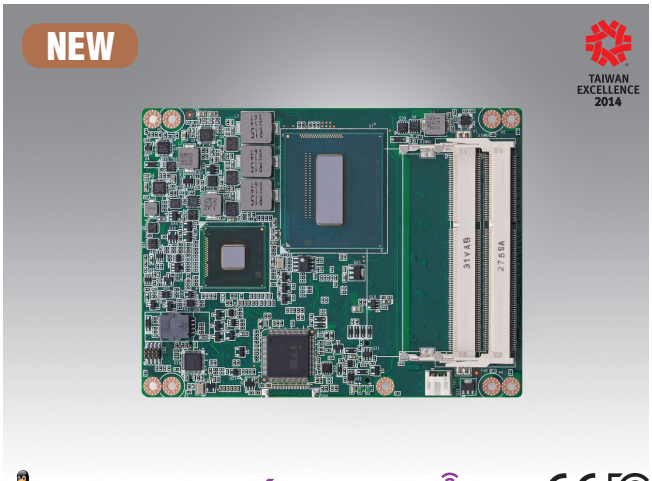
SOM-5894

4th Gen. Intel® Core™ Processor COM Express® Basic Module



Windows Embedded iManager SUSIAccess CE FC

Features

- 4th Generation Intel® Core™ Processors H-series + QM87
- Dual DDR3L-1333/1600 SODIMM sockets up to 16 GB
- Triple displays with outstanding graphics performance
- Multiple high speed interface, SATA III, USB3.0 and PCIe Gen3
- Supports iManager, SUSIAccess and embedded software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

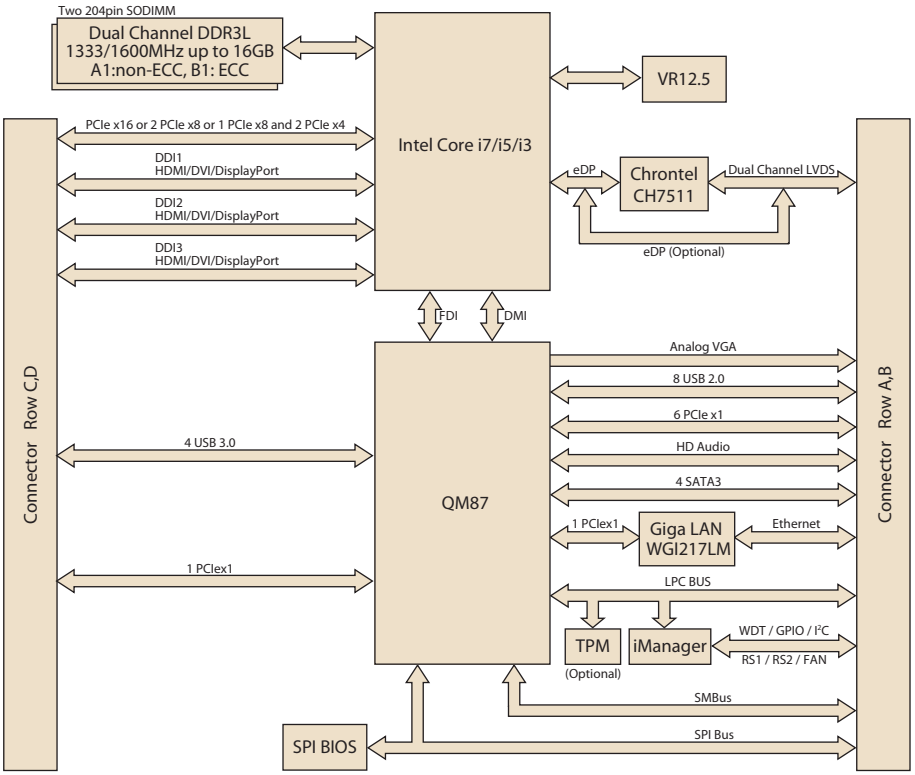
Specifications

Form Factor	Form Factor	COM Express Basic Module						
	Pin-out Type	COM Express R2.1 Type 6						
Processor System	CPU	i7-4700EQ	i5-4400E	i5-4402E	i3-4100E	i3-4102E	Celeron 2000E	Celeron 2002E
	Base Frequency	2.4 GHz	2.7 GHz	1.6 GHz	2.4 Ghz	1.6 GHz	2.2 GHz	1.5 GHz
	Max Single Core Turbo Frequency	3.4 GHz	3.3 GHz	2.7 GHz	2.4 GHz	1.6 GHz	NA	NA
	Core/Thread	4/8	2/4	2/4	2/4	2/4	2/2	2/2
	LLC	6MB	3MB	3MB	3MB	3MB	2MB	2MB
	CPU TDP	47W	37W	25W	37W	25W	37W	25W
	Chipset	QM87						
	BIOS	AMI EFI 128Mbit						
Memory	Technology	DDR3L, 1.35V, 1333/1600 MHz						
	ECC Support	A1: non-ECC, B1: ECC						
	Max. Capacity	16 GB						
	Socket	Dual 204P SODIMM						
Graphics	Controller	Intel HD Graphics 4600						
	Max. Frequency	1 GHz	900 MHz	900 MHz	900 MHz	900 MHz	900 MHz	900 MHz
	Graphic Memory	Intel DVMT 5.0 support up to 1024MB video memory						
	3D/HW Acceleration	Gen 8, DX11.1, OpenGL 4.0, OpenCL 1.2 and AVC/VC-1, H.264, MPEG4 HW Encoder/Decoder						
Display	VGA	1920 x 1200						
	LCD	Single and dual channel 18/24-bit LVDS, up to 1920 x 1200, optional eDP 2 lanes up to 1920 x 1200						
	DDI	3 DDI Ports support configurable HDMI/DVI/DisplayPort						
	Dual Display	Combinations of HDMI/DVI/DisplayPort/VGA/LVDS						
	Triple Display	Combinations of HDMI/DVI/DisplayPort/VGA/LVDS (Except 3 HDMI/DVI)						
Expansion	PCI Express x16	1 Port supports PCI Express Gen3 8.0GT/s						
	PCI Express x1	7 Ports support PCI Express Gen 2 5.0GT/s						
	Audio Interface	HD Audio						
	LPC	Yes						
Serial Bus	SMBus	Yes						
	I2C Bus	Yes						
Ethernet	Controller	Intel i217						
	Speed	10/100/1000 Mbps						
I/O	SATA	4 ports support SATA III 6.0Gb/s						
	RAID	RAID 0/1/5/10						
	USB3.0	4 Ports						
	USB2.0	8 Ports						
	Audio	Intel HD Audio						
	SPI Bus	Yes						
	GPIO	8-bit GPIO						
	Watchdog	65536 level, 0 ~ 65535 sec						
	COM Port	2 Ports (2-Wire)						
	Express Card	2 Ports						
	TPM	Optional						
	Smart Fan	2 Ports; 1 Port on COM Module. Support 12V Fan, 1 Port on Carrier Board						
Power	Type	ATX: Vin, VSB, AT: Vin						
	Supply Voltage	Vin: 8.5(9-5%)~20V(19+5%), VSB: 5V±5%, RTC Battery: 2.0-3.3V						
	Power Consumption (Max.)	(8G DDR3L 1600) i7-4700EQ: +12V @ 42.12W						
	Power Consumption (Idle)	(8G DDR3L 1600) i7-4700EQ: +12V @ 8.52W						
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)						
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing						
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")						

All product specifications are subject to change without notice

Last updated : 19-Jun-2014

Block Diagram



Ordering Information

Part No.	CPU	Frq.	CPU TDP	LLC	PCH	DDR3L Memory	LVDS	VGA	DDI	Giga LAN	HDA	PCIe x16	PCIE x1	USB2.0	USB3.0	SATA III	LPC	Power	Thermal Solution	Operating Temperature
SOM-5894C7-U4A1E	Core i7-4700EQ	2.4 GHz	47W	6 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C5-U7A1E	Core i5-4400E	2.7 GHz	37W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C5-S6A1E	Core i5-4402E	1.6 GHz	25W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C3-U5A1E	Core i3-4100E	2.4 GHz	37W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C3-S7A1E	Core i3-4102E	1.6 GHz	25W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894CR-U2A1E	Celeron 2000E	2.2 GHz	37W	2MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894CR-S5A1E	Celeron 2002E	1.5 GHz	25W	2 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C7-U4B1E	Core i7-4700EQ	2.4 GHz	47W	6 MB	QM87	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C5-S6B1E	Core i5-4402E	1.6 GHz	25W	3 MB	QM87	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C3-U5B1E	Core i3-4100E	2.4 GHz	37W	3 MB	QM87	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C5Z-S6A1E	Core i5-4402E	1.6 GHz	25W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	-20 ~ 80° C
SOM-5894C5Z2-S6A1E	Core i5-4402E	1.6 GHz	25W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	-40 ~ 85° C
SOM-5894C3Z-S7A1E	Core i3-4102E	1.6 GHz	25W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	-20 ~ 80° C
SOM-5894C3Z2-S7A1E	Core i3-4102E	1.6 GHz	25W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-00A2E	COM Express Development Board A2 Type 6 Pin-out

Packing List

Part No.	Description	Quantity
-	SOM-5894 CPU Module	1
1960058957N001	Heatspreader	1

Optional Accessories

Part No.	Description
1960048820N001	Semi-Cooler 125x95x33.5mm with 12V Fan
96LEDK-I057VG50NA1	5.7" LED PANEL 500N 640x480(G) AM-640480G2TNQW-A0H
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800 x 600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024 x 768(G) G150XGE-L04
96LEDK-A170SX35NF1	17" LED PANEL 350N 1280x1024(G) G170EG01 V1

Embedded OS

OS	Part No.	Description
WES	2070012239	WES7 (include SUSIAccess)
WES	2070012060	WES8 (include SUSIAccess)
Linux	2070012218	Linux Ubuntu13.04
Linux	2070012792	CentOS (bundle SUSIAccess)