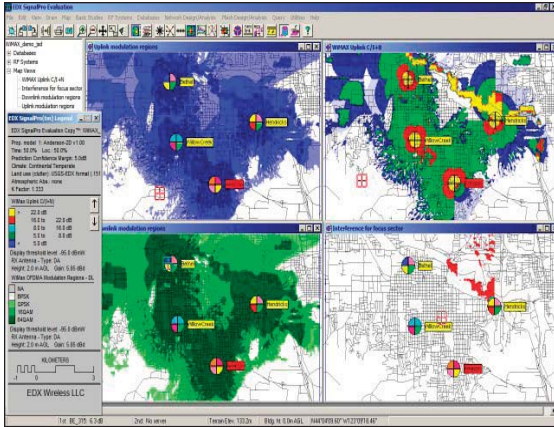


The power of smart planning

EDX® SignalPro® with the Network Design Module is a feature-rich, carrier-class, wireless network planning tool that is the ideal solution for designing, maintaining and optimizing fixed, nomadic, and mobile 4G networks. It is relied upon in the WiMAX industry for all stages of network design – from initial deployment through network maturity, with special emphasis on automatic processes, capacity planning, and interference issues.



Wi-MAX-Specific Studies, Simultaneously Displayed

EDX SignalPro is a Smart Choice

EDX SignalPro with the Network Design Module is a mature, proven and widely used carrier-class tool for broadband deployments - making it a solid choice for planning 4G networks.

For both 802.16-2004 and 802.16e systems, the Network Design Module includes appropriate propagation models, equipment parameters, study types, in-depth interference studies, adaptive modulation capabilities, OFDM-specific system considerations and sophisticated network design features.

In addition to effectively planning networks with EDX SignalPro, we give you the ability to gain increased return on investment by utilizing the valuable engineering results to reduce your customer acquisition and retention costs. EDX's SignalProof is a web-enabled toolkit that can automatically reach engineering studies to help with interactive subscriber pre-qualification or call center support.

Whether your customers are fixed, nomadic, or mobile, you have all of the features you need to design your network and plan for future growth.

Return on Investment from EDX SignalPro

Using EDX SignalPro in the network design cycle reduces network deployment costs by

- Streamlining Pre-Sales Activities
- Optimizing Infrastructure Investment
- Shortening Time to Market
- Reducing Customer Acquisition Costs
- Reducing Customer Retention Costs
- Decreasing Network Optimization Iterations
- Intelligently Scaling Large
- Increasing Customer Satisfaction

WiMAX Network Design

EDX's long-term and ongoing technical relationships with leaders of the WiMAX ecosystem have resulted in innovative network design capabilities. Because of this attention to technological advancements, EDX SignalPro brings you accurate engineering results, which thereby gives you the ability to design an optimal network configuration.

Automatic Network Layout

The Network Design Module can automatically lay out WiMAX hubs as well as CPE systems, with detailed uplink and downlink capacity demands for a mix of service types. The automatic CPE layout distributes groups of CPEs in your service area with each group having its own distinct traffic demand and RF equipment settings. They can be distributed throughout the network service area, weighted by criteria such as: Land Use (clutter) Data Classifications, Demographic Data by Census Block, Traffic Data, Building Rooftops and Uniform Grid.

Once you have your multiple groups set, you can combine all groups in your final system analysis in order to estimate the total demand on your network, taking into consideration the expected service level configurations.

Traffic Modeling

The Network Design Module automatically predicts traffic for each access point sector, estimating the total data traffic load in MBPS per sector. The traffic load is weighted by criteria such as:

- Land Use Data
- Demographic Data
- Traffic Data
- Uniform Distribution of Traffic

Automatic Frequency Planning

EDX offers an exclusive demand-based channel assignment algorithm for studying Point-to-Multipoint networks. This algorithm provides much greater capacity than block channel assignments using frequency re-use theories. Downlink-only assignment is also included if you only want to consider hub-to-hub interference.

Range of Propagation Models

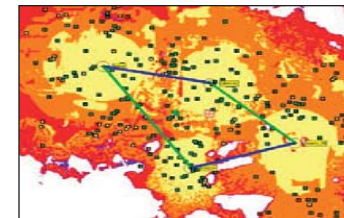
Utilize fast empirical propagation models such as the IEEE 802.16 SUI models to determine initial base site layouts. Then run more accurate studies, with multithreading for multiprocessor PCs, using deterministic propagation models such as TIREM and Anderson 2D that take into consideration high-resolution terrain, land use, and building databases to support urban and rural OFDM coverage predictions.

To accomplish further in-depth analysis, take advantage of true 2D and 3D ray-tracing models for multipath and time delay considerations (available with Microcell/Indoor Add-On Module).

Range of Study Types

EDX SignalPro has a large selection of area-wide and point-to-point/multipoint studies that contain both general RF study types and WiMAX/LTE-specific study types that cover fixed, nomadic, and mobile networks.

- C/(I+N), Considering Channel Plan
- Downlink & Uplink OFDMA Modulation Regions
- Downlink & Uplink OFDMA Modulation Data Rates
- WiMAX Uplink C/(I+N)
- WiMAX C/(I+N) for Focus Sector, Activity Based
- WiMAX Uplink Frame Interference Stochastics
- Best Server Based on Best Channel with Interference Dependence
- Number of Available Servers
- Mobile Handoff Regions
- Detailed Link Budgets
- Consecutive Point Studies for Backhaul

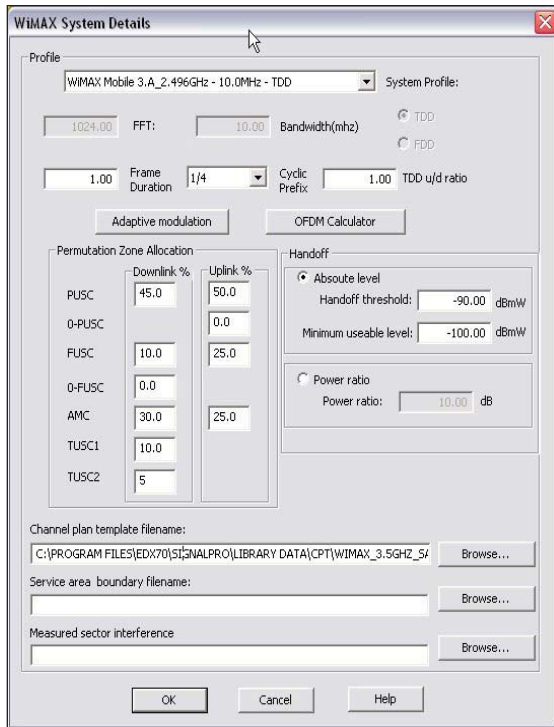


Backhaul Link Analysis with Point-to-Multipoint and Area Study

EDX for 4G

MIMO Considerations

EDX SignalPro supports MIMO systems with the consideration of adaptive antennas, ray-tracing propagation models, Spatial Multiplexing (MIMO-B), Space-Time Coding (MIMO-A), and SDMA.



OFDM-Specific System Parameters

The detailed equipment specifications found in EDX SignalPro allow for powerful OFDM modeling:

- FFT Size
- Channel Bandwidth
- Number of Data Sub-Carriers
- Number of Pilot Sub-Carriers
- Cyclic Prefix (CP) Time
- TDD Uplink/Downlink ratio
- Sampling Frequency
- Sub-Carrier Spacing
- OFDM Symbol Duration
- Symbol Rate
- Peak Data Throughput
- CP Compensation Distance

Detailed Interference Analysis

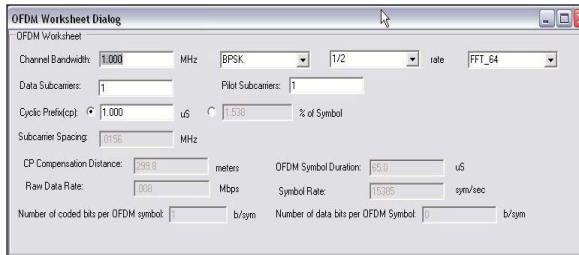
EDX SignalPro has sophisticated interference analyses that provide you with realistic predictions of network performance. Parameters taken into consideration include:

- Noise only, interference only, or noise + interference, from prediction results or measurement data
- Power Spectral Density/Receive Filter shapes
- Four-way interference for TDD systems
- Adjacent channel attenuation threshold adjustability
- Consecutive Point interference when operating in the same frequency as PMP system

Adaptive Modulation

EDX SignalPro supports up to 16 types of Adaptive Modulation technologies for uplink and downlink, considering:

- Modulation Type
- Coding Rate
- Repeat
- Required C/I
- Net Data Rate
- TDD U/D ratio



Transmit & Receive Equipment

Easily add and manage your 4G, Point-to-Multipoint, Point-to-Point and Mesh equipment whether it is fixed, nomadic, or mobile. Complex antenna patterns for omni, directional, or adaptive "smart" antenna types are supported with co-polarized and cross-polarized directional transmit and receive antenna considerations.

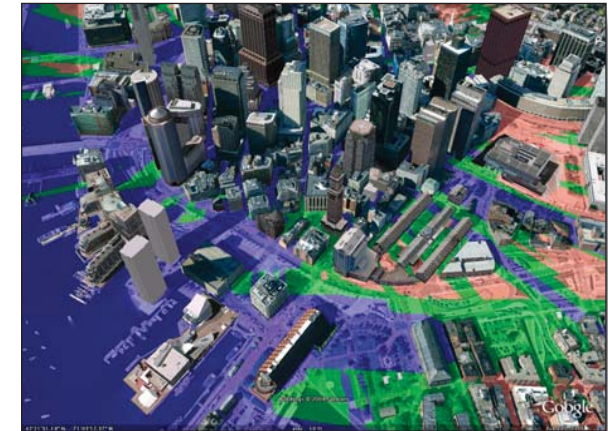
Valuable Engineering Data

Increase the value of your engineering data by utilizing EDX SignalProof, which can significantly reduce your customer acquisition and retention costs. Using EDX SignalProof, you are able to pre-qualify potential customers via a website based on the actual study results from final network design performed in EDX SignalPro.

User Friendly

EDX SignalPro brings all of this accuracy and flexibility to you wrapped in a user-friendly GUI. With telecom-specific mapping capabilities, open database standards for importing/exporting, Google™ Earth compatibility and intuitive commands, you can reduce your planning tool learning curve and increase your network planning efficiency.

Step up to EDX SignalPro, the gold standard for carrier-class 4G network planning and design tools.



EDX area study displayed in Google™ Earth. Easy study export capabilities make it simple to share engineering data with others.



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