Protectli Appliance

Protectli Vault Pro VP4670 6 Port 2.5G - Intel® i7-10810U

June 28, 2024

Specifications

Model	VP4670
Description	6x 2.5G Network Port Fanless Appliance
Processor	Intel i7-10810U (64 bit, 1.1 GHz Base, 4.9 GHz Turbo, 12MB Smart Cache)
Processor Cores	6
Processor Threads	12
Intel AES-NI	Supported
Virtualization	Intel Vt-x, Vt-d
Network	6x Intel I225-V Rev. B3 2.5G Ethernet, RJ-45
Video / Graphics	Intel UHD Graphics for 10th Gen, 1x HDMI 1.4, 1x DP 1.4
Audio	Audio over HDMI, 1x 3.5mm Audio Jack
Memory	2x SO-DIMM DDR4-2666 1.2v, Dual Channel , Max 64GB
Storage	1x M.2 2280 SATA or NVMe, 1x 16G eMMC on board
Optional Storage	1x Internal 2.5" SATA 3.0 SSD
External I/O	6x RJ-45 Ethernet
	2x USB 3.2 Gen 2 Type A, 2x USB 2.0 Type A
	1x USB Micro 2.0 (Console)
	1x USB 3.2 Gen 2 Type C with Display Port
	1x HDMI
	1x Display Port
	1x 3.5mm Audio Jack
	1x 4FF SIM Holder
	6x WiFi/LTE Antenna Mounting Holes
	1x 12V DC Power Jack, Threaded
Internal I/O	1x M.2 2280 M-Key PCIe 3.0 x4 (NVMe/SATA)
	1x SATA Header, 1x SATA Power
	1x M.2 2230 E-Key PCIe 3.0 x1 for WiFi
	1x M.2 3052 (LTE)
	1x USB 2.0 Header
	1x Trusted Platform Module Header (9 pin)
	1x PoE Module Header (9 pin)
	1x CMOS Reset (2 pin)

	1x CPU Fan Header (4 pin)
	1x Front Panel Header (9 pin)
BIOS	AMI or coreboot
Indicators	1x LED Power Button (Blue), 1x LED Power Indicator (Green), 1x LED Disk Activity Indicator (Red), 1x LED Disk Activity Indicator (Yellow)
Power	Input 12V DC, 1x DC Power Jack, Threaded connector
Power Usage	Idle: 12W: Max: 75W
Chassis	Fanless, Aluminum, Black
Chassis Dimensions	7.5 x 5 x 2.7 in, 191 x 127 x 69 mm
Mounting Options	Desktop, VESA Bracket, Optional 1RU Rack Mount
Weight	3 lbs 3 oz, 1.45 Kg
Shipping Weight	5 lbs 2 oz, 2.32 kg
Operating Temperature	+14° - +122° F, -10° - +50° C
Operating Humidity	0 – 95% relative humidity, non-condensing
Approvals	UL (Power Supply), FCC Part 15 Class B, CE, RoHS
Country of Origin	Made in China, Assembled in USA, Canada, or Germany
Optional WiFi	1x M.2 2230 E-Key PCIe 802.11ac/a/b/g/n (PCIe)
Optional LTE Cellular	1x M.2 3052 B-Key USB 3.2 Gen 2 (LTE), with 4FF SIM holder
Optional Storage	1x Internal 2.5" SATA 3.0 SSD
Optional TPM	1x Trusted Platform Module, TPM 2.0

System Features

Front Features
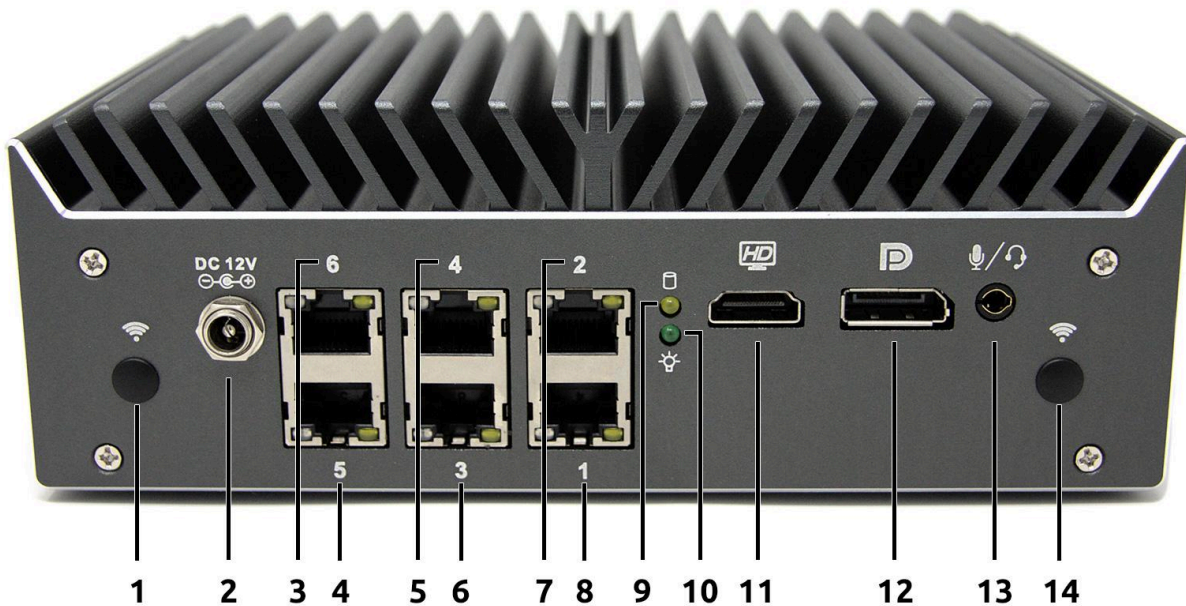
Item #	Object	Description
1, 14	Antenna Ports	Two antenna ports for adding radio antennas (WiFi, LTE, etc.). The ports are covered by plugs while not in use.
2	Power Supply Connector	12V DC threaded barrel connector for the 60W external power supply. Positive rail is the tip, negative is sleeve.
3	Ethernet Port 6	The sixth 10/100/1000/2500 Mbps Intel® i225 ethernet port.
4	Ethernet Port 5	The fifth 10/100/1000/2500 Mbps Intel® i225 ethernet port.
5	Ethernet Port 4	The fourth 10/100/1000/2500 Mbps Intel® i225 ethernet port.

| 6	Ethernet Port 3	The third 10/100/1000/2500 Mbps Intel® i225 ethernet port.
7	Ethernet Port 2	The second 10/100/1000/2500 Mbps Intel® i225 ethernet port.
8	Ethernet Port 1	The first 10/100/1000/2500 Mbps Intel® i225 ethernet port
9	HDD Activity LED	This amber LED will light up when data activity is detected on either the mSATA or SATA interfaces.
10	Power Indicator LED	This LED will stay solid green when the device is powered on.
11	HDMI Connector	Video and audio output via HDMI.
12	DisplayPort Connector	Video output via DisplayPort.
13	Speaker and Microphone Port	A 3.5mm TRRS plug can be used to output stereo sound and input mono microphone.

Rear Features

Item #	Object	Description

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| 1, 4, 8, 10	Antenna Ports	Four antenna ports for adding radio antennas (WiFi, LTE, etc.). The ports are covered by plugs while not in use.
2	Power Button	Pressing the Power Button will power the unit on and illuminate with a blue LED. *In OSes configured to handle ACPI signals, pressing the power button initiates a shutdown.* *Pressing and holding the Power Button for 5 seconds will force the unit to power off.*
3	Reset Button (Recessed)	A momentary switch exposed via GPIO. This is not an ACPI reset button, but a general purpose button that may be programmed in the guest OS.
5	Two USB3 Connectors	USB 3.2 Gen 2 Type-A connectors.
6	Two USB2 Connectors	USB 2.0 Type-A connectors.
7	USB-C Connector	USB 3.2 Gen 2 Type-C connector.
9	Serial Console Port	RS232 serial communications via UART exposed through USB 2.0 Type B Micro connector. Default port settings: ● 115200 baud ● No parity ● 8 databits ● 1 stopbit
10	SIM Slot	Nano SIM slot for providing a SIM card to an optional internal cellular modem.

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Motherboard Top View
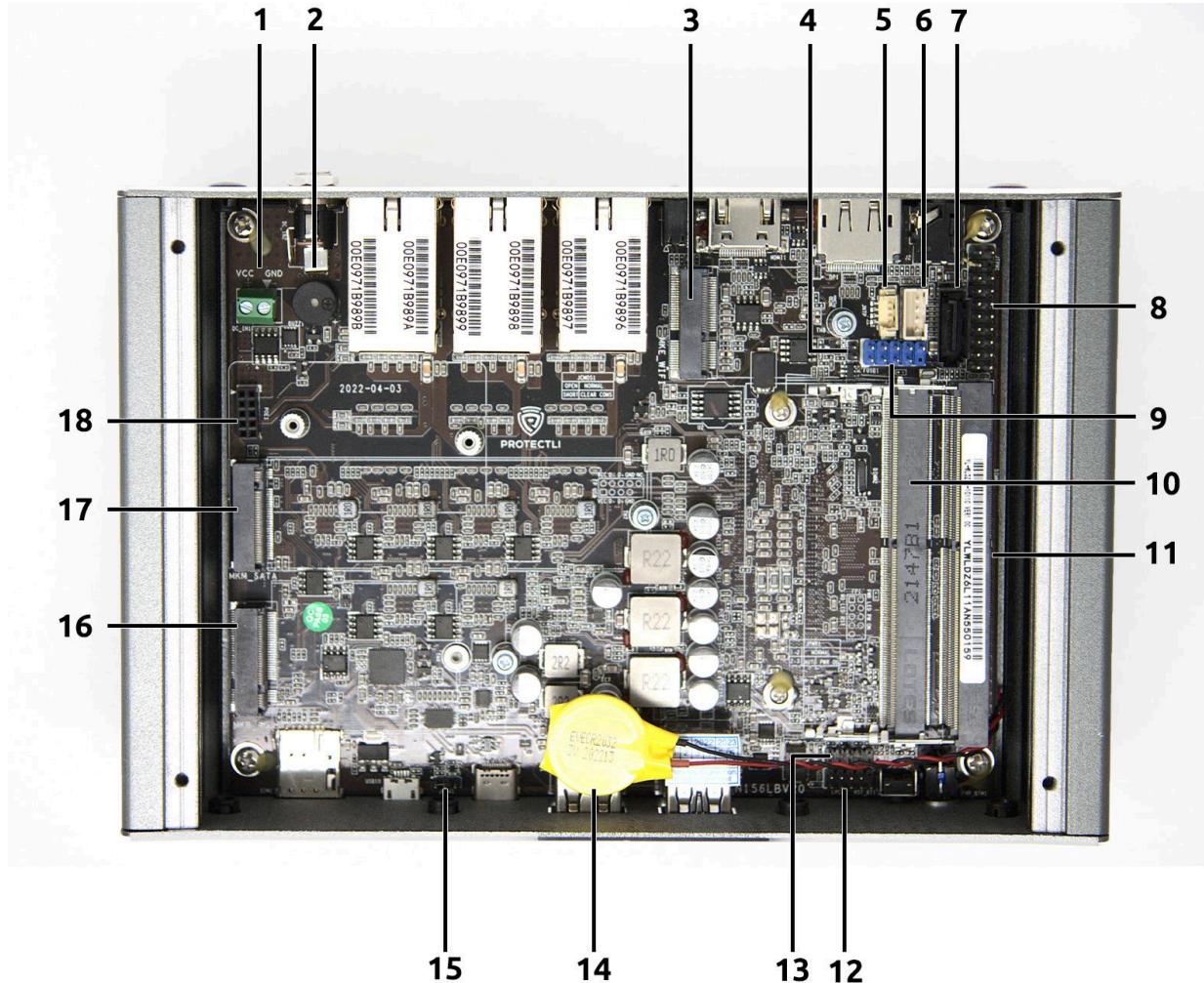
Item #	Object	Label	Description
1	DC IN	DC_IN1	Terminal block for hardwiring +12VDC power.
2	Buzzer	BUZZ1	PC Speaker.
3	WiFi Expansion Slot	MKE_WIFI	Connector uses PCIe 3.0 x1 protocol over an M.2 2230 E-Key connector. Designed for Protectli WiFi modules, but is not limited in its capabilities.
4	NVRAM Reset Jumper	JCMOS	Shorting this jumper while the CMOS battery is connected will reset the BIOS NVRAM.

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5	Fan Header	JNTP	Four-pin PicoBlade-compatible header for optional PWM CPU fan.
6	SATA Power Connector		SATA power connector for additional storage.
7	SATA Data Connector	SATA1	SATA III data connector. Recommended for additional storage, such as a 2.5" SATA SSD.
8	TPM	JTPM1	Trusted Platform Module header for TPM1.2 and TPM2.0 hardware devices.
9	USB 3.2 Header	FUSB1	Internal header for additional USB 3.2 Gen 2 connections.
10	Memory Slot	DIMM2	DDR4LP SODIMM
11	Memory Slot	DIMM1	DDR4LP SODIMM
12	Legacy Device Low Pin Count Connector	LPC1	9-pin ISA-compatible connector for legacy devices (e.g. PS2 keyboard, etc.).
13	Front Panel Header	FP1	Internal header for adding external device controls and indicators featured through the front panel, such as power button, reset button, activity LEDs, etc.
14	CMOS Battery		3V CR2032 connected via 2-pin connector on the opposite side of the motherboard.
15	Power Restore Jumper	JPWR1	Jumper setting determines system state after power loss. Closing the jumper will cause the unit to automatically power on when power is restored after an outage.
16	LTE Expansion Slot	MKB_4G	Connector uses a USB 3.2 protocol over an M.2 3042/3052 B-Key connector. Designed for Protectli LTE modems, but is not limited in its capabilities.
17	M.2 NVMe Connector	MKM_SATA	Connector for an NVMe or SATA storage device, such as an SSD.
18	PoE Header	POE1	Power-over-Ethernet header for an addon card. This feature is experimental and is not officially supported.

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Measurement View
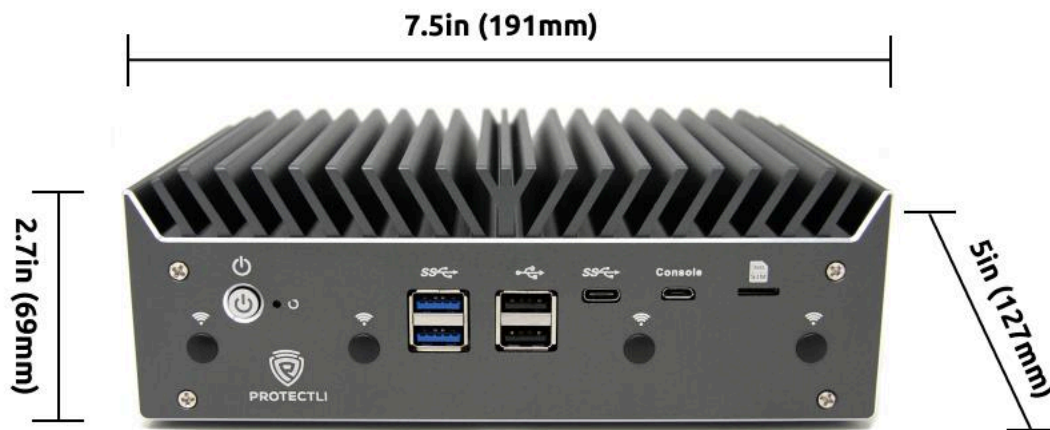
Document History

2024-06-28
- Clarified PCI and USB specifications such as speed, protocol, etc.

2024-05-17
- Clarified LTE and/or WiFi slot naming schemes
- Clarified threading on barrel connector

2024-01-02
- Fix typo in document title: "4 Port" corrected to "6 Port".
- Updated PoE documentation to describe operation as "experimental."

2023-08-31
- Clarify details about the i225-V network interfaces.

2023-08-04
- Fix optional LTE Cellular slot specification.
- Clarify details about internal SATA header.

2023-03-21
- Initial document