



SOFTWARE & MODULES
FEATURE COMPARISON

		Propagation module 	Optimization module 	Collection module 		Propagation module
WIRELESS TECHNOLOGIES						
Wi-Fi (802.11 a/b/g/n/ac/ax)	✓				✓	
5G: NR (Sub-6GHz and mmWave)	✓ with Propagation and Optimization modules	✓	✓			
4G: LTE / LTE-A / LTE-LAA / CBRS / 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, Tetra	✓				✓	
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 29,000 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 (linear and curved) and surfaces	✓				✓	
Automatic drawing of 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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PROPAGATION						
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		✓				✓
Multiple Compliance Zone definition		✓				
Donor Antenna Isolation Validation		✓				
OUTPUT MAPS						
5G NR SS-RSRP, SS-SINR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server		✓	✓			
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 RSRP, LTE Best Server in R14, 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			✓			
DATA COLLECTION						
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				✓		
PROJECT DOCUMENTATION						
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	✓					
Mist integration	✓					