

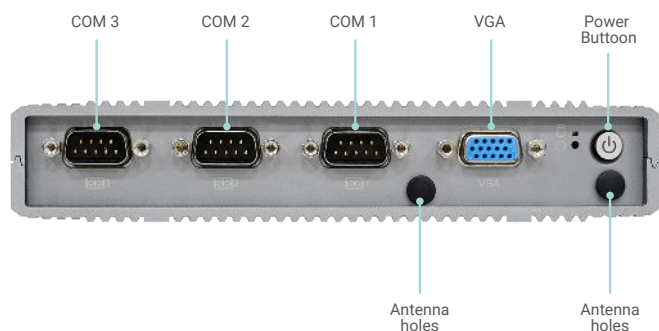
# EC700-ADN/ EC710-ADN

Intel® Processor N-series/Atom® Processor X Series  
Fanless Embedded System

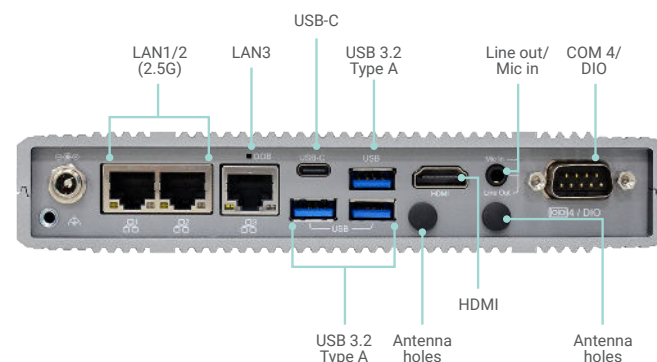


## PANEL: EC700-ADN

System Height = 33mm



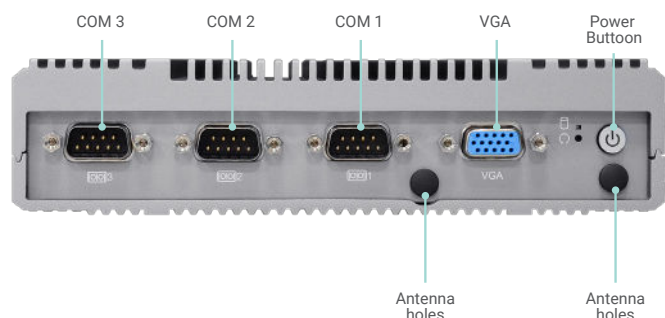
Front View



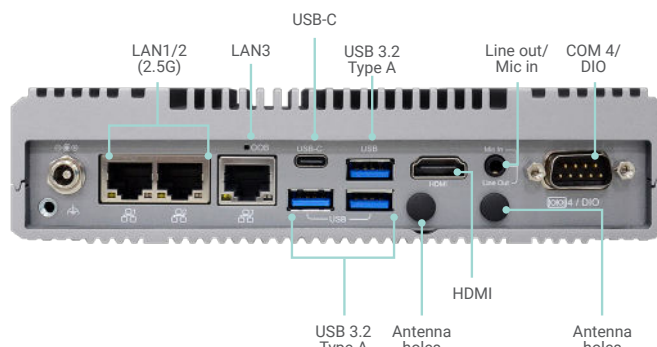
Rear View

## PANEL: EC710-ADN

System Height = 43mm



Front View



Rear View

## KEY FEATURES



### On Board OOB built-in

Hardware status remote control&monitor, BIOS remote setup/update, OS remote recovery, Open-SSH/ UEFI Shell/In-Band Windows support



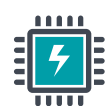
### Slim and Fanless

Slim and fanless design for limited-space condition



### Intel TCC within the system

Supported by X series CPU and TSN standard up to 2.5GbE (Opt.)



### On Board DDR5 & eMMC Support

LPDDR5 4800 MHz memory down eMMC module –Easy maintenance



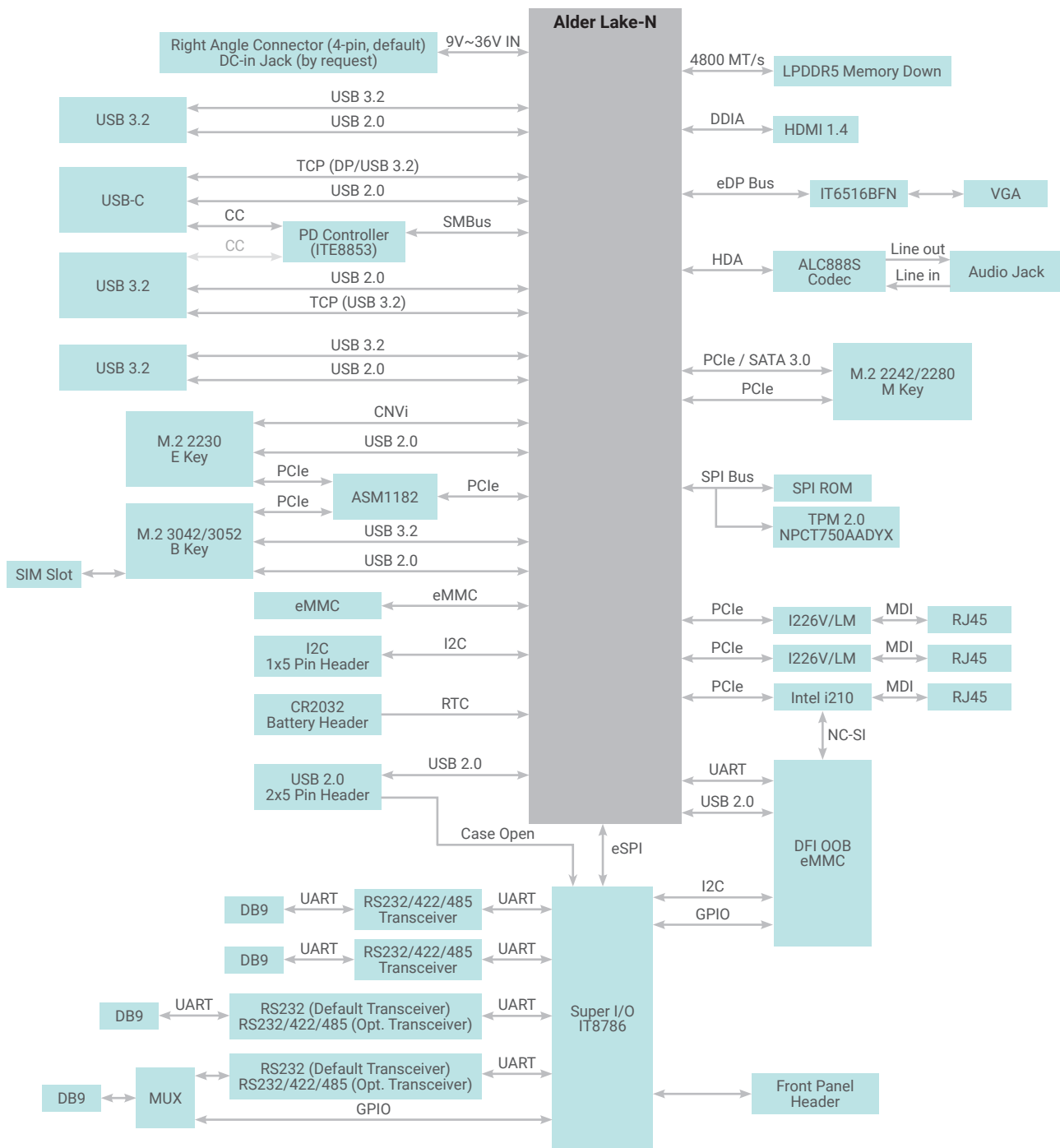
### Up to Quad Display Support

Support via HDMI/USB-C/VGA, Quad display support by Dev



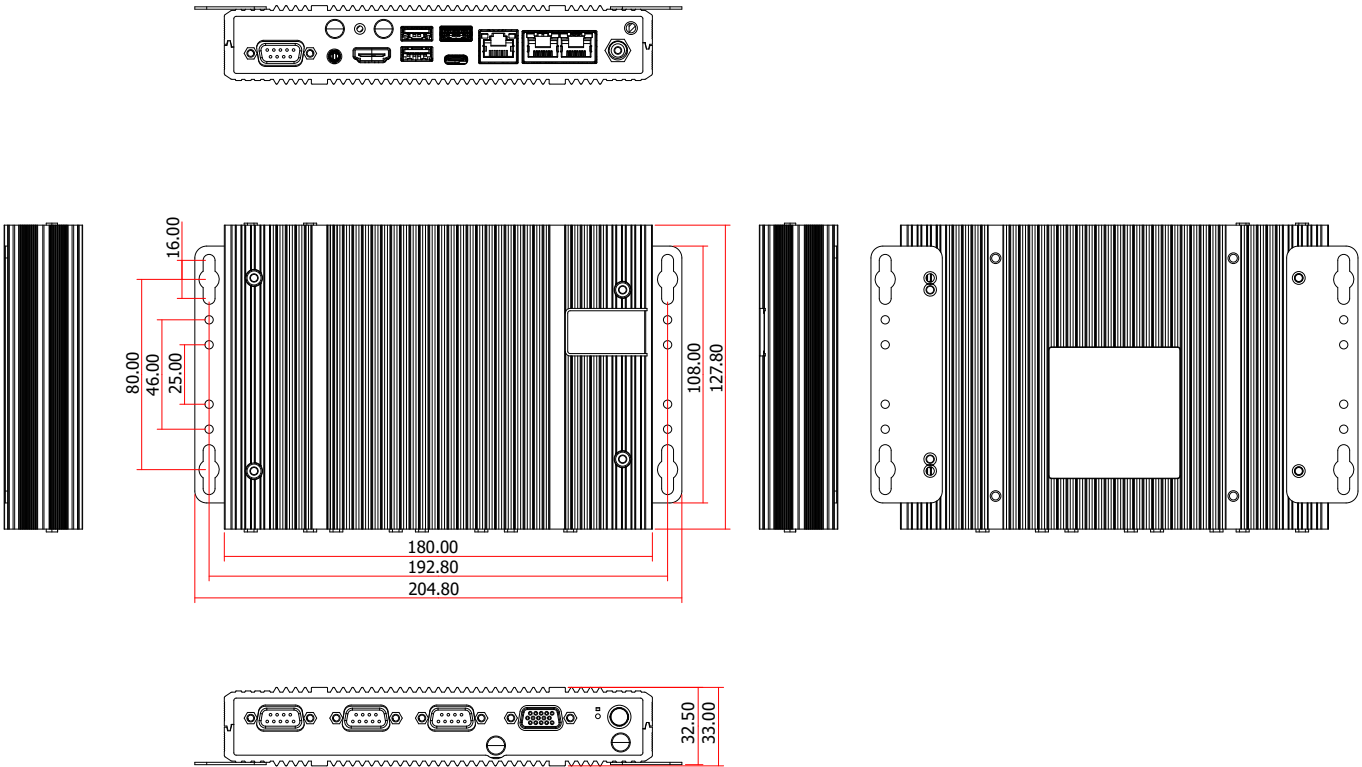
IoT Solutions Alliance

## BLOCK DIAGRAM



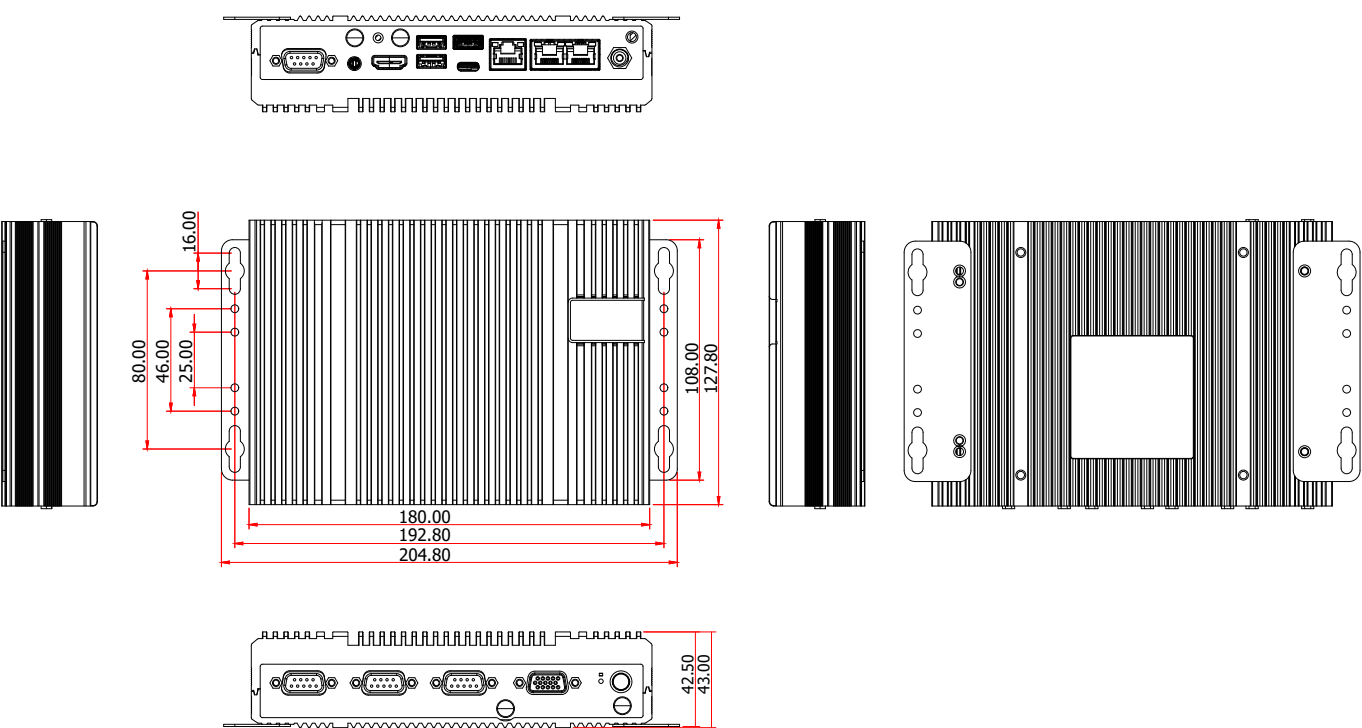
DIMENSIONS: EC700-ADN

System Height = 33mm



DIMENSIONS: EC710-ADN

System Height = 43mm



## SPECIFICATION

| Model Name        |                   | EC700-ADN                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EC710-ADN                                                                                                                                                                                                             |
|-------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYSTEM            | Processor         | Intel Alder Lake-N Series<br>Intel PC Client Series<br>Intel® Processor N50 2 Cores,<br>1.0GHz to 3.4 GHz<br>Intel® Processor N97 4 Cores,<br>2.0GHz to 2.9 GHz<br>Intel® Processor N200 4 Cores,<br>1.0GHz to 3.2 GHz<br>Intel® Embedded Series (Support TCC)<br>Intel® Atom® X7211E 2 Cores,<br>1.0GHz to 2.9 GHz<br>Intel® Atom® X7213E 2 Cores,<br>1.7GHz to 2.9 GHz<br>Intel® Atom® X7425E 4 Cores,<br>1.5GHz to 2.7 GHz<br>*TCC default disable in BIOS setting | Intel Alder Lake-N Series<br>Intel PC Client Series<br>Intel® Core™ i3-N305 8 Cores,<br>1.0GHz to 3.0 GHz<br>(TDP 15W by conditional support)                                                                         |
|                   | Memory            | 8GB/16GB LPDDR5 4800 Memory down                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8GB/16GB LPDDR5 4800 Memory down                                                                                                                                                                                      |
|                   | BIOS              | AMI SPI 256Mbit (supports UEFI boot only)                                                                                                                                                                                                                                                                                                                                                                                                                             | AMI SPI 256Mbit (supports UEFI boot only)                                                                                                                                                                             |
| GRAPHICS          | Controller        | Intel® UHD Graphics                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Intel® UHD Graphics                                                                                                                                                                                                   |
|                   | Feature           | <b>Execution Units:</b> Up to 32 EUs<br><b>3D API:</b><br>Open GL 4.6, DirectX12, Vulkan 1.2 (Windows)<br>Mesa 3D, OpenGL 4.6, Vulkan 1.2 (Linux)<br><b>Precision:</b> FP32, FP16, INT8<br><b>Compute:</b> OpenCL 3.0                                                                                                                                                                                                                                                 | <b>Execution Units:</b> Up to 32 EUs<br><b>3D API:</b><br>Open GL 4.6, DirectX12, Vulkan 1.2 (Windows)<br>Mesa 3D, OpenGL 4.6, Vulkan 1.2 (Linux)<br><b>Precision:</b> FP32, FP16, INT8<br><b>Compute:</b> OpenCL 3.0 |
|                   | Display           | 1 x VGA<br>1 x HDMI 1.4<br>1 x USB-C (DP1.2 Alt. Mode)                                                                                                                                                                                                                                                                                                                                                                                                                | 1 x VGA<br>1 x HDMI 1.4<br>1 x USB-C (DP1.2 Alt. Mode)                                                                                                                                                                |
| STORAGE           | Internal          | 1 x M.2 2280 M key (PCIe Gen3/SATA)<br>*A heatsink & a thermal pad are required.                                                                                                                                                                                                                                                                                                                                                                                      | 1 x M.2 2280 M key (PCIe Gen3/SATA)<br>*A heatsink & a thermal pad are required.                                                                                                                                      |
|                   | eMMC              | eMMC module insert available<br><b>750-EC7004-700G: 64GB EMMC (default)</b>                                                                                                                                                                                                                                                                                                                                                                                           | eMMC module insert available                                                                                                                                                                                          |
| EXPANSION         | Interface         | 1 x M.2 2230 E key<br>(USB 2.0/PCIe, support CNVi)<br>1 x M.2 3042/3052 B key: USB3.0/USB2.0/<br>PCIe with SIM<br>1 x M.2 2242/2280 M key (*PCIe/SATA)                                                                                                                                                                                                                                                                                                                | 1 x M.2 2230 E key<br>(USB 2.0/PCIe, support CNVi)<br>1 x M.2 3042/3052 B key: USB3.0/USB2.0/<br>PCIe with SIM<br>1 x M.2 2242/2280 M key (*PCIe/SATA)                                                                |
| AUDIO             | Audio Codec       | REALTEK ALC888S                                                                                                                                                                                                                                                                                                                                                                                                                                                       | REALTEK ALC888S                                                                                                                                                                                                       |
| ETHERNET          | Controller        | 2 x Intel Ethernet controller i226 2.5GbE<br>(TSN support by project)<br>1 x Intel Ethernet controller i210 GbE<br>(support DFI OOB function)                                                                                                                                                                                                                                                                                                                         | 2 x Intel Ethernet controller i226 2.5GbE<br>(TSN support by project)<br>1 x Intel Ethernet controller i210 GbE<br>(support DFI OOB function)                                                                         |
| LED               | Indicators        | 1 x Power LED<br>1 x Storage LED                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 x Power LED<br>1 x Storage LED                                                                                                                                                                                      |
| FRONT I/O         | Serial            | <b>COM 1/2:</b> RS232/422/485<br><b>COM 3:</b> RS232                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>COM 1/2:</b> RS232/422/485<br><b>COM 3:</b> RS232                                                                                                                                                                  |
|                   | Antenna Hole      | 2 x antenna holes                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 x antenna holes                                                                                                                                                                                                     |
|                   | Display           | 1 x VGA                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 x VGA                                                                                                                                                                                                               |
|                   | Button            | 1 x Power Button<br>1 x Reset Button                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1 x Power Button<br>1 x Reset Button                                                                                                                                                                                  |
| REAR I/O          | Ethernet          | 2 x 2.5GbE RJ45<br>1 x GbE RJ45 (support DFI OOB)                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 x 2.5GbE RJ45<br>1 x GbE RJ45 (support DFI OOB)                                                                                                                                                                     |
|                   | Serial            | <b>COM 4:</b> RS232/DIO                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>COM 4:</b> RS232/DIO                                                                                                                                                                                               |
|                   | USB               | 3 x USB 3.2 type A<br>1 x USB-C 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3 x USB 3.2 type A<br>1 x USB-C 3.2                                                                                                                                                                                   |
|                   | Display           | 1 x HDMI                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 x HDMI                                                                                                                                                                                                              |
|                   | Audio             | 1 x 3.5mm Line out/Mic In                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1 x 3.5mm Line out/Mic In                                                                                                                                                                                             |
|                   | Antenna Hole      | 2 x antenna holes                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 x antenna holes                                                                                                                                                                                                     |
|                   | Storage           | 1 x MicroSD (Opt.)                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1 x MicroSD (Opt.)                                                                                                                                                                                                    |
| WATCHDOG<br>TIMER | Output & Interval | System reset, programmable via software<br>from 1 to 255 seconds                                                                                                                                                                                                                                                                                                                                                                                                      | System reset, programmable via software<br>from 1 to 255 seconds                                                                                                                                                      |
| SECURITY          | TPM               | TPM 2.0 Support                                                                                                                                                                                                                                                                                                                                                                                                                                                       | TPM 2.0 Support                                                                                                                                                                                                       |
| POWER             | Type              | Wide range 9~36VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Wide range 9~36VDC                                                                                                                                                                                                    |
|                   | RTC Battery       | RTC battery CR2032                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RTC battery CR2032                                                                                                                                                                                                    |
|                   | Connector         | 2.5mm DC Jack                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2.5mm DC Jack                                                                                                                                                                                                         |
| OS SUPPORT        | Microsoft         | Windows® 10 IoT Enterprise<br>Windows® 11 IoT Enterprise                                                                                                                                                                                                                                                                                                                                                                                                              | Windows® 10 IoT Enterprise<br>Windows® 11 IoT Enterprise                                                                                                                                                              |
|                   | Linux             | Ubuntu 22.04                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ubuntu 22.04                                                                                                                                                                                                          |

\*PCIe: PCIe2 support by project

## SPECIFICATION

| Model Name                   |                              | EC700-ADN                              | EC710-ADN                              |
|------------------------------|------------------------------|----------------------------------------|----------------------------------------|
| ENVIRONMENT                  | Operating Temperature        | -5 to 60°C with 0.2m/s air flow        | -5 to 60°C with 0.2m/s air flow        |
|                              | Storage Temperature          | -40 to 85°C                            | -40 to 85°C                            |
|                              | Relative Humidity            | 10 to 90% RH (non-condensing)          | 10 to 90% RH (non-condensing)          |
| MECHANICAL                   | Construction                 | Aluminum + Metal                       | Aluminum + Metal                       |
|                              | Mounting                     | Wall mount/VESA Mount/DIN-Rail         | Wall mount/VESA Mount/DIN-Rail         |
|                              | Dimensions (W x H x D)       | 180 x 33 x 127.8 mm                    | 180 x 43 x 127.8 mm                    |
|                              | Weight                       | TBD                                    | TBD                                    |
| STANDARDS AND CERTIFICATIONS | Shock (During Operation)     | 30G, IEC-60068-2-27<br>MIL-STD-810G    | 30G, IEC-60068-2-27<br>MIL-STD-810G    |
|                              | Vibration (During Operation) | 3 Grms, IEC 60068-2-64<br>MIL-STD-810G | 3 Grms, IEC 60068-2-64<br>MIL-STD-810G |
|                              | Certifications               | CE, FCC, RoHS, UKCA                    | CE, FCC, RoHS, UKCA                    |

## ORDERING INFORMATION

| Model     | Part Number                         | Sys Height | CPU    | Mry. Down | Operating Temp. | I/O                |                   |                                           | Display                                                  | Expansion                                                                                                                    | DFI OOB |
|-----------|-------------------------------------|------------|--------|-----------|-----------------|--------------------|-------------------|-------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------|
|           |                                     |            |        |           |                 | USB                | LAN               | Serial                                    |                                                          |                                                                                                                              |         |
| EC700-ADN | 750-EC7004-000G                     | 33mm       | X7425E | 16GB      | -5 to 60°C      | 3 USB-A<br>1 USB-C | 2 2.5GbE<br>1 GbE | 2 RS232/422/485<br>1 RS232<br>1 RS232/DIO | • 1 HDMI<br>• 1 VGA<br>• 1 DP 1.2<br>Alt. Mode via USB-C | • M.2 M key:<br>PCIe/SATA (auto detect)<br><br>• M.2 B Key:<br>USB3.0/<br>USB2.0/<br>PCIe<br><br>• M.2 E Key:<br>USB2.0/PCIe | Yes     |
|           | 750-EC7004-100G                     |            | X7211E | 8GB       |                 | 3 USB-A<br>1 USB-C |                   |                                           | • 1 HDMI<br>• 1 VGA<br>• 1 DP 1.2<br>Alt. Mode via USB-C |                                                                                                                              | Yes     |
|           | 750-EC7004-700G<br>(with 64GB EMMC) |            | N97    | 4GB       |                 | 4 USB-A            |                   |                                           | • 1 HDMI<br>• 1 VGA                                      |                                                                                                                              | N/A     |

\*One more display output via USB-C by Opt.

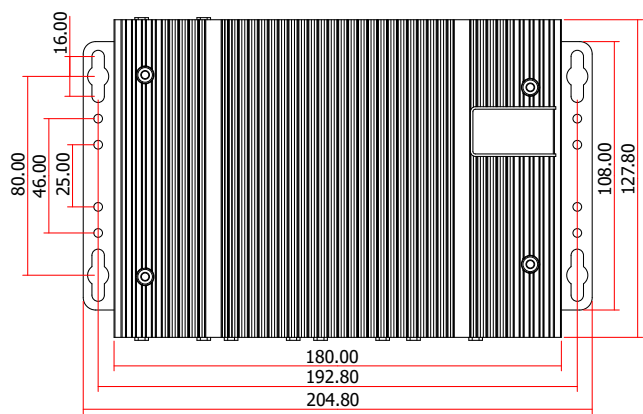
## OPTIONAL ITEMS

| Optional Items | Part Number      | Description                                                       |
|----------------|------------------|-------------------------------------------------------------------|
| Adapter        | 671-106012-000G  | 60W 12V inlet C14, locable DC Jack 5.5/2.5mm, cable length 1500mm |
| Power Cord     | 332-700010-201G  | Power Cord US 3pin 1830mm Length                                  |
|                | A81-004003-000G  | Power Cord EU 2pin 1830mm Length                                  |
|                | A81-000001-000G  | Power Cord China 3pin 1830mm Length                               |
|                | A81-000046-000G  | Power Cord JP 3pin 1830mm length (with DFI PSE logo)              |
| Mount Kits     | 761-EC7004-000G  | EC700-ADN Din Rail Kit for 33mm height chassis                    |
|                | 761-EC7004-100G  | EC700-ADN/EC710-ADN Wall mount Kit                                |
|                | 761-EC7004-200G  | EC700-ADN/EC710-ADN VESA mount Kit                                |
|                | 761-EC7004-300G  | EC710-ADN Din Rail Kit for 43mm height chassis                    |
| EMMC module    | 774-EMMCBD1-300G | EMMC Board 64GB, -25°C ~ +85°C                                    |
|                | 774-EMMCBD1-400G | EMMC Board 128GB, -25°C ~ +85°C                                   |

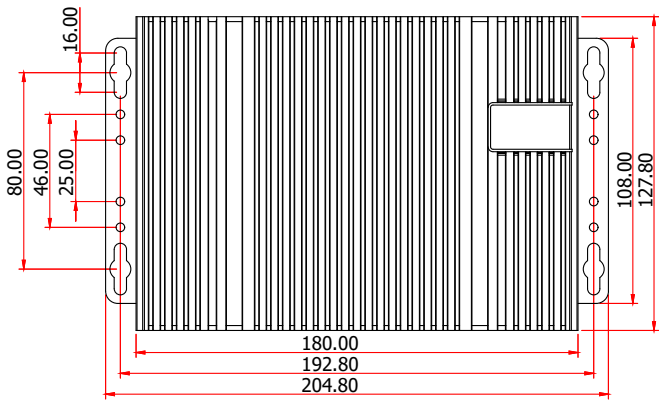
## PACKING LIST

|                 |
|-----------------|
| • 1 System unit |
|-----------------|

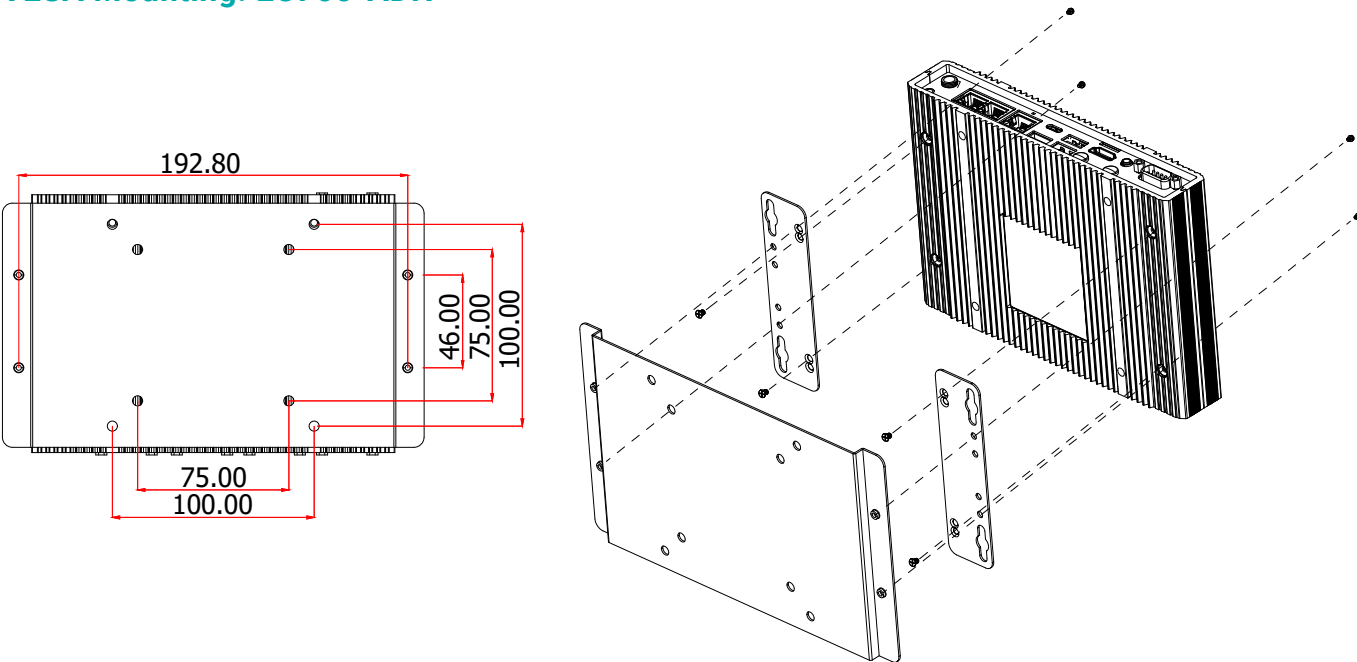
Wall Mounting: EC700-ADN



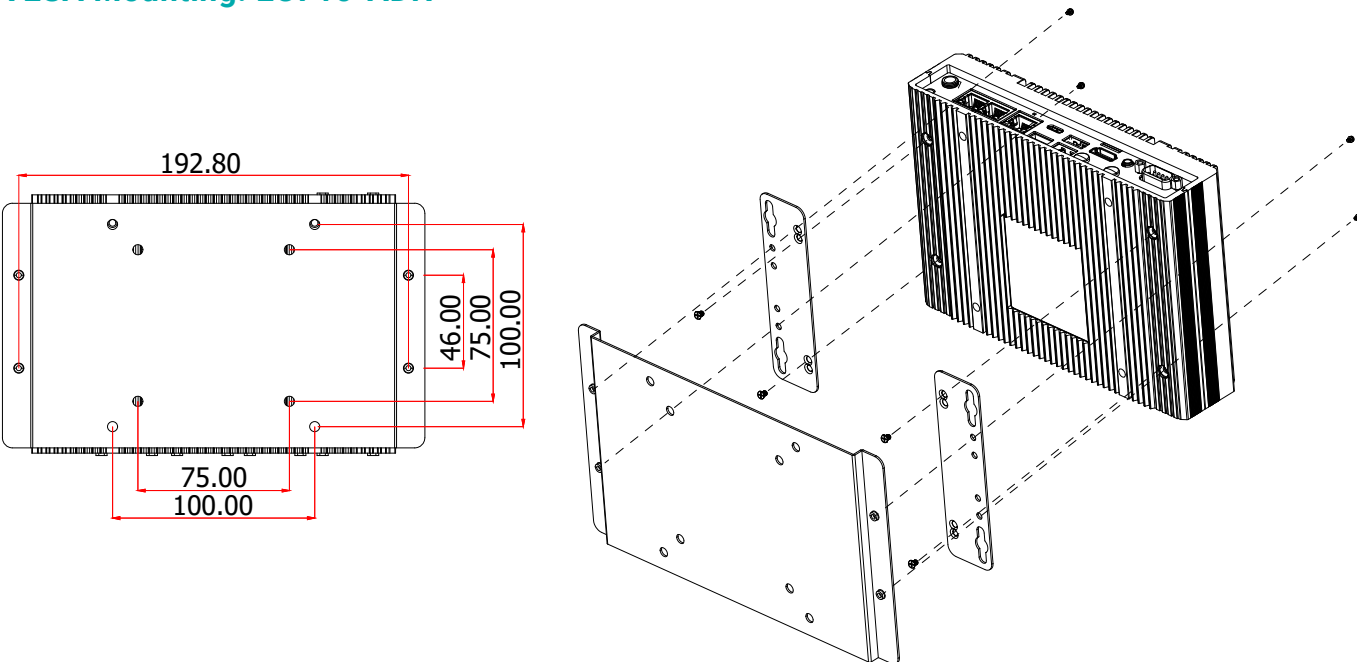
Wall Mounting: EC710-ADN



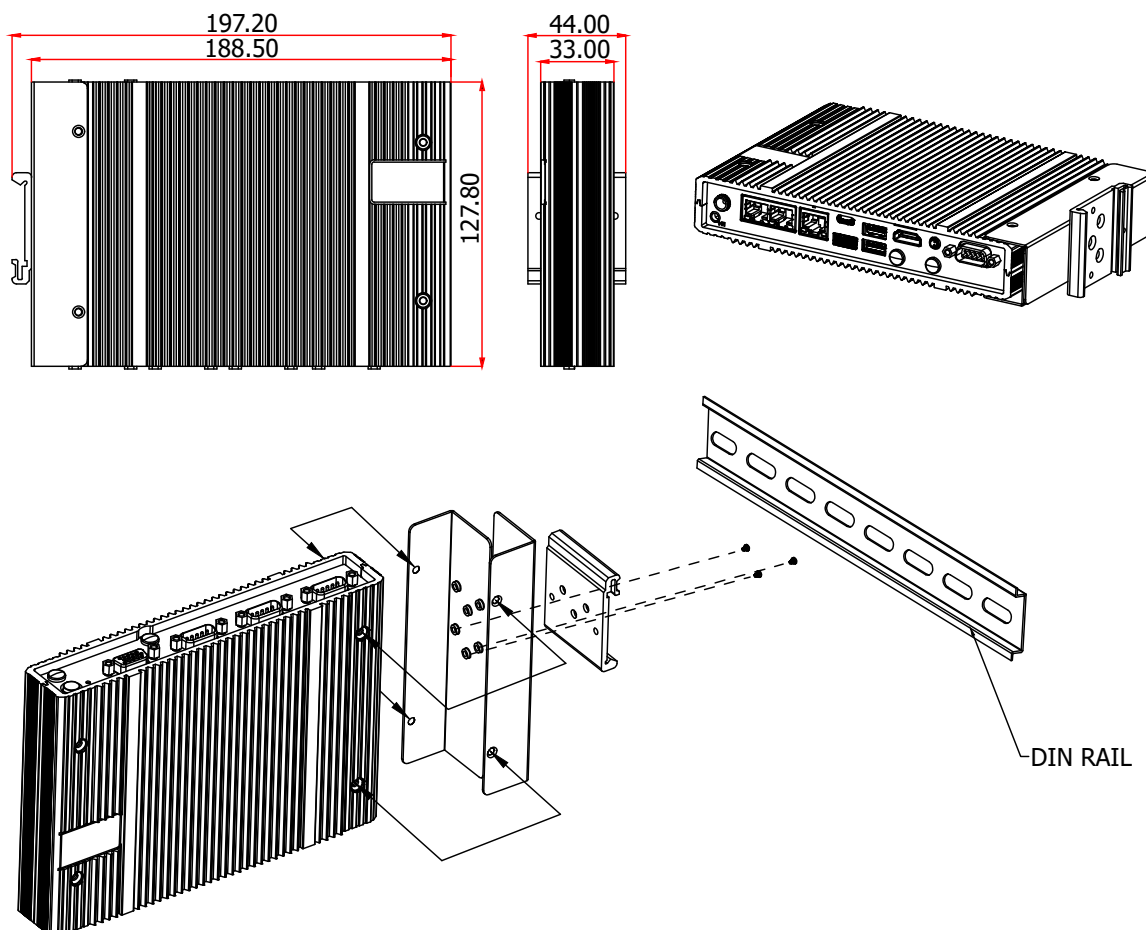
VESA Mounting: EC700-ADN



VESA Mounting: EC710-ADN



## DIN Rail Mounting: EC700-ADN



## DIN Rail Mounting: EC710-ADN (Opt. chassis support)

