iQ·link®
The global toolkit for fixed wireless design
Featuring

- **Collaborative, real-time, central database**
  Enables numerous remote users to design concurrently. iQ-link serves customers with well over 100 concurrent users!

- **Rapid analysis**
  From mesh line-of-sight (LOS) to large-scale interference analysis.

- **Frequency flexible**
  Support for all microwave and fixed wireless access (FWA) frequency bands.

- **Modern, intuitive user interface**
  Logically presented information without the clutter of numerous pop-up windows.

- **Near/non-LOS diffraction modeling**
  Developed by Comsearch® principal propagation scientists.

- **Efficient re-use of precious, limited spectrum**
  Over 30 years of experience in spectrum management has been channeled into the interference analysis algorithms.

- **Capability to handle any size network**
  We have customers with databases of over 100,000 links!

- **Complementary services**
  Including custom software development, enabling you to focus on your network planning.
iQ·link’s toolkit includes

Near- and non-line-of-sight (nLOS) propagation model

Backhaul in a dense urban environment with small cells presents challenges traditional LOS microwave cannot always address. Radio frequency (RF) studies have shown that nLOS microwave can be a viable solution.

Comparison of these two plots (below) shows that there are many areas where the calculated received signal level (RSL) is improved using the nLOS algorithms. The highlighted area demonstrates such an example. In this particular area, losses calculated using CommScope’s nLOS algorithm are as much as 70 dB less than those calculated using the traditional ITU (International Telegraph Union) algorithm.
Radio state analysis graphics

An innovative graphical user interface presents modern IP radio’s options to the designer in the most intuitive way possible.
Comprehensive support for adaptive modulation

The result of numerous discussions and meetings with major operators and equipment manufacturers, IQ-link offers the most comprehensive functionality to support the design of microwave links and FWA sites with adaptive modulation radios.

Comprehensive network view with rapid LOS calculations

Users have the ability to visualize environmental factors such as terrain, morphology, and clutter layers, as well as buildings, maps, aerial imagery, vector data and other layers.

Several engineering functions can be accomplished directly from this utility. This includes quick and detailed link profiles, rapid LOS analysis and reporting, site creation, chain reliability calculations and coverage, and carrier-to-interference (C/I) analysis for point-to-multipoint (PMP) /FWA systems.
Live integration with Google Earth™

iQlink offers a direct LIVE integration with Google Earth™. As links are planned and saved in iQlink, they automatically appear in Google Earth! Anyone in your organization—from engineers to the marketing department—can have a detailed view into the network.
Quick link budget design

iQlink enables rapid creation of point-to-point (PtP) or PMP links.

This engineering window provides a one-page summary of all of the necessary microwave link elements, enabling the user to build the link and make changes without the need to sort through a clutter of multiple windows.
Detailed path profile analysis

iQ-link’s Profile Module generates a terrain profile between two sites to determine the LOS characteristics of the proposed link. The terrain profile can also incorporate clutter data such as buildings and vegetation.

Availability and performance assessment

Interference analysis

iQ-link’s detailed, efficient interference analysis calculates the interference potential from a proposed new link against the database of all previously stored primary designs and confirmed links. Both PtP and PMP systems are considered simultaneously.

Also offered is automatic frequency planning (AFP), enabling rapid auto-assignment of interference-free channels to numerous links in bulk. This feature also incorporates a sophisticated high/low conflict resolving algorithm.

Transmit (Tx) spectrum and receive (Rx) selectivity

Detailed interference objectives between any combination of interfering and victim radios are quickly derived using Tx spectrum masks and Rx selectivity curves provided by the manufacturer or European Telecommunications Standards Institute (ETSI) defaults.
PMP / FWA design functionality

iQlink supports the design of hub-subscriber links that are required to implement such networks as FWA, local multipoint distribution service (LMDS), and other PMP applications.
Utility programs

iQlink comes with several utility programs so administrative tasks can be performed easily and with controlled access.

Utility features include:

- Easy import capability for sites, antennas, radios, links, network and Pathloss files
- Coordinate conversion
- Find-point algorithm
- System administration
- Google Earth KML export

Reports

iQlink offers several reports, which are built on HTML templates and can be fully customized, including the addition of your own company logo.
Everyone communicates. It’s the essence of the human experience. How we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers—we provide the essential expertise and vital infrastructure your business needs to succeed. The world’s most advanced networks rely on CommScope connectivity.