

# **Tirros Networks**

## **Full Cell Tower / Macro Site Deployment Requirements**

### **1. Site & Structure**

- Minimum height: 15 meters (50 ft) tower or equivalent rooftop mounting for macro coverage.
- Tower type: monopole, lattice, or guyed (approved by Tirros Networks).
- Land area: sufficient for tower base, shelter, parking, and safety perimeter.
- Clear access for installation, maintenance, and emergency services.

### **2. Power**

- Three-phase 208V or 240V AC preferred, single-phase 120V AC minimum.
- Minimum continuous power: 5 kW per site (expandable based on configuration).
- Dedicated circuit with surge protection.
- Battery backup or UPS (minimum 2 hours) required.
- Generator backup strongly recommended.

### **3. Backhaul / Connectivity**

- Fiber-optic handoff preferred, minimum 1 Gbps, 10 Gbps preferred.
- Redundant backhaul paths strongly recommended.
- Public IPv4/IPv6 support or private routing acceptable.
- Low-latency path to core (<10 ms preferred).

### **4. RF & Antennas**

- Permissions to install LTE / 5G NR radios, antennas, and remote radio units (RRUs).
- Minimum antenna mounting height: 15 meters or local regulation compliant.
- Support for directional and omnidirectional antennas.
- Clear line-of-sight for sector coverage.
- Compliance with FCC RF exposure limits and local regulations.

### **5. Environmental / Shelter**

- Equipment shelter required (rack space for BBU, RRU, power systems).
- HVAC for temperature control (0–55°C operating range).
- Weatherproofing for all outdoor equipment.
- Lightning protection required (grounding and surge protection).

### **6. Security**

- Physical security: locked fence, cage, or enclosure.
- Restricted access to authorized personnel only.
- CCTV and access logging required.
- Security monitoring integration preferred.

## **7. Legal & Regulatory**

- Zoning approval and local permits required.
- Tower registration with local authorities / FAA if required.
- Written permission from property owner or lease agreement.
- Compliance with environmental and community regulations.

## **8. Maintenance & Access**

- 24/7 emergency access required.
- Scheduled maintenance windows to be coordinated with Tirros Networks.
- Remote hands optional for minor interventions.

## **9. Monitoring & Management**

- Outbound monitoring and telemetry access required.
- SNMP, IPMI, or equivalent management interfaces.
- Remote power cycling preferred.
- Alarm and event reporting integrated with Tirros Networks NOC.

## **10. Health & Safety / EMI**

- Site must comply with FCC RF exposure limits.
- Safety barriers to restrict public access.
- Warning signage for electromagnetic fields (EMF).

## **11. Commercial Terms**

- Lease or hosting fees negotiable.
- Power costs billed separately or included in fee.
- Minimum term: 24 months preferred.

## **12. Disqualifiers**

- Inadequate land or mounting height.
- Unreliable power without backup.
- Restricted or prohibited RF deployment.
- Inability to provide secure access.
- Non-compliance with regulatory or safety requirements.

**Contact:** Tirros Networks