# EtherScope™ nXG v1.2 Release Notes

April 2020

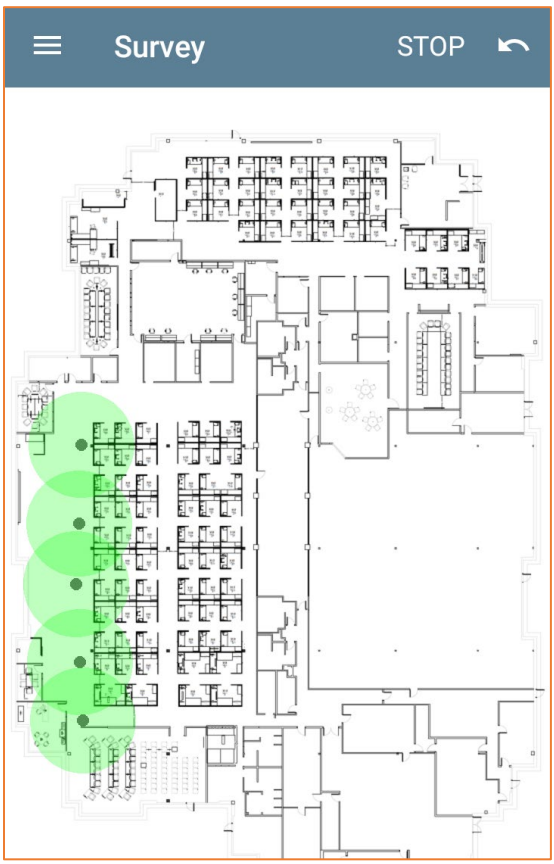
These EtherScope™ nXG version 1.2 Release Notes briefly describe the new features and enhancements included in the release. For detailed information, please refer to the user manual, available on netally.com.

Go to Software Upgrading Instructions at the end of this document

## Version 1.2 Major New Features

### AirMapper™ Site Survey Collector

With the AirMapper app, EtherScope nXG users can now quickly and easily gather location-based Wi-Fi measurements and create visual heat maps of key performance metrics in the Link-Live Cloud Service. Simple to use, the AirMapper app is ideal for quick site surveys of new deployments, change validation, and performance verification.




- Note: If upgrading from a prior version, the user must add the AirMapper app to the home screen: open the Apps screen (swipe up from home), then touch and

hold the AirMapper icon to drag it up to the Home screen. Alternatively, the icon will appear on the Home screen if the unit is reset to factory defaults, but all saved profiles will be erased.

## AirMapper Survey in Link-Live

Using Wi-Fi data collected with AirMapper on EtherScope nXG, Link-Live generates powerful visualizations of your Wi-Fi network. All EtherScope nXG users have access to basic heat map visualization in Link-Live (area coverage by signal strength). A user-configurable threshold shows areas that meet or do not meet requirements.


For each data point, a sortable/filterable data table is displayed enabling detailed analysis of measured results.

Customers with AllyCare support on their EtherScope nXG will have access to additional visualizations, including noise, SNR, Max Tx and Rx rates, and Max Tx MCS.

## Enhanced AutoTest Functions

A number of enhancements in version 1.2 expand the use models for EtherScope nXG, provide more actionable information, and make the network analysis process more efficient.

- **Periodic AutoTest** – When the analyzer is in Periodic AutoTest mode, the EtherScope nXG runs AutoTests at specified intervals (from 1 minute to 24 hours) and sends the results to Link-Live so that you can view the results over time. This is an effective way to "monitor" aspects of your network for an extended period, or to help diagnose intermittent issues without having to manually execute multiple tests.

  Results are automatically timestamped and can be prefixed with a user-entered comment for grouping or organization. Test results can be quickly analyzed in Link-Live using the filtering and sorting functions.

- **"Stop After" and "Skip" Configurations** – These settings direct AutoTest to stop testing after the selected test step or to skip a specific test. Useful when diagnosing issues with only specific services, or when conducting network services tests at various stages of deployment, this allows the successful completion of an AutoTest even when not all services are available.

- **Wi-Fi Band Selector in AutoTest Profile** – Wi-Fi band selection gives the user control over which band the unit will connect to (when band selection is not set by SSIDs), enhancing control over Wi-Fi test profiles.

- **Display Trended Ping/TCP Connect Results** – Useful for verifying Fast Roaming, the Wi-Fi AutoTest Link card now includes Ping or TCP connect test results time-correlated to other metrics (SNR, Utilization, Tx rate, Retries) provides insight into connectivity (100ms resolution) during the roaming process.

## General Enhancements

- **Wi-Fi Channel Selection for Scanning** – Selecting only the subset of channels pertinent to the user's environment speeds analysis. (Can be used in conjunction with new Dwell Time configuration.) Saves time when conducting AirMapper Site Survey data collection by skipping channels that are not utilized.

- **Dwell Time Configuration** – Configurable from 110ms to 500ms (in General Settings), this ensures that AP beacons are captured for analysis prior to scanning the next channel.
- **Improved Zoom on trend graphs** – Enhanced trend graphs to allow double tap to zoom in, providing a simple and fast way to zoom in on the point of interest. This applies to all EtherScope trend graphs (Wi-Fi RF & Traffic stats, PING/TCP, capture, Performance Test, Port statistics, …).
- **Receive-Only Control** – When used, this disables any packet transmission by the analyzer on a wired (copper or fiber) connection. Disabling transmit frames may be particularly important where analyzer-generated frames are not allowed (silent mode) or on connections where inbound packets will not be forwarded (e.g., on SPAN or tap ports.)
- **Export / Import Settings** – The user can now export settings from one EtherScope nXG and import to another via the local drive (memory card). This enables organizations with multiple analyzers to ensure consistent testing methods across all their EtherScope nXG units.

## Cloud-based Remote Control

EtherScope nXG permits remote control via VNC, which is easy when your workstation is on the same network. But connecting to distant sites on different networks is difficult or impossible, particularly behind NAT firewalls. With EtherScope version 1.2 and Link-Live Cloud Service, users can quickly connect to remote units – anywhere in the world – for collaborative and remote troubleshooting.


NOTE: This feature is only available to customers with AllyCare support on their EtherScope nXG. For information about AllyCare, go to https://netally.com/support

## Multi-Gig SNR Cable Test

With the expanding deployment of Multi-Gig switching (typically to feed greater bandwidth to Wi-Fi 6 access points), users are finding that their cable plant may not support the desired speed. Cable quality, length, installation workmanship, and noise in the environment all can contribute to “downshifting” to lower-than-expected speeds.

- **Cabling SNR Measurement** – EtherScope nXG can now verify copper media for Multi-Gig capability (2.5 / 5 / 10Gig) and provide root cause diagnosis when link speed downshifting occurs.

# Version 1.2 Additional Features

## Network Performance Test

- **Shows Throughput Stats** – Bandwidth is now trended along with loss, latency, and jitter, providing valuable context when diagnosing packet loss. Graph Y-axis scales automatically to actual throughput to show the relationship between packet loss and bandwidth.
- **5-Second Test Updates** – When running a performance test from one EtherScope nXG to another EtherScope nXG, or to another NPT reflector (LinkRunner AT, LinkRunner G2, Windows NPT Reflector), in-flight test results are shown in 5 second increments. This improved granularity provides near-real-time results and additional insight into the variation of test metrics.

## Discovery App

- **Access Point Grouping Rules** – For better test result organization, users can now configure the rules which group together (or assign) various BSSIDs to a physical AP.

## Capture App

- **Background Capture** – The user can conduct other tests while capture runs in the background, allowing the user to apply other tests (such as ping, TCP connect, etc.) in order to illicit and capture device or service responses.
- **Capture on Link Changes** – Wired Capture will continue to run even during link drop and re-linking. This enables the capture of the linking process such as port advertisements (LLDP/xDP frames) and authentication; a function which cannot be performed with a typical laptop.

## iPerf Test

- **10 Minute Duration** – Longer test time provides improved diagnostics.

## Link-Live App

- **Push Management Port Address** – AutoTest results pushed to Link-Live now include information about the Management Port's configuration, providing more context and complete information about EtherScope nXG's configuration.
- **Upload any File Type -** The user can now upload any file type from file manager for attaching additional comments or documentation.

## Android System

- **Browser update** – Updated Chrome browser version to 72.0.3626.121
- **Browser Proxy & Port Configuration** – If a Wi-Fi or wired profile has a proxy & port set, it will be used by the browser regardless of whether any HTTP or FTP tests use it.

# V1.2 Other Enhancements and Fixes:

- **AP Naming Addition** – EtherScope can now identify Mist brand AP names.
- **Cable Test Distance Setting** – The Feet/Meters setting can now be found in "General Settings" as it is also used by AirMapper. For those using metric units, select Meters even if that selection had been made previously.
- **Improved Reporting on Lost Link** – If link is lost during Wired AutoTest, the EtherScope Switch will be marked Red.

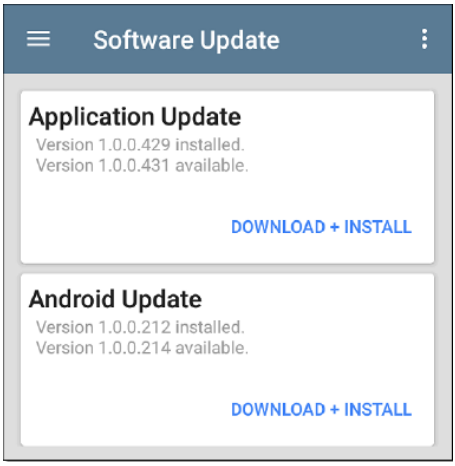
# Upgrading to Version 1.2

## Updating Over the Air

If you have claimed your unit to Link-Live.com, we highly recommend following the Over the Air (OTA) Firmware Update procedure:

1. To check for available software updates at any time, open the Link-Live App from the Home screen.
2. In the Link-Live App, touch the menu icon or swipe right to open the left-side Navigation Drawer.


3. Touch **Software Update**. The Software Update screen opens and displays the version number of any available updates.




4. If both an Android and an Application Update are available, install the Android update first.
5. Touch **Download + Install** to update the Android operating system or the NetAlly applications. Each update must be installed separately.

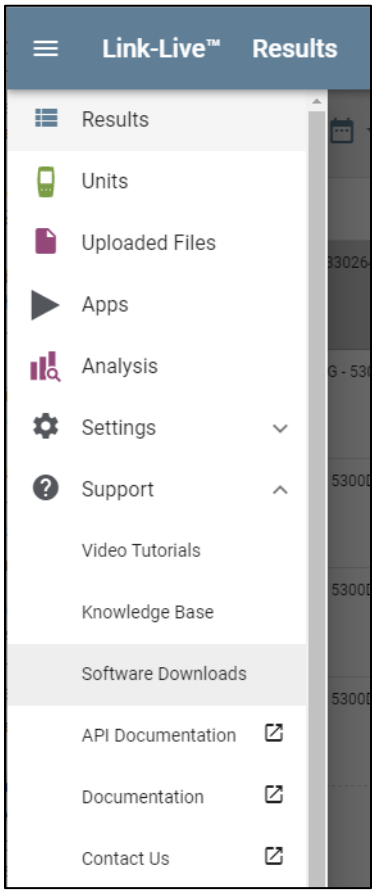
   The files download and install. When finished, the unit will restart.

## Updating Manually

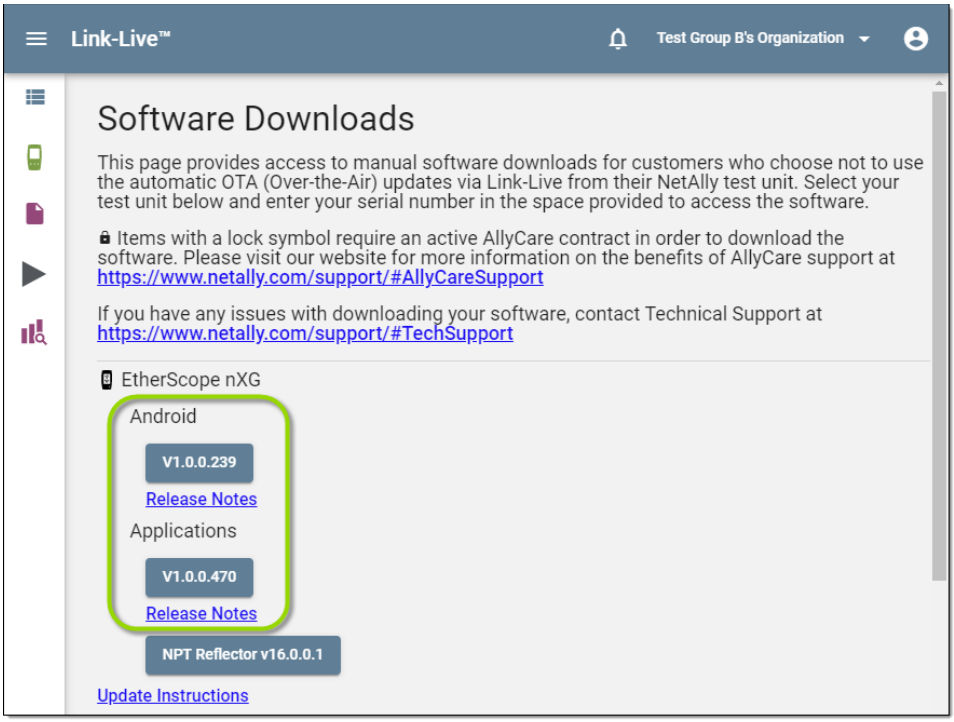
If you have not claimed your unit to Link-Live, you will need to follow the manual update procedure below:

1. If you have not created an account on Link-Live Cloud Service, sign-up at https://Link-Live.com.

2. Open the left-side navigation drawer by clicking the menu icon, and select **Support > Software Downloads** (https://link-live.com/downloads).




3. EtherScope nXG includes both **Android** operating system and **Applications** software. If both update types are available, update the Android OS first.




## Updating the Android OS Manually

1. Download the latest **Android** update (.zip) file and copy it to a Micro SD card.
2. Power off your EtherScope unit.
3. Insert the Micro SD card into the EtherScope Micro SD slot.
4. Press and hold the volume up button and the power button at the same time to start up the EtherScope in Recovery Mode. Continue holding down the volume up button until the Recovery screen appears.
5. In Recovery Mode, use the volume buttons to highlight "**apply update from SD card**," and use the power button to confirm the selection.
6. Use the volume buttons to highlight and the power button to confirm the correct update file on the Micro SD card.

   The EtherScope will open the Updater, install the Android update, and then restart with the update installed.

## Updating EtherScope Apps Manually

1. Download the latest **Application** (.apk) update file and copy it to a USB flash drive or a Micro SD card.

2. In the Link-Live app, open the left-side navigation drawer and select **Software Update**.
3. On the Software Update screen, touch the action overflow icon  at the top right, and select **Manual Update**.
4. Navigate to the USB drive or Micro SD card where you saved the update file.
5. Tap the update file to select it.

   The EtherScope will open the Updater, install the .apk files for the NetAlly apps, and then restart with the updates installed.

# Support

For knowledge base articles and FAQs for EtherScope nXG and Link-Live, please log in to your Link-Live account and go to **Support > Knowledge Base** from the left-side navigation drawer.

For customer support, visit netally.com/support.

# EtherScope™ nXG v1.1 Release Notes

December 2019

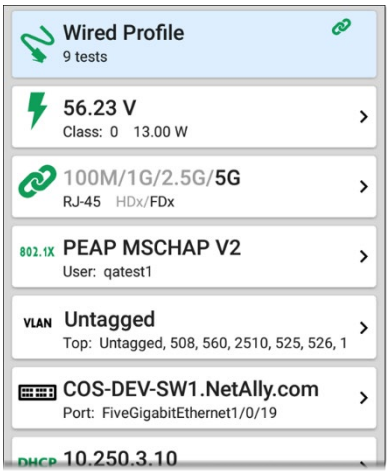
These EtherScope™ nXG version 1.1 Release Notes briefly describe the New Features and Bug Fixes included in the release.

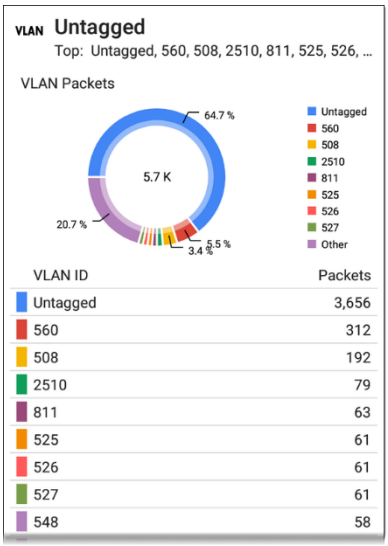
Go to Software Upgrading Instructions on page 11.

## Version 1.1 New Features

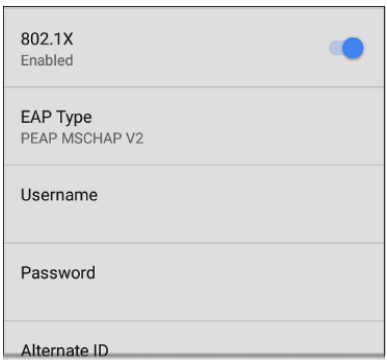
### AutoTest App

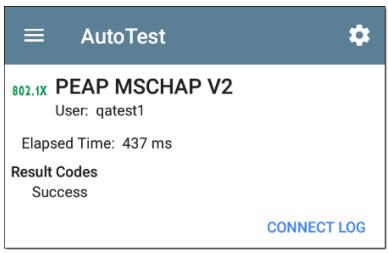
- **VLAN Monitor** – A new VLAN card and screen in Wired Profiles shows the list of VLAN-tagged traffic detected through the switch port.



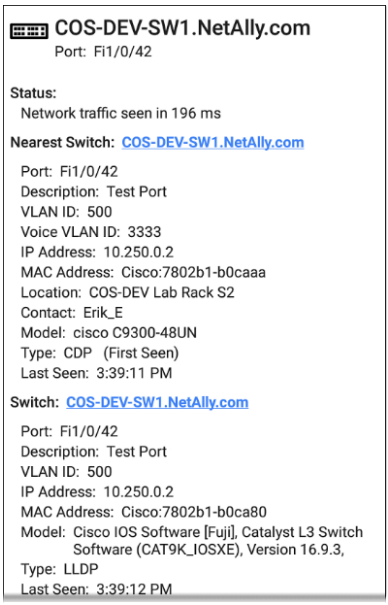

- **802.1X Authentication** is now supported, with EAP Type selection, username, and password entry under Wired Connection Settings for Wired Profiles.



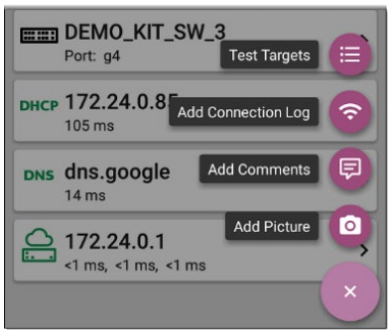



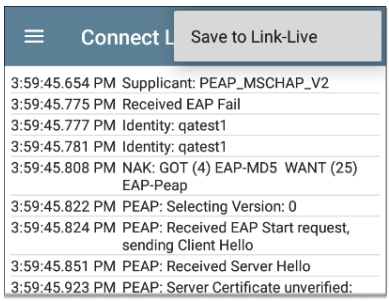

- **Auto-negotiation up to TLS 1.2** is supported.

- **Enhanced Discovery Protocol Analysis** and nearest switch identification is displayed with more detail in Wired Profile tests.

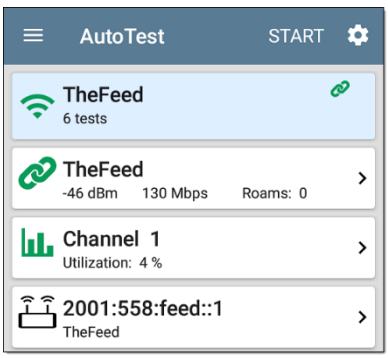



- **Connection Log Uploading** – Attach Connection Logs to Wi-Fi and Wired Profile results sent to Link-Live.com.



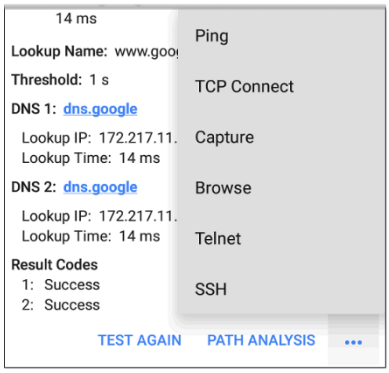




- **Automatic Wi-Fi Profile naming** with the selected SSID makes Wi-Fi Profile set-up faster.



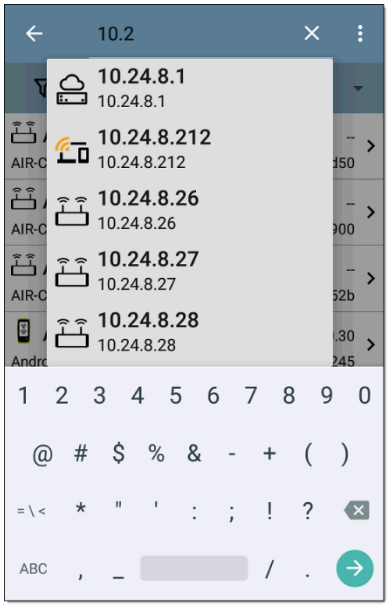

- **User-Definable MAC Addresses** for Wired and Wi-Fi test ports can be assigned in the testing apps' General Settings.

- **Telnet/SSH tool** – Start a Telnet or SSH session from Discovery, Wi-Fi, and AutoTest action menus.



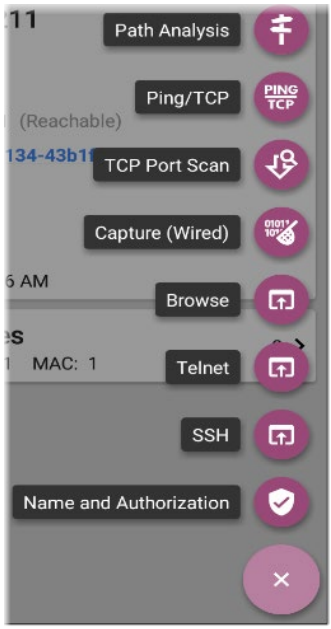

## Discovery App

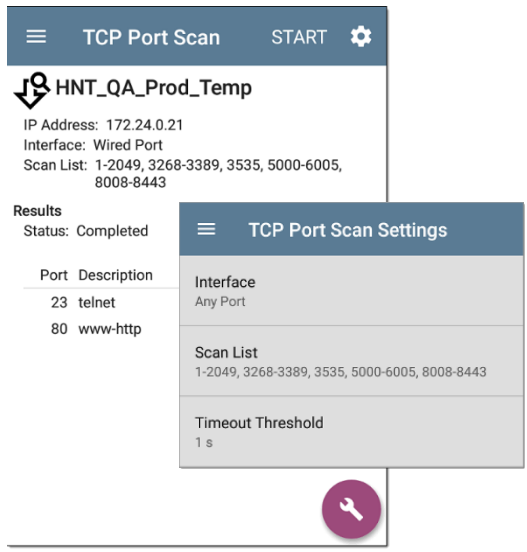
- **Discovery List Search** for IP address, MAC, or device name appears at the top of the main Discovery list screen.




- **Discovery Progress Notifications** in the top Status Bar indicate when the discovery process is complete.

- **TCP Port scanning** is available from the Discovery floating action menu.

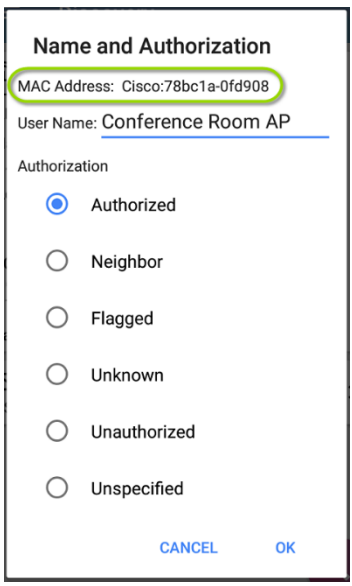


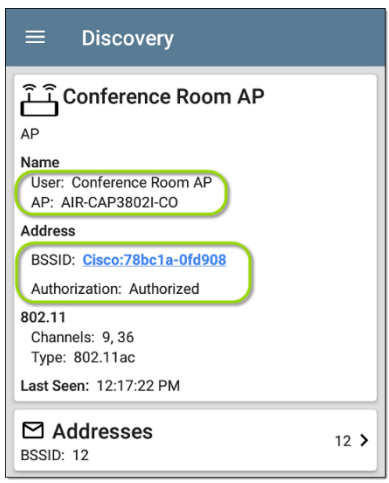




- **Probing Wi-Fi Clients** are no longer shown in the Discovery list.

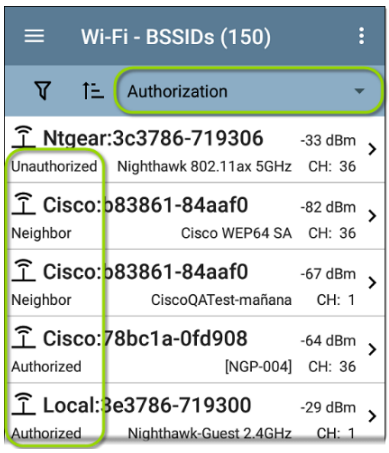
## Discovery and Wi-Fi Apps

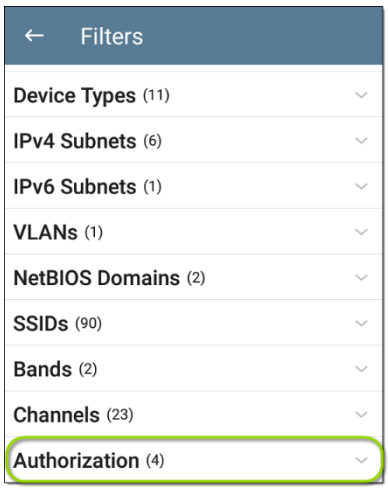
- **Custom Device Naming** – Assign a User Name to display on your EtherScope for any discovered device with a MAC address or BSSID. Custom Names have the highest priority of names associated with the MAC/BSSID.



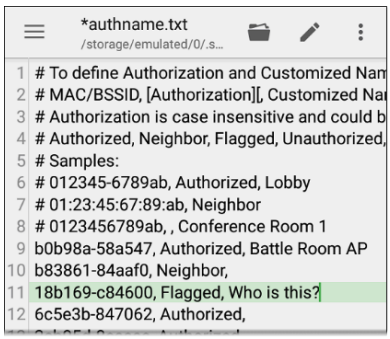



- **User-Assigned Authorization** – Any device with a MAC address or BSSID can be assigned the following Authorization statuses: Authorized, Neighbor, Flagged, Unknown, Unauthorized, and Unspecified. **Sort** and **Filter** by Authorization in the Discovery and Wi-Fi apps.



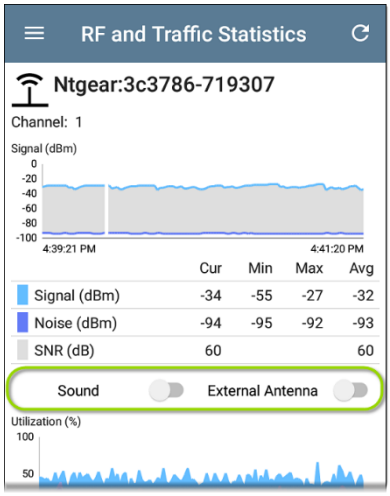




Names and Authorizations are stored in a user-editable file, **authname.txt**, in the internal **EtherScope-nXG > .settings** folder.

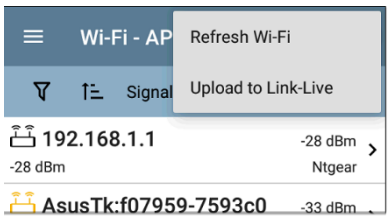



# Wi-Fi App

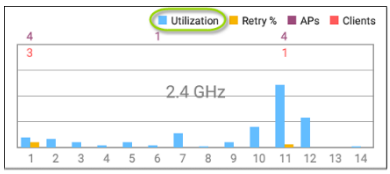
- **Device Locate Function** – Use the internal antennas, or external directional antenna (sold separately), signal strength, and the sound function to locate devices from the BSSID and Client RF and Statistics screens.

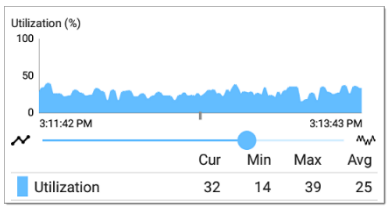



- **Refresh Wi-Fi** – Refresh Wi-Fi discovery results independently of wired discovery.



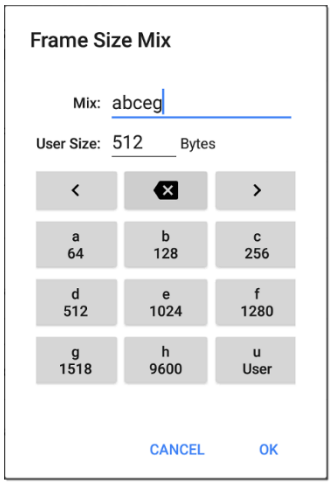

- **Combined 802.11 and non-802.11 Utilization** – In environments with Wi-Fi 6 (802.11ax) traffic, enable Combine Utilization in the General Settings to avoid Wi-Fi 6 OFDMA data traffic being classified as non-802.11. When enabled, utilization graphs show total Utilization.



## Network Performance Test

- **Y.1564 EMIX Frame Sizes** – Tests a repeating size sequence consisting of a mix of 2 to 16 frame sizes. Eight standard frame sizes are available along with user-defined: 64, 128, 256, 512, 1024, 1280, 1518, and 9600 bytes.




## iPerf Test

- **UDP Packet Loss Results and Graphs** are displayed in iPerf results.

- **NetAlly Test Accessories from Discovery and Link-Live** – In the new IPv4 Address setting, select Test Accessories found through the discovery process or claimed to the same Link-Live organization as the EtherScope nXG and actively connected to Link-Live.


## Ping Test App

- **Ping Test Interval** – Set the time interval between Pings as low as 10 ms for a quick packet loss test.
- **Number of Tests Setting** – Select the number of Ping or TCP Connect tests to run.

## Link-Live App

- **View Release Notes** for the latest firmware on the Update Software screen.
- **Upload Cable Test Results** to the Link-Live.com Results page.
- **Attach a Text File** to the most recent test results by sharing a text string.
- **Attach Images** to the most recent Performance, iPerf, and Cable Test results in addition to AutoTest results.
- **Save Results as JSON files Locally** – Users unable to access Link-Live.com can save results to the Link-Live folder on the EtherScope unit.

## Link-Live.com

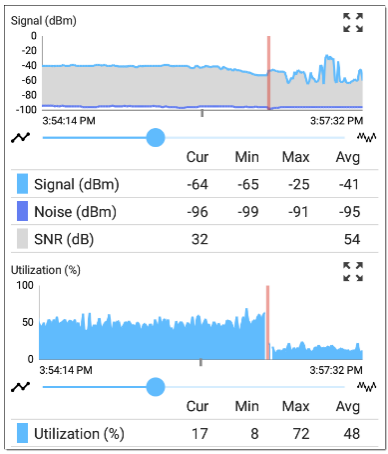
- A **Tutorial Video for the Analysis page** is available along with the previous videos under the **Support** menu in the left-side navigation drawer.
- **Connection Logs, Text Files, and Images** attached to AutoTest, Performance, iPerf, or Cable Test results appear on the Link-Live Results page.

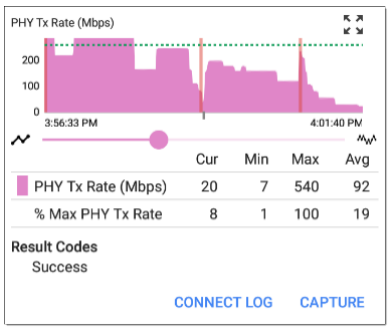
## Instructional Videos

**Instructional YouTube Videos** are now available from the Videos app. Swipe up on the Home screen to access the Apps screen. Hold and drag up an app's icon to add it to the Home screen.

## Operation Enhancements

- **Zoom on Trending Graphs** – Use the new slider control to zoom in or out of the time axis on trended graphs in the following apps and screens:
  - AutoTest – Wi-Fi Profile Link and Channel Tests
  - Discovery – Interface Statistics
  - Wi-Fi – RF & Traffic Statistics for Channels, BSSIDs, and Clients
  - Ping/TCP – Ping Tests
  - Performance
  - Capture




- **Support for 10-G SFP+ based Twin-ax/DAC** has been added.
- **Fan noise** has been greatly reduced.

# V1.1 Bug Fixes:

- Selecting Save-as for a capture file can result in a 0 byte file.
- AutoTest SNR measurement is significantly different from Wi-Fi app SNR measurement.
- Nearest Switch info only appears near the end of the AutoTest.
- Wi-Fi app continues to show results after disabling Wi-Fi test port.
- EtherScope reboots after changing AutoTest Settings and starting AutoTest.
- Path Analysis never completes.
- The unit reboots when performing an AutoTest with mismatched SFPs: LR on the tester end and SR on the switch end.
- Wi-Fi shows invalid MCS index in radio-tap header for some 11n/HT frames in capture and stats.
- EtherScope reboots in the presence of an 8-stream 802.11ax Access Point.

# Upgrading to Version 1.1

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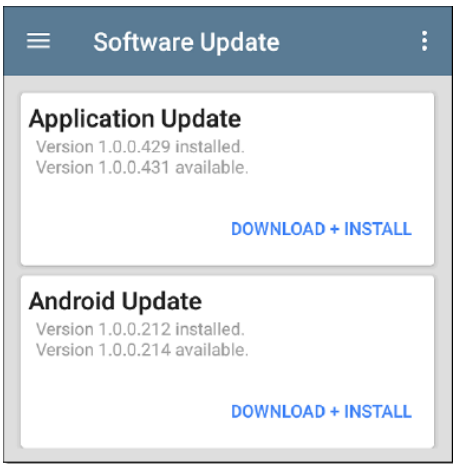


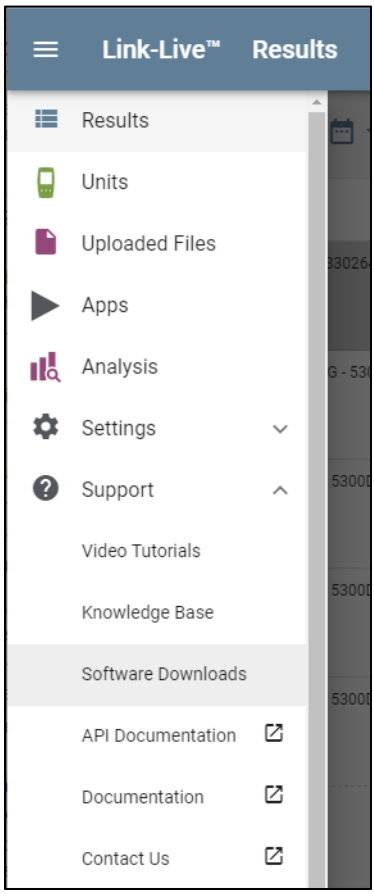

4. If both an Android and an Application Update are available, install the Android update first.
5. Touch **Download + Install** to update the Android operating system or the NetAlly applications. Each update must be installed separately.

   The files download and install. When finished, the unit will restart.

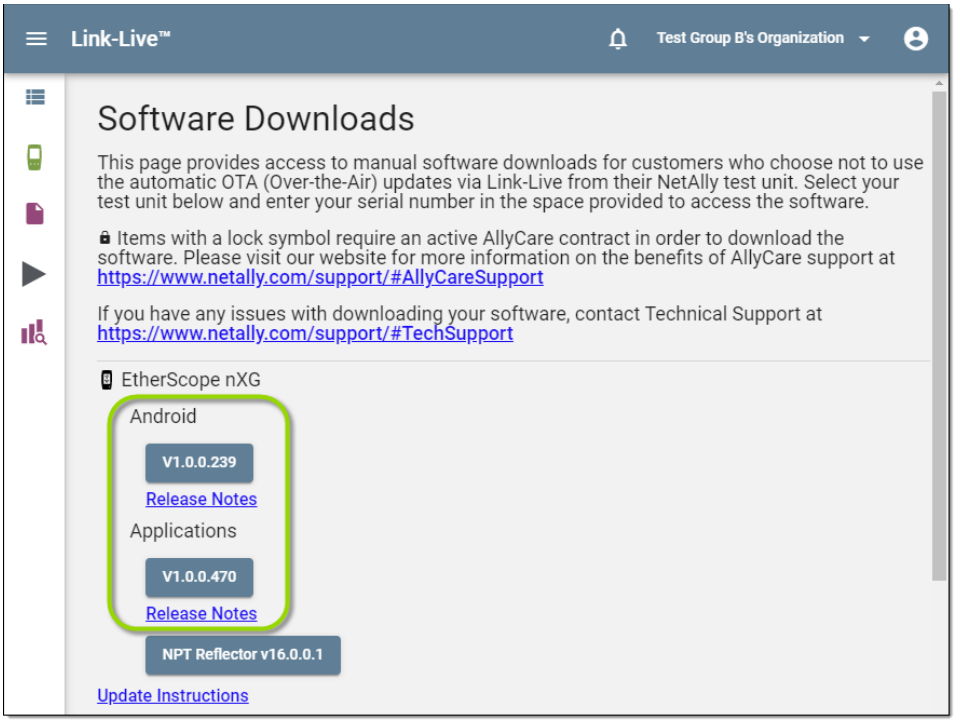
## Updating Manually

If you have not claimed your unit to Link-Live, you will need to follow the manual update procedure below:

1. If you have not created an account on Link-Live Cloud Service, sign-up at https://Link-Live.com.
2. Open the left-side navigation drawer by clicking the menu icon, and select **Support > Software Downloads** (https://link-live.com/downloads).




3. EtherScope nXG includes both **Android** operating system and **Applications** software. If both update types are available, update the Android OS first.




## Updating the Android OS Manually

1. Download the latest **Android** update (.zip) file, and copy it to a Micro SD card.
2. Power off your EtherScope unit.
3. Press and hold the volume up button and the power button at the same time to start up the EtherScope in Recovery Mode. Continue holding down the volume up button until the Recovery screen appears.
4. In Recovery Mode, use the volume buttons to highlight "**apply update from SD card**," and use the power button to confirm the selection.
5. Use the volume buttons to highlight and the power button to confirm the correct update file on the Micro SD card.

   The EtherScope will open the Updater, install the Android update, and then restart with the update installed.

## Updating EtherScope Apps Manually

1. Download the latest **Application** (.apk) update file, and copy it to a USB flash drive or a Micro SD card.
2. In the Link-Live app, open the left-side navigation drawer, and select **Software Update**.

3. On the Software Update screen, touch the action overflow icon  at the top right, and select **Manual Update**.
4. Navigate to the USB drive or Micro SD card where you saved the update file.
5. Tap the update file to select it.

   The EtherScope will open the Updater, install the .apk files for the NetAlly apps, and then restart with the updates installed.

# Support

For knowledge base articles and FAQs for EtherScope nXG and Link-Live, please log in to your Link-Live account, and go to **Support > Knowledge Base** from the left-side navigation drawer.

For customer support, visit netally.com/support.