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# Datasheet

## ADVANTECH

SOM-6898

**COM-Express® Compact Computer-on-Module with Intel® Kaby Lake**

**Core™ i7-7600U, i5-7300U, i3-7100U / Celeron® 3965U Processor,**

**up to -40 ... + 85°C (extended Temperature)**

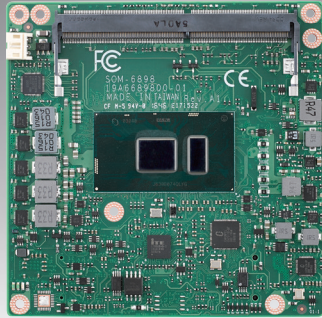
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# SOM-6898

## 7<sup>th</sup> Gen Intel Core/Celeron Processors COM Express Compact Module Type 6

**NEW**



### Features

- 7<sup>th</sup> Gen Intel Core i7/i5/i3/Celeron w/ integrated PCH-LP
- Support Dual Channel DDR4 2133 SODIMM up to 32GB
- Integrated GFX supports HEVC, VP8, VP9 HW Transcode
- Flexible PCI Express up to 8 lanes
- Supports iManager, WISE-PaaS/RMM, and Embedded Software APIs

**Software APIs:**

- Watchdog
- IPC
- SMBus
- H/W Monitor
- GPIO
- Brightness Control

**Utilities:**

- BIOS flash
- Monitoring
- Embedded Security ID



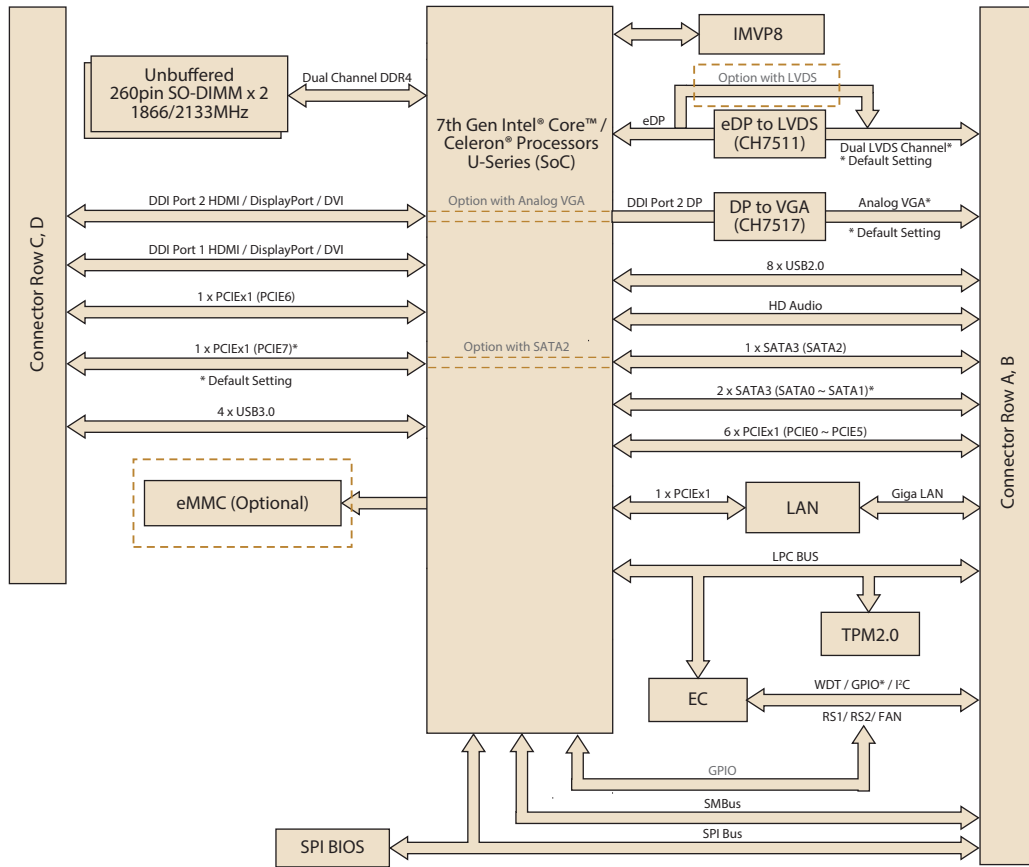
Windows Embedded

iManager WISE-PaaS/RMM CE FC

### Specifications

Compliance	Form-Factor	COM Express Compact Module				
	Pin-out Type	COM Express R2.1 Type 6 pin out				
Platform	SoC	i7-7600U	i5-7300U	i3-7100U	Celeron3965U	
	Base Frequency	2.8 GHz	2.6 GHz	2.4 GHz	2.2 GHz	
	Turbo Boost Freq.	3.9 GHz	3.5 GHz	N/A	N/A	
	Core/Tread	2/4	2/4	2/4	2/2	
	LLC	4M	3M	3M	2M	
	CPU TDP	15W	15W	15W	15W	
	Chipset	integrated in CPU				
	BIOS	AMI EFI BIOS				
Memory	Technology	DDR4 2133				
	ECC Support	Not supported				
	Channel/Socket	Dual channels / 2 sockets				
	Max. Capacity	32GB				
Graphics	Controller	Intel® HD Graphics 620	Intel® HD Graphics 620	Intel® HD Graphics 620	Intel® HD Graphics 610	
	Base/Turbo Freq.	300MHz/1.15GHz	300MHz/1.10GHz	300MHz/1GHz	300MHz/900MHz	
	Graphics Memory	Intel DVMT				
	3D/HW Acceleration	Direct3D 2015/11.2/11.1/10/9, Direct2D, OpenGL 5.0, OpenCL 2.1/2.0/1.2 HW Decode: H.265/HEVC, H.264/AVC, VP9, VP8, MPEG2, WMV9/VC1, JPEG/MJPEG HW Encode: H.265/HEVC, H.264/AVC, VP9, VP8, MPEG2, JPEG				
	VGA	Support up to 1920 x 1200 @ 60 Hz				
Display	LCD	LVDS support 2 channels 18/24-bit, up to 1920 x 1200 @ 60Hz Optional eDP up to 3840 x 2160 @ 60Hz 24bpp or 4096 x 2304 @ 60Hz 24bpp				
	DDI	1 Ports, optional 2 while remove VGA, configurable to HDMI1.4/DVI/Displayport1.2 HDMI up to 4096 x 2160 @ 24Hz 24bpp DVI up to 1920 x 1080 @ 60Hz DP up to 3840 x 2160 @ 60Hz 24bpp or 4096 x 2304 @ 60Hz 24bpp				
	Multiple Display	Support 3 independent display				
	PCI Express x16	Not available				
	PCI Express x1	PCI Express Gen3 (8.0 GT/s) 4 PCIe x1 + 1 PCIe x4, 5 PCIe x1 (Optional)				
Expansion	Audio Interface	Intel HD Audio				
	LPC	Yes (24MHz)				
	SMBus	Yes				
Serial Bus	IPC Bus	Yes				
	Controller	Intel i219LM				
Ethernet	Speed	10/100/1000 Mbps				
	SATA	Supports 2 SATA 3.0 (6 Gbit/s), optional support 3 SATA 3.0 (6 Gbit/s) Support RAID 0/1/5/10, AHCI 1.3/1.3.1				
I/O	USB3.0	4 Ports				
	USB2.0	8 Ports				
	SPI Bus	For BIOS only				
	GPIO	8-bit GPIO				
	eMMC	Optional				
	Watchdog	65536 level, 0 ~ 65535 sec				
	COM Port	2 Ports (2-wire, support console redirection)				
	Express Card	2 ports				
	TPM	TPM2.0 (Infineon SLB9665)				
	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: 8.5V (9V-5%) ~ 20V (19+5%); VSB: 5V ±5%			
Power Consumption		Burn in: 17.9W Idle: 4.4W *Only for reference and will depends on custom software loading, detail refer to user manual				
Environment	Temperature	Operating : 0 ~ 60° C (32 ~ 140° F) (Extend model -40 ~ 85° C) 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")				

## Block Diagram



## Ordering Information

Part No.	SoC	Base/Turbo Boost Freq.	Core	LLC	CPU TDP	DDR4 Memory	Thermal Solution	Operating Temperature
SOM-6898C7-U8A1E	i7-7600U	2.8GHz / 3.9GHz	2	4MB	15W	Non-ECC	Active	0 ~ 60° C
SOM-6898C5-U6A1E	i5-7300U	2.6GHz / 3.5GHz	2	3MB	15W	Non-ECC	Active	0 ~ 60° C
SOM-6898C3-U4A1E	i3-7100U	2.4GHz / N/A	2	3MB	15W	Non-ECC	Active	0 ~ 60° C
SOM-6898CR-U4A1E	Celeron 3965U	2.2GHz / N/A	2	2MB	15W	Non-ECC	Active	0 ~ 60° C
SOM-6898C7Z2-U8A1E	i7-7600U	2.8GHz / 3.9GHz	2	4MB	15W	Non-ECC	Active	-40 ~ 85° C
SOM-6898C5Z2-U6A1E	i5-7300U	2.6GHz / 3.5GHz	2	3MB	15W	Non-ECC	Active	-40 ~ 85° C
SOM-6898C3Z2-U4A1E	i3-7100U	2.4GHz / N/A	2	3MB	15W	Non-ECC	Active	-40 ~ 85° C
SOM-6898CRZ2-U4A1E	Celeron 3965U	2.2GHz / N/A	2	2MB	15W	Non-ECC	Active	-40 ~ 85° C

Note: Any other sku or combination is project based support. Please contact sales for details.

## Development Board

Part No.	Description
SOM-DB5800-00A2E	COMe Devel. Board Type6 pint-out Rev. A2

## Packing List

Part No.	Description	Quantity
-	SOM-6898 CPU module	1
1960080159N000	Heatspreader	1

## 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 Number	Description
Win10	2070015199	img W10 16HL SOM-6898 64b 1701 ENU
Win10	2070015200	img W10 16VL SOM-6898 64b 1701 ENU
Win10	2070015201	img W10 16EL SOM-6898 64b 1701 ENU

Our company network supports you worldwide with offices in Germany, Austria, Switzerland, Great Britain and the USA. For more information please contact:

## Headquarters

### Germany



#### FORTEC Elektronik AG

Lechwiesenstr. 9  
86899 Landsberg am Lech

Phone: +49 8191 91172-0  
E-Mail: [sales@fortecag.de](mailto:sales@fortecag.de)  
Internet: [www.fortecag.de](http://www.fortecag.de)

## Fortec Group Members

### Austria



#### FORTEC Elektronik AG

##### Office Vienna

Nuschinggasse 12  
1230 Wien

Phone: +43 1 8673492-0  
E-Mail: [office@fortec.at](mailto:office@fortec.at)  
Internet: [www.fortec.at](http://www.fortec.at)

### Germany



#### Distec GmbH

Augsburger Str. 2b  
82110 Germering

Phone: +49 89 894363-0  
E-Mail: [info@distec.de](mailto:info@distec.de)  
Internet: [www.distec.de](http://www.distec.de)

### Switzerland



#### ALTRAC AG

Bahnhofstraße 3  
5436 Würenlos

Phone: +41 44 7446111  
E-Mail: [info@altrac.ch](mailto:info@altrac.ch)  
Internet: [www.altrac.ch](http://www.altrac.ch)

### United Kingdom



#### Display Technology Ltd.

5 The Oaks Business Village  
Revenge Road, Lordswood  
Chatham, Kent, ME5 8LF

Phone: +44 1634 672755  
E-Mail: [info@displaytechnology.co.uk](mailto:info@displaytechnology.co.uk)  
Internet: [www.displaytechnology.co.uk](http://www.displaytechnology.co.uk)

### USA



#### Apollo Display Technologies, Corp.

87 Raynor Avenue,  
Unit 1 Ronkonkoma,  
NY 11779

Phone: +1 631 5804360  
E-Mail: [info@apolloDisplays.com](mailto:info@apolloDisplays.com)  
Internet: [www.apolloDisplays.com](http://www.apolloDisplays.com)