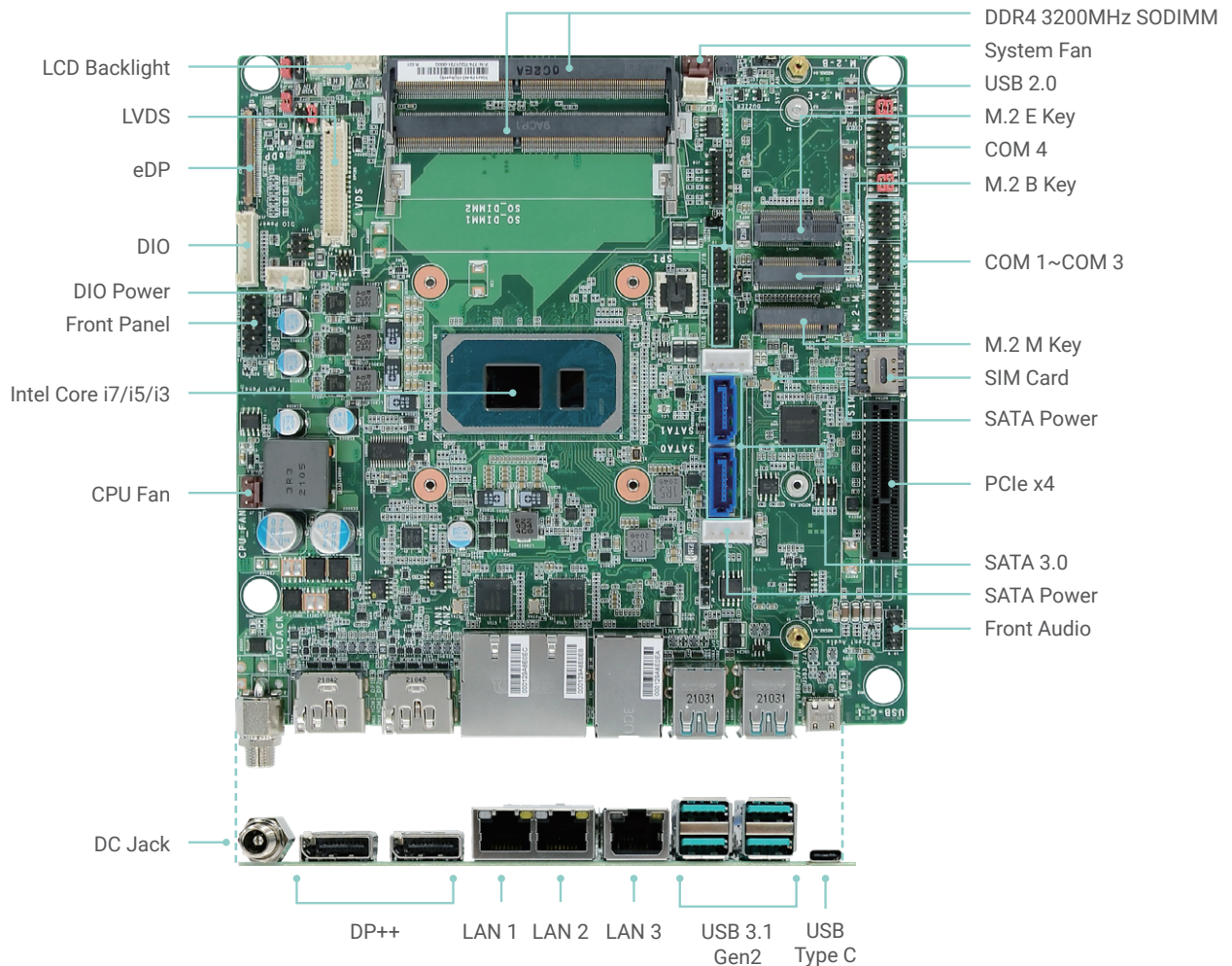


TGU171/TGU173

11 Gen Intel® Core™
mini-ITX



Top View

KEY FEATURES



DDR4

2 DDR4 SODIMM up to 64GB



4K High Resolution

Supports 4K/ 2K resolution



4 Independent Displays

1 LVDS, 1 eDP,
1 DP++/HDMI,
1 USB 4.0



Multiple Expansion

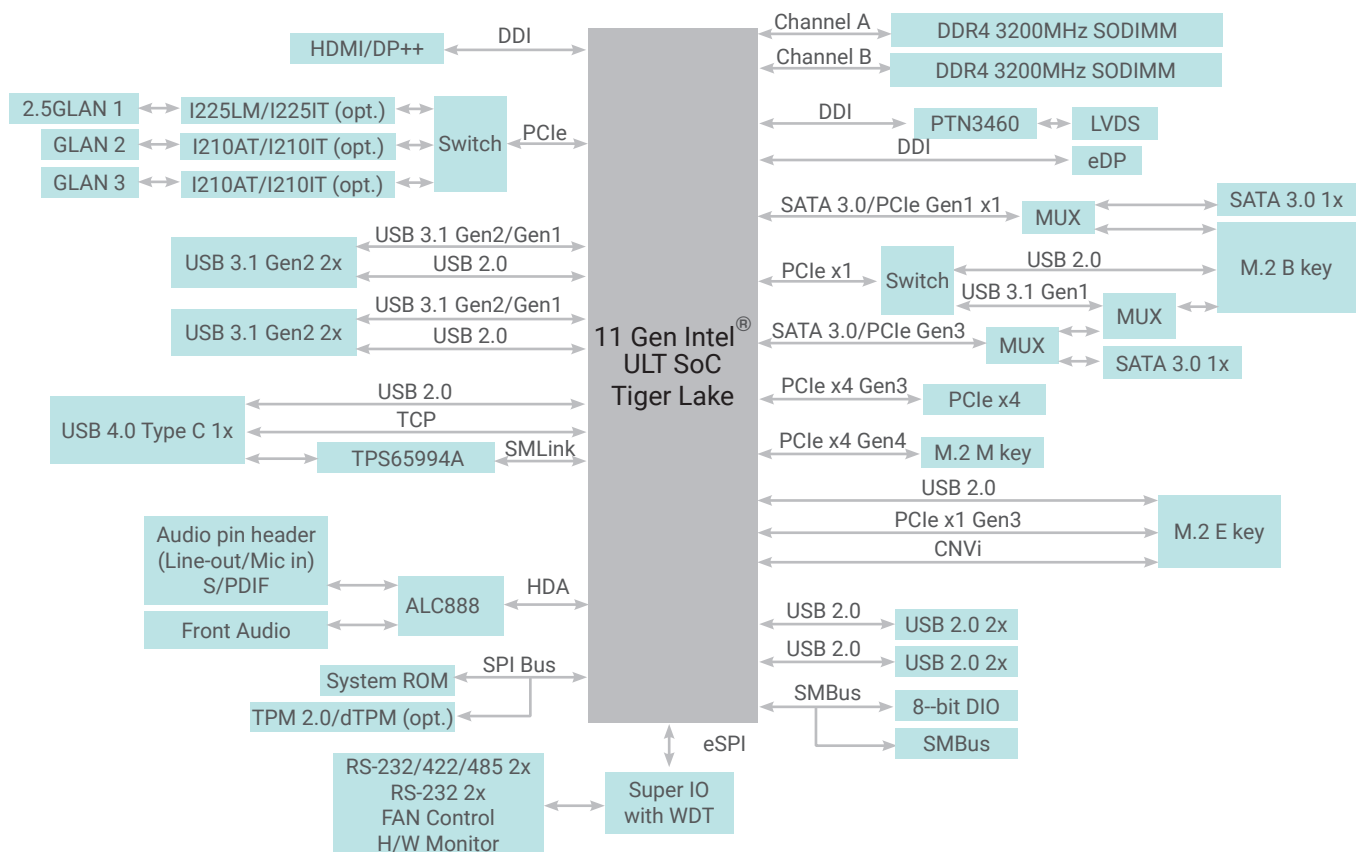
1 M.2 M Key, 1 M.2 B Key,
1 M.2 E Key,
1 PCIe x4



Rich I/O

2 Intel GbE, 1 Intel 2.5GbE, 1 USB Type C,
4 USB 3.1 Gen2, 4 USB 2.0, 4 COM

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	11th Generation Intel® Core™ Processors Intel® Core™ i7-1185G7E, Quad Core, 12M Cache, 1.8GHz (4.4GHz), 15W Intel® Core™ i7-1185GRE, Quad Core, 12M Cache, 1.8GHz (4.4GHz), 15W Intel® Core™ i5-1145G7E, Quad Core, 8M Cache, 1.5GHz (4.1GHz), 15W Intel® Core™ i5-1145GRE, Quad Core, 8M Cache, 1.5GHz (4.1GHz), 15W Intel® Core™ i3-1115G4E, Dual Core, 6M Cache, 2.2GHz (3.9GHz), 15W Intel® Core™ i3-1115GRE, Dual Core, 6M Cache, 2.2GHz (3.9GHz), 15W Intel® Core™ Celeron® 6305RE, Dual Core, 4M Cache, 1.8GHz (1.8GHz), 15W	
	Memory	2 x 260-pin SO-DIMM up to 64GB (32GB per slot) Dual channel DDR4 up to 3200MHz (Support in-band ECC)	
	BIOS	Insyde SPI 256Mbit	
GRAPHICS	Controller	Intel® Iris® Xe Graphics for i7/i5 Processors Intel® UHD Graphics for i3/Celeron Processors	
	Feature	OpenGL 4.5, DirectX 12, OpenCL 2.1 HW Decode: WMV9, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1 HW Encode: AVC/H264, JPEG, HEVC/H265, VP9	
	Display	1 x LVDS 1 x eDP 1 x DP++/HDMI (Auto-detecting) 1 x USB Type C (Support USB3.1 Gen2, 15W power delivery and DP1.4)	LVDS: resolution up to 1920x1200 @60Hz eDP: resolution up to 4096x2304 @60Hz USB Type C: resolution up to 4096x2304 @60Hz DP: resolution up to 4096x2304 @60Hz HDMI: resolution up to 4096x2160 @30Hz
	Quad Displays	LVDS + eDP + DP/HDMI + USB Type C	
EXPANSION	Interface	1 x PCIe x4 (PCIe Gen 3 x4) 1 x M.2 2242/2280 M Key (PCIe Gen4 x4) (Support NVMe and Intel® Optane memory) (Support DFI proprietary expansion module) 1 x M.2 2242/3042/3052 B Key (PCIe Gen1 x1/SATA/USB 3.1 Gen1) (Support 4G/5G and storage module) (Opt.: PCIe Gen1 x2) 1 x M.2 2230 E Key (PCIe Gen3 x1/USB2.0) (Support BT/WiFi and Intel® CNVi module and Intel® vPro) 1 x Nano-SIM Socket (Connect to M.2 Key B for 4G/5G module)	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	2 x Intel® I211AT/I210IT PCIe (10/100/1000Mbps) 1 x Intel® I225LM/I225IT PCIe with AMT and vPro (10/100/1000Mbps/2.5Gbps)	
REAR I/O	Ethernet	3 x GbE (RJ-45)	
	USB	4 x USB 3.1 Gen2 (Type-A) 1 x USB Type-C (Support USB 3.1 Gen2, 15W power delivery and DP 1.4)	
	Display	1 x DP++/HDMI (Auto-detecting)	
INTERNAL I/O	Serial	2 x RS-232/422/485 (2.0mm pitch) 2 x RS-232 (2.0mm pitch) (RS-232 w/ power)	
	USB	4 x USB 2.0 (2.0mm pitch)	
	Display	1 x LVDS 1 x eDP	
	Audio	1 x Front Audio (2.0mm pitch)	
	SATA	2 x SATA 3.0 (up to 6Gb/s) (RAID 0/1) 2 x SATA Power	
	DIO	1 x 8-bit DIO 1 x DIO Power	
	Cooling	1 x CPU fan 1 x System fan	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	dTPM 2.0/TPM(opt.)	
POWER	Type	TGU171: Single 12V +/-5% DC (TGU171) TGU173: Wide Range 9~36V (TGU173)	
	Connector	DC-in Jack Right Angle Connector (4-pin) (available upon request) Straightl Type Connector (4-pin) (available upon request)	
	Consumption	TBD	
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise 64-bit	
	Linux	Linux	

PACKING LIST

1 TGU171/TGU173 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
2 Screws	TBD
1 Heat sink	TBD
1 Driver DVD	

*The items are subject to change in the developing stage.

OPTIONAL ITEMS

COM port cable (Length: 250mm, 1 x COM ports)	A81-015011-001G
USB port cable (Length: 200mm)	A81-001032-016G
Serial ATA data cable (Length: 500mm)	332-553001-005G
Serial ATA power cable (Length: 300mm)	A81-002044-016G