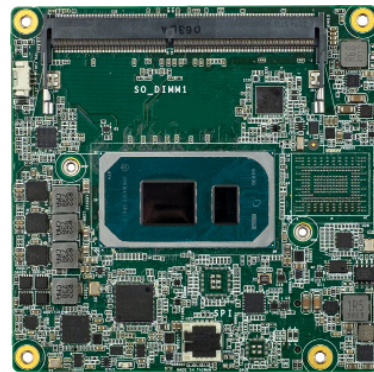
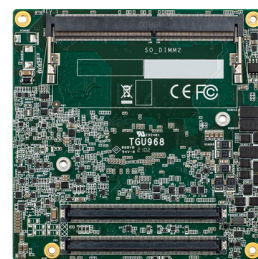


# TGU968

ULT



Front View



Bottom View

## Features

- Dual Channel DDR4 3200MHz SODIMM up to 64GB
- Three independent displays: VGA\* + LVDS\*/eDP + DDI
- DP++ supports 4K x 2K resolution
- Multiple expansion: Up to 8 PCIe x1, 1 I2C, 1 SMBus
- Rich I/O: 1 Intel 2.5GbE, 4 USB 3.2, 8 USB 2.0

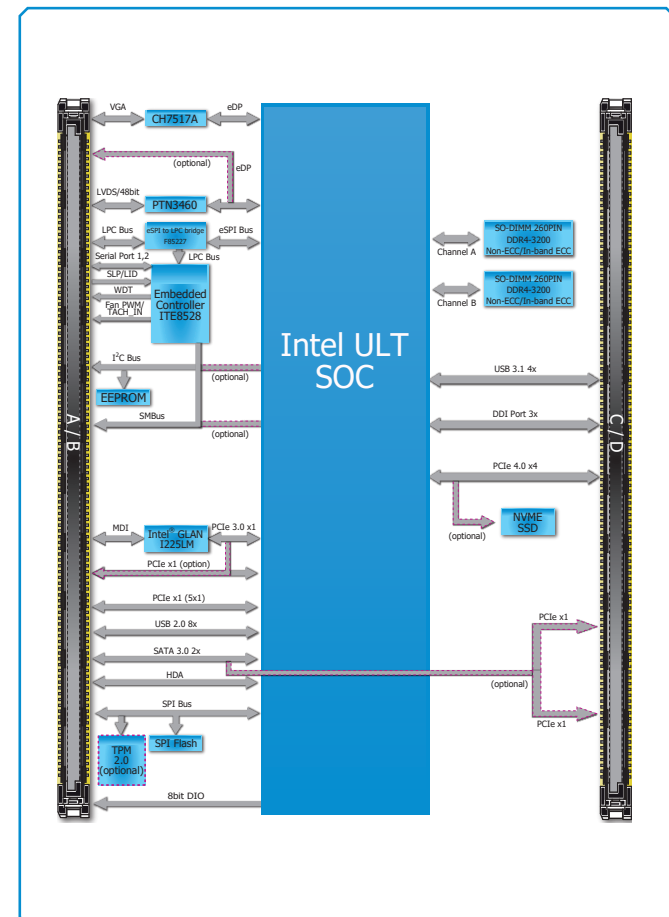
\* Populated by default



## Mechanical Drawing

Coming Soon

## Block Diagram



## Specifications

|                                     |  |   |
|-------------------------------------|--|---|
| <b>SYSTEM</b>                       | <b>Processor</b>                                     | Intel® Core™ i7-1185G7E Processor (Core 4; Max speed 2.8 GHz; TDP 15-28W)<br>Intel® Core™ i7-1185GRE Processor (Core 4; Max speed 2.8 GHz; TDP 15-28W) Support In-band ECC<br>Intel® Core™ i5-1145G7E Processor (Core 4; Max speed 2.6 GHz; TDP 15-28W)<br>Intel® Core™ i5-1145GRE Processor (Core 4; Max speed 2.6 GHz; TDP 15-28W) Support In-band ECC<br>Intel® Core™ i3-1115G4E Processor (Core 2; Max speed 3.0 GHz; TDP 15-28W)<br>Intel® Core™ i3-1115GRE Processor (Core 2; Max speed 3.0 GHz; TDP 15-28W) Support In-band ECC<br>Intel® Celeron® 6305RE Processor (Core 2; Max speed 1.8 GHz; TDP 15W) |
|                                     | <b>Memory</b>  | Two 260-Pin SO-DIMM up to 64GB, Dual Channel DDR4 3200MHz   |
| <b>GRAPHICS</b>                     | <b>BIOS</b>  | AMI BIOS  |
|                                     | <b>Controller</b>                                    | Intel® Iris® Xe graphics  |
|                                     | <b>Feature</b>                                       | OpenGL 5.0, DirectX 12, OpenCL 2.1<br>HW Decode: WMV9, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1<br>HW Encode: AVC/H264, JPEG, HEVC/H265, VP9   |
| <b>Display</b>                      | 1 x VGA  | VGA: resolution up to 1920x1200 @ 60Hz  |
|                                     | 1 x LVDS/eDP (eDP available upon request)<br>3 x DDI | LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz<br>eDP: resolution up to 4096x2304 @ 60Hz<br>HDMI: resolution up to 4096x2160 @ 30Hz<br>DP++: resolution up to 4096x2304 @ 60Hz  |
| <b>Triple Displays</b>              | VGA + LVDS + DDI                                     | DDI + eDP + DDI (available upon request)  |
| <b>EXPANSION</b>                    | <b>Interface</b>                                     | 1 x PCIe x4 (Gen 4)<br>5 x PCIe x1 (Gen3) (8 x PCIe x1 available upon request)<br>1 x I2C<br>1 x SMBus<br>1 x SPI<br>2 x UART (TX/RX)   |
|                                     | <b>Controller</b>                                    | HD Audio  |
| <b>AUDIO</b>                        | <b>Controller</b>                                    | 1 x Intel® I225 series (10/100/1000Mbps/2.5G), co-lay PCIe x1 (available upon request)  |
| <b>ETHERNET</b>                     | <b>USB</b>   | 4 x USB 3.2 Gen.2<br>8 x USB 2.0  |
|                                     | <b>SATA</b>  | 2 x SATA 3.0 (up to 6Gb/s), co-lay PCIe x1 (available upon request)   |
|                                     | <b>NVMe SSD</b>                                      | 1 x 64GB/128GB/256GB/512GB/1024GB on board SSD (available upon request)   |
|                                     | <b>DIO</b>   | 1 x 8-bit DIO   |
| <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>   | Available Upon Request  |
| <b>POWER</b>                        | <b>Type</b>  | 8.5~20V, 5VSB, VCC_RTC (ATX mode)   |
|                                     | <b>Consumption</b>                                   | 8.5~12V, VCC_RTC (AT mode)<br>TBD   |
| <b>OS SUPPORT</b>                   |  | Windows: Windows 10 IoT Enterprise 64-bit Linux   |
| <b>ENVIRONMENT</b>                  | <b>Temperature</b>                                   | Operating: 0 to 60°C, -40 to 85°C   |
|                                     | <b>Humidity</b>                                      | Operating: 10 to 90% RH   |
|                                     | <b>MTBF</b>  | Storage: -40 to 85°C<br>Storage: 10 to 90% RH<br>TBD  |
| <b>MECHANICAL</b>                   | <b>Dimensions</b>                                    | COM Express® Compact  |
|                                     | <b>Compliance</b>                                    | 95mm (3.74") x 95mm (3.74")<br>PICMG COM Express® R3.0, Type 6  |
| <b>STANDARDS AND CERTIFICATIONS</b> | <b>Certification</b>                                 | CE, FCC   |

## Ordering Information

| Model Name         | P/N              | Processor     | Memory   | LVDS/eDP | LAN/PCIe | SATA/PCIe | USB3.2 Gen2 | USB2.0 | Power  | Thermal  | Temperature |
|--------------------|------------------|---------------|----------|----------|----------|-----------|-------------|--------|--------|----------|-------------|
| TGU968-TS6-1185GRE | 770-TGU9681-000G | I7-1185GRE    | 2 SODIMM | LVDS     | LAN      | SATA      | 4           | 8      | ATX/AT | Cooler   | -40 to 85°C |
| TGU968-BS0-1145G7E | 770-TGU9681-100G | I5-1145G7E    | 2 SODIMM | LVDS     | LAN      | SATA      | 4           | 8      | ATX/AT | Heatsink | 0 to 60°C   |
| TGU968-TS0-1115GRE | 770-TGU9681-200G | I3-1115GRE    | 2 SODIMM | LVDS     | LAN      | SATA      | 4           | 8      | ATX/AT | Cooler   | -40 to 85°C |
| TGU968-BS0-6305E   | 770-TGU9681-300G | Celeron 6305E | 2 SODIMM | eDP      | LAN      | SATA      | 4           | 8      | ATX/AT | Heatsink | 0 to 60°C   |

Remark: The SKU availability could change without notice in advance.