

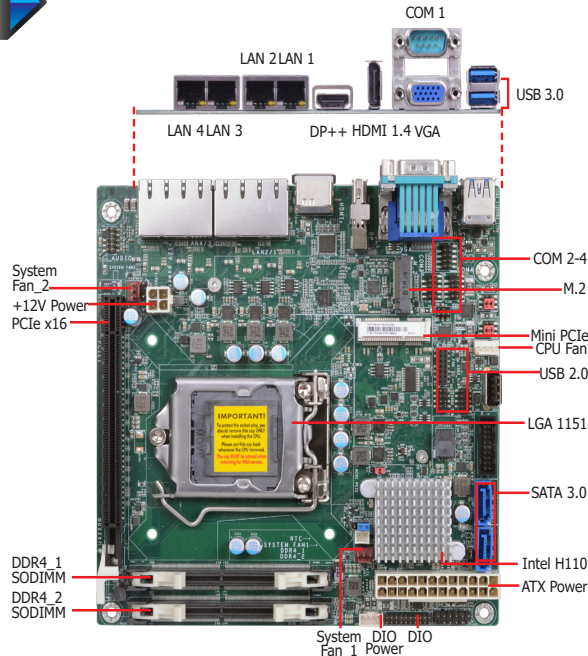


7/6th Gen Intel® Core™ Mini-ITX



SD170

Desktop



▶ Features

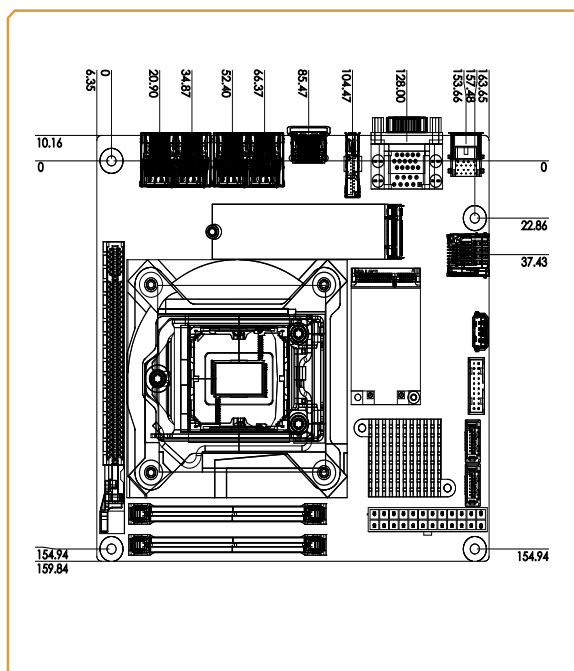
- **2 DDR4 SODIMM up to 32GB**
- **Dual independent displays:
VGA + HDMI 1.4 + DP++**
- **DP++ resolution up to 4096x2304 @ 60Hz
HDMI 1.4: resolution support 4K@ 24Hz**
- **Multiple expansion: 1 PCIe x16, 1 Mini PCIe, 1 M.2 M key**
- **Rich I/O: 4 Intel GbE, 4 COM, 4 USB 3.0, 5 USB 2.0**



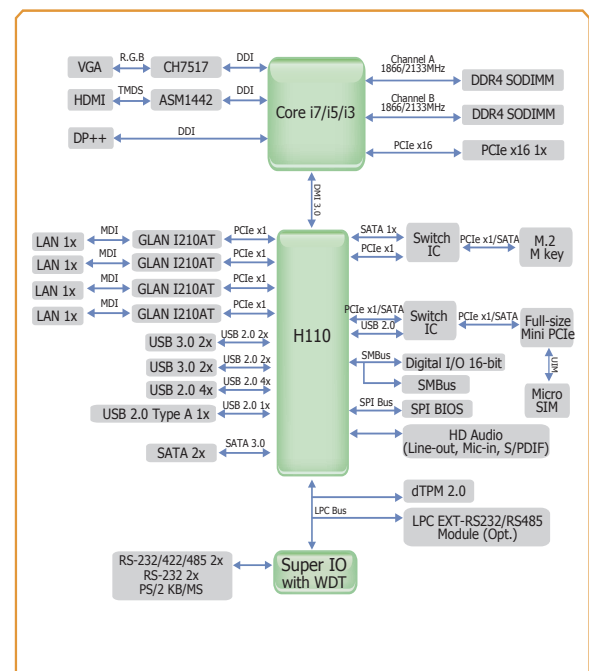
▶ Ordering Information

Model Name	P/N	Memory	GbE	RS-232/422/485	RS-232	USB 3.0	USB 2.0	Power	Thermal	Temp.
SD170	770-SD1701-000G	2 SODIMM	4	2	2	4	5	24-pin ATX	Active	0 to 60°C

► Mechanical Drawing



▶ Block Diagram





Specifications

SYSTEM	Processor	7th Generation Intel® Core™ Processors, LGA 1151 Socket Intel® Core™ i7-7700 Processor, Quad Core, 8M Cache, 3.6GHz (4.2GHz), 65W Intel® Core™ i5-7500 Processor, Quad Core, 6M Cache, 3.4GHz (3.8GHz), 65W Intel® Core™ i3-7101E Processor, Dual Core, 3M Cache, 3.9GHz, 65W 6th Generation Intel® Core™ Processors, LGA 1151 Socket Intel® Core™ i7-6700, Quad Core, 8M Cache, 3.4GHz (4.0GHz), 65W Intel® Core™ i7-6700TE, Quad Core, 8M Cache, 2.4GHz (3.4GHz), 35W Intel® Core™ i5-6500, Quad Core, 6M Cache, 3.2GHz (3.6GHz), 65W Intel® Core™ i5-6500TE, Quad Core, 6M Cache, 2.3GHz (3.3GHz), 35W Intel® Core™ i3-6100, Dual Core, 3M Cache, 3.7GHz, 47W Intel® Core™ i3-6100TE, Dual Core, 4M Cache, 2.7GHz, 35W Intel® Pentium® G4400, Dual Core, 3M Cache, 3.3GHz, 47W Intel® Pentium® G4400TE, Dual Core, 3M Cache, 2.4GHz, 35W Intel® Celeron® Processor G3900, Dual Core, 2M Cache, 2.8GHz, 65W Intel® Celeron® Processor G3900TE, Dual Core, 2M Cache, 2.6GHz, 35W	
	Chipset	Intel® H110	
	Memory	Two 260-pin SODIMM up to 32GB	Dual Channel DDR4 2133MHz
	BIOS	Insyde 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 1 x HDMI 1.4 1 x DP++	VGA: resolution up to 1920x1200 @ 60Hz HDMI 1.4: resolution support 4K @ 24 Hz DP: resolution up to 4096x2304 @ 60Hz
	Triple Displays	VGA + HDMI + DP++	
EXPANSION	Interface	1 x PCIe x16 (Gen 3) 1 x Full-size Mini PCIe (USB2.0/SATA, PCIe x1 opt. and share with M.2) (support SIM slot) 1 x M.2 2280 M key (PCIe x1/SATA, PCIe x1 opt. and shared with Mini PCIe)	
AUDIO	Audio Codec	Realtek ALC885S-VD2-GR (Realtek ALC262 opt.)	
ETHERNET	Controller	4 x Intel® I210AT PCIe (10/100/1000Mbps) or Intel® I211AT PCIe (10/100/1000Mbps) (opt.)	
REAR I/O	Ethernet	4 x GbE (RJ-45)	
	Serial	1 x RS-232/422/485	
	USB	2 x USB 3.0 Type A connector	
	Display	1 x VGA 1 x HDMI 1.4 1 x DP++	
INTERNAL I/O	Serial	1 x RS-232/422/485 2 x RS-232 (w/power)	
	USB	2 x USB 3.0 4 x USB 2.0 1 x USB 2.0 Type A connector for Watchdog Timer	
	Audio	1 x S/PDIF 1 x Front audio (Line-out and Mic-in)	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
	DIO	1 x 16-bit DIO	
	LPC	1 x LPC	
	SMBus	1 x SMBus	
	WATCHDOG TIMER	Output & Interval System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	fTPM 2.0/dTPM 2.0 (opt.)	
POWER	Type	ATX	
	Connector	4-pin ATX 12V power	24-pin ATX power
	Consumption	TBD	
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	Microsoft/Linux	Windows 7 (/WES7) 32/64-bit Windows 8.1 (64-bit) Windows 10 IoT Enterprise 64-bit Note: 7th Gen Intel Core processors only support Win 10. Debian 8 (with VESA graphic driver) CentOS 7 (with VESA graphic driver) Linux	
ENVIRONMENT	Temperature	Operating: 0 to 60°C	Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	MTBF	SD170: 661,927 hrs @ 25°C; 395,601 hrs @ 45°C ; 253,051 hrs @ 60°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	
MECHANICAL	Dimensions	Mini-ITX Form Factor	170mm (6.7") x 170mm (6.7")
	Height	PCB: 1.6mm	Top Side: 20mm, Bottom Side: 3mm
CERTIFICATIONS		CE, FCC Class B, RoHS	

Packing List

• 1 SD170 motherboard	
• 1 COM port cable (Length: 250mm, 1 x COM ports)	A81-015011-001G
• 1 Serial ATA data cable (Length: 300mm)	A81-002013-000G
• I/O shield	A49-SD1700-000G

Optional Items

• USB 2.0 port cable (Length: 200mm)	A81-001032-016G
• COM port cable (Length: 250mm, 1 x COM ports)	A81-015001-000G
• Serial ATA data cable (Length: 300mm)	A81-002013-000G
• Thermal solution (For 35W, Height: 37.3mm)	A71-103004-000G
• Thermal solution (For 65W, Height: 72.8mm)	552-200049-000G

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