



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

July 20, 2012

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

RE: **EM-CING-042-120702** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 94 East High Street, East Hampton, 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:

- The modifications identified in Appendix D be completed in accordance with the recommendations made in the Structural Modification Report prepared by B+T Group dated June 26, 2012, and stamped by Chad Tuttle; and
- Prior to antenna installation, a signed letter from a Professional Engineer duly licensed in the State of Connecticut shall be submitted to the Council to certify that the recommended modifications have been completed and the tower and foundation will not exceed 100 percent of the post-construction structural rating.
- 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 June 29, 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
Executive Director

LR/CDM/cm

- c: The Honorable Christopher J. Goff, Chairman Town Council, Town of East Hampton
Alan H. Bergren, Town Manager, Town of East Hampton
James Carey, Zoning Enforcement Officer, Town of East Hampton
Crown Castle

EM-CING-042-120702

HPC Wireless Services

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

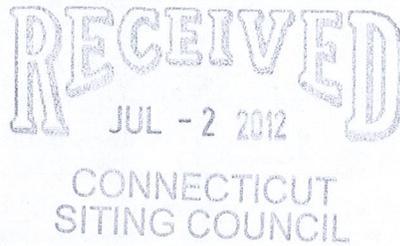


June 29, 2012

ORIGINAL

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
94 East High Street, East Hampton, 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 Section 16-50j-73 of the Regulations of Connecticut State Agencies (“R.S.C.A.”), 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 Town Council Chairperson of the Town of East Hampton.

AT&T plans to modify the existing wireless communications facility owned by Crown Castle and located at 94 East High Street in the Town of East Hampton (coordinates 41°-35'-14.26", 72°-29'-19.54"). 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 add three (3) LTE panel antennas to the existing platform at a center line of approximately 93', for a total of nine (9) antennas. Six (6) RRUs (remote radio units) will be mounted directly behind the antennas, and a surge arrestor will be attached

Boston

Albany

Buffalo

Danbury

Philadelphia

Raleigh

Atlanta

to a pipe mount on the platform level. AT&T will also place a DC power and fiber run from the equipment to the antennas along the existing coaxial cable run. The changes will not extend the height of the approximately 117.5' structure.

2. AT&T will remove and replace one (1) cabinet, and add one (1) new cabinet to the existing concrete pad. A GPS antenna will be mounted 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 (6) 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 3.72%; the combined site operations will result in a total power density of approximately 67.37%.

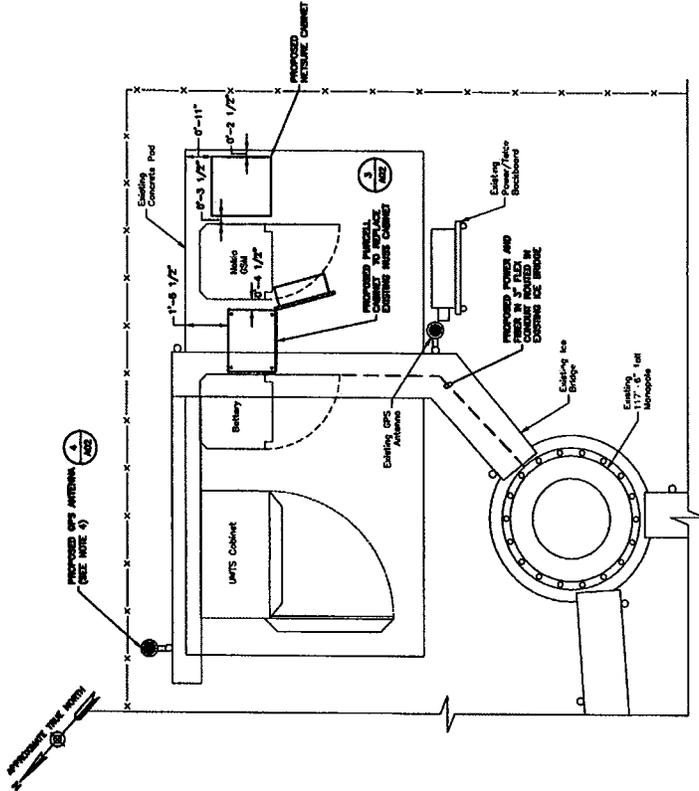
Please feel free to contact me by phone at (860) 798-7454 or by e-mail at jgaudet@hpcwireless.com with questions concerning this matter. Thank you for your consideration.

Respectfully yours,

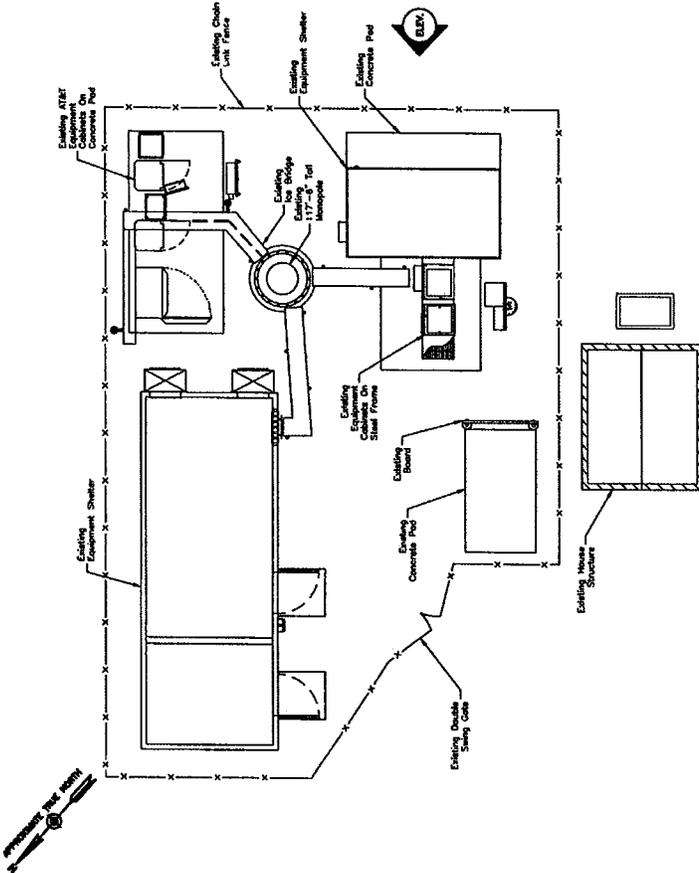

Jennifer Young Gaudet (JYGM)

Attachments

cc: Honorable Susan B. Weintraub, Chairperson, Town Council, Town of East Hampton
Jeffrey Jylkka, Interim Town Manager, Town of East Hampton
Paul's & Sandy's Too, Inc. (underlying property owner)



EQUIPMENT PLAN
 SCALE: 1/4" = 1'-0" FOR 11/17/17
 1" = 2' FOR 2P/3A



COMPOUND PLAN
 SCALE: 1/4" = 1'-0" FOR 11/17/17
 1" = 2' FOR 2P/3A



- NOTES:**
1. DIMENSIONS ARE APPROXIMATE.
 2. VERIFY ALL DIMENSIONS, CONDITIONS, AND REQUIREMENTS WITH THE CLIENT AND THE CONTRACTOR BEFORE PROCEEDING WITH ANY WORK.
 3. SEE ALL INFORMATION SHEETS FOR DETAILS.
 4. EXISTING UTILITIES ARE SHOWN AS A GUIDE ONLY.

Dewberry.
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 FAX: 860.426.1001

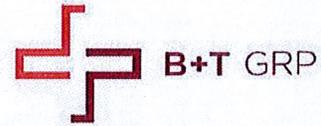
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at&t
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 EAST HAMPTON, CT 06424



PROJECT NO.	11117
PROJECT NAME	COMPOUND & EQUIPMENT PLAN
DATE	11/17/17
SCALE	AS SHOWN
DESIGNED BY	SK
CHECKED BY	SK
DATE	11/17/17



June 26, 2012

Mr. Bobby Greenwood
Crown Castle USA Inc.
370 Mallory Station Road, Suite 505
Franklin, TN 37067
(615) 585-5011

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
ctuttle@btgrp.com

Subject: Structural Modification Report

Carrier Designation: AT&T Mobility Co-Locate
Carrier Site Number: CT1053
Carrier Site Name: East Hampton

Crown Castle Designation: Crown Castle BU Number: 876352
Crown Castle Site Name: Richard Wall
Crown Castle JDE Job Number: 183551
Crown Castle Application Number: 144142 Rev. 0

Engineering Firm Designation: B+T Group Project Number: 84788.001

Site Data: 94 East High Street, East Hampton, CT, Middlesex County
Latitude 41° 35' 14.2", Longitude -72° 29' 19.6"
117.5 Foot - Monopole

B+T Group is pleased to submit this "Structural Modification 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, in accordance with application 144142, revision 0.

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:

LC4: TSA specified load case with proposed modification. **Sufficient Capacity**
Note: See Table 1 and Table 2 for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and the 2005 CT State Building 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 B+T Group 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.

Respectfully submitted by:
B+T Engineering, Inc.

Sachin S. Chougule
Project Engineer

Chad E. Tuttle, P.E.
President

6/26/12

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1) INTRODUCTION

This tower is a 117.5 ft. Monopole tower designed by Engineered Endeavors, Inc. in May of 1999. The tower was originally designed for a wind speed of 89.25 mph per TIA/EIA-222-F. The tower has been modified per Semaan Engineering Solutions, in April of 2005.

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, 37.6 mph with 0.75 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
93.0	93.0	6	Ericsson	RRUS-11	1 2	3/8 3/4	--
		1	--	Side Arm Mount [SO 102-3]			
91.0	93.0	3	KMW Communications	AM-X-CD-16-65-00T-RET			
		1	Raycap	DC6-48-60-18-8F			

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
118.0	130.0	1	Decibel	DB264-A	1 2 18	1/2 7/8 1-5/8	1
		1	Decibel	DB420-A			
	126.0	1	Decibel	ASP-2011			
	120.0	6	EMS Wireless	RR65-12-05DBL			
		3	EMS Wireless	RR90-17-02DP			
	118.0	1	--	Platform Mount [LP 712-1]			
105.0	108.0	2	Antel	BXA-171063-12BF	12	1-1/4	1
		1	Antel	BXA-171063-8BF-2			
		1	Antel	BXA-70063/6CF-2			
		2	Antel	BXA-70063/6CFx4			
		4	Decibel	DB846F65ZAXY			
		2	RFS Celwave	APL866513-42T0			
		6	RFS Celwave	FD9R6004/2C-3L			
	105.0	1	--	Platform Mount [LP 714-1]			
91.0	93.0	6	Powerwave Technologies	7770.00	3 12	1-1/4 1-5/8	1
	91.0	6	Powerwave Technologies	LGP 17201			
		6	Powerwave Technologies	LGP21903			
		1	--	Platform Mount [LP 714-1]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
75.0	76.0	1	Lucent	KS24019-L112A	1	1/2	1
	75.0	1	--	Side Arm Mount [SO 701-1]			

Notes:
 1) Existing Equipment

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)
117.5	117.5	12	Decibel	DB 980	--	--
105	105	12	Swedcom	ALP 9212	--	--
95	95	12	Swedcom	ALP 9212	--	--

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Application	N/A	N/A	N/A
Tower Mapping	Engineering Endeavors, Inc. Job # 5069, Dated 5/28/99	2122777	CCI Sites
Foundation Mapping	Engineering Endeavors, Inc. Job # 5069, Dated 5/28/99	2122776	CCI Sites
Geotech Report	Clough, Harbour, & Associates LLP, Project # 7472.07.03, Dated 5/20/99	1532964	CCI Sites
Antenna Configuration	Previous SA by Crown Castle Project No. 484632	Date: 04/23/2012	CCI Sites

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.
- 5) Mount areas and weights are assumed based on photographs provided.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary) – LC4

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	117.5 - 86.29	Pole	TP22.9x15x0.188	1	-7.112	675.914	81.7	Pass
L2	86.29 - 42.63	Pole	TP33.46x21.659x0.313	2	-13.331	1647.841	95.7	Pass
L3	42.63 - 30.5	Pole	TP35.868x31.644x0.411	3	-17.227	1973.586	97.0	Pass
L4	30.5 - 0	Pole	TP43.5x35.868x0.422	4	-23.808	2465.357	95.2	Pass
							Summary	
						Pole (L3)	97.0	Pass
						RATING =	97.0	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC4

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	80.7	Pass
1	Base Plate	Base	92.5	Pass
1	Base Foundation	Base	98.2	Pass

Structure Rating (max from all components) =	98.2%
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Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) The percent capacities shown above (excluding foundations) include the 1/3 increase in allowable stresses as allowed by TIA/EIA-222-F.

4.1) Recommendations

- 1) All modifications proposed in this report shall be installed in accordance with the attached drawings (Appendix D) for the determined available structural capacity to be effective.

B+T GRP
1717 E. BOULDER
TULSA, OK 74119
PH: (918) 587-4830
www.btgrp.com

AeroSolutions LLC
Creating Your Tower Tomorrow

CROWN CASTLE

REV	DATE	DESCRIPTION
0	06/29/12	ISSUED FOR CONSTRUCTION

PROJECT NO: 84788.001
PROJECT ENG: SACHIN CHOURABALE
DRAWN BY: VAT
CHECKED BY: SSV

B+T ENGINEERING, INC.

100 EAST HIGHT STREET
EAST HAMPTON, CT
HARTFORD, CT 06103

RICHARD WALL
876352
100 EAST HIGHT STREET
EAST HAMPTON, CT
HARTFORD, CT 06103

SHEET TITLE
MODIFICATION INSPECTION NOTES AND CHECKLIST

SHEET NUMBER: **S2**

REVISION: **0**

GENERAL CONTRACTOR
THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST AND ENG-SOW-10007.

RECOMMENDATIONS
SUGGESTIONS AND CORRECTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI INSPECTION.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- FOUNDATIONS SHALL BE INSPECTED AND TESTED PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON-SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI
IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY HAS A CHANGE OF SCHEDULE, THE OTHER PARTY SHALL BE NOTIFIED IN WRITING, LOSS OF DEPOSIT AND/OR OTHER FEES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LOGGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). IF CROWN CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FALLING MI'S
IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI (FALED MT), THE GC SHALL WORK WITH CROWN TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FALLING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, WITH CROWN'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

MI VERIFICATION INSPECTIONS
CROWN RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH ENG-SOW-10007.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT ADV/MSV FIRM AFTER A PHOTOGRAPHIC RECORD IS TAKEN AND A COPY OF AN ACCEPTED "PASSIBLE MI" OR "PASS AS NOTED" MI REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS
BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/PACKING AND INSPECTION
- PHOTOS OF ALL CRITICAL DETAILS
- FOUNDATION MODIFICATIONS
- WELD PREPARATION AND WELDING
- FINAL INSALLED CONDITION
- SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
- FINAL IN-FIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, PLEASE REFER TO ENG-SOW-10007.

MI CHECKLIST

REQUIRED	REPORT ITEM	BRIEF DESCRIPTION
X	MI CHECKLIST DRAWING	THIS CHECKLIST SHALL BE INCLUDED IN THE MI REPORT.
X	FOR APPROVED SHOP DRAWINGS	FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATION INSPECTION	ALL OTHER THAN THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR CERTIFIED WELD INSPECTION	QUALITY CONTROL OF WELDS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT. AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL TEST REPORT (MTR)	ALL MATERIALS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT. DOCUMENTATION SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR NDE INSPECTION	CRITICAL SHOP WELDS THAT REQUIRE TESTING (PER ENG-SOW-10007) ARE NOTED ON THESE CONTRACT DRAWINGS. A WRITTEN REPORT FOR INCLUSION IN THE MI REPORT.
N/A	NDE REPORT OF MONOPOLE BASE PLATE	A NDE (PER ENG-SOW-10007) OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	THE MATERIAL SHIPPING LIST SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

CONSTRUCTION
A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH CROWN REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS INSTALLED IN ACCORDANCE WITH CROWN ENG-PRC-10012 FOR INCLUSION IN THE MI REPORT.

A CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST AS NECESSARY ALL FIELD WELDS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED IN ACCORDANCE WITH CROWN ENG-BUL-10149.

THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT TO THE MI INSPECTOR INDICATING THE TEMPERATURE AND TENSION IN EVERY GUY CABLE AS PART OF PLUMB AND TENSION PROCEDURE FOR INCLUSION IN THE MI REPORT.

THE GENERAL CONTRACTOR SHALL SUBMIT A COPY OF THE CONTRACT DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD DUE TO FIELD CONDITIONS.

POST-CONSTRUCTION
THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTORS REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.

POST-INSTALLED ANCHOR RODS SHALL BE TESTED IN ACCORDANCE WITH ENG-PRC-10119 AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.

PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI WHICH DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.

ADDITIONAL TESTING AND INSPECTIONS:
NOTE: X DENOTES A DOCUMENT NEEDED FOR THE MI REPORT
N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT

MODIFICATION INSPECTION NOTES:

GENERAL
THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY REMAINS WITH THE EOR AT ALL TIMES.

ALL M'S SHALL BE CONDUCTED BY A CROWN ENGINEERING VENDOR (AEV) OR ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN. SEE ENG-BUL-10173 LIST OF APPROVED MI VENDORS.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR CROWN POINT OF CONTACT (POC).

REFER TO ENG-SOW-10007 - MODIFICATION INSPECTION SOW FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR
THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO CROWN.

PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/PACKING AND INSPECTION

PHOTOS OF ALL CRITICAL DETAILS

FOUNDATION MODIFICATIONS

WELD PREPARATION AND WELDING

FINAL INSALLED CONDITION

SURFACE COATING REPAIR

POST CONSTRUCTION PHOTOGRAPHS

FINAL IN-FIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, PLEASE REFER TO ENG-SOW-10007.

B+T GRP
 1777 S. BUCKLEDER
 TULSA, OK 74119
 PH: (918) 587-6500
 www.btgrp.com

AeroSolutions LLC
 Clearing Your Tower Infrastructure

CROWN CASTLE

REV	DATE	DESCRIPTION
0	06/26/12	ISSUED FOR CONSTRUCTION

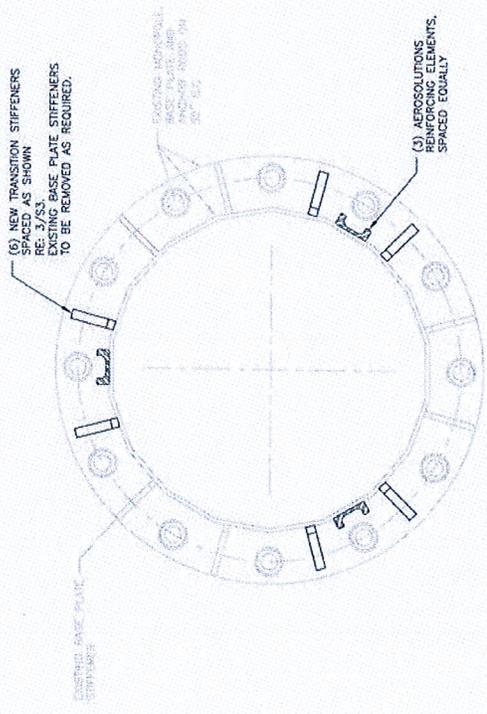
PROJECT NO.	84786.001
PROJECT ENGS.	SACHIN CHOUDHURY
DRAWN BY:	VAT
CHECKED BY:	SSV

B+T ENGINEERING, INC.

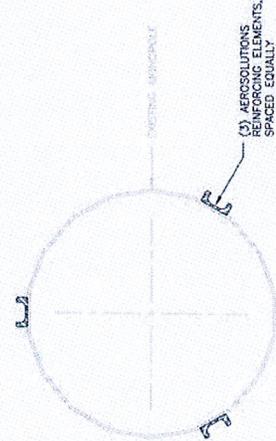

RICHARD WALL
 876362
 84 EAST HIGHT STREET,
 EAST HAMPTON, CT
 EXISTING 117' 6"
 MONOPOLE

SHEET TITLE
TOWER SECTIONS
 0'-30.5' AND 30.5'-45.5'
 AND DETAIL

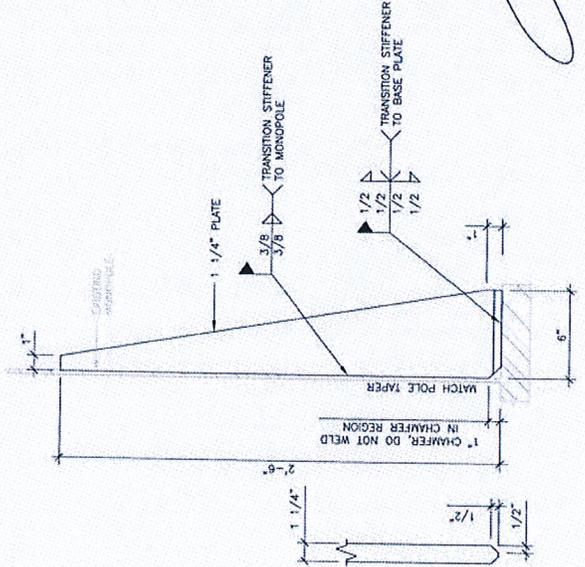
SHEET NUMBER	S3
REVISION	0



1 TOWER SECTION (0'-30.5')
 SCALE: N.T.S.



2 TOWER SECTION (30.5'-45.5')
 SCALE: N.T.S.



3 TRANSITION STIFFENER
 SCALE: N.T.S.



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Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions



at&t

CT1053

(East Hampton)

94 East High Street, East Hampton, CT

June 28, 2012

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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 monopole located at 94 East High Street, East Hampton, CT. The coordinates of the tower are 41-35-14.2 N, 72-29-19.6 W.

AT&T is proposing the following modifications:

- 1) Install three 700 MHz LTE antennas (one 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:

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

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	95	880	1	500	0.0199	0.5867	3.40%
Cingular GSM	95	880	4	296	0.0472	0.5867	8.04%
Cingular GSM	95	1930	2	427	0.0340	1.0000	3.40%
Town	120	453.63	4	100	0.0100	0.3024	3.30%
Town	120	155.49	4	100	0.0100	0.2000	4.99%
Town	120	46.18	4	100	0.0100	0.2000	4.99%
Sprint	120	1962.5	11	122	0.0335	1.0000	3.35%
Verizon cellular	108	869	9	397	0.1101	0.5793	19.01%
Verizon PCS	108	1970	11	296	0.1004	1.0000	10.04%
Verizon AWS	108	2145	1	739	0.0228	1.0000	2.28%
Verizon LTE	108	698	2	734	0.0453	0.4653	9.73%
Nextel	113	851	12	100	0.0338	0.5673	5.96%
AT&T UMTS	93	880	2	565	0.0047	0.5867	0.80%
AT&T UMTS	93	1900	2	875	0.0073	1.0000	0.73%
AT&T LTE	93	734	1	1313	0.0055	0.4893	1.12%
AT&T GSM	93	880	1	283	0.0012	0.5867	0.20%
AT&T GSM	93	1900	4	525	0.0087	1.0000	0.87%
						Total	67.37%

Table 1: Carrier Information^{1 2 3}

¹ The existing CSC filing for Cingular and AT&T 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.

³ Antenna height listed for AT&T is in reference to the B+T Group Structural Analysis dated June 26, 2012.

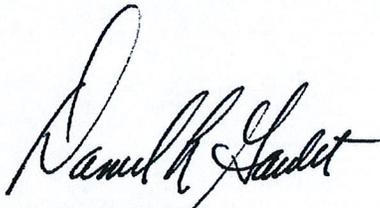
5. Conclusion

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 **67.37% 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

June 28, 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 Exposure⁴

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 Exposure⁵

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)

⁴ 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

⁵ 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

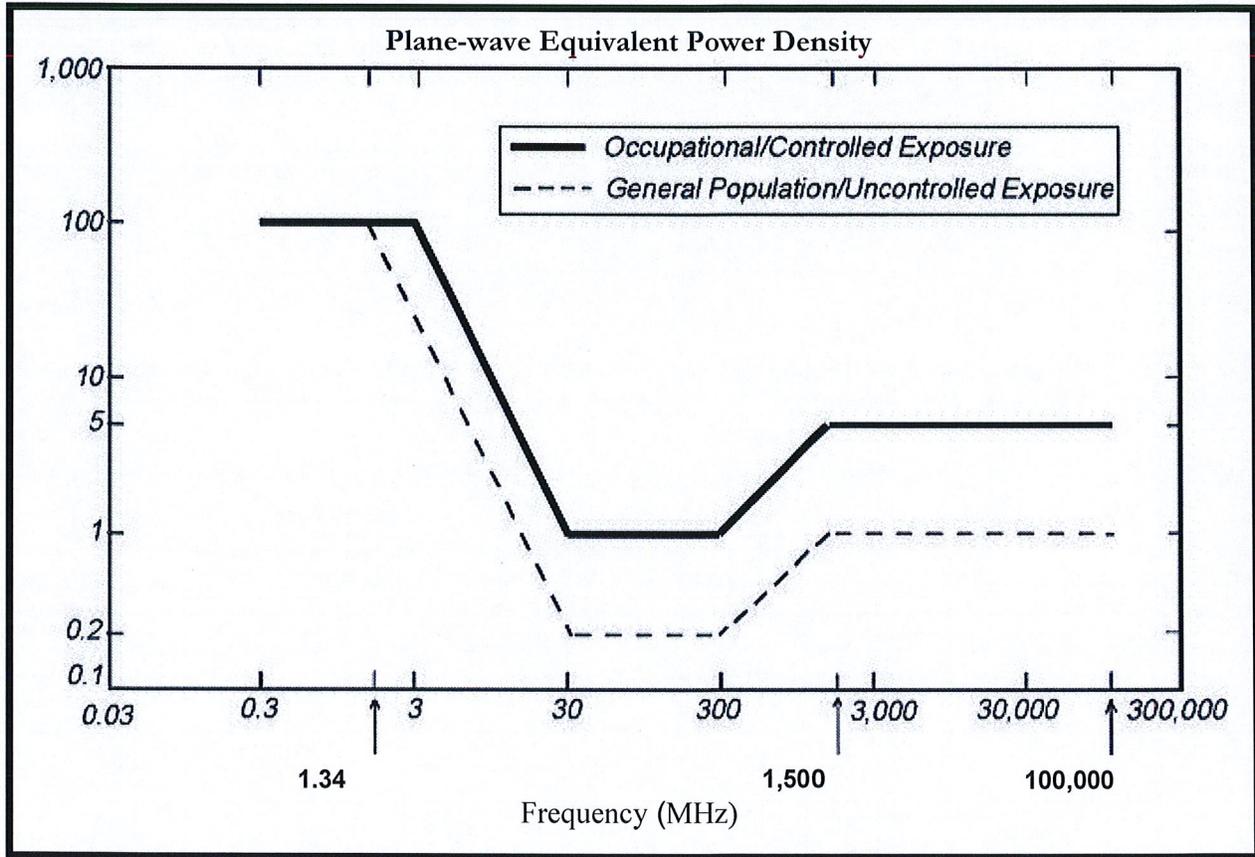
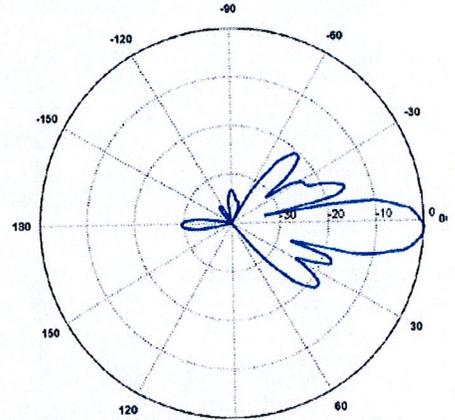
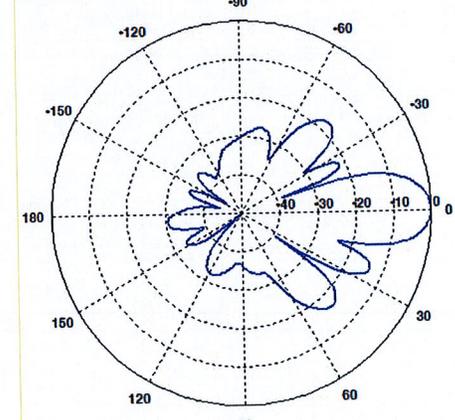


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

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

<p>700 MHz</p> <p>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 $\pm 45^\circ$ Size L x W x D: 72.0" x 11.8" x 5.9"</p>	
<p>850 MHz</p> <p>Manufacturer: Powerwave Model #: 7770 Frequency Band: 824-896 MHz Gain: 11.4 dBd Vertical Beamwidth: 15° Horizontal Beamwidth: 85° Polarization: Dual Linear $\pm 45^\circ$ Size L x W x D: 55.4" x 11.0" x 5.0"</p>	
<p>1900 MHz</p> <p>Manufacturer: Powerwave Model #: 7770 Frequency Band: 1850-1990 MHz Gain: 13.4 dBd Vertical Beamwidth: 7° Horizontal Beamwidth: 90° Polarization: Dual Linear $\pm 45^\circ$ Size L x W x D: 55.4" x 11.0" x 5.0"</p>	