

PERSONAL TRANSPORT 5 (PT⁵)
USER MANUAL
VERSION 1.4

03EN481 Rev. E



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BEFORE CONNECTING PT⁵, UPGRADE MPU5 TO FIRMWARE VERSION 19.7.X OR HIGHER



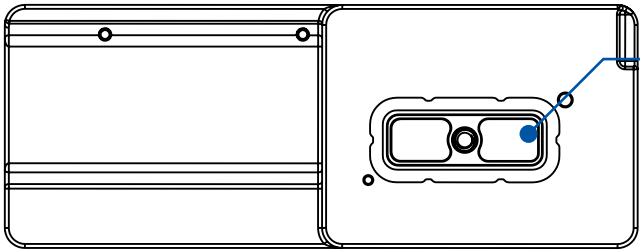
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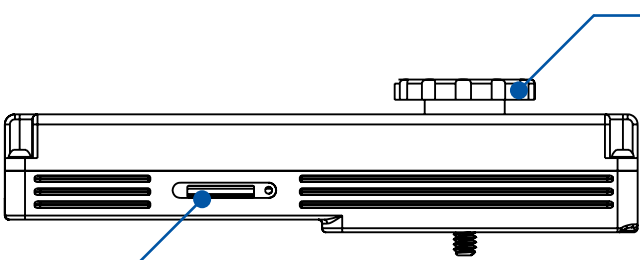
PT⁵ Device Features

PT⁵ Device Features



22-Pin Connector

Connects to any side connector on the MPU5 or PT⁵ Device Tether Cable



Thumbscrew

Tighten to 4 in-lbs. for IP66-compliant connection

SIM Card Tray

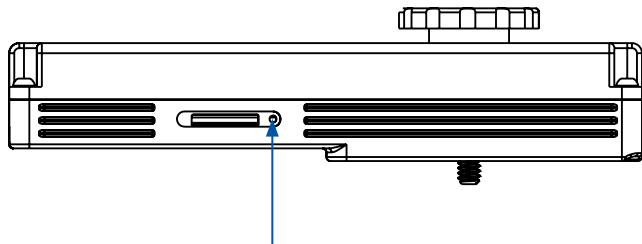
Compatible with ATT NANO Sim

Inserting SIM Card

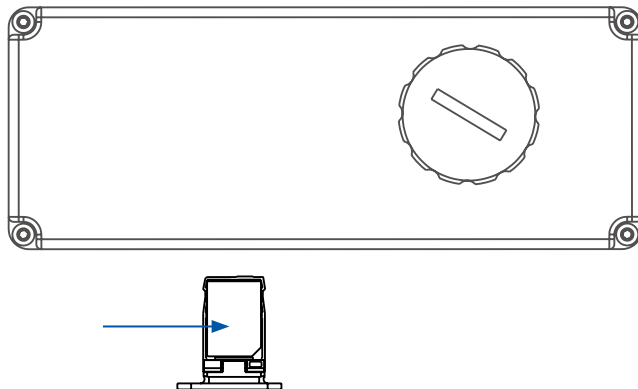
Inserting SIM Card

The PT⁵ supports 5G Sub-6GHz and 4G Networks via NANO SIM.

- 1 Use SIM card tool to open tray

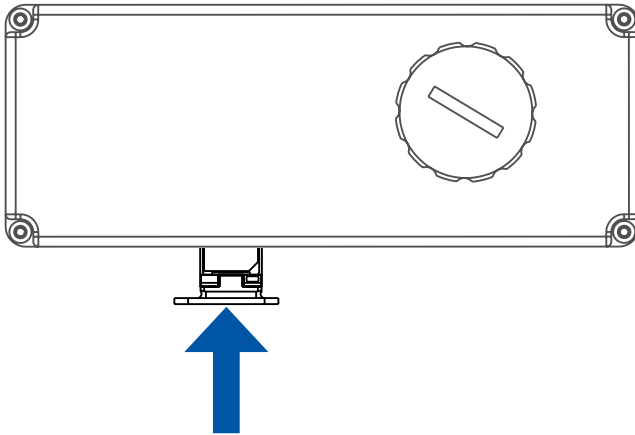


- 2 Insert or replace SIM card

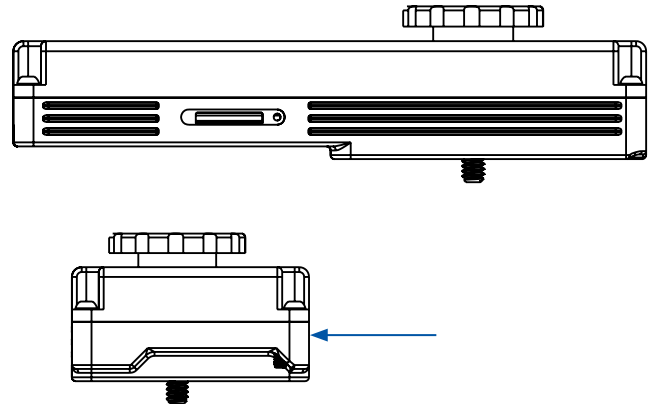




3 Push SIM tray into slot



4 Ensure SIM tray is flush with PT⁵ chassis



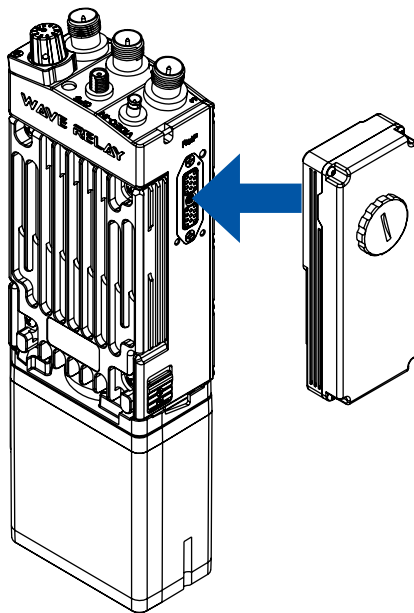
NO NDA REQUIRED

The export and/or the release of certain products, technology and software to non-US persons might be subject to export restrictions. Please refer to the US export laws & regulations for details.

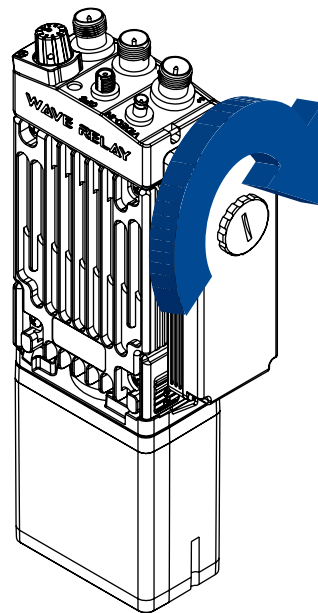


Connecting the PT⁵ to the MPU5 (Direct Connection)

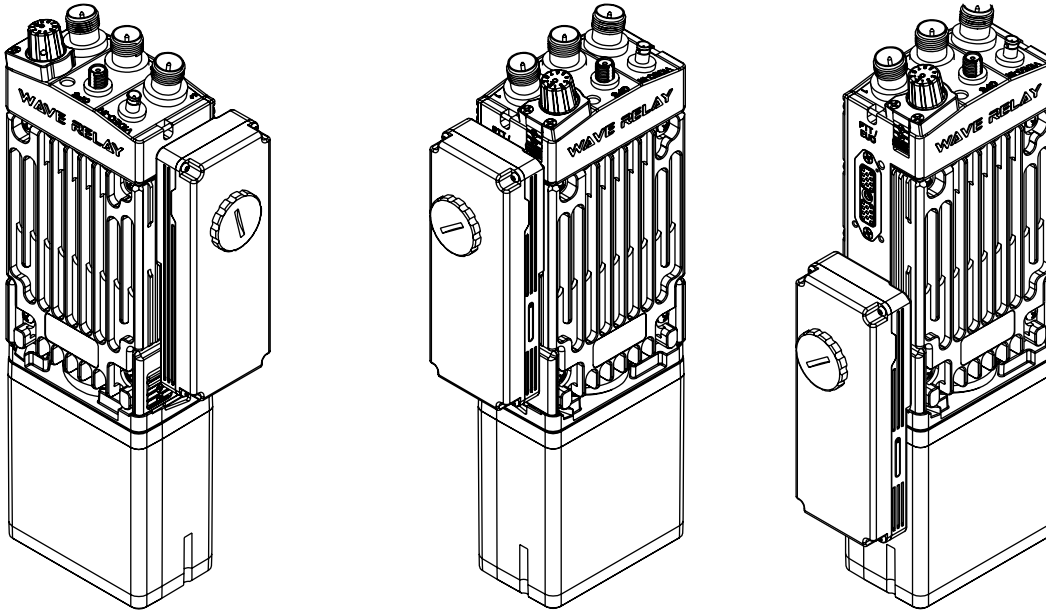
- 1 Align the PT⁵ with the Side Connector



- 2 Tighten the thumbscrew to 4 in-lbs.



3 The PT⁵ can be attached to any side connector



NO NDA REQUIRED

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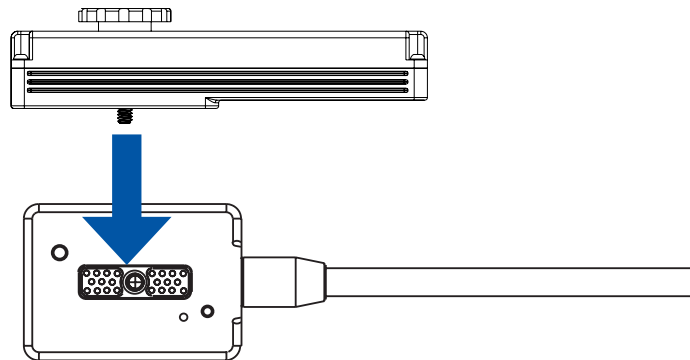
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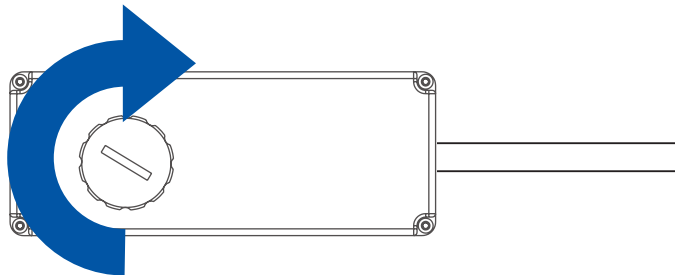


Connecting the PT⁵ to the MPU5 (Cable Connection)

1 Align the PT⁵ with the cable connector

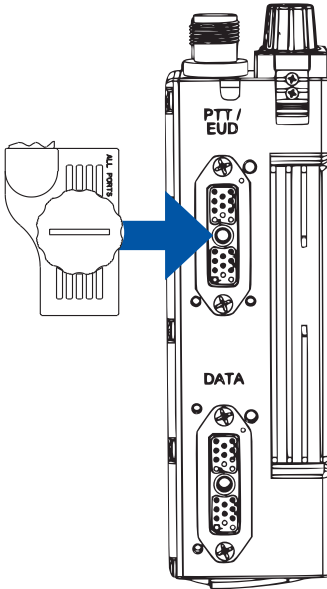


2 Tighten the thumbscrew to 4 in-lbs.

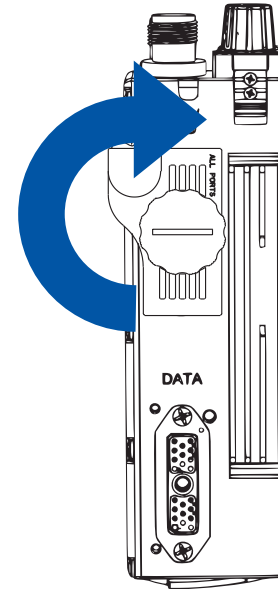


- 3 Align the cable 22-Pin connector with the MPU5 side connector.

Note: The PT⁵ cable can connect to any side connector.



- 4 Tighten the thumbscrew to 4 in-lbs.

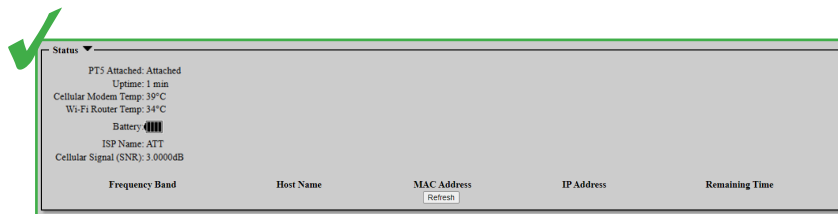
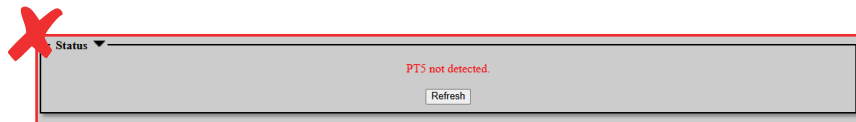


Software Configuration

Note: The MPU5 will remember these settings if you remove the PT⁵ and will use the same settings when the PT⁵ is reconnected.

The PT⁵ will use these settings no matter which side connector it is attached to
The PT⁵ DOES NOT have to be connected to configure these settings.

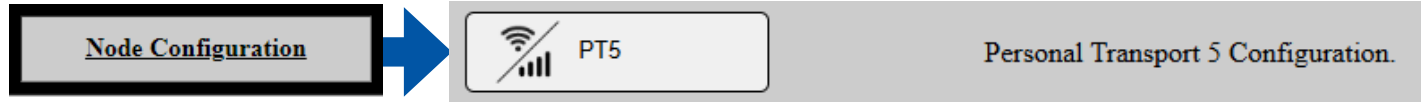
PT⁵ Status page will display a red warning if a PT⁵ is not attached.



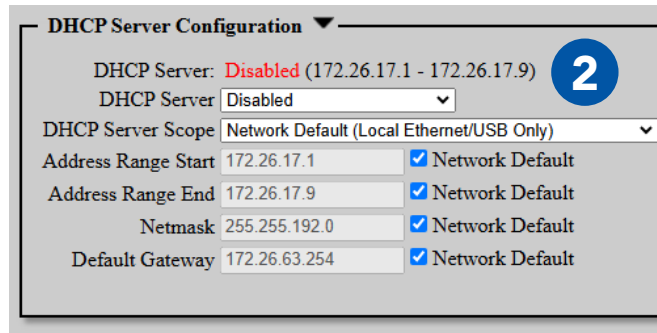
DHCP Configuration

! **WARNING!:** DHCP is required for Wi-Fi Mode. DHCP is not required for Cellular Mode.

1 Click **Node Configuration** > **PT⁵**



2 If DHCP is not enabled on the node, it must be enabled. DHCP Server status will display in red if DHCP Server is disabled.



The screenshot shows the "DHCP Server Configuration" interface. A blue circle with the number "2" is overlaid on the "Disabled" status. The interface includes the following fields:

- DHCP Server:** Disabled (172.26.17.1 - 172.26.17.9)
- DHCP Server:** Disabled (dropdown menu)
- DHCP Server Scope:** Network Default (Local Ethernet/USB Only) (dropdown menu)
- Address Range Start:** 172.26.17.1 (checkbox: Network Default)
- Address Range End:** 172.26.17.9 (checkbox: Network Default)
- Netmask:** 255.255.192.0 (checkbox: Network Default)
- Default Gateway:** 172.26.63.254 (checkbox: Network Default)



DHCP Configuration

3

Set **DHCP Server** to **Enabled**.

4

Ensure **Default Gateway** matches the local node's Gateway.

See **03EN221 DHCP Quick Start Guide** for more information on configuring DHCP Server.

The image shows two screenshots of a device's configuration interface. The left screenshot is titled "DHCP Server Configuration" and has a dropdown arrow next to the title. It contains the following fields:

- DHCP Server:** Enabled (172.26.17.1 - 172.26.17.9) ← An arrow points from this text to the "Range of IP Addresses to be served" label on the right.
- DHCP Server:** Enabled (dropdown menu)
- DHCP Server Scope:** Network Default (Local Ethernet/USB Only) (dropdown menu)
- Address Range Start:** 172.26.17.1 (checkbox: ☒ Network Default)
- Address Range End:** 172.26.17.9 (checkbox: ☒ Network Default)
- Netmask:** 255.255.192.0 (checkbox: ☒ Network Default)
- Default Gateway:** 172.26.63.254 (checkbox: ☒ Network Default) ← An arrow points from this field to the "Gateway" field in the right screenshot.

The right screenshot is titled "Management" and contains the following fields:

- Node Name:** WR50608 (checkbox: ☒ Factory Default)
- IP Address:** 172.26.10.80 (checkbox: ☐ Factory Default)
- Netmask:** 255.255.192.0 (checkbox: ☒ Network Default)
- Gateway:** 172.26.63.254 (checkbox: ☒ Network Default) ← This field is highlighted with a blue box and has an arrow pointing to it from the "Default Gateway" field in the left screenshot.
- DNS 1:** 8.8.8.8 (checkbox: ☒ Network Default)
- DNS 2:** 8.8.4.4 (checkbox: ☒ Network Default)

5

Click **Save & Reconfigure Unit**

Save & Reconfigure

Note: The PT⁵ does NOT serve IP addresses - the MPU5 is the DHCP server and will serve IP addresses.

Note: It takes 2 minutes for the PT⁵ to boot & SSIDs to be broadcast.



Cellular Mode Configuration

Note: a SIM card **MUST** be installed to use cellular mode.

Cellular can be used only for Cloud Relay (no dirty Internet) and is controlled on the Cloud Relay Configuration page.

- 1 Click **Cloud Relay**. This will open the Cloud Relay configuration page.

Configuration ▼

Cloud Relay Interface Disabled ▼ [Cloud Relay](#)

Wi-Fi Mode Silent ▼

- 2 Set **Cloud Relay Interface** to **PT⁵ (Cellular) Device**. For additional information on configuring Cloud Relay, see [03EN215 Cloud Relay Manual](#).

- 3 Click **Save & Reconfigure**.

Cloud Relay Gateway Enabled ▼

Interface PT5 (Cellular) Device ▼

Hub IP Address or Hostname

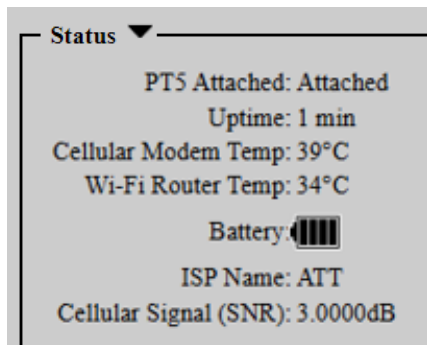
PreShared ID: No ID Set

PreShared Key: No Key Set

Save & Reconfigure

Cellular Mode Status

- 1 Status is displayed at the top of the PT⁵ Configuration page



This box displays the status for the PT⁵ itself as well as cellular connectivity status.

Uptime: PT⁵ uptime

Cellular Modem Temp: Temperature of the PT⁵ Cellular Modem

Wi-Fi Router Temp: Temperature of the PT⁵ Wi-Fi Router

Battery: PT⁵ internal battery level

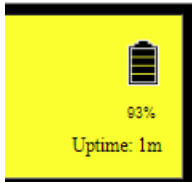
ISP Name: Name of cellular network currently being accessed

Cellular Signal (SNR): Signal strength of cellular network

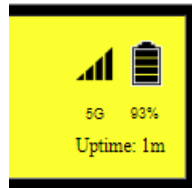
Refresh: Reload status box

2 Status is displayed in the WMI Header:

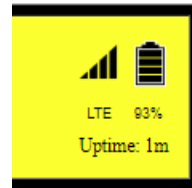
Cellular Disabled



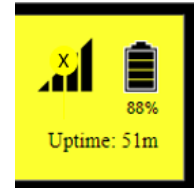
**Cellular Enabled,
5G Connected**



**Cellular Enabled,
LTE Connected**



**Cellular Enabled,
No Connection**





Wi-Fi Configuration

Wi-Fi Configuration

Note: The PT⁵ can operate in two different bands that can be configured independently.

Note: It takes 2 minutes for the PT⁵ to boot & SSIDs to be broadcast.

1

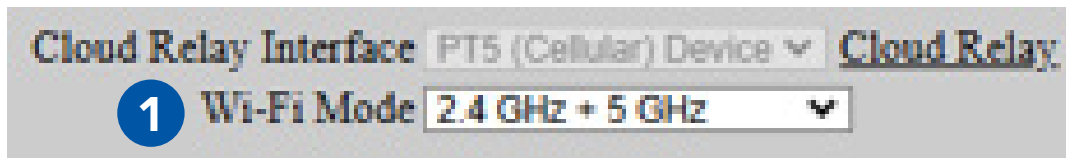
Set **Wi-Fi Mode** to:

2.4 + 5 GHz: Connect devices to the MPU5 via Wi-Fi in the 2.4 GHz and 5 GHz bands.

2.4 GHz: Connect devices to the MPU5 via Wi-Fi in the 2.4 GHz band only.

5 GHz: Connect devices to the MPU5 via Wi-Fi in the 5 GHz band only.

Silent: PT⁵ is powered; Wi-Fi capabilities are disabled.





- 2 The MPU5 will generate a random SSID the first time you connect a PT⁵. Click Randomize SSIDs to generate new random SSIDs. You may also type a custom SSID, if desired.
 - 3 Set **SSID Broadcast**:
Disabled (default): SSID will not appear in devices' Wi-Fi network browser; users will have to manually enter Wi-Fi SSID to connect.
Enabled: SSID will appear in devices' Wi-Fi network browser; users can connect by selecting it.
- Note:** When SSID Broadcast is set to disabled, refer to your device's manual for information on how to connect to hidden networks.
- 4 Set a custom **Password**, if desired. Users will need this password to connect to the Wi-Fi network. **Check** the Randomize box to generate a randomized password. Click **Copy** to copy the password to your clipboard.

Wi-Fi 2.4 GHz		Wi-Fi 5 GHz	
SSID:	GrottoFairwood2.4	GrottoFairwood5	Randomize SSIDs
SSID Broadcast:	Enabled	Enabled	
Password:	password ☐ (Randomize) Copy	password ☐ (Randomize) Copy	



Wi-Fi Configuration

5 Click **Save & Reconfigure**

DHCP Server Configuration ▶

5 Save & Reconfigure

6 The WMI will generate QR codes - scan the QR code with your EUD camera to connect your device to the Wi-Fi network.

Wi-Fi 2.4 GHz

SSID: GrottoFairwood2.4

SSID Broadcast: Enabled

Password: password (Randomize) Copy

Scan to pair:

6

GrottoFairwood2.4

Wi-Fi 5 GHz

SSID: GrottoFairwood5 Randomize SSIDs

SSID Broadcast: Enabled

Password: password (Randomize) Copy

GrottoFairwood5



Advanced Wi-Fi Configuration

- 1 Set **Wi-Fi Security Algorithm** to WPA2 or WPA3. WPA3 offers stronger encryption but older client devices may have limited compatibility.
- 2 By default, the PT⁵ will use a random MAC address for each Wi-Fi access point on boot and/or each time the PT⁵ is configured.. To disable random MAC address generation and always use the same MAC address, uncheck the Factory Default box.

The screenshot shows the 'Advanced Settings' menu with a dropdown arrow. Below the header, there are three settings:

- 1 **Wi-Fi Security Algorithm** is set to 'Factory Default (WPA2-PSK)' with a dropdown arrow.
- 2 **2.4 GHz AP MAC Address** is '56:1d:77:a8:85:b3'. To its right is an unchecked checkbox labeled 'Factory Default (Random)'.
- 5 GHz AP MAC Address** is '4e:ba:0e:84:cd:06'. To its right is a checked checkbox labeled 'Factory Default (Random)'.



Advanced Wi-Fi Configuration

- 3** Adjust **Channel Select** for each Wi-Fi band.
Numbers - Frequency: Instruct the PT⁵ to use a specific Wi-Fi Channel/Frequency
Auto: PT⁵ will pick the best channel/frequency on boot

- 4** Adjust **Channel Width** for each Wi-Fi band.
Note: Larger Channel Width offers higher throughput but shorter range.

- 5** Adjust **Tx Power** for each Wi-Fi band. Higher transmit power offers more range but may increase detectability.
Note: If **PT⁵ Mode** is set to **2.4 + 5 GHz** and **Tx Power** is changed while the PT⁵ is attached, the PT⁵ must be detached and re-attached before the Tx Power setting change takes effect.

	Wi-Fi 2.4 GHz	Wi-Fi 5 GHz
3	Channel Select: 6 - 2437 MHz	40 - 5180 MHz
4	Channel Width: 20 MHz	40 MHz
5	Tx Power: Factory Default (22 dBm (Max))	Factory Default (23 dBm (Max))

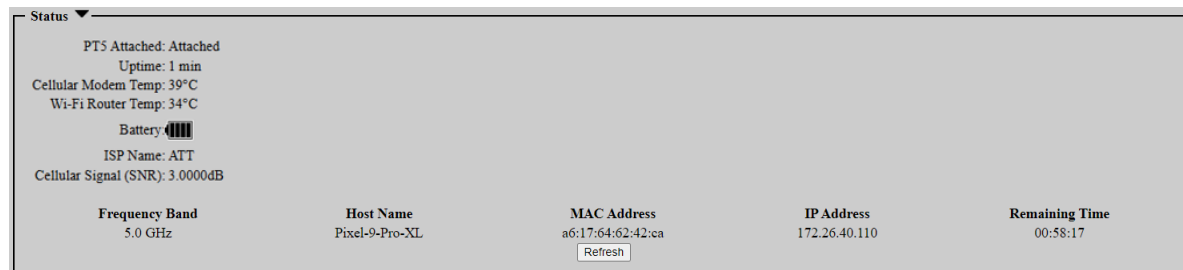
- 6** Click **Save & Reconfigure**

6

Save & Reconfigure

Wi-Fi Status

1 Status is displayed at the top of the PT⁵ Configuration page



This box displays the status for the PT⁵ itself as well as devices connected via PT⁵ Wi-Fi.

Uptime: PT⁵ uptime

Cellular Modem Temp: Temperature of the PT⁵ Cellular Modem

Wi-Fi Router Temp: Temperature of the PT⁵ Wi-Fi Router

Battery: PT⁵ internal battery level

Frequency Band: Displays the Frequency band on which the device is communicating

Host Name: Displays name of the connected device

MAC Address: Displays MAC address of the connected device

IP Address: Displays IP Address assigned to the device via DHCP

Remaining Time: Displays time until assigned IP Address expires.

Refresh: Reload status box

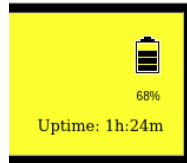


Wi-Fi Status

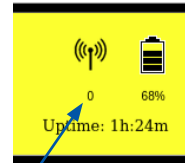
2

Status is displayed in the WMI Header:

Wi-Fi Disabled



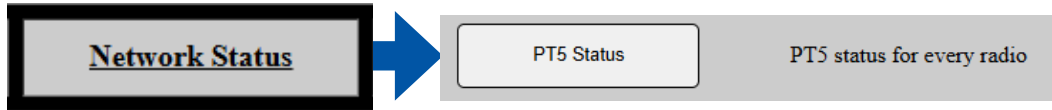
Wi-Fi Enabled



**Number of client devices connected
via Wi-Fi**

PT⁵ Network Status

- 1 Click **Network Status** > **PT⁵ Status**



- 2 The page will display which nodes have PT⁵s attached.

- 3 Page will display configured PT5 settings for all nodes regardless of whether a PT5 is attached.

3

Name	IP	PT5 Attached	PT5 Mode	Cloud Relay Interface	Wi-Fi Security	Wi-Fi SSID 2.4 GHz	Wi-Fi Password 2.4 GHz	Wi-Fi SSID 5 GHz	Wi-Fi Password 5 GHz	Wi-Fi SSID Broadcast 2.4 GHz	Wi-Fi SSID Broadcast 5 GHz
HEISOMPAN-WFS993	172.26.0.88	YES	2.4 GHz + 5 GHz PT5		WPA2-PSK	GrottoFairwood_4	0835H0C5	GrottoFairwood5	0835H0C5	Yes	Yes

2



Clicking **password** will display the QR code used to connect.

PERSONAL TRANSPORT 5 (PT⁵)
USER MANUAL
VERSION 1.4



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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- . Reorient or relocate the receiving antenna.
- . Increase the separation between the equipment and receiver.
- . Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- . Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless devices employing a unit of measurement is known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid after searching on FCC ID: 2AG3J-WRPT50001

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.