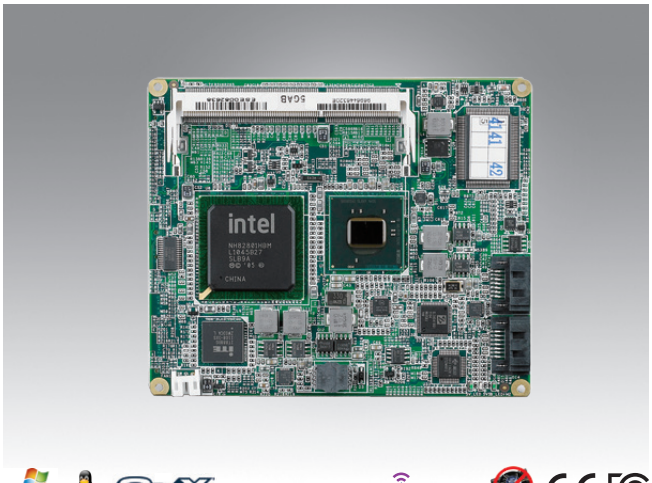
SOM-4463 B1

Intel® Atom™ Processor N455/D525 ETX CPU Module



Features

- Embedded Intel® Atom™ Processor N455 1.66 GHz single Core™/ D525 1.80 GHz dual-Core™ + ICH8M
- Intel® Gen 3.5 DX9, MPEG2 hardware decoder, multiple display: VGA, 18/24-bit LVDS
- Supports DDR3-667 for N455 up to 2GB and DDR3-800 for D525 up to 4GB
- Supports 4 PCI, ISA, 2 IDE, 2 SATAII, 4 USB 2.0
- Supports SUSIAccess and Embedded Software APIs

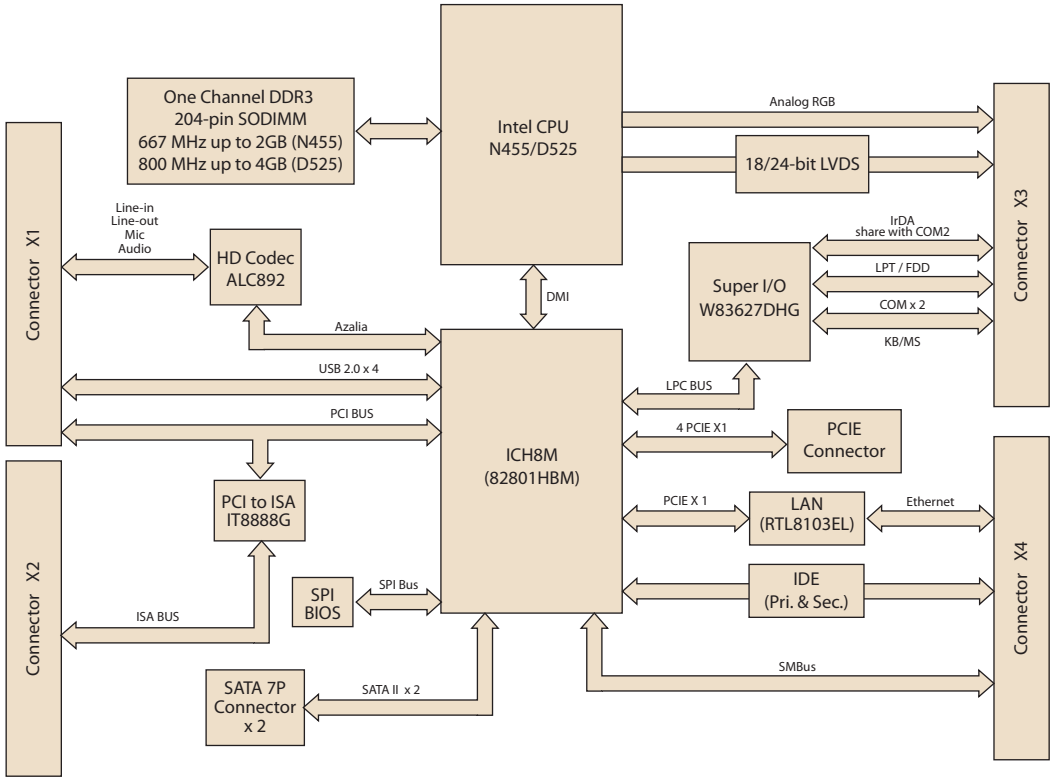
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Brightness, GPIO, Backlight On/Off

Specifications

Form Factor		ETX 3.0
Processor System	CPU	Intel Atom N455 1.67 GHz (single Core), 512 KB L2 Cache Intel Atom D525 1.80 GHz (dual Core), 1 MB L2 Cache
	System Chipset	ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 667 MHz (N455) and 800 MHz (D525)
	Max. Capacity	Up to 2 GB (N455); Up to 4 GB (D525)
	Socket	1 x 204-pin SODIMM socket
Display	Chipset	Intel Atom N455 or Intel Atom D525
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 hardware decoder
	LVDS	18/24-bit single channel LVDS
	VGA	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA) Intel Atom D525 Dual Core up to 2048 x 1536
	DVI	-
	TV Out	-
	SDVO	-
	Dual Display	CRT + LVDS
Ethernet	Chipset	Realtek 8103EL 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		ISA, 4 PCI masters
I/O	PATA	2 x EIDE (UDMA 100)
	SATA	2 x SATAII (300 MB/s)
	USB	4 x USB 2.0
	Audio	ALC892 Audio
	GPIO	1-bit GPIO, 2-bit GPE
	COM	2 x COM Ports
	FDD/LPT	1 x FDD or LPT
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V (+5VSB is required for ATX power scheme)
	Power Consumption (Typical)	4463N (2 GB DDRIII 1333) +5 V @ 1.82 A 4463D (2 GB DDRIII 1333) +5 V @ 2.18 A
	Power Consumption (Max, test in HCT)	4463N (2 GB DDRIII 1333) +5 V @ 2.25 A 4463D (2 GB DDRIII 1333) +5 V @ 2.73 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (3.74" x 4.5")

All product specifications are subject to change without notice

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	10/100 LAN	HD Audio	PCI	USB 2.0	SATA	PATA	SMBus	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4463N-S6B1E	Atom N455	512 KB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Passive	0 ~ 60° C
SOM-4463D-S8B1E	Atom D525	1 MB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Active	0 ~ 60° C
SOM-4463DZ-S8B1E	Atom D525	1 MB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Active	-20 ~ 80° C
SOM-4463DZ2-S8B1E	Atom D525	1 MB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Active	-40 ~ 85° C
SOM-4463NZ-S6B1E	Atom N455	512 KB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-4463NZ2-S6B1E	Atom N455	512 KB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Packing List

Part No.	Description	Quantity
-	SOM-4463 CPU Module	1
-	Utility CD	1

Optional Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm
1750001980	Semi-Cooler 114 x 96 x 15 mm

Embedded OS

OS	Part No.	Description
WinCE	2070007811	CE 6.0 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE	2070007912	XPE WES2009 Intel Uniprocess V4.0 MUI2
QNX		V6.4.1