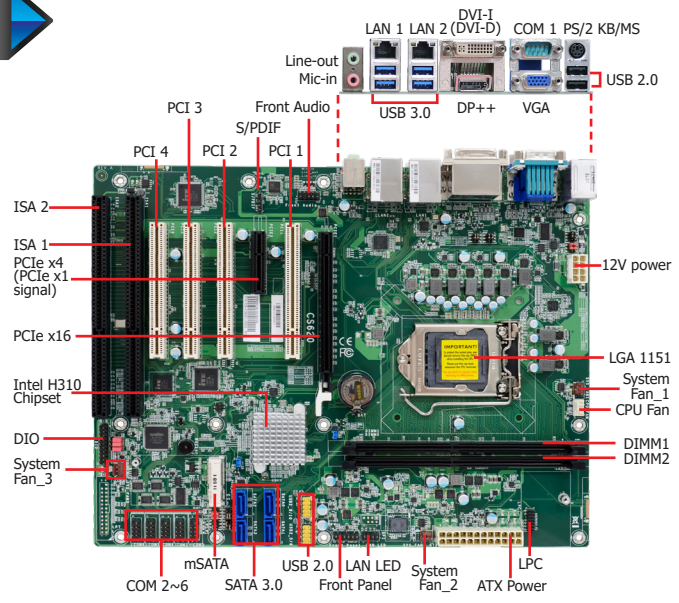


## CS620-H310

Desktop

H310

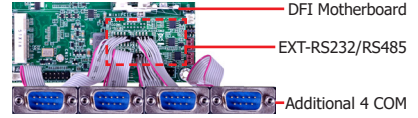
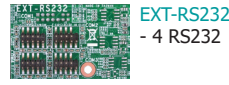


### Features

- 2 DDR4 DIMM up to 64GB
- Dual independent displays: VGA + DVI-D / VGA + DP++ / DP++ + DVI-D
- VGA: resolution up to 1920x1200 @ 60Hz  
DVI-D: resolution up to 1920x1200 @ 60Hz  
DP++ resolution up to 4096x2160 @ 60Hz
- Multiple expansion:  
1 PCIe x16 Gen 3, 1 PCIe x4 Gen 2 (PCIe x1 signal), 4 PCI, 2 ISA
- Rich I/O: 2 Intel GbE, 6 COM, 4 USB 3.1 Gen1, 6 USB 2.0



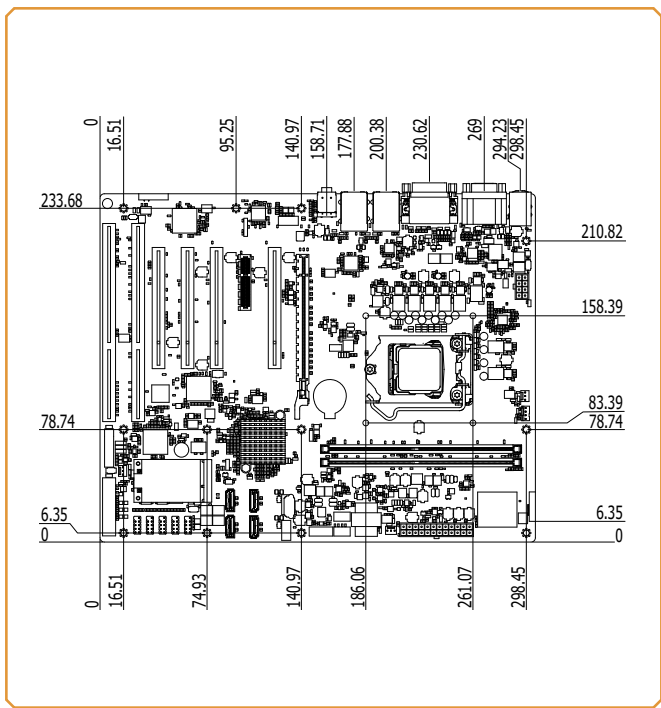
### 2 Extension Modules for Additional 4 COM Ports (via the LPC connector)



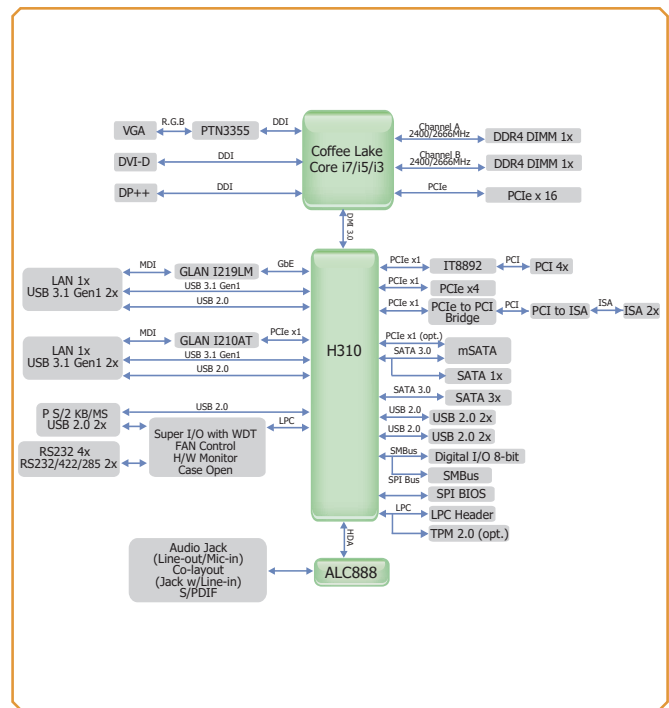
### Ordering Information

Model Name	P/N	Memory	GbE	RS-232/422/485	RS-232	USB 3.1 Gen 1	USB 2.0	ISA	TPM 2.0	Power	Temp.
CS620-H310C	770-CS6201-000G	2 DDR4 UDIMM	2	1	4	4	6	2	-	24-pin ATX	-5 to 65°C
CS620-H310C	770-CS6201-100G	2 DDR4 UDIMM	2	1	4	4	6	-	-	24-pin ATX	-5 to 65°C
CS620-H310C	770-CS6201-200G	2 DDR4 UDIMM	2	1	4	4	6	2	1	24-pin ATX	-5 to 65°C
CS620-H310C	770-CS6201-300G	2 DDR4 UDIMM	2	1	4	4	6	-	1	24-pin ATX	-5 to 65°C

### Mechanical Drawing



### Block Diagram



## Specifications

<b>SYSTEM</b>	<b>Processor</b>	9th Generation Intel® Core™ LGA 1151 Socket Processors, TDP support up to 95W: Intel® Core™ i7-9700E (8 Cores, 12M Cache, up to 3.8 GHz); 65W Intel® Core™ i7-9700TE (8 Cores, 12M Cache, up to 3.8 GHz); 35W Intel® Core™ i5-9500E (6 Cores, 9M Cache, up to 4.2 GHz); 65W Intel® Core™ i5-9500TE (6 Cores, 9M Cache, up to 4.2 GHz); 65W Intel® Core™ i3-9100E (4 Cores, 6M Cache, to 3.2 GHz); 65W Intel® Core™ i3-9100TE (4 Cores, 6M Cache, to 3.2 GHz); 65W	
	<b>Chipset</b>	Intel® H310 Chipset	
	<b>Memory</b>	Two 288-pin UDIMM up to 64GB (non-ECC support) Dual Channel DDR4 2400/2666MHz	
	<b>BIOS</b>	AMI SPI 128Mbit	
<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Gen 9 Graphics	
	<b>Feature</b>	OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9	
	<b>Display</b>	1 x VGA 1 x DVI-I (DVI-D signal) 1 x DP++	VGA: resolution up to 1920x1200 @ 60Hz DVI-D: resolution up to 1920x1200 @ 60Hz DP++: resolution up to 4096x2160 @ 60Hz
	<b>Dual Displays</b>	VGA + DVI-D / VGA + DP++ / DP++ + DVI-D	
<b>EXPANSION</b>	<b>Interface</b>	1 x PCIe x16 Gen 3 1 x PCIe x4 Gen2 (PCIe x1 signal)	4 x PCI 2 x ISA
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC888	
<b>ETHERNET</b>	<b>Controller</b>	1 x Intel® I210AT PCIe (10/100/1000Mbps)	1 x Intel® I219V Lan Phy (10/100/1000Mbps)
<b>REAR I/O</b>	<b>Ethernet</b>	2 x GbE (RJ-45)	
	<b>USB</b>	4 x USB 3.1 (Gen1)	2 x USB 2.0
	<b>Serial</b>	1 x RS-232/422/485 (RS-232 w/power) (DB-9)	
	<b>PS/2</b>	1 x PS/2 (mini-DIN-6)	
<b>INTERNAL I/O</b>	<b>Display</b>	1 x VGA 1 x DVI-I (DVI-D signal)	1 x DP++
	<b>Audio</b>	1 x Mic-in, 1 x Line-out (colay Line-in as opt., MOQ required)	
	<b>Serial</b>	1 x RS-232/422/485 (RS-232 w/ power) (2.54mm pitch) 4 x RS-232 (2.54mm pitch)	
	<b>USB</b>	4 x USB 2.0 (2.54mm pitch) (one header colay USB 3.0 vertical Type A as opt., MOQ required)	
	<b>Audio</b>	1 x S/PDIF	1 x Front Audio Header
	<b>SATA</b>	4 x SATA 3.0 (up to 6Gb/s) 1 x mSATA shared with SATA (opt: PCIe x1 signal, MOQ required)	
	<b>DIO</b>	1 x 8-bit DIO	
	<b>LPC</b>	1 x LPC	
<b>SMBus</b>	1 x SMBus		
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>SECURITY</b>	<b>TPM</b>	TPM2.0 (opt., MOQ required)	
<b>POWER</b>	<b>Type</b>	ATX	
	<b>Connector</b>	8-pin ATX 12V power	24-pin ATX power
	<b>Consumption</b>	Typical: i7-8700K: 3.3V @ 0.27A (0.89W); 5V @ 0.49A (2.45W); 12V @ 0.38A (4.56W) Max.: i7-8700K: 3.3V @ 0.33A (1.08W); 5V @ 1.2A (6W); 12V @ 9.69A (116.28W)	
	<b>RTC Battery</b>	CR2032 Coin Cell	
<b>OS SUPPORT</b>		Windows 10 IoT Enterprise 64-bit DFI proprietary software package (For ISA SKU)	
<b>ENVIRONMENT</b>	<b>Temperature</b>	Operating: -5 to 65°C Storage: -30 to 60°C with RTC Battery; -40 to 85°C without RTC Battery	
	<b>Humidity</b>	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	<b>MTBF</b>	553,534 hrs @ 25°C; 313,827 hrs @ 45°C ; 196,350 hrs @ 60°C Calculation Model: Telcordia Issue 4 Environment: GB, GC - Ground Benign, Controlled	
<b>MECHANICAL</b>	<b>Dimensions</b>	ATX Form Factor	305mm (12") x 244mm (9.6")
	<b>Height</b>	PCB: 1.6mm	Top Side: 32mm Bottom Side: 5mm
<b>CERTIFICATIONS</b>		CE, FCC Class B, RoHS, UKCA	

## Packing List

• 1 CS620-H310 motherboard	
• 1 COM port cables (W/Bracket, Length: 300mm, 2 x COM ports)	A81-015026-023G
• 1 Serial ATA data cable (Length: 500mm)	332-553001-005G
• 1 I/O shield	A49-KD6000-000G
• 1 mSATA screw	A32-112016-041G

## Optional Items

• USB 2.0 port cable (Length: 350mm)	A81-001066-016G
• D-SUB cable (W/Bracket, Length: 300mm, 2 x COM ports)	A81-015026-023G
• Serial ATA data cable (W/Lock, Length: 500mm)	332-553001-005G
• Thermal solution (For 35W, Height: 37.3mm)	A71-101107-000G
• Thermal solution (For 65W, Height: 74.47mm)	A71-101158-000G
• Thermal solution (For 95W, Height: 77.2mm)	761-103001-000G
• DP to HDMI dongle	612-D2H13M-000G
• LPC EXT-RS232 module (4 x RS232 ports)	770-EXTRS1-000G
• LPC EXT-RS485 module (4 x RS485 ports)	770-EXTRS1-100G
• DFI proprietary software package (For ISA SKU)	642-00CSKL-003G