AirMagnet WiFi Analyzer

AirMagnet WiFi Analyzer helps IT staff quickly solve end-user issues while automatically detecting security threats and wireless network vulnerabilities. The solution enables network managers to easily test and diagnose dozens of common wireless performance issues including throughput issues, connectivity issues, device conflicts and signal multipath problems by providing:

- *Complete 802.11a/b/g/n monitoring*
- *Wi-Fi packet & interference analysis*
- *Expert advice with AirWISE® GUI*
- *Hands-on education and guidance*
- *WLAN client roaming root cause analysis*
- *Active troubleshooting toolkit*

AirMagnet WiFi Analyzer includes a full compliance reporting engine, which automatically maps collected network information to requirements for compliance with policy and industry regulations.

AirMagnet WiFi Analyzer is the industry's "de-facto" tool for managing enterprise 802.11a/b/g/n/4.9 GHz Wi-Fi networks. At the heart of AirMagnet WiFi Analyzer is the AirWISE® engine, which automatically detects the root cause of dozens of security and performance problems, explains alarms in simple terms, and offers recommendations on how to solve or manage complex issues. The solution provides instant visibility into all wireless channels, devices, conversations, speeds, interference issues and the RF spectrum. AirMagnet WiFi Analyzer is available in "Express" and "PRO" versions. AirMagnet WiFi Analyzer Express provides the core building blocks of Wi-Fi troubleshooting and auditing with the ability to see devices, automatically identify common problems and physically locate specific devices. AirMagnet WiFi Analyzer PRO significantly extends all the capabilities found in the Express version and adds many more to provide a Wi-Fi tool to solve virtually any type of performance, security or reporting challenge in the field.

Wi-Fi Dashboard

AirMagnet WiFi Analyzer's dashboard provides a live snapshot into the overall health of the WLAN network and helps users focus on top issues that need immediate attention to ensure maximized WLAN security and performance. Users are powered with a variety of charts, including ones for channel utilization, top talkers in the network, WLAN interference levels, mis-matched configurations, overloaded APs, security and performance problems, etc. Users can drill down for deeper investigation into WLAN statistics for every device, channel and wireless frame.

Note: *Some charts may not be available in the Express version.*

Anytime, Anywhere, WLAN Monitoring and Troubleshooting

Built-In Wireless Expertise

The AirWISE® engine automatically detects the root cause of dozens of WLAN issues across the spectrum. AirWISE® eliminates the need for users to manually interpret complex packet decodes and wireless data by taking the proactive role of identifying and explaining more than hundreds of threats and performance issues before they impact the network. The user-friendly AirWISE® interface explains alarms in straightforward details, provides access to additional diagnostic data, and offers advice on corrective actions.

AirMagnet WiFi Analyzer includes "How-To" guides to walk IT administrators through the identification of an issue, including security, performance, interference, device configuration issues, and guides them to solving the issue. The library also includes information on the solutions major functions and how to use them in identification and resolution of WLAN issues.

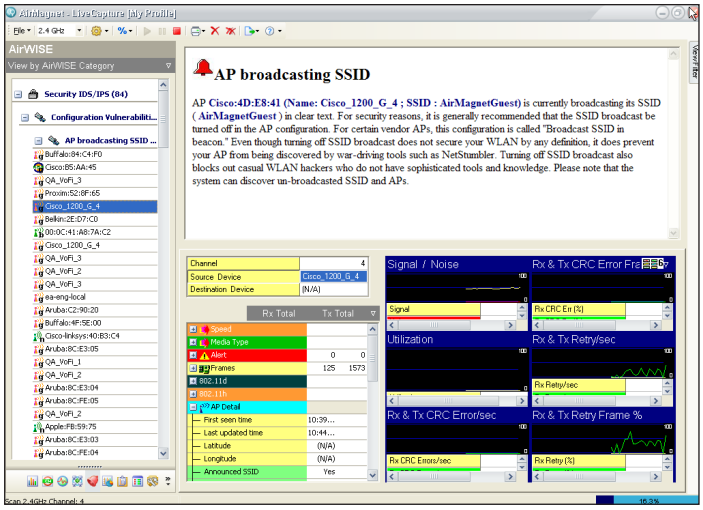

Figure 1: AirWISE Expert screen

Rogue Devices, Intrusions and Network Weaknesses Alerts

AirMagnet WiFi Analyzer automatically detects and alerts the user to dozens of wireless intrusions, penetration attempts and hacking strategies including rogue devices, "stumbler tools", devices sending unencrypted data and a host of potentially damaging security configurations. These proactive measures enable IT to take corrective action before a problem occurs. The PRO version additionally detects sophisticated wireless attacks against the network. The AirMagnet WiFi Analyzer Find tool locks onto rogue or policy violating APs or stations and guides the user to their physical location.

Network Performance Alerts

Even the most secure network will fail to meet its objectives if it does not reliably meet the demands of network users. Furthermore, certain performance issues can escalate and open up the network to unknown risks. For this reason, AirMagnet WiFi Analyzer includes over 50 alerts to identify an entire range of performance issues including traffic patterns, bandwidth utilization, device configuration issues and infrastructure or hardware failures or resets.

Real-time Wi-Fi Troubleshooting

AirMagnet WiFi Analyzer provides in-depth frame statistics for every channel and device operating in the spectrum. With the channel utilization and throughput trending graphs, users can solve many of the issues that lower the overall performance of the WLAN network. Users can view trending graphs for signal strength, noise, frames, errors, retries, bandwidth and many more for every WLAN channel and device. These valuable graphs provide critical pointers to issues that are influencing the WLAN network performance. For example, graphs for packet retry and error rates reveal areas where WLAN communications are failing. With the multi-adapter support in AirMagnet WiFi Analyzer PRO, users can monitor multiple channels simultaneously using individual adapters inserted into the same PC.

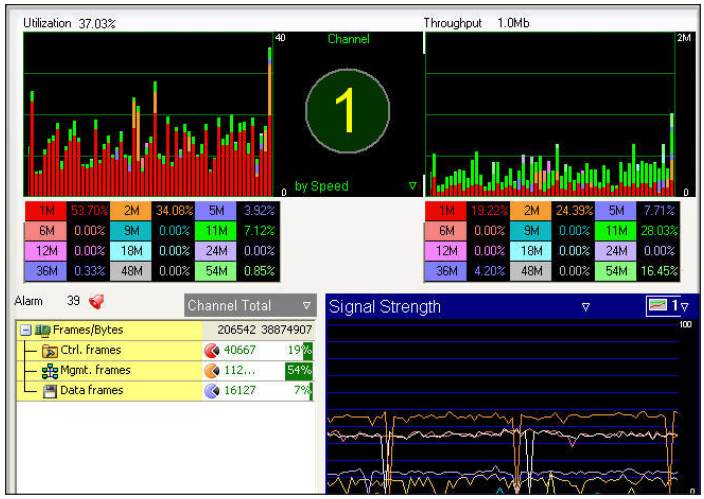

Figure 2: Trending graphs for detailed analysis

AirMagnet WiFi Analyzer PRO

AirMagnet WiFi Analyzer PRO contains all the functionality of the basic Express version plus an additional set of features tailored to the needs of the wireless expert. Additional features include:

WLAN Client Roaming Analysis

AirMagnet WiFi Analyzer PRO leverages support for multiple WLAN adapters plugged into the computer to troubleshoot client roaming problems – one of IT staff's most commonly reported problems for WLAN networks. Smooth coordinated client roaming is key to providing users with the mobility and seamless connectivity expected from a wireless deployment, for any application, including data, voice and video.

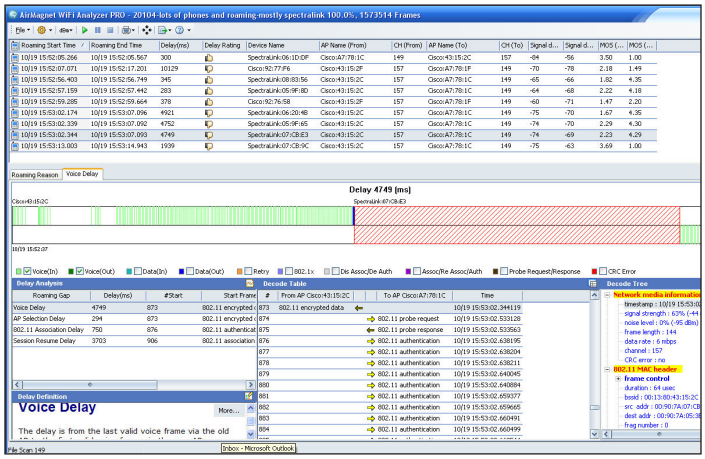

Figure 3: Roaming analysis screen

AirMagnet WiFi Analyzer provides advanced details on all roaming transactions for any WLAN client including stations, phones, and handheld scanners. Users are powered with AirWISE® expertise to get detailed reasons for the roaming event taking place, device and channel parameters that influence the roam, and visibility into whether the roam was good or not.

For VoWLAN phones, users can monitor voice delays and other statistics as the phone roams from one AP to another in the middle of a conversation. The application provides VoFi-specific data (such as WiMOS, Signal Strength, etc.) leading up to the attempt, and packet transmission rates for the conversation. With this root cause analysis on roaming problems, users can minimize the likelihood of any roaming problems recurring in the WLAN network.

Active Troubleshooting Tools

AirMagnet WiFi Analyzer PRO includes a suite of active troubleshooting tools are available at the user's fingertips to quickly pinpoint and solve wireless network problems. This includes users not being able to connect to the network, users experiencing slower connections to the network or WLAN applications, 802.11n mis-configurations, traffic/infrastructure overloads, hardware failures, roaming problems, multipath interference problems and more.

Sophisticated Wireless Attack Detection

In addition to the unauthorized device and stumbling tools detection, AirMagnet WiFi Analyzer PRO detects sophisticated attacks launched against the corporate wireless network, aimed at disrupting the wireless services. These include Denial of Service attacks against the corporate AP/STA/Infrastructure, such as RF Jamming attacks, association and encryption-based DoS attacks, wireless disconnection attacks, and many more. AirMagnet WiFi Analyzer PRO also detects penetration attempts against the wireless infrastructure, including a variety of dictionary attacks, fake access points, WEP cracking tools, man-in-the-middle attacks, illegal wireless frames attack, hotspot attacks, honeypot attacks, etc.

AirMagnet WiFi Analyzer scans 200+ extended channels in the 5 GHz spectrum. Since wireless hackers won't necessarily restrict their efforts to the commonly used channels, the ability to scan a wider range of the spectrum is becoming increasingly necessary.

Integrated Reporting

AirMagnet-WiFi Analyzer PRO's integrated reporter makes it easy to turn Wi-Fi analysis sessions into professional customized reports. Choose from a library of pre-built reports or generate targeted reports by selecting specific items of interest from the user interface. Reports cover all areas of management including RF statistics, channel reports, device reports, security/performance issue reports and compliance reports for a variety of regulatory standards including HIPAA, PCI, SOX and more. Reports provide a step-by-step pass/fail assessment of each section of the standard.

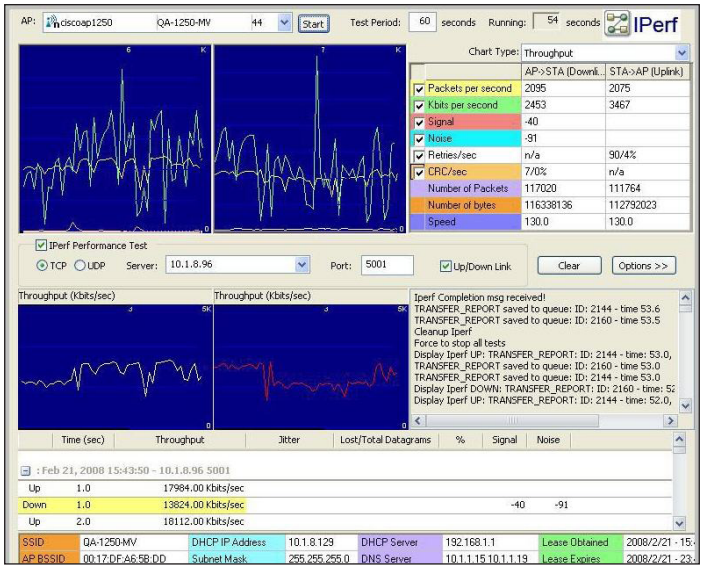

Figure 4: Throughput measurement tool

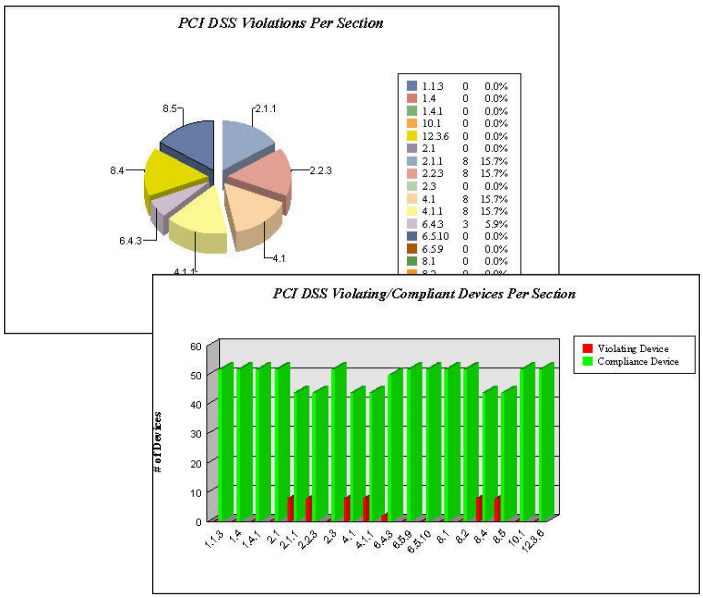

Figure 5: AirMagnet compliance reports

Complete Wi-Fi Interference Detection & Analysis

Wi-Fi interference occurs due to co-channel/adjacent channel interference from the corporate or neighbor's WLAN, hidden nodes in the environment or non Wi-Fi devices operating in the 802.11 band. AirMagnet WiFi Analyzer's interference status indicator lists the overall interference status for each Wi-Fi channel, calculated based on the Wi-Fi interference score for the devices contributing to the interference; a list of hidden nodes and non Wi-Fi devices (non Wi-Fi detection requires AirMagnet WiFi Analyzer PRO and RF spectrum analyzers installed on the same machine) operating in the channel. This enables users to plan future Wi-Fi deploy-ments or modify their existing deployment to increase network performance.

802.11n Troubleshooting Toolkit and Alarms

AirMagnet WiFi Analyzer includes a new toolkit to walk users through 802.11n optimization and troubleshooting. AirWISE® automatically detects and explains the 802.11n network mis-configurations.

WLAN Throughput Simulator tool – calculates network throughput, utilization and overhead under user-specified conditions by simulating the existing network or simulating the addition of new APs or stations in the network.

Throughput/Iperf tool – allows users to run a performance test on any AP in the environment and measure the maximum WLAN bandwidth at a particular location; find the optimum configuration for maximizing WLAN throughput and test devices under various traffic stress scenarios.

802.11n Efficiency tool – analyzes conversations between 802.11n APs and stations, and indicates if the network is using 802.11n to its full potential using simple color legends. The tool provides guidance on what option is not being well-used and how to better use it along with an independent visibility into the uplink and downlink performance.

802.11n Analysis tool – provides detailed statistics (20/40 MHz, SGI, MCS, PHY Data Rate, A-MPDU) for any AP-Station conversation helping the user to pin-point low throughput problems.

Device Calculator tool – allows users to simply enter 802.11n AP specifications and calculate the expected network performance.

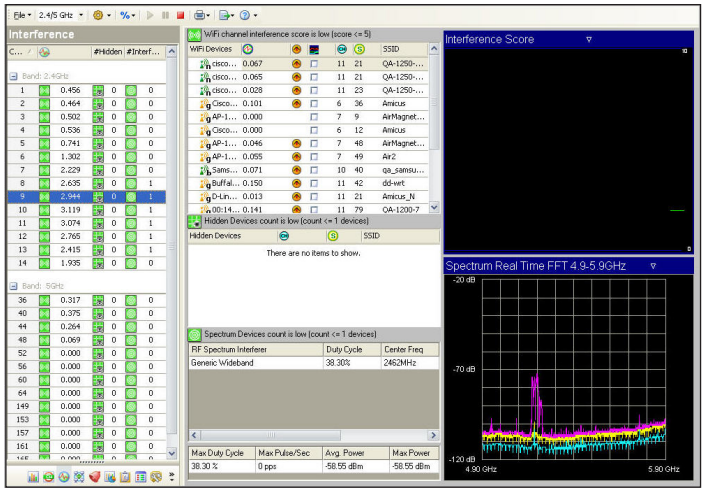

Figure 6: Wi-Fi & non Wi-Fi interference analysis

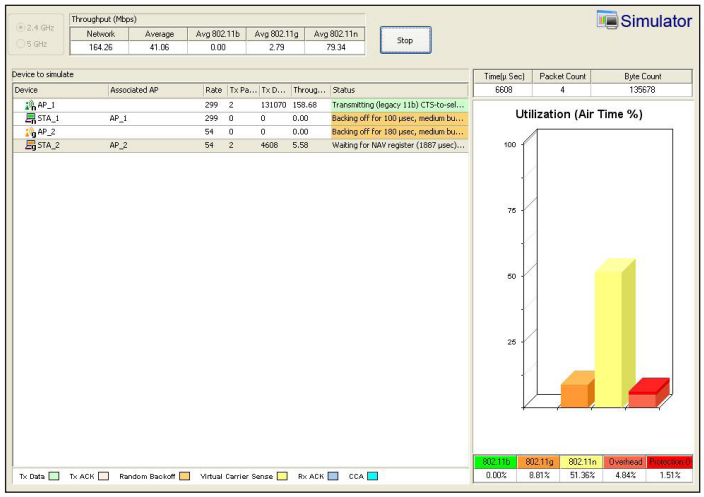

Figure 7: Simulate performance of the network

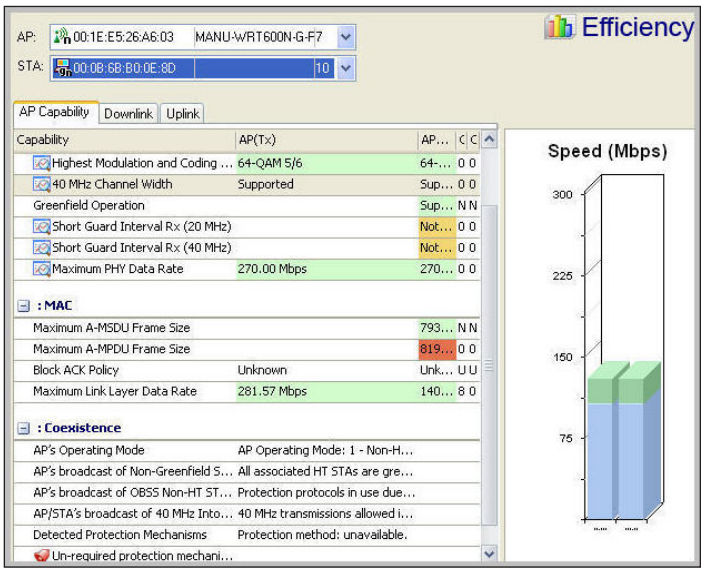

Figure 8: Analyze 802.11n conversations

Product Facts

Product	Part Number
AirMagnet WiFi Analyzer PRO	AM/A1150
AirMagnet WiFi Analyzer Express	AM/B1170
Upgrade Module from Express to PRO	AM/A1173-UGD
AirMagnet Spectrum XT (optional)	AM/B4070
AirMagnet Multi-adapter kit for WiFi Analyzer (US, World Mode and Japan versions available)	AM/C1090

Minimum System Requirements

Microsoft® Windows 7 Enterprise/Business/Ultimate/Professional or Microsoft® Windows Vista™ Business/Ultimate (SP1) or XP™ Professional (SP3)/Tablet PC Edition 2005 (SP3) or MAC OS X Leopard™ (Apple® MacBook® Pro running Windows XP™ PRO with SP3 using Boot Camp®). ***Note:*** *64-bit Operating System supported on Windows 7 for 802.11a/b/g/n USB adapters only*
Intel® Pentium® M 1.6 GHz (Intel® Core™ 2 Duo 2.0 GHz or higher recommended)
1 GB memory (2 GB recommended) for Windows XP™. 2GB or higher required for Windows Vista™ and 7
An AirMagnet supported spectrum adapter and license (Required for viewing spectrum data and classifying non-802.11 devices)
200 MB of free disk space for installation
Supported wireless adapter
For NetBook platform support: Intel® Atom N270/N470 CPU, Microsoft® Windows XP™ Home or Windows 7 Home Premium or Starter, 1 GB memory (2 GB recommended), 1024X600 resolution; AirMagnet supported wireless adapter