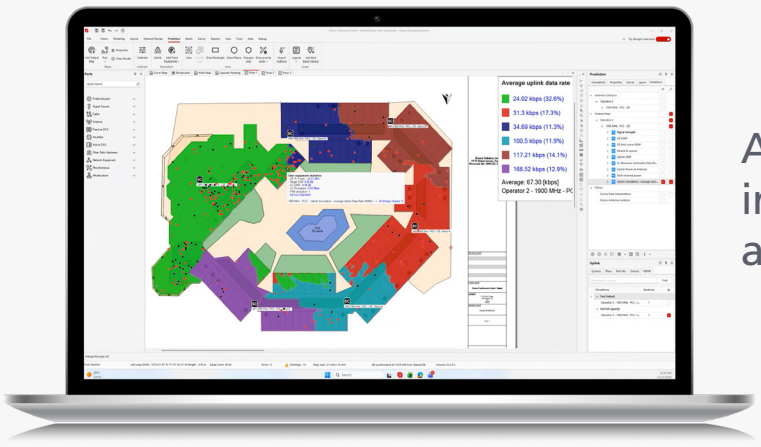
Advanced Uplink Capacity Simulation



A fast, accurate way to plan in-building capacity for user and machine traffic.

Uplink traffic is exploding. Video conferencing, user-generated content, IoT cameras, robots, sensors, and automation now push more data upstream than ever.

Enterprises and high-density venues all depend on reliable uplink performance — and SLA expectations are rising fast.

The Challenge

- **Static, spreadsheet-based process** relying on fixed UE and traffic assumptions.
- **Manual setup** of profiles and densities for every floor and scenario.
- **Dozens of simulations per floor** - often ~100 for a 10-floor project.
- **No automation** for multi-scenario or density/usage variations.
- **Manual KPI checks** for SLA validation with deterministic, low-realism modeling.

The result?
Rework, delays, higher costs, missed SLAs — and networks that fail under uplink-heavy demand.

Key Benefits

Superior Service Assurance
Ensure reliable UL/DL performance with automatic pass/fail KPIs for SLA and revenue-impact validation.

Higher Prediction Accuracy
Achieve realistic results with Monte-Carlo simulations across multiple usage & traffic scenarios.

Significant Time & Cost Savings
Design uplink capacity up to 6–8× faster, cut costs, and reach nearly 200% ROI.

Efficient, Scalable Workflows
Automate setup and use lightweight computation to scale effortlessly across large, multi-floor venues.

Smarter Uplink Capacity Planning Starts Here

The new **Uplink Capacity Module** brings **automated Monte-Carlo simulation** directly into **iBwave Design** or **Private Networks** — so you can easily deliver realistic capacity results in a fraction of the time.

Learn More or Request Demo

Key Functionality

Uplink Capacity Definition
- Market Share
- UL Usage Profiles
- UL Subscriber Services

Uplink Traffic Density Definitions
- Number of Clients per Floor
- Number of Clients per Zone
- Additional Fixed Device Placement

Monte-Carlo Simulation Runner
- Monte-Carlo Simulation Configuration
- Manual Number of UEs Override
- Floor Plan Selection Filter

Uplink Simulation Results
- Tabular View of Uplink Stats
- Floor Plan Simulated / Fixed Devices View
- Uplink Capacity Blocking / Service Degraded

Uplink Output Maps
- Average Uplink Data Rate

KPIs
- Cumulative MADR
- Noise Rise per Sector
- UE Transmit Power
- SNIR
- Allocated Resource Blocks