WATERFORD
COMPLIANCE...FROM START TO SIGNAL

Radio Frequency Safety Survey Report Prediction (RFSSRP) Prepared For:

at&t

Site Name:	CANC-SLEAN01
FA#:	15521709
USID:	314957
Site ID:	CCL05539
Address:	440 Peralta Avenue San Leandro, CA 94577
County:	Alameda
Latitude:	37.7278430
Longitude:	-122.1656600
PACE No(s):	WSSFR0033466/ WSSFR0052295
Initiatives (s):	C-Band/DoD

Additional Site Information

M-RFSC Name: Wesley Rumble

Site Structure Type: Stealth Pole – External Array

REGISTERED PROFESSIONAL ENGINEER
TIM ALEXANDER
No. E18344
Exp, 31 MAR 2026
ELECTRICAL
STATE OF CALIFORNIA

SIGNED, 11 SEP 2024

Report Information

Report Writer: Jassmine Aldrich

Report Generated Date: September 10, 2024

Compliance Statement

AT&T Mobility will be compliant when the remediation recommended in Section 5 or other appropriate remediation determined by AT&T Mobility is implemented.

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1 General Summary

1.1 Site Summary

Existing RF Sign(s) at Access Point(s)	None
Existing RF Sign(s) at AT&T Mobility Sectors	Alpha: None Beta: None Gamma: None
Existing Barriers at AT&T Mobility Sectors	None
Max Predictive Spatial Average MPE% & Location on Site (General Public)	11860.79% in front of AT&T Mobility Beta Sector
Max Predictive Spatial Average MPE% at Walkable Surface (General Public)	13.13% MPE at 35ft Ramp Level
Max Predictive Spatial Average MPE% at Ground (General Public)	5.58% MPE at 0ft Ground Level
Proposed Number of AT&T Antennas	12

The analysis presented herein is based on the following documents provided by the client:

- *Snapshot-RF Issue Preliminary RFDS-1719607878632.pdf*
- *AE101_CCL05539_15521709_100ZDs_2023-04-25_RevH.pdf*

2 Site Scale Map

Proposed Signs/Barriers	Existing Signs/Barriers

Signs Required for Compliance Overall Site (AT&T Mobility Only)

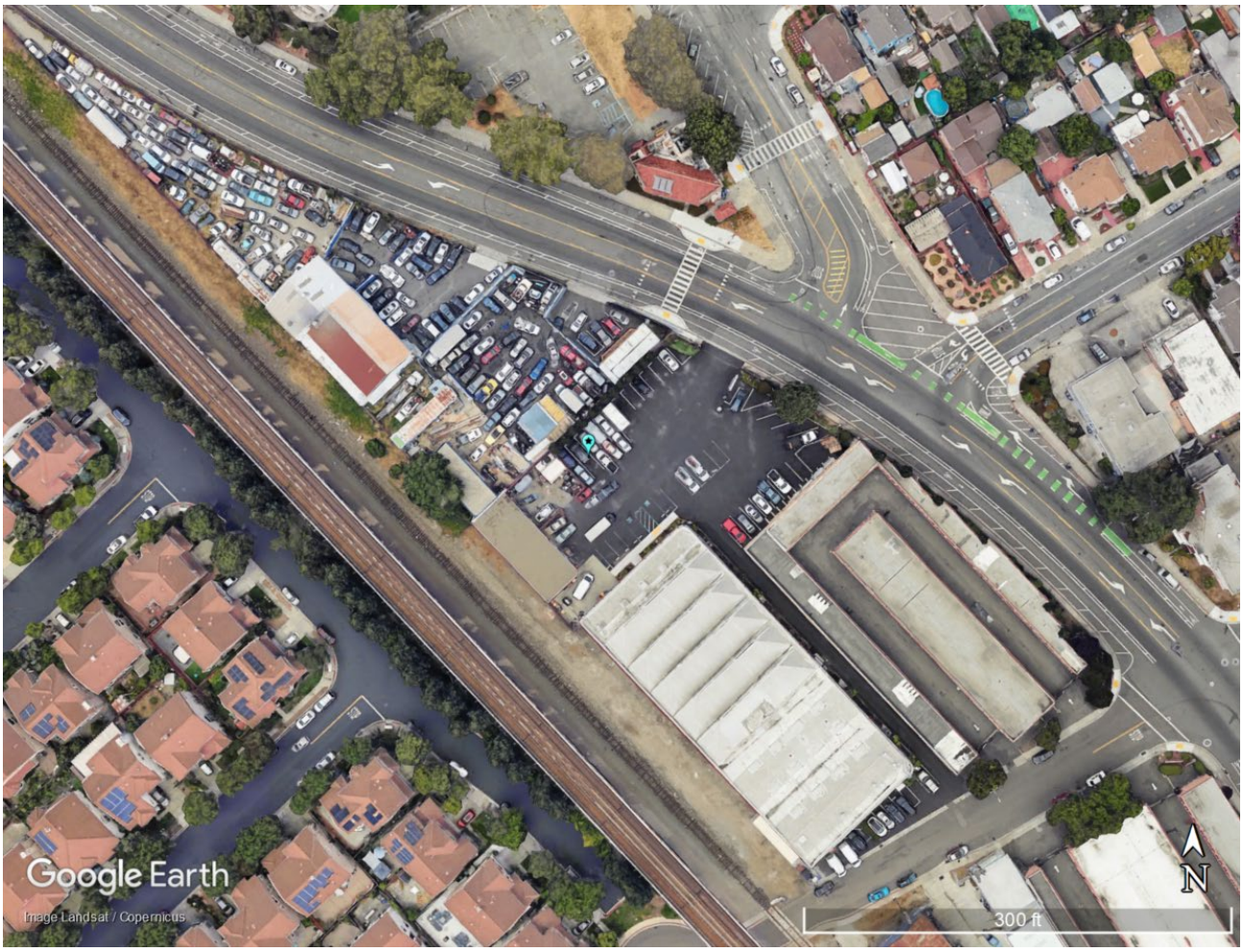


Image to show distance to surrounding buildings

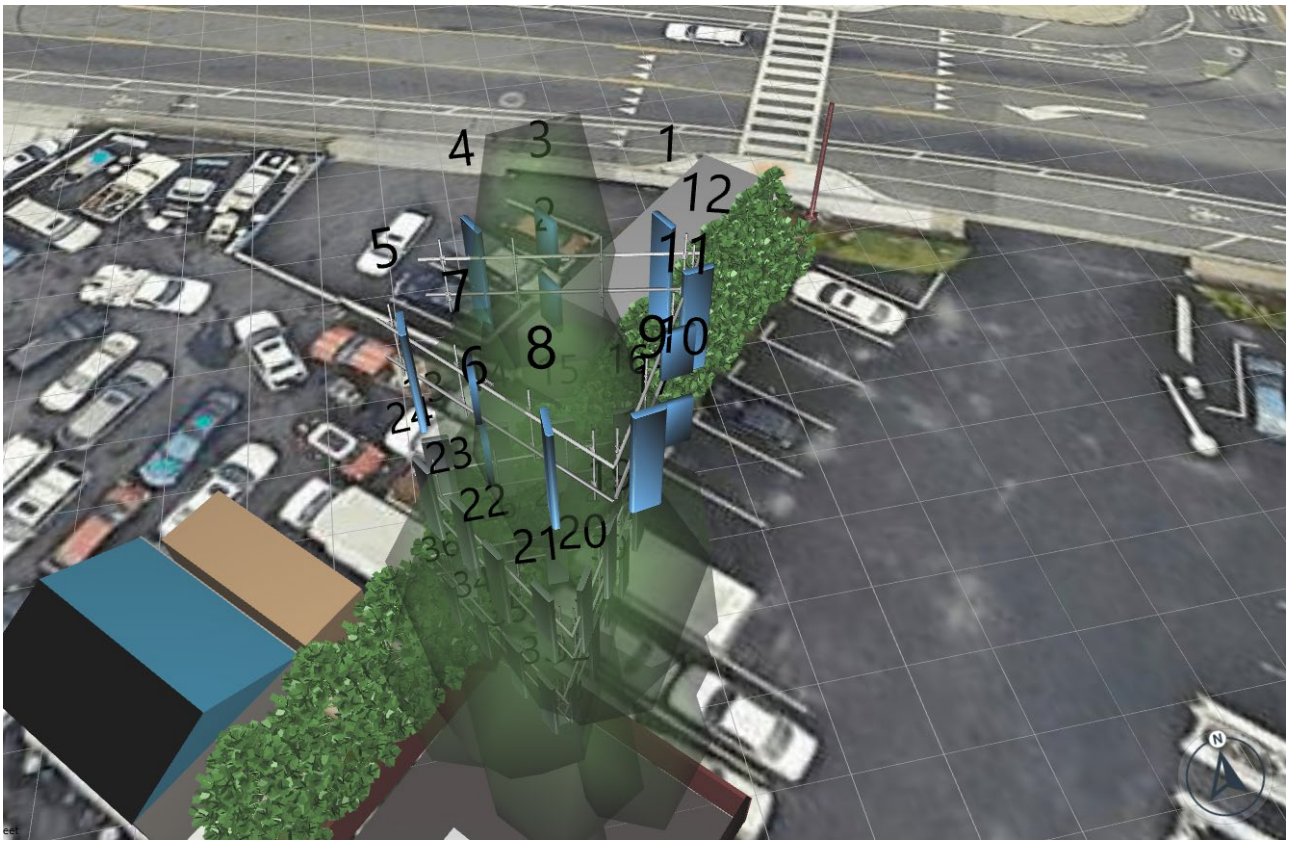


Image to show Antenna Location

3 Antenna Inventory

Ant #	Operator	Antenna Make	Pattern:	Type	Freq (MHz)	Block	Mech/ Elec Az (deg)	Mech downtilt (deg)	Horizontal Beam Width (deg)	Antenna Length/ Aperture (ft)	Antenna Gain (dBd)	Power In (Watts)	ERP (Watts)	Antenna Centerline Ground Level (0ft)	Bottom of Antenna Ground Level (0ft)
1	AT&T	QUINTEL	QD6612-3D V1	Panel	700	B12	65	0	70	6	12.07	160	2577.03	71	68
1	AT&T	QUINTEL	QD6612-3D V1	Panel	850	B5	65	0	64	6	12.37	160	2761.34	71	68
1	AT&T	QUINTEL	QD6612-3D V1	Panel	1900	B2	65	0	65	6	15.24	160	5347.12	71	68
1	AT&T	QUINTEL	QD6612-3D V1	Panel	2100	B66	65	0	62	6	15.67	160	5903.64	71	68
2	AT&T	ERICSSON	SON_AIR6449 NR TB 05.17.22 3700 AT&T	Panel	3700	N77D	65	0	11.7	2.8	23.45	108.4	23998.80	69	67.6
3	AT&T	ERICSSON	SON_AIR6419 NR TB 05.17.22 3700 AT&T	Panel	3500	N77G	65	0	13	2.6	23.45	54.2	11999.40	73	71.8
4	AT&T	QUINTEL	QD6616-7 V1	Panel	700	B14	65	0	66	6	11.97	160	2518.37	71	68
4	AT&T	QUINTEL	QD6616-7 V1	Panel	700	B29	65	0	66	6	11.97	80	1259.19	71	688
4	AT&T	QUINTEL	QD6616-7 V2	Panel	2300	B30	65	0	58	6	16.34	100	4305.26	71	68
5	AT&T	QUINTEL	QD6612-3D V1	Panel	700	B12	270	0	70	6	12.07	160	2577.03	71	68
5	AT&T	QUINTEL	QD6612-3D V1	Panel	850	B5	270	0	64	6	12.37	160	2761.34	71	68
5	AT&T	QUINTEL	QD6612-3D V1	Panel	1900	B2	270	0	65	6	15.24	160	5347.12	71	68
5	AT&T	QUINTEL	QD6612-3D V1	Panel	2100	B66	270	0	62	6	15.67	160	5903.64	71	68
6	AT&T	ERICSSON	SON_AIR6449 NR TB 05.17.22 3700 AT&T	Panel	3700	N77D	270	0	11.7	2.8	23.45	108.4	23998.80	69	67.6
7	AT&T	ERICSSON	SON_AIR6419 NR TB 05.17.22 3700 AT&T	Panel	3500	N77G	270	0	13	2.6	23.45	54.2	11999.40	73	71.8
8	AT&T	QUINTEL	QD6616-7 V1	Panel	700	B14	270	0	66	6	11.97	160	2518.37	71	68
8	AT&T	QUINTEL	QD6616-7 V1	Panel	700	B29	270	0	66	6	11.97	80	1259.19	71	688
8	AT&T	QUINTEL	QD6616-7 V2	Panel	2300	B30	270	0	58	6	16.34	100	4305.26	71	68
9	AT&T	QUINTEL	QD6612-3D V1	Panel	700	B12	170	0	70	6	12.07	160	2577.03	71	68
9	AT&T	QUINTEL	QD6612-3D V1	Panel	850	B5	170	0	64	6	12.37	160	2761.34	71	68
9	AT&T	QUINTEL	QD6612-3D V1	Panel	1900	B2	170	0	65	6	15.24	160	5347.12	71	68
9	AT&T	QUINTEL	QD6612-3D V1	Panel	2100	B66	170	0	62	6	15.67	160	5903.64	71	68
10	AT&T	ERICSSON	SON_AIR6449 NR TB 05.17.22 3700 AT&T	Panel	3700	N77D	170	0	11.7	2.8	23.45	108.4	23998.80	69	67.6
11	AT&T	ERICSSON	SON_AIR6419 NR TB 05.17.22 3700 AT&T	Panel	3500	N77G	170	0	13	2.6	23.45	54.2	11999.40	73	71.8
12	AT&T	QUINTEL	QD6616-7 V1	Panel	700	B14	170	0	66	6	11.97	160	2518.37	71	68
12	AT&T	QUINTEL	QD6616-7 V1	Panel	700	B29	170	0	66	6	11.97	80	1259.19	71	688
12	AT&T	QUINTEL	QD6616-7 V2	Panel	2300	B30	170	0	58	6	16.34	100	4305.26	71	68
13	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	700	B13	0	0	65	6	12.3	160	2717	59	56
14	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	1900	B2	0	0	69	6	15.7	160	5945	59	56
15	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	2100	B66A	0	0	64	6	16.2	160	6670	59	56
16	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	700	B13	0	0	65	6	12.3	160	2717	59	56
17	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	700	B13	120	0	65	6	12.3	160	2717	59	56
18	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	1900	B2	120	0	69	6	15.7	160	5945	59	56
19	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	2100	B66A	120	0	64	6	16.2	160	6670	59	56
20	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	700	B13	120	0	65	6	12.3	160	2717	59	56

Ant #	Operator	Antenna Make	Pattern:	Type	Freq (MHz)	Block	Mech/ Elec Az (deg)	Mech downtilt (deg)	Horizontal Beam Width (deg)	Antenna Length/ Aperture (ft)	Antenna Gain (dBd)	Power In (Watts)	ERP (Watts)	Antenna Centerline Ground Level (0ft)	Bottom of Antenna Ground Level (0ft)
21	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	700	B13	240	0	65	6	12.3	160	2717	59	56
22	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	1900	B2	240	0	69	6	15.7	160	5945	59	56
23	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	2100	B66A	240	0	64	6	16.2	160	6670	59	56
24	Unknown	COMMSCOPE	NHH-65B-R2B	Panel	700	B13	240	0	65	6	12.3	160	2717	59	56
25	Unknown	RFS	APXV9ERR18-C	Panel	850	B5	0	0	80	6	11.9	100	1531	47	44
25	Unknown	RFS	APXV9ERR18-C	Panel	190	B25	0	0	80	6	14.6	180	5132	47	44
26	Unknown	RFS	APXVTM14-ALU-I20	Panel	2500	B41	0	0	65	4.7	15.9	160	6153	47	44
27	Unknown	RFS	APXV9ERR18-C	Panel	850	B5	0	0	80	6	11.9	100	1531	47	44
27	Unknown	RFS	APXV9ERR18-C	Panel	190	B25	0	0	80	6	14.6	180	5132	47	44
28	Unknown	RFS	APXVTM14-ALU-I20	Panel	2500	B41	0	0	65	4.7	15.9	160	6153	47	44
29	Unknown	RFS	APXV9ERR18-C	Panel	850	B5	120	0	80	6	11.9	100	1531	47	44
29	Unknown	RFS	APXV9ERR18-C	Panel	190	B25	120	0	80	6	14.6	180	5132	47	44
30	Unknown	RFS	APXVTM14-ALU-I20	Panel	2500	B41	120	0	65	4.7	15.9	160	6153	47	44
31	Unknown	RFS	APXV9ERR18-C	Panel	850	B5	120	0	80	6	11.9	100	1531	47	44
31	Unknown	RFS	APXV9ERR18-C	Panel	190	B25	120	0	80	6	14.6	180	5132	47	44
32	Unknown	RFS	APXVTM14-ALU-I20	Panel	2500	B41	120	0	65	4.7	15.9	160	6153	47	44
33	Unknown	RFS	APXV9ERR18-C	Panel	850	B5	120	0	80	6	11.9	100	1531	47	44
33	Unknown	RFS	APXV9ERR18-C	Panel	190	B25	120	0	80	6	14.6	180	5132	47	44
34	Unknown	RFS	APXVTM14-ALU-I20	Panel	2500	B41	120	0	65	4.7	15.9	160	6153	47	44
35	Unknown	RFS	APXV9ERR18-C	Panel	850	B5	120	0	80	6	11.9	100	1531	47	44
35	Unknown	RFS	APXV9ERR18-C	Panel	190	B25	120	0	80	6	14.6	180	5132	47	44
36	Unknown	RFS	APXVTM14-ALU-I20	Panel	2500	B41	120	0	65	4.7	15.9	160	6153	47	44
37	Unknown	ANDREW	VHLP2-18	Microwave	18000		0	0	2.1	2	37	0.2	990	37	36
37	Unknown	ANDREW	VHLP2-18	Microwave	18000		180	0	2.1	2	37	0.2	990	37	36

Note: Waterford Consultants, LLC has assumed transmission parameters for Unknown RF emitters based on similar installations found at other radio communications sites. Generic antenna models have been used where existing antenna part numbers or radiation patterns are not available. The frequencies presented in this table may have been assumed in order to represent the approximate band of operation and to support a worst-case calculation of power density.

4 Predicted Emission Levels and Discussion

The following plots show the spatial average predicted power density levels in the reference plane indicated as a percentage of the General Public Limits. Please note that 100% of the General Public Limits corresponds to 20% of the Occupational Limits.

The reference plane for the plot is the roof level, as indicated in the caption. For example, “Avg 10 to 16 Feet” refers to the spatial average predicted power density level between 10 and 16 feet above the main level. Plots are produced for each accessible level. Levels that are not accessible will not be shown. Only accessible areas in a plot are relevant. Areas not accessible or in free space, off the edge of a roof or equipment penthouse, do not affect compliance.

Att 5

4.1 Predictive AT&T Mobility's RF Contribution Only on the Site

Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
AT&T Antenna Level 69ft	50.0 - 90.0	3D Area	Sula9 - Site Only - 3D GP	11860.79%	0.00	AT&T

100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
Sula9 - Site Only - 3D GP	Sula 9	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.0

AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
Pole 1	0.0 - 20.0	3D Area	FF - Adjacent Vertical...	5.78%	0.00	AT&T
Pole 2	0.0 - 25.0	3D Area	FF - Adjacent Vertical...	7.51%	0.00	AT&T
Pole 3	0.0 - 25.0	3D Area	FF - Adjacent Vertical...	7.38%	0.00	AT&T
Pole 4	0.0 - 20.0	3D Area	FF - Adjacent Vertical...	6.16%	0.00	AT&T

100%-500%	500%-5000%	5000%-99999%

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
Roof Peak 1	20.1	Floor	FF w/RC - Adjacent...	7.14%	0.00	AT&T
Roof Peak 2	15.1	Floor	FF w/RC - Adjacent...	4.28%	0.00	AT&T
Rooftop 1	15.1	Floor	FF w/RC - Adjacent...	8.59%	0.00	AT&T
Rooftop 2	10.1	Floor	FF w/RC - Adjacent...	6.38%	0.00	AT&T
Rooftop 3	15.1	Floor	FF w/RC - Adjacent...	9.03%	0.00	AT&T
Rooftop 4	10.1	Floor	FF w/RC - Adjacent...	6.92%	0.00	AT&T
Rooftop 5	10.1	Floor	FF w/RC - Adjacent...	6.02%	0.00	AT&T
Rooftop 6	10.1	Floor	FF w/RC - Adjacent...	4.24%	0.00	AT&T
Ramp Level	35.1	Floor	FF w/RC - Adjacent...	13.13%	0.00	AT&T

5%-100%	100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
FF w/RC - Adjacent Walkable Surface...	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.6
FF - Adjacent Vertical Structures - 3D...	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.0

AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
Ground Level	0.1	Floor	Ground	5.58%	0.00	AT&T

5%-100%	100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
Ground	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	5.0 ft3	1.6

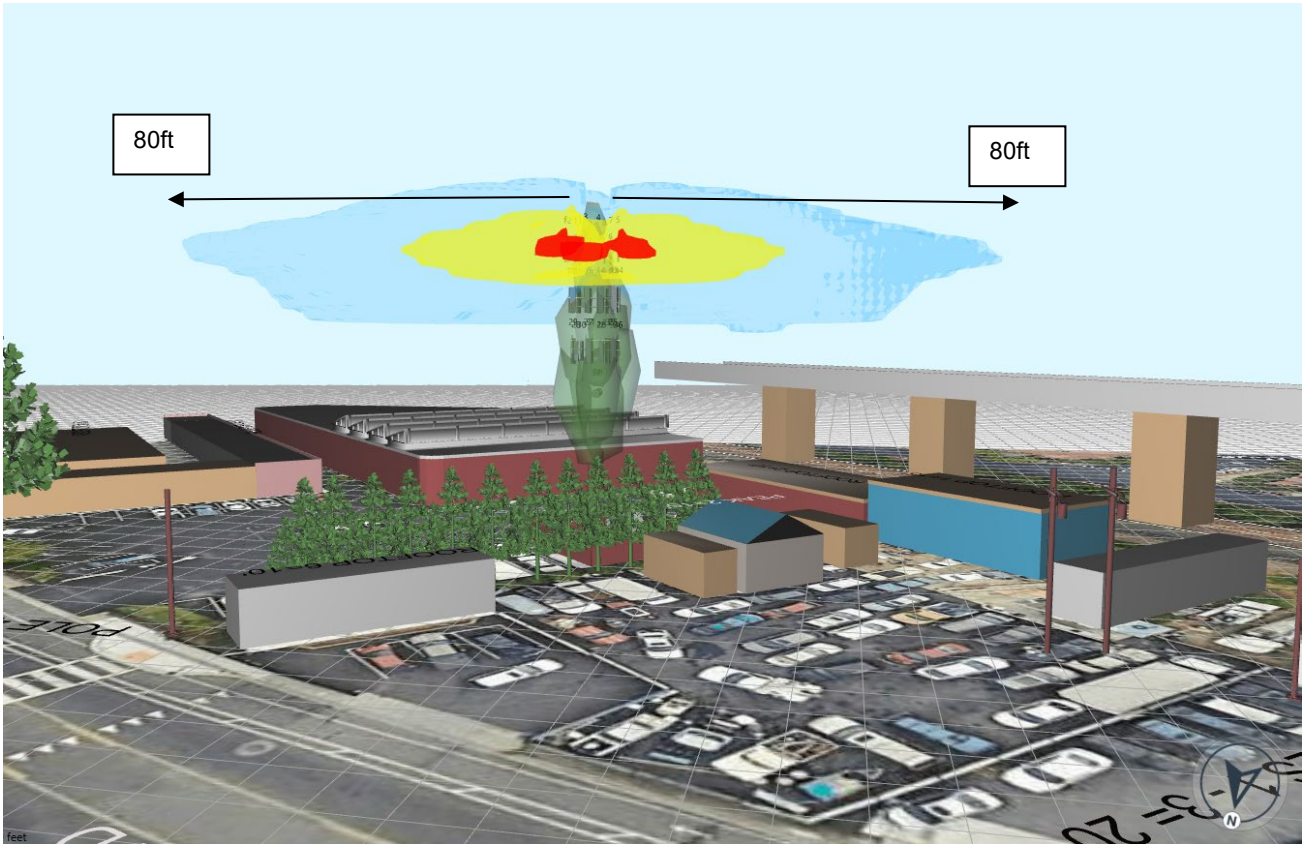
AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5



Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
AT&T Antenna Level 69ft	50.0 - 90.0	3D Area	Sula9 - Site Only - 3D GP	11860.79%	0.00	AT&T

100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
Sula9 - Site Only - 3D GP	Sula 9	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.0

AT&T UNKN

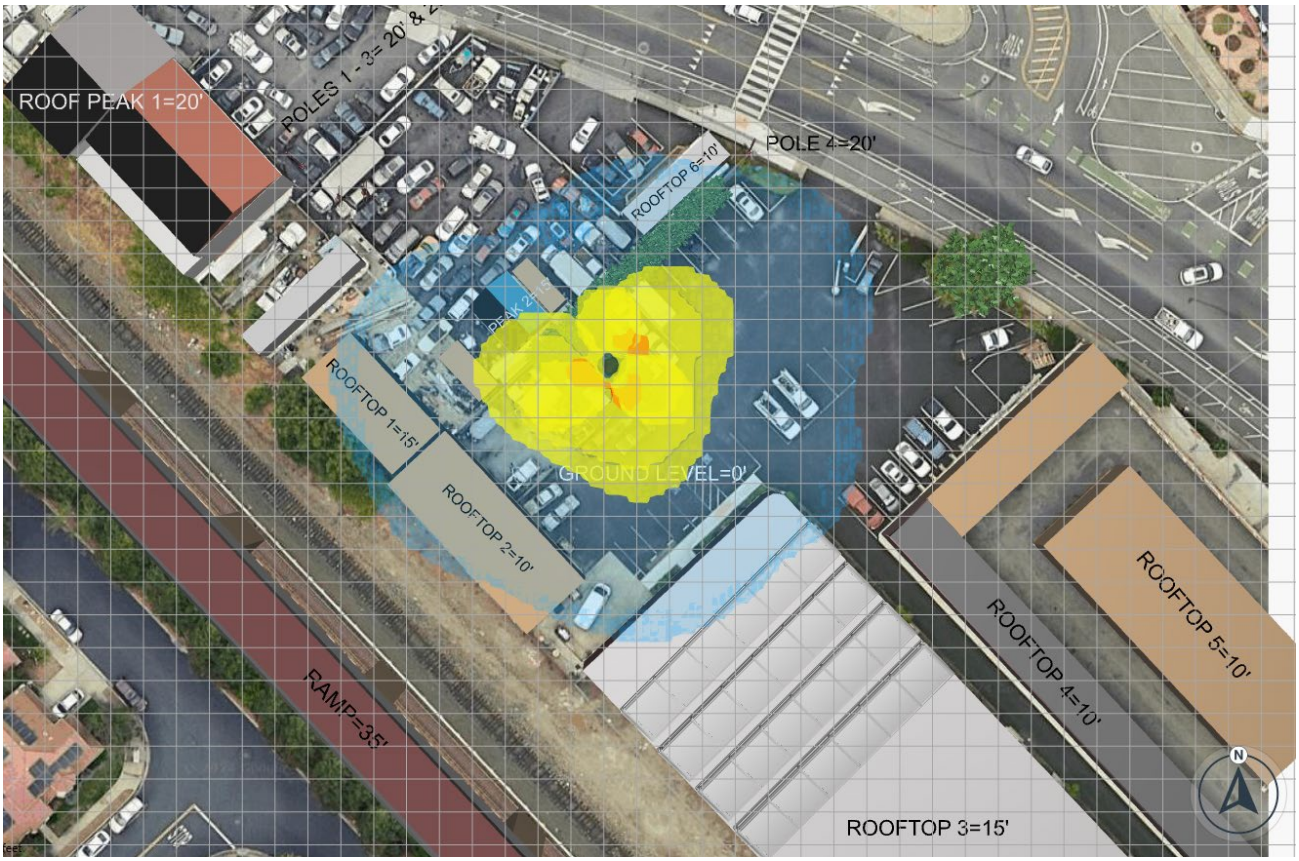
Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

4.2 Predictive RF Contribution from All Sources on the Site



Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
AT&T Antenna Level 69ft	65.0 - 90.0	3D Area	Sula9 - Site Only - 3D GP	11866.00%	0.00	AT&T, UNKN
Unknown Carriers Antenna...	40.0 - 65.0	3D Area	Sula9 - Site Only - 3D GP	2690.88%	0.00	AT&T, UNKN

100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
Sula9 - Site Only - 3D GP	Sula 9	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.0

AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
Pole 1	0.0 - 20.0	3D Area	FF - Adjacent Vertical...	6.12%	0.00	AT&T, UNKN
Pole 2	0.0 - 25.0	3D Area	FF - Adjacent Vertical...	8.02%	0.00	AT&T, UNKN
Pole 3	0.0 - 25.0	3D Area	FF - Adjacent Vertical...	7.82%	0.00	AT&T, UNKN
Pole 4	0.0 - 20.0	3D Area	FF - Adjacent Vertical...	7.06%	0.00	AT&T, UNKN

100%-500%	500%-5000%	5000%-99999%

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
Roof Peak 1	20.1	Floor	FF w/RC - Adjacent...	8.92%	0.00	AT&T, UNKN
Roof Peak 2	15.1	Floor	FF w/RC - Adjacent...	5.10%	0.00	AT&T, UNKN
Rooftop 1	15.1	Floor	FF w/RC - Adjacent...	12.68%	0.00	AT&T, UNKN
Rooftop 2	10.1	Floor	FF w/RC - Adjacent...	10.04%	0.00	AT&T, UNKN
Rooftop 3	15.1	Floor	FF w/RC - Adjacent...	12.29%	0.00	AT&T, UNKN
Rooftop 4	10.1	Floor	FF w/RC - Adjacent...	9.70%	0.00	AT&T, UNKN
Rooftop 5	10.1	Floor	FF w/RC - Adjacent...	8.56%	0.00	AT&T, UNKN
Rooftop 6	10.1	Floor	FF w/RC - Adjacent...	7.38%	0.00	AT&T, UNKN
Ramp Level	35.1	Floor	FF w/RC - Adjacent...	47.64%	0.00	AT&T, UNKN

5%-100%	100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
FF w/RC - Adjacent Walkable Surface...	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.6
FF - Adjacent Vertical Structures - 3D...	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.0

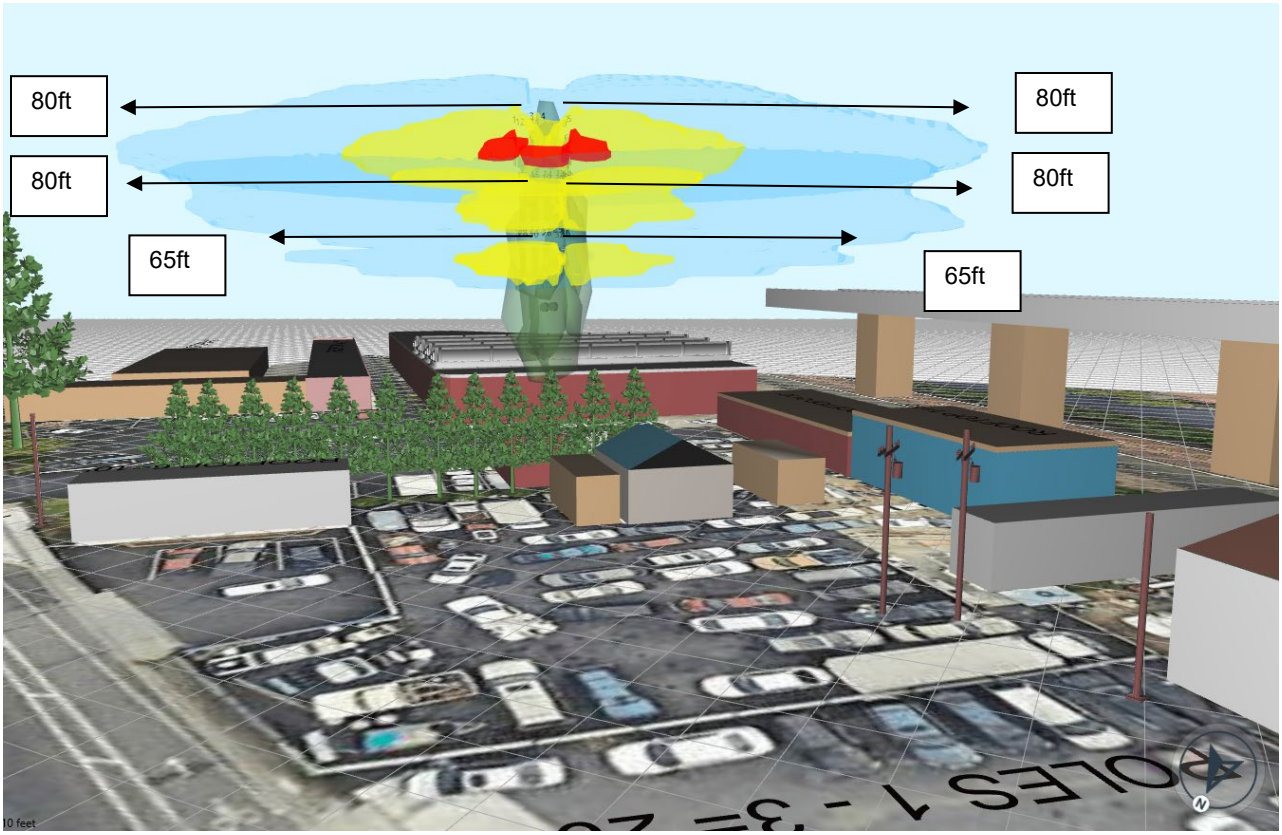
AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5



Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
AT&T Antenna Level 69ft	65.0 - 90.0	3D Area	Sula9 - Site Only - 3D GP	11866.00%	0.00	AT&T, UNKN
Unknown Carriers Antenna...	40.0 - 65.0	3D Area	Sula9 - Site Only - 3D GP	2690.88%	0.00	AT&T, UNKN

100%-500% | 500%-5000% | 5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
Sula9 - Site Only - 3D GP	Sula 9	Spatial Average (6 ft)	FCC General Population	2.5 ft3	1.0

AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

4.3 Predictive RF Contribution from All Sources at Ground Level

Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
Ground Level	0.1	Floor	Ground	7.99%	0.00	AT&T, UNKN

5%-100%	100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
Ground	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	5.0 ft3	1.6

AT&T UNKN

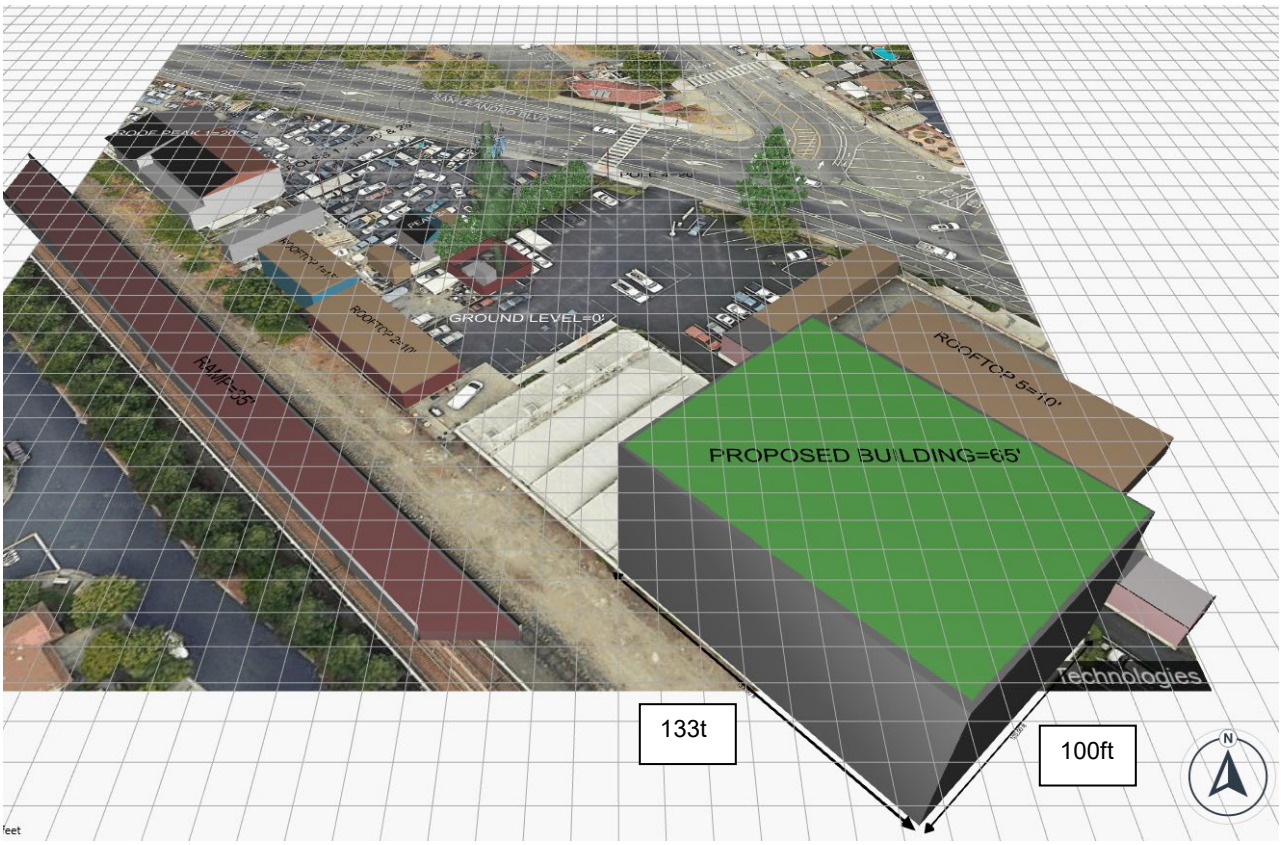
Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

4.4 Predictive RF Contribution from All Sources at 65ft Proposed Building



Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
65ft Proposed Building	65.0	Floor	FF - Adjacent Vertical...	24.79%	0.00	AT&T

5%-100%	100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
FF - Adjacent Vertical Structures - 2D...	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	0.5 ft3	1.0

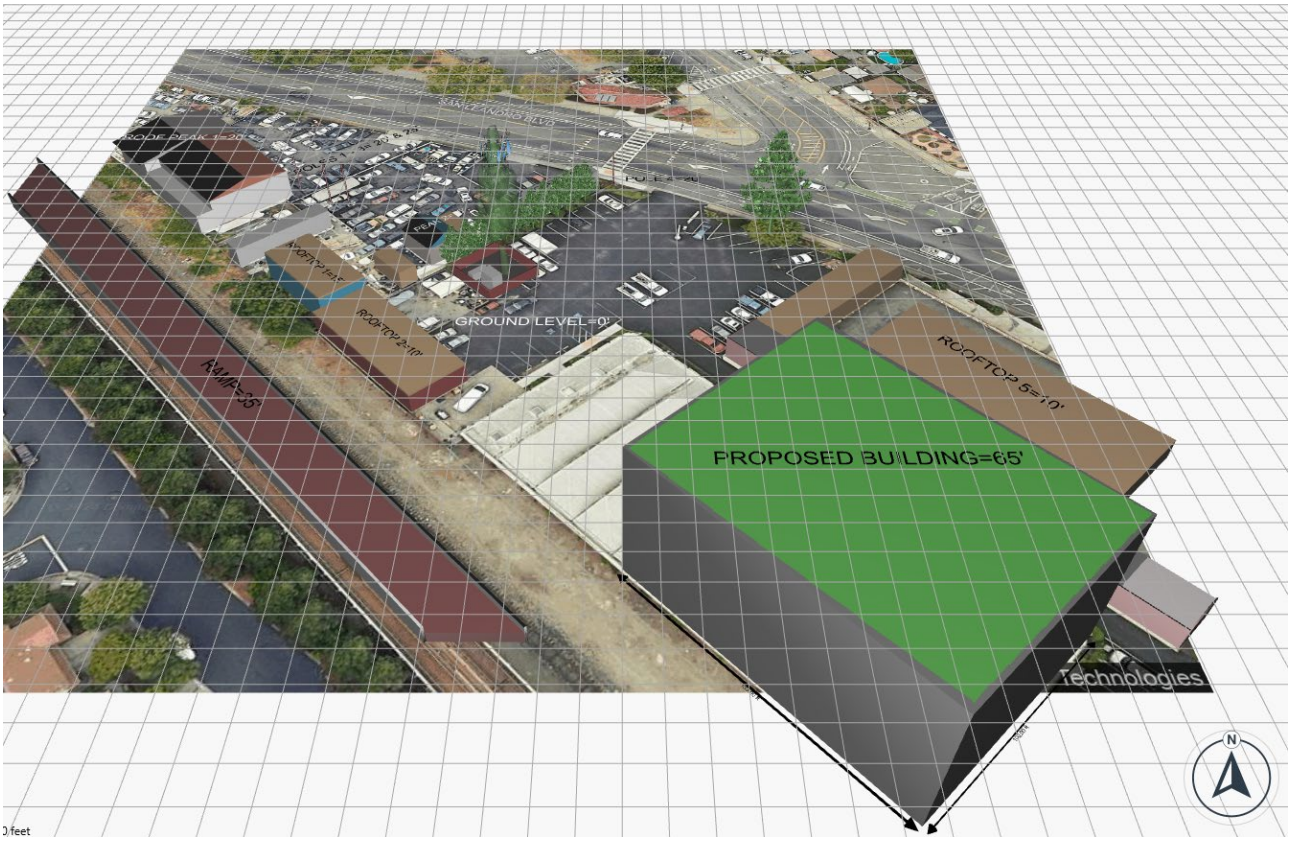
AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5



Legend

Study Zone	Elev. (ft)	Type	Exposure Profile	Max MPE	Att	Carriers
65ft Proposed Building	65.0	Floor	FF - Adjacent Vertical...	27.17%	0.00	AT&T, UNKN

5%-100%	100%-500%	500%-5000%	5000%-99999%

Exposure Profile Name	Model	Exposure Area	Standard	Resolution	RCF
FF - Adjacent Vertical Structures - 2D...	OET-65 Far Field	Spatial Average (6 ft)	FCC General Population	0.5 ft3	1.0

AT&T UNKN

Mitigation Existing Proposed Installed To Remove Max MPE

Grid Size: 10.00 feet

Floor = Elevation +6' | Surface = Elevation +/- 3'

Att 5

5 Statement of Compliance

5.1 Statement of AT&T Mobility Compliance

At the time of our assessment, AT&T Mobility is required to take action to comply with FCC Radiofrequency Radiation Exposure Limits.

5.2 Compliance Requirement Diagram (Access Location)

Proposed Signs/Barriers	Existing Signs/Barriers

Recommendations

AT&T Mobility Access Location
Caution 2B sign posted 9ft above ground level at the base of the tower

Materials –
[1] Caution 2B Sign

6 Appendix A

6.1 Technical Framework

The FCC requires licensees to ensure that persons are not exposed to radiofrequency electromagnetic energy power densities in excess of the applicable MPE (Maximum Permissible Exposure) limits. These rules apply to both Occupational Personnel and the General Population. Applicable FCC rules are found at 47 C.F.R. § § 1.1307(b)(3) and 1.1310. 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.

Maximum Permissible Exposure ("MPE") is defined in OET 65 as being 100% of the exposure limits for the situation or tier of permissible exposure. These limits are listed as follows:

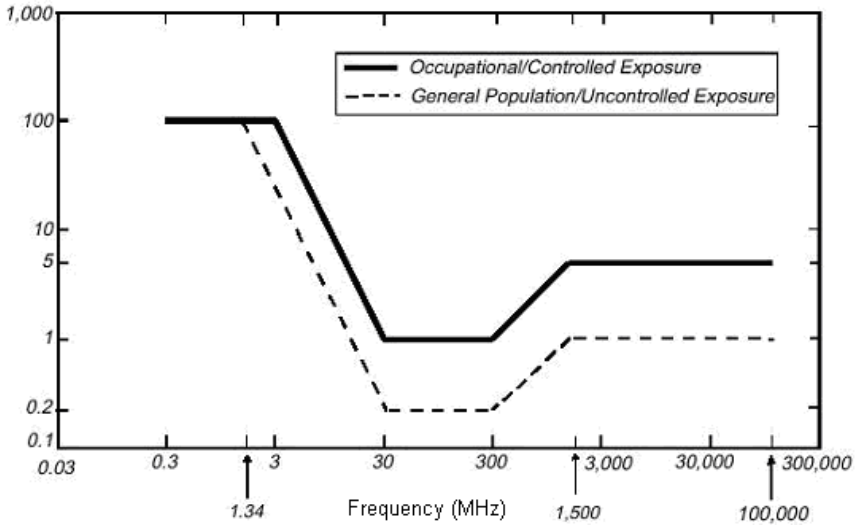
Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field (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/f2)*	6
30-300	61.5	0.163	1.0	6
300-1500	--		f/300	6
1500-100,000	--		5	6

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field (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	842/f	2.19/f	(180/f2)*	30
30-300	27.5	0.073	0.2	30
300-1500	--		f/1500	30
1500-100,000	--		1.0	30

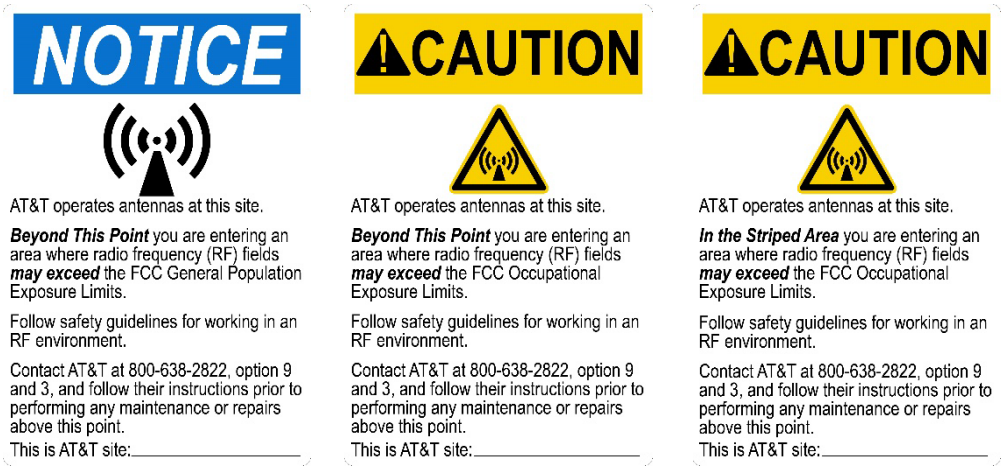
f = frequency in MHz *Plane-wave equivalent power density

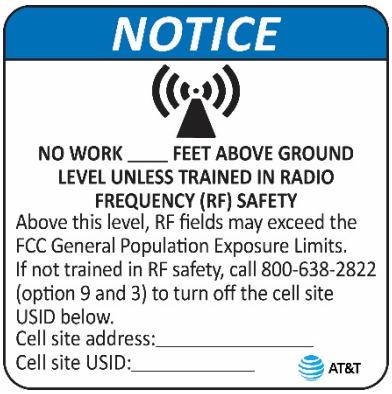


FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density

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. Subject to other site security requirements, Occupational Personnel trained in RF safety and equipped with personal protective equipment designed for safe work in the vicinity of RF may be granted access. Controls such as physical barriers to entry imposed by locked doors, locked passageways, or other access control mechanisms may be supplemented by alarms that alert the individual and notify site management of a breach in access control. Controls may include administrative policies and procedures requiring personal protective equipment (e.g. RF personal monitor), proof of RF training to obtain site access cards, presentation of appropriate RF awareness training certifications to security personnel or other measures designed to prevent uncontrolled access.

The signs below are examples of signs meeting FCC guidelines.





FCC regulations regarding Radiofrequency radiation exposure, expressed in 47 CFR § 1.1310 are further clarified with respect to the value of 5% of exposure limits for the subject transmitters in the following section of 47 CFR § 1.1307 (b):

> *(3) In general, when the guidelines specified in § 1.1310 are exceeded in an accessible area due to the emissions from multiple fixed transmitters, actions necessary to bring the area into compliance are the shared responsibility of all licensees whose transmitters produce, at the area in question, power density levels that exceed 5% of the power density exposure limit applicable to their particular transmitter or field strength levels that, when squared, exceed 5% of the square of the electric or magnetic field strength limit applicable to their particular transmitter. Owners of transmitter sites are expected to allow applicants and licensees to take reasonable steps to comply with the requirements contained In § 1.1307(b) and, where feasible, should encourage co-location of transmitters and common solutions for controlling access to areas where the RF exposure limits contained in § 1.1310 might be exceeded.*

Following these FCC requirements, predictive modeling has been performed to evaluate power density resulting from client transmitters as a percentage of the power density MPE limit applicable to their transmitters. These results are presented in Section 4.

The site should be routinely inspected and this or a similar report updated with any changes to the RF environment including:

- Adding new antennas
- Removing of any existing antennas
- Change in the radiating power or number of RF emitters

Waterford Consultants, LLC recommends coordinating with all wireless tenants before performing services in front of or near any transmitting antennas. During these activities, it may be appropriate to utilize Lockout/Tagout Procedures as specified in ATT-002-290-078, “RF Exposure: Responsibilities, Procedures & Guidelines” for scheduled outages to eliminate RF hazards during these activities.

7 Appendix B

7.1 Qualifications of Waterford Consultants, LLC

Waterford Consultants, LLC [Waterford] provides technical consulting services to clients in the Radio Communications and antenna locating industry. Waterford retains professional engineers who are placed in responsible charge of the processes for analysis.

Waterford is familiar with 47 C.F.R. § § 1.1307(b)(3) and 1.1310 along with the general Rules, Regulations and policies of the FCC. Waterford work processes incorporate all specifications of FCC Office of Engineering and Technology, Bulletin 65 (“OET65”), from the website: www.fcc.gov/oet/rfsafety and follow criteria detailed in 47 CFR § 1.1310 “Radiofrequency Radiation Exposure Limits”.

Within the technical and regulatory framework detailed above, Waterford developed tools according to recognized and generally accepted good engineering practices. Permissible exposure limits are band specific, and the Waterford computerized modeling tools correctly calculate permissible exposure based on the band(s) specified in the input data. Only clients and client representatives are authorized to provide input data through the Waterford web portal. In securing that authorization, clients and client representatives attest to the accuracy of all input data.

Waterford Consultants, LLC attests to the accuracy of the engineering calculations computed by those modeling tools. Furthermore, Waterford attests that the results of those engineering calculations are correctly summarized in this report.

8 Appendix C

8.1 RoofMaster™

RoofMaster™ is the software package that Waterford Consultants, LLC created to model RF environments associated with multiple emitters where the potential exists for human exposure. Based on the computational guidelines set forth in OET Bulletin 65 from the Federal Communications Commission (FCC), RoofMaster™ considers the operating parameters of specified RF sources to predict the overall Maximum Permissible Exposure possible at a given location. These theoretical results represent worst-case predictions as emitters are assumed to be operating at 100% duty cycle.

From the FCC document:

> *"The revised OET Bulletin 65 has been prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) fields adopted by the Federal Communications Commission (FCC). The bulletin offers guidelines and suggestions for evaluating compliance."*

http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf

9 Appendix D

9.1 Statement of Limiting Conditions

Waterford Consultants, LLC has received data pertaining to RF environment provided by the client. Waterford Consultants, LLC will not be responsible for matters of a legal nature that affect the site or property. The property has been analyzed under the premise that it is under responsible ownership and management and our client has the legal right to conduct business at this facility.

Due to the complexity of some wireless sites, Waterford Consultants, LLC has created this report utilizing best industry practices and due diligence. Waterford Consultants, LLC cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e., mislabelling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by Wireless Carrier, the site manager, or their affiliates, subcontractors or assigns.

Waterford Consultants, LLC has provided the results of a computer generated model in this MPE Site Compliance Report to show approximate dimensions of the site, and the model results is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Waterford Consultants, LLC recommendations.

Waterford Consultants, LLC will not be responsible for any existing conditions or for any engineering or testing that might be required to discover whether adverse safety conditions exist. Because Waterford Consultants, LLC is not an expert in the field of mechanical engineering or building maintenance, this MPE Site Compliance Report must not be considered a structural or physical engineering report.

Waterford Consultants, LLC obtained information used in this MPE Site Compliance Report from sources that Waterford Consultants, LLC considers reliable and believes them to be true and correct. Waterford Consultants, LLC does not assume any responsibility for the accuracy of such items that were furnished by other parties.