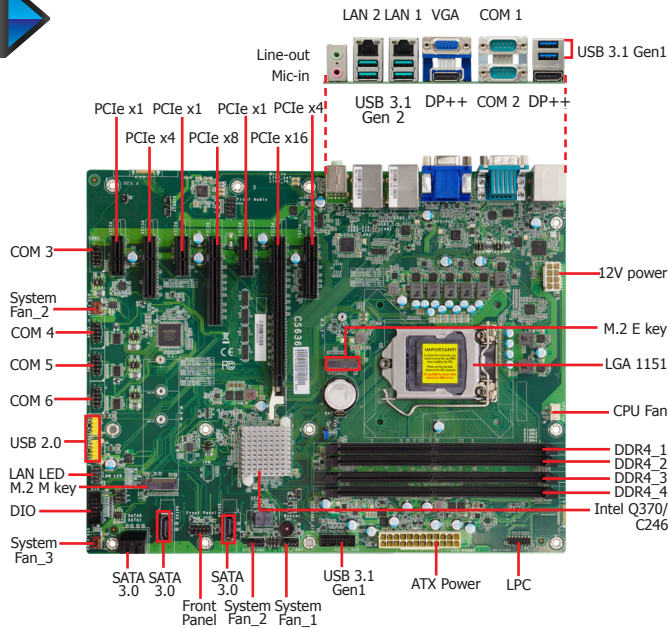


CS636-Q370/C246

**Q370
C246**

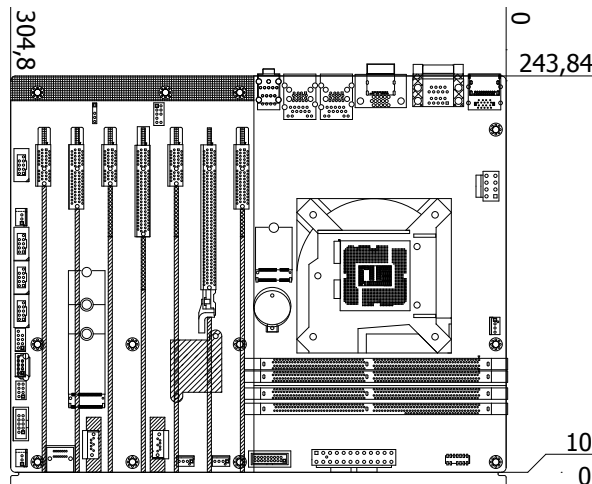


Features

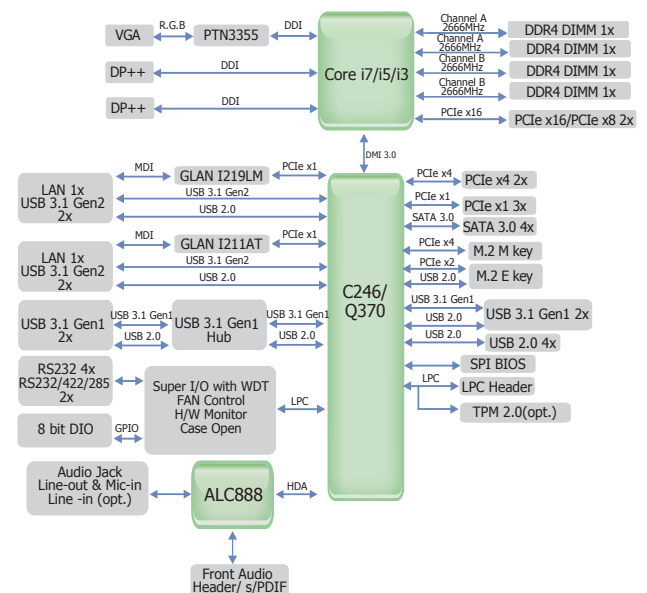
- 4 DDR4 DIMM up to 128GB
- 3 independent displays: VGA + DP++ + DP++
- DP++ resolution up to 4096x2160 @ 60Hz
- Multiple expansion: 1 PCIe x16/2 PCIe x8, 2 PCIe x4, 3 PCIe x1, 1 M.2 E Key, 1 M.2 M key, 1 SMBus, 1 LPC
- Rich I/O: 2 Intel GbE, 6 COM (4 rear + 2 internal), 4 USB 3.1 Gen 2, 4 USB 3.1 Gen 1, 4 USB 2.0



Mechanical Drawing



Block Diagram



Specifications

SYSTEM

	Processor	8th Generation Intel® Core™ /Pentium®/Celeron® LGA 1151 Socket Processors: Intel® Xeon® E-2176G (6 Cores, 12M Cache, up to 4.7 GHz); 80W (note: Xeon C246 sku only) Intel® Xeon® E-2124G (4 Cores, 8M Cache, up to 4.5 GHz); 71W (note: Xeon C246 sku only) Intel® Core™ i7-8700K (6 Cores, 12M Cache, up to 4.7 GHz); 95W Intel® Core™ i7-8700 (6 Cores, 12M Cache, up to 4.6 GHz); 65W Intel® Core™ i7-8700T (6 Cores, 12M Cache, up to 4.0 GHz); 35W Intel® Core™ i5-8500 (6 Cores, 9M Cache, up to 4.1 GHz); 65W Intel® Core™ i5-8500T (6 Cores, 9M Cache, up to 3.5 GHz); 35W Intel® Core™ i3-8100 (4 Cores, 6M Cache, 3.6 GHz); 65W Intel® Core™ i3-8100T (4 Cores, 6M Cache, to 3.1 GHz); 35W Intel® Pentium® G5400 (2 Cores, 4M Cache, 3.7 GHz); 58W Intel® Pentium® G5400T (2 Cores, 4M Cache, 3.1 GHz); 35W Intel® Celeron® G4900 (2 Cores, 2M Cache, 3.1 GHz); 54W Intel® Celeron® G4900T (2 Cores, 2M Cache, 2.9 GHz); 35W 9th Generation Intel® Xeon®/Core™ LGA 1151 Socket Processors: Intel® Xeon® E-2278GE (8 Cores, 16M Cache, up to 4.7 GHz); 80W (note: Xeon C246 sku only) Intel® Xeon® E-2278GEL (8 Cores, 16M Cache, up to 3.9 GHz); 35W (note: Xeon C246 sku only) Intel® Xeon® E-2226GE (6 Cores, 12M Cache, up to 4.6 GHz); 80W (note: Xeon C246 sku only) Intel® Core™ i9-9900K (8 Cores, 16M Cache, up to 5.0 GHz); 95W Intel® Core™ i7-9700K (8 Cores, 12M Cache, up to 4.9 GHz); 95W Intel® Core™ i7-9700E (8 Cores, 12M Cache, up to 4.4 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 3.6 GHz); 35W Intel® Core™ i3-9100E (4 Cores, 6M Cache, 3.7 GHz); 65W Intel® Core™ i3-9100TE (4 Cores, 6M Cache, to 3.2 GHz); 35W	
	Chipset	Intel® Q370/C246 Chipset	
	Memory	Dual Channel DDR4 2400/2666MHz C246: Four 288-pin ECC/non-ECC DIMM up to 128GB (Core™ i5/i7 only support non-ECC) Q370: Four 288-pin non-ECC DIMM up to 128GB	
	BIOS	SPI 128Mbit	
	Controller	Intel® HD Gen 9 Graphics	
GRAPHICS	Feature	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	
	Display	1 x VGA	VGA: resolution up to 1920x1200 @ 60Hz
		2 x DP++	DP++: resolution up to 4096x2160 @ 60Hz
	Triple Displays	VGA + DP++ + DP++	
EXPANSION	Interface	1 PCIe x16 or 2 PCIe x8 (Gen 3, 1 PCIe x8 open edge) 1 x M.2 2242/2260/2280 M key (SATA/PCIe x4 NVMe, Intel Optane Memory Support) 2 x PCIe x4 (Gen 3, 1 x open edge) 3 x PCIe x1 (Gen 3, 2 x open edge) 1 x M.2 2230 E key (PCIe x2, USB 2.0)	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	1 x Intel® I211AT PCIe (10/100/1000Mbps) 1 x Intel® I219LM PCIe with iAMT12.0 (10/100/1000Mbps) (only Xeon Core/ i7/i5 supports iAMT)	
REAR I/O	Ethernet	2 x GbE (RJ-45)	
	USB	2 x USB 3.1 Gen1	4 x USB 3.1 Gen2
	Serial	1 x RS-232/422/485 (RS-232 w/ power) (DB-9)	1 x RS-232
	Display	1 x VGA	2 x DP++
	Audio	1 x Line-out, 1 x Mic-in	
INTERNAL I/O	Serial	3 x RS-232 (2.54mm pitch)	1 x RS-232/422/485
	USB	2 x USB 3.1 Gen1 (Box header)	4 x USB 2.0 (2.54mm pitch) (4 x Pin Header)
	Audio	1 x S/PDIF, 1 x Front Audio Header	
	SATA	4 x SATA 3.0 (2 for double stack connector; 2 for 7 pin SATA connectors with power)	
		RAID 0/1/5/10	
	DIO	1 x 8-bit DIO	
	SMBus	1 x SMBus	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	TPM 2.0 (opt., MOQ required)	
POWER	Type	ATX	
	Connector	8-pin ATX 12V power	24-pin ATX power
	Consumption	Typical: i9 95W: 12V @ 0.39A (4.68Watt)	Max: i9 95W: 12V @ 14.01A (168.12 Watt)
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT		Windows 10 IoT Enterprise 64-bit	Linux
ENVIRONMENT	Temperature	Operating: 0 to 60°C Storage: -30 to 60°C with RTC Battery; -40 to 85°C without RTC Battery	
	Humidity	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	MTBF	567,747 hrs @ 25°C; 329,189 hrs @ 45°C; 209,099 hrs @ 60°C	
		Calculation Model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	
MECHANICAL	Dimensions	ATX Form Factor	305mm (12") x 244mm (9.6")
	Height	PCB: 1.6	Top Side: 32 Bottom Side: 4.4

Packing List

• 1 I/O shield	A49-CS6360-000G
• 1 motherboard	
• 1 Serial ATA data cable (Length: 500mm)	332-553001-005G
• 1 COM port cable (Length: 300mm)	A81-015052-001G
• 1 M.2 standoff	A33-725019-090G
• 2 M.2 screw	A32-112016-041G
• DVD	643-CS6361-100G

Optional Items

• USB 2.0 port cable (Length: 350mm)	A81-001066-016G
• USB 3.1 Gen1 port cable (Length: 320mm)	A81-001052-023G
• Serial ATA data cable (Length: 500mm, W/LOCK)	332-553001-005G
• Thermal solution (For 35W, Height: 37.3mm)	A71-101107-000G
• Thermal solution (For 65W, Height: 72.8mm)	552-200049-000G
• Thermal solution (For 95W, Height: 69.3mm)	761-103001-000G
• DP to HDMI dongle	612-D2H13M-000G