Real-Time FFT

AirMagnet Spectrum XT's FFT graph provides a real-time view into the RF energy in the environment with current, max, max-hold and average RF signal levels. Users can also overlay the channel duty-cycle on the Real-time FFT graph to streamline their efforts in detecting and focusing on RF interference sources that have the maximum impact on the performance of the network.

Spectrum Density

The Spectrum Density graph provides a longer-term view into the network by displaying live information on the signals that are common during the current capture session. This is helpful to identify infrequent transmitters.

Spectrogram

The Spectrogram graph provides a scrolling history of the RF environment and allows a visual understanding of the spectrum over time to see intermittent spikes or bursts of RF energy that may be causing WLAN network problems.

Duty Cycle

The Duty Cycle graph displays how often an interfering signal is present. A high duty cycle means an interferer is constantly transmitting and will most certainly cause problems on the affected channel.

Event Spectrogram

The Event Spectrogram graph provides a visual presentation of real-time information on interfering devices that are detected in the last 5 minutes. It includes information on power level and channels/frequencies affected by the device.

Channel Power

The Channel Power graph shows the maximum and average power levels across all the channels in the selected radio band.

Interference Power

The Interference Power graph displays the average power readings of interfering devices on the selected channel or channels.
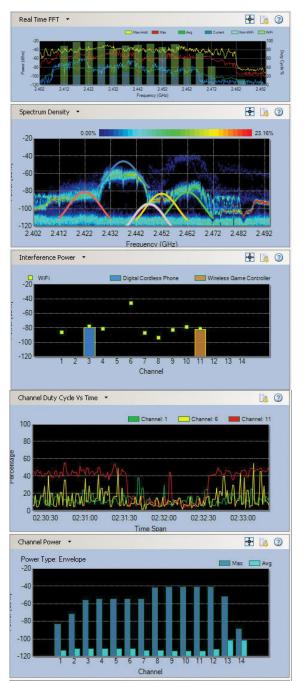

Figure 1: RF spectrum graphs

Channel Duty Cycle & Interference Power vs. Time Trending

These trending graphs show the average power in the channels that is above the noise floor and the maximum average power readings of interfering devices operating on the selected channel over a specific period of time.

Unique RF Interference and Wi-Fi Impact Analysis

To optimize and ensure top WLAN performance, AirMagnet Spectrum XT introduces a revolutionary approach to wireless troubleshooting that combines the power of RF spectrum analysis with WLAN traffic and device analysis. Users can plug in any supported wireless adapter and instantly see a combined or co-related single screen view showing the impact of RF interference or interference sources on the overall true performance of the WLAN.

AirMagnet Spectrum XT also provides a complete inventory of all Wi-Fi devices operating in the environment and their configured settings. Users are entitled to a number of Wi-Fi charts to solve problems faster and more efficiently including:

- AP Signal Strength
- Channels by Speed/Address/Media
- Top 10 APs by CRCs/Retry
- Channel SNR; Errors/Retry
- Channel Utilization
- Channel Occupancy

Automatic Identification and Location of Interference sources

AirMagnet Spectrum XT offers real-time detection and identification of a number of non-WLAN sources that interfere and lower the performance of WLAN networks. The extensive device or source list includes Bluetooth devices, digital and analog cordless phones, conventional and inverter microwave ovens, wireless game controllers, digital video converter, FHSS devices, baby monitors, RF Jammers, radars, motion detectors, ZigBee devices and many more.

Users are also powered with detailed information for the interference source, including peak and average power, first and last seen time, center frequency, impacted channels, number of times the source was detected, and many more. With an additional Bluetooth adapter plugged into the same PC, AirMagnet Spectrum XT provides Bluetooth information such as ID, name, services, etc. for enhanced Bluetooth interferer analysis.

With AirMagnet Spectrum XT's built-in "device locator tool", users can physically locate any Wi-Fi or non-Wi-Fi interference sources operating in the RF environment. The device locator tool operates as a Geiger counter and beeps louder as users get closer to the location of the device.

Figure 2: RF interference and Wi-Fi impact analysis

Figure 3: Detect and classify interfering sources