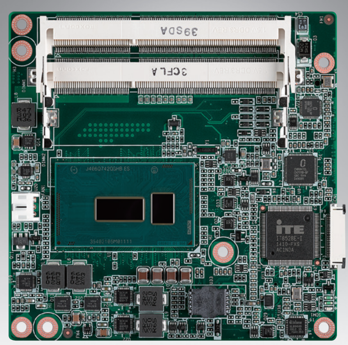
SOM-6896

5th Gen Intel® Core™ / Celeron® Processors COM Express Compact Module Type 6

NEW

TAIWAN EXCELLENCE 2015



Windows Embedded

iManager SUSIAccess

Features

- 5th Gen Intel® Core™ / Celeron® Processors U-Series (SoC)
- Dual Channel DDR3L 1600 SODIMM sockets up to 16 GB
- 3 independent displays: VGA, LVDS, HDMI/DisplayPort/DVI
- Resolutions up to 4096 x 2304 (4K2K) @ 60 Hz
- iManager, SUSIAccess and Embedded Software APIs

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

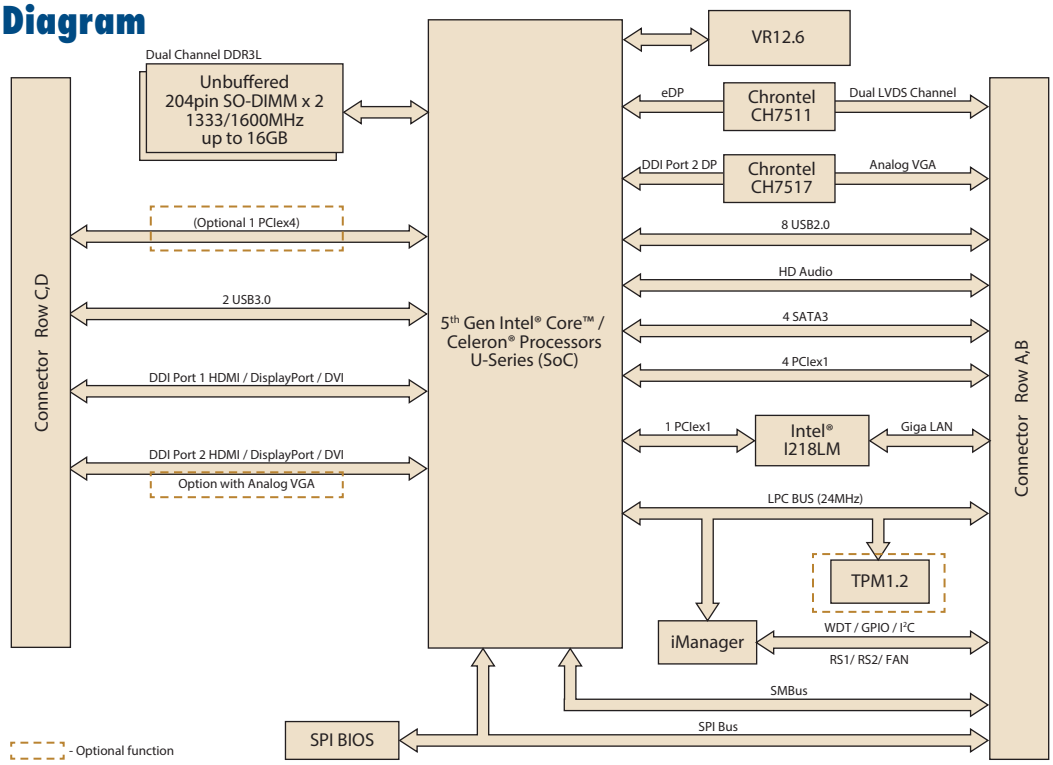
Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Form Factor	Form Factor	COM Express Compact Module			
	Pin-out Type	COM Express R2.1 Type 6			
Processor System	CPU + PCH	5th Gen Intel® Core™ / Celeron® Processors Intel® i7-5650U	Intel® i5-5350U	Intel® i3-5010U	Celeron® 3765U
	Base Frequency	2.2GHz	1.8GHz	2.1GHz	1.9GHz
	Max Turbo Frequency	3.1GHz	2.9GHz	N/A	N/A
	Core / Thread	2/4	2/4	2/4	2/2
	LLC	4M	3M	3M	2M
	CPU TDP	15W	15W	15W	15W
	BIOS	AMI UEFI BIOS 128 Mb			
Memory	Technology	DDR3L 1600			
	ECC Support	N/A			
	Channel / Socket	Dual Channels / 2 x 204P SODIMMs			
	Max. Capacity	16GB			
Graphics	Controller	Intel® HD graphics 6000	Intel® HD graphics 6000	Intel® HD graphics 5500	Intel® HD graphics
	Max. Frequency	1GHz	1GHz	0.9GHz	850MHz
	Graphic Memory	Up to 1GB			
	3D/HW Acceleration	DX 11.1, OptionGL 4.0/4.2, OCL1.2, HW Decode/Encode for H.264/AVC, VC-1, SVC, MPEG2, Decode for VP8			
Display	VGA	1920 x 1200			
	LVDS	Single and dual channel 18/24-bit resolutions up to 1920 x 1200			
	DDI (HDMI/DVI/DisplayPort)	DDI 1: support HDMI (1.4a specification compliant with 3D) resolutions up to 4096 x 2304, DisplayPort resolutions up to 3840 x 2160 DVI resolutions up to 1920 x 1200 (DDI 2: Optional)			
	Dual Display	Combinations of VGA / LVDS / HDMI / DVI / DisplayPort			
	Triple Display	Combinations of VGA / LVDS / HDMI / DVI / DisplayPort			
Expansion	PCI Express x16 (PEG)	Optional 1 PClex4 while support 3 PClex1			
	PCI Express x1	4 PClex1			
	Audio Interface	HD Audio			
	LPC	Yes (24MHz)			
Serial Bus	SMBus	Yes			
	I²C Bus	Yes			
Ethernet	Controller	Intel® i218LM			
	Speed	10/100/1000 Mbps			
I/O	SATA	4 Ports, Support Gen3 (6Gb/s) and Gen2 (3Gb/s), RAID 0, 1, 5, 10			
	USB3.0	2 Ports			
	USB2.0	8 Ports			
	SPI Bus	for BIOS only			
	GPIO	8-bit GPIO			
	Watchdog	65536 level, 0 ~ 65535 sec			
	COM Port	2 Ports (2-Wire)			
	Express Card	Yes			
	TPM	TPM 1.2 (Optional)			
	Smart Fan	2 Ports; 1 Port on COM Module. Support 12V Fan, 1 Port on Carrier Board			
Power	Type	ATX, AT			
	Supply Voltage	Vin: 4.75(5-5%) ~ 20V(19+5%), VSB: 5V±5%, RTC Battery: 2.0-3.3V			
	Power Consumption (Max.)	+12 V @ 1.5A (i3-5010U)			
	Power Consumption (Idle)	+12 V @ 0.388A (i3-5010U)			
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			
	Vibration Resistance	3.5 Grms			
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")			

All product specifications are subject to change without notice

Block Diagram



Expansion Compatibility Table

	PCIe x1	PEG (x4)	LAN	SATA
Default	4	0	1	4
Optional	3	1	1	4

Ordering Information

Part No.	CPU + PCH	Frq.	Core	LLC	TDP	DDR3L Memory	Thermal Solution	Operating Temperature
SOM-6896C7-U2A1E	Intel i7-5650U	2.2GHz	2	4M	15W	Non-ECC	Active	0 ~ 60° C
SOM-6896C5-S8A1E	Intel i5-5350U	1.8GHz	2	3M	15W	Non-ECC	Active	0 ~ 60° C
SOM-6896C3-U1A1E	Intel i3-5010U	2.1GHz	2	3M	15W	Non-ECC	Active	0 ~ 60° C
SOM-6896CR-S9A1E	Celeron® 3765U	1.9GHz	2	2M	15W	Non-ECC	Active	0 ~ 60° C
SOM-6896C7Z-U2A1E	Intel i7-5650U	2.2GHz	2	4M	15W	Non-ECC	Active	-20 ~ 80° C
SOM-6896C5Z-S8A1E	Intel i5-5350U	1.8GHz	2	3M	15W	Non-ECC	Active	-20 ~ 80° C
SOM-6896C3Z-U1A1E	Intel i3-5010U	2.1GHz	2	3M	15W	Non-ECC	Active	-20 ~ 80° C
SOM-6896CRZ-S9A1E	Celeron® 3765U	1.9GHz	2	2M	15W	Non-ECC	Active	-20 ~ 80° C
SOM-6896C7Z2-U2A1E	Intel i7-5650U	2.2GHz	2	4M	15W	Non-ECC	Active	-40 ~ 85° C
SOM-6896C5Z2-S8A1E	Intel i5-5350U	1.8GHz	2	3M	15W	Non-ECC	Active	-40 ~ 85° C
SOM-6896C3Z2-U1A1E	Intel i3-5010U	2.1GHz	2	3M	15W	Non-ECC	Active	-40 ~ 85° C
SOM-6896CRZ2-S9A1E	Celeron® 3765U	1.9GHz	2	2M	15W	Non-ECC	Active	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
-	SOM-6896 CPU Module	1
1960069307N001	Heatspreader	1

Development Board

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

Optional Accessories

Part No.	Description
1960048819N001	Semi-Cooler 95 x 95 x 33.5 mm with 12V fan
96LEDK-I057VG50NA1	5.7" LED PANEL 500N 640X480(G)
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800X600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024X768(G) G150XGE-L04
96LEDK-A170SX35NF1	17" LED 350N 1280X1024(G) G170EG01 V1

Embedded OS

OS	Part No.	Description
WES7 (64bit)	2070013528	Img WES7P SOM-6896 x64 v5.6.6
WE8I (64bit)	2070013606	Img WE8I SOM-6896 x64 V1.0