STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

May 18, 2012

Jennifer Young Gaudet
HPC Wireless Services
46 Mill Plain Road, Floor 2
Danbury, CT 06811

RE: **EM-CING-003-120430** – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 33/36 Janoski Road, Ashford, Connecticut.

Dear Ms. Gaudet:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated April 27, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change

with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Linda Roberts

Linda Roberts
Executive Director

LR/cm

c: The Honorable Ralph H. Fletcher, First Selectman, Town of Ashford
Richard Dziadus, Zoning Enforcement Officer, Town of Ashford

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

April 30, 2012

The Honorable Ralph H. Fletcher
First Selectman
Town of Ashford
Knowlton Memorial Town Hall
5 Town Hall Road
Ashford, CT 06278

RE: **EM-CING-003-120430** – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 33/36 Janoski Road, Ashford, Connecticut.

Dear First Selectman Fletcher:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by May 14, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts

Linda Roberts
Executive Director

LR/cm

Enclosure: Notice of Intent

c: Richard Dziadus, Zoning Enforcement Officer, Town of Ashford

EM-CING-003-120430
(33/36 Janoski Road, Ashford)

HPC Wireless Services
46 Mill Plain Rd.
Floor 2
Danbury, CT, 06811
P.: 203.797.1112

HPC WIRELESS SERVICES

ORIGINAL

April 27, 2012

VIA OVERNIGHT COURIER

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Ms. Linda Roberts, Executive Director

Re: New Cingular Wireless PCS, LLC – exempt modification
33/36 Janoski Road, Ashford, Connecticut

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of New Cingular Wireless PCS, LLC ("AT&T"). AT&T is making modifications to certain existing sites in its Connecticut system in order to implement LTE technology. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction that constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the First Selectman of the Town of Ashford.

AT&T plans to modify the existing wireless communications facility owned by Crown Castle and located at 33/36 Janoski Road in the Town of Ashford (coordinates 41°-57'-7.74" N, 72°-11'-43.9" W). Attached are a compound plan and elevation depicting the planned changes, and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration. Also included is a power density report reflecting the modification to AT&T's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. AT&T will replace three (3) GSM panel antennas with three (3) LTE panel antennas on its existing platform with a center line of approximately 141'; three (3)

UMTS antennas and associated TMAs will be relocated on the platform. Six (6) RRHs (remote radio heads) will be mounted to the platform behind the antennas, and a surge arrestor will be mounted to a tower leg at the same height as the antennas. AT&T will also place a DC power and fiber run from the equipment to the antennas, up the tower along the existing coaxial cable run. The proposed modifications will not extend the height of the 190' structure.

2. The proposed changes will not extend the site boundaries. AT&T will install related equipment within its existing shelter and will mount a GPS antenna to the existing ice bridge. These changes will be within the existing compound and will have no effect on the site boundaries.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated on the attached report prepared by C Squared Systems, LLC, AT&T's operations at the site will result in a power density of approximately 1.97%; the combined site operations will result in a total power density of approximately 13.77%.

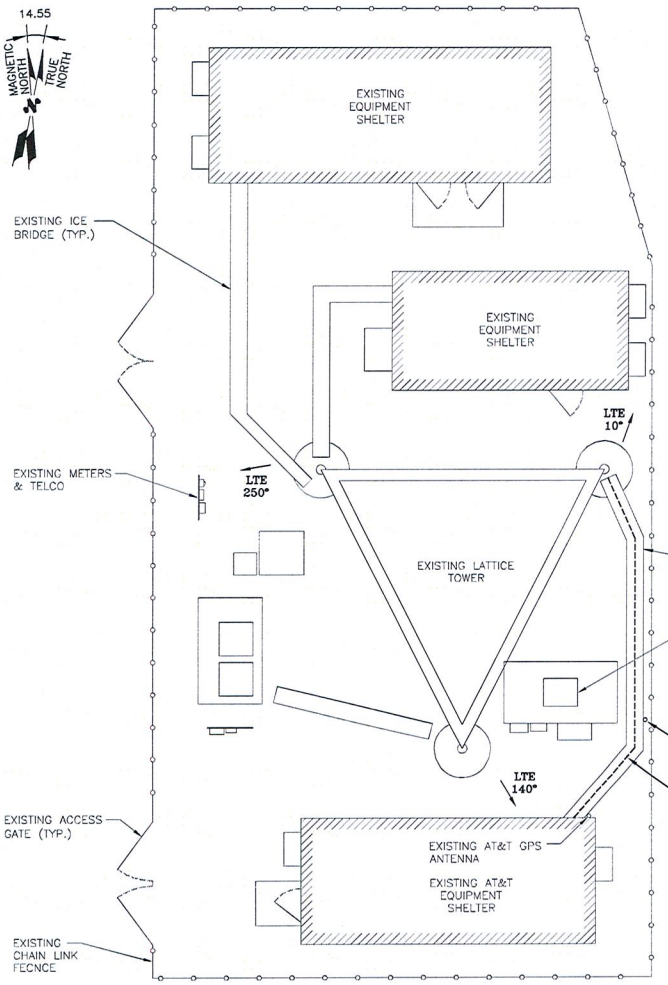
Please feel free to contact me by phone at (860) 798-7454 or by e-mail at jgaudet@hpcwireless.com with questions concerning this matter. Thank you for your consideration.

Respectfully yours,

Jennifer Young Gaudet

Jennifer Young Gaudet

cc: Honorable Ralph H. Fletcher, First Selectman, Town of Ashford
David H. Martin (underlying property owner)



COMPOUND PLAN

SCALE: 3/16"=1'-0"

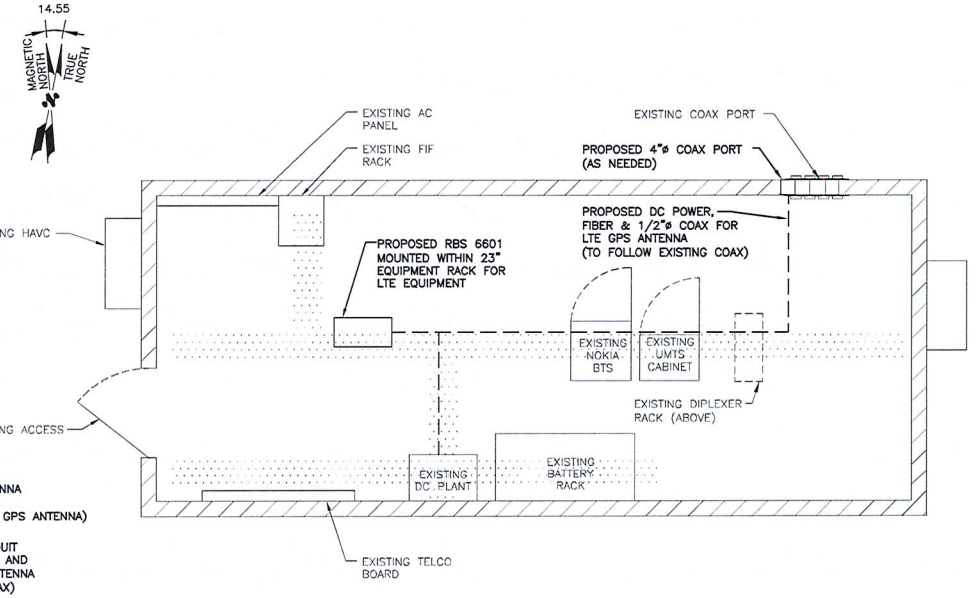
0 2'-4" 5'-8" 10'-4" 16'-0"

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE AND FINAL AT&T RF DATA SHEET.



EQUIPMENT PLAN

SCALE: 1/2"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT1058
SITE NAME: ASHFORD-SPRINT TOWER
CROWN SITE #: 876345
36 JANOSKI RD
ASHFORD, CT 06278
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK'D	APP'D
1	04/23/12	ISSUED FOR CONSTRUCTION	NB	DC	DPH
0	04/03/12	ISSUED FOR REVIEW	NB	DC	DPH

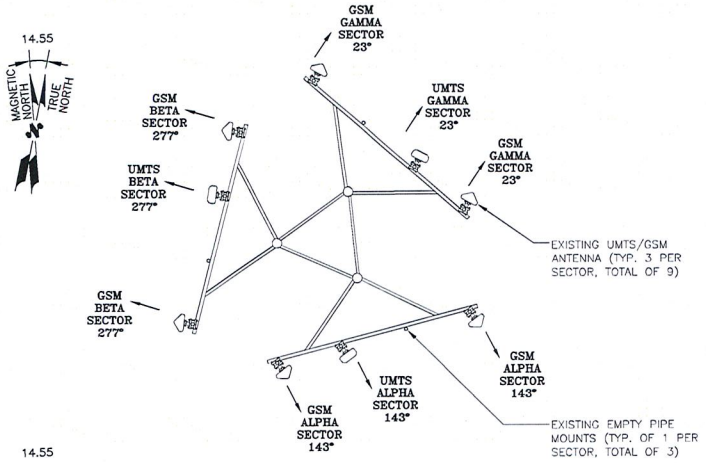
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: NB

STATE OF CONNECTICUT DANIEL P. HAMM No. 24178 LICENSED PROFESSIONAL ENGINEER

AT&T

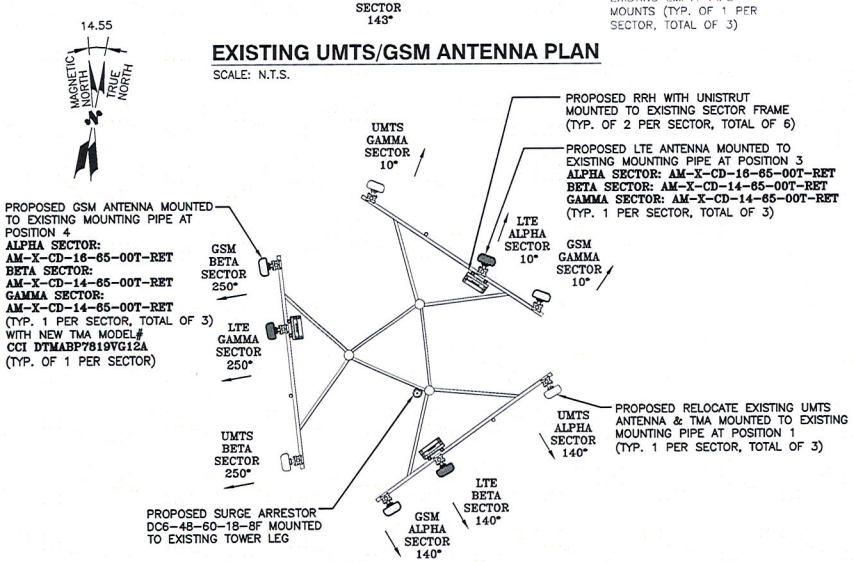
COMPOUND & EQUIPMENT PLAN (LTE)

JOB NUMBER	DRAWING NUMBER	REV
1058.01	A-1	1



EXISTING UMTS/GSM ANTENNA PLAN

SCALE: N.T.S.



PROPOSED LTE ANTENNA PLAN

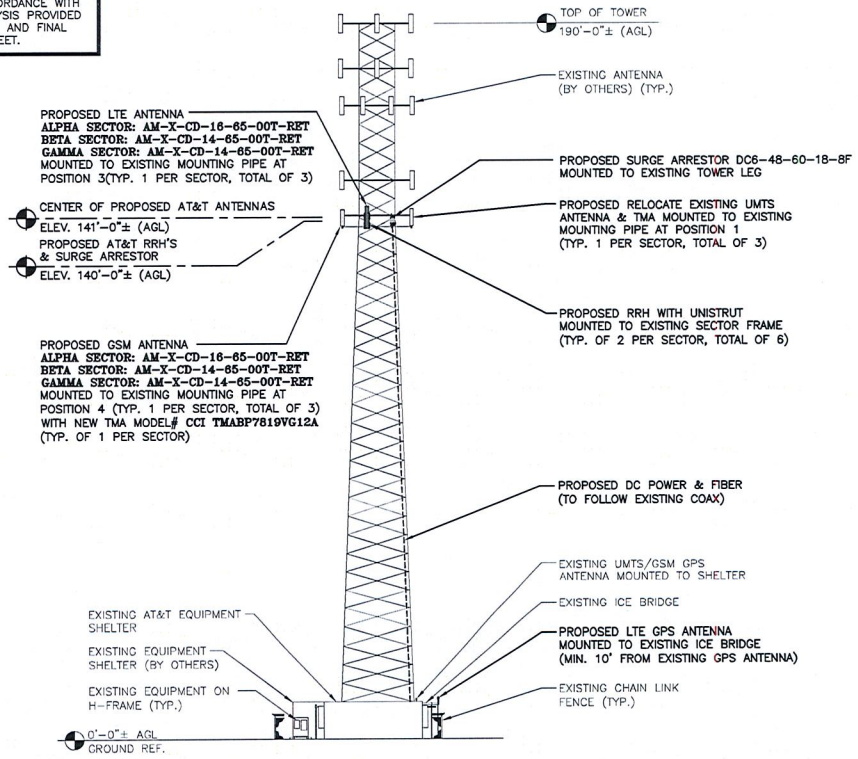
SCALE: N.T.S.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE AND FINAL AT&T RF DATA SHEET.



SOUTH ELEVATION

SCALE: 1/16"=1'-0"

0 8'-0" 16'-0" 32'-0" 48'-0"

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
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SITE NUMBER: CT1058
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0	04/03/12	ISSUED FOR REVIEW	NB	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: NB

STATE OF CONNECTICUT DANIEL P. HAMM No. 24178 LICENSED PROFESSIONAL ENGINEER

AT&T

ELEVATION & ANTENNA PLAN (LTE)

JOB NUMBER	DRAWING NUMBER	REV
1058.01	A-2	1

Date: **April 18, 2012**

Veronica Harris
Crown Castle
1200 McArthur Blvd
Mahwah, NJ 07430

Crown Castle
2000 Corporate Dr.
Canonsburg, PA 15317
724-416-2000

Subject: **Structural Analysis Report**

Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CT1058
	Carrier Site Name:	ASHFORD-SPRINT
Crown Castle Designation:	**Crown Castle BU Number:**	876345
	Crown Castle Site Name:	SKY HILL
	Crown Castle JDE Job Number:	183465
	Crown Castle Work Order Number:	483601
	Crown Castle Application Number:	144148 Rev. 1
Engineering Firm Designation:	**Crown Castle Project Number:**	483601
Site Data:	**33 Janowski Road, Ashford, Windham County, CT** **Latitude *41° 57' 7.7"*, Longitude *-72° 11' 43.9"*** **190 Foot - Self Support Tower**	

Dear Veronica Harris,

Crown Castle is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 483601, in accordance with application 144148, revision 1.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and local code requirements based upon a wind speed of 85 mph fastest mile.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *Crown Castle* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Maham Barimani / GS

Respectfully submitted by:

Aaron C. Poot, P.E.
Engineering Supervisor

STATE OF CONNECTICUT
AARON C. POOT
No. 25050
LICENSED
PROFESSIONAL ENGINEER

4/18/12

tnxTower Report - version 6.0.4.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 190 ft Self Support tower designed by ROHN in December of 1996. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 85 mph with no ice, 28.1 mph with 1 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
140.0	141.0	4	kmw communications	AM-X-CD-14-65-00T-RET w/ Mount Pipe	1 2	3/8 3/4	-
		2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7020.00			
		1	raycap	DC6-48-60-18-8F			
	140.0	3	communication components inc.	DTMABP7819VG12A			
		6	ericsson	RRUS-11			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
190.0	192.0	6	decibel	DB980H90E-M w/ Mount Pipe	6	1-5/8	1
	190.0	1	tower mounts	Sector Mount [SM 504-3]			
180.0	184.0	1	symmetricom	58532A	12 1	1-5/8 1/2	1
	181.0	3	antel	BXA-70063/6CF w/ Mount Pipe			
		6	antel	LPA-80080/4CF w/ Mount Pipe			
		6	rfs celwave	FD9R6004/2C-3L			
		3	rymsa wireless	MG D5-800Tx w/ Mount Pipe			
	180.0	1	tower mounts	Sector Mount [SM 504-3]			
170.0	172.0	9	allgon	7130.16.33.00 w/ Mount Pipe	9	1-5/8	1
	170.0	1	tower mounts	Sector Mount [SM 502-3]			
160.0	160.0	3	andrew	HBX-6516DS-VTM w/ Mount Pipe	6	1-5/8	1
		1	tower mounts	Sector Mount [SM 104-3]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
150.0	151.0	2	dapa	79210 w/ Mount Pipe	6	1/2	1
		1	ems wireless	RR65-19-02DP w/ Mount Pipe			
	150.0	2	tower mounts	Side Arm Mount [SO 307-1]			
140.0	141.0	6	css	DUO1417-8686 w/ Mount Pipe	-	-	2
		6	powerwave technologies	LGP17201			
		3	powerwave technologies	7770.00 w/ Mount Pipe	12	7/8	1
	140.0	3	powerwave technologies	LGP13519			
		1	tower mounts	Sector Mount [SM 502-3]			

Notes:
1) Existing Equipment
2) Equipment To Be Removed

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
189	189	12	decibel	DB980H90E-M	12	2 1/4
170	170	12	swedcom	ALP9212	12	1 5/8
150	150	12	swedcom	ALP9212	12	1 5/8
80	80	1	generic	12' Gate Boom	1	7/8
		1	generic	GPS Antenna		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH	2189896	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	ROHN	1631622	CCISITES
4-TOWER MANUFACTURER DRAWINGS	UNR-ROHN	1631630	CCISITES

3.1) Analysis Method

tnxTower (version 6.0.4.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	190 - 180	Leg	ROHN 2.5 STD	1	-4.808	57.961	8.3	Pass
T2	180 - 160	Leg	ROHN 2.5 STD	27	-31.836	50.253	63.4	Pass
T3	160 - 140	Leg	ROHN 3 EH	57	-64.303	83.781	76.8	Pass
T4	140 - 120	Leg	ROHN 4 EH	78	-103.301	139.064	74.3	Pass
T5	120 - 100	Leg	ROHN 5 EH	99	-139.467	206.284	67.6	Pass
T6	100 - 80	Leg	ROHN 6 EHS	120	-170.829	212.190	80.5	Pass
T7	80 - 60	Leg	ROHN 6 EH	135	-205.104	264.317	77.6	Pass
T8	60 - 40	Leg	ROHN 8 EHS	150	-237.451	332.508	71.4	Pass
T9	40 - 20	Leg	ROHN 8 EHS	165	-270.176	332.551	81.2	Pass
T10	20 - 0	Leg	ROHN 8 EHS	180	-312.296	332.857	93.8	Pass
T1	190 - 180	Diagonal	L1 3/4x1 3/4x3/16	11	-1.236	8.515	14.5 22.8 (b)	Pass
T2	180 - 160	Diagonal	L2x2x3/16	36	-4.597	6.868	66.9 76.4 (b)	Pass
T3	160 - 140	Diagonal	L2 1/2x2 1/2x1/4	63	-6.509	10.897	59.7 75.8 (b)	Pass
T4	140 - 120	Diagonal	L2 1/2x2 1/2x1/4	84	-7.810	8.324	93.8	Pass
T5	120 - 100	Diagonal	L3x3x1/4	105	-8.171	11.546	70.8	Pass
T6	100 - 80	Diagonal	L3 1/2x3 1/2x1/4	126	-9.463	12.595	75.1 77.3 (b)	Pass
T7	80 - 60	Diagonal	L4x4x1/4	141	-10.314	15.987	64.5 83.7 (b)	Pass
T8	60 - 40	Diagonal	L4x4x5/16	156	-9.959	16.507	60.3 80.5 (b)	Pass
T9	40 - 20	Diagonal	L4x4x5/16	171	-11.775	14.230	82.8	Pass
T10	20 - 0	Diagonal	L4x4x3/8	186	-12.274	14.549	84.4	Pass
T1	190 - 180	Top Girt	L1 3/4x1 3/4x3/16	5	-0.281	2.721	10.3	Pass
T2	180 - 160	Top Girt	L2x2x3/16	30	-0.689	4.122	16.7	Pass
							Summary	
						Leg (T10)	93.8	Pass
						Diagonal (T4)	93.8	Pass
						Top Girt (T2)	16.7	Pass
						Bolt Checks	90.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
						Rating =	93.8	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
-	Anchor Rods	0	61.0	Pass
1	Base Foundation	0	58.6	Pass

Structure Rating (max from all components) =	93.8%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing, and proposed loads. No modifications are required at this time

C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

CT1058

(Ashford-Sprint)

33 Janowski Road, Ashford, CT 06278

(a.k.a. 36 Janowski Road)

April 23, 2012

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the lattice tower located at 33 Janowski Road, Ashford, CT. The coordinates of the tower are 41-57-8.0 N, 72-11-43.77 W.

AT&T is proposing the following modifications:

1) Replace six existing dual-band (850/1900 MHz) panel antennas with six multi-band (700/850/1900/2100 MHz) antennas (two per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. 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 cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Cingular UMTS	*140*	*880*	*1*	*500*	*0.0092*	*0.5867*	*1.56%*
Cingular GSM	*140*	*880*	*2*	*296*	*0.0109*	*0.5867*	*1.85%*
Cingular GSM	*140*	*1900*	*2*	*427*	*0.0157*	*1.0000*	*1.57%*
Verizon	180	869	9	256	0.0256	0.5793	4.41%
Verizon	180	1970	3	329	0.0110	1.0000	1.10%
Verizon	180	757	1	760	0.0084	0.5047	1.67%
VoiceStream	150	1930	1	823	0.0132	1.0000	1.32%
Nextel	170	851	9	100	0.0112	0.5673	1.97%
Sprint	190	1962.5	11	122	0.0134	1.0000	1.34%
AT&T UMTS	141	880	2	565	0.0020	0.5867	0.35%
AT&T UMTS	141	1900	2	1077	0.0039	1.0000	0.39%
AT&T LTE	141	734	1	1313	0.0024	0.4893	0.49%
AT&T GSM	141	880	1	491	0.0009	0.5867	0.15%
AT&T GSM	141	1900	4	813	0.0059	1.0000	0.59%
						Total	**13.77%**

Table 1: Carrier Information[1] [2]

[1] The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 3/29/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **13.77% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

April 23, 2012
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[3]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (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
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (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
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[3] 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 occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[4] 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 cannot exercise control over their exposure

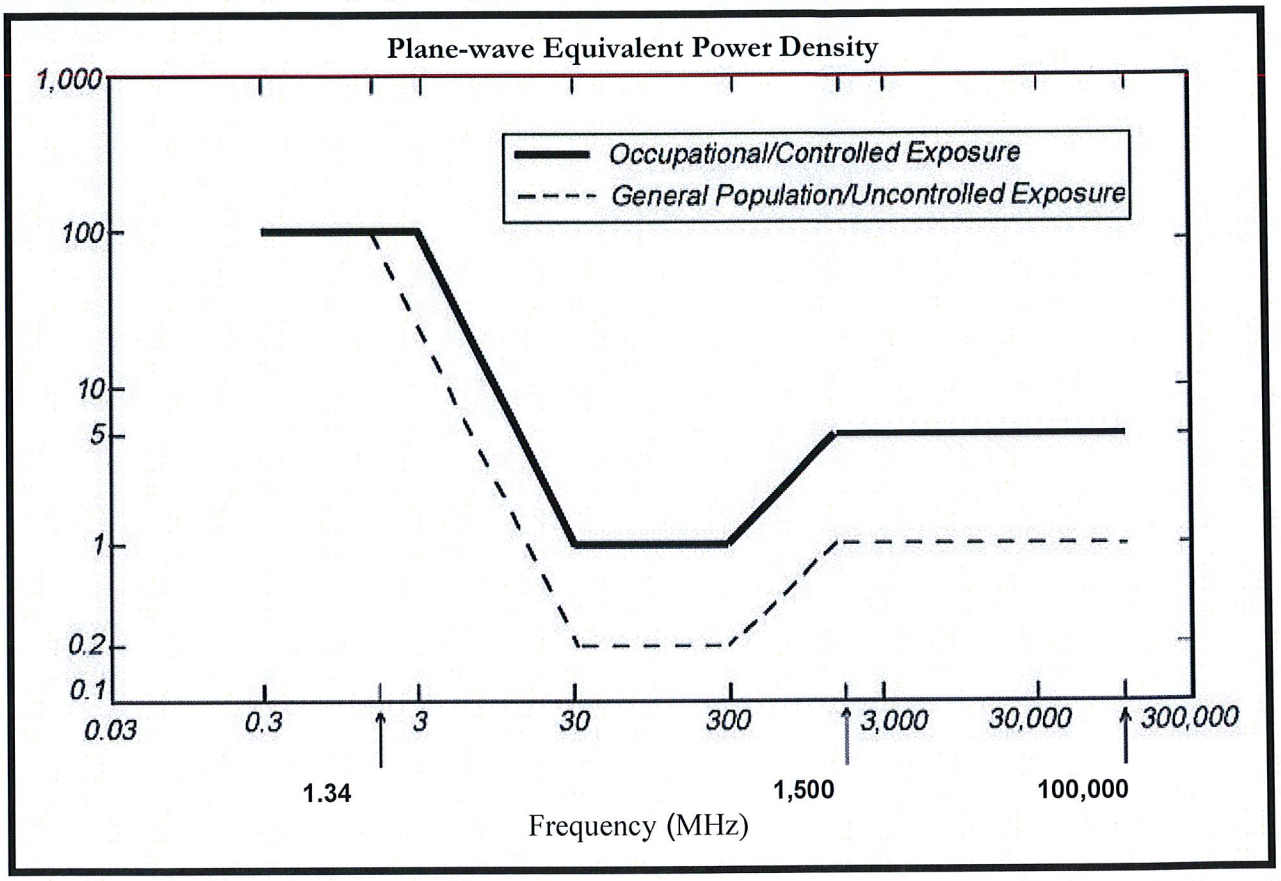
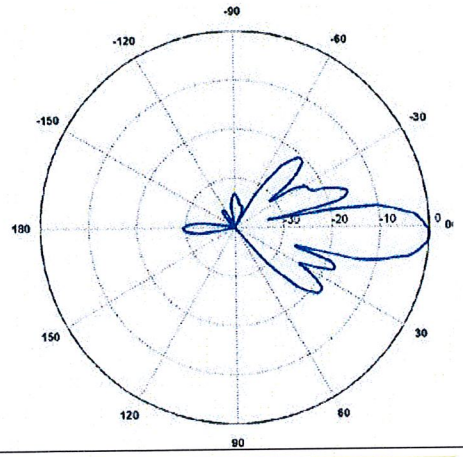


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

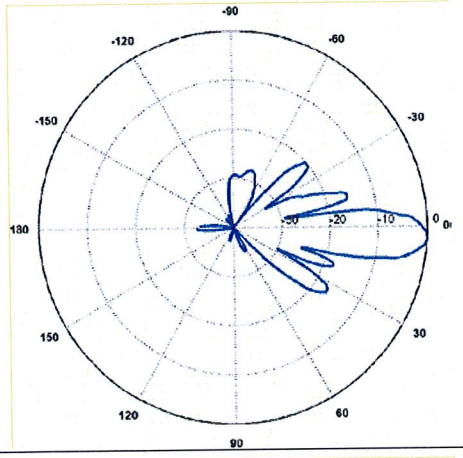
700 MHz

Manufacturer:	KMW
Model #:	AM-X-CD-16-65-00T
Frequency Band:	698-806 MHz
Gain:	13.4 dBd
Vertical Beamwidth:	12.3°
Horizontal Beamwidth:	65°
Polarization:	Dual Slant ± 45°
Size L x W x D:	72.0" x 11.8" x 5.9"



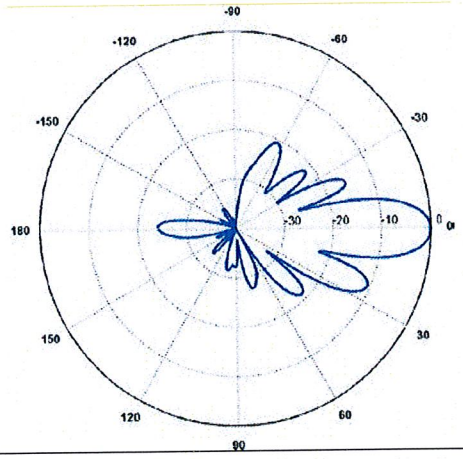
850 MHz GSM

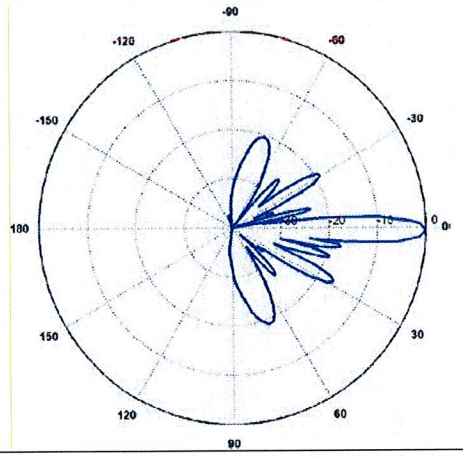
Manufacturer:	KMW
Model #:	AM-X-CD-16-65-00T
Frequency Band:	698-894 MHz
Gain:	13.9 dBd
Vertical Beamwidth:	15°
Horizontal Beamwidth:	65°
Polarization:	Dual Slant ±45°
Size L x W x D:	54.0" x 12.6" x 7.87"



850 MHz UMTS

Manufacturer:	Kathrein-Scala
Model #:	80010121
Frequency Band:	824-896 MHz
Gain:	11.5 dBd
Vertical Beamwidth:	14.5°
Horizontal Beamwidth:	86°
Polarization:	Dual Linear ±45°
Size L x W x D:	54.5" x 10.3" x 5.9"



1900 MHz GSM Manufacturer: KMW Model #: AM-X-CD-16-65-00T Frequency Band: 1710-2170 MHz Gain: 15.3 dBd Vertical Beamwidth: 7.5° Horizontal Beamwidth: 65° Polarization: Dual Slant ±45° Size L x W x D: 54.0" x 12.6" x 7.87"	
1900 MHz UMTS Manufacturer: Kathrein-Scala Model #: 80010121 Frequency Band: 1850-1990 MHz Gain: 14.3 dBd Vertical Beamwidth: 6.6° Horizontal Beamwidth: 85° Polarization: Dual Linear ±45° Size L x W x D: 54.5" x 10.3" x 5.9"