Datasheet: AirMagnet Survey

AirMagnet Survey is ideal for planning and designing 802.11 a/b/g/n/ac wireless LANs for optimal performance, security and compliance. It calculates the ideal quantity, placement and configuration of APs for a successful WLAN deployment.

AirMagnet Survey goes beyond just verifying RF coverage, by plotting actual end-user network performance in terms of connection speed, throughput and packet statistics. The end result is a complete Wi-Fi "weather map" of all critical RF and end-user performance metrics helping users deploy the network correctly the first time and prevent costly rework and IT complaints.

Advanced features allow users to integrate with professional spectrum analyzers to collect Wi-Fi and non Wi-Fi data in a single walkthrough, model pre-deployment scenarios to estimate budgets and define the migration strategies to new technologies, generate customized survey reports, perform outdoor surveys using GPS devices, conduct voice over Wi-Fi surveys to design the network to be voice-ready certify the network for end-user network and application requirements, and do detailed end-user capacity planning.

AirMagnet Survey delivers fast, accurate site surveys for any 802.11a/b/g/n/ac indoor and outdoor wireless networks. This revolutionary tool automatically gathers critical Wi-Fi and RF spectrum information from your enterprise network using multiple data collection methods, including real-world measurements, and generates detailed Wi-Fi performance maps of the results for easy network deployment, capacity planning and optimization. With AirMagnet Survey users can deploy the network correctly the first time, without any costly rework. This is critical not only to guarantee the highest level of user satisfaction, but also to help AirMagnet Survey users, such as system integrators, maintain their margins on a project and maximize the chances of getting repeat business.

AirMagnet Survey is available in "Express" and "PRO" versions. AirMagnet Survey Express offers a lighter version of the solution that allows users to perform the basics of Wi-Fi site surveying with ability to map out signal, noise and even user performance. AirMagnet Survey PRO extends those capabilities found in the Express version and adds powerful, industry-defining features including 802.11ac deployments, multi-floor deployments, outdoor surveys, network design verification, voice readiness verification and surveys, RF spectrum analysis, and many more.

Deploy 802.11ac Networks

NETSCOUT' AirMagnet Survey is the industry's only WLAN deployment solution that enables users to measure as well as assess true end-user experience of a WLAN network using an 802.11ac adapter. AirMagnet Survey goes beyond just verifying RF coverage by plotting actual end user network performance in terms of throughput and PHY data rates, taking MIMO and other environmental situations/network configurations into account. AirMagnet Survey clearly shows the coverage of specific 802.11ac parameters that boost performance such as higher MCS schemes and wider channels (20/40/80/160 MHz coverage maps), and where interference and legacy components may impact 802.11ac performance. Channel width coverage maps enable users to achieve higher data rates by developing an optimal channel allocation plan in order to take advantage of 802.11ac's expanded channel widths. With its unique channel overlap heat map, visualizing the primary and secondary channel overlap enables users to mitigate channel interference to maximize the performance potential of 802.11ac networks. The end result is a complete Wi-Fi "weather map" of all critical RF and end user performance metrics. These "real world" measurements allow IT staff to design and deploy WLAN accurately from the get go and help save time and money by avoiding end user network complaints and costly redesigns of the network.

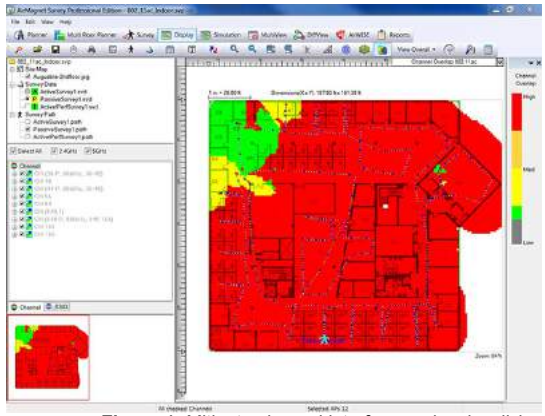

Figure 1: *Mitigate channel interference by visualizing primary and secondary channel overlap*

Unique "Real World" Performance Measurements

Unlike other solutions that rely only on passively collected data such as signal strength, AirMagnet Survey allows users to perform active/Iperf surveys to ensure a superior site survey. During an active/Iperf survey, AirMagnet Survey associates to an AP to test the real quality of the connection. This allows surveyors to see how real world clients will perform at specific locations in terms of WLAN throughput, connection speed, retry rates, and packet losses. This is critical for technology standards such as 802.11n and 802.11ac, where the only way to provide a true representation of the network performance is to perform this "real-world" survey, taking into account multipath, configuration of the devices and the environmental conditions. Also with the properties of the AP and client device being different on the uplink vs downlink, measuring both sides of the equation is critical, and can only be done with AirMagnet Survey's Iperf surveying capability. With this measurement, the surveyor,designer or installer of the network can guarantee the best performance from the network once it is deployed, which in turn guarantees no costly rework or escalations. Note: Iperf available in PRO version only.

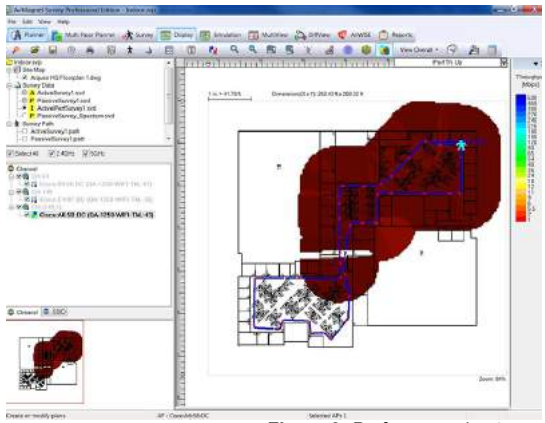

Figure 2: *Performance heat map*

Comprehensive Analysis and Mapping

AirMagnet Survey automatically displays survey results on a map of your location, providing unlimited options for visual analysis.

Coverage and performance heat maps – measure and visualize heatmaps for signal, noise, signal/noise, WLAN throughput, PHY data rates, retry rates, and packet losses at every location on the floor.

Backup AP heat maps – visualize coverage and performance of your backup APs in case of missing or down primary APs.

Comprehensive technology specific – measure and visualize heat maps for the latest 802.11n and 802.11ac standards:

- 802.11n: operating mode coverage map, MCS rate transmit/receive coverage map and channel width (20 MHz/40 Mhz) coverage map.
- 802.11ac: operating mode coverage map, MCS rate transmit/receive coverage map and the channel width (20 MHz/40 Mhz/80 MHz/160 MHz) coverage map and channel overlap heatmap.

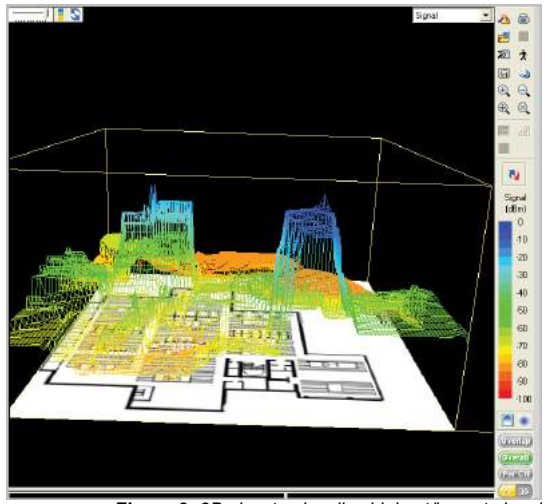

Figure 3: *3D view to visualize highest/lowest signal*

Interference analysis – measure the total cumulative interference from all sources that can impact the performance of your APs.

View by channel, SSID, or device – sort results based on SSID or channel to easily balance RF issues against VLAN and service level requirements.

Overlap and roaming analysis – instantly see areas of over-provisioning or where clients are prone to consistent roaming or “thrashing” between APs.

Simulate wireless adapters – take an existing survey and view exactly how another Wi-Fi adapter would view the survey environment.

Simultaneous Site Surveying

AirMagnet Survey’s simultaneous multiple surveying capability, that leverages multiple adapters plugged into the same PC, provides users with the industry’s best solution to emulate real-world client behavior (using active and Iperf surveys) and at the same time reduce site surveying time, effort and cost by half, as the users can walk the floor once to collect all of the data. For example, users can perform active surveys and passive surveys simultaneously or across multiple spectrum bands, such as a 2.4 GHz and 5 GHz survey.

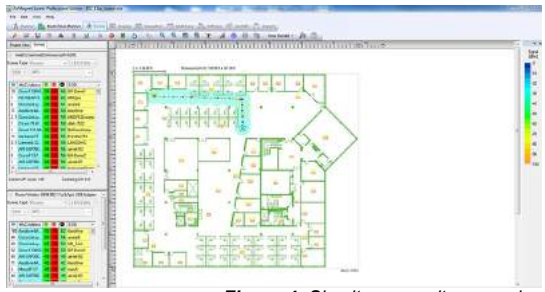

Figure 4: *Simultaneous site surveying*

Visualize Coverage and Performance Differences Over Time

Wi-Fi environments are very dynamic so to guarantee the best performance for the user, it is important to be able to verify changes in coverage and performance in the network. AirMagnet Survey’s Diff View feature allows side by side visualizing of differences between two separate surveys. This helps to show how a site’s wireless environment has changed over time. This view is also a great option for our system integrator customers to drive repeat business of validating the coverage and performance of the network on an ongoing basis. Likewise, users can use this feature to quickly compare AirMagnet Planner results with actual site survey results. This information then can be used to fine-tune the db losses for the building and environmental conditions within Planner for more accurate planning.

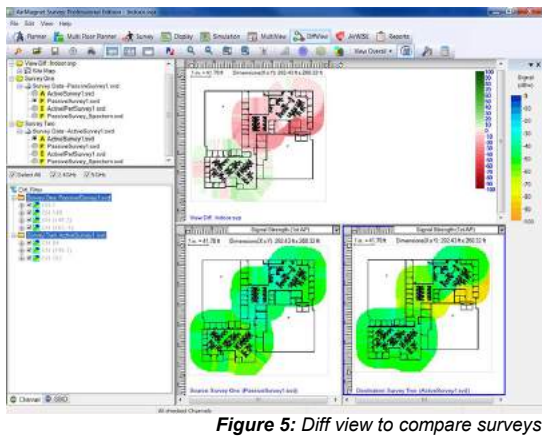

Figure 5: *Diff view to compare surveys*

Simulation and Optimization

With AirMagnet Survey, users can simulate “What-if” scenarios to prevent or minimize costly repeat survey walks. After a survey, users can simulate a variety of changes to the network and preview the impacts. This includes changing AP transmit power, channel, SSID settings or the addition of environmental noise. Users can also simulate moving APs to new locations and preview the effect of adding additional APs. AirMagnet Survey power users with an automated channel plan for APs that avoids interference and over allocation.

Figure 6: *Simulate “What-if” scenarios*

Establish a Secure Network

To ensure the highest level of security in a WLAN, AirMagnet Survey designs the network to minimize RF spillage outside the corporate building. This spillage should be kept to a minimum, unless service is to be provided in the parking lot or an outside area. With AirMagnet Survey, users can also locate unauthorized or performance intensive stations detected during a survey on the floor map.

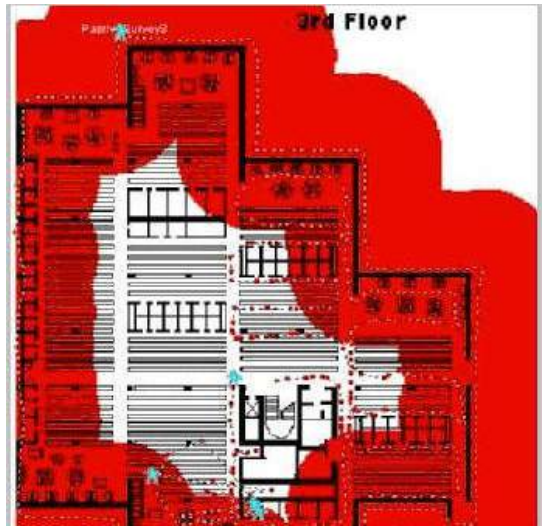

Figure 7: *RF spillage outside the corporate building*

802.11ac Site Surveys

AirMagnet Survey includes the industry’s most advanced 802.11ac surveys (incl. 3x3 support up to 1300Mbps) that take into account the realworld impact of multi-path encountered at each individual location to actively test both uplink and downlink performance of the 11ac network. AirMagnet Survey PRO includes built-in coverage maps that are specific to 802.11ac networks, such as Operating Mode coverage map, MCS Rate Transmit/Receive coverage map and the Channel Width coverage map.

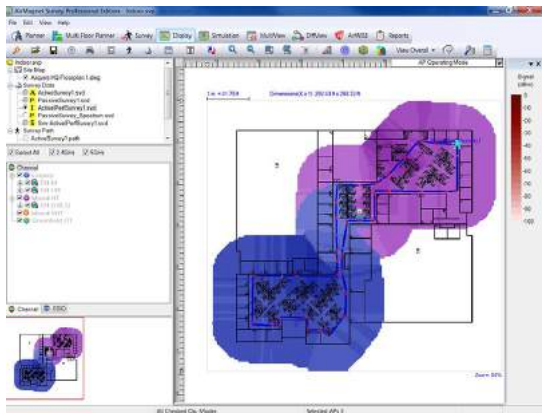

Figure 8: *802.11n heat map*

Voice-Over-Wi-Fi Surveys

AirMagnet Survey addresses challenges faced by network installers and IT staff while deploying VoWLAN networks, and powers them with a built-in voice readiness verification system (includes pre-configured support for Cisco 792X phones and Vocera badges, plus the option to add profiles for other vendors) that allows users to ensure that their network design is in-line with the recommendations of the phone vendor, and also allows them to perform real-world voice surveys. With the industry's first voice survey capability, users can validate and plot the phone call quality, capacity and other voice specific parameters at every location on a floor map, to help identify and minimize issues that may be causing low call quality.

Coverage maps that are built specifically for voice networks, including, WiMOS score or call quality, number of active calls, phone roaming zones (includes roaming statistics), channel utilization, retries and many more, are included in the application and allow users to design the voice network to ensure the highest performance.

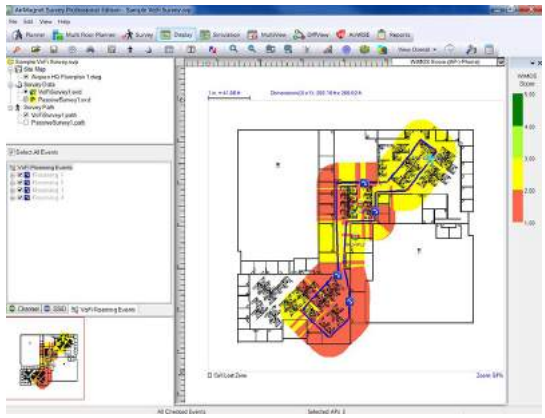

Figure 9: *Voice call quality coverage map*

Integration with Spectrum Analyzers

Before making any design and deployment decisions, it is important to account for RF interference from non-Wi-Fi devices. In most cases users have to tune their channel planning around these intentional or unintentional radiators. Users who own AirMagnet Spectrum XT can collect both Wi-Fi and spectrum analysis data in a single survey or walkthrough. With this integration, users can visualize the RF energy at any location and identify and display the presence of non-802.11 devices interfering with the WLAN. Users also have the ability to visualize the average power level in the RF spectrum for each channel at any given point on the map. Note: AirMagnet Survey PRO must be installed on the same machine as the users' spectrum application.

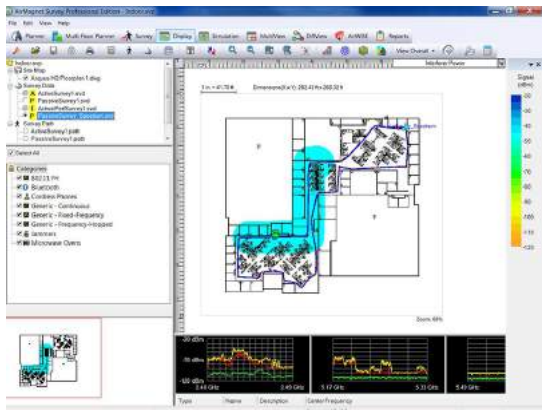

Figure 10: *Visualize RF interference and sources*

Multi-Floor Deployments

AirMagnet Survey users can look at multiple floors of a single building to see if AP signals are bleeding to adjacent floors. This gives users the ability to design their network to reuse services of a single AP across multiple floors in order to lower equipment and deployment costs.

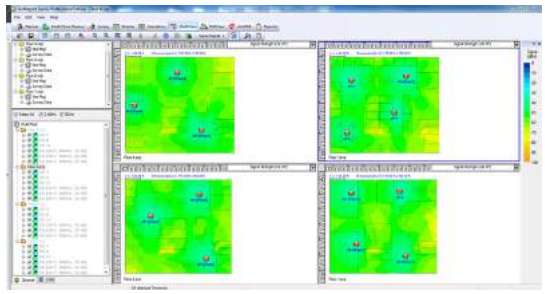

Figure 11: *Multi-floor deployments*

AirWISE® for Site Surveys

The AirWISE® engine lets users set WLAN design/application requirements including signal coverage, WLAN throughput, PHY data rates, 802.11n specific parameters, etc. for their network and immediately identify any problem areas. Users are then alerted to the areas on the floor map that meet or do not meet the requirement, enabling them to take the necessary action to solve the coverage, performance or capacity problems. The capacity planning section allows surveyors to account for the number of end users the WLAN will need to support during the design and deployment phase. AirWISE also includes pre-configured profiles for verifying the WLAN deployment's readiness for a variety of vendor applications, including Location Services for Cisco and VoWLAN for Cisco & Vocera based on real-world survey data or WLAN modeling data. Users can also create their own profiles and share it with others.

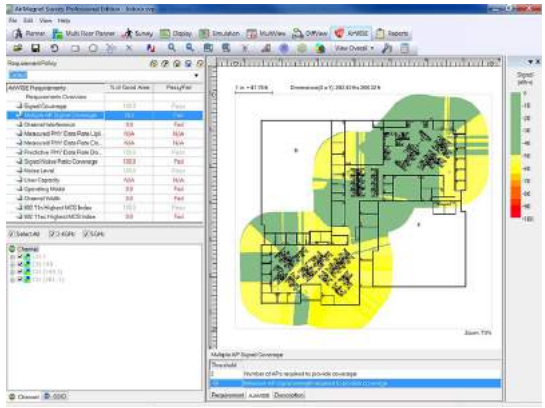

Figure 12: *AirWISE for site surveys*

Users can quickly verify WLAN requirements by assessing the Pass/Fail status for each requirement criteria for the deployment, thereby ensuring that the WLAN network will do what it is supposed to. Users are powered with insight into the areas on the floor that meet/do not meet the requirement. This single-click assessment of the WLAN network helps save time, effort and money by avoiding costly re-designs of the WLAN network and helps minimize IT troubleshooting costs. Users can generate a Pass/Fail report that enables an efficient hand-over of results of the survey to the installer or the end-customer.

Professional Reporting

AirMagnet Survey PRO includes a completely integrated reporting module that can instantly create custom outputs of site surveys and simulations. Additionally, customized templates provide users with flexibility, in terms of creating reports that vary based on project requirements. Users can choose to include/exclude sections, add in their notes, customize their logos, headers and footers, along with many other customizable options. Reports can be output in over 15 formats including PDF, XML, HTML, Excel and Word. AirMagnet Survey also includes reporting templates in the following languages: German, French, Arabic and Russian built inside the application, along with the capability of allowing users to create templates in any other language.

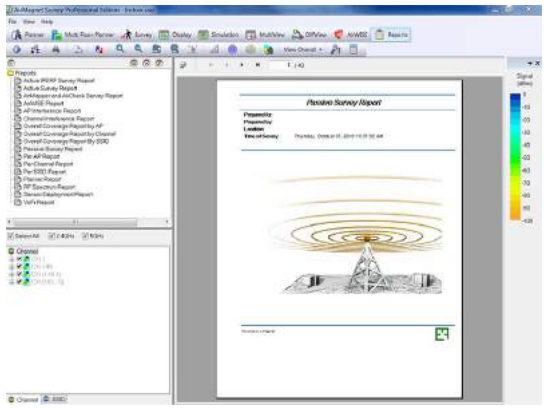

Figure 13: *Customize survey reports*

Outdoor Surveys

With the combination of GPS support, and integration with Google Earth, Microsoft® MapPoint and Microsoft® Bing Maps, AirMagnet Survey PRO provides a clear path to fast, fully automated outdoor surveys. Users can leverage their NMEA compliant GPS device to automatically collect outdoor wireless data. the results can be analyzed in the AirMagnet Survey user interface or exported into Google Earth for a zoomed in view to any street within the city.

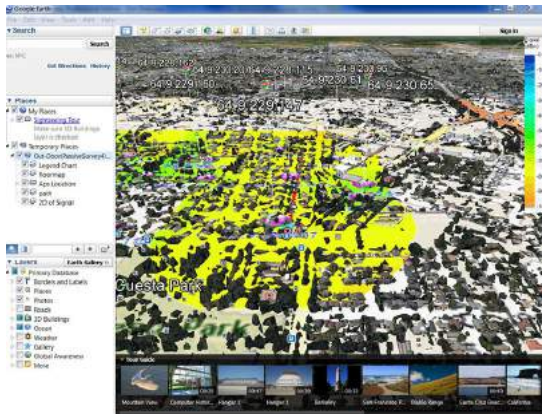

Figure 14: *Google Earth integration for outdoor surveys*

Integration with WLAN Infrastructure Vendors

AirMagnet Survey is the industry's only WLAN site survey tool that allows exporting of real-world survey data to Cisco WCS. This is critical for not only calibrating Cisco's built-in planner modeling capabilities, but also for specialized applications. For example, location services that mandates a calibration site survey for maximizing location accuracy for WLAN clients or tags, and VoWLAN services that recommends the use of site surveys to validate real-world data versus the predictive capabilities of the infrastructure.

Users can take advantage of the planning capabilities built inside AirMagnet Survey PRO by creating and exporting planner projects directly into Cisco WCS. This saves users time and resources needed in setting up of maps, AP placement locations and other WLAN deployment modeling activities, by eliminating the need to repeat these tasks within Cisco WCS.

Additionally, this integration dramatically increases operational efficiencies for both AirMagnet and Cisco WCS users by eliminating the need to repeat wireless planning and site survey tasks commonly associated with deployment and ongoing management of a WLAN network.

Integration with AirMagnet Planner

AirMagnet Planner is built into AirMagnet Survey PRO, providing a single, seamless application with the industry's most complete approach to wireless LAN design, deployment and ongoing optimization for 802.11a/b/g/n/ac networks. With this integrated solution, AirMagnet Planner can be used to accurately design WLANs by modeling building construction materials/obstructions and 802.11 APs and visualizing coverage across multiple floors, then validating the results with real-world data in AirMagnet Survey PRO. Using active end-user performance metrics, users can further perfect their planning models over time. With the new 802.11ac support, users are armed with the best migration guidance on how to phase in the new technology into the existing environment.

No other solution combines state-of-the-art predictive modeling with real-world performance data. Users also gain additional planning capabilities with the ability to test network plans against the AirWISE® engine for design requirements.

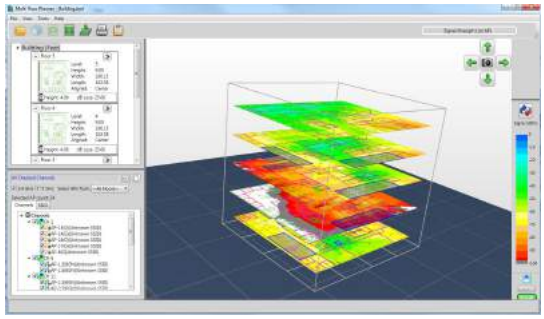

Figure 15: *Automated WLAN modeling using AirMagnet Planner*

Ordering Guide	
Model	Product Description
AM/A4018	AirMagnet Survey PRO (Incl. Planner)
AM/B4010	AirMagnet Survey Express
AM/A4016G	AirMagnet Survey Express to Survey PRO (upgrade model)
AM/B4070	AirMagnet Spectrum XT (optional)
AM/C1095	AirMagnet Multi-adapter kit for Survey (US, World Mode and Japan versions available)

Minimum System Requirements
Operating Systems: Microsoft® Windows 7 Enterprise/Professional/Ultimate or Microsoft Windows 8 Pro/Enterprise 64-bit, Microsoft Windows 8.1 Pro/Enterprise 64-bit, or Microsoft Windows 10 Pro/Enterprise 64-bit
Intel® Core™ 2 Duo 2.00 GHz (Intel® Core™ i5 or higher recommended)
4 GB or higher
800 MB of free disk space
An AirMagnet supported spectrum adapter and license (Required for viewing spectrum data and classifying non-802.11 devices)
AirMagnet supported wireless adapter
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 *Note: Netbook supported for Survey Express only*
NETSCOUT OptiView® Support: OptiView® XG Network Analysis Tablet

*Visit AirMagnet Survey web page for more detailed information on minimum system requirements.