

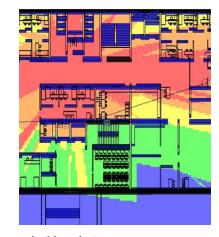
# Indoor Networks

DESIGN AND VISUALIZE INDOOR, CAMPUS AND INDOOR/OUTDOOR WIRELESS NETWORKS USING THE SIGNALPRO® SOLUTION

With a comprehensive approach to system planning and integrated support for a variety of technologies, EDX offers solutions that ensure the proper design of wireless networks within the in-building, campus and metro deployment environments.

By creating 3D building models from floor-plan files, using sophisticated RF modeling algorithms to predict signal behavior within that space, and providing a Bill of Materials for system equipment, SignalPro with the DAS Design Module provides visualization for every aspect of system design. As networks grow and evolve, SignalPro contains propagation models for analyzing outdoor-to-indoor and indoor-to-outdoor coverage.

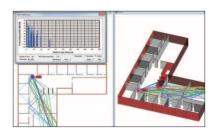
In addition, traditional terrain elevation, clutter data and 3D building data can be used to ensure isolation and predict handoff issues between these systems. These capabilities are further expanded by adding a ray tracing module in order to take into account energy reflections and diffractions in complex service area environments. With support for a wide range of technologies, the EDX planning solution is a versatile platform for designing and analyzing indoor networks.



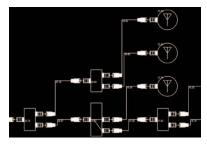
In-building design

# **EDX Solutions**

EDX OFFERS A COMPREHENSIVE PLANNING SUITE FOR THE PLANNING AND SYSTEM MANAGEMENT OF INDOOR WIRELESS NETWORKS



Ray tracing study



Schematic view

## **SignalPro**

With support for wireless systems from 30MHz up to 100GHz, plus advanced network design capabilities, SignalPro is the engineer's tool of choice for planning, deploying and optimizing Broadband, LTE, Mobile/Cellular, Small Cell, Heterogeneous Networks, in-building DAS, Mesh, LMR, and more.

## **DAS Design Module**

The DAS Design Module supports detailed design of indoor RF DAS and AP based integrated networks as well as outdoor campus and metro DAS networks. In addition to indoor and outdoor propagation models, the platform contains asset management features that allow you to plan components, cables, antennas, connectors and other equipment and produce a bill of materials for your network.

### **Streamlined Floor Plan Import**

Import AutoCAD .dwg files and tag walls and other objects of interest with their relevant RF material and height parameters.

#### **Automated Floor Plan Conversion**

Floor plan image files such as .jpg may be imported and automatically vectorized.

### **Multiple Floor/Building Designs**

Each project may contain multiple buildings and floors with a 3D viewer depicting equipment layout and predicted performance for each floor.



## **RF Equipment Library**

The DAS Design Module comes with an editable library of RF equipment containing many common components that can be placed, moved and edited in a project or floorplan. The library fully supports user defined components as well.

#### Inter-Floor Cable Connections

The graphical riser tool allows for easy interconnection of RF and DAS cables between floors with automatic calculations of cable lengths and loss.

#### **Schematic View**

Display only the RF components and interconnecting cables with cable lengths and calculated RF power levels shown.

## **Query Tools**

Powerful study query tools allow users to determine statistics across a service area.

# **X3D Ray Tracing**

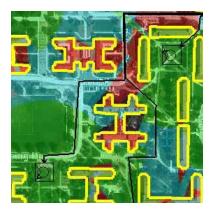
The Remcom X3D Module provides a highly accurate, site specific wireless propagation model with GPU accelerated ray tracing. Calculations explicitly take into account 3D antenna patterns and detailed building, floor plan and terrain features present in the propagation environment, including their material properties. The module's use of GPU cards to achieve incredibly fast run times, paired with its exact path algorithms achieve both accuracy and speed for a wide range of applications. The X3D Module is an add-on module and can be used in any SignalPro project.

# **Advanced Propagation Module**

The Advanced Propagation Module is a robust, cost effective solution for performing calculations that use 3D building and floorplan features as part of the propagation environment. The module offers 2D and 3D ray tracing for indoor and outdoor service areas.



In-building coverage study



Campus DAS Design

