Measure Wi-Fi Signal Guide

Measuring WiFi signal provides users with the knowledge of the strength of their wireless signal, helping them determine how much coverage is available in an area. Gathering this measurement might seem like an overwhelming task, but fortunately, there's an easy way to measure with a device we all have: our mobile phones! This guide aims to provide information and instruction on how to properly measure your WiFi signal using either Apple iOS or Android.

Signal Strength

Signal strength measurements are shown in negative dB (-dB). This scale puts 0 at the top as the best possible signal, followed by descending numbers with -100 being the worst possible signal. So in numerals, the lower the numeral (the closer to 0) the better the signal is. For example, -40 is a better signal than -50, as -40 is closer to 0. The scale at right illustrates strong signal strength as blue and weak signal strength as red.

NOTE: WiFi strength will rarely be seen better than -30dB; between -35dB and -65dB is the desired sweet spot.

-30dB   -40dB   -50dB   -60dB   -70dB   -80dB

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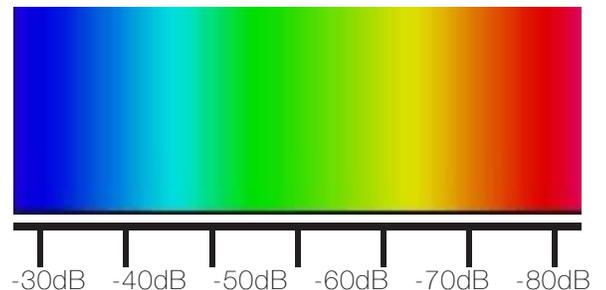
Using iOS

Airport Utility is the only signal strength measuring app available on iOS and is free on the App Store. To use it, the measuring feature must be enabled as it isn't on by default. To enable it, go to your phone's Settings > Airport Utility > Enable Wi-Fi Scanner. Once you've enabled the feature, check to make sure your device's WiFi is turned on as it must be in order to use the app; however, you do not need to be connected to any WiFi network. Exit the settings menu and open the Airport Utility app. In the top right corner, click WiFi Scan.

-dB number will be shown as RSSI, and the list will constantly change as the app always places the highest signal strength at the top of the list. When finished, in the top right corner, click Stop. At this point, you can exit the app.
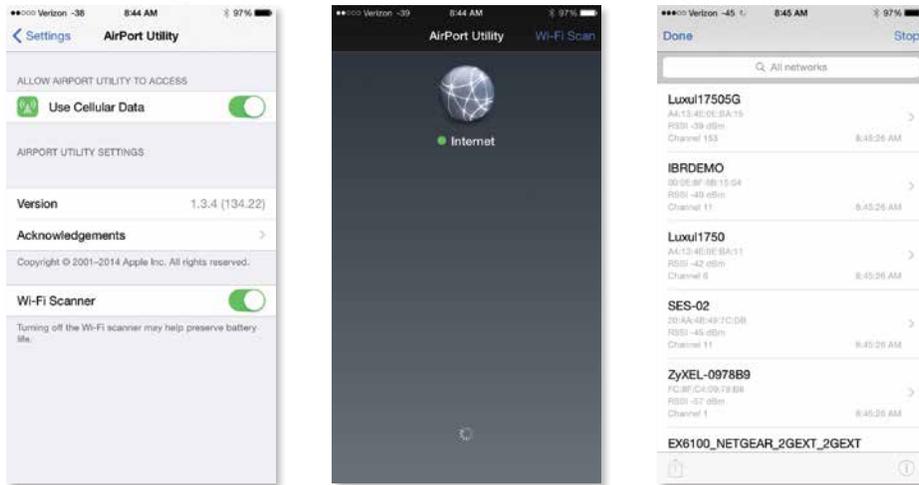
Using Android

The most widely used signal strength measuring app on Android is Wi-Fi Analyzer by the developer Farproc. It's free, has multiple graphical screens, and offers a wealth of information. Like iOS, Android requires the device to have WiFi turned on, but again, you will not need to be connected to any WiFi network. Additionally, Location services will need to be turned on.

There are no additional settings required to use this app, simply open the app and choose which screen you prefer to display the signal strength. When finished, you can exit the app.
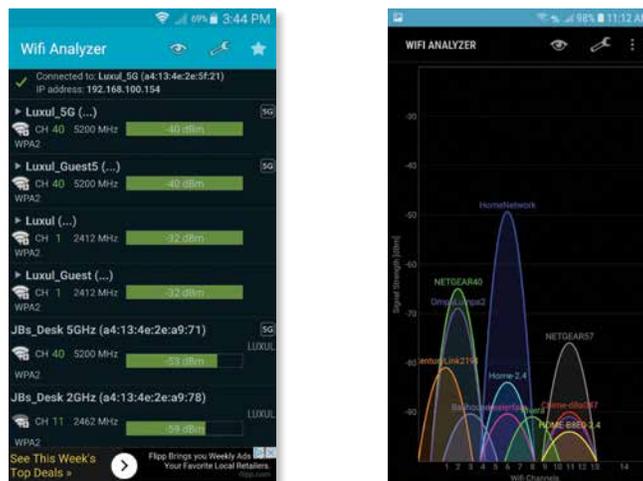
How To Measure

We commonly hear of installers using the signal bar indicators of phones, tablets, and laptops to measure signal strength; we discourage this as these readings vary wildly, providing a very inaccurate description of the wireless signal in each location. Measuring with an app that displays actual –dB levels can be a very simple process and takes the guesswork out of determining wireless signal strength. Using the apps mentioned above, choose a starting point, then move around the home, standing for a few moments in each spot you wish to take a measurement. The goal is to verify that each access point is providing every room and corner of the home a signal strength of ~-65dB or better. If there's an area that is significantly lower in signal, you'll know there's a problem and can begin to solve it.

Measurement Results

Signal strength has a direct correlation to data speeds. In simple terms, the better the signal, the faster the speed; inversely, the worse the signal, the slower the speed. Of course, the one consistent item in wireless is that it's never the same in every home. Even the same floor plan can yield varying WiFi results, simply because the environment is different. Because of environmental differences, using a measuring tool is the best way to know if you have complete wireless coverage and how good that coverage is.

One last thing: Speed test websites and apps do not show signal strength. In fact, most "speed test" websites are quite inaccurate in the way they work. While many consumers use these types of tests as a "standard," in reality of network performance, they often do not show consistent or accurate results.