

Frequency calculator Power converter

Wi-Fi Net scan Mist integration

Intermodulation calculator

## SOFTWARE & MODULES FEATURE COMPARISON iBwave Design ENTERPRISE SOFTWARE & MODULES





FEATURE COMPARISON	ENTERPRISE	Safety
WIRELESS TECHNOLOGIES  Wi-Fi (802.11 a/b/g/n/ac/ax)	<b>✓</b>	
5G: NR (Sub-6GHz and mmWave) 4G: LTE / LTE-A / LTE-LAA / CBRS / WiMAX (802.16) / WiBro	with Propagation and Optimization modules	✓ Public Safety bands only
3G: HSPA / HSPA+ / WCDMA / 1xEV-DO / TD-SCDMA	V	1 ablic safety ballas only
2G: GSM / CDMA / EDGE / GPRS / iDEN / TDMA / & more Public Safety Broadband 4.9 GHz (802.11y)	<i>V</i>	V
Public Safety P25, Tetra  DVB-H / MediaFLO / RFID / ZigBee (802.15.4) / WMTS / LoRa / UWB / GPS	V	V
SYSTEM DESIGN	·	
Design Plan for indoor RF system design  Centralized database with over 29,000 components from over 300 vendors	<i>V</i>	V
Support base stations, off-air repeaters and small cells	<i>V</i>	R14 FirstNet
MIMO 2X2, 3X3, 4X4  Coaxial, radiating and CAT5 cable signal distribution	V	✓ no 3X3 MIMO
Multi-strand fiber-optic cables and components support for fiber modeling  Support Wi-Fi access points including multi-radio APs (high density)	V	V
Antenna contours	<i>V</i>	V
Smart antenna contours considering building architecture and antenna pattern  Network validation and error checking	V	<i>V</i>
AUTOMATION		
Automatic design plan organizer  Automatic access point placement	V	V
Automatic channel assignment  Power sharing automation for neutral host system designs	V	
Cable route and automatic cable alignment	<i>V</i>	V
Automatic cable and splitter selection for passive DAS  Optimal antenna placement	V	V
Reset part ID	V	V
CALCULATIONS  Automatic cable length measurements	V	V
RF Downlink link budget calculations	V	V
RF Uplink link budget calculations Fiber link budget	<i>V</i>	<i>V</i>
Passive Intermodulation (PIM) calculations and analysis based on component PIM ratings		V
BUILDING MODELING  Create multiple buildings	V	V
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	<i>V</i>	<i>V</i>
Automatic drawing of inclined surfaces	<i>V</i>	V
Assign material from material database  Import walls from raster CAD files, PDF or images		<i>V</i>
3D Viewer to display buildings and floors  Zone layer per wireless service	V	<i>V</i>
Export building to Google Earth and building in Google Earth or Bing	V	<b>V</b>
PROPAGATION  Body Loss Modeling		V
LTE Handoff Matrix		•
Simultaneous multi-band / technology propagation 3D prediction analysis  Variable Path Loss Exponent propagation model using environment density zones		<i>V</i>
COST 231 Multi Wall model (Direct Ray) propagation model  Fast Ray Tracing propagation model		V
Probe to display multi-system prediction results		<i>V</i>
Compliancy results based on user defined criteria  Customizable output map legends		<i>V</i>
Prediction model and material calibration from survey data		<i>V</i>
Import outdoor propagation maps from leading outdoor planning tools  Consider outdoor signal for interference and propagation maps		<i>V V</i>
Import outdoor propagation maps from leading outdoor planning tools		<i>V</i>
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		V V
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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-SNIR, 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		✓ ✓ ✓ ✓ ✓ LTE-RSRP
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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-SNIR, 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 CCJ, 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 Export floor plans and photo mock-ups Create pricture plans and photo mock-ups Create pricture plans and photo mock-ups Create project revisions Project file password protection Export project to .dxf format  REPORTING  Annotations, Output maps, RF Survey reports Equipment list report Cost details report Link budget report and Horizontal link budget reports Antennas report	V V V V V V V V V V V V V V V V V V V	V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
Import outdoor propagation maps from leading outdoor planning tools Consider outdoor signal for interference and propagation maps 20 and 30 and tennan pattern support Multiple Compliance Zone definition Donor Antenna Isolation Validation  OUTPUT MAPS 5G NR SS-RSP, SS-SNIR, 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 Wii-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 to dxf format REPORTING Annotations, Output maps, RF Survey reports Equipment list report Link budget report and Horizontal link budget reports Antennas report Access Points and Small Cells report Cable routing and Cross-reference reports	V V V V V V V V V V V V V V V V V V V	V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
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-RSP, SS-SNIR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server Signal strength, Best Server HSPA RSCP, LTE RSRP Field 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 Export floor plans and transmitter information to 3rd party collection tools Export floor plans and transmitter information to 3rd party collection tools Export floor plans and photo mock-ups Create project revisions Project to dxf format REPORTING Annotations, Output maps, RF Survey reports Equipment list report Cast 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	V V V V V V V V V V V V V V V V V V V	V V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
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-RSR, SS-SNIR, 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 Henter 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 Export floor plans and transmitter information to 3rd party collection tools Export ToocuMENTATION Drawing tools for lines, shapes, text and images Create project revisions Project floor plans and photor mock-ups Create project revisions Project floor plans and Horizontal link budget reports Equipment list report Link budget report and Horizontal link budget reports Antennas report Antennas report Antennas report Cable routing and Cross-reference reports Electromagnetic field (EMF) report Prediction vs. Measured data report Compliance report	V V V V V V V V V V V V V V V V V V V	V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
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 SG NR SS-RSR, SS-SNIR, 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 SMR, 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, SMR 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 Dovulink 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 project revisions Project file password protection Export project to .dxf format  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 (EMP) report Prediction vs. Measured data report	V V V V V V V V V V V V V V V V V V V	V V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
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  SG NR SS-RSRP, SS-SNIR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server Signal strength, Best Server ISPA RSCP, LTE RSRP Field strength, Best Server ISPA RSCP, LTE RSRP Field strength, Handoff, Service Count maps, Nature of the path WiF-I Best AR, Best Channel, Overlap zone, AP Count SMIR, 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 WiF-I 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 Pacement 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 Export floor plans and transmitter information to 3rd party collection tools Export floor plans and photo mock-ups Create project rowisons Project Tile password protection Export project to .dxf format REPORTING  Annotations, Output maps, RF Survey reports Equipment list report Cost details report Cost details report Cost details report and Horizontal link budget reports Antennas report Link budget report and Horizontal link budget reports 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 project and floor plan in TAB flie format		V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
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 SG NR SS-RSRP, SS-SNIR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server Signal strength, Best Server HSPA RSCP, LTE RSRP HSPA RSCP, LTE RSRP, LTE Best Channel, Overlap zone, AP Count SNIR, Maximum Achievable Data Rate, Dominance over Macro Maps CDMA and WCOMA Active ser LTE RSRQ, LTE RSRP, LTE Best Server in R14, Overlapping Zones maps, LTE-A Max Achievable Data Rate WH-FI CCI, SNIR 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 Export floor plans and transmitter information to 3rd party collection tools using the IBWC file format WH-FI active and passive survey  PROJECT DOCUMENTATION Drawing tools for incs, shapes, text and images Create annotations (text, voice, picture, video) Create project trevisions Project file password protection Export project to dxf format  REPORTING Annotations, Output maps, RF Survey reports Equipment list report Cost details report Cost details report Link budget report and Horizontal link budget reports Antennas report Link budget report and Horizontal link budget reports Export reports in various format (rpt, pef, xls, .doc, .rtf, .xml)		V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
Import outdoor propagation maps from leading outdoor planning tools Consider outdoor signal for interference and propagation maps 2D and 3D antenna patterns upport Multiple Compilance Zone definition Donor Antenna Isolation Validation OUTPUT MAPS 5G NR SS-RSRP, SS-SNIR, 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 RSRP, 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 Export floor plans and fransmitter information Drawing tools for lines, shapes, text and images Create picture plans and photo mock-ups Create picture plans and photo mock-ups Create picture plans and photo mock-ups Create project trevisions Project file password protection Export project to dxf format REPORTING Annotations, Output maps, RF Survey reports Equipment list report Access Points and Small Cells report Include Piki 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		V V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
Import outdoor propagation maps from leading outdoor planning tools Consider outdoor signal for interference and propagation maps 2D and 3D anterna pattern support Multiple Compiliance Zone definition Donor Anterna Isolation Validation OUTPUT MAPS 5G NR SS-RSRP, SS-SNIR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server Signal strength, Best Server HSPA RSCR, LTE RSPP Field strength, Handoff, Service Count maps, Nature of the path Wil-Fi Best AP, Best Channel, Overlap zone, AP Count SNIR, Maximum Activeable 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 Wil-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 Hencet 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 Wil-Fi active and passive survey  PROJECT DOCUMENTATION Drawing tools for lines, shapes, text and images Create pricture plans and photo mock-ups Create project revisions Project file password protection Export from the gassword protection Export project to def format REPORTING Annotations, Output maps, RF Survey reports Equipment list report Cable routing and Cross-reference reports Rectionagnetic field (EMF) eport Prediction vs. Measured data report Complainance report Link budget report and Horizontal link budget reports Antennas report Component support		V V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
Import outdoor propagation maps from leading outdoor planning tools Consider outdoor signal for interference and propagation maps 22 and 30 antenna pattern support Multiple Compilance Zone definition Donor Anterna Isolation Validation  OUTPUT MAPS SC IN RS. RSRP, SS. SNIR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server Signal strength, Best Server INSPA RSCH, LTE RSRP Field strength, Handolf, Service Count maps, Nature of the path Wi-Filbest AP, Best Channel, Overlap zone, AP Count SNIR, Maximum Achievable Data Rate, Dominance over Macro Maps CDMA and WCDMA Active ser LTE RSRP, LTE RSRP LTE Best Server in R14, Overlapping Zones maps, LTE-A Max Achievable Data Rate Wi-Filbest AP, ERSRP, LTE Best Server in R14, Overlapping Zones maps, LTE-A Max Achievable Data Rate Wi-Filbest AP, ERSRP, LTE Best Server in R14, Overlapping Zones maps, LTE-A Max Achievable Data Rate Wi-Filbest AP, ERSRP, LTE Best Server in R14, Overlapping Zones maps, LTE-A Max Achievable Data Rate Wi-Filbest AP, ERSRP, LTE Best Server in R14, Overlapping Zones maps, LTE-A Max Achievable Data Rate Wi-Filbest AP, State State Server 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 servey measurements from 3rd party collection tools using the IBWC file format Wi-Filactive and passive survey PROJECT DOCUMENTATION  Drawing tools for lines, shapes, text and images Create protor plans and transmitter information to 3rd party collection tools using the IBWC file format  REPORTING  Annotations, Output maps, RF Survey reports Engineent Sile format Cable report Cable routing and Cross-reference report Include PIM results in the Compliance Report Locted Find results in the Compliance Report Include PIM results in		V V V V LTE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V
Import outdoor propagation maps from leading outdoor planning tools Consider outdoor span lar interference and propagation maps 2D and 3D antenna pattern support Multiple Compilance Zone definition Donor Antenna Isolation Validation OUTPUTMAPS 5G NR SS-RSRP, SS-SNIR, PDSCH-SINR, PDSCH-RP, SS-RSRQ, MADR, Best Server Signal strength, Best Server HSPA RSCP, LIFE RSPP 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 LIFE RSRQ, LIFE RSRP LIFE Best Server in R14, Overlapping Zones maps, LIFE-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 project revisions Project To less shapes, text and images Create picture plans and photo mock-ups Create project revisions Project to deep shape and transmitter information to 3rd party collection tools using the IBWC file format  REPORTING  Annotations, Output maps, RF Survey reports Equipment Ist report Cost details report Cost details report Cost details report and Horizontal link budget reports Antennas report Access Points and Small Colls report Cable routing and Cross-reference reports Bactromagnetic field (fiMF) eport Prediction vs. Measured data report Component support		V V V V ITE-RSRP  V no MADR  V LTE-RSRQ  V V V V V V V V V V V V V V V V V V

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