



SOFTWARE & MODULES  
FEATURE COMPARISON

 <b>iBwave Design</b> ENTERPRISE	Propagation module ENTERPRISE	Optimization module ENTERPRISE	Collection module ENTERPRISE	 <b>iBwave Design</b> LITE	Propagation module LITE	 <b>iBwave Wi-Fi</b>
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WIRELESS TECHNOLOGIES						
Wi-Fi (802.11 a/b/g/n/ac)	✓				✓	✓
4G: LTE / LTE-A / LTE-LAA / WiMAX (802.16) / WiBro	✓				✓	
3G: HSPA / HSPA+ / WCDMA / 1xEV-DO / TD-SCDMA	✓				✓	
2G: GSM / CDMA / EDGE / GPRS / iDEN / TDMA / & more	✓				✓	
Public Safety Broadband 4.9 GHz (802.11y)	✓				✓	✓
Public Safety P25	✓				✓	
DVB-H / MediaFLO / RFID / ZigBee (802.15.4) / WMTS / LoRa / UWB / GPS	✓				✓	
SYSTEM DESIGN						
Design Plan for indoor RF system design	✓				✓	✓
Centralized database with over 25,000 components from over 300 vendors	✓				✓	✓
Support base stations, off-air repeaters and small cells	✓				✓	
MIMO 2X2, 3X3, 4X4	✓				✓	✓
Coaxial, radiating and CAT5 cable signal distribution	✓				✓	✓
Multi-strand fiber-optic cables and components support for fiber modeling	✓				✓	✓
Support Wi-Fi access points including multi-radio APs (high density)	✓				✓	✓
Antenna contours	✓					✓
Smart antenna contours considering building architecture and antenna pattern		✓				✓
Network validation and error checking	✓				✓	✓
AUTOMATION						
Automatic design plan organizer	✓					✓
Automatic access point placement			✓			✓
Automatic channel assignment			✓			✓
Power sharing automation for neutral host system designs	✓					
Cable route and automatic cable alignment	✓					✓
Automatic cable and splitter selection for passive DAS	✓					
Optimal antenna placement			✓			
Reset part ID	✓					✓
CALCULATIONS						
Automatic cable length measurements	✓				✓	✓
RF Downlink link budget calculations	✓				✓	✓
RF Uplink link budget calculations	✓					
Fiber link budget	✓					✓
Passive Intermodulation (PIM) calculations and analysis based on component PIM ratings			✓			
BUILDING MODELING						
Create multiple buildings	✓					✓
Multi-layered floor plans with layout plans, walls, system equipment, cables, and more	✓				✓	✓
Import floor plans from .dwg, .dxf, .jpeg, .bmp, .tiff, .gif or .pdf files	✓				✓	✓
Draw walls and surfaces	✓				✓	✓
Draw inclined surfaces	✓					✓
Assign material from material database		✓				✓
Import walls from raster CAD files, PDF or images		✓			✓	✓
3D Viewer to display buildings and floors	✓				✓	✓
Zone layer per wireless service	✓					
Export building to Google Earth and building in Google Earth or Bing	✓					✓



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<b>PROPAGATION</b>							
Body Loss Modeling		✓					✓
LTE Handoff Matrix		✓					
Simultaneous multi-band / technology propagation 3D prediction analysis		✓				✓	✓
Variable Path Loss Exponent propagation model using environment density zones		✓				✓	✓
COST 231 Multi Wall model (Direct Ray) propagation model		✓				✓	✓
Fast Ray Tracing propagation model		✓					✓
Probe to display multi-system prediction results		✓				✓	✓
Compliance results based on user defined criteria		✓				✓	✓
Customizable output map legends		✓				✓	✓
Prediction model and material calibration from survey data		✓		✓			✓
Import outdoor propagation maps from leading outdoor planning tools		✓					
Consider outdoor signal for interference and propagation maps			✓				
2D and 3D antenna pattern support		✓				✓	✓
<b>OUTPUT MAPS</b>							
Signal strength, Best Server		✓				✓	
HSPA RSCP, LTE RSRP		✓				✓	
Field strength, Handoff, Service Count maps, Nature of the path		✓					
Wi-Fi Best AP, Best Channel, Overlap zone, AP Count		✓					✓
SNIR, Maximum Achievable Data Rate, Dominance over Macro Maps			✓				
CDMA and WCDMA Active ser			✓				
LTE RSRQ, LTE Nth Best Server, Overlapping Zones maps, LTE-A Max Achievable Data Rate			✓				
Wi-Fi CCI, SNR			✓				✓
Uplink Mobile Power			✓				
Indoor propagation map interpolated from:			✓				
Outdoor planning tools			✓				
Walk tests or empirical measurements			✓		✓		
Estimated surrounding signal strength			✓				
Redundant DAS failure point propagation simulations		✓				✓	
Hetnet Capacity Analysis with hotspot zones			✓				✓
Average Downlink Data Rate			✓				✓
Optimal Antenna Placement map			✓				
<b>DATA COLLECTION</b>							
Manually create trace routes and enter survey data on floor plans				✓			✓
Import trace routes and survey measurements from 3rd party collection tools				✓			✓
Export floor plans and transmitter information to 3rd party collection tools using the IBWC file format				✓			✓
Wi-Fi active and passive survey				✓			✓
<b>PROJECT DOCUMENTATION</b>							
Drawing tools for lines, shapes, text and images	✓				✓		✓
Create picture plans and photo mock-ups	✓						✓
Create annotations (text, voice, picture, video)	✓				✓		✓
Create project revisions	✓				✓		✓
Project file password protection	✓				✓		✓
Export project to .dxf format	✓				✓		✓



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REPORTING							
Annotations, Output maps, RF Survey reports	✓				✓		✓
Equipment list report	✓				✓		✓
Cost details report	✓						✓
Link budget report and Horizontal link budget reports	✓				✓		
Antennas report	✓						✓
Access Points and Small Cells report	✓						✓
Cable routing and Cross-reference reports	✓						✓
Electromagnetic field (EMF) report	✓						✓
Prediction vs. Measured data report		✓		✓			✓
Compliance report		✓				✓	✓
Include PIM results in the Compliance Report			✓				
Export reports in various format (.rpt, .pdf, .xls, .doc, .rtf, .xml)	✓				✓		✓
Export project and floor plan in TAB file format	✓			✓			
COMPONENT DATABASE							
Database editor to add, edit or delete components	✓				✓		✓
Share component database between multiple users	✓				✓		✓
Customized pricing and part numbers	✓				✓		✓
Sub-component support	✓				✓		✓
List of approved parts per customer	✓				✓		✓
List of equivalent parts	✓				✓		✓
Extensive library of materials (60+) including electrical and mechanical properties		✓				✓	✓
TOOLS							
Frequency calculator	✓				✓		✓
Power converter	✓						✓
Intermodulation calculator	✓						✓
Wi-Fi Net scan	✓						✓