









# InterpretAir WLAN Survey 2.2 Quick Guide

## Recording a WLAN Survey

1. Make sure that the InterpretAir Client has been installed and is running properly by clicking the icon (  ) in the Windows task bar notification area. If you cannot see the icon, start the Client Controller from **Start > Programs > Fluke Networks > InterpretAir > Client**.
2. Start InterpretAir WLAN Survey tool from **Start > Programs > Fluke Networks > InterpretAir**. If you cannot see the signal strengths by selecting the Signals Tab in the bottom view, make sure you are using a supported Wi-Fi adapter, and update its driver (see the InterpretAir Client Release Notes in **Start > Programs > Fluke Networks > InterpretAir > Client**).
3. Add a new map image to the project by selecting **File > New > Map** (  ) and set its map scale (map pixels per meter) by selecting the Scale tool (  ), drawing a short line, then typing in the length of the line in real-world meters (use a measuring tape). Setting the map scale is not 100% required, but highly recommended, and required by some map visualizations.
4. Add a new WLAN Survey by selecting **File > New > Survey** (  ).
5. Click the **Record** button (  ) or press **CTRL+R** to start recording network data to the survey.
6. Take your laptop with you and start walking or driving around the network area. Click on the map, accurately where you are. Do not stop when you are clicking. Also, click on the map again when you do any of the following:
  - o change your speed,
  - o stop or start moving, or
  - o change your direction (at corners, etc.)



NOTE: Recording is ON until it is stopped by clicking the **Record** button again, or pressing **CTRL+R**.

7. When you want to have a break, turn off data collection by clicking the **Record** button (  ), or pressing **CTRL+R**. After a break you can continue the Active Survey by clicking the Record button, or create a new survey before continuing.

8. Save the project by selecting **File > Save**.

## Analyzing the Recorded WLAN Survey

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1. If not open already, open the project using **File > Open**.
2. Select the map. [Double-click on the map if it is not visible].
3. Use the Browser View to select and lock (  ) the surveys you want to visualize to keep from losing your selection when clicking other items. Hold down **CTRL** or **SHIFT** to select multiple surveys before locking them all.
4. Select any number of networks or single access points by holding down **CTRL** or **SHIFT**, and lock them (  ) to keep from losing your selection.
5. Click on the **Visualization** Tab and select an appropriate View to display signal strength, access point locations, etc. NOTE: Only the **selected** or **locked** surveys, networks, or single access points will be used for the visualizations and other calculations.
6. The WLAN survey paths can be made visible/invisible using **View > Survey**.
7. Use the Visualization Tab to view and analyze your site surveys:
  - o **Signal Strength**
    - **Viewed RSSI > Strongest:** Shows selected access point's coverage area in dBm. If several access points are selected, then the strongest determines the color.
    - **Viewed RSSI > 2nd Strongest:** If two or more access points are selected, then the second strongest determines the color. This can be used to view a situation where the strongest (typically the associated) access point stops working.
    - **Viewed RSSI > 3rd Strongest:** If three or more access points are selected, then the third strongest determines the color. This can be used to view a situation where the two strongest access points stop working.
  - o **Signal-to-Noise Ratio (SNR)**
    - This view displays the SNR value of the access points in dB. The strongest access point is considered as associated access point and the others are considered as noise. Select the expected **Adapter**, **Data Rate**, and **Network Load** from the listboxes. The network load simulates how often the selected access point(s) are transmitting data, 100% meaning all the time (worst-case scenario), 0% never (best case scenario). This visualization is based on a computational estimate from the recorded data - not concrete SNR observations from the Wi-Fi adapter. Momentary SNR values are not used because they may be affected by momentary variation such as

varying number of clients transmitting data, or random radio interference, such as a microwave oven.

- **Interference**
  - This view displays interference in dBm that occurs with selected access points. Each access point causes interference to neighboring access points if they are close enough or when placed at channels too near each other. If the color is brighter, there is more interference. The strongest access point is assumed to be the associated access point in the area while others are treated as interference.
- **Signals at Channel**
  - This view displays the strongest signal strength (RSSI) at each location for each channel. Use the **Band / Channel** listbox to change the band and channel.  
To display the signal leakage from surrounding channels, select a band/channel (for example 802.11b / 5) that is not used by any of your access points.
- **Strongest Access Point**
  - This view displays the strongest access point at each map location. The displayed AP is not necessarily the one that the Wi-Fi adapter is associated to, but typically the client device tries to associate with the AP that has the strongest signal or data rate. The Channel number determines the color for each access point.  
Select the closest matching Adapter from the **Adapter** listbox. This allows ESS to fine-tune its visualizations to the specified adapter. You can change the adapter type at any time to simulate how different adapters would function.
- **Access Point Count**
  - This view displays the number of access points at each location with respect to the selected Minimum RSSI. This view is useful for making sure that there is the required number of backup access points at each location with the required signal strength.
- **Access Point Placement Tip**
  - This view helps finding the optimum location for a new or existing access point.
    1. Select the access point(s) from the Browser View that you wish to be treated as your "existing network". If you have for example 10 APs, you can also select only 9 of them, to see where the missing one should be installed instead of its current location.
    2. Select the band / channel that you would like to use with the access point. As you change the band and channel, the most suitable location might also change. Higher probability (near 100%) area is marked with red color.
- **Access Point Location Estimate**

- This option helps you to locate your own APs, unknown APs, and unauthorized rogue APs.
      1. Select the network(s) or access point(s) that you wish to locate, from the Browser View.
      2. Select a finer **Grid Size** to increase the location accuracy.
      3. Try to find the APs from the suggested areas.
      4. After finding an AP, you may optionally mark its exact location on map for documenting or reporting purposes. Select the AP from the Browser View, right-click on map at its exact location, and select **Place Selected Access Point** from the context menu.  
NOTE: Placing APs on map does not affect visualizations in any way.
  - **Data Rate**
    - This view displays the expected data rate at each location and is based on the specified network load setting, selected adapter, and the calculated SNR for each location. The actual data rates may vary from the estimate.
      1. Select the expected **Network Load** and **Adapter** and from the listboxes. The network load simulates how often the selected access point(s) are transmitting data, 100% meaning all the time (worst-case scenario), 0% never (best case scenario).
      2. InterpretAir WLAN Survey will visualize the estimated data rate per location per client using the strongest access point signal at each location. 802.11g access points are considered as 802.11b in data rate calculation. Make sure to visualize 802.11a and 802.11b/g APs separately and have only the corresponding band selected in the Device Properties Tab. Otherwise the results may not be displayed correctly.
  - **RF Health**
    - The RF Health visualization allows the user to easily visualize if the network requirements are met. The RF Health visualization looks at all the criteria that are set in the selected profile and applies them to the selected survey(s). Where all the criteria are met, a green color will be shown. Red color will be shown wherever one or more criteria are not met. No color will be shown in the areas where no surveying has been performed.
  - **Fail Reason**
    - The Fail Reason visualization is related to RF Health. Whereas RF Health indicates whether your network meets the selected profile's criteria or not, the Fail Reason visualization indicates which criteria, if any, are not met. No color will be shown in the areas that pass the RF Health

visualization (green color is shown in RF Health). No color will also be shown in the areas that have not been surveyed. If several criteria are not met in the RF Health visualization, the one with the highest priority (highest on the list in the Edit Criteria dialog) will be displayed.

## Exporting Map Image to File

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1. Open a project or create a new one.
2. Make selections that show the required coverage area on the map.
3. Export map image to file by selecting **File > Export Image...**, give a name to the file, and specify the format you want (**PNG** or **JPG**).
4. Click **OK** and the current map with the chosen settings will be exported.




## Printing Map Image

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1. Open a project or create a new one.
2. Make selections that show the required coverage area on the map.
3. Print map by selecting **File > Print**.
4. Click **OK** and the current map with the chosen settings will be printed on the default printer. Note that this may take a couple of minutes.

## Creating a Network Plan



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1. Add a new map image to the project by selecting **File > New > Map** and set its map scale (map pixels per meter) by selecting the Scale tool drawing a short line, then typing in the length of the line in real-world meters (use a measuring tape).
2. Draw the walls and other obstacles on the map using the **Create Walls** tool (  ). Walls can be edited using the **Edit** tool (  ).
3. Place virtual access points on the map by selecting **Create Simulated Access Point** button (  ). Edit the access point properties in the **Simulated Properties** tab.

For analyzation of the results see [Analyzing Recorded WLAN Survey](#)


## Generating Reports

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1. Select the map to be used in the report - the currently displayed map will be used.
2. Lock the surveys to be included in the report
3. Lock the access points to be included in the report
4. Click **Generate Report** button (  ) or select **File > Generate Report**
5. Select the reporting template to be used, the name of the report and the output directory for the report.
6. Click **Generate Report** button (  ).

## Troubleshooting

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1. If there are no signal strengths available:
  - o Click the icon (  ) on the task bar notification area to see if the InterpretAir Client Controller has encountered errors.
  - o Check the Release Notes or User Guide to verify that your Wi-Fi adapter and driver version are supported.
  - o Make sure there is at least one working Wi-Fi access point nearby.
2. With any other problems or questions, email us at [support@flukenetworks.com](mailto:support@flukenetworks.com).