

# FWA-T014

**Fanless Desktop Network Appliance  
with Intel latest Atom® x7000 Series  
Processors (Amston Lake) for SASE,  
SD-WAN and uCPE Edge Deployment**

**Preliminary**



## Features

- Intel Atom® x7809C/x7405C/x7203C Processors
- Palm-size/ compact dimension with fan-less design
- Excellent networking solution with outstanding energy efficiency and the best TCO
- 4x 2.5GbE RJ45 with optional 4G LTE/ 5G and Wifi connectivity
- Optional for TPM2.0
- AVX2, DL Boost to enhance AI inference capabilities
- Data Plane Development Kit (DPDK)-enabled for Ethernet acceleration
- Support for In-Band Error Correction Code (IB ECC) memory enhance multitasking for network and security applications



## Specifications

|                  |                           |                                                                                                                                               |                                                                      |                    |  |
|------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------|--|
| Form Factor      | Tiny box                  |                                                                                                                                               |                                                                      |                    |  |
| Processor System | Processor                 | Intel Atom® x7203C                                                                                                                            | Intel Atom® x7405C                                                   | Intel Atom® x7809C |  |
|                  | Core Count                | 2                                                                                                                                             | 4                                                                    | 8                  |  |
|                  | Base Frequency            | 2.0 GHz                                                                                                                                       | 2.2 GHz                                                              | 2.4 GHz            |  |
|                  | BIOS                      | AMI UEFI                                                                                                                                      |                                                                      |                    |  |
| Virtualization   | Intel® VT-x, VT-d         |                                                                                                                                               |                                                                      |                    |  |
| Memory           | Technology                | DDR4                                                                                                                                          |                                                                      |                    |  |
|                  | Max. Capacity             | 32 GB                                                                                                                                         |                                                                      |                    |  |
|                  | Socket                    | 1 x 260-pin SO-DIMM                                                                                                                           |                                                                      |                    |  |
|                  | ECC Support               | In-Band ECC                                                                                                                                   |                                                                      |                    |  |
| Networking       | Controller                | 4 x Intel i226-V<br>Default not installed: 1x DP83867 PHY, is optional by project support                                                     |                                                                      |                    |  |
|                  | 1GbE                      | Default not installed: 1 x 1GbE RJ45 is optional by project support                                                                           |                                                                      |                    |  |
|                  | 2.5GbE                    | 4 x 2.5GbE RJ45                                                                                                                               |                                                                      |                    |  |
| Expansion Slot   | M.2 (Except SSD)          | 1 x B-key 3052/3042 for 5G or 4G/LTE module<br>1 x B-key 3042 for 4G/LTE module<br>1 x E-key for WiFi module                                  |                                                                      |                    |  |
|                  |                           | Use condition is as one of scenarios:<br>1 x M.2 5G module, or<br>2 x M.2 4G LTE module, or<br>1 x M.2 Wi-Fi module, and 1x M.2 4G LTE module |                                                                      |                    |  |
|                  | SIM Socket                | 2 x Dual Nano SIM slots for each LTE/5G module                                                                                                |                                                                      |                    |  |
| Storage          | M.2 (SSD)                 | 1 x M.2 M-key slot for 2242 SATA SSD (SATA 3.0)                                                                                               |                                                                      |                    |  |
|                  | eMMC                      | Default not installed: Up to 128 GB eMMC, is optional by project support                                                                      |                                                                      |                    |  |
| I/O              | Console                   | 1 x RJ45 type console                                                                                                                         |                                                                      |                    |  |
|                  | USB                       | 2 x USB 3.1                                                                                                                                   |                                                                      |                    |  |
|                  | LED Indicator             | 1 x HDD LED<br>1 x LTE/5G LED<br>1 x 4G/LTE LED<br>1 x Wi-Fi LED<br>2 x Software-defined LED                                                  |                                                                      |                    |  |
|                  |                           | Video                                                                                                                                         | Default not supported: 1 x HDMI port, is optional by project support |                    |  |
|                  |                           | Button                                                                                                                                        | 1 x Power button with LED indication<br>1 x Software-defined button  |                    |  |
|                  |                           |                                                                                                                                               |                                                                      |                    |  |
| TPM              | TPM 2.0 module (Optional) |                                                                                                                                               |                                                                      |                    |  |
| Power Supply     | Power Type                | External power adapter                                                                                                                        |                                                                      |                    |  |
|                  | Watts                     | 60 W                                                                                                                                          |                                                                      |                    |  |
|                  | Input                     | 100-240 V ~ 1.5A 50-60 Hz                                                                                                                     |                                                                      |                    |  |
|                  | Connector                 | AC 3pin connector                                                                                                                             |                                                                      |                    |  |

## Specifications (Cont.)

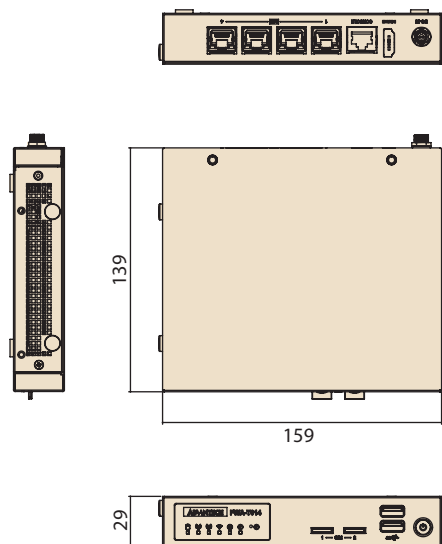
|                        |                                  |                                                                                                                                      |                                          |
|------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Environment            | Operating Temperature            | 0 ~ 40 °C (32~104 °F)                                                                                                                |                                          |
|                        | Non-operating Temperature        | -40 ~ 70 °C (-40 ~ 158 °F), 60 °C@95% non-condensing humidity                                                                        |                                          |
|                        | Vibration Resistance (Operation) | 5-500 Hz, 1.0 Grms, 3 axes, 1 hr/per axis                                                                                            |                                          |
|                        | Shock Protection (Operation)     | 10 G, 11 ms                                                                                                                          |                                          |
| Cooling                |                                  | Fanless                                                                                                                              | 2 x System fans with smart fan feature   |
| Mechanical             | Construction                     | SGCC                                                                                                                                 |                                          |
|                        | Dimensions (W x H x D)           | 159 x 29 x 139 mm (6.2" x 1.1" x 5.5")                                                                                               | 190 x 43.7 x 139 mm (7.4" x 1.7" x 5.5") |
|                        | Weight                           | 0.7 kg (1.55 lb)                                                                                                                     | 0.9 kg (1.98 lb)                         |
| OS Support             |                                  | Linux OS<br>Only UEFI FW and UEFI aware Linux OS                                                                                     |                                          |
| Advantech S/W Packages |                                  | 1. Server iManager (Linux base)<br>-Server Monitoring<br>-Summary<br>-network device identifier (apdi)<br>2. Quick Start Linux Image |                                          |
| Certification          | EMC/Safety                       | CE, FCC, CB, UL, CCC                                                                                                                 |                                          |

- DDR4: In-Band ECC technology adopts non-ECC memory modules
- 1GbE RJ45 port design is reserved but not included; available by project support
- eMMC design is reserved but not included; only available by project support
- 1 x HDMI port resolution is up to 1920 x 1080. To support HDMI need to change default CPU to 'RE' SKU SoC with different computing performance; available by project support

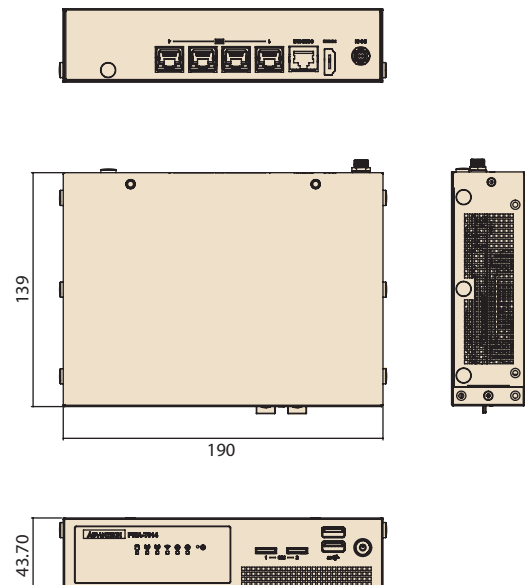
## Dimensions

Unit: mm [inch]

### x7203C/ x7405C SKU

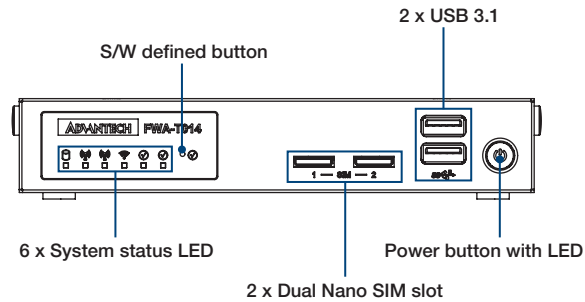


### x7809C SKU

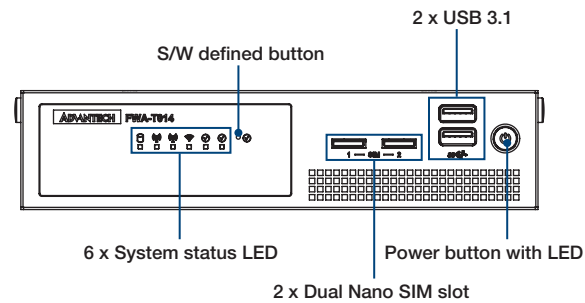


### Front Panel External I/O Mechanical Layout/Drawing

x7203C/ x7405C SKU

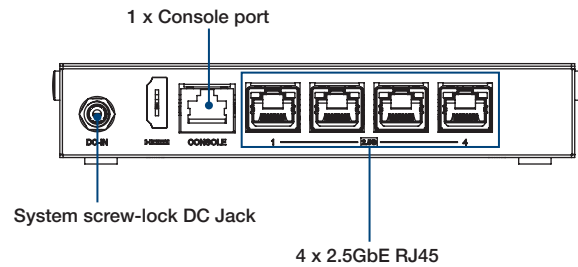


x7809C SKU

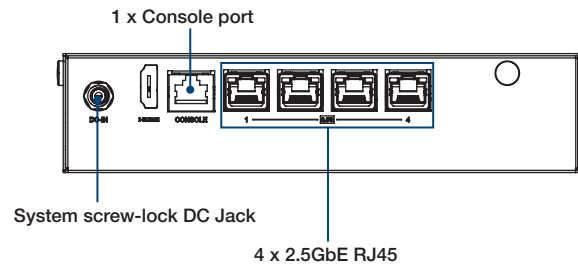


### Rear Panel External I/O Mechanical Layout/Drawing

x7203C/ x7405C SKU



x7809C SKU



\* HDMI is optional by project support

## Ordering Information

| Part Number     | Processor | SO-DIMM<br>DDR4 slot | USB<br>3.1 | Console<br>Port | LAN Port<br>2.5G RJ45 | M.2 2242<br>SSD slot | M.2 3042/3052<br>LTE/5G/ slot | M.2 3042<br>4G/LTE slot | Nano SIM<br>slot | M.2 2230<br>WiFi slot | System<br>fan | eMMC*    | PSU |
|-----------------|-----------|----------------------|------------|-----------------|-----------------------|----------------------|-------------------------------|-------------------------|------------------|-----------------------|---------------|----------|-----|
| FWA-T014-2CA1S  | x7203C    | 1                    | 2          | 1               | 4                     | 1                    | 1                             | 1                       | 2                | 1                     | Fan-less      | Optional | 60W |
| FWA-T014-4CA1S  | x7405C    | 1                    | 2          | 1               | 4                     | 1                    | 1                             | 1                       | 2                | 1                     | Fan-less      | Optional | 60W |
| FWA-T014F-8CA1S | x7809C    | 1                    | 2          | 1               | 4                     | 1                    | 1                             | 1                       | 2                | 1                     | 2             | Optional | 60W |

\* eMMC is optional by project support

## Packing List

| Part Number      | Description                           | Quantity |
|------------------|---------------------------------------|----------|
| 96PSA-A60W12W7-3 | Power AC adapter 60W                  | 1        |
| 1990042021N000   | Thermal pad for M.2 SSD module        | 1        |
| 1990042018N000   | Thermal pad for SO-DIMM memory module | 1        |
| 1910003081-01    | Post for TPM module                   | 1        |
| 1930001074       | M3 Screws for M.2 SSD, TPM module.... | 4        |

## Optional Accessories

| Part Number     | Description                  |
|-----------------|------------------------------|
| 1702002600      | Power cord 3P 180 cm, USA    |
| 1702002605      | Power cord 3P 180 cm, Europe |
| 1702031801      | Power cord 3P 180 cm, UK     |
| 1700000237      | Power cord 3P 180 cm, JP     |
| 1700009652      | Power cord 3P 180 cm, China  |
| PCA-TPMSPI-00A1 | TPM 2.0 Module, SPI          |