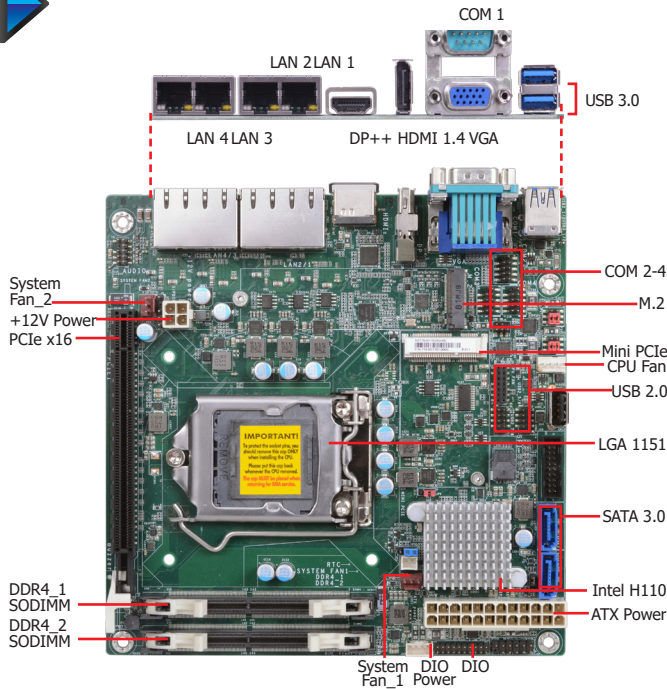


# SD170

Desktop



## Features

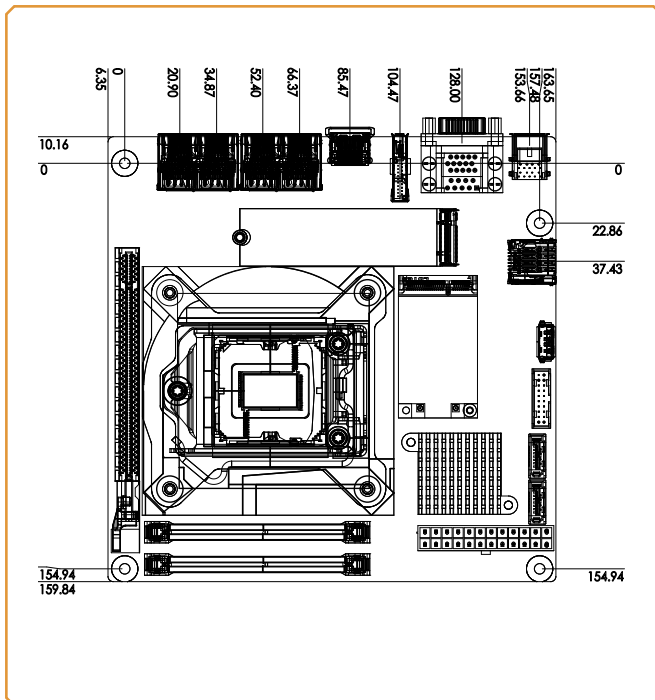
- 2 DDR4 SODIMM up to 32GB
- Dual independent displays: VGA + HDMI 1.4 + DP++
- DP++ resolution up to 4096x2304 @ 60Hz  
HDMI 1.4: resolution support 4K@ 24Hz
- Multiple expansion: 1 PCIe x16, 1 Mini PCIe, 1 M.2 M key
- Rich I/O: 4 Intel GbE, 4 COM, 4 USB 3.0, 5 USB 2.0



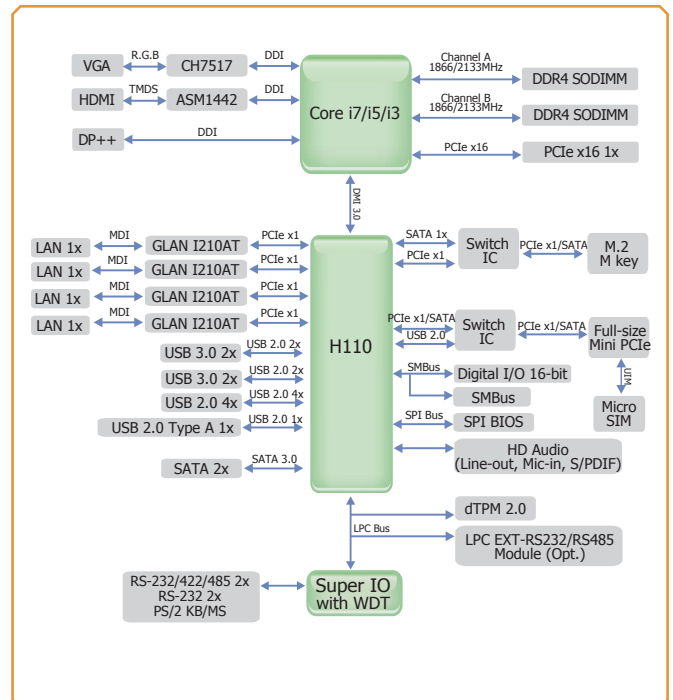
## Ordering Information

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

<b>SYSTEM</b>	<b>Processor</b>	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	
	<b>Chipset</b>	Intel® H110	
	<b>Memory</b>	Two 260-pin SODIMM up to 32GB	Dual Channel DDR4 2133MHz
	<b>BIOS</b>	Insyde 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 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
<b>Triple Displays</b>		VGA + HDMI + DP++	
<b>EXPANSION</b>	<b>Interface</b>	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)	
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC888S-VD2-GR (Realtek ALC262 opt.)	
<b>ETHERNET</b>	<b>Controller</b>	4 x Intel® I210AT PCIe (10/100/1000Mbps) or Intel® I211AT PCIe (10/100/1000Mbps) (opt.)	
<b>REAR I/O</b>	<b>Ethernet</b>	4 x GbE (RJ-45)	
	<b>Serial</b>	1 x RS-232/422/485	
	<b>USB</b>	2 x USB 3.0 Type A connector	
	<b>Display</b>	1 x VGA 1 x HDMI 1.4 1 x DP++	
<b>INTERNAL I/O</b>	<b>Serial</b>	1 x RS-232/422/485 2 x RS-232 (w/power)	
	<b>USB</b>	2 x USB 3.0 4 x USB 2.0 1 x USB 2.0 Type A connector for Watchdog Timer	
	<b>Audio</b>	1 x S/PDIF 1 x Front audio (Line-out and Mic-in)	
	<b>SATA</b>	2 x SATA 3.0 (up to 6Gb/s)	
	<b>DIO</b>	1 x 16-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>	fTPM 2.0/dTPM 2.0 (opt.)	
<b>POWER</b>	<b>Type</b>	ATX	
	<b>Connector</b>	4-pin ATX 12V power	24-pin ATX power
	<b>Consumption</b>	Idle: i7-7700 65W: 12V @ 1.28A (15.36W), 5V @ 0.54A (2.7W), 3.3V @ 0.47A (1.55W) Max: i7-7700 65W: 12V @ 6.78A (81.36W), 5V @ 0.72A (3.6W), 3.3V @ 0.58A (1.91W)	
	<b>RTC Battery</b>	CR2032 Coin Cell	
<b>OS SUPPORT</b>	<b>Microsoft/Linux</b>	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
<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>	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	
<b>MECHANICAL</b>	<b>Dimensions</b>	Mini-ITX Form Factor	170mm (6.7") x 170mm (6.7")
	<b>Height</b>	PCB: 1.6mm	Top Side: 20mm, Bottom Side: 3mm
<b>CERTIFICATIONS</b>	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