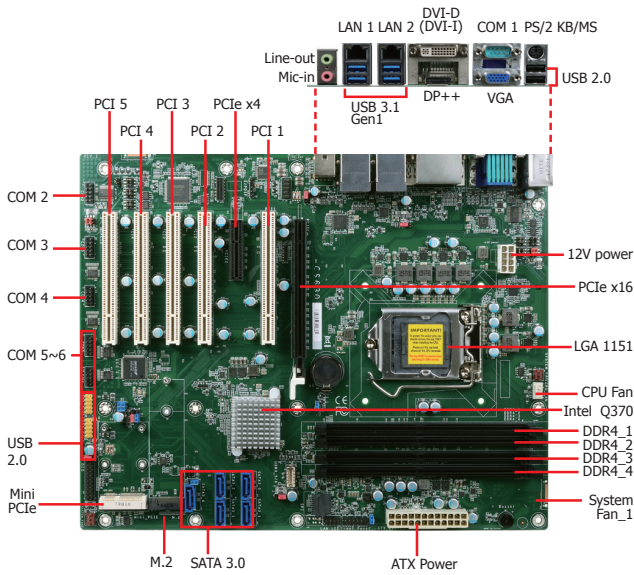


## ATX-Mainboard

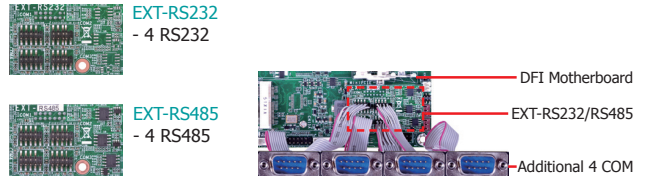


### Features

- 4 DDR4 DIMM up to 64GB
- Three display ports: VGA, DVI-D, DP++ Supports three independent displays
- DVI-D: resolution up to 1920x1200 @ 60Hz DP++ resolution up to 4096x2160 @ 60Hz
- Multiple expansion: 1 PCIe x16 (Gen 3), 1 PCIe x4 (Gen 3), 5 PCI, 1 x mPCIe 1 M.2 M key (support Optane Memory)
- Rich I/O: 2 Intel GbE, 6 COM, 4 USB 3.1 Gen1, 2 USB 3.1 Gen2, 6 USB 2.0
- LPC EXT-RS232/485 module extends additional 4 COM ports



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



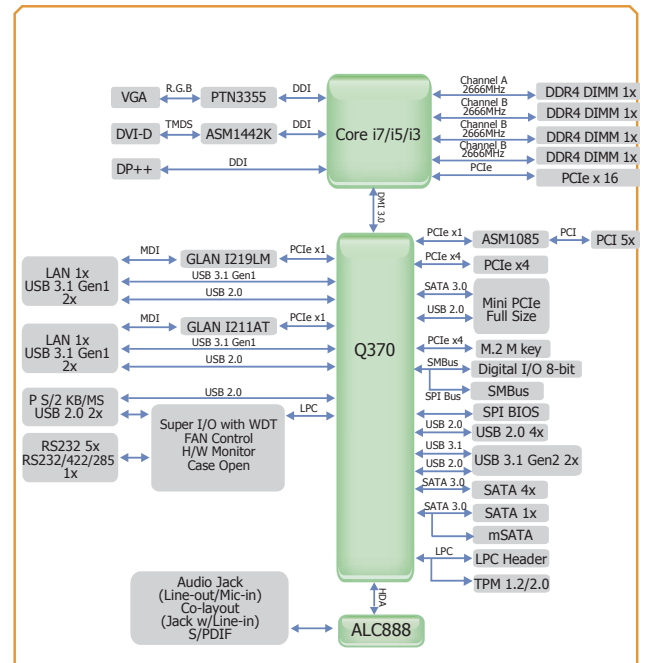
### Ordering Information

Model Name	P/N	Memory	GbE	RS-232/422/485	RS-232	USB 3.1 Gen 1	USB 3.1 Gen 2	USB 2.0	Power	Thermal	Temp.
CS630-Q370CRM	770-6301-100G	4 DDR4 DIMM	2	2	4	4	2	6	24-pin ATX	Active	0 to 60°C

### Mechanical Drawing



### Block Diagram



## ATX-Mainboard

### Specifications

<b>SYSTEM</b>	<b>Processor</b>	8th Generation Intel® Core™ Processors, LGA 1151 Socket	
	<b>Chipset</b>	Intel® Q370 Chipset	
	<b>Memory</b>	Four 288-pin DIMM up to 64GB	Dual Channel DDR4 2400/2666MHz
	<b>BIOS</b>	Insyde SPI 256Mbit	
<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 @ 24Hz
	<b>Dual Displays</b>	VGA + DVI-I (DVI-D signal) + DP++	
<b>EXPANSION</b>	<b>Interface</b>	1 x PCIe x16 (Gen 3) 1 x PCIe x4 (Gen 3) 5 x PCI 1 x mPCIe (support mSATA) 1 x M.2 M key (PCIe x4) (support Optane Memory)	
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC888	
<b>ETHERNET</b>	<b>Controller</b>	1 x Intel® I211AT PCIe (10/100/1000Mbps) 1 x Intel® I219LM Lan Phy with iAMT (10/100/1000Mbps) (only Core i7/i5 supports iAMT)	
<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 RS-232/422/485 (RS-232 w/power) (DB-9)	
	<b>PS/2</b>	1 x PS/2 (mini-DIN-6)	
	<b>Display</b>	1 x VGA 1 x DVI-I (DVI-D signal) 1 x DP++	
	<b>Audio</b>	1 x Line-out, 1 x Mic-in, 1 x Line-in (available upon request)	
<b>INTERNAL I/O</b>	<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>	2 x USB 3.1 Gen2 (2.00mm pitch) 4 x USB 2.0 (2.54mm pitch)	
	<b>Audio</b>	1 x S/PDIF 1 x Front Audio Header	
	<b>SATA</b>	5 x SATA 3.0 (up to 6Gb/s)	RAID 0/1/5/10
	<b>DIO</b>	1 x 8-bit DIO	
	<b>LPC</b>	1 x LPC (supports LPC EXT-RS232/RS485 module)	
	<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>	Infineon TPM2.0/1.2 (optional)	
<b>POWER</b>	<b>Type</b>	ATX	
	<b>Connector</b>	8-pin ATX 12V power	24-pin ATX power
	<b>Consumption</b>	TBD	
	<b>RTC Battery</b>	CR2032 Coin Cell	
<b>OS SUPPORT</b>		Windows 10 IoT Enterprise 64-bit	Linux: Ubuntu 18.04.
<b>ENVIRONMENT</b>	<b>Temperature</b>	Operating: 0 to 60°C	Storage: -40 to 85°C
	<b>Humidity</b>	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	<b>MTBF</b>	TBD	
	<b>MECHANICAL</b>	<b>Dimensions</b>	ATX Form Factor 305mm (12") x 244mm (9.6")
	<b>Height</b>	PCB: TBD Top Side: TBD Bottom Side: TBD	

### Packing List

• 1 CS630-Q370 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

### Optional Items

• USB 2.0 port cable (Length: 350/398mm)	332-253010-026G
• USB 3.1 Gen1 port cable (Length: 320mm)	A81-001052-023G
• USB 3.1 Gen2 port cable (Length: TBD)	TBD
• 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: 72.8mm)	552-200049-000G
• LPC EXT-RS232 module (4 x RS232 ports)	770-EXTRS1-000G
• LPC EXT-RS485 module (4 x RS485 ports)	770-EXTRS1-100G