gbps)		
	Power DC-Jack	Optional		
Internal I/O	SATA	1 x SATA GenIII 6.0 Gbps		
	USB	2 x USB2.0		
	Serial Bus	I2C		
	COM Ports	2 x RS-232/422/485 (Max baud rate: 1Mbps), 4 x RS-232		
	GPIO	8-bit general purpose input output I/O		
	Audio	Realtek ALC888S, Line-in/Line-out/MIC		
	Inverter	12V/5V		
	SPI Bus	eSPI		
	Fan	4-wire smart fan		
	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, CaseOpen		
Board Feature	Watchdog Timer	Programmable 1 ~ 255 sec/min		
	TPM	TPM2.0		
Expansion	M.2 E-Key/B-Key	1 x E-Key 2230 (PCIex1, USB2.0) Optional B-key 3042 w/ NanoSIM		
	M.2 M-Key	1 x M-key 2242 (SATA)		
Power	Supply Voltage	Vin: DC 12V ± 10%; RTC Battery Lithium 3V/210mAH		
	Connector	ATX 2x2pin 90D, optional DC-Jack		
	Power Management	AT, ATX mode		
	Max Consumption	1.78 @12V (21.39Watt)		
Environment	Idle Consumption	0.61 @12V (7.31Watt)		
	Temperature	Operating Standard: 0 ~ 60 °C (32 ~ 140 °F)		
	Humidity	Operating: 40 @95% relative humidity, non-condensing		
	Vibration Resistance	3.5 Grms		
Certification	EMC	CE, FCC Class B		
Mechanical	Dimensions	146 x 102 mm (5.7" x 4")		
	Net weight			

* All information contained in this document is subject to change without prior notice.

Block Diagram



Ordering Information

Part Number	CPU	TDP	Max. Frequency	Core	GbE	USB3.2	USB2.0	Cable Kit	Thermal solution	Operating Temp.
IPC-B3A5152J	Celeron® J6412	10W	2.6GHz	4	2	4	2	Y	Y; Passive	0 – 60° C
IPC-B3A5152N	Celeron® N6210	6.5W	2.6GHz	2	2	4	2	Y	Y; Passive	0 – 60° C
IPC-B3A5152A	Atom® x6425E	12W	3.0GHz	4	2	4	2	Y	Y; Passive	0 – 60° C

Rear IO View



Optional Accessories

Description

Heatspreader (for J6412, N6210 CPU sku)

Embedded OS/API

Embedded OS/API	Part No.	Description
Windows 10	SW-WIN10-IOT-H2	64-bit (UEFI Mode Only)
Ubuntu 20.04	SW-UBU-20	Ubuntu Desktop 20.04 LTS 64-bit Image & License Sticker for IPC-B3A5152
Yocto	Support by Request	Yocto BSP and Test Image
Software API	Website Download	SUSI v4.0

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