4: Wi-Fi ANALYSIS

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SUMMARY

To analyze and resolve Wi-Fi problems, you can install "Netspot Free Edition" into a Windows.., Android, or macOS or you can install the totally-free "Homedale" portable app into Windows.. or Android.

TOPICS

- Requirements for Analyzing Your Wi-Fi Environment
- Free Wi-Fi software for your computer and/or cell phone
- Received Signal Strength Indication (RSSI)
- Selecting the right Wi-Fi channel

REQUIREMENTS FOR ANALYZING YOUR Wi-Fi ENVIRONMENT

- A computer or cell phone that is capable of receiving and connecting to Wi-Fi signals in the 2.45 GHz radio frequency band and/or the 5 radio GHz frequency band and/or the 6 GHz radio frequency band
- A software app that runs in the operating system of the above computer or cell phone

"NETSPOT FREE EDITION"

- "Netspot Free Edition" is a product of the Etwok company which is located in Atlanta, Georgia
- **"NetSpot Free Edition"** is available for a Windows computer or an Android cell phone or a macOS computer.

"NETSPOT FREE EDITION" (continued)

- You can find **"Netspot.."** in the "Play Store" app of any Android cell phone. "Netspot.." is also available in the "Microsoft Store" of a Windows.. computer.

"NETSPOT FREE EDITION" (continued)

- To download and install the free "NetSpot Free Edition" for a Windows.. or macOS computer, use a Web browser to go to https://www.netspotapp.com/netspotpro.html
  Then scroll or page-down to get to the **free edition** of "Netspot Free Edition".

"NETSPOT FREE EDITION" (continued)

- The **free edition** of "Netspot Free Edition" will be near the bottom of the Web page.
  Then click on the "Download now" button, etc.

"NETSPOT FREE EDITION" (continued)

- "Netspot Free Edition" shows you any 2.45 GHz or 5 GHz or 6 GHz band transmitter-receiver "access points" that your wireless adapter is capable of receiving.

"HOMEDALE"

- **"Homedale"** is a free product of the "Cronon GmbH company which is located in Germany.
- **"Homedale"** runs in Windows.. and macOS
- You can download **"Homedale"** at https://the-sz.com/products/homedale/

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
- 0 is highest signal strength while -100 is the lowest

RECEIVED SIGNAL STRENGTH INDICATION (RSSI) (continued)

- 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 since the strength of radio signals decline by the square of the distance.

RECEIVED SIGNAL STRENGTH INDICATION (RSSI) (continued)

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

RADIO FREQUENCY CHANNELS USED BY Wi-FI (continued)

- However, even if your computer or cell phone can detect 6 Gigahertz Wi-Fi signals, most of the previously-mentioned apps will mislabel 6 Gigahertz Wi-Fi signals as 2.45 or 5 Gigahertz Wi-Fi signals operating at the non-existent "Channel 0" or the non-existent "Channel -1"

ADDITIONAL INFORMATION ON Wi-Fi CHANNELS

- See also https://en.wikipedia.org/wiki/List_of_WLAN_channels