

# ACCESSAGILITY



## WiFi Scanner

### User Guide

Update 2.9.0.540

Revision History

This page is used to record information about the changes (additions, modification, and deletions) that have been made to this document.

<b>Revision Date</b>	<b>App Version</b>	<b>Revision Summary</b>
05/01/2023 - 05/10/2023	Update 2.8.31.b41	Document creation
05/10/2023 - 06/06/2023	Update 2.8.31.42	Updated Calibration method (Survey)
06/06/2023 - 07/05/2023	Update 2.8.36.46	Added new delete method, capability to continue last survey path, and show/hide markers (Survey); screenshot updates
07/05/2023 - 07/20/2023	Update 2.8.43.b53	Updated heatmap color scheme (Survey)
07/20/2023 - 09/13/2023	Update 2.8.47.b57	Heatmap color scheme ranges, show/hide survey paths in heatmap generation (Survey), renaming survey paths
09/13/2023 - 10/04/2023	Update 2.8.50.60	Updated screenshots, minor edits, added Optifi Agent for iOS
10/04/2023 - 11/20/2023	Update 2.8.50.b63	Various corrections and edits
11/20/2023 - 12/15/2023	Update 2.9.0.536	WLAN Pi firmware updates, Spectrum Graph primary channels now in quotes and screenshots updated, Optifi feature and screenshot updates, expanded Optifi Agent for iOS, added Optifi Agent for macOS
12/15/2023 - Present	Update 2.9.0.540	Removed iOS setup for Optifi Agent. Added link to Optifi User Guide in intro and mobile setup. Adjusted formatting.



**Official Website:** <https://wifiscanner.com/>

**Support:** [support@accessagility.com](mailto:support@accessagility.com)

**Twitter:** [@accessagility](https://twitter.com/accessagility)

**For MacOS users, please visit:** <https://support.accessagility.com/hc/wifi-scanner-for-mac-os-user-guide>

**About:**

Simple, fast wireless network discovery of 802.11 a/b/g/n/ac/ax access points. Use WiFi Scanner to select the best configuration for your WiFi access point / router and optimize network speed. Also includes upload and download speed testing to quickly measure and analyze WiFi Internet performance problems.

Using WiFi Scanner, you'll see nearby wireless access points and their details including channels, signal levels (RSSI), noise, channel width, and MAC address, signal quality, maximum data rate, encryption, and much more.

WiFi Scanner is great for determining the best position for an access point at home or in the office. After selecting the best position, the optimal channel to use can be determined by selecting the least used channel resulting in improved WiFi speeds.

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## Prerequisites and Setup


### Software Download and Installation

To download WiFi Scanner, go to <https://www.accessagility.com/wifi-scanner-windows> and either buy the full featured version, or click the button to download the free trial.

The screenshot shows the 'WiFi Scanner for Windows' product page on the AccessAgility website. The page features the company logo, navigation links, and a detailed description of the software's capabilities. A prominent orange button labeled 'FREE TRIAL WIFI SCANNER FOR WINDOWS' is circled in red. Below the main text, there are sections for 'Key Features' and 'Windows Screenshots'.

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### WiFi Scanner for Windows

 Simple, fast wireless network discovery of 802.11 a/b/g/n/ac access points. Use WiFi Scanner to select the best configuration for your WiFi access point / router and optimize network speed.

Also includes upload and download speed testing to quickly measure and analyze WiFi Internet performance problems.

Using WiFi Scanner you'll see nearby wireless access points and their details, including channels, signal levels (RSSI), noise, channel width, and MAC address, signal quality, maximum data rate, encryption, and much more.

WiFi Scanner is great for determining the best position for an access point at home or in the office. After selecting the best position, the optimal channel to use can be determined by selecting the least used channel resulting in improved WiFi speeds.

**Key Features**

- ✔ Simple, fast wireless network discovery of 802.11 a/b/g/n/ac access points.

**Buy It Now!**

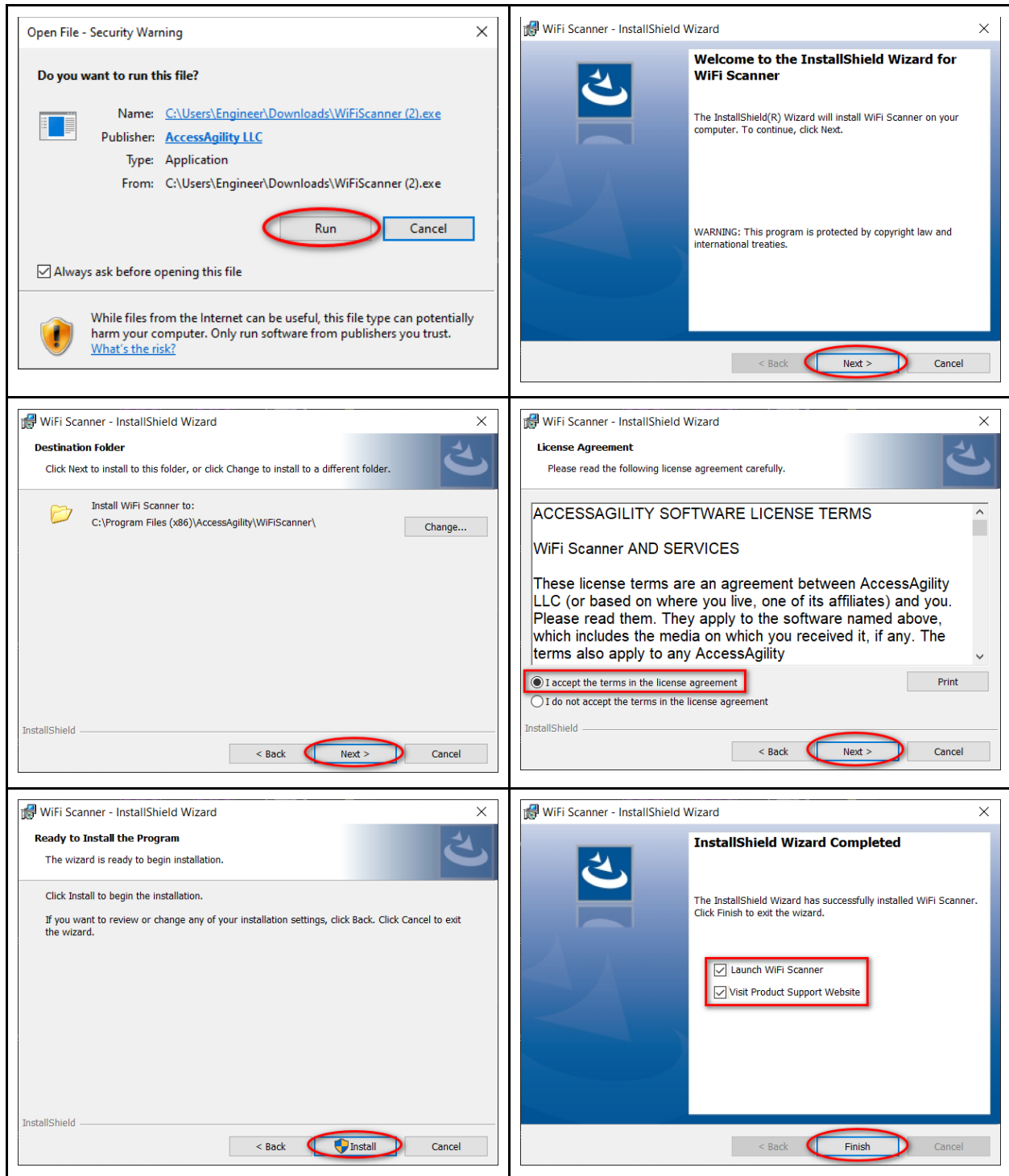
Buy WiFi Scanner for Windows

**FREE TRIAL**  
WIFI SCANNER FOR WINDOWS

**Windows Screenshots**

The free trial version will allow full functionality of WiFi Scanner for 7 days. After, there will be options to purchase a license for future use.

After choosing an option to download WiFi Scanner, click the downloaded .exe file and follow the on screen prompts to complete the installation.



After the Installation Wizard has finished, you can choose to launch WiFi Scanner immediately and/or visit the support website to learn more about WiFi Scanner and how to use the tools and functions it has to offer.

## License

### Trial

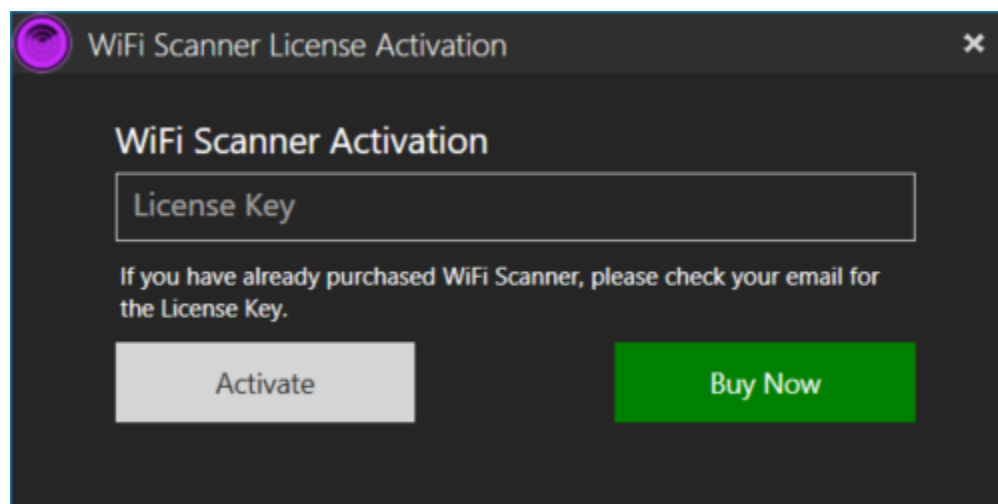
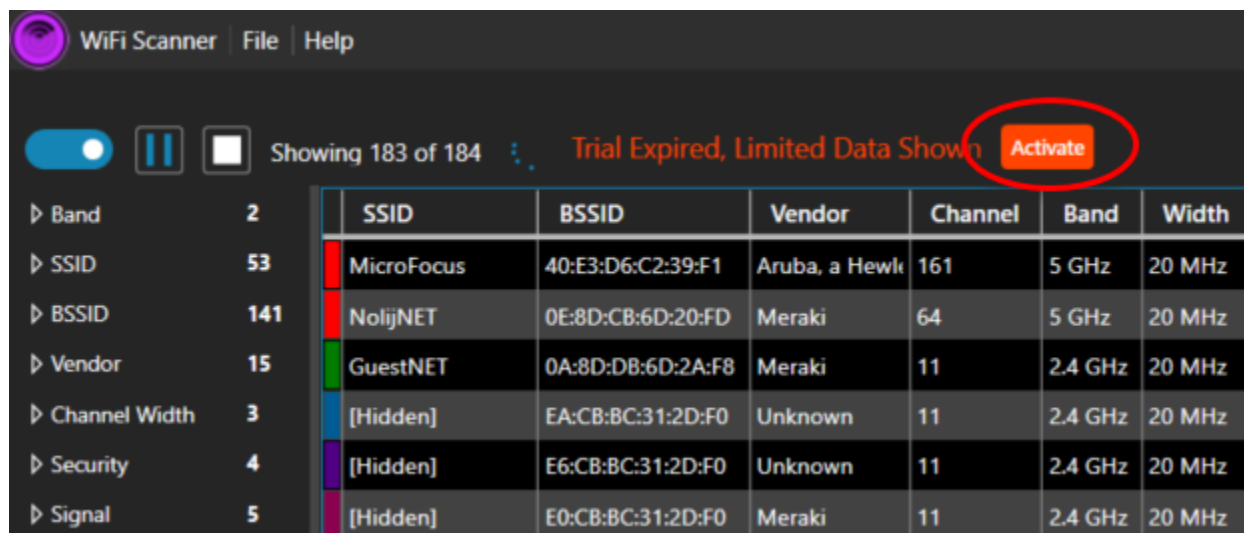
To try WiFi Scanner, there is a 7-day evaluation period with all functionality enabled. After this trial expires, functionality will be limited, and you will have the option to purchase a license for full, continued use.

ACCESSAGILITY

Professional License <small>Popular</small>	Teams License
<p><b>\$Contact</b> /ANNUAL</p> <p>1 User / 1 Computer</p> <p>1 Year License</p> <p>30-day money back guarantee</p> <p>User Training / Onboarding</p> <p>Email and Phone Technical Support</p> <p>Concierge Level Customer Service</p> <p>SSID Information Element Details</p> <p>Remote WiFi Sensor / Scanner Agent</p> <p>Select this license if you will be using WiFi Scanner at work or in a setting where you are paid for your services while using WiFi scanner.</p> <p><a href="#">REQUEST QUOTE</a></p>	<p><b>\$Contact</b> /ANNUAL</p> <p>Multiple users</p> <p>Multi-year Licenses</p> <p>Purchase Orders Accepted</p> <p>Customized User Training</p> <p>Email and Phone Technical Support</p> <p>Concierge Level Customer Service</p> <p>SSID Information Element Details</p> <p>Remote WiFi Sensor / Scanner Agent</p> <p>Select this option if you are interested in WiFi Scanner for your organization. We will contact you with custom pricing options that fit your exact requirements.</p> <p><a href="#">REQUEST QUOTE</a></p>

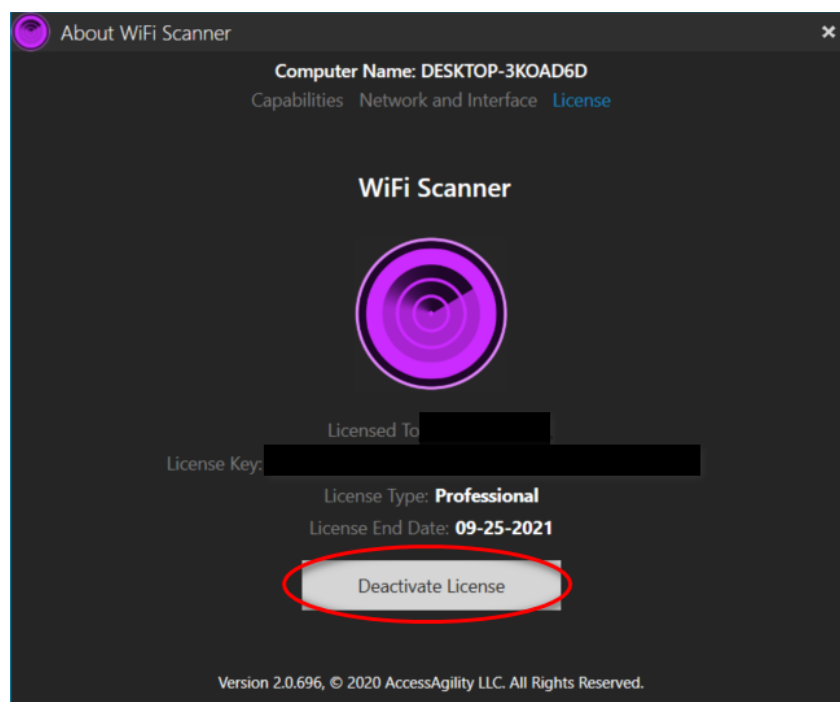
## Activation

In order to activate a device, you must have a License Key, which can be purchased at <https://www.accessagility.com/buy-wifi-scanner>. You can also obtain a License Key within WiFi Scanner by clicking 'Activate' in the top left and pressing *Buy Now*. After successfully purchasing a License Key, type or copy and paste the code into the text box.



## Deactivation

You will have the option to deactivate your license on your device at any time. To do so, go to 'Help' → 'About WiFi Scanner' → 'License' and click *Deactivate License*.



## Limited Capability Mode

After a trial ends or a license expires, the application will enter Limited Capability mode. This mode allows continued use of WiFi Scanner, but with limited functionality.

## Updates

WiFi Scanner automatically checks for updates during launch. If there is an update available, a prompt will appear to download and install it. You can manually check for updates by going to the 'Help' button (see 'Menu Navigation' under 'Help Button' on page [Help](#)).

## Rollback

If a rollback for an earlier version is needed for any reason, contact [support@accessagility.com](mailto:support@accessagility.com).

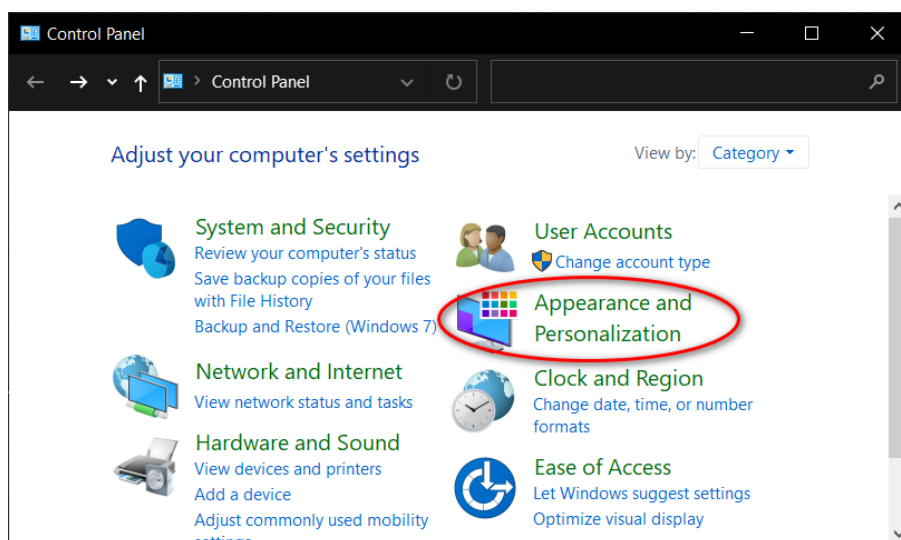
## Version History

To view version release notes, visit <https://support.accessagility.com/hc/windows-wifi-scanner-release-notes>

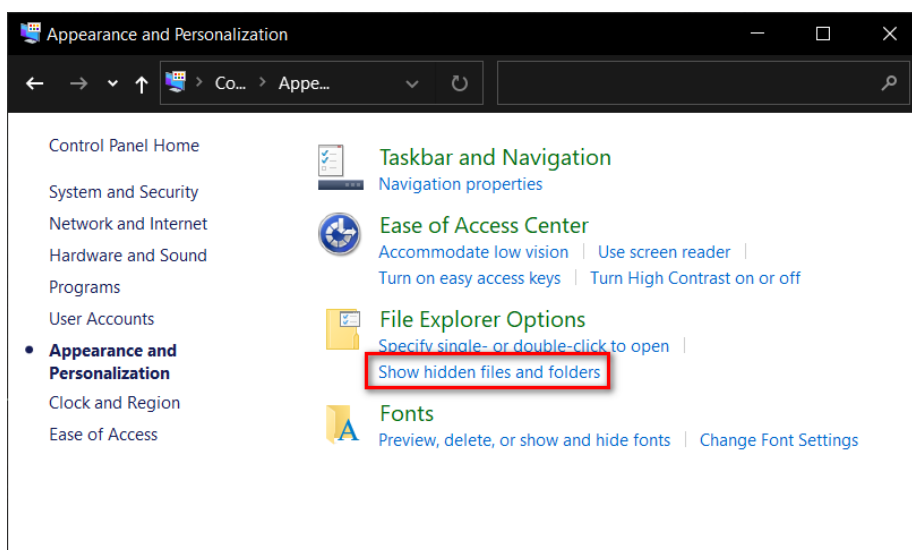
## Reset Configuration

For a clean install of WiFi Scanner, follow the steps below to reset configuration. This could fix issues a user may have or prevent issues from occurring in the future.

1. Go to the Windows Control Panel
2. Click on 'Appearance and Personalization'
3. AccessAgility provided [How-To Page](#)

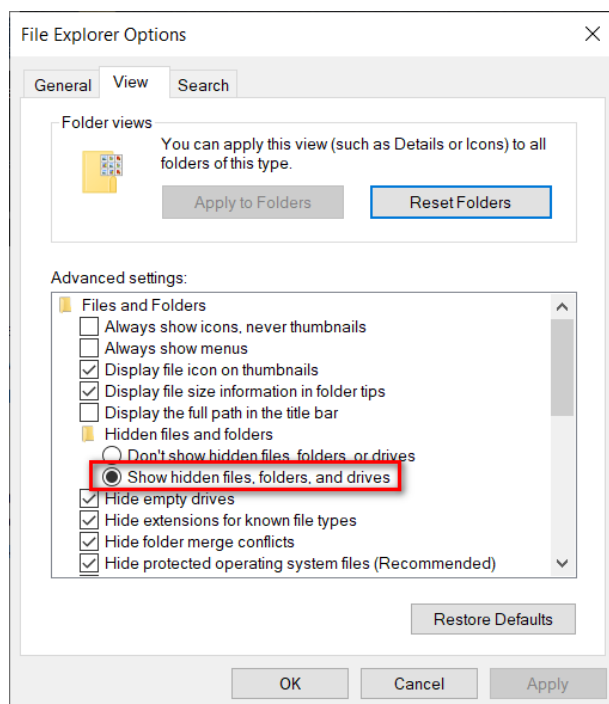


4. Click on 'Show hidden files and folders'





5. Within 'Files Explorer Options', check 'Show hidden files, folders, and drives'. Click Apply.



6. Open 'File Explorer' and navigate to the (C:) drive.



7. Now, locate the 'Program Data' file and open it.

Apps	12/3/2018 8:12 PM	File folder
Dell	10/8/2019 10:40 AM	File folder
Drivers	12/3/2018 8:12 PM	File folder
Intel	9/14/2020 11:04 AM	File folder
PerfLogs	12/7/2019 4:14 AM	File folder
Program Files	9/14/2020 11:04 AM	File folder
Program Files (x86)	10/8/2020 9:34 AM	File folder
<b>ProgramData</b>	10/1/2020 8:03 AM	File folder
Recovery	9/14/2020 11:02 AM	File folder

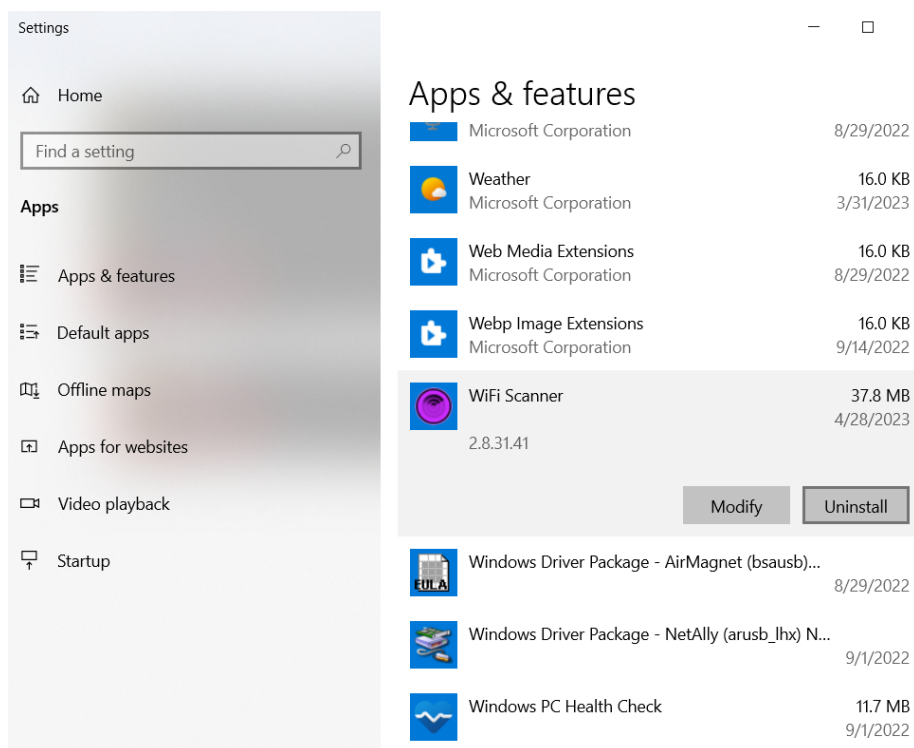
8. From here, find the 'WiFiScanner' folder and delete it.

USOPrivate	9/14/2020 11:08 AM	File folder
USOShared	12/7/2019 4:14 AM	File folder
WiFiScanner	9/24/2020 9:33 AM	File folder
WindowsHolographicDevices	12/7/2019 4:54 AM	File folder

9. Once these steps are complete, download and install the latest version of WiFi Scanner.

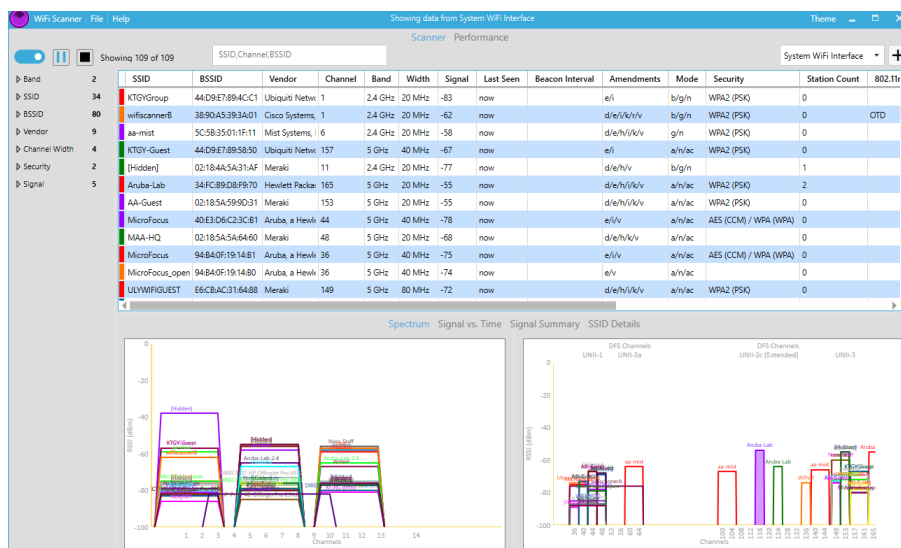
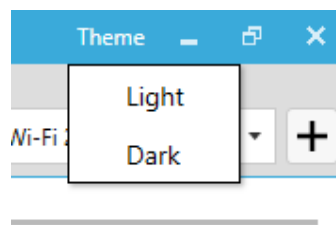
## Uninstall Method

Open Apps & Features, which could be found by typing it in your search bar. Search for WiFi Scanner and click uninstall.

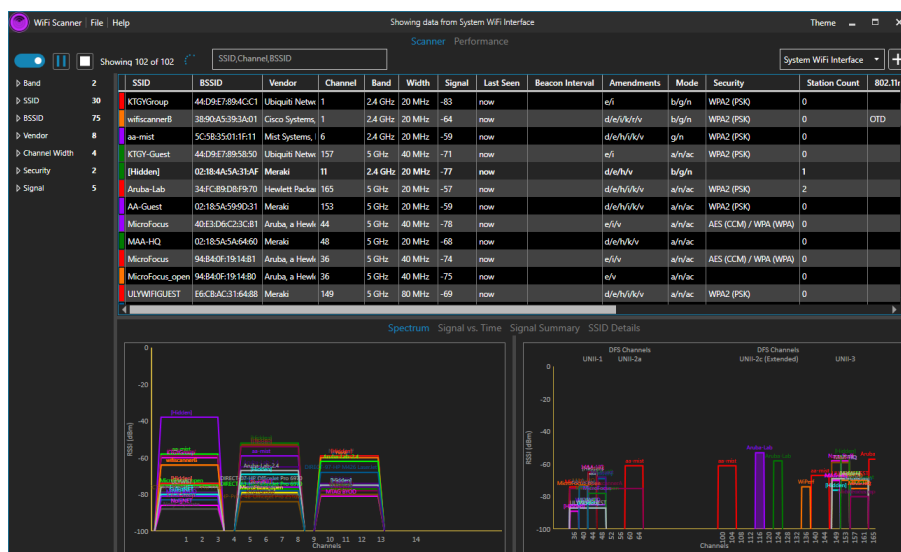


## Theme

To change themes, click on the *Theme* tab on the top Right of the screen.

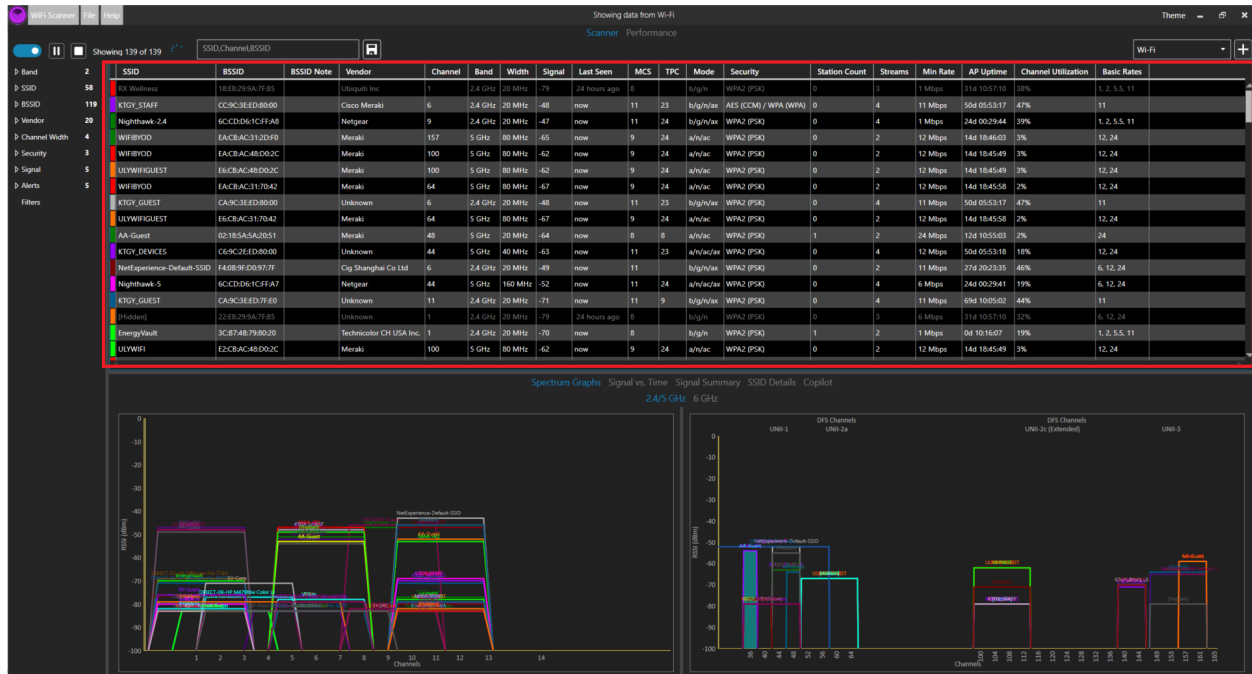


Light Theme

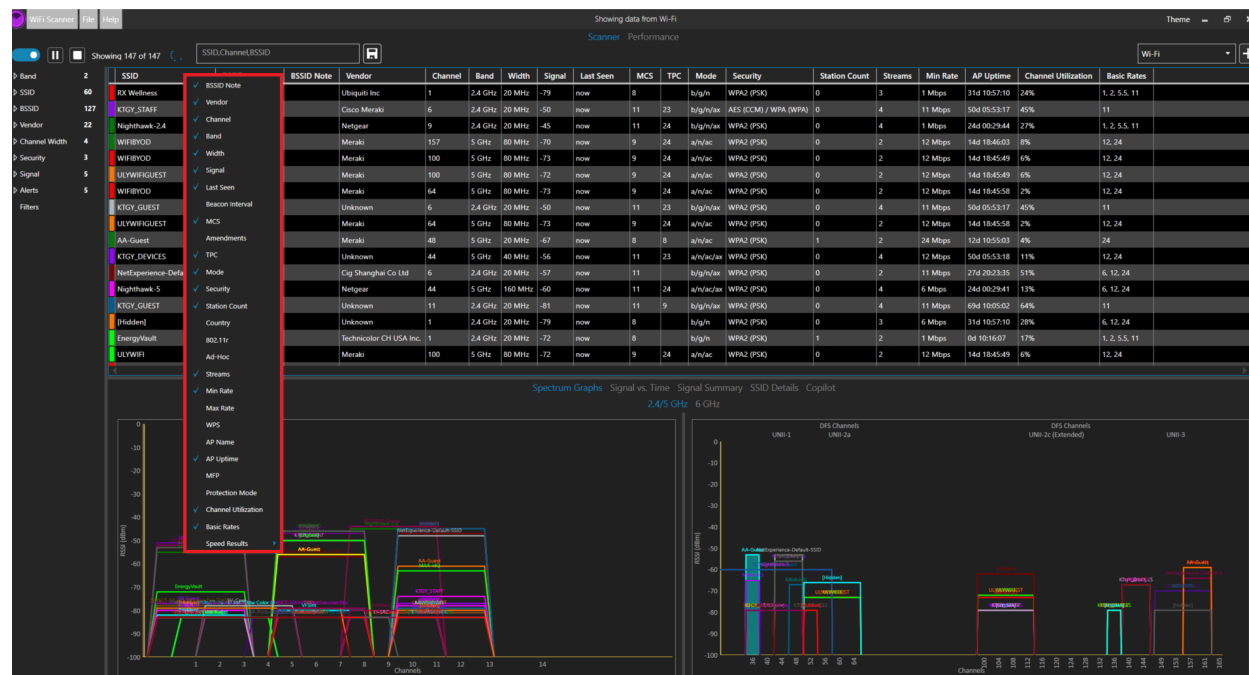


Dark Theme

This table displays the data taken from a packet capture of all the surrounding networks your device can see. The data is presented in a table view with rows and columns in order to convey relevant information in an easily readable, understandable, and accessible format.



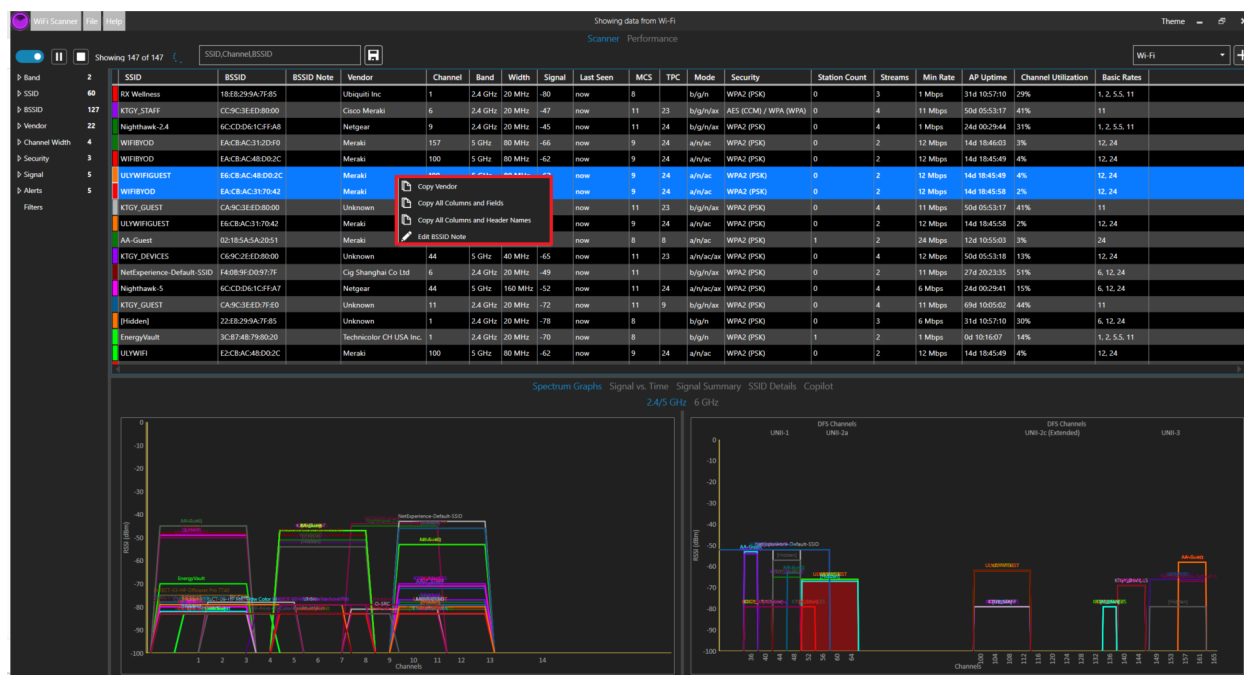
You can customize the table by right clicking on the column headers and choosing which categories you would like to display.



For more information about each individual column available for the Results Table, navigate to [Appendix A](#) at the end of this document.

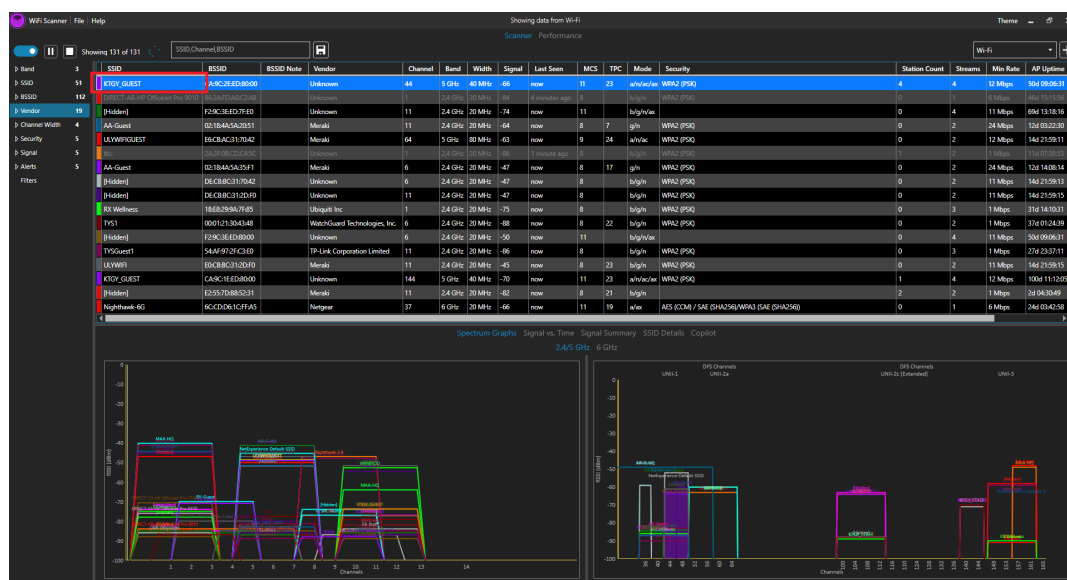
## Copying Results to Microsoft Excel

You can copy this data by right clicking on values within the table and paste the results into Microsoft Excel or another application. To highlight and copy multiple rows, hold the ctrl key while clicking with the mouse.

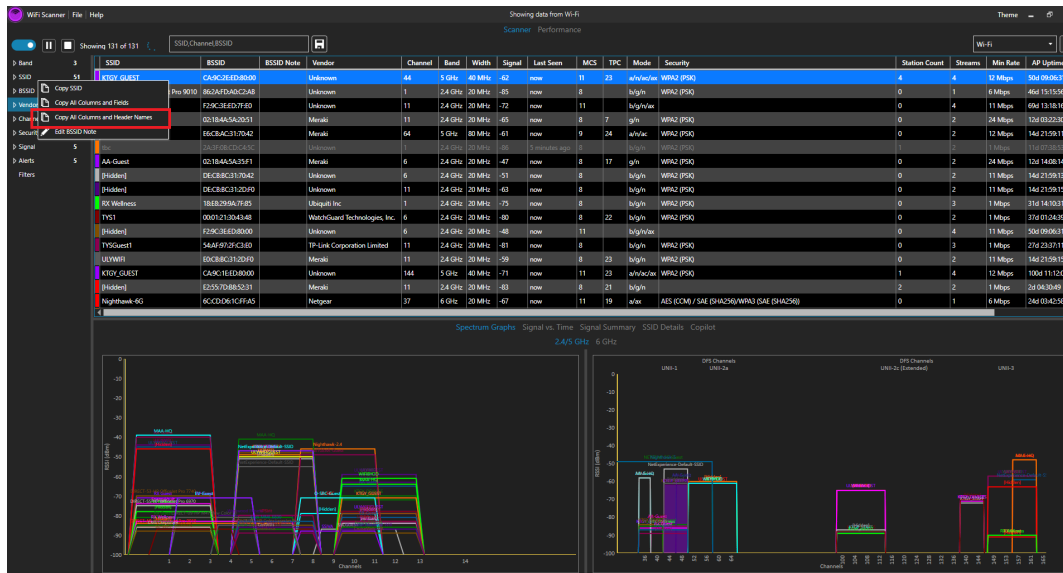


To avoid the entirety of the data being copied into a single Excel cell, or an error in copying multiple WiFi Scanner entries:

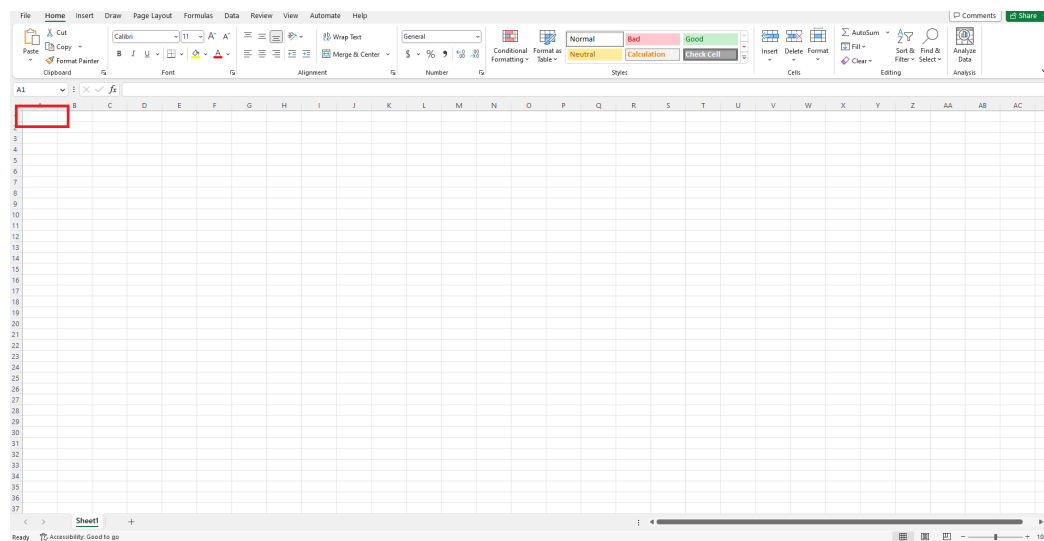
1. Select a single, desired WiFi Scanner entry.



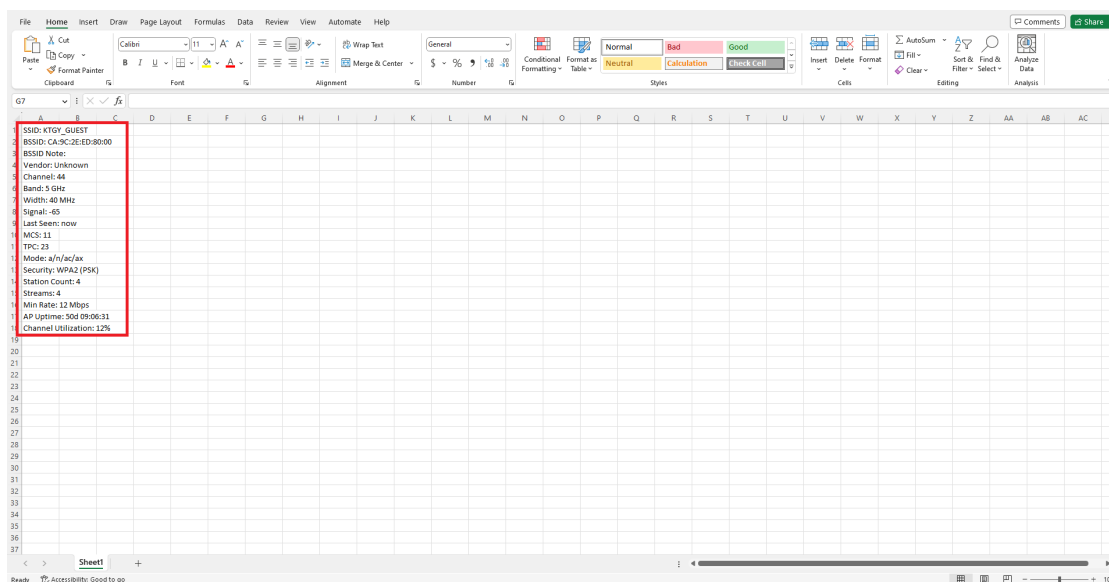
2. Right click on the selected entry and select “copy all columns and header names.”



3. Move to the chosen Excel spreadsheet, select a desired cell.

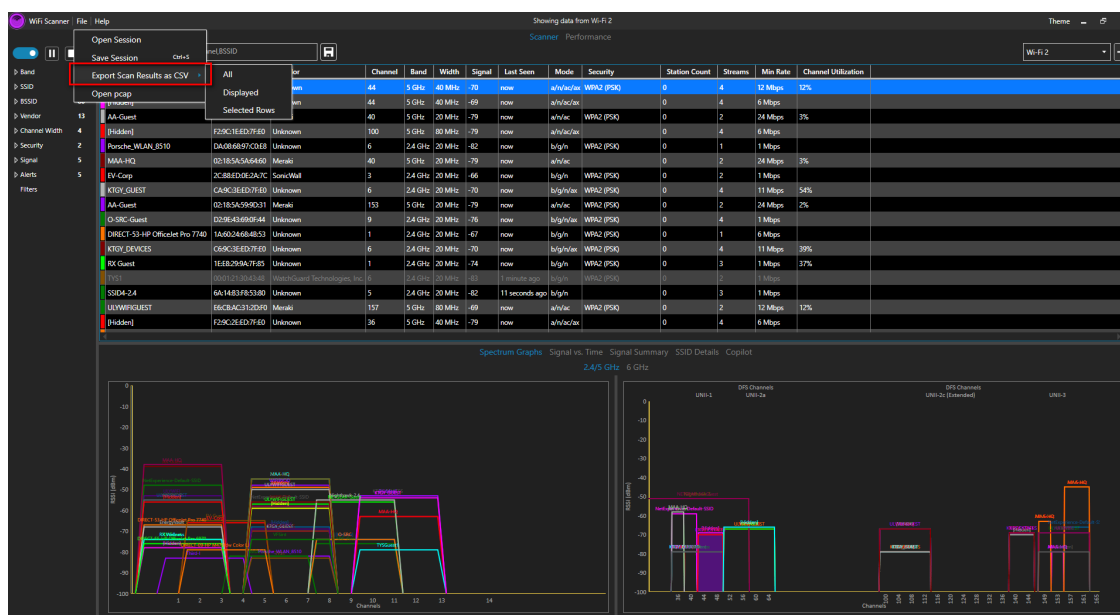


- Paste data (e.g., ctrl+v). The entirety of the data for the selected WiFi Scanner entry should now be shown in the Excel spreadsheet. Repeat process, with the next WiFiScanner entry and another selected Excel cell.



## Exporting Results as a CSV File

It is also possible to convert the Results Table into a CSV file, which can be opened with Excel. Click on *File* at the top left corner, and highlight *Export Scan Results as CSV*. From the Results Table, you will have the option to export *All*, *Displayed*, or *Selected Rows*.





All will contain a summary of all the results from the scan. *Displayed* will contain all the results displayed on the results table, which can be customized through filtering, explained in the following sections. *Selected Rows* will contain all highlighted rows from the Results Table. You can highlight rows by clicking and dragging the mouse on the selected range of results, or by holding down the Ctrl key and clicking individually on the desired results.

File

Home

Insert

Page Layout

Formulas

Data

Review

View

Developer

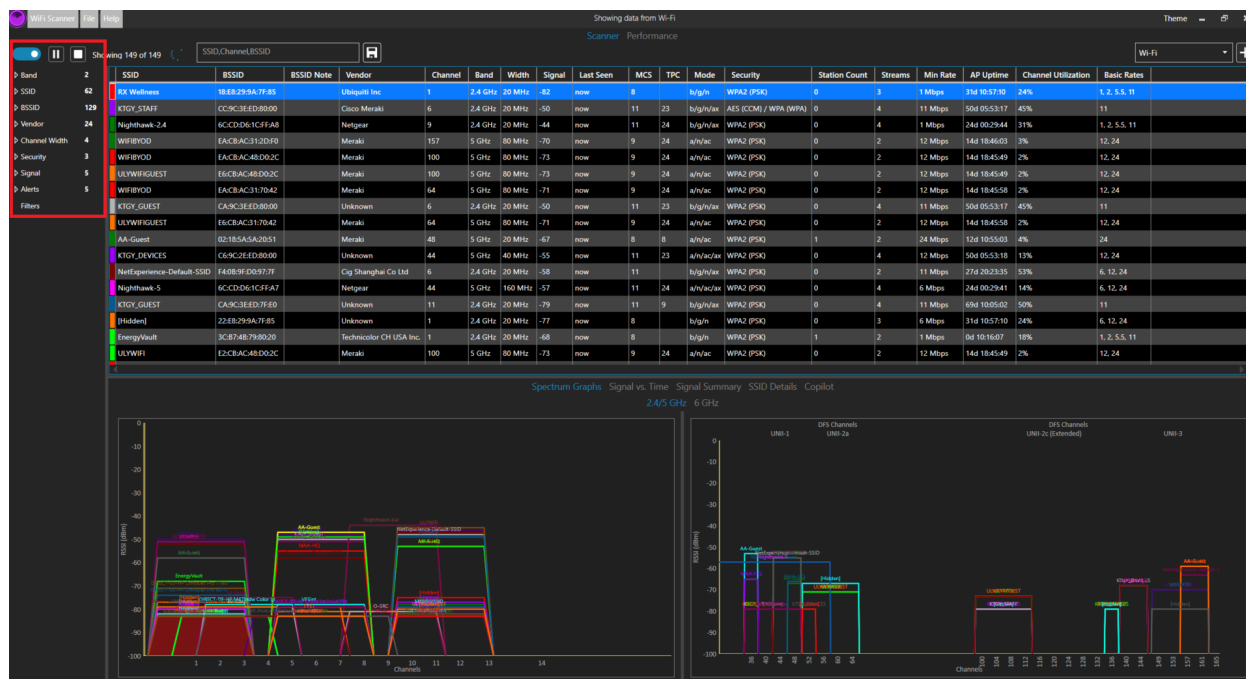
Help

</

CSV File Export Sample

## Filter Tree

The Filter Tree is a list of common categories used to refine the table. You can filter by band, SSID, BSSID, vendor, channel width, security, and signal. These filters will help narrow scanning results to your choosing. To hide/bring up the filter tree, simply click the blue oval next to the pause button.



Band	5GHz
Width	40MHz

You can also combine different categories or filters to narrow results for even more precision.

Use bangs or exclamation points (!) to hide results with the specified keyword.

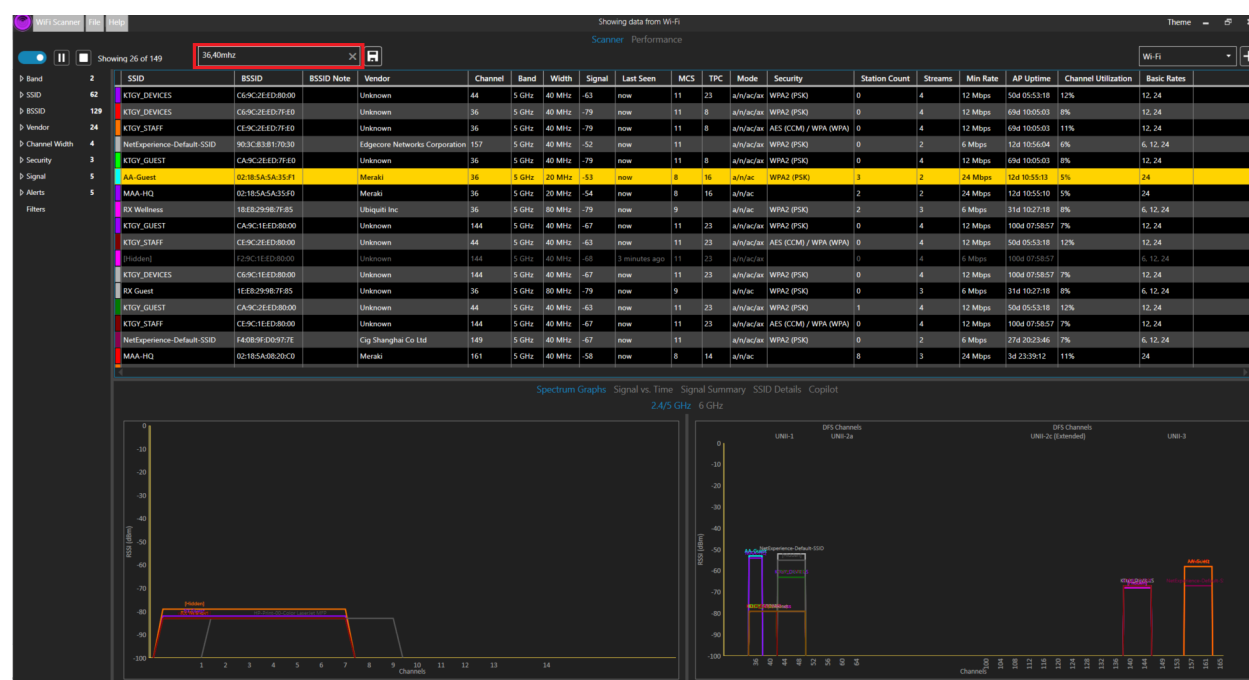
Use commas (,) to separate different filters to display multiple categories.

Use ampersands (&) to combine filters to further narrow results.

Alternatively, use carets (^) as a logical “or” syntax, to expand a filter search.

Example 1: '36,40MHz' – this will show all wireless networks that are on channel 36 OR have a channel width of 40MHz.

Example 2: '36&40MHz' – this will show all wireless networks that are on channel 36 AND have a channel width of 40MHz.

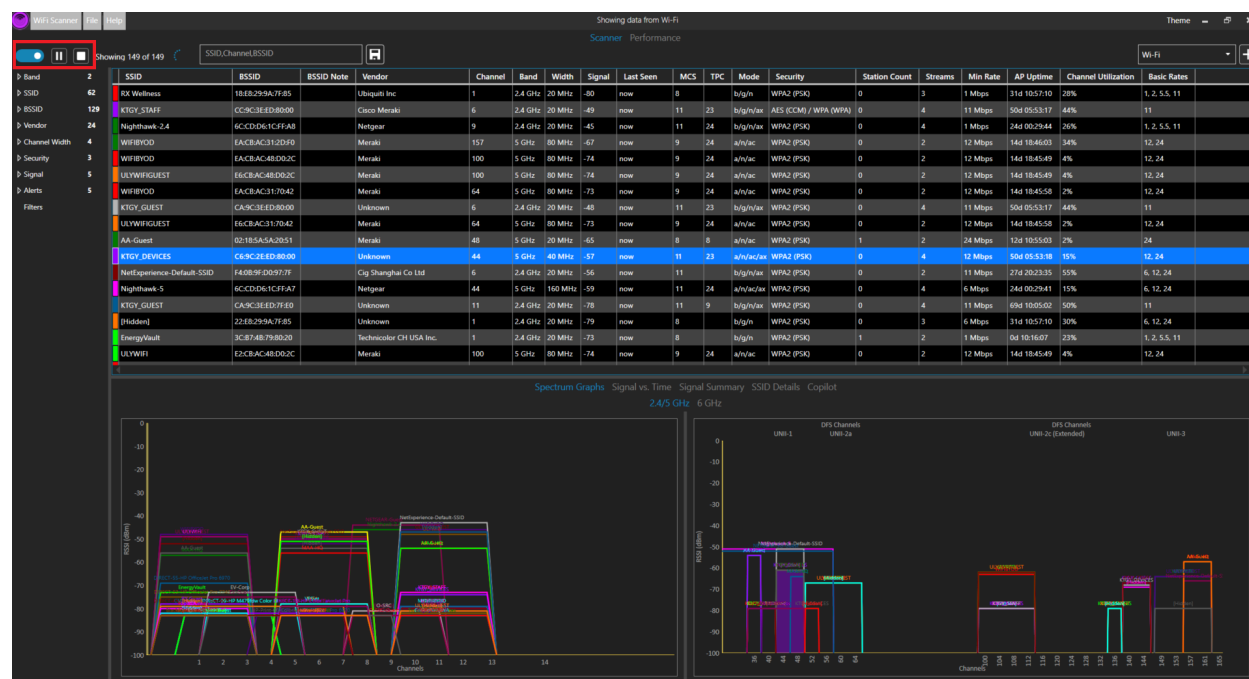


## Play, Pause, Stop

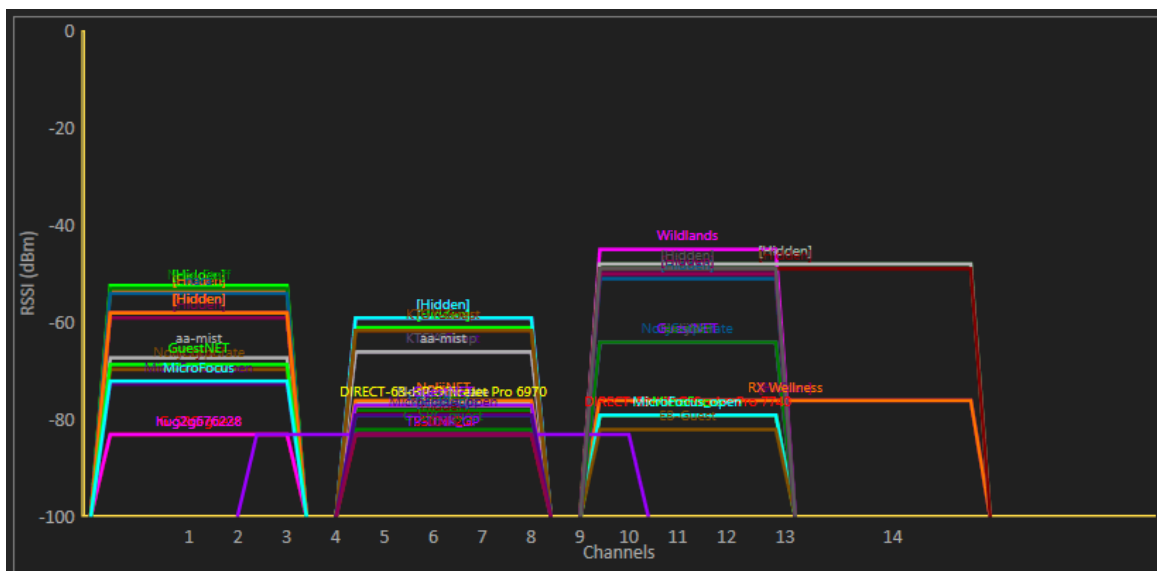
*Pause:* This button will pause your current scanning session.

*Stop:* This button will stop your current scanning session and **you will not be able to resume**. You must save or discard the session after. Please keep in mind that WiFi scanner will continuously scan until stopped. We recommend allowing the software to scan for longer than a couple of minutes, as a shorter scan may miss important information.

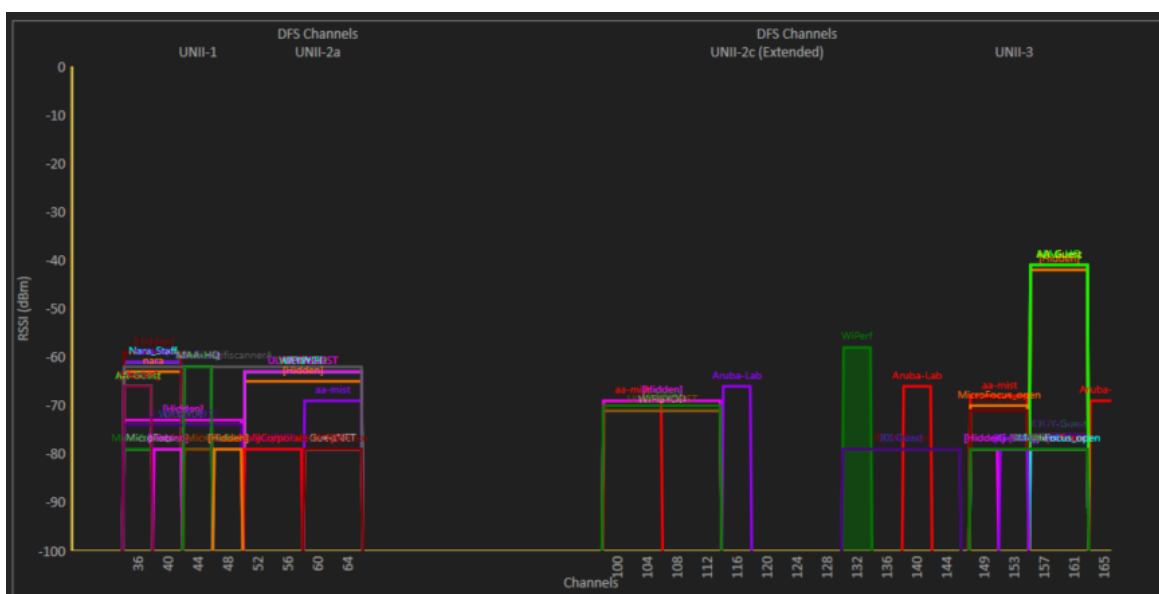
*Play:* This will either resume a paused session or begin a new session after stopping a scan.



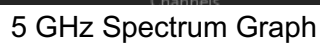
Understanding the wireless environment around you is crucial to effective channel planning and making informed decisions for improving your network configuration.



2.4 GHz Spectrum Graph

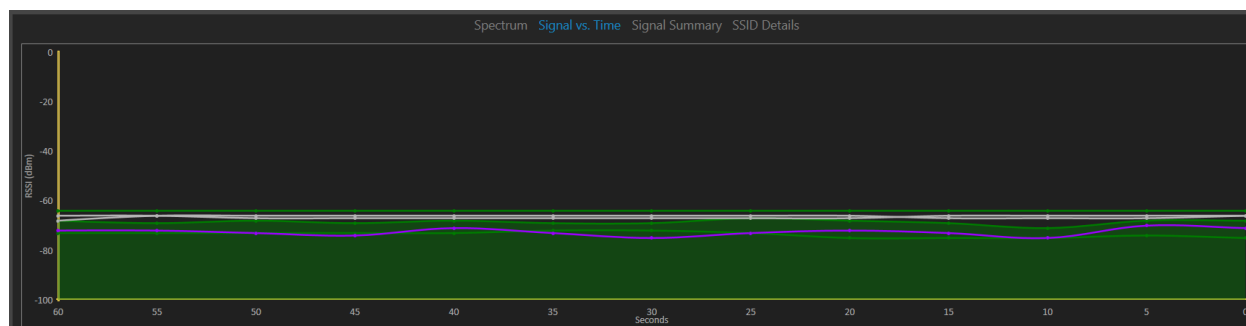


5 GHz Spectrum Graph



## Signal vs. Time

The *Signal vs. Time* tab is a visual representation of the strength of the signal your device is receiving from a given access point over time. The chart displays time in seconds on the x-axis and RSSI (signal strength) on the y-axis.



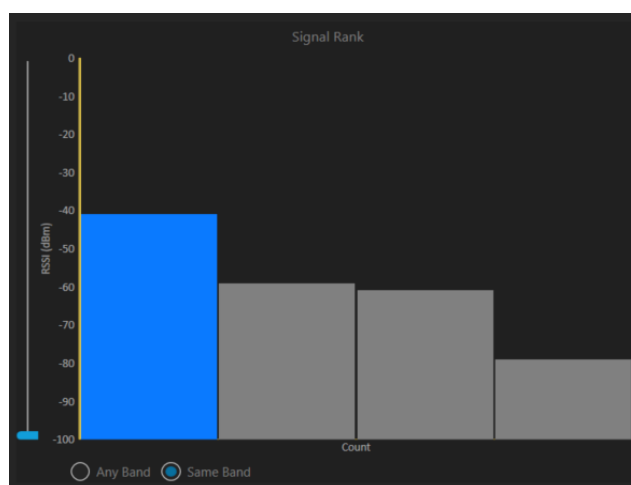
## Signal Summary

Three charts are shown under the *Signal Summary* tab.

### Signal Rank

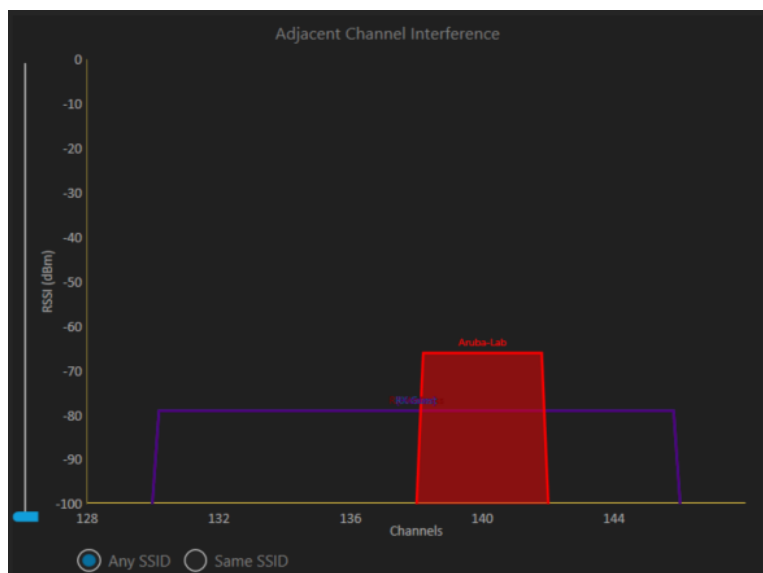
*Signal Rank* is a bar graph of all the access points surrounding the device, as filtered by the user in the table view. The blue bar represents the access point that you have currently selected. Each access point is ranked according to its signal strength relative to your device (the closer to 0 the better).

The slider on the left allows you to set a minimum signal threshold. This will only display access points with signal strength equal to or stronger than the set threshold. Lastly, below the x-axis are two radio buttons that you choose whether you want to show access points on any band, or only those on the same band as your computer.



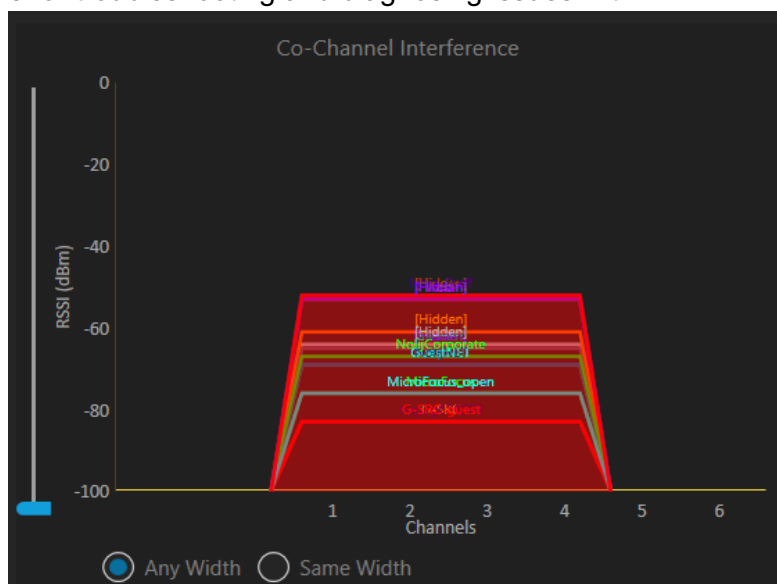
## Adjacent Channel Interference

The *Adjacent Channel Interference* chart displays the channel of the currently selected network, any wireless networks currently overlapping on the same channel, and any networks on directly adjacent channels. This chart is like the spectrum graph, but the only data displayed here is relative to the currently selected network. This chart is useful for looking for interference issues.



## Co-Channel Interference

This graph is also similar to the spectrum graph, but specific to a single channel. The co-channel interference graph will show the user every network that is using the same primary channel as the one selected in the table. As seen below, the chart consists of channels on the x-axis and RSSI on the y-axis. The difference in RSSI when access points are using the same channel is valuable for troubleshooting and diagnosing issues with WiFi.



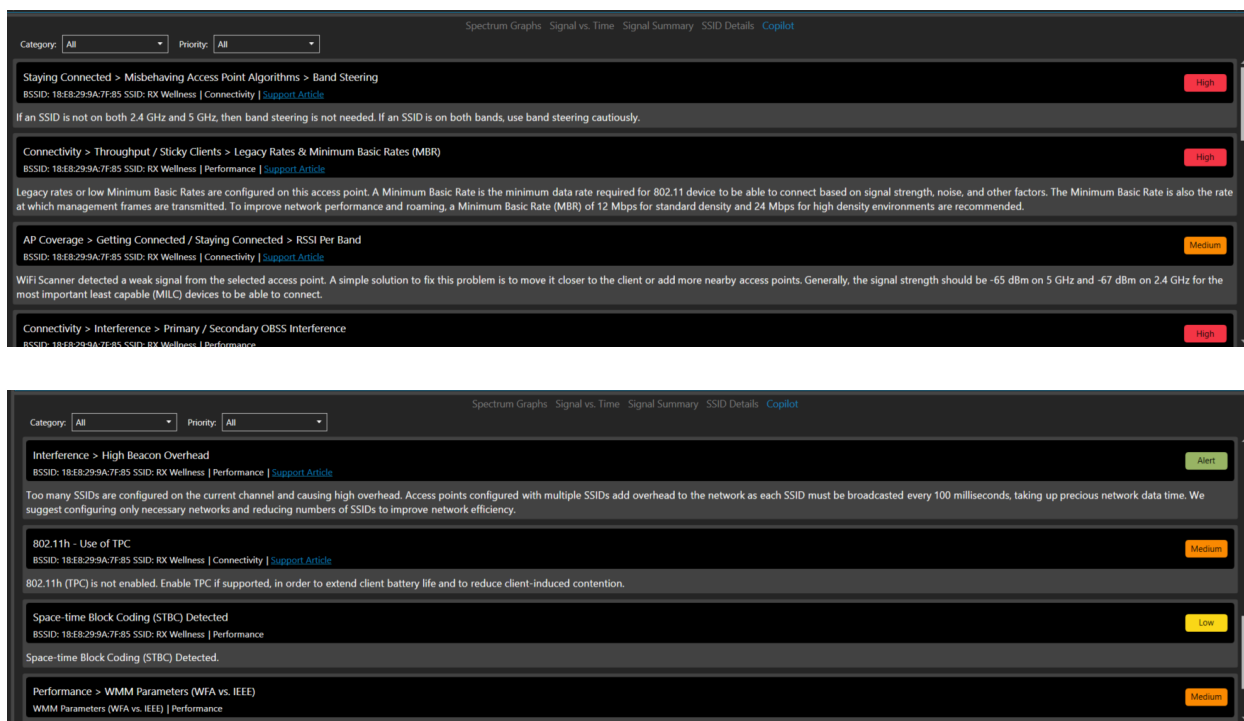




## Copilot

Under the *Copilot* tab (formerly *Genius*), you can find notes, which are suggestions, tips, and general information on how to improve your wireless connection based on your device's current surroundings. *Copilot* generates these notes using the information captured by WiFi Scanner. This means that you're receiving real-time actionable information for your unique wireless environment.

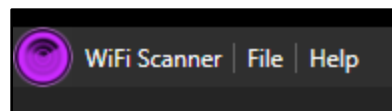
Each note is tagged with a priority level: Very high, high, medium, low, or very low. You can also find alerts. The "Alert" tag doesn't necessarily imply that there is an issue but is simply a note of useful information.



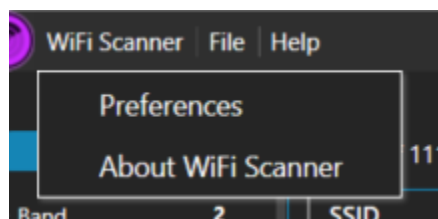
Each note displays a title, the BSSID and SSID of the selected access point, a category (Security, Connectivity, Performance, or Configuration), and a body of text with information. Most notes also link to a relevant support article, and for those that don't, we are continuously working to add more in future versions of the app. You can filter notes by category and priority. The information provided by *Copilot* is not limited to the access point your device is connected to. You can select any of the access points within range of your device for even more useful insights.

## Menu Navigation

In WiFi Scanner, menu options appear as shown:



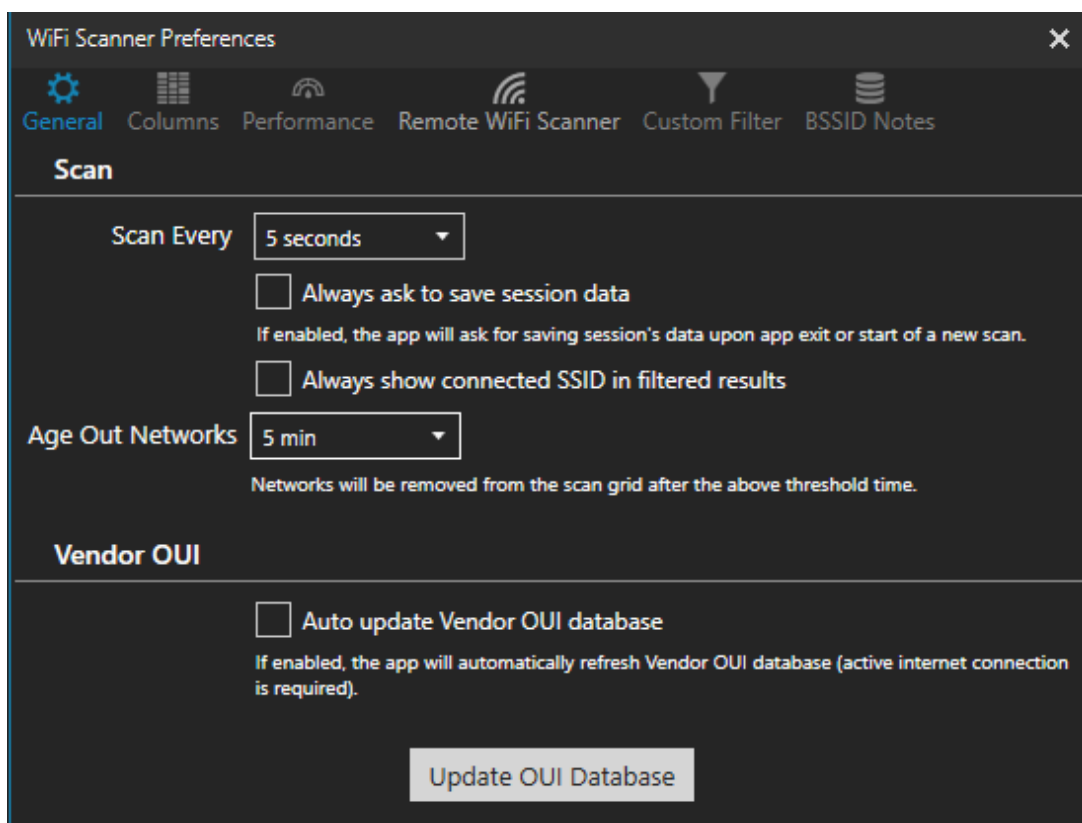
## WiFi Scanner



## Preferences

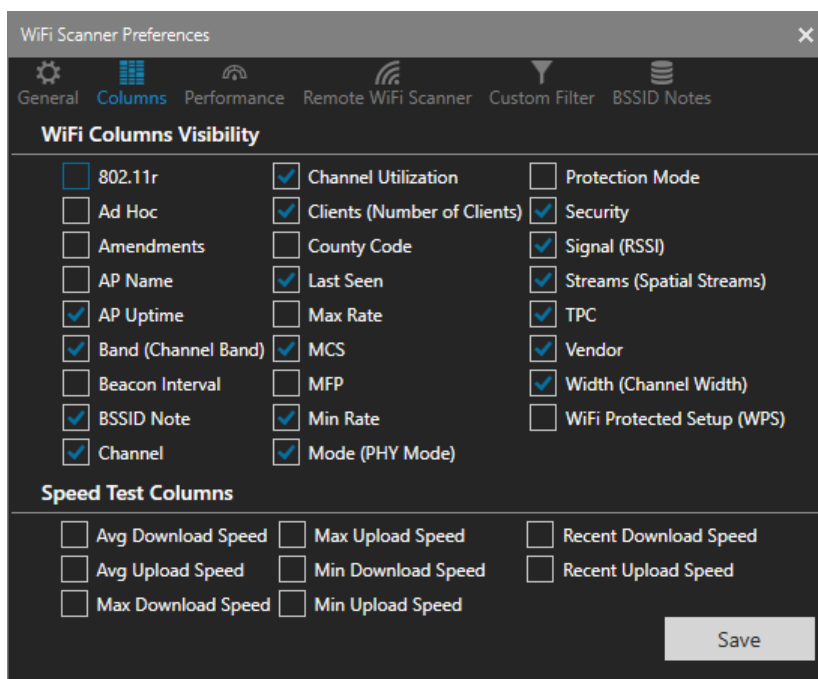
General

This tab provides some customization options within WiFi Scanner to improve user experience.



## Columns

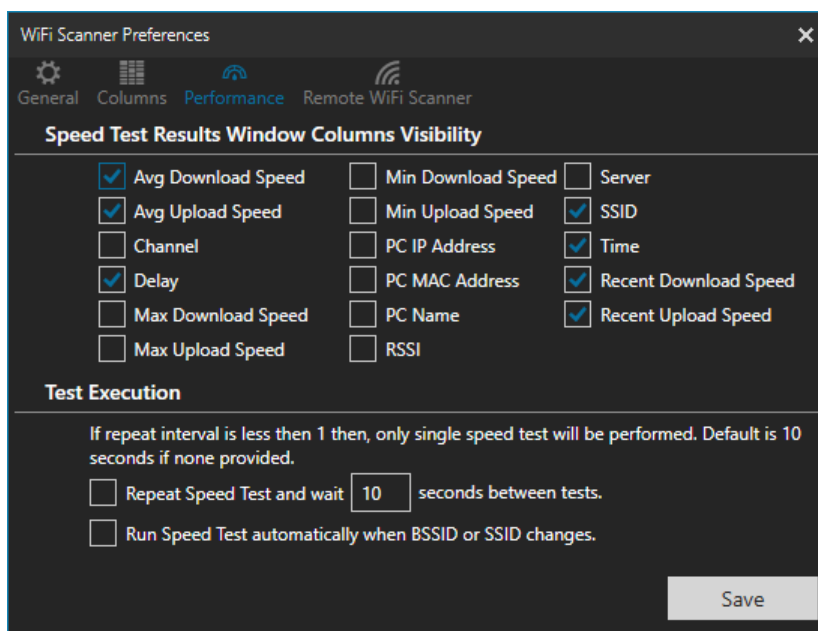
The *Columns* tab is another way to choose which columns appear in the table view of WiFi Scanner. Details about each column can be located in [Appendix A](#).



The image shows the 'WiFi Scanner Preferences' window with the 'Columns' tab selected. The window has a dark theme and a top navigation bar with icons for General, Columns, Performance, Remote WiFi Scanner, Custom Filter, and BSSID Notes. The 'Columns' tab is active, showing two sections: 'WiFi Columns Visibility' and 'Speed Test Columns'. In the 'WiFi Columns Visibility' section, several checkboxes are checked, including '802.11r', 'Ad Hoc', 'Amendments', 'AP Name', 'AP Uptime', 'Band (Channel Band)', 'Beacon Interval', 'BSSID Note', 'Channel', 'Channel Utilization', 'Clients (Number of Clients)', 'County Code', 'Last Seen', 'Max Rate', 'MCS', 'MFP', 'Min Rate', 'Mode (PHY Mode)', 'Protection Mode', 'Security', 'Signal (RSSI)', 'Streams (Spatial Streams)', 'TPC', 'Vendor', 'Width (Channel Width)', and 'WiFi Protected Setup (WPS)'. In the 'Speed Test Columns' section, all checkboxes are unchecked. A 'Save' button is located at the bottom right.

## Performance

Same as above, this tab allows for customization of the table view in the Performance Tab. Also, choose if and how often a speed test will be performed in the background to measure speeds of a given network.



The image shows the 'WiFi Scanner Preferences' window with the 'Performance' tab selected. The window has a dark theme and a top navigation bar with icons for General, Columns, Performance, Remote WiFi Scanner, Custom Filter, and BSSID Notes. The 'Performance' tab is active, showing two sections: 'Speed Test Results Window Columns Visibility' and 'Test Execution'. In the 'Speed Test Results Window Columns Visibility' section, several checkboxes are checked, including 'Avg Download Speed', 'Avg Upload Speed', 'Channel', 'Delay', 'Max Download Speed', 'Max Upload Speed', 'Min Download Speed', 'Min Upload Speed', 'PC IP Address', 'PC MAC Address', 'PC Name', 'RSSI', 'Server', 'SSID', 'Time', 'Recent Download Speed', and 'Recent Upload Speed'. In the 'Test Execution' section, there is a text box for 'Repeat Speed Test and wait' with the value '10' and a 'Save' button at the bottom right.

## Remote WiFi Scanner

Under this tab, you can add any Linux-based wireless device as an external scanner. Refer to the [WLAN Pi](#) section for additional details.

The screenshot shows the 'WiFi Scanner Preferences' dialog with the 'Remote WiFi Scanner' tab selected. The 'SSH Devices' section has a dropdown menu and a '+' button. The 'Configure SSH Connection' section contains fields for 'Device Name' (with a placeholder 'User Friendly Name'), 'Server Host' (placeholder 'Server Host or IP'), 'Port' (placeholder '22'), 'Interface' (placeholder 'wlan0'), 'Username' (placeholder 'SSH Username'), and 'Password' (placeholder 'SSH Password'). There is a checkbox for 'Use SSH Key-Based Authentication' and three buttons: 'Test Configuration', 'Save', and 'Delete'. At the bottom, there is a 'Test configuration results' text area with a file icon in the bottom right corner.

## Custom Filter

With this feature, you are able to create and save custom filters using the flexibility of the Freeform Filter.

In the example, the first custom filter was created to only display networks with an SSID of AA-Guest. The second custom filter was created to only display networks using Channel 11 or 80mhz bandwidths.

The screenshot shows the 'WiFi Scanner Preferences' dialog with the 'Custom Filter' tab selected. The 'Add New Filter' section has two input fields: 'Filter Name' (placeholder 'Channel 11 or 80 m') and 'Filter Text' (placeholder '11,80mhz'), followed by a 'Save' button. Below this is a 'Filters' section with a table and two icons (download and up arrow). The table has two columns: 'FILTERNAME' and 'FILTERTEXT'. It contains two rows of filters. The first row has 'AA-Guest' in both columns. The second row has 'Channel 11 or 80 m' and '11,80mhz'. Each row has edit and delete icons to its right.

FILTERNAME	FILTERTEXT
AA-Guest	AA-Guest
Channel 11 or 80 m	11,80mhz

The custom filters can be selected on the left side of the screen.

SSID	BSSID	Vendor	Channel	Band	Width
KTGY_STAFF	CC:9C:3E:ED:7F:E0	Cisco Meraki	11	2.4 GHz	20 MHz
KTGY_DEVICES	C6:9C:1E:ED:7F:E0	Unknown	100	5 GHz	80 MHz
WIFIBYOD	EA:CB:AC:31:2D:F0	Meraki	157	5 GHz	80 MHz
KTGY_GUEST	CA:9C:1E:ED:7F:E0	Unknown	100	5 GHz	80 MHz
KTGY_DEVICES	C6:9C:3E:ED:7F:E0	Unknown	11	2.4 GHz	20 MHz
ULYWIFIGUEST	E6:CB:AC:31:70:42	Meraki	64	5 GHz	80 MHz
ULYWIFIGUEST	E6:CB:AC:31:2D:F0	Meraki	157	5 GHz	80 MHz
KTGY_STAFF	CE:9C:1E:ED:7F:E0	Unknown	100	5 GHz	80 MHz
ULYWIFI	E2:CB:AC:31:70:42	Meraki	64	5 GHz	80 MHz
ULYWIFI	E0:CB:BC:31:2D:F0	Meraki	11	2.4 GHz	20 MHz
[Hidden]	DE:CB:AC:48:D0:2C	Unknown	100	5 GHz	80 MHz
ULYWIFI	E2:CB:AC:31:2D:F0	Meraki	157	5 GHz	80 MHz
RX Guest	1E:E8:29:9B:7F:85	Unknown	36	5 GHz	80 MHz
WIFIBYOD	EA:CB:AC:48:D0:2C	Meraki	100	5 GHz	80 MHz
WIFIBYOD	EA:CB:BC:31:2D:F0	Unknown	11	2.4 GHz	20 MHz
NetExperience-Default-SSID	90:3C:B3:B1:70:2F	Edgecore Networks Corporation	11	2.4 GHz	20 MHz
ULYWIFIGUEST	E6:CB:AC:48:D0:2C	Meraki	100	5 GHz	80 MHz

## BSSID Notes

This tab allows you to make a note about a particular BSSID.

WiFi Scanner Preferences

General Columns Performance Remote WiFi Scanner Custom Filter **BSSID Notes**

**Add New BSSID Note**

BSSID: AA:BB:CC:DD:EE:FF Note: BSSID Note Save

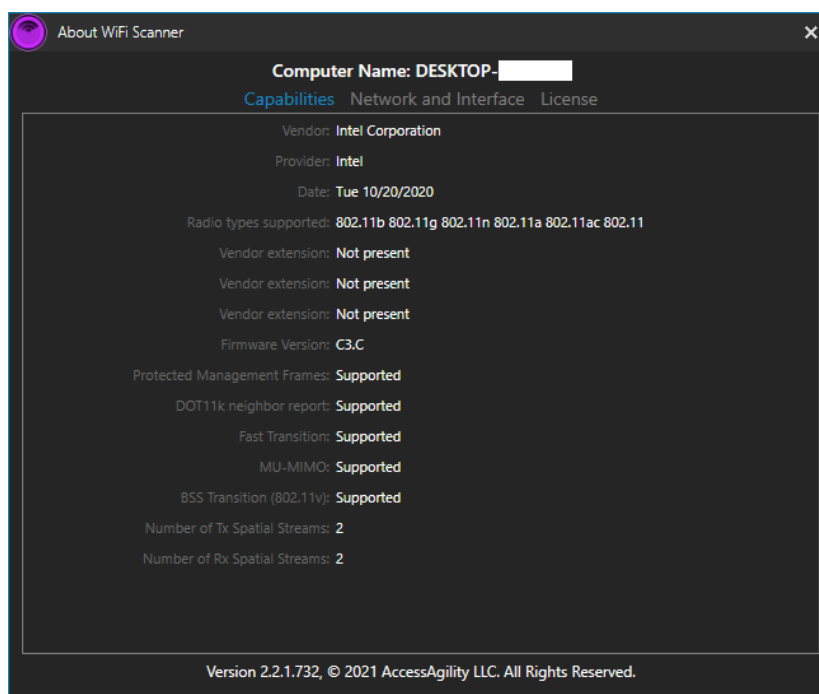
**Added BSSID Notes**

BSSID	NOTE	DELETE
-------	------	--------

## About WiFi Scanner

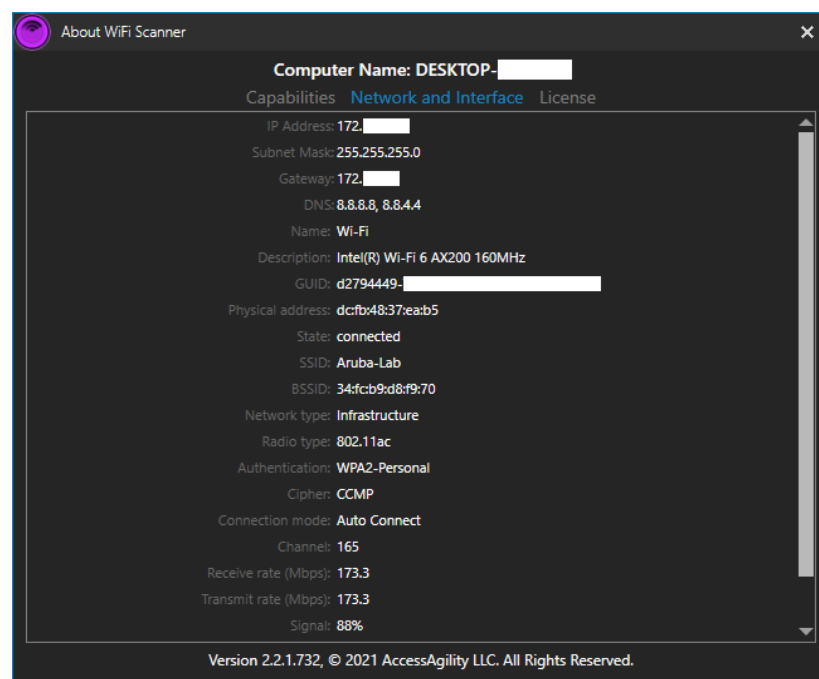
### Capabilities

This tab will display information about the network interface card on the device running WiFi Scanner.



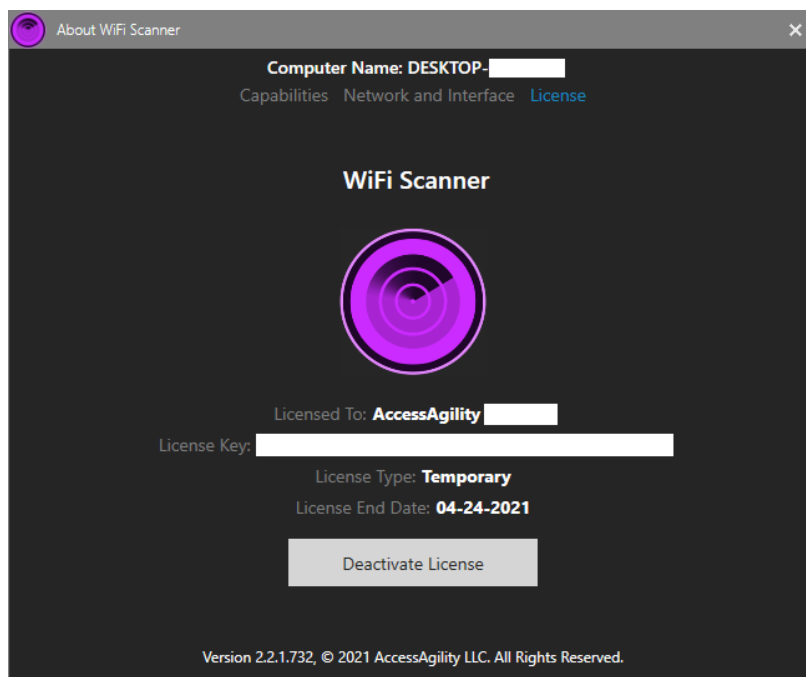
### Network and Interface

Displays information about the network the device is currently connected to, as well as more information about the network interface card of your device.



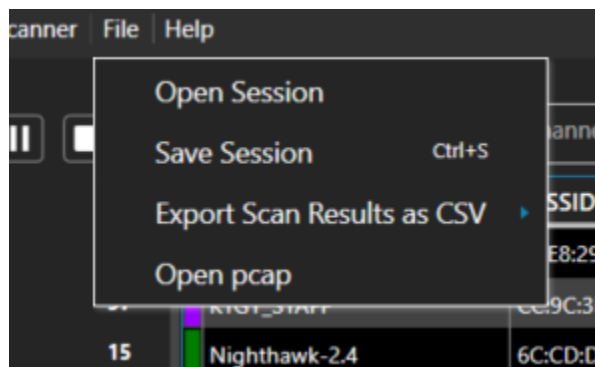
## License

The license will show information about your license including: who the license is assigned to, the license key, license type, and the end date. There is also a button to deactivate the license.





## File



### Open Session

After saving a session, open the session to see previous data of your wireless environment. Click on 'Open Session' within the file tab and select a session file to view.

### Save Session

Saving a session in WiFi Scanner saves a scan file that is viewable later. This is useful in cases to allow a support agent to analyze a network and find possible issues. It may also be helpful to be able to save a session of the network to determine fluctuations of performance at different periods in time.

### Export Scan Results as CSV

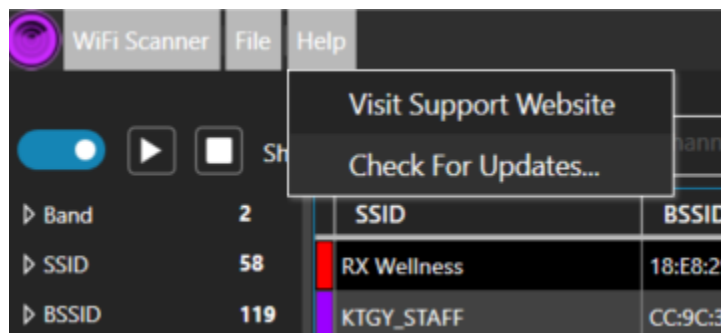
Another option to save results of a scan is to export them to a comma-separated values (CSV) file. This is helpful to view data in a file format, instead of opening the session within WiFi Scanner.

For a detailed explanation of how to do this, navigate to [Exporting Results as a CSV File](#).

### Open pcap File

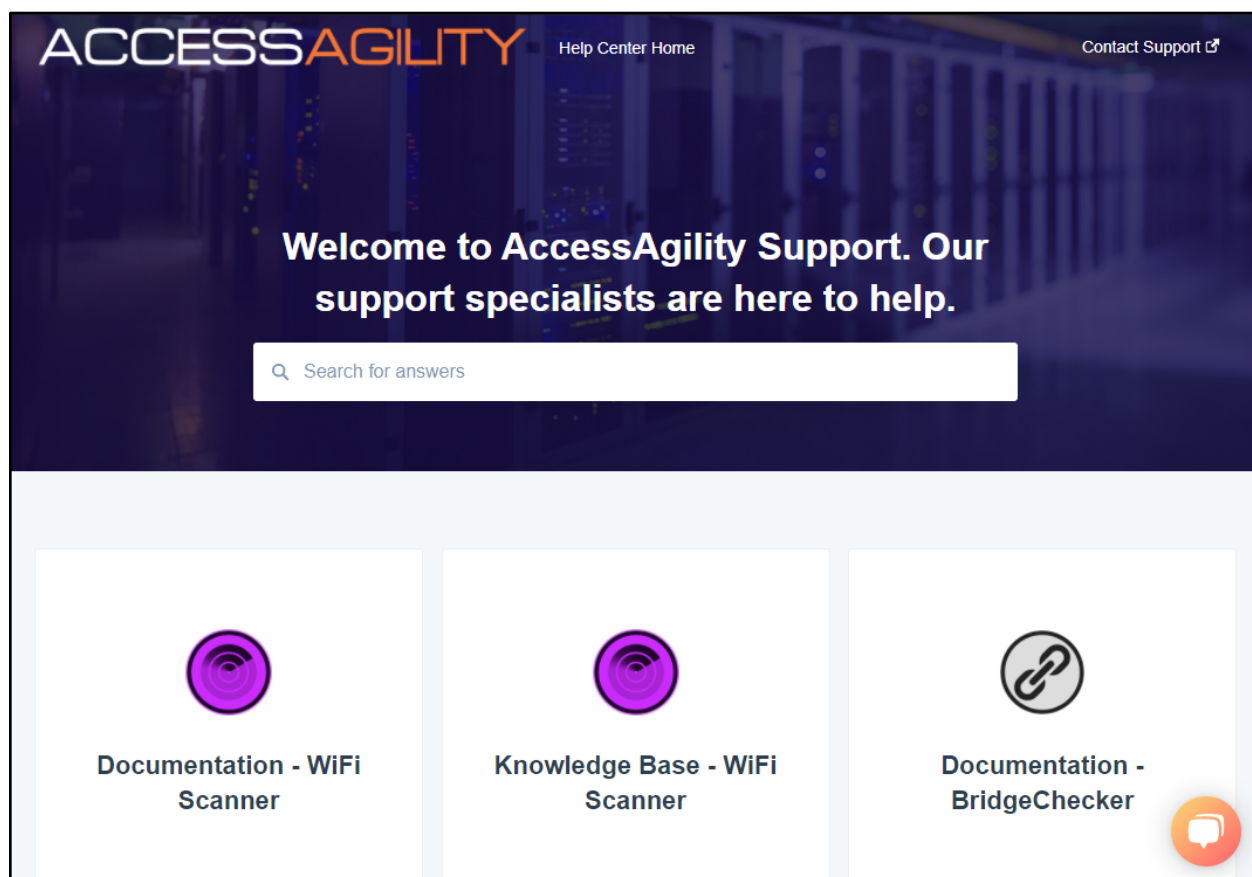
A user may also open a pcap, or packet capture, file to view data captured outside of WiFi Scanner. This may be useful for users that want to view the wireless data of someone else who may not own WiFi Scanner.

## Help



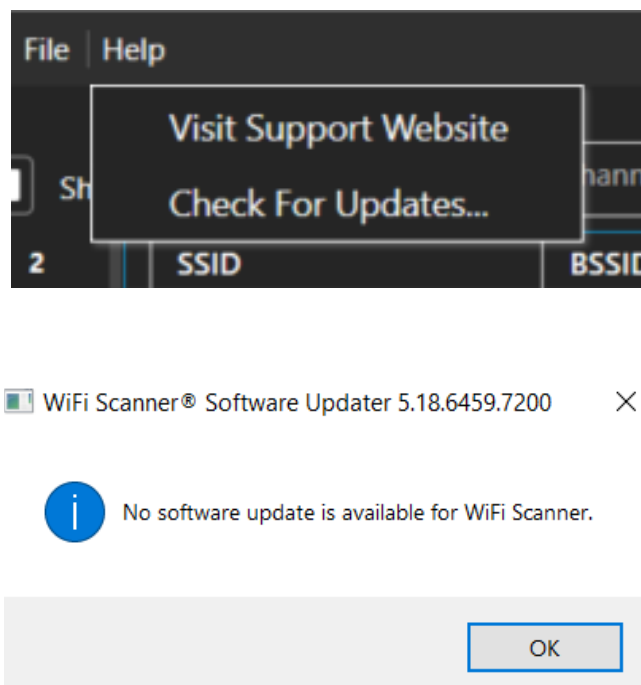
### Visit Support Website

The support website is a very useful tool for anyone using WiFi Scanner. There is documentation on how to use WiFi Scanner, how each function works, what information the graphs and tables display, and even WiFi knowledge that is very useful.



## Check For Updates...

After clicking here, WiFi Scanner will check for available updates. If there are none, an alert will display that reads “No software update is available for WiFi Scanner.” In the case that there is an update, you will be prompted to download and install it.



## WLAN Pi

WLAN Pi is a portable device that can be used as a throughput tester, remote WiFi scanner, packet capture tool, portable WiFi signal generator and more. This article details the history of WLAN Pi: <https://www.accessagility.com/blog/wlan-pi-project>.

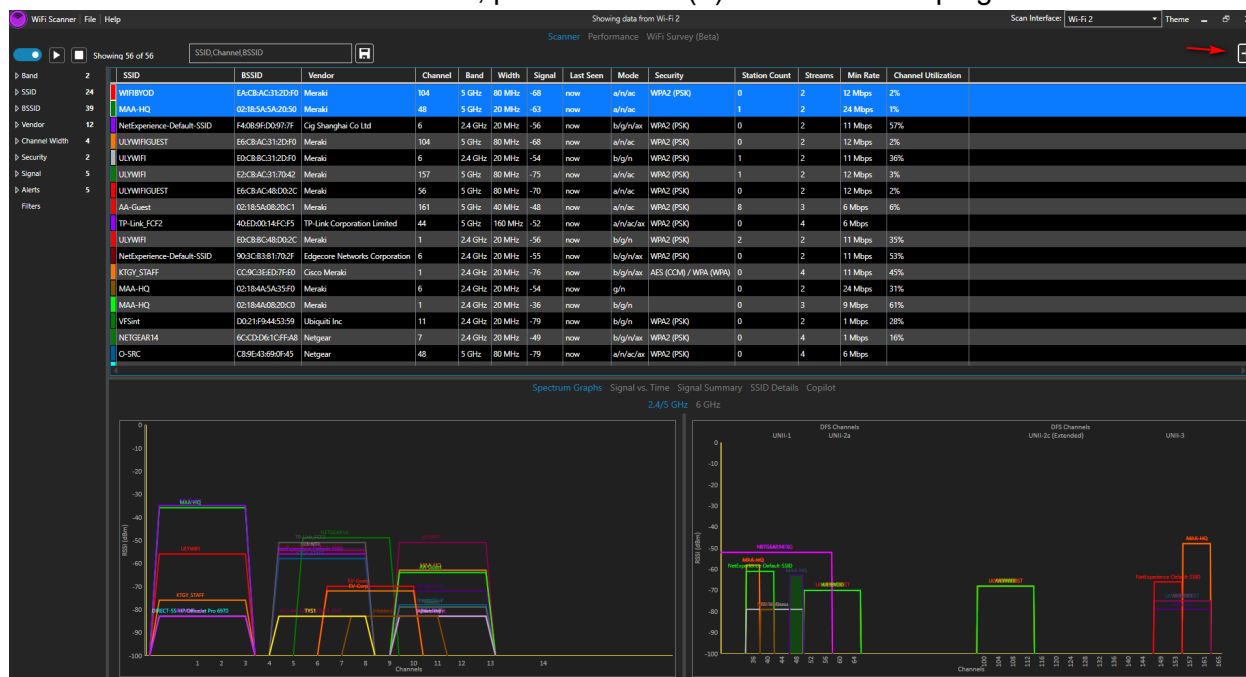
For a User Guide of WLAN Pi, visit <https://userguide.wlanpi.com/hardware/compare-wlan-pi-models>.

For a demonstration of the uses of WLAN Pi, watch WiFiNigel's video, “10 Easy Things To Do With a WLAN Pi”, at <https://youtu.be/Ua2d4ajR0pk>

## Using WLAN Pi as a Remote Wireless Scanner Probe

WiFi Scanner allows you to use a WLAN Pi (or any Linux-based wireless device) as an external scanning interface via SSH. Using the picklist in the top right, you can select what device you wish to use for scanning. By default, WiFi Scanner will use the System WiFi Interface.

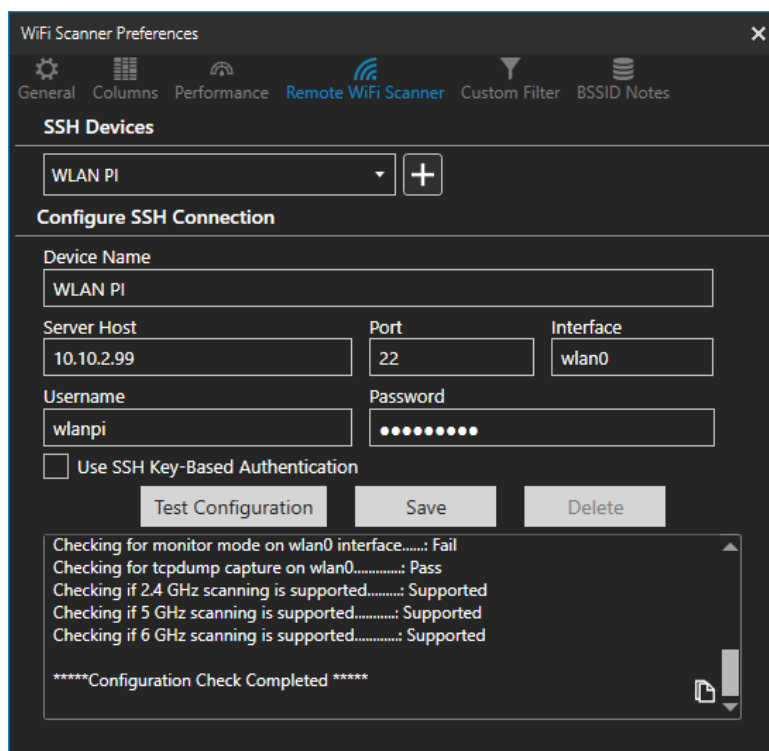
To add a new Remote WiFi scanner, press the *Plus (+)* button on the top right.



This will bring you to the *Remote WiFi Scanner* tab of the Preferences window. Here, you can add a new device under *Configure SSH Connection*. Enter the Device Name, the Server Host IP address, which can be found on the main screen of WLAN Pi, the Username, and Password.

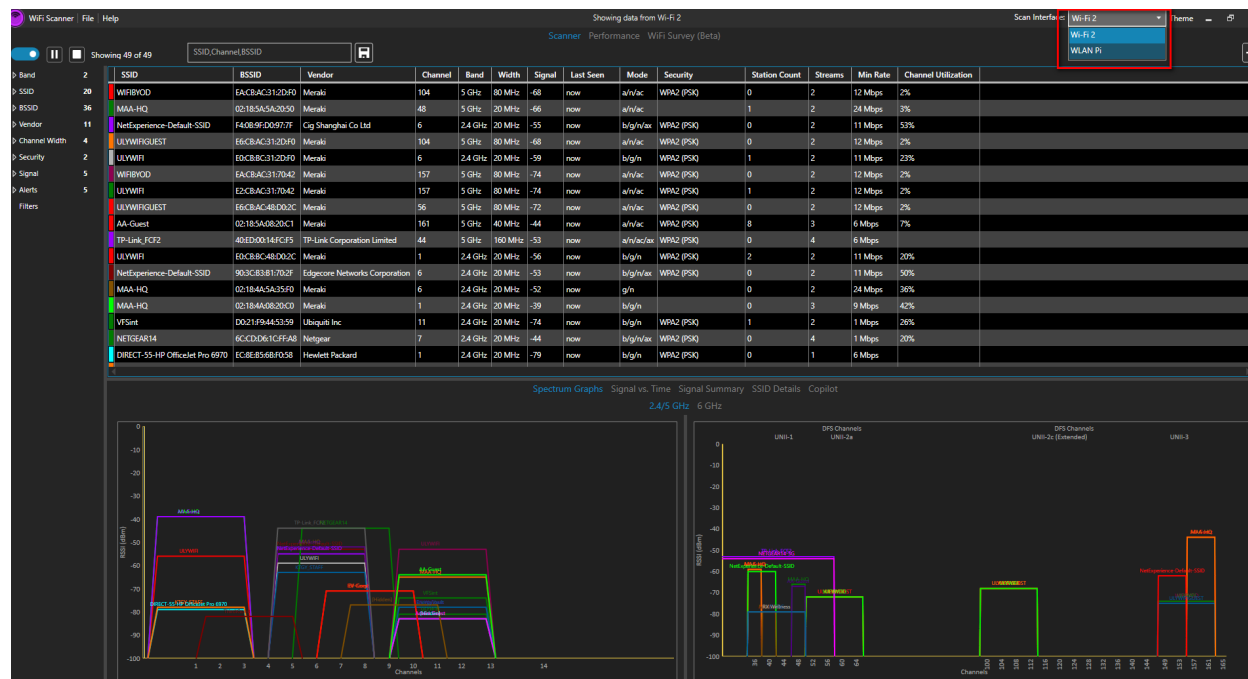


Server Address in WLAN Pi M4

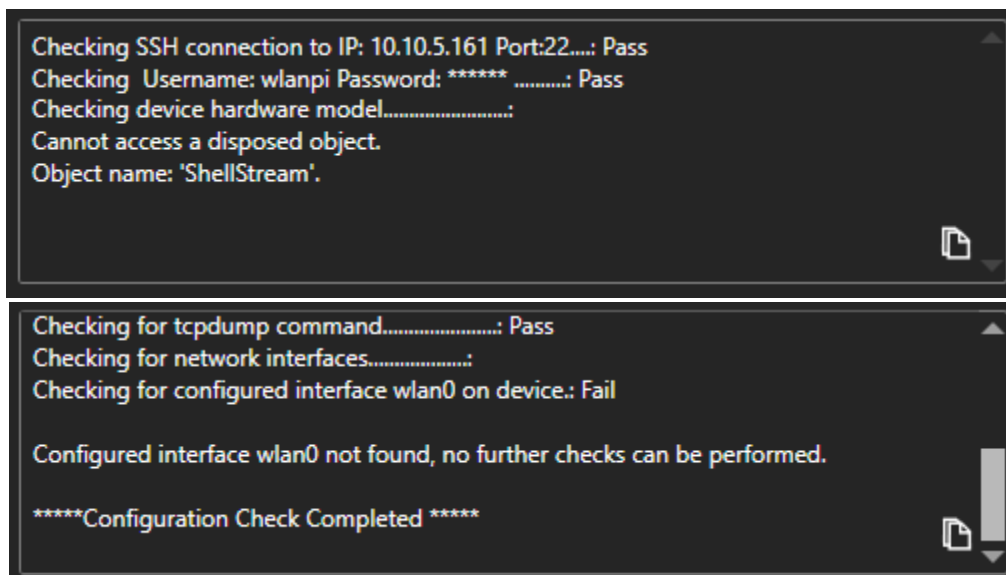


### Configure SSH Connection

Once set, click on *Test Configuration*, wait for the Configuration Check to be completed, then click *Save*. You will now be able to select the WLAN Pi as a scanner device, and you will be able to use all the benefits of WiFi Scanner from the location of the WLAN Pi remotely.



**NOTE:** If you encounter the following messages after flashing the WLAN Pi image, change the default password of the WLAN Pi using the web console.



```

Checking SSH connection to IP: 10.10.5.161 Port:22.....: Pass
Checking Username: wlanpi Password: ***** .....: Pass
Checking device hardware model.....:
Cannot access a disposed object.
Object name: 'ShellStream'.

Checking for tcpdump command.....: Pass
Checking for network interfaces.....:
Checking for configured interface wlan0 on device.: Fail

Configured interface wlan0 not found, no further checks can be performed.

*****Configuration Check Completed *****

```

The following are the WLAN Pi image versions tested for each model at the time of writing:

NEO2	v2.1.0
M4	v3.1.2 - WLPC 2023 Phoenix v3.1.4 - WLPC 2023 Prague
R4	v3.1.2 - WLPC 2023 Phoenix v3.1.4 - WLPC 2023 Prague
Pro	V3.1.2-dev3

For more information on using WLAN Pi with WiFi Scanner, visit

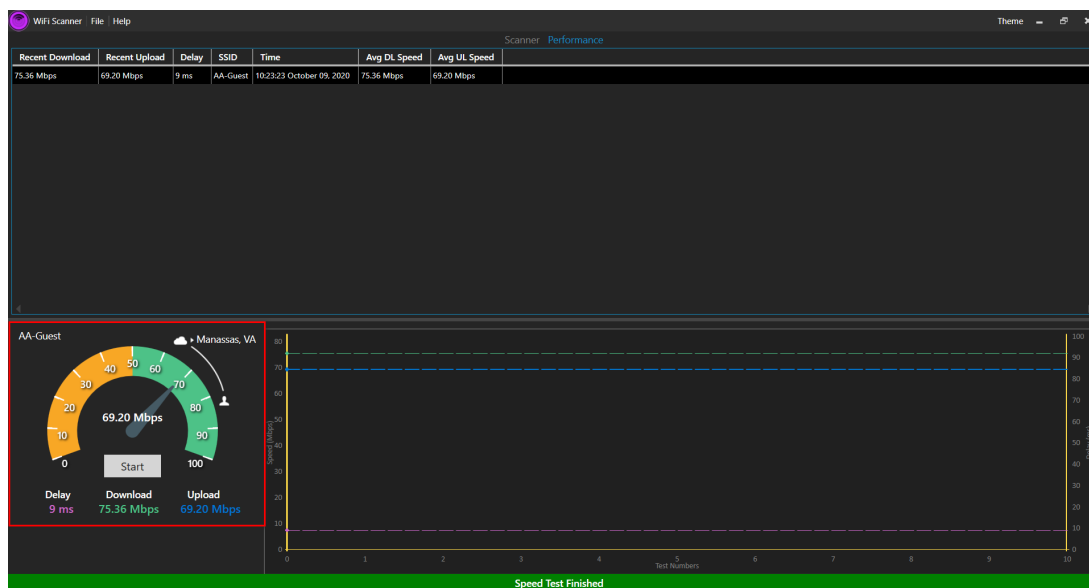
<https://www.accessagility.com/blog/using-wlan-pi-as-remote-wifi-scanner>.

## Performance Tab

### Speed Test

#### Single Test

Users can run single speed tests at any time by switching to the performance tab and navigating to the speed test in the bottom left corner.



### Continuous Testing

There is an option to allow speed tests to run periodically while running the application. Go to 'WiFi Scanner' → 'Preferences' in the top left corner and go to the 'Performance' tab. Here, under 'Test Execution' set parameters to as seen fit.

The screenshot shows the WiFi Scanner Preferences dialog box, Performance tab. The 'Speed Test Results Window Columns Visibility' section has checkboxes for various metrics. The 'Test Execution' section allows setting the repeat interval and automatic testing options.

Speed Test Results Window Columns Visibility		
<input checked="" type="checkbox"/> Avg Download Speed	<input type="checkbox"/> Min Download Speed	<input type="checkbox"/> Server
<input checked="" type="checkbox"/> Avg Upload Speed	<input type="checkbox"/> Min Upload Speed	<input checked="" type="checkbox"/> SSID
<input type="checkbox"/> Channel	<input type="checkbox"/> PC IP Address	<input checked="" type="checkbox"/> Time
<input checked="" type="checkbox"/> Delay	<input type="checkbox"/> PC MAC Address	<input checked="" type="checkbox"/> Recent Download Speed
<input type="checkbox"/> Max Download Speed	<input type="checkbox"/> PC Name	<input checked="" type="checkbox"/> Recent Upload Speed
<input type="checkbox"/> Max Upload Speed	<input type="checkbox"/> RSSI	

**Test Execution**

If repeat interval is less than 1 then, only single speed test will be performed. Default is 10 seconds if none provided.

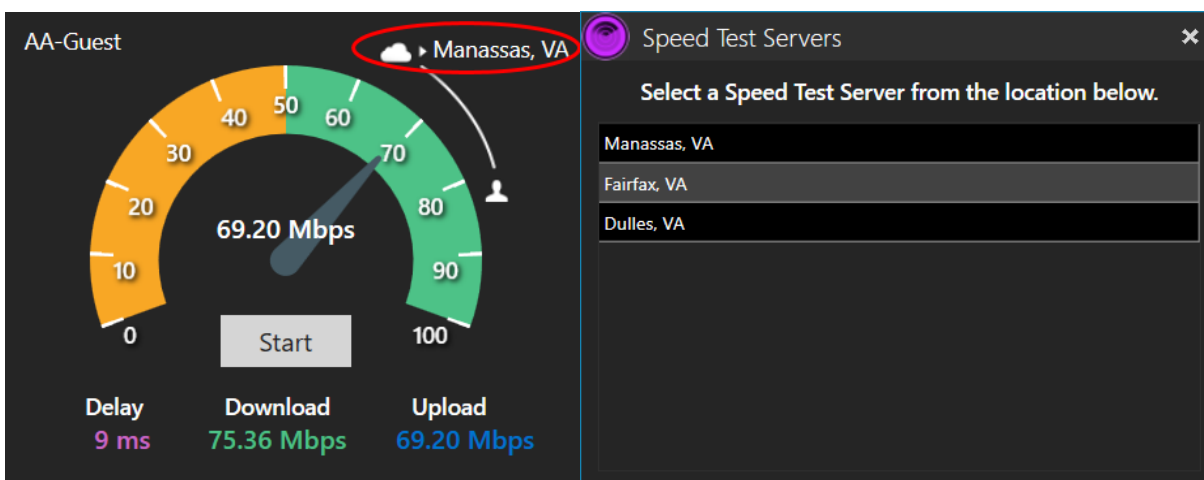
☐ Repeat Speed Test and wait  seconds between tests.

☐ Run Speed Test automatically when BSSID or SSID changes.

Save

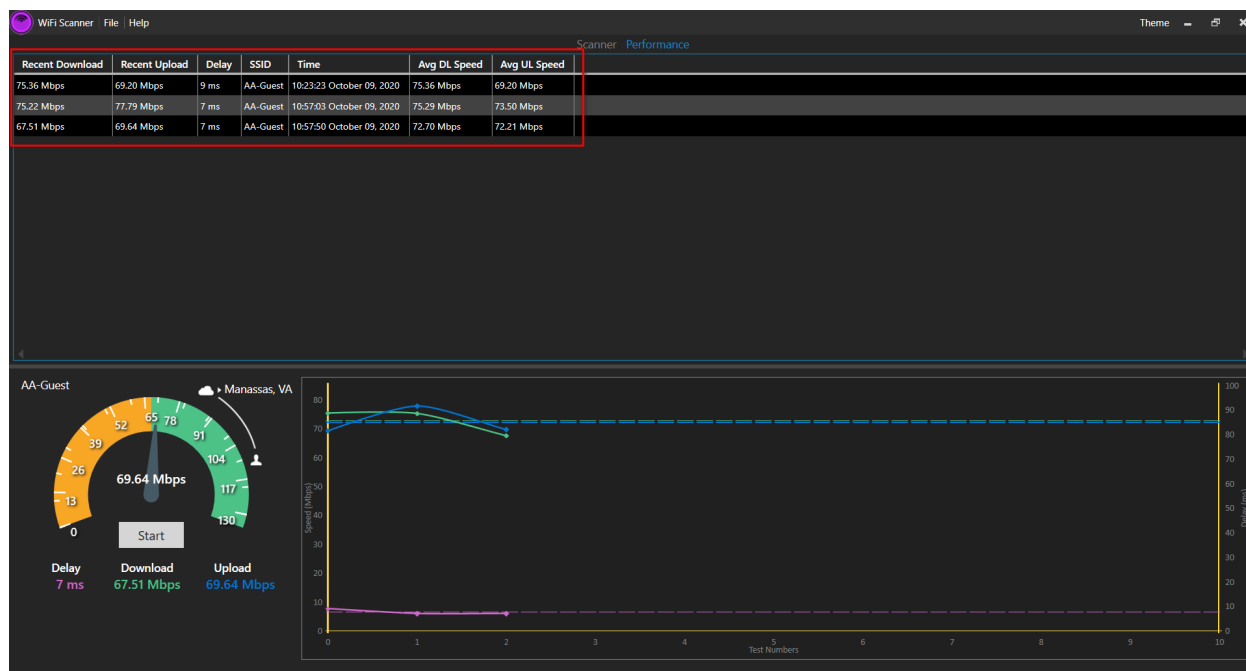
## Location Selection

Within the performance tab and located to the top right of the speed test icon, there is a cloud that will allow users to change the server location that they would like to use for speed testing. Note, the test will take 10-15 seconds before finishing.



## Table View

The table view in the performance tab is useful to track the speeds of a given network. This table will keep track of the details of network performance, including but not limited to: latency, recent speeds, average speeds, and the time the test took place.





# WiFi Survey Tab

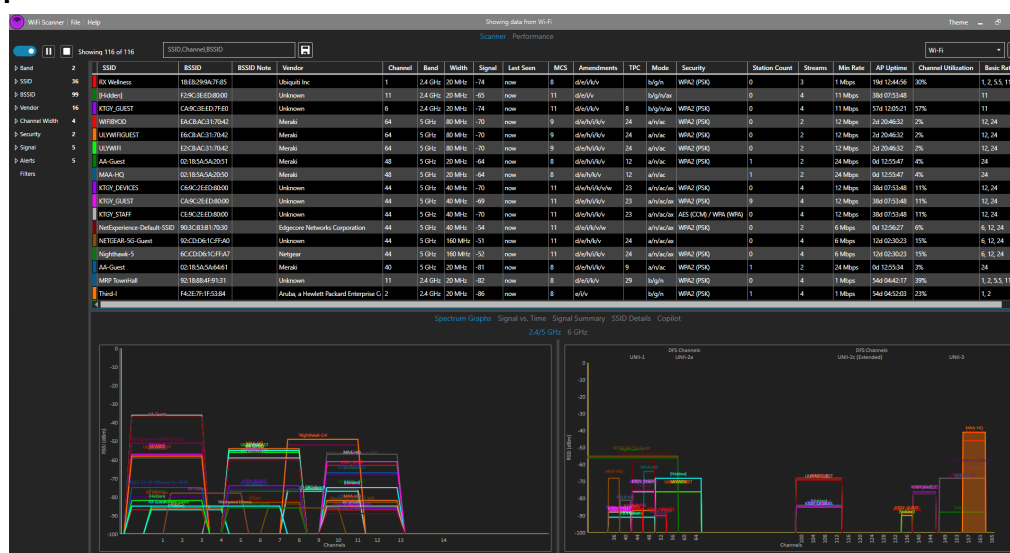
WiFi Survey is currently in the Beta stage. Contact [support@accessagility.com](mailto:support@accessagility.com) to have the WiFi Survey feature enabled for your license key.

## Activating WiFi Survey

To activate the *WiFi Survey* Tab Press **Ctrl+W** after opening the WiFi Scanner Application.

**NOTE:** If the WiFi Survey tab does not appear after pressing **Ctrl+W**, close and relaunch the app.

Inactive:

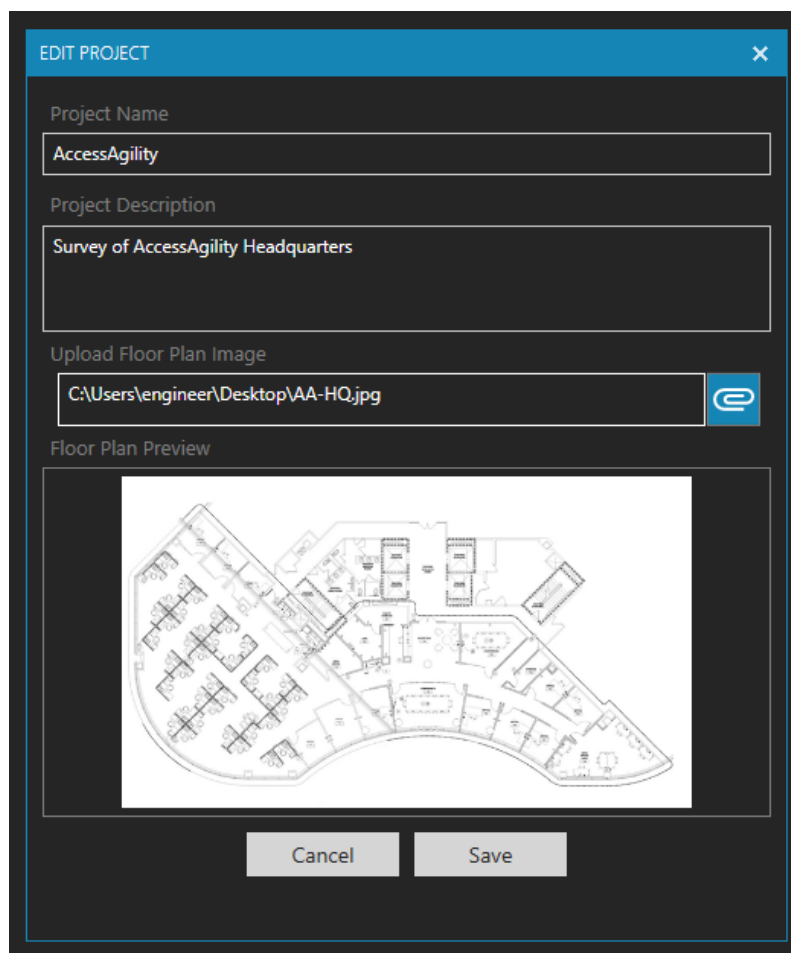


## Creating a Project

Click on **Plus** Button next to *Projects* on the upper left of the screen

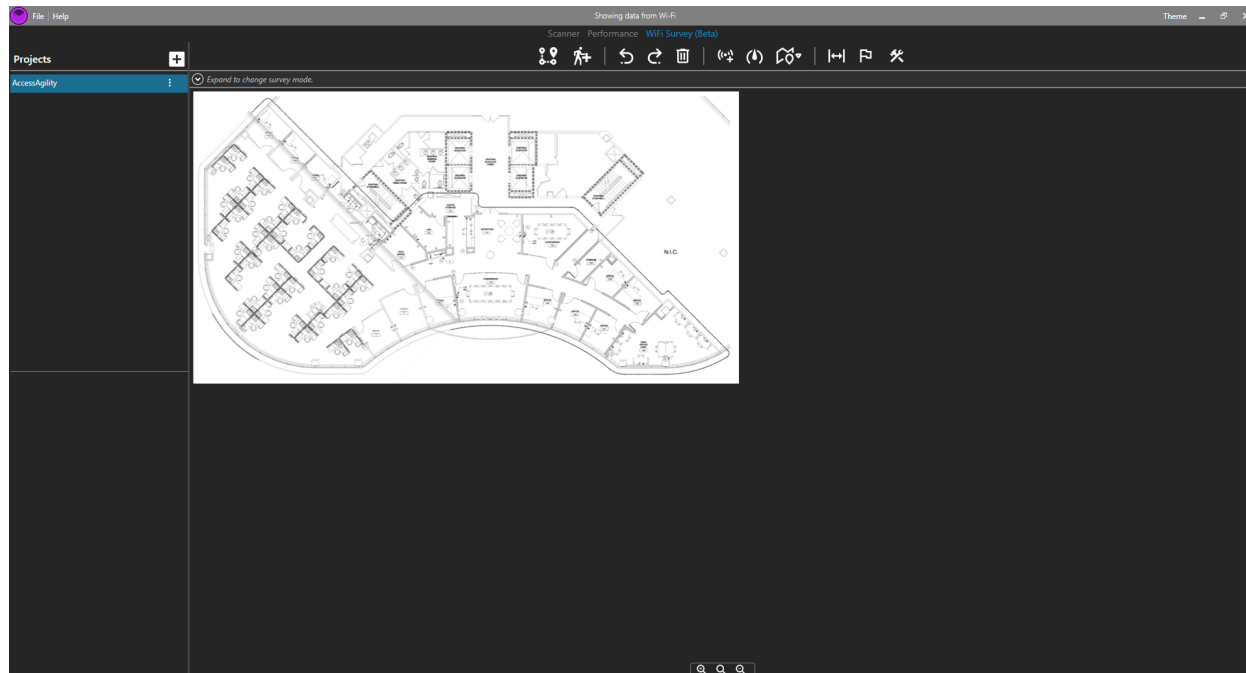


Once clicked, the **EDIT PROJECT** window will pop-up. Define the Project Properties: Project Name, Project Description. Click on the **Paperclip** Button to import the *Floor Plan* image. WiFi Survey supports JPEG and PNG image files.



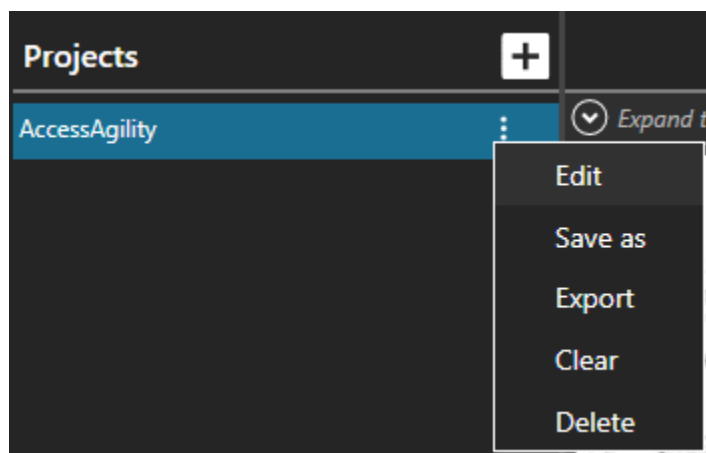
Once all the required information is filled, click Save.

To Open a Project select the desired Project from the list on the left:



## Project Options

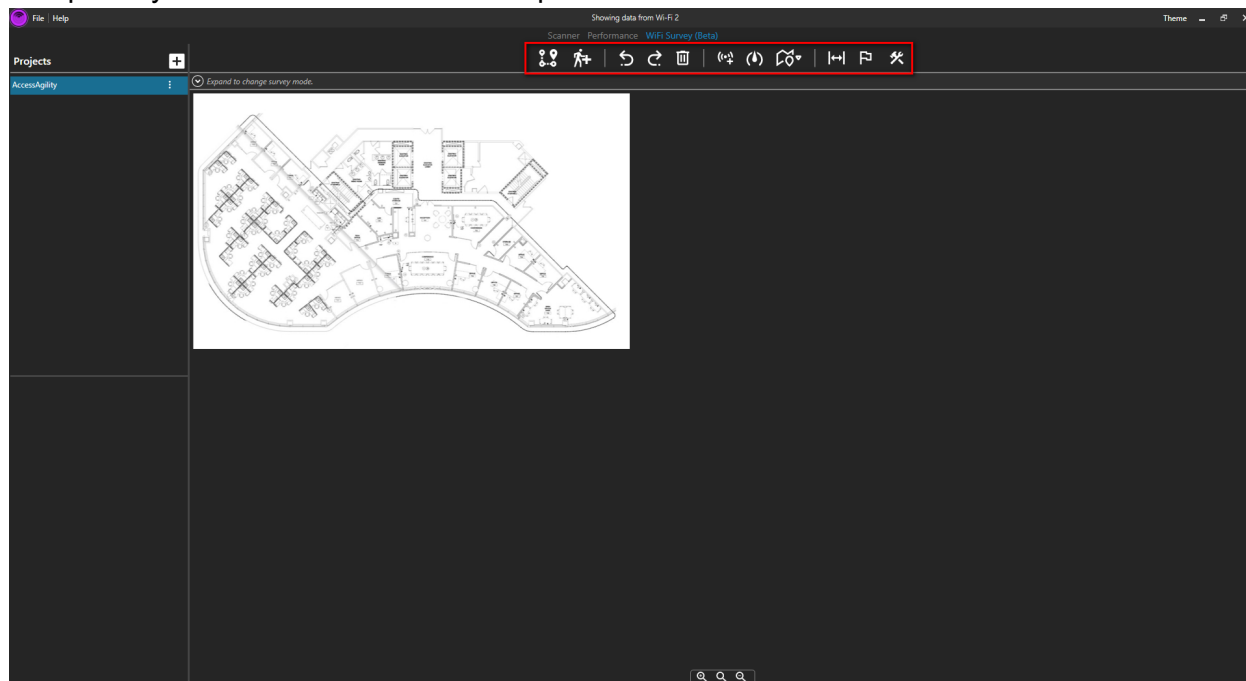
Click on the button with **Three Dots** next to the project to drop down the menu.








<b>Edit</b>	Opens the <i>EDIT PROJECT</i> window to edit project properties
<b>Save As</b>	Creates a duplicate of the project
<b>Export</b>	Exports the project as a .wifi-survey file
<b>Clear</b>	Clears all markers, survey paths, boundary, speed test, etc. placed on the floor plan
<b>Delete</b>	Deletes the project




## Buttons Guide




The primary buttons are located at the top of the screen.



-  *Draw WiFi Survey Path*
-  *Start New WiFi Survey Path*

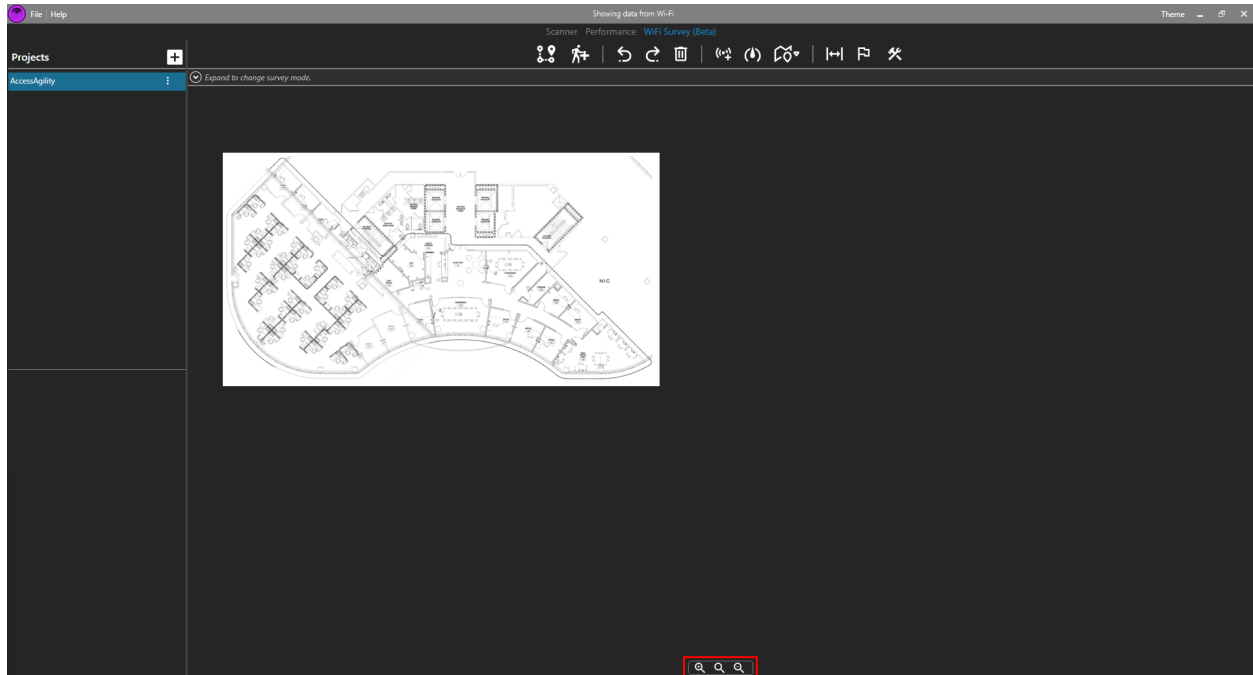
-  *Undo Last Action*
-  *Redo Last Action*
-  *Delete Markers*

-  *Place Access Points*
-  *Perform Download/Upload Speed Test*
-  *Generate HeatMap*

-  *Calibration Setup*
-  *Setup Floor Plan Boundary*
-  *Speed Test Settings*

## Zooming

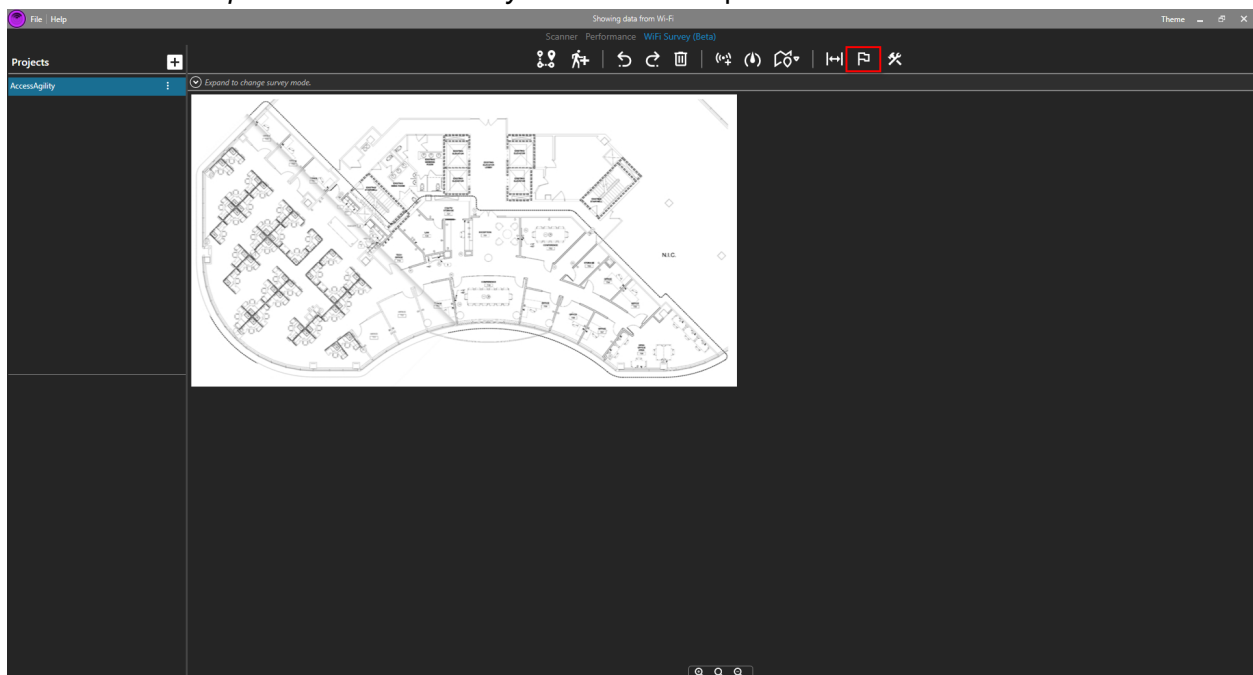
For **Zooming** use the buttons at the bottom or use *Mouse Scroll Wheel*.



## Performing Surveys

### Setup Floor Plan Boundary

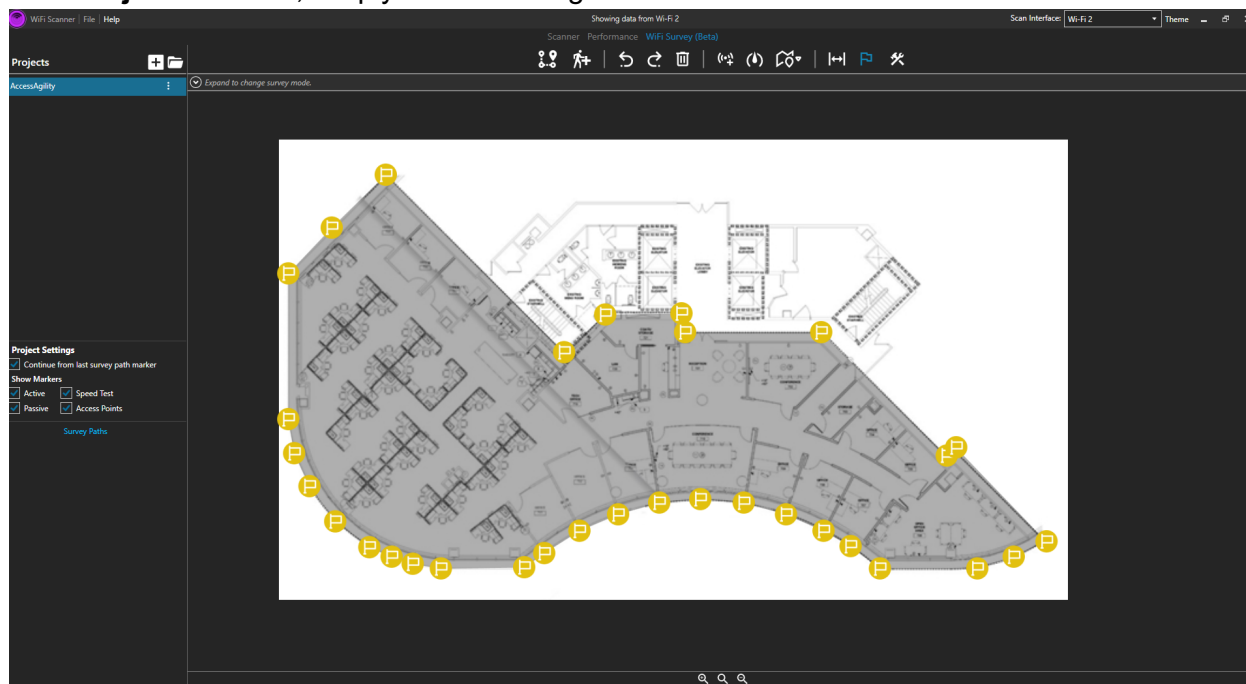
Click on the *Setup Floor Plan Boundary* button at the top of the screen.



On the imported *Floor Plan*, carefully click on the borders of the area to be surveyed. Each click will leave a marker to indicate the border.

**Note:** More clicks will generate a more accurate polygon.

To **Readjust Markers**, simply click and drag the marker to the desired location.

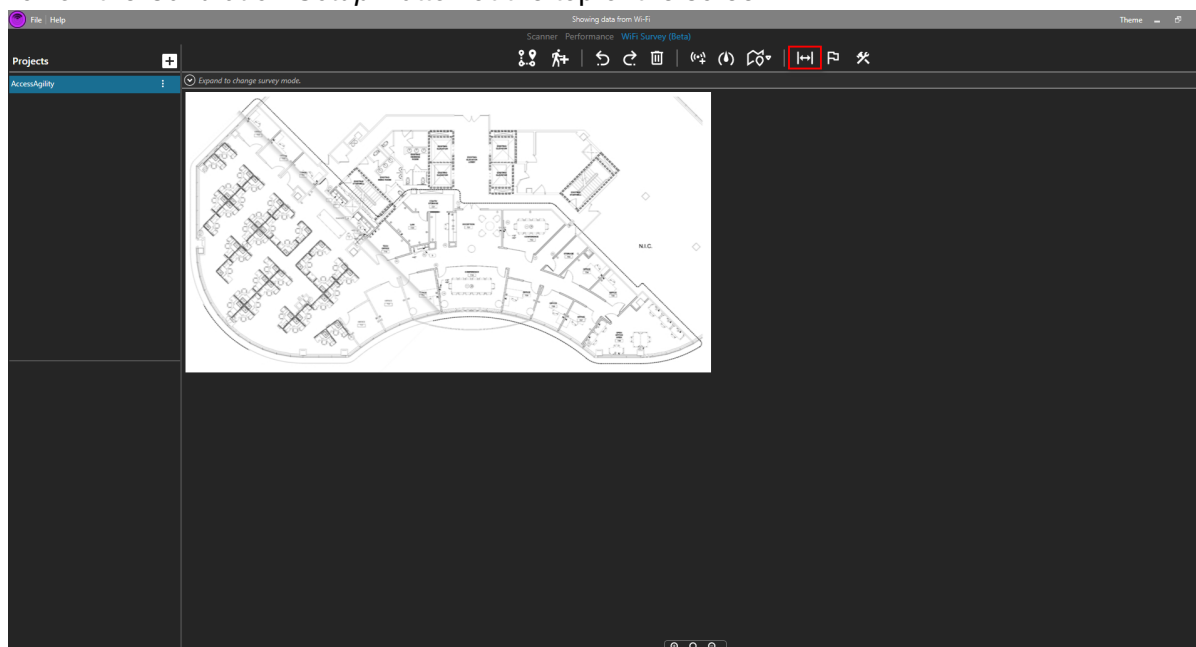


**Note:** WiFi Scanner will **not allow** you to create a Survey Path without setting up the boundary on the Floor Plan first.

Survey markers and heatmaps generated will be **limited** to the area indicated by the *Floor Plan Boundary*.

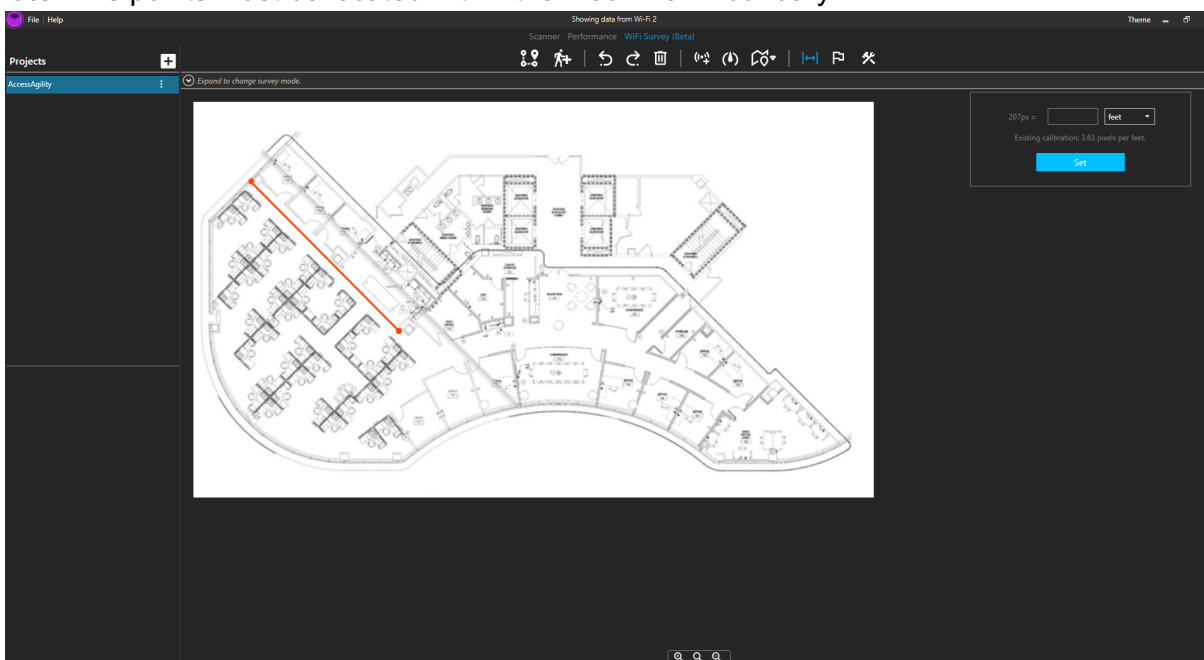
## Calibration Setup

Click on the *Calibration Setup* Button at the top of the screen.



On the imported *Floor Plan*, click on Point A then on Point B to indicate what will be scaled. You can also drag the points after setting Point A and Point B to adjust their desired location.

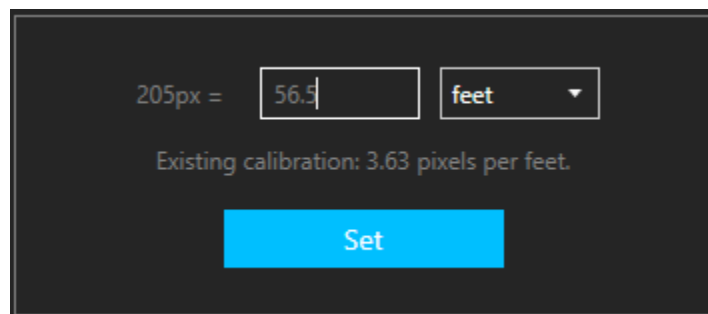
**Note:** The points must be located within the Floor Plan Boundary.



Once the points are set, enter the actual distance between the two points on the calibration window at the top right of the screen.



Unit of Measurement can be in either Feet or Meters; click *Set* when finished.

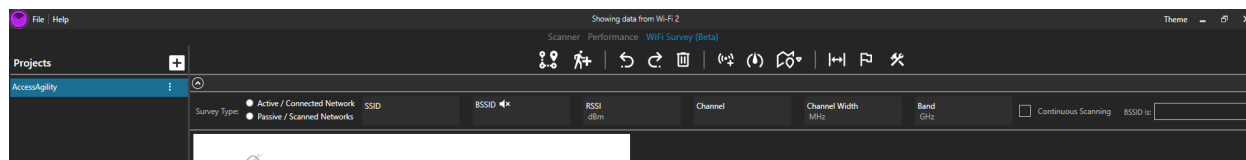
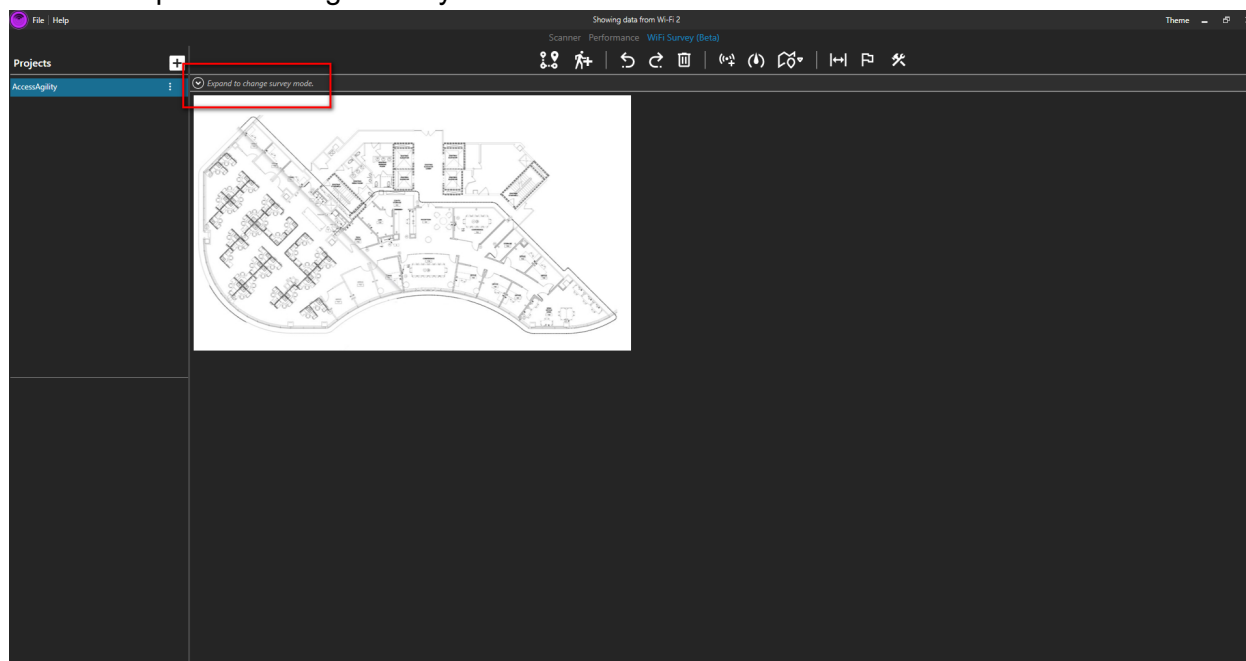


**Note:** Calibration is necessary to generate Heatmaps.

Recalibration can be performed by doing the steps listed above again.

## Select Survey Mode

Click on Expand to change survey mode



At Survey Type, you will have the option of either *Active/Connected Network* for Active Survey or *Passive/Scanned Networks* for Passive Survey.

Survey Type: ● Active / Connected Network  
● Passive / Scanned Networks



An *active Wi-Fi survey* is when a surveying device is connected to the Wi-Fi network and records signal measurements based on the performance of the connection. A *passive Wi-Fi survey* is when the surveying device is not connected to any Wi-Fi network and is only listening to the Wi-Fi environment.

For more information, read our article, “Types of WiFi Surveys: Active vs. Passive”.

<https://www.accessagility.com/blog/wifi-survey-active-vs-passive>

## Active Survey

Before beginning an Active Survey, you must connect to a wireless network. Once connected, you will be able to select *Active/Connected Network* as the Survey Type.

To begin a survey, click on the *Draw WiFi Survey Path* button . Click on your location on the floor plan to collect data. Green markers will appear with each click. To begin a new path, click on the *Start New WiFi Survey Path* button .





To stop data collection, click on *Draw WiFi Survey Path* again.

Clicking on a marker will provide data for the network you are connected to from that particular location.



## Passive Survey

The survey process follows the same steps as Active Survey, but does not require you to be connected to a specific wireless network.

To begin a survey, click on the *Draw WiFi Survey Path* button . Click on your location on the floor plan to collect data. A passive survey is indicated with orange survey markers. To begin a new path, click on the *Start New WiFi Survey Path* button .



Click on *Draw WiFi Survey Path* again to end your survey.

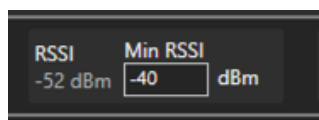
Clicking on a marker will provide the WiFi Survey Scan Data from that location.

WIFI SURVEY SCAN DATA			
SSID	BSSID	CHANNEL	RSSI
NETGEAR-5G-Gu	92:CD:D6:1C:FF:A	44	-53
[Hidden]	E2:55:7D:B8:52:3I	11	-81
NetExperience-D	90:3C:B3:B1:70:2I	1	-49
AA-Guest	02:18:5A:08:20:C	161	-48
KTGY_DEVICES	C6:9C:2E:ED:80:0I	44	-63
MAA-HQ	02:18:5A:5A:20:5I	48	-59
KTGY_DEVICES	C6:9C:3E:ED:80:0I	11	-55
MAA-HQ	02:18:5A:08:20:C	161	-48
[Hidden]	F2:9C:1E:ED:80:0I	144	-74
O-SRC-Guest	D2:9E:43:69:0F:4I	9	-79
KTGY_DEVICES	C6:9C:15:ED:80:0I	144	-74

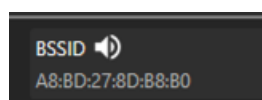
## Additional Survey Features

### Minimum RSSI and Sound Alert

The user can enter the minimum signal value which will be used as the threshold. The app will then start an audio alert if the signal goes below that minimum value.

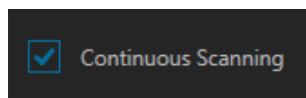


A sound alert will only be triggered if the user has enabled the sound tracking.



### Continuous Scanning

Continuous Scanning is a feature used specifically for Passive Surveys. This feature allows the Windows Wi-Fi card to continuously scan Wi-Fi networks and collect data as you perform a passive survey. This reduces the time to perform the survey as you can continuously walk around without much stops. This will also increase the rate WiFi Survey records data as you click on the floor plan.

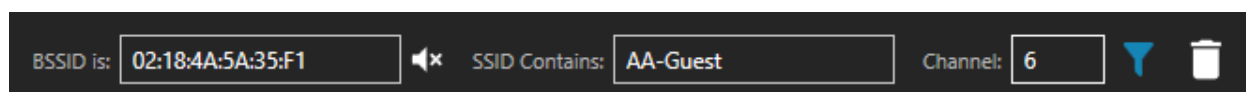


**NOTE:** The tradeoff of this feature is accuracy. Because the data collected changes as you move, it will not be as precise when you place a marker on the floor plan. For a more accurate survey, you can perform a Stop-and-Go Survey Method, in which you must stop at each location and wait for the scan to be completed before moving on. This method takes more time to perform. This can be done by leaving Continuous Scanning disabled.

### Network Filtering

For Passive Surveys, you have the capability to filter results based on BSSID, SSID, and Channel used.




Enter the information on what you would like filtered, then click the Apply Filter button, which is represented by the funnel.



The filtered results will appear on the right side of the screen.

















Scanned Networks				
SSID	BSSID	Channel	RSSI	Last Seen
AA-Guest	02:18:4A:5A:35:F1	6	-44	now

If you would like to clear your filter results, click on the Clear Filter button.

BSSID is:   SSID Contains:  Channel:   

### Renaming Survey Paths

Double-click on the survey path you want to rename. Enter the desired survey path name and press enter.

Survey Paths		Survey Paths	
Survey Path #4	 	Conference Room	 
Survey Path #3	 	Survey Path #3	 
Survey Path #2	 	Survey Path #2	 
Survey Path #1	 	Survey Path #1	 

### Continuing Last Survey Path

The option to continue the last survey path is available on the left side of the screen under *Project Settings*.

**Project Settings**

☒ Continue from last survey path marker

**Show Markers**

☒ Active ☒ Speed Test

☒ Passive ☒ Access Points

If this option is **disabled**, switching to a different tab and returning to *Draw WiFi Survey Path* will automatically begin a new survey path.

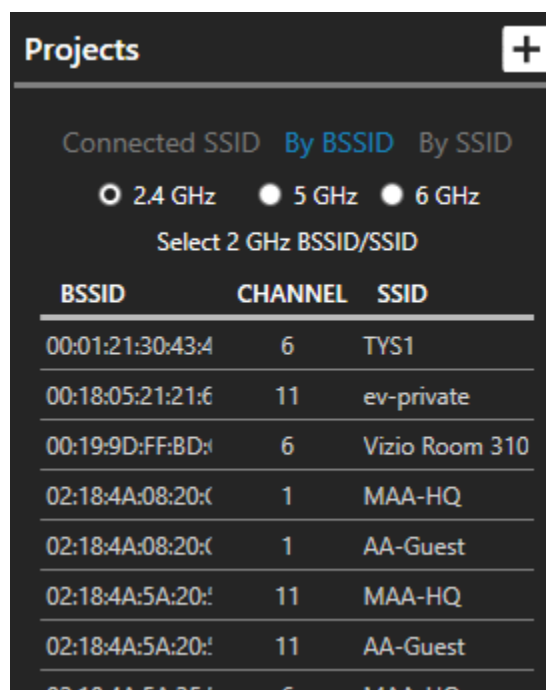
### Showing/Hiding Markers

Under *Project Settings*, there is an option to show or hide markers located on the floor plan. The marker boxes are ticked by default to show the markers. Unticking the box will hide the specified marker.

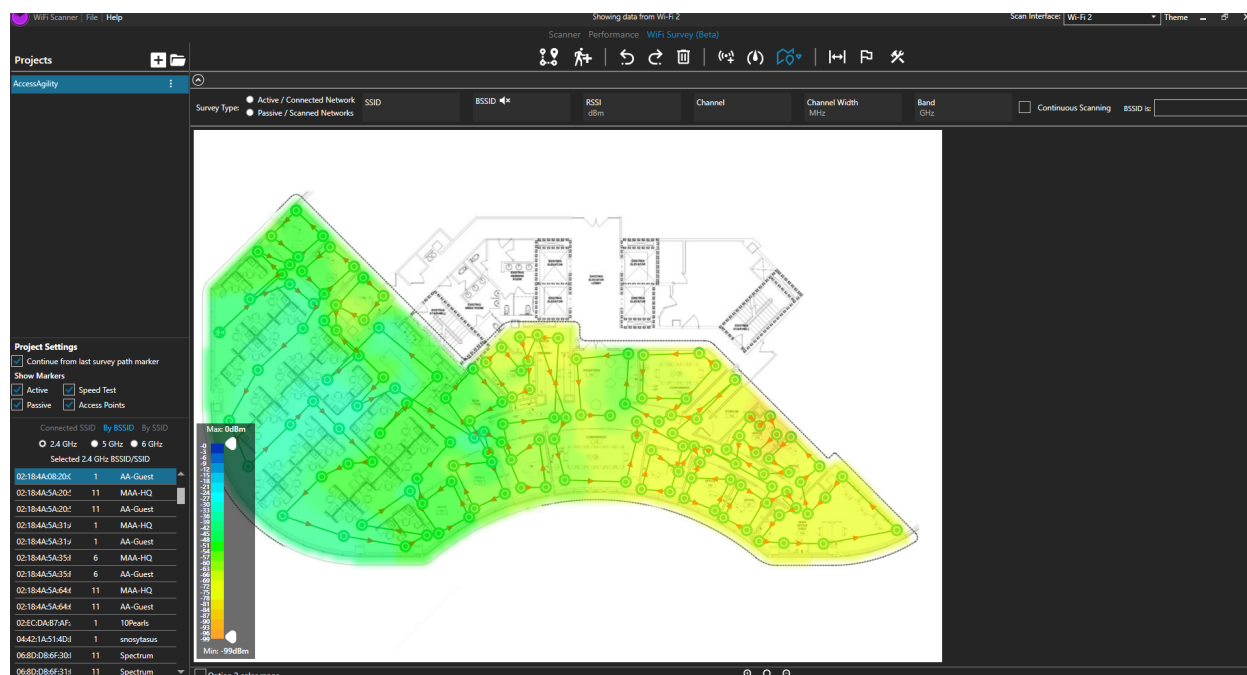


## Heatmaps by BSSID

Select the *By BSSID* Tab. This option is used for passive surveys.



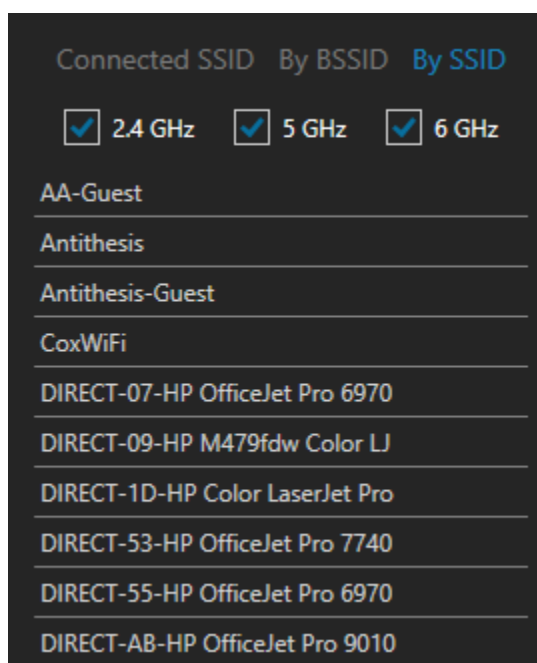
Choose between 2.4 GHz, 5 GHz, and 6 GHz to filter frequency standards  
Select the BSSID you want to generate a heatmap for.



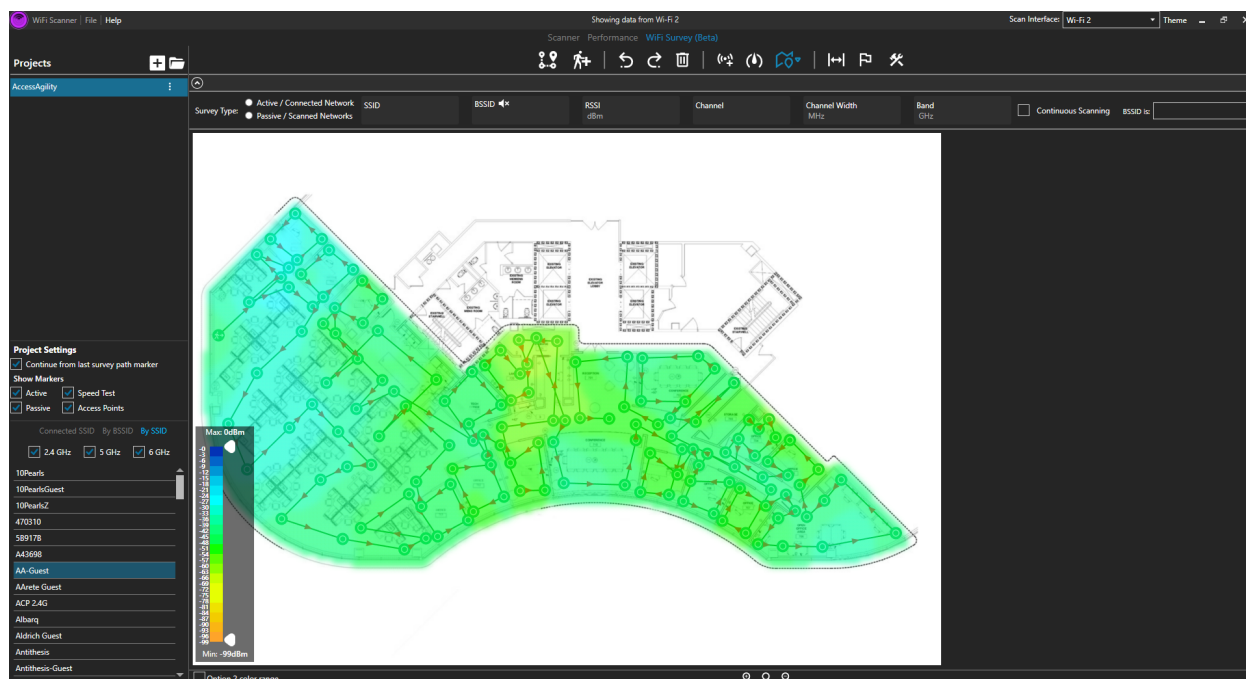


## Heatmaps by SSID

Select the *By SSID* tab. This option is used for passive surveys.

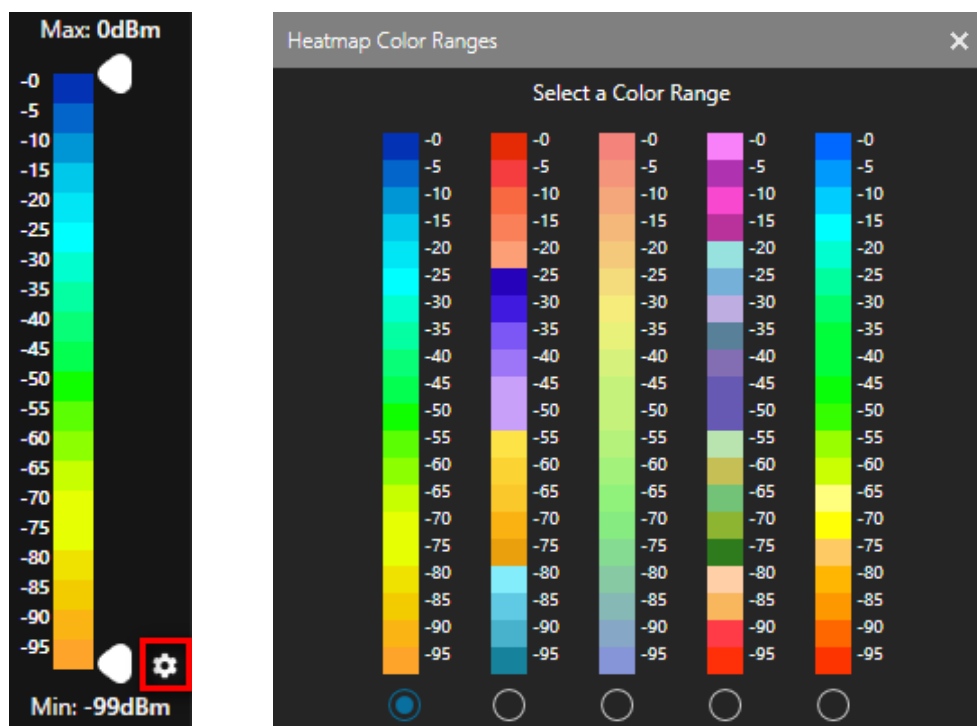


Select the frequencies that the heatmap will be derived from by checking the boxes. Click the SSID you want to generate a heatmap for.



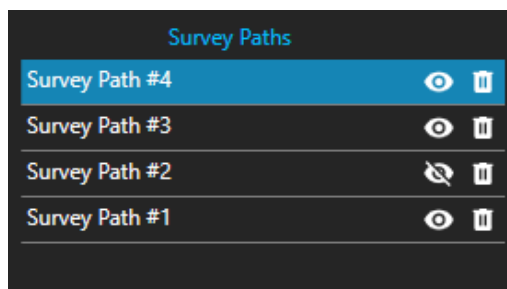
## Changing Heatmap Color Ranges

To change the heatmap color range, click on the gear icon at the bottom of the displayed color range. Select the desired color range.



## Show/Hide Survey Paths for Heatmap Generation

To filter survey paths from the heatmap, click on the eye button to toggle between showing and hiding the survey path. Hidden paths are indicated with a *slash* across the eye button. These will be ignored during heatmap generation.



## Saving Heatmaps


Right click on the image of the floor plan. You will be presented with the option to *Save as Image* and *Copy to Clipboard*. *Copy to Clipboard* allows you to directly paste the image to a document or an image tool such as *Paint*.

## Estimated RSSI Value




By clicking on the generated heatmap or by hovering on a specific location, you will be able to see the estimated RSSI value of the network in that location.



## Performing Speed Tests

This is a feature available only for Active Surveys. Click the *Perform Download/Upload Speed Test* button .

Click on your location in the floor plan to perform a speed test. The marker will change according to its progress with the speed test


-  Download speed test started...
-  Download speed test finished, starting upload...
-  Speed test finished.

Clicking on the marker will display the results of the speed test.

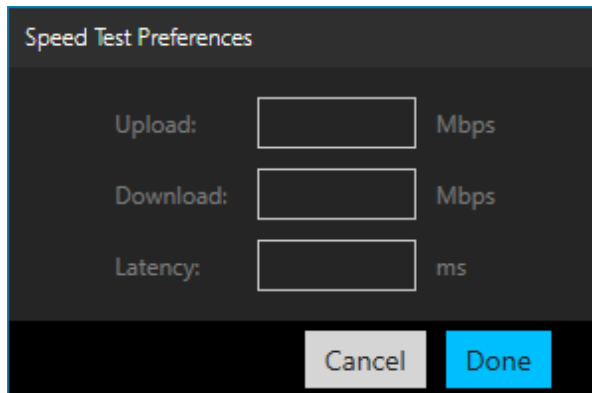
Speed Test			✕
SSID	BSSID	Channel	
AA-Guest	02:18:5A:5A:35:F1	36	
Latency	Download	Upload	
2.78 ms	66.52 Mbps	83.21 Mbps	

## Speed Test Preferences

You can set thresholds for the speed test to indicate whether the upload and download speeds meet your requirements.




Click on the *Speed Test Preferences* button . Enter the minimum thresholds for Upload speed and Download speed and the maximum threshold for Latency. Click Done.






After setting preferences, when you perform a speed test, it will compare the results to your preferences. If any of the thresholds set are exceeded, it will be indicated with a red or yellow marker. If the results are within the thresholds, the marker will turn green.



The dialog box titled "Speed Test Preferences" has a dark background. It contains three rows of input fields: "Upload:" with a text box and "Mbps" label, "Download:" with a text box and "Mbps" label, and "Latency:" with a text box and "ms" label. At the bottom right, there are two buttons: "Cancel" (light gray) and "Done" (blue).

## Undo, Redo, and Delete Actions

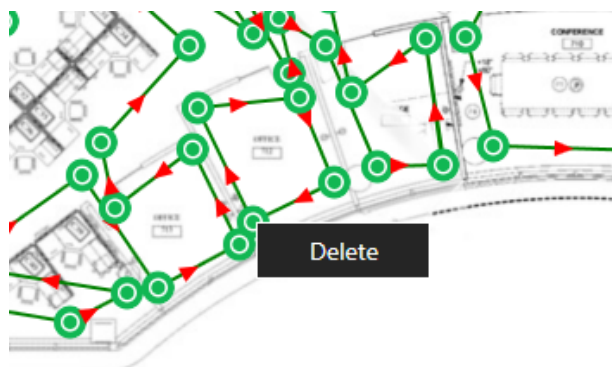
The *Undo Last Action* , *Redo Last Action* , and *Delete Marker*  buttons can be applied to the following markers:

-  Start Survey Path
-  Survey Path Marker
-  Access Point Marker
-  Speed Test Marker
-  Boundary Markers

The *Delete Marker* simply deletes the marker clicked. If the marker beginning the survey path is deleted, the next Survey Path Marker becomes the starting point.


Delete can also be performed by right clicking on a marker and clicking *Delete*.

The *Undo Last Action* and *Redo Last Action* affects creating, moving, and deleting markers.




## Place Access Points

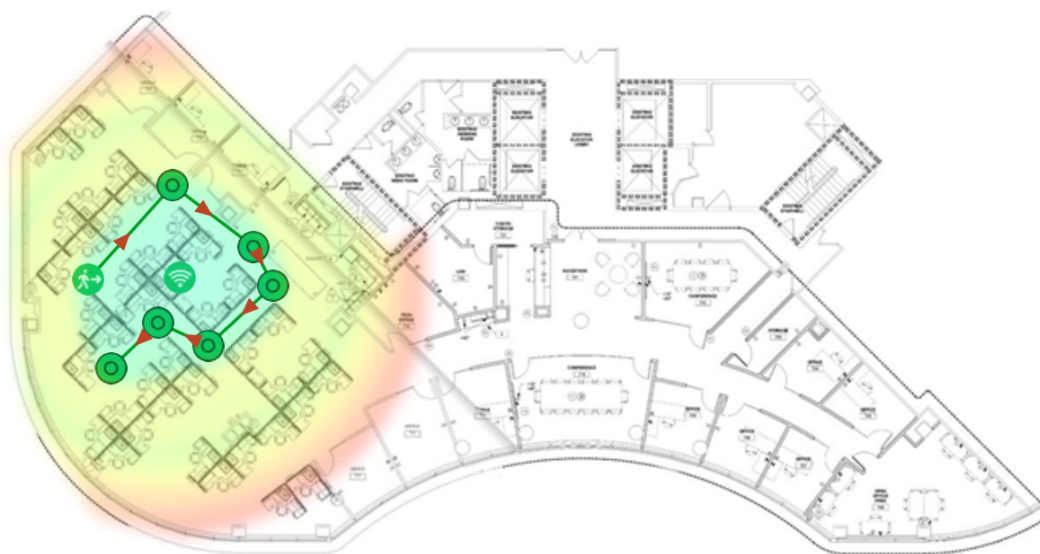
WiFi Survey provides a way to document AP Locations.

Click on the *Place Access Points* button  and click on its location on the floor plan. The WiFi Marker Details window will appear. This will allow you to enter the following information regarding the access point: Name, Serial Number (S/N), MAC Address, IP Address, and Barcode. You also have the option to provide notes about the AP and upload a floor plan image with its location.

WiFi Marker Details

Name	S/N
<input type="text"/>	<input type="text"/>
MAC	IP
<input type="text"/>	<input type="text"/>
Note	Barcode
<input type="text"/>	<input type="text"/>
	Upload Floor Plan Image
	<input type="text"/> 
Image Preview	
<input type="text"/>	
<input type="button" value="Cancel"/> <input type="button" value="Save"/>	

This feature is also useful for documenting potential locations of the APs when performing an AP-on-a-Stick (APoS) Survey.



Example for APoS

## Using Optifi With WiFi Scanner

Optifi is a cloud-based management solution that uses Android, iOS, Mac, and Windows agents to collect network performance and scanning data. WiFi scanning, speed testing, network stats, and more are sent to the Optifi Manager online interface for monitoring and active troubleshooting.

For a more detailed explanation of the other functions of Optifi, visit <https://www.accessagility.com/optifi> or refer to the [Optifi User Guide](#)

For additional support, visit <https://support.accessagility.com/hc/knowledge-base-optifi>.

## Performing A Scan Through the End-User

### Optifi Agent Introduction

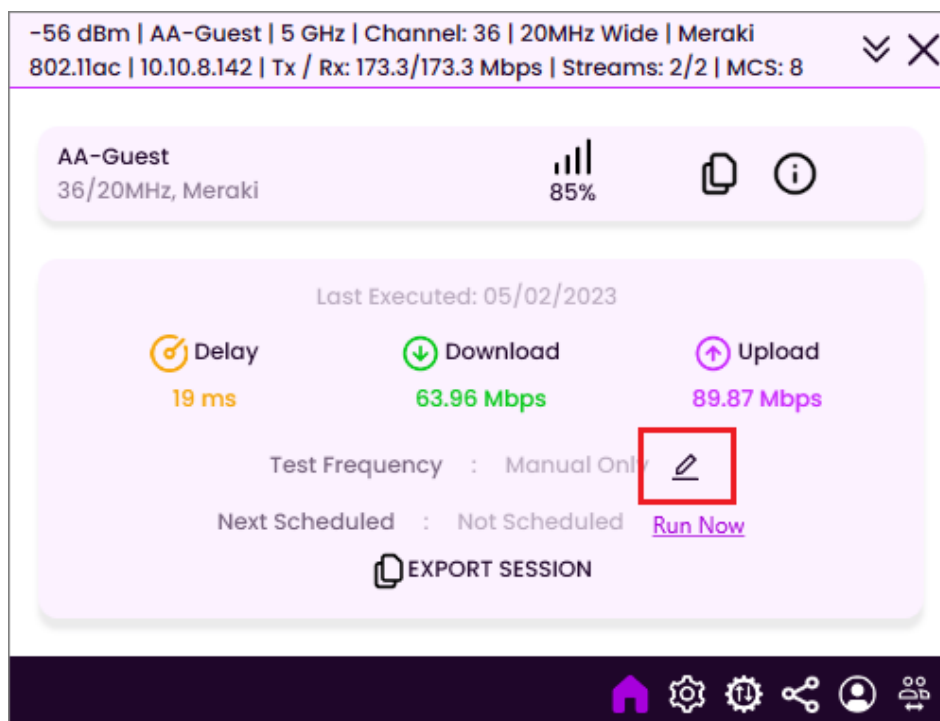
Optifi Agent is an application that allows end-users to perform Wi-Fi scans without requiring knowledge about wireless networks.

Optifi Agent is free to use and can be downloaded at <https://www.accessagility.com/optifi>.

**NOTE:** The steps regarding Optifi Agent demonstrated in this user guide are primarily performed with Optifi Agent for Windows.

## Performing A Scan Using Optifi Agent

There are several options in performing scans using Optifi Agent. This is indicated by the Test Frequency option, which can be modified through the *Pencil* button to the right of Test Frequency.



This can also be reached by directly clicking on the *Test Settings* tab.

-56 dBm | AA-Guest | 5 GHz | Channel: 36 | 20MHz Wide | Meraki  
802.11ac | 10.10.8.142 | Tx / Rx: 173.3/173.3 Mbps | Streams: 2/2 | MCS: 8

AA-Guest  
36/20MHz, Meraki

85%

Last Executed: 05/02/2023

Delay  
19 ms

Download  
63.96 Mbps

Upload  
89.87 Mbps

Test Frequency : Manual Only

Next Scheduled : Not Scheduled [Run Now](#)

EXPORT SESSION

-58 dBm | AA-Guest | 5 GHz | Channel: 36 | 20MHz Wide | Meraki  
802.11ac | 10.10.8.142 | Tx / Rx: 173.3/173.3 Mbps | Streams: 2/2 | MCS: 8

Test Frequency

Only Manual Testing

WAN Ping Host

google.com

DIG Host

google.com

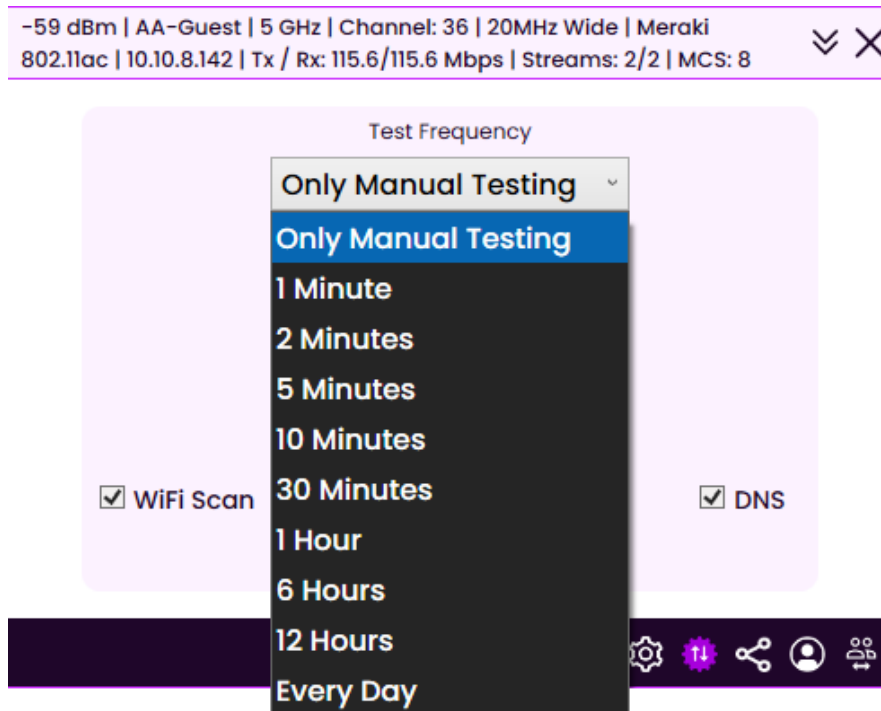
TESTS TO RUN

☒ WiFi Scan ☒ Speed ☒ Ping ☒ DNS

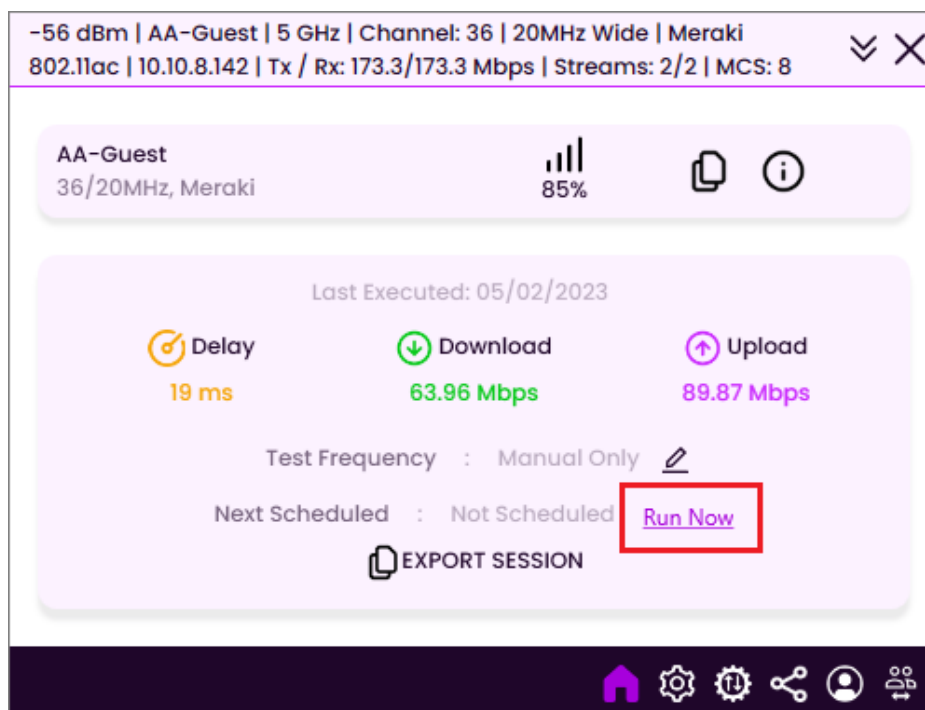
SAVE



Automatic, recurring scans can be performed in time frames ranging from 1 Minute to Every Day.



The option for Only Manual Testing will not perform any automatic, recurring scans. To prompt a scan with Only Manual Testing, go to the *Home* tab, and click on Run Now to the right of Next Scheduled.



This will perform a scan for Delay (Latency), Download Speed, and Upload Speed of the network you are connected to, as well as a scan of all surrounding Wi-Fi networks.

During scans, you will see the following messages appear in the applet.

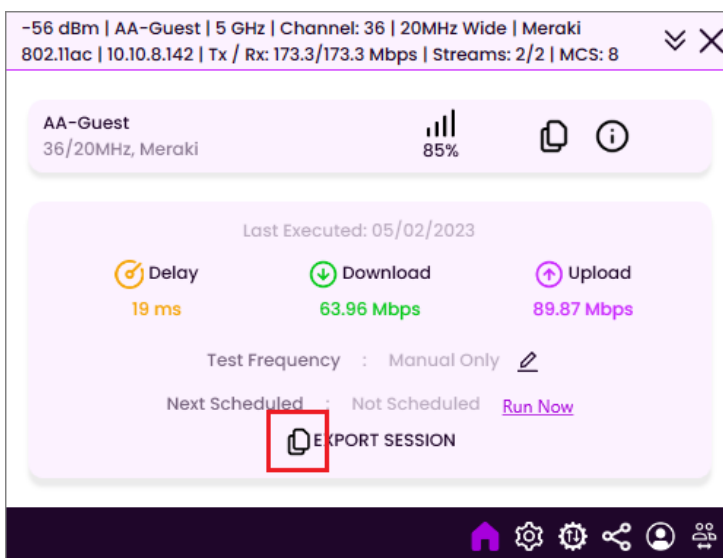
Running WiFi Scan...

Connecting to server...

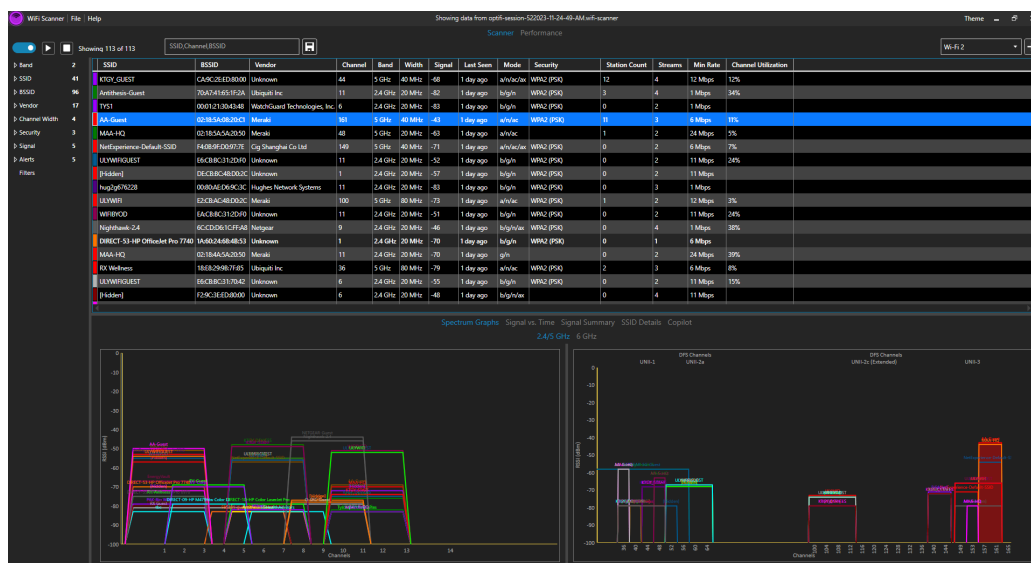
Upload Test Started...

Tests run completed...

Once the scan is completed, click on the icon next to *Export Session*. You will be prompted to save the scan that was last performed.



This file can be opened with WiFi Scanner and will show a more detailed result of the scan for the Network Engineer or Analyst to examine.



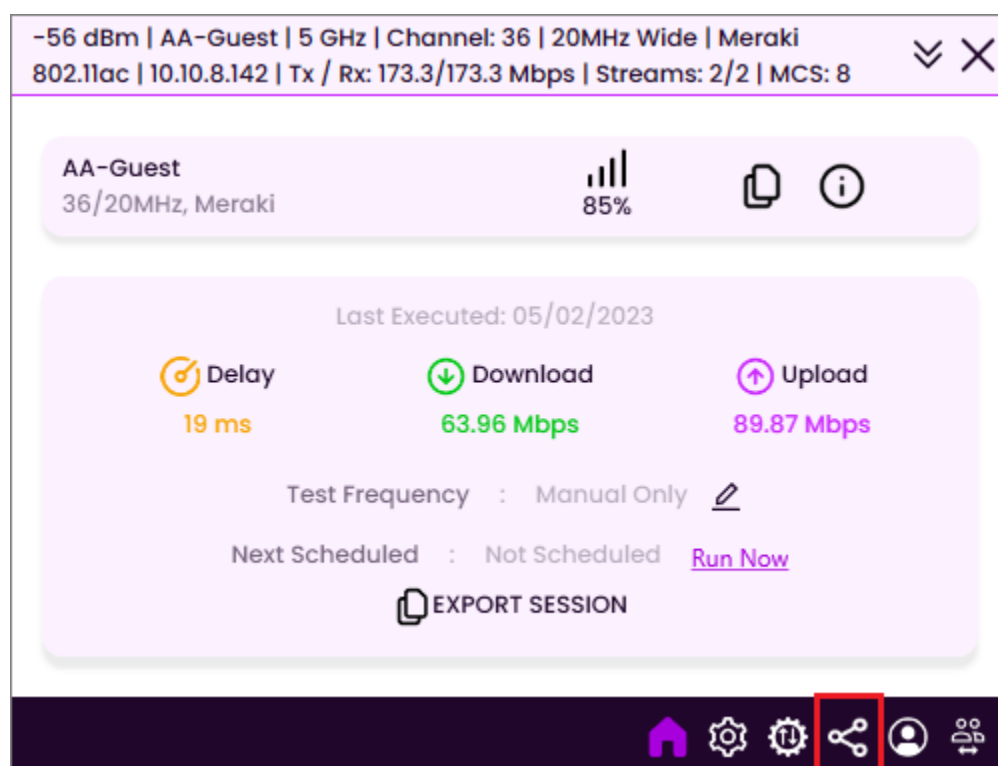
## Performing A Scan Remotely

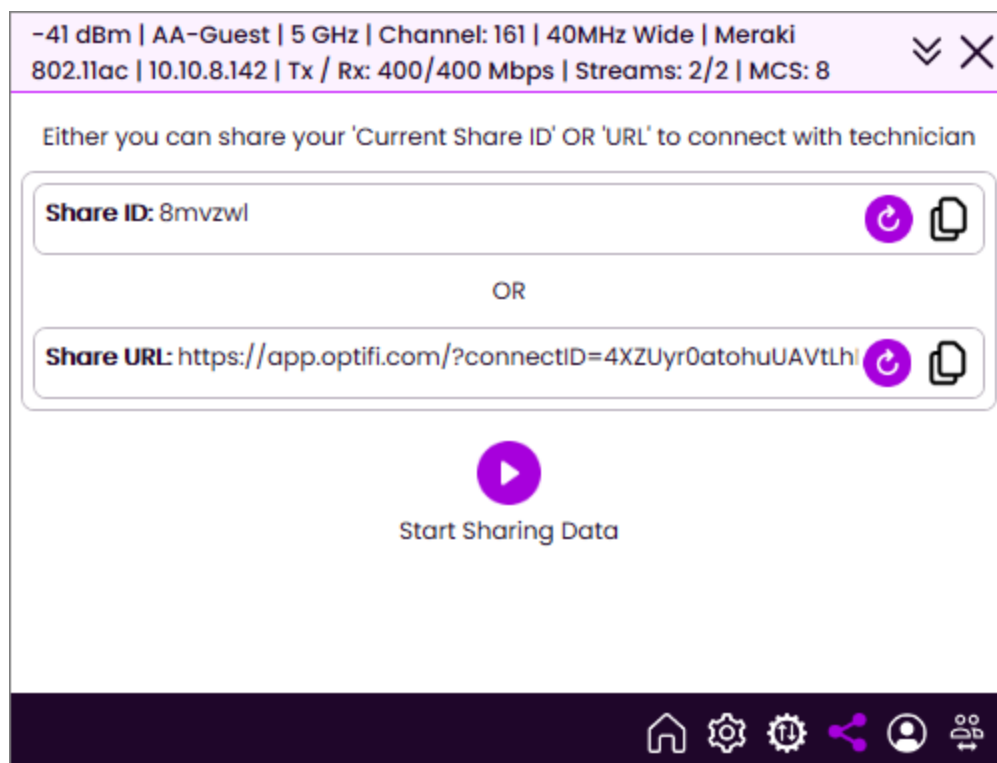
Performing a scan remotely requires the Optifi Agent, installed on the end-user's device, and the Optifi Manager - Remote Cloud Viewer App, which can be accessed at <https://app.optifi.com>.

This is an option for when a support technician does not have physical access to an end-user's device. It is also helpful for assisting non-tech-savvy users as the steps required from them are minimal.

## Setting Up Optifi Agent

Click the *Share* button to access the *Share* tab.



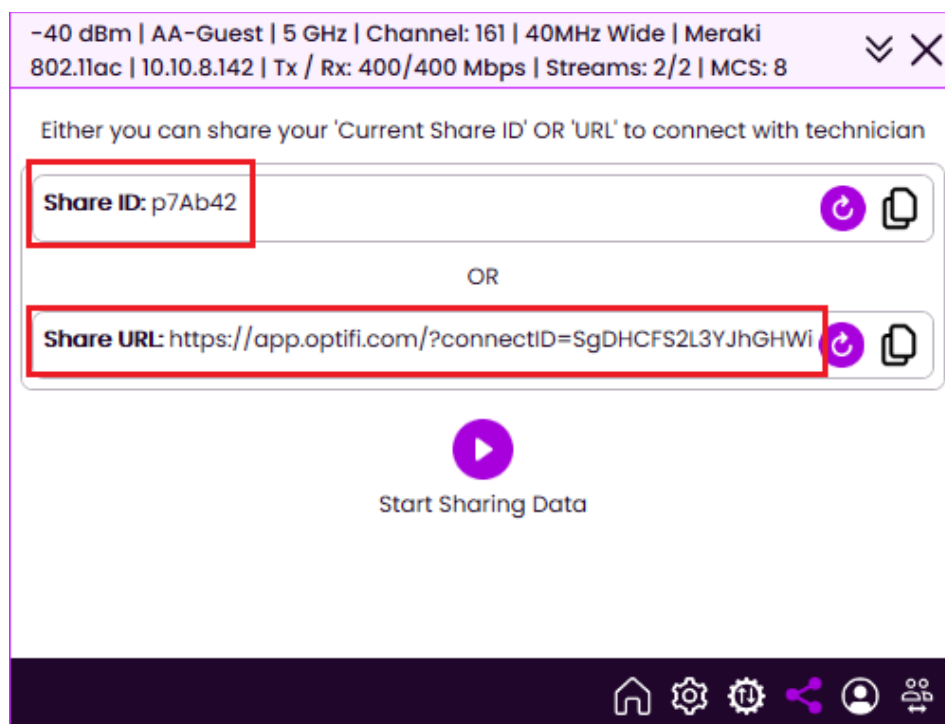
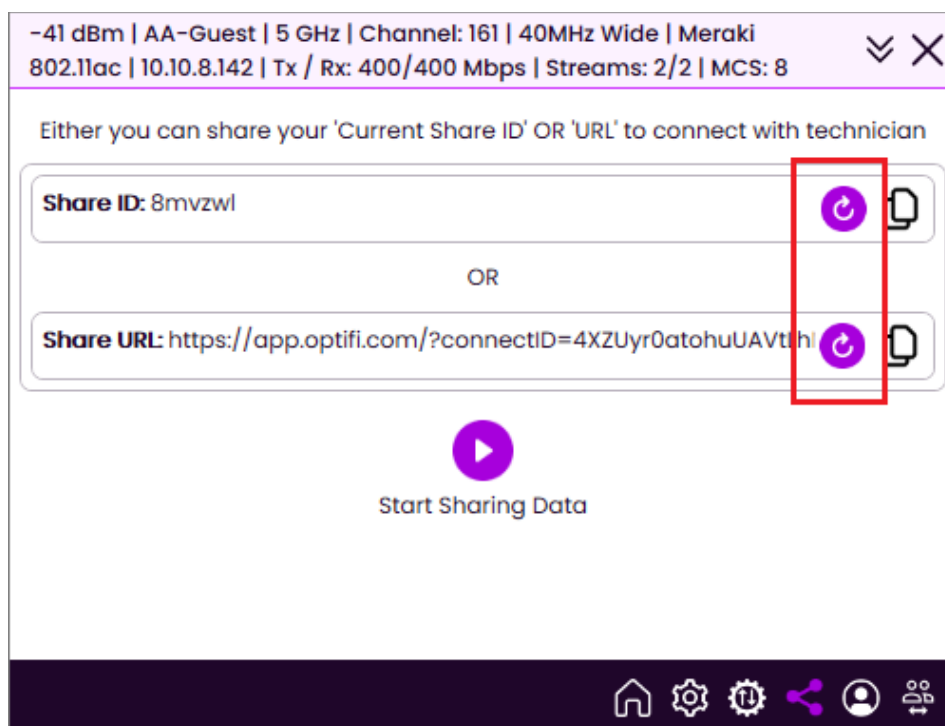


There are two ways to share data remotely. The first option is with the randomly generated Share ID, and the second option is through a randomly generated Share URL. Provide either the Share ID or the Share URL to the support technician. Click the play button to begin sharing. From this point, the end-user does not need to do anything until the scans and tests are completed.

**NOTE:** Data sharing must continue running in the background for the duration the support technician performs scans and tests remotely.

## Refreshing Share ID and Share URL

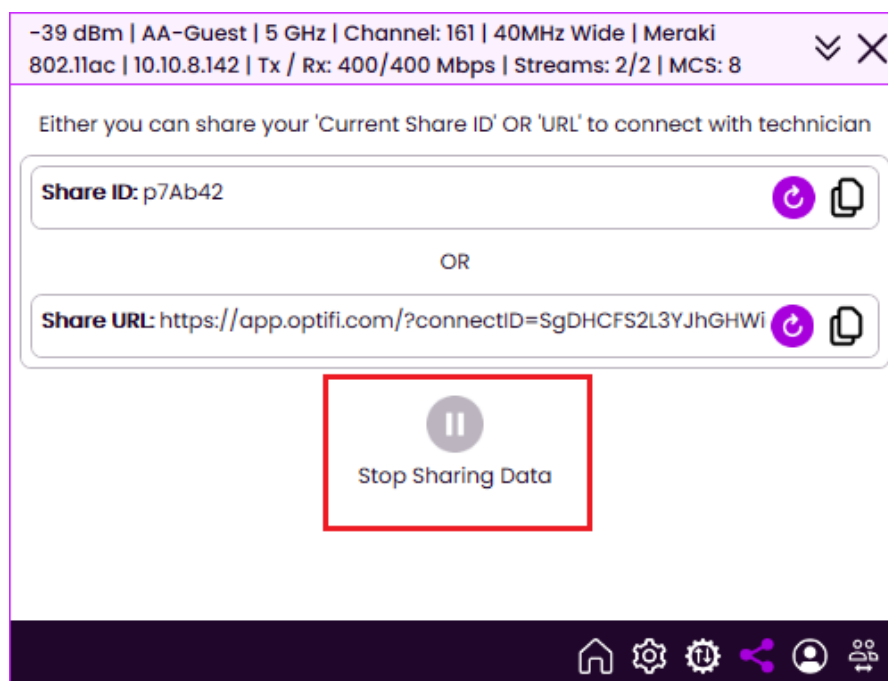
If a new Share ID or Share URL is needed, you can refresh the randomly generated ID or URL by clicking on the *Refresh* button.



Newly Generated Share ID and Share URL

## Stop Sharing Data

Once the support technician is complete with scans and tests, the end user should click on *Stop Sharing Data*.



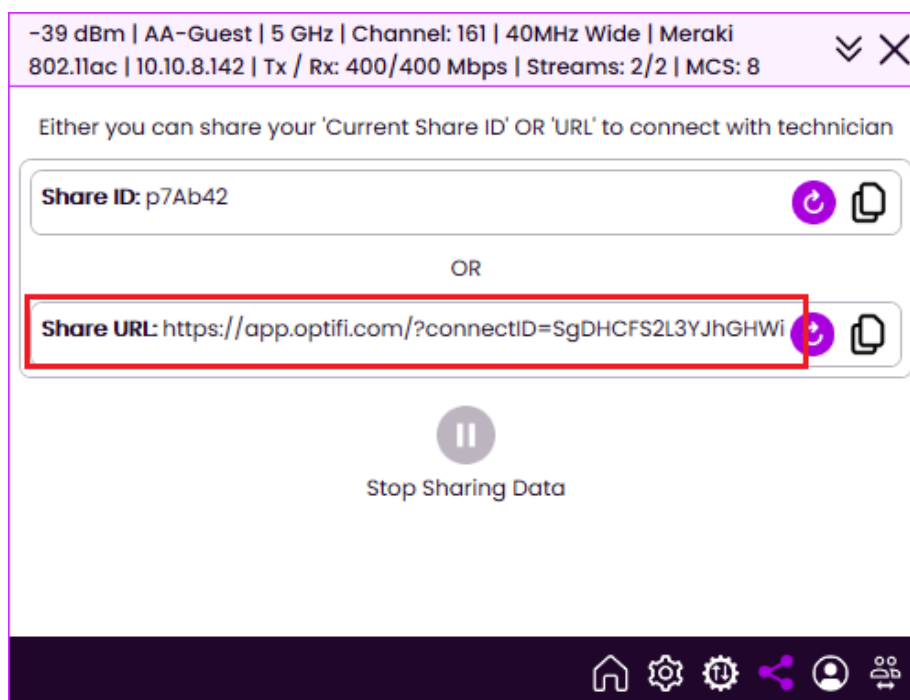
## Setting Up Optifi Manager

Optifi Manager can be accessed at <https://app.optifi.com>. It is a web application, so no download is required to use it.

Optifi Manager can be used without an email address, with very limited capabilities, or with an email address and a subscription for full use.

## Use Without Email Registration

If you are using Optifi Manager without registering, you can only obtain access to the end-user's data through their randomly generated Share URL.



Once you access this link, you will be directed to Optifi Manager.

The screenshot shows the Optifi Manager web application. The header includes the Optifi logo and the tagline "Monitor. Troubleshoot. Optimize." with a "Login" button. Below the header, there is a "Signal Summary" section with a "+" icon. The main content is a table with the following columns: Created, SSID, BSSID, Vendor, Channel, Band, Width, Signal (dBm), Signal (%), Download Speed, and Upload Speed. The table contains 20 rows of data, all for the SSID "AA-Guest" and BSSID "02:18:5a:08:20:c1" on Channel 161, Band 5 GHz, Width 40MHz, Signal -39 dBm, Signal 95%, Download Speed 400 Mbps, and Upload Speed 400 Mbps. The table is sorted by "Created" in descending order.

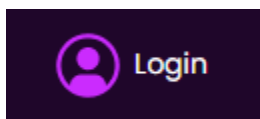
Created	SSID	BSSID	Vendor	Channel	Band	Width	Signal (dBm)	Signal (%)	Download Speed	Upload Speed
02 May, 2023-15:03:57	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:52	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:47	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:42	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:37	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:32	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:27	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:22	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:17	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:12	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:07	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:03:01	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:02:56	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:02:51	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:02:46	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:02:41	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:02:36	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps
02 May, 2023-15:02:31	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-39 dBm	95%	400 Mbps	400 Mbps

You will only be able to view when the scan was *Created*, the *SSID* of the network, and the *BSSID* and *Vendor* of the access point.

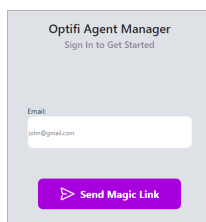
**NOTE:** You will **not** be able to perform scans or tests with this option.

### Use With Email Registration

To register with an email address, click on the *Login* button at the top right of the screen.

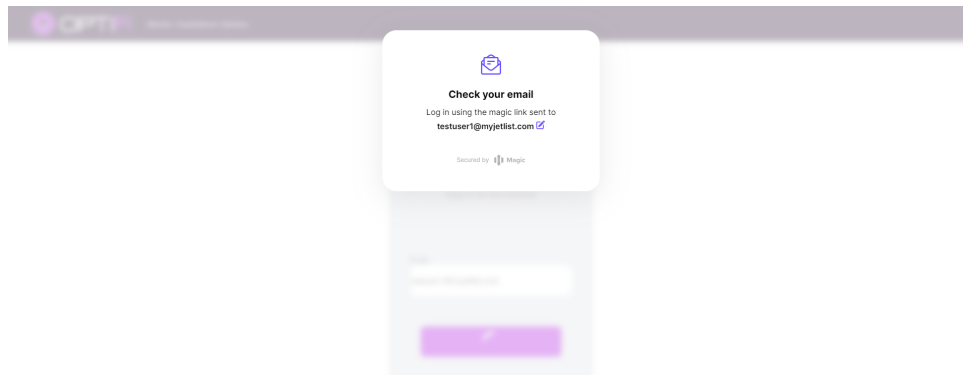


You will be prompted to enter your email address. Then *Click Send Magic Link*.

A light gray rectangular form. At the top, it says "Optifi Agent Manager" in bold, followed by "Sign In to Get Started" in a smaller font. Below this is a label "Email:" followed by a white input field containing the text "john@gmail.com". At the bottom of the form is a blue button with a white right-pointing arrow and the text "Send Magic Link".



You will be informed to check your email to be logged in.



Find the email with “Log in to Optifi” as the subject header. Once opened, click on *Log in to Optifi*.



## Optifi

Click the button below to log in to **Optifi**.

This button will expire in 20 minutes.

**Log in to Optifi**

Button not showing? [Click here](#)

Confirming this request will securely log you in using

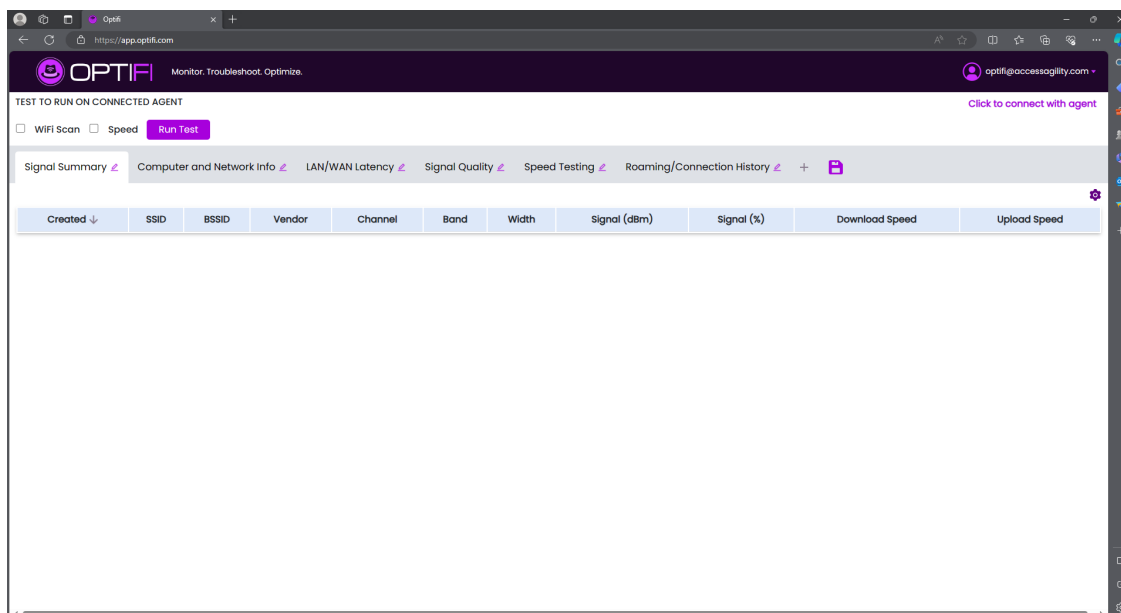
[testuser1@myjetlist.com](mailto:testuser1@myjetlist.com)

This login was requested using **Edge, Windows** at **07:49:04**

**PDT on May 03, 2023.**

- Optifi Team

You will be redirected to Optifi Manager with the registered email address in place of *Login*.



From here, you can access the end-user's data through either the Share URL or the Share ID. To access with the Share URL, simply obtain the user's Share URL and enter it on your web browser.

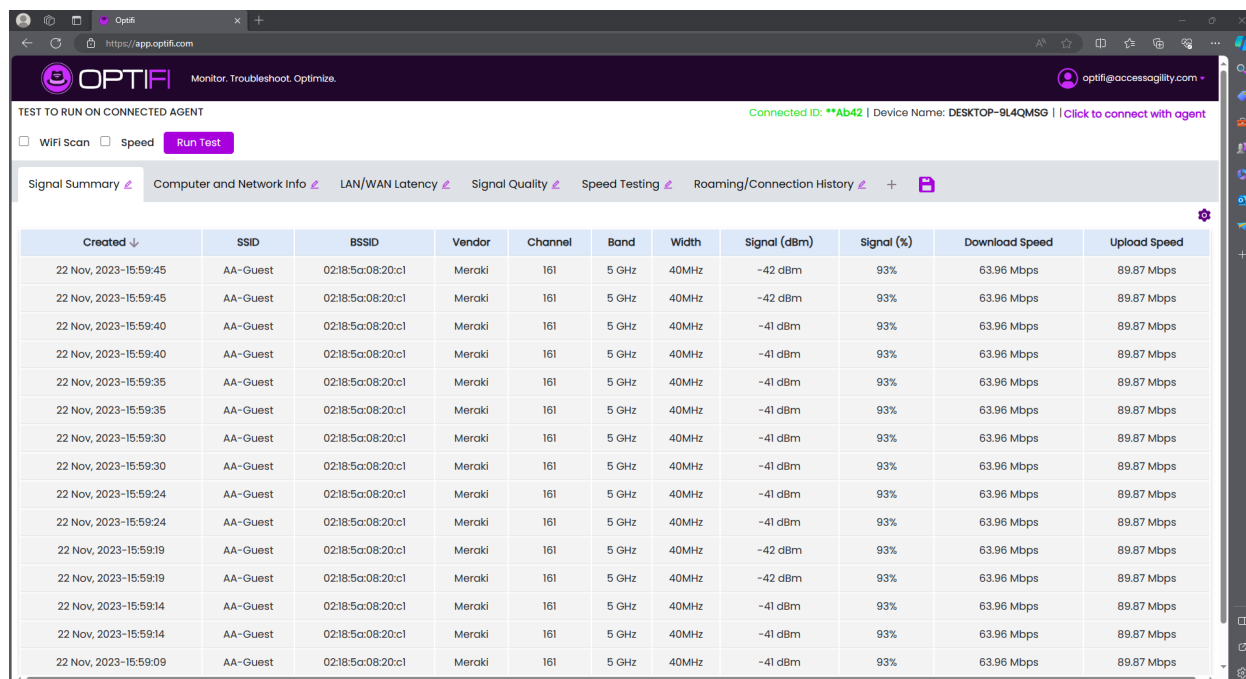
To access through the Share ID, click on *Click to connect with agent*, enter the Share ID number generated from Optifi Agent in the end-user's device, and click submit.

Select **Device** from the list or add it's **ShareID** manually

Device Name	name	Email	Select
-------------	------	-------	--------

Share ID:

Once this is completed, Optifi Manager is set up and ready to begin scanning and testing.

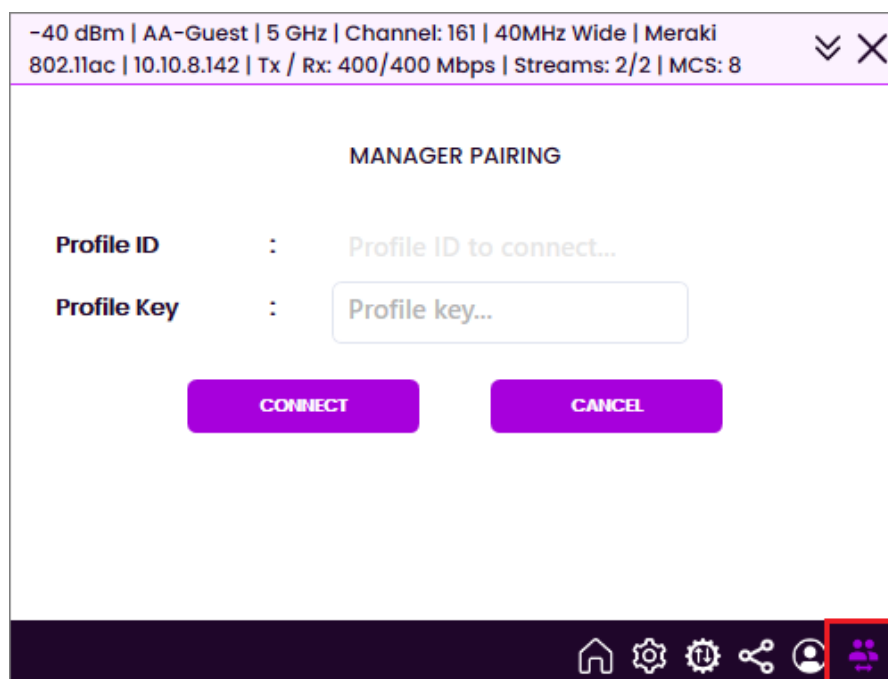


The screenshot shows the Optifi Manager web interface. At the top, there's a header with the Optifi logo and the tagline "Monitor. Troubleshoot. Optimize." Below the header, a status bar indicates "Connected ID: \*\*Ab42 | Device Name: DESKTOP-9L4QMSG | Click to connect with agent". A navigation bar contains tabs for "Signal Summary", "Computer and Network Info", "LAN/WAN Latency", "Signal Quality", "Speed Testing", and "Roaming/Connection History". The "Signal Summary" tab is active, displaying a table of signal data.

Created ↓	SSID	BSSID	Vendor	Channel	Band	Width	Signal (dBm)	Signal (%)	Download Speed	Upload Speed
22 Nov, 2023-15:59:45	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-42 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:45	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-42 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:40	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:40	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:35	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:35	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:30	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:30	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:24	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:24	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:19	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-42 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:19	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-42 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:14	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:14	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps
22 Nov, 2023-15:59:09	AA-Guest	02:18:5a:08:20:c1	Meraki	161	5 GHz	40MHz	-41 dBm	93%	63.96 Mbps	89.87 Mbps

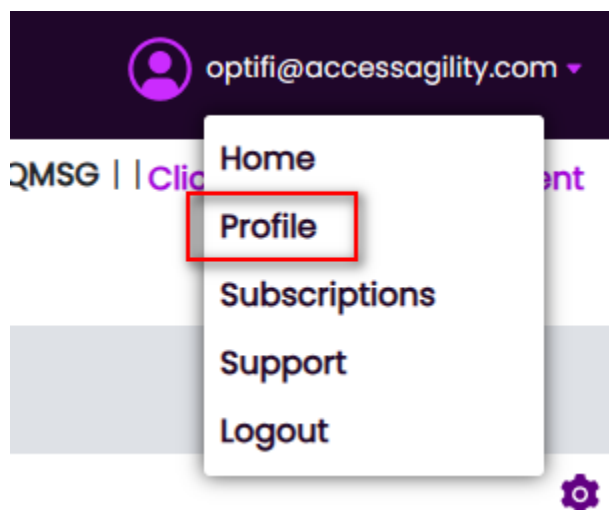
### Connecting to Optifi Manager through Optifi Agent - Manager Pairing

You can also link to the Optifi Manager directly through the Optifi Agent. Click on the *Manager Pairing* tab and enter your profile ID along with the given profile key.

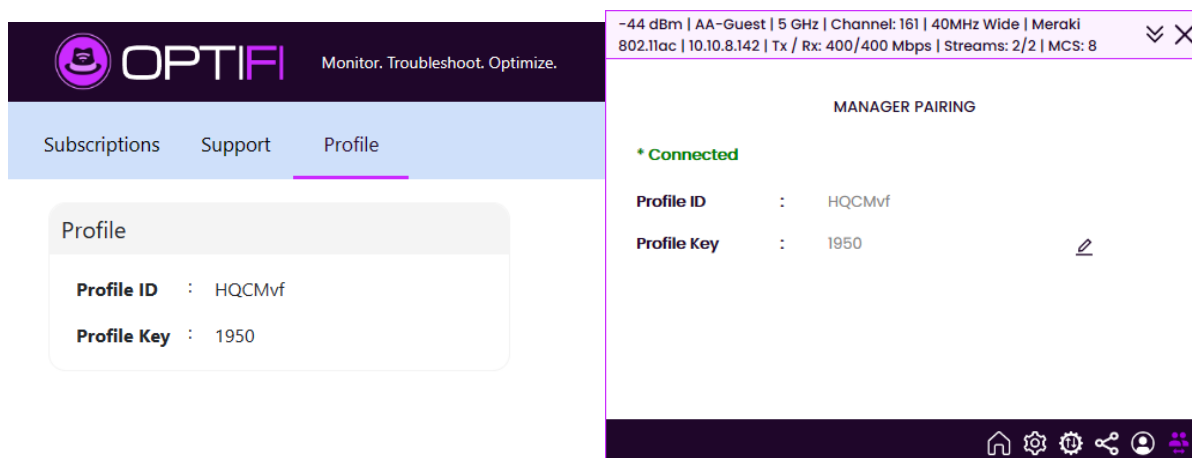


The screenshot shows the "MANAGER PAIRING" interface. At the top, a status bar displays network information: "-40 dBm | AA-Guest | 5 GHz | Channel: 161 | 40MHz Wide | Meraki 802.11ac | 10.10.8.142 | Tx / Rx: 400/400 Mbps | Streams: 2/2 | MCS: 8". Below this, the "MANAGER PAIRING" section contains two input fields: "Profile ID" with a placeholder "Profile ID to connect..." and "Profile Key" with a placeholder "Profile key...". At the bottom of this section are two buttons: "CONNECT" and "CANCEL". The bottom of the screen features a navigation bar with icons for Home, Settings, Tools, Share, Profile, and a highlighted "Manager Pairing" icon.

To obtain this information, navigate to Optifi Manager. Click on the email address you have registered with Optifi, and click on *Profile*.



Here, you will find the Profile ID and the Profile Key.



Once entered and connected, you will be able to see your device listed in Optifi Manager when clicking on *Click to connect with agent*. Click on *Select* to choose the device and complete the link.

Select **Device** from the list or add it's **ShareID** manually ✕

Device Name	name	Email	Select
	engineer		<a href="#">Select</a>

Share ID:  Submit


You can further customize the device details listed by navigating to the Profile Details tab of the Optifi Agent.

-60 dBm | AA-Guest | 5 GHz | Channel: 36 | 20MHz Wide | Meraki  
802.11ac | 10.10.8.116 | Tx / Rx: 173.3/173.3 Mbps | Streams: 2/2 | MCS: 8 ⌵ ✕







PROFILE DETAILS

Device Name :

Name :

Email :  

UPDATE CANCEL

Clicking *Update*, restarting the Agent, and refreshing the Manager will reflect the changes on Optifi Manager.

Select **Device** from the list or add it's **ShareID** manually ✕

Device Name	name	Email	Select
Test Device	AccessAgility	optifi@accessagility.com	<a href="#">Select</a>

Share ID:  Submit

**NOTE:** At the moment, Manager Pairing is only available on Optifi Agent for Windows.

## Performing A Scan Using Optifi Manager

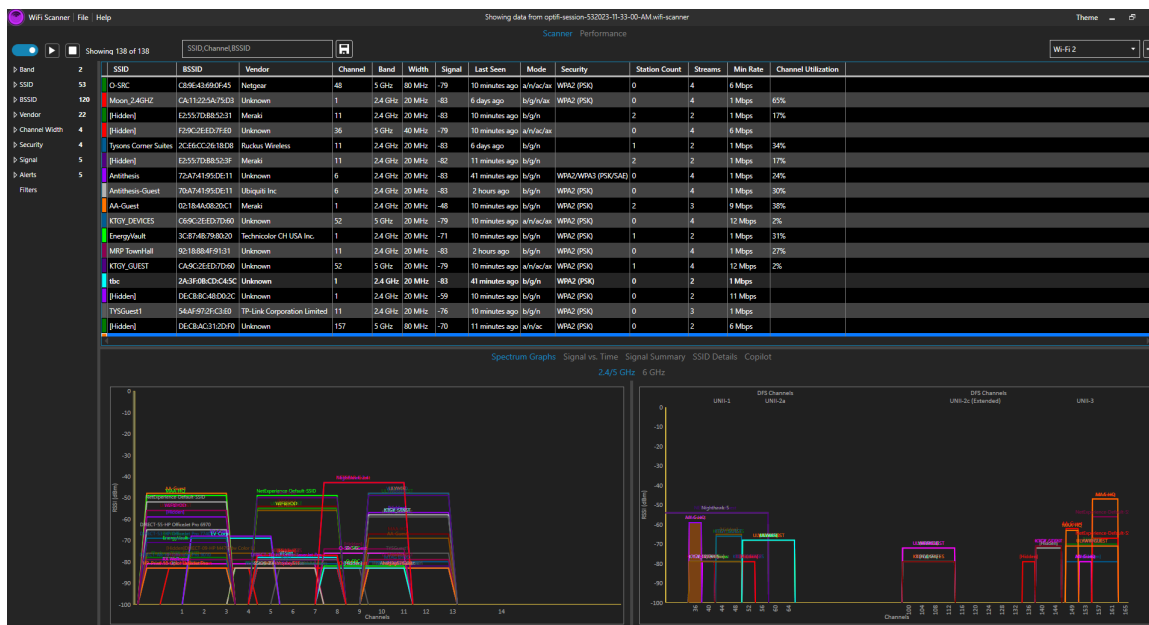
To perform a scan, select the desired type of scan. The available options are *WiFi Scan* and *Speed Test*. Once selected, click on *Run Test*.



Once completed, a link to download the session file will appear. Click on the link to download the file.



This file can be opened with WiFi Scanner and will show a more detailed result of the scan for the Network Engineer or Analyst to examine.



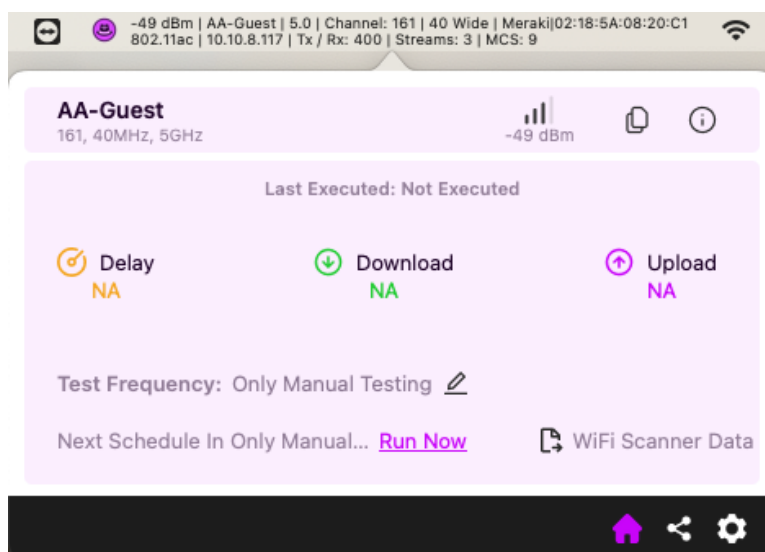
## Optifi Manager Pricing

The initial email registration will provide you a 7-Day Free Trial. Visit our website to obtain more information about pricing. <https://agent.optifi.com/#pricing>

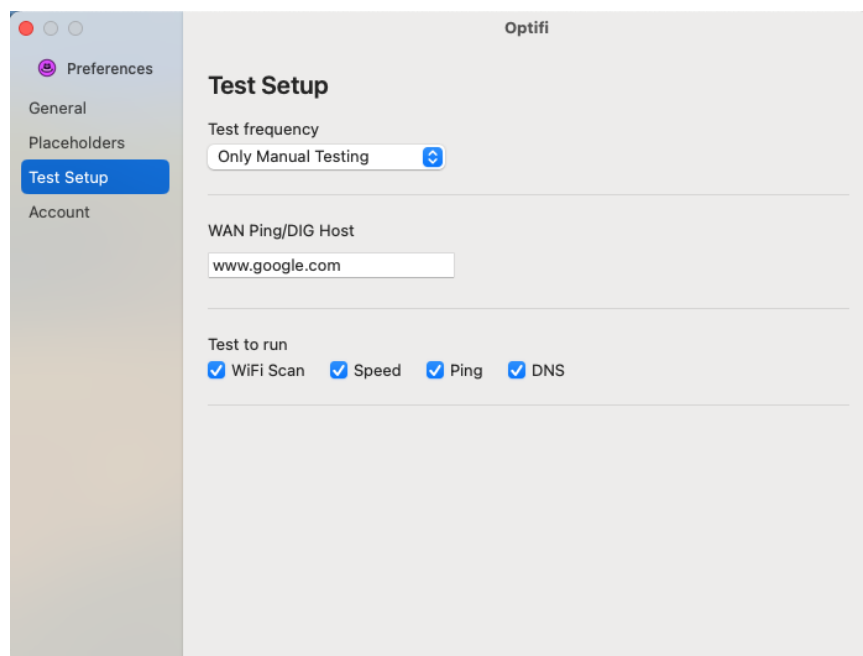
## Optifi Agent for macOS

Optifi Agent for macOS functions the same way as Optifi Agent for Windows.

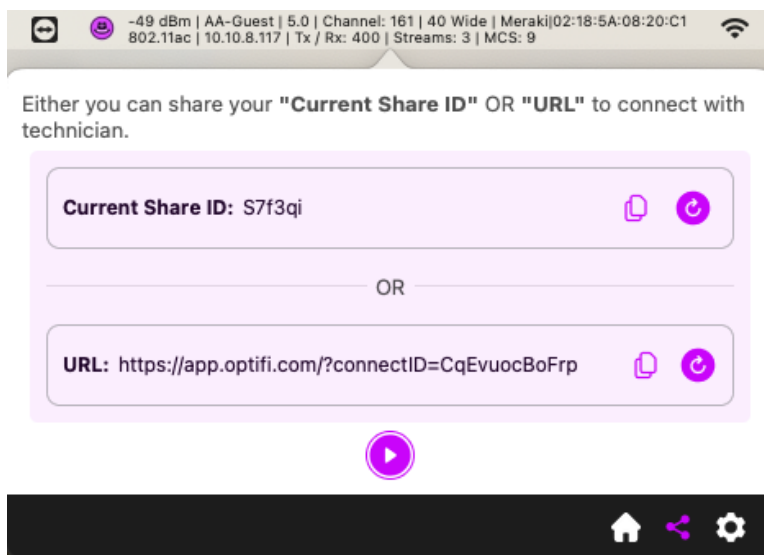
Scans can be performed by clicking *Run Now* in the Home Tab. The Test Frequency can be modified by clicking the *Pencil* button next to Test Frequency. The resulting data can be downloaded into a file by clicking *WiFi Scanner Data*.



The Test Frequency and other test settings can also be modified by clicking on the Settings Tab (gear button) of the Optifi Agent applet, which will open the Preference Window, and navigating to the Test Setup Tab.



To obtain sharing information for Optifi Manager, click on the Sharing Tab of the Optifi applet.



## Optifi Agent for iOS and Android

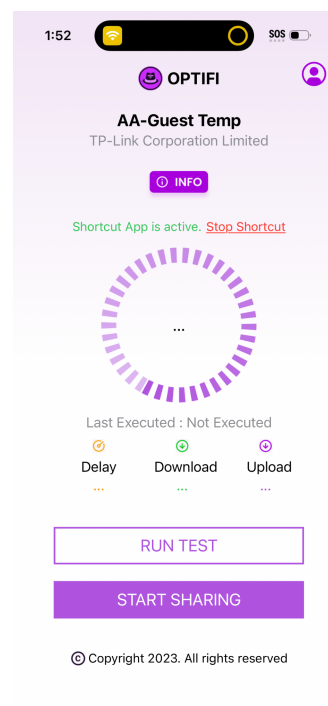
You can also download Optifi Agent for Android 13 or later versions at <https://www.accessagility.com/optifi-agent-windows-download>

Optifi Agent is available for iOS 17 or later versions.

Download Optifi Agent for iOS in the App Store:

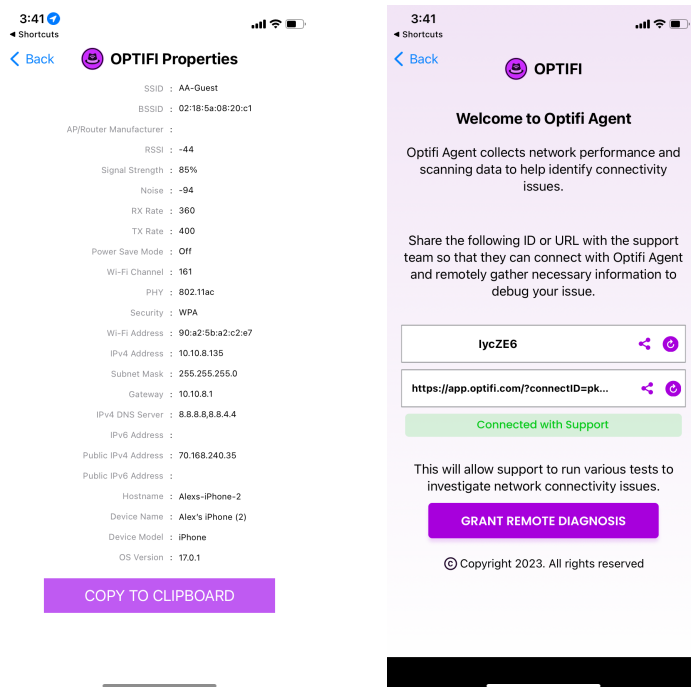
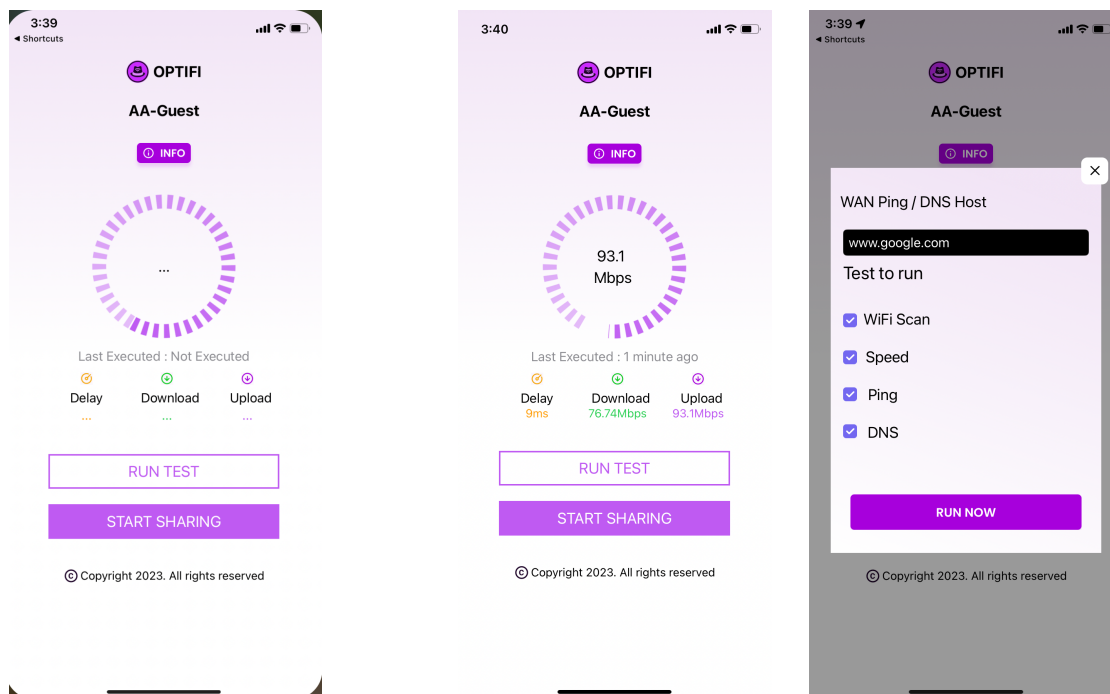
<https://apps.apple.com/us/app/optifi-agent/id826551029?platform=iphone>

For additional help with setting up Optifi Agent for mobile devices, refer to the [Optifi User Guide](#)





## Optifi Agent for iOS and Android



## Appendix A - Results Table Columns

### WiFi Columns Visibility

**802.11r** Fast roaming. To check if roaming is conjured over the wire (DS) or over the air. Over the air is preferred to prevent layer 2 and 3 firewalls/blocks from preventing roaming messages reaching other access points. For more information, visit:  
<https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/80211r-ft/b-80211r-dg.html>

**Ad Hoc** If access point is in ad-hoc mode instead of infrastructure mode

**Amendments** 802.11 Amendments supported by access points. Use this to confirm which ones are enabled or missing.

Roaming related - <https://support.apple.com/en-us/HT202628>

Quality of service / QBSS - <https://support.accessagility.com/hc/802.11e-qbss-and-wmm>

**AP Name** Access point name configured by admin and detected from beacon. Not supported for all access points.

**AP Uptime** Using timestamps from beacons we can detect how long the access point has been online. This can be used to determine if the AP hasn't been updated in a while or if it is rebooting constantly due to malfunction. It can also be used for security purposes to see if there are new APs that weren't installed by an admin.

**Band (Channel Band)** Frequency band for access point (2.4, 5, or 6 GHz)

**Basic Rates** Basic rates allowed and used to manage cell size (minimum) rate.

**Beacon Interval** Time between beacon frames. Typical value is 102.4 ms but a few ms difference is OK. Some vendors / user change this value to higher number to reduce beacon airtime usage but this isn't recommended and can cause issues with access point discovery and roaming

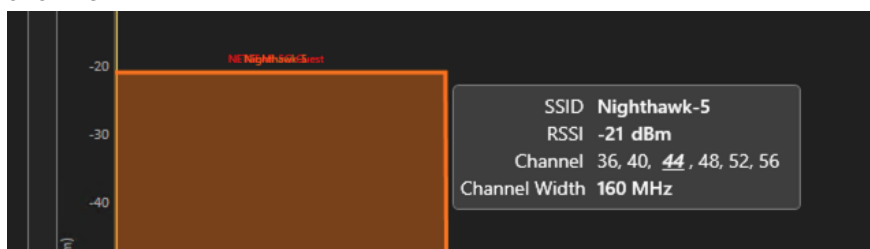
**BSSID** BSSID, or Basic Service Set Identifier, is the MAC address of the access point radio. This value will be unique. The format is always 6 Octets with the first three being Vendor UI, unless locally administered MAC addresses are used (Meraki, others).

Universal/Local and Individual/Group bits in MAC addresses

I/G \ U/L	Universally administered	Locally administered
Unicast (individual)	x0-xx-xx-xx-xx-xx x4-xx-xx-xx-xx-xx x8-xx-xx-xx-xx-xx xC-xx-xx-xx-xx-xx	x2-xx-xx-xx-xx-xx x6-xx-xx-xx-xx-xx xA-xx-xx-xx-xx-xx xE-xx-xx-xx-xx-xx
Multicast (group)	x1-xx-xx-xx-xx-xx x5-xx-xx-xx-xx-xx x9-xx-xx-xx-xx-xx xD-xx-xx-xx-xx-xx	x3-xx-xx-xx-xx-xx x7-xx-xx-xx-xx-xx xB-xx-xx-xx-xx-xx xF-xx-xx-xx-xx-xx

**BSSID Note** Enter a label for a BSSID. In many cases knowing where an AP / BSSID is installed is not easy to determine from scanning information. Some APs Vendors allow AP names but even then, the name may not indicate any special information about the AP. BSSID Note can be used to record AP location or any information to better document AP.

**Channel** This is the primary channel configured for access points. If channel width is wider than 20 MHz the access point will use other channels and have a center channel as well. Place cursor over right or left corner of spectrum graph to see all channels and the underlined channel is the primary channel



**Channel Utilization** From 802.11e / QBSS load. Used to determine if the channel is overloaded and to make access point channel planning or config change decisions.

**Country** Regulatory domain for access point. Some 6GHz client adapters will not enable 6 GHz mode if the country code detected does not allow 6 GHz frequency. Use for confirming that access point model is correct for country

**Last Seen** We scan every few seconds and will show the last time the access point was detected

**Max Rate** Maximum data rate possible with current network / signal / noise conditions. Related to MCS number / value.

**MCS (Modulation Coding Scheme)** The higher the number the higher the data of the access point and more stable the connection. For a detailed table, visit <https://mcsindex.com/>

**MFP (Management Frame Protection)** If MFP is enabled or not, and if it is required or not. 6 GHz requires MFP enabled.

**Min Rate** Minimum data rate for connection permitted when joining access point. Used to prevent low speed connections.

**Mode (PHY Mode)** Displays 802.11 standard used: 802.11a/b/g/n/ac/ax

**Protection Mode** Protection mode is enabled when two devices don't understand that same standard. When enabled, it typically slows down the network, so it is something to watch out for performance improvement. This article explains more on Protection Mechanisms: <https://www.cwnp.com/802-11n-protection-mechanisms-part-1/>

**Security** Security type configured

**Signal (RSSI)** RSSI, or Received Signal Strength Indicator, is a method of measurement of received signal strength defined in the 802.11 standards. Negative values closer to zero indicate a stronger signal strength.

**SSID** SSID, or Service Set Identifier, is the network name. This name can be repeated and by multiple access points and when grouped together is known as an ESSID

**Station Count / Clients (Number of Clients)** Number of stations connected to access points. Will only show if 802.11e is enabled and supported by the access point.

**Streams (Spatial Streams)** Number of streams in operation for access point. Newer access points support 3x3 or higher. If your access point stream is not showing with full stream count, then check if power/POE is enough to allow all streams to be enabled. Most enterprise access points disable streams when POE is not enough.

**TPC (Transmission Power Control)** Max power setting for access point. Defined by amendment 802.11h. For more information, visit: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/80211/200069-Overview-on-802-11h-Transmit-Power-Cont.html>

**Vendor** This is the equipment vendor name based on OUI from IEEE OUI database. We download the latest database regularly to keep this data updated. In some cases, you may want to override this database and can edit the file located here: "C:\ProgramData\AccessAgility\WiFi Scanner\oui.txt"

NOTE: We may overwrite this file when software or file is updated

**Width (Channel Width)** Displays channel width used: 20, 40, 80, or 160 MHz

**WPS (WiFi Protected Setup)** WPS is used for allowing easy pairing between wifi router and client. <https://www.wi-fi.org/discover-wi-fi/wi-fi-protected-setup> Enabling this is a potential security issue. For more information on this vulnerability, visit <https://www.cisa.gov/news-events/alerts/2012/01/06/wi-fi-protected-setup-wps-vulnerable-brute-force-attack>

## Appendix B - SSID Details

### Fixed Parameters

**Capabilities Information** Provides a list of the device capabilities

**Timestamp** Provides a time of how long the SSID has been consecutively active. See *AP Uptime* in Appendix A for more information on Timestamps.

ID	Length	Name	Expand All	Details
— Fixed Parameters				
Timestamp				28d 04:14:54

### Tagged Parameters

**AP Channel Report** The AP Channel Report element contains a list of channels where a STA could potentially find an AP.

**BSS Load Element** BSS Load (QoS Basic Service Set) comes from the 802.11e amendment

**Country Information** US country code or a value of indication to which country the AP belongs to.

**DS Parameter Set** Channel Number that is being used by AP in the given SSID

**Extended Capabilities** Breaks down each octet into subcategories and describes capabilities of each.

**HT Capabilities** List of all supported 802.11n capabilities that are supported for High Throughput (HT)

**HT Information** List of information regarding 802.11n capable device utilization and channel layout. i.e. channel number and secondary/ primary

**Measurement Pilot Transmission** Generating a radio measurement report based, at least in part, on at least one of a beacon and a probe response, and the measurement pilot frame.

**Multiple BSSID** Indicator of how many BSSID there are within the SSID

**Power Constraint** The Power Constraint information element is used to allow a network to describe the maximum transmit power to stations.

**RM Enabled Capabilities** 802.11k defines Radio Resource Management (RRM) mechanism that enables 802.11k capable client's radio to better understand the RF environment that they exist in which will help clients to have better roaming.

**SSID Parameter Set** SSID logical name of WLAN Network.

**Supported Data Rates** Mbit/sec that are supported by AP and SSID configuration.

**Traffic Indication Map (TIM)** TIM which informs the clients about the presence of buffered multicast/broadcast data on the access point. It is generated within the periodic beacon at a frequency specified by the DTIM Interval.

**TPC Report** Transmit power and Link Margin: TPC Report information elements are included in several types of management frames, and include two one-byte fields.

**VHT Capabilities** Describes network capabilities. The drop down displays more information on what is available.

**VHT Operation** The VHT Operation IE describes the channel information and the basic rates supported by the transmitter.

**VHT Tx Power Envelope** An AP can set this bit to 1 to enable power save operations during a VHT transmission burst, or 0 to disable them.