

MICROWAVE NETWORK DESIGN SERVICES

OUR CORE SERVICES

1. Network Planning & Design

- Comprehensive site surveys and path analysis
- Frequency planning and spectrum optimization
- Link budget calculations and performance modeling
- Network topology design and optimization
- Interference analysis and mitigation strategies

2. Microwave Link Engineering

- Point-to-point and point-to-multipoint solutions
- Licensed and unlicensed band expertise (6 GHz to 86 GHz)
- Capacity planning from 10 Mbps to multi-gigabit links
- Weather impact analysis and fade margin calculations
- Redundancy and resilience design

3. Regulatory & Compliance

- Frequency licensing coordination and application support
- Regulatory compliance documentation
- International standards adherence (ITU, ETSI, FCC)
- Spectrum management consulting
- Cross-border frequency coordination

4. Implementation Support

- Detailed technical documentation and specifications
- Equipment selection and vendor evaluation
- Installation supervision and quality assurance
- Network commissioning and acceptance testing
- Performance optimization and troubleshooting

INDUSTRIES WE SERVE

Telecommunications & Mobile Operators

Design and optimize 4G/5G backhaul networks, inter-cell site connectivity, core network links, and rural coverage expansion. We understand the demanding requirements of mobile operators and deliver solutions that support high-capacity, low-latency communications.

Internet Service Providers (ISPs)

Enable last-mile connectivity, backbone infrastructure, fixed wireless access networks, and rural broadband deployment. Our designs help ISPs expand coverage economically while maintaining service quality.

Utilities & Energy Sector

Connect power grid monitoring systems, SCADA networks, smart grid communications, pipeline monitoring, substation interconnections, and renewable energy sites (wind farms, solar plants). Ensure reliable communication for critical infrastructure.

Transportation & Logistics

Support railway communication systems, highway monitoring networks, port and airport communications, traffic management systems, and metro/transit authority networks with resilient wireless connectivity.

Banking & Finance

Provide reliable connectivity for branch interconnections, ATM networks, data center redundancy links, and high-frequency trading networks where uptime is critical.

WHY CHOOSE OUR MICROWAVE SOLUTIONS

- ✓ **Proven Multi-Industry Expertise** - Deep experience across telecommunications, utilities, government, enterprise, and specialized sectors worldwide
- ✓ **Cost-Effective Solutions** - Optimized designs that maximize ROI while meeting performance requirements
- ✓ **Future-Proof Designs** - Scalable infrastructure supporting bandwidth growth and evolving technology standards
- ✓ **All-Weather Reliability** - Comprehensive fade margin analysis ensuring performance in rain, fog, and extreme conditions
- ✓ **Rapid Deployment** - Streamlined design processes and project management for accelerated implementation timelines
- ✓ **Comprehensive Support** - From initial planning through commissioning and ongoing optimization
- ✓ **Regulatory Navigation** - Expert guidance through complex licensing and compliance requirements across jurisdictions
- ✓ **Vendor-Neutral Approach** - Objective equipment recommendations based on your specific technical and budgetary needs

OUR DESIGN APPROACH

1. Requirements Analysis

We begin by understanding your connectivity requirements, bandwidth needs, coverage areas, budget constraints, and regulatory environment.

2. Site Assessment

Comprehensive surveys including terrain analysis, line-of-sight verification, interference studies, and environmental considerations.

3. Network Design

Detailed engineering including frequency planning, link budget analysis, capacity modeling, redundancy design, and equipment specifications.

4. Documentation

Complete technical deliverables including network diagrams, equipment lists, installation specifications, frequency applications, and test procedures.

5. Implementation Support

Ongoing assistance during procurement, installation, commissioning, and optimization phases.

WHAT YOU GET

Comprehensive Design Package:

- Network topology diagrams
- Detailed link budget calculations
- Frequency and channel plans
- Equipment specifications and bill of materials
- Installation and mounting specifications
- Path profile analysis with Fresnel zone clearance
- Interference analysis reports
- Regulatory documentation and frequency applications
- Project timeline and implementation plan
- Testing and commissioning procedures