



EMS-TGL-6COM

11th Gen Intel® Core™ Processor i7/i5/i3 Fanless Rugged Embedded System w_4COM IET Module

- > On board 11th Gen. Intel® Core™ i7/i5/i3 BGA Processor
- > 2x 260-pin SODIMM socket Max. up to 64GB DDR4 3200MT/s
- > Rich I/O, 4-USB3.1, 2-USB2.0, 1-DP, 1-HDMI, 6-COM, 2-LAN, 1-8bit GPIO.
- > Support 5G (Sub-6G) module, M.2 NVMe SSD Gen. III x 4, HDMI 2.0b (4K @ 60Hz), LAN 2.5G Base-Tx GbE
- > Fanless operation temperature from -40°C ~ 70°C (WT) / 0°C ~ 70°C (ST)
- > CE, FCC Class B, IP50
- > Wide range DC power input from +9~32V
- > Support HW TPM 2.0

+ Spec

System Information

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|---------------------------|--|
| Processor | On board 11th Gen. Intel® Core™ i7/i5/i3 BGA Processor Intel® Core™ i7- 1185GRE (15W, 12M Cache, up to 2.80 GHz), WT Intel® Core™ i5- 1145GRE (15W, 8M Cache, up to 2.60 GHz), WT Intel® Core™ i3- 1115GRE (15W, 6M Cache, up to 3.00 GHz), WT Intel® Core™ i7- 1185G7E (15W, 12M Cache, up to 2.80 GHz), ST Intel® Core™ i5- 1145G7E (15W, 8M Cache, up to 2.60 GHz), ST Intel® Core™ i3- 1115G4E (15W, 6M Cache, up to 3.00 GHz), ST |
| System Memory | 2 x 260-pin SODIMM socket Max. up to 64GB DDR4 3200 MT/s |
| I/O Chipset | EC ITE IT8528E |
| BIOS Information | AMI uEFI BIOS 256 Mbit SPI Flash ROM |
| Watchdog Timer | H/W Reset, 1sec. ~ 65535sec. |
| H/W Status Monitor | CPU & system temperature monitoring and Voltages monitoring |
| SBC | EBM-TGLS + AUX-M01 |

Expansion

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|------------------|--|
| Expansion | 1 x M.2 Key-B 2242/3042/3052 support SATA3/ PCIeIII x1/ USB3.1 and SIM slot1 1 x M.2 Key-E 2230 for Wi-Fi & BT Module(CNV1) |
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Storage

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| Storage | 1 x M.2 Key-M 2242/2280, support PCIe Gen. III x 4 (NVMe SSD) 1 x M.2 Key-B 2242, support SATA (share with expansion slot) |
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I/O

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|-----------------|--|
| USB Port | 2 x USB 3.1 Gen.2 (10Gbp/s) 2 x USB 3.1 Gen.1 (5Gbp/s) 2 x USB 2.0 |
| COM Port | 6 x COM RS232/422/485 (select via BIOS, auto flow control via HW) |
| GPIO | 1 x 8-bit GPIO (DB9) |
| SIM Slot | 1 x internal SIM slot |
| Antenna | 8 x Antenna with dust cover (6 x LTE+GPS / 2 x Wifi) |

Display

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| Graphic Chipset | Intel® Iris® Xe Graphics (i7-1185GRE/i5-1145GRE/i7-1185G7E/i5-1145G7E) Intel® UHD Graphics for 11th Gen Intel® Processors (i3-1115GRE/i3-1115G4E) |
| Spec. & Resolution | DP++ 1.4: Max. resolution 4096x2304 @ 60Hz HDMI 2.0b : Max. resolution 4096x2304 @ 60Hz |
| Multiple Display | Dual Displays |

Audio

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|------------------------|--------------------------|
| Audio Codec | Realtek ALC888S HD codec |
| Audio Interface | Mic-In, Line-Out |

Certifications

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| Certification Information | CE FCC Class B |
|----------------------------------|-------------------|

Ethernet

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|---------------------------|---|
| LAN Chipset | 1 x Intel® I225-LM 1 x Intel® I219-LM |
| Ethernet Interface | 1 x 10/100/1000/2.5G Base-Tx GbE compatible 1 x 10/100/1000Base-Tx GbE compatible. |
| LAN Port | 2 x RJ-45 |

Power Requirement

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| DC Input | DC in 12/24V (+9V ~ +32V), wide voltage single power input TVS component for surge protection Reverse current/voltage protection (Max. Currency: 13A) |
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|---------------------------------------|--|
| DC Input Connector | 3-Pin Terminal Block (V+, V-, GND) |
| ACPI | Single power ATX Support S0,S3, S4, S5 ACPI 5.0 Compliant |
| Power Mode | AT/ATX (ATX is default setting) |
| Mechanical & Environmental | |
| Operating Temperature | -40°C ~ 70°C (w/SSD) ambient w/ air flow, WT sku 0°C ~ 70°C (w/SSD) ambient w/ air flow, ST sku |
| Storage Temperature | -40°C ~ 75°C (-40°F ~ 167°F) |
| Operating Humidity | 40°C @ 95% Relative Humidity, Non-condensing |
| Dimension (W x L x H) | 240mm x 150mm x 69 mm (w/ IET module) |
| Weight | TBD |
| Vibration Test | With SSD : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis |
| Shock Test | With SSD : 55Grms, IEC 60068-2-27, Half Sine, 11ms |
| IP Rating | IP 50 |
| Mounting Kit | Wall mount kit (standard) DIN RAIL (optional) |
| Software Support | |
| OS Information | Win 10 64bit Linux |
| Ordering Information | |
| Ordering Information | EMS-TGL-6COM 11th Gen Intel® Core™ Processor i7/i5/i3 Fanless Rugged Embedded System, w_4COM IET Module EMS-TGL-W85-A1-2R (i7-1185GRE) EMS-TGL-W45-A1-2R (i5-1145GRE) EMS-TGL-W15-A1-2R (i3-1115GRE) EMS-TGL-S85-A1-2R (i7-1185G7E) EMS-TGL-S45-A1-2R (i5-1145G7E) EMS-TGL-S15-A1-2R (i3-1115G4E) |