



Always Agile, Always Ahead.

# NETWORK PLATFORM SOLUTION

2025 Product Catalog



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# About AAEON

## Introduction

As one of the leading manufacturers of advanced hardware platforms for network computing and security solutions, AAEON offers an extensive range of network appliances that support SD-WAN, SDN, NFV, Wireless Gateway, NGFW, Intrusion Detection/Prevention, WAN Optimization, Network Access Control, Load Balancing, Web Content Filtering, Unified Threat Management, and Wireless Network Security. Together, they make up the most versatile and cost-effective networking solutions on the market.

Offering x86-based platforms from Intel® Atom™ all the way to Intel® Xeon processors, and in desktop, 1U and 2U form factors, AAEON's team of experienced network engineers have helped companies around the world deploy reliable network appliances with faster times to market and lower development costs based on state-of-the-art hardware platforms, unmatched service quality, and long-term support.

Established in 1992, AAEON successfully established itself as a leading designer and manufacturer of advanced industrial and embedded computing platforms. AAEON maintains a strong market position providing integrated solutions, hardware, and bespoke services for premier OEM, ODM, and system integrators worldwide. After joining the ASUS group in 2011, AAEON has further strengthened its leadership and continuously pursues innovation and excellence in this industry.

## Intel® Network Builders Winner's Circle



<http://networkbuilders.intel.com>

AAEON is honored to be recognized as a Solutions Plus Partner in the Intel® Network Builders Winner's Circle for 2020-2021. This honor recognizes AAEON's efforts and dedication to helping grow the Intel® Network Builders ecosystem with innovative network platforms and solutions utilizing software defined networking (SDN), network function virtualization (NFV) and software defined wide area networks (SD-WAN). AAEON is recognized as a Solutions Plus Partner for its help in accelerating the adoption of advanced IoT and edge networks by leveraging technologies including edge computing, 5G communication, and developing innovative network solutions utilizing the latest Intel architecture including the 2nd Generation Intel® Xeon® Scalable Processors and the Intel® Xeon® D Processor, found in AAEON network solutions such as the FWS-8600.

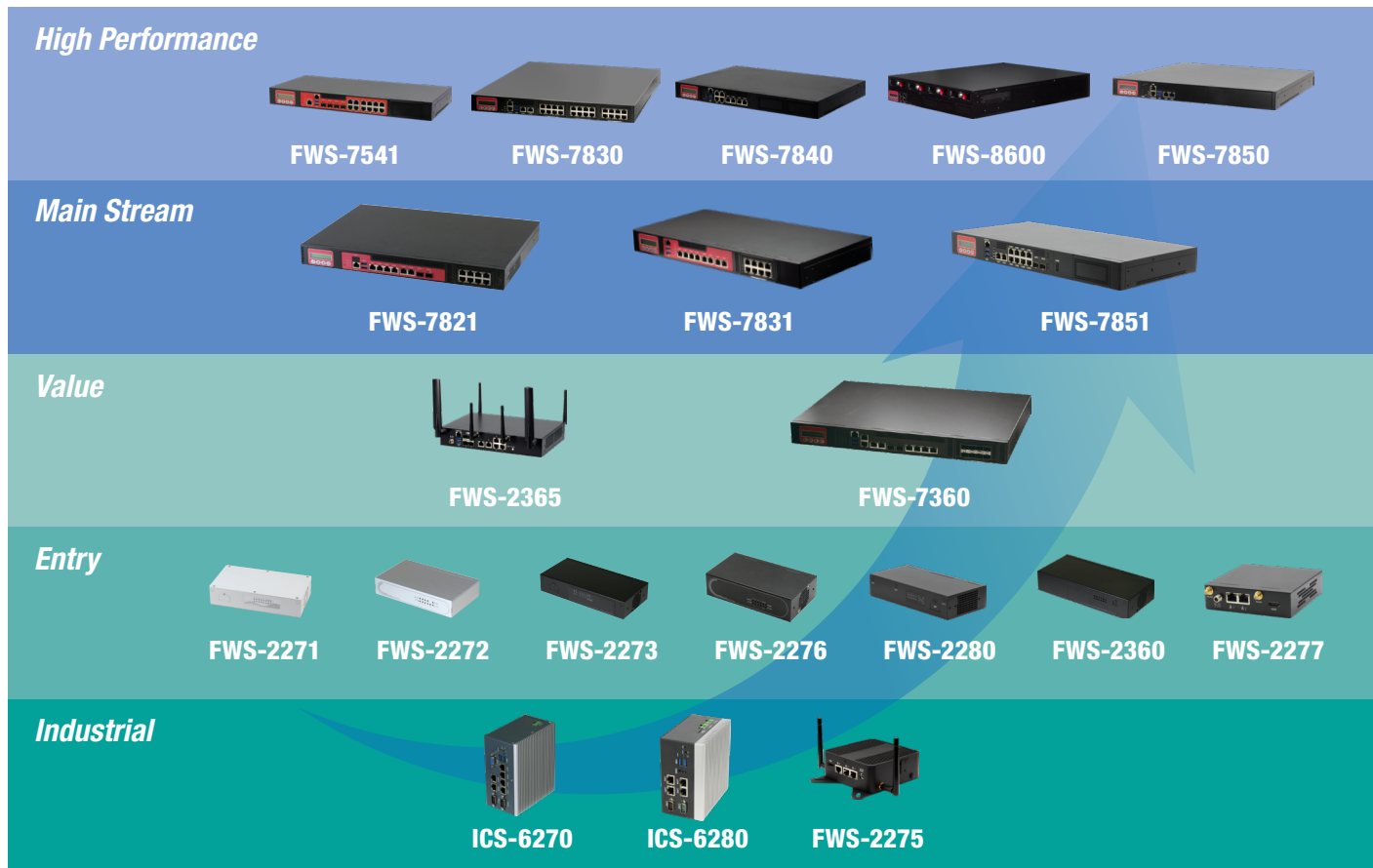


# Network Appliances for SDN/NFV

## Introduction

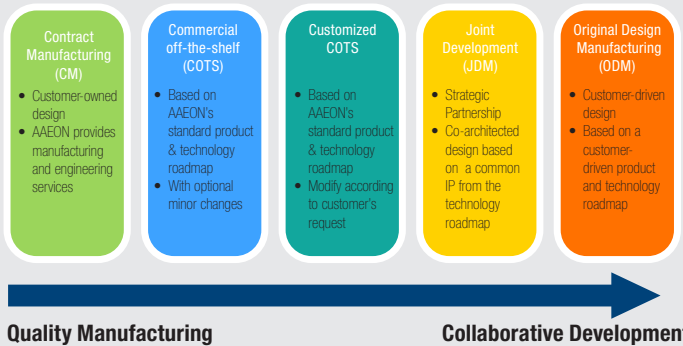
AAEON has continued to innovate its FWS series of network appliances to develop the next generation of easy-to-manage, rapidly deployable appliances designed to power advanced network functions such as Software Defined Networking (SDN) and Network Functions Virtualization (NFV). AAEON is helping to accelerate the adoption of these next generation solutions by leveraging the built-in features of Intel® processor to provide faster and more efficient data transfer and encryption, while reducing the complexity and cost of industrial networks.

The FWS series offers solutions in a range of sizes and configurations, with enterprise-grade 2U rackmount, 1U rackmount and desktop network appliances featuring a broad array of Intel processors including the powerful 2nd Generation Intel® Xeon® Scalable Processors, Intel® Core™ i7/ i5/i3, and efficient Intel® Atom™ processors. Designed for scalability and flexible configurations, the FWS family of network appliances offer reliable performance for demanding network applications, and come with various combinations of Ethernet modules including Gigabit Ethernet, SFP Fiber LAN, PCIe expansion slots and LCM with keypad controls.



## DMS & Collaboration Models

AAEON solutions are backed by world-class service and support designed to reduce time to production and enable you to operate at peak efficiency. With over 25 years of experience designing and automating IT processes, AAEON end-to-end solutions enable your organization to maximize your investment in our network security solutions with professional service that exceeds client expectations. AAEON provides products built for your organization's needs, from customizing existing AAEON products to developing bespoke products. AAEON provides professional level service and collaboration to deploy the best equipment with the highest confidence and quality.



# White Box uCPE Family for SD-WAN



## Optimized for Virtual Network Functions



AAEON's white box platforms are designed to power any third-party Virtual Network Function (VNF), eliminating the need for proprietary hardware, and accelerating deployment for service providers.

## Powering More Applications



To provide agile, reliable, and secure networking, AAEON's white box platforms offer built-in advanced networking technology including performance acceleration (Intel® QAT, AES-NI, VT, SR-IOV, and DPDK), TPM, and Secure Boot, powered with high core-count Intel® x86 processors.

## Introduction

In the current environment of companies moving towards connected and virtualized industries, as well as more companies moving towards work from home models, traditional dedicated network appliances are quickly becoming unsustainable. The solution to powering these networks is through leveraging uCPE technology with Software Defined Wide Area Networks (SD-WAN). AAEON brings industry-leading expertise in network appliance and IT edge computing hardware design to offer a broad range of white box platforms ready to power your uCPE, SD-WAN needs.

By leveraging uCPE and SD-WAN technologies, network managers and service providers can reduce the complexity and costs of developing, deploying and maintaining Wide Area Networks. From small desktop systems such as the FWS-2275 and FWS-2273, to rackmount platforms including the FWS-7360, AAEON's family of white box platforms offer the processing performance, wired and wireless connectivity, scalability, and advanced encryption and virtualization technology ensuring agile, reliable and secure operation of your network.

AAEON's white box platforms are designed to power any third-party Virtual Network Function (VNF), eliminating the need for proprietary hardware, and accelerating deployment for service providers. In addition, AAEON white box platforms offer cutting edge security and virtualization technology with built-in support for performance acceleration (Intel® QAT, AES-NI, VT, SR-IOV, and DPDK), TPM, and Secure Boot, all powered by high core-count Intel® x86 processors.

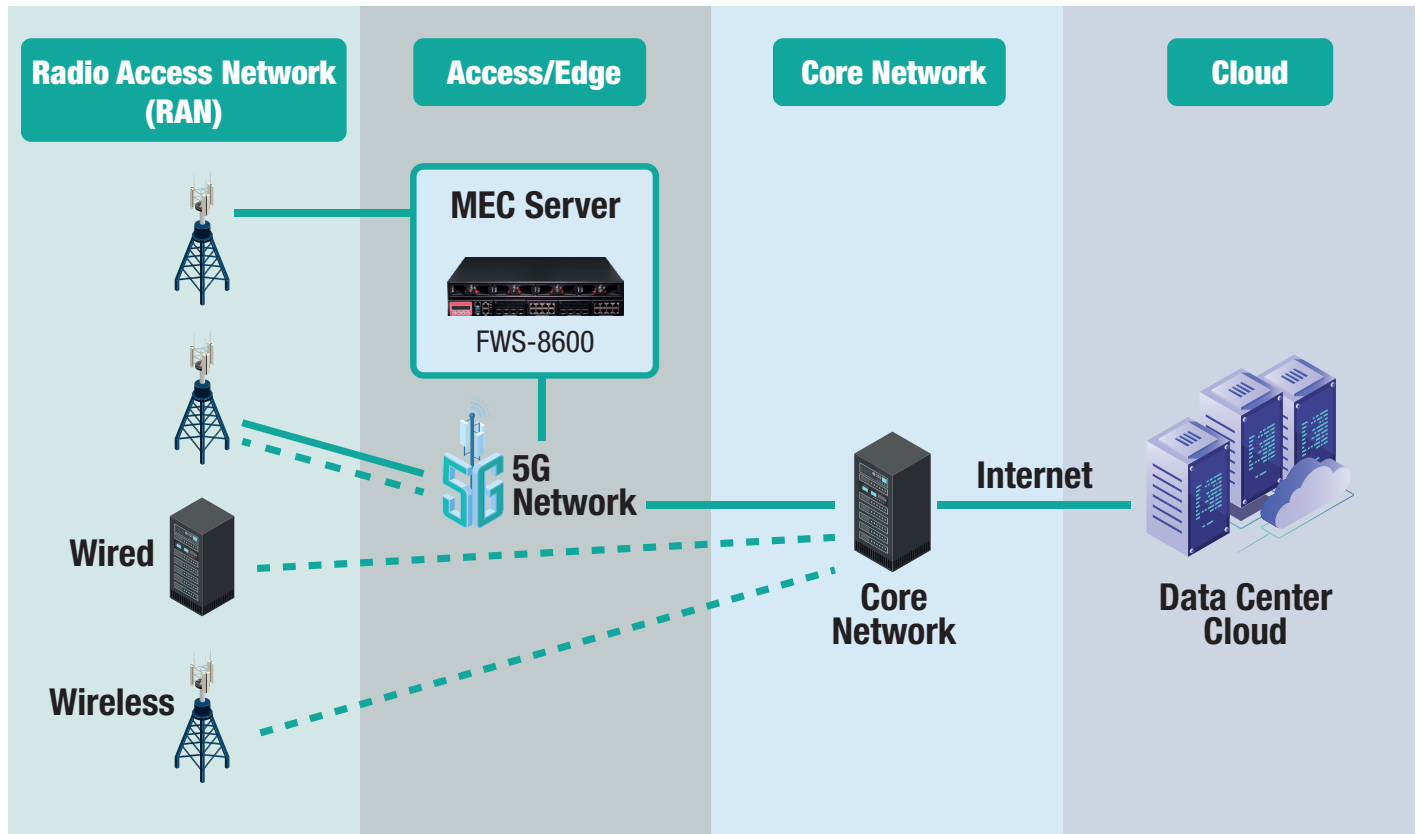


Model	FWS-2272	FWS-2273	FWS-2360	FWS-2365	FWS-7360
Processor	Intel® N3350/ N4200	Intel® N3350/ N4200	Intel® Atom™ C3000	Intel® Atom™ C3000	Intel® Atom™ C3000
Cores	2, 4	2, 4	2, 4, 8	4 ~ 16	8 ~ 16
GbE Ports	4 Copper	4 Copper + 2 SFP	4 Copper + 2 SFP or 6 Copper	6 Copper	5 Copper + NIM
10GbE Ports	—	—	—	2 ~ 4	2



## 5G Capable MEC Platforms

AAEON Network Appliances offer the power and performance to handle demanding tasks including MEC (Multi-access Edge Computing/Mobile Edge Computing) applications. MEC platforms act as a vital component in the Edge-Cloud ecosystem, combining NFV and Cloud Virtualization to minimize bandwidth requirements and provide an ultra-low latency edge cloud platform, allowing customers to take full advantage of data transfer speeds offered by 5G without needing to increase their communication budgets.



## Industrial Cyber Security

With the deployment and expansion of Industry 4.0 technologies like Industrial IoT (IIoT) and Edge Computing, greater numbers of industrial systems are connecting to cloud and SD-WAN networks. This creates a gap in information security, which has been increasingly exploited by cyberattacks and malware. Where Information Technology (IT) systems have traditionally been heavily guarded against such cyber threats, operational technology (OT) systems like PLCs, Industrial Control Systems (ICS) and SCADA, have lagged behind as these systems were previously isolated from broader networks and internet connections. Furthermore, due to the costs already put into deploying OT systems, security budgets for industrial infrastructure are generally tight.

AAEON has developed solutions to help counter the threat of cyberattacks against industrial infrastructure, the compact FWS-2275 and ICS-6270 DIN rail mount network appliance. Both provide a flexible and inexpensive way to add vital network security tools to industrial networks and OT systems. Using AAEON's experience in designing embedded industrial systems, the FWS-2275 and ICS-6270 feature fanless design, rugged metal chassis, and wide operating temperature ranges to ensure long lasting and reliable operation anywhere they're deployed.



### ICS-6270

DIN Rail 6 LAN Ports Industrial-Grade Network Appliance with Intel® Celeron® Processor N3350 SoC



### FWS-2275

Desktop 3 LAN Ports Network Appliance with Intel® Celeron® Processor N3350



# Product Lines

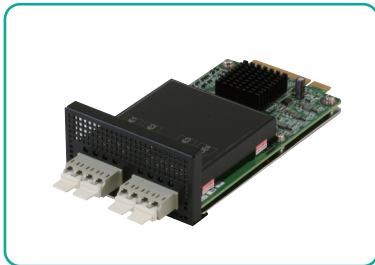


## Desktop Network Appliances

AAEON's Desktop Network Appliances support functions such as SD-WAN, vCPE, wired/wireless gateway, network access control, and load balancing in a single, convenient device for simple network security deployment. Its compact size and capability make it an ideal network appliance for small offices and branch offices.

## Rackmount Network Appliances

AAEON's Rackmount Network Appliances are designed in both 2U rackmount and 1U rackmount enterprise-grade configurations with a broad selection of processors. Designed for scalability and flexible configurations, the appliances are reliable systems for demanding network applications and come with various combinations of Ethernet modules including GbE and SFP Fiber LAN, PCI-E Bus expansion slots and LCM with keypad control.



## Network Interface Module (NIM)

The dense, feature-rich 1U design network interface modules (NIM) include impressive I/O interfaces. NIMs including GbE, SFP+, and QSFP fiber options allow you to adopt an exceptional array of easily composable configurations and customizations for seamless integration into new and existing infrastructure deployments. This composability ensures the highest degree of flexibility and performance for your environment, dramatically improving server utilization, resource allocation, and ease of management.

## Industrial Network Appliances

Combining our expertise in Network Solutions and rugged embedded platforms, AAEON's Industrial Network Appliances are designed to power embedded network computing applications, from Industrial Cyber Security to Mobile NVR. With support for a range of expansion option thanks to mPCIe card slots, these devices can provide wireless connectivity, mobile operation, and power AI and Edge Computing.





# Feature Highlights



## Intel® Technologies

AAEON FWS models feature Intel® built-in technologies such as Intel® QuickAssist Technology, Intel® Advanced Encryption Standard Instructions (AES-NI), and Intel® Virtualization Technology (Intel® VT) which can enhance entire network performance, efficiency, and security.



## Wireless Connectivity

AAEON FWS models feature mini-card slots for wireless connectivity expansion. In desktop models, this expansion supports functions such as Wi-Fi and support for cellular 3G, 4G/LTE and 5G modules.



## Intel® QuickAssist

Intel® QuickAssist Technology speeds up the process of encrypting and compressing secure information, meaning end users can send private information with complete confidence. With the high-powered CPUs used in the AAEON FWS series, this work is isolated from the rest of the system's functions, allowing the devices to continue their other functions without losing speed.



## IPMI Remote Management

IPMI is essential in meeting mission-critical business requirements and ensuring that enterprises are able to enjoy uninterrupted, highly available, and highly stable services. IPMI enables administrators to remotely monitor, manage, and maintain systems to provide uninterrupted services and near-zero downtimes.



## Data Plane Development Kit (DPDK)

The AAEON FWS series supports Intel® DPDK which can greatly boost packet processing performance and throughput, allowing more time for data plane applications.



## Trusted Platform Module (TPM)

The AAEON FWS series supports TPM, which is designed to secure hardware by integrating cryptographic keys into appliances. Pushing security down to the hardware level provides more protection than a software-only solution. Part of latest platform support ANSSI certified TPM.



## LAN Bypass Function

Advanced LAN bypass ports protect networks against unexpected in-line system hang. With the aims of AAEON SDK, developers can easily implement the LAN bypass function.



## Bluetooth Control Solution

AAEON's network appliances are built for maximum scalability and integration, and they incorporate 3E (3- Easy) core tenets: Connectivity, Maintenance and Control. Our systems feature a Bluetooth interface, eliminating the need for external console cables and/or USB drives, and they are easily operated from tablets, mobile phones, or other Bluetooth devices.

\*Note: Only supports Android OS



Swappable Design for Varied Configurations



Redundant Power Supplies



Software Programmable Button



Hot Swappable Fans



LCM & Keypad



# 01



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# 01

## Network Appliances



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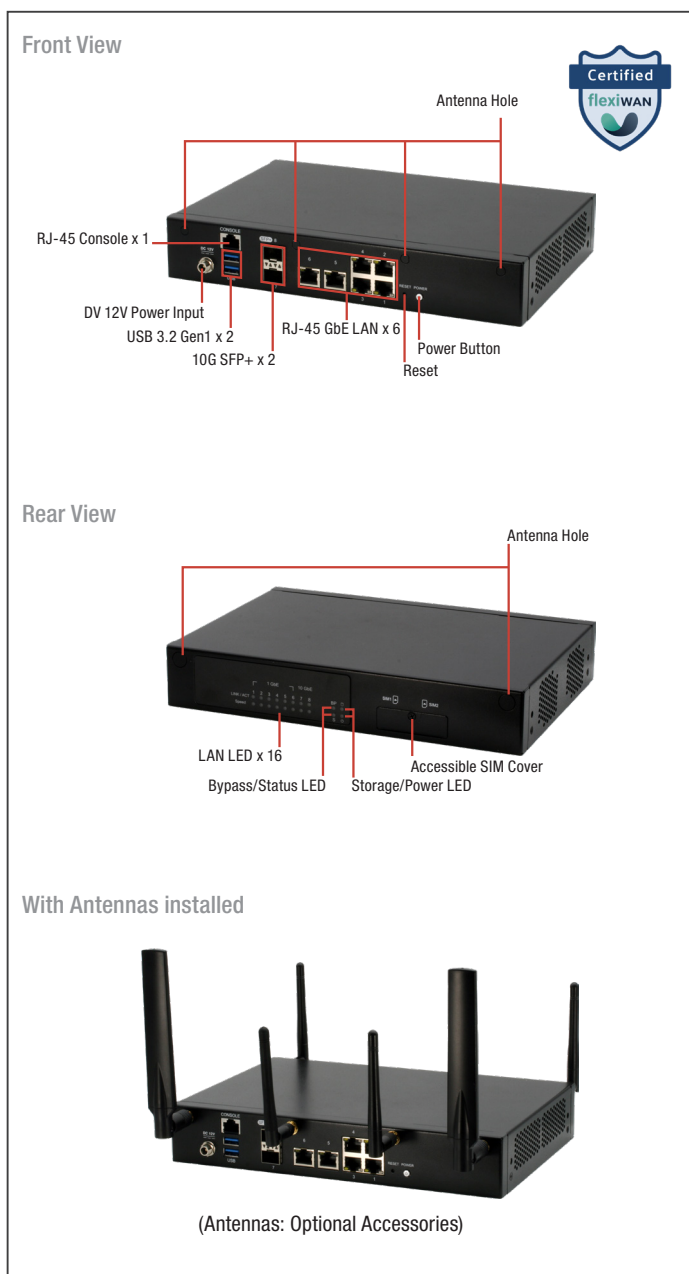


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## Features

- Intel Atom® Processor C Series
- 10/100/1000Base-TX Ethernet x 6
- Supports 1 pair bypass (LAN 3 ~ 4)
- Up to 10G SFP+ Port x 4 (Intel Atom® Processor C3558 SKU only supports 2 ports)
- DDR4 SODIMM x 2
- SATA 6Gb/s Port x 2
- Onboard 16GB eMMC, up to 128GB
- Mini Card Slot x 1 (Half-size, PCIe), Mini Card Slot x 1 (Full-size, PCIe + USB 2.0) with SIM Slot
- M.2 3052 B-Key x 1 (USB 3.0) with SIM Slot
- USB 3.0 (Type-A) x 2 (1 Port only supports USB 2.0 signal)



Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	Mini-card slot x 1 (Half-size, PCIe) Mini-card slot x 1 (Full-size, PCIe + USB2.0) with SIM slot M.2 B key 3052 x 1 (USB3.0) with SIM slot
Keyboard and Mouse	Reserved pin-header
USB	USB 3.0 x 2 (1 Port only support USB2.0 signal)
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO programmable push button x 1
TPM	TPM v2.0 9665
GPIO	4 bits input/ 4 bits output
Fan	System Fan x 1
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Requirement	12V DC Power in connector 4 Cores: 40W Power Adapter 8 Cores and above: 60W Power Adapter
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	260mm x 178mm x 44mm
I/O	
Front Panel	Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 1 Ethernet LED x 20 Antenna Hole x 2 Accessible SIM slot x 2
Rear Panel	USB 3.0 Port x 2 RJ-45 Port x 6 SFP+ Port x 2 RJ-45 Console x 1 12V DC Power Input x 1 Software Reset Button x 1 Power Button x 1 Antenna Hole x 4

## Specifications

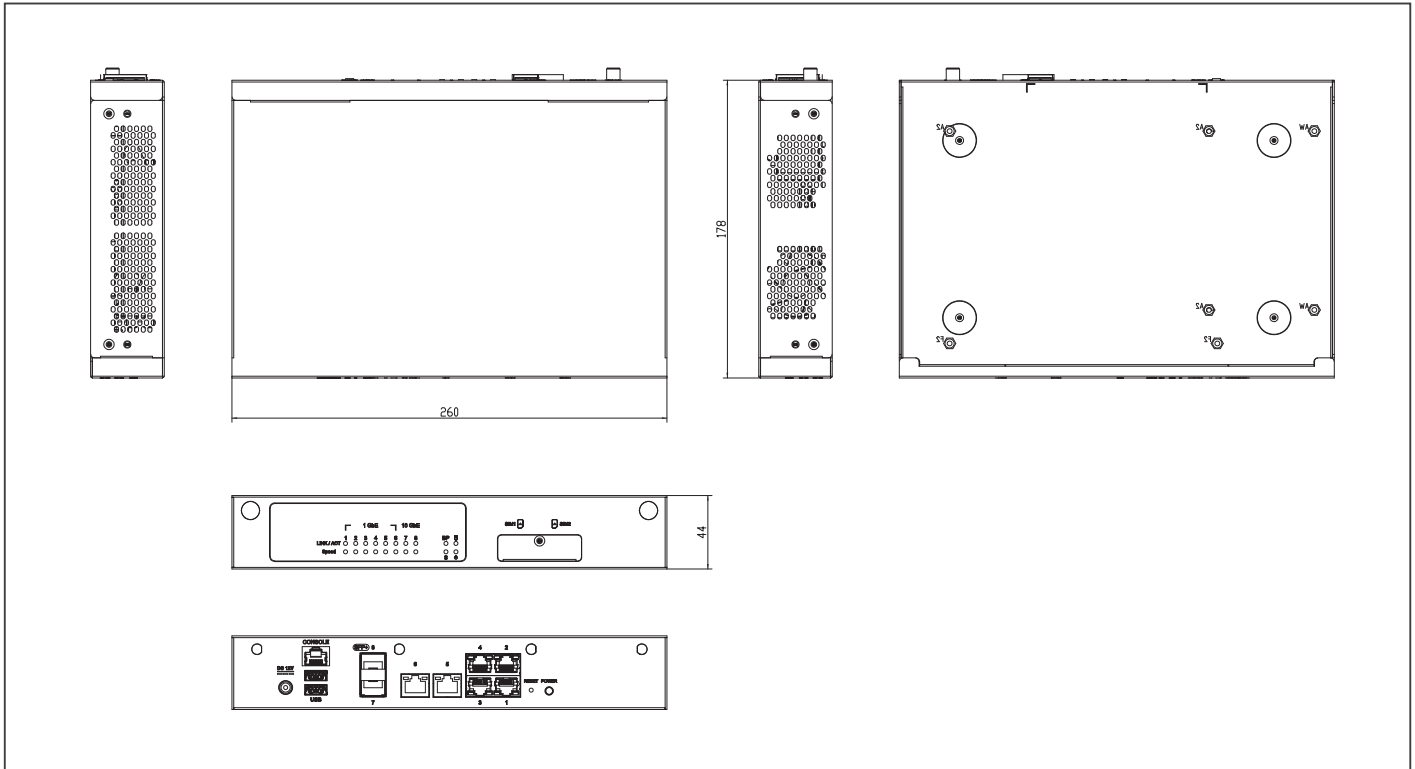
System	
Form Factor	Desktop Network Appliance
Processor	Intel Atom® Processor C Series (4 ~ 16 cores)
Chipset	SoC
System Memory	DDR4 SODIMM ECC x 2, up to 64GB
Network	
Ethernet	1GbE RJ-45 x 6 (2 ports co-lay SFP) 10G SFP+ x 4 (4 cores only support 2 port)
Bypass	Supports 1 pairs on LAN 3-4
Display	
Graphic Controller	—
Connector	—
Storage	
HDD	SATA III port x 2, 2.5" HDD/SSD up to 2
CF/CFast/MSATA	On board 16GB eMMC, up to 128GB optional SATA slot x 1 (co-lay with M.2 slot)





## Dimension

Unit: mm



## Ordering Information

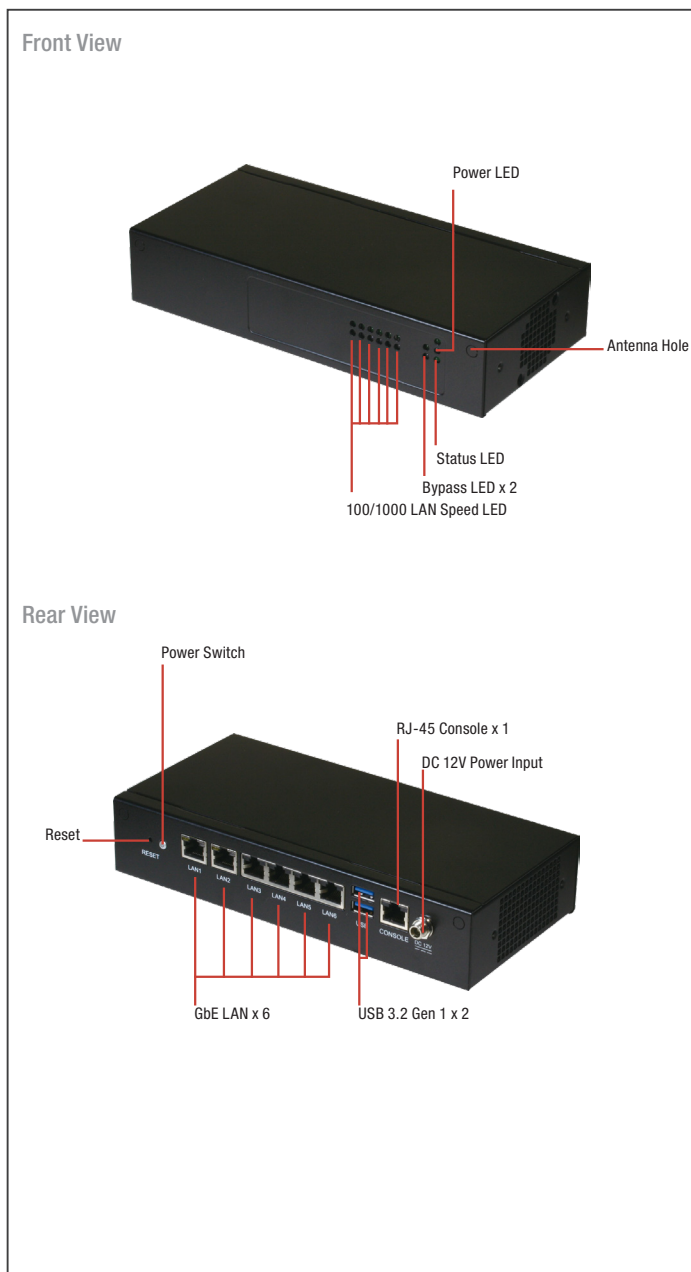
Part Number	CPU	RAM	Bypass	Expansion Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2365-E8-A10-01	Intel Atom® C3558	260-pin DDR4 SODIMM socket x 2	1 pairs (LAN3-4)	Mini-card slot x 1 (Half-size, PCIe) Mini-card slot x 1 (Full-size, PCIe + USB2.0) with SIM slot M.2 B key 3052 x 1 (USB3.0) with SIM slot	On board 16GB eMMC SATA III Port x 2 2.5" HDD Bay x 1	6 x 1Gb RJ-45 2 x 10Gb SFP+	USB3.0 TypeA Port x 2 (1 Port only support USB2.0 signal)	RJ-45 x 1	1 x System Fan	TPM v2.0 9665	—	Desktop	DC

## Packing List

- SATA Cable x 1
- SATA Power Cable x 1
- 40W Power Adapter x 1 (C3558 SKU)
- FWS-2365

## Optional Accessories

- **1700091805**  
Console Cable
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP12/YC-12
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **170203180B**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-125V/7A, 1.8M, PSE, YP12/YC-12
- **9761220030**  
1U Rackmount Ear Bracket kit



## Features

- Desktop Network Appliance
- Intel Atom® Processor C Series
- DDR4 SODIMM/ECC DIMM (Dual Core 1 Slot, Quad Core 2 Slot)
- GbE x 4 (Marvell® Alaska® 88E1543) + GbE x 2 (Intel® Ethernet Controller I210)
- 2 Pairs Bypass Support
- Mini PCIe with SIM Slot Support
- Internal 2.5" SATA HDD Bay x 1 (Optional)
- eMMC, up to 16GB
- RJ-45 Console x 1
- USB 3.2 Gen 1 x 2 (Internal USB 2.0 x 1)



### Internal/ Expansion Interface

PCIe Slot	—
Mini-PCIe Slot	Mini-Card socket (full-size) x 2 (1 with SIM socket)
Keyboard and Mouse	Reserved pin-header
USB	Dual Core: USB 3.2 Gen 1 x 1 + USB2.0 x 1

### Miscellaneous

RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	—
TPM	(TPM v1.2 9660/TPM2.0 9665 Optional)
GPIO	(4 bits input, 4bits output optional)
Fan	System fan x 1
MTBF (Hours)	149683 Hours
Color	Black

### Environmental Parameters and Dimension

Power Requirement	12V DC Power in connector
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	8.66" x 4.13" x 1.73" (220mm x 105mm x 44mm)

### I/O

Front Panel	Power LED x 1, Status LED x 1, Storage Active LED x 1, Bypass LED x 2, LAN LED x 12, (Antenna Hole x 2 Optional)
Rear Panel	USB 3.2 Gen 1 Port x 2, RJ-45 Port x 6 (Optional RJ-45 x 4 + SFP x 2) RJ-45 Console x 1, 12V DC Power Input x 1, Software Reset Button x 1, Power Button x 1, (Antenna Hole x 2 Optional)

## Specifications

<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Dual/Quad Core Intel Atom® Processor C Series Processors
Chipset	SoC
System Memory	DDR4 SODIMM ECC DIMM (Dual core 1 slot Quad core 2 Slot) Up to 32GB
<b>Network</b>	
Ethernet	1GbE x 4 (Marvell® Alaska® 88E1543) 1GbE x 2 (Intel® Ethernet Controller I210-AT) (optional Intel® Ethernet Controller I210-IS SFP x 2)
Bypass	Supports up to 2 pairs bypass function
<b>Display</b>	
Graphic Controller	—
Connector	—
<b>Storage</b>	
HDD	2.5" HDD Bay x 1
SSD (Optional)	SATA 3.0 Gb/s port x 1 (Optional eMMC up to 16GB optional)

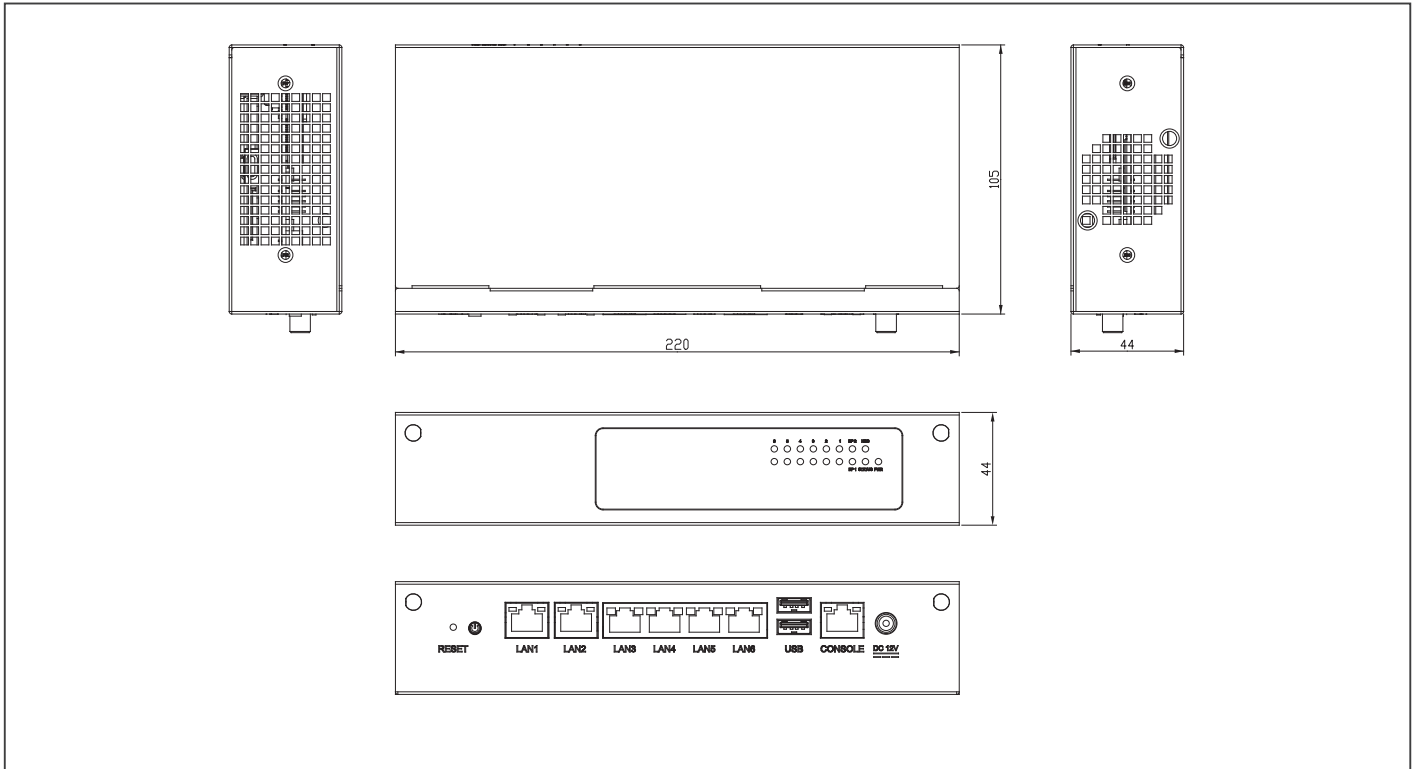






## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	RAM	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2360E6-A10-01	Intel Atom® C3558	260-pin DDR4 SODIMM/ ECC socket x 2	2 pairs	Full Size x 2 (PCIe + USB), 1 with SIM socket	2.5" HDD Bay x 1	1GbE x 4 (Marvell® Alaska® 88E1543) + 1GbE x 2 (Intel® Ethernet Controller I210-AT)	USB 3.2 Gen 1 x 2	RJ-45 console x 1	1	—	—	Desktop	DC

## Packing List

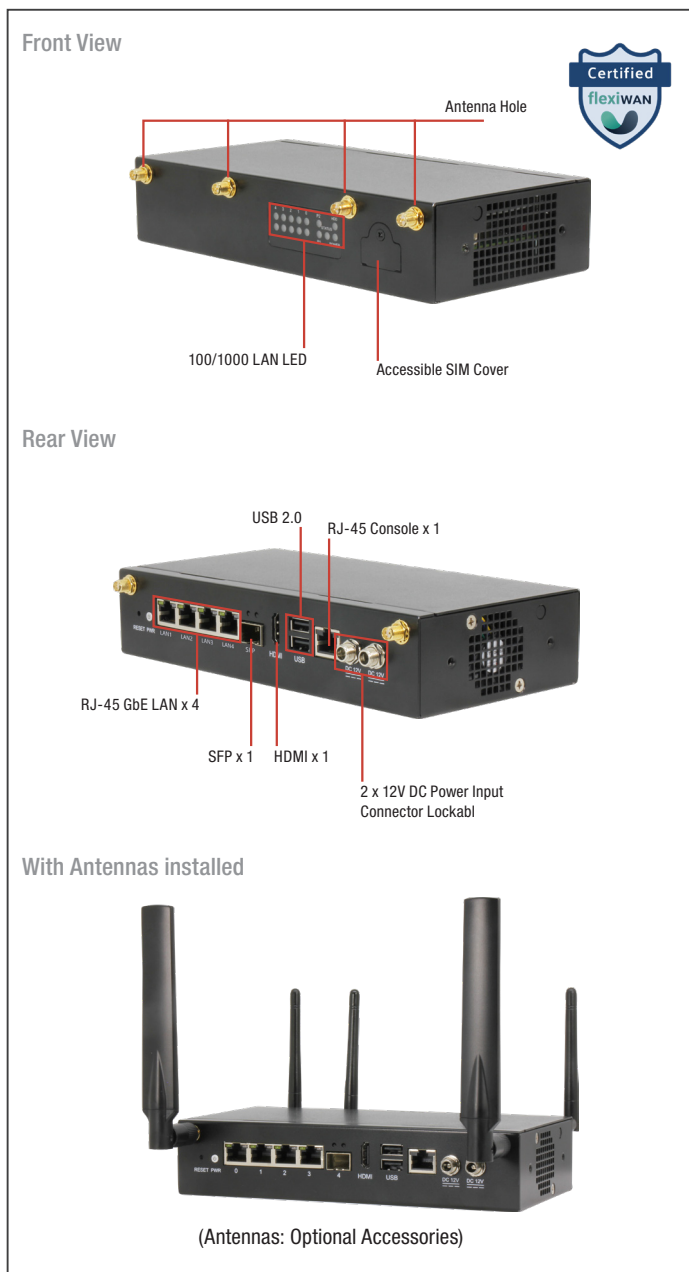
- Power Adapter
- SATA Cable
- SATA Power Cable
- FWS-2360

## Optional Accessories

- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP12/YC-12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP12/YC-12
- **170203180B**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-125V/7A, 1.8M, PSE, YP12/YC-12
- **1700091805**  
Console Cable

# FWS-2280

Desktop Network Appliance with Intel® Celeron® Processor J Series/Intel® Pentium® Processor N Series/Intel Atom® Processor X Series



## Features

- Intel® Celeron® Processor J Series/Intel® Pentium® Processor N Series/Intel Atom® Processor X Series, 2~4 cores
- DDR4 3200MHz SODIMM x 1, up to 32GB
- Intel® Ethernet Controller I211 GbE x 4, Intel® Ethernet Controller I210 SFP x 1
- Mini Card (Full-size with SIM socket) x 1
- Mini Card Half-size Slot x 1
- M.2 3052 B-Key (with SIM Socket) x 1 (Optional)
- Redundant power support



CF/CFast/MSATA	mSATA slot x 1 SATA III port x 1
<b>Internal/ Expansion Interface</b>	
PCIe Slot	—
Mini-PCIe Slot	Mini Card Socket (PCIe + USB 2.0, full size) with SIM x1 Mini Card Socket (PCIe, half size) x1 M.2 B key 3052 (USB 3.0, full size) with SIM x1(Optional)
Keyboard and Mouse	—
USB	USB 2.0 Type A x 2
<b>Miscellaneous</b>	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	(TPM SLB9670 VQ2.0 FW7.85 Optional)
GPIO	(4 bits input, 4bits output optional)
Fan	Smart fan x 1
MTBF (Hours)	TBD
Color	Black
<b>Environmental Parameters and Dimension</b>	
Power Requirement	2 x 12V DC Power Input Connector Lockable, 40W power adapter
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W X D X H)	8.27" x 4.09" x 1.73" (210mm x 105mm x 44mm)
<b>I/O</b>	
Front Panel	LEDs (Power, Status, Storage) x 3 Micro-SIM x 1 Antenna Hole x 2
Rear Panel	DC Power Input Connector Lockable x 2 Power Button x 1 USB2.0 x 2 1GbE RJ-45 x 4, 1GbE SFP x 1 RJ-45 console x 1 Reset Button x 1 Antenna Hole x 3

## Specifications

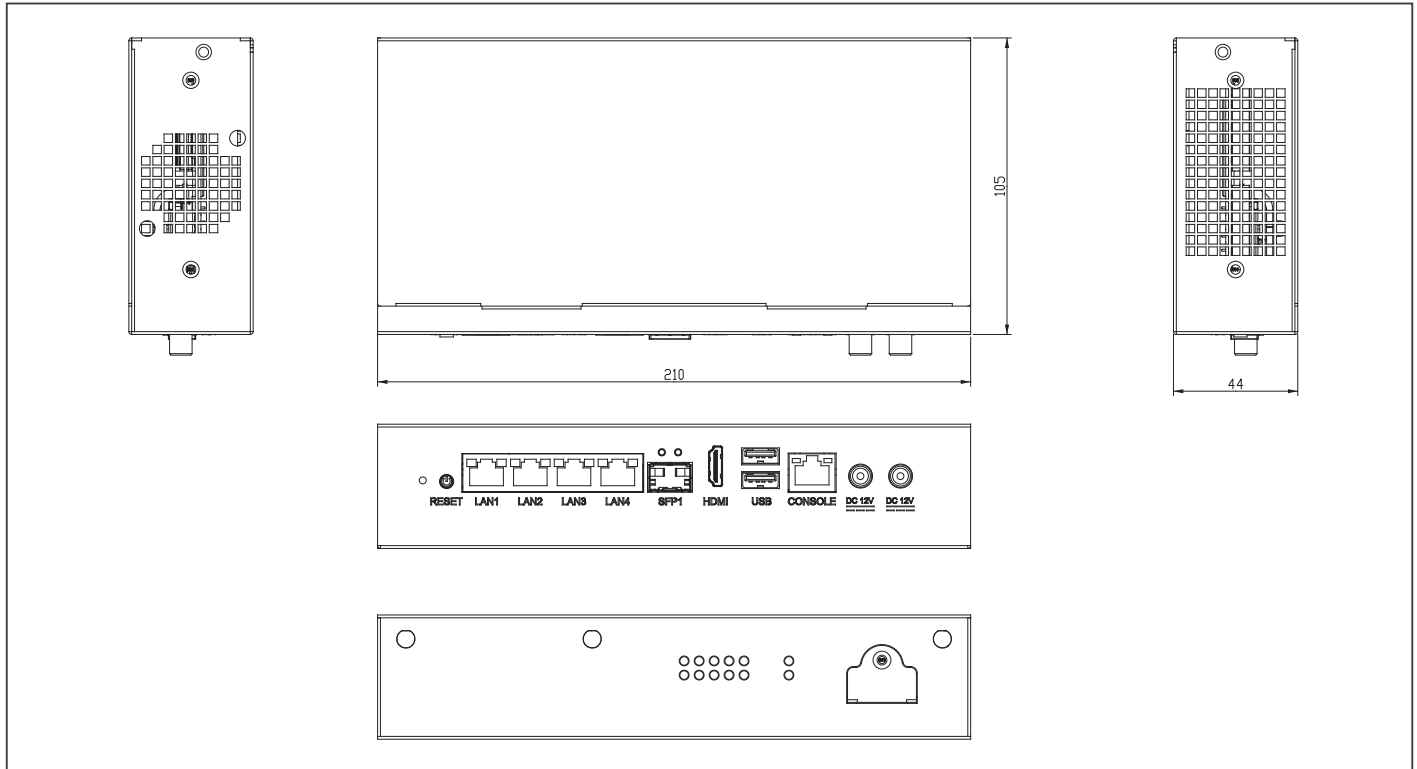
<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Intel® Celeron® Processor J Series/Intel® Pentium® Processor N Series/Intel Atom® Processor X Series
Chipset	SoC
System Memory	260-pin DDR4 SO-DIMM x 1, 3200MT/s
<b>Network</b>	
Ethernet	Intel® Ethernet Controller I211 GbE x 4 Intel® Ethernet Controller I210 SFP x 1
Bypass	—
<b>Display</b>	
Graphic Controller	Intel® UHD Graphics
Connector	HDMI x 1
<b>Storage</b>	
HDD	—





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	RAM	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2280-E5-A10-000	Intel® Celeron® J6412	DDR4 3200 SODIMM socket x 1	—	Mini Card Socket (PCIe +USB) x1(Full size) Mini Card Socket (PCIe) x1 (Half size)	SATA III Port x 1	4 x 1Gb RJ-45 1 x 1Gb SFP	USB2.0 TypeA	RJ-45 x 1	Smart fan x 1	—	1 x HDMI	Desktop	DC 12V Power adapter x1

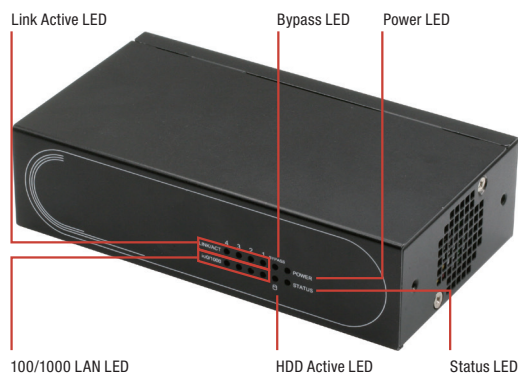
## Packing List

- Power Adapter x 1
- 2.5" SSD Bay x 1
- FWS-2280

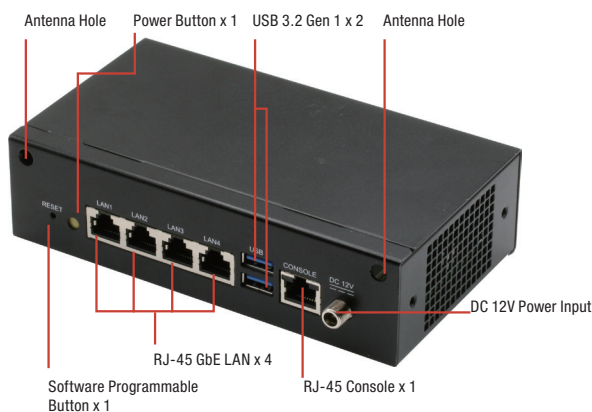
## Optional Accessories

- **1700091805**  
Console Cable
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP12/YC-12
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **170203180B**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-125V/7A, 1.8M, PSE, YP12/YC-12

## Front View



## Rear View



## Features

- Desktop Network Appliance
- Intel® Celeron® Processor N3350
- Onboard LPDDR4, 2GB, Optional DDR3L 1866MHz Single-Channel SODIMM x 1 (Max 8GB, up to 1600MHz)
- Gigabit Ethernet x 4 (Intel® i211)
- 1 Pair Bypass
- Internal 2.5" SATA HDD Bay x 1
- Onboard 8 GB eMMC
- RJ-45 Console x 1
- USB 3.2 Gen 1 x 2



## Internal/ Expansion Interface

PCIe Slot	—
Mini-PCIe Slot	—
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2

## Miscellaneous

RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	—
TPM	(TPM v1.2 9660/TPM2.0 9665 Optional)
GPIO	4 bits input, 4bits output optional
Fan	1
MTBF (Hours)	166,000
Color	Black

## Environmental Parameters and Dimension

Power Requirement	12V DC Power
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	6.5" x 3.62" x 1.57" (165mm x 92mm x 40mm)

## I/O

Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 Bypass LED x 1 LAN LEDs x 8
Rear Panel	USB 3.2 Gen 1 Port x 2 RJ-45 Port x 4 RJ-45 Console x 1 12V DC Power Input x 1 Software Programmable Button x 1 Antenna Hole x 2 Optional

## Specifications

<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Intel® Celeron® Processor N3350 SoC
Chipset	SoC
System Memory	Onboard LPDDR4, 2GB, Optional DDR3L 1866MHz Single-Channel SODIMM x 1 (Max 8GB, up to 1600MHz)
<b>Network</b>	
Ethernet	Intel® i211 GbE x 4
Bypass	1 pair bypass function
<b>Display</b>	
Graphic Controller	Intel® HD graphics integrated
Connector	—
<b>Storage</b>	
HDD	2.5" HDD Bay x 1
CF/CFast/MSATA	Onboard 8GB eMMC, SATA 6.0 Gb/s port x 1

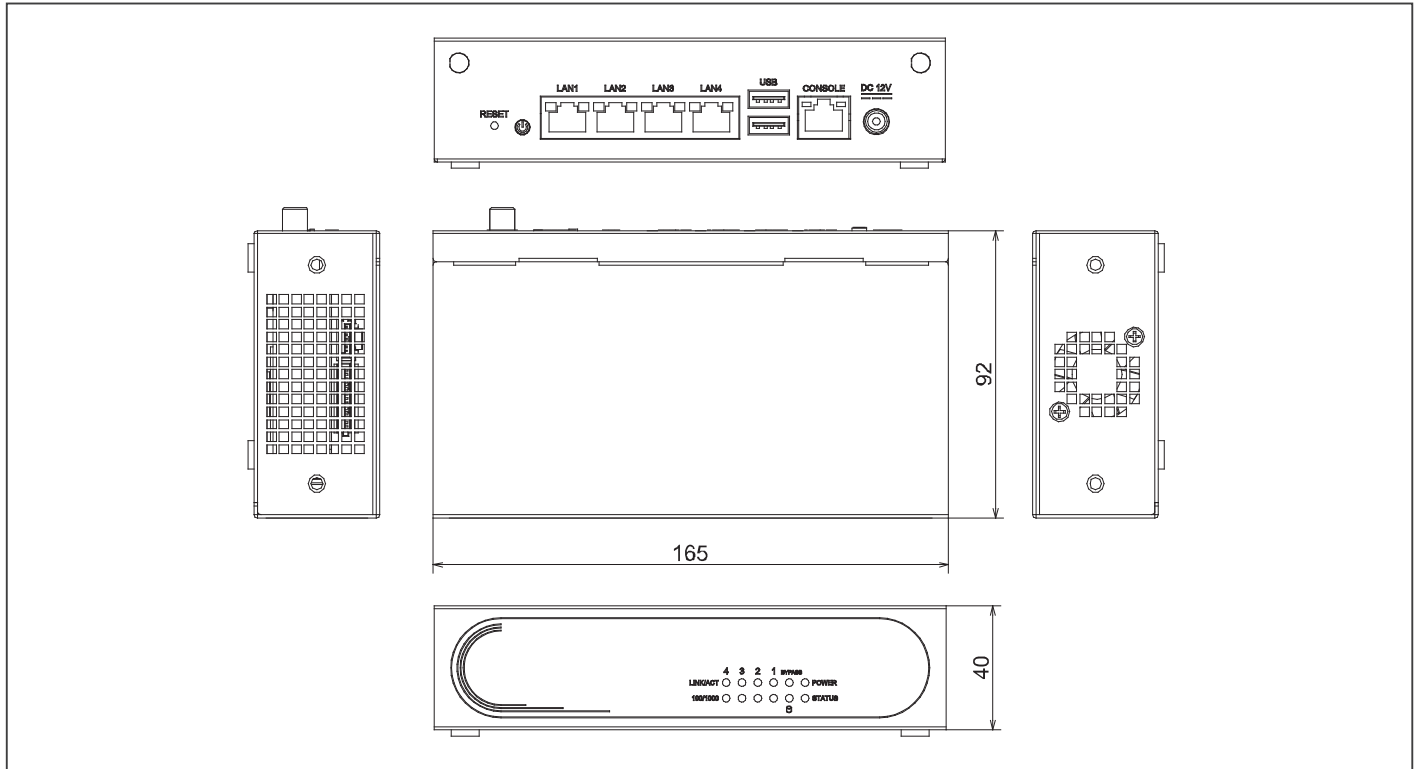






## Dimension

Unit: mm



## Ordering Information

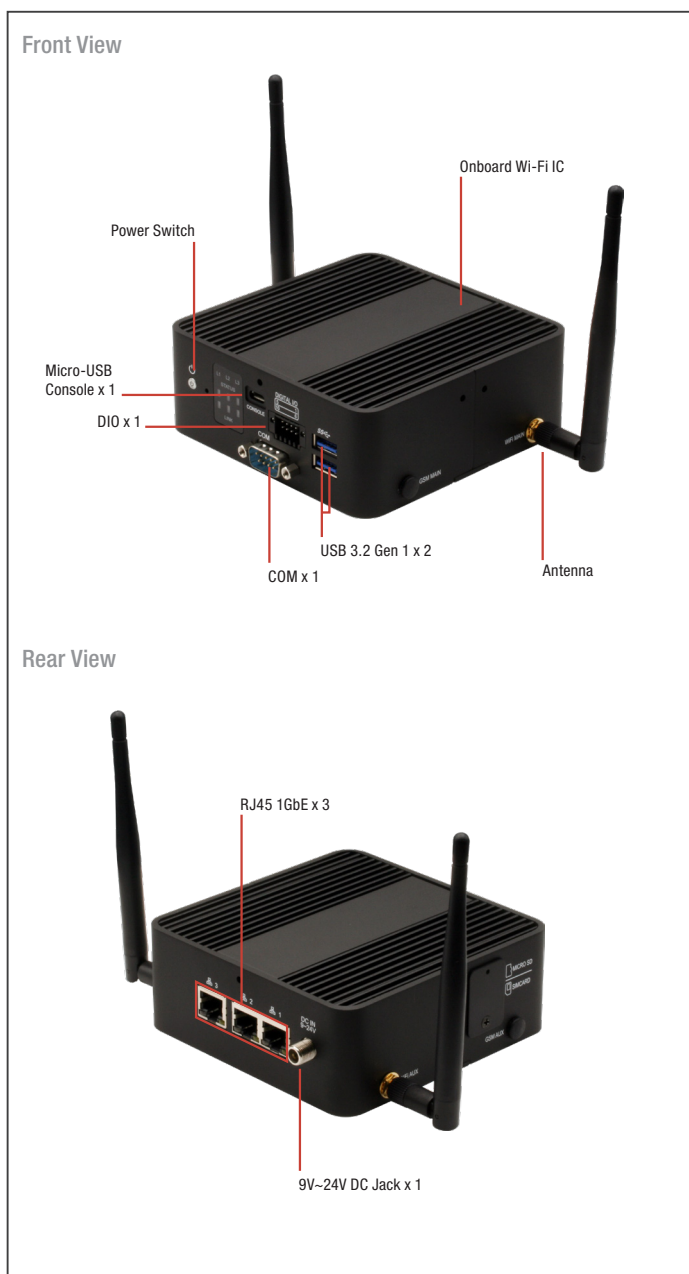
Part Number	CPU	Memory	Mini-Card Slot	Storage	Display	LAN	USB	Console	Bypass	TPM	Fan	Mounting	Power	Note
FWS-2276E4-A10-A10-000	Intel® Celeron® N3350	Onboard LPDDR4 2GB memory	—	2.5" HDD Bay x 1 Onboard 8GB eMMC	—	Intel® i211 GbE x 4	USB 3.2 Gen 1 x 2	RJ-45 console x 1	1 pairs	—	1	Desktop	DC	* Please contact AAEON for other optional specifications.

## Packing List

- SATA Cable x 1
- SATA Power Cable x 1
- Power Adapter
- FWS-2276

## Optional Accessories

- **1700091805**  
Console Cable
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **170203180B**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-250V/10A, 180D, 1.8M, PSE, YP12/YC-12



## Features

- Desktop Network Appliance
- Intel® Celeron® Processor N3350 SoC
- Onboard eMMC 16GB (Optional up to 32GB)
- Onboard LPDDR4, 2GB
- Intel® i211 GbE x 3
- 1 x Mini-Card Full Size Slot with SIM Socket
- Onboard WiFi 802.11 b/g/n 2x2, BT4.1
- HDMI Connector (Optional)
- TPM Supported (Optional)



### Internal/ Expansion Interface

PCIe Slot	—
Mini-PCIe Slot	Mini-Card Full Size Slot with SIM Socket x 1 (USB 2.0; PCIe co-lay with LAN 3)
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2

### Miscellaneous

RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	(TPM2.0 9665 Optional)
GPIO	4 bits input, 4bits output
Fan	—
MTBF (Hours)	550,521 Hours
Color	Black

### Environmental Parameters and Dimension

Power Requirement	9~24 V DC Power
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	4.53" x 4.53" x 1.73" (115mm x 115mm x 44mm)

### I/O

Front Panel	USB 3.2 Gen 1 Ports x 2 LED's (3 x TOP Row, 2 x Bottom Row)x 6 Power Button with LED integrated x 1 Micro-USB Console Port x 1 RS-232/422/485 x 1 GPIO 8 bits, 4-bits input, 4-bits output Reset button x 1
Rear Panel	1GbE RJ45 Ports x 3 Power Input connector, lockable x 1
Left I/O	SIM Slot x 1 + Micro-SD Slot with Cover x 1 WiFi Antenna Connector x 1 LTE Antenna Connector
Right I/O	WiFi Antenna Connector x 1 LTE Antenna Connector

## Specifications

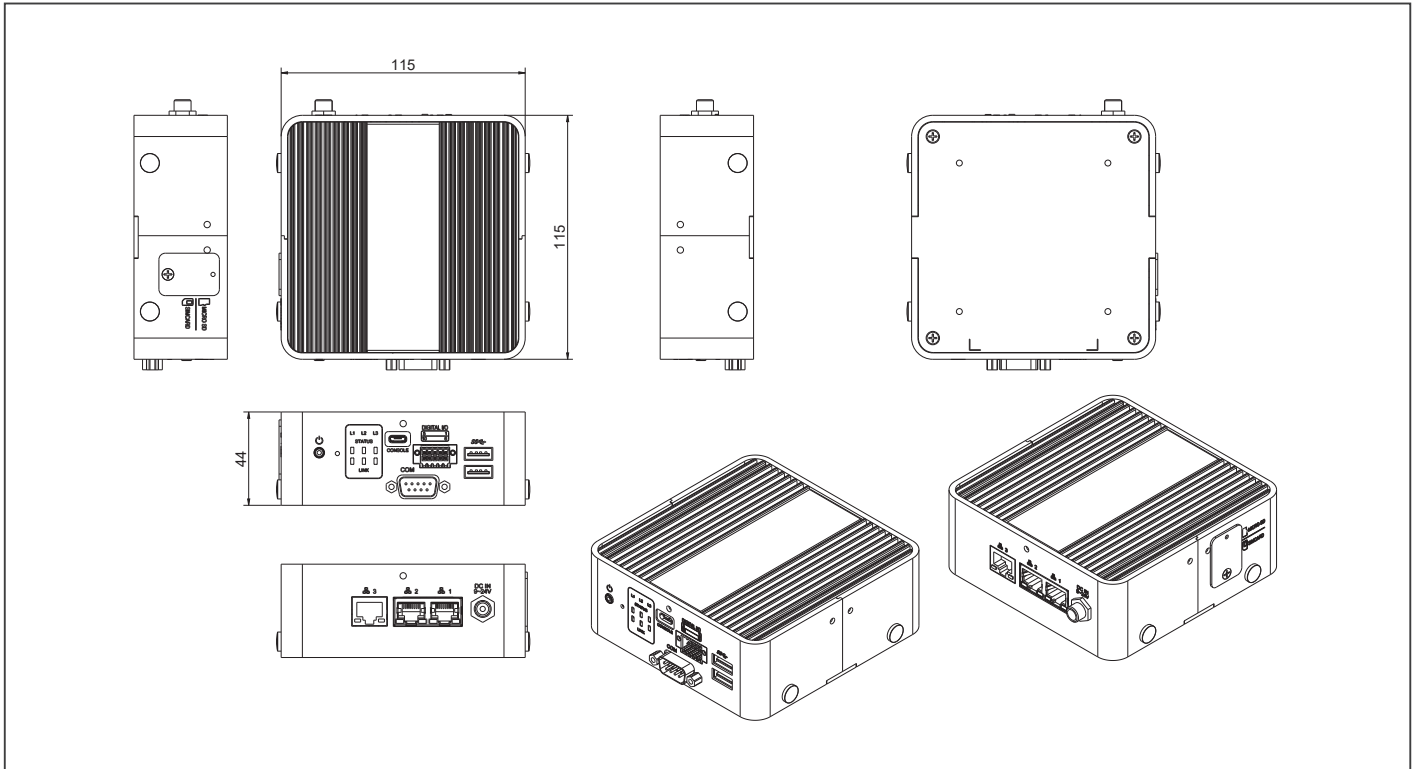
<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Intel® Celeron® Processor N3350 SoC
Chipset	SoC
System Memory	Onboard LPDDR4, 2GB
<b>Network</b>	
Ethernet	Intel® i211 GbE x 3
Bypass	—
<b>Display</b>	
Graphic Controller	Intel® HD graphics integrated
Connector	(HDMI Connector x1 Optional)
<b>Storage</b>	
HDD	—
CF/CFast/mSATA	Onboard eMMC 16GB (Optional up to 32GB) SATA III Port x 1 for SATA DOM Micro-SD Card Reader





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	Display	LAN	USB	Console	Bypass	TPM	Fan	Mounting	Power	Note
FWS-2275E3-A10-00	Intel® Celeron® N3350	Onboard LPDDR4 2GB memory	Mini-Card Full Size Slot with SIM Socket x 1 (USB 2.0)	16GB eMMC SATA III Port x 1 for SATA DOM Micro SD card Reader x 1	—	Intel® i211 x 3	USB 3.2 Gen 1 x 2	Micro USB console x 1	—	—	—	Desktop	DC 12V.40W Power Adapter x1	* Please contact AAEON for other optional specifications.

## Packing List

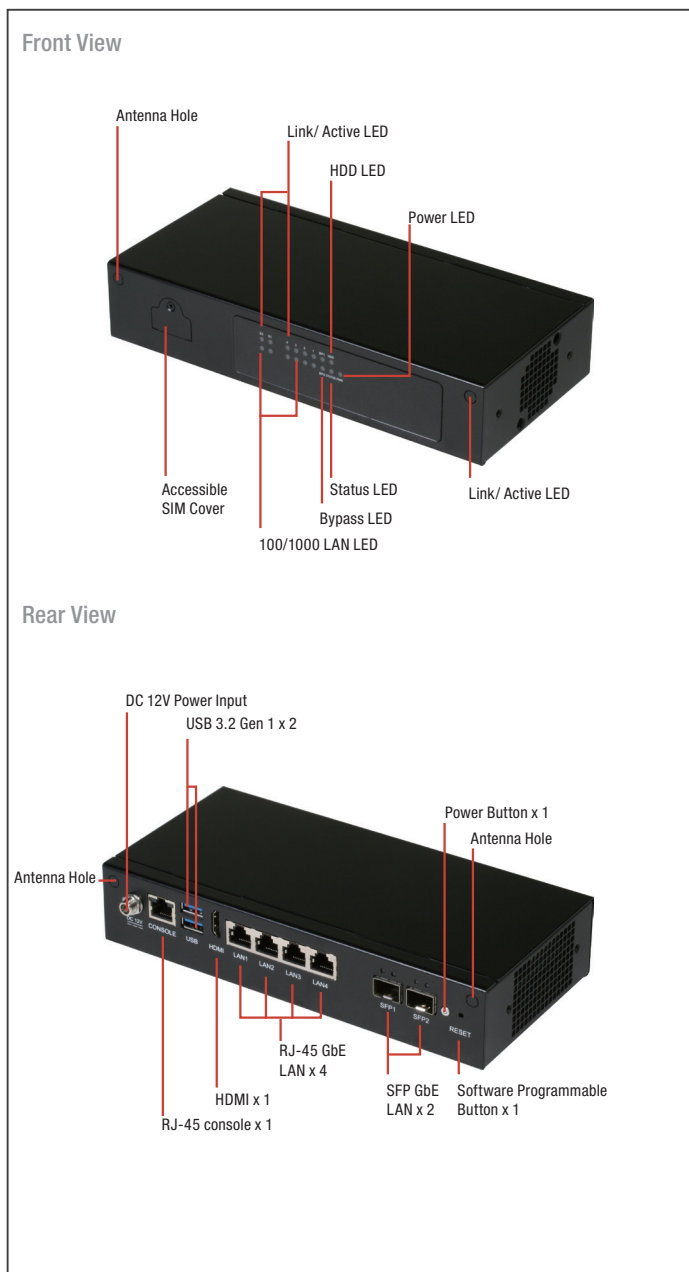
- Antenna x 2
- Power Adapter x 1
- VESA mount x 1
- FWS-2275

## Optional Accessories

- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **170203180B**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-250V/10A, 180D, 1.8M, PSE, YP12/YC-12



Desktop 6 LAN Ports Network Appliance with Intel® Celeron® N3350 Processor SoC



## Features

- Intel® Celeron® N3350 Processor SoC
- 10/100/1000Base-TX x 6 (4 x RJ-45, 2 x SFP connector )
- Supports up to 2 Pair Bypass
- CF Socket x 1, SATA 6.0 Gb/s Port x 1 for 2.5" HDD/SSD
- Mini-Card Slot (with SIM Socket) x 2
- RJ-45 Console x 1, USB 3.2 Gen 1 x 2
- DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz)



### Internal/ Expansion Interface

PCIe Slot	—
Mini-PCIe Slot	Mini-Card socket (full-size) with SIM socket x 2
Keyboard and Mouse	Reserved pin-header
USB	USB 3.2 Gen 1 x 2
<b>Miscellaneous</b>	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	—
TPM	(TPM v1.2 9660/TPM2.0 9665 Optional)
GPIO	Reserved internal pin-header 8-bit Digital I/O interface (4-in /4-out)
Fan	Fanless, reserved pin-header for system fan
MTBF (Hours)	109,725
Color	Black

### Environmental Parameters and Dimension

Power Requirement	12V DC Power in connector
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W x D x H)	8.66" x 4.13" x 1.73" (220mm x 105mm x 44mm)

I/O	
Front Panel	Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 2 LAN LED x 12
Rear Panel	USB 3.2 Gen 1 Port x 2 RJ-45 Port x 4 SFP x 2 RJ-45 Console x 1 12V DC Power Input x 1 Software Reset Button x 1 Power Button x 1 HDMI x 1 Antenna Hole x 2

## Specifications

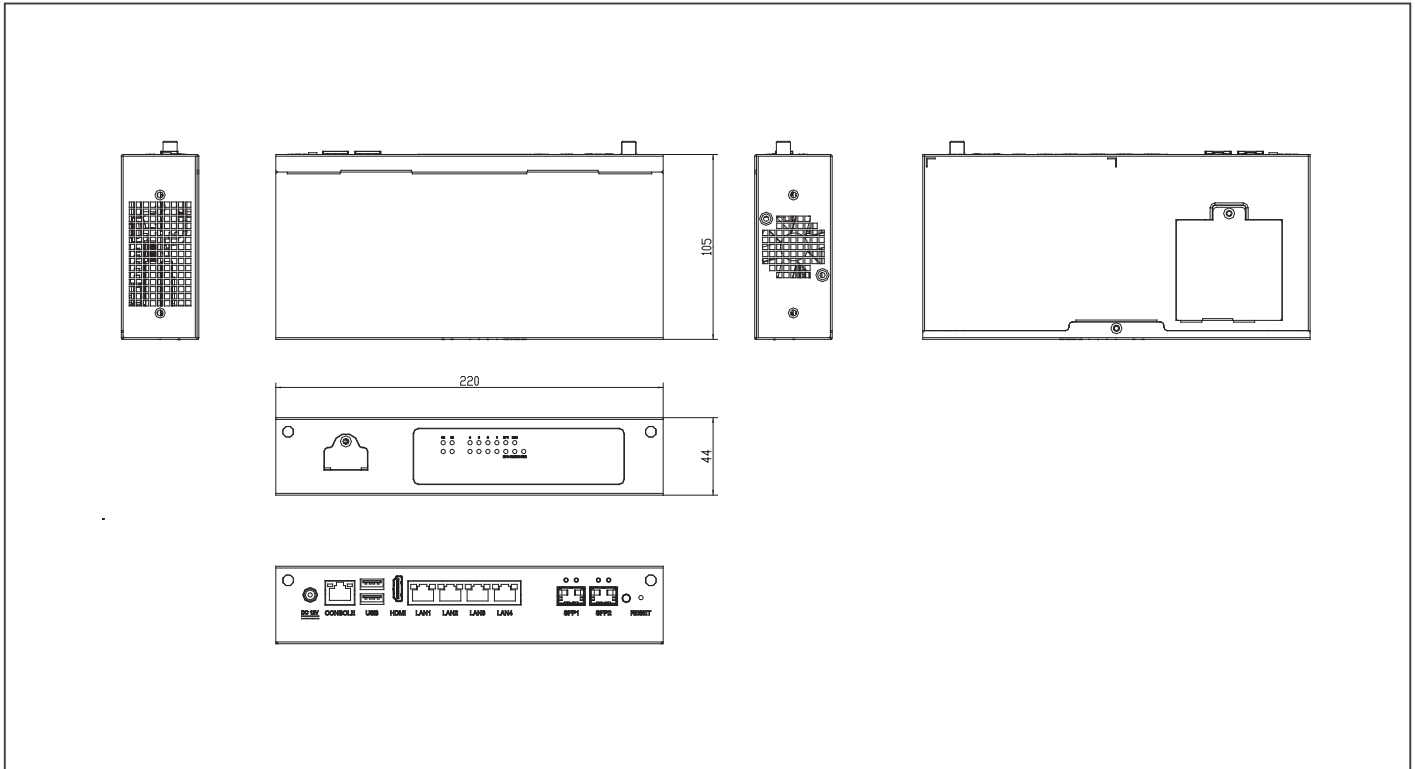
<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Intel® Celeron® N3350 Processor
Chipset	Intel® Celeron® N3350 Processor
System Memory	DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz)
<b>Network</b>	
Ethernet	Intel® i211, Gigabit Ethernet x 4 Intel® i210, SFP x 2
Bypass	Supports up to 2 pairs bypass function
<b>Display</b>	
Graphic Controller	Intel® HD Graphics 505 Intergrated
Connector	HDMI x 1
<b>Storage</b>	
HDD	2.5" HDD Bay x 1
CF/FAST/MSATA	CompactFlash™ socket x 1 (Co-lay for BOM Optional CFast™ socket x 1) SATA 6.0 Gb/s port x 1





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	RAM	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2273E7-A10-A10-00	Intel® Celeron® N3350	204-pin DDR3L SODIMM socket x 1	2 pairs	Full Size x 1 (PCIe + USB) with SIM socket Full Size x 1 (USB signal) with SIM socket	CF socket x 1 2.5" HDD Bay x 1	6	USB 3.2 Gen 1 x 2	RJ-45 x 1	Fanless	—	HDMI x 1	Desktop	DC

## Packing List

- SATA Cable x 1
- SATA Power Cable x 1
- Power Adapter
- FWS-2273

## Optional Accessories

- **1700091805**  
Console Cable
- **1702031802**  
Power Cord, 3P-250W/10A, 180D, 1.8M, USA, YP22/YP12
- **1702031803**  
Power Cord, 3P-250W/10A, 180D, 1.8M, VDE, YP22/YP12
- **170203180B**  
Power Cord, 3P-250W/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-250W/10A, 180D, 1.8M, PSE, YP12/YC-12



# FWS-2272

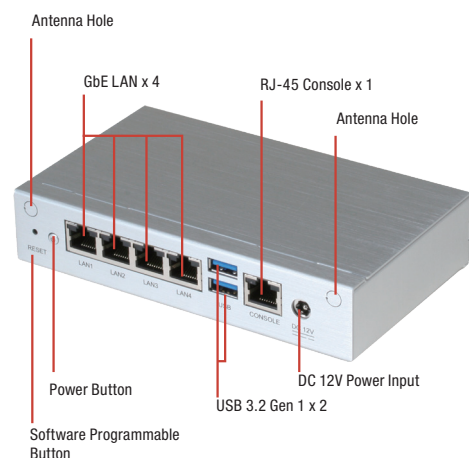
Desktop 4 LAN Ports Network Appliance with Intel® Celeron® N3350 Processor SoC



Front View



Rear View



## Features

- Intel® Celeron® N3350 Processor SoC
- Onboard LPDDR4, 2GB, Optional DDR3L 1866MHz Single-Channel SODIMM x 1 (Max 8GB, up to 1600MHz)
- 10/100/1000Base-TX x 4
- Onboard 8GB eMMC, SATA 6.0 Gb/s Port x 1
- Mini-Card Slot (with SIM Socket) x 1
- RJ-45 Console x 1, USB 3.2 Gen 1 x 2



### Internal/ Expansion Interface

PCIe Slot	—
Mini-PCIe Slot	Mini-Card socket (full-size) with SIM socket x 1
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2
<b>Miscellaneous</b>	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	—
TPM	(TPM v1.2 9660/TPM2.0 9665 Optional)
GPIO	Reserved internal pin-header 8-bit Digital I/O interface (4-in /4-out)
Fan	Fanless
MTBF (Hours)	162,469
Color	Silver

### Environmental Parameters and Dimension

Power Requirement	12V DC Power in connector
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (SATA DOM) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W x D x H)	6.1" x 3.62" x 1.26" (155mm x 92mm x 32mm)

### I/O

Front Panel	Power LED x 1 Status LED x 1 Storage Active LED x 1 LAN LED x 8
Rear Panel	USB 3.2 Gen 1 Port x 2 RJ-45 Port x 4 RJ-45 Console x 1 12V DC Power Input x 1 Software Reset Button x 1 Power Button x 1 Antenna Hole x 2

## Specifications

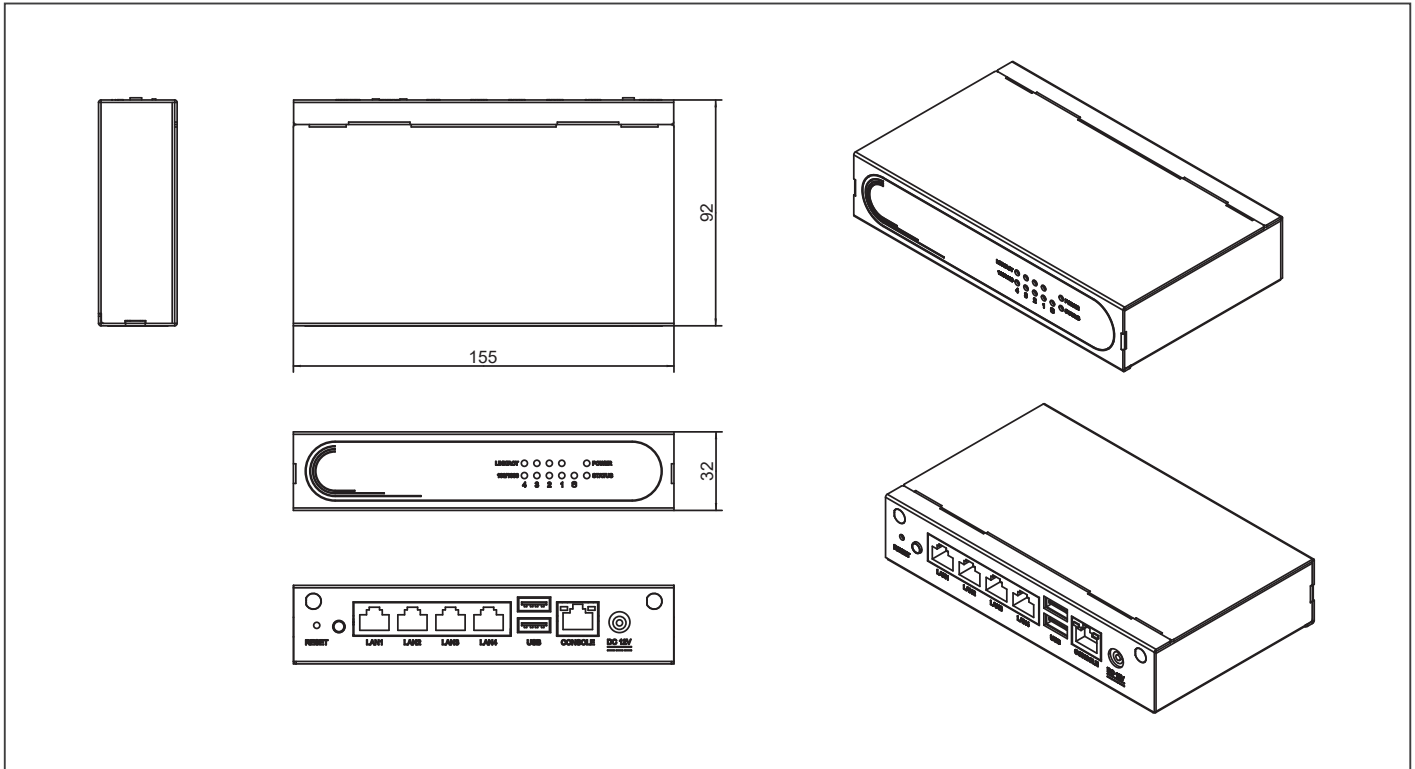
<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Intel® Celeron® N3350 Processor
Chipset	Intel® Celeron® N3350 Processor
System Memory	Onboard LPDDR4, 2GB, Optional DDR3L 1866MHz Single-Channel SODIMM x 1 (Max 8GB, up to 1600MHz)
<b>Network</b>	
Ethernet	Intel® i211, Gigabit Ethernet x 4
Bypass	—
<b>Display</b>	
Graphic Controller	Intel® HD Graphics 505 Integrated
Connector	—
<b>Storage</b>	
HDD	—
CF/CFAST/MSATA	Onboard 8GB eMMC SATA 6.0 Gb/s port x 1 for SATA DOM





## Dimension

Unit: mm



## Ordering Information

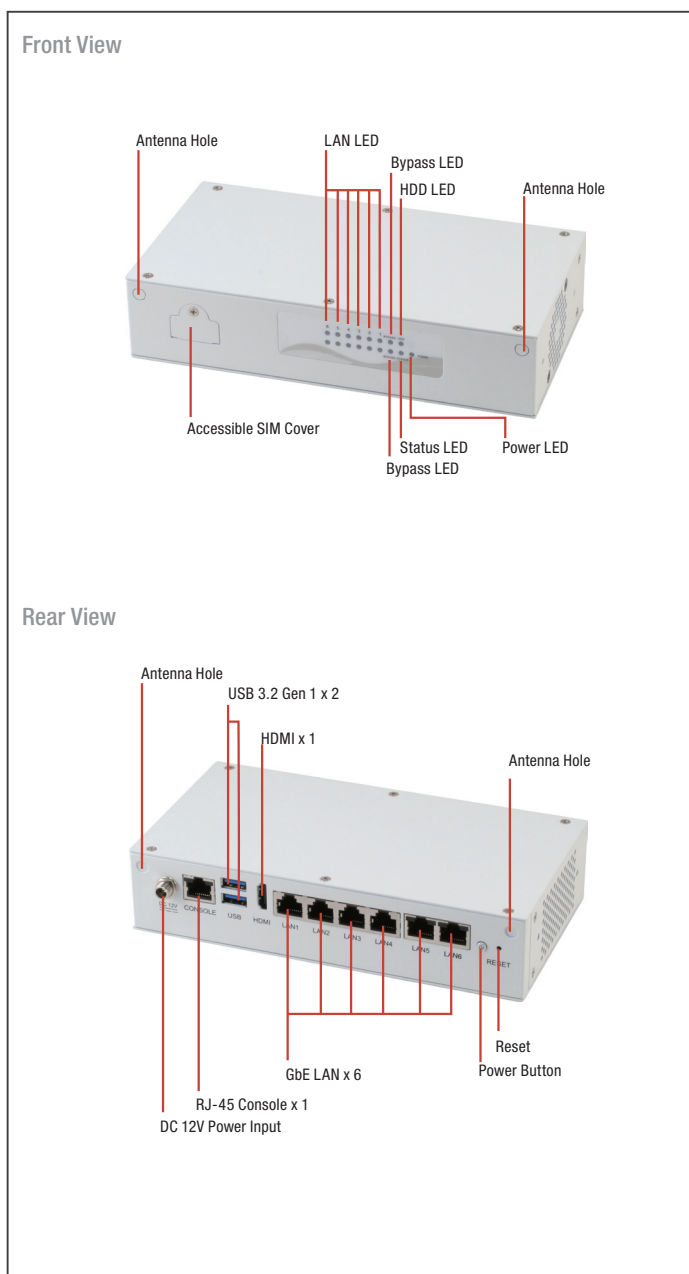
Part Number	CPU	Memory	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2272E4-A10-A10-00	Intel® Celeron® N3350	Onboard 1GB LPDDR4	—	Full Size (USB Only)+ SIM socket x 1	Onboard 8GB eMMC, SATA 6.0 Gb/s Port x 1	4	USB 3.2 Gen 1 x 2	RJ-45 x 1	Fanless	—	—	Desktop	DC

## Packing List

- Power Adapter
- FWS-2272

## Optional Accessories

- 1700091805  
Console Cable
- 1702021832  
Power Cord, 2P/2P, 1.8M, USA
- 1702021836  
Power Cord, 2P/2P, 1.8M, EU



## Features

- Intel® N3350 Processor SoC
- DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz)
- 10/100/1000Base-TX Ethernet Port x 6
- CFast™ Socket x 1
- Mini-Card Slot x 2 (USB Signal only with SIM Socket x 1)
- Accessible SIM Cover
- Supports TPM
- RJ-45 Console x 1, USB 3.2 Gen 1 x 2, HDMI x 1
- Supports Antenna up to 4



Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	Mini-Card socket (full-size) with SIM socket x 2
Keyboard and Mouse	Reserved pin-header
USB	USB 3.2 Gen 1 Type A on I/O side x 2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	Optional TPM v1.2 9660/TPM2.0 9665
GPIO	Reserved internal pin-header 8-bit Digital I/O interface (4-in /4-out)
Fan	System Fan x 1
MTBF (Hours)	118,725
Color	White
Environmental Parameters and Dimension	
Power Consumption	12V DC In/ 40W power adapter x 1
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz/ non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	7.87" x 4.13" x 1.73"(200mm x 105mm x 44 mm)
I/O	
Front Panel	Bypass LED x 2 Power LED x 1 Status LED x 1 HDD Active LED x 1 LAN LED x 12
Rear Panel	USB 3.2 Gen 1 Port x 2 RJ-45 Port x 6 (BOM Optional RJ-45 Port x 4) RJ-45 Console x 1 12V DC Power Input x 1 Software Programmable button x 1 HDMI x 1 Power Button x 1

## Specifications

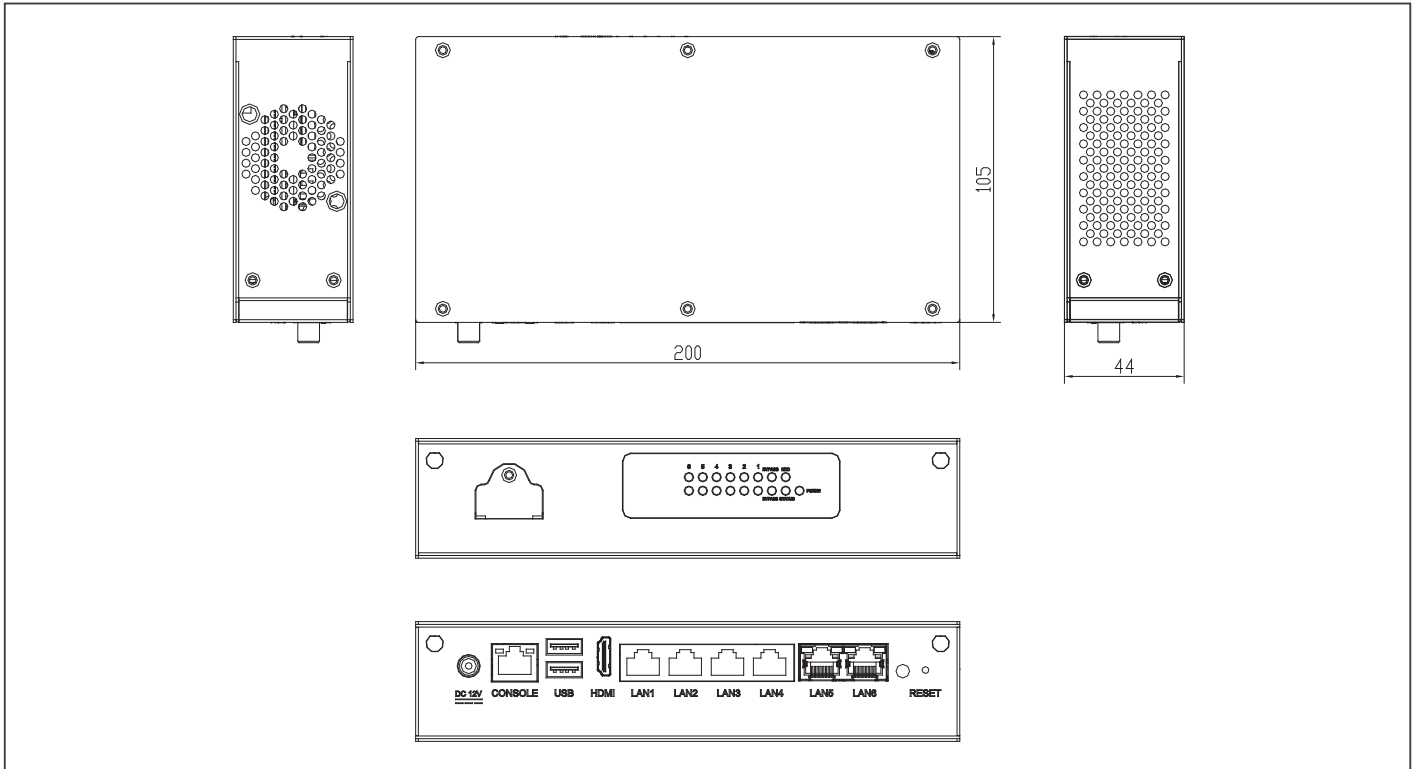
System	
Form Factor	Desktop 6-port Network Appliance
Processor	Onboard Intel® Celeron® processor N3350
Chipset	Integrated
System Memory	DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz)
Network	
Ethernet	Intel® i211 (Co-lay with Intel® i210), Gigabit Ethernet x 6 (BOM Optional 4 Ports)
Bypass	Supports up to 2 pairs bypass function
Display	
Graphics Controller	Intel® HD Graphics 505 Intergrated
Connector	HDMI x 1
Storage	
HDD	2.5" HDD Bay x 1
CF/CFast/mSATA	CFast™ socket x 1 (Co-lay for BOM Optional CompactFlash™ socket x 1)





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2271E6-A10-A10-00	Intel® Celeron® N3350	DDR3L, SODIMM Single Channel	2 pairs	Full Size (PCIe+USB) x 1 Full Size (USB Only) + SIM socket x 1	SATA II Port x 1, CFast™ socket x 1	6	USB 3.2 Gen 1 x 2	RJ-45 x 1	Fan x 1	—	HDMI x 1	Desktop	DC

## Packing List

- SATA Cable x 1
- SATA Power Cable x 1
- Power Adapter
- FWS-2271

## Optional Accessories

- **1700091805**  
Console Cable
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **170203180B**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170203180E**  
Power Cord, 3P-125V/7A, 1.8M, PSE, YP12/YC-12

# FWS-2277

Desktop Network Appliance with Intel® Celeron® Processor N3350 SoC (formerly Apollo Lake)



Front View



USB 3.2 Gen 1 x2

Power switch

Rear View



12V DC jack

RJ45 1GbE x2

HDMI

With Antennas installed



(Antennas: Optional Accessories)

## Features

- Desktop Network Appliance
- Intel® Celeron® Processor N3350 SoC
- Onboard eMMC 16GB (Optional up to 32GB)
- Intel® i211/i210 GbE x 2,
- Mini-Card full size with wifi (11a/b/g/n/ac 2Tx2R) + BT (V5.0 LE)
- Onboard LPDDR4, 4GB
- TPM Supported (Optional)



Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	Mini-Card Full Size Slot x1
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	Optional Infineon.SLB9665TT2.0(FW5.63)
GPIO	(4 bits input, 4bits output optional)
Fan	Fan-less
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Consumption	12V DC Power Input Connector non-lock, 24W power adapter
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	4.53" x4.53" x 1.26"(115mm x115mm x 32mm)
I/O	
Front Panel	USB 3.2 Gen 1 x 2 Power Button x 1 Reset Button x 1
Rear Panel	DC Power Input Connector non-lock x 1 1GbE RJ45 Ports x 2 HDMI x 1

## Specifications

System	
Form Factor	Desktop Network Appliance
Processor	Intel® Celeron® Processor N3350 SoC
Chipset	SoC
System Memory	Onboard LPDDR4, 4GB
Network	
Ethernet	Intel® i211/i210, Gigabit Ethernet x 2
Bypass	—
Display	
Graphics Controller	Intel® UHD Graphics
Connector	HDMI x 1
Storage	
HDD	—
CF/CFast/mSATA	eMMC 16G

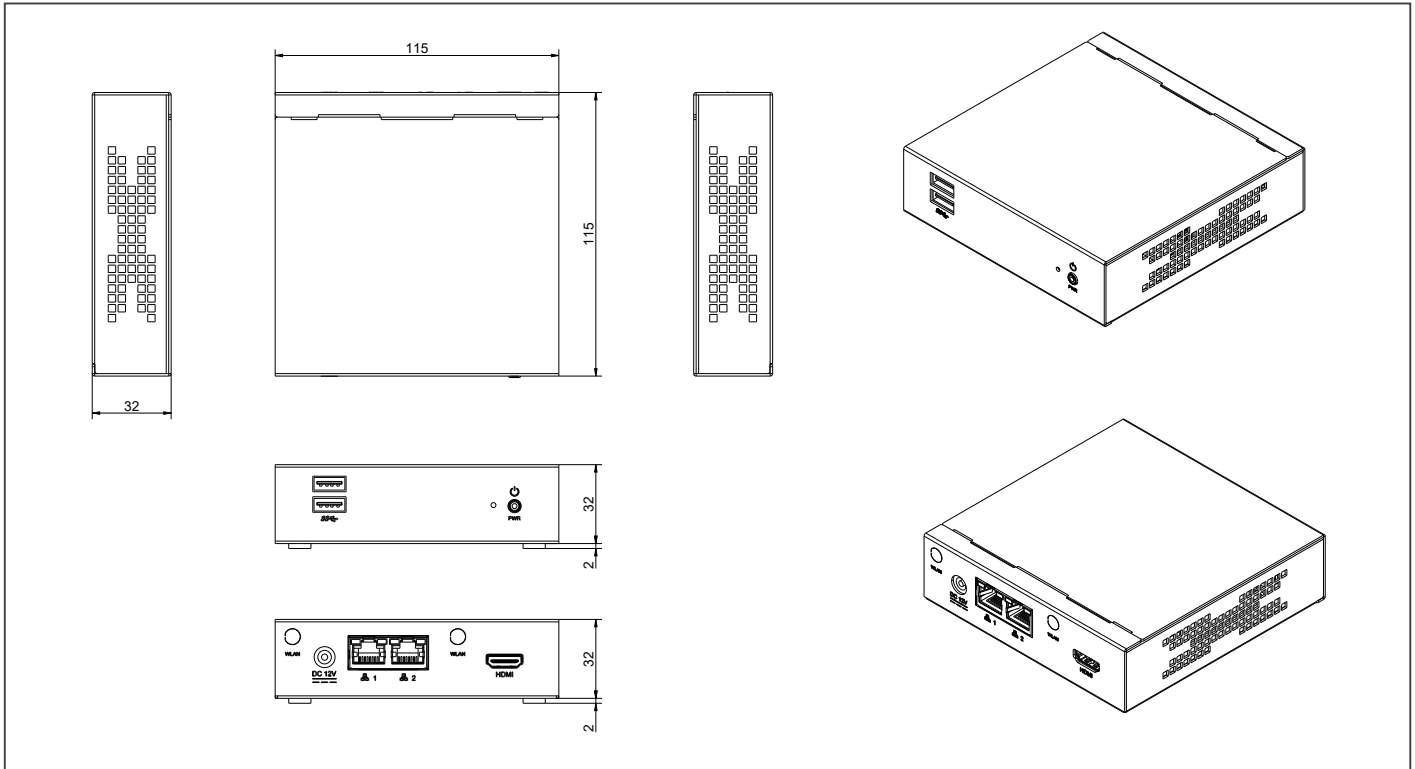






## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2277-E2-A10-000	N3350	Onboard LPDDR4 ,4G	—	Mini Card Socket x1	eMMC 16G	2	USB 3.1 x 2	—	Fan-less	Optional	HDMI x 1	Desktop	DC

## Packing List

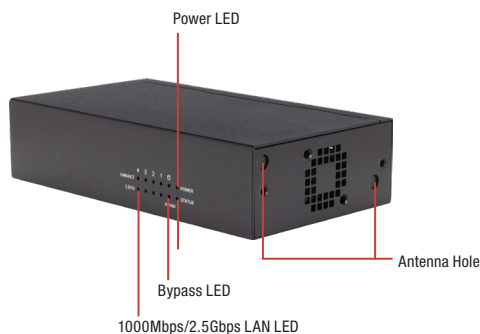
- Power Adapter x1
- FWS-2277

## Optional Accessories

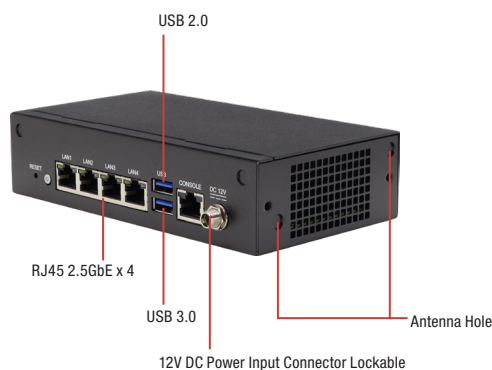
- 1702021832  
Power Cord, 2P/2P, 1.8M, USA
- 1702021836  
Power Cord, 2P/2P, 1.8M, EU



Front View



Rear View



## Features

- Intel® Processor N-series, 2~8 cores
- Onboard LPDDR5 4GB, up to 16GB
- Intel® Ethernet Controller I226-V, 2.5GbE x 4
- M.2 3052 B-Key for 5G (Co-lay Mini-Card slot with Push-pin SIM for 4G LTE/Wi-Fi)
- M.2 2230 E-Key (Co-lay Mini-Card slot for Wi-Fi)



### Internal/ Expansion Interface

PCIe Slot	—
Mini-PCIe Slot	M.2 3052 B-Key (5G, Colay Mini Card with Push-pin SIM for 4G LTE/Wi-Fi) M.2 2230 E-Key (Colay Mini Card slot for Wi-Fi)
Keyboard and Mouse	—
USB	USB 3.2 Gen 2 x 1 USB 2.0 x 1

### Miscellaneous

RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	(TPM 2.0 SLB9670 VQ2.0 FW7.85, optional)
GPIO	4-bit Input, 4-bit Output (optional)
Fan	Fan x 1
MTBF (Hours)	952,764
Color	Black

### Environmental Parameters and Dimension

Power Consumption	12V Lockable DC Power Input Connector x 1 (40W Power Adapter)
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	6.5" x 3.62" x 1.57" (165mm x 92mm x 40mm)

### I/O

Front Panel	Power LED x 1 Status LED x 1 Bypass LED x 1 Storage Active LED x 1 Ethernet LED x 8 (Accessible SIM slot x 1 Optional) Antenna Hole x 2 (Right panel) Antenna Hole x 2 (Left panel)
Rear Panel	Lockable DC Power Input Connector x 1 Power Button x 1 USB 3.2 Gen x 1 USB 2.0 x 1 RJ-45 x 4 RJ-45 Console x 1 Reset Button x 1 Antenna Hole x 2

## Specifications

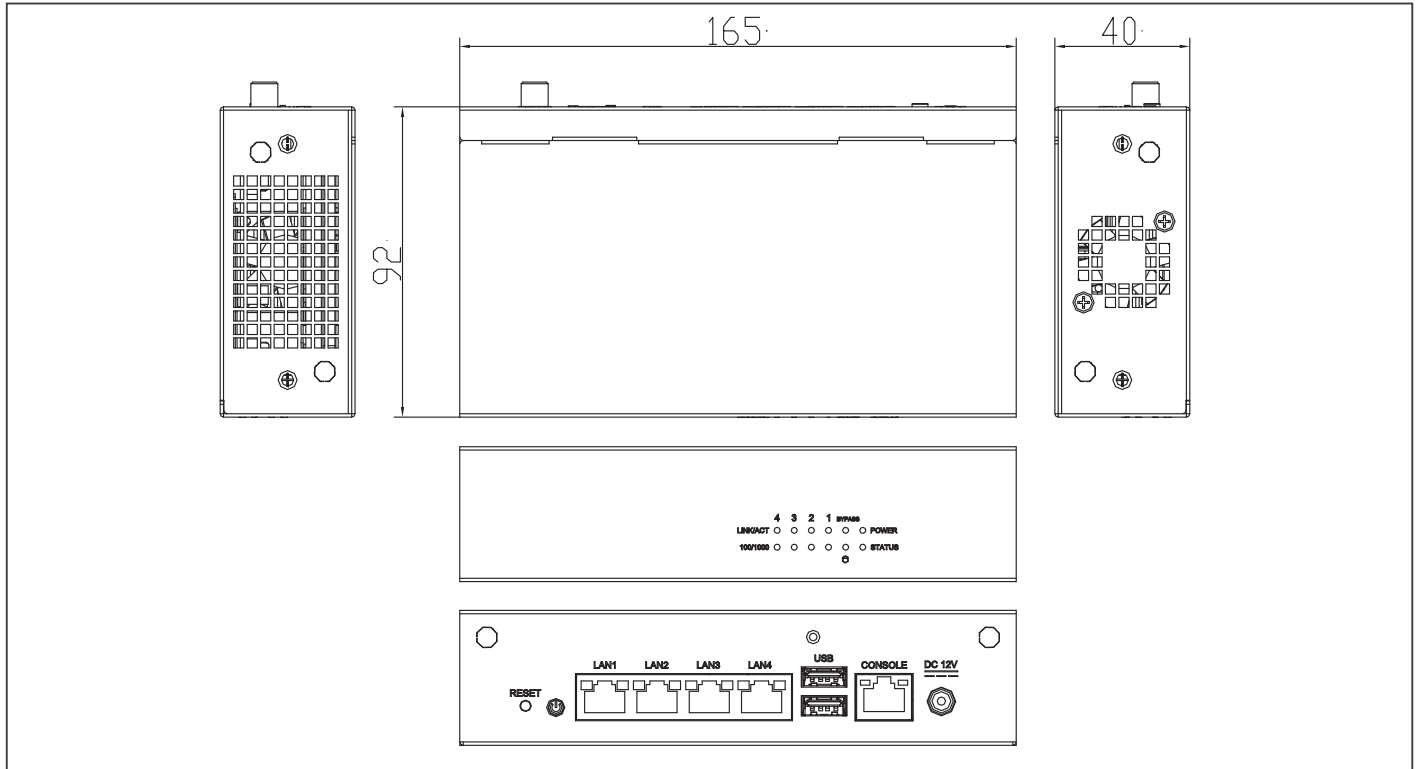
<b>System</b>	
Form Factor	Desktop Network Appliance
Processor	Intel® Processor N-series, 2~8 cores
Chipset	SoC
System Memory	Onboard LPDDR5, up to 16GB
<b>Network</b>	
Ethernet	Intel® Ethernet Controller I226-V, 2.5GbE x 4
Bypass	1 Pair
<b>Display</b>	
Graphics Controller	Intel® UHD Graphics
Connector	HDMI x 1 (Optional)
<b>Storage</b>	
HDD	2.5" HDD Bay x 1
CF/CFast/mSATA	32G eMMC SATA 6Gb/s x 1





## Dimension

Unit: mm



## Packing List

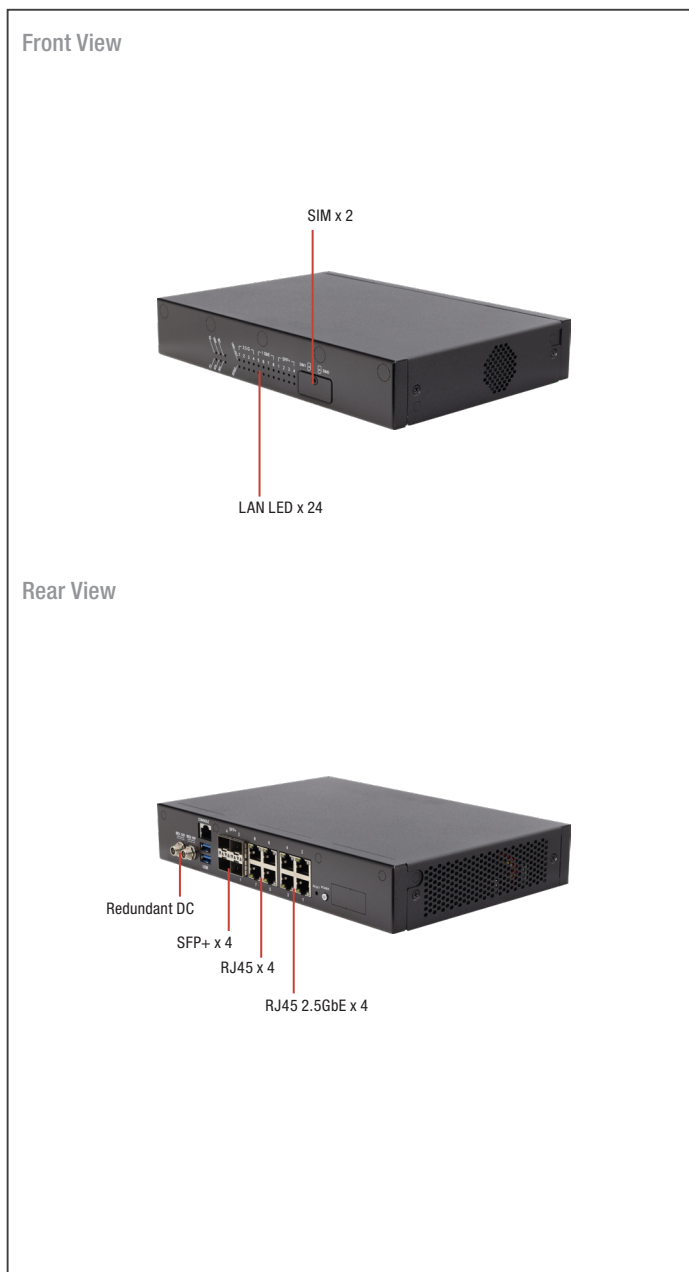
- Power Cable x 1
- SATA Cable x 1
- Power Adapter x 1
- FWS-2290

## Optional Accessories

- 1700091805  
Console Cable
- 170X000799  
Power Cord.3P.125V.10A.180D.USA.1.8M
- 170X000800  
Power Cord.3P.250V.10A.VDE.1.8M
- 170X000815  
Power Cord.3P.250V.10A.180D.CHINA.1.8M
- 170X000803  
Power Cord.3P.125V/7A.PSE Certificate.1.8M

## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	Expansion Slot	TPM	Display	Fan	Mounting	Power
FWS-2290-E4-A10-000	Intel® Processor N97	Onboard 4G LPDDR5	—	32G eMMC SATA III port x 1 2.5" HDD Bay x 1	Intel® Ethernet Controller I226-V, 2.5GbE x 4	USB 3.2 Gen 2 x 1 USB 2.0 x 1	Console x 1	1 Pair	M.2 B key 3052 Socket x1 M.2 E key 2230 Socket x1	Optional	Optional	Fan x 1	Desktop	DC



## Features

- Intel Atom® Processor C Series/Intel Atom® Processor P Series
- Onboard eMMC 32GB, up to 128GB
- DDR4 SODIMM x 2, up to 64GB ECC/Non-ECC
- Intel® Ethernet Controller I226-V 2.5GbE x 4, Marvell® Alaska® 88E1543 GbE x 4, 10G SFP+ x 4
- M.2 2230 E-Key for Wi-Fi (Co-lay Mini Card Slot x 1 (Half-size, PCIe))
- M.2 3042/3052 B-Key for 5G/LTE (Co-lay Mini Card Slot with push-pin SIM Slot x 1 (Full-size, PCIe + USB 3.0 + USB 2.0))
- TPM Support (Optional)



Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	M.2 2230 E-Key x 1 (PCIe) for Wi-Fi co-lay half-size Mini Card Slot x 1 (PCIe) M.2 3052 B-Key x 1 (USB 2.0) for 5G/LTE co-lay full-size Mini Card Slot with push-pin SIM Slot x 1 (PCIe + USB 2.0) M.2 3052 B-Key x 1 (USB 3.0 + USB 2.0) for 5G/LTE co-lay full-size Mini Card Slot with push-pin SIM Slot x 1 (USB 3.0 + USB 2.0)
Keyboard and Mouse	—
USB	USB 3.0 x 2 (shared with PCIe Slot for PoE, default USB 2.0 x 2)
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	TPM 2.0
GPIO	Reserve Internal Pin Header 8-bit Digital I/O Interface (4-in/4-out)
Fan	Smart Fan x 1 (Default), Internal Smart Fan Pin Header x 1 (Reserve)
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Consumption	Dual in 12V 60W Adapter (w/o POE) Dual in 12V 90W Adapter (w/ POE)
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (mSATA) 1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	10.2" x 7" x 1.7" (260mm x 178mm x 44mm)
I/O	
Front Panel	Optional type c console x 1 Micro SIM socket x 2 Main board LAN LED x 24 Optional module LAN LED via cable x 4 Bypass LED x 2 Storage LED x 1 Status LED x 1 Power LED x 2 Antenna hole x 3
Rear Panel	DC Power Input Connector Lockable x 2 RJ45 console x 1 USB 3.0 Port x 2 Power LED x 2 10G SFP+ x 4 1G Marvell RJ45 Port x 4 2.5G RJ45 Port x 4 SW reset button x 1 Power button x 1 Antenna hole x 4 Optional 2.5G LAN module x 2 (optional with POE af/at)

## Specifications

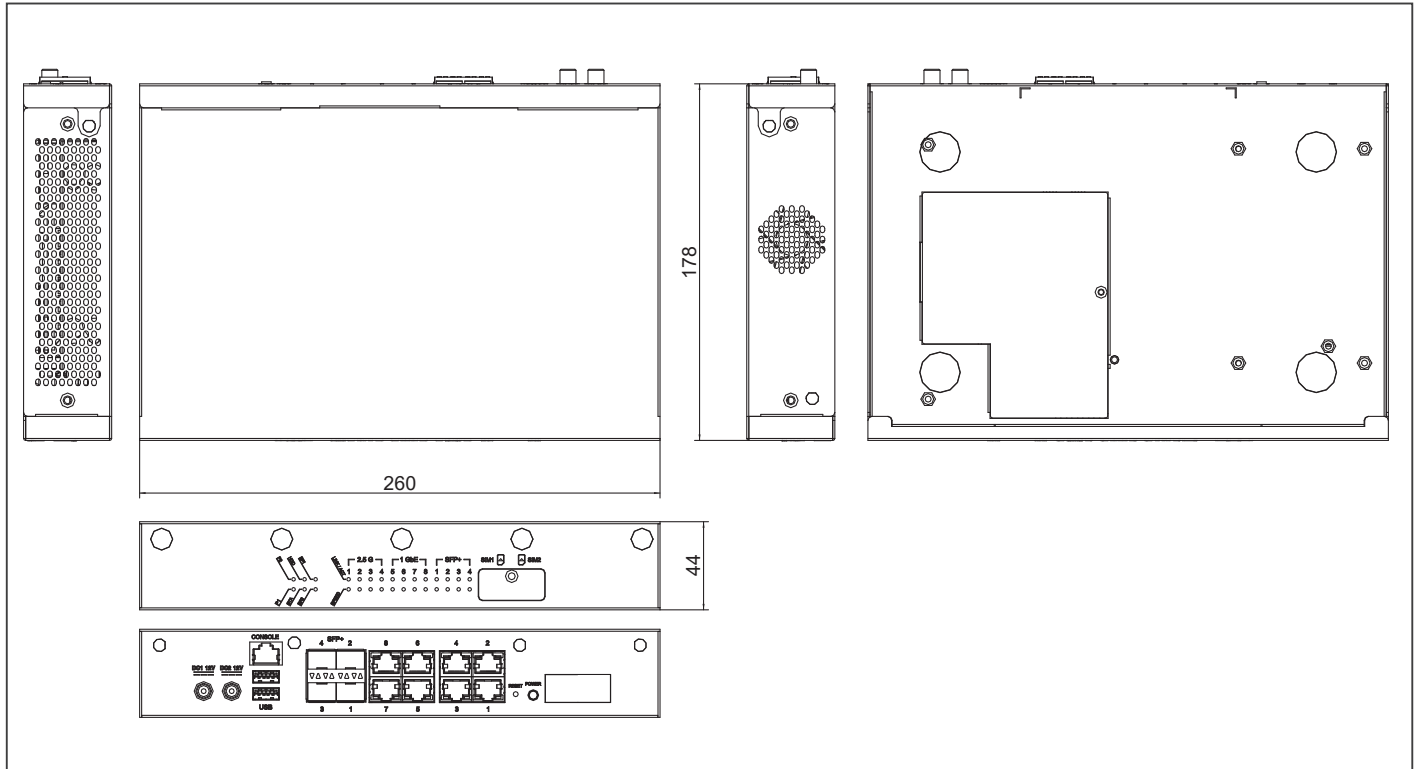
System	
Form Factor	Desktop Network Appliance
Processor	Intel Atom® Processor C Series/Intel Atom® Processor P Series Default: Intel Atom® Processor C5315
Chipset	SoC
System Memory	DDR4 SODIMM socket x 2, up to ECC/Non-ECC 64GB
Network	
Ethernet	Intel® Ethernet Controller I226-V 2.5GbE x 4 Marvell® Alaska® 88E1543 GbE x 4 10G SFP+ x 4
Bypass	2 Pair
Display	
Graphics Controller	—
Connector	—
Storage	
HDD	SATA 6Gb/s x 2 (co-lay M.2 2242 M-Key x 1)





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Mounting	Power
FWS-2370-E12-A10-000	Intel Atom® Processor C5315	DDR4 SODIMM socket x 2	2 pairs	M.2 colay Mini-card slot x 3 ; [x4] PCIe connector slot x 1 (PCIe [x1] x 2)	SATA port x 2 eMMC 32GB	Intel® Ethernet Controller I226-V 2.5GbE x 4, Marvell® Alaska® 88E1543 GbE x 4, 10G SFP+ x 4	USB 3.0 x 2	Console x 1	Fan x1	Optional	Desktop	DC

## Packing List

- Power Adapter x 1
- FWS-2370

## Optional Accessories

- **1700091805**  
Console Cable
- **170X000799**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170X000800**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **170X000815**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/YC-12
- **170X000803**  
Power Cord, 3P-125V/7A, 1.8M, PSE, YP12/YC-12



# FWS-2291 PRELIMINARY



Network Appliance with Intel® Alder lake N / Amston lake SoC Processor

## Launching in Q1

## Features

- Desktop Network Appliance
- Intel Alder lake N / Amston lake SoC
- DDR5 S0-DIMM up to 16GB
- Intel® i226V , 2.5 Gigabit Ethernet x 4 + Intel® i210IS, SFP x 2
- TPM v2.0 (Optional)
- M.2 USB 3.2 (B Key 3052) for 5G (Co-lay Mini-Card slot x 2 with Push-pin SIM for 5G/ 4G LTE/Wifi)
- M.2 PCI-E [x1] (E Key 2230) (Co-lay Mini-Card slot for WiFi)



## Specifications

System	
Form Factor	Desktop Network Appliance
Processor	Intel® Alder lake N / Amston lake SoC Processor
Chipset	SoC
System Memory	DDR5 S0-DIMM up to 16GB
Network	
Ethernet	Intel® i226 V, 2.5 Gigabit Ethernet x 4 Intel® i210IS, SFP x 2 (co-lay with i210AT Copper x2) by PCIe Bridge (ASM2806)
Bypass	2 Pairs
Display	
Graphics Controller	—
Connector	HDMI x 1 (Only support on Alder lake N)
Storage	
HDD	2.5" HDD Bay x 2, 1 SATA co-lay with M.2 2242
CF/CFast/mSATA	On board 32G eMMC, up to 128G
Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	1. M.2 (B Key 3042+3052+ PCIe [x1]) by ASM2086 for 4G/5G (Co-lay Mini-Card full size slot) with Push-pin SIM for 4G LTE/Wifi (USB3.2+USB 2.0+ PCIe [x1]) reserve 3042 screw hold for 4G LTE, Without ASM 2806, only USB3.2+2.0 signal for 4G LTE/5G. 2. M.2 E Key 2230 (Co-lay Mini-Card Half-size slot for WiFi) (PCI-E [x1]+ USB 3.2 & 2.0) 3. [x4] PCIe connector slot (PCIe [x1] x 2 by ASM 2806) for 2 x 2.5GbE i226V module (optional support PoE/PoE+ PIC-POE)
Keyboard and Mouse	—
USB	2 x USB 3.2 Gen 1 type A port
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 step by software programmable
Software Button	GPIO Programmable push button x 1
TPM	SPI TPM v2.0 (optional) nuvoton co-lay Infineon SLB 9672VU2.0 FW15.21
GPIO	(4 bits input, 4bits output optional)
Fan	Fan-less/ Fan
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Consumption	Dual in 12V 40W Adapter (w/o POE) Dual in 12V 96W Adapter (w/ POE)
Operating Temperature	32 ~ 122°F (0 ~ 40°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	10%~90% relative humidity, non-condensing

Storage Humidity	10 ~ 80% @ 40C, non-condensing
Vibration	0.5G / 5 ~ 500Hz / operation 1.5G / 5 ~ 500Hz / non-operation
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	Standard: 220mm x 105mm x 44mm(W x D x H) Support POE card (PIC-POE): 260mm x 178mm x 44mm(W x D x H)
I/O	
Front Panel	Power LED x 2 Status LED x 1 Bypass LED x 2 Storage Active LED x 1 Ethernet LED x 12 Antenna Hole x 2 Accessible SIM slot x 2 -Optional 2.5G Lan module x 2 (optional with POE af/at) change the housing
Rear Panel	DC Power Input Connector Lockable x 2 Power Button x 1 USB 3.2 Gen 2 Port x 2 RJ-45 Port x 4 Fiber RJ45 x 2 Type C console x 1 Antenna Hole x 4

## Packing List

- Power Adapter x 1
- FWS-2291

## Ordering Information

- TBD

## Optional Accessories

- TBD





## Launching in Q1

### Features

- Intel® Alder Lake N/Amston lake/Twin lake SoC Processor, 2~8 cores
- DDR5 SO-DIMM up to 32GB
- Intel® Intel® i226V , 2.5 Gigabit Ethernet x 6
- M.2 USB 3.0 (B Key 3 052) for 5G (Co-lay Mini-Card slot-2 with Push-pin SIM for 4G LTE/Wifi)
- M.2 2x PCI-E [x1] (E Key 2230) for Wifi (Co-lay Mini-Card slot for WiFi)

### Specifications

System	
Form Factor	Desktop Network Appliance
Processor	Intel Alder lake N/Amston lake/Twin lake SoC Processor 2~8 cores
Chipset	SoC
System Memory	DDR5 SO-DIMM up to 32GB
Network	
Ethernet	Intel® i226V, Gigabit Ethernet x 6
Bypass	2 Pairs
Display	
Graphics Controller	Intel® UHD Graphics
Connector	HDMI x 1 Optional
Storage	
HDD	—
CF/CFast/mSATA	2.5" HDD Bay x 1 M.2 M key SATA slot x 1 for M.2 SSD On board 32G eMMC up to 128G
Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	M.2 (B Key 3052) for 5G (Co-lay Mini-Card slot-2 with Push-pin SIM for 4G LTE/Wifi reserve 3042 screw hold for 4G LTE M.2 (E Key 2230) (Co-lay Mini-Card-1 slot for WiFi)
Keyboard and Mouse	—
USB	USB 3.1 Type A x2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	(SPI TPM v2.0 (optional) nuverton colay Infineon SLB 9672VU2.0 FW15.21 Optional)
GPIO	(4 bits input, 4bits output optional)
Fan	Fan x1
MTBF (Hours)	TBD
Color	Black

Environmental Parameters and Dimension	
Power Consumption	2 x 12V DC Power Input Connector Lockable, 40W power adapter
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (SSD/eMMC) 1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	220mm x 105mm x 44mm
I/O	
Front Panel	LEDs (Power, Status, Storage) x 3 Micro-SIM x 1 LAN LEDs x 12 Antenna Hole x 4
Rear Panel	DC Power Input Connector Lockable x 1 Power Button x 1 USB3.0 Ports x 2 1GbE RJ45 Ports x 6 RJ-45 console x 1 Reset Button x 1 Antenna Hole x 4

### Packing List

- FWS-2292
- Power Adapter x 1

### Optional Accessories

- 1700091805**  
Console Cable
- 170X000449**  
Console Cable 8 PIN RJ45 to USB
- 170X000799**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/ YP12
- 170X000800**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/ YP12
- 170X000815**  
Power Cord, 3P-250V/10A, 180D, 1.8M, China, YP-03/ YC-12
- 170X000803**  
Power Cord, 3P-125V/7A, 1.8M, PSE, YP12/YC-12YC-12

### Ordering Information

Part Number	CPU	RAM	Bypass	Mini-Card Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
FWS-2292	N97	DDR5 SO-DIMM up to 32GB	—	M.2 Socket x2	SATA port x 1 32G eMMC	Intel® i226V Gigabit Ethernet x 6 LAN Ports	USB 3.0 x 2	Console x 1	Fan x1	Optional	Optional	Desktop	DC

# 02

# 02

## Rackmount Network Appliances & Network Interface Modules



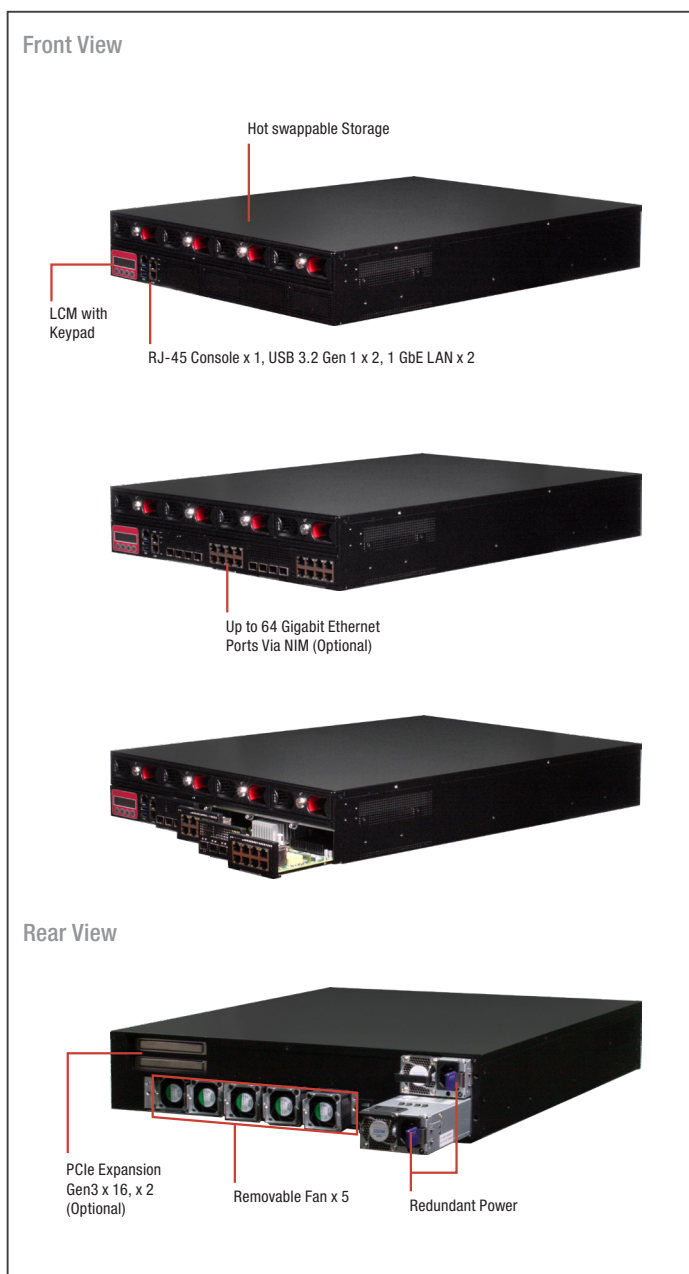
ES France - Mobilité & Systèmes Embarqués  
127 rue de Buzenval BP 26 - 92380 Garches



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Site Web : [www.es-france.com](http://www.es-france.com)



## Features

- 2U Rackmount Network Appliance
- Dual 2nd Gen Intel® Xeon® Scalable Processors
- Intel® C621 Chipset
- DDR4 2133/2400/2666 MHz RDIMM x 16, up to 512GB
- 1GbE RJ45 Intel® i211 x 2, NIM slot x 4 (Project based up to 8 slots)
- IPMI supported by AAEON Module
- External Hotswappable 3.5" HDD Bay x 4, Internal 3.5" HDD Bay x 1
- Mini-Card slot x 1, M.2 2260 M-key x 1
- RJ-45 Console x 1, USB 3.2 Gen 1 x 2
- 550W ~ 600W Redundant Power



Storage	
HDDs	SATA III Port x 6 External Hotswappable 3.5" HDD Bay x 4 Internal 3.5" HDD Bay x 1, option with 2.5" HDD Bay x 2
CF/CFast/mSATA	M.2 2260 M-key x 1 mSATA slot x 1 (share same slot with Mini-Card)
Internal/ Expansion Interface	
PCIe slot	Optional PCIe [x16] slots x 2, via riser card
Mini-Card slot	Mini Card slot (full-size) x 1 (PCIe/SATA, USB2.0)
IPMI	Optional IPMI via AAEON Module (Project based)
Keyboard and Mouse	—
USB	USB 3.2 Gen1 x 2 (Optional 2*10 pin USB 3.2 Gen1 x 2 Box Header 2.0mm)
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	(Optional TPM2.0 9665 on board)
GPIO	(4 bits input, 4 bits output optional)
FAN	5 x Hotswappable FAN
MTBF (Hours)	192,691 Hours
Color	Black
Environmental Parameters and Dimension	
Power Requirement	550 ~ 600W Redundant Power
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (3.5" Hard Disk Drive x 5) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	17.48" x 22.83" x3.46" (444mm x 580mm x 88mm)
I/O Interfaces	
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 Software Programmable Button x 1 RJ-45 LAN x 2 IPMI x 1 (Project based)
Rear Panel	AC Power Input x 2, Power Switch x 1, VGA port (Optional), Rear Expansion Slot x 2 (PCIe [x16] Optional)

## Specifications

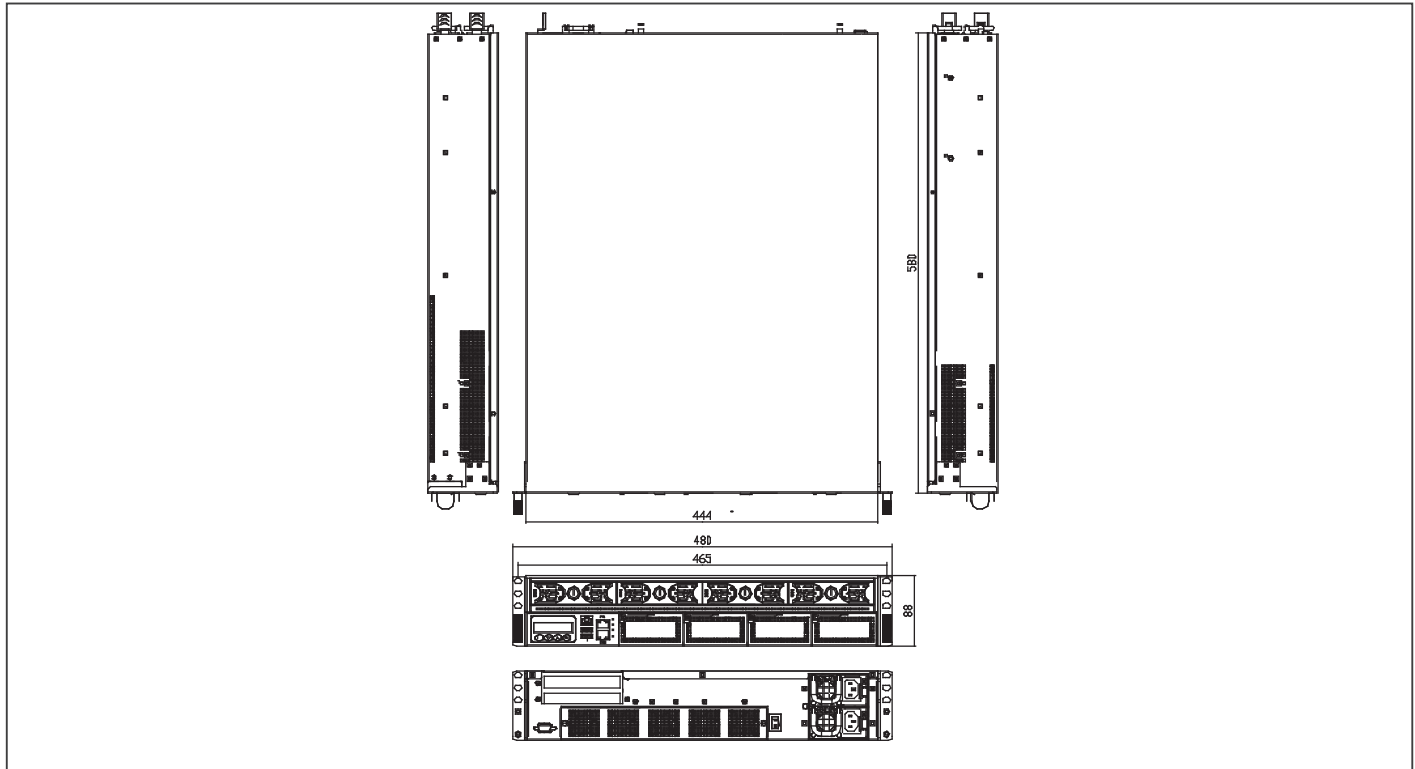
System	
Form Factor	2U Rackmount Network Platform
Processor	Dual 2nd Gen Intel® Xeon® Scalable Processors, up to 56 cores, 112 threads
Chipset	Intel® C621 Chipset
System Memory	DDR4 2133/2400/2666 R-DIMM x 16 (8 DIMM per CPU), Up to 512 GB
Network	
Ethernet	Intel® i211 Gigabit Ethernet x 2
Bypass	Depend on NIM module
NIM Slot	NIM x 4 (Project based up to 8 slots)
Display	
Graphic Controller	Optional support via Mini-PCIe module or IPMI
Connector	Optional VGA port via module





## Dimension

Unit: mm



## Ordering Information

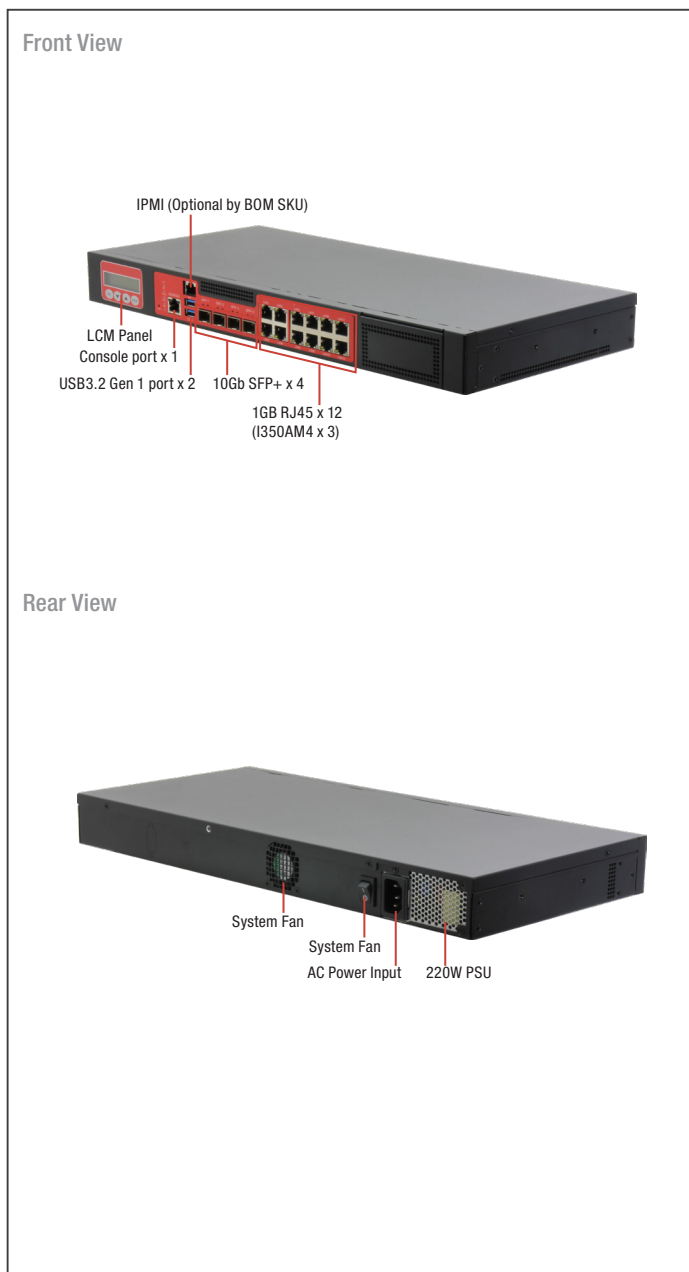
Part Number	CPU	RAM	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display	Fan	Mounting	Power
FWS-8600S2-R60-A10-00	Dual 2nd Gen Intel® Xeon® Scalable Processors	DDR4 RDIMM x 16, Up to 512GB	Mini-Card slot x 1 (PCIe/SATA, USB2.0)	External 3.5" HDD Bay x 4, Internal 3.5" HDD Bay x 1, M.2 2260 M-key x 1	Intel® i211 Gigabit Ethernet x 2	USB 3.2 Gen1 x 2	RJ-45 console x 1	—	4	—	—	—	5	2U Rackmount	600W Redundant Power

## Packing List

- Gift Box (Including Console Cable x 1, 3.5" HDD Tray Kit x 1, External HDD Bay Key x 1, Ear Bracket Kit x 1)
- CPU Cooler x 2
- FWS-8600

## Optional Accessories

- **M028500000**  
Slide x 2, Chassis Rail Kit
- **9761EMPV02**  
Mini-PCIe VGA module Kit.Full Size.Innodisk EMPV-1201-C1.w/Packing
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **PER-T488-A10-00**  
PER-T488.Riser Card.PCIe[x16] slot x2.Rev.A1.0.for FWS-8600
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module w/ 2Pair bypass
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module w/ 2Pair bypass



## Features

- 1U Rackmount Network Appliance
- Intel® Xeon® D-1700 Processors
- SOC PCH
- DDR4 SODIMM x 2 (ECC)
- IPMI Support (Project base)
- Up to 10Gb SFP+ x 4 (see note 1)
- 1GbE RJ-45 x 12
- NIM Slot support x 1 (see note 2)
- M.2 3052 B-Key x 1 for 4G/5G (USB 3.0 + PCIe) with SIM
- M.2 2230 E-Key x 1 (PCIe)
- TPM 2.0 SPI
- 2.5" SATA HDD x 2 (default)
- LCM with Keypad x 1
- RJ-45 Console Port x 1, USB 3.2 Gen 1 x 2
- 220W PSU

Internal/ Expansion Interface	
PCIe slot	—
Mini- Card slot	M.2 3052 B-Key x 1 for 4G/5G (USB 3.0 + PCIe) with SIM M.2 2230 E-Key x 1 (PCIe)
IPMI	Project base
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255
Software Button	1
TPM	TPM 2.0 SPI
GPIO	N/A, DIO pin header x 1 (4-in/4-out), optional by BOM SKU
FAN	System Fan x 1
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Requirement	220W Power
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	0%~80% @40°C; non-condensing
Vibration	0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	16.93" x 7.87" x 1.73" (430mm x 200mm x 44mm)
I/O Interfaces	
Front Panel	1GbE RJ-45 x 12 (Intel® I350-AM4 x 3) + up to 10GbE SFP+ x 4 (SKU optional) Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 x 2 RJ-45 Console x 1 LCM display with Keypad x 1 Software Programmable Button x 1
Rear Panel	AC Power Input x 1 Power Switch x 1

## Specifications

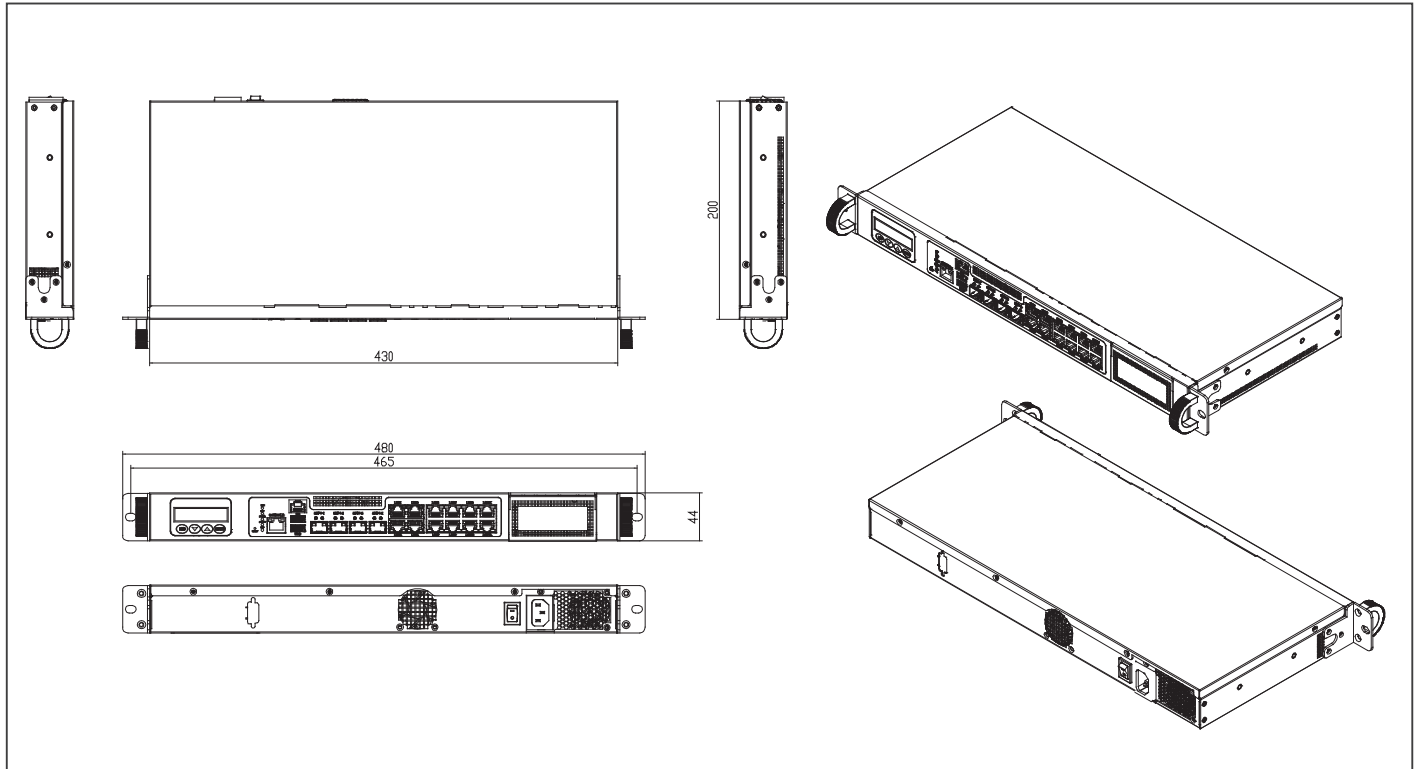
System	
Form Factor	1U Rackmount Platform Network Appliance
Processor	Intel® Xeon® D-1700 Processors
Chipset	SoC
System Memory	DDR4 SODIMM x 2 (ECC)
Network	
Ethernet	1GbE RJ-45 x 12 (Intel® I350-AM4 x 3) + up to 10Gb SFP+ x 4 (see note 1)
Bypass	2 Pairs LAN Bypass 3.1
NIM Slot	NIM Slot x 1 (Optional)
Display	
Graphic Controller	—
Connector	VGA from IPMI x 1 (Optional by BOM SKU)
Storage	
HDDs	2.5" HDD x 2 (default) or 3.5" HDD x 1 (If no NIM module present)
CF/CFast/mSATA	—





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	RAM	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display	Fan	Mounting	Power
FWS-7541-E12-A10-00	Intel® Xeon® D-1713NT Processor	DDR4 SODIMM x 2 (ECC)	—	2.5" HDD x 2 (default)	1Gb RJ45 ports x 12, Upto 10Gb SFP+ x4	USB 3.2 Gen 1 x 2	RJ-45 console x 1	2 Pairs LAN Bypass 3.1	NIM Slot x 1 (see note 2)	M.2 3052 B-Key x 1 for 4G/5G (USB 3.0 + PCIe) with SIM M.2 2230 E-Key x 1 (PCIe)	TPM 2.0 SPI	N/A (Optional VGA from IPMI by BOM SKU)	System Fan x 1	Rack	ATX 220W

Note 1: Support is based on SoC, kindly check ordering information.

Note 2: Need to configure Riser card and module (Please contact AAEON for other optional specifications).

## Packing List

- Console Cable
- Ear Brackets
- SATA Cable x 2
- SATA Power Cable x 2
- HDD brackets x 2
- FWS-7541

## Optional Accessories

- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE,YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA,YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **9761783000**  
(TF)3.5x1 HDD Module, FWS-7830/7831
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7820/7830/7831
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7820/7830/7831
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820/7830/7831
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports Module for FWS-7820/7821/7830/7831
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7820 w/ 2Pair bypass/7830/7831
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7820 w/ 2Pair bypass/7830/7831

1U Rackmount Network Appliance with 10th Generation Intel® Core™/ Xeon® processor (formerly Comet Lake)

Front View



Rear View



## Features

- 1U Rackmount Network Appliance
- 10th Generation Intel® Core™/ Xeon® processor
- Intel® Communications Chipset W480E
- 2 x DDR4 2666MHz U-DIMM ECC DIMM slots
- 8 x 1Gb RJ45 Port or 6 x 1Gb RJ45 + 2 x 1Gb SFP , with 2 x i350AM4 LAN Chips
- 2 x 10Gb SFP+ with XL710 AM2 LAN Chip (Option)
- 2 x NIM Slots
- 1 x RJ45 console Port (Option Micro USB console)
- 1 x Mini PCIe (Option mSATA)
- 2 Pairs Bypass default



Storage	
HDDs	SATA III port x 2, 2.5" HDD/SSD up to 2
CF/CFast/mSATA	1 x Mini card socket (Option mSATA)
Internal/ Expansion Interface	
PCIe slot	Optional PCIe [x8] slot x 1, via riser card
Mini-PCIe slot	Mini Card x 1
IPMI	—
Keyboard and Mouse	—
USB	USB 3.2 Gen1 x 2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	TPM v2.0 9665
GPIO	4 bits input/4 bits output
FAN	System Fan x 2
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Requirement	220W ATX PSU or 250W ATX PSU
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 80% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation
Dimension (W X D X H)	430mm x 305mm x 44mm
I/O Interfaces	
Front Panel	Power LED x 1 Status LED x 1 Storage Active LED x 1 Bypass LED x 2 Ethernet LED x 16 USB 3.2 Type A port x 2 Parallel LCM display and 4 keypad x 1 Software Programmable Switch x 1 1 GbE RJ-45 x 8 or 1 GbE RJ45 x 6 + SFP x 2 10 GbE SFP+ x 2 LAN port (Option by module) NIM Slot x 2
Rear Panel	AC Power Input x 1, Power Switch x 1, (Rear Expansion Slot x 1 Optional)

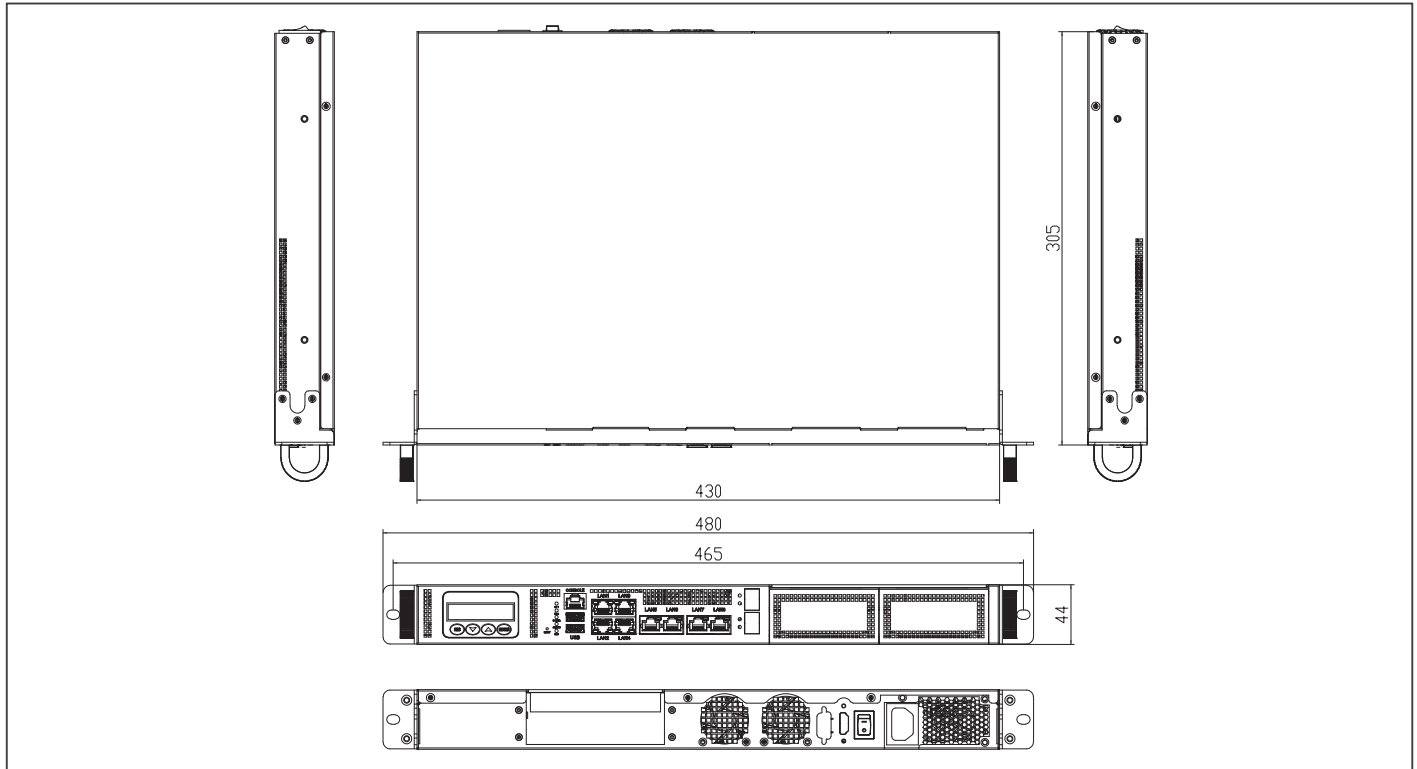
## Specifications

System	
Form Factor	1U Rackmount Network Platform
Processor	10th Generation Intel® Core™/ Xeon® processor
Chipset	Intel® W480E
System Memory	2 x DDR4 2666MHz U-DIMM ECC DIMM slots up to 64G
Network	
Ethernet	8 x 1Gb RJ45 Port or 6 x 1Gb RJ45 + 2 x 1Gb SFP , with 2 x i350AM4 LAN chips 2 x 10Gb SFP+ with XL710 AM2 LAN chip (Option)
Bypass	2 Pairs
NIM Slot	NIM slot x 2
Display	
Graphic Controller	Intel® UHD Graphics
Connector	(HDMI x1 Optional)



## Dimension

Unit: mm



## Ordering Information

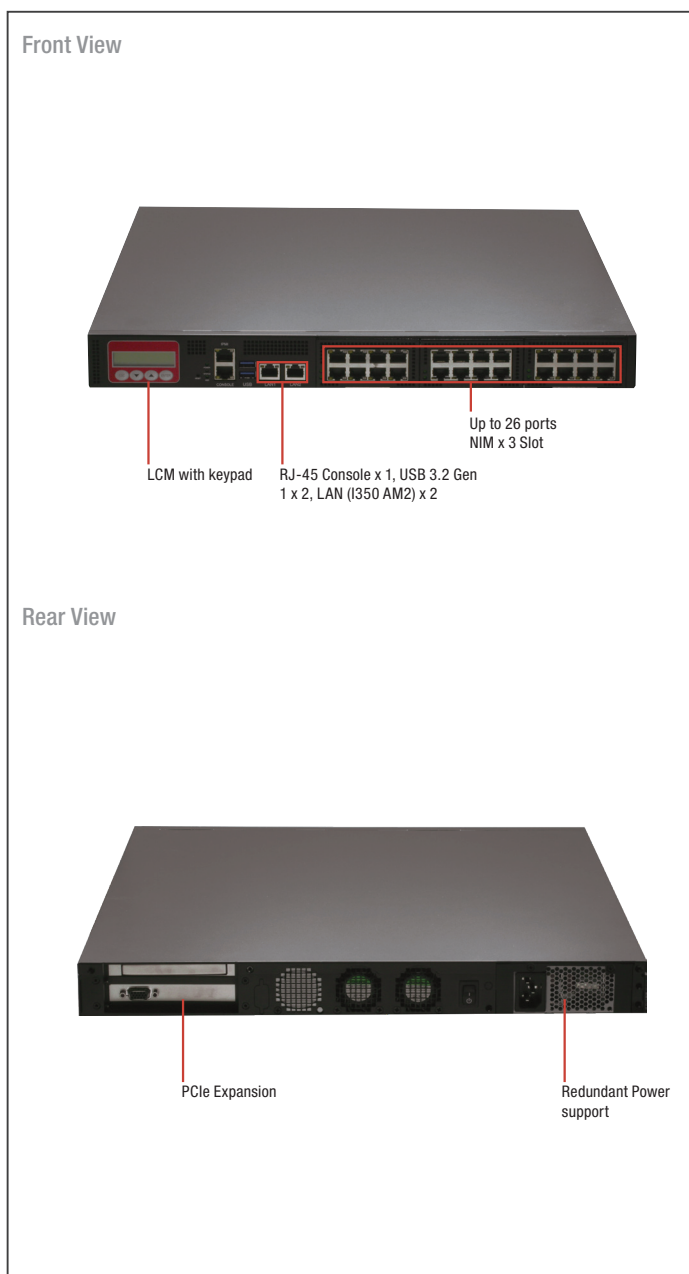
Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display	Fan	Mounting	Power
FWS-7840-E8-A10-00	Intel® 10th Generation Core™/Xeon Processors	2 x DDR4 2666MHz U-DIMM/ECC DIMM slots up to 64G	1 x Mini card socket (USB2.0+PCIe)	2.5" HDD Bay x 2	Intel® i350 AM2 Gigabit Ethernet x 2	USB 3.2 Gen 1 x 2	RJ-45 x 1	2	2	—	TPM v2.0 9665	—	2	1U Rackmount	ATX 220W

## Packing List

- Console Cable
- Ear Brackets
- SATA Cable x 2
- SATA Power Cable x 2
- HDD Kit x 1
- FWS-7840

## Optional Accessories

- **M02666600**  
Slide x 2, for Rackmount Usage
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **9761783102**  
HDMI Cable
- **PER-T639**  
2Port SFP+ Module
- **PER-T629**  
NIM Riser card
- **PER-T636**  
Real expansion riser card
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module w/ 2Pair bypass
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module w/ 2Pair bypass



## Features

- 1U Rackmount Network Appliance
- Single Intel® 8th Generation Core™/Xeon™ processor
- Intel® Communications Chipset C246
- DDR4 2133/2400/2666 MHz UDIMM x 4, up to 128GB
- IPMI Support by Aaeon Module
- Onboard 2 LAN (I350 AM2)
- Up to 24 Gigabit Ethernet Ports Via NIM
- 1 x 3.5" SATA HDD or 2.5" SATA HDD x 2, mSATA Socket x 1
- LCM with Keypad x 1
- RJ-45 Console x 1, USB 3.2 Gen 1 x 2, 1 GbE LAN x 2
- 220W Single Power or 250W Single Power



Storage	
HDDs	Internal 2.5" SATA HDD x 2 or 3.5" SATA HDD x 1 (Optional)
CF/CFast/mSATA	Default mSATA Slot (Optional CFast™ Socket)
Internal/ Expansion Interface	
PCIe slot	Optional PCIe [x8] slot x 1, via riser card
Mini-PCIe slot	Mini Card x 1
IPMI	—
Keyboard and Mouse	Pin-header
USB	USB 3.2 Gen 1 x 2, Box Header (2.0mm)
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable, 1 sec per step
Software Button	GPIO Programmable push button x 1
TPM	Optional TPM v2.0
GPIO	8bits, BIOS default 4bits input, 4bits output.
FAN	2
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Requirement	220W ATX PSU or 250W ATX PSU
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10% ~ 80%
Storage Humidity	10% ~ 80% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation
Dimension (W X D X H)	16.93" x 18.7" x 1.73"(430mm x 475mm x 44mm)
I/O Interfaces	
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 Software Programmable Switch x 1
Rear Panel	AC Power Input x 1 Power Switch x 1 VGA port (Optional)

## Specifications

System	
Form Factor	1U Rackmount Network Platform
Processor	8th Generation Intel® Core™/ Xeon® processor
Chipset	Intel® C246
System Memory	DDR4 2133/2400/2666 UDIMM Up to 128GB 288-pin DIMM x 4
Network	
Ethernet	Intel® I350 AM2 Gigabit Ethernet x 2
Bypass	Depend on NIM module
NIM Slot	NIM Slot x 3
Display	
Graphic Controller	Intel® HD graphics integrated
Connector	VGA cable (Optional)

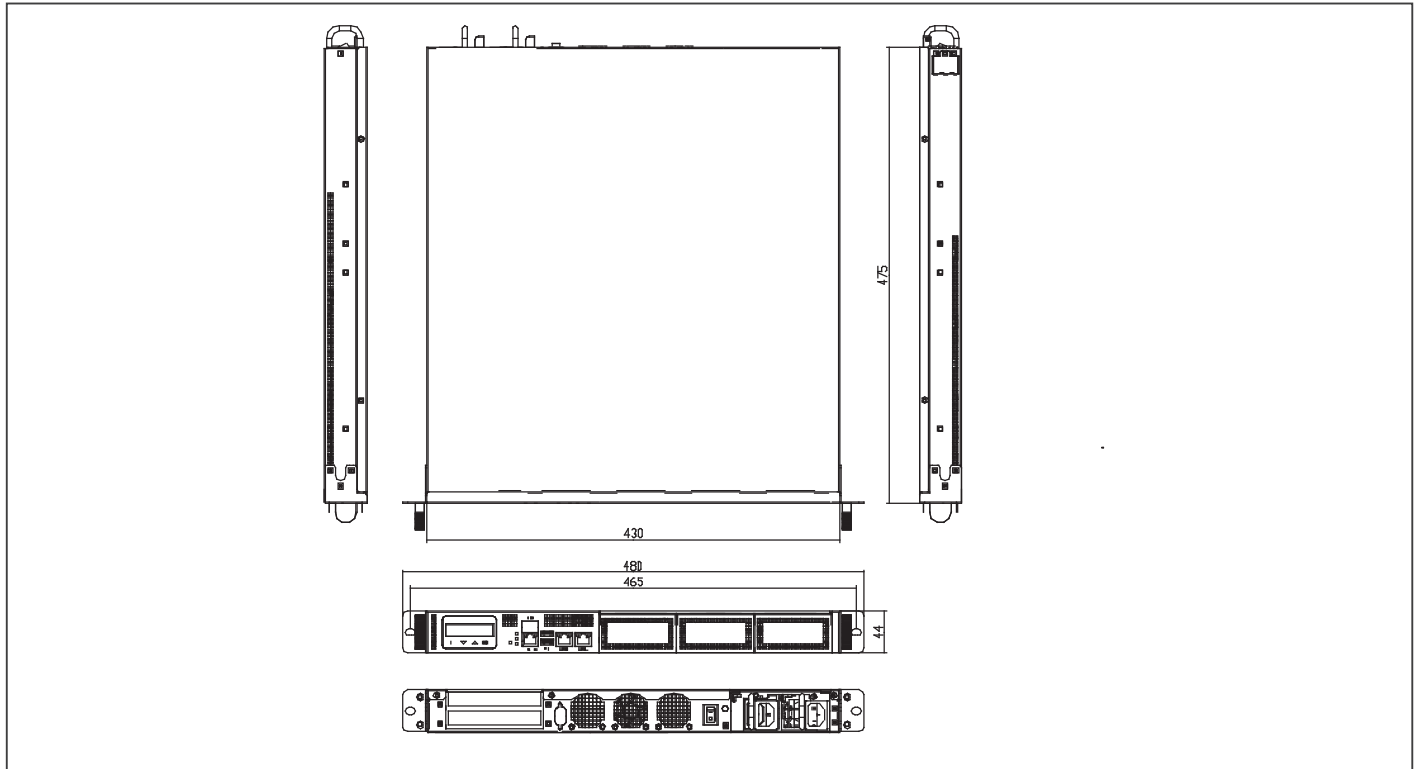






## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display	Fan	Mounting	Power
FWS-7830-E2-A11-000	Intel® 8th Generation Core™/Xeon® Processors	DDR4 UDIMM x 4, Up to 128GB	Mini Card x 1	2.5" HDD Bay x 2 + mSATA slot x 1	Intel® I350 AM2 Gigabit Ethernet x 2	USB 3.2 Gen 1 x 2	RJ-45 console x 1	—	3 (Note 1)	1 (Note 2)	—	—	2	1U Rackmount	ATX

\* Please contact AAEON for other optional specifications.

Note 1: Need to configure riser card and module

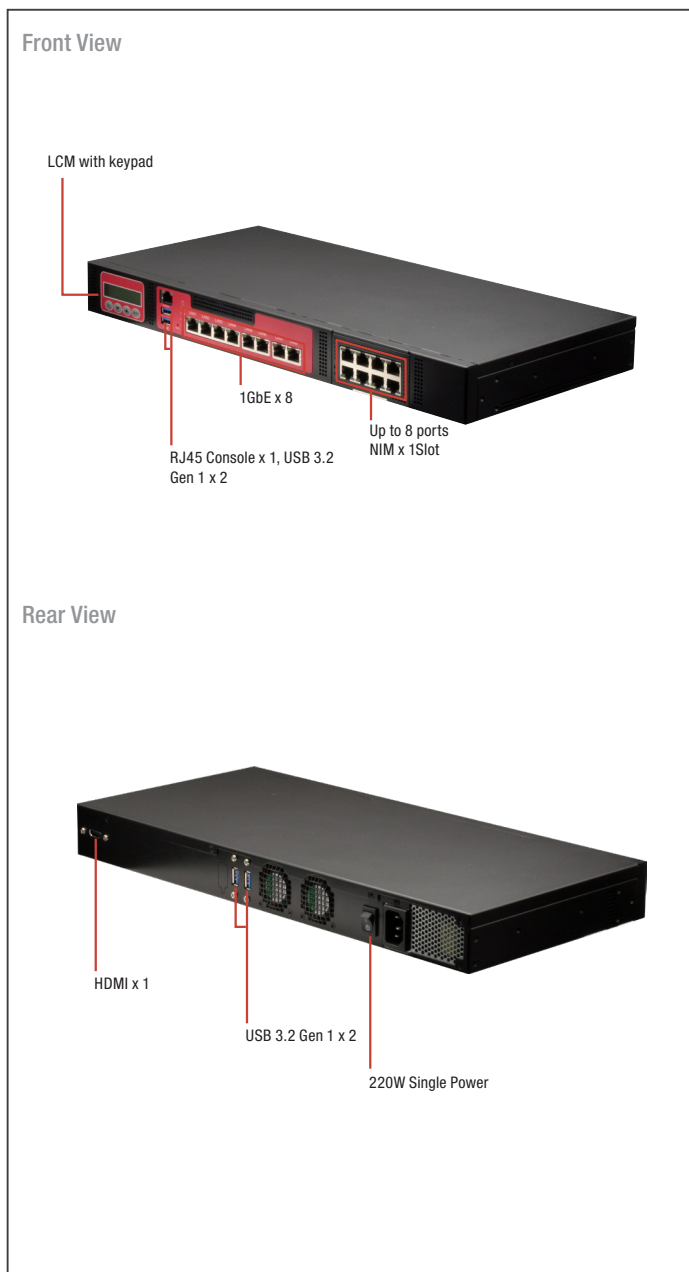
Note 2: Need to configure riser card

## Packing List

- Console Cable
- Ear Brackets
- FWS-7830

## Optional Accessories

- **M02666600**  
Slide x 2, for Rackmount Usage
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **9761781027**  
VGA Cable
- **9761783000**  
(TF)3.5x1 HDD Module, FWS-7830
- **9761783001**  
(TF)2.5x2\_HDD-LEFT Module, FWS-7830
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7820/7830
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7820/7830
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820/7830
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports Module for FWS-7820/7821/7830
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7820 w/ 2Pair bypass/7830
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7820 w/ 2Pair bypass/7830



## Features

- Single Intel® 8th Generation Core™/Xeon™ processor
- Intel® Coffee Lake 2/6 Core (H310/C246)
- DDR4 SODIMM/ECC x2, upto 64GB
- TPM Supported (Optional Request)
- LCM with Keypad x 1
- RJ-45 Console x 1, USB 3.2 Gen 1 x 2, HDMI x1
- 220W ATX PSU
- Intel® i210 Gigabit Ethernet x 8 or Intel® i210 Gigabit Ethernet x 6 + SFP Ethernet ports x2
- Mini-Card (mSATA)



Connector	(HDMI x1 Optional)
<b>Storage</b>	
HDDs	Internal 2.5" HDD bay x 2 or ( 3.5" HDD bay x 1 can't use with NIM Optional )
CF/CFast/mSATA	mSATA
<b>Internal/ Expansion Interface</b>	
PCIe slot	—
Mini-PCIe slot	Mini-Card x 1 (PCIe[x1] + mSATA)
IPMI	—
Keyboard and Mouse	NA
USB	USB 3.2 Gen 1 x 2
<b>Miscellaneous</b>	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
TPM	(TPM2.0 9665/TPM v1.2 9660 optional)
GPIO	4 bits input, 4 bits output
FAN	2
MTBF (Hours)	362,825 Hours
Color	Black
<b>Environmental Parameters and Dimension</b>	
Power Requirement	220W ATX PSU
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	TBD
Dimension (W X D X H)	16.93" x 7.87" x 1.73"(430mm x 200mm x 44mm)
<b>I/O Interfaces</b>	
Front Panel	Power LED x 1, Status LED x 1, HDD Active LED x 1 ,USB 3.2 Gen 1 Ports x 2 - RJ-45 Console x 1
Rear Panel	AC Power Input x 1, Power Switch x 1, (Rear Expansion Slot x 1 Optional)

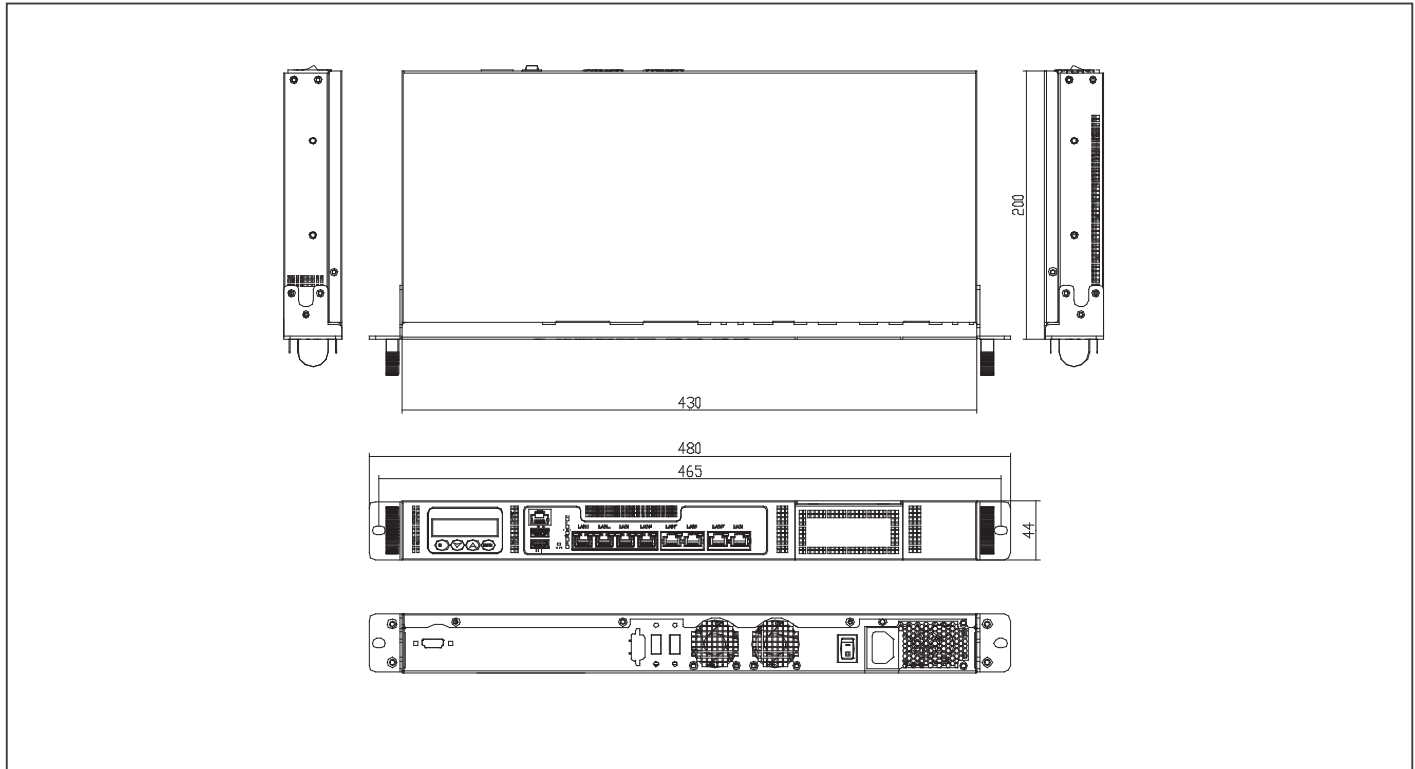
## Specifications

<b>System</b>	
Form Factor	1U Rackmount Network Platform
Processor	Intel® Xeon® processor E-2100 family for Intel® C246 Chipset Intel® Core™/ Celeron® processor for Intel® H310 Chipset
Chipset	Intel® C246/H310
System Memory	260-pin DDR4 1600/1866/2133 SODIMM/ECC x 2, upto 64GB
<b>Network</b>	
Ethernet	Intel® i210 Gigabit Ethernet x 8 or Intel® i210 Gigabit Ethernet x 6 + SFP Ethernet ports x2 (C246) Intel® i210 Gigabit Ethernet x 6 (H310)
Bypass	2 Pairs
NIM Slot	Need to configure riser card
<b>Display</b>	
Graphic Controller	Intel® UHD Graphics 630



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot*	Expansion Slot	TPM	Display	Fan	Mounting	Power
FWS-7831-E8-A10-00	Intel® 8th Generation Core™/ Xeon® Processors	DDR4 SODIMM / ECC x 2, upto 64GB	Mini-Card x 1(PCIe[x1]+mSATA)	2.5" HDD Bay x 2	Intel® I210 Gigabit Ethernet x 8	USB 3.2 Gen 1 x 2	RJ-45 console x 1	2 Pairs	1 (Note)	—	—	—	2	1U Rackmount	ATX

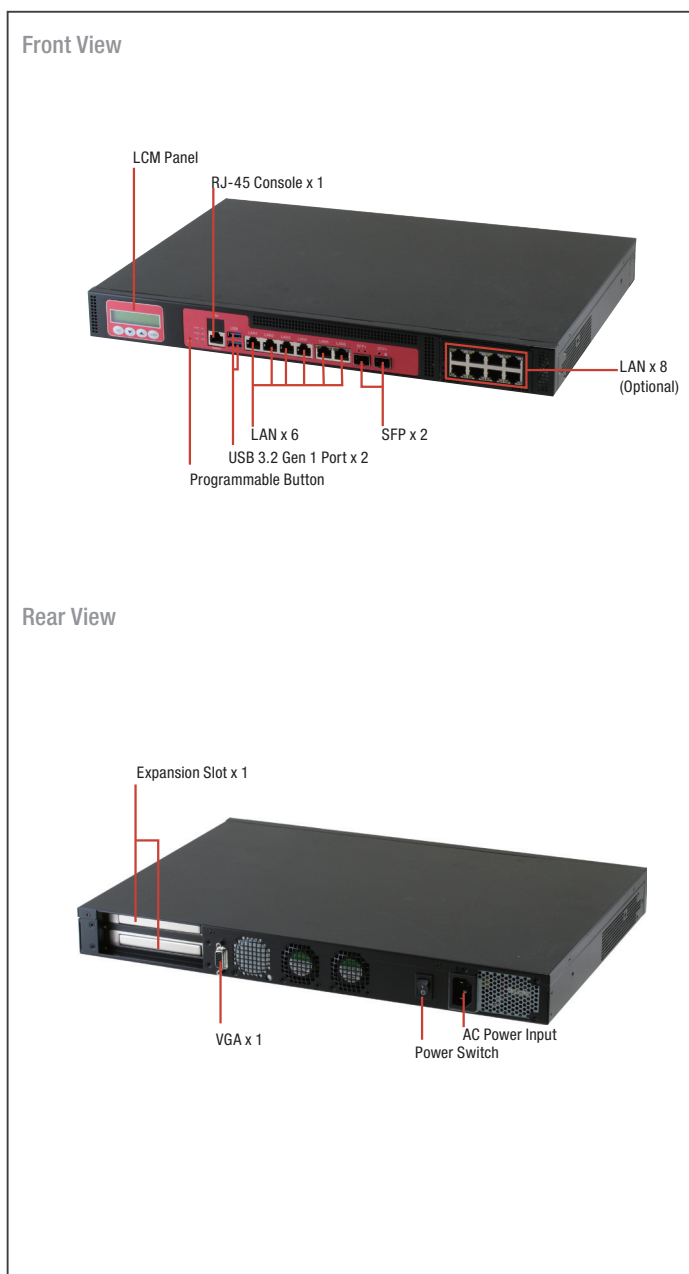
\* Note: Need to configure riser card and module  
(Please contact AAEON for other optional specifications.)

## Packing List

- Console Cable
- Ear Brackets
- FWS-7831

## Optional Accessories

- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **9761783102**  
HDMI Cable with screw
- **9761783000**  
(TF)3.5x1 HDD Module, FWS-7830/7831
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7820/7830/7831
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7820/7830/7831
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820/7830/7831
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports Module for FWS-7820/7821/7830/7831
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7820 w/ 2Pair bypass/7830/7831
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7820 w/ 2Pair bypass/7830/7831
- **PER-R40X**  
NIM LAN Module Riser Card



## Features

- 1U Rackmount Network Appliance
- Intel® LGA1151 6th/7th Generation Core™/Xeon Processors
- 288-pin ECC Dual Channel DDR4 2133 UDIMM x 4 Up to 64GB
- 10/100/1000Base-TX Ethernet Ports x 8 (Onboard RJ-45 x 6 & SFP x 2) with Max. 3 Pairs of LAN Bypass Function
- Internal 3.5" SATA HDD x 1 or 2.5" SATA HDD x 2 (Optional Extra 4 Pcs x 2.5" HDD without NIM and Expansion Lot Presented)
- CFast x 1 (Optional CF Socket or mSATA Slot)
- 8 bits GPIO (Default 4-bits Input, 4-bits Output)
- TPM Supported (Optional Request), RAID 0,1 Supported
- LCM with Keypad x 1, RJ-45 for Console x 1, USB 3.2 Gen 1 x 2
- 250W AC Type Power Input or 220W Single Power
- VGA Header x 1 (Optional VGA Cable)



Storage	
HDDs	Internal 2.5" SATA HDD x 2 or 3.5" SATA HDD x 1 (optional)
CF/CFast/mSATA	Optional BOM CFast™ socket or mSATA slot or CF™ socket (optional)
Internal/ Expansion Interface	
PCIe slot	Up to PCIe[x8] slot x 2
Mini-PCIe slot	Mini Card x 1
IPMI	—
Keyboard and Mouse	Pin-header
USB	USB 3.2 Gen 1 x 2, Box Header (2.0mm)
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable, 1 sec per step
Software Button	GPIO Programmable push button x 1
TPM	TPM v1.2 9660 (TPM2.0 9665 optional)
GPIO	4 bits input, 4 bits output
FAN	2
MTBF (Hours)	94,241
Color	Black
Environmental Parameters and Dimension	
Power Requirement	250W ATX PSU or 220W ATX PSU
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 80% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (3.5" H.D.D) 1.5 Grms/ 5 ~ 500Hz/ no operation
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation
Dimension (W X D X H)	16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm)
I/O Interfaces	
Front Panel	Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 Ports x 2 RJ-45 Console x 1 Parallel LCM display and 4 keypad x 1 (Optional w/ NIM slot) Software Programmable Switch x 1 Bypass LED X2 RJ45 X8 or RJ45 X6+SFPX 2
Rear Panel	AC Power Input x 1 Power Switch x 1 VGA port (Optional) Rear Expansion Slot x 2 (2 x PCIe [x8] slots, NIM slot will be disabled if PCIe Riser supported)

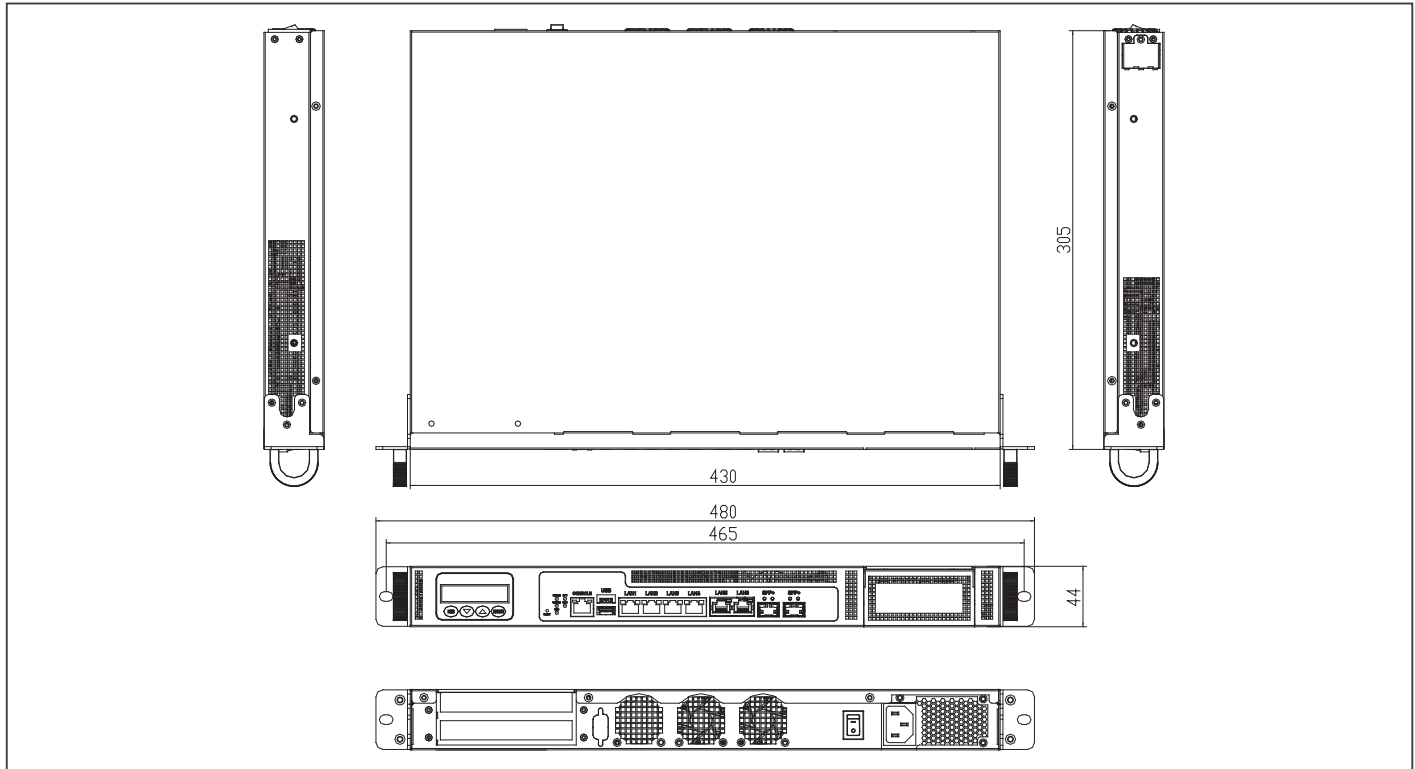
## Specifications

System	
Form Factor	1U Rackmount Network Platform
Processor	6th/7th Generation Intel® Core™/ Xeon® processors
Chipset	Intel® C236
System Memory	DDR4 1600/1866/2133/2400 UDIMM/ECC Up to 64GB 288-pin DIMM x 4
Network	
Ethernet	Intel® i210 GbE x 6 + Intel® i210 GbE x 2 (SFP) + NIM x 1 (Or i210 GbE x 8 + NIMx1) UDIMM/ECC
Bypass	Onboard 2 pairs bypass, others depend on NIM module
NIM Slot	1
Display	
Graphic Controller	Intel® HD graphics integrated
Connector	VGA cable (Optional)



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Storage	Display	LAN	USB	Console	Bypass	*NIM Slot	*Expansion Slot
FWS-7821-E8-A10-00	6th/7th Gen. Intel® Core™/Xeon	DDR4 ECC/UDIMM (Up to 64 GB)	2.5" HDD Bay x 2 + CFast™ Slot x 1	—	1 GbE x 6, 2 x 1G SFP	USB 3.2 Gen 1 x 2	RJ-45 x 1	2	1 (Note 1)	2 (Note 2)

\* Please contact AAEON for other optional specifications.

Note 1: Need to configure riser card and module

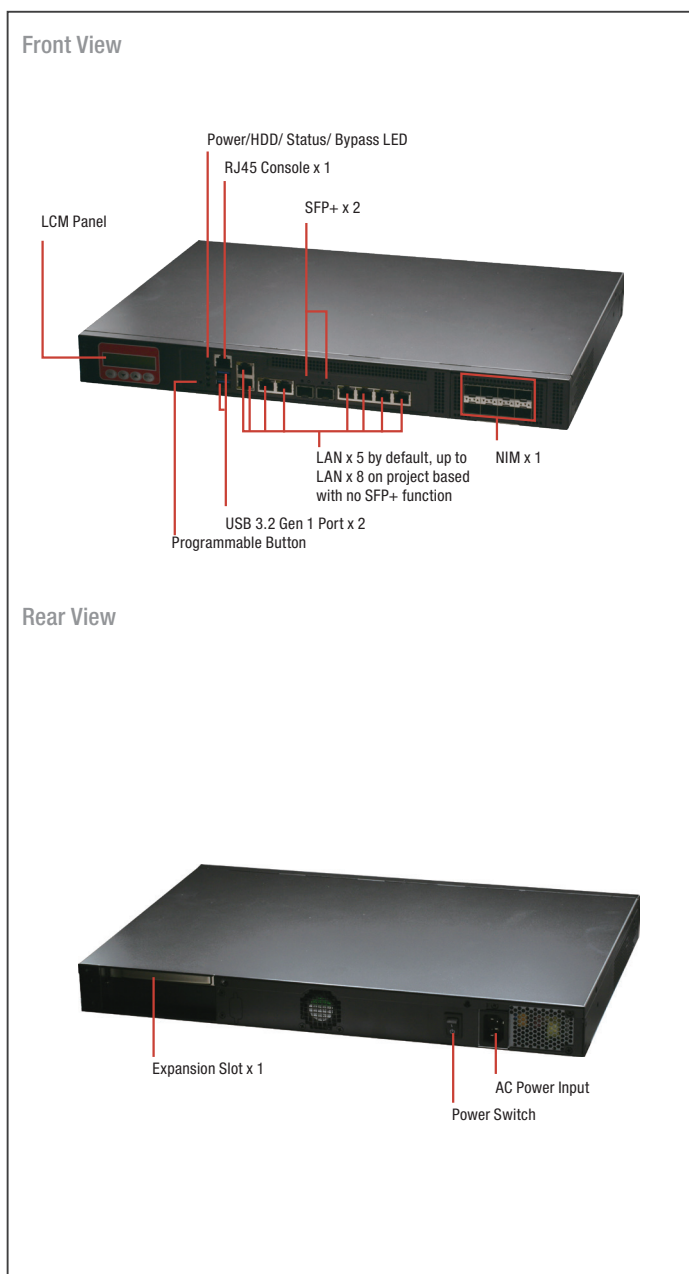
Note 2: Need to configure riser card

## Packing List

- Console Cable
- Ear Brackets
- FWS-7821

## Optional Accessories

- **M02666600**  
Slide x 2, for Rackmount Usage
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **9761781027**  
VGA Cable
- **9761782100**  
(TF)2.5" x 2 HDD-LEFT Module, FWS-7821
- **PER-R40X**  
NIM LAN Module Riser Card
- **PER-R44X**  
2 Slot Rear PCIe Riser Card
- **PER-T354**  
1 Slot Rear PCIe Riser Card
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7821
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7821
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports Module for FWS-7820/7821
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7821 w/ 2Pair bypass
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7821 w/ 2Pair bypass
- **NIM-S13E-A10-G42-0001**  
LAN Module, Intel® 82580EB, 4 x 1GSFP, 2 Bypass, SX short wave, REV. A1.0
- **NIM-S13E-A10-G42-0002**  
LAN Module, Intel® 82580EB, 4 x 1GSFP, 2 Bypass, LX long wave, REV. A1.0



## Features

- Intel® Atom™ C3758 SoC Processor, Optional Support up to 16 Core
- DDR4 Slot x 4, Support ECC UDIMM/RDIMM upto 256GB
- 5 Copper (2 From 88E1543/ 3 From Intel® I211)
- 2 10Gb SFP+ (From CPU)
- Onboard 2 Pairs Bypass
- Mini-Card Socket (Full-Size) x 1, Mini-Card Socket (Full-Size) with SIM Socket x 1 (Optional)
- Internal 2.5" SATA HDD x 2
- LCM with Keypad x 1, RJ-45 Console x 1, USB 3.2 Gen 1 x 2
- 100W Flex ATX PSU 150W
- TPM (Optional)



Internal/ Expansion Interface	
PCIe Slot	PCIe [x8] slot x 1, cannot use w/ NIM
Mini-PCIe Slot	Default Mini-Card socket (full-size) x1 (Mini-Card socket (full-size) with SIM socket x 1 Optional)
IPMI	—
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255 steps by software programmable
Software Button	GPIO Programmable Button x 1
TPM	Optional TPM v1.2 / TPM v2.0
GPIO	4 bits input, 4bits output
Fan	System Fan x 1
MTBF (Hours)	142,412
Color	Black
Environmental Parameters and Dimension	
Power Requirement	150W Flex ATX PSU
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	10%~80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (2.5" HDD) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	16.93" x 12.01" x 1.73" (430mm x 305mm x 44mm)
I/O	
Front Panel	SFP+ with LED x 2 RJ45 Ethernet Port with LED x 5 USB 3.2 Gen 1 x 2 RJ45 Console x 1 Software Programmable Button x 1 Parallel LCM Display and 4 Keypad x 1 LED for Power/HDD/Status/Bypass x 5 NIM Slot x 1 Bypass LED x 2 Power LED x1 HDD LED x1 Status LED x1
Rear Panel	Power Switch x 1 AC Power Input x 1 Rear Expansion Slot x 1

## Specifications

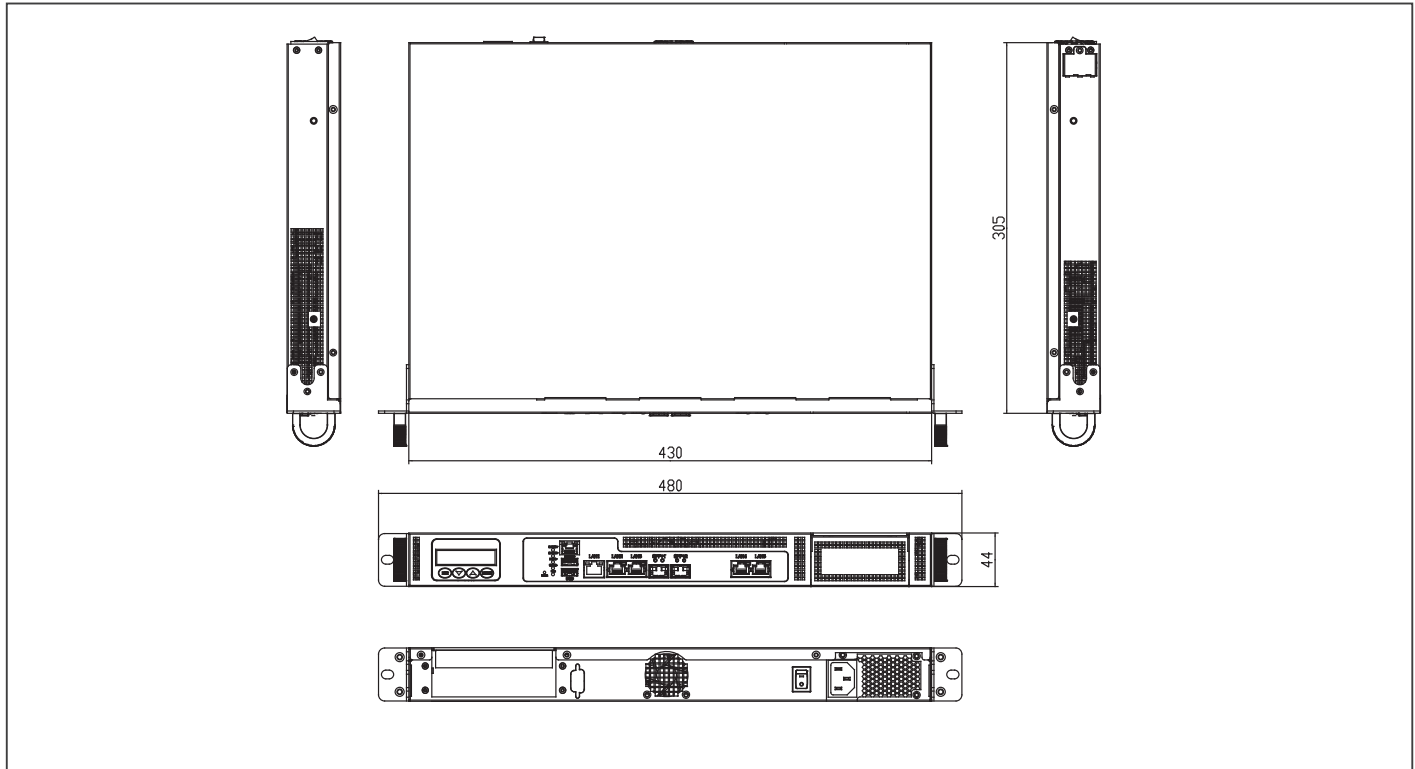
System	
Form Factor	1U Rackmount Network Platform
Processor	Intel® C3758 processor SoC, optional support up to 16 core
Chipset	SoC
System Memory	DDR4 Slot x 4, Support ECC UDIMM/RDIMM upto 256GB
Network	
Ethernet	Intel® X553 RJ45 x 2, Intel® i211 GbE x 3, SFP+ x 2 from CPU
Bypass	Onboard 2 pairs bypass, others depend on NIM module
NIM Slot	1
Display	
Graphic Controller	—
Connector	—
Storage	
HDD	2.5" HDD Bay x 2
CF/CFast/mSATA	Default SATA III port x 2 (MSATA Slot X 2 Optional)





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display
FWS-7360E7-A10-000	Intel® Atom® C3758	DDR4 UDIMM/ECC slot x 4	Full Size x 1 (PCIe + USB)	2.5" HDD Bay x 2	RJ45 x 5, SFP+ x 2	USB 3.2 Gen 1 x 2	RJ-45 x 1	2 pairs onboard	1 (Note 1)	1 (Note 2)	—	—

\* Please contact AAEON for other optional specifications.

Note 1: Need to configure riser card and module

Note 2: Need to configure riser card

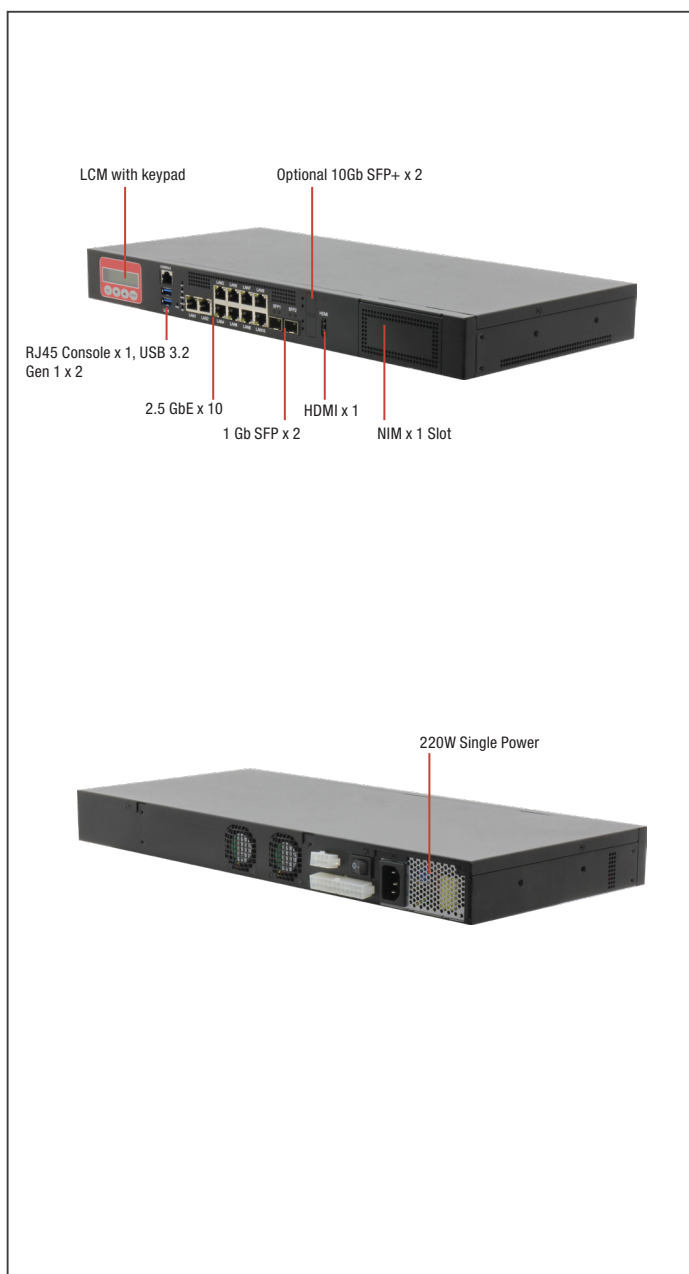
Note 3: NIM and expansion slot cannot be used at the same time

## Packing List

- Console Cable
- Ear Brackets
- FWS-7360

## Optional Accessories

- **M02666600**  
Slide x 2, for Rackmount Usage
- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **PER-R40X**  
NIM LAN Module Riser Card
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7821
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7821
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports Module for FWS-7820/7821
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7821 w/ 2Pair bypass
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7821 w/ 2Pair bypass
- **NIM-S13E-A10-G42-0001**  
LAN Module, Intel® 82580EB, 4 x 1GSFP, 2 Bypass, SX short wave, REV. A1.0
- **NIM-S13E-A10-G42-0002**  
LAN Module, Intel® 82580EB, 4 x 1GSFP, 2 Bypass, LX long wave, REV. A1.0



## Features

- 1U Rackmount Network Appliance
- 12th/13th Generation Intel® Core™ Processors, Intel® W680 Chipset
- DDR5 SODIMM x 2 ECC/non ECC, up to 64GB
- 2.5" SATA SSD x 2 (Optional: 3.5" x 1), M.2 2242 M-Key (PCIe [x4])
- Intel® I226-V 2.5GbE RJ-45 x 10 (Including 2 pairs Bypass) + Intel® I210-IS GbE SFP x 2, optional: 10GbE SFP+ x 2 (PCIe[x4] via PER-T639)
- Supports NIM Slot x 1
- Internal AC/DC 1U Flex ATX 220W x 1 (Optional: external redundant PSU)
- 16.93" x 7.87" x 1.73" (430mm x 200mm x 44mm)



CF/CFast/mSATA	—
<b>Internal/ Expansion Interface</b>	
PCIe Slot	—
Mini-PCIe Slot	M.2 2242 M-Key (PCIe [x4]) x 1
IPMI	—
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2
<b>Miscellaneous</b>	
RTC	Internal RTC
Watchdog Timer	1~255
Software Button	1
TPM	TPM2.0 SPI
GPIO	Reserved internal pin header 8-bit Digital I/O interface (4-in /4-out)
Fan	System Fan x 2
MTBF (Hours)	TBD
Color	Black
<b>Environmental Parameters and Dimension</b>	
Power Requirement	220W Power
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	0%~80% @40°C; non-condensing
Vibration	0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	16.93" x 7.87" x 1.73" (430mm x 200mm x 44mm)
<b>I/O</b>	
Front Panel	Intel® I226-V 2.5GbE RJ-45 x 10 (Including 2 pairs Bypass) + Intel® I210-IS GbE SFP x 2, optional: 10GbE SFP+ x 2 (PCIe[x4] via PER-T639) Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 Console x 1 LCM display with keypad x 1 Software Programmable Button x 1 NIM Slot x 1
Rear Panel	AC Power Input x 1 Power Switch x 1

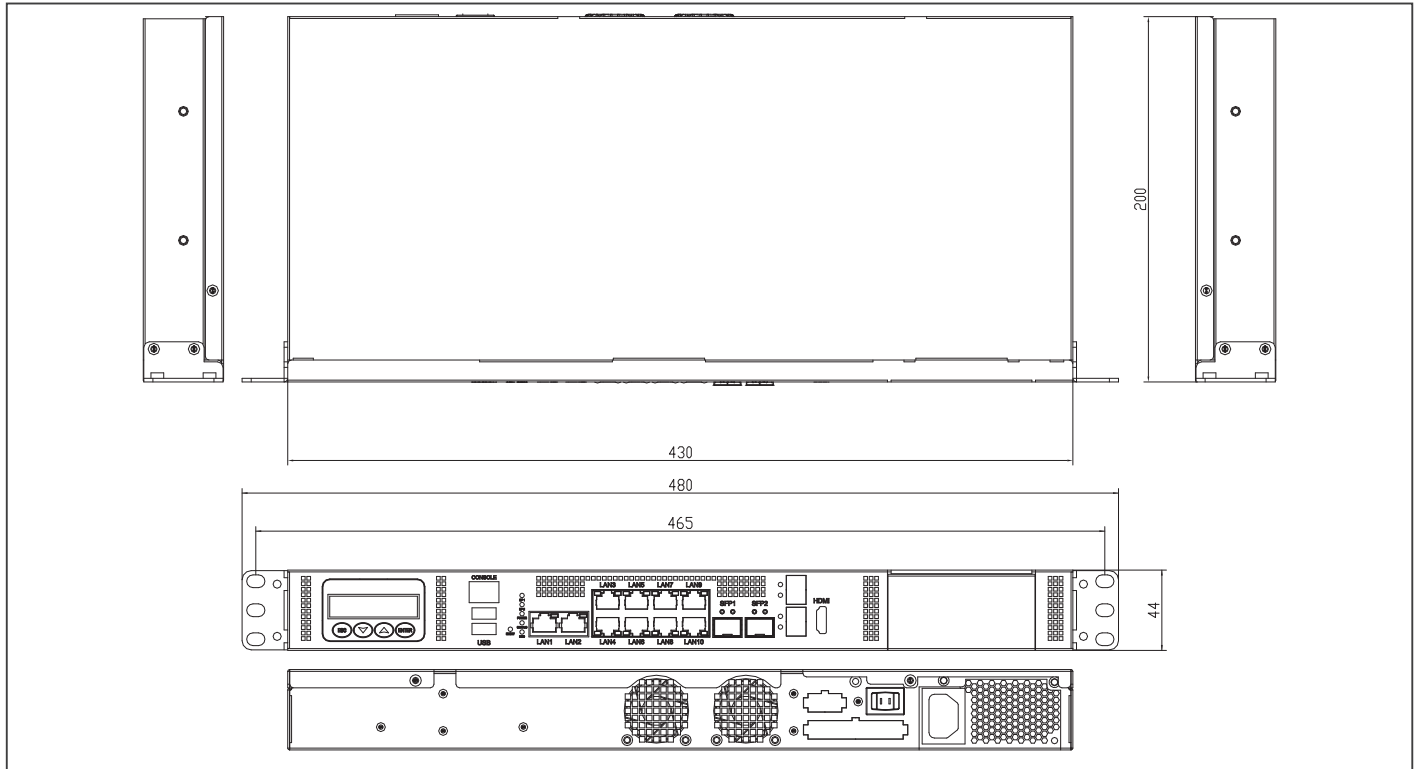
## Specifications

<b>System</b>	
Form Factor	1U Rackmount Network Appliance
Processor	12th/13th Generation Intel® Core™ Processors
Chipset	Intel® W680 Chipset (Project Base: Intel® Q670, H610)
System Memory	DDR5 SODIMM slots x 2
<b>Network</b>	
Ethernet	Intel® I226-V 2.5GbE RJ-45 x 10 (Including 2 pairs Bypass) + Intel® I210-IS GbE SFP x 2, optional: 10GbE SFP+ x 2 (PCIe[x4] via PER-T639) Note: Intel® H610 Chipset SKU limited to 2.5GbE RJ-45 x 8
Bypass	2 Pairs LAN Bypass 3.1 (LAN 3-4, LAN 5-6)
NIM Slot	1
<b>Display</b>	
Graphic Controller	—
Connector	HDMI port x 1
<b>Storage</b>	



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display
FWS-7851-E12-A10-00	12th/13th Generation Intel® Core™ Processors	DDR5 SODIMM x 2 ECC/ non ECC	M.2 2242 M-Key (PCIe [x4]) x 1	2.5" HDD Bay x 2	RJ45 x 10, SFP x 2	USB 3.2 Gen 1 x 2	RJ-45 x 1	2 pairs onboard	1 (Note 1)	—	Onboard	HDMI x 1

## Packing List

- Console Cable
- Ear Brackets
- FWS-7851

## Optional Accessories

- **1702031803**  
Power Cord, 3P-250V/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250V/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **9761783000**  
(TF)3.5x1 HDD Module, FWS-7830/7831
- **NIM-C15A-A10-G82-0001**  
Intel® I226V PCI-Express 2.5G Copper Ethernet 8 Ports Module for FWS-7851/7850 w/ 2Pair bypass
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7820/7830/7831
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7820/7830/7831
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820/7830/7831
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports Module for FWS-7820/7821/7830/7831
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7820 w/ 2Pair bypass/7830/7831
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7820 w/ 2Pair bypass/7830/7831
- **PER-R40X**  
NIM LAN Module Riser Card



## Features

- 1U Rackmount Network Appliance
- 12th/13th Generation Intel® Core™ Processors, Intel® W680 Chipset
- DDR5 U-DIMM x 4, up to 128GB (ECC)
- 2.5" SATA SSD x 2 (Optional 3.5" x 1), M.2 2280 M-Key x 1 (PCIe [x4])
- 10GbE SFP+ x 2 (Intel® X710-BM2 x 1), Optional: Up to RJ-45 x 24 via NIM x 3
- NIM Slot x 3
- HDMI x 1, RJ45 Console port x 1, USB 3.2 gen1 x 2
- Internal AC/DC 1U 300W Redundant PSU
- 430mm x 400mm x 44mm



Internal/ Expansion Interface	
PCIe Slot	—
Mini-PCIe Slot	M.2 2280 M-Key x 1 (PCIe [x4])
IPMI	—
Keyboard and Mouse	—
USB	USB 3.2 Gen 1 x 2
Miscellaneous	
RTC	Internal RTC
Watchdog Timer	1~255
Software Button	1
TPM	TPM 2.0 SPI
GPIO	Reserve internal pin header 8-bit Digital I/O interface (4-in /4-out)
Fan	Smart Fan x 3, optional system fan x 1
MTBF (Hours)	TBD
Color	Black
Environmental Parameters and Dimension	
Power Requirement	1U 300W Redundant PSU x 1
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	10%~80% relative humidity, non-condensing
Storage Humidity	0%~80% @40°C; non-condensing
Vibration	0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation
Dimension (W X D X H)	16.93" x 15.75" x 1.73" (430mm x 400mm x 44mm)
I/O	
Front Panel	10GbE SFP+ x 2 Power LED x 1 Status LED x 1 HDD Active LED x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 Console x 1 LCM display with keypad x 1 Software Programmable Button x 1 NIM Slot x 3
Rear Panel	AC Power Input x 1 Power Switch x1 Rear expansion slot x 1 (PCIe [x8]): Optional

## Specifications

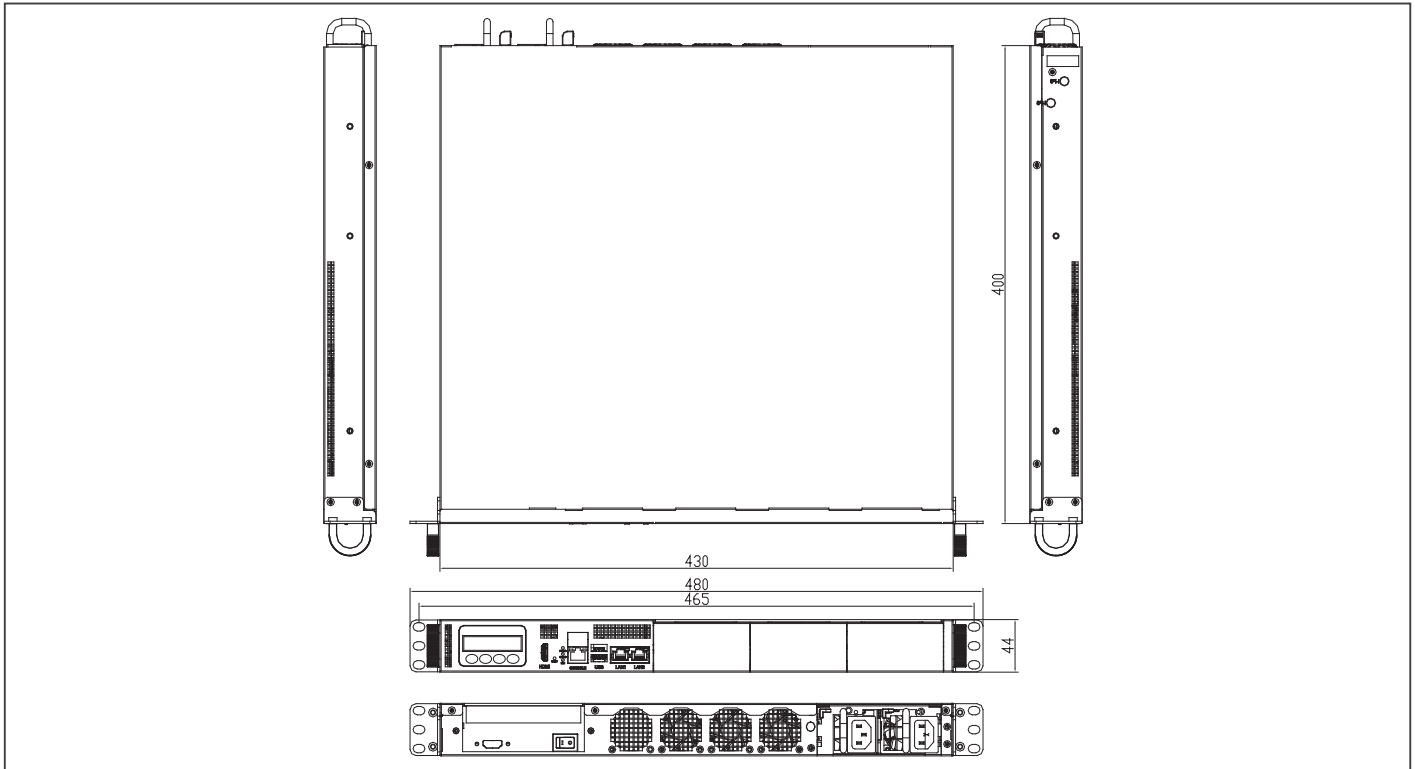
System	
Form Factor	1U Rackmount Network Appliance
Processor	12th/13th Generation Intel® Core™ Processors
Chipset	Intel® W680
System Memory	DDR5 U-DIMM x 4, up to 128GB (ECC)
Network	
Ethernet	10GbE SFP+ x 2 (Intel® X710-BM2 x 1)
Bypass	Dependent
NIM Slot	3
Display	
Graphic Controller	—
Connector	HDMI port x 1
Storage	
HDD	2.5" HDD Bay x 2
CF/CFast/mSATA	—





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Mini-Card Slot	Storage	LAN	USB	Console	Bypass	NIM Slot	Expansion Slot	TPM	Display
FWS-7850-E2-A10-00	12th/13th Generation Intel® Core™ Processors	DDR5 UDIMM ECC x 4	M.2 2280 M-Key x 1 (PCIe [x4])	2.5" HDD Bay x 2	10Gb SFP+ x 2	USB 3.2 Gen 1 x 2	RJ-45 x 1	—	3	—	Onboard	HDMI x 1

## Packing List

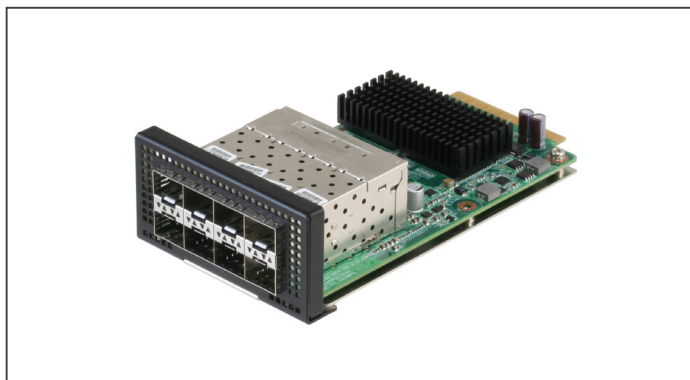
- Console Cable
- Ear Brackets
- FWS-7850

## Optional Accessories

- **M02666600**  
Slide x 2, for Rackmount Usage
- **1702031803**  
Power Cord, 3P-250W/10A, 180D, 1.8M, VDE, YP22/YP12
- **1702031802**  
Power Cord, 3P-250W/10A, 180D, 1.8M, USA, YP22/YP12
- **170203180E**  
Power Cord, 3P-25V/7A, 180D, 1.8M, PSE, YP12/YP12
- **NIM-C15A-A10-G82-0001**  
Intel® I226V PCI-Express 2.5G Copper Ethernet 8 Ports Module for FWS-7851/7850 w/ 2Pair bypass
- **NIM-S26C-A10-T40-0002**  
Intel® Fortville XL710 PCI-Express 10G SFP+ 4 Ports Module for FWS-7820/7830
- **NIM-S26B-A10-F20-0002**  
Intel® Fortville XL710 PCI-Express 40G QSFP 2 Ports Module for FWS-7820/7830
- **NIM-S13B-A10-G80-0002**  
Intel® 82580EB PCI-Express 1G SFP 8 Ports Module for FWS-7820/7830
- **NIM-S13D-A10-G40-0002**  
Intel® 82580EB PCI-Express 1G SFP 4 Ports
- **NIM-C13B-A10-G82-0001**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7820 w/ 2Pair bypass/7830
- **NIM-C13D-A10-G42-0002**  
Intel® 82580EB PCI-Express 1G Copper Ethernet 4 Ports Module for FWS-7820 w/ 2Pair bypass/7830

# NIM-S13B

Intel® 82580EB (i350-AM4; Optional by request) PCI-Express 1G SFP 8 Ports Module



## Features

- PCI-Express Host Interface



## Network Appliance Options

- FWS-7360
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7541
- FWS-7851
- FWS-7850

## Ordering Information

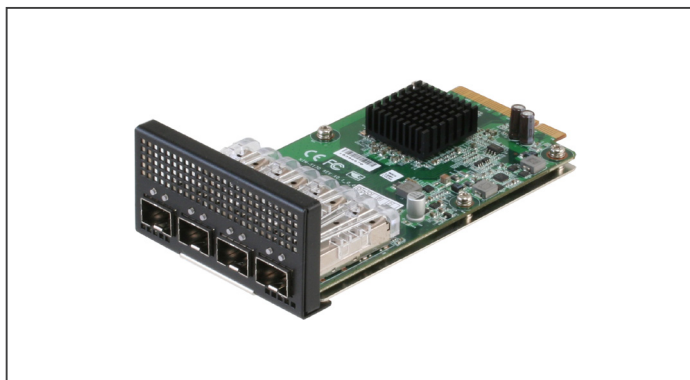
- NIM-S13B-A10-G80-0002  
LAN Module.2xIntel i350AM4.8x1GbE SFP.No Bypass.Rev.A1.0\_0\_0

## Specifications

Main Specification	
Form Factor	1G Fiber Module
Main Chipset	Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 2
Bypass	—
Host Interface	PCI-Express [x4]
LAN Port	SFP 1GbE Connector x 8
Indicator	LED x 8 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)

# NIM-S13D

Intel® 82580EB (i350-AM4; Optional by request) PCI-Express 1G SFP 4 Ports Module



## Features

- PCI-Express Host Interface



## Network Appliance Options

- FWS-7360
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7541
- FWS-7851
- FWS-7850

## Ordering Information

- NIM-S13D-B10-G40-0002  
LAN Module.Intel 82580EB.4x1GbE SFP.No Bypass.Rev.B1.0\_0\_0

## Specifications

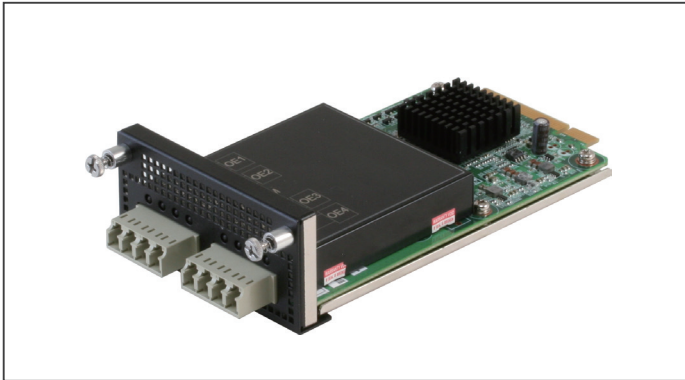
Main Specification	
Form Factor	1G Fiber Module
Main Chipset	Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 1
Bypass	—
Host Interface	PCI-Express [x4]
LAN Port	SFP 1GbE Connector x 4
Indicator	LED x 4 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)







Intel® 82580EB (i350-AM4; Optional by request) PCI-Express 1G Fiber Ethernet 4 Ports Module



## Features

- PCI-Express Host Interface



## Network Appliance Options

- FWS-7360
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7851
- FWS-7850

## Specifications

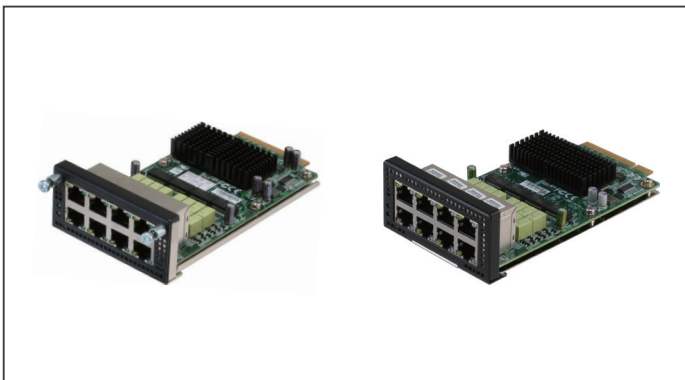
Main Specification	
Form Factor	1G Fiber Module
Main Chipset	Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 1
Bypass	2
Host Interface	PCI-Express [x4]
LAN Port	SFP 1GbE Connector x 4
Indicator	LED x 4 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)

## Ordering Information

- NIM-S13E-A10-G42-0001  
LAN Module, Intel® 82580EB, 4 x 1GSFP, 2 Bypass, SX short wave, REV. A1.0
- NIM-S13E-A10-G42-0002  
LAN Module, Intel® 82580EB, 4 x 1GSFP, 2 Bypass, LX long wave, REV. A1.0

# NIM-C13B

Intel® 82580EB (i350-AM4; Optional by request) PCI-Express 1G Copper Ethernet 8 Ports Module



## Features

- PCI-Express Host Interface



## Network Appliance Options

- FWS-7360
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7851
- FWS-7850

## Specifications

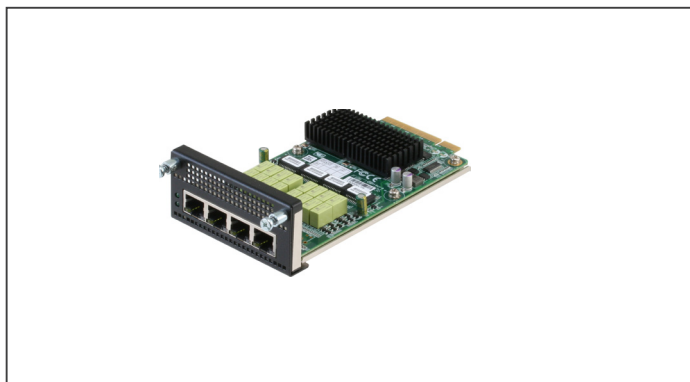
Main Specification	
Form Factor	1G LAN Module
Main Chipset	Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 2
Bypass	—
Host Interface	PCI-Express [x8] (x4 + x4)
LAN Port	1GbE Connector x 8
Indicator	LED x 8 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)

## Ordering Information

- NIM-C13B-A10-G82-0001  
Intel® 82580EB PCI-Express 1G Copper Ethernet 8 Ports Module for FWS-7820/7821/7830/7831/7360/8600 w/ 2Pair bypass

# NIM-C13D

Intel® 82580EB (i350-AM4; Optional by request) PCI-Express 1G Copper Ethernet 4 Ports Module



## Features

- PCI-Express Host Interface



## Network Appliance Options

- FWS-7360
- FWS-7541
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7851
- FWS-7850

## Ordering Information

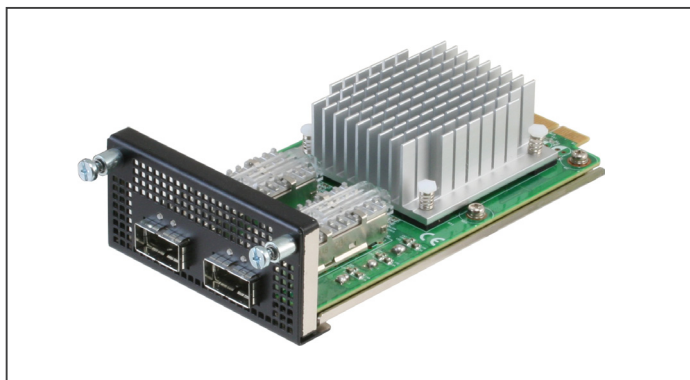
- **NIM-C13D-B10-G42-0002**  
Intel 82580EB.1G Copper LAN 4Ports.for FWS-7820/7821/7830/7831/7360/8600.w/2 bypass

## Specifications

Main Specification	
Form Factor	1G Copper Module
Main Chipset	Intel® 82580EB (i350-AM4; Optional by request) Ethernet Controller x 1
Bypass	2
Host Interface	PCI-Express [x4]
LAN Port	1GbE Connector x 4
Indicator	LED x 4 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)

# NIM-S26B

Intel® XL710 PCI-Express 40G QSFP 2 Ports Module



## Features

- PCI-Express Host Interface
- 40 GbE QSFP Fiber Port x 2



## Network Appliance Options

- FWS-7360
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7851
- FWS-7850

## Ordering Information

- **NIM-S26B-A10-F20-0002**  
Intel® XL710 PCI Express 40GbE QSFP 2 Ports Module for FWS-7820/7821/7830/7831/7360/8600

## Specifications

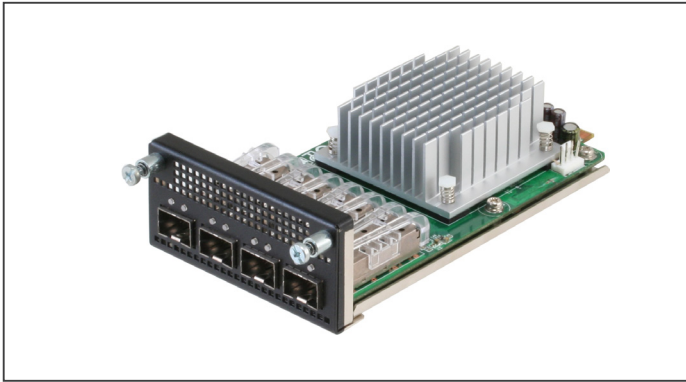
Main Specification	
Form Factor	40G Fiber Module
Main Chipset	Intel® Fortville XL710 Ethernet Controller x 1
Bypass	—
Host Interface	PCI-Express [x8]
LAN Port	QSFP 40GbE Connector x 2
Indicator	LED x 2 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)





# NIM-S26C

Intel® XL710 PCI-Express 10G SFP+ 4 Ports Module



## Features

- PCI-Express Host Interfaces
- 10G SFP+ Fiber Port x 4



## Network Appliance Options

- FWS-7360
- FWS-7830
- FWS-7831
- FWS-7821
- FWS-7820
- FWS-7840
- FWS-8600
- FWS-7851
- FWS-7850

## Specifications

Main Specification	
Form Factor	10G Fiber Module
Main Chipset	Intel® XL710 Ethernet Controller x 1
Bypass	—
Host Interface	PCI-Express [x8]
LAN Port	SFP+ 10 GbE Connector x 4
Indicator	LED x 4 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)

## Ordering Information

- NIM-S26C-A10-T40-0002  
LAN Module, Intel® XL710, 10 GbE SFP+ x 4, FWS-7820/7821/7830/7831/7360/8600, Rev. A.1.0

# NIM-S26D

Intel® Ethernet Controller XL710-BM1 (Fortville) Quad Port SFP+ 10 GbE LAN Module



## Features

- PCI-Express Gen3 [x8] Host Interfaces
- Intel® Ethernet Controller XL710-BM1
- 10G SFP+ Fiber ports x 4+SR
- Two pairs Bypass function



## Network Appliance Options

- FWS-7820
- FWS-7821
- FWS-7831
- FWS-7830
- FWS-7840
- FWS-8600
- FWS-7851
- FWS-7850

## Specifications

Main Specification	
Form Factor	10GbE Fiber LAN Module
Main Chipset	Intel® XL710-BM1 Ethernet Controller x 1
Bypass	2
Host Interface	PCI-Express [x8]
LAN Port	SFP+ 10 GbE Connector x 4 SR
Indicator	LED x 4 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)

## Ordering Information

- NIM-S26D-A10-T42-0002  
LAN Module, Intel XL710.4 x 10GbE SFP+ 2 x BPSR, FWS-7820/7821/7830/8600

# NIM-C15A PRELIMINARY



Intel i226V PCI-Express 8 ports RJ45 2.5G Copper NIM Module

Launching in Q1

## Features

- PCI-Express Host Interface
- Intel i226V LAN
- 2.5GbE RJ45 x 8
- Two pairs bypass



## Network Appliance Options

- FWS-7850
- FWS-7851

## Ordering Information

- TBD

## Specifications

Main Specification	
Form Factor	2.5G Copper Module
Main Chipset	Intel i226V by 2x ASM 1806 colay 2806
Bypass	2
Host Interface	PCI-Express Gen2/3 [x2]
LAN Port	2.5G GbE RJ45 x 8
Indicator	LED x 8 for Active/Link
Qualification	CE/FCC Class A
Operation Temp.	32°F ~ 104°F (0°C ~ 40°C)
Dimension	5.71" x 3.03" (145mm x 77mm)





### Features

- Desktop Network Appliance
- Intel® Snow Ridge SoC Processor, TDP up to 83W
- DDR4 SO-DIMM up to 128GB
- Intel® 4 x 2.5GbE i226V + 4 x 1GbE by Marvell 88E1543 + 4 x 10GbE SFP+(Optional for 2 x 2.5GbE RJ45 with PoE support module or Riser card for 1 x NIM)
- TPM v2.0
- Two 2.5" SATA SSD(Optional for 1x 2.5" SATA SSD and 1x M.2 m key 2242)(Optional for eMMC 32GB, max up to 128GB)
- 1 x M.2 (B Key 3042 & 3052) for 5G [1 x M.2 (K key 2230) for WiFi optional, Co-lay with Mini-Card Half size]



#### Internal/ Expansion Interface

PCIe Slot	1 x PCIe x4 slot with PCIe (x1) x2 signal (Optional for 2 x 2.5GbE RJ45 with PoE support module or Riser card for 1 x NIM)
Mini-PCIe Slot	1 x M.2 (B Key 3042 & 3052) for 5G [1 x M.2 (K key 2230) for WiFi optional, Co-lay with Mini-Card Half size]
IPMI	-
Keyboard and Mouse	2 x USB 2.0 type A port
USB	USB 3.2 Gen 1 x 2

#### Miscellaneous

RTC	Internal RTC
Watchdog Timer	1~255 step by software programmable
Software Button	GPIO Programmable push button x 1
TPM	SPI TPM v2.0 (optional) nuvoton co-lay Infineon SLB 9672VU2.0 FW15.21
GPIO	(4 bits input, 4bits output optional)
Fan	Fan-less/ Fan
MTBF (Hours)	TBD
Color	Black

#### Environmental Parameters and Dimension

Power Requirement	Open Frame PSU 200W
Operating Temperature	32 ~ 122°F (0 ~ 40°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	10%~90% relative humidity, non-condensing
Storage Humidity	10 ~ 80% @ 40C, non-condensing
Vibration	0.5G / 5 ~ 500Hz / operation 1.5G / 5 ~ 500Hz / non-operation
Shock	10G peak acceleration (11 m sec. duration), operation 20G peak acceleration (11 m sec. duration), non-operation
Dimension (W X D X H)	Standard: 430mm x 200mm x 44mm(W x D x H)

#### I/O

Front Panel	Power LED x 1 Status LED x 1 Bypass LED x 2 Storage Active LED x 1 SW programmable button x 1 USB 2.0 type-A Port x 2 RJ-45 Console Port x 1
Rear Panel	AC Power Input Connector x 1 Power Button x 1

### Specifications

<b>System</b>	
Form Factor	Rackmount Network Appliance
Processor	Intel® Snow Ridge SoC Processor
Chipset	SoC
System Memory	DDR4 SO-DIMM up to128 GB
<b>Network</b>	
Ethernet	Intel® 4 x 2.5GbE i226V + 4 x 1GbE by Marvell 88E1543 + 4 x 10GbE SFP+
Bypass	2 Pairs
NIM Slot	—
<b>Display</b>	
Graphic Controller	—
Connector	—
<b>Storage</b>	
HDD	2.5" HDD Bay x 2, 1 SATA co-lay with M.2 2242
CF/CFast/mSATA	(On board 32G Emmc for optional, up to 128G)

### Packing List

- Power cord x 1
- FWS-7370

### Ordering Information

- TBD

# 03



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# 03

## Industrial Network Appliances



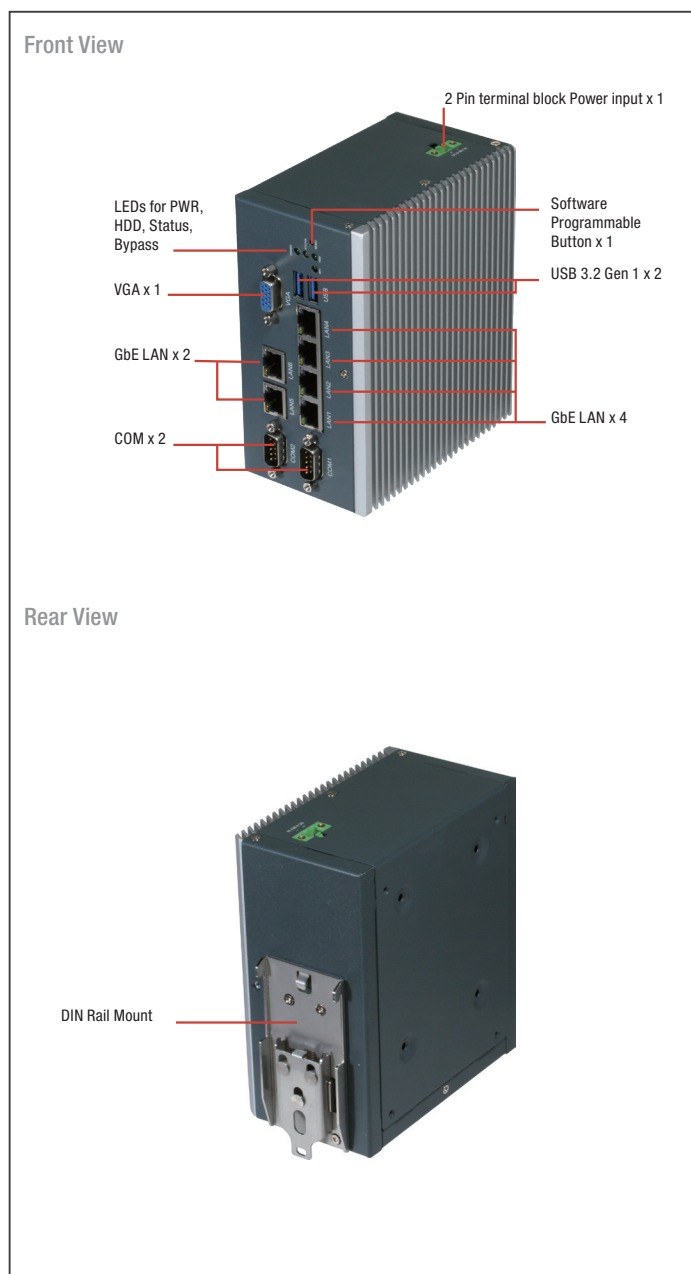
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## Features

- Intel® Celeron® Processor N3350 SoC
- DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz)
- 10/100/1000Base-TX Ethernet Port x 6 (Supports up to 2 Pairs bypass)
- Supports up to Mini-Card Socket with SIM Socket x 1
- +9 – 36V DC Power Input Terminal Block
- Supports up to RS-232/422/485 COM Port x 2 with ESD Protection
- -40°C~75°C Operating Temp.



System Fan	Fanless
Color	Dark Grey
Power Supply	2 Pin Terminal Block
Dimension	4.96" x 2.93" x 5.74" (126 x 74.5 x 146mm)
Power Requirement	+9 ~ 36V, 2-pin terminal block
MTBF (Hours)	101,292
<b>Display</b>	
Chipset	Intel® HD Graphics 500
Interface	VGA port x 1
<b>I/O</b>	
Front I/O Panel	RJ-45 GbE x 6 RS-232/422/485 COM Port x 2 VGA port x 1 USB 3.2 Gen 1 x 2 Software programmable button x 1 Power LED x 1 HDD LED x 1 Status LED x 1 Bypass LED x 2
Rear I/O Panel	DIN Rail/ Wallmount Lock
Top Panel	2-Pin Terminal Block +9~36VDC x 1
<b>Environmental Parameters and Dimension</b>	
Operating Temperature	-40°F ~ 156°F (-40°C ~ 75°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 80% @40°C; non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz / operation (SSD) 1.5 Grms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation

## Specifications

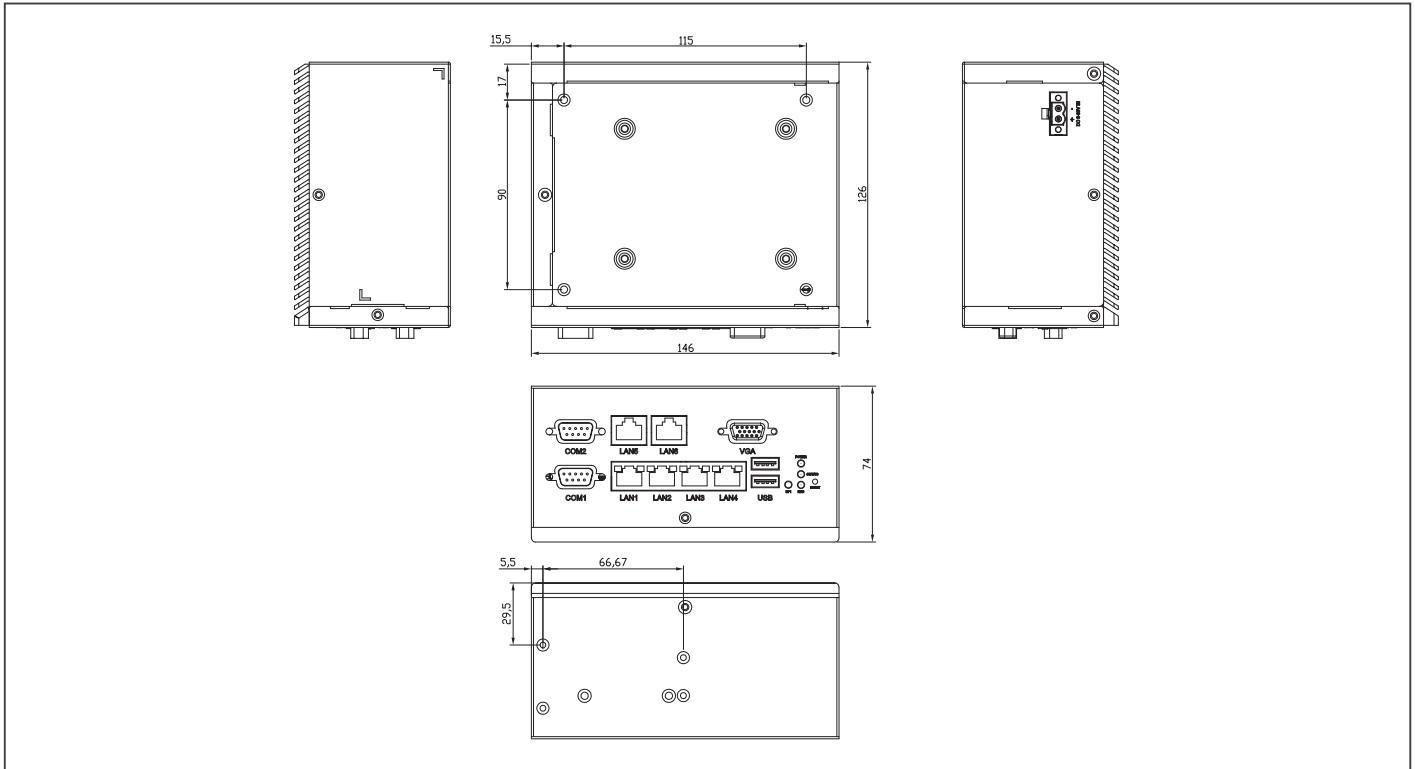
System	
Form Factor	DIN Rail/ Desktop
Processor	Intel® Celeron® Processor N3350 SoC
System Memory	DDR3L 1866, Single Channel SODIMM x 1 (Max.8GB, up to 1600MHz)
Chipset	—
Ethernet	Intel® Ethernet Controller I210-AT GbE x 6
Bypass	Supports up to 2 pairs
BIOS	AMI SPI Flash BIOS
Serial ATA	SATA 6.0 Gb/s port x 1, for 2.5" HDD/SSD
CFast/mSATA	CFast™ socket x 1
Expansion Interface	Supports Mini-Card slot x 1 with SIM socket
USB	USB 3.2 Gen 1 x 2
Serial Port	Supports up to RS-232/422/485 COM Port x 2
Watchdog Timer	1~255 steps by software programmable
RTC	Internal RTC





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Bypass	Mini-Card Slot	Storage	LAN	USB	RS-232/422/485	System Fan	TPM	Display	Mounting	Power
ICS-6270A-A10-01	Intel® Celeron® N3350	204-pin DDR3L SODIMM socket x 1	1 Pair	Full Size and SIM socket x 1	CFast socket x 1 SATA 6.0 Gb/s port x 1	1Gb RJ-45 x 6	USB 3.2 Gen 1 x 2	COM x 2 COM2 with isolation	1	Optional, default N/A	VGA x 1	DIN Rail	+9~36V DC In

## Packing List

- 2 Pin Phoenix Contact Connector (Male)
- SATA Cable x 1
- SATA Power Cable x 1
- DIN Rail Kit x 1
- ICS-6270

## Optional Accessories

- **9761627020**  
Wallmount Kit (No Packing)
- **1255300407**  
2 Pin Phoenix Contact 40W Power Adapter

Front View



Rear View



DIN-Rail Mount



## Features

- Intel Atom® Processor X Series, Intel® Pentium®/Celeron® N and J Series Processor, 2~4 cores
- 10/100/1000Base-TX Ethernet x 4
- Supports up to 2 Pairs LAN Bypass (Optional)
- 260-pin DDR4 3200MT/s SODIMM with IB ECC support x 1
- Mini Card Socket x 1, Micro SIM Socket x 1
- 9~48Vdc power redundancy input with Terminal Block x 2
- 2.5" SATA SSD x 1
- COM x 2 (COM 2 with isolation) with ESD Protection
- HDMI x 1, USB 3.2 x 2, VGA x 1
- Wide-Temp -40°C ~ 75°C Fanless Solution



RTC	Internal RTC
System Fan	Fanless
Color	Black
Power Supply	Dual 2-Pin Phoenix terminal block
Dimension	5.12" x 4.96" x 2.83" (130mm x 126mm x 72mm)
Power Requirement	Redundant 9~48Vdc power input
MTBF (Hours)	TBD
<b>Display</b>	
Chipset	Intel® HD Graphics
Interface	HDMI port x 1, VGA port x 1
<b>I/O</b>	
Front I/O Panel	RJ-45 GbE x 4 RS-232/422/485 COM Ports x 2 HDMI port x 1 VGA port x 1 USB 3.2 Gen 1 x 2 Micro SIM slot x 1 Software programmable button x 1 Power LED x 1 HDD LED x 1 Status LED x 1
Rear I/O Panel	DIN Rail/ Wallmount Lock
Top Panel	2-Pin Terminal Block +9~46VDC x 2
<b>Environmental Parameters and Dimension</b>	
Operating Temperature	-40°F ~ 167°F (-40°C ~ 75°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 80% @40°C; non-condensing
Vibration	0.5 g rms/ 5 ~ 500Hz / operation (2.5" SSD) 1.5 g rms/ 5 ~ 500Hz / non operation
Shock	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non operation

## Specifications

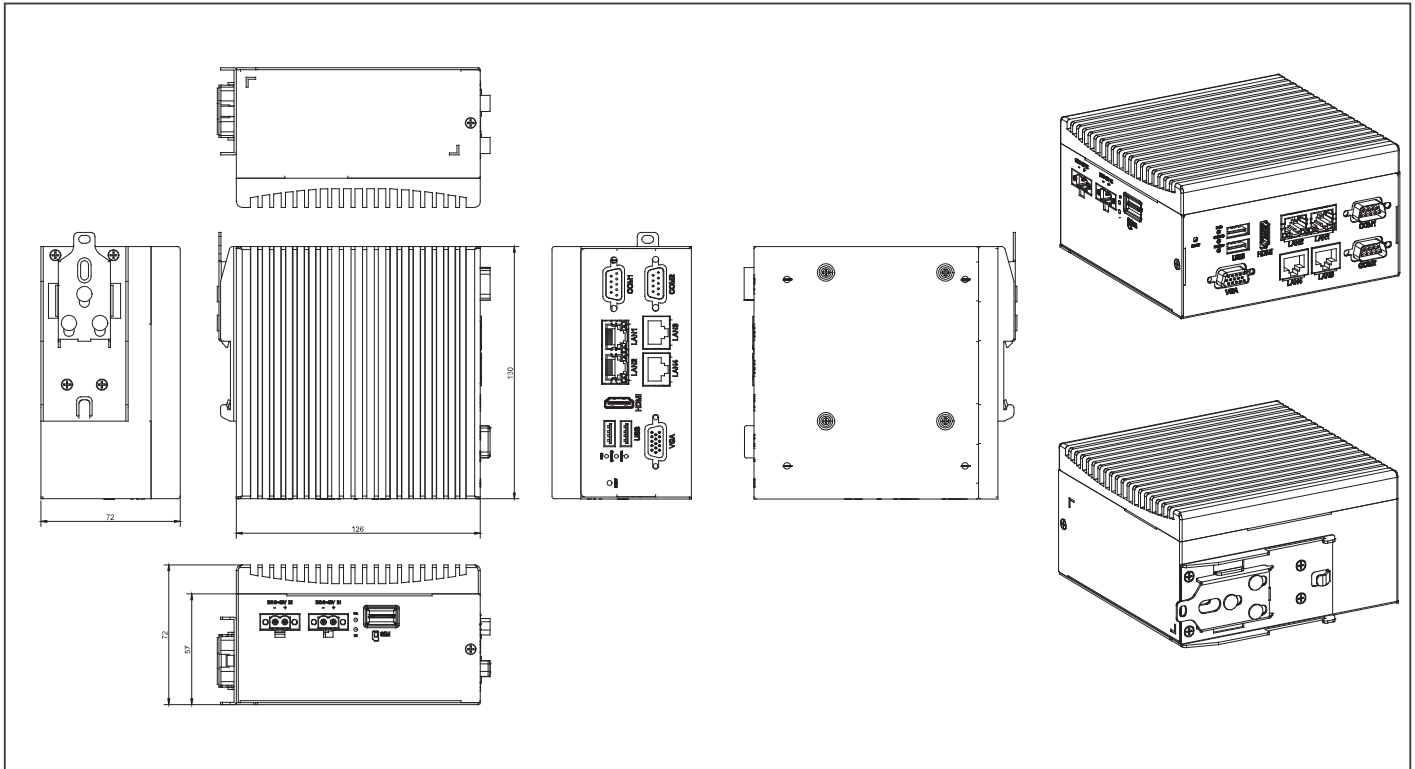
System	
Form Factor	DIN Rail/ Desktop
Processor	Intel Atom® Processor X Series, Intel® Pentium®/Celeron® N and J Series Processor, 2~4 cores
System Memory	260-pin DDR4 3200MT/s SODIMM with IB ECC support x 1
Chipset	SoC
Ethernet	Intel® Ethernet Controller I210-AT GbE x 4
Bypass	Supports upto 2 Pairs LAN Bypass (Optional)
BIOS	AMI SPI Flash BIOS
Serial ATA	SATA III port x 1 for 2.5"SSD support
CFast/mSATA	mSATA (Full size) socket coloy SATAIII port x 1
Expansion Interface	Supports Mini-card slot x 1 with Micro SIM socket
USB	USB 3.2 Gen 1 x 2
Serial Port	Supports up to RS-232/422/485 COM Port x 2
Watchdog Timer	1~255 steps by software programmable





## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Bypass	Expansion Slot	Storage	LAN	USB	Console	System Fan	TPM	Display	Mounting	Power
ICS-6280A-A10-00	Intel Atom® x6425E	260-pin DDR4 3200MT/s SODIMM with IB ECC support x 1	Supports upto 2 Pairs LAN Bypass (Optional)	mSATA (Full size) socket coloy SATAIII port x 1 Supports Mini-card slot x 1 with Micro SIM socket	2.5" SATA SSD x 1	Intel® Ethernet Controller I210-AT GbE x 4	USB 3.2 Gen 1 port x 2	—	Fanless	Optional upon request	HDMI x 1 VGA x 1	DIN Rail	Redundant 9-48Vdc input

## Packing List

- SATA Cable x 1
- SATA Power Cable x 1
- DIN Rail Kit x 1
- ICS-6280

## Optional Accessories

- **9761627020**  
Wallmount Kit (No Packing)
- **1255300407**  
2 Pin Phoenix Contact 40W Power Adapter





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MKT-2202502

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