MAXIMUM PERMISSIBLE EXPOSURE STUDY

Site Number:	S1185
Site Name:	SBA MIDDLETOWN
Latitude:	41.545133
Longitude:	-72.620788
Address:	50 Fairchild Road Middletown, CT

Conclusion: ***AT&T's proposed antenna installation is calculated to be 10.21% of the FCC Standard for Uncontrolled/General Public Maximum Permissible Exposure (MPE).***

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Date of Report: February 9, 2011

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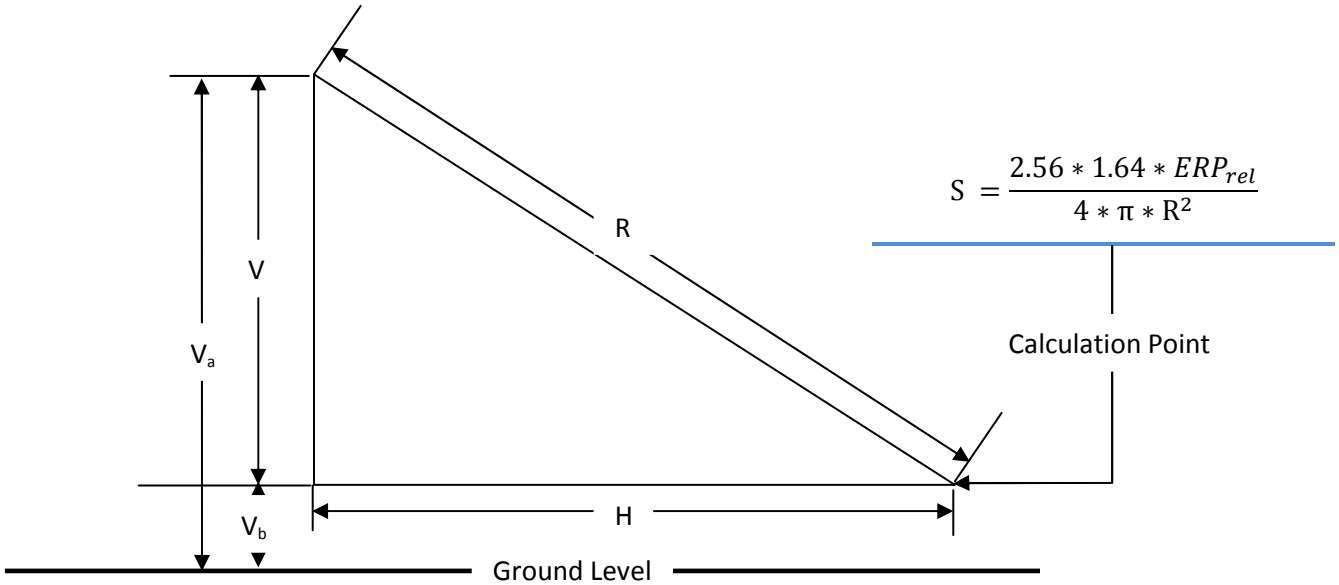
Introduction

SAI Communications has conducted this theoretical analysis for AT&T, to ensure that the proposed radio facility complies with Federal Communications Commission (FCC) regulations. This report will show that, through the use of FCC suggested prediction methods, the radio facility in question will be in compliance with all appropriate Federal regulations in regards to Radio Frequency (RF) Exposure.

RF Exposure Prediction Method

Power Density is calculated in accordance with FCC OET Bulletin 65 formula (7):



Where:
S = Power Density
ERP_{rel} = Effective Radiated Power relative to antenna pattern
R = Radial distance = $\sqrt{H^2 + V^2}$
H = Horizontal distance from antenna
V = Vertical distance from antenna = $Va - Vb$
V_a = Antenna height above ground
V_b = Calculation height above ground = 6ft

Case Summary

The proposed radio facility will have a radiation center of 130 ft AGL, located at the following geographic coordinates:

Latitude:	41.545133
Longitude:	-72.620788

See sketch below for specific property location.

RF Design Specifications

AT&T Mobility is planning to install 9 panel antennae, 3 per sector, for the GSM/UMTS/LTE Technologies. The antenna array will be located at 130 ft AGL. Proposed sector technical data considered for AT&T is listed below.

	GSM850	GSM1900	UMTS850	UMTS1900	LTE700
Antenna Type:	Powerwave P65-16-XLH-RR		Powerwave P65-16-XLH-RR		Powerwave P65-16-XLH-RR
Antenna Gain (dBd)	11.9	14.6	11.9	14.6	11.4
Rad Center, AGL (ft)	130	130	130	130	130
ERP (dBm)	55	56	57	57	57
No of Carriers	3	1	1	1	1

FCC Guidelines

Table 1. MPE Limits for General Population/ Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time for $\|E\|^2$, $\|H\|^2$, 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 – 1500	--	--	f/1500	30
1500– 100,000	--	--	1.0	30
f = frequency in MHz		* = Plane wave equivalent power density		

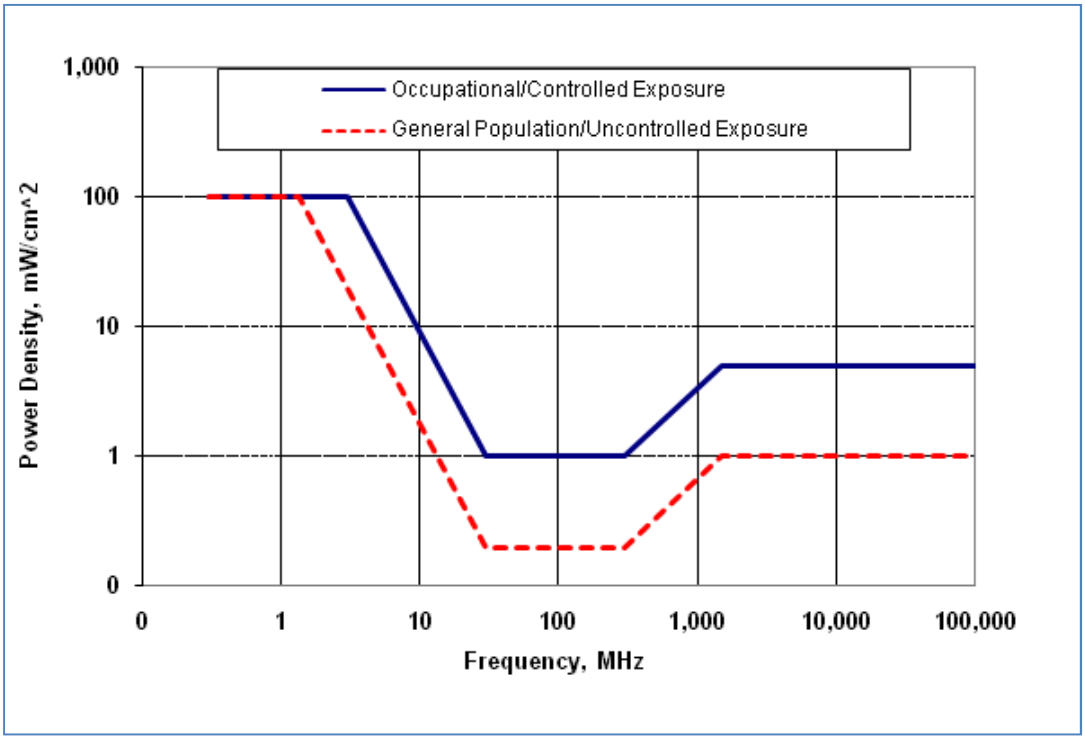
General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can't exercise control over their exposure.

Table 2. MPE Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time for $\|E\|^2$, $\|H\|^2$, 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 – 1500	--	--	f/300	6
1500– 100,000	--	--	5.0	6
f = frequency in MHz		* = Plane wave equivalent power density		

Occupational/controlled 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 such occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

FCC RF Exposure Limits

FCC MPE LIMITS (mW/cm^2)		
EXPOSURE ENVIRONMENT	AT&T FREQUENCY BANDS	
	Cellular	PCS
General Public (Uncontrolled)	0.59	1.0
Occupational (Controlled)	2.93	5.0



Maximum Permissible Exposures. Occupational/Controlled and General Population/Uncontrolled MPE's are functions of frequency.

Calculation Results

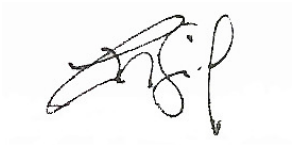
Table below shows the result of applying worst case scenario where an individual is standing at the base of the tower/building with the antenna pointed downwards (directly towards the individual) at a height of 130 ft. Calculation point is at 6ft above ground (assumed average height of a person).

		GSM850	GSM1900	UMTS850	UMTS1900	LTE700	Total
Calculated Power Density (mW/cm^2)		0.0208	0.0100	0.0117	0.0117	0.0117	
Uncontrolled / General Population	MPE Limits (mW/cm^2)	0.5867	1.0000	0.5867	1.0000	0.4667	
	%MPE	3.54%	1.00%	1.99%	1.17%	2.51%	10.21%
Controlled / Occupational	MPE Limits (mW/cm^2)	2.9333	5.0000	2.9333	5.0000	2.3333	
	%MPE	0.71%	0.20%	0.40%	0.23%	0.50%	2.04%

Statement of Certification

I certify to the best of my knowledge that the statements contained in this report are true and accurate. The theoretical computations contained are based on FCC recommended methods, with industry standard assumptions & formulas, and complies with FCC mandated Maximum Permissible RF Exposure requirements.

A comprehensive field survey was not performed prior to the generation of this report. If questions arise regarding the calculations herein, SAI Communications recommends that a comprehensive field survey be performed to resolve any disputes.



Charleston N. Sibal
SAI Communications

February 9, 2011
Date