

ABOX-5220(G)

14th Generation Intel® Core™ Processor with Discrete NVIDIA and Intel GPU Options for Edge AI Solution



- Discrete NVIDIA RTX™ Embedded GPU Options for AI Acceleration
- 2 x TSN Ready 2.5GbE Controller for Time-Sensitive Network
- 8 x GbE with Optional PoE Support for Easy Connection with IP Camera
- 8 x DI (9~60VDC), 2 x ADC (9~60VDC), and 4 x DO (5V, 100mA)
- Certified with CE, FCC and E-Mark
- Compliant with EN 50155, EN 45545-2 R25 Standards

Specifications

System

Processor

- Intel® Core™ i9 processor 14900T
- Intel® Core™ i7 processor 14700T
- Intel® Core™ i5 processor 14500T
- Intel® Core™ i3 processor 14100T

Graphics

- Processor Built-in GPU - Intel® UHD 700 Series Graphics
- Optional Discrete GPU - NVIDIA RTX™ Embedded 2000 Ada / 3500 Ada / 5000 Ada Intel Arc A370E

Chipset

- R680E

Memory

- 2 x SO-DIMM Support DDR5-4800 up to 64GB (ECC Support with ECC DRAM)

Security

- TPM 2.0

Watchdog

- System power on/off 1 ~ 255 min setting by BIOS

Interface

Video

- Without Discrete GPU :
 - 2 x DP 1.4 (Maximum Resolution : 7680 x 4320 @ 60Hz)
 - 2 x HDMI (Maximum Resolution : 4096 x 2160 @ 60Hz)
- With Discrete GPU :
 - Additional 2 x DP 1.4 (Maximum Resolution : 7680 x 4320 @ 60Hz) and 2 x HDMI (Maximum Resolution : 4096 x 2160 @ 60Hz)

Audio

- 1 x Line-out, 1 x Line-in, and 1 x MIC

Ethernet

- 2 x I226-IT 2.5GbE RJ45 and 8 x I210-AT GbE RJ45 (Optional PoE with Total 120W Power Budget and M12 X-coded Connectors)

USB

- 8 x USB 3.2 Gen 2x1 10Gbps

DIO/ADC

- 8 x DI (9~60VDC), 2 x ADC (9~60VDC), 4 x DO (5V, 100mA)

Serial Port

- 4 x RS-232/422/485

Internal Expansion

M.2

- 2 x M.2 3042/52 Key B for WWAN (USB3.0) with Dual SIM Support
- 1 x M.2 2230 Key E for WiFi

* Thermal solution is required for M.2 5G Module

Mini-PCIe

- 2 x Mini-PCIe

Storage

Type

- 2 x M.2 2280 Key M for PCIe 4.0 x4 NVMe SSD
- 1 x M.2 2280 Key M for PCIe 4.0 x4 NVMe or SATA SSD (Auto Detection)
- 2 x 2.5" Drive Bay for SATA Type SSD

* Thermal solution is required for M.2 NVMe and SATA SSD

Power

Power Input

- DC 9~60V

Power Protection

- OCP, OVP, Surge and Reversed Polarity Protection

Power Management

- Ignition Detection, and Power off Delay Time Setting by Software

Battery (UPS)

- Optional Internal Battery Kit for 10 Mins Operating Time (Charging Temp. 0~45°C, Discharging Temp. -10~60°C)

* UPS backup time varies depending on actual overall system power consumption and battery is required to be charged before using

Software

Operating System

- Windows 10 IoT Enterprise LTSC
- Windows 11 IoT Enterprise LTSC
- Ubuntu Desktop 22.04

Environmental

Operating Temp.

- -40°C ~ 70°C w/0.6 m/s airflow (for barebone system)

* Operating Temp. Varies by Accessories Installed.

Storage Temp.

- -40°C ~ 80°C

Relative Humidity

- 10% RH – 90% RH (non-condensing)

Vibration (with SSD)

- MIL-STD-810G, Method 514.6, Procedure I, Cat.4 (Operating)
- IEC60068-2-64, random, 2.5G@5~500Hz, 1hr/axis

Shock (with SSD)

- MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=15G (11ms) with SSD (Operating)

Certification and Standards

- Certified with CE, FCC and E-Mark
- Compliant with EN 50155, EN 45545-2 R25 Standards

Mechanical

Construction

- Aluminum Alloy

Mounting

- Wall-mount

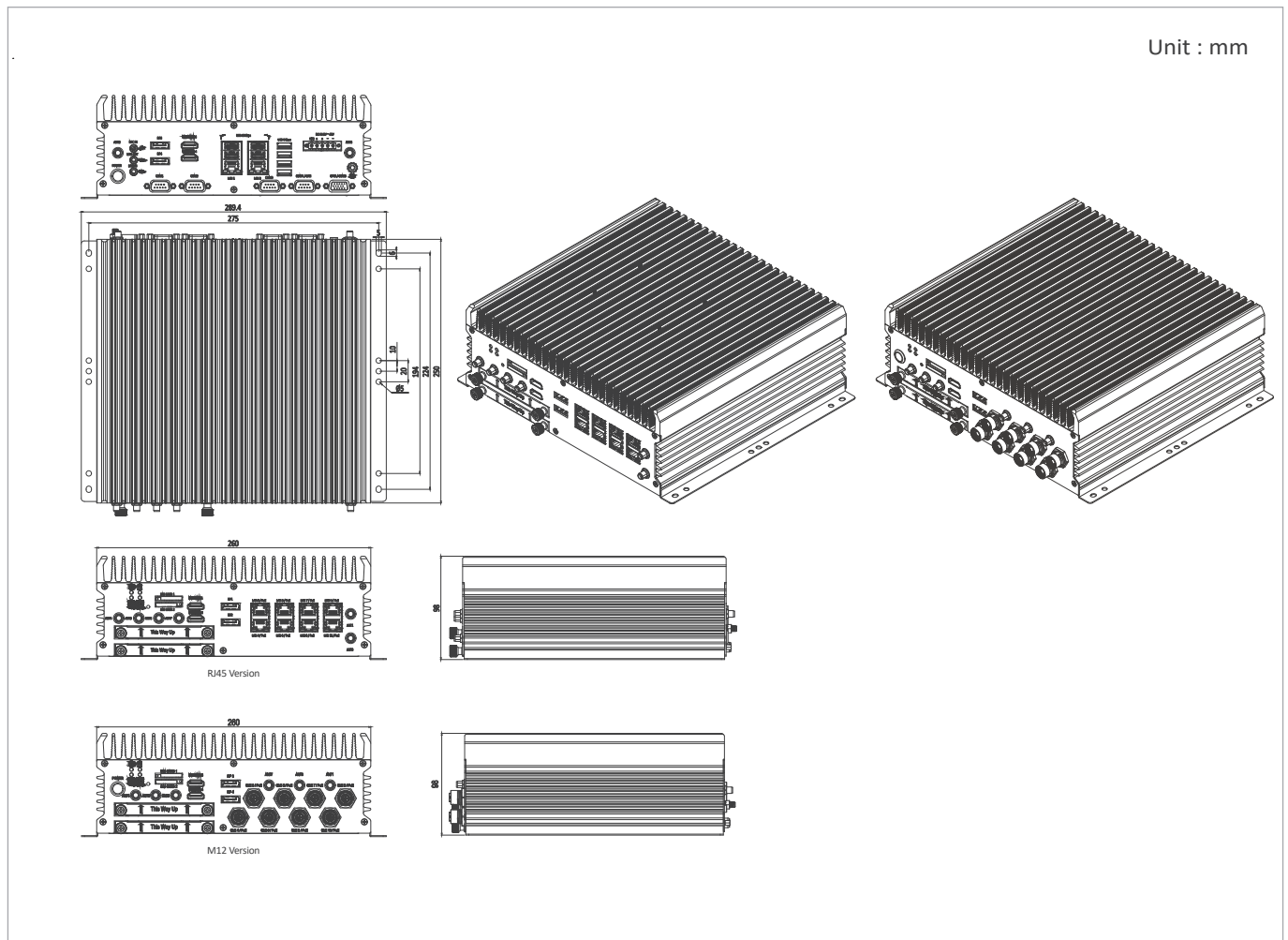
Weight

- 8.5 kg

Dimensions

- 290(L) x 250(W) x 98(H) mm

Dimensions



Ordering Information

| | |
|-----------------|--|
| Model Number | ABOX-5220xy-zz (x= P= w/PoE, x= Empty= w/o PoE, y=G=w/ Discrete GPU, zz=i9=i9-14900T, zz=i7=i7-14700T, zz=i5=i5-14500T, zz=i3=i3-14100T) |
| Description | Intel® 14th Generation Core™ Processor with Optional NVIDIA RTX™ Embedded GPU for AI Acceleration On-Board Computer |
| State of Origin | Made in Taiwan |

Optional Accessories

| | |
|---------------|--|
| Memory | DDR5-4800 SO-DIMM, 16GB~32GB, -40~85°C (ECC Option Available) |
| SSD | M.2 2280 Key B-M NVMe TLC -40~85°C 256GB~2TB w/ Heatsink M.2 2280 Key B-M SATA TLC -40~85°C 128GB~1TB w/ Heatsink 2.5 inch SATA TLC -40~85°C 128GB~1TB |
| Wi-Fi | M.2 2230 Key E 802.11 a/b/g/n/ac, Wi-Fi 6E |
| WWAN | M.2 3042 Key B 5G & LTE (USB) |
| GNSS | Mini-PCIe GNSS Module |
| CAN Bus | Mini-PCIe CAN Bus Module |
| Battery (UPS) | BAT-5200 Battery Kit, 5200 mAh, Charging Temp. 0~45°C, Discharging Temp. -10~60°C |
| Power Adaptor | AC/DC 24V Power Adaptor |

All specifications are subject to change without notice.