

## TRIA C6C-WLU

Intel® Core™ 8th Generation



95 x 95

17 / 19W

0-+60

**COM**   
**Express**



## Highlights

- Intel® Core™ i7-8665UE quad-core 1.7/4.4 GHz, 8MB L2, 15W TDP
- Intel® Core™ i5-8365UE quad-core 1.6/4.1 GHz, 6MB L2, 15W TDP
- Intel® Core™ i3-8145UE dual-core 2.2/3.9 GHz, 4MB L2, 15W TDP
- Intel® Celeron® 4305UE dual-core 2.0 GHz, 2MB L2, 15W TDP
- Integrated Intel® UHD Graphics 610, 620
- Up to 16 GB DDR4-2400 SDRAM, dual-channel, memory down
- Two SATA 6Gb/s mass storage interfaces
- Two DisplayPort/HDMI/DVI interfaces
- Embedded DisplayPort / LVDS (24 Bit, dual channel) interface
- Three independent displays supported
- DirectX 12, OpenGL 4.5, OpenCL™
- Resolution up to 4096 x 2304
- Four USB 3.1/2.0 and four USB 2.0 interfaces
- Eight PCI Express™ x1 lanes
- Wi-Fi module with IEEE 802.11ac and Bluetooth® 5
- Trusted Platform Module 2.0
- UEFI Firmware

## Technical Data

|                           |                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technology</b>         | x86                                                                                                                                                                                                                                                                                                                                          |
| <b>Formfactor</b>         | COM Express Compact                                                                                                                                                                                                                                                                                                                          |
| <b>CPU</b>                | Intel® Core™ i7-8665UE quad-core 1.7/4.4 GHz, 8MB L2, 15W TDP<br>Intel® Core™ i5-8365UE quad-core 1.6/4.1 GHz, 6MB L2, 15W TDP<br>Intel® Core™ i3-8145UE dual-core 2.2/3.9 GHz, 4MB L2, 15W TDP<br>Intel® Celeron® 4305UE dual-core 2.0 GHz, 2MB L2, 15W TDP                                                                                 |
| <b>Chipset</b>            | Integrated in Multi-Chip-Package                                                                                                                                                                                                                                                                                                             |
| <b>RAM</b>                | Up to 2x 8 GB DDR4 SDRAM (DDR4-2400); dual channel operation; memory down                                                                                                                                                                                                                                                                    |
| <b>Storage Interfaces</b> | 2x SATA 6Gb/s                                                                                                                                                                                                                                                                                                                                |
| <b>USB</b>                | 4x USB 3.1/2.0,<br>4x USB 2.0                                                                                                                                                                                                                                                                                                                |
| <b>Serial Interfaces</b>  | 2x high-speed serial ports from PCH                                                                                                                                                                                                                                                                                                          |
| <b>Bus Interfaces</b>     | 9x PCI Express x1 Gen3,<br>LPC bus (Low Pin Count bus; no DMA support)                                                                                                                                                                                                                                                                       |
| <b>Display Controller</b> | Integrated Intel HD graphics Gen. 9<br>3D Acceleration: DirectX® 11/12, OpenGL 4.5, OpenGL ES 2.0, OpenCL™;<br>Video Decode: H.264 @ Level 5.2, H.265/HEVC 10-bit, MPEG2, VC1/WMV, JPEG, VP8, VP9 10-bit;<br>Video Encode: H.264, H.265, VP8, VP9, AVC M/JPEG.<br>Triple independent display support                                         |
| <b>Display Interfaces</b> | Display Port and HDMI/DVI:<br>2x Digital Display Interface, usable as DisplayPort 1.2 (up to 4096 x 2304 @ 60Hz), also usable as HDMI 1.4 or DVI (up to 4096 x 2160 @ 30Hz)<br>1x Embedded DisplayPort 1.4 (on variants without LVDS only); 4096 x 2304 @ 60Hz<br>LCD:<br>LVDS 24bit, dual-channel (not on all variants); 1920 x 1200 @ 60Hz |
| <b>Network Interface</b>  | 10/100/1000Base-TX (Intel i219)<br>Wi-Fi Module (optional), Intel® Wireless-AC 9560, IEEE 802.11ac, Bluetooth® 5                                                                                                                                                                                                                             |
| <b>Audio Interface</b>    | High Definition Audio                                                                                                                                                                                                                                                                                                                        |
| <b>Security Device</b>    | TPM 2.0                                                                                                                                                                                                                                                                                                                                      |
| <b>Miscellaneous</b>      | Watchdog Timer:<br>Initiates system reset, programmable<br>Fan Supply:<br>4-pin header for CPU fan, PWM speed controlled<br>and PWM speed control for system fan supported<br>RTC battery:<br>external<br>System Monitoring:<br>voltage, temperature, CPU fan, system fan                                                                    |
| <b>Feature Highlights</b> | Type 6 pin-out                                                                                                                                                                                                                                                                                                                               |

# COM Express Type 6



|                          |                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Firmware</b>          | UEFI Firmware:<br>AMI Aptio® V<br>Security:<br>TPM 2.0 support, TCG compliant<br>Power Management:<br>ACPI<br>Active fan control<br>USB:<br>USB legacy support (keyboard, mouse, storage)<br>Monitoring:<br>System Monitoring<br>Health Monitoring<br>Tria Adv. Boot Device Selection:<br>Boot device priority setting based on physical interfaces |
| <b>OS Support</b>        | Windows 10 (embedded)<br>BSP for Linux (Yocto)<br>EAPI (HW Programming Interface)                                                                                                                                                                                                                                                                   |
| <b>Power Requirement</b> | 12V +/-5%, 5V Stby optional,<br>17 W to 19 W (typ.)                                                                                                                                                                                                                                                                                                 |
| <b>Environment</b>       | Ambient Temperature;<br>0° ... 60°C (operating),<br>-25° ... 85°C (storage)<br>Humidity:<br>5 ... 95% (operating, non-condensing),<br>5 ... 95% (storage, non-condensing)                                                                                                                                                                           |
| <b>Dimensions</b>        | 95mm x 95mm                                                                                                                                                                                                                                                                                                                                         |

Technical Data for TRIA C6C-WLU

## Order Reference

| Order No. | Description                                                                                                                                                                                                                                                                                                      | Reference                         | Status * |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------|
| 80782     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Core i7-8665UE, four-core, 1.7/4.4GHz, 15W TDP; 16GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM.               | MSC C6C-WLU-8665UE-4 N201C PCBFTX | PV       |
| 80784     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Core i7-8665UE, four-core, 1.7/4.4GHz, 15W TDP; 16GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; Wi-Fi module; TPM. | MSC C6C-WLU-8665UE-4 N211C PCBFTX | OR       |
| 80778     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Core i5-8365UE, four-core, 1.6/4.1GHz, 15W TDP; 8GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM.                | MSC C6C-WLU-8365UE-3 N201C PCBFTX | PV       |
| 80780     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Core i5-8365UE, four-core, 1.6/4.1GHz, 15W TDP; 16GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; Wi-Fi module; TPM. | MSC C6C-WLU-8365UE-4 N211C PCBFTX | PV       |
| 80774     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Core i3-8145UE, dual-core, 2.2/3.9GHz, 15W TDP; 4GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); eDP; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM.                 | MSC C6C-WLU-8145UE-2 N101C PCBFTX | OR       |
| 80776     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Core i3-8145UE, dual-core, 2.2/3.9GHz, 15W TDP; 8GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM.                | MSC C6C-WLU-8145UE-3 N201C PCBFTX | PV       |
| 80750     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Celeron 4305UE, dual-core, 2.0GHz, 15W TDP; 4GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); eDP; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM.                     | MSC C6C-WLU-4305UE-2 N101C PCBFTX | PV       |

# COM Express Type 6



| Order No. | Description                                                                                                                                                                                                                                                                                   | Reference                            | Status* |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------|
| 80772     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Celeron 4305UE, dual-core, 2.0GHz, 15W TDP; 4GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM. | MSC C6C-WLU-4305UE-2<br>N201C PCBFTX | OR      |
| 81210     | COM Express Type 6 Compact module (95mm x 95mm);<br>CPU: Intel Celeron 4305UE, dual-core, 2.0GHz, 15W TDP; 8GB DDR4 SDRAM;<br>Graphics: integrated Intel HD Gen 9 (GT2); LVDS; 2x DP/HDMI/DVI;<br>Ethernet: Intel i219 Gbit; HD audio;<br>2x SATA, 4x USB3/2, 4x USB2, 9x PCIe x1 Gen 3; TPM. | MSC C6C-WLU-4305UE-3<br>N201C PCBFTX | PV      |

Ordering Information for TRIA C6C-WLU

\*PV = Preferred variant; OR = on Request (in OEM quantities only)

## Accessories

### Carrier Boards

| Order No. | Description                                                                                                                                                                                                                                                                                       | Reference                  |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 67295     | COM Express Type 6 Evaluation Carrier Board with PCI Express x4/x16 slot, USB 3.0/2.0, GbE, SATA, DisplayPort, eDP/LVDS, VGA and HD audio interfaces; Mini PCI Express socket, SD card slot, ATX power connector and single 12V power jack. Dimensions: 170mm x 170mm (Mini-ITX form factor)      | MSC C6-MB-EV-001<br>PCBFTX |
| 41857     | COM Express Type 6 Evaluation Carrier Board with various PCI Express x1, x4 and x16 slots, USB 3.0/2.0, GbE, SATA, DisplayPort, HDMI, LVDS, eDP, VGA, HD audio interfaces; mSATA and Mini PCI Express sockets, POST code display, ATX power connector. Dimensions: 305 x 244 mm (ATX form factor) | MSC C6-MB-EVA<br>PCBFTX    |

Carrier Board TRIA C6B-KLH/CFLR/CFLH/TRIA C6C-TLU/WLU/KLU/EL/AL/BT

### Cooling Solutions

| Order No. | Description                                                                                                                                                                                                   | Reference                 |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 80060     | Passive Heatsink for C6C-WLU, consisting of a single-piece aluminum profile with fins, standoffs without thread (2.7mm inner diameter), screws and thermal interface material for the thermal contact to SOC. | MSC C6C-WLU-01 HSI-001    |
| 80072     | Heatspreader for C6C-WLU. Single-piece aluminum profile, standoffs without thread (2.7mm inner diameter), screws and thermopad for the thermal contact to SOC.                                                | MSC C6C-WLU-01<br>HSP-001 |
| 80074     | Heatspreader for C6C-WLU. Single-piece aluminum profile, threaded standoffs (M2.5), screws and thermopad for the thermal contact to SOC.                                                                      | MSC C6C-WLU-02<br>HSP-001 |

Cooling Devices for TRIA C6C-WLU

| Order No. | Description                                                                                                                                                                                                      | Reference                     |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| 79809     | Fan kit for Heatsink MSC HCA-ALP/RLP/MLH/PLH-0x HSI-xxx, MSC C6B-TLH/ALP/RLP/MLH-0x HSI-xxx, MSC C6C-WLU/TLU/ALP/RLP/PLH-0x HSI-xxx, MSC C6C-EL/ALN/ASL-0x HSI-xxx, MSC C6C-RYZx-0x HSI-xxx, PWM fan 80x80x15mm. | MSC C6C-FANKIT-01-<br>HSF-001 |

Fan Kit for COM Express Heatsinks

# COM Express Type 6



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