WirelessSite-RFI Will Analyze Sites for Six Major Modes of Interference

WirelessSite-RFI Saves Time and Effort

WirelessSite-RFI (WS-RFI) is a single integrated easy-to-use wireless communications site interference analysis package. This powerful PC-based software eliminates the arduous and repetitious work associated with site interference analysis. It also eliminates the "shotgun" approach to site design and management.

Field Tested and Approved

WS-RFI was developed by a communications engineer with over 45 years of wireless communication systems experience and a strong background in software design. The result is a high quality, user friendly technical software application.

WS-RFI is highly acclaimed among hundreds of site managers, communications engineers, technicians, and consultants already using the program throughout the world.

Supports Wide Range of Technologies

WS-RFI supports a variety of communication system technologies. This includes FM Land Mobile, AM Aeronautical, ACSSB, AM, FM and TV Broadcast, Microwave, AMPS, AMPS-CDMA, PCS TDMA, PCS CDMA, W-CDMA, GSM-900, GSM-1900, iDEN, 800 Trunking, SMR, ESMR, Paging, GPS, Wireless Data, WiMax, LTE, AWS, UMTS and others.

+ Saves time, increases productivity, avoids mistakes and saves money.
+ Frequency range from 50 KHz to 40 GHz.
+ Libraries provided for antenna patterns, filters/multicouplers, RF components and equipment.
+ Determines isolation values required to prevent receiver degradation due to transmitter noise and receiver desensitization.
+ Determines isolation values required to prevent receiver degradation caused by transmitter or receiver produced intermodulation (IM) products.
+ Perform calculations based on Carrier-to-Interference ratio or 12 dB SINAD ratio for digital and analog applications.
+ Evaluates first through eleventh order IM products, up to five transmitters at a time.
+ Passive IM (PIM) evaluates RF devices for PIM for overall interference signal level analysis.
+ Includes Wizards which provide step-by-step methods for configuring site parameters and analysis reporting options.
+ Built in Frequency Tables to assist with data entry.
+ Provides a Template Library feature which allows users to store and retrieve pre-defined communication systems.
+ Co-Location Interference Analysis reports automatically created in Microsoft Word documents.
+ Graphic Drawing Editor for automatic creation of site and equipment configuration block diagram drawings.
The Communications System Setup Wizard provides a simple step-by-step method for configuring each wireless communications system by providing dropdown selection list-boxes for configuring the system technology, frequency band, equipment manufacturer and other technical parameters.

Once you select the technology, frequency band and equipment manufacturer, WS-RFI will obtain the equipment specifications from an equipment library and enter all of the required data automatically. The manufacturers include Ericsson, Lucent, Motorola, Nortel and many other manufacturers.

The antenna system can be setup for single or sectorized configurations. You add the antennas by simply selecting an antenna from the library of over 22,000 antennas. Then you assign the antenna to any one of several mounting positions on an Antenna Mount. The available Antenna Mounts are selected from a drop-down list box. All of the antenna positioning and spacing data will be determined automatically.

The antenna grid has a "ditto" function for copying individual cells or entire rows of data. This feature provides rapid, error-free data entry.

Once you have completed the selections, you simply click the "Finish" button and WS-RFI will automatically configure and enter all of the station and antenna data. In the past, it would take several hours to setup a communications site that had many different providers co-located.

The Wizard gets it done in just a few minutes!

The interference analysis and reporting options are set up with another Wizard called the Interference Analysis Setup Wizard. This Wizard provides a simple, step-by-step method for setting up the analysis and report options.

To set up the interference analysis options, you simply select the type of report you want, fill in a few data fields and click the Next button to set up the next group of options.

A graphic image is shown on the next page that depicts the IM interference analysis set up options.

When you have selected all of the analysis and report options, WS-RFI will automatically perform all modes of interference analysis and create a custom report in Microsoft Word.
The report includes a customizable Cover Page, Table of Contents, Executive Summary, Site Description, Communication Systems Listing, Antenna Systems Listing and Frequency Listings.

Tables are also provided that present signal margins for transmitter noise, receiver desensitization, transmitter and receiver generated intermodulation interference, transmitter harmonic output, transmitter spurious output analysis and interference C/(I+N) ratio summing results.

The document is concise and provides a presentation quality report suitable for distribution to engineers, managers, city/county governments, siting councils and other agencies requiring proof of co-location interference analysis.

**Built-In Frequency Tables**

To simplify frequency data entry, WS-RFI has built-in frequency tables for the wireless spectrum. You can select individual channels or block select a group of channels with a keyboard or a mouse. WS-RFI will automatically enter the frequencies into the site data file. You can also add your own custom frequency tables as needed.

**Comprehensive Libraries**

WS-RFI includes comprehensive libraries that includes Filters/Multicouplers and other RF components, Antenna Gain Patterns, Base Station equipment, Frequency Tables and other Libraries. The user can add additional data to the libraries.

There are several Filter/Multicoupling libraries that include manufacturers, such as Celwave, Decibel Products, Sinclair, Telewave, Tx-Rx, Wacom and others. These libraries have been exclusively digitized for WS-RFI use.

The Antenna library consists of over 22,000 popular manufacturers' horizontal and vertical antenna patterns. During interference analysis, WS-RFI utilizes a three dimensional model to determine the overall antenna directional gain. This gain is based on the orientation of the antennas and their directional radiation pattern characteristics in both the horizontal (H) and vertical (E) planes. This feature provides a more precise way of determining total antenna gain and isolation between each set of antennas at the site.

WS-RFI completely automates the repetitive tasks associated with interference analysis, automatically looking up equipment manufacturers' transmitter noise and receiver desense curves, vertical and horizontal space isolation graphs, antenna gain patterns, insertion and rejection losses for duplexer, bandpass/notch cavity filters, combiners, isolators, preselectors, and other RF filter component devices.
View Site Data in Outline Form

When Site files include many communication systems, it helps to get an overall perspective of how the Site is configured. The View System Outline feature provides this visibility. The Site data is displayed in a hierarchical tree view format. By clicking on any component, WS-RFI will drill down and provide detailed information for that component.

Full Featured and Easy To Use

+ Calculates antenna spacing distances and isolation values for horizontal, vertical and other complex antenna positioning configurations.
+ Distance/Azimuth, Unit Conversion and Antenna Space Loss calculators.
+ Data entry defaults, lookup tables, and list boxes minimize keystrokes and avoid data entry errors.
+ Online help and tutorials available to get you up and running fast.
+ 270 Page User Guide.
+ Program and Library updates available on the Internet.
+ Network version available.

System Requirements

System requirements vary with the WS-RFI configuration you purchase. The basic minimum requirements are listed below:

+ Pentium III, 1 GHz processor or equivalent.
+ Windows 7 or higher.
+ 1 GB of RAM.
+ 60 MB minimum hard disk space.
+ SVGA monitor.
+ CD-ROM drive.
+ A printer supported by Windows.
+ Microsoft Word 2007 or higher installed on computer.

We Also Offer...

+ Custom software design and development.
+ Wireless site and equipment asset management software and services.
+ Non-Ionizing Radiation (MPE) analysis software.
+ Communications system consultation services.
+ RF basic online training.
+ Software application online training.

Graphic Drawing Editor

A full featured vector based graphic drawing editor for automatically creating Site Top View and Elevation View drawings as well as communications system block diagrams. These drawings can be included in the MS Word presentation quality reports.

System Template Feature

The System Template provides a rapid method for entering communications systems data. Once you have a system configured, you can save it as a template. The next time you need the same or a similar type of system, you can select the system template and WS-RFI will enter all of the data automatically for you.

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