Radio Frequency Emissions Compliance Report For AT&T Mobility

Site Name:	**RAHILLY PARK**	**Site Structure Type:**	**Monopalm**
Address:	**3400 North Parsons Avenue**	**Latitude:**	**37.3244**
	MERCED, CA 95340	**Longitude:**	**-120.4527**
Report Date:	**March 11, 2025**	**Project:**	**Modification**

Compliance Statement

Based on information provided by AT&T Mobility and predictive modeling, the **RAHILLY PARK** installation proposed by AT&T Mobility will be compliant with Radiofrequency Radiation Exposure Limits of 47 C.F.R. §§ 1.1307(b)(3) and 1.1310. RF alerting signage and restricting access to the antenna to authorized personnel that have completed RF safety training is required for Occupational environment compliance. The proposed operation will not expose members of the General Public to hazardous levels of RF energy at ground level or in adjacent buildings.

Certification

I Tim Alexander, am the reviewer and approver of this report and am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation, specifically in accordance with FCC's OET Bulletin 65. I have reviewed this Radio Frequency Exposure Assessment report and believe it to be both true and accurate to the best of my knowledge.

SIGNED, 12 MAR 2025

General Summary

The compliance framework is derived from the Federal Communications Commission (FCC) Rules and Regulations for preventing human exposure in excess of the applicable Maximum Permissible Exposure ("MPE") limits. At any location at this site, the power density resulting from each transmitter may be expressed as a percentage of the frequency-specific limits and added to determine if 100% of the exposure limit has been exceeded. The FCC Rules define two tiers of permissible exposure differentiated by the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. General Population / Uncontrolled exposure limits apply to those situations in which persons may not be aware of the presence of electromagnetic energy, where exposure is not employment-related, or where persons cannot exercise control over their exposure. Occupational / Controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment, have been made fully aware of the potential for exposure, and can exercise control over their exposure. Based on the criteria for these classifications, the FCC General Population limit is considered to be a level that is safe for continuous exposure time. The FCC General Population limit is 5 times more restrictive than the Occupational limits.

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ATTACHMENT G

Table 1: FCC Limits

Frequency (MHz)	*Limits for General Population/ Uncontrolled Exposure*		*Limits for Occupational/ Controlled Exposure*	
	Power Density (mW/cm^2)	**Averaging Time (minutes)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
30-300	0.2	30	1	6
300-1500	f/1500	30	f/300	6
1500-100,000	1.0	30	5.0	6

f=Frequency (MHz)

In situations where the predicted MPE exceeds the General Population threshold in an accessible area as a result of emissions from multiple transmitters, FCC licensees that contribute greater than 5% of the aggregate MPE share responsibility for mitigation.

Based on the computational guidelines set forth in FCC OET Bulletin 65, Waterford Consultants, LLC has developed software to predict the overall Maximum Permissible Exposure possible at any location given the spatial orientation and operating parameters of multiple RF sources. The power density in the Far Field of an RF source is specified by OET-65 Equation 5 as follows:

$$S = \frac{EIRP}{4 \cdot \pi \cdot R^2} \ (\mathrm{mW/cm^2})$$

Where EIRP is the Effective Radiated Power relative to an isotropic antenna and R is the distance between the antenna and point of study. Additionally, consideration is given to the manufacturers' horizontal and vertical antenna patterns as well as radiation reflection. At any location, the predicted power density in the Far Field is the spatial average of points within a 0 to 6-foot vertical profile that a person would occupy. Near field power density is based on OET-65 Equation 20 stated as

$$S = \left(\frac{180}{\theta_{BW}}\right) \cdot \frac{100 \cdot P_{in}}{\pi \cdot R \cdot h} \ (\mathrm{mW/cm^2})$$

Where P_{in} is the power input to the antenna, θ_{BW} is the horizontal pattern beamwidth and h is the aperture length.

Some antennas employ beamforming technology where RF energy allocated to each customer device is dynamically directed toward their location. In the analysis presented herein, predicted exposure levels are based on all beams at full utilization (i.e. full power) simultaneously focused in any direction. As this condition is unlikely to occur, the actual power density levels at ground and at adjacent structures are expected to be less that the levels reported below. These theoretical results represent maximum-case predictions as all RF emitters are assumed to be operating at 100% duty cycle.

For any area in excess of 100% General Population MPE, access controls with appropriate RF alerting signage must be put in place and maintained to restrict access to authorized personnel. Signage must be posted to be visible upon approach from any direction to provide notification of potential conditions within these areas. Subject to other site security requirements, occupational personnel should be trained in RF safety and equipped with personal protective equipment (e.g. RF personal monitor) designed for safe work in the vicinity of RF emitters. Controls such as physical barriers to entry imposed by locked doors, hatches and ladders or other access control mechanisms may be supplemented by alarms that alert the individual and notify site management of a breach in access control. Waterford Consultants, LLC recommends that any work activity in these designated areas or in front of any transmitting antennas be coordinated with all wireless tenants.

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Analysis

The antenna will be mounted on a 68’ Monopalm with centerlines 53’ for LTE, 55’ for C-Band above ground level for All Sectors. Proposed antenna operating parameters are listed in Appendix A. Other appurtenances such as GPS antennas, RRUs and hybrid cable below the antennas are not sources of RF emissions. No other antennas are known to be operating in the vicinity of this site.

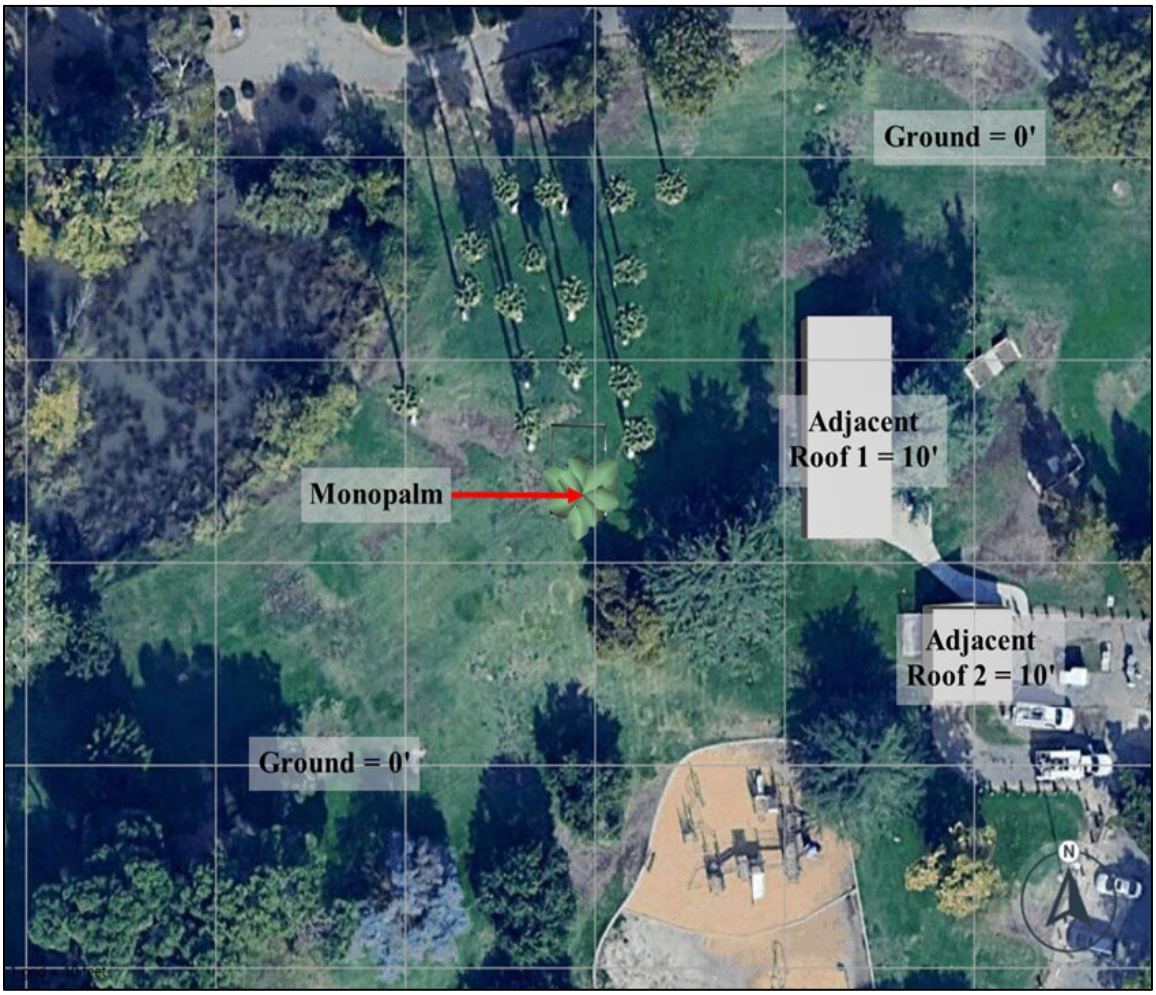
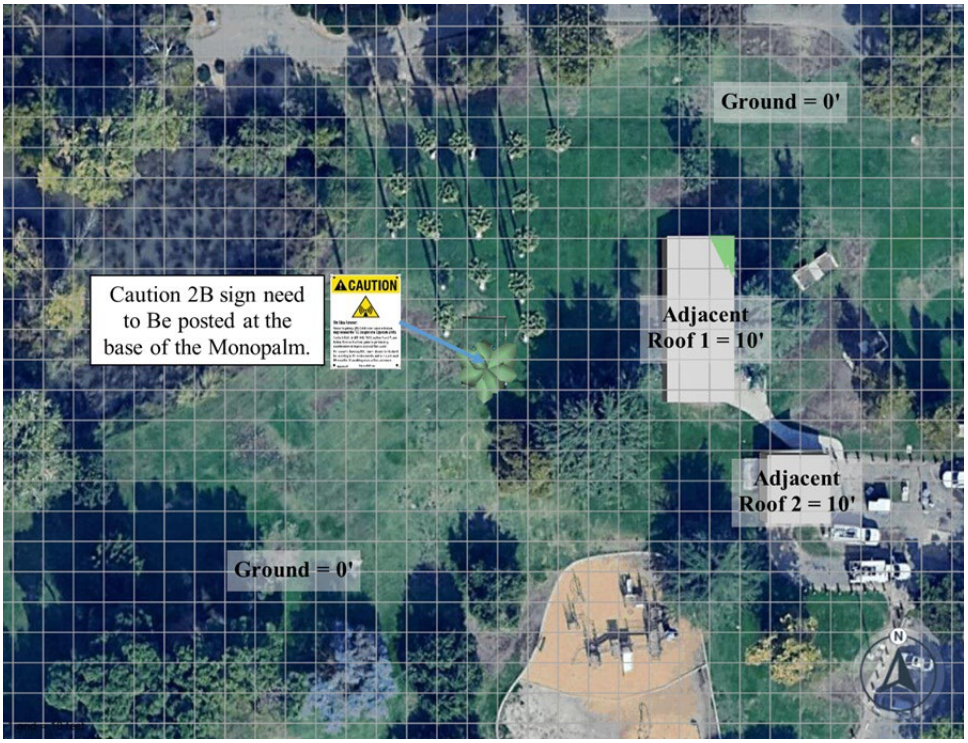


Figure 1: Antenna Locations

Power density decreases significantly with distance from any antenna. The panel-type antennas to be employed at this site are highly directional by design and the orientation in azimuth and mounting elevation, as documented, serves to reduce the potential to exceed MPE limits at any location other than directly in front of the antennas. For accessible areas at ground level, the maximum predicted power density level resulting from all AT&T Mobility operations is 3.68% of the FCC General Population limits. Incident at adjacent Structure depicted in Figures, the maximum predicted power density level resulting from all AT&T Mobility operations is 5.69% of the FCC General Population limits. The proposed operation will not expose members of the General Public to hazardous levels of RF energy at ground level or in adjacent buildings

On the pole in front of the antenna, predicted MPE levels will exceed the FCC General Population limits within 83 feet in front of the antennas and within 8 feet below the Antenna. The maximum predicted power density level resulting from all AT&T Mobility operations directly in front of the antennas is 7484.25% of the FCC General Population limits (1496.85% of the FCC Occupational limits). Waterford Consultants, LLC recommends posting RF alerting signage (Caution 2B) on the pole visible upon approach that informs personnel accessing this area of basic precautions to be followed when working around antennas. This recommendation is depicted in Figure 2. Any work activity in front of transmitting antennas should be coordinated with AT&T Mobility. Please note that 100% of the General Public Limits corresponds to 20% of the Occupational Limits.

Compliance Requirement Diagram (Access Location)



Recommendations

AT&T Mobility:
Caution 2B sign need to be posted at the base of the Monopalm.

Materials:

2 Caution 2B sign.

Proposed Signs/Barriers

Existing Signs/Barriers

Figure 2: Mitigation Recommendations

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Appendix A: Operating Parameters Considered in this Analysis

Ant #	Operator	Antenna Make	Antenna Model	Type	Frequency (MHz)	Block	mech/ elec Az (Deg)	mech downtilt (Deg)	Horizontal Beam Width (Deg)	Antenna Length/ Aperture (ft)	Antenna Gain (dBd)	TPO (Watts)	Total ERP (Watts)	Antenna Centerline Ground Level (ft)	Bottom of Antenna Ground Level (ft)
1	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	700	B12A	60	0	71	8	13.15	240	4956.90	53	49
1	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	850	B5	60	0	60	8	13.85	240	6610.13	53	49
1	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	1900	B25	60	0	58	8	15.75	240	13068.03	53	49
1	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	2100	B66	60	0	57	8	24.25	240	14494.72	53	49
2	AT&T	ERICSSON	AIR6472	Panel	3500	B77G	60	0	63	3	25.15	54.22	14426.46	55	54
2	AT&T	ERICSSON	AIR6472	Panel	3700	B77M	60	0	66	3	12.31	81.33	26622.59	55	54
3	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	700	B14	60	0	71	8	14.88	160	3304.61	53	49
3	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	1900	B25	60	0	58	8	15.17	240	13068.03	53	49
3	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	2100	B66	60	0	57	8	13.15	240	14494.72	53	49
4	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	700	B12A	180	0	71	8	13.85	240	4956.90	53	49
4	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	850	B5	180	0	60	8	15.75	240	6610.13	53	49
4	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	1900	B25	180	0	58	8	24.25	240	13068.03	53	49
4	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	2100	B66	180	0	57	8	25.15	240	14494.72	53	49
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6	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	1900	B25	180	0	58	8	13.15	240	13068.03	53	49
6	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	2100	B66	180	0	57	8	13.85	240	14494.72	53	49
7	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	700	B12A	300	0	71	8	15.75	240	4956.90	53	49
7	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	850	B5	300	0	60	8	24.25	240	6610.13	53	49
7	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	1900	B25	300	0	58	8	25.15	240	13068.03	53	49
7	AT&T	COMMSCOPE	NNH4-65C-R6-HG	Panel	2100	B66	300	0	57	8	12.31	240	14494.72	53	49
8	AT&T	ERICSSON	AIR6472	Panel	3500	B77G	300	0	63	3	14.88	54.22	14426.46	55	54
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