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Review: Metageek Wi-Spy DBx

By Joseph Moran

Metageek Wi-Spy DBx – January 29, 2009

Pros: analyzes both 2.4 and 5 GHz bands; Chanalyzer supports remote access to Wi-Spy; signature sidebar simplifies identification of interfering devices and networks

Cons: Chanalyzer software only runs on Windows

Getting a Wi-Fi network up and running can be as simple as plugging in and powering up the hardware, but ensuring your wireless network is operating at its full performance potential means considering--and mitigating--the impact of myriad potential sources of interference (like other nearby networks).

Metageek's \$799 Wi-Spy DBx spectrum analyzer is a powerful and easy-to-use tool that lets you see the encumbering effects of other wireless networks and devices in your airspace. The Wi-Spy DBx, which is the latest addition to Metageek's family of Wi-Spy products, builds on the capabilities of its predecessor, the Wi-Spy 2.4x, by adding the ability to scan the 5 GHz wireless band as well as the more heavily utilized 2.4 GHz band. This dual-band capability allows the Wi-Spy DBx to survey the wireless landscape around of any type of Wi-Fi network—802.11b, g, a, or n.

The Wi-Spy DBx is a compact USB dongle-style device that can scan frequency ranges between 2.400 and 2.495 GHz or 5.150 and 5.850 at a resolution of 24 kHz to 3 MHz, and has an amplitude range of -100dBm to -6.5 dBm at a resolution of .5 dBm. The DBx sports an RP-SMA antenna jack, so you have the option to replace the standard external omnidirectional antenna with a higher gain or directional antenna if needed. Included with the DBx is a copy of Metageek's Chanalyzer 3.2 software (for Windows VistaXP/2000) that's recently been updated with some new features of its own.

Calling interference

Plug in the Wi-Spy and fire up the Chanalyzer software, and in within a few seconds you're presented with three different graphs--spectral, topographic, and planar--through which to visualize your wireless landscape. The spectral view lets you see the historical view of wireless spectrum use at a point in time, the planar view reports the current, average, and maximum signal amplitude for each wireless frequency and the topographic view emphasizes which frequencies are the busiest across the entire spectrum.

Chanalyzer's topographic view is particularly useful for determining the presence of interfering devices, and the software's signature sidebar can make identifying an offending device easier by letting you overlay the wireless emission pattern of common interference-causing devices onto the topographic view. When the DBx is in 2.4 GHz mode, Chanalyzer's signature sidebar includes signals of numerous devices that can cause interference in that band, including 802.11 b/g/n access points, cordless phones, audio/video transmitters, and wireless PC peripherals, such as keyboards and mice.

Battle of the bands

You can easily switch the DBx to 5 GHz mode by right-clicking the Chanalyzer graph X-axis. In contrast to the 2.4 GHz band--which in most areas will be more crowded than a punch clock at quitting time--the 5 GHz mode is bound to be relatively quiet, though that's sure to change as 5 GHz n networks become more common. Our DBx detected the telltale sign of our 5 GHz n network at 5200 MHz, along with another one we temporarily set up on an adjacent channel. It also exposed signals produced by a 5.8 GHz cordless phone in use over at the high end of the band.

Anyone that wants to quickly identify the most hospitable frequency for a wireless network will appreciate Chanalyzer's Wi-Fi Channel Report, which reports the duty cycle of each channel and assigns each a numerical grade.

One thing that the Wi-Spy DBx can't do irrespective of the band it's surveying is tell you the SSIDs of the wireless networks it detects. But thanks to its new Wi-Fi sidebar, Chanalyzer can obtain that information via your system's Wi-Fi adapter. This lets you match "faces to names" by displaying SSID labels over the network's corresponding signal pattern in the topographic view.

Going remote

One of Chanalyzer's most promising new features is its ability to connect to a DBx across the network. The option to leave the DBx running at one location and monitor it from another can come in very handy when you need to diagnose intermittent interference issues, which often calls for hours or even days of data collection.

Remote access requires a separate Metageek utility called "Recon for Wi-Spy" that allows a system running Chanalyzer to connect to the DBx by specifying the host system's IP address (and must be installed onto the computer with the DBx connected). When connected remotely, Chanalyzer can interact with the DBx much as it does when the device is directly attached--you can view real time data, save data recordings, view channel reports, etc.

One caveat is that the remote access feature didn't always work consistently; on some occasions we couldn't establish a remote connection, and on others

the connection failed to deliver any data. (The Recon software's help file reports that the utility is still under development and may contain bugs that need to be worked out.)

As more and more networks take up residence in the 5 GHz band to escape the overcrowding at 2.4 GHz, the ability to scan those higher frequencies will become increasingly important. With Wi-Spy DBx and Chanalyzer 3.2, you'll be equipped to detect wireless interference wherever it occurs.

Joseph Moran is a veteran product reviewer and frequent contributor to Wi-Fi Planet. He is based in Florida.