Radio Frequency Emissions Analysis Report

On Air (Active) Small Cell Pole Facility

March 3, 2026

Engineering Evaluation of GM Selby RF Exposure Report (On-Air Theoretical Modeling)



Site Name: Albertelli

Site Address: 2769 Funston St, Hollywood, FL 33020

Prepared by: Kyle Kitchens

Spectrum Cellular Management, LLC

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Overview

SCM Advisors, LLC ("SCM Advisors") has been contracted to provide a Radio Frequency (RF) Analysis for the following wireless small cell utility pole to determine whether the facility is in compliance with federal regulations regarding RF emissions. The applicable federal regulations are detailed in Appendix B of this report. This analysis includes theoretical emissions calculations for all wireless equipment that will be installed at the site.

Engineering Disclaimer – RF Exposure Modeling and Antenna Data

This Radio Frequency (RF) emissions analysis has been prepared by a radio frequency engineer using methods consistent with FCC OET Bulletin 65 and related industry standards. The results are based on theoretical modeling of Maximum Permissible Exposure (MPE) within the relevant frequency bands, using available information regarding antenna locations, heights, orientations, power levels, and operating bands.

In many cases, detailed antenna construction data, beam-forming characteristics, and manufacturer-specific performance parameters are proprietary to the antenna manufacturer and wireless carrier and are not publicly disclosed. Where such data were not available, reasonable engineering assumptions and conservative worst-case inputs have been used to approximate the RF emission characteristics of the antenna systems. As a result, the exposure levels shown in this report should be understood as modeled estimates, not direct measurements, and may differ from actual in-service conditions.

Only the wireless carriers and antenna manufacturers can definitively confirm the precise antenna specifications, software configurations, and operating profiles in use at any given time. SCM Advisors, LLC has not independently verified proprietary design data and makes no representation or warranty as to the completeness or accuracy of carrier- or vendor-supplied information. This report does not allege misconduct, concealment, or collusion by any party, nor does it assign legal fault or liability. It is provided solely as an engineering opinion for RF-safety and planning purposes and should not be construed as legal advice or as a substitute for regulatory determinations by the FCC or any other authority.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards. As presented in the sections below, based on worst-case predictive modeling, the worst-case emitted power density may exceed the FCC's general public limit within approximately 12.5 feet of the existing small cell antenna. Additionally, there are areas where workers who may be elevated above the rooftop or ground may be exposed to power densities greater than the occupational limits. Therefore, workers should be informed about the presence and locations of antennas and their associated fields. It is not advisable to build an ADU or home extension near the parcel line adjacent to the cellular antenna system.

NOTE: The antenna engineered for the Selby EME compliance report and this analysis only reflects the 4G capabilities of this antenna system. It should be noted that these antennas have 5G capabilities.

The Amphenol 2L6U4VT360X06F supports multiple cellular frequency ranges that are widely used for modern wireless networks. These ranges include approximately 617 MHz to 906 MHz, 1695 MHz to 2700 MHz, and 3300 MHz to 4200 MHz. These frequency bands cover low band, mid band, and C band spectrum used by mobile carriers.

Amphenol 2L6U4VT360X06F is a multi band cellular antenna designed for modern telecommunications infrastructure. Its wide frequency support and multi port design make it suitable for LTE and 5G deployments in small cell and urban network environments.

ANALYSIS SITE DATA

Site ID:	N/A
Site Name:	Albertelli
Site Address:	2769 Funston St, Hollywood, FL 33020
Site Latitude:	26.001739N
Site Longitude	-80.162820W
Facility Type:	Small cell utility pole

Antenna Inventory

The proposed antenna configuration for this facility is summarized below. All calculations were performed assuming that all radios operate at full power with uncombined RF paths. Consistent with FCC OET Bulletin 65 (Edition 97-01), this modeling approach is used to produce a highly conservative theoretical analysis. Because deployed systems are dynamic in practice, actual in-service exposure levels are expected to be materially lower than the values presented in this report.

		(MHz)	Trans	Trans	Coax	Coax	Other	Input	Calc	
ID	Name	Freq	Power	Count	Len	Type	Loss	Power	Power	Mfg
B41	TMO	2500	40	4				160	160	Amphenol
B41	TMO	2500	40	4				160	160	Amphenol
B41	TMO	2500	40	4				160	160	Amphenol
		(ft)	(ft)	(ft)		(ft)	dBd	BWdth	obsolete	ON
Mfg	Model	X	Y	Z	Type	ApHt	Gain	Pt Dir		flag
Amphenol	2L6U4VT360X06F	70	50	0	P	2	7.17	120/0		ON•
Amphenol	2L6U4VT360X06F	70	50	0	P	2	7.17	120/120		ON•
Amphenol	2L6U4VT360X06F	70	50	0	P	2	7.17	120/240		ON•

Calculation Methodology

SCM Advisors has performed theoretical calculations for all transmission equipment associated with this facility. All calculations utilize a conservative cylindrical modeling approach to estimate power density in the near-field region of each antenna, where the full radiation pattern has not yet fully developed. In this region, power density is modeled to decrease proportionally with distance, and transitions to a far-field regime where power density decreases with the square of the distance from the antenna. This method is well-suited to low antenna centerlines, such as rooftop installations, where personnel may be able to approach antennas and traverse fields in close proximity.

Figure 1 illustrates the theoretical distribution of RF power over an idealized cylinder with uniform power distribution in all directions.

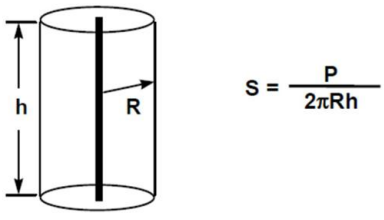


Figure 1: Distribution of power over an imaginary cylinder in all directions

This basic model can be adapted for directional antennas to represent the concentration of energy within the main beam. In that case, the calculation assumes that transmitted power is focused between the 3 dB (half-power) roll-off points of the antenna pattern, as depicted in Figure 2. This assumption is intentionally conservative and results in a “worst-case” estimate of exposure within the main lobe.

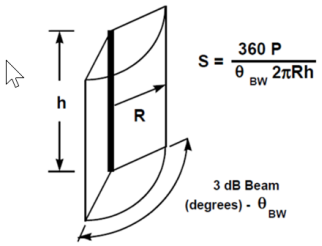


Figure 2: Distribution of power over an imaginary cylinder in all directions inside the half power roll off points (HBW)

Technical Memorandum

Subject: Methodological and Input Defects in the GM Selby "Antenna Analysis & Regulatory Compliance Report"
Prepared for: Chris Albertelli
Prepared by: Kyle Kitchens, SCM Advisors
Date: March 3, 2026

Professional Qualifications - Kyle Kitchens, Radiofrequency Engineer

Kyle Kitchens brings over 45 years of RF engineering expertise to SCM Advisors. He founded Kyle Wayne and Associates, an engineering firm specializing in microwave path design and RF compliance, and is recognized as a leading technical authority on 5G safety standards and FCC exposure regulations. His background includes service in the U.S. Navy's Nuclear Power Program, where he studied engineering and physics, followed by business education at Canada College.

Kyle's technical work at SCM focuses on RF exposure analysis, FCC compliance verification, and expert testimony in wireless infrastructure disputes. He conducts the field measurements and modeling that confirm whether installations meet Maximum Permissible Exposure limits, whether carrier-submitted compliance reports reflect actual site conditions, and whether Section 6409 applications accurately represent RF emission changes. His combination of theoretical knowledge and practical measurement experience provides clients with defensible technical findings that withstand regulatory and legal scrutiny.

1. RF Engineering Analysis Executive Overview

The GM Selby report on the Funston Street small-cell site contains multiple methodological errors, inconsistent input assumptions, and physically incompatible exposure calculations. Collectively, these issues materially affect the report's claim that the site is "well below" FCC public-exposure limits. The inconsistencies undermine the report's reliability for any meaningful purpose.

2. Key Findings & Deficiencies

2.1 Calculation Shows FCC Limit Exceedances the Report Ignores

- Selby's own far-field ground-level example uses:
  EIRP = 1,815.36 W at 2,500 MHz and **height = 22 ft AGL**.
- Using a **4× ground-reflection multiplier**, Selby calculates **1.29 mW/cm^2** at the ground—**above the FCC general-public limit of 1 mW/cm^2** in this band.

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- The narrative nonetheless describes exposure as "well below" limits at ground level despite the fact it reveals there are excessive exposure levels at ground level.

Impact: This is a direct technical contradiction. If a modeled value exceeds limits, the report cannot assert compliance without revising inputs or explaining the discrepancy.

Selby's report also clearly reveals excessive exposure levels at and near the antenna centerline, including over the Albertelli property. The report, however, concludes that signage at the pole is sufficient mitigation.

This is incorrect. FCC excessive exposure mitigation rules require both signage and "positive access control surrounding the boundary where the continuous exposure limit is exceeded for the general population." 47 C.F.R. 1.1307(b)(4)(iii). "Positive access control is mitigation by proactive preclusion of unauthorized access to the region surrounding an RF source where the continuous exposure limit for the general population is exceeded…." 47 C.F.R. 1.1307(b)(2) (definitions).

Impact: The Selby conclusion that the site complies with the FCC exposure limits rules is wrong. There are clear exceedances admitted in the Selby Report that are not properly mitigated because there is not adequate positive access control.

2.2 Antenna Height Inputs Are Internally Inconsistent

Three separate, conflicting antenna heights appear in the materials:

- Crown Castle representative: **36 ft AGL**.
- City design schematics: **≈27 ft** where the node is placed.
- Selby report: **22–23.9 ft**.

Impact:
Exposure levels vary significantly with height. Using a lower height increases modeled exposure at ground level whereas additional height reduces exposure at ground level. The misalignment suggests the analyst either:

- used incorrect physical dimensions.
- failed to reconcile field conditions with inventory data, or
- selectively chose inputs that support a predetermined outcome.

Any of the above undermines the report's integrity.

2.3 EIRP, Gain, and Radio Configuration Data Are Not Physically Reconciled

The factory specifications list three operating bands with a mid-band gain of **8.7 dBi**, yet Selby models the node as:

- **A single 2500 MHz configuration.**
- **Gain = 7.17 dBd (~9.32 dBi)**.
- **EIRP = 1,815.36 W**.

No explanation is provided for:

- why modeled gain is higher than spec.
- how EIRP was derived from the actual radio configuration (**40 W TPO × 4 active paths**).
- whether array/MIMO gain was double-counted.

Impact:
If EIRP is overstated, exposure analyses are inaccurate. If EIRP is understated or inconsistently constructed, compliance conclusions are invalid.

2.4 Down-Tilt Physics Contradict the Reflection Model

Selby acknowledges:

- A **fixed 4° electrical down-tilt** on the mid-band array.
- Their own geometry shows the lower main-lobe boundary **does not hit the ground until ~39–44 ft** from the pole.

Yet they still apply a **4× ground-reflection factor at the base of the pole**, implicitly assuming the main beam strikes the ground immediately below the antenna.

Impact:
These two conditions cannot both be true. If the main lobe does not intersect the ground near the pole, the physics underlying the 4× reflection model collapse. Any exposure value derived from this flawed assumption is unreliable.

2.5 Unit Conversions and FCC Comparisons Are Absent

Field measurements are reported in **V/m** and **$\mu W/m^2$**, but:

- Selby does **not** convert them to **mW/cm^2**.
- nor do they compare them directly to the FCC's **1 mW/cm^2** limit for this frequency range.

Impact:
Without consistent units and a side-by-side comparison, compliance claims lack analytical grounding and cannot be validated by third parties (city staff, residents, counsel).

3. Combined Consequences Under OET 65 and FCC Requirements

Viewed collectively, the issues described above show that the GM Selby report does not satisfy fundamental elements of an RF exposure assessment as outlined in OET Bulletin 65 and 47 C.F.R. §§ 1.1307(b), 1.1310. Specifically, the report relies on:

- inconsistent physical parameters (antenna height and geometry),
- RF input assumptions (EIRP, gain, down-tilt, and reflection factors) that are not fully reconciled with equipment specifications or site conditions, and
- exposure calculations and field measurements that are not presented in units directly comparable to the FCC MPE limits and are not explicitly compared to those limits.

OET 65 requires that RF evaluations use accurate physical parameters, internally consistent modeling assumptions, and clear comparisons of calculated or measured exposure to the applicable occupational and general-population limits. Because the Selby report both (a) models scenarios that exceed the general-population limit and (b) omits or misapplies key OET 65 elements (including unit conversion, direct limit comparison, and required mitigation such as positive access control), it does not meet the standard of a reliable, OET-compliant RF exposure evaluation for this site.

RF Engineering Analysis of the Shelby EME Report

Summary The Selby report has several places where it diverges from what OET 65 and the FCC rules expect for a defensible RF compliance evaluation, and it never identifies the specific field meter model, so its measurements cannot be checked against any FCC-recognized instrumentation standard.

Missing or unclear field meter specification

- The report lists spot measurements in V/m and μW/m^2 but does not state the **manufacturer, model number, probe type, frequency range, or calibration date** of the RF field meter used.
- OET 65 expects RF evaluations to use instrumentation that is appropriate for the frequencies and field strengths involved, and good practice is to state the meter model, probe, frequency range, dynamic range, and last calibration so third parties can verify suitability.
- Because no meter is identified, you cannot reference it against any FCC-accepted or industry-standard instrument list, and there is no way for the City or a court to confirm that the device actually covered all relevant 4G/5G bands or was in calibration at the time of measurement.

The Selby report fails to identify the RF measurement instrument used, preventing verification that it meets the instrumentation expectations under OET 65 and common RF-safety practice.

Incomplete alignment with FCC Bulletin OET 65 methodology

OET 65 requires that RF studies:

- Use correct antenna parameters (height, gain, tilt, power, number of transmitters).
- Evaluate exposure at multiple distances and heights in both worst-case and realistic conditions.
- Present results in units that can be directly compared to the MPE limits and explicitly state those comparisons.

Key problems in the Selby report relative to those expectations:

1. **No clear, site-specific OET-65 modeling description**
    - The report explains antenna specifications in detail but does not clearly describe the **exact formulas, software, or OET 65 calculation methods** used for its exposure estimates.
    - There is no explicit description of how antenna height, gain, downtilt, and EIRP were combined in the modeling, or how multiple arrays and bands were summed in %MPE terms as OET 65 outlines.

2. **Field data and MPE limits are never put side-by-side**
    - The measurement table on page 25 lists V/m and ranges of $\mu W/m^2$ at various locations, but the report does **not convert each point to mW/cm^2 or %MPE, nor does it directly state "this point is X% of the FCC general-public limit."**
    - OET 65 expects exposure evaluations to be framed relative to the applicable limits in 47 CFR §1.1310; your own OET-65 brief emphasizes that proper studies "calculate exposure at multiple distances" and "determine safe vs. unsafe exposure levels."
    - Without explicit limit comparisons for each field data point and modeled location, decision-makers cannot see where the site is close to or above the general-public or occupational limits.
3. **Focus on "typical small-cell" exposure, not documented worst-case at this site**
    - The report includes a narrative discussion of how small cells are "often hundreds of times below FCC limits" and cites generic FCC language, but that discussion is not firmly tied back to the **actual measured and modeled numbers** for this antenna at this height on this street.
    - OET 65 expects **site-specific** analysis, not reliance on generalized assumptions; your own brief notes that many carrier reports "assume unrealistic 'perfect' conditions" and "do not follow OET 65 math."
4. **No explicit treatment of adjacent properties and worker access zones**
    - OET 65 requires that RF levels be evaluated not only at ground level near the pole, but also on adjacent properties and in locations where workers may have access, and that safety zones and mitigation be defined accordingly.
    - The Selby report provides measurement points on surrounding streets and behind the Albertelli residence but does not define **worker safety zones**, **general-public vs. occupational regions**, or any **positive access controls** as required in the FCC's updated RF rules (e.g., 47 C.F.R. §1.1307(b)).
5. **Unit-handling example in Appendix 1 is generic and not tied back to the site analysis**
    - Appendix 1 provides a correct theoretical conversion of 7.08 V/m to 13.3 $\mu W/cm^2$, and then cites the general FCC limits for 300–1,500 MHz and 1,500–100,000 MHz.
    - However, this is presented as a **stand-alone math example**, not as a systematic conversion and comparison of *all* measured and modeled values for this facility to the relevant OET-65 limits.

Non-Compliance with OET 65 Evaluation Standards

The GM Selby "Antenna Analysis & Regulatory Compliance Report" does not satisfy several core evaluation practices required under OET Bulletin 65 and the FCC's RF exposure rules:

- The report does not clearly identify the RF measurement instrument (manufacturer, model, probe, frequency range, calibration), preventing verification that field data were collected with equipment appropriate for the 4G/5G bands and exposure levels being evaluated.
- Measured values are reported in V/m and $\mu W/m^2$ without systematically converting them to mW/cm^2 or % of Maximum Permissible Exposure (MPE), and without a consistent, point-by-point comparison to the applicable FCC MPE limits for general-population and occupational exposure.
- The methodology section does not transparently document the specific OET-65 formulas, modeling assumptions, or software used to combine antenna height, gain, downtilt, EIRP, and multiple frequency bands into composite %MPE results at representative locations.
- The analysis does not clearly define general-population versus occupational exposure regions, nor does it delineate required safety zones, worker-access controls, or mitigation measures where modeled or measured levels may approach or exceed general-population limits.
- Portions of the narrative rely on generic statements about "typical small-cell" exposure rather than presenting site-specific worst-case and realistic scenarios for this particular antenna configuration and streetscape, as contemplated by OET 65 for a defensible RF compliance evaluation.

Opinion on “Operational Dynamics of 5G Towers” and Health Claims

The narrative presented about 5G tower operation and health effects reads more like a generalized industry position paper than a site-specific OET-65 compliance analysis. It makes several broad assurances that are not supported by the measurements, modeling, or documentation provided for this particular installation, and it omits key concepts that OET 65 and 47 C.F.R. §§ 1.1307, 1.1310 require in a proper RF exposure evaluation.

1. Duty-cycle and “standby mode” assertions are not quantified or documented

The statement that “5G towers do not operate at maximum capacity continuously” and are in “standby mode for most of the day” may be qualitatively true in a traffic-engineering sense, but the report presents no traffic statistics, time-averaged power data, or carrier logs to substantiate these claims for this site

- OET 65 requires either conservative worst-case modeling or well-supported “actual maximum power” assumptions. Simply asserting that average power is low, without quantitative evidence tied to this node, does not satisfy that standard and cannot be used to downgrade potential exposure.

2. Generalized safety claims are disconnected from site-specific OET-65 findings

- The discussion repeatedly emphasizes that emissions are “well below harmful thresholds,” that exposure is “comparable to environmental background noise,” and that 5G “frequently operates at lower average

emissions." These are global statements about the technology, not conclusions derived from the site's measured or modeled %MPE values at identified locations.

- A proper OET-65 analysis must show, for this antenna at this height and power, what the calculated or measured % of the FCC general-population and occupational limits is at the sidewalk, at nearby
- structures, and in any accessible elevated areas. Without those explicit comparisons, assurances about being "well below harmful thresholds" are not technically grounded.

3. Health-risk language exceeds the scope of an engineering compliance report

- The report asserts that RF exposure from 5G has "no substantiated association" with cancer, neurological symptoms, fertility issues, or immune dysfunction, and that epidemiology "does not indicate an uptick in brain cancer rates." Those are broad public-health conclusions, not engineering findings.
- An engineering OET-65 compliance report should confine itself to: (a) whether the installation meets the FCC's Maximum Permissible Exposure limits for General Population/Uncontrolled and Occupational/Controlled exposure; (b) where mitigation is needed; and (c) whether signage and access
- controls satisfy the rules. Litigation-grade epidemiological judgments are outside the proper scope of this document and shift it toward advocacy.

4. Comparisons to Wi-Fi and "background noise" obscure key 5G characteristics

- Equating small-cell exposure to "household sources like Wi-Fi routers or radios" overlooks critical differences in antenna placement, gain, beam shaping, and duty cycle between outdoor macro/small-cell infrastructure and indoor consumer devices.
- OET 65 requires explicit evaluation of public and worker exposure in actual accessible areas around the antenna, not analogies to other technologies. The comparison risks downplaying scenarios in which narrow beams or overlapping sectors could produce localized areas above general-public limits, even if average environmental exposure is modest.

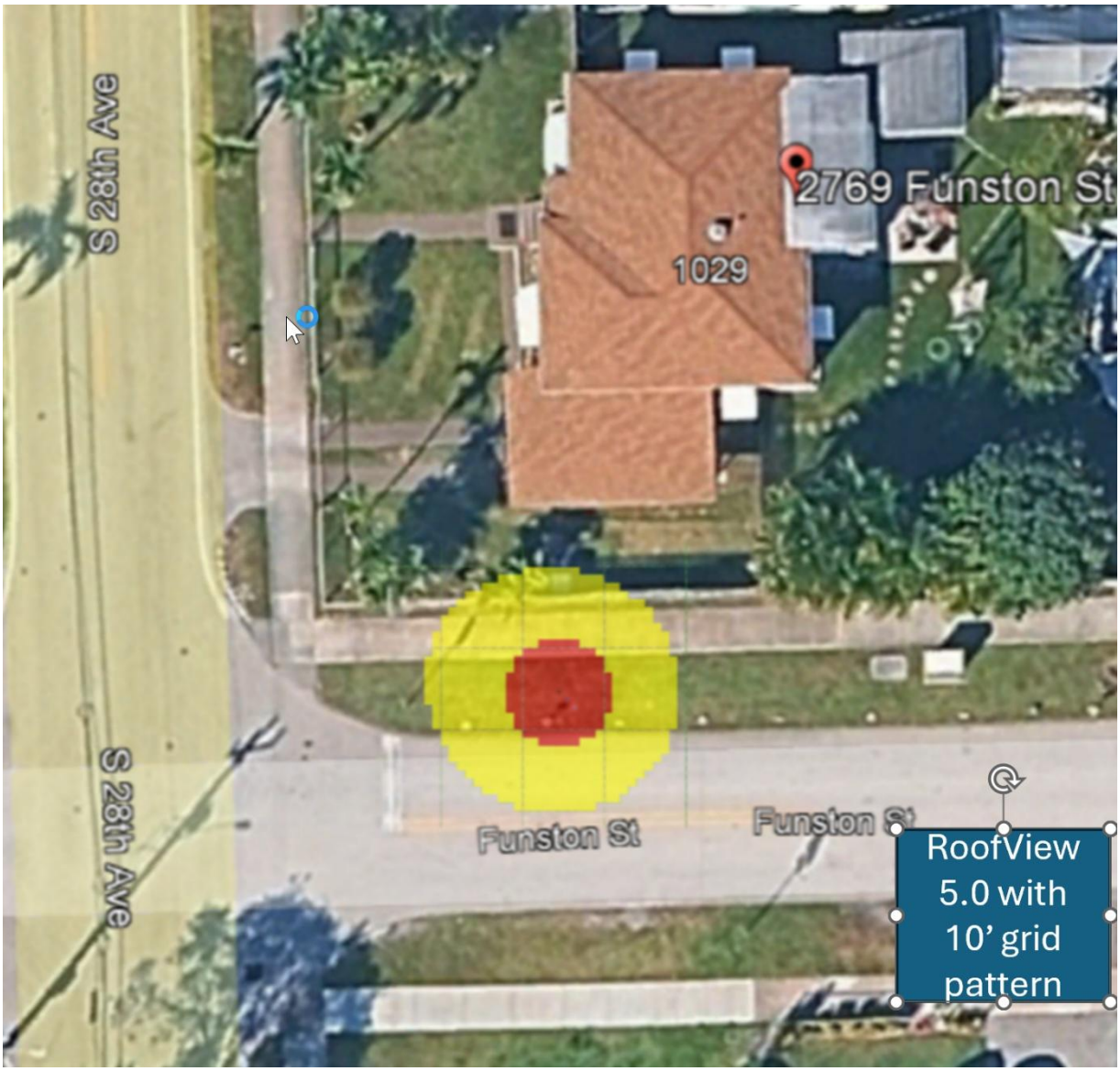
5. Regulatory-consensus statements blur who is responsible for safety determinations

- The text repeatedly invokes "consensus among experts," "WHO," and "FDA" to imply that any 5G site meeting current limits is inherently safe. Under U.S. law, however, the operative standard for site compliance is the FCC's own RF exposure rules and OET-65 methodology, not generalized interpretations of WHO or FDA statements.
- For municipal decision-makers, the critical question is whether this installation, as deployed, meets or exceeds the numeric limits and procedural safeguards in FCC rules, and whether the submitted analysis is methodologically sound—not whether the author believes broader policy debates are resolved.

NADIR VIEW CENTERLINES EMISSIONS THRESHOLD (RF Master)



NADIR VIEW CENTERLINES EMISSIONS THRESHOLD (Roofview)



CONCLUSION SUMMARY:

SCM Advisors has completed a theoretical RF exposure analysis for this wireless facility. The RF exposure plots included in this report indicate that certain areas in the immediate vicinity of specific antenna sectors have the potential to exceed applicable FCC exposure limits. As outlined above, RF signage is recommended on the rear of these antenna sectors, together with a physical barrier and additional RF signage at the Alpha sector, to bring the site into full compliance with FCC requirements.

The predictive modeling further confirms that, with the recommended mitigation in place, RF exposure levels from the facility in all publicly accessible areas, including ground level, interior spaces within the subject building, and adjacent structures, remain within the federal exposure limits applicable to the general public. The vertical radiation pattern of typical panel antennas directs the vast majority of RF energy toward the horizon, with comparatively little energy projected downward; the downward component is generally 100–1,000 times lower than the main horizontal beam. In addition, roof and building materials typically attenuate RF energy by approximately 10–20 dB (a reduction factor of about 10–100), and exposure levels decrease rapidly with distance from the transmitting antennas. Taken together, these factors result in RF exposure in publicly accessible areas that is compliant with the applicable regulatory limits.

FCC Rules & Regulations

All RF exposure data in this report are evaluated as a percentage of the applicable Maximum Permissible Exposure (%MPE) limits specified in 47 CFR §1.1310 and FCC OET Bulletin 65, Edition 97-01. These limits are expressed in milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$) and vary with operating frequency. For General Population/Uncontrolled environments, the MPE limit (in mW/cm^2) between 300 and 1,500 MHz is defined as the frequency in MHz divided by 1,500, while frequencies from 1,500 to 100,000 MHz share a limit of 1 mW/cm^2 (1,000 $\mu W/cm^2$). At each evaluation point, the modeled power density is divided by the corresponding limit at that frequency to yield %MPE, and the individual %MPE contributions from all transmitters are summed to obtain a composite %MPE at that location. Because wireless carriers operate across multiple frequency bands with different limits, presenting results in terms of %MPE rather than raw power density provides a consistent and practical basis for comparison.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is n ot employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

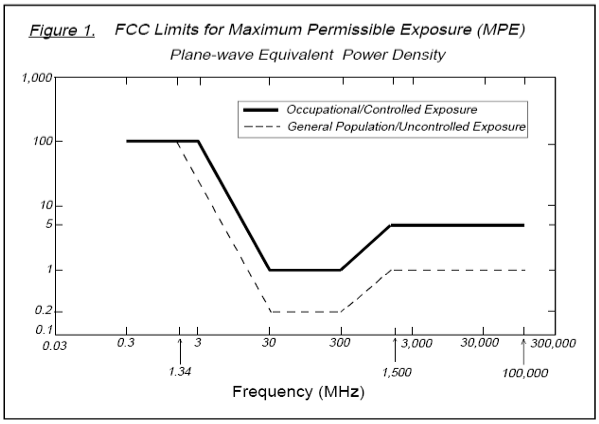
Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequ ence of their employment and in which those persons who are exposed have been made fully aware of t he potential for exposure and can exercise control over their exposure. Occupational/ controlled exposu re limits also apply where exposure is of a transient nature as a result of incidental passage through a loc ation where exposure levels may be above General Population/Uncontrolled limits, as long as the expos ed person has been made fully aware of the potential for exposure and can exercise control over his or h er exposure by leaving the area or by some other appropriate means. Additional details can be found in F CC OET 65.

FCC Rules & Regulations (continued)

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)

* Plane-wave equivalent power density



Two Classifications for Exposure Limits

Occupational – Applies to situations in which persons are "exposed as a consequence of their *employment*" and are "*fully aware* of the potential for exposure and can *exercise control* over their exposure".	General Population – Applies to situations in which persons are "exposed as a consequence of their employment *may not be made fully aware* of the potential for exposure or *cannot exercise control* over their exposure". Generally speaking, those without significant and documented RF Safety & Awareness training would be in the General Population classification.

Environment Classification

Controlled – Applies to environments that are restricted or "controlled" in order to prevent access from members of the General Population classification.	Uncontrolled – Applies to environments that are unrestricted or "uncontrolled" that allow access from members of the General Population classification.

Limits for Occupational/Controlled Exposure		
Frequency Range (MHz)	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$, or S (minutes)**
300-1500	f/300	6
1500-100,000	5	6
Limits for General Population/Uncontrolled Exposure		
Frequency Range (MHz)	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$, or S (minutes)**
300-1500	f/1500	30
1500-100,000	1	30
f = frequency in MHz		

Significant Contribution to the RF Environment

Any carrier contributing an aggregate MPE percentage of *5* or more (to the applicable RF Environment Classification) is defined as a significant contributor. This means that if any area is determined to be out of compliance with FCC rules, all significant contributors are jointly responsible for correcting any deficiencies.

Environment Classification

Controlled – Applies to environments that are restricted or "controlled" in order to prevent access from members of the General Population classification.	Uncontrolled – Applies to environments that are unrestricted or "uncontrolled" that allow access from members of the General Population classification.

Limits for Occupational/Controlled Exposure		
Frequency Range (MHz)	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$, or S (minutes)**
300-1500	f/300	6
1500-100,000	5	6
Limits for General Population/Uncontrolled Exposure		
Frequency Range (MHz)	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$, or S (minutes)**
300-1500	f/1500	30
1500-100,000	1	30
f = frequency in MHz		

Significant Contribution to the RF Environment

Any carrier contributing an aggregate MPE percentage of 5 or more (to the applicable RF Environment Classification) is defined as a significant contributor. This means that if any area is determined to be out of compliance with FCC rules, all significant contributors are jointly responsible for correcting any deficiencies.

b. Occupational Safety and Health Administration (OSHA) Requirements

A formal adopter of FCC Standards, OSHA stipulates that those in the Occupational classification must complete training in the following: RF Safety, RF Awareness, and Utilization of Personal Protective Equipment. OSHA also provides options for Hazard Prevention and Control:

Hazard Prevention	Control
• Utilization of good equipment • Enact control of hazard areas • Limit exposures • Employ medical surveillance and accident response	• Employ Lockout/Tag out • Utilize personal alarms & protective clothing • Prevent access to hazardous locations • Develop or operate an administrative control program

Physical Barriers

Physical barriers are control measures that rely on personnel awareness and cooperation. They are used as an additional administrative control, in combination with RF signage, to physically mark areas where RF exposure may exceed the FCC General Population limit.

Example: chain-connected stanchions

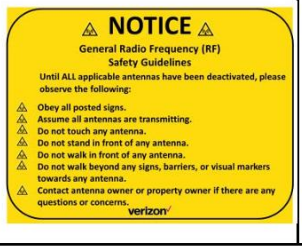
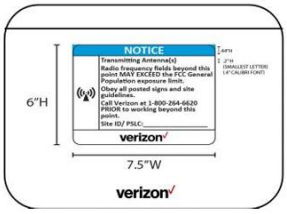
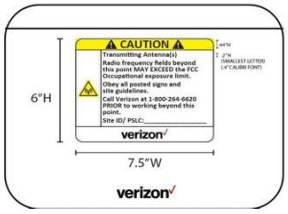
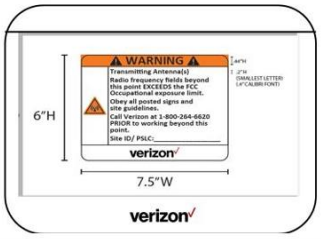
Indicative Markers

Indicative markers are visual control measures that also depend on personnel awareness and cooperation, as they do not physically prevent entry into an area of concern. They are used as an additional administrative control, together with RF signage, to visually outline areas where RF exposure may exceed the FCC General Population limit.

Example: painted stripes

RF Signage

Certain areas or portions of a transmitter site may experience elevated power densities that could result in personnel exposures exceeding FCC guidelines. These locations must be clearly delineated with prominently posted RF warning signs that identify the potential exposure risk. Signage must remain visible and legible from all normal approach directions and viewing positions.

GUIDELINES	Category Two - Notice	Category Three - Caution	Category Four - Warning
This sign will inform anyone of the basic precautions to follow when entering an area with transmitting radiofrequency equipment.	This sign indicates that RF emissions may exceed the FCC General Population MPE limit. • Sign Color Blue. • Sign Signal Word "Notice"	This sign indicates that RF emissions may exceed the FCC Occupational MPE limit. • Sign Color Yellow. • Sign Signal Word "Caution"	This sign indicates that RF emissions may exceed at least 10x the FCC Occupational MPE limit. • Sign Color Orange for Warning. • Sign Signal Word "Warning"
			

Category One - Information	
Information signs are used as a means to provide contact information for any questions or concerns. They will include specific cell site identification information and the Verizon Wireless Network Operations Center phone number. • Sign Color Green • Sign Signal Word "Information"	

Signs for Category Two through Four must include:

- The appropriate signal word and associated color (i.e., "DANGER" – red, "WARNING" – orange, "CAUTION" – yellow, "NOTICE" – blue).
- An RF energy advisory symbol.
- A clear description of the RF source.
- Instructions on the behavior required to remain within applicable exposure limits; and
- Current contact information.

Signage Design Features:

- All signs shall have rounded or blunt corners and be free of sharp edges, burrs, splinters, or other projections. The ends or heads of bolts or other fasteners shall be positioned so they do not present a safety hazard.

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CERTIFICATION:

I, Michael Flores, reviewer of this report, certify that I am fully trained and knowledgeable regarding the rules and regulations of both the Federal Communications Commission (FCC) and the Occupational Safety and Health Administration (OSHA) as they relate to human exposure to radiofrequency radiation. I have been trained in the procedures and requirements set forth in the applicable FCC regulatory compliance guidance.

Michael Flores (Reviewer)
Date: 3.3.26

I, Kyle Kitchens, preparer, reviewer and approver of this report, certify that I am fully trained and knowledgeable regarding the rules and regulations of both the Federal Communications Commission (FCC) and the Occupational Safety and Health Administration (OSHA) as they relate to human exposure to radiofrequency radiation. I have been trained in the procedures and requirements set forth in the applicable FCC regulatory compliance guidance.

Kyle Kitchens (RF Engineer)
Date: 3.3.26