

ANALYZING AND RESOLVING Wi-Fi PROBLEMS

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EXECUTIVE SUMMARY

To analyze and resolve Wi-Fi problems, you can install free software utility programs for your "Windows.." or Mac "OS X" computer. These programs give you numerical and graphical information that you can use.

TOPICS

- Free Wi-Fi software for your computer
- Received Signal Strength Indication (RSSI)
- Selecting the right Wi-Fi channel

FREE Wi-Fi SOFTWARE FOR YOUR COMPUTER

- Go to <http://www.netspotapp.com/netspot-windows.html> and download and install "NetSpot for Windows" program for your "Windows.." computer. Then use it to analyze your Wi-Fi environment.

FREE Wi-Fi SOFTWARE FOR YOUR COMPUTER (continued)

- Go to <https://www.acrylicwifi.com/en/wlan-software/wlan-scanner-acrylic-wifi-free/> and download and install "Acrylic Wi-Fi Free" for your "Windows.." computer. Then use it to analyze your Wi-Fi environment.

FREE Wi-Fi SOFTWARE FOR YOUR COMPUTER (continued)

- To get a more complete picture of your Wi-Fi environment in a "Windows.." computer, you can use both the free "Acrylic WiFi Home" program AND the free "NetSpot for Windows" program. However, do not use both programs at the same time.

FREE Wi-Fi SOFTWARE FOR YOUR COMPUTER (continued)

- "Acrylic WiFi Home" shows you all the 802.11 modes (a, b, g, n, and/or ac) that a Wireless Access Point is capable to running at while "NetSpot for Windows" program shows you the exact 802.11 mode that a Wireless Access Point is running at at a particular point in time.

FREE Wi-Fi SOFTWARE FOR YOUR COMPUTER (continued)

- For a free Mac OS X-based Wi-Fi analysis program, go to <http://www.netspotapp.com/netspotpro.html> to download "NetSpot for OS X" program.

FREE Wi-Fi SOFTWARE FOR YOUR COMPUTER (continued)

- All software programs for analyzing your Wi-Fi environment use up a lot of RAM and CPU cycles so expect your computer to slow down when any of these programs are running.

RECEIVED SIGNAL STRENGTH INDICATION (RSSI)

- Measured by your Wi-Fi network adapter
- Unit-less value defined by the designer of a Wi-Fi network adapter
- No direct relationship to milliwatts (mW) or decibels per milliwatt (dBm)

RECEIVED SIGNAL STRENGTH INDICATION (RSSI) (continued)

- If the RSSI of your device is lower than that of your neighbor's wireless routers then your wireless router or wireless extender is probably malfunctioning, especially radio signals decline by the square of the distance.

RECEIVED SIGNAL STRENGTH INDICATION (RSSI) (continued)

- Both "Acrylic Wi-Fi Free" and "NetSpot for Windows" show you the RSSI of all Wi-Fi signals that are detected by your Wi-Fi adapter

RECEIVED SIGNAL STRENGTH INDICATION (RSSI) (continued)

- See https://en.wikipedia.org/wiki/Received_signal_strength_indication

CHOOSING THE RIGHT Wi-Fi CHANNEL

- See <http://www.extremetech.com/computing/179344-how-to-boost-your-wifi-speed-by-choosing-the-right-channel>

CHOOSING THE RIGHT Wi-Fi CHANNEL

(continued)

- See also

https://en.wikipedia.org/wiki/List_of_WLAN_channels