

Protectli Appliance

Protectli Vault V1410 4 Port - Intel® N5105

October 24, 2024

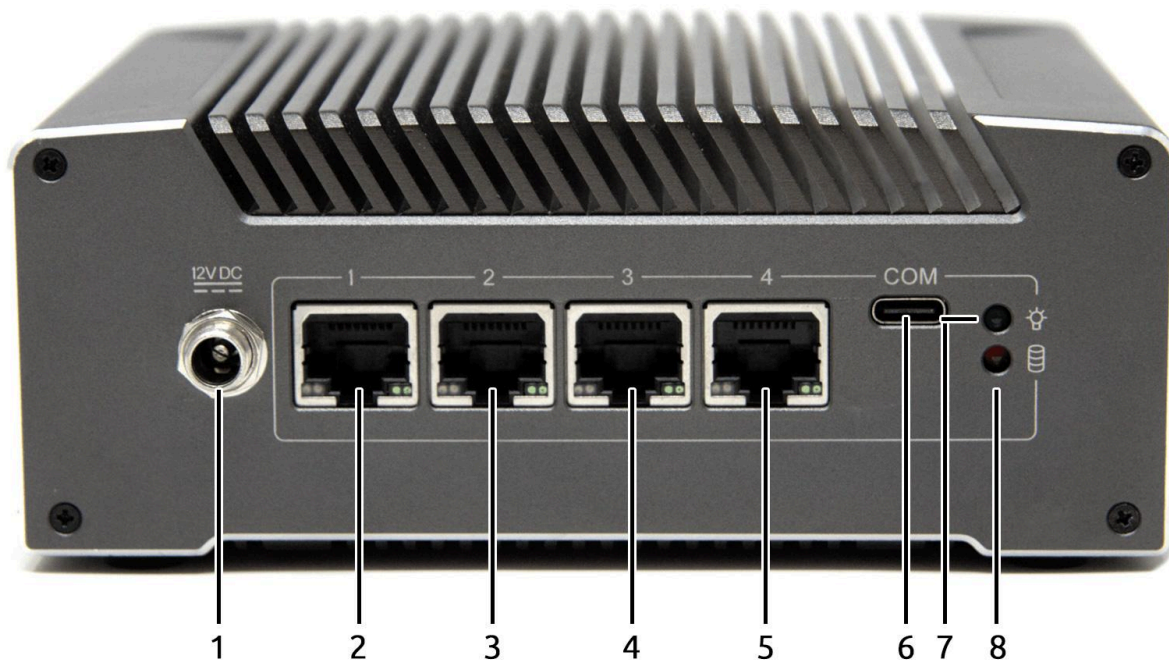
Specifications

Model	V1410
Description	4x 2.5G Network Port Fanless Appliance
Processor	Intel® Celeron® 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 1 Type A 1x USB Type C Console 1x HDMI 1x Reset Button (Recessed) 1x Nano (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 1 (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 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 for the 36W external power supply. Positive rail is the tip, negative is sleeve. Barrel dimensions: 5mm x 2.5mm
2	Ethernet Port 1	100/1000/2500 Mbps Intel® i226-V ethernet port.
3	Ethernet Port 2	100/1000/2500 Mbps Intel® i226-V ethernet port.
4	Ethernet Port 3	100/1000/2500 Mbps Intel® i226-V ethernet port.
5	Ethernet Port 4	100/1000/2500 Mbps Intel® i226-V ethernet port.
6	Serial Console Port	RS-232 serial communications via FTDI FT232RQ UART,

		<p>exposed through USB 2.0 Type C connector.</p> <p>Default port settings:</p> <ul style="list-style-type: none"> • 115200 baud • No parity • 8 databits • 1 stopbit
7	Power Indicator LED	LED emits solid green when the device is powered on.
8	HDD Activity LED	LED emits red 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</i></p>

		<p>button initiates a shutdown.</p> <p>Pressing and holding the Power Button for 5 seconds will force the unit to power off.</p>
3	4x USB Connectors	Four (4) USB 3.2 Gen 1 Type-A connectors.
4	HDMI Connector	Video and audio output via HDMI 1.4.
5	SIM Slot	Nano (4FF) SIM slot for providing a SIM card to an optional internal cellular modem.

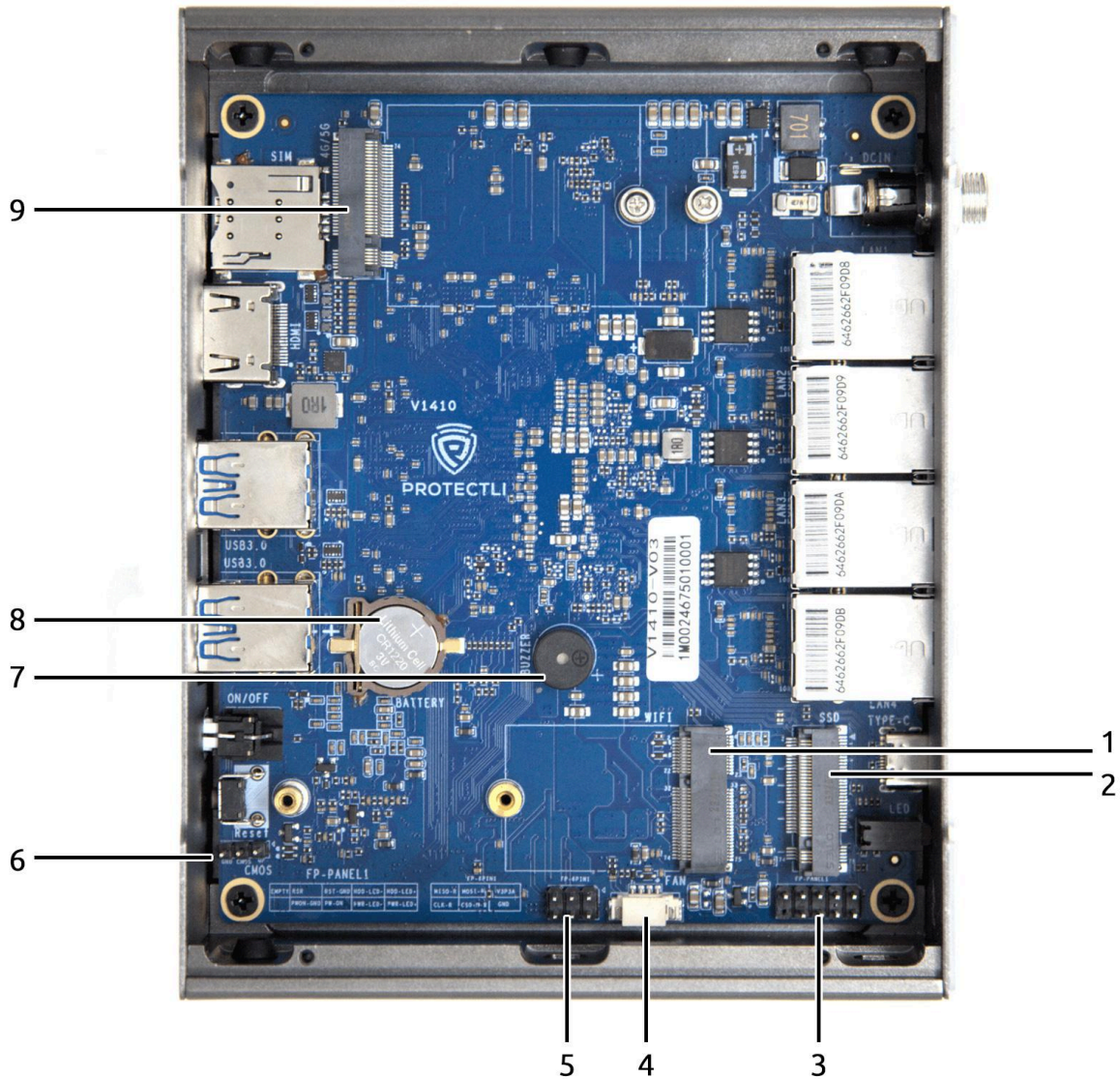
Side Features



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.
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Motherboard Top View



Item #	Object	Label	Description
1	WiFi Expansion Slot	WIFI	Connector uses PCIe 3.0 x1 protocol over an M.2 E-Key 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" data-bbox="743 688 1412 800"> <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 as follows, oriented to the above image of the motherboard:</p> <table border="1" data-bbox="743 1016 1412 1127"> <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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6	NVRAM Reset Jumper	CMOS	<p>3 pin (2.54mm pitch) NVRAM reset pins. Shorting the jumper pins GND and CMOS while the CMOS battery is connected will reset the BIOS NVRAM.</p> <p>Pin number is as follows, oriented to the above image of the motherboard:</p> <table border="1" data-bbox="743 1367 1412 1423"> <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	Slot holds a CR1220 3V battery.										
9	LTE Expansion Slot	4G/5G	M.2 3052 B-Key connector for USB 3.2 Gen 1 functionality. Designed for Protectli LTE modules, but is not limited in its capabilities.										

Measurement View



Document History

2024-10-24

- Unified spacing throughout document
- Updated linked spec sheet to include coreboot availability
- Clarified wording throughout “System Features” section
- Corrected USB versions from “USB 3.2 Gen 2” to “USB 3.2 Gen 1”

2024-08-01

- Changed “PC Speaker” to “PC speaker”
- Changed “RS232” to “RS-232”
- Updated linked spec sheet with ® and ™ as necessary for Intel and AMI
- Updated linked spec sheet from “4FF SIM” to “Nano (4FF) SIM”

2024-06-28

- Initial document