Complete Your Solution

- Wireless Gateway
- Network Management
  (RAS, QoS, Load Balancing)
- Network Security
  (UTM, Firewall/VPN, IDS/IPS,
  Anti-Spam, Content Filtering)
- ATCA

Portwell

www.portwell.com

About Portwell

Portwell Engine (PE) Building

ISO 9001 ISO 14001 OHSAS 18001 TL 9000

Company Information

Portwell, Inc. was founded in Taiwan in 1993 and entered the Industrial PC market in 1995 by developing single board computers. Today, our continued development of leading-edge products has resulted in strong growth in market share and revenue, a firm place on the Taipei stock exchange (TAISDAQ), and has established Portwell as a major worldwide supplier of specialty computing application platforms and services. Portwell, Inc. is a Premier member of the Intel® Intelligent Systems Alliance, as well as an executive member of the PCI Industrial Computer Manufacturing group (PICMG). Portwell, Inc. has worldwide offices in the U.S.A., Taiwan, Japan, China, Netherlands, United Kingdom, and India.

Mission & Focus

Portwell's mission is to provide its customers with the ultimate network access that will result in a complete solution for all their applications and needs. We hope to achieve this by focusing on our number one priority: providing the innovation and technology necessary to help our customers increase both sales and profit. Portwell is not only a leading supplier in the Network Security Market (Firewall, VPN, UTM, etc.), but also invests its resources in Telecom Voice Appliance for CPE Enterprise application, Network Attached Storage, and Cloud Computing Modular Servers.

Why Portwell Communication Appliance?

- Allow ISV entering the market with shorter time-to-market and lowest cost for a complete platform.
- Allow ISV offering end-users with Plug-and-Play solution.
- Allow ISV promoting solutions with own brand image exposure.
- Allow ISV concentrating on software development without hardware headaches.
- Allow ISV providing preloaded complete system instead of software only solution.

Why Portwell

- **Faster time-to-market**

Customer can port/develop their software to/on our ready-to-ship solution for time-to-market.

- **Better products scalability and coverage**

Select from our wide range of solutions to scale your products. Portwell not only provides board level solutions but system and peripheral level solutions as well.

- **Leading edge hardware innovation**

You can always trust the most leading-edge products from Portwell because of our dedication to hardware platform development.

- **Free of inventory and manufacturing hassle**

Independent software venders can team up with Portwell to provide solutions to system integrators or end-users without manufacturing and inventory hassles.

What Value-added services will Portwell offer?

Hardware platform development

- Scalable and flexible appliance platform easy for Build-to-order business demand
- The minimum 3-year H/W lifecycle maintenance
- Dedicated and embedded system design for not only reliability but also ergonomic advantage
- Advanced thermal design to assure product stability
- Provide HDD, CF, and DOM storage solution
- Watchdog timer prevents the software lockup
- Redirect to console BIOS allows user to operate system through serial port
- Validated with embedded Linux and FreeBSD
- Load factory-default mechanism
- Multiple listing available on CE, FCC, and UL

Manufacturing

- In-house design, engineering, manufacturing, system integration to assure comprehensive quality and revision control
- ISO 14001 and ISO 9001 certified manufacturing facility
- Flexible to accept low- to high-volume requirement
- Manufacturing guide to flaw-less assurance
- Integration service for OS and AP loading

Private-label branding

- Custom BIOS splash screen
- Chassis desired color and Private-logo bezel printing
- Private branded packaging
- Data label with production number control, EMC and Safety mark
- Drop-shipment for global logistic service

Portwell Engineering and Manufacturing

Portwell performs specific customized tasks from design, system assembly, testing, delivery and installation with the high reliability, availability and flexibility demanded by the specific requirements of system integration and communication appliance projects. From material purchasing through production, testing, and assembly, we are a consistently reliable and efficient one-stop service provider.

Portwell's engineers are well-positioned to assist customers with the development of tailored solutions that meet their requirements, especially in the network security field with a range of products that meet the highest quality and reliability standards available. Portwell's products and services always conform to the ISO QA requirements at the strictest level. For many years, Portwell has been the preferred vendor for many leading Tier 1 security software companies.

Portwell's automatic facilities and flexible assembly lines have manufactured a range of network security and industrial level products that incorporate ruggedized rackmount, and high computing and LAN bandwidth.

The Portwell Group provides the following lab services, in-house:

- Environmental Chamber Testing Lab
- Acoustic Noise Testing Lab
- Drop/Vibration/Shock Testing Lab
- ESD Testing Lab
- EMS Testing Lab
- EMI/EMC Testing Lab
- Signal Simulation Testing Lab
- IP65 Compliance Rain/Dust Testing Lab
- HALT/HASS Testing Lab
- Power Testing Lab
- ATCA Testing Lab

Software Ability

- Provide secure LOM firmware for IPMI capability; security requirements are considered in design.
- Provide a variety of component firmwares for Portwell products.
- Provide a variety of utilities to operate the components of Portwell products, e.g. monitor PSU states, scan NIP cards, etc.
- Provide customization service of software.

R & D force

- Independent team to research advanced technology to create new values for customers.

R & D Environments

- Complete version controlling management for all software deliverables.
- Issue tracking system in life cycle of software development.
- Unify development & build environments.

Software Services

- Provide a variety of drivers for Portwell products and relative sample utilities to test the capability of drivers. (These drivers are tested with several versions of the Linux kernel.)

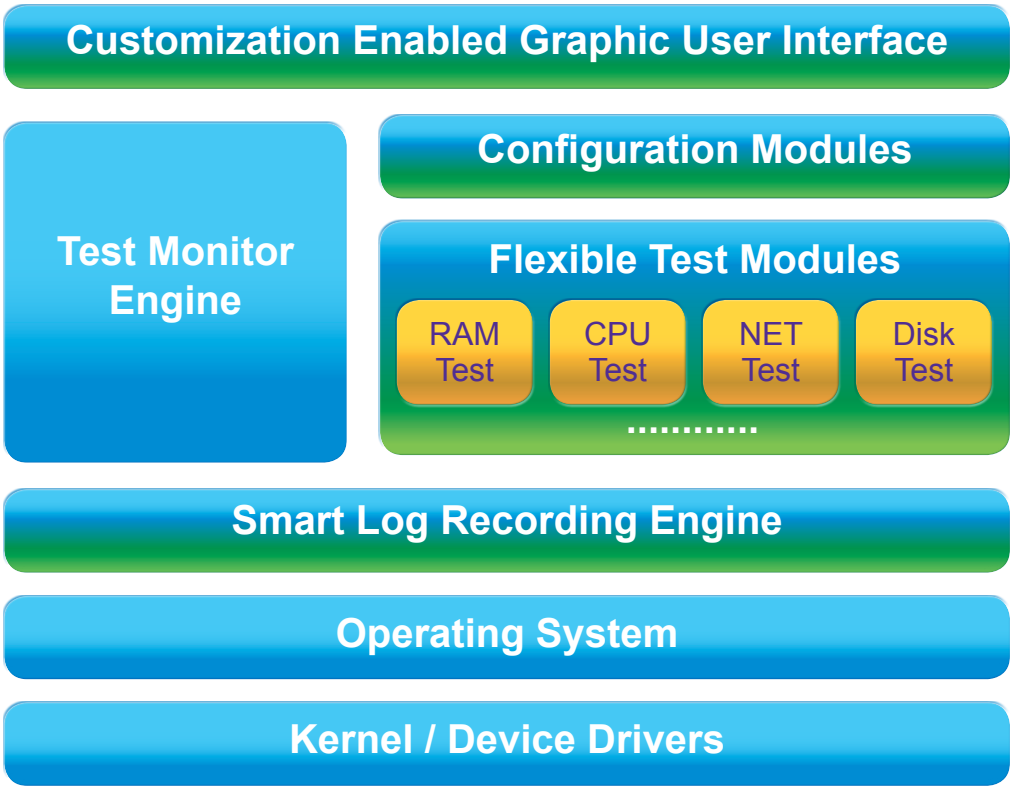
Portwell Worldwide map

PQUA / CVER Diagnostic Systems

Introduction

PQUA (**P**roduct **QUA**lification) is a diagnostic system that can be self-booted and used to identify and monitor the health status of all hardware components. It is designed for providing robust quality with flexible test modules during hardware manufacturing phase.

CVER (**C**ustom **VER**ification) is a highly customized verification system. It meets the requirements of efficiency and immediateness for logistics Hubs, customers, and end users. CVER can be used on any of Portwell machines regardless of what OS system customers have once it's created.



PQUA / **CVER** Architecture

Benefits / Features

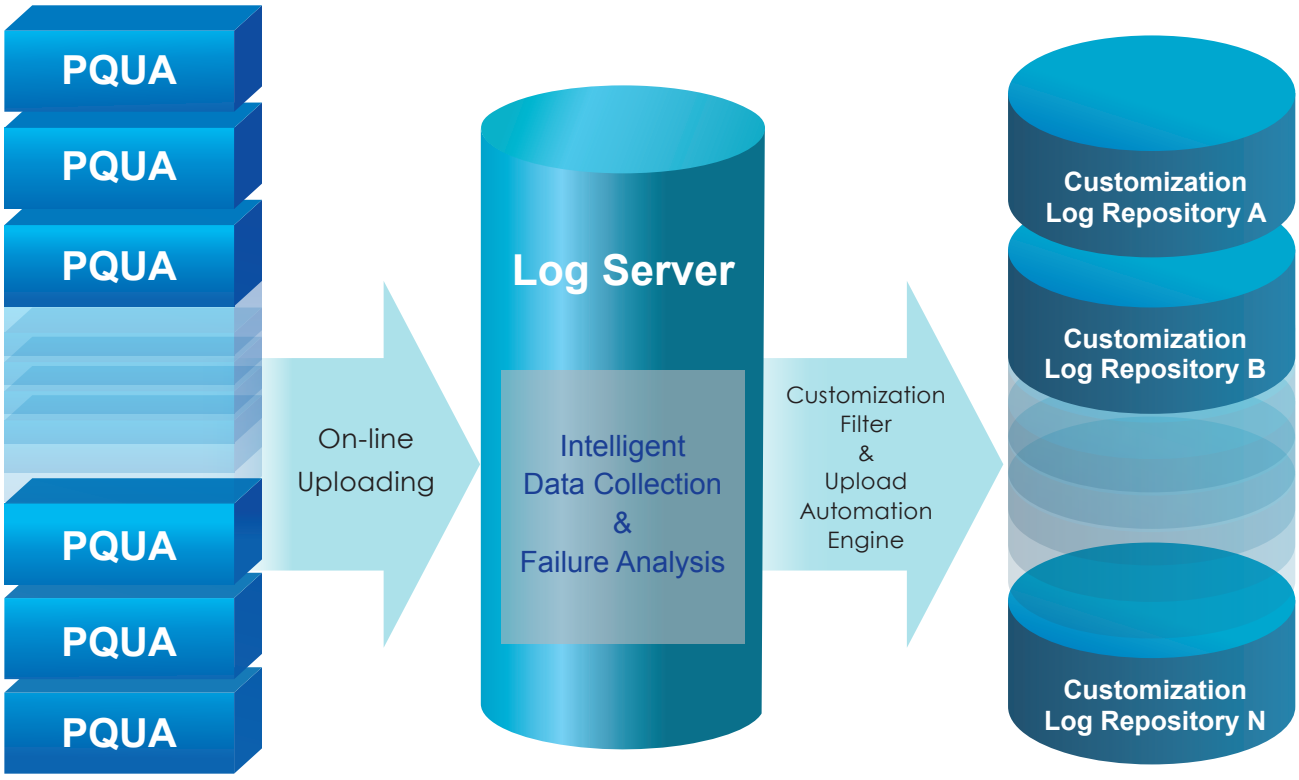
- Abundant Test Modules
- Flexible Test Cases Management
- Automated Logs / Reports Generation
- Selectable Multiple Test Stations
- Customization Configurations
- Easy Integration to Different Linux Distributions
- Logs / Reports Uploading Feature
- Enhancing Reliability Feature
- Support All Portwell Models

Log Server

Introduction

The Portwell Log Server provides a powerful engine for storing testing records that helps customers get equipment health reports quickly and easily from everywhere. The testing records generated by PQUA will be automatically processed with well-formatted results and uploaded into dedicated customer log repository database on the Log Server.

Furthermore, Portwell Log Server has very outstanding inspection ability that can be used for failure analyses and avoidance of invisible issues. In other words, it perfects the verification coverage for all Portwell products.



The Log Server Framework

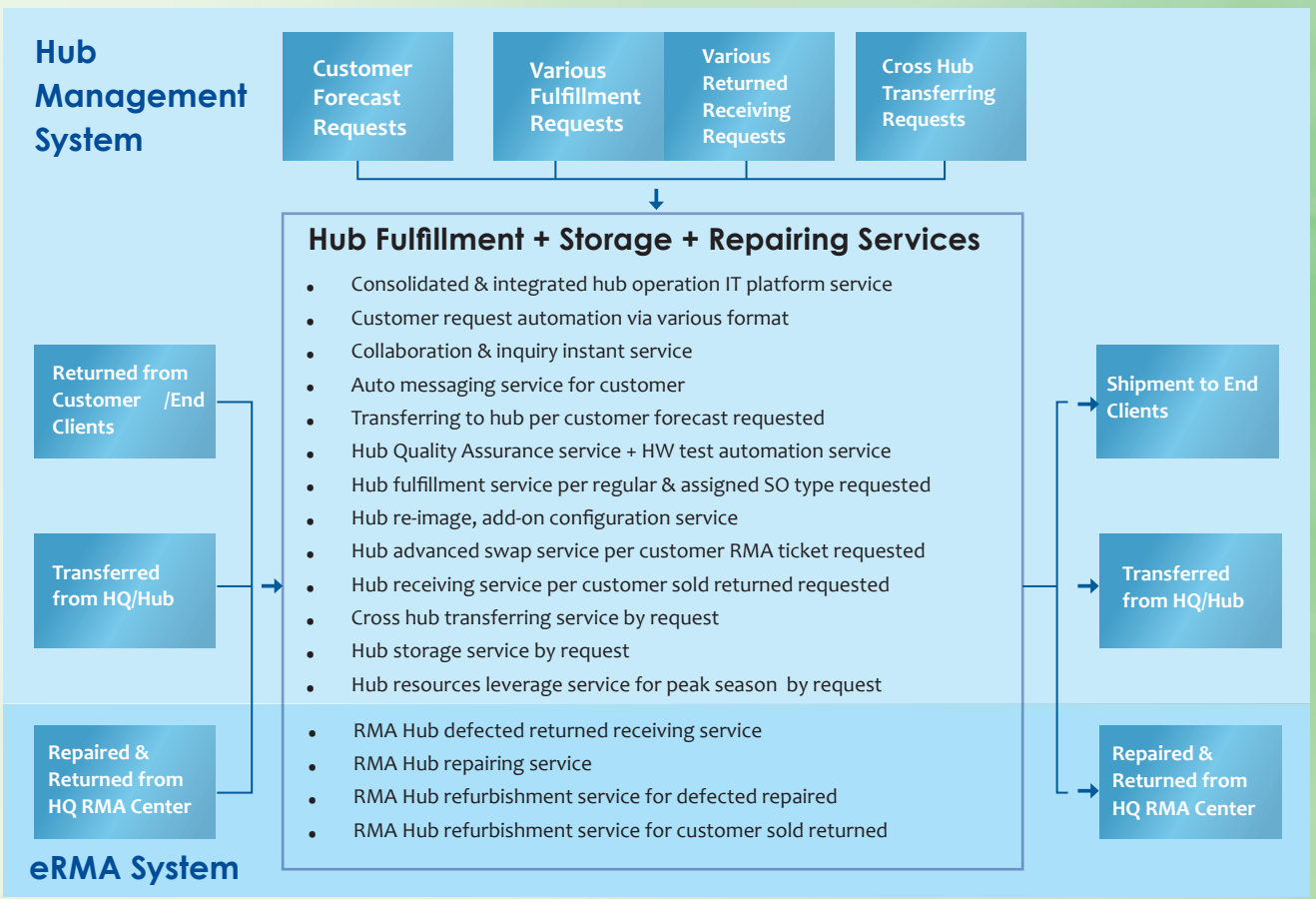
Benefits / Features

- Powerful Tests Recording Engine
- Customization Filter & Upload Automation Engine
- Intelligent Data Collection & Failure Analysis
- Selectable Download Feature
- Well-formatted Test Results Feature
- Fast Search Engine
- Smart Statistic Report Printing Feature
- Support All Portwell Models

Global Logistics Service

Providing complete quality service to our customer is Portwell's mission. We provide value with reasonable prices for our products and services, integrated IT support for 24-hour global shipping, add-on/image configuration change, reversed logistics terminal and refurbishment, local RAM Service and a complete testing record for online searching and downloading. Portwell created a global/ local service in order to eliminate time consumption and waste. We also provide a customized platform to meet different needs. Not only does Portwell care about providing great service to our customers, we also strive to provide complete solutions.

- Customization services of the Hub Service
- User Interface customization
- Data transfer format specified
- Web service format specified
- Existing features customization
- New features development
- New service processes implementation



SaaS Cloud
HMS + eRMA

Integrated IT Services

- Integrated info
- Consolidated UI
- Info accessibility

Global Hub Services

- 24 Hrs Services
- Delivery by request
- Prompt response

Global RMA Services

- Shorter RMA Time
- Service is KING
- Time is MONEY

Agenda

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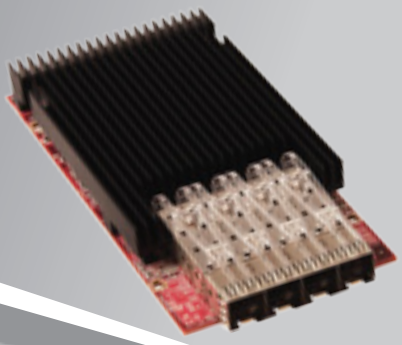
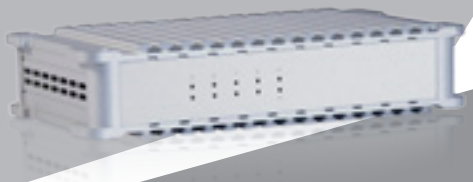


Fanless P.41



Desktop P.42-47

Copper NIC Module
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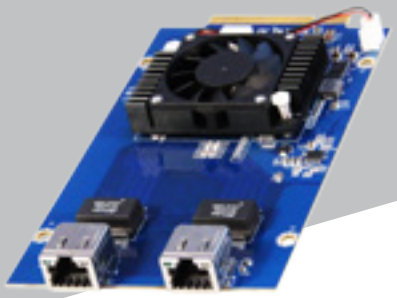

Other P.59-76

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Intel®
Sandy Bridge / Ivy Bridge

CAR-5030

HOT

P.24-25

Intel® Patsburg-B C604 PCH
Max. 16 DDR3 1600 DIMMs
Max. 5 Portwell NIC Modules
Form factor_2U

CAR-4010

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Intel® Cougar Point C206 PCH
Max. 4 DDR3 1333 DIMMs
Max. 1 Portwell NIC Module
Form factor_1U

CAR-3035/6/7

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Intel® Cougar Point H61 PCH
Max. 2 DDR3 1333 DIMMs
Max. 1 Portwell NIC Module
Form factor_1U

CAR-3030

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Intel® Cougar Point H61 PCH
Max. 2 DDR3 1333 DIMMs
Max. 1 Portwell NIC Module
Form factor_1U

CAR-2030

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Intel® Cougar Point H61 PCH
Max. 2 DDR3 1333 DIMMs
Form factor_1U

Product Guide

Intel® Sandy Bridge / Ivy Bridge Crystal Forest

CAR-5020

P.26-27

Intel® Cave Creek DH89xx PCH
Max 16 DDR3 1600 DIMMs
Max 3 Portwell NIC Modules
Form factor_2U

CAR-3020

P.36

Intel® Cave Creek DH89xx PCH
Max. 2 DDR3 1333 DIMMs
Max. 1 Portwell NIC Module
Form factor_1U

Intel® Westmere

CAR-5010

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Intel® 5520 chipset
Max. 12 DDR3 1333 DIMMs
Max. 3 Portwell NIC Modules
Form factor_2U

Intel® Lynnfield / Clarkdale

CAR-4003

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Intel® 3420 Chipset
Max. 4 DDR3 1333 DIMMs
Max. 3 Portwell NIC Modules
Form factor_1U

CAR-4000

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Intel® 3420 Chipset
Max. 4 DDR3 1333 DIMMs
Max. 3 Portwell NIC Modules
Form factor_1U

Product Guide

Intel®
Atom-Pineview

CAR-1000

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Intel® ICH8M PCH
Max. 2 DDR3 800 SO-DIMMs
Form factor_1U

CAD-0210

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Intel® ICH8M Chipset
Max. 2 DDR2 800 SO-DIMMs
Form factor_ Desktop

CAD-0208

P.46

Intel® ICH8M Chipset
Max. 1 DDR2 800 SO-DIMM
Form factor_ Desktop

CAD-0205

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Intel® ICH8M Chipset
Max. 1 DDR2 800 SO-DIMM
Form factor_ Desktop

CAD-0211

P.44

Intel® ICH8M Chipset
Max. 2 DDR3 800 SO-DIMMs
Form factor_ Desktop

Product Guide

AMD

CAF-1000

HOT

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AMD A50M PCH
Max. 1 DDR3 1066 SO-DIMM
Form factor_Fanless Desktop

CAD-0220

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AMD A50M PCH
Max. 1 DDR3 1066 SO-DIMM
Form factor_ Desktop

CAD-0215

HOT

P.42

AMD A50M PCH
Max. 1 DDR3 1066 SO-DIMM
Form factor_ Desktop

Cavium

CAM-0100

P.70

Cavium CN50X0
Max. 1 DDR2 533/667 SO-DIMM
1 Mini-PCI
Form factor_ Desktop

CAK-3000

P.69

Cavium CN52XX
Max. 1 DDR2 800 DIMM
One Portwell NIP Module
Form factor_ 1U

Product Guide

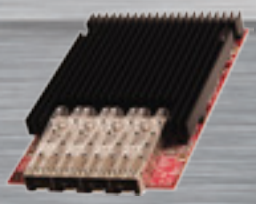
Fiber

NIP-53040

HOT

P.56

4 SFP+
No Bypass
Intel® 82599ES LAN Controller



NIP-52240

HOT

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4 SFP
2 Segments Bypass
Intel® 82580EB LAN Controller

NIP-53120

P.52

2 SFP+
1 Segment Bypass
Intel® 82599ES LAN Controller

NIP-53020

P.53

2 SFP+
No Bypass
Intel® 82599ES LAN Controller

NIP-52120

P.53

2 SFP
1 Segment Bypass
Intel® 82580DB LAN Controller

Product Guide

Fiber

NIP-52080

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8 SFP
No Bypass
Intel® 82580EB LAN Controller

NIP-52040

P.54

4 SFP
No Bypass
Intel® 82580EB LAN Controller

NIP-52020

P.55

2 SFP
No Bypass
Intel® 82580DB LAN Controller

Hybrid

NIP-55140

P.52

2 SFP & 2 GbE RJ45
1 Segment Bypass
Intel® 82580EB LAN Controller

Product Guide

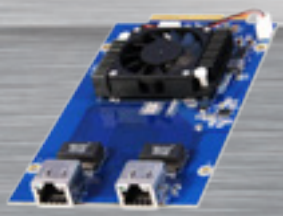
Copper

NIP-54021/121

HOT

P.50

2 10GBASE-T
1 Segment Bypass (NIP-54121 only)
Intel® X540-AT2 LAN Controller



NIP-51240

P.57

4 GbE RJ45
2 Segments Bypass
Intel® 82580EB LAN Controller

NIP-51080

P.57

8 GbE RJ45
No Bypass
Intel® 82580EB LAN Controller

NIP-51040

P.58

4 GbE RJ45
No Bypass
Intel® 82580EB LAN Controller

Product Guide

Standard NICs

BPC-54120

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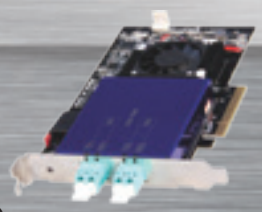
2 SFP+
1 Segment Bypass
Intel® 82599ES LAN Controller



Fiber NIC

BPC-51242

P.59

4 GbE RJ45
2 Segments Bypass
Intel® I350-AM4 LAN Controller

Copper NIC

BPC-51240

P.60

4 GbE RJ45
2 Segments Bypass
Intel® 82580EB LAN Controller

Copper NIC

ABN-262

P.60

2 GbE RJ45
1 Segment Bypass
Intel® 82574L LAN Controller

Copper NIC

NIP-71042

P.61

4 GbE RJ45
No Bypass
Intel® Cave Creek+
BROADCOM PHY Chip

NIP-70000

P.62

No Port
No Bypass
Cavium NITROX® PX CN1610-P Chip

NIP-70001

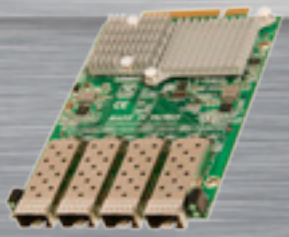
P.61

No Port
No Bypass
Cavium NITROX® PX CN1620 Chip

NIP-62041

P.62

4 SFP
No Bypass
Intel® 82580EB LAN Controller +
Cavium CN1620 Chip



NIP-61042

P.63

4 GbE RJ45
No Bypass
Intel® 82580EB LAN Controller+
Cavium CN1610-P Chip

NIP-61041

P.63

4 GbE RJ45
No Bypass
Intel® 82580EB LAN Controller+
Cavium CN1620 Chip

Cave Creek Solution

Best Enterprise Security Solution in the Intel Architecture Platform

Feature

Intel QuickAssist Technology

The Intel Cave Creek PCH supports Intel QuickAssist Technology with cryptography, compression and pattern matching making it easier for developers to integrate built-in accelerators to decrease development time and accelerate performance for demanding applications with specific hardware acceleration modules.

Virtualization

Intel Virtualization Technology incorporated in the Cave Creek chipset supports PCI-SIG Single Root IO Virtualization (SR-IOV), and one physical function and 16 virtual functions. The acceleration device supports SR-IOV, and can be controlled directly through the virtual machine (VM). Specifically, the SR-IOV allows partitioning of a single Intel Ethernet Server Adapter port into multiple virtual functions. Users can use these virtual ports to create multiple isolated connections to virtual machines to achieve optimized virtualization.

Performance

The Intel Cave Creek chipset provide better solution for network security (IPsec, SSL/TLS), as well as encrypted storage applications. It supports up to 20Gbps security performance. Furthermore, the feature of data compression provides a very effective way for Internet security protocol transmission such as IPComp (http compression) and WAN optimization/acceleration. Intel Cave Creek chipset provides up to 8.5Gbps within 50% compress and 50% decompress.

An increasing number of companies are concerned about data being lost or stolen, and implement some sort of Data Loss Prevention (DLP) controls to have data scanned and filtered before transmission. Intel Cave Creek chipset supports fixed string and regular expression of pattern matching, and could provide up to 2.6Gbs by regular expression and up to 7Gbs by fixed string.

Implemented Model

CAR-5020

Crystal Forest platform with Sandy Bridge-EP,
2U Rackmount

Supports up to 40 GbE ports.

CAR-3020

Gladden platform with Sandy Bridge,

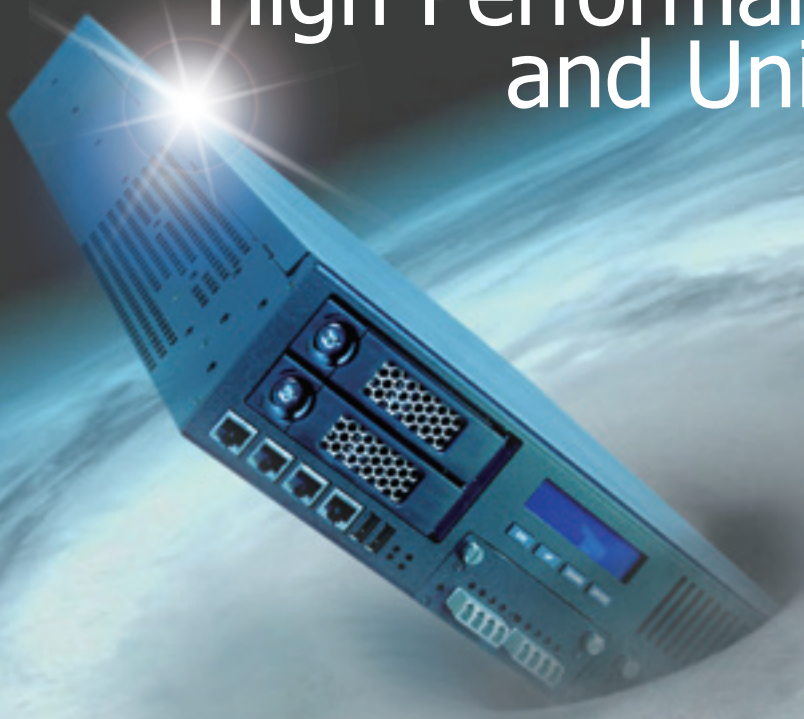
1U Rackmount, supports up to 14 GbE ports.

NIP-71042

Cave Creek Chipset with Portwell NIP, supports up to 4 GbE ports.

The typhoon

High Performance and Universal



CAR-5030

MIT

100% test

Portwell
Global Hub Service

Global RMA Service

Online log Service

CAR-5030

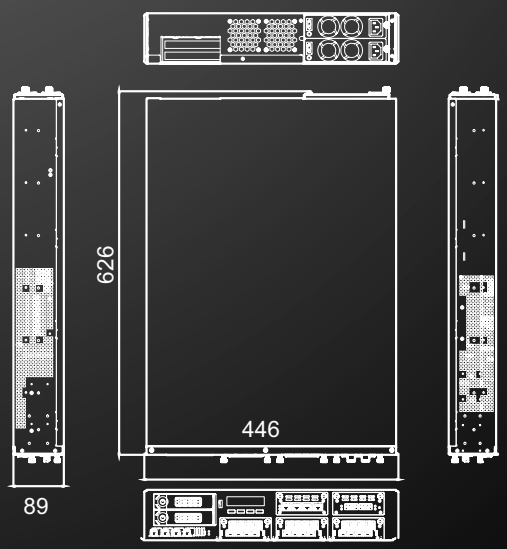
Intel® Romley-EP platform, maximum support up to 50 GbE ports

Feature

- Dual Intel® Sandy Bridge-EP socket R type processor
- Up to 16 cores. 40MB cache, 4 QPI links
- 16 DIMMs 1600 DDR3. Max Memory Size: 128GB (base on memory spec)
- Up to five PCIex8 Portwell proprietary NIC (project based)
- Expansion up to three standard PCIex8 and one PCIex4 add-on card (project based)
- GbE speed IPMI v2.0 module

SPECIFICATION

CPU Board	Intel® Sandy Bridge-EP Intel® Patsburg-B PCH
System Memory	16 DDR3 ECC Long-DIMMs, up to 128GB
Ethernet Port	Up to 50 GbE RJ45/SFP
Bypass	Based on Portwell NIC Module or Standard add-on card
Expansion	Up to Five PCIe x8 Gen2 for Portwell NIC Module Up to Four PCIe x4/ x8 Gen 3 Standard add-on card
Storage Device	Two 3.5" Swappable SATA/SAS HDDs CF Socket
Dimension	446(W) x 626(D) x 89(H)mm 17.56"(W) x 24.65"(D) x 3.5"(H)
Power	500W/ 600W 2U Mini redundant



FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LEDS	Power/ HDD/ Ethernet
USB	Dual USB 2.0
VGA	Optional from LOM or VGA module
LOM	IPMI 2.0 w/ GbE speed (Optional)

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional NIP

LAN Module	Ethernet Controller	Interface	Bypass
NIP-51040	Intel 82580EB	4 GbE RJ45	0
NIP-51240	Intel 82580EB	4 GbE RJ45	2
NIP-51080	Intel 82580EB	8 GbE RJ45	0
NIP-51081	Intel 82580EB	8 GbE RJ45	0
NIP-51082	Intel I350-AM4	8 GbE RJ45	0
NIP-52020	Intel 82580DB	2 SFP	0
NIP-52120	Intel 82580DB	2 SFP	1
NIP-52040	Intel 82580EB	4 SFP	0
NIP-52240	Intel 82580EB	4 SFP	2
NIP-52080	Intel 82580EB	8 SFP	0
NIP-53020	Intel 82599ES	2 SFP+	0
NIP-53120	Intel 82599ES	2 SFP+	1
NIP-53040	Intel 82599ES	4 SFP+	0
NIP-54021	Intel X540-AT2	2 10GBASE-T	0
NIP-55140	Intel 82580EB	2 GbE RJ45 & 2 SFP	1
NIP-61041	Cavium CN1620 & Intel 82580EB	4 GbE RJ45	0
NIP-61042	Cavium CN1610-P & Intel 82580EB	4 GbE RJ45	0
NIP-62041	Cavium CN1620 & Intel 82580EB	4 SFP	0
NIP-70000	Cavium CN1610-P	N/A	0
NIP-71001	Cavium CN1620	N/A	0

Optional CPUs

Model	Cores/ Threads	Frequency	Cache	TDP
E5-2658	8/16	2.1 GHz	20 M	95 W
E5-2620	6/12	2.0 GHz	15 M	95 W
E5-2648L	8/16	1.8 GHz	20 M	70 W

CAR-5020

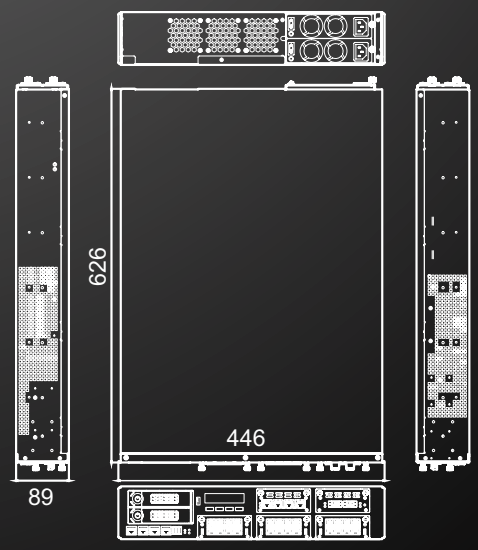
Crystal Forest-EP platform, maximum support up to 46 GbE ports

Feature

- Dual Intel® Sandy Bridge-EP socket R type processor
- Up to 16 cores. 40MB cache, 4 QPI links
- 16 DIMMs 1600 DDR3. Max Memory Size: 128GB (base on memory spec)
- Up to three PCIex8 Portwell proprietary NIC
- Expansion up to four standard PCIex8 & four SGMII LAN port (project based)
- GbE speed IPMI v2.0 module

SPECIFICATION

CPU Board	Intel® Sandy Bridge-EP Intel® Cave Creek PCH
System Memory	16 DDR3 ECC Long-DIMMs, up to 128 GB
Ethernet Port	Up to 46 GbE RJ45/SFP
Bypass	Based on Portwell NIC Module or Standard add-on card
Expansion	Up to Three PCIe x8 Gen2 for Portwell NIC Module Up to Four PCIe x8 Gen 3 Standard add-on card
Storage Device	Two 3.5" Swappable SATA/SAS HDDs CF Socket
Dimension	446(W) x 626(D) x 89(H)mm 17.56"(W) x 24.65"(D) x 3.5"(H)
Power	450W/ 600W 2U Mini redundant



FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet
USB	Dual USB 2.0
VGA	Optional from LOM or VGA module
LOM	IPMI 2.0 w/ GbE speed (Optional)

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional NIP

LAN Module	Ethernet Controller	Interface	Bypass
NIP-51040	Intel 82580EB	4 GbE RJ45	0
NIP-51240	Intel 82580EB	4 GbE RJ45	2
NIP-51080	Intel 82580EB	8 GbE RJ45	0
NIP-51081	Intel 82580EB	8 GbE RJ45	0
NIP-51082	Intel I350-AM4	8 GbE RJ45	0
NIP-52020	Intel 82580DB	2 SFP	0
NIP-52120	Intel 82580DB	2 SFP	1
NIP-52040	Intel 82580EB	4 SFP	0
NIP-52240	Intel 82580EB	4 SFP	2
NIP-52080	Intel 82580EB	8 SFP	0
NIP-53020	Intel 82599ES	2 SFP+	0
NIP-53120	Intel 82599ES	2 SFP+	1
NIP-53040	Intel 82599ES	4 SFP+	0
NIP-54021	Intel X540-AT2	2 10GBASE-T	0
NIP-55140	Intel 82580EB	2 GbE RJ45 & 2 SFP	1
NIP-61041	Cavium CN1620 & Intel 82580EB	4 GbE RJ45	0
NIP-61042	Cavium CN1610-P & Intel 82580EB	4 GbE RJ45	0
NIP-62041	Cavium CN1620 & Intel 82580EB	4 SFP	0
NIP-70000	Cavium CN1610-P	N/A	0
NIP-71001	Cavium CN1620	N/A	0

Optional CPUs

Model	Cores/ Threads	Frequency	Cache	TDP
E5-2658	8/16	2.1 GHz	20 M	95 W
E5-2620	6/12	2.0 GHz	15 M	95 W
E5-2648L	8/16	1.8 GHz	20 M	70 W

CAR-5010

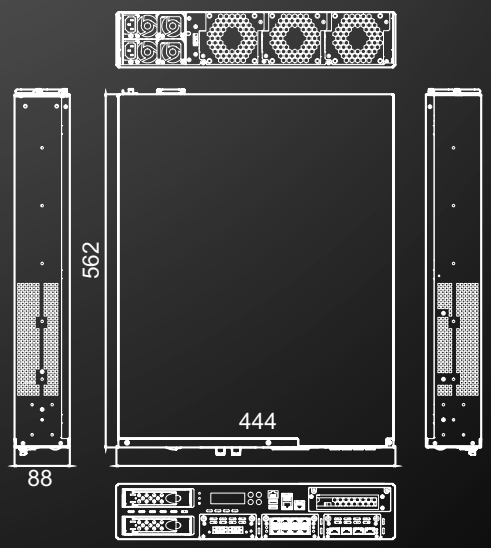
Tylersburg platform (Intel® 5520), Up to 24 GbE ports

Feature

- Support Six-core Xeon and Quad-core Xeon processors
- Flexible removable network, HDD and expansion modules
- Up to 24 Gigabit Ethernet ports
- Support twelve DDR3 ECC memory sockets
- One PCI-Ex8 or one PCI-Ex4 for expansion
- Support character or graphic LCD modules
- Front access for easy maintenance
- Redundant 500W ATX PSU

SPECIFICATION

CPU Board	Intel® Westmere Intel® 5520 chipset
System Memory	12 DDR3 ECC Long-DIMM, up to 96GB
Ethernet Port	Up to 24 GbE RJ45/SFP
Bypass	Based on Portwell NIC Module or Standard add-on card
Expansion	Up to Three PCIe x8 Gen2 for Portwell NIC Module One PCIe x4 and One PCIe x8 Gen2 Standard add-on card
Storage Device	Two 3.5" Swappable SATA HDDs CF Socket
Dimension	444(W) x 562(D) x 88(H)mm 17.48"(W) x 22.13"(D) x 3.46"(H)
Power	500W 2U Redundant



FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet
USB	Dual USB 2.0
VGA	Optional from LOM or VGA module
LOM	IPMI 2.0 w/ GbE speed (Optional)

OPERATION

Operating Environment	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional NIP

LAN Module	Ethernet Controller	Interface	Bypass
NIP-51040	Intel 82580EB	4 GbE RJ45	0
NIP-51240	Intel 82580EB	4 GbE RJ45	2
NIP-51080	Intel 82580EB	8 GbE RJ45	0
NIP-51081	Intel 82580EB	8 GbE RJ45	0
NIP-51082	Intel I350-AM4	8 GbE RJ45	0
NIP-52020	Intel 82580DB	2 SFP	0
NIP-52120	Intel 82580DB	2 SFP	1
NIP-52040	Intel 82580EB	4 SFP	0
NIP-52240	Intel 82580EB	4 SFP	2
NIP-52080	Intel 82580EB	8 SFP	0
NIP-53020	Intel 82599ES	2 SFP+	0
NIP-53120	Intel 82599ES	2 SFP+	1
NIP-53040	Intel 82599ES	4 SFP+	0
NIP-54021	Intel X540-AT2	2 10GBASE-T	0
NIP-55140	Intel 82580EB	2 GbE RJ45 & 2 SFP	1
NIP-61041	Cavium CN1620 & Intel 82580EB	4 GbE RJ45	0
NIP-61042	Cavium CN1610-P & Intel 82580EB	4 GbE RJ45	0
NIP-62041	Cavium CN1620 & Intel 82580EB	4 SFP	0
NIP-70000	Cavium CN1610-P	N/A	0
NIP-71001	Cavium CN1620	N/A	0

Optional CPUs

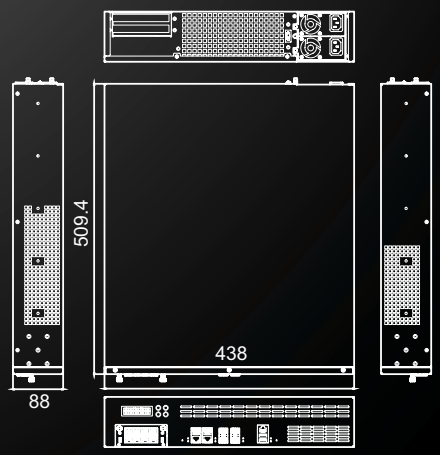
Model	Cores/ Threads	Frequency	Cache	TDP
E5540	4/8	2.5 GHz	8M	80 W
L5518	4/8	2.1 GHz	8M	60 W
L5508	2/4	2.0 GHz	3M	65 W
E5504	4/4	2.0 GHz	4M	80 W
E5645	6/12	2.4 GHz	12M	80 W
L5638	6/12	2.0 GHz	12M	60 W
E5618	4/8	1.87 GHz	12M	40 W
E5620	4/8	2.4 GHz	12M	80 W

CAR-4012

2U Bromolow Platform. Sandy Bridge & C206, Up to 16GbE, IPMI 2.0

Feature

- Intel® Xeon® Processor
- Option IPMI 2.0 with iKVM
- 2U Rackmount
- Support DDR3 memory with ECC
- Up to 16GbE



SPECIFICATION

CPU Board	Intel® Sandy Bridge Intel® Cougar point C206 PCH
System Memory	4 DDR3 ECC Long-DIMMs, up to 32GB
Ethernet Port	Up to 4 GbE RJ45 & 4 SFP Up to 8 GbE RJ45
Bypass	2 Segments
Expansion	One PCIe x8 Gen2 for Portwell NIC Module One PCIe x4 Gen2 for Standard add-on card
Storage Device	Two 3.5" or Four 2.5" SATA HDDs CF socket
Dimension	438(W) x 509.4(D) x 88(H)mm 17.24"(W) x 20.06"(D) x 3.46"(H)
Power	300W 2U Redundant

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	Optional for LOM version only
LOM	IPMI 2.0 w/ Fast Ethernet speed (Optional)

OPERATION

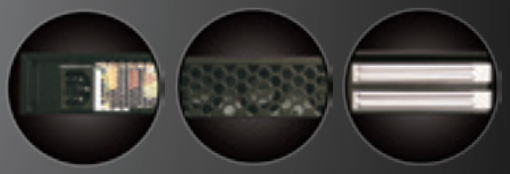
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional CPUs

Intel code name	Model	Cores/ Threads	Frequency	Cache	TDP
Sandy Bridge	E3-1275	4/8	3.40 GHz	8M	95 W
Sandy Bridge	E3-1225	4/4	3.10 GHz	6M	95 W
Sandy Bridge	i3-2120	2/4	3.30 GHz	3M	65 W
Ivy Bridge	E3-1275V2	4/8	3.50 GHz	8M	77 W
Ivy Bridge	E3-1225V2	4/4	3.20 GHz	8M	77 W

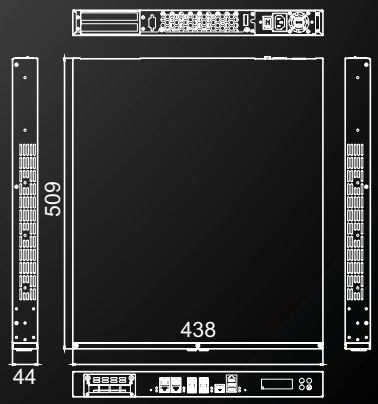
CAR-4010

Intel® Bromolow platform. Sandy Bridge & C206. Support up to 20 GbE ports



Feature

- Support Intel® LGA1155 Xeon® series CPU
- Four DIMMs DDR3 1066/ 1333. Max up to 32GB
- 8 GbE ports (coppor or fiber) with two segments bypass
- Expandable with 10GbE ports (copper or SFP)
- Optional GbE speed IPMI v2.0



SPECIFICATION

CPU Board	Intel® Sandy Bridge Intel® Cougar point C206 PCH
System Memory	4 DDR3 ECC Long-DIMMs, up to 32GB
Ethernet Port	Up to 4 GbE RJ45 & 4 SFP Up to 8 GbE RJ45
Bypass	2 Segments
Expansion	One PCIe x8 Gen2 for Portwell NIC Module One PCIe x4, One PCIe x8 Gen2 for Standard add-on card
Storage Device	Two 3.5" or Two 2.5" SATA HDDs (internal) CF Socket
Dimension	438(W) x 509(D) x 44(H)mm 17.24"(W) x 20.04"(D) x 1.73"(H)
Power	275W 1U Redundant 250W 80Plus ATX 250W DC 48V input

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	IPMI 2.0 w/ Fast Ethernet speed (Optional)

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) -5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional CPUs

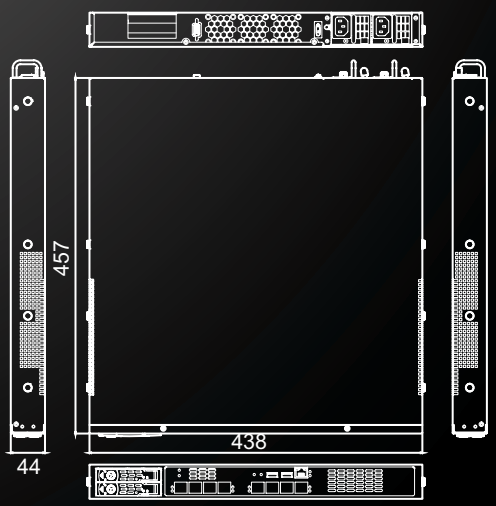
Intel code name	Model	Cores/ Threads	Frequency	Cache	TDP
Sandy Bridge	E3-1275	4/8	3.4 GHz	8M	95 W
Sandy Bridge	E3-1225	4/4	3.1 GHz	6M	95 W
Sandy Bridge	G850	2/2	2.9 GHz	3M	65W
Sandy Bridge	i3-2120	2/4	3.3 GHz	3M	65W
Sandy Bridge	G540	2/2	2.5 GHz	2M	65W
Ivy Bridge	E3-1275V2	4/8	3.5 GHz	8M	77 W
Ivy Bridge	E3-1225V2	4/4	3.2 GHz	8M	77 W
Ivy Bridge	G2120	2/2	3.1GHz	3M	55W
Ivy Bridge	i3-3220	2/4	3.3GHz	3M	55W

CAR-4003

Fox Hollow Platform (Intel® 3420), Up to 20GbE, IPMI 2.0

Feature

- Intel® Xeon® Processor
- Intel® Turbo Boost technology
- IPMI 2.0 with iKVM
- High flexibility PCIe expansion
- Support DDR3 memory with ECC
- Up to 20GbE



SPECIFICATION

CPU Board	Intel® Xeon X3400/L3400 Intel® 3420 Chipset
System Memory	4 DDR3 ECC Long-DIMMs, up to 16GB
Ethernet Port	By Portwell NIC Module
Bypass	By Portwell NIC Module
Expansion	Two PCIe x8 One PCIe x4 or Two PCIe x4 Gen2 for Portwell NIC Module
Storage Device	One 3.5" or Two 2.5" SATA HDDs CF Socket
Dimension	438(W) x 457(D) x 44(H)mm 17.24"(W) x 17.99"(D) x 1.73"(H)
Power	300W 80Plus ATX

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	Optional for LOM version only
LOM	IPMI 2.0 w/ Fast Ethernet speed (Optional)

OPERATION

Operating Environment	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH
Storage Environment	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

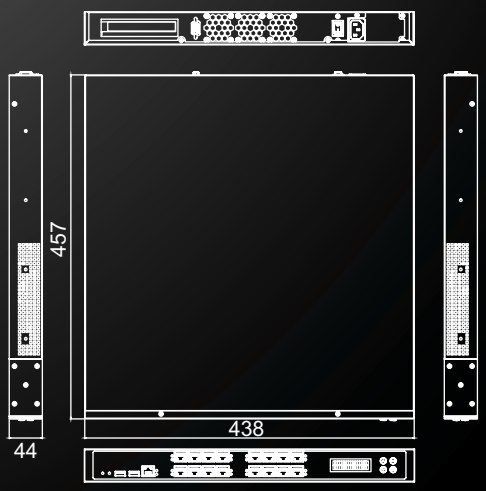
Model	Cores/ Threads	Frequency	Cache	TDP
Xeon 3450	4/8	2.66GHz	8M	95W
Xeon 3430	4/4	2.4GHz	8M	95W
Core i5-660	2/4	3.33GHz	4M	73W
Core i3-540	2/4	3.06GHz	4M	73W
Pentium G6950	2/2	2.8GHz	3M	73W

CAR-4000

Fox Hollow Platform (Intel® 3420), Up to 20GbE

Feature

- Intel® Xeon® Processor
- Intel® Turbo Boost technology
- High flexibility PCIe expansion
- Support DDR3 memory with ECC
- Up to 20GbE



SPECIFICATION

CPU Board	Intel® Xeon X3400/L3400 Intel® 3420 Chipset
System Memory	4 DDR3 ECC Long-DIMMs, up to 16GB
Ethernet Port	By Portwell NIC Module
Bypass	By Portwell NIC Module
Expansion	Two PCIe x8 One PCIe x4 or Two PCIe x4 Gen2 for Portwell NIC Module
Storage Device	One 3.5" or Two 2.5"SATA HDDs CF Socket
Dimension	438(W) x 457(D) x 44(H)mm 17.24"(W) x 17.99"(D) x 1.73"(H)
Power	300W 80Plus ATX PSU

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD
USB	Dual USB 2.0
VGA	One 2x5 Pinheader
LOM	N/A

OPERATION

Operating Environment	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH
Storage Environment	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

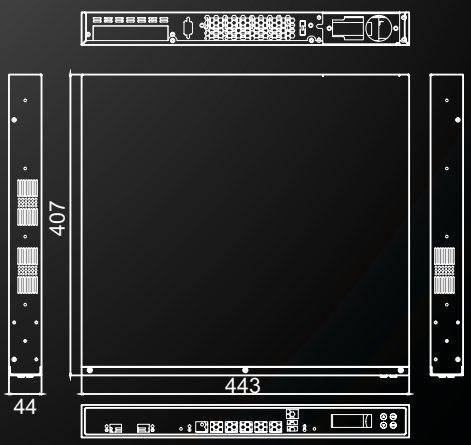
Model	Cores/ Threads	Frequency	Cache	TDP
Xeon 3450	4/8	2.66GHz	8M	95W
Xeon 3430	4/4	2.4GHz	8M	95W
Core i5-660	2/4	3.33GHz	4M	73W
Core i3-540	2/4	3.06GHz	4M	73W
Pentium G6950	2/2	2.8GHz	3M	73W

CAR-3035/ 3036/3037

Intel® Sugar Bay platform. Sandy Bridge & H61.Max support up to 18 GbE ports

Feature

- Intel® LGA1155 Sandy Bridge(32nm) & Ivy Bridge(22nm)CPU
- Two DIMMs DDR3 1333 up to 16GB
- 6 GbE ports with two Bypass segments
- Expandable with 10GbE Portwell NIC (10G copper or SFP+)
- One 3.5" or two 2.5" internal SATA HDD



SPECIFICATION

CPU Board	Intel® LGA1155 Intel® H61 PCH
System Memory	2 DDR3 Long-DIMMs, up to 16GB
Ethernet Port	Up to 6 GbE RJ45
Bypass	2 Segments
Expansion	One PCIe x8 Gen2 Portwell NIC Module Two PCIe x8 Gen2 Portwell NIC Module or Standard Add-on Card(Project Based)
Storage Device	Two 3.5" or Two 2.5"SATA HDDs CF Socket
Dimension	443(W) x 407(D) x 44(H)mm 17.44"(W) x 16.02"(D) x 1.73"(H)
Power	275W Redundant (CAR-3035) 250W 80Plus ATX (CAR-3036) 250W DC48V Input (CAR-3037)

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

Optional CPUs

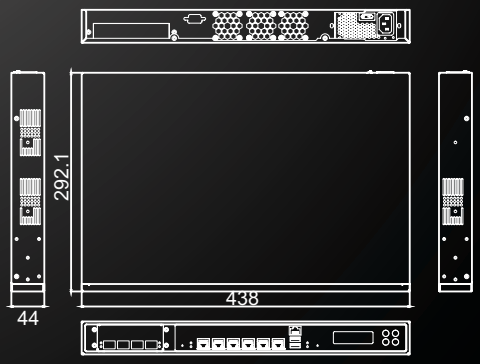
Intel code name	Model	Cores/ Threads	Frequency	Cache	TDP
Sandy Bridge	i7-2600	4/8	3.4GHz	8M	95W
Sandy Bridge	i5-2400	4/4	3.1GHz	6M	95W
Sandy Bridge	G850	2/2	2.9GHz	3M	65 W
Sandy Bridge	i3-2120	2/4	3.3GHz	3M	65W
Sandy Bridge	G540	2/2	2.5GHz	2M	65W
Ivy Bridge	G2120	2/2	3.10 GHz	3M	55W
Ivy Bridge	i5-3550S	4/4	3GHz	6M	65W
Ivy Bridge	i3-3220	2/4	3.3GHz	3M	55W
Ivy Bridge	i7-3770	4/8	3.4GHz	8M	77W

CAR-3030

Intel® Sugar Bay platform. Sandy Bridge & H61

Feature

- Intel® LGA1155 Sandy Bridge(32nm) & Ivy Bridge(22nm)CPU
- Two DIMMs DDR3 1333 up to 16GB
- 6 GbE ports with two Bypass segments
- Expandable with 10GbE Portwell NIC (10G copper or SFP+)
- One 3.5" or two 2.5" internal SATA HDD



SPECIFICATION

CPU Board	Intel® LGA1155 Intel® H61 PCH
System Memory	2 DDR3 Long-DIMMs, up to 16GB
Ethernet Port	Up to 6 GbE RJ45
Bypass	2 Segments
Expansion	One PCIe x8 Portwell NIC Module or Standard add-on cards
Storage Device	One 3.5" or Two 2.5" SATA HDD CF Socket
Dimension	438(W) x 292.1(D) x 44(H)mm 17.24"(W) x 11.5"(D) x 1.73"(H)
Power	250W 80Plus ATX

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

Optional CPUs

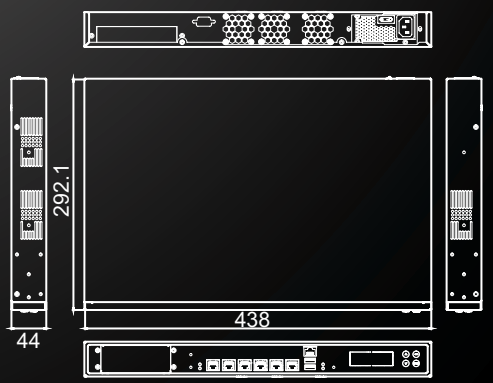
Intel code name	Model	Cores/ Threads	Frequency	Cache	TDP
Sandy Bridge	i7-2600	4/8	3.4GHz	8M	95W
Sandy Bridge	i5-2400	4/4	3.1GHz	6M	95W
Sandy Bridge	G850	2/2	2.9GHz	3M	65 W
Sandy Bridge	i3-2120	2/4	3.3GHz	3M	65W
Sandy Bridge	G540	2/2	2.5GHz	2M	65W
Ivy Bridge	G2120	2/2	3.10 GHz	3M	55W
Ivy Bridge	i5-3550S	4/4	3GHz	6M	65W
Ivy Bridge	i3-3220	2/4	3.3GHz	3M	55W
Ivy Bridge	i7-3770	4/8	3.4GHz	8M	77W

CAR-3020

Intel® Crystal Forest - Gladden platform.

Feature

- Intel® Sandy Bridge Gladden CPU
- Two DIMMs DDR3 1333 up to 16GB
- 6 GbE ports with two Bypass segments
- Expandable with 10GbE Portwell NIC (10GBASE-T or SFP+)
- One 3.5" or two 2.5" internal SATA HDD



SPECIFICATION

CPU Board	Intel® Sandy Bridge Intel® Cave Creek PCH
System Memory	2 DDR3 Long-DIMMs, up to 16GB, ECC Supported
Ethernet Port	Up to 6 GbE RJ45
Bypass	2 Segments
Expansion	One PCIe x8 Portwell NIC Module or Standard add-on cards
Storage Device	One 3.5" or Two 2.5" SATA HDD CF Socket
Dimension	438(W) x 292.1(D) x 44(H)mm 17.24"(W) x 11.5"(D) x 1.73"(H)
Power	250W 80Plus ATX

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	N/A
LOM	N/A

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

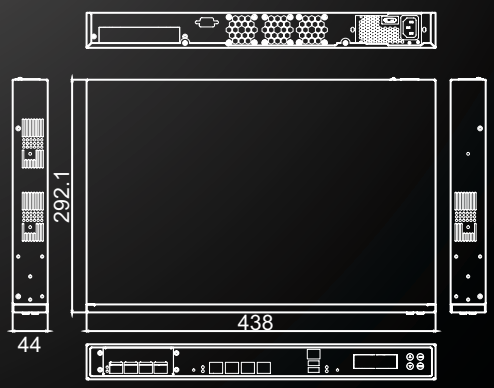
Intel code name	Model	Cores/ Threads	Frequency	Cache	TDP
Sandy Bridge	E3-1125C	4/8	2.00 GHz	8M	40 W
Sandy Bridge	i3-2115C	4/4	2.10 GHz	3M	25 W
Sandy Bridge	Celeron 725C	2/4	1.50 GHz	1.5M	10 W

CAR-2030

Intel® Sugar Bay platform. Sandy Bridge & H61

Feature

- Intel® LGA1155 Sandy Bridge(32nm) & Ivy Bridge(22nm)CPU
- Two DIMMs DDR3 1333 up to 16GB
- 4 GbE ports
- One 3.5" or two 2.5" internal SATA HDD



SPECIFICATION

CPU Board	Intel® LGA1155 Intel® H61 PCH
System Memory	2 DDR3 Long-DIMMs, up to 16GB
Ethernet Port	Up to 4 GbE RJ45
Bypass	N/A
Expansion	One PCIe x8 Portwell NIC Module or Standard add-on cards
Storage Device	One 3.5" or Two 2.5" SATA HDD CF Socket
Dimension	438(W) x 292(D) x 44(H)mm 17.24"(W) x 11.5"(D) x 1.73"(H)
Power	250W 80Plus ATX

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	N/A
LED	Power/ HDD/ Ethernet
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional CPUs

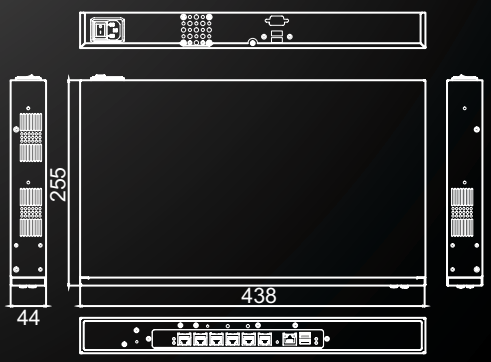
Intel code name	Model	Cores/ Threads	Frequency	Cache	TDP
Sandy Bridge	G850	2/2	2.9GHz	3M	65 W
Sandy Bridge	i3-2120	2/4	3.3GHz	3M	65W
Sandy Bridge	G540	2/2	2.5GHz	2M	65W
Ivy Bridge	G2120	2/2	3.10 GHz	3M	55W
Ivy Bridge	i5-3550S	4/4	3GHz	6M	65W
Ivy Bridge	i3-3220	2/4	3.3GHz	3M	55W

CAR-1000

Intel® Luna Pier Platform, 6 GbE Ports

Feature

- Price-competitive rackmount network
- Best performance per watt
- Energy saving
- Support DDR2 memory, up to 4GB
- One Mini PCI Slot for expansion



SPECIFICATION

CPU Board	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset
System Memory	2 SO-DIMM DDR2, up to 4GB
Ethernet Port	Up to 6 GbE RJ45
Bypass	2 Segments
Expansion	One Mini-PCI
Storage Device	One 3.5"or 2.5" SATA HDD CF Socket
Dimension	438(W) x 255(D) x 44(H)mm 17.24"(W) x 10.04"(D) x 1.73"(H)
Power	80W Open Frame PSU

FRONT PANEL

Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	Option
LED	Power / HDD / Ethernet / Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

OPERATION

Operating Environment	Temp: 5 to 40°C (41 to 104°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Model	Cores/ Threads	Frequency	Cache	TDP
D510	2/4	1.66GHz	1M	13W
D410	1/2	1.66GHz	512K	10W
N450	1/2	1.66GHz	512K	5.5W

Tough

Built To Last

CAF-1000

MIT

100% test

Portwell
Global Hub Service

Global RMA Service

Online log Service

The Humming bird

Small BUT All-Powerful

CAD-0215

MIT

100% test

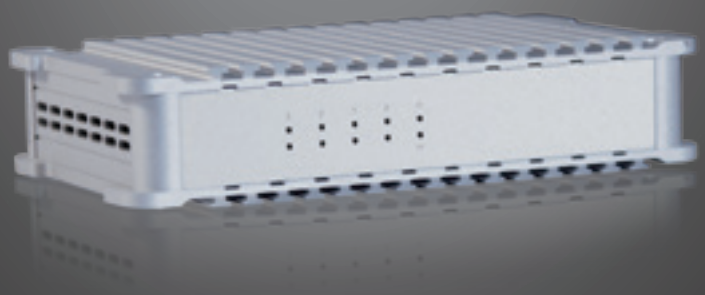
Portwell
Global Hub Service

Global RMA Service

Online log Service

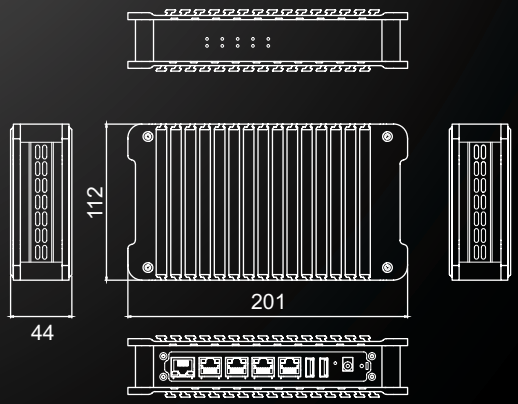
CAF-1000

AMD G-series T24L processor and A50M chipset



Feature

- Support AMD G-series T24L processor and A50M chipset
- "T-type Aluminum-Extruded Track" chassis design
- Upgradable heatsink for working environment temperature up to 55°C
- Easy to combine together for arrangement and deployment
- Small form factor can be deployed in anywhere space is limited
- Provide wall mount solution



SPECIFICATION

CPU Board	AMD T24L A50M Chipset
System Memory	1 SO-DIMM DDR3, up to 4GB
Ethernet Port	Up to 4 GbE RJ45
Bypass	N/A
Expansion	N/A
Storage Device	CF socket
Dimension	201(W) x 112(D) x 44(H)mm 7.91"(W) x 4.41"(D) x 1.73"(H)
Power	24W/12V DC Adopter

FRONT PANEL

Serial Port	Front-access RJ45 system console
LCD Panel	N/A
LED	Power/ Ethernet
USB	Dual USB 2.0
VGA	N/A
LOM	N/A

OPERATION

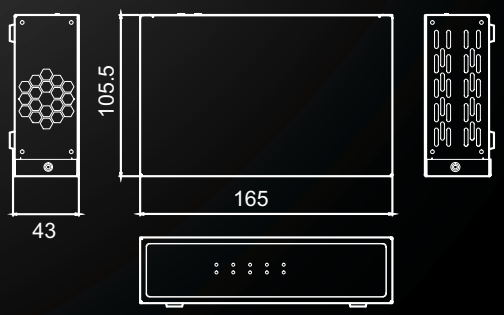
Operating Environment	Temp: 0 to 35°C (32 to 95°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

CAD-0215

AMD G-series T24L processor and A50M chipset

Feature

- AMD G-series T24L 1 GHz and A50M
- Chipset TDP: 11 watts
- New AMD X86 architecture
- Support 4 Gigabit Ethernet port
- System totally consumes around 21 watts
- Support One 2.5" HDD (Project base) and One compact flash slot
- Provided USB signals
- Smaller than Half A4 paper size



SPECIFICATION

CPU Board	AMD T24L A50M Chipset
System Memory	1 DDR3 SO-DIMM, up to 8GB
Ethernet Port	Up to 4 GbE RJ45
Bypass	N/A
Expansion	N/A
Storage Device	CF Socket
Dimension	165(W) x 105.5(D) x 43(H)mm 6.5"(W) x 4.15"(D) x 1.69"(H)
Power	24W 12V DC Adapter

FRONT PANEL

Serial Port	Front-access RJ45 system console
LCD Panel	N/A
LED	Power/ HDD/ Ethernet
USB	Dual USB 2.0
VGA	N/A
LOM	N/A

OPERATION

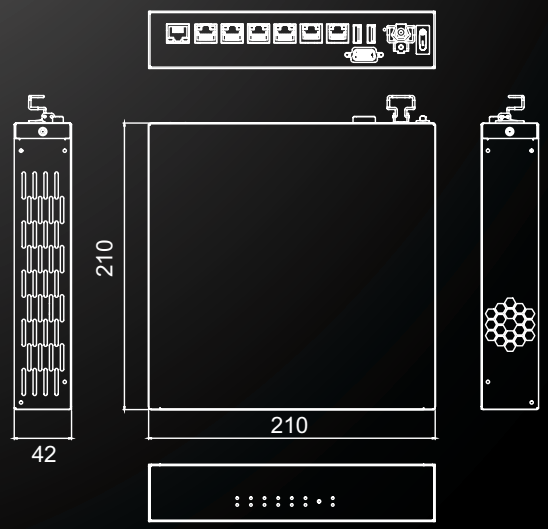
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C
Certification	CE/FCC/UL
OS Support	Windows, Linux Kernel

CAD-0220 /0221

AMD G-series T24L/T16R processor and A50M chipset

Feature

- AMD G-series T24L and T16R with A50M
- Support Multi Core CPU(Project Base)
- New AMD X86 architecture
- Support 6 Gigabit Ethernet ports
- Support Generation 3 Bypass
- System totally consumes around 25 watts
- Support one 2.5" HDD and one compact flash slot



SPECIFICATION

CPU Board	AMD T24L/T16R A50M Chipset
System Memory	1 DDR3 SO-DIMM, up to 8GB
Ethernet Port	Up to 6 GbE RJ45
Bypass	1 Segment
Expansion	N/A
Storage Device	One 2.5" SATA HDD CF Socket
Dimension	210(W) x 210(D) x 42(H)mm 8.27"(W) x 8.27"(D) x 1.65"(H)
Power	40W 12V DC Adapter

FRONT PANEL

Serial Port	Front-access RJ45 system console
LCD Panel	N/A
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header (CAD-0221)
LOM	N/A

OPERATION

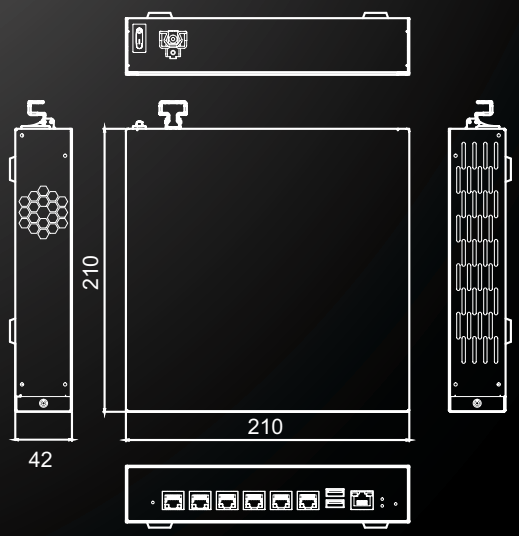
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

CAD-0211

Intel® Luna Pier platform. Atom D525. 6 GbE ports

Feature

- D525 Dual core processor
- Two SODIMM DDR3 800
- Simple design for cost saving
- Less than 35W power consumption in full loading
- Quiet fan design -> under 35dB when system full run



SPECIFICATION

CPU Board	Intel® Atom D525 Intel® ICH8M Chipset
System Memory	2 DDR3 SO-DIMM, up to 4GB
Ethernet Port	Up to 6 GbE RJ45
Bypass	1 Segment
Expansion	N/A
Storage Device	One 2.5" SATA HDD
Dimension	210(W) x 210(D) x 42(H)mm 8.27"(W) x 8.27"(D) x 1.65"(H)
Power	40W 12V DC Adapter

FRONT PANEL

Serial Port	Front-access RJ45 system
LCD Panel	N/A
LED	Power/ HDD/ Ethernet/ Bypass(Project Based)
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

OPERATION

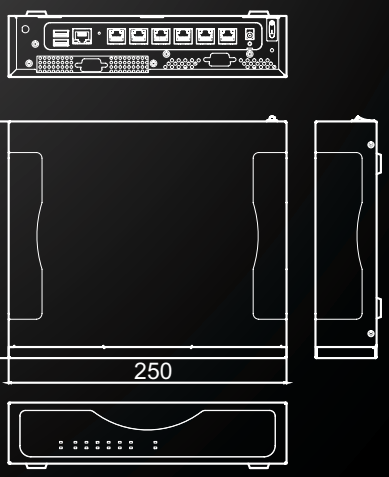
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Windows, Linux Kernel

CAD-0210

Intel® Luna Pier Platform, 6 GbE Ports

Feature

- Price-competitive desktop nework appliance
- Energy saving
- Support DDR2 memory, up to 4GB
- Support PCI and Mini PCI Slot for expansion



SPECIFICATION

CPU Board	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset
System Memory	2 DDR2 SO-DIMMs, Up to 4 GB
Ethernet Port	Up to 6 GbE RJ45
Bypass	2 Segments
Expansion	One Mini-PCI or One PCI
Storage Device	One 2.5" SATA HDD CF Socket
Dimension	250(W) x 213(D) x 55(H)mm 9.84"(W) x 8.39"(D) x 2.17"(H)
Power	60W Open Frame PSU

FRONT PANEL

Serial Port	RJ45 system console
LCD Panel	N/A
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 10 to 90%RH
Storage Environment	Temp: -20 to 75°C (-4 to 167°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional CPUs

Model	Cores/ Threads	Frequency	Cache	TDP
D510	2/4	1.66GHz	1M	13W
D410	1/2	1.66GHz	512K	10W
N450	1/2	1.66GHz	512K	5.5W

CAD-0208

Intel® Luna Pier Platform, 4 GbE Ports

Feature

- Price-competitive desktop network appliance
- Energy and Space saving
- One Mini PCIe Slot for expansion

SPECIFICATION

CPU Board	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset
System Memory	2 DDR2 SO-DIMM, Up to 4 GB
Ethernet Port	Up to 4 GbE RJ45
Bypass feature	2 Segments
Expansion	One Mini-PCIe
Storage Device	One 2.5" SATA HDD CF Socket
Dimension	300(W) x 145(D) x 44(H)mm 11.81"(W) x 5.71"(D) x 1.73"(H)
Power	40W 12V DC adapter

FRONT PANEL

Serial Port	RJ45 system console
LCD Panel	N/A
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

OPERATION

Operating Environment	Temp: 0 to 40°C (32 to 104°F) 10 to 90%RH
Storage Environment	Temp: -20 to 70°C (-4 to 158°F) 10 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional CPUs

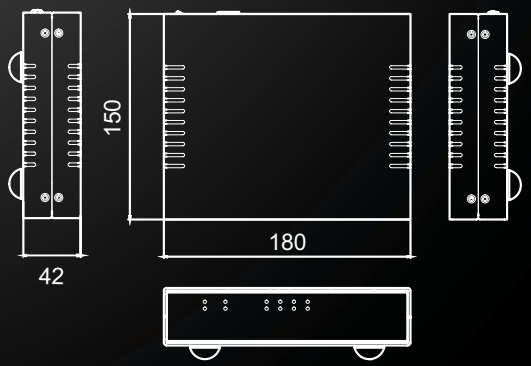
Model	Cores/ Threads	Frequency	Cache	TDP
D510	2/4	1.66GHz	1M	13W
D410	1/2	1.66GHz	512K	10W
N450	1/2	1.66GHz	512K	5.5W

CAD-0205

Intel® Luna Pier Platform, 4 GbE Ports

Feature

- Price-competitive desktop network appliance
- Fanless Solution
- Energy and Space saving
- Support for IA 32-bit
- One Mini PCIe Slot for expansion



SPECIFICATION

CPU Board	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset
System Memory	2 DDR2 SO-DIMMs, Up to 4 GB
Ethernet Port	Up to 4 GbE RJ45
Bypass feature	2 Segments
Expansion	One Mini-PCIe
Storage Device	One 2.5" SATA HDD CF Socket
Dimension	180(W) x 150(D) x 42(H)mm 7.09"(W) x 5.91"(D) x 1.65"(H)
Power	40W 12V DC adapter

FRONT PANEL

Serial Port	RJ45 system console
LCD Panel	N/A
LED	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0
VGA	One 2x5 pin-header
LOM	N/A

OPERATION

Operating Environment	Temp: 0 to 35°C (32 to 95°F) 10 to 90%RH
Storage Environment	Temp: -20 to 75°C (-4 to 167°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

Optional CPUs

Model	Cores/ Threads	Frequency	Cache	TDP
D510	2/4	1.66GHz	1M	13W
D410	1/2	1.66GHz	512K	10W
N450	1/2	1.66GHz	512K	5.5W

NIP-54021

Simplicity and Efficiency

NIP-54021/53040
52240

MIT

100% test

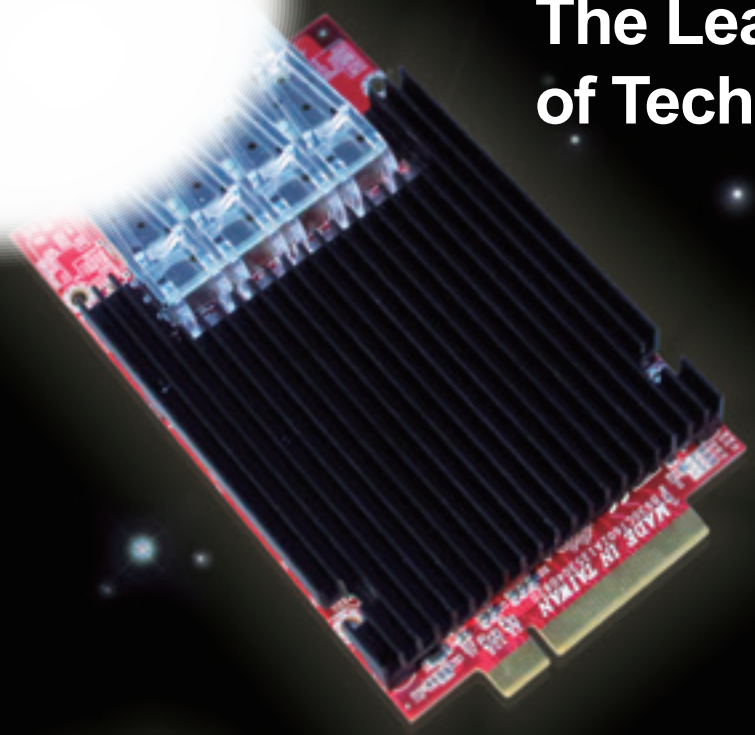
Portwell
Global Hub Service

Global RMA Service

Online log Service

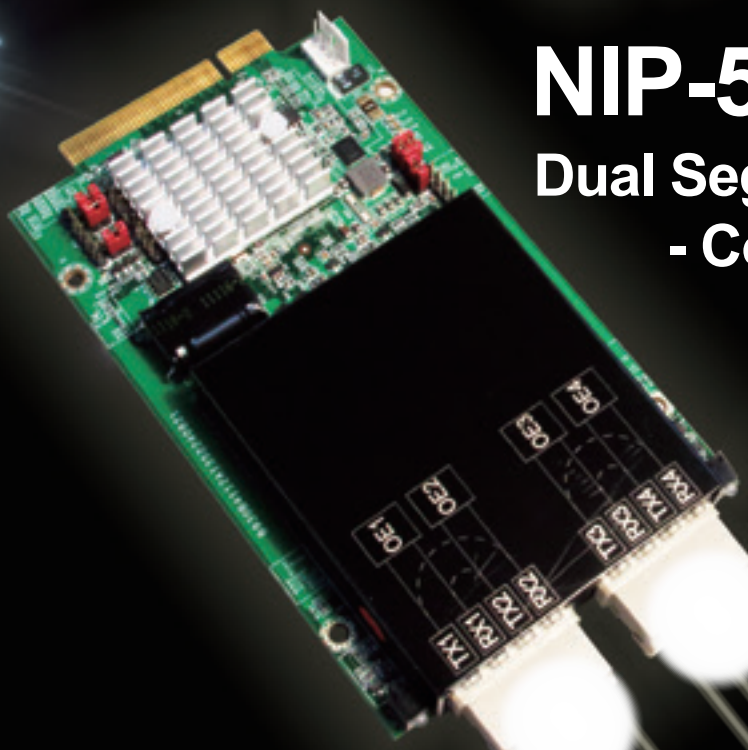
NIP-53040

The Leading Edge of Technology



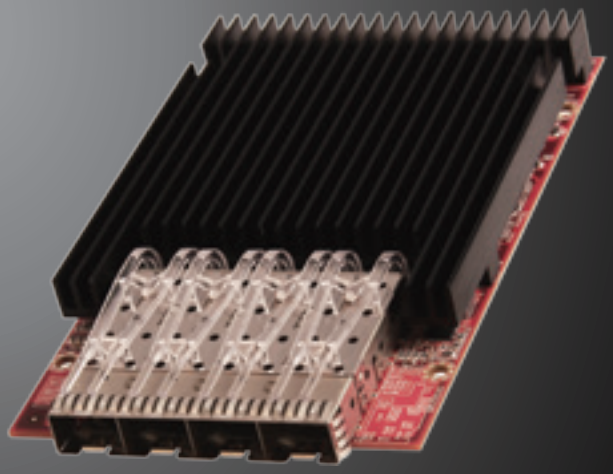
NIP-52240

Dual Segment Bypass - Compact and Unique



NIP-53040

Portwell Network Module with 82599ES, 4 SFP+



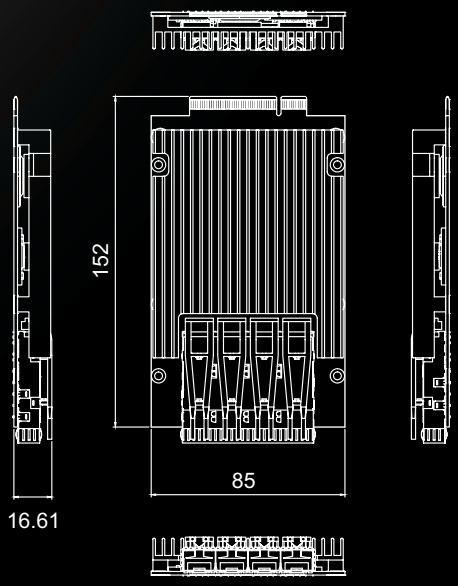
SFP+

Feature

- Intel® 82599 LAN controller
- 4 SFP+
- PCIe Switch Gen3

SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82599ES
Ethernet Port	4 SFP+
Interconnect	Depends on transceiver
Bus Type	Proprietary PCIe x8 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	85(W) x 152(D) x 17(H)mm 3.35"(W) x 5.98"(D) x 0.66"(H)



NIP-52240

Portwell Network Module with 4 SFP & Bypass Module

SFP

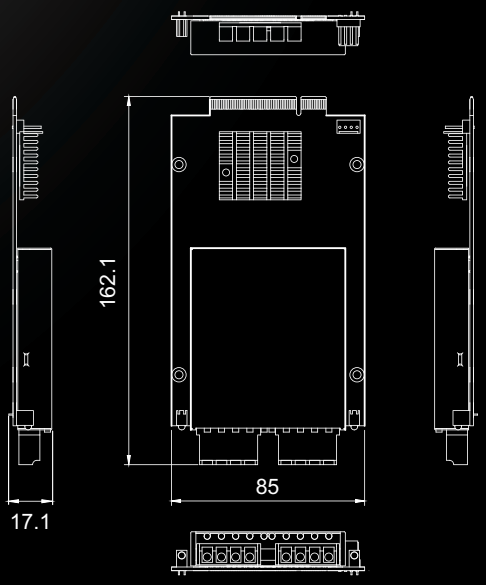
Bypass

Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Bypass Function with WatchDog Timer (WDT)
- Support Normal/Bypass/Open Modes
- Durable Fiber Bypass Module (FBM) Design

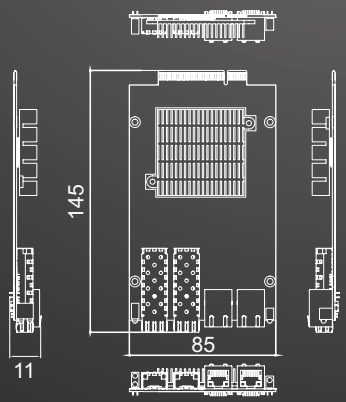
SPECIFICATION

Form Factor	Portwell Network Module
LAN Controller	Intel® 82580EB
Ethernet Port	4 x GbE SFP SR
Bus Type	PCIe V2.0 (5.0GT/s) x4
Bypass	2 Segments
Storage Environment	Temperature: -10 to 70°C (14 to 158°F) Humidity 5% to 95%RH @ 55°C
Dimension	85(W) x 162.1(D) x 17.1(H)mm 3.35"(W) x 6.38"(D) x 0.67"(H)



NIP-55140

Portwell Network Module with 2 GbE RJ45, 2 SFP & Bypass Function



Feature

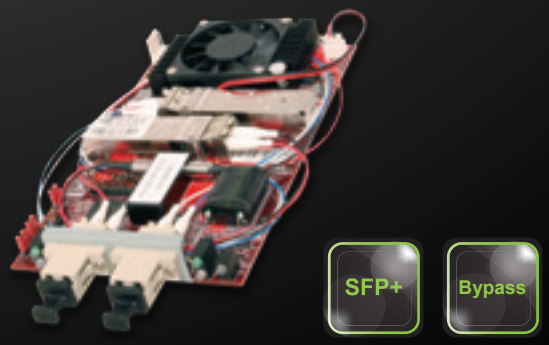
- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Bypass Function with WatchDog Timer (WDT)
- Support Normal/Bypass/Open Modes

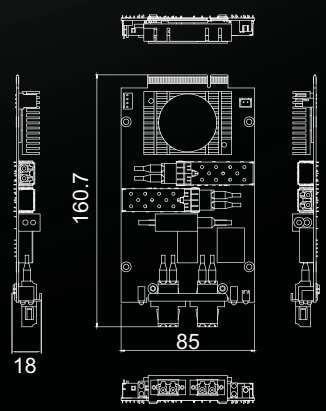
SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Ethernet Port	2 GbE RJ45, 2 SFP
Interconnect	Depends on transceiver
Bus Type	Proprietary PCIe x4 Gen2
Bypass	1 Segment
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 145(D) x 11(H)mm 3.35"(W) x 5.71"(D) x 0.43"(H)

NIP-53120

Portwell Network Module with 2 SFP+ Bypass Function





Feature

- Intel® 82599ES 10 Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Bypass Function with WatchDog Timer (WDT)
- Support Normal/Bypass/Open Modes

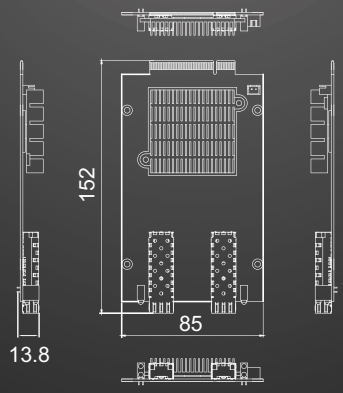
SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82599ES
Ethernet Port	2 SFP+
Interconnect	10 GBASE-SR
Bus Type	Proprietary PCIe x8 Gen2
Bypass	1 Segment
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 160.7(D) x 18(H)mm 3.35"(W) x 6.33"(D) x 0.71"(H)

NIP-53020

Portwell Network Module with 2 SFP+

SFP+



Feature

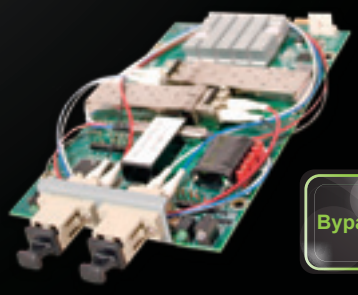
- Intel® 82599ES 10 Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface

SPECIFICATION

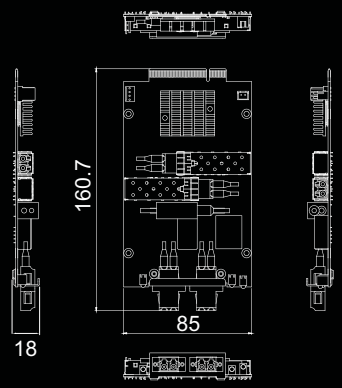
Form Factor	Portwell NIC Module
LAN Controller	Intel® 82599ES
Ethernet Port	2 SFP+
Interconnect	Depends on transceiver
Bus Type	Proprietary PCIe x8 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 152(D) x 13.8(H)mm 3.35"(W) x 5.98"(D) x 0.54"(H)

NIP-52120

Portwell Network Module with 2 SFP & Bypass Function



Bypass SFP



Feature

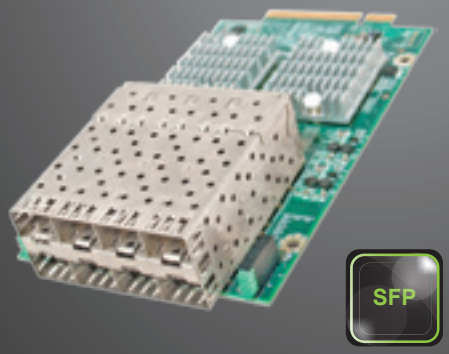
- Intel® 82580DB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Bypass Function with WatchDog Timer (WDT)
- Support Normal/Bypass/Open Modes

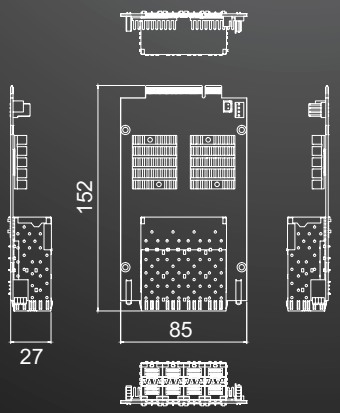
SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580DB
Ethernet Port	2 SFP
Interconnect	1000BASE-SR
Bus Type	Proprietary PCIe x4 Gen2
Bypass	1 Segment
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 160.7(D) x 18(H)mm 3.35"(W) x 6.33"(D) x 0.71"(H)

NIP-52080

Portwell Network Module with 8 SFP





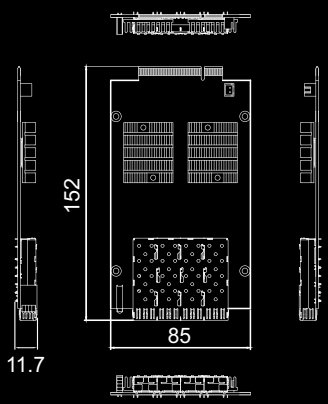
Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Ethernet Port	8 SFP
Interconnect	Depends on transceiver
Bus Type	Proprietary Two PCIe x4 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 152(D) x 27(H)mm 3.35"(W) x 5.98"(D) x 1.06"(H)

NIP-52040

Portwell Network Module with 4 SFP



Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Ethernet Port	4 SFP
Interconnect	Depends on transceiver
Bus Type	Proprietary PCIe x4 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 152(D) x 11.7(H)mm 3.35"(W) x 5.98"(D) x 0.46"(H)

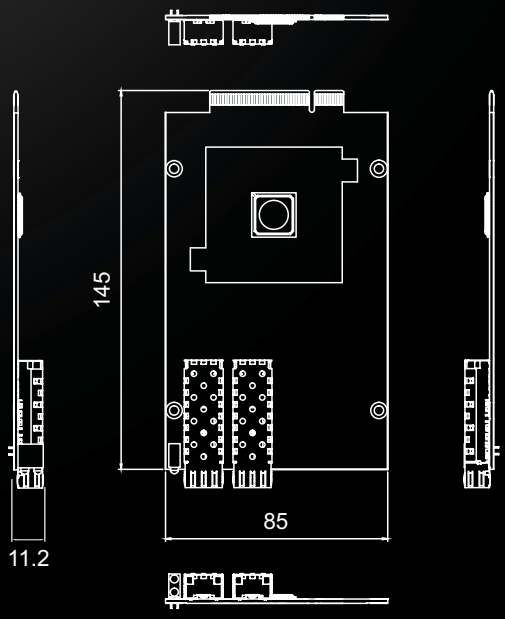
NIP-52020

Portwell Network Module with 2 SFP

SFP

Feature

- Intel® 82580DB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface

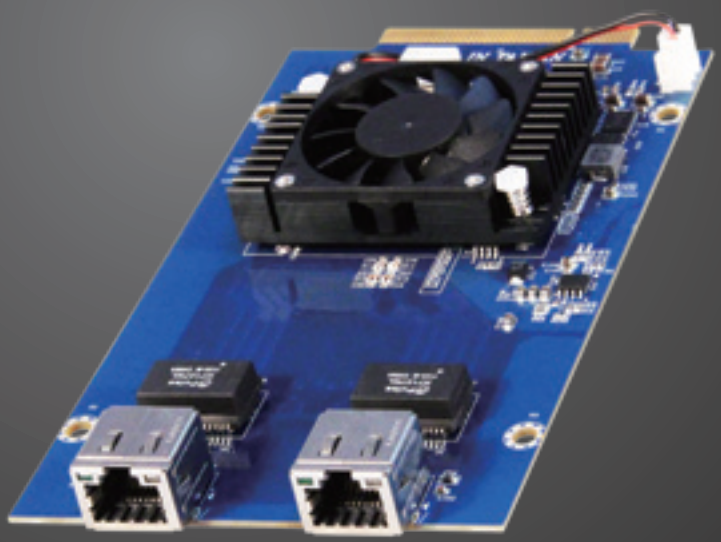


SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580DB
Ethernet Port	2 SFP
Interconnect	Depends on transceiver
Bus Type	Proprietary PCIe x4 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5% to 95%RH @ 55°C
Dimension	85(W) x 145(D) x 11.2(H)mm 3.35"(W) x 5.71"(D) x 0.44"(H)

NIP-54021/121

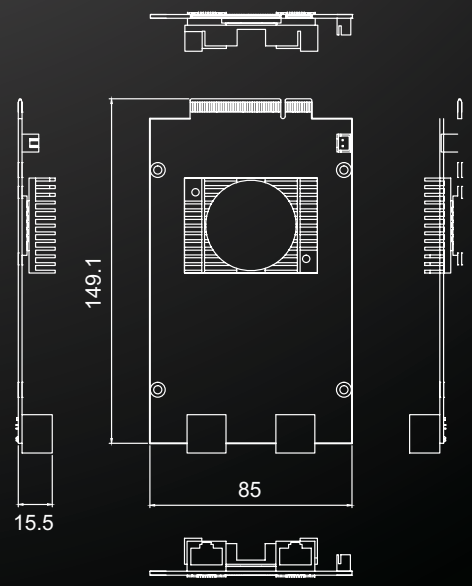
Portwell Network Module with 2 10GBASE-T



10G
RJ45

Feature

- Intel® X540-AT2 10 Gigabit Ethernet Controller
- PCIe V2.1 (5.0GT/s) Interface
- 10GBASE-T Standard
- Provide 10Gbit/s Transmission with RJ45 Connectors

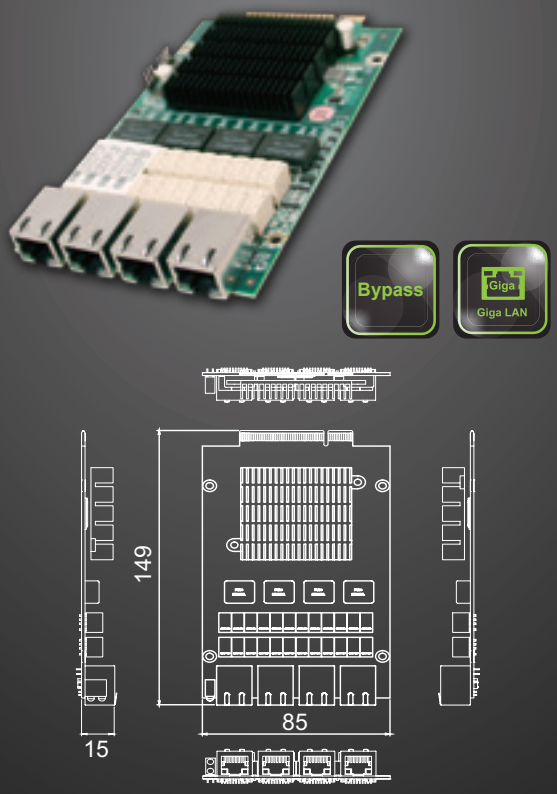


SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® X540-AT2
Ethernet Port	2 10GBASE-T
Bus Type	Proprietary PCIe x8 Gen2
Bypass	1 Segment (NIP-54121 Only)
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 149.1(D) x 15.5(H)mm 3.35"(W) x 5.87"(D) x 0.61"(H)

NIP-51240

Portwell Network Module with 4 GbE RJ45 & Bypass Function



Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Bypass Function with WatchDog Timer (WDT)
- Support Normal/Bypass/Open Modes

SPECIFICATION

Form Factor	Portwell NIC Module
LAN controller	Intel® 82580EB
Ethernet port	4 GbE RJ45
Bus Type	Proprietary PCIe x4 Gen2
Bypass	2 Segment
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 149(D) x 15(H)mm 3.35"(W) x 5.87"(D) x 0.59"(H)

NIP-51080

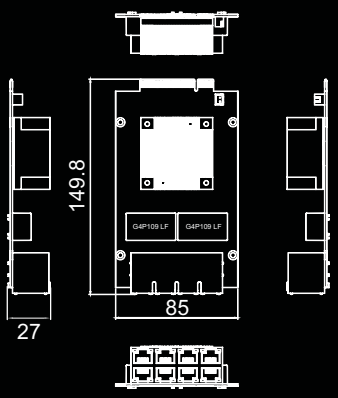
Portwell Network Module with 8 GbE RJ45

Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface

SPECIFICATION

Form Factor	Portwell NIC Module
LAN controller	Intel® 82580EB
Ethernet port	8 GbE RJ45
Bus Type	Proprietary Two PCIe x4 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 149.8(D) x 27(H)mm 3.35"(W) x 5.9"(D) x 1.06"(H)



NIP-51040

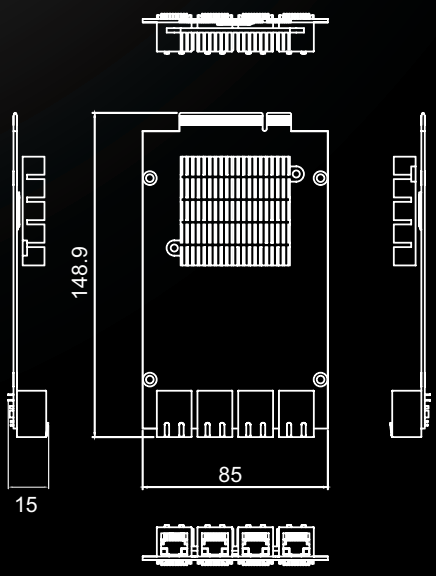
Portwell Network Module with 4 GbE RJ45

Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface

SPECIFICATION

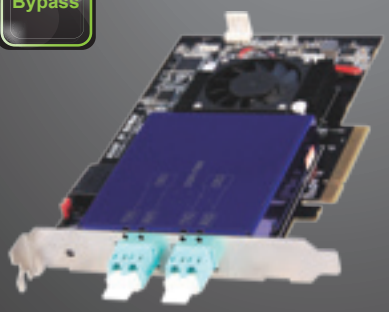
Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Ethernet Port	4 GbE RJ45
Bus Type	Proprietary PCIe x4 Gen2
Bypass	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 148.9(D) x 15(H)mm 3.35"(W) x 5.86"(D) x 0.59"(H)

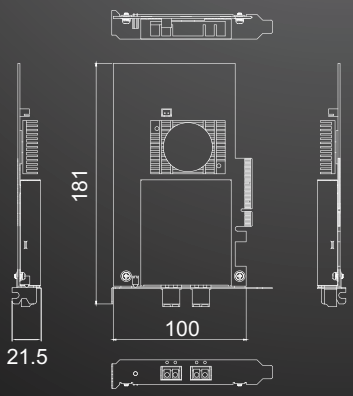


BPC-54120

Intel® Dual SFP+ SR Ethernet Adapter with Bypass function

SFP+ Bypass





Feature

- Intel®82599ES PCI-Express 2.0 Mac+PHY controller
- SR-iOV function
- Dual 10Gigabyte Ethernet SFP+ connector
- Built-in Watchdog timer (WDT)
- Easy Configuration of Normal / Bypass mode and WDT timer
- Ready for PCI-E Gen 2.0 5GT/s solution

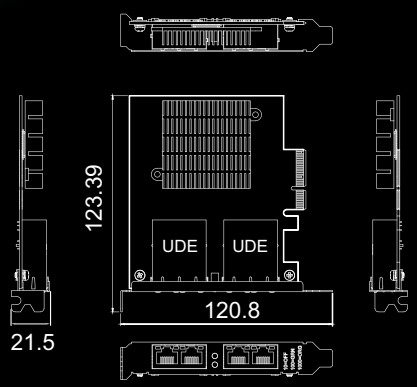
SPECIFICATION

Form Factor	Portwell Standard network adapter
LAN controller	Intel® 82599ES
Ethernet port	2 SFP+, SR Transceiver Cable type MMF 62.5/50 µm, up to 300 m
Bus type	PCIe x8 Gen2
Bypass	1 Segment
Compliance	SR-IOV Capable Virtual Machine Device Queues (VMDq) IEEE 802.3x and 802.3z flow control supported Hardware acceleration for TCP-IP and iSCSI
H/W Selection	Selection of normal or bypass model when power on Built-in watchdog-timer bypass Ethernet ports when host system experiences hang or power failure
S/W Programmable	WDT time-out setting (software programmable from 1~255 seconds)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	100(W) x 181(D) x 21.5(H)mm 3.94"(W) x 7.13"(D) x 0.85"(H)

BPC-51242

Intel® Quad GbE RJ45 Ethernet Adapter with Bypass function

Giga LAN Watch DOG Bypass



Feature

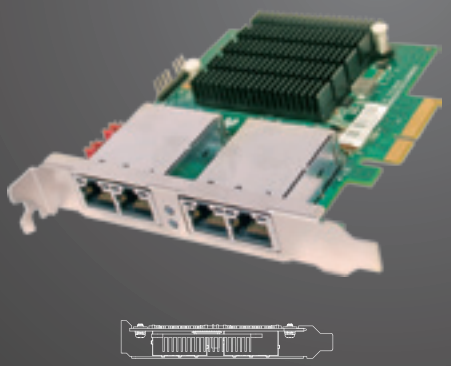
- Intel®i340-AM4 PCI-Express 2.0 Mac+PHY controller
- SR-iOV function
- Four High-Performing 10/100/1000 base-T Ethernet copper connector
- Built-in Watchdog timer (WDT)
- Easy Configuration of Normal / Bypass mode and WDT timer
- Ready for PCI-E Gen 2.0 5GT/s solution

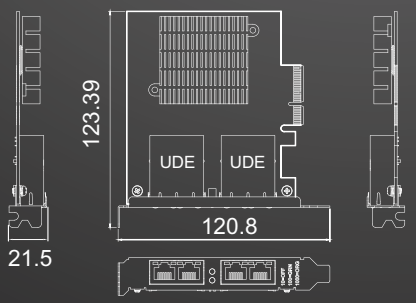
SPECIFICATION

Form Factor	Portwell Standard network adapter
LAN controller	Intel® i350-AM4
Ethernet port	4 GbE RJ45
Bus type	PCIe x4 Gen2
Bypass	2 Segments
Compliance	SR-IOV Capable Virtual Machine Device Queues (VMDq) IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications IEEE 802.3x and 802.3z flow control supported Automatic cross-over detection function (MDI/MDI-X) Hardware acceleration for TCP-IP and iSCSI
H/W Selection	Selection of normal or bypass model when power on Built-in watchdog-timer bypass Ethernet ports when host system experiences hang or power failure
S/W Programmable	WDT time-out setting (software programmable from 1~63 seconds)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	120.8(W) x 123.39(D) x 21.5(H)mm 4.76"(W) x 4.86"(D) x 0.85"(H)

BPC-51240

Intel® Quad GbE RJ45 Ethernet Adapter with Bypass function





Feature

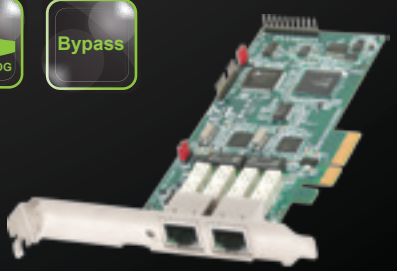
- Intel®82580EB PCI-Express 2.0 Mac+PHY controller
- Four High-Performing 10/100/1000 base-T Ethernet copper connector
- Built-in Watchdog timer (WDT)
- Easy Configuration of Normal / Bypass mode and WDT timer
- Ready for PCI-E Gen 2.0 5GT/s solution

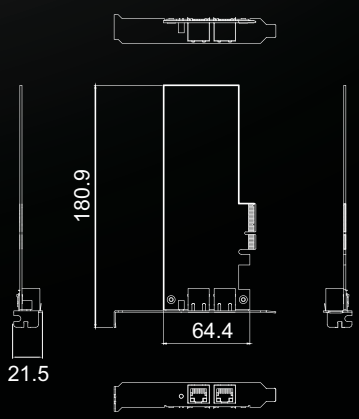
SPECIFICATION

Form Factor	Portwell Standard network adapter
LAN controller	Intel® 82580EB
Ethernet port	4 GbE RJ45
Bus type	PCIe x4 Gen2
Bypass	2 Segments
Compliance	IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications IEEE 802.3x and 802.3z flow control supported Automatic cross-over detection function (MDI/ MDI-X)
H/W Selection	Selection of normal or bypass model when power on Built-in watchdog-timer bypass Ethernet ports when host system hang or power failure
S/W Programmable	WDT time-out setting (software programmable from 1~63 seconds)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	128.8(W) x 123.39(D) x 21.5(H)mm 5.07"(W) x 4.86"(D) x 0.85"(H)

ABN-262

Intel® Dual GbE RJ45 Ethernet Adapter with Bypass function





Feature

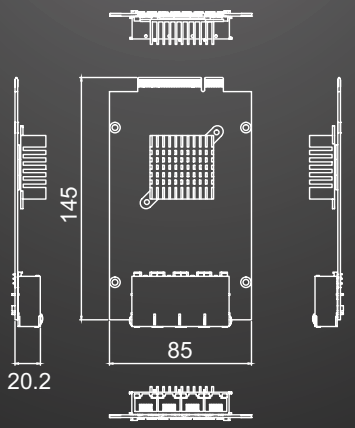
- Intel®82574L Mac+PHY controller
- Dual High-Performing 10/100/1000 base-T Ethernet copper connector
- Built-in Watchdog timer (WDT)
- Easy Configuration of Normal / Bypass mode and WDT timer
- Low Profile form factor

SPECIFICATION

Form Factor	Portwell Standard network adapter
LAN controller	Intel® 82574L
Ethernet port	2 GbE RJ45
Bus type	PCIe x4 Gen1.1
Bypass	1 Segment
Compliance	IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications IEEE 802.3x and 802.3z flow control supported
H/W Selection	Selection of normal or bypass model when power on
S/W Programmable	WDT time-out setting (software programmable from 1~63 seconds)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	64.4(W) x 180.9(D) x 21.5(H)mm 2.54"(W) x 7.12"(D) x 0.85"(H)

NIP-71042

Portwell Network Module with Cave Creek, 4 GbE RJ45



Feature

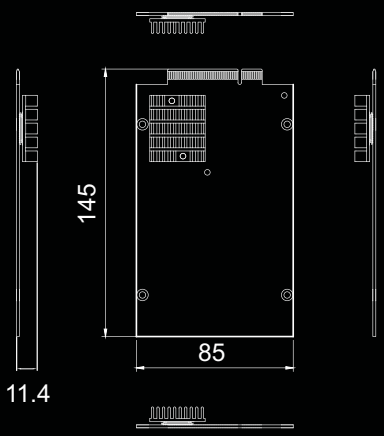
- The most effective way adapt to Intel® QuickAssist Technology via Cave Creek
- Support for Encryption/Decryption, De-/Compression, and Pattern matching
- 5 times packet process performance through Intel® DPDK

SPECIFICATION

Form Factor	Portwell NIC Module
PHY controller	BroadCom
Chipset	Intel® Cave Creek
Ethernet port	4 GbE RJ45
Bus type	Proprietary PCIe x8 Gen2
Storage Environment	Temp: -20 to 75°C (-4 to 167°F) 5 to 95%RH@55°C
Dimension	85(W) x 145(D) x 20.2(H)mm 3.35"(W) x 5.71"(D) x 0.8"(H)

NIP-70001

Portwell Network Module with Cavium CN1620



Feature

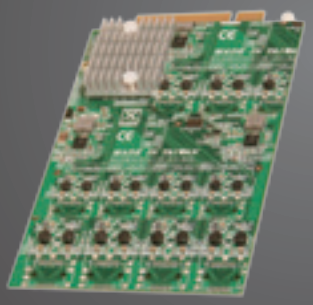
- Cavium NITROX® PX CN1620 Security Processor
- Security acceleration for IPsec/SSL and TCP

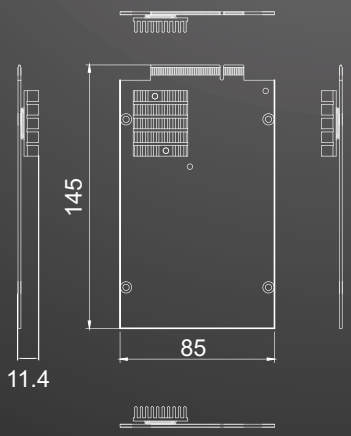
SPECIFICATION

Form Factor	Portwell NIC Module
PHY controller	N/A
Chipset	Cavium NITROX® PX CN1620
Ethernet port	N/A
Bus type	Proprietary PCIe x4 Gen2
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 145(D) x 11.4(H)mm 3.35"(W) x 5.71"(D) x 0.45"(H)

NIP-70000

Portwell Network Module with Cavium CN1610-P





Feature

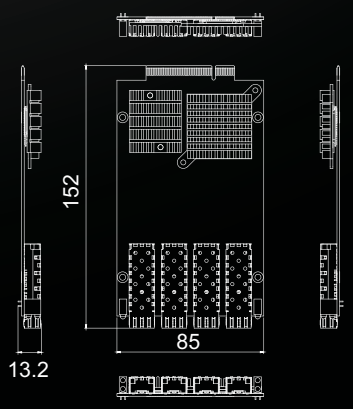
- Cavium NITROX® PX CN1610-P Security Processor
- Security acceleration for IPsec/SSL and TCP

SPECIFICATION

Form Factor	Portwell NIC Module
PHY controller	N/A
Chipset	Cavium NITROX® PX CN1610-P
Ethernet port	N/A
Bus type	Proprietary PCIe x4 Gen2
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 145(D) x 11.4(H)mm 3.35''(W) x 5.71''(D) x 0.45''(H)

NIP-62041

Portwell Network Module with Cavium CN1620, 4 SFP



Feature

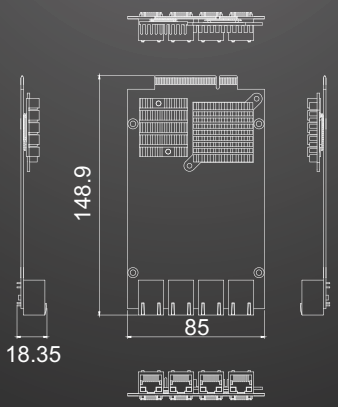
- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Cavium NITROX® PX CN1620 Security Processor
- Security acceleration for IPsec/SSL and TCP

SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Security Processor	Cavium NITROX® PX CN1620
Ethernet Port	4 SFP
Bus Type	Proprietary Two PCIe x4 Gen2
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 152(D) x 13.2(H)mm 3.35''(W) x 5.98''(D) x 0.52''(H)

NIP-61042

Portwell Network Module with Cavium CN1610-P, 4 GbE RJ45



Feature

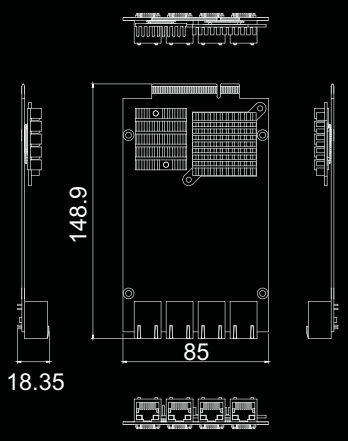
- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Cavium NITROX® PX CN1610-P Security Processor
- Security acceleration for IPsec/SSL and TCP

SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Security Processor	Cavium NITROX® PX CN1610-P
Ethernet Port	4 GbE RJ45
Bus Type	Proprietary Two PCIe x4 Gen2
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 148.9(D) x 18.35(H)mm 3.35"(W) x 5.86"(D) x 0.72"(H)

NIP-61041

Portwell Network Module with Cavium CN1620, 4 GbE RJ45



Feature

- Intel® 82580EB Gigabit Ethernet Controller
- PCIe V2.0 (5.0GT/s) Interface
- Cavium NITROX® PX CN1620 Security Processor
- Security acceleration for IPsec/SSL and TCP

SPECIFICATION

Form Factor	Portwell NIC Module
LAN Controller	Intel® 82580EB
Security Processor	Cavium NITROX® PX CN1620
Ethernet Port	4 GbE RJ45
Bus Type	Proprietary Two PCIe x4 Gen2
Storage Environment	Temp: -10 to 70°C (14 to 158°C) 5 to 95%RH @55°C
Dimension	85(W) x 148.9(D) x 18.35(H)mm 3.35"(W) x 5.86"(D) x 0.72"(H)

LCD Module

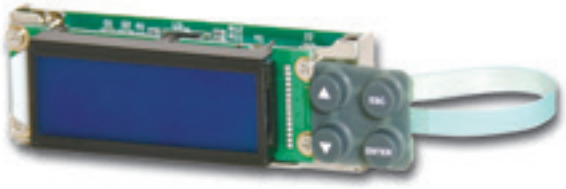
Character and Graphical display

EZIO-G400

128x32 graphical LCD Module

FEATURE

- Communication protocol RS-232
- 4 buttons
- Blue background and white graph
- Dimension: 87(W) x 30(H) x 31.85(T)mm

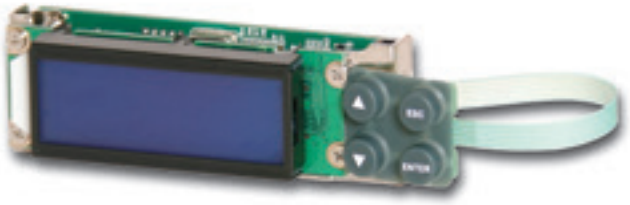


EZIO-300

16x2 graphical LCD Module

FEATURE

- Communication protocol RS-232
- 4 buttons
- Blue background and white character
- Dimension: 87(W) x 30(H) x 31.85(T)mm



EZIO-350

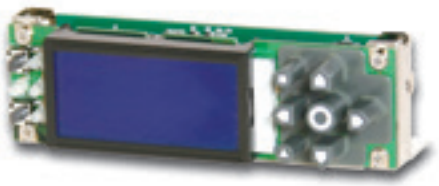
16x2 characters External LCD Module

FEATURE

- Allow to collocate with HDD module
- Communication protocol RS-232
- 4 buttons
- Blue background and white character
- Dimension: 87(W) x 30(H) x 31.85(T)mm

EZIO-G500

128x64 graphical LCD and RS-232 control board w/ 7 buttons



FEATURE

- Communication protocol RS-232. (USB Project base)
- 7 buttons
- 3 bi-color programmable LEDs
- Power on/off and Reset switch on board

Portwell IPMI(GbE Speed)

Overview

Nowadays, every company's IT infrastructure is getting larger and more complex. To reduce the complexity of managing the infrastructure, Portwell enables Intelligent Platform Management Interface (IPMI) solution in our platform allowing out-of-band access, monitoring and administration – an effective and efficient way to manage your computing environment.

What is IPMI?

IPMI specification is an Intel led standard. It defines a standardized, abstracted, message-based interface, which records platform management devices and their characteristics. With this interface, system administrators can remotely monitor system health and manage the system.

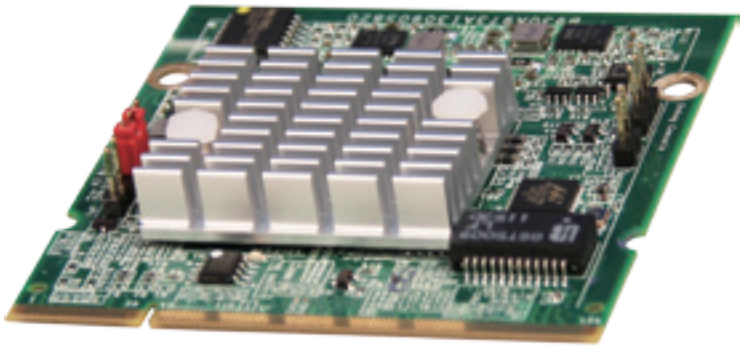
IPMI operates independently of either a resource's CPU or operating system allowing administrators to manage a system remotely even in the event of a device failure. This access is cross-platform and regardless the OS used.

Key Features of Portwell IPMI

- Power Control – Control resources state in the field
- Serial over LAN (SOL) – Serial access over the management LAN
- KVM over LAN (iKVM) – Re-direct the screen from the resource
- LAN Alerting – SNMP Trap – Generate SNMP traps by configuration
- Event Log – Log system events and user activities in the resource
- USB 2.0 Virtual Media – Emulate a host media to resource as a local device
- OS Independency – Operate independently of a resource's CPU & OS
- Remote Hardware Health Monitoring – Monitor system health in the field
- IPMI Security – RMCP + protocol supported (Remote Management Control Protocol)
- Remote firmware upgrade – Upgrade LOM firmware in the field

LOM-2300

IPMI 2.0 with virtual media over LAN and dedicated GbE



Industry Standards

- Conforms to IPMI 2.0
- PET, PEF (up to 40 filters and four policies) and firmware firewall
- Supports vendor-specific IPMI commands
- IPMI Security/AAA support
- Serial-Over-LAN (SOLProxy) for access to BIOS and OS-Console

Power Management

- Supports remote management when system dead or in power standby
- Remote power control
- Redundant power monitoring

Web-Based Management Features

- Embedded Linux Web Server supporting 32 users concurrently
- Display overall server health and status; hardware assets and their configuration; and system events and alerts
- Offers OS independency
- Provides remote Hardware Health Monitoring via IPMI
- Provides Network Management Security via remote access
- SPI Flash Host BIOS and firmware bootstrap program supported
- Configure users and privilege levels; IPMI; SNMP; email events and alerts; and to turn on/off event logging and alerting for sensors/ components
- Controls server power - power on/off/reset the server

MIPS

Product Overview

The wire speed performance in small packets has been long attempted since day one. Portwell's CAK family platforms achieve it by implementing the new generation MIPS64 technology from Cavium.

To adapt this new technology, ISVs need time to migrate their existing computing centric architecture to network (or packet processing) centric architecture. Portwell has seamlessly embedded x86 module into CAK platforms so the migration can be smooth. Besides, some written codes have been fully optimized based on x86 hardware. Embedded x86 module also offers customers the opportunity to enjoy the synergy between x86 and MIPS64 technologies.

No matter it is a voice or data connection, " security " is always the first concern by service providers as well as enterprises. To ensure " secure " voice/data connection between two or more parties, CAK platforms equip all necessary hardware-based, security features.

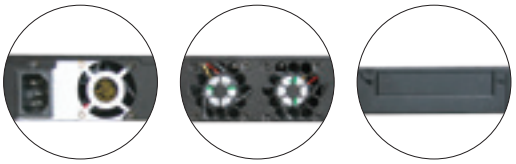
Although there are up to sixteen MIPS64 cores available to make the real-time applications feasible, the power consumption of the processor unit is less than 30 watts. This low power merit not only saves the daily operating cost but also improves the system reliability due to fewer moving parts being used.

CAK Family is Built for

- Traditional security appliances, such as Firewall, VPN, AV, and IPS, call for wire speed performance in small packets
- High performance UTM appliance requires remarkable processing capability as well as HW based security features
- New generation appliances which consider 10 Giga Ethernet interface is mandatory
- VOIP and Wireless appliances/gateways demand high quality and "secure" communication
- Triple or Quadruple play systems

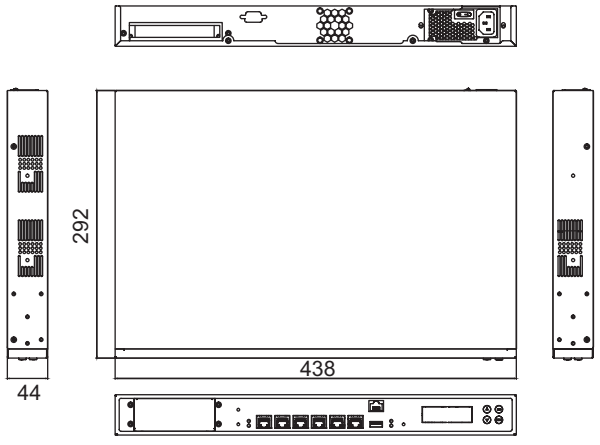
CAK-3000

Octeon Plus CN52 xx platform, Up to 10 ports



Feature

- Highly-integrated networking appliance
- Excellent performance/watt
- MIPS64 Cavium Octeon 52XX series up to 4 cores and 750MHz
- Hardware packet processing acceleration and TCP acceleration, including checksum and timer
- Hardware work queueing, scheduling, ordering, and synchronization
- Hardware cryptographic and CRC acceleration



Specification

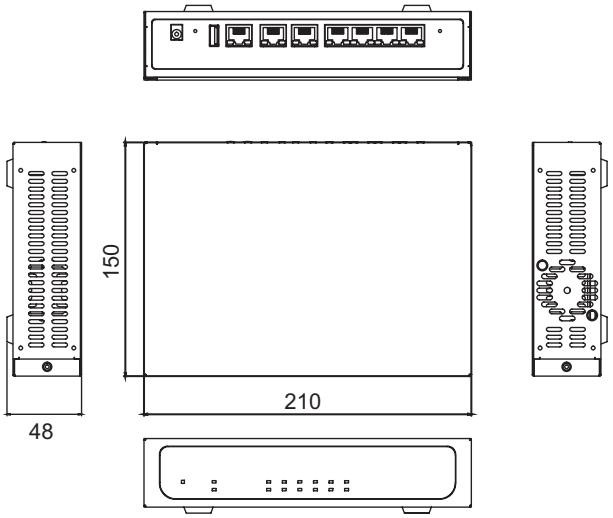
CPU Board	Cavium Octeon plus 52XX series with hardware
System Memory	2 DDR2 ECC Long-DIMM, up to 4 GB
Ethernet Port	4 GbE RJ45 via SGMII 2 FE port via MII
Bypass	2 Segments
Expansion	Up to One PCIe x4, rear access
Storage Device	One 3.5" or 2.5" SATA HDD CF Socket
Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic
LED	Power/HDD/Ethernet/Bypass
USB	One USB 2.0
VGA	N/A
LOM	N/A
Power	100W 80Plus ATX
Dimension	438(W) x 292(D) x 44(H) mm 17.2"(W) x 11.5"(D) x 1.73"(H)
Operating Environment	Temp: 5 to 40°C (67 to 104°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

CAM-0100

Cavium OCTEON Plus Desktop Appliance

Feature

- A5 Size Desktop platform for entry SMB & SOHO Market
- High performance, best cost efficiency
- Fanless system



Specification

CPU Board	Cavium Octeon plus 50X0 series with security function inside
System Memory	2 DDR2 SO-DIMM, up to 1 GB
Ethernet Port	2 GbE RJ45, RGMII 4 switch RJ45, RGMIII
Bypass	1 Segment
Expansion	One MiniPCI
Storage Device	One SATA interface CF Socket
Serial Port	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	N/A
LED	Power/HDD/Ethernet
USB	One USB 2.0
VGA	N/A
LOM	N/A
Power	45W 12V AC/DC Adopter
Dimension	210(W) x 148(D) x 44(H) mm 8.27"(W) x 5.58"(D) x 1.73"(H)
Operating Environment	Temp: 0 to 35°C (41 to 95°F) 20 to 90%RH
Storage Environment	Temp: 0 to 35°C (32 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL
OS Support	Linux Kernel

ATCA Your First Choice for ATCA Computing Blade

ATCA Today

With over 10 years in the PICMG3 industry and the base spec (PICMG 3.0), the popularity of Internet applications and the boom of mobile communications have led to continuous innovation in network communication technology and highlighted the advantages of ATCA features.

"Cloud computing" is now the most common keyword of Internet topics, while 4G/LTE is the most prevalent feature of mobile telecommunication. While the ability to conduct video conferences, view instant news via the iPad, or to share photos through social media such as Facebook and Google+ are so common today, Just 20 years ago, this technology was considered to be science fiction. And none of these applications are possible without the background support of smooth data flow and powerful computing capabilities.

"Coupled with improved performance, the native attributes of ATCA (open standard, reliable, power efficient) also appeal to non-telecom applications where service availability and thermal performance is important. These types of programs show an underlying trend, similar in some respects to the next generation all-IP network evolution within the telecom industry. The military is moving to packet-based protocols as the backdrop and underpinning of the intelligent warfare programs. The adoption of increased bandwidth 40Gb/s Ethernet in-box and 100Gb/s out-of-box plus significantly improved price/performance 400W blades shows the ability of the ATCA common platform to adapt to new challenges. With obvious benefits in these areas, ATCA as a technology will apply to more and more programs and expanding markets."(1)

Portwell Expertise in Embedded Computing

Base on her commitment to advanced technology implementation, Portwell, one of the leading hardware platform providers in embedded computing industry worldwide, started ATCA computing-blade development and production in 2003. From the first product with dual LV-Xeon processors and Gigabit Ethernet Fabric interface to the most advanced blade with Intel Crystal Forest Architecture and 40G Dual-Star Fabric, Portwell has demonstrated her strength and capability on x86 architecture design, high speed signal control, 400W thermal management and engineering validation for telecom grade products.

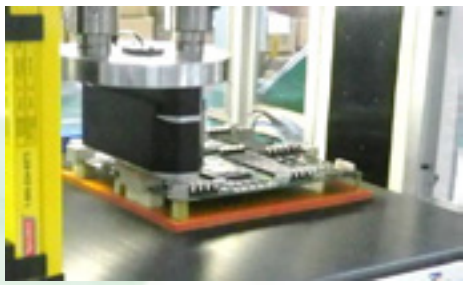
Portwell does much more than merely design and develop ATCA computing blade for customers. With complete production equipment and processes available in-house, Portwell builds and tests the ATCA blade from SMT, DIP, Press-Fit, and ICT/ATE with boundary-scan, fully function testing and burn-in all within in the same workshop; i.e.

The Portwell Engine, where all the production processes, quality and ESD are extremely controlled. Through this closely monitored process, product quality for our customers is guaranteed.

Your Best Partner in ATCA Computing Blade

Whether it is TEN, NEP, or other ATCA platform integrators for data centers, our customers can take advantage of Portwell's design capabilities through our experienced engineering team to save investment in hardware development. Portwell Engine, one of the best fabricator all over the world, is fully committed to and capable of producing high quality ATCA blade for you!

(1) "The ATCA Market: Now and Next" by Brian Carr/Strategic Marketing Manager, Embedded Computing of Emerson Network Power.


Reference Table




MODEL	CAR-5030	CAR-5020	CAR-5010	CAR-4012
CPU Board	Intel® Sandy Bridge-EP Intel® Patsburg-B PCH	Intel® Sandy Bridge-EP Intel® Cave Creek PCH	Intel® Westmere Intel® 5520 chipset	Intel® Sandy Bridge Intel® Cougar point C206 PCH
System Memory	16 DDR3 ECC Long-DIMMs, up to 128GB	16 DDR3 ECC Long-DIMMs, up to 128 GB	12 DDR3 ECC Long-DIMM, up to 96GB	4 DDR3 ECC Long-DIMMs, up to 32GB
Ethernet Port	Up to 50 GbE RJ45/SFP	Up to 46 GbE RJ45/SFP	Up to 24 GbE RJ45/SFP	Up to 4 GbE RJ45 & 4 SFP Up to 8 GbE RJ45
Bypass	Based on Portwell NIC Module or Standard add-on card	Based on Portwell NIC Module or Standard add-on card	Based on Portwell NIC Module or Standard add-on card	2 Segments
Expansion	Up to Five PCIe x8 Gen2 for Portwell NIC Module Up to Four PCIe x4/ x8 Gen 3 Standard add-on card	Up to Three PCIe x8 Gen2 for Portwell NIC Module Up to Four PCIe x8 Gen 3 Standard add-on card	Up to Three PCIe x8 Gen2 for Portwell NIC Module One PCIe x4 and One PCIe x8 Gen2 Standard add-on card	One PCIe x8 Gen2 for Portwell NIC Module One PCIe x4 Gen2 for Standard add-on card
Storage Device	Two 3.5" Swappable SATA/SAS HDDs CF Socket	Two 3.5" Swappable SATA/SAS HDDs CF Socket	Two 3.5" Swappable SATA HDDs CF Socket	Two 3.5" or Four 2.5" SATA HDDs CF socket
Serial Port	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic	2x16 Characters 128x32/64 Graphic	2x16 Characters 128x32/64 Graphic	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet	Power/ HDD/ Ethernet	Power/ HDD/ Ethernet	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0
VGA	Optional from LOM or VGA module	Optional from LOM module	Optional from LOM module	Optional for LOM version only
LOM	IPMI 2.0 w/ GbE speed (Optional)	IPMI 2.0 w/ GbE speed (Optional)	IPMI 2.0 w/ GbE speed	IPMI 2.0 w/ Fast Ethernet speed (Optional)
Power	500W/ 600W 2U Mini redundant	450W/ 600W 2U Mini redundant	500W 2U Redundant	300W 2U Redundant
Dimension	446(W) x 626(D) x 89(H)mm 17.56''(W) x 24.65''(D) x 3.5''(H)	446(W) x 626(D) x 89(H)mm 17.56''(W) x 24.65''(D) x 3.5''(H)	444(W) x 562(D) x 88(H)mm 17.48''(W) x 22.13''(D) x 3.46''(H)	438(W) x 509.4(D) x 88(H)mm 17.24''(W) x 20.06''(D) x 3.46''(H)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL
OS Support	Linux Kernel	Linux Kernel	Linux Kernel	Linux Kernel
PAGE	24-25	26-27	28-29	30

Reference Table




MODEL	CAR-4010	CAR-4003	CAR-4000	CAR-3035/6/7
CPU Board	Intel® Sandy Bridge Intel® Cougar point C206 PCH	Intel® Xeon X3400/L3400 Intel® 3420 Chipset	Intel® Xeon X3400/L3400 Intel® 3420 Chipse	Intel® LGA1155 Intel® H61 PCH
System Memory	4 DDR3 ECC Long-DIMMs, up to 32GB	4 DDR3 ECC Long-DIMMs, up to 16GB	4 DDR3 ECC Long-DIMMs, up to 16GB	2 DDR3 Long-DIMMs, up to 16GB
Ethernet Port	Up to 4 GbE RJ45 & 4 SFP Up to 8 GbE RJ45	By Portwell NIC Module	By Portwell NIC Module	Up to 6 GbE RJ45
Bypass	2 Segments	Portwell NIC Module	By Portwell NIC Module	2 Segments
Expansion	One PCIe x8 Gen2 for Portwell NIC Module One PCIe x4, One PCIe x8 Gen2 for Standard add-on card	Two PCIe x8 One PCIe x4 or Two PCIe x4 Gen2 for Portwell NIC Module	Two PCIe x8 One PCIe x4 or Two PCIe x4 Gen2 for Portwell NIC Modul	One PCIe x8 Gen2 for Portwell NIC Module Two PCIe x8 Gen2 CASwell NIC Module or Standard add-on cards (Project Based)
Storage Device	Two 3.5" or Two 2.5" SATA HDDs (internal) CF Socket	One 3.5" or Two 2.5" SATA HDDs CF Socket	One 3.5" or Two 2.5" SATA HDDs CF Socket	Two 3.5" or Two 2.5" SATA HDDs CF Socket
Serial Port	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic	2x16 Characters 128x32/64 Graphic	2x16 Characters 128x32/64 Graphi	2x16 Characters 128x32/64 Graphic
LED	Power/ HDD/ Ethernet/ Bypass	Power/ HDD	Power/ HDD	Power/ HDD/ Ethernet/ Bypass
USB	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0
VGA	2x5 pin-header	Optional for LOM version only	One 2x5 pin-header	One 2x5 pin-header
LOM	IPMI 2.0 w/ Fast Ethernet speed (Optional)	IPMI 2.0 w/ Fast Ethernet speed	N/A	N/A
Power	275W 1U Redundant 250W 80Plus ATX 250W DC 48V input	300W 80Plus ATX	300W 80Plus ATX PSU	275W Redundant (CAR-3035) 250W 80Plus ATX (CAR-3036) 250W DC48V Input (CAR-3037)
Dimension	438(W) x 509(D) x 44(H)mm 17.24''(W) x 20.04''(D) x 1.73''(H)	438(W) x 457(D) x 44(H)mm 17.24''(W) x 17.99''(D) x 1.73''(H)	438(W) x 457(D) x 44(H)mm 17.24''(W) x 17.99''(D) x 1.73''(H)	443(W) x 407(D) x 44(H)mm 17.44''(W) x 16.02''(D) x 1.73''(H)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20% to 90%RH	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH	Temp: 5 to 35°C (41 to 95°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL
OS Support	Linux Kernel	Linux Kernel	Linux Kernel	Linux Kernel
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Reference Table




MODEL	CAR-3030	CAR-3020	CAR-2030	CAR-1000
CPU Board	Intel® LGA1155 Intel® H61 PCH	Intel® Gladden Intel® Cave Creek PCH	Intel® LGA1155 Intel® H61 PCH	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset
System Memory	2 DDR3 Long-DIMMs, up to 16GB	2 DDR3 Long-DIMMs, up to 16GB	2 DDR3 Long-DIMMs, up to 16GB	2 SO-DIMM DDR2, up to 4GB
Ethernet Port	Up to 6 GbE RJ45	Up to 6 GbE RJ45	Up to 4 GbE RJ45	Up to 6 GbE RJ45
Bypass	2 Segments	2 Segments	NA	2 Segments
Expansion	One PCIe x8 Portwell NIC Module or Standard add-on cards	One PCIe x8 Portwell NIC Module or Standard add-on cards	One PCIe x8 Portwell NIC Module or Standard add-on cards	One Mini-PCI
Storage Device	One 3.5" or Two 2.5" SATA HDD CF Socket	One 3.5" or Two 2.5" SATA HDD CF Socket	One 3.5" or Two 2.5" SATA HDD CF Socket	One 3.5" or 2.5" SATA HDD CF Socket
Serial Port	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console
LCD Panel	2x16 Characters 128x32/64 Graphic	2x16 Characters 128x32/64 Graphic	N/A	Optional
LED	Power/ HDD/ Ethernet/ Bypass	Power/ HDD/ Ethernet/ Bypass	Power/ HDD/ Ethernet	Power / HDD / Ethernet / Bypass.
USB	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0
VGA	One 2x5 pin-header	N/A	One 2x5 pin-header	One 2x5 pin-header
LOM	N/A	N/A	N/A	N/A
Power	250W 80Plus ATX	250W 80Plus ATX	250W 80Plus ATX	80W Open Frame PSU
Dimension	438(W) x 292.1(D) x 44(H)mm 17.24''(W) x 11.5''(D) x 1.73''(H)	438(W) x 292.1(D) x 44(H)mm 17.24''(W) x 11.5''(D) x 1.73''(H)	438(W) x 292.1(D) x44(H) mm 17.25"(W) x 11.5"(D) x 1.73"(H)	438(W) x 255(D) x 44(H)mm 17.24''(W) x 10.04''(D) x 1.73''(H)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 5 to 40°C (41 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL
OS Support	Linux Kernel	Linux Kernel	Linux Kernel	Linux Kernel
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Reference Table




MODEL	CAF-1000	CAD-0215	CAD-0220/1	CAD-0211
CPU Board	AMD T24L A50M Chipset	AMD T24L A50M Chipset	AMD T24L/T16R A50M Chipset	Intel® Atom D525 Intel® ICH8M Chipset
System Memory	1 SO-DIMM DDR3, up to 8GB	1 DDR3 SO-DIMM, up to 8GB	1 DDR3 SO-DIMM, up to 8GB	2 DDR3 SO-DIMM, up to 4GB
Ethernet Port	Up to 4 GbE RJ45	Up to 4 GbE RJ45	Up to 6 GbE RJ45	Up to 6 GbE RJ45
Bypass	N/A	N/A	1 Segment	1 Segment
Expansion	N/A	N/A	N/A	N/A
Storage Device	CF Socket	CF Socket	One 2.5" SATA HDD CF Socket	One 2.5" SATA HDD
Serial Port	Front-access RJ45 system console	Front-access RJ45 system console	Front-access RJ45 system console	Front-access RJ45 system consol
LCD Panel	N/A	N/A	N/A	N/A
LED	Power/ Ethernet	Power/ HDD/ Ethernet	Power/ HDD/ Ethernet/ Bypass	Power/ HDD/ Ethernet/ Bypass(Project Based)
USB	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0
VGA	N/A	N/A	One 2x5 pin-header (CAD-0221)	One 2x5 pin-header
LOM	N/A	N/A	N/A	N/A
Power	12V 24W DC Adapter	24W 12V DC Adapter	40W 12V DC Adapter	40W 12V DC Adapter
Dimension	201(W) x 112(D) x 44(H)mm 7.91''(W) x 4.41''(D) x 1.73''(H)	165(W) x 105.5(D) x 43(H)mm 6.5''(W) x 4.15''(D) x 1.69''(H)	210(W) x 210(D) x 42(H)mm 8.27''(W) x 8.27''(D) x 1.65''(H)	210(W) x 210(D) x 42(H)mm 8.27''(W) x 8.27''(D) x 1.65''(H)
Operating Environment	Temp: 5 to 40°C (41 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH @55°C	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C	Temp: 0 to 70°C (32 to 158°F) 5 to 95%RH@ 55°C
Certification	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL
OS Support	Linux Kernel	Linux Kernel	Linux Kernel	Linux Kernel
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Reference Table

MODEL	CAD-0210	CAD-0208	CAD-0205
CPU Board	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipset	Intel® Pineview Mobile Intel® Atom CPU Intel® ICH8M Chipse
System Memory	2 DDR2 SO-DIMMs, Up to 4 GB	2 DDR2 SO-DIMM, Up to 4 GB	2 DDR2 SO-DIMMs, Up to 4 GB
Ethernet Port	Up to 6 GbE RJ45	Up to 4 GbE RJ45	Up to 4 GbE RJ45
Bypass	2 Segments	2 Segments	2 Segments
Expansion	One Mini-PCI or One PCI	One Mini-PCIe	One Mini-PCIe
Storage Device	One 2.5" SATA HDD CF Socket	One 2.5" SATA HDD CF Socket	One 2.5" SATA HDD CF Socke
Serial Port	RJ45 system console	RJ45 system console	RJ45 system console
LCD Panel	N/A	N/A	N/A
LED	Power/ HDD/ Ethernet/ Bypass.	Power/ HDD/ Ethernet/ Bypass.	Power/ HDD/ Ethernet/ Bypass.
USB	Dual USB 2.0	Dual USB 2.0	Dual USB 2.0
VGA	One 2x5 pin-header	One 2x5 pin-header	One 2x5 pin-header
LOM	N/A	N/A	N/A
Power	40W 12V DC adapter	40W 12V DC adapter	60W Open Frame PSU
Dimension	250(W) x 213(D) x 55(H)mm 9.84''(W) x 8.39''(D) x 2.17''(H)	300(W) x 145(D) x 44(H)mm 11.81''(W) x 5.71''(D) x 1.73''(H	180(W) x 150(D) x 42(H)mm 7.09''(W) x 5.91''(D) x 1.65''(H)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 10 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 10 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 10 to 90%RH
Storage Environment	Temp: -20 to 75°C (-4 to 167°F) 5 to 95%RH @55°C	Temp: -20 to 75°C (-4 to 167°F) 5 to 95%RH @55°C	Temp: -20 to 75°C (-4 to 167°F) 5 to 95%RH @55°C
Certification	CE/FCC/UL	CE/FCC/UL	CE/FCC/UL
OS Support	Linux Kernel	Linux Kernel	Linux Kernel
PAGE	45	46	47

Fiber NIP




MODEL	NIP-53040	NIP-52240	NIP-55140	NIP-53120
Form Factor	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module
LAN Controller	Intel® 82599ES	Intel® 82580EB	Intel® 82580EB	Intel® 82599ES
Ethernet Port	4 SFP+	4 SFP SR	2 GbE RJ45, 2 SFP	2 SFP+
Interconnect	Depends on transceiver	Depends on transceiver	Depends on transceiver	10GBASE-SR
Bus Type	Proprietary PCIe x8 Gen2	Proprietary PCIe x4 Gen2	Proprietary PCIe x4 Gen2	Proprietary PCIe x8 Gen2
Bypass	N/A	2 Segments	1 Segment	1 Segment
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 152(D) x 16.61(H)mm 3.35''(W) x 5.98''(D) x 0.65''(H)	85(W) x 162.1(D) x 17.1(H)mm 3.35''(W) x 6.38''(D) x 0.67''(H)	85(W) x 145(D) x 11(H)mm 3.35''(W) x 5.71''(D) x 0.43''(H)	85(W) x 160.7(D) x 18(H)mm 3.35''(W) x 6.33''(D) x 0.71''(H)
PAGE	50	51	52	52

Fiber NIP





MODEL	NIP-53020	NIP-52120	NIP-52080	NIP-52040	NIP-52020
Form Factor	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module
LAN Controller	Intel® 82599ES	Intel® 82580DB	Intel® 82580EB	Intel® 82580EB	Intel® 82580DB
Ethernet Port	2 SFP+	2 SFP	8 SFP	4 SFP	2 SFP
Interconnect	Depends on transceiver	1000BASE-SR	Depends on transceiver	Depends on transceiver	Depends on transceiver
Bus Type	Proprietary PCIe x8 Gen2	Proprietary PCIe x4 Gen2	Proprietary Two PCIe x4 Gen2	Proprietary PCIe x4 Gen2	Proprietary PCIe x4 Gen2
Bypass	N/A	1 Segment	N/A	N/A	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp:-10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 152(D) x 13.8(H)mm 3.35''(W) x 5.98''(D) x 0.54''(H)	85(W) x 160.7(D) x 18(H)mm 3.35''(W) x 6.33''(D) x 0.71''(H)	85(W) x 152(D) x 27(H)mm 3.35''(W) x 5.98''(D) x 1.06''(H)	85(W) x 152(D) x 11.7(H)mm 3.35''(W) x 5.98''(D) x 0.46''(H)	85(W) x 145(D) x 11.2(H)mm 3.35''(W) x 5.71''(D) x 0.44''(H)
PAGE	53	53	54	54	55

Copper NIP




MODEL	NIP-54021/121	NIP-51240	NIP-51080	NIP-51040
Form Factor	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module
LAN Controller	Intel® X540-AT2	Intel® 82580EB	Intel® 82580EB	Intel® 82580EB
Ethernet Port	2 10GBASE-T	4 GbE RJ45	8 GbE RJ45	4 GbE RJ45
Bus Type	Proprietary PCIe x8 Gen2	Proprietary PCIe x4 Gen2	Proprietary Two PCIe x4 Gen2	Proprietary PCIe x4 Gen2
Bypass	1 Segment (NIP-54121 Only)	2 Segments	N/A	N/A
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 149.1(D) x 15.5(H)mm 3.35''(W) x 5.87''(D) x 0.61''(H)	85(W) x 149(D) x 15(H)mm 3.35''(W) x 5.87''(D) x 0.59''(H)	85(W) x 149.8(D) x 27(H)mm 3.35''(W) x 5.9''(D) x 1.06''(H)	85(W) x 148.9(D) x 15(H)mm 3.35''(W) x 5.86''(D) x 0.59''(H)
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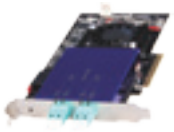
Reference Table



Fiber NIC

MODEL	BPC-54120	BPC-51242
Form Factor	Portwell Standard network adapter	Portwell Standard network adapter
LAN controller	Intel® 82599ES	Intel® i350-AM4
Ethernet port	2 SFP+,SR Transceiver Cable type MMF 62.5/50 μm, up to 300 m	4 GbE RJ45
Bus type	PCIe x8 Gen2	PCIe x4 Gen2
Bypass	1 Segment	2 Segments
Compliance	SR-IOV Capable Virtual Machine Device Queues (VMDq) IEEE 802.3x and 802.3z flow control supported Hardware acceleration for TCP-IP and iSCSI	SR-IOV Capable Virtual Machine Device Queues (VMDq) IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications IEEE 802.3x and 802.3z flow control supported Automatic cross-over detection function (MDI/MDI-X) Hardware acceleration for TCP-IP and iSCSI
H/W Selection	Selection of normal or bypass model when power on Built-in watchdog-timer bypass Ethernet ports when host system experiences hang or power failure.	Selection of normal or bypass model when power on Built-in watchdog-timer bypass Ethernet ports when host system hang or power failure.
S/W Programmable	WDT time-out setting (software programmable from 1~255 seconds)	WDT time-out setting (software programmable from 1~63 seconds)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	100(W) x 181(D) x 21.5(H)mm 3.94''(W) x 7.13''(D) x 0.85''(H)	120.8(W) x 123.39(D) x 21.5(H)mm 4.76''(W) x 4.86''(D) x 0.85''(H)
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Copper NIC

MODEL	BPC-51240	ABN-262
Form Factor	Portwell Standard network adapter	Portwell Low-profile network adapter
LAN controller	Intel® 82580EB	Intel® 82574L
Ethernet port	4 GbE RJ45	2 GbE RJ45
Bus type	PCIe x4 Gen2	PCIe x4 Gen1.1
Bypass	2 Segments	1 segment
Compliance	IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications IEEE 802.3x and 802.3z flow control supported Automatic cross-over detection function (MDI/MDI-X)	IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications IEEE 802.3x and 802.3z flow control supported
H/W Selection	Selection of normal or bypass model when power on Built-in watchdog-timer bypass Ethernet ports when host system hang or power failure.	Selection of normal or bypass model when power on
S/W Programmable	WDT time-out setting (software programmable from 1~63 seconds)	WDT time-out setting (software programmable from 1~63 seconds)
Operating Environment	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH	Temp: 0 to 40°C (32 to 104°F) 20 to 90%RH
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH@55°C
Dimension	120.8(W) x 123.39(D) x 21.5(H)mm 4.76''(W) x 4.86''(D) x 0.85''(H)	64.4(W) x 180.9(D) x 21.5(H)mm 2.54''(W) x 7.12''(D) x 0.85''(H)
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Security Power



MODEL	NIP-71042	NIP-70001	NIP-70000
Form Factor	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module
PHY controller	BroadCom	N/A	N/A
Chipset	Intel® Cave Creek	Cavium NITROX® PX CN1620	Cavium NITROX® PX CN1610-P
Ethernet port	4 GbE RJ45	N/A	N/A
Bus type	Proprietary PCIe x8 Gen2	Proprietary PCIe x4 Gen2	Proprietary PCIe x4 Gen2
Storage Environment	Temp: -20 to 70°C (-4 to 158°F) 5 to 95%RH@55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C
Dimension	85(W) x 145(D) x 20.2(H)mm 3.35''(W) x 5.71''(D) x 0.8''(H)	85(W) x 145(D) x 11.4(H)mm 3.35''(W) x 5.71''(D) x 0.45''(H)	85(W) x 145(D) x 11.4(H)mm 3.35''(W) x 5.71''(D) x 0.45''(H)
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Security Power



MODEL	NIP-62041	NIP-61042	NIP-61041
Form Factor	Portwell NIC Module	Portwell NIC Module	Portwell NIC Module
LAN Controller	Intel® 82580EB	Intel® 82580EB	Intel® 82580EB
Security Processor	Cavium NITROX® PX CN1620	Cavium NITROX® PX CN1610-P	Cavium NITROX® PX CN1620
Ethernet port	4 SFP	4 GbE RJ45	4 GbE RJ45
Bus type	Proprietary Two PCIe x4 Gen2	Proprietary Two PCIe x4 Gen2	Proprietary Two PCIe x4 Gen2
Storage Environment	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @ 55°C	Temp: -10 to 70°C (14 to 158°F) 5 to 95%RH @55°C
Dimension	85(W) x 152(D) x 13.2(H)mm 3.35''(W) x 5.98''(D) x 0.52''(H)	85(W) x 148.9(D) x 18.35(H)mm 3.35''(W) x 5.86''(D) x 0.72''(H)	85(W) x 148.9(D) x 18.35(H)mm 3.35''(W) x 5.86''(D) x 0.72''(H)
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MIPS64 Architecture


MODEL	CAK-3000	CAM-0100
CPU Board	Cavium Octeon plus 52XX series	Cavium Octeon plus 50X0 series
System Memory	DDR2 ECC Long-DIMM, up to 4 GB	2 DDR2 SO-DIMM, up to 1 GB
Ethernet Port	4 GbE RJ45 via SGMII 2 FE port via MII	2 GbE RJ45, RGMII 4 switch RJ45, RGMII
Bypass	2 Segments	1 Segment
Expansion	Up to One PCIe x4, rear access	One MiniPCI
Storage Device	One 3.5" or 2.5" SATA HDD CF Socket	One SATA interface CF Socket
Serial Port	Front-access RJ45 system console One 2x5 pin-header	Front-access RJ45 system console One 2x5 pin-header
LCD Panel	2x16 Characters 128x32/64 Graphic	N/A
LED	Power/HDD/Ethernet/Bypass	Power/HDD/Ethernet/Bypass
USB	One USB 2.0	One USB 2.0
VGA	N/A	N/A
LOM	N/A	N/A
Power	100W 80Plus ATX	100W 80Plus ATX
Dimension	438(W) x 292(D) x 44(H) mm 17.2"(W) x 11.5"(D) x 1.73"(H)	210(W) x 148(D) x 44(H) mm 8.27"(W) x 5.58"(D) x 1.73"(H)
Operating Environment	Temp: 0 to 35°C (41 to 95°F) 20 to 90%RH	Temp: 0 to 35°C (41 to 95°F) 20 to 90%RH
Storage Environment	Temp: 0 to 35°C (32 to 158°F) 5 to 95%RH @ 55°C	Temp: 0 to 35°C (32 to 158°F) 5 to 95%RH @ 55°C
Certification	CE/FCC/UL	CE/FCC/UL
OS Support	Linux Kernel	Linux Kernel
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