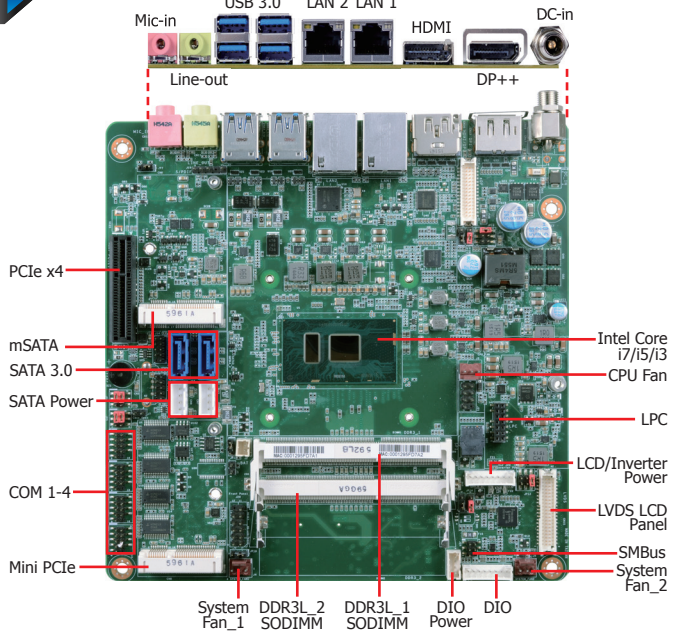


## SU171/SU173

ULT



\* The photos above refer to SU173.

### Features

- 2 DDR3L 1600MHz SODIMM up to 16GB
- Three independent displays: LVDS\*/eDP + HDMI\*/DP++
- DP++ resolution supports up to 4096x2304 @ 60Hz
- Multiple expansion: 1 PCIe x4, 1 Mini PCIe, 1 LPC
- Storage: 2 SATA 3.0, 1 mSATA/Mini PCIe
- Rich I/O: 2 Intel GbE, 4 COM, 4 USB 3.0, 4 USB 2.0
- LPC EXT-RS232/485 module supports 4 COM ports

\* Populated by default



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

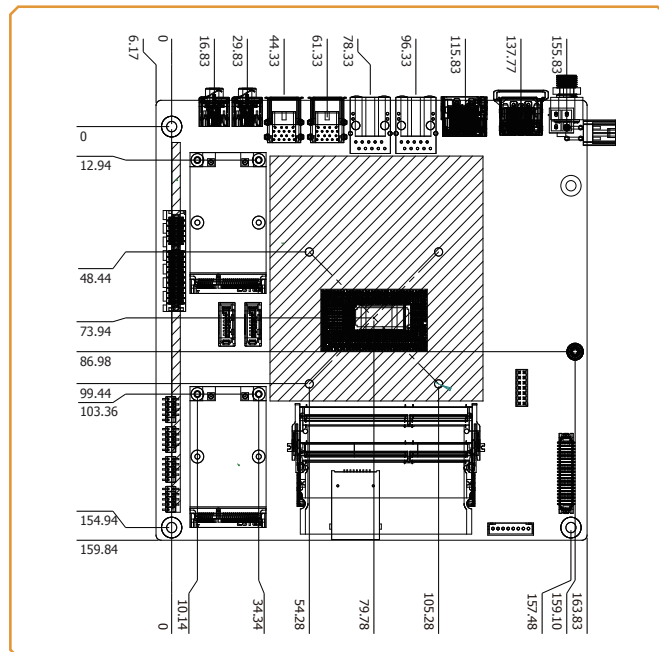


### Ordering Information

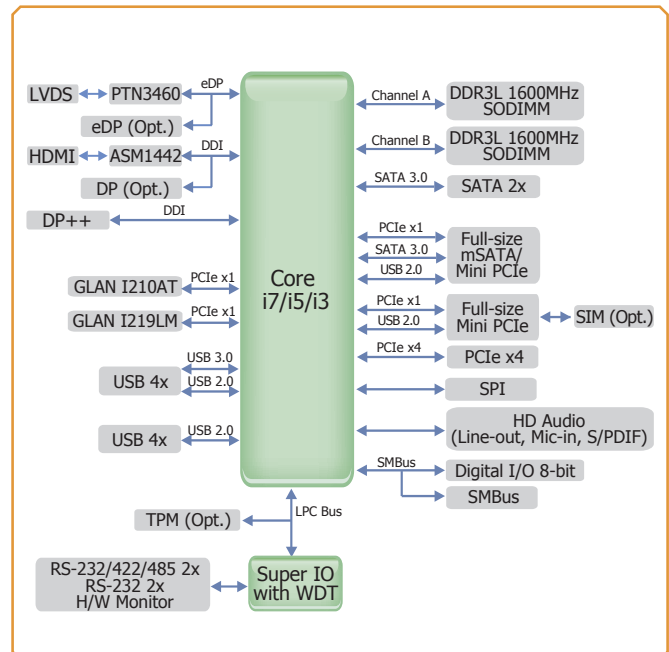
Model Name	P/N	Processor	Memory	LVDS/eDP	HDMI/DP	GbE	RS-232/422/485	RS-232	USB 3.0	USB 2.0	Power	Thermal	Temp.
SU171-NB-6300U	770-SU1711-200G	i5-6300U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	12V DC	Fanless	0 to 60°C
SU171-NB-3955U	770-SU1711-000G	3955U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	12V DC	Fanless	0 to 60°C
SU171-NB-6600U	770-SU1711-300G	i7-6600U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	12V DC	Fanless	0 to 60°C
SU171-NE-6600U	770-SU1711-400G	i7-6600U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	12V DC	Fanless	-20 to 70°C
SU173-NB-6300U	770-SU1731-200G	i5-6300U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	15-36V DC	Fanless	0 to 60°C
SU173-NB-3955U	770-SU1731-000G	3955U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	15-36V DC	Fanless	0 to 60°C
SU173-NB-6600U	770-SU1731-300G	i7-6600U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	15-36V DC	Fanless	0 to 60°C
SU173-NE-6600U	770-SU1731-400G	i7-6600U	2 SODIMM	LVDS	HDMI	2	2	2	4	4	15-36V DC	Fanless	-20 to 70°C

Note: i3-6100U is supported upon request with MOQ requirement

### Mechanical Drawing



### Block Diagram



## Specifications

<b>SYSTEM</b>	<b>Processor</b>	6th Generation Intel® Core™ Processors, BGA 1356 Intel® Core™ i7-6600U Processor, Dual Core, 4M Cache, 2.6GHz (3.4GHz), 15W Intel® Core™ i5-6300U Processor, Dual Core, 3M Cache, 2.4GHz (3.0GHz), 15W Intel® Core™ i3-6100U Processor, Dual Core, 3M Cache, 2.3GHz, 15W Intel® Celeron® Processor 3955U, Dual Core, 2M Cache, 2.0GHz, 15W		
	<b>Memory</b>	Two 204-pin SODIMM up to 16GB	Dual Channel DDR3L 1600MHz	
	<b>BIOS</b>	Insyde SPI 128Mbit		
<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics GT Series		
	<b>Feature</b>	OpenGL 4.4, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9		
	<b>Display</b>	1 x LVDS/eDP (eDP available upon request) 1 x HDMI/DP (DP available upon request) 1 x DP++	LVDS: dual channel 48-bit, resolution up to 1920x1200 @ 60Hz DP: resolution up to 4096x2304 @ 60Hz HDMI: resolution up to 2560x1600 @ 60Hz or 4096x2160 @ 24Hz	
	<b>Triple Displays</b>	LVDS + HDMI + DP++ LVDS + DP + DP++ (available upon request)	eDP + HDMI + DP++ (available upon request) eDP + DP + DP++ (available upon request)	
<b>EXPANSION</b>	<b>Interface</b>	1 x PCIe x4 (Gen 3) 1 x SIM (available upon request)	1 x Full-size Mini PCIe (PCIe/USB/SATA) 1 x Full-size Mini PCIe (PCIe/USB)	
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC888S-VD2-GR		
<b>ETHERNET</b>	<b>Controller</b>	1 x Intel® I210AT PCIe (10/100/1000Mbps) 1 x Intel® I219LM PCIe with iAMT11.0 (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 3.0		
	<b>Display</b>	1 x HDMI/DP (DP available upon request)	1 x DP++	
	<b>Audio</b>	1 x Line-out	1 x Mic-in	
<b>INTERNAL I/O</b>	<b>Serial</b>	2 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch) 2 x RS-232 (2.0mm pitch)		
	<b>USB</b>	4 x USB 2.0 (2.0mm pitch) or 2 x USB 2.0 (2.0mm pitch) + 1 x Vertical USB 2.0 (type A) (available upon request)		
	<b>Display</b>	1 x LVDS LCD Panel Connector 1 x LCD/Inverter Power	1 x eDP LCD Panel Connector (available upon request)	
	<b>Audio</b>	1 x S/PDIF		
	<b>SATA</b>	2 x SATA 3.0 (up to 6Gb/s) 2 x SATA Power	RAID 0/1/5	
	<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>	dTPM 2.0 (available upon Request)	
<b>POWER</b>	<b>Type</b>	Single 12V +/-10% DC (SU171)	Wide Range 15~36V (SU173)	
	<b>Connector</b>	DC-in Jack	Right Angle Connector (4-pin) (available upon request) Vertical Type Connector (4-pin) (available upon request)	
	<b>Consumption</b>	SU171 Typical: 6600U:12V @ 0.98A (11.76Watt); 6300U:12V @ 0.95A (11.40Watt) Max: 6600U:12V @ 1.62A (19.44Watt); 6300U:12V @ 1.58A (18.96Watt) SU173 Typical: 6600U:19V @ 0.48A (9.12Watt); 6300U:19V @ 0.43A (8.170Watt) Max: 6600U:19V @ 1.05A (19.95Watt); 6300U:19V @ 0.90A (17.10Watt)		
	<b>RTC Battery</b>	Lithium 3V (210mAh)		
<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	Debian 8 (with VESA graphic driver) CentOS 7 (with VESA graphic driver) Ubuntu 15.10 (Intel graphic driver available)	
<b>ENVIRONMENT</b>	<b>Temperature</b>	Operating: 0 to 60°C / -20 to 70°C	Storage: -40 to 85°C	
	<b>Humidity</b>	Operating: 5 to 90% RH	Storage: 5 to 90% RH	
	<b>MTBF</b>	SU171 : 357,691 hrs @ 25°C; 206,450 hrs @ 45°C ; 130,229 hrs @ 60°C SU173 : 347,511 hrs @ 25°C; 200,230 hrs @ 45°C ; 126,434 hrs @ 60°C Calculation model: Telcordia Issue 2, Method I Case 3 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: 16.5mm, Bottom Side: 3.5mm	
<b>CERTIFICATIONS</b>	CE, FCC Class B, RoHS			

## Packing List

• 1 SU171/SU173 motherboard	
• 1 COM port cable (Length: 250mm, 1 x COM ports)	A81-015011-001G
• 1 Serial ATA data with power cable (Length: 300mm)	A81-002013-000G
• 1 DVD	
• 1 Heat sink (Height: 25mm)	A71-010033-000G

## Optional Items

• USB port cable (Length: 200mm)	A81-001032-016G
• COM port cable (Length: 250mm, 1 x COM ports)	A81-015011-001G
• Serial ATA data with power cable (Length: 300mm)	A81-002013-000G
• Power adapter (100W, 12V, Level 6)	671-110002-100G
• Power adapter (120W, 19V)	671-112004-100G
• LPC EXT-RS232 module (4 x RS232 ports)	770-EXTRS1-000G
• LPC EXT-RS485 module (4 x RS485 ports)	770-EXTRS1-100G
• I/O shield	A49-SU1710-000G
• Half height I/O shield	A49-SU1710-010G
• DT122 Chassis	761-DT1220-200G