Grandstream Networks, Inc.

# GWN7302 PtP/PtMP

User Manual

# Introduction

The **GWN7302** is an outdoor **PtP/PtMP Fixed Wireless Bridge** designed for **Point-to-Point (PtP)** and **Point-to-MultiPoint (PtMP)** deployments in business and infrastructure environments. It enables stable, long-distance wireless links up to **5 km** between remote locations with a clear line of sight.

Unlike traditional Wi-Fi access points, the GWN7302 is built for **transparent Layer-2 bridging**, allowing full extension of the local network across sites. It carries **DHCP**, **VLAN**, and **management traffic** just like an Ethernet cable.

With **5GHz directional antennas**, **2×2:2 MIMO**, and **TDMA-based communication**, it helps reduce interference and maintain consistent performance. The **IP66-rated enclosure** makes it suitable for outdoor deployment in locations such as **construction sites, security camera poles, parking areas**, and **multi-building campuses**.

Deployment supports:

- **PtP Mode** – One Master connected to one Slave
- **PtMP Mode** – One Master connected to up to four Slaves

The setup process is streamlined using:

- **One-Key Pairing**
- **LED-based signal alignment**
- **Integrated Web UI**, **GWN App**, and **GDMS Cloud**

***Note:*** *The GWN7302 is designed for infrastructure links and does not serve as a general Wi-Fi access point.*

This manual includes full guidance for installation, setup, pairing, alignment, and management.

> Changes or modifications to these products not expressly approved by Grandstream, or operation of these products in any way other than as detailed by this User Manual, could void your manufacturer warranty.

> Please do not use a different power adapter with these devices as it may cause damage to the products and void the manufacturer warranty.

# Product Overview

## Technical Specifications

| Category | Specification |
|---|---|
| **Wi-Fi Standards** | IEEE 802.11 a/n/ac/ax |
| **Antennas** | 2 single frequency antennas 5GHz x 2, gain 13.5dBi Beamwidth 5GHz: H:30°, V:30° |
| **Wi-Fi Data Rates** | **5G:**<br>IEEE 802.11ax: 7.3 Mbps to 2402 Mbps<br>IEEE 802.11ac: 6.5 Mbps to 1732 Mbps<br>IEEE 802.11n: 6.5 Mbps to 300 Mbps<br>IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>**Actual throughput may vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment and mix of devices in the network* |
| **Frequency Bands** | 5GHz Radio:5150 – 5895 MHz<br>**Not all frequency bands can be used in all regions.* |
| **Channel Bandwidth** | 5G: 20, 40, 80, and 160 MHz (x2) |
| **Wi-Fi and System Security** | WPA2-PSK, WPA3-PSK, anti-hacking secure boot and critical data/control lockdown via digital signatures, unique security certificate and random default password per device |

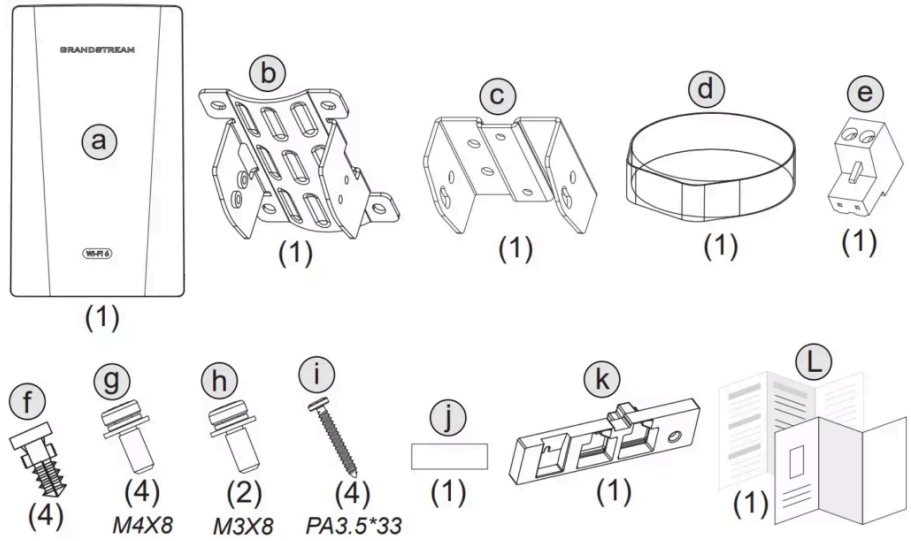
| | |
|---|---|
| **MIMO** | 2×2:2 5GHz |
| **Coverage Range** | Up to 5 kilometers<br>**Coverage range can vary based on environment* |
| **Maximum TX Power** | 5G: 26dBm<br>**Maximum power varies by country, frequency band and MCS rate* |
| **Receiver Sensitivity** | **5G**:<br>802.11a: -92dBm@6Mbps, -74dBm@54Mbps;<br>802.11n 20MHz: -73dBm@MCS7; 802.11n 40MHz: -70dBm@MCS7; 802.11ac 20MHz: -67dBm@MCS9;<br>802.11ac 40MHz: -63dBm@MCS9; 802.11ac 80MHz: -59dBm@MCS9 802.11ax MIMO: -60dBm@MCS11;<br>802.11ax 40MHz: -58dBm@MCS11; 802.11ax 80MHz: -56dBm@MCS11; 802.11ax 160MHz:<br>-52dBm@MCS11 |
| **Management SSID** | Single 5G |
| **Point to Multipoint** | 1 to 4 |
| **Network Interfaces** | 2 x 10/100/1000Mbps Ethernet |
| **Auxiliary Ports** | 1x Reset and Pairing Pinhole |
| **LEDs** | 1 tri-color LED for device tracking and status indication<br>3 x LED for signal strength<br>2 x LED for network port status |
| **Network Protocols** | IPv4, 802.1Q, 802.1p, 802.11e/WMM |
| **QoS** | 802.11e/WMM, VLAN, TOS |
| **Network Management** | Embedded controller can manage via Web access<br>GDMS Networking offers remote management via SSH tunneling<br>GWN APP offers on-site management without LAN |
| **Power and Green Energy Efficiency** | DC: +24VDC (Compatible with 16VDC-48VDC),<br>PoE/PoE+: 802.3af/at<br>PSE output: max13W with PoE+ Input/max 25W with +24VDC/2A input |
| **Environmental** | Operation: -30°C to 60°C<br>Storage: -30°C to 70°C<br>Humidity: 5% to 95% Non-condensing |
| **Physical** | Unit Dimension: 180mm x 102mm x 38mm |
| **Mounting** | Wall mount or pole mount, kits included |
| **Package Content** | GWN7302 PtP/PtMP Fixed Wireless Bridge, Mounting Kits, Quick Start Guide |
| **Weatherproof Grade** | IP66-level weatherproof capability when installed vertically |
| **Surge Protection** | 8KV |
| **Compliance** | FCC, CE, RCM, IC |

*GWN7302 Technical Specifications*

# Hardware Installation

## Package Contents

The GWN7302 package includes the following components required for installation and setup:




*Package Contents*

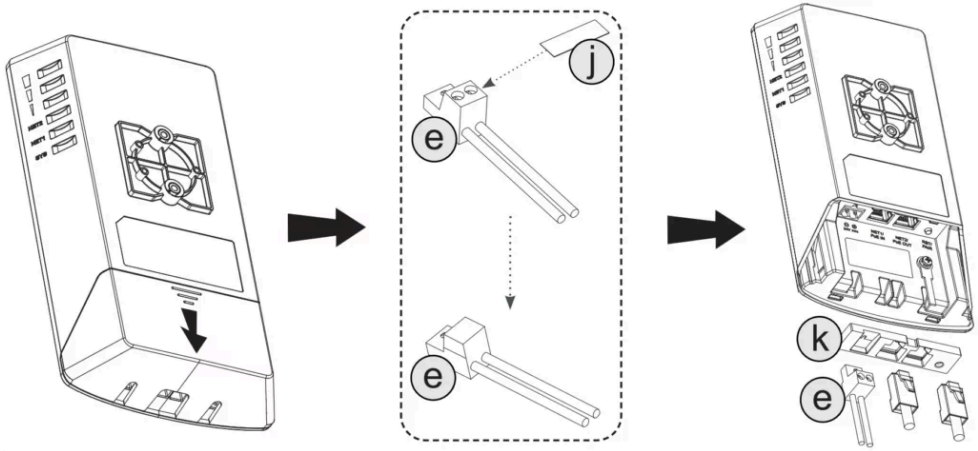
| Letter | Qty | Item Description |
|---|---|---|
| a | 1 | GWN7302 Device |
| b | 1 | Wall/Pole Bracket |
| c | 1 | Device Bracket |
| d | 1 | Steel Strap |
| e | 1 | Terminal Power Adapter (24V input) |
| f | 4 | Expansion Bolts |
| g | 4 | Screws (M4×8) |
| h | 2 | Screws (M3×8) |
| i | 4 | Screws (PA3.5×33) |
| j | 1 | Adhesive Sticker |
| k | 1 | Rubber Waterproof Accessory |
| L | 1 | Quick Installation Leaflet |

*Package Contents*

## Device Ports

The GWN7302 features:

- **NET1 Port** – PoE IN
- **NET2 Port** – PoE OUT
- **RST/PAIR Button** – for factory reset or one-key pairing
- **Power Terminal** – for 24V DC optional input




*Ports*

| Port | Description |
|---|---|
| **NET1 (PoE IN)** | Ethernet RJ45 port (10/100/1000 Mbps) supporting PoE/PoE+ input. Use this port to power the device via a PoE injector or switch. |
| **NET2 (PoE OUT)** | Ethernet RJ45 port (10/100/1000 Mbps) with PoE/PoE+ output capability to power another PoE device (e.g., an IP camera or access point). |
| **RST / PAIR** | Multi-function button used to:<br>• Press and hold for 7 seconds to reset to factory settings<br>• Tap once for One-Key Pairing during PtP/PtMP configuration |
| **Power Terminal (24V DC)** | Power input via terminal block for 24V DC. Can be used if PoE is not available. |

*Ports*

## Device Mount

GWN7302 can be mounted on the wall or a metal bar. Please refer to the following steps for the appropriate installation.

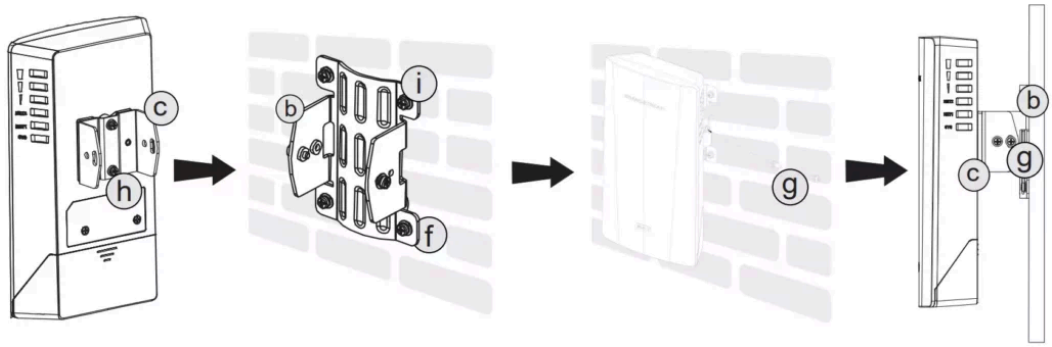
## Wall Mount

1. **Attach the Device Bracket**
   Use the M3 screws to secure the device bracket to the back of the GWN7302.

2. **Fix the Wall Bracket**
   Mount the wall/pole bracket to the wall using the expansion bolts and long screws..

3. **Hook & Secure the Device**
   Align the device bracket with the mounted wall bracket, hook it into place, and secure it using the screws for firm attachment.

4. **Tighten and Check**
   Ensure all screws are secure and the device is properly fixed and facing the correct direction.




*Wall Mount*

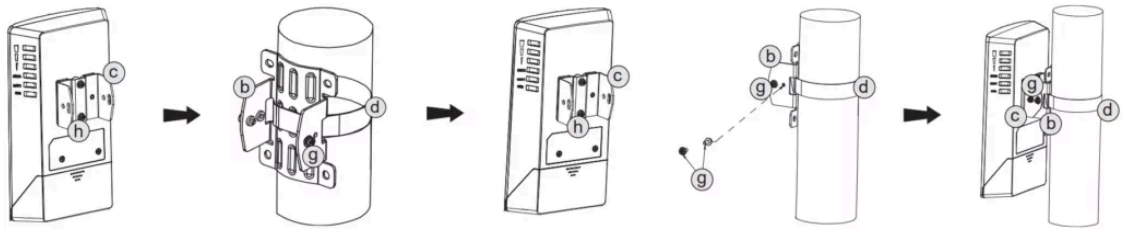
## Pole Mount

1. **Attach the Device Bracket**
   Use the M3 screws to secure the device bracket to the back of the GWN7302.

2. **Fix the Pole Bracket**
   Insert the steel strap through the pole bracket and wrap it around the pole. Tighten the strap until the bracket is snug and level.

3. **Hook & Secure the Device**
   Align the device bracket with the mounted pole bracket, hook it into place, and secure it with screws for a firm and stable attachment.

4. **Final Check**
   Confirm the device is tightly mounted, facing the correct direction, and all fasteners are secure.




*Pole Mount*

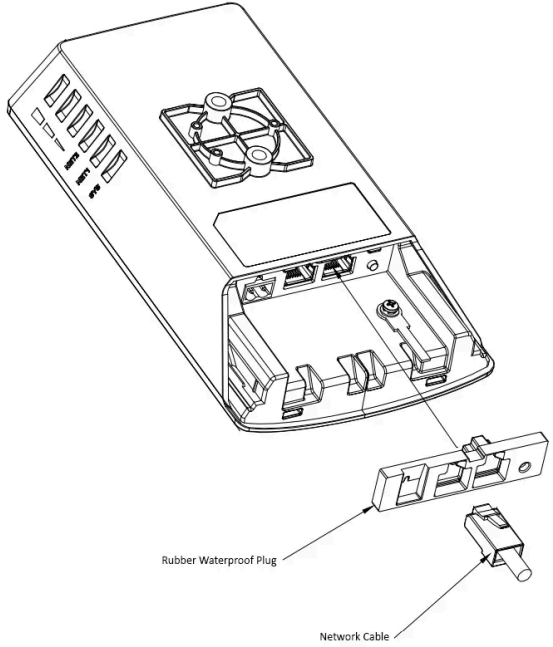
## Rubber Waterproof Plug Installation

The GWN7302 includes a **rubber waterproof plug** used to seal unused ports and maintain **IP66 protection** for outdoor use. Depending on your power method and port usage (NET1, NET2, DC IN), the plug can be configured in two ways:

**Case 1: Using only NET1 (PoE IN)**

If you're using only **NET1** for both power and data (typical for most PtP deployments):

- You **do not remove** any rubber inserts.
- You insert the **network cable (RJ45)** directly through the **main open port** on the rubber plug.
- The other two plug sections (NET2 + DC IN) **stay sealed**.

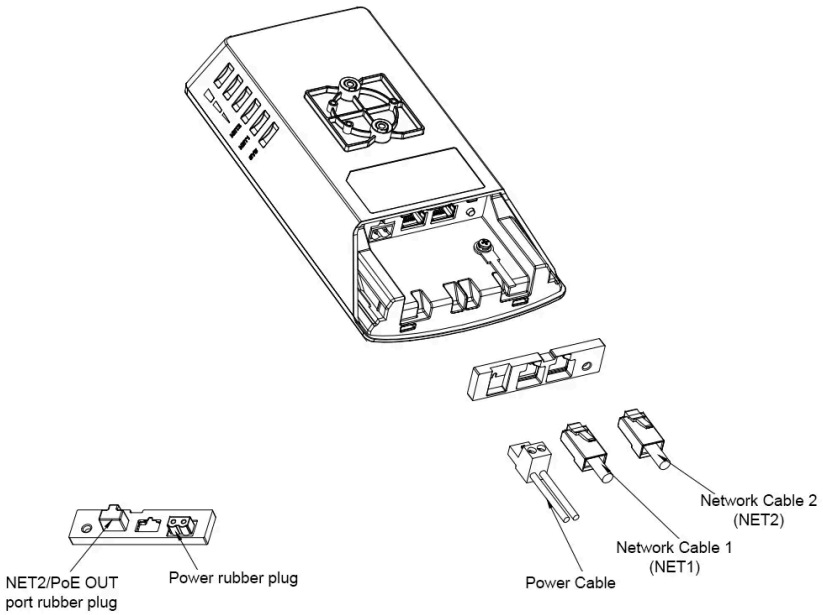



*Case 1 Using only NET1 PoE IN*

**Case 2: Using NET2 and/or 24V DC Input**

If you're using **NET2 (PoE OUT)** to power another device (e.g., camera) and/or supplying **power via the 24V terminal block**:

- You need to **remove the corresponding rubber seals** from the backside of the plug:
  - Remove the rubber cap for **NET2** if you're inserting a second Ethernet cable.
  - Remove the rubber cap for **DC IN** if using a 24V terminal adapter.
- Insert the cables through the newly opened holes.
- Then fit the rubber plug into the main unit as usual.




*Case 2 Using NET2 andor 24V DC Input*

- Do not attempt to open, disassemble, or modify the device.
- Do not expose this device to temperatures outside the range of -30 °C to 60 °C for operating and -30 °C to 70 °C for storage.
- Do not expose the GWN7302 to environments outside of the following humidity range: 5-95% RH (non-condensing).
- Do not power cycle your GWN7302 access point during system boot-up or firmware upgrade. You may corrupt firmware images and cause the unit to malfunction.
- Please take lightning protection measures during installation (a lightning rod is required, and the device must be reliably grounded). It is recommended to use a surge protection device.

The GNU GPL license terms are incorporated into the device firmware and can be accessed via the Web user interface of the device at my_device_ip/gpl_license. It can also be accessed here: https://www.grandstream.com/legal/open-source-software

To obtain a CD with GPL source code information, please submit a written request to info@grandstream.com

# Getting Started

## Initial Access to the GWN7302

This section explains how to access the GWN7302 for the first time.

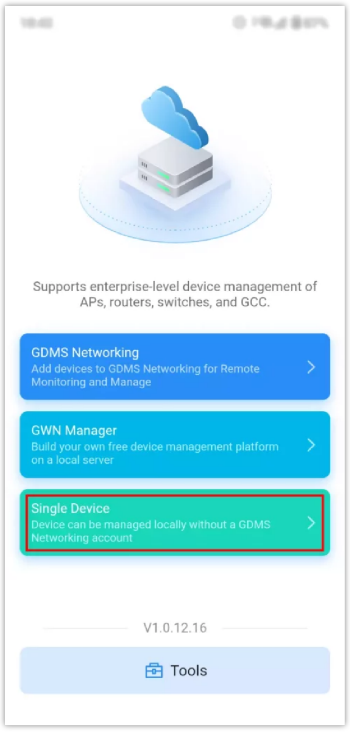
> ***Pairing Guide (Recommended):*** *Pairing is the most important step when deploying the GWN7302 in PtP or PtMP mode. This user manual provides a high-level overview only. For full step-by-step pairing instructions and best practices (including RST/PAIR button pairing), refer to the dedicated GWN7302 Pairing Guide*

### Option A: GWN App

When powered on, the GWN7302 broadcasts a Management Wi-Fi network for initial setup. The SSID is automatically generated and appears in the format: **`GWN7302_XXXXXX`** (where `XXXXXX` is the last characters from the device MAC address).

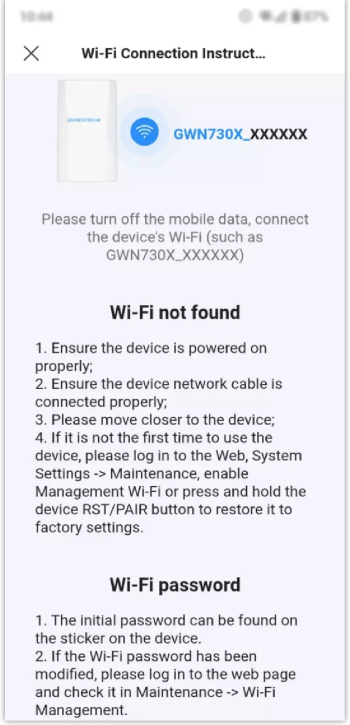
To access the device from a phone:

1. Connect your phone to the broadcast SSID (for example, `GWN7302_XXXXXX`).
2. Open the **GWN App** and select **Single Device**.



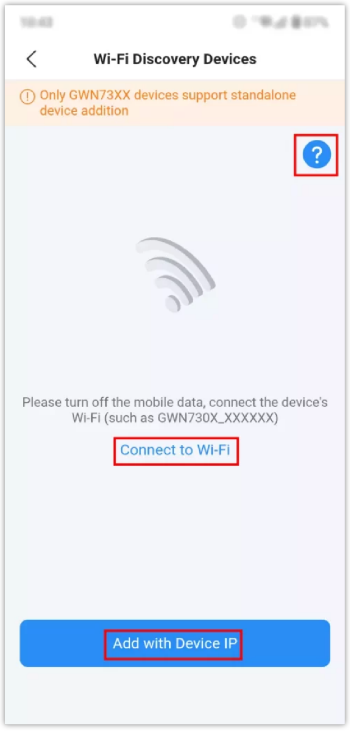

*Login page*

On the discovery page, tap **Connect to Wi-Fi** to search for the device. If the device is not detected, tap the **?** icon to view connection guidance.




*Login page*

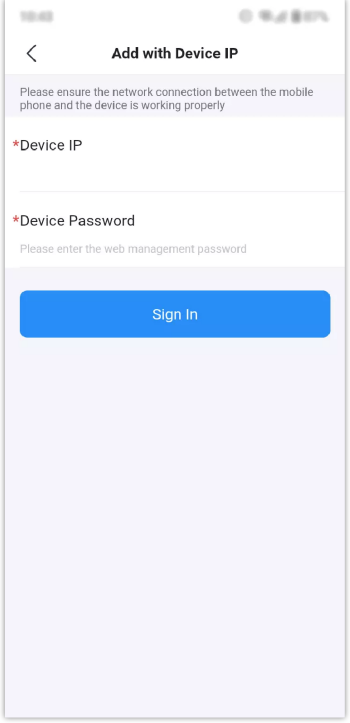
or select **Add with Device IP** to log in manually.




*Login page*

If you choose **Add with Device IP**, enter the device IP address and the device password (Web UI login password), then tap **Sign In**.

> *This method requires that your phone can reach the device IP on the same network.*




*login page*

For more details, check the GWN7302 Pairing Guide

### Option B: MAC address or GWN Discovery Tool

Use this option when the GWN7302 and your computer are connected to the same local network (LAN), for example, connected to the same router or switch.

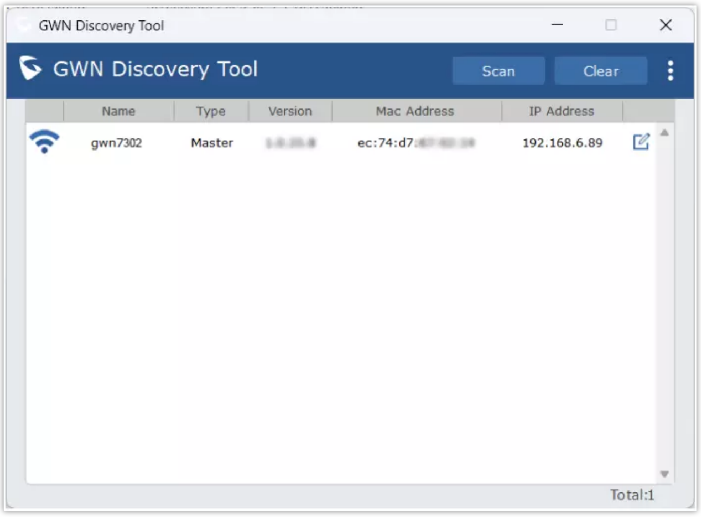
#### Method 1: Access using the device's local URL (MAC-based)

Locate the MAC address on the device label, then enter the following in a browser: ***https://gwn_MAC Address.local***

> ***Example:*** *If the MAC is* `C0:74:AD:8C:4D:F8` *, enter:* `https://gwn_c074ad8c4df8.local`

#### Method 2: Access using the GWN Discovery Tool

Run the **GWN Discovery Tool**, click **Scan**, then use the discovered IP address to open the Web UI.




*GWN Discovery Tool*

#### Web UI Login

Log in using:

- **Username:** `admin`
- **Password:** the default random password printed on the device label (*unless previously changed*).


*Login page*

- *Make sure the device is not already **paired to another master** or controller. If so, unpair or factory reset it first.*
- *It is the customer's responsibility to ensure compliance with local regulations for frequency bands, transmit power, and others.*
- *To manage remotely, use the **GDMS platform**: https://www.gdms.cloud.*

For more details, check the GWN7302 Pairing Guide

## LED Indicators

The LED indicators on the GWN7302 provide at-a-glance feedback for device status, pairing progress, network connectivity, and link quality. These indicators are especially useful during installation, antenna alignment, and troubleshooting.

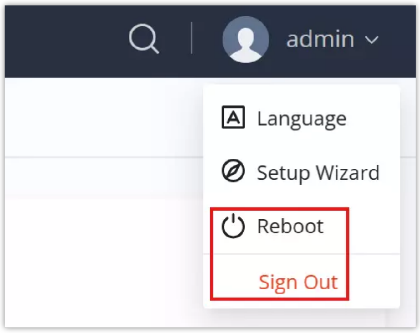
| LED | Status | Meaning |
|---|---|---|
| **Sys (System)** | Solid Yellow | Disconnected after pairing (Slave). |
| | Solid Pink | Device powered on & ready (factory default Slave mode or Pairing in progress). |
| | Blinking Pink | Discovering the device and establishing a connection. |
| | Solid Blue | Paired successfully, link established. |
| | Solid Red | Pairing failed. |
| | Blinking Blue | Configuration update in progress |
| | Blinking green | Firmware update in progress |
| | Solid green | The firmware update successful/rebooting |
| | Blinking Red | Restore factory |
| **Signal LEDs (3 bars)** | 1–3 Green bars | **Slave:** Link quality between this device and the paired Master.<br>3 LEDs turn blinking green in cycle when waiting to be discovered by Master. |
| | | **Master:** All 3 LEDs turn solid green when role is active.<br>3 LEDs turn blinking green in cycle when scanning Slaves. |
| **NET1 (PoE IN)** | Solid/Flashing Green | Ethernet link or data activity (PoE input). |
| **NET2 (PoE OUT)** | Solid/Flashing Green | Ethernet link or data activity (PoE output). |

*LED Indicators*

## Rebooting or Logging Out

The **Reboot** and **Logout** options are located in the **top-right corner** of the web interface under the **admin** menu.

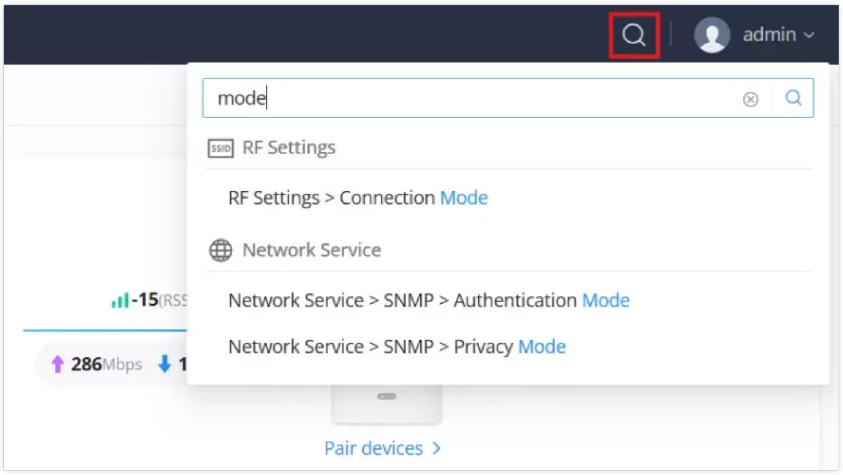
- **Reboot:** Click **Reboot** to restart the device. This will briefly interrupt the wireless bridge and any connected devices.
- **Logout:** Click on **Logout** to securely exit the web interface. You will need to log in again to access the settings.




*Rebooting or Logging Out*

## Search

The GWN7302 Web UI includes a built-in **Search Bar** for quick navigation. It's located in the **top-right corner** of the interface, next to the admin profile.




*Search*

**How to Use:**

1. Click the **magnifying glass icon**.
2. Type a keyword (e.g., "mode", "SSID", "IP", etc.).
3. Matching settings and menu items will appear instantly.

This feature helps you jump directly to RF settings, network services, or any advanced option without browsing through each tab manually.

## Setup Wizard

The **Setup Wizard** is a built-in configuration flow that simplifies the initial setup of the GWN7302 for both **PtP** and **PtMP** deployments. It's ideal for first-time installation or post-reset reconfiguration.

The wizard appears automatically:

- On first login to a factory-reset device
- After manually selecting **"Setup Wizard"** from the **admin menu** in the top-right corner of the Web UI

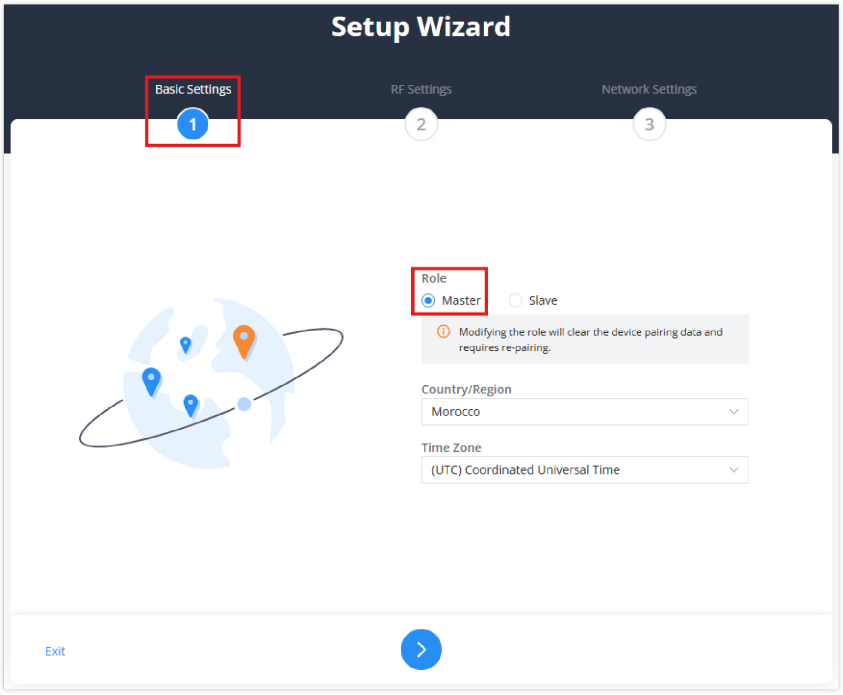
The wizard can be re-run at any time without resetting the device.

## Configuration Flow

The wizard consists of **three main steps**:

## 1. Basic Settings

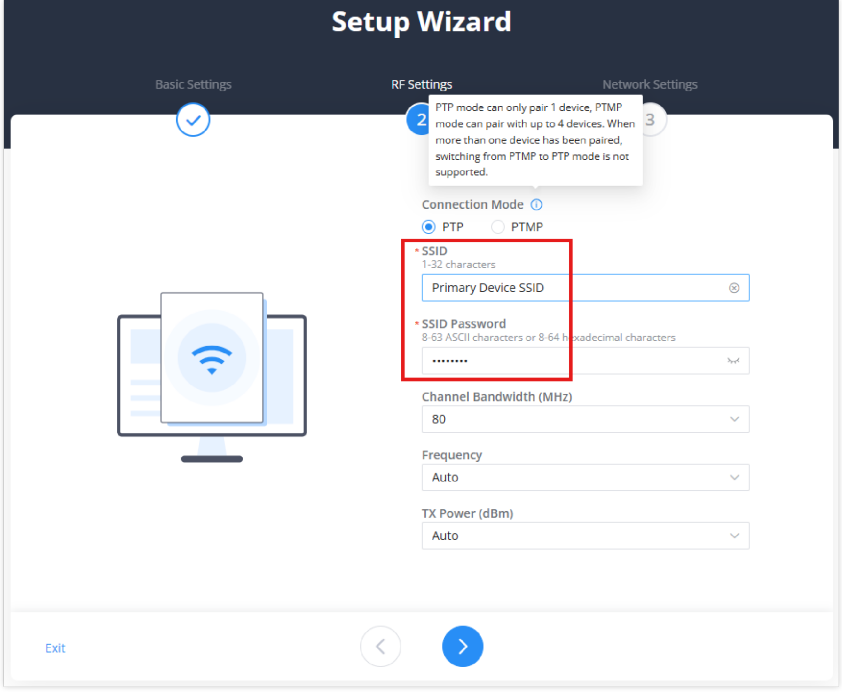
- Select **Device Role**:
  - Master (controller)
  - *Slave* (client)
- Set **Country** and **Time Zone**




*Setup Wizard Basic Settings*

## 2. RF Settings

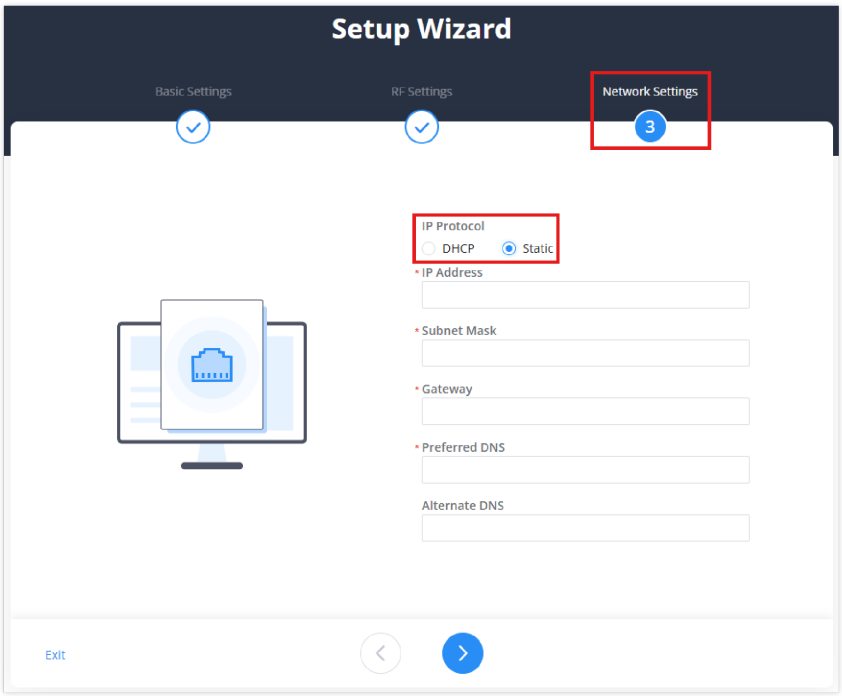
- Choose **Connection Mode**:
  - *PtP* (one Slave)
  - *PtMP* (up to 4 Slaves)
- Configure:
  - **SSID** & **Password**
  - **Channel Bandwidth** (20/40/80 MHz)
  - **TX Power** (Auto or Manual)




*Setup Wizard RS Settings*

### 3. Network Settings

- Choose IP mode: **DHCP** (default) or **Static**
- If Static: Enter
  - IP Address
  - Subnet Mask
  - Gateway
  - DNS Servers




*Setup Wizard Network Settings*

***Note:*** *Device role (Master/Salve) is locked after setup. Changing it requires a factory reset.*

**For more details**, including full pairing steps and RF tuning, visit the official guide: GWN7302 Pairing Guide

# Overview

## Overview page

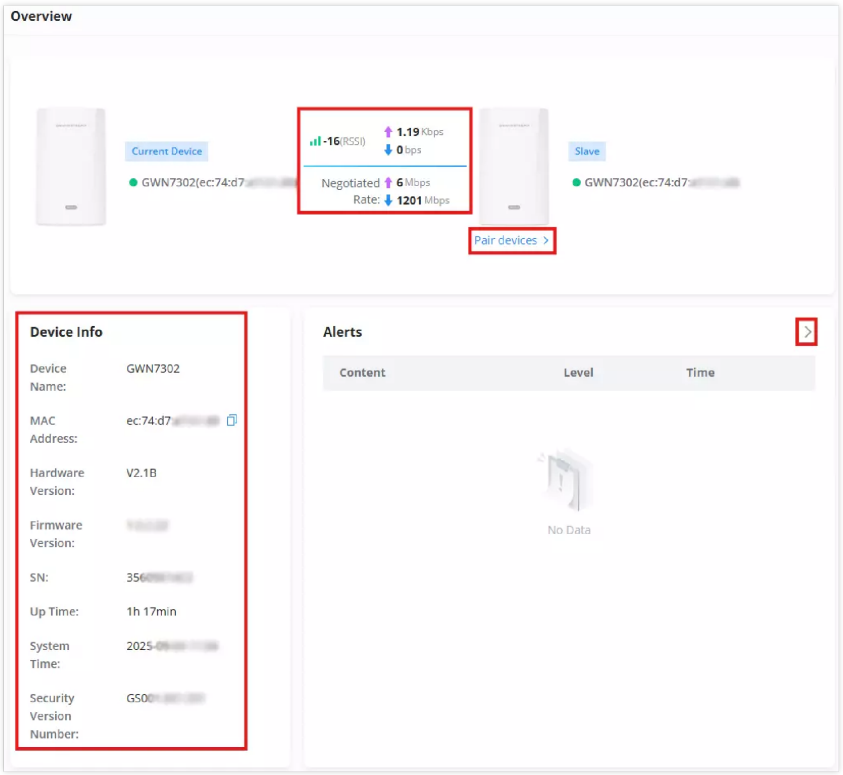
The **Overview** page is the central dashboard for monitoring the current status of your GWN7302 device, its pairing state, and key performance metrics. This page is useful during installation, alignment, and ongoing monitoring of PtP or PtMP wireless bridges.

## Device Link Status

At the top of the page, a graphical interface shows the **current link between devices**, including:

- **Current Device**: The GWN7302 you are logged into, labeled accordingly.
- **Paired Device**: The remote GWN7302 unit paired via bridge mode.
- **RSSI (Signal Strength)**: Real-time dBm level of the wireless link (e.g., -16 dBm).
- **Link Speeds**: Displays current Tx and Rx throughput in Mbps (e.g., 1201 Mbps).

*Click on* **Pair Devices** to quickly jump to the Paired Devices section and manage connections.




*Overview Top Overview Panel*

## Device Info Panel

Located below the link status, this section includes critical device identity and hardware details:

- **Device Name**
- **MAC Address** (with a one-click copy button)
- **Hardware / Firmware Version**
- **Serial Number (SN)**
- **Uptime**
- **System Time**
- **Security Version Number**

These fields are useful for asset tracking, troubleshooting, and verifying firmware compatibility.

### Alerts Section

On the right side, you'll find a live **Alerts Panel** that displays real-time system warnings, such as:

- **High CPU usage**
- **Link issues or disconnection**
- **Firmware version mismatches (future update)**

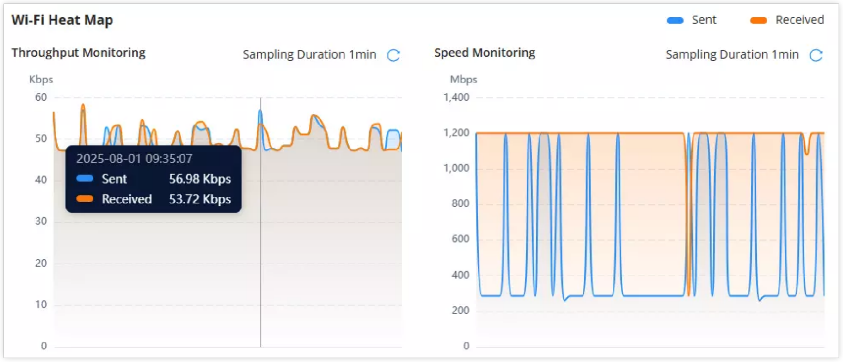
*Click the arrow icon ➤ to view the full Alerts history and details.*

## Wi-Fi Heat Map & Speed Monitoring

Scrolling further down the Overview page, you'll find two real-time monitoring graphs:

- **Throughput Monitoring (Kbps)** – Measures actual sent and received traffic in kilobits per second.
- **Speed Monitoring (Mbps)** – Shows peak link capacity for both directions across 1-minute intervals.

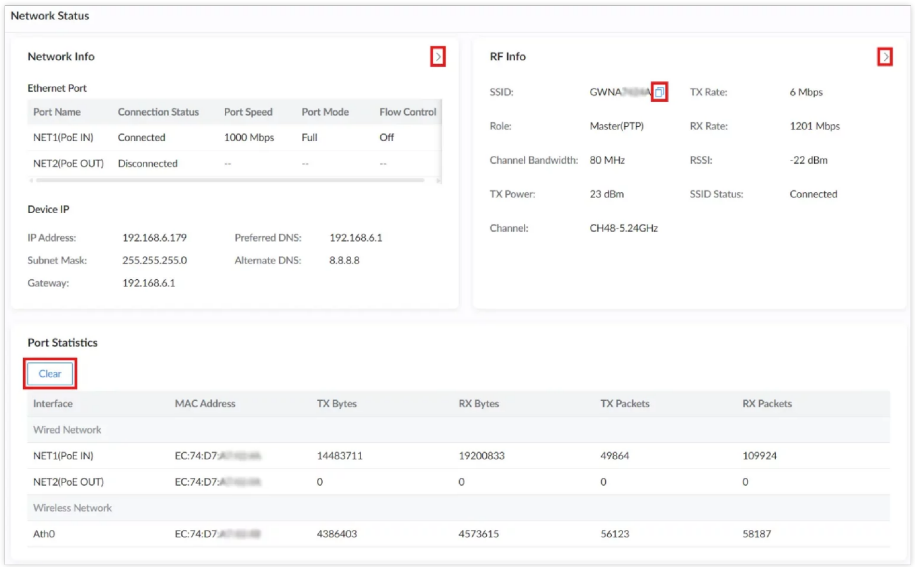
Hover over the graphs to view exact timestamps and transfer rates.
Ideal for testing antenna alignment, link stability, or traffic patterns during setup.




*Overview Graph Section*

## Network Status

The **Network Status** page displays real-time connection and link quality information for the GWN7302 device. This view is crucial for verifying physical port status, RF link parameters, IP addressing, and monitoring overall traffic flow.




*Network Status*

### Ethernet Port Info

Displays the state of the two physical Ethernet ports:

| Field | Description |
| --- | --- |
| **PoE IN** | Main power and data input port (NET1). Should show **Connected** with **1000 Mbps**. |
| **PoE OUT** | Optional PoE passthrough port (NET2) for powering devices like cameras. |
| **Port Mode** | Displays duplex mode (typically Full). |
| **Flow Control** | Shows whether flow control is active. |

***Note:*** ➤ *Clicking the **arrow icon** redirects to the **Network Settings** page for editing.*

### Device IP Info

Displays the current IP and DNS configuration of the unit:

- **IP Address**
- **Subnet Mask**
- **Gateway**
- **Preferred / Alternate DNS**

***Note:*** *Typically, these are assigned via DHCP unless a static IP was configured manually.*

### RF Info Summary

Shows key wireless parameters for the active PtP/PtMP link:

| Field | Description |
| --- | --- |
| **SSID** | The used secure SSID for bridge communication (not broadcast to clients). |
| **Role** | Displays the device role: `Master` (PtP) or `Slave` |
| **Channel Bandwidth** | e.g., 80 MHz |
| **TX/RX Rate** | Real-time link throughput |
| **RSSI** | Received signal strength indicator (e.g., -16 dBm) |
| **TX Power** | Configured transmission strength |
| **SSID Status** | The secure SSID for bridge communication (not broadcast to clients). |
| **Frequency** | Current operating frequency (e.g., CH100-5.5GHz(DFS)) |

***Notes:***

- ➤ *Clicking the **arrow icon** redirects to the **RF Settings** page.*
- *Clicking the **copy icon** next to SSID copies the SSID to the clipboard for quick reference.*

### Port Statistics

Live statistics for wired and wireless interfaces:

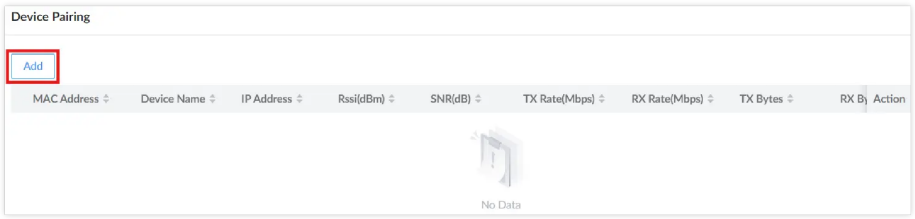
| Metric | Description |
| --- | --- |
| **Interface** | Interface name (for example, NET1, NET2, Ath0). |
| **MAC Address** | MAC address of the selected interface. |
| **TX Bytes / RX Bytes** | Total transmitted/received bytes. |
| **TX Packets / RX Packets** | Total transmitted/received packets. |

***Note:*** *Click the **"Clear"** button to reset all statistics counters.*

# Device Pairing

From the Master device:

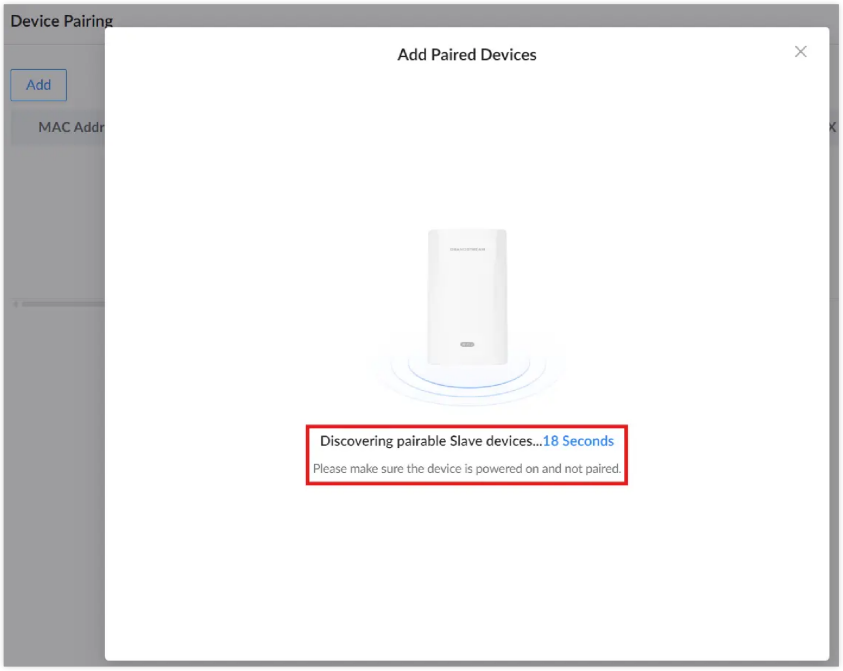
1. Navigate to **Device Pairing**.
2. Click the **Add** button to start pairing.




*Device Pairing page*

## Discovery – Finding Slave Devices

The Master device will now scan for available Slave devices nearby. Slave devices must be powered on and **not already paired**.

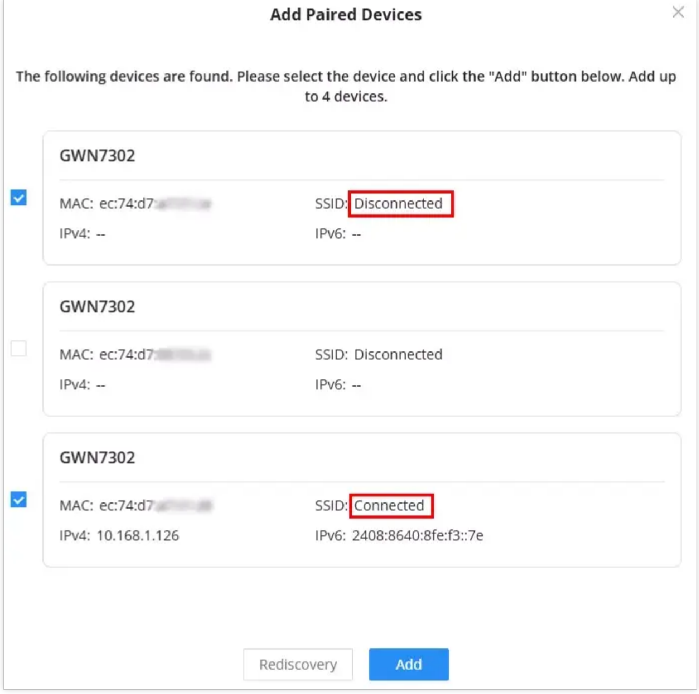



*Discovery Finding Slave Devices*

## Device List – Connected vs Disconnected Status

After the scan, you'll see a list of discovered devices:

- **Connected**: Device is already configured with the SSID/password of the Master.
- **Disconnected**: Device has no matching SSID/password. Requires button press.

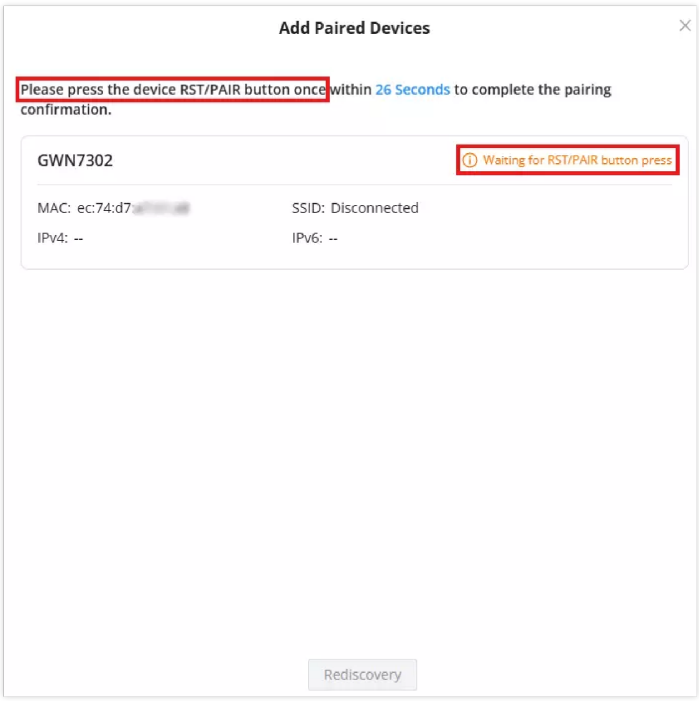



*Device List Connected vs Disconnected Status*

## Confirm Pairing – If Disconnected

If the device shows **Disconnected**, the user must confirm pairing manually:

- Press the **RST/PAIR** button **once** on the Slave device **within 30 seconds**.
- The UI will prompt you to do so.

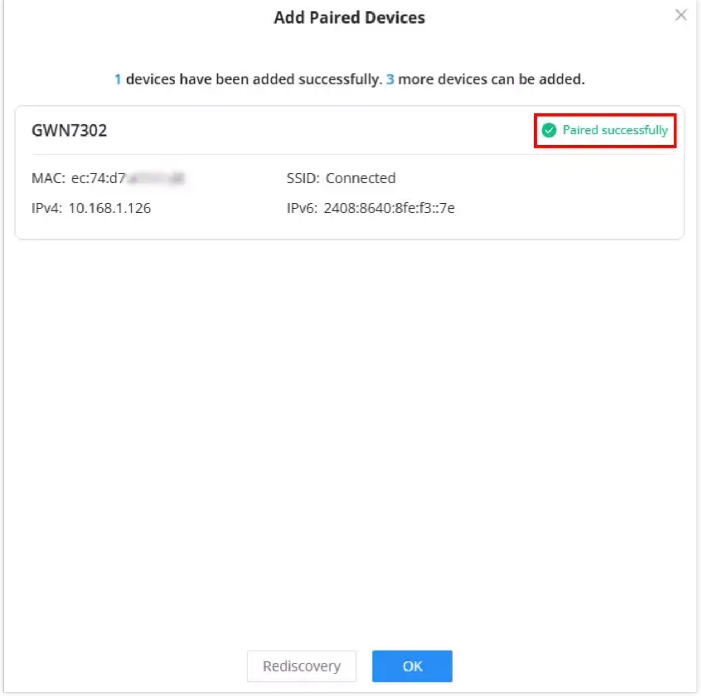



*Confirm Pairing If Disconnected*

## Successful Pairing or Failed Pairing

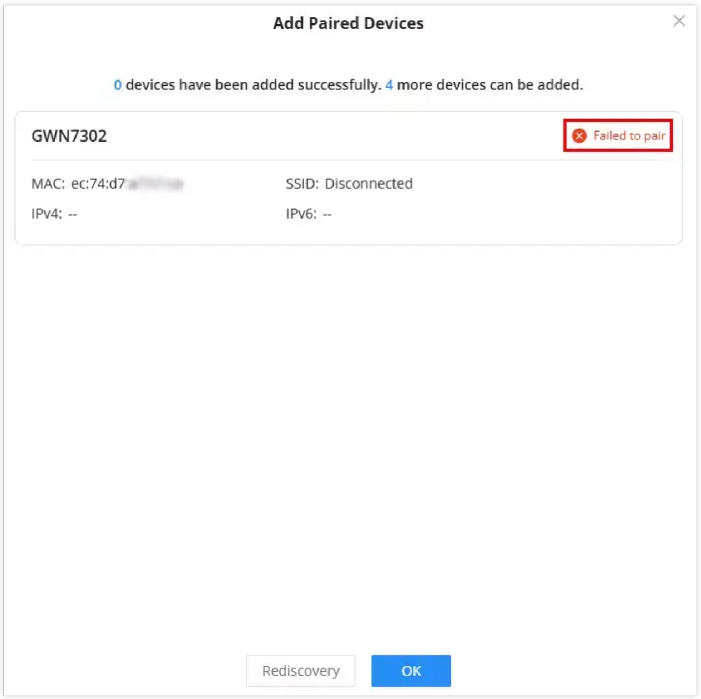
If the pairing is successful, the status will show **Paired successfully**, and the device information (such as IP address and MAC address) will be displayed.

> ***Note:*** *After the Slave is paired, it may take a short moment to initialize the configuration and come online. During this time, the status may appear delayed even though pairing succeeded.*




*Paired successfully*

If failed: Status will show **Failed to pair**.



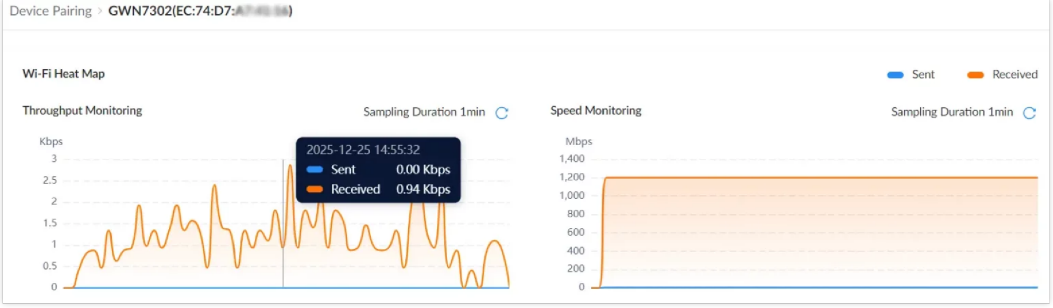

*Failed Pairing*

## Monitoring & Actions – After Pairing

Once paired:

- You'll see the device listed with real-time stats such as **RSSI**, **SNR**, **Tx/Rx rate**, etc.
- You can click:
  - **Delete icon** to unpair the device (this triggers a reset).
  - **Diagnostic icon** to view the traffic statistics and graphs.
  - **Login icon** to directly access the Web UI of the paired device via its IP address.


*Monitoring Actions After Pairing*




*Monitoring*

# RF Settings

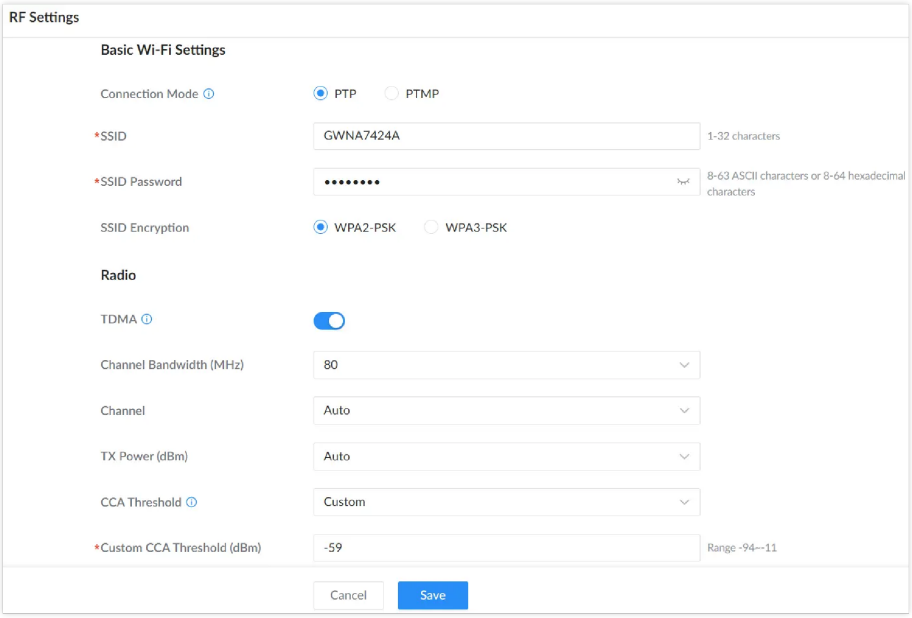
The **RF Settings** page is where users configure the wireless bridge parameters that define how the GWN7302 establishes the PtP or PtMP link. This section differs slightly depending on whether the device is acting as a **Master (Controller)** or a **Slave (Client)**.

For a complete explanation of pairing steps, setup wizard options, and RF behavior, refer to the full pairing guide: **GWN7302 Pairing Guide**

## On the Master Device

The Master unit defines the wireless configuration that the Slave(s) will connect to. Key fields include:

These settings must be configured **before** pairing Slave devices.




*RS Settings On the Master Device*

| Field | Description |
|---|---|
| **Connection Mode** | Select how the Master connects: PTP (one Slave) or PTMP (up to 4 Slaves). |
| **SSID** | Wireless link name broadcast by the Master. Range: 1–32 characters. |
| **SSID Password** | Wireless link password used by the Slave(s). Range: 8–63 ASCII characters or 8–64 hexadecimal characters. |
| **SSID Encryption** | Select the encryption method for the wireless link (e.g., WPA2-PSK or WPA3-PSK).<br>***Note:*** *WPA3-PSK will affect pairing. Please configure the Slave with the same SSID name, password, and encryption method as the Master, and then proceed with pairing once the SSID is connected.* |
| **TDMA** | Enables TDMA to improve link stability, especially for longer distances and PTMP deployments. |

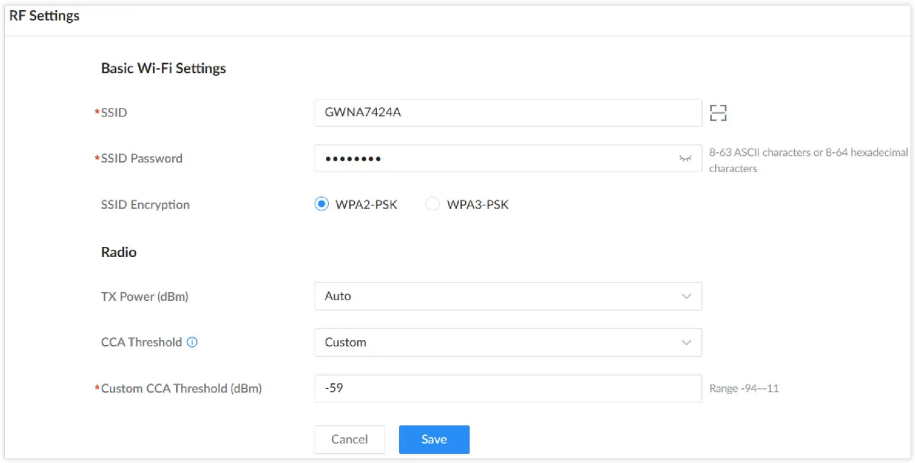
| | |
|---|---|
| **TDMA Work Mode (PTMP only)** | Available only when PTMP is selected. This option does not appear in PTP mode. |
| **Channel Bandwidth (MHz)** | Sets the channel width used by the wireless link. Wider bandwidth may increase throughput but can be more sensitive to interference. |
| **Channel** | Select Auto or a specific channel manually. Note: DFS channels may trigger radar detection behavior and may delay transmission or display prompts depending on regulatory requirements. |
| **TX Power (dBm)** | Sets transmit power (Auto or manual). Configure according to coverage needs and local regulatory limits. |
| **CCA Threshold** | Sets how the device determines if the channel is busy (Clear Channel Assessment). Usually left at default unless troubleshooting interference. |
| **Custom CCA Threshold (dBm)** | Manual CCA threshold value when CCA Threshold is set to Custom. Range shown in UI: -94 to -11 dBm. |

*RS Settings On the Master Device*

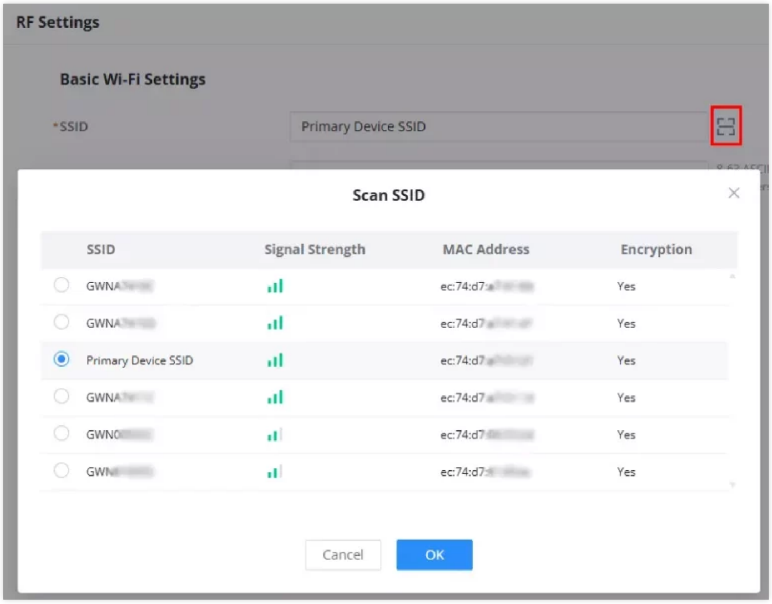
## On the Slave Device

The Slave unit needs to connect to the SSID defined by the Master. The page provides two methods:

- **Manual Entry**: Type in the SSID and password directly.
- **Scan + Select**: Click the **Scan icon** to discover nearby Slave devices. Then select the correct SSID and enter the password.




*RS Settings On the Slave Device*



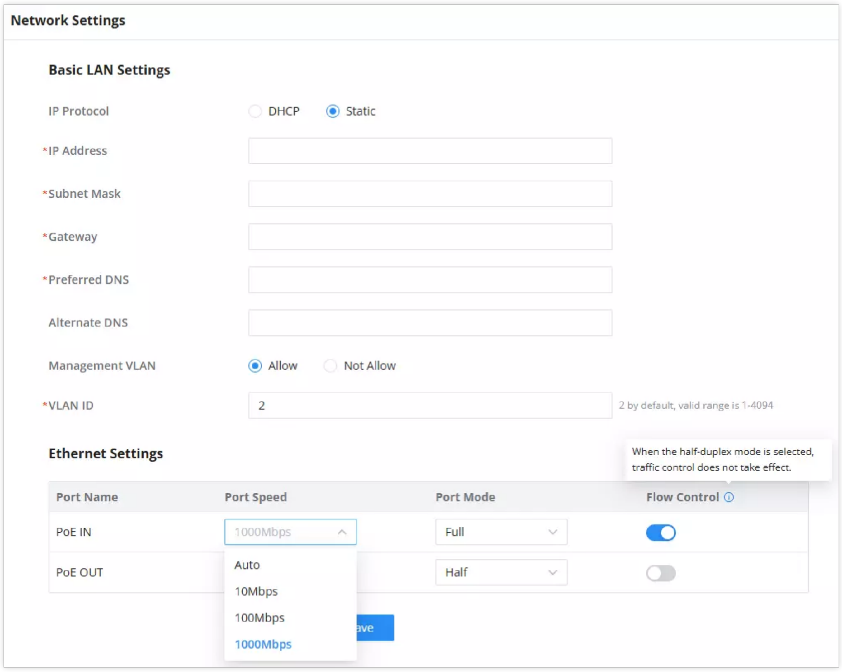

*Monitoring*

***Note:** The link SSID is encrypted and only used for communication between GWN7302 units.*

# Network Settings

The **Network Settings** page on the GWN7302 controls how the device connects to the local network and passes data through its Ethernet ports. These settings apply to **both Master and Slave units**, and are critical for proper operation in PtP/PtMP mode.

Navigate to **Web UI → Network Settings:**




*Network Settings page*

## Basic LAN Settings

| Field | Description |
|---|---|
| **IP Protocol** | Choose between **DHCP** (default) or **Static**. Static IP is recommended in large networks to avoid IP conflicts or for static routing. |
| **IP/Subnet/Gateway/DNS** | Required only when Static is selected. These fields must be filled to ensure proper connectivity. |
| **Management VLAN** | Enables VLAN tagging for management traffic. When **Allow** is selected, you must also define a valid **VLAN ID** (1–4094). |
| **VLAN ID** | VLAN tag used for management access. Default is `2`. Must match your switch/router configuration. |

***Tip**: VLAN support is useful when deploying the GWN7302 in segmented enterprise networks or when isolating management traffic.*

## Ethernet Port Configuration

Each port can be fine-tuned independently:

| Field | Description |
|---|---|
| **Port Name** | NET1 = PoE IN, NET2 = PoE OUT |
| **Port Speed** | Options: **Auto**, 10Mbps, 100Mbps, or **1000Mbps** (default). |
| **Port Mode** | **Full** or **Half Duplex**. Full is recommended for all deployments. |
| **Flow Control** | Enables Ethernet flow control for congestion prevention. Disabled when Half Duplex is selected. |

| Field | Description |
| --- | --- |
| **Force Power Supply** | Controls PoE OUT (NET2) forced power output.<br>• **Disabled:** PoE OUT supplies power only when the input power is **DC or 802.3at**.<br>• **Enabled:** PoE OUT is forced to supply power; when the input power is **802.3af**, PoE OUT power may be **unstable** due to the input power limit. |

***Note**: "When half-duplex mode is selected, traffic control does not take effect."*

Once you've set the desired options, click **Save** at the bottom of the page.
***Note:** IP changes (especially switching from DHCP to Static) may cause a brief connectivity interruption.*

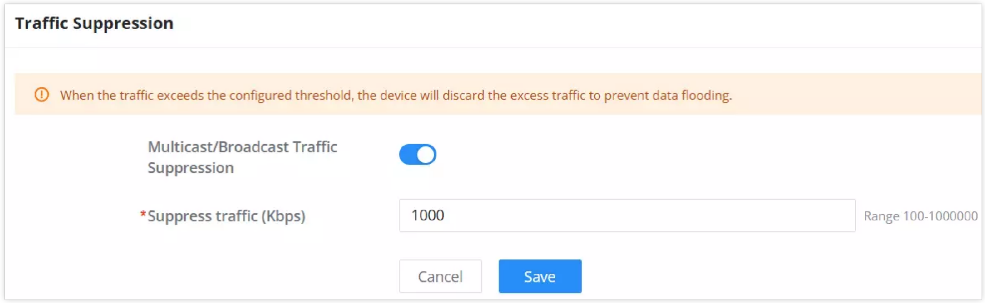
# Network Service

The **Network Service** section provides advanced management features for handling protocols and services such as multicast control, DDNS, SNMP, and remote provisioning.

Navigate to **Web UI → Network Service:**

## Traffic Suppression

This page helps limit unwanted broadcast/multicast traffic from overwhelming the device or the wireless link. Enabling suppression can help maintain stable PtP/PtMP performance, especially in large Layer 2 networks.




*Network Service → Traffic Suppression*

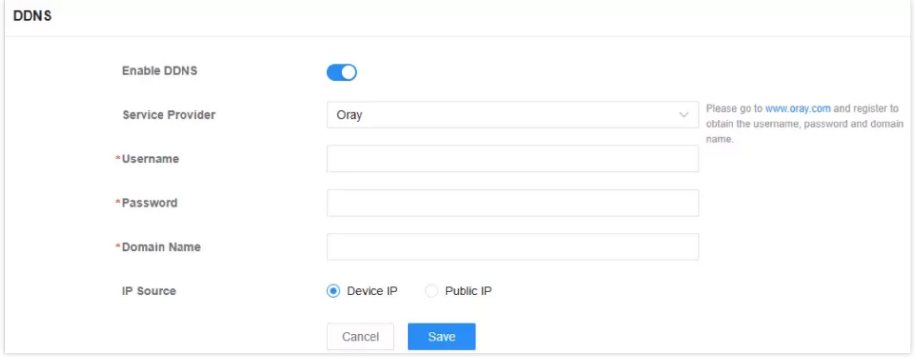
| Option | Description |
| --- | --- |
| **Multicast/Broadcast Traffic Suppression** | Toggle ON to enable suppression. When enabled, excess broadcast or multicast traffic will be discarded once it exceeds the configured threshold. |
| **Suppress traffic (Kbps)** | Set the maximum allowed rate (in Kbps). Any traffic beyond this limit is dropped.<br>**Range:** 100 – 1,000,000 Kbps |

***Warning Message**: "When the traffic exceeds the configured threshold, the device will discard the excess traffic to prevent data flooding."*

***Tip:** This is useful when connecting the GWN7302 to networks with chatty devices or unmanaged switches that send unnecessary broadcast floods (e.g., IPTV, unmanaged camera systems).*

## DDNS

The **DDNS page** allows the GWN7302 to dynamically update a hostname record with its current IP address. This is essential for remote management over the internet when the WAN IP is dynamic (DHCP).



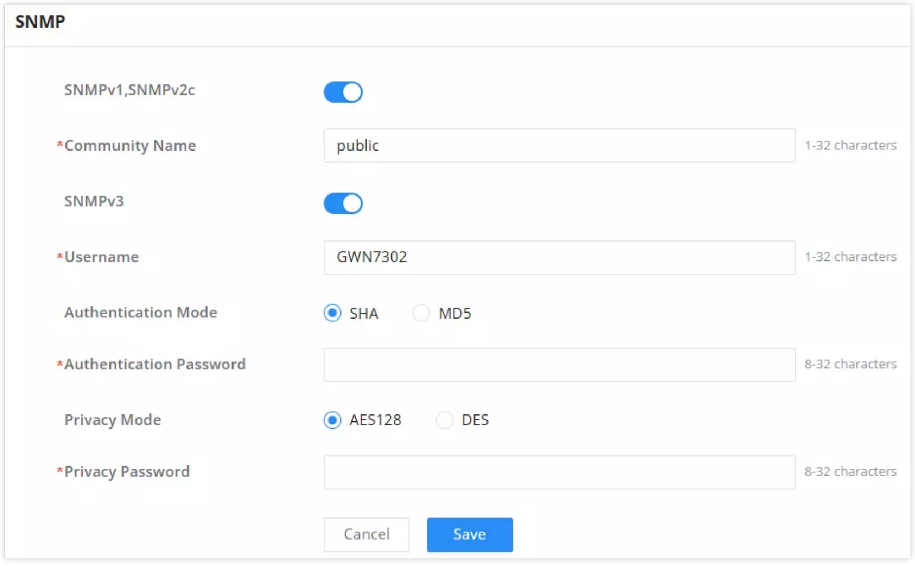

*Network Service → Traffic Suppression*

| Field | Description |
|---|---|
| **Enable DDNS** | Toggles DDNS functionality. Must be enabled to configure the options below. |
| **Service Provider** | Select from supported DDNS providers: **Oray**, **Dyndns**, or **No IP**. |
| **Username** / **Password** / **Domain Name** | Your DDNS account credentials and domain to link with the device. |
| **IP Source** | Choose whether the DDNS provider receives the device's **internal IP (Device IP)** or its **external/WAN IP (Public IP)**. |

***Tip:*** *Use* ***Public IP*** *for remote access scenarios (e.g., accessing the GWN7302 from the internet). Use* ***Device IP*** *only in VPN or internal deployments.*

## SNMP

The **SNMP (Simple Network Management Protocol)** page allows external network management systems to monitor and configure the GWN7302.
Supports both **SNMPv1/v2c** (community-based) and **SNMPv3** (secure, user-based).




*Network Service → SNMP*

| Field | Description |
|---|---|
| **SNMPv1, SNMPv2c** | Toggle to enable legacy SNMP versions. |
| **Community Name** | Acts like a password for SNMPv1/v2c queries. Default is `public` . Allowed length: **1–32 characters**. |
| **SNMPv3** | Toggle to enable SNMPv3, which uses secure user-based access. |
| **Username** | SNMPv3 login username. Max 32 characters. |
| **Authentication Mode** | Choose **SHA** (recommended) or **MD5**. |
| **Authentication Password** | Password used with the selected authentication mode. Required, **8–32 characters**. |

| Field | Description |
| --- | --- |
| **Privacy Mode** | Choose data encryption method: **AES128** (recommended) or **DES**. |
| **Privacy Password** | Password for encrypting SNMPv3 payloads. Must be **8–32 characters**. |

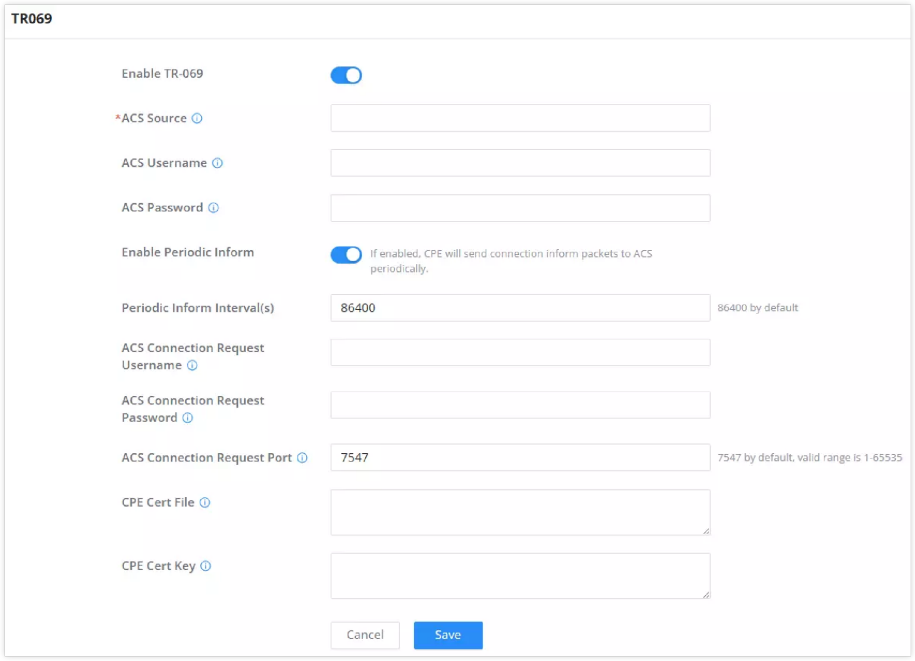
*Network Service → SNMP*

***Tip:*** *SNMPv3 is recommended for production deployments where secure communication is essential. SNMPv1/v2c may be used in simpler or legacy setups, but offer no encryption or strong authentication.*

***Note:*** *If both SNMPv3 and v1/v2c are enabled, make sure the credentials used match what your external monitoring tool (e.g., Zabbix, PRTG, Nagios) supports.*

## TR069

**TR-069 (CWMP)** enables remote management and provisioning of the GWN7302 via an **Auto Configuration Server (ACS)**. This is commonly used by service providers for large-scale deployments, monitoring, and firmware upgrades.




*Network Service → TR069*

| Field | Description |
| --- | --- |
| **Enable TR-069** | Frequency of inform packets (in seconds). The default is **86400** (i.e., once per day). |
| **ACS Source** * | URL or IP address of the Auto Configuration Server (ACS). Required. |
| **ACS Username / Password** | Credentials used by the device to authenticate with the ACS server. |
| **Enable Periodic Inform** | If enabled, the device will send **inform packets** to the ACS at regular intervals. |
| **Periodic Inform Interval(s)** | Port for inbound ACS requests. The default is **7547**, valid range: **1–65535**. |
| **ACS Connection Request Username / Password** | Credentials the ACS uses to remotely trigger a session on the device. |
| **ACS Connection Request Port** | Port for inbound ACS requests. Default is **7547**, valid range: **1–65535**. |
| **CPE Cert File / Cert Key** | Upload client-side certificate files if mutual TLS authentication is required by the ACS. |

***Tip:*** *You must configure proper DNS, IP, and NAT/port forwarding on your router/firewall if using TR-069 across different networks or WAN interfaces.*

***Security Note:*** *TR-069 introduces external control over the device, ensures* strong credentials, enables TLS if supported, and locks *ports when not in use.*

# System Settings

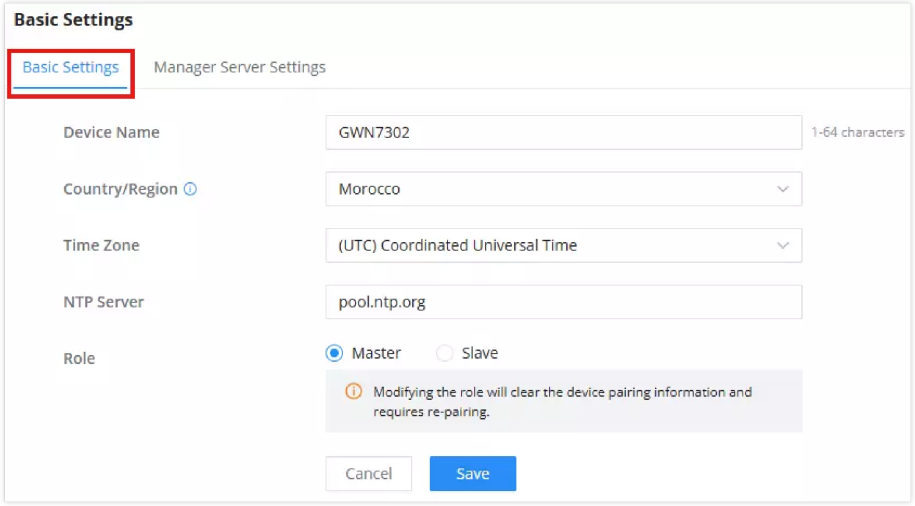
The **System Settings** section allows administrators to configure fundamental parameters related to the device's operation, access control, maintenance, and system alerts. This includes defining the device name and regional settings, applying firmware updates, managing administrator accounts, scheduling maintenance tasks, and enabling alert notifications. These configurations ensure secure access, consistent time synchronization, and optimal long-term performance of the GWN7302 in various deployment environments.

## Basic Settings

This section contains **two tabs** for core configuration and GWN Manager integration:

### Basic Settings Tab

Used to configure the device's identity, location/time details, and PtP/PtMP role.



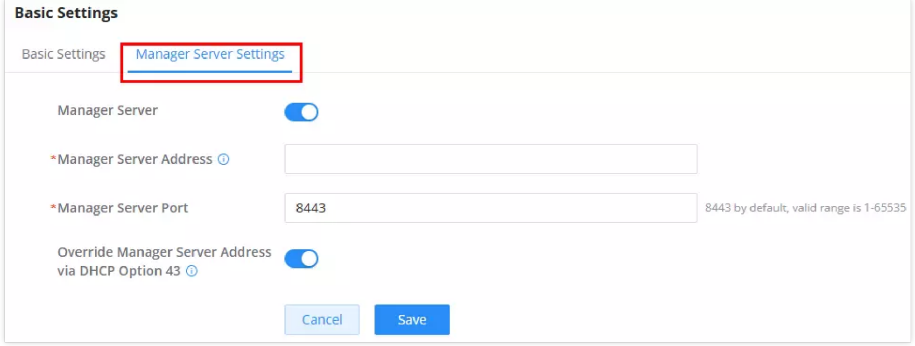

*Network Settings → Basic Settings*

| Setting | Description |
|---|---|
| **Device Name** | Name shown in the Web UI and management platforms (1–64 characters). |
| **Country/Region** | Select the country/Region of deployment.<br>***Note:*** *Modifying the* ***Role*** *setting will clear existing pairing information and require the device to be* ***re-paired****.* |
| **Time Zone** | Choose the timezone for accurate logging and schedules. |
| **NTP Server** | Enter an NTP server (e.g., `pool.ntp.org` ) to sync system time. |
| **Role** | Choose between **Master** and **Slave**.<br>***Note:*** *Switching roles* clears the *pairing and requires re-pairing.* |

*Network Settings → Basic Settings*

### Manager Server Settings

Used to register the device with **GWN Manager** for centralized provisioning, firmware upgrades, and monitoring.




*Network Settings → Manager Server Settings*

| Setting | Description |
|---|---|
| **Manager Server** | Toggle to enable GWN Manager connectivity. |
| **Manager Server Address** | Input the IP or domain name of the GWN Manager server. |
| **Manager Server Port** | Default is `8443`. Valid range: `1-65535`. |
| **Override via DHCP Option 43** | When enabled, accepts a Manager address sent via DHCP. |

*Network Settings → Manager Server Settings*

See also: GWN Manager Quick Installation Guide

## Security Management

This section controls remote access methods and session security for the GWN7302. It includes encrypted web access, SSH login options, and passwordless authentication for remote management via GDMS.

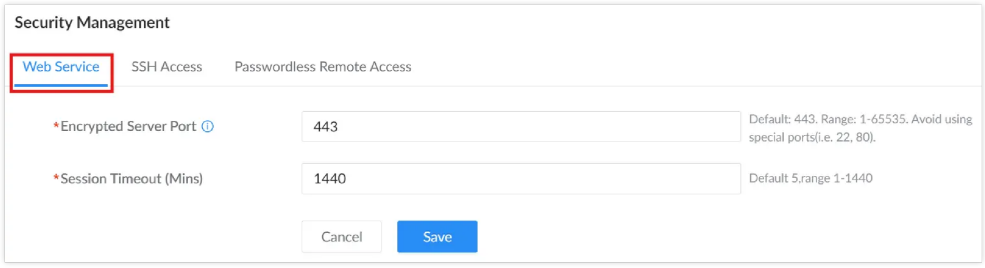
### Web Service

Configure web UI access parameters:

- **Encrypted Server Port**: Defines the HTTPS port used to access the device's web interface. Default is `443`. Valid range is `1-65535`. Avoid reserved ports like `22` or `80`.

  ***Note:*** *The device can be managed via the* ***GWN App (Single Device)*** *function* ***only when this port is set to 443***.

- **Session Timeout (Mins)**: Sets how long the session remains active without user activity. The default is `5` minutes. Range: `1-1440`.



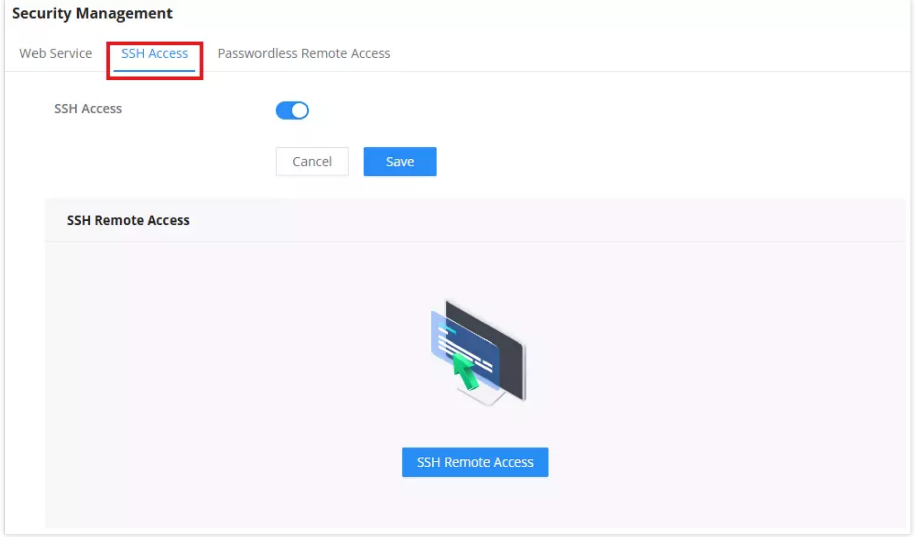

*Security Management → Web Service*

### SSH Access

Allow secure CLI-based configuration and remote diagnostics via SSH.

**Security Management → SSH Access**
This section allows you to enable SSH functionality for device-level access using the command-line interface (CLI). When enabled, a toggle becomes available for initiating **SSH Remote Access** a time-limited, password-protected session designed for remote troubleshooting.

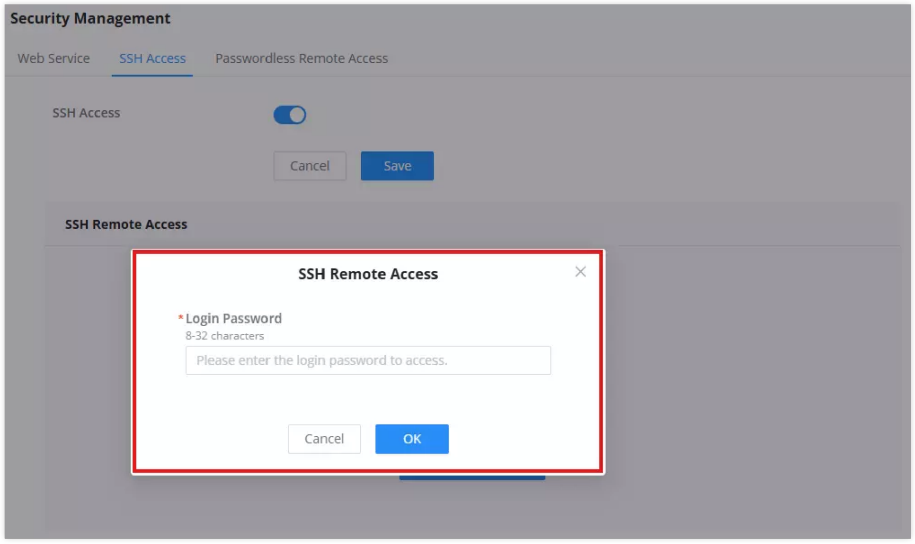
***Note:***
*SSH Access is intended for advanced users or support engineers. For security reasons, it's recommended to keep it disabled unless explicitly required.*




*Security Management → SSH Access*

**Steps to Enable SSH Remote Access**

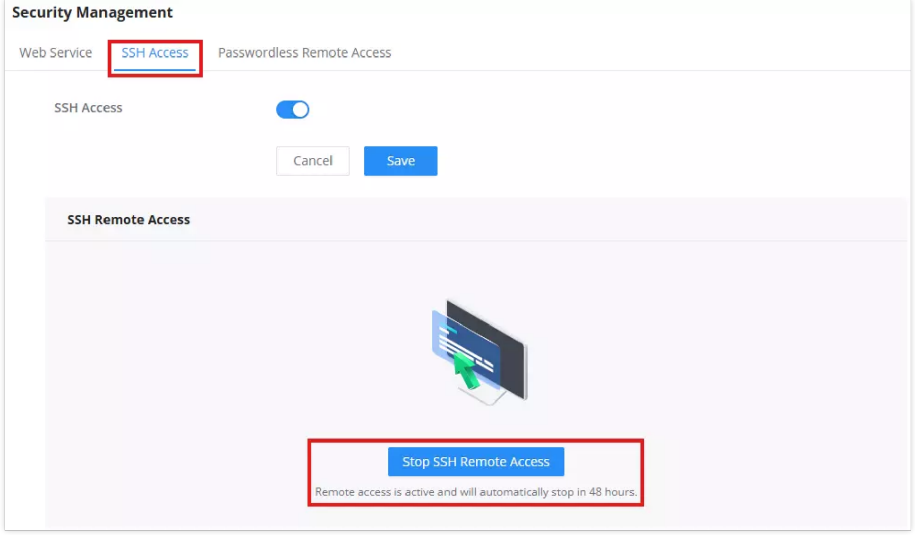
1. Go to: **System Settings → Security Management → SSH Access**
2. **Enable the SSH Access toggle**, then click **Save**. This will unlock the **SSH Remote Access** section below.
3. **Click on** the blue **SSH Remote Access** button.
4. A login window will appear, prompting for the **current admin password**. Input your credentials and click **OK** to continue.
5. Once validated, the system activates remote access for 48 hours. A confirmation message will appear: "**Remote access is active and will automatically stop in 48 hours.**"
6. At any time, you can manually stop access by clicking **Stop SSH Remote Access**.




*Security Management → Start Remote SSH Access*

***Important Notes:***

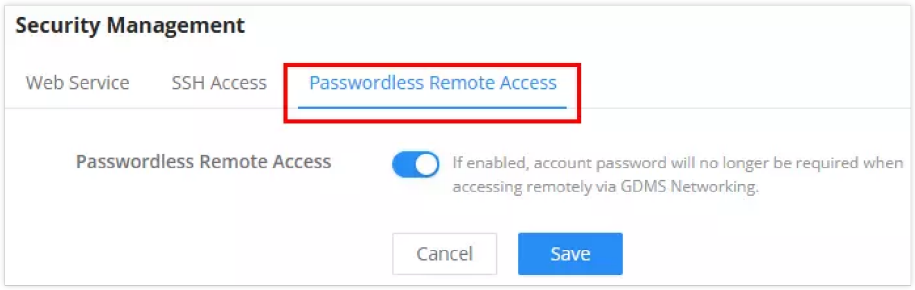
- *SSH Remote Access is temporary and automatically expires after 48 hours.*
- *It cannot be activated without entering the admin password.*
- *This feature is **exclusive to support/troubleshooting scenarios** and should be used cautiously to minimize security risks.*




*Security Management → Stop Remote SSH Access*

### Passwordless Remote Access

When enabled, users can log in remotely via **GDMS Networking** without entering a password. This improves convenience but should be used with caution in sensitive deployments.




*Security Management → Passwordless Remote Access*

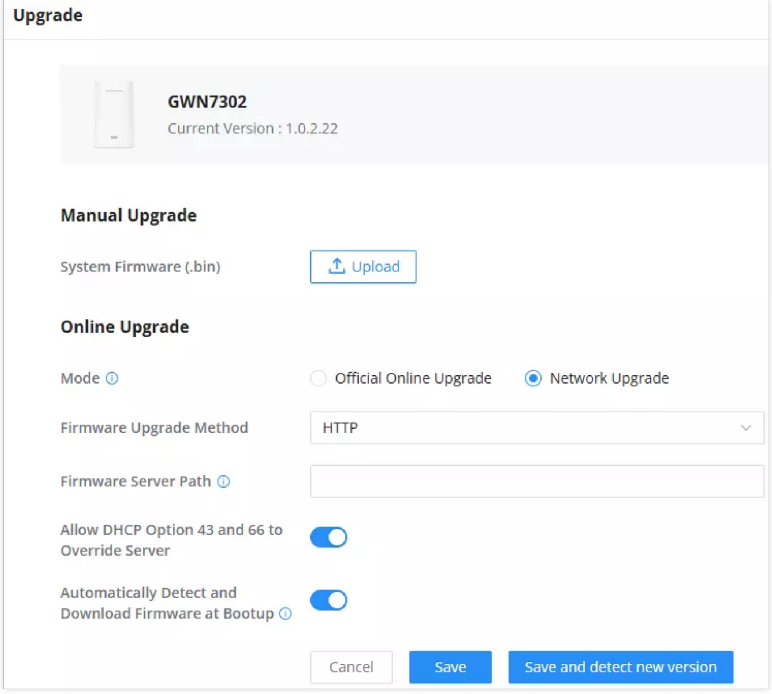
## Upgrade

The **Upgrade** section provides administrators with two main methods to update the device firmware: **Manual Upgrade** and **Online Upgrade**. This functionality ensures that the GWN7302 stays up-to-date with the latest features, improvements, and security patches.

### Manual Upgrade (Network Upgrade)

This method allows you to upload a local firmware `.bin` file directly from your computer.

- **System Firmware (.bin)**: Click **Upload** to browse and select the firmware file. Use this method if you've downloaded the firmware package manually from the official Grandstream site.
- **Network Upgrade**: Lets the device pull firmware from a user-specified server (HTTP, HTTPS, or TFTP).
- **Firmware Server Path**: Input the IP address or URL of the remote firmware server.




*Upgrade*

### Online Upgrade (Official Online Upgrade)

This method allows the device to fetch and install firmware from a remote server or official source.

- **Mode**: **Official Online Upgrade**: automatically detects the latest firmware version when connected to the Internet.
- **Allow DHCP Option 43 and 66 to Override Server**:
  Enable this option to allow DHCP to dynamically assign a firmware server.
- **Automatically Detect and Download Firmware at Bootup**:
  When enabled, the device will auto-check, download, and install firmware during each reboot.

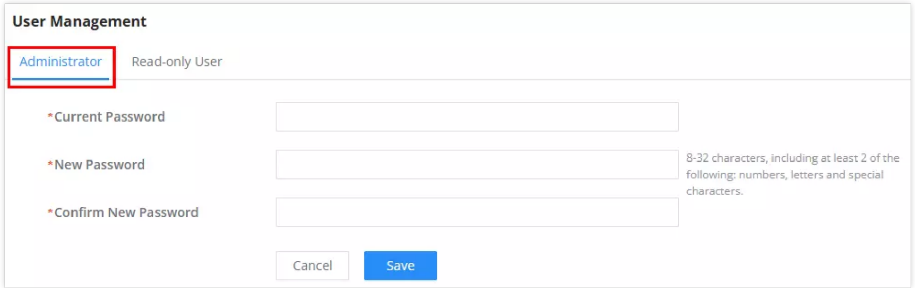
> **Alert:**
>
> Make sure the uploaded firmware is official and compatible with GWN7302. Do not power off the device during the upgrade.

## User Management

The **User Management** section allows administrators to manage access credentials for the device. It includes two tabs:

### Administrator

Used to modify the admin credentials for accessing the device interface.




*User Management → Administrator*

- **Current Password**: Enter the current admin password to authenticate the change.
- **New Password**: Set a new password for the admin account. It must be 8–32 characters long and include at least two of the following: letters, numbers, or special characters.
- **Confirm New Password**: Re-enter the new password to confirm.

> **Alert**

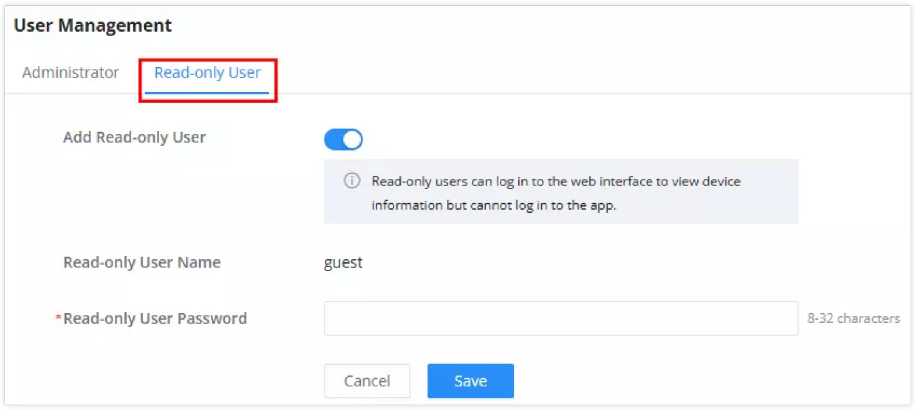
Passwords must meet complexity requirements for security compliance.

### Read-only User

Allows creation of a limited-access user who can view but not configure device settings.

- **Add Read-only User**: Toggle to enable or disable read-only account creation.
- **Read-only User Name**: The Default is `guest` (not editable).
- **Read-only User Password**: Set a password (8–32 characters) for the guest user.

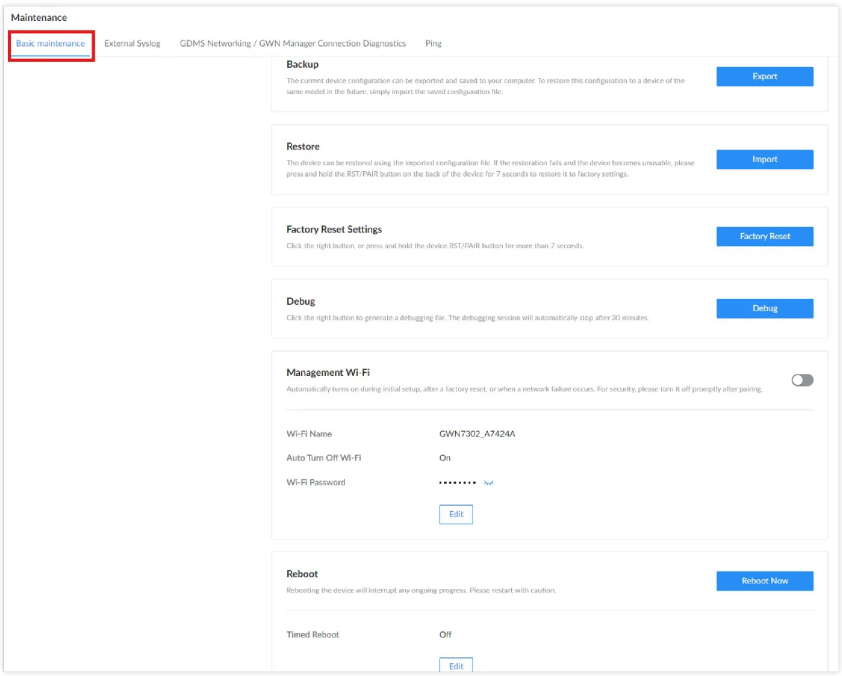
***Note:*** *Read-only users can access the Web UI to monitor device status, but cannot access the mobile app or modify configurations.*




*User Management → Read only User*

## Maintenance

The **Maintenance** section provides essential tools for managing the device's operational state, diagnostics, backup/restore operations, and recovery procedures.




*System Settings → Maintenance → Basic Maintenance*

### Backup

The **Backup** feature allows administrators to export the current device configuration to a local `.bin` file. This file can be saved and reused for future restoration or device duplication.

- Click **Export** to download the `.bin` file.
- The file is immediately saved to your computer; no additional confirmation is required.

### Restore

The **Restore** option lets you import a previously saved `.bin` configuration file and apply it to the device.

- Click **Import** to browse and select the `.bin` file from your system.
- Upon confirmation, the device applies the configuration automatically.
- If the configuration becomes unusable, users can press and hold the **RST/PAIR** button on the device for 7 seconds to trigger a full factory reset.

### Factory Reset Settings

Use this option to reset the device to its default factory configuration.

- Click **Factory Reset** to initiate the process.
- Alternatively, press and hold the physical RST/PAIR button for 7+ seconds.

> **Warning:**
>
> This will erase all current settings.

### Debug

Used for troubleshooting by generating a debug file for support analysis.

- Click **Start Debugging** to initiate a session.
- Click **Stop Debugging** to end it manually.
- Sessions automatically stop after 30 minutes.
- Once generated, the debug file can be **downloaded** or **deleted** from the interface.

### Management Wi-Fi

This Wi-Fi interface enables quick pairing and management during setup or network failure.

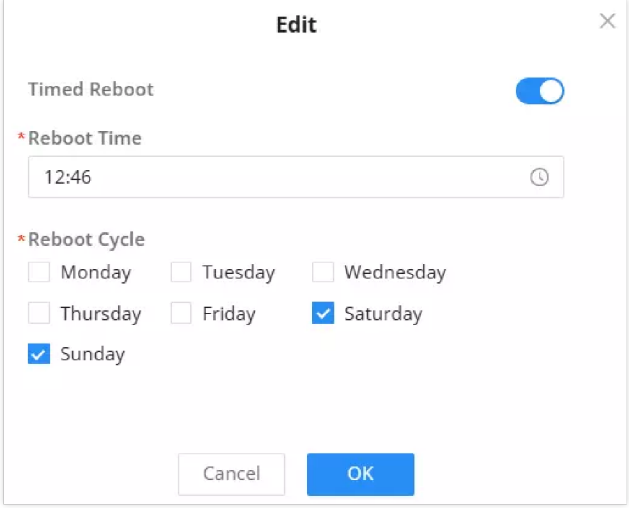
- **Wi-Fi Name:** Displays the Wi-Fi name.
- **Auto Turn Off Wi-Fi**: Toggles automatic shutdown after pairing.
- **Wi-Fi Password**: Can be viewed/edited for secure access.

> **Alert:**
>
> For security, it is recommended to disable the management Wi-Fi after setup.

### Reboot

Used to manually or automatically reboot the device.

- Click **Reboot Now** to restart the device immediately. Rebooting may interrupt any active sessions.
- **Timed Reboot** allows you to schedule automatic reboots at specific times:
  - Click **Edit** to set the time and select the days of the week.
  - Example: Schedule a reboot every **Saturday and Sunday at 12:46 PM** as shown.



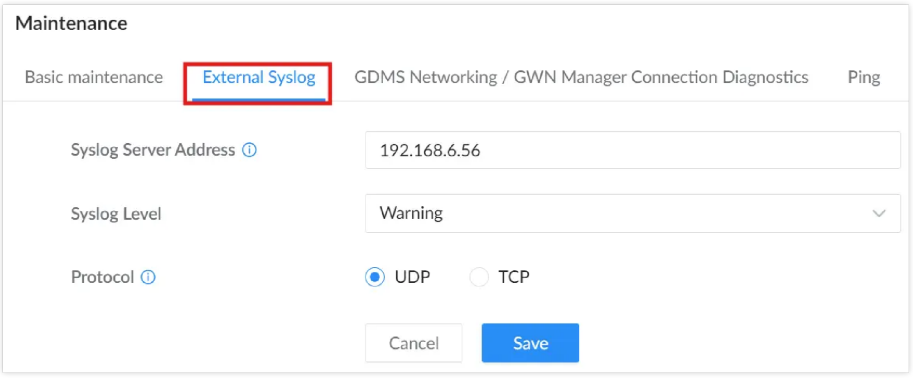

*System Settings → Maintenance*

***Note:*** *Use reboot scheduling cautiously to avoid interruptions during peak operation hours.*

> **Note:**
>
> A reboot may interrupt ongoing connections. Proceed with caution.

## External Syslog

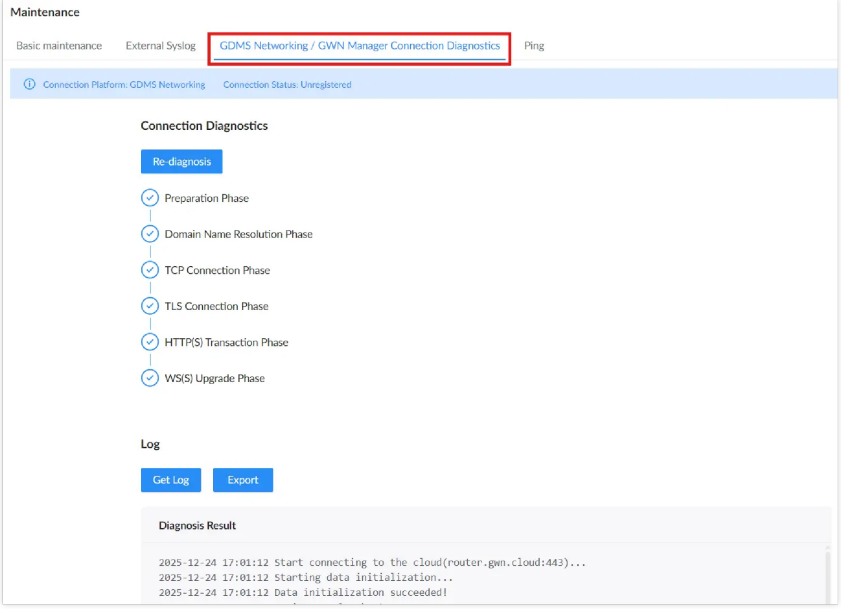
This section allows forwarding of system logs to a specified external syslog server.
Enter the IP address or URL of the server, select the log severity level (**Emergency, Alert, Critical, Error, Warning, Notice, Information, or Debug**), choose the desired protocol (UDP or TCP), then click **Save**.




*External Syslog*

## GDMS Networking / GWN Manager Connection Diagnostics

This section shows the current **connection platform** status (e.g., GDMS Networking) and the **connection status** (e.g., Registered or Unregistered).
Users can run a full cloud diagnostic process by clicking **Re-diagnosis**, which checks several phases, including DNS resolution, TCP/TLS connection, and cloud WS(S) upgrade. The log result is displayed below for real-time visibility.
You can also **Get Log** to view it live or **Export** it as a downloadable file for deeper analysis.




*GDMS Networking GWN Manager Connection Diagnostics*

## Ping

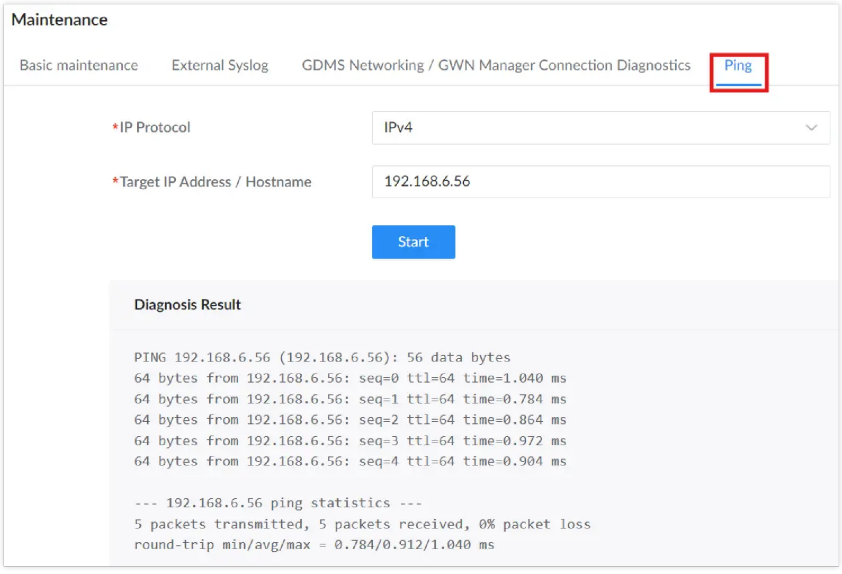
Use **Ping** to quickly test whether the GWN7302 can reach another device on the network (and see delay/packet loss).

Go to **System Settings → Maintenance → Ping**, then:

1. Select the **IP Protocol** (**IPv4** or **IPv6**).
2. Enter the **Target IP Address / Hostname** (example: `192.168.6.56`).
3. Click **Start**.

The output appears in **Diagnosis Result**, showing replies, **packet loss**, and **round-trip time (min/avg/max)**.

> ***Note:*** *If you ping a* ***hostname*** *and it fails but an* ***IP address*** *works, that usually means* ***DNS*** *is not reachable or not configured.*




*Maintenance → Ping*

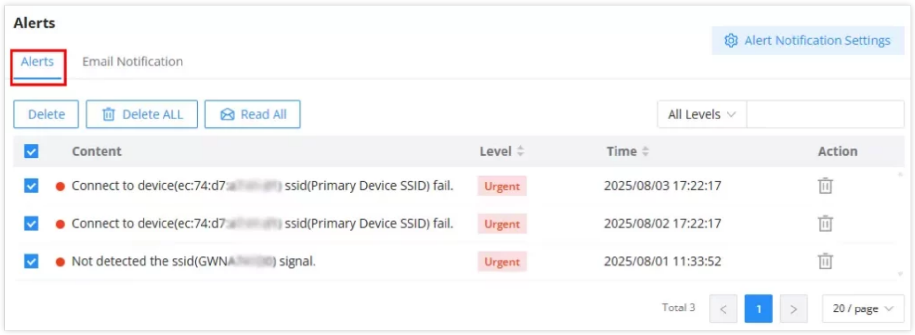
## Alerts

This section displays device alerts and allows users to configure email-based notifications for various alert types.

### Alerts Tab

The **Alerts** tab lists all current and past system alerts, such as signal loss or failed SSID connections. Each entry includes:

- **Content**: Description of the alert (e.g., SSID not detected).
- **Level**: Severity of the alert (e.g., *Urgent*).
- **Time**: Timestamp when the alert was triggered.
- **Action**: Trash icon to delete individual alerts.



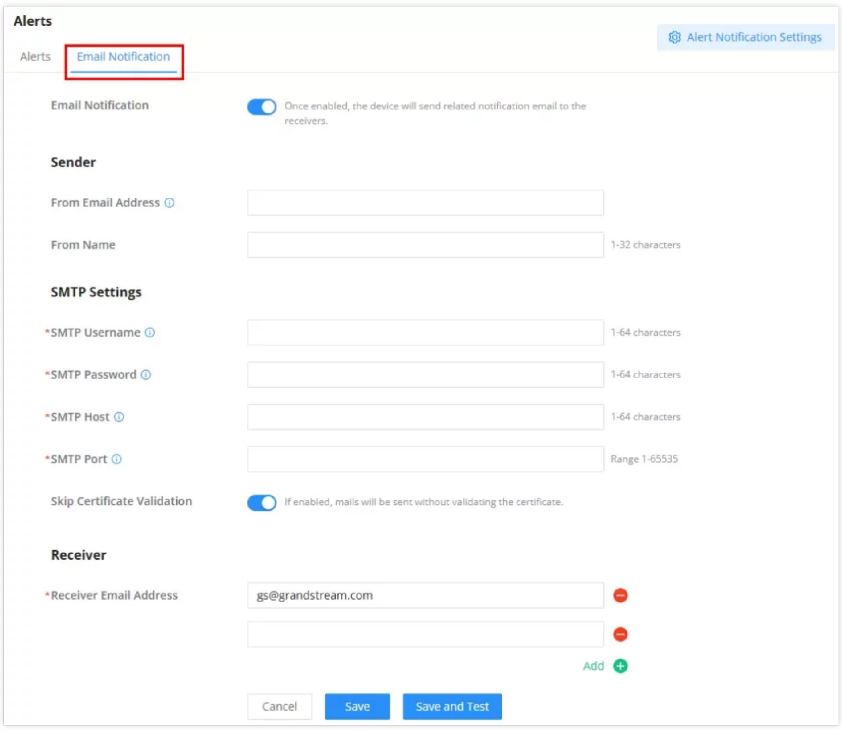

*Alerts*

Users can:

- **Delete** one or all alerts.
- **Mark all as read**.
- Filter alerts by severity using the **All Levels** dropdown.
- Access the alert settings by clicking **Alert Notification Settings** in the top-right corner.

## Email Notification

Enable this feature to receive alerts via email.




*Alerts → Email Notification*

**Email Notification** toggle: Must be ON to activate alert emails.

**Sender Configuration**:

- `From Email Address` : Email address the alert will be sent from.
- `From Name` : Display name for the sender.

**SMTP Settings**:

- `SMTP Username` : Account used to authenticate the SMTP session.
- `SMTP Password` : Corresponding password for the SMTP account.

- `SMTP Host` : Outgoing mail server address (e.g., smtp.example.com).
- `SMTP Port` : Mail server port (default depends on encryption used).

Optionally, you can **Skip Certificate Validation** to send emails without SSL/TLS certificate checks.

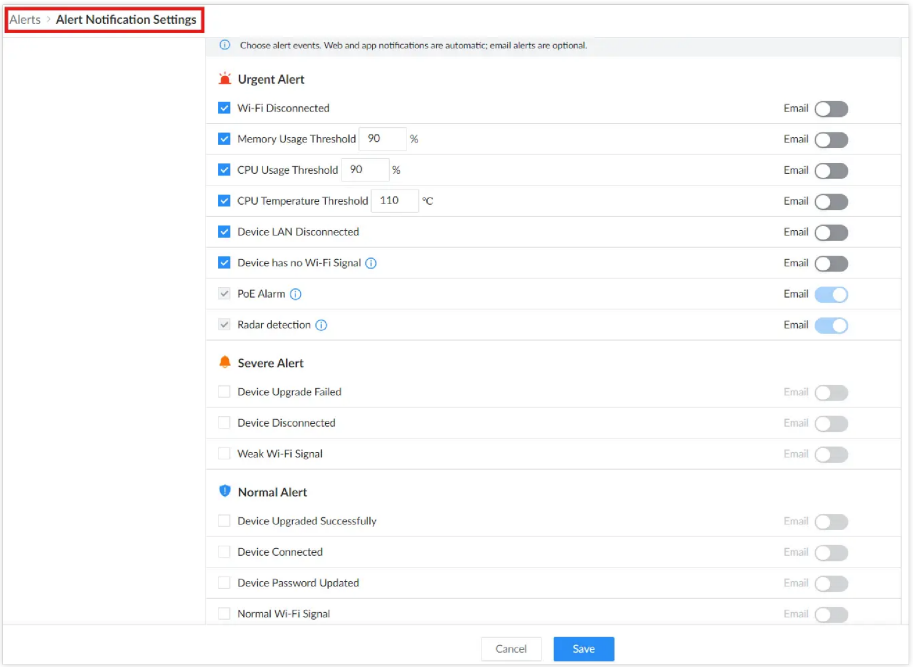
**Receiver(s)**:

- `Receiver Email Address` : One or more recipients (e.g., it@company.com). Multiple can be added.

### Alert Notification Settings

Accessed from the top-right of either tab, this section lets users fine-tune what events trigger alerts and which ones should also be emailed, like Wi-Fi Disconnected, PoE Alarm, Device Upgrade Failed, etc.

***Note:*** *For the PoE Alarm, when the temperature reaches 110°C, the PoE output power will decrease. When the temperature reaches 115°C, the PoE OUT function will be disabled. When the temperature returns to 100°C, the PoE OUT function will be restored.*




*Alerts → Alert Notification Settings*

**Alert Levels**:

- **Urgent Alerts**: Critical conditions like Wi-Fi or LAN disconnects, or high CPU/memory/temperature thresholds.
- **Severe Alerts**: Upgrade failures or device disconnections.
- **Normal Alerts**: Device upgrades, connections, and password changes.

Each event can be toggled ON/OFF for web visibility, and optionally enable the **Email** toggle for remote notifications.

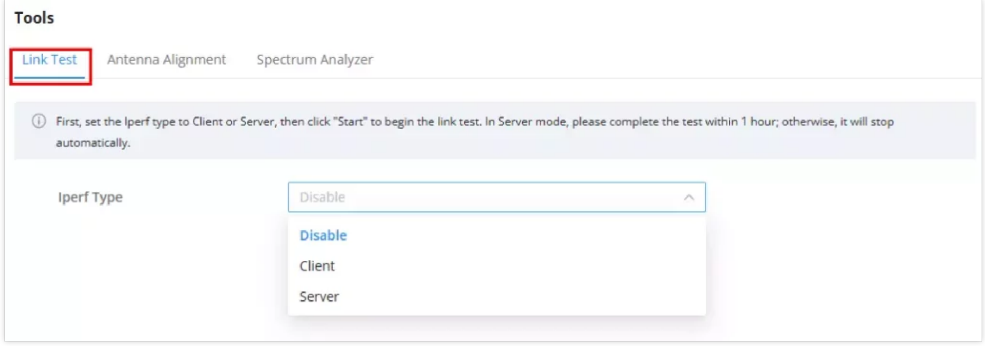
# Tools

### Link Test

The Link Test measures throughput between the two devices.

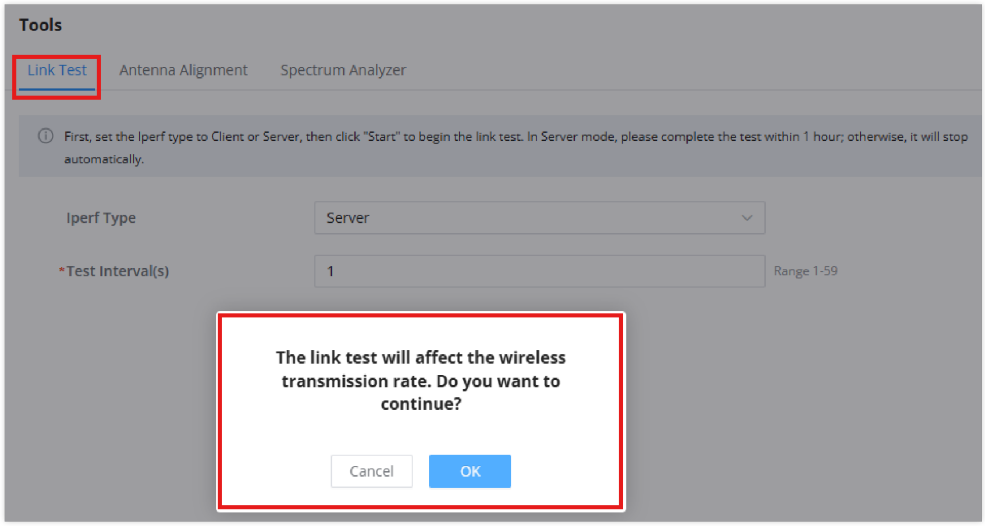
**Who Does What?**

- **Either device can be Server or Client**, but **recommended:**
  - **Master (Site A)** → **Server** (easier to leave running).
  - **Slave (Site B)** → **Client** (initiates the test).




*Link Test Tool page*

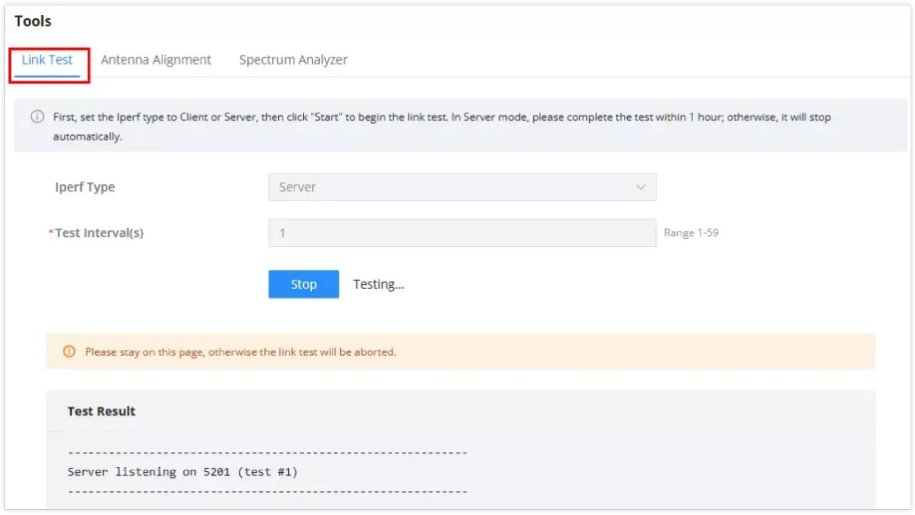
***Note:*** *Running the link test will temporarily affect the wireless transmission rate. A confirmation message will appear before proceeding.*




*Link Test Tool page*

**On Master (Server):**

- Go to **Web UI → Tools → Link Test**.
- Select **iPerf Type = Server** and click **Start**.
- Leave it running (listening).




*Link Test Tool Server side*

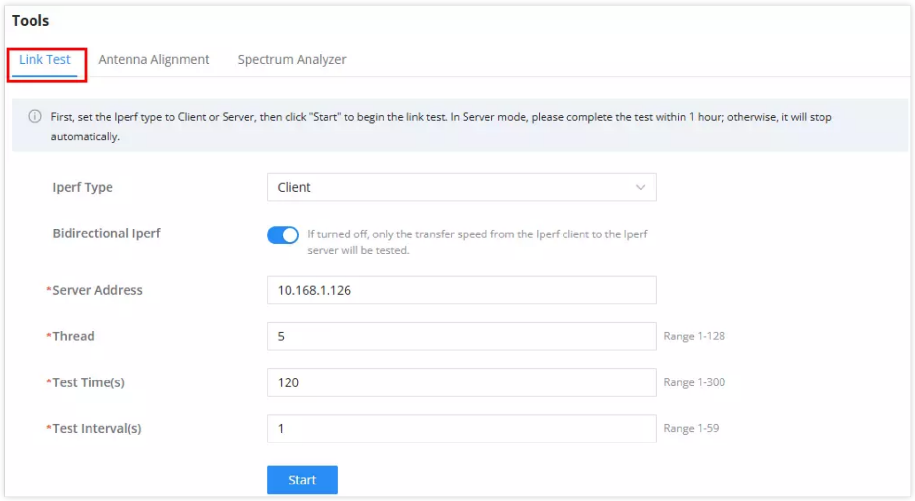
**Important Notes:**

- In Server Mode, the device will stop automatically after 1 hour if no Client connects.
- Stay on the Link Test page during the test; leaving aborts the session.

**On Slave (Client):**

- Go to **Web UI → Tools → Link Test**.

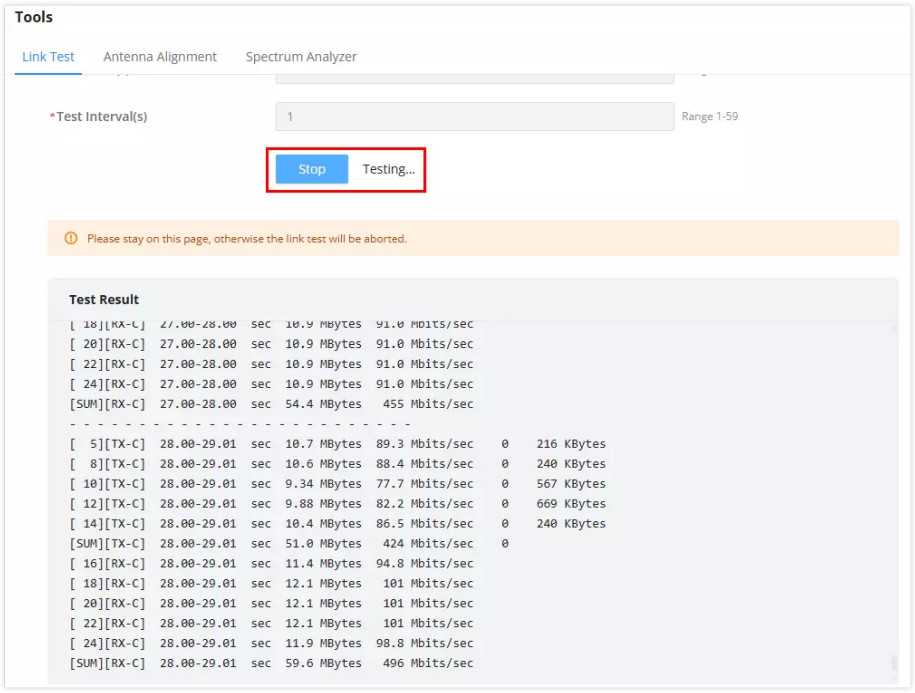
- Select **iPerf Type = Client**.
- Enter the **Server's IP address** (auto-filled in most cases).
- (Optional) Enable **Bidirectional iPerf** to test both directions.
- Click **Start** to begin.




*Link Test Tool Client side*

**Review Results:**

- Throughput and stability will appear under **Test Result**.
- Stop manually when finished.



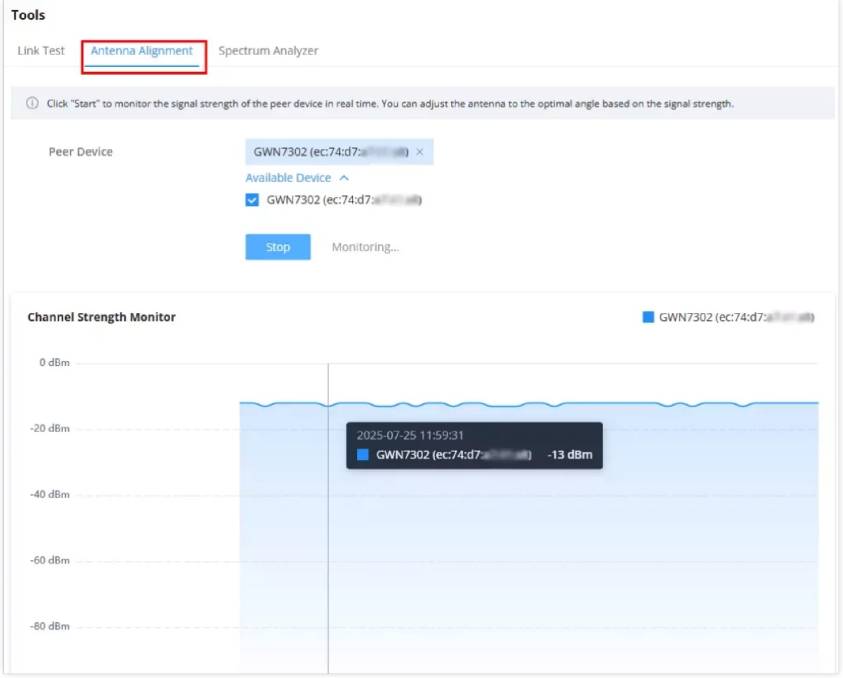

*Review Results*

## Antenna Alignment

The user can fine-tune the link quality using either method:

**a) Using Web UI – Antenna Alignment Tool**

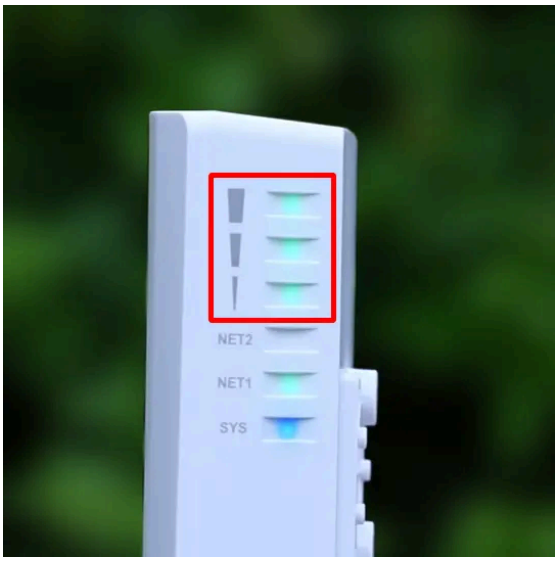
1. Go to **Web UI → Tools → Antenna Alignment**.
2. Select the paired device from the list.
3. Click **Start** to monitor real-time signal strength.
4. Adjust the antenna angle until the graph shows the strongest (highest) dBm value.




*Antenna Alignment Tool*

**b) Using Device LEDs**

- Check the **3 Signal LEDs** on the side of the unit.
- Rotate or tilt the device slowly until you reach **3 solid green bars** for optimal signal.




*Device Signal LEDs*

For complete pairing and alignment instructions, refer to the GWN7302 Pairing Guide.

## Spectrum Analyzer

The Spectrum Analyzer runs a single scan of nearby 5 GHz channels to help you pick a cleaner channel (less interference).

**How it works:** Click **Start** to run **one** spectrum analysis.
To scan again, click again

**How to read the results**:

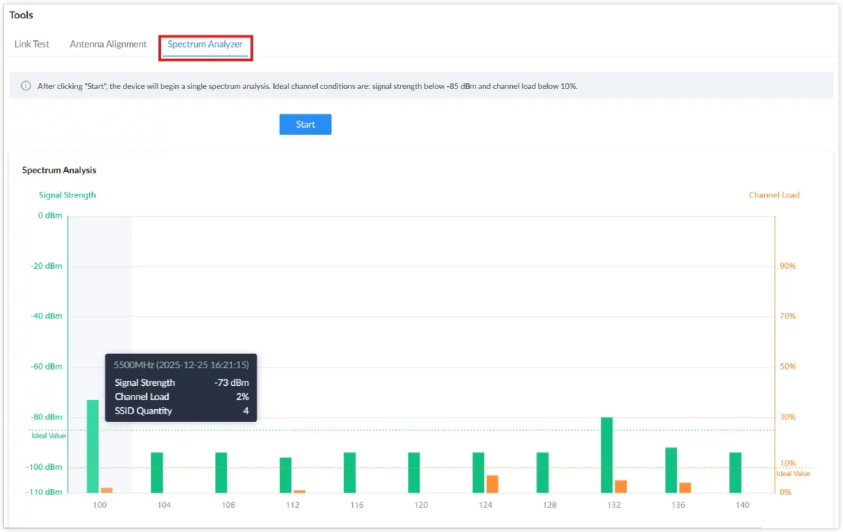
- **Signal Strength (green bars)**: lower (closer to **-85 dBm**) is better (less interference).
- **Channel Load (orange bars)**: lower is better, ideally **below 10%**.
- **SSID Quantity**: Fewer SSIDs usually mean a cleaner channel.
- Hover a bar to see channel details (timestamp, signal strength, channel load, SSID quantity).

**Steps**:

1. Go to **Web UI** → **Tools** → **Spectrum Analyzer**.

2. Click **Start** to run a **single** scan.
3. Review the chart and pick a channel with **low load** and **better signal conditions**.
4. If you change settings and want fresh results, click **Start** again.

> ***Tip***: *Ideal conditions are* ***Signal Strength below -85 dBm*** *and* ***Channel Load below 10%*** *(these thresholds are shown on the chart).*




*Spectrum Analyzer Tool*

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# Change Log

This section documents significant changes from previous versions of the GWN73xx user manuals. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

**Firmware Version 1.0.3.28**

- No major changes.

**Firmware Version 1.0.3.22**

- No major changes.

**Firmware Version 1.0.3.17**

- This is the initial release.

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