

Radio Frequency Safety Survey Report Predictive (RFSSRP)



Site Name:	OCEAN CITY 81 MD21
FA#	12719605
USID:	138558
Site ID:	SIMD001230 / MDL06039
Address:	8500 COASTAL HIGHWAY, OCEAN CITY, MD 21842
County:	WORCESTER
Latitude:	38.40395
Longitude:	-75.05881
Structure Type:	ROOFTOP
Property Owner:	ANTIGUA CONDOMINIUM
IWM Job#:	WSWSH0027203
RFDS ID:	3626
Desktop Modeler:	IXUS VERSION 4.15(1)

Report Information

Report Writer: Sunita Sati

Report Generated Date: 09-05-2025(v6)

Compliance Statement

AT&T Mobility Compliance Statement: Based on the information collected, AT&T Mobility will be compliant when the remediation recommended in [Section 3.0](#) or appropriate remediation determined by AT&T is implemented

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1.0 Introduction

MobileComm Professionals, Inc. has been contracted by AT&T Mobility LLC to produce a theoretical assessment of the potential radio frequency emissions at the proposed AT&T “ROOFTOP” site. FCC OET Bulletin 65 – Edition 97-01 recommends that theoretical calculations should be done to yield a worst-case scenario. This theoretical analysis will provide a worst-case assessment of potential emissions and will assume all transmitters are operating at highest capacity and power. This will provide AT&T with a guideline of how to proceed with mitigating the site to ensure the site will be compliant with FCC regulations at any instance.

For this MPE theoretical analysis, MobileComm considered the accessible areas of site to determine approximate field strength levels and to identify any areas with higher levels exceeding FCC MPE limits and then determined spatially averaged field levels in areas with highest fields.

MobileComm has utilized computer generated model(s) in this Site Compliance Report. The modeling software that MobileComm used to create this report is IXUS.

General Model Assumptions

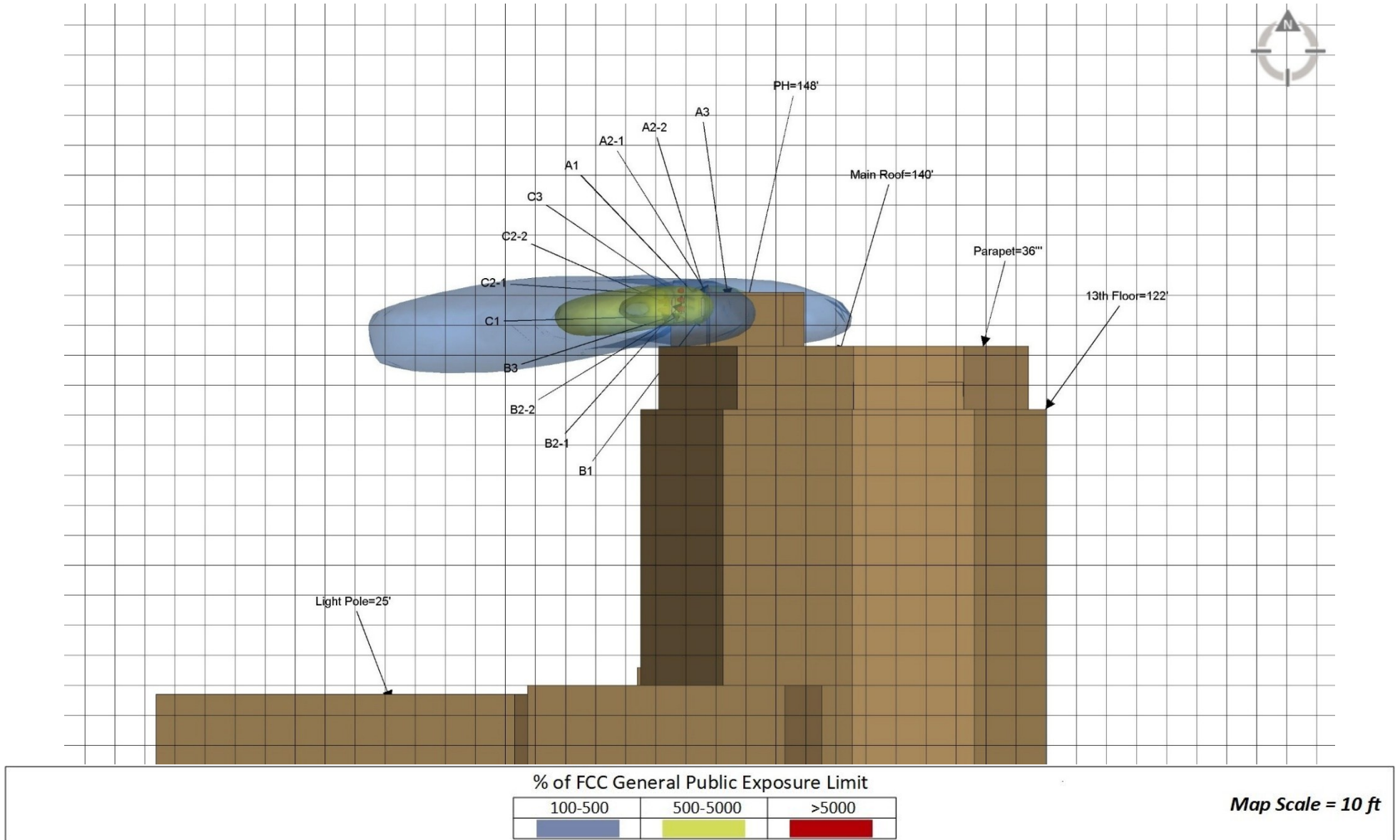
In this site compliance report, it is assumed that all antennas are operating at full power at all times. AT&T has further recommended to assume a 75% duty cycle of maximum radiated power for all TDD & FDD carriers. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account.

MobileComm obtained information used in this Site Compliance Report from AT&T (or approved vendors) which is considered reliable and believes them to be true and correct.

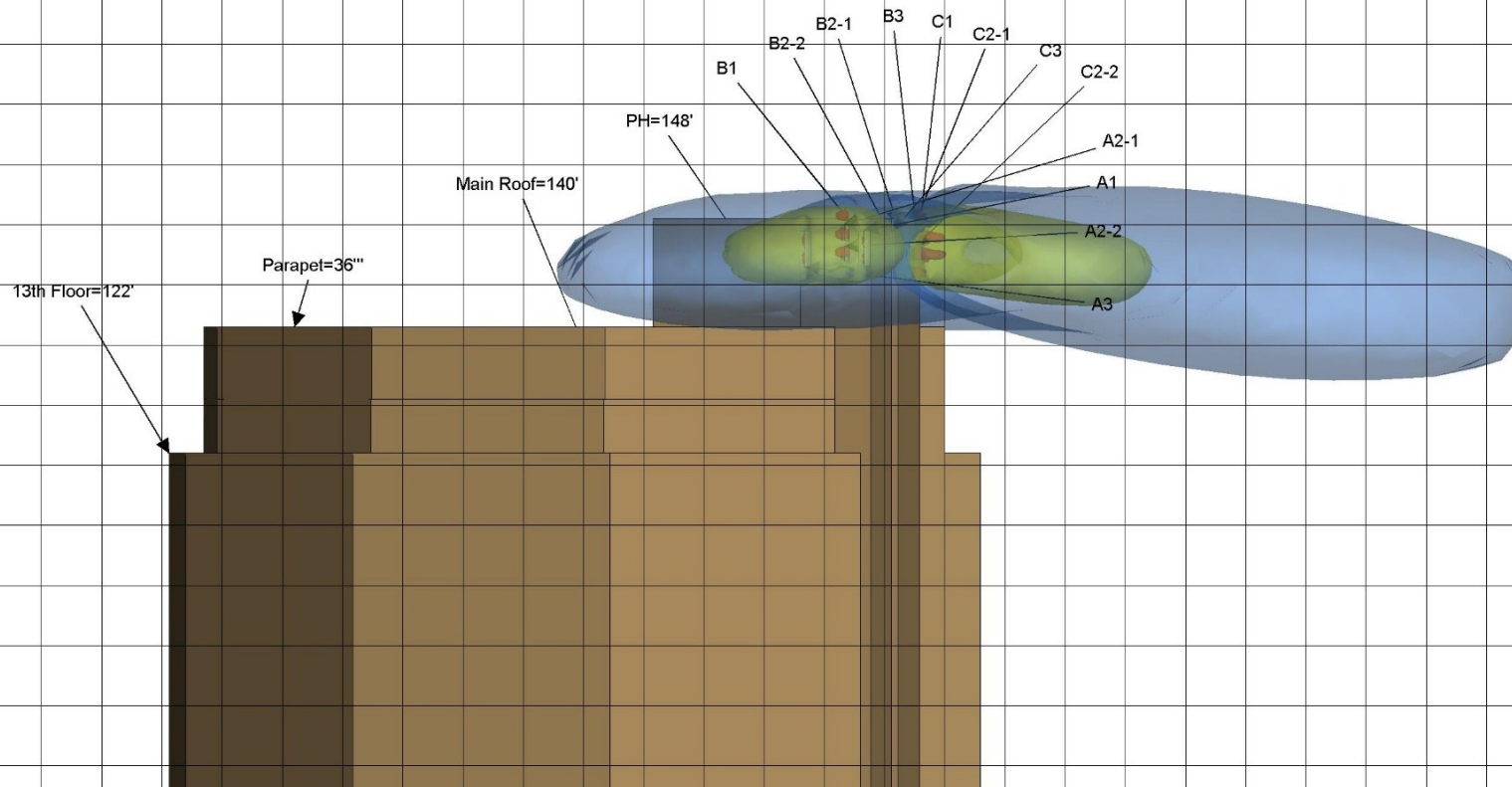
Due to the complexity of some wireless sites, MobileComm performed this analysis and created this report utilizing best industry practices and due diligence.

2.0 Predicted RF Emission Diagram(s)

2.1 Predictive Cumulative MPE Contribution from All Sources: 3D Perspective View – 1



2.2 Predictive Cumulative MPE Contribution from All Sources: 3D Perspective View – 2

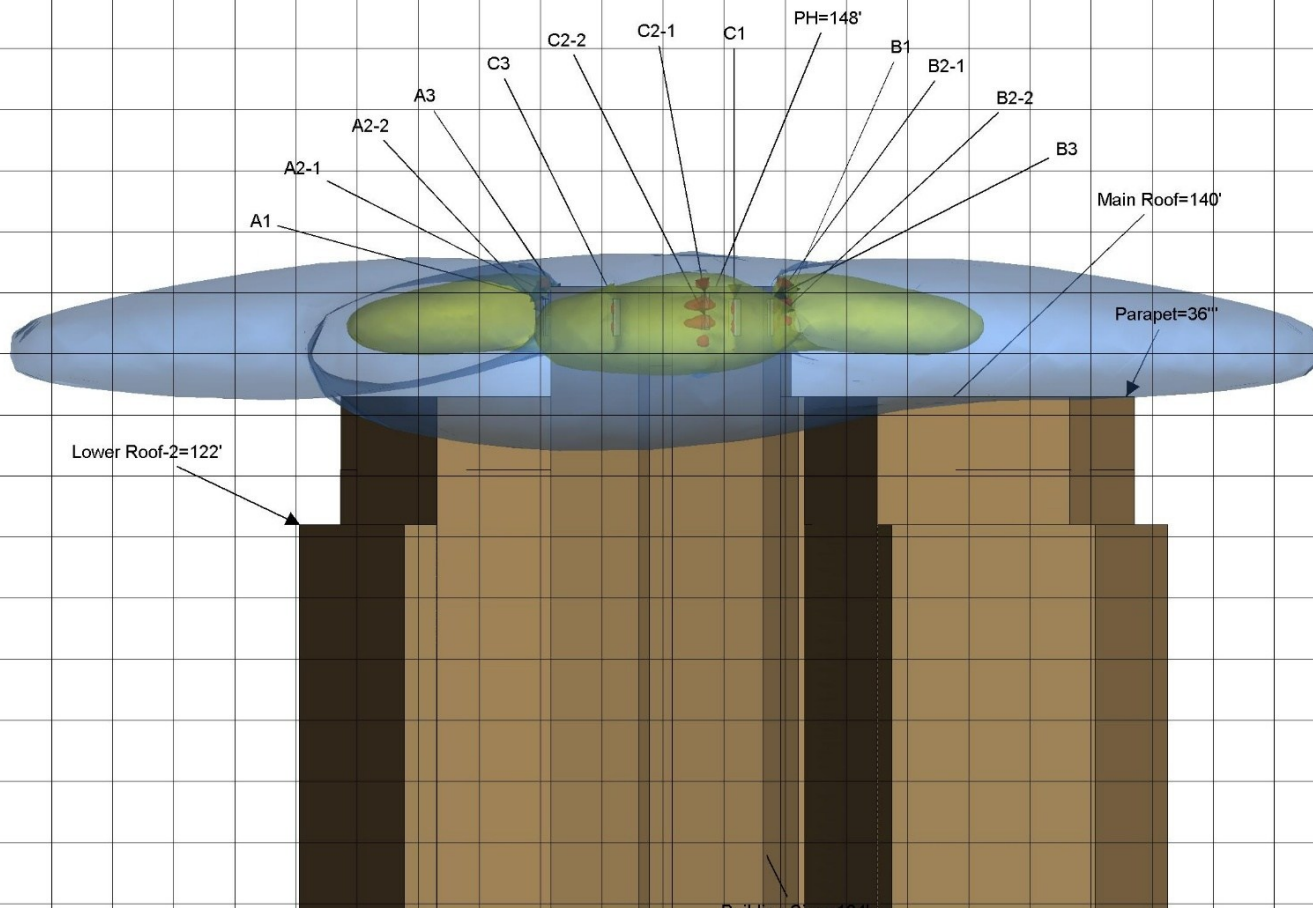


% of FCC General Public Exposure Limit

100-500	500-5000	>5000

Map Scale = 10 ft

2.3 Predictive Cumulative MPE Contribution from All Sources: 3D Perspective View – 3

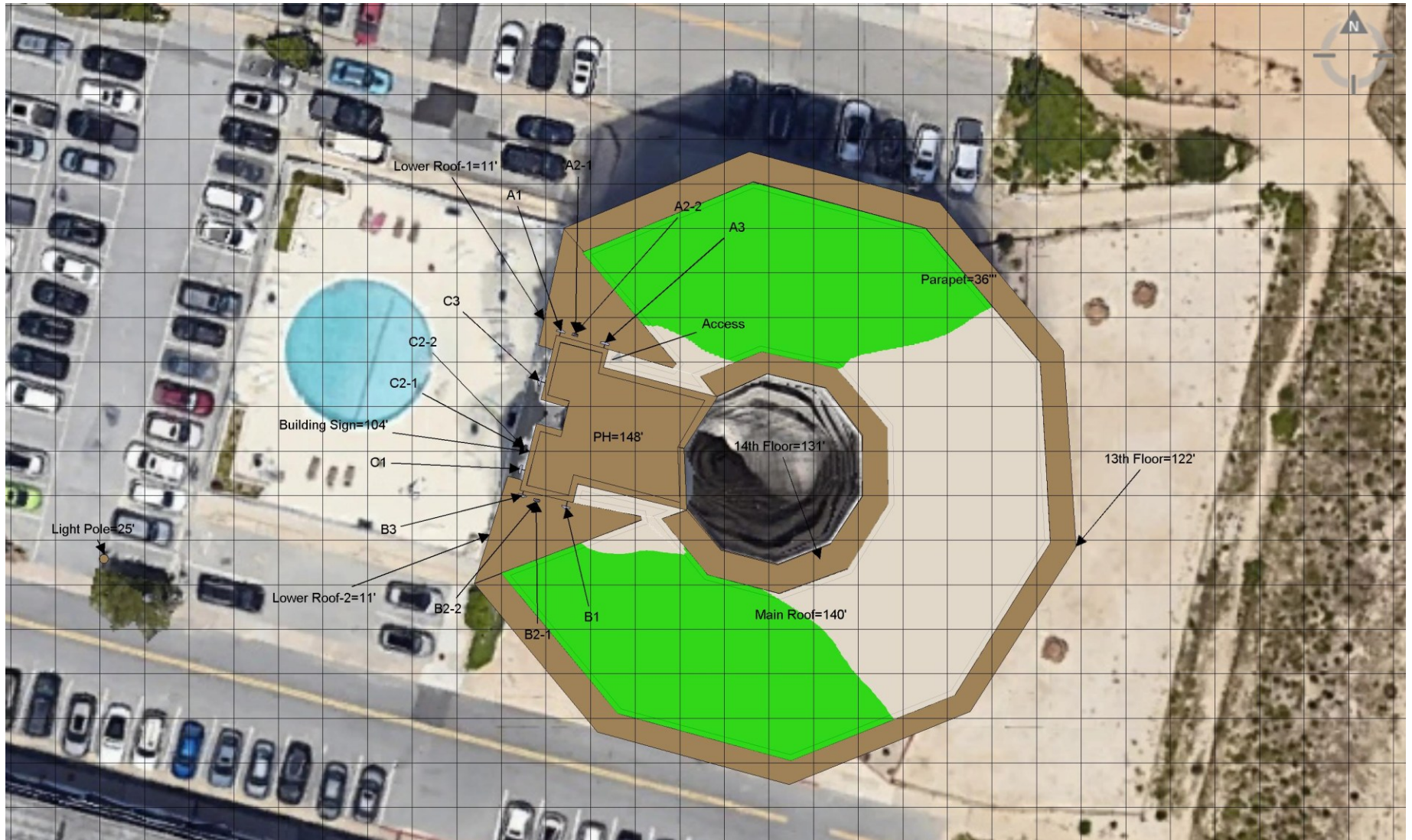


% of FCC General Public Exposure Limit

100-500	500-5000	>5000

Map Scale = 10 ft

2.4 Predictive Cumulative MPE Contribution from All Sources at Main Roof Level (140 ft. AGL)



Max. Predictive Spatial Average MPE% = **87.70%**

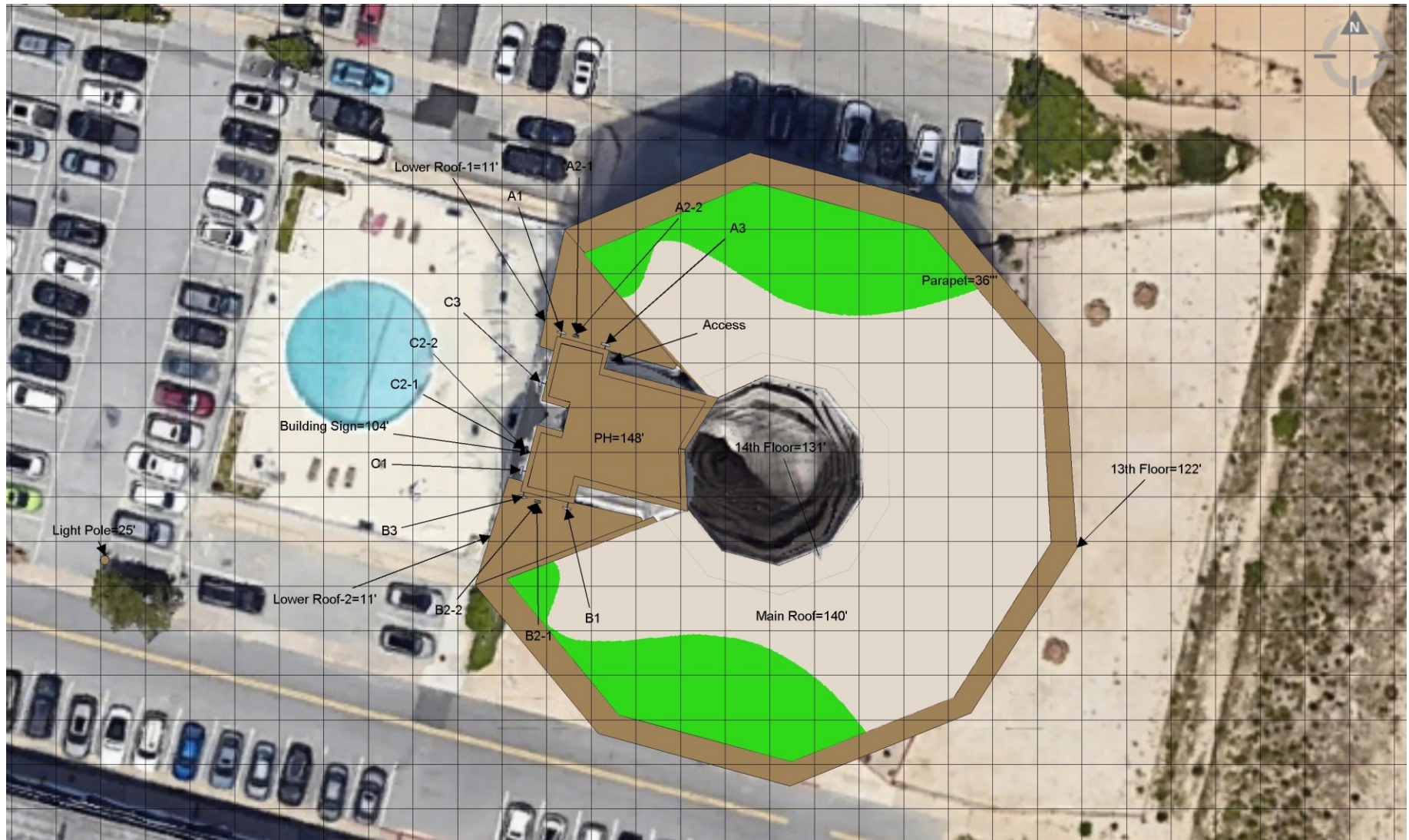
% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-5	5-100	100-500	500-5000	>5000

Proposed Barrier -----
 Proposed Posts ●

Grid Scale = 10 ft

2.5 Predictive Cumulative MPE Contribution from All Sources at 14th Floor Level (131 ft. AGL)



Max. Predictive Spatial Average MPE% = **25.11%**

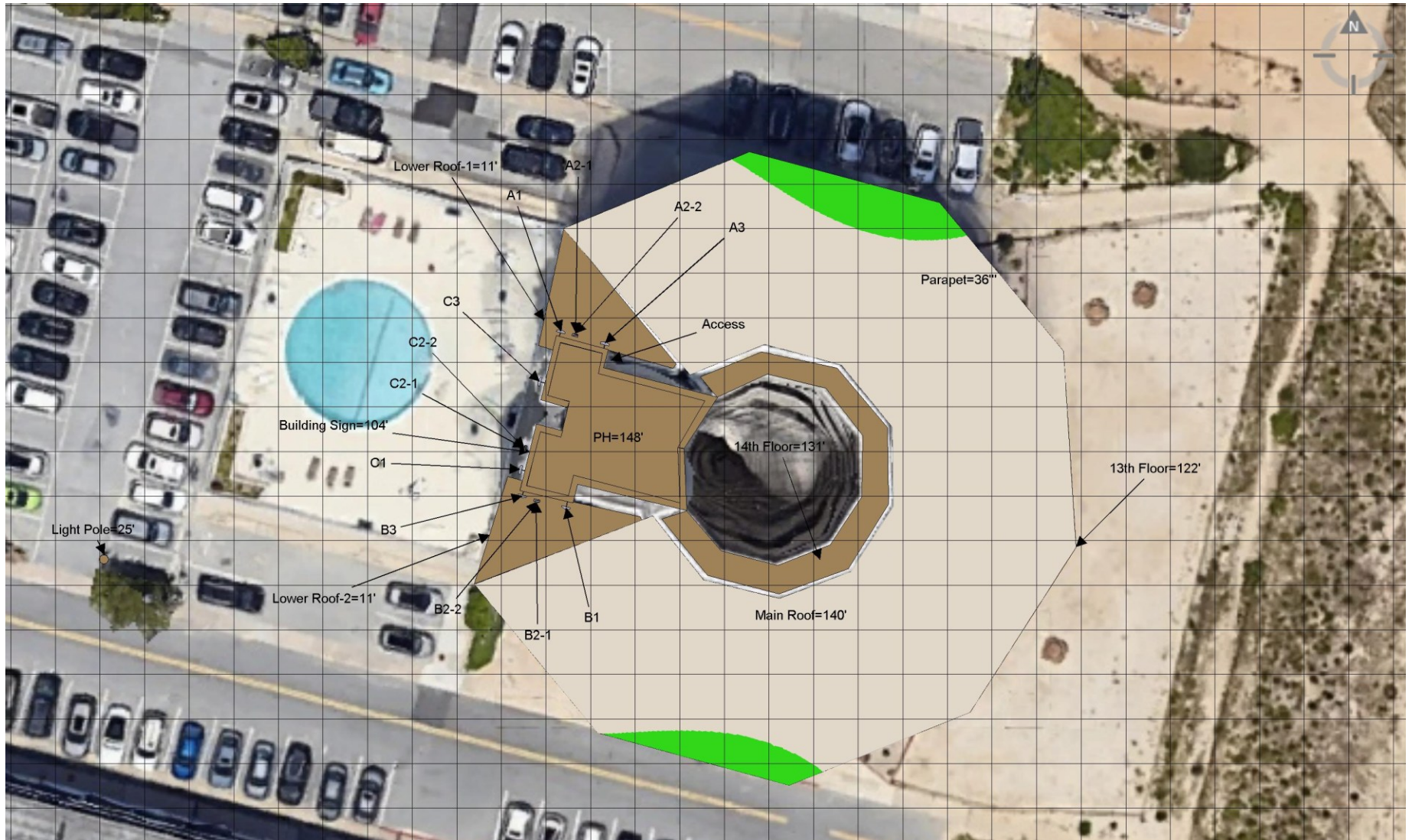
% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-5	5-100	100-500	500-5000	>5000

Proposed Barrier
 Proposed Posts

Grid Scale = 10 ft

2.6 Predictive Cumulative MPE Contribution from All Sources at 13th Floor Level (122 ft. AGL)



Max. Predictive Spatial Average MPE% = **8.79%**

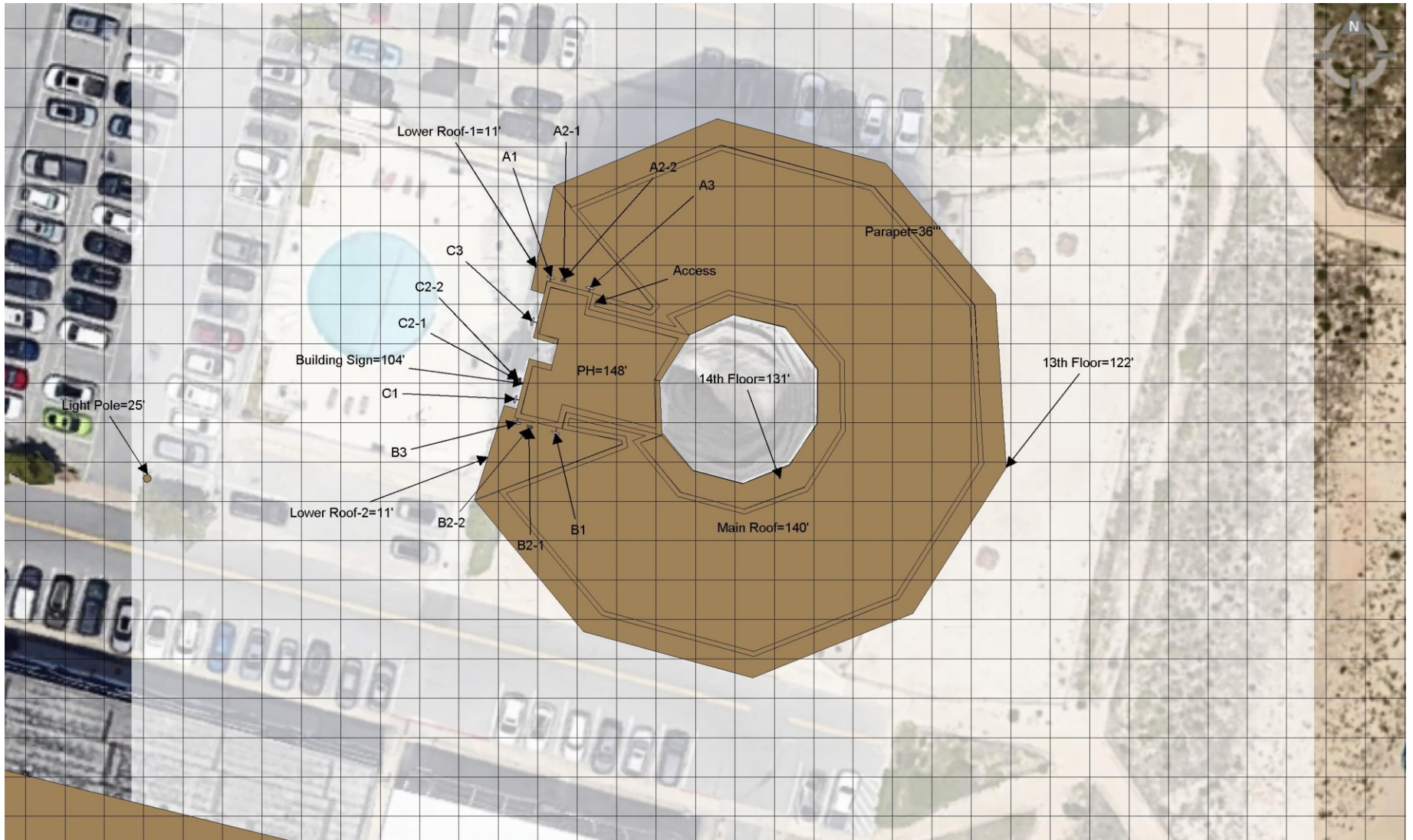
% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-5	5-100	100-500	500-5000	>5000

Proposed Barrier -----
 Proposed Posts ●

Grid Scale = 10 ft

2.7 Predictive Cumulative MPE Contribution from All Sources at Ground Level (0 ft. AGL)



Max. Predictive Spatial Average MPE% = **0.43%**

% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-5	5-100	100-500	500-5000	>5000

Proposed Barrier -----
 Proposed Posts ●

Grid Scale = 10 ft

3.0 Compliance Measures

The compliance determination is based on theoretical modeling, RF signage placement recommendations and the level of restricted access to the antennas at the site. At the time of our analysis, AT&T will be compliant with the FCC rules and regulations, as described in OET Bulletin 65 upon implementation of below remediation(s).

Recommendations

AT&T Alpha Sector:

- One Caution 2C Sign to be posted on the inside wall of the parapet, in the middle of the antenna array facing outwards so approaching people can see. (1 Total Sign)
- **To mitigate Excess MPE on Main Roof**, below action(s) have been considered in the analysis of this report:

Ant ID	Operator	Antenna Mfg	Antenna Model	FREQ. (MHz)	TECH.	Theoretical Max RRU Input Power (watts)	Applied Attn. (dB)	Required Power (watts)	Designed Azimuth (°)	Designed Centerline (ft.) AGL
A1	AT&T Mobility	CCI	TPA45R-BU6B	2300	LTE	100	6	25.12	15	156.00
A2-2	AT&T Mobility	Ericsson	AIR6419 B77G	3450	5G	320	4	127.39	15	155.16

AT&T Beta Sector:

- One Caution 2C Sign to be posted on the inside wall of the parapet, in the middle of the antenna array facing outwards so approaching people can see. (1 Total Sign)
- **To mitigate Excess MPE on Main Roof**, below action(s) have been considered in the analysis of this report:














Ant ID	Operator	Antenna Mfg	Antenna Model	FREQ. (MHz)	TECH.	Theoretical Max RRU Input Power (watts)	Recommended Attenuation (dB)	Required Power (watts)	Designed Azimuth (°)	Designed Centerline (ft.) AGL
B1	AT&T Mobility	CCI	TPA45R-BU6B	2300	LTE	100	6	25.12	195	156.00
B2-2	AT&T Mobility	Ericsson	AIR6419 B77G	3450	5G	320	4	127.39	195	155.16

AT&T Gamma Sector:

- Two Caution 2C Signs to be posted on the inside wall of the parapet, in the middle of the antenna array facing outwards so approaching people can see. (2 Total Signs)

4.0 Site Scale Map



Proposed Barrier  Posts 	Proposed Signage											Grid Scale = 10 ft
	 Safety Instructions	 Notice 2	 Notice 2D Adjacent	 Caution 2	 Caution 2A	 Caution 2B	 Caution 2C	 Caution 2D Adjacent	 Caution 7"x7"	 Warning 1B	 Warning 2A	

5.0 Summary

All calculations performed for this analysis yielded results that were within the allowable limits for exposure to RF Emissions. Based on theoretical modeling, and upon implementation of recommendations in [Section 3](#), there will be no modeled exposures on any accessible walking/working surface related to AT&T's equipment in the area that exceed the FCC's Occupational or General Population exposure limits at this site.

The anticipated maximum theoretical RF-EME at Ground level will be **0.67%** of the FCC's General Population. This was determined through calculations along a radial from each sector taking full power values into account as well as actual vertical plane antenna gain values per the manufacturer-supplied specifications for gain. Based on worst-case theoretical modeling, there are no areas at ground level related to the proposed antennas that exceed the FCC's occupational or General Population exposure limits at this site.

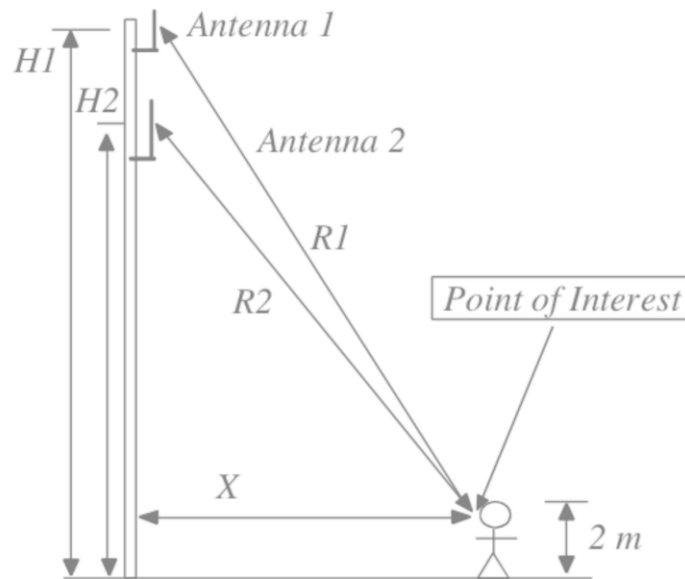
A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

Modeling indicates that there will be no accessible areas on the walking/working surfaces in front of the AT&T antennas that may exceed the FCC standards for general population and/or occupational exposure after implementation of mitigation measures. To reduce the risk of exposure and/or injury, MobileComm recommends that access to the areas associated with the active antenna installation or mitigation measures to be restricted and secured wherever possible.

6.0 FCC Rules and Regulations and Guidelines from OET 65

When considering the contributions to field strength or power density from other RF sources, care should be taken to ensure that such variables as reflection and re-radiation are considered. In cases involving very complex sites predictions of RF fields may not be possible, and a measurement survey may be necessary. The process for determining compliance for other situations can be similarly accomplished using the techniques described in this section and in Supplement A to this bulletin that deals with radio and television broadcast operations. However, as mentioned above, at very complex sites measurements may be necessary.

In the simple example shown in the below diagram, it is desired to determine the power density at a given location X meters from the base of a tower on which are mounted two antennas. One antenna is a CMRS antenna with several channels, and the other is an FM broadcast antenna. The system parameters that must be known are the total ERP for each antenna and the operating frequencies (to determine which MPE limits apply). The heights above ground level for each antenna, $H1$ and $H2$, must be known in order to calculate the distances, $R1$ and $R2$, from the antennas to the point of interest.



This summarizes the policies, guidelines and requirements that were adopted by the FCC on August 1, 1996, amending Part 1 of Title 47 of the Code of Federal Regulations, and further amended by action of the Commission on August 25, 1997 (see 47 CFR Sections 1.1307(b), 1.1310, 2.1091 and 2.1093, as amended from FCC "OET Bulletin 65"). Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the preparation of an Environmental Assessment (EA), as described in 47 CFR Section 1.1311, if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency (RF) electromagnetic fields in excess of these limits. For exact language, see the relevant FCC rule sections.

The FCC-adopted limits for Maximum Permissible Exposure (MPE) are generally based on recommended exposure guidelines published by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3. Copyright NCRP, 1986, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, exposure limits for field strength and power density are also generally based on the MPE limits found in Section 4.1 of, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017, and approved for use as an American National Standard by the American National Standards Institute (ANSI). The exposure guidelines are based on thresholds for known adverse effects and they incorporate a significant margin of safety. The federal health and safety agencies such as: the Environmental Protection Agency ("EPA"), the Food and Drug Administration ("FDA"), the National Institute on Occupational Safety and Health ("NIOSH") and the Occupational Safety and Health Administration ("OSHA") have also been actively involved in monitoring and investigating issues related to RF exposure.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Population or "Uncontrolled environment". The General Population limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to accessible areas where workers or the General Population may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

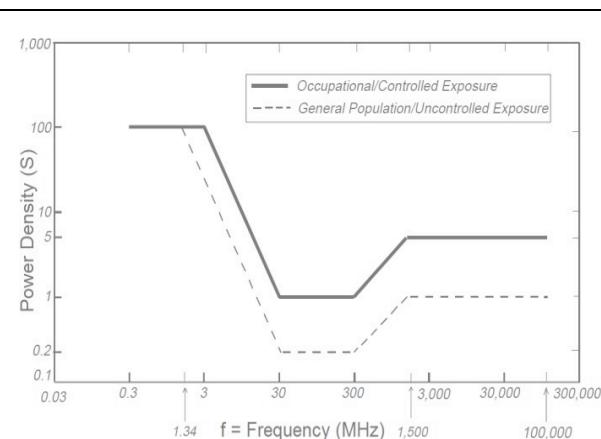
An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Population limits.

The formulas used in IXUS for calculating Power density is based on FCC "OET Bulletin 65", Section 2: PREDICTION METHODS, August 1997, Edition 97-01. Power density is converted to Maximum Permissible Exposure Limits (MPE Limits) based on Limits of General population/Uncontrolled Exposure and Limits of Occupational/Controlled Exposure presented in the following table generated from Appendix A of "OET Bulletin 65".

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



7.0 Safety Recommendations

Occupational Safety and Health Administration (OSHA) Requirements

OSHA requires that those in the Occupational classification must complete training in RF Safety, RF Awareness, and Utilization of Personal Protective Equipment. OSHA also provides options for Hazard Prevention and Control:

Hazard Prevention	Control
<ul style="list-style-type: none"> Utilization of good equipment Enact control of hazard areas Limit exposures Employ medical surveillance and accident response 	<ul style="list-style-type: none"> Employ Lockout/Tag out Utilize personal alarms & protective clothing Prevent access to hazardous locations Develop or operate an administrative control program

RF Signage and Barriers

All RF signs should be obeyed by at all times.

Post the appropriate NOTICE, CAUTION & WARNING sign at the main site access point(s) and other locations as required. The signs below are examples of signs meeting FCC guidelines



If there are workers in an area with a sign that they do not understand, they can call the NOC Number at 800-638-2822 for guidance.

All persons (arborist, landscapers, construction/utility workers, etc.) that are accessing adjacent elevated surfaces that exceed the General Public (GP) limits MPE must be made aware of these potential exceedances and their fields, where applicable.

8.0 FCC Limits

Occupational limits

Apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

General population limits

Apply in situations in which the General Population may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Controlled Environment

Applies to environments that are restricted or “controlled” in order to prevent access from members of the General Population classification.

Uncontrolled Environment

Applies to environments that are unrestricted or “uncontrolled” that allow access from members of the General Population classification.

Contribution to Co-Located areas

Any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

Generic Values

The use of “Unknown” for an operator means the information with regard to the carrier, their FCC license and / or antenna information was not available. Generic values are used as estimation for Effective Radiated Power (ERP) and antenna characteristics for unknown antennas.