AirMedic® USB

AirMedic® USB is a powerful, easy-to-use and affordable spectrum analysis tool that brings Wi-Fi troubleshooting to entry-level users. Built upon AirMagnet expertise in Wi-Fi troubleshooting, AirMedic USB is a fast and simple, "just the facts" approach to dealing with the periodic performance and reliability problems that all wireless LANs experience. With AirMedic USB users can detect any RF activity in the environment, including detecting areas where RF interference impacts performance – ultimately resulting in user dissatisfaction due to slow connections or frequent disconnections. With this information, users can select the best channels for deploying Wi-Fi APs in the environment.

Universal Form-factor

AirMedic USB's universal form-factor, gives users the flexibility of installing and using the product on Microsoft® Windows PCs or Apple MacBook Pro. The spectrum USB adapter has an internal antenna as well as an MMCX connector to connect the external omni-directional antenna included in the AirMedic USB package or the optionally purchased external directional antenna.

Figure 1: USB-based RF spectrum adapter

Wi–Fi Troubleshooting Made Easy

AirMedic USB provides clear visibility into the 2.4 GHz, 4.9 GHz and 5 GHz Wi-Fi bands and delivers the pinpoint resolution necessary to find and resolve interference and RF problems. Users can choose to view bands individually or leverage the "mixed mode" feature for complete coverage of all Wi-Fi bands. AirMedic USB is designed
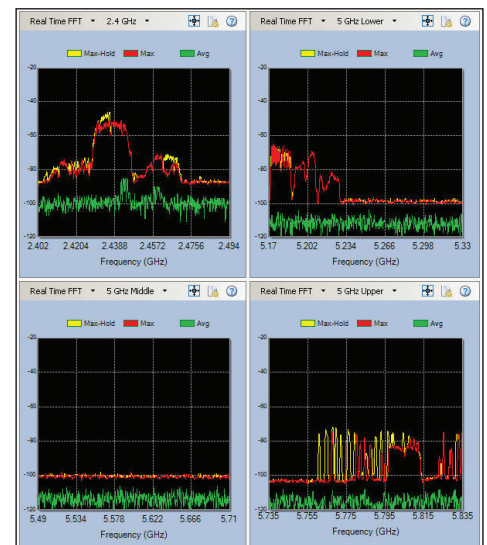
around a simple interface with one goal in mind – get problems fixed fast. Instead of navigating through multiple pages or pouring over endless decodes, AirMedic USB boils the network information down to its most core components and delivers the data in a single integrated view. Built-in "Easy Views" provide chart sets for troubleshooting the most common problems, or users can save their own customized views that are tailored to their troubleshooting methods.

Figure 2: Mixed-mode view

RF Spectrum Analysis and Troubleshooting

Technical Data

Unmatched RF Spectrum Analysis

AirMedic USB provides visibility into the physical layer of the WLAN, to identify RF interference and problems in the environment that directly impact the performance of the network. Key RF spectrum graphs include:

Real-Time FFT

AirMagnet Spectrum XTs' 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 have been common during the current capture session. This can be very 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 tells you just 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.

Channel Power

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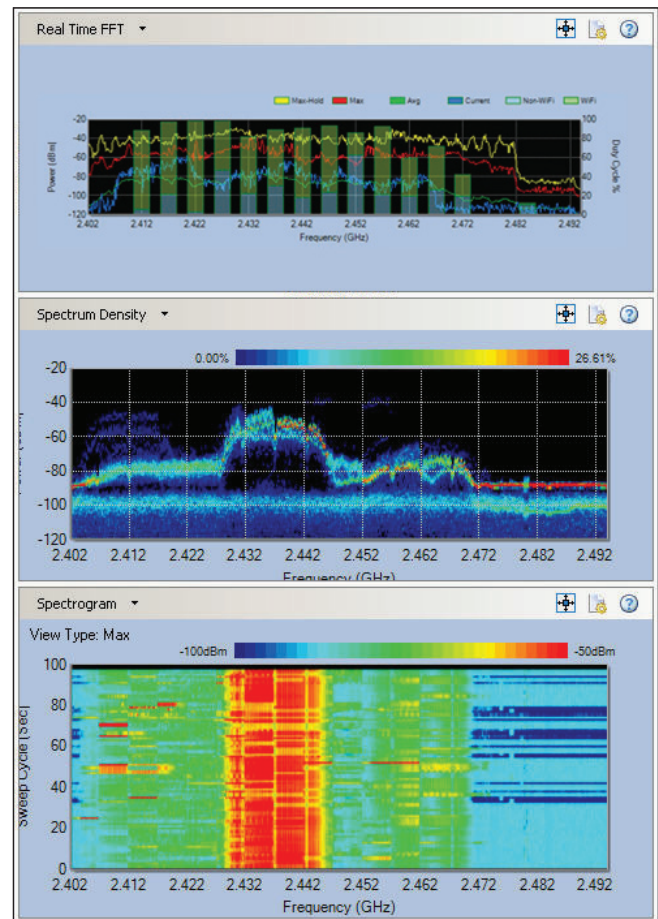

Figure 3: RF spectrum graphs

Channel Duty Cycle vs. Time Trending

This trending graph shows the average power in the channels that is above the noise floor over a specific period of time.

Wi–Fi Analysis

Just plug in any Wi-Fi adapter in the same PC as the AirMagnet spectrum adapter or use any adapter built inside your machine, and AirMedic USB will instantly display a variety of Wi-Fi charts to provide the Wi-Fi perspective simultaneously.

AP Signal Strength

The AP Signal Strength chart displays up to three APs with the strongest signal strength readings on each channel in the selected radio band.

AP List

The AP List chart shows all Wi-Fi devices along with their properties that have been detected on all available channels in the selected radio band.

Channel Occupancy

The Channel Occupancy chart shows all the available channels for the selected radio band and the APs that are occupying those channels.

Record and Playback

AirMedic USB users can save their RF spectrum scan, retain it as hard evidence and play it back at a later time for post-capture investigation and analysis. This is very helpful as critical forensic information while investigating any Layer 1 Denial of Service attacks against the WLAN network. The saved trace files can also be shared between users for collaborative analysis and troubleshooting.
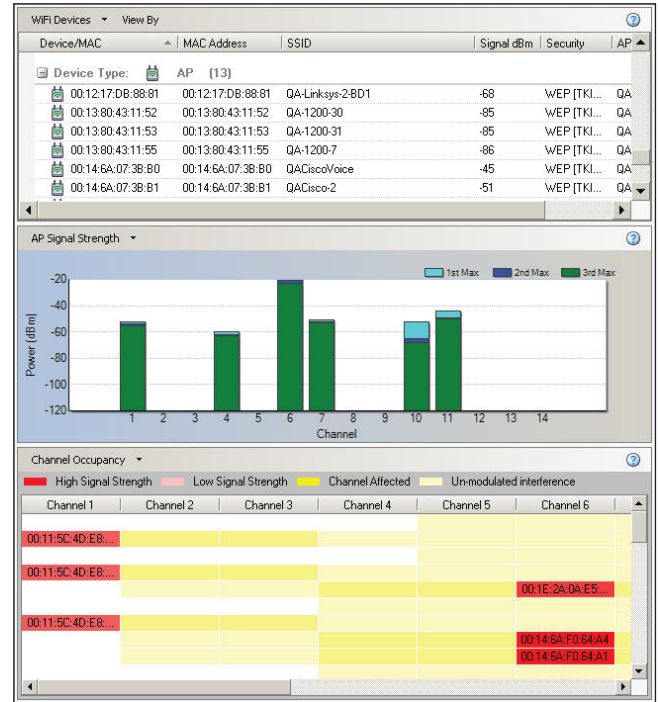

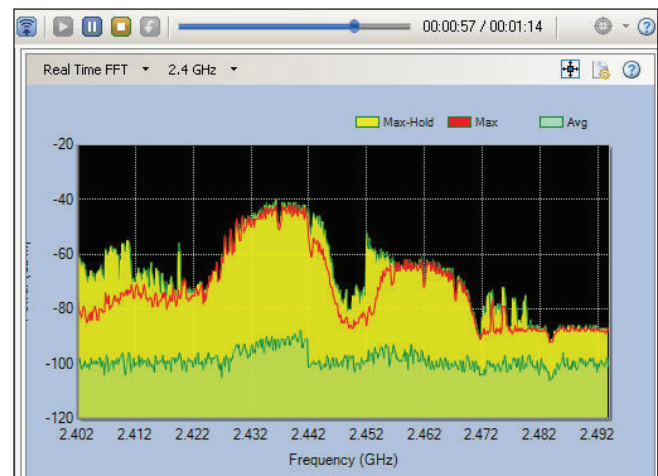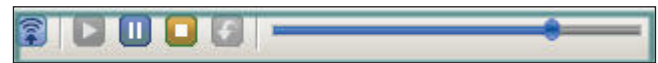**Figure 4:** Built-in Wi-Fi charts

Figure 5: Record and playback feature

AirMedic USB's Instant Replay feature allows users to review the most recent spectrum information and play it back, as if it were being viewed live for the first time.

Upgrade for Advanced Spectrum Analysis

AirMedic USB users can upgrade to the industry's only USB-based professional spectrum analysis solution, AirMagnet Spectrum XT, that combines in-depth RF analysis with real-time WLAN information for quicker and more accurate troubleshooting of any performance problem. With AirMagnet Spectrum XT, users can detect, identify and locate individual sources of RF interference, including Bluetooth, cordless phones, microwave ovens, wireless game controllers, wireless cameras, RF jammers, zigbee, motion detectors and many more, that significantly impact the performance of the WLAN. With the unique Wi-Fi impact analysis capability, in a single and co-related view, users can visualize the direct impact of RF interference on the true performance of the WLAN.

This transition to AirMagnet Spectrum XT is simple for users as both products use the same USB spectrum adapter and include a similar user interface.
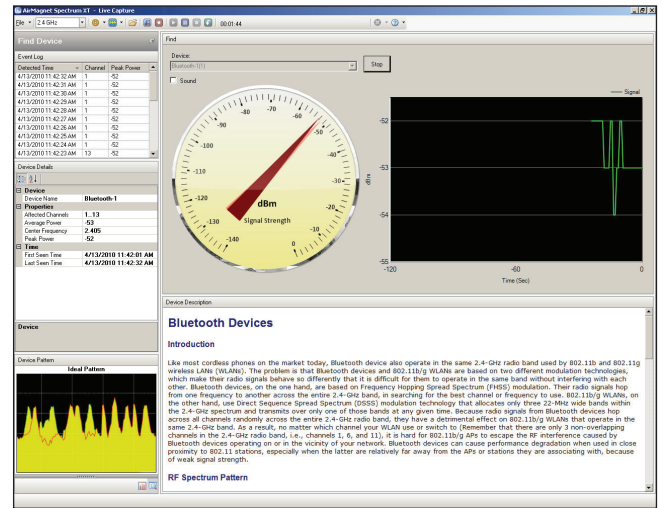

Figure 6: AirMagnet Spectrum XT's RF interferer locator tool

Product Facts

Product	Part Number
AirMagnet AirMedic USB	AM/B4720
AirMagnet AirMedic USB to AirMagnet Spectrum XT upgrade	AM/B4074-UGD
AirMagnet Directional Antenna (optional)	AM/A4040

Technical Specifications

Frequency range: 2402 to 2494 MHz; 5160 to 5330 MHz; 5490 to 5710 MHz; 5735 to 5835 MHz; 4910 to 4990 MHz
USB Specs: Unit width 38.1mm; length 108.2mm; height 8 mm; weight 31.2 grams; operating temp: 0 to 70 C (32F to 158F)
DC power: Voltage supply 5 volts; Active Power: 2 W
Capture Limit: Dependent on Hard disk space
Amplitude accuracy: +/- 2 dB
Resolution Bandwidth: 156.3 KHz
Max Input: 0 dbm
Sweep time: 64msec per 20 MHz or 64msec per channel

Minimum System Requirements

Adapters	• AirMagnet Spectrum USB adapter (mandatory for viewing RF spectrum data) • Optional Wi-Fi adapter* (Any Wi-Fi adapter for additional Wi-Fi analysis)
Laptop/Tablet PC	• Operating Systems: Microsoft® Windows XP™ Professional (SP3), Microsoft® Windows 2003 Server, Microsoft® Windows 2008 R2 Standard Edition. Microsoft® Windows 7 Enterprise/Professional/Ultimate, Microsoft® Windows Vista™ Business or Ultimate (SP2) or Tablet PC Edition 2005 (SP3) Note: 64-bit Operating System supported on Microsoft® Windows 7 only • Intel® Core™ 2 Duo 2.00 GHz or higher • 1 GB RAM required (2 GB recommended) • 150 MB free disk space • Microsoft .NET Framework 2.0
Netbook	• Operating Systems: Microsoft® Windows XP™ Home, Microsoft® Windows 7 Home Premium, Microsoft® Windows 7 Starter • Intel® Atom N270/1.6 GHz CPU or N470 Processor (1.83 GHz, 667MHz FSB) • 1 GB of memory (2 GB recommended) • Microsoft .NET Framework 2.0
Apple® MacBook® Pro	• Operating Systems: MAC OS X Leopard™, MAC OS Snow Leopard™ (running Windows XP™ PRO (SP3) or Microsoft® Windows 7 Professional/Enterprise/Ultimate using Boot Camp®; Parallels Desktop® or VMware Fusion® running Windows XP PRO (SP3) or Microsoft® Windows 7 Professional/Enterprise/Ultimate) • Intel 2.2 GHz Core 2 Duo or higher • 1 GB memory (2 GB recommended) • Microsoft .NET Framework 2.0

*Optional Wi-Fi adapter (for viewing additional Wi-Fi data). Any Wi-Fi adapter is supported with Boot Camp®, Only USB adapters supported with Parallels Desktop® or VMware Fusion®

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