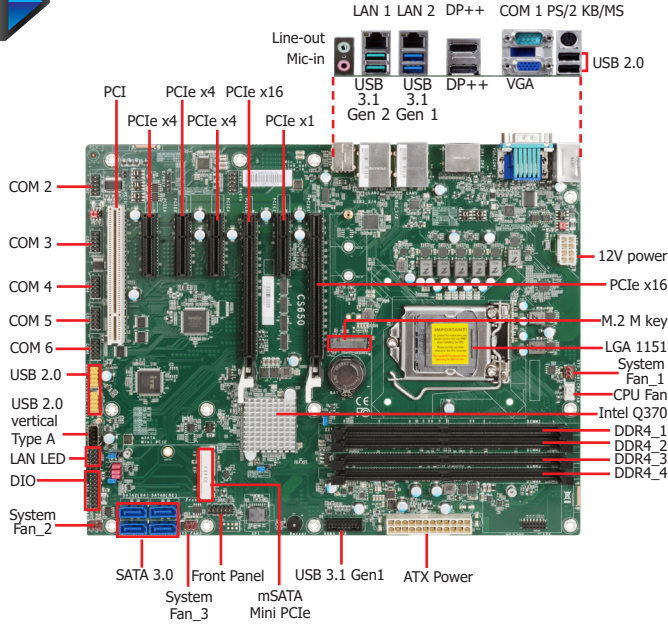


Q370

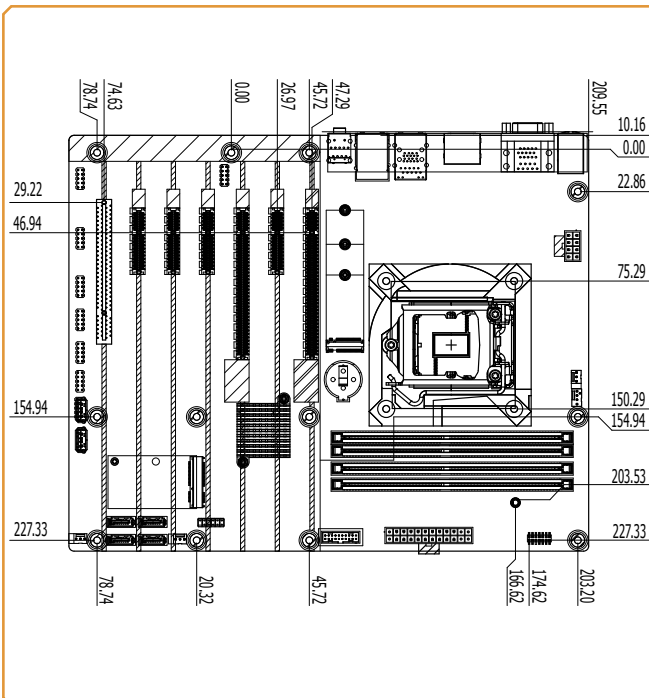


Features

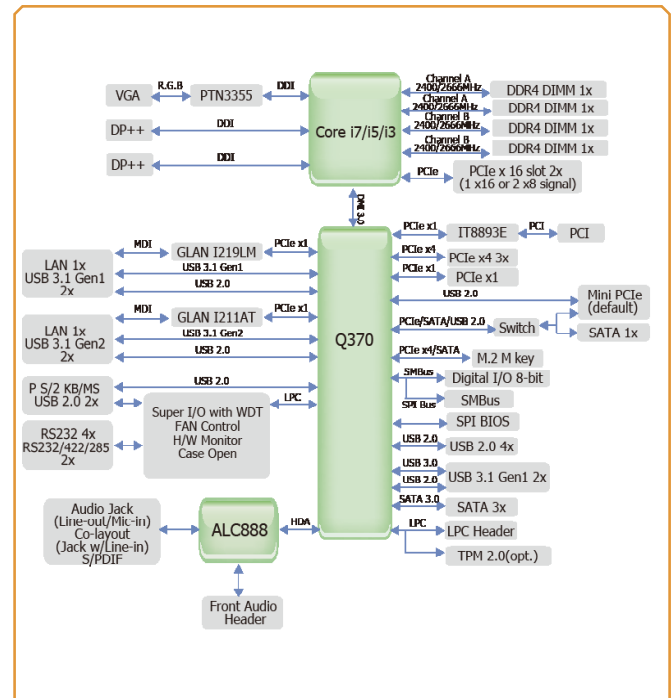
- **4 DDR4 DIMM up to 128GB**
- **3 independent displays:**
VGA + DP++ + DP++
- **DP++ resolution up to 4096x2160 @ 60Hz**
- **Multiple expansion:**
2 PCIe x16 (1 x16 signal or 2 x8 signals), 3 PCIe x4, 1 PCIe x1, 1 PCI, 1 Full-sized Mini PCIe, 1 M.2 M key
- **Rich I/O:** 2 Intel GbE, 6 COM, 2 USB 3.1 Gen 2, 4 USB 3.1 Gen 1, 6 USB 2.0



Mechanical Drawing



Block Diagram



Specifications

SYSTEM	Processor	8th Generation Intel® Core™ /Pentium®/Celeron® LGA 1151 Socket Processors: Intel® Core™ i7-8700K (6 Cores, 12M Cache, up to 4.7 GHz); 95W (Non-LTS) 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® Core™ LGA 1151 Socket Processors: Intel® Core™ i9-9900K (8 Cores, 16M Cache, up to 5.0 GHz); 95W (Non-LTS) Intel® Core™ i7-9700K (8 Cores, 12M Cache, up to 4.9 GHz); 95W (Non-LTS) 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 Chipset			
	Memory	Four 288-pin DIMM up to 128GB		Dual Channel DDR4 2400/2666MHz	
	BIOS	AMI SPI 128Mbit			
GRAPHICS	Controller	Intel® HD Gen 9 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 2 x DP++		VGA: resolution up to 1920x1200 @ 60Hz DP++: resolution up to 4096x2160 @ 60Hz	
	Triple Displays	VGA + DP++ + DP++			
EXPANSION	Interface	1 x Full-sized Mini PCIe (PCIe/SATA/USB2.0), share with SATA 3(R5) 1 x M.2 2242/2260/2280 M key (PCIe Gen3 x 4 NVMe/SATA) 2 x PCIe x16 (Gen 3) (1 x16 signal or 2 x8 signals) 3 x PCIe x4 (Gen 3) 1 x PCIe x1 (Gen 3) 1 x PCI			
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 Core i7/i5 supports iAMT)			
REAR I/O	Ethernet	2 x GbE (RJ-45)			
	USB	2 x USB 3.1 Gen2 2 x USB 2.0		2 x USB 3.1 Gen1	
	Serial	1 x RS-232/422/485 (RS-232 w/ power) (DB-9)			
	PS/2	1 x PS/2 (mini-DIN-6)			
	Display	1 x VGA		2 x DP++	
	Audio	1 x Line-out, 1 x Mic-in, 1 x Line-in (opt., MOQ required)			
	Serial	1 x RS-232/422/485 (RS-232 w/ power) (2.54mm pitch)		4 x RS-232 (2.54mm pitch)	
INTERNAL I/O	USB	2 x USB 3.1 Gen 1 (2.00mm pitch) 4 x USB 2.0 (2.54mm pitch) (1 x USB 2.0 colay vertical Type A) (opt., MOQ required)			
	Audio	1 x Front Audio Header		1 x S/PDIF	
	SATA	4 x SATA 3.0 (up to 6Gb/s, SATA 3(R5) shared with mini PCIe (SATA), default at mini PCIe) RAID 0/1/5/10			
	DIO	1 x 8-bit DIO			
	LPC	1 x LPC (supports LPC EXT-RS232/RS485 module)			
	SMBus	1 x SMBus			
	WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds		
	SECURITY	TPM	Infineon TPM2.0 (opt., MOQ required)		
POWER	Type	ATX			
	Connector	8-pin ATX 12V power		24-pin ATX power	
	Consumption	Typical: i7-8700K: 3.3V @ 0.34A (1.122Watt); 5V @ 0.58A (2.9Watt); 12V @ 0.65A (7.8Watt) Max.: i7-8700K:3.3V @ 0.52A (1.716Watt); 5V @ 1.27A (6.35Watt); 12V @ 13.01A (156.12Watt)			
	RTC Battery	CR2032 Coin Cell			
	OS SUPPORT		Windows 10 IoT Enterprise 64-bit		Linux
ENVIRONMENT	Temperature	Operating: -5 to 65°C Storage: -30 to 60°C with RTC Battery; -40 to 85°C without RTC Battery			
	Humidity	Operating: 5 to 95% RH		Storage: 5 to 95% RH	
	MTBF	534,017 hrs @ 25°C; 298,488 hrs @ 45°C ; 184,547 hrs @ 60°C ; 133,068 hrs @ 70°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: 1.6mm		Top Side: 32mm Bottom Side: 4.4mm	
CERTIFICATIONS		CE, FCC Class B, RoHS, KCC			