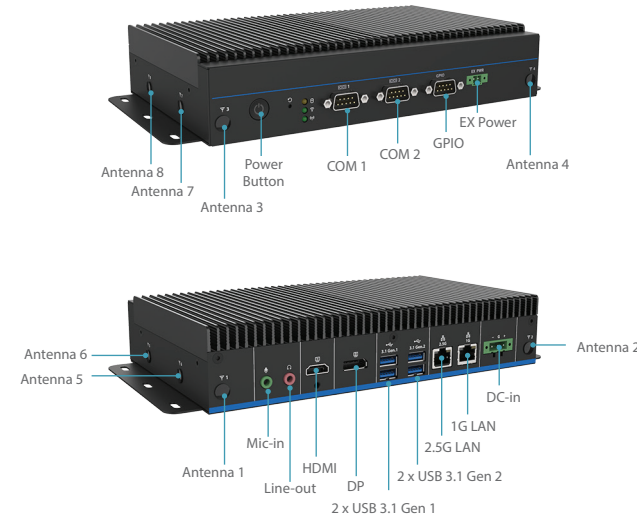


### Features

- 11th Gen. 10nm Intel® Core™ i7/i5/i3 Tiger Lake UP3 BGA onboard
- Intel® Iris Xe Graphic (Gen 12), up to 96 Execution Units (EU)
- Supports IET expansion modules - Intelligent Expansion Technology (IET) provides high expandability and flexibility for developing or integrating with application-specific I/O requirements
- 2 x SODIMM sockets support up to 64GB DDR4 3200MT/s
- 2.5G Base-Tx GbE LAN - Intel® I225-LM Gigabit Ethernet Controllers
- M.2 supports 5G (Sub-6G) module, NVMe SSD
- 8 x Antenna Holes
- Supports 4K Dual Display: DP++, HDMI 2.0b 4096x2304 max
- Supports Wide Temperature (-40°C ~ 70°C)
- Supports Wide Range DC (+9 ~ +32 V)
- Fanless, Rugged, metal chassis with IP-50 rating
- Anti-shock (5G) and Anti-vibration (55G)
- Wall Mount, optional Din-Rail Mount
- Supports HW TPM 2.0




Contact BCMSales@bcmcom.com for more information regarding IET modules.


**EMS-TGL Rugged BOX PC**  
Standard, without expansion module

→


**IET Expansion Modules**  
Adding more COM/USB/LAN/GPIO I/O interfaces flexibilities with Intelligent Expansion Technology




**AUX\_M01: 2USB + 4COM**  
Application Example: Gate Control, Fare Collection



**AUX\_M02: 4LAN + 2USB**  
Application Example: Router / Workstation



**AUX\_M03: 2USB + 4COM with isolation**  
Application Example: Automation / Factory



**AUX\_M04: 4LAN PoE(af) + 2USB**  
Application Example: Surveillance System/AGV

### Specifications

System	
CPU	11th Gen. Intel® Core™ i7/i5/i3 BGA Processor Onboard. Processor options: i7- 1185GRE (15W, 12M Cache, up to 2.80 GHz) - Wide Temp. i5- 1145GRE (15W, 8M Cache, up to 2.60 GHz) - Wide Temp. i3- 1115GRE (15W, 6M Cache, up to 3.00 GHz) - Wide Temp. i7- 1185G7E (15W, 12M Cache, up to 2.80 GHz) - Standard Temp. i5- 1145G7E (15W, 8M Cache, up to 2.60 GHz) - Standard Temp. i3- 1115G4E (15W, 6M Cache, up to 3.00 GHz) - Standard Temp.
System Memory	2 x 260-pin SODIMM socket Max. up to 64GB DDR4 3200 MT/s
BIOS	AMI uEFI BIOS 256 Mbit SPI Flash ROM
I/O Chip	EC ITE IT8528E
Audio Codec	Realtek HD Audio
Ethernet	1 x Intel I225-LM: 10/100/1000/2.5G Base-Tx GbE Compatible 1 x Intel I219-LM: 10/100/1000Base-Tx GbE Compatible
Expansion	1 x M.2 B-Key 2242/3042/3052 supports SATA III/ PCIe3 x1/ USB 3.1 and SIM card slot 1 x M.2 E-Key 2230 for Wi-Fi & BT Module (CNVi) 1 x IET Interface (1 x DDI, 2 x PCIe3 x2, 3 x USB 2.0, 1 x Line-out (R/L), 1 x SMBus, LPC)
Storage	1 x M.2 M-Key 2242/2280, supports PCIe3 x 4 (NVMe SSD) 1 x M.2 B-Key 2242, supports SATA (share with expansion slot)
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	CPU & system temperature monitoring and voltages monitoring
Supported OS	Win 10 64-bit, Linux

Display	
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)
Resolution	DP++ 1.4: 4096x2304 @ 60Hz HDMI 2.0b : Max. Resolution 4096x2304 @ 60Hz
Display Output	Supports Dual Display
Interface	1 x DP 1.4 (eDP to DP) 1 x HDMI 2.0b (DDI)

External I/O	
USB	2 x USB 3.1 Gen.2 (10Gbp/s) 2 x USB 3.1 Gen.1 (5Gbp/s)
Display	1 x HDMI 1 x DP
LAN	2 x RJ45
Audio	1 x Line-out, 1 x Mic-in
COM Port	2 x COM RS232/422/485 (select via BIOS, auto flow control via HW)
SIM Card Slot	1 x Internal SIM Card Slot
GPIO	1 x 8-bit GPIO (DB9)
Antenna	8 x Antenna with dust cover (6 x LTE+GPS / 2 x Wi-Fi)
Power	1 x Power Button 1 x EX Power 1 x DC-in
LED Indicators	WLAN, WWAN HDD, Reset

Power Requirement	
DC Input Connector	3-Pin Terminal Block (V+, V-, GND)
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)
ACPI	Single power ATX Support S0,S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)

Mechanical and Environment	
Operating Temp	-40°C ~ 70°C (w/SSD) ambient w/ air flow - Wide Temp 0°C ~ 70°C (w/SSD) ambient w/ air flow, Standard Temp
Storage Temp	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Mounting	Standard: Wall Mount Kit Optional: Din Rail Mount Kit
Dimension	Standard: 9.45" x 5.9" x 1.89" (240 x 150 x 48mm) Optional: 9.45" x 5.9" x 2.72" (240 x 150 x 69mm) (w/ IET Module)
Weight	2.1 kg (System) 2.9 kg (With Package)
IP Rating	IP 50
Vibration Protection	With SSD : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Protection	With SSD : 55Grms, IEC 60068-2-27, Half Sine, 11ms
Certification	CE, FCC Class B

Ordering Info	
EMS-TGL-i7W	Intel® Core™ i7-1185GRE Processor, 8GB DDR4, 2 x COM, 4 x USB 3.1, 2 x M.2, 1 x HDMI, 1 x DP, 2 x LAN, 9-32V DC, Fanless, Wide Temp -40 to 70C Dimension: 9.45"(W) x 5.9"(D) x 1.89"(H)
EMS-TGL-i5W	Intel® Core™ i5-1145GRE Processor, 8GB DDR4, 2 x COM, 4 x USB 3.1, 2 x M.2, 1 x HDMI, 1 x DP, 2 x LAN, 9-32V DC, Fanless, Wide Temp -40 to 70C Dimension: 9.45"(W) x 5.9"(D) x 1.89"(H)
EMS-TGL-i3W	Intel® Core™ i3-1115GRE Processor, 8GB DDR4, 2 x COM, 4 x USB 3.1, 2 x M.2, 1 x HDMI, 1 x DP, 2 x LAN, 9-32V DC, Fanless, Wide Temp -40 to 70C Dimension: 9.45"(W) x 5.9"(D) x 1.89"(H)
EMS-TGL-i7S	Intel® Core™ i7-1185G7E Processor, 8GB DDR4, 2 x COM, 4 x USB 3.1, 2 x M.2, 1 x HDMI, 1 x DP, 2 x LAN, 9-32V DC, Fanless, 0 to 40C Dimension: 9.45"(W) x 5.9"(D) x 1.89"(H)
EMS-TGL-i5S	Intel® Core™ i5-1145G7E Processor, 8GB DDR4, 2 x COM, 4 x USB 3.1, 2 x M.2, 1 x HDMI, 1 x DP, 2 x LAN, 9-32V DC, Fanless, 0 to 40C Dimension: 9.45"(W) x 5.9"(D) x 1.89"(H)
EMS-TGL-i3S	Intel® Core™ i3-1115G4E Processor, 8GB DDR4, 2 x COM, 4 x USB 3.1, 2 x M.2, 1 x HDMI, 1 x DP, 2 x LAN, 9-32V DC, Fanless, 0 to 40C Dimension: 9.45"(W) x 5.9"(D) x 1.89"(H)

\* All product specifications and images are subject to change without notice. Last update: 03/08/2028

