Protectli Appliance

Protectli Vault V1210 2 Port - Intel® N5105

July 4, 2024

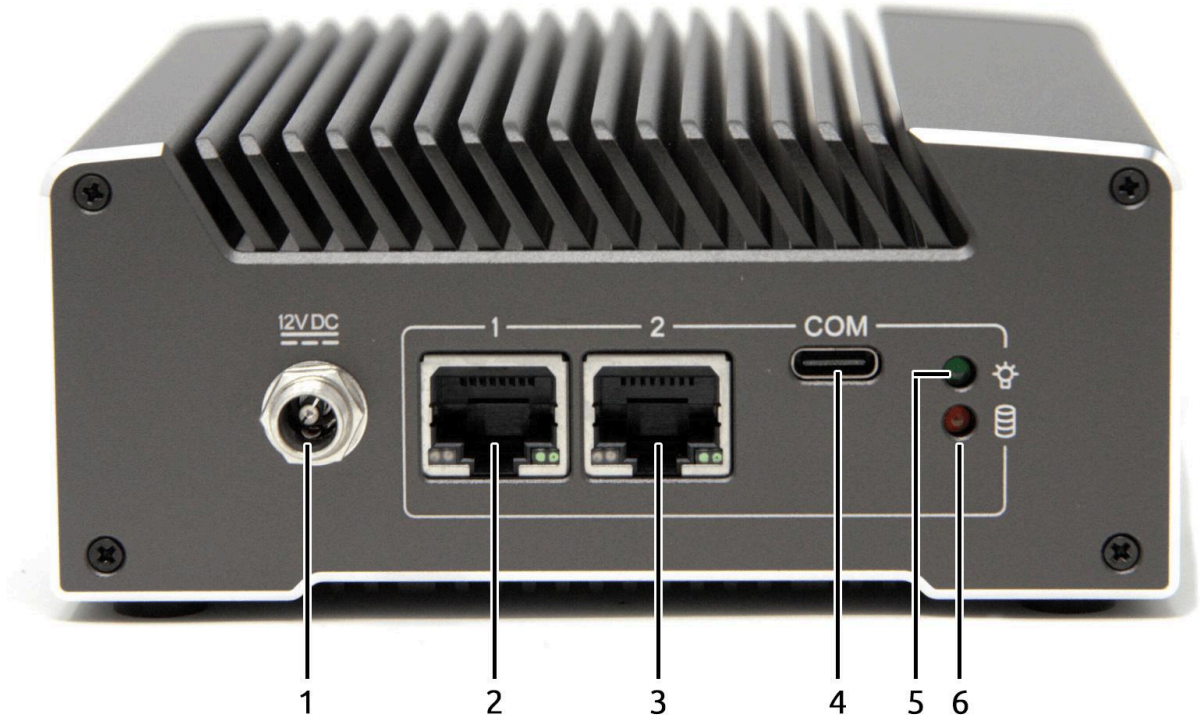
Specifications

Model	V1210
Description	2x 2.5G Network Port Fanless Appliance
Processor	Intel® N5105 (64 Bit, 2.0GHz, Turbo 2.9GHz, 4M L3 Cache)
Processor Cores	4
Processor Threads	4
Intel AES-NI	Supported
Virtualization	Intel Vt-x, Vt-d
Network	2x Intel I226-V 2.5G Ethernet, RJ-45
Video / Graphics	Intel UHD Graphics, 1x HDMI 1.4
Audio	Audio over HDMI
Memory	1x 4GB LPDDR4-2933, Soldered
Storage	1x M.2 2280 NVMe, 1x 32G eMMC on board
Optional Storage	None
External I/O	2x RJ-45 Ethernet
	4x USB 3.2 Gen 2 Type A
	1x USB Type C Console
	1x HDMI
	Reset Button (Recessed), GPIO
	6x WiFi/LTE Antenna Mounting Holes
	1x 12V DC Power Jack, Threaded
Internal I/O	1x M.2 2280 M-Key PCIe 3.0 x1 (NVMe)
	1x M.2 2230 E-Key PCIe 3.0 x1 for WiFi
	1x M.2 3052 B-Key USB 3.2 Gen 2 (LTE)
	1x CMOS Reset (3 pin)
BIOS	AMI or coreboot
Indicators	1x LED Power Button (Blue), 1x LED Power Indicator (Green), 1x LED Disk Activity Indicator (Red)
Power	Input 12V DC, 1x DC Power Jack, Threaded connector
Power Usage	Max 24W
Chassis	Fanless, Aluminum, Gray
Chassis Dimensions	4.5 x 4.5 x 2 in, 115 x 115 x 50 mm

Mounting Options	Desktop, Optional VESA Bracket, Optional 1RU Rack Mount
Weight	1 lb, 0.45 kg
Shipping Weight	3 lbs 4 oz, 1.47 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 Connectivity	1x WiFI, 1x LTE

System Features

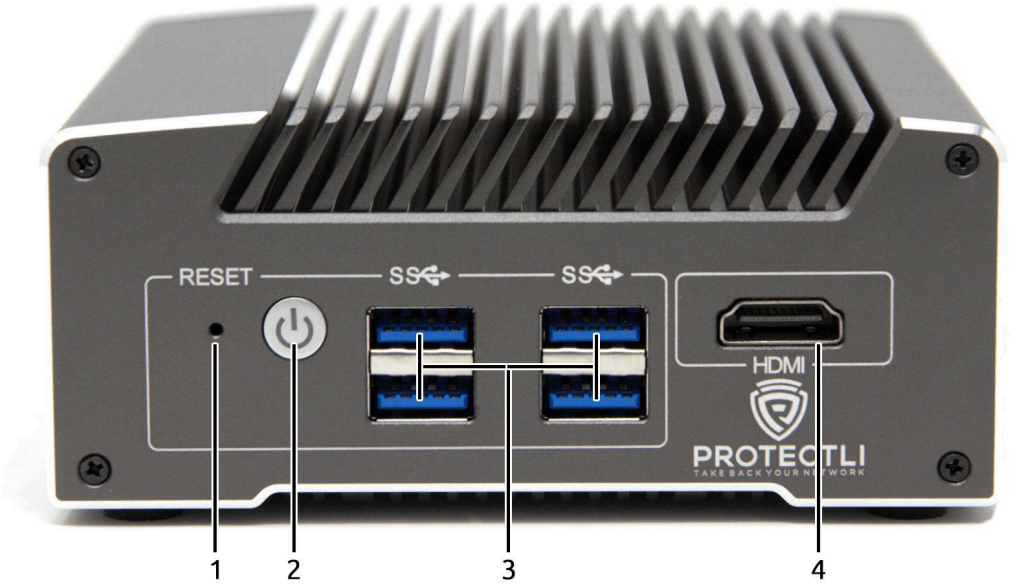
Front Features



Item #	Object	Description
1	Power Supply Connector	12V DC threaded barrel connector (2.5mm x 5mm) for the 48W external power supply. Positive rail is the tip, negative is sleeve.
2	Ethernet Port 1	The first 100/1000/2500 Mbps Intel® i226-V ethernet port.
3	Ethernet Port 2	The second 100/1000/2500 Mbps Intel® i226-V ethernet port.
4	Serial Console Port	RS232 serial communications via FTDI FT232RQ UART, exposed through USB 2.0 Type C connector. Default port settings: • 115200 baud

		• No parity • 8 databits • 1 stopbit
5	Power Indicator LED	This LED will stay solid green when the device is powered on.
6	HDD Activity LED	This red LED will light up when data activity is detected over the NVMe interface.

Rear Features



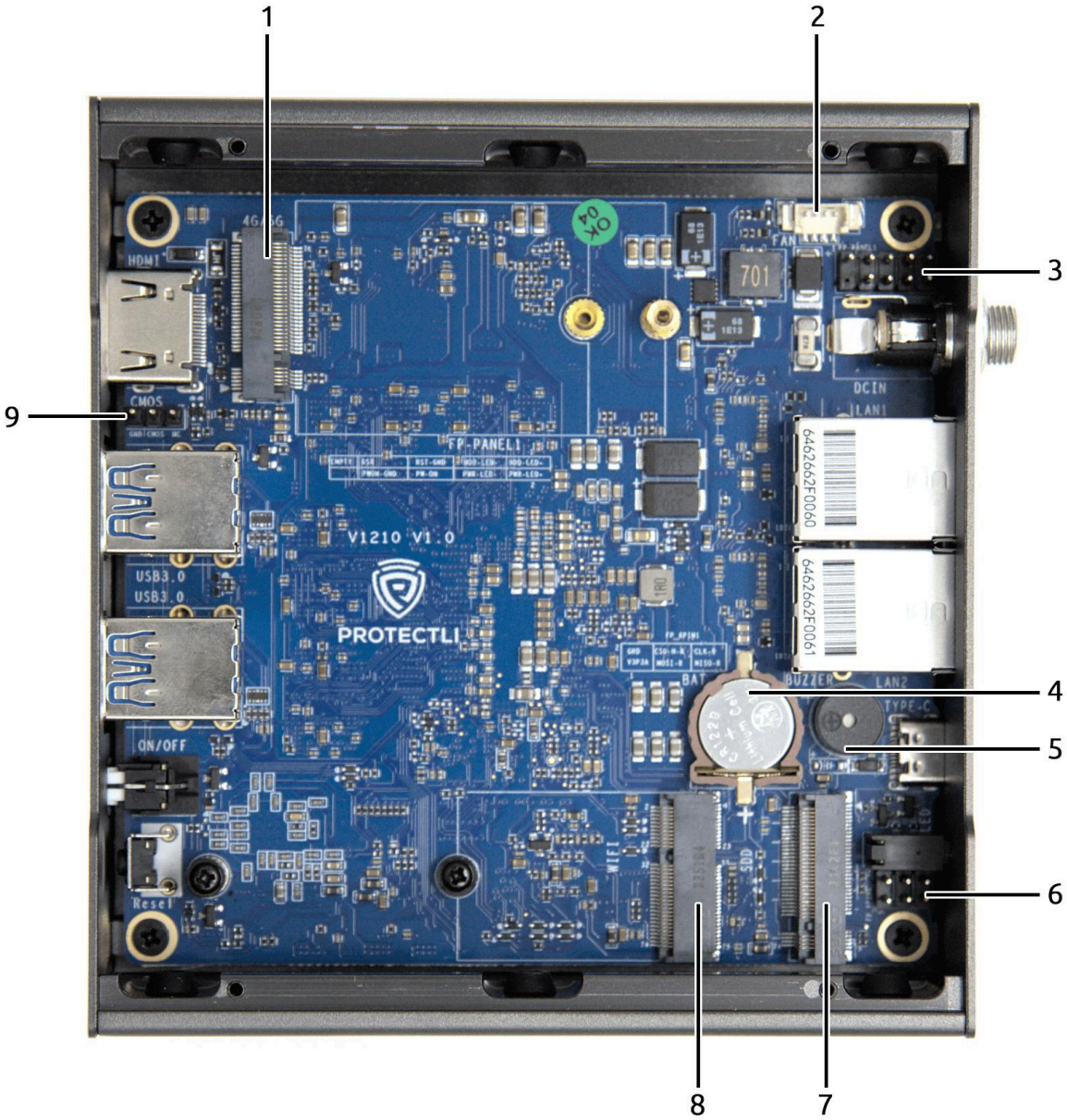
Item #	Object	Description
1	Reset Button (Recessed)	A momentary switch exposed via GPIO. This is not an ACPI reset button, but a general purpose button that may be programmed in the guest OS.
2	Power Button	Pressing the Power Button will power the unit on and illuminate with a blue LED. *In OSes configured 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	Four USB3 Connectors	USB 3.2 Gen 2 Type-A connectors.
4	HDMI Connector	Video and audio output via HDMI 1.4.

Side Features

Item #	Object	Description
1	Antenna Ports	Three antenna ports for adding radio antennas (WiFi, LTE, etc.). The ports are covered by plugs while not in use.
2	Antenna Ports	*(Unpictured on the reverse side.)* Three antenna ports for adding radio antennas (WiFi, LTE, etc.). The ports are covered by plugs while not in use.

Motherboard Top View



Item #	Object	Label	Description
1	LTE Expansion Slot	4G/5G	M.2 3052 B-Key connector for USB 3.2 Gen 2 functionality. Designed for Protectli LTE modules, but is not limited in its capabilities.

<table>
<tr><td>2</td><td>CPU Fan Header</td><td>FAN</td><td>Four-pin PicoBlade-compatible header for an optional fan.</td></tr>
<tr><td>3</td><td>Front Panel Header</td><td>FP_PANEL1</td><td>Internal header for adding external device controls and indicators featured through the front panel, such as power button, reset button, activity LEDs, etc.</td></tr>
<tr><td>4</td><td>CMOS Battery</td><td>BAT</td><td>3V CR1220.</td></tr>
<tr><td>5</td><td>Buzzer</td><td>BUZZER</td><td>PC Speaker.</td></tr>
<tr><td>6</td><td>eSPI Header</td><td>FP_6PIN1</td><td>eSPI header for BIOS programming. Pinout is silkscreened on the motherboard, and reads as follows:
Pin 1 - V3P3A: +3.3 VDC
Pin 2 - GND: Ground
Pin 3 - MOSI-R: Main Out, Sub In
Pin 4 - CSO-N-R: Chip Select
Pin 5 - MISO-R: Main In, Sub Out
Pin 6 - CLK-R: Serial clock
Pin numbering is as follows, oriented to the above image of the motherboard:<table><tr><td>Pin 2 - GND</td><td>Pin 4 - CSO-N-R</td><td>Pin 6 - CLK-R</td></tr><tr><td>Pin 1 - V3P3A</td><td>Pin 3 - MOSI-R</td><td>Pin 5 - MISO-R</td></tr></table></td></tr>
<tr><td>7</td><td>M.2 NVMe Connector</td><td>SDD [1]</td><td>Connector uses PCIe 3.0 x1 protocol over an M.2 M-Key socket. It is designed for an NVMe storage device, but is otherwise a functional PCIe port.</td></tr>
<tr><td>8</td><td>WiFi Expansion Slot</td><td>WIFI</td><td>Connector uses PCIe 3.0 x1 protocol over an M.2 Key E socket. Designed for Protectli WiFI modules, but is not limited in its capabilities.</td></tr>
<tr><td>9</td><td>NVRAM Reset Jumper</td><td>CMOS</td><td>Shorting the jumper pins GND and CMOS while the CMOS battery is connected will reset the BIOS NVRAM.
Pin 1 - GND: Ground
Pin 2 - CMOS: CMOS reset when grounded
Pin 3 - NC: No connection
Pin number is as follows, oriented to the above image of the motherboard:<table><tr><td>Pin 1 - GND</td><td>Pin 2 - CMOS</td><td>Pin 3 - NC</td></tr></table></td></tr>
</table>

[1] The silkscreen on the motherboard reads “SDD” but should instead read “SSD”.

Measurement View

Document History

2024-06-28

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

2024-05-09

- Initial document