

Protectli Appliance

Protectli Vault V1410 4 Port - Intel® N5105

June 28, 2024

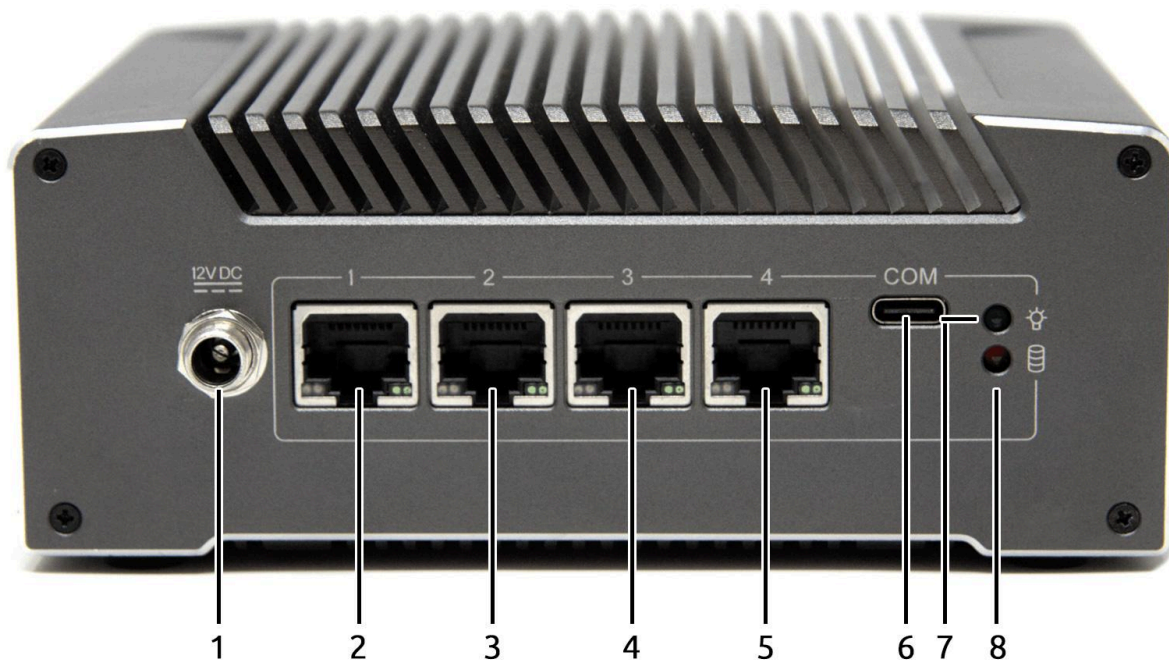
Specifications

Model	V1410
Description	4x 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	4x Intel I226-V 2.5G Ethernet, RJ-45
Video / Graphics	Intel UHD Graphics, 1x HDMI 1.4
Audio	Audio over HDMI
Memory	1x 8GB 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 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 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, coreboot TBD
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 27W
Chassis	Fanless, Aluminum, Gray

Chassis Dimensions	5.6 x 4.4 x 2.3 in, 142 x 112 x 58 mm
Mounting Options	Desktop, Optional VESA Bracket, Optional 1RU Rack Mount
Weight	2 lbs 3 oz, 1.0 kg
Shipping Weight	3 lbs 7.5 oz, 1.58 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

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	Ethernet Port 3	The third 100/1000/2500 Mbps Intel® i226-V ethernet port.
5	Ethernet Port 4	The fourth 100/1000/2500 Mbps Intel® i226-V ethernet

		port.
6	Serial Console Port	RS232 serial communications via FTDI FT232RQ UART, exposed through USB 2.0 Type C connector. Default port settings: <ul style="list-style-type: none"> • 115200 baud • No parity • 8 databits • 1 stopbit
7	Power Indicator LED	This LED will stay solid green when the device is powered on.
8	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.

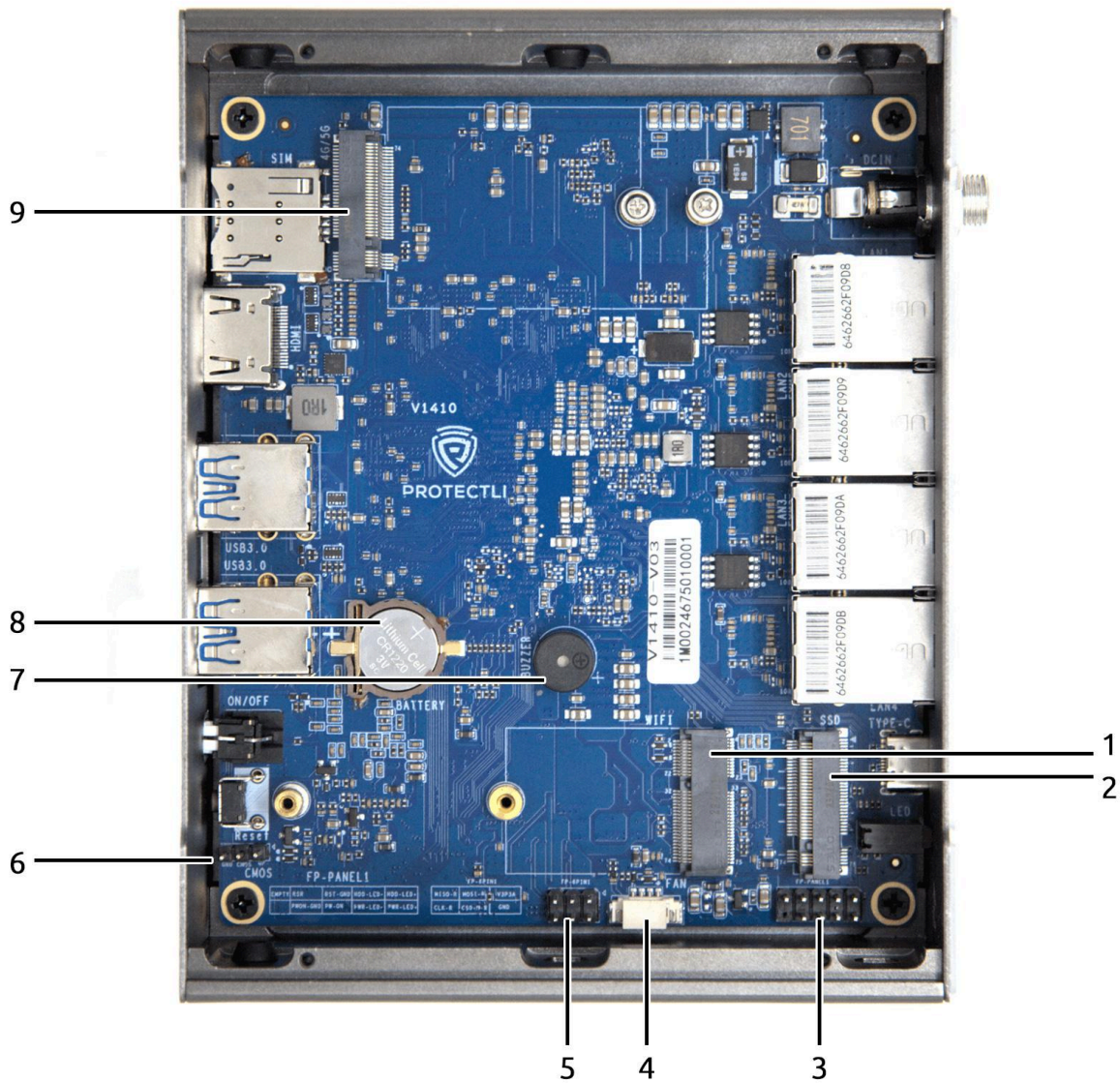
2	Power Button	<p>Pressing the Power Button will power the unit on and illuminate with a blue LED.</p> <p><i>In OSes configured to handle ACPI signals, pressing the power button initiates a shutdown.</i></p> <p><i>Pressing and holding the Power Button for 5 seconds will force the unit to power off.</i></p>
3	Four USB3 Connectors	USB 3.2 Gen 2 Type-A connectors.
4	HDMI Connector	Video and audio output via HDMI 1.4.
5	SIM Slot	Nano SIM slot for providing a SIM card to an optional internal cellular modem.

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	<i>(Unpictured on the reverse side.)</i> 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	WiFi Expansion Slot	WIFI	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.

2	M.2 NVMe Connector	SSD	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.										
3	Front Panel Header	FP-PANEL1	<p>Internal header for adding external device controls and indicators featured through the front panel, such as power button, reset button, activity LEDs, etc.</p> <p>Pin layout is as follows, oriented to the above image of the motherboard:</p> <table border="1"> <tr> <td>EMPTY</td> <td>RSR</td> <td>RST-GND</td> <td>HDD-LED-</td> <td>HDD-LED+</td> </tr> <tr> <td>KEY</td> <td>PWON-GND</td> <td>PW-ON</td> <td>PWR-LED-</td> <td>PWR-LED+</td> </tr> </table>	EMPTY	RSR	RST-GND	HDD-LED-	HDD-LED+	KEY	PWON-GND	PW-ON	PWR-LED-	PWR-LED+
EMPTY	RSR	RST-GND	HDD-LED-	HDD-LED+									
KEY	PWON-GND	PW-ON	PWR-LED-	PWR-LED+									
4	CPU Fan Header	FAN	Four-pin PicoBlade-compatible header for an optional fan.										
5	eSPI Header	FP_6PIN1	<p>eSPI header for BIOS programming. Pinout is silkscreened on the motherboard, and reads as follows:</p> <ul style="list-style-type: none"> • 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 <p>Pin numbering is as follows, oriented to the above image of the motherboard:</p> <table border="1"> <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>	Pin 2 - GND	Pin 4 - CSO-N-R	Pin 6 - CLK-R	Pin 1 - V3P3A	Pin 3 - MOSI-R	Pin 5 - MISO-R				
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Pin 1 - V3P3A	Pin 3 - MOSI-R	Pin 5 - MISO-R											
6	NVRAM Reset Jumper	CMOS	<p>Shorting the jumper pins GND and CMOS while the CMOS battery is connected will reset the BIOS NVRAM.</p> <ul style="list-style-type: none"> • Pin 1 - GND: Ground • Pin 2 - CMOS: CMOS reset when grounded • Pin 3 - NC: No connection <p>Pin number is as follows, oriented to the above image of the motherboard:</p> <table border="1"> <tr> <td>Pin 1 - GND</td> <td>Pin 2 - CMOS</td> <td>Pin 3 - NC</td> </tr> </table>	Pin 1 - GND	Pin 2 - CMOS	Pin 3 - NC							
Pin 1 - GND	Pin 2 - CMOS	Pin 3 - NC											
7	Buzzer	BUZZER	PC Speaker.										

8	CMOS Battery	BAT	3V CR1220.
9	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.

Measurement View



Document History

2024-06-28

- Initial document