The Technical Shield Behind Cellular Infrastructure Litigation

SCM ADVISORS



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INDEPENDENT ENGINEERING

Why We Matter

Independent technical expertise where lease language, carrier activity, public safety, and compliance intersect.

RF Engineering Expertise

Independently evaluate RF exposure, antenna changes, and real-world safety impacts.

Cellular Development Knowledge

Understand how carriers actually build, modify, and expand sites in the field.

Regulatory & Entitlement Compliance

Identify when installations, upgrades, or operating conditions exceed approved leases, permits, RF reports, or entitlement limits.

A Unique Public-Safety Perspective

Represent cities, private landlords, and the public-safety side with combined RF engineering, cellular development, and compliance expertise.

Property Owner and Occupant Independent 5G Safety Evaluations

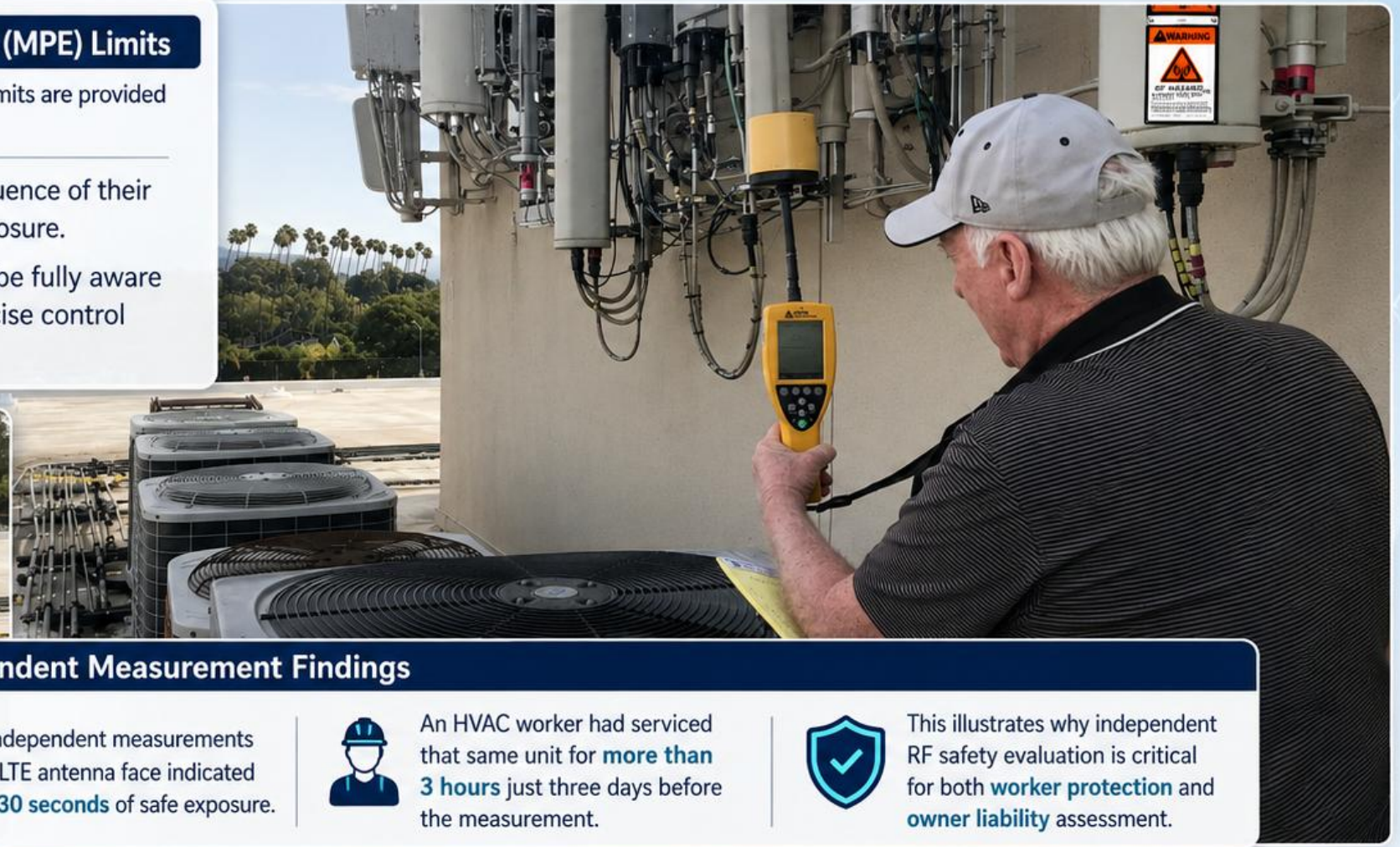
Why independent RF evaluation matters for worker safety, owner liability, and occupant protection.

FCC Maximum Permissible Exposure (MPE) Limits

The FCC Maximum Permissible Exposure (MPE) limits are provided for two groups of potentially exposed people.

- **Occupational** — People exposed as a consequence of their employment and aware of the potential for exposure.
- **General Population** — People who may not be fully aware of the potential for exposure and cannot exercise control over their exposure.





Independent Measurement Findings

In 2018, independent measurements of the 4G LTE antenna face indicated **less than 30 seconds** of safe exposure.

An HVAC worker had serviced that same unit for **more than 3 hours** just three days before the measurement.

This illustrates why independent RF safety evaluation is critical for both **worker protection** and **owner liability** assessment.

5G antennas can produce radiated output power approximately 25–35x greater than 4G (LTE).

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Unauthorized Electromagnetic Radiation Barricades (Trespass)

Unapproved EME barricades can consume rooftop use space, create liability exposure, and impose insurance risk on property owners.



Unauthorized Use Space

EME barricades can create restricted rooftop areas that are often not authorized in the lease. When installed without landlord approval, the barricaded area can function as unauthorized use space and create trespass, liability, and insurance concerns.



Side-Lobe Exposure Zone

This barricade is positioned along the side lobe of the antenna system, indicating meaningful RF power off the side face of the antennas. The restricted area reduces usable rooftop space and raises questions about unpermitted exposure controls.



Front-Lobe Barricade / Clear Trespass

This large barricaded zone is characteristic of front-lobe exposure, which explains the significant footprint of the restricted area. When not expressly authorized, the scale of the barricade represents a clear trespass and a major loss of rooftop use area.



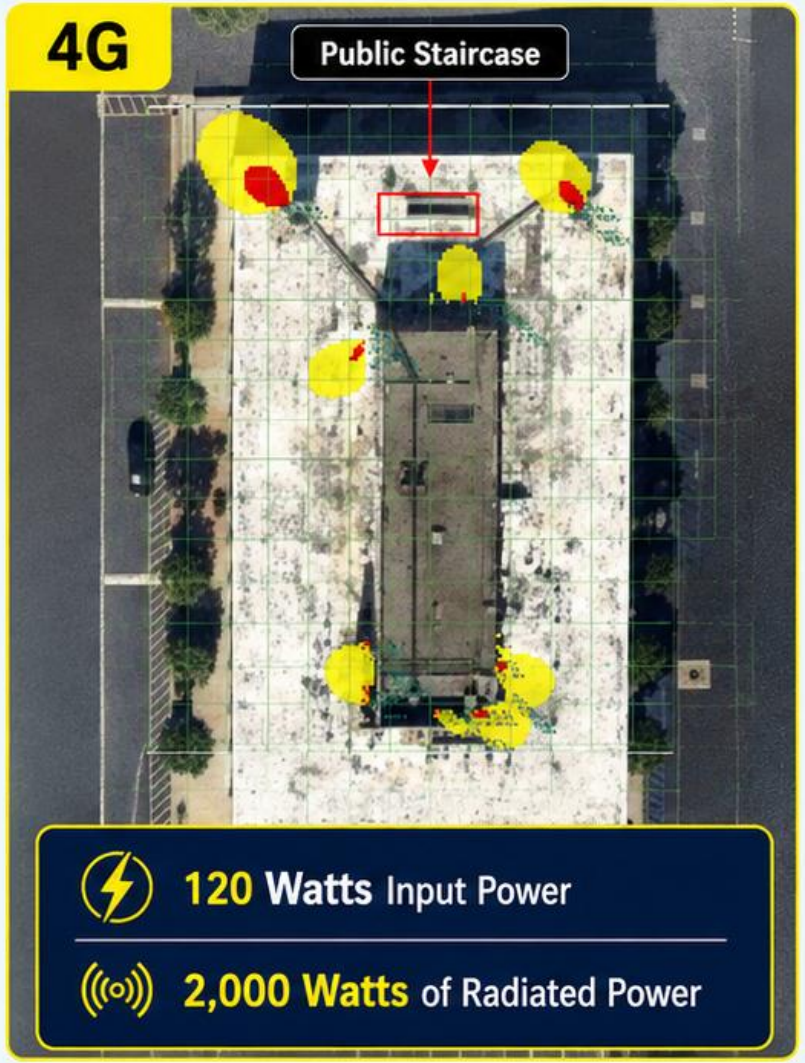
Rear-Lobe Exposure

Barricades behind the antennas reflect rear-lobe RF emissions, demonstrating that power is present even off the back side of the antenna array. These rear-lobe restricted areas can still create unapproved use-space and liability concerns.

Key concern: In many leases, EME barricades are not permitted. When installed without owner approval, they may create trespass, reduce usable space, and expose the property owner to liability, risk, and potential general-liability insurance issues.

4G vs. 5G Radiated Plume Comparison

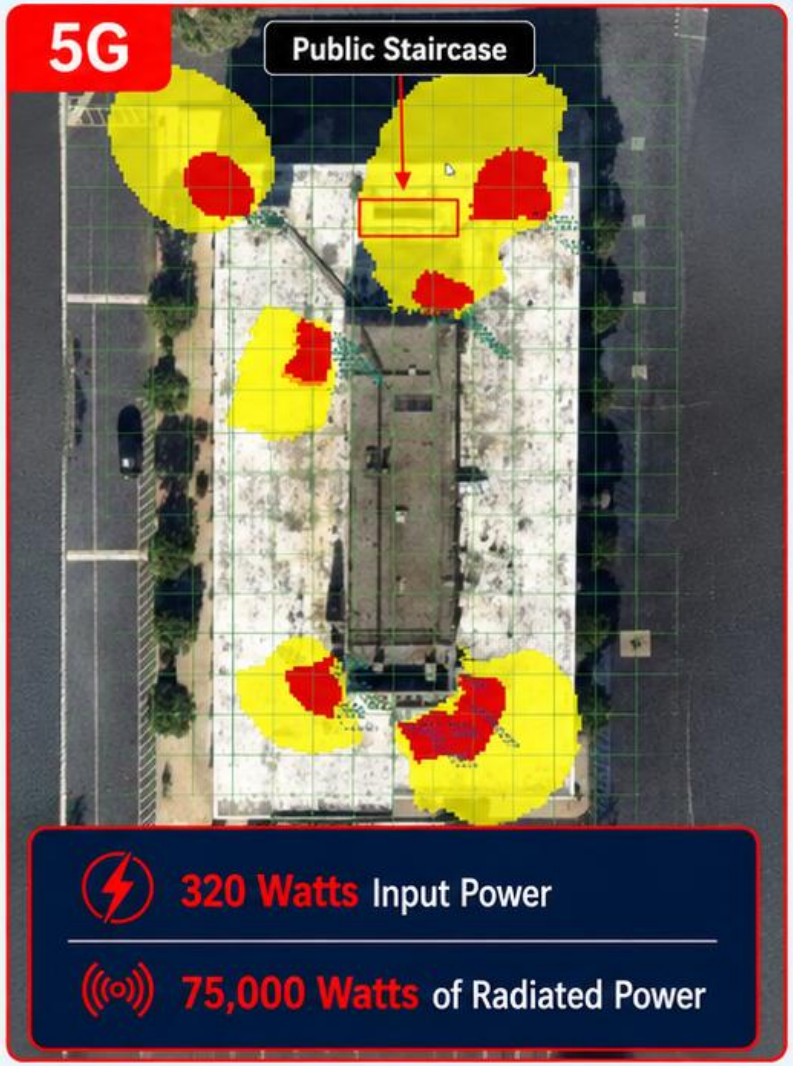
Illustrating the significant expansion in RF footprint and radiated power from 4G to 5G upgrades.



5G radiated output power can be 25x–35x greater than earlier cellular configurations.

Material RF Footprint Expansion = Substantial Change

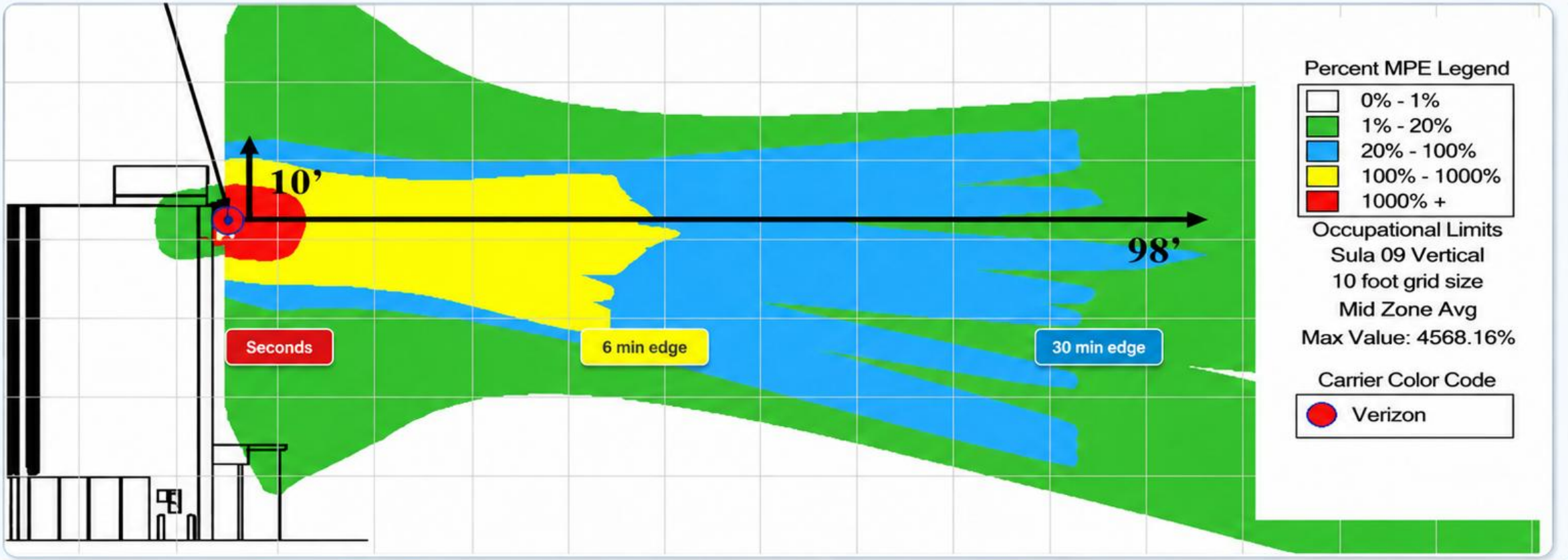
When an upgrade increases radiated output power, antenna gain, the EME footprint, or required signage / exclusion zones, it can exceed prior RF safety assumptions, trigger environmental evaluation under FCC §1.1307, raise general public exposure concerns under §1.1310, and may not qualify as an Eligible Facilities Request under §1.6100.



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5G 3.7 GHz Maximum Permissible Exposure Side Slice

Maximum permissible exposure zones compress from minutes to seconds as workers approach the antenna face.



ANTENNA FACE / RED ZONE

Near antenna face: RF levels may exceed limits; allowable time can compress to seconds.

6-MINUTE MPE BOUNDARY

Yellow edge: higher RF intensity; MPE time becomes approximately 6 minutes.

30-MINUTE MPE BOUNDARY

Blue edge: controlled exposure threshold; MPE time is approximately 30 minutes.

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Cell Sites Near Children & Schools Require Heightened Scrutiny

Spectrum Cellular Management switched sides after seeing unsafe sites and carrier practices that can leave landlords unprotected on RF compliance, liability, lease value, and property damage.

Children are a sensitive population

CHD argues schools should minimize RF exposure because children are still developing and are exposed for long school-day durations.[1]

FCC compliance is not enough

FCM concern: carrier-prepared EME reports, changing equipment loads, and 5G modifications can create compliance and disclosure gaps for landlords.

Landlord liability and control

School districts and property owners may accept long-term lease burdens without full knowledge of RF, indemnity, insurance, access, and damage obligations.

No new or modified school-area cell site should move forward without independent RF/EME review, public disclosure, enforceable compliance monitoring, setback analysis, and lease terms that protect the school or landlord.



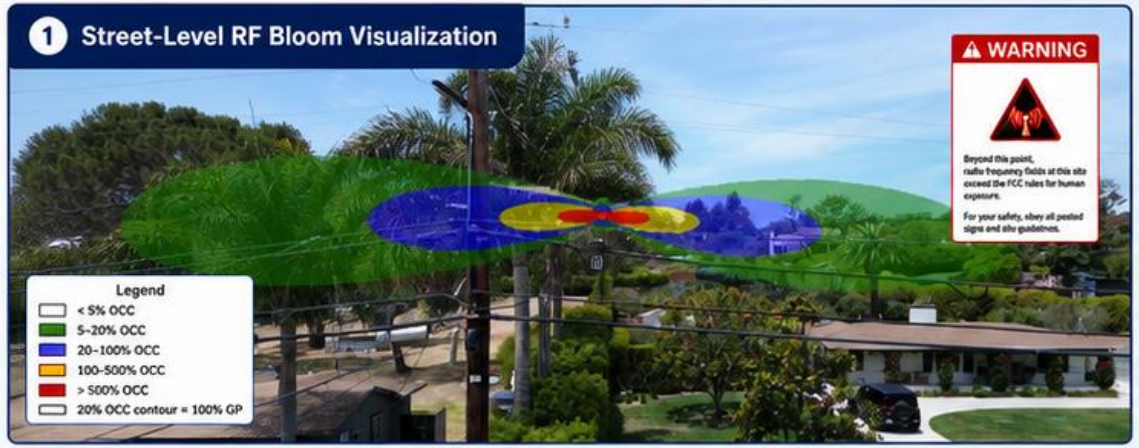
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Real World Exposure Concerns

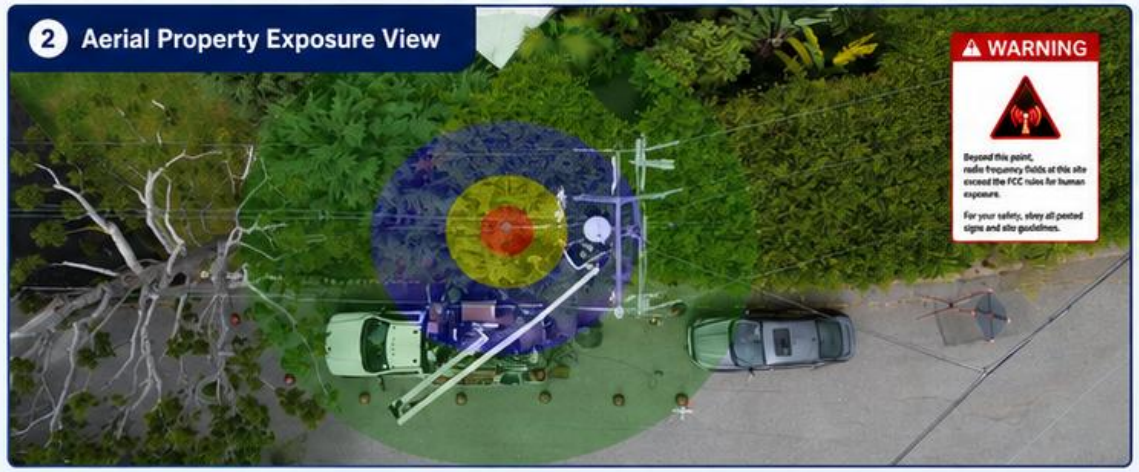
Using a combination of off-the-shelf and proprietary MPE modeling software, SCM Advisors overlays RF exposure plumes onto high-resolution drone imagery to illustrate real-world electromagnetic radiation concerns. This approach helps public entities and private property owners visualize what the RF bloom looks like on their property and better understand site-specific safety conditions.

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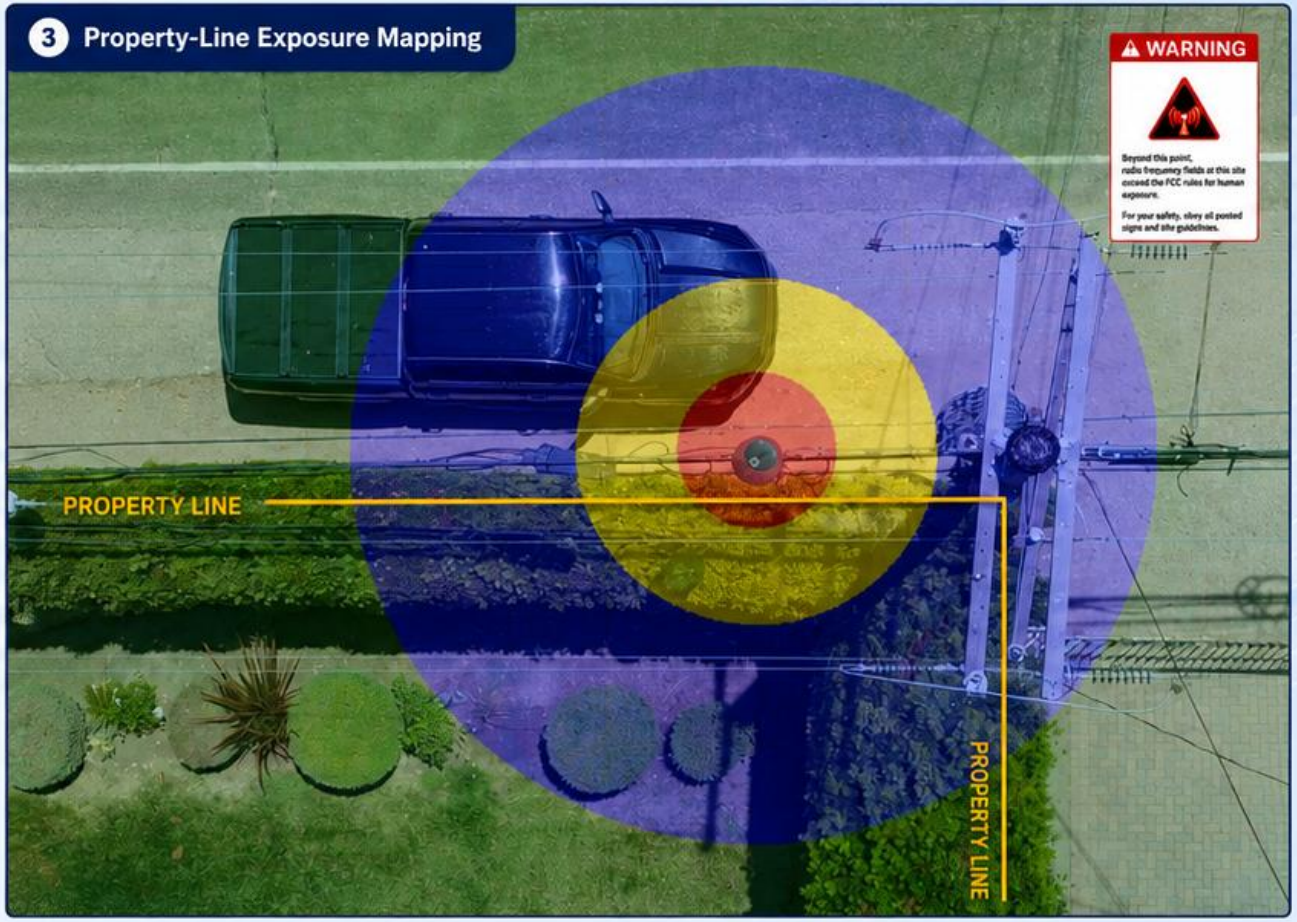
1 Street-Level RF Bloom Visualization



2 Aerial Property Exposure View



3 Property-Line Exposure Mapping



Our Purpose

We translate complex RF exposure conditions into clear, property-specific visualizations to support informed decision-making and promote public and private safety.

- Visualize Real-World RF Exposure
- Support Public & Private Stakeholders
- Promote Safety and Compliance

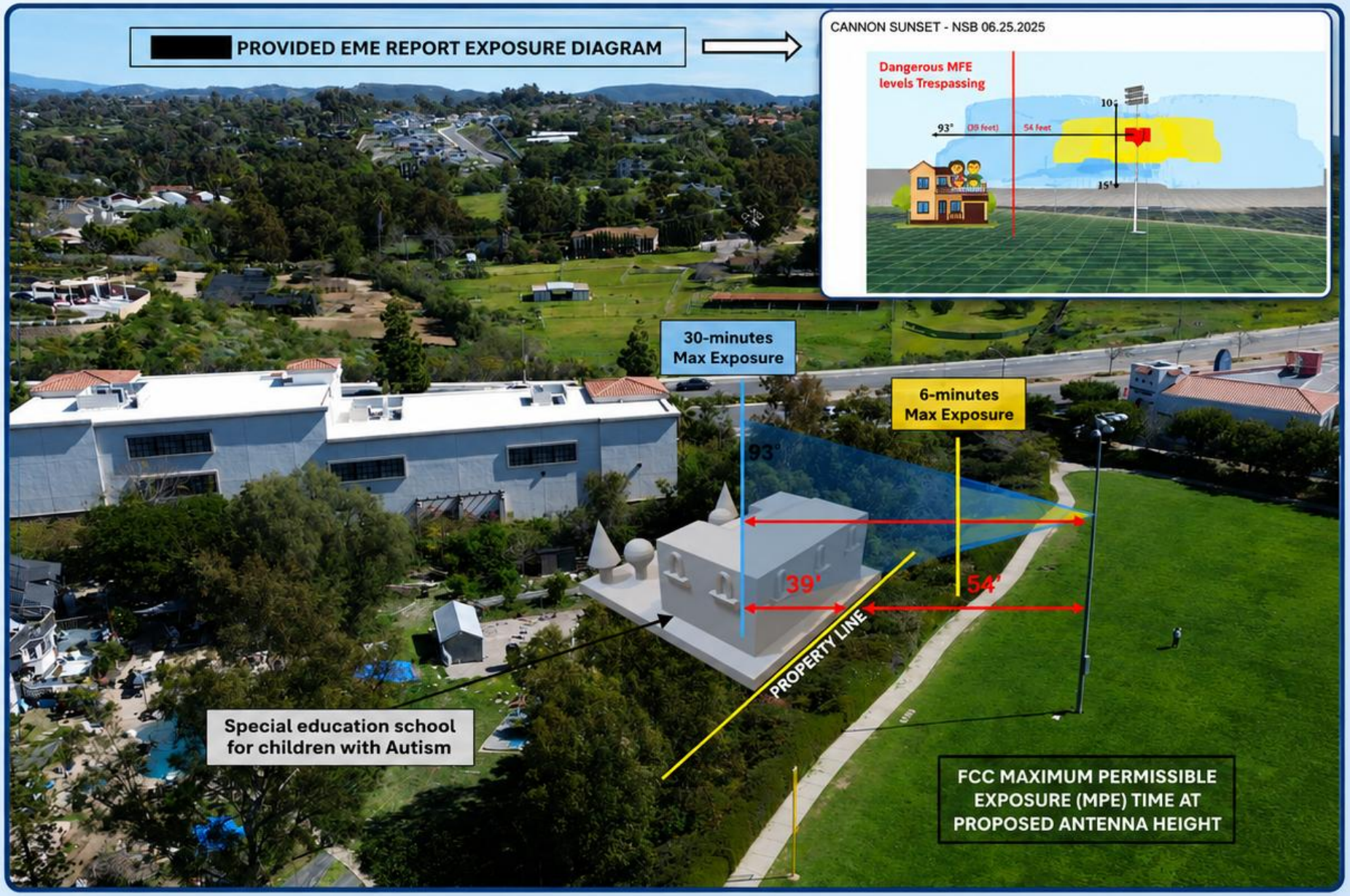
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INVERSE CONDEMNATION AND TRESPASS

INVERSE CONDEMNATION IS GROUNDED IN THE FIFTH AMENDMENT'S TAKINGS CLAUSE:

Private property shall not be taken for public use without just compensation. Inverse condemnation is initiated by the property owner when the government's action effectively takes or damages their property without formal proceedings or payment.





Public & Community 5G Safety Support

Independent technical support when a proposed tower, rooftop site, or 5G upgrade raises placement, safety, or neighborhood concerns.

What SCM does for individuals, schools, churches, and communities.

We translate carrier drawings, RF reports, zoning records, and field conditions into a clear explanation of what is proposed, what exists, what may be missing, and what questions should be asked before approvals move forward.

Goal: informed decisions before public safety, lease, or property rights are compromised.

1 Initial Site Review

Review proposed tower location, rooftop placement, lease terms, access points, surrounding land uses, and visible construction constraints.

2 RF / EME Safety Evaluation

Evaluate carrier RF reports, antenna height, azimuth, downtilt, output power, MPE zones, and general-population exposure concerns.

3 Permit & Entitlement Review

Compare city approvals, permits, conditions, drawings, and proposed modifications against what is actually built or requested.



4 Public-Ready Findings

Prepare plain-English summaries, meeting support, visual exhibits, questions for agencies, and issues for counsel or municipal staff.

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City & Municipal Cellular Infrastructure Services

A practical municipal support program for 5G placement, RF safety, carrier accountability, and citywide compliance controls.

SCM helps cities move from reactive carrier review to proactive wireless infrastructure governance

Siting & Placement Analysis

Assess tower placement, rooftops, schools, parks, residential proximity, visual impact, alternative locations, and community-sensitive siting concerns.

Independent RF Review

Review carrier EME reports, MPE calculations, antenna changes, 5G upgrades, public vs. occupational exposure, and field validation needs.

Ordinance & Fee Modernization

Help cities update wireless ordinances, application requirements, consultant deposit structures, inspection rights, and cost-recovery mechanisms.

Access, Insurance & Enforcement

Create practical controls for rooftop access, vendor insurance, additional insured endorsements, carrier notices, decommissioning, and corrective action.

Typical municipal deliverables

Site review memos • RF safety questions • staff briefings • public meeting exhibits • permit condition recommendations • ordinance updates • carrier compliance action plans

Outcome: stronger disclosure, safer access, clearer approvals, better cost recovery, and less reliance on carrier self-governance.

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Thank You

We appreciate your time.

Questions or follow-up inquiries are welcome.

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