

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 11, 2012

Julie D. Kohler, Esq.
Cohen and Wolf, P.C.
1115 Broad Street
Bridgeport, CT 06604

RE: **EM-T-MOBILE-077-120621** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 239 East Middle Turnpike, Manchester, Connecticut.

Dear Attorney Kohler:

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 June 19, 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/jbw

c: The Honorable Louis A. Spadaccini, Mayor, Town of Manchester
Scott A. Shanley, General Manager, Town of Manchester
James Davis, Zoning Enforcement Officer, Town of Manchester

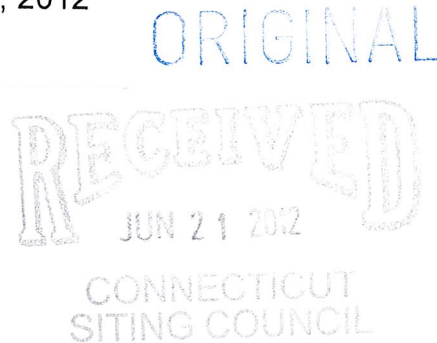


JULIE D. KOHLER

PLEASE REPLY TO: Bridgeport
WRITER'S DIRECT DIAL: (203) 337-4157
E-Mail Address: jkohler@cohenandwolf.com

June 19, 2012

Ms. Linda Roberts,
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051



**Re: Notice of Exempt Modification
Manchester Police Department/T-Mobile co-location
Site ID CT11365D
239 East Middle Turnpike, Manchester CT**

Dear Ms. Roberts:

This office represents T-Mobile Northeast LLC ("T-Mobile") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, the Town of Manchester owns the existing telecommunications tower and related facility at 239 East Middle Turnpike, Manchester Connecticut (latitude 41.78439, longitude -72.51177). T-Mobile intends to replace six antennas and add related equipment at this existing facility in Manchester ("Manchester Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Mayor, Leo V. Diana.

The existing Manchester Facility consists of a 183 foot tower. T-Mobile plans to replace six antenna mounted on the tower at a centerline of 163 feet. T-Mobile will also install equipment cabinets on a concrete pad within the existing compound area near the base of the tower. (See the plans dated April 24, 2012 attached hereto as Exhibit A). The existing tower is structurally capable of supporting T-Mobile's proposed use, as indicated in the structural analysis dated May 4, 2012 and attached hereto as Exhibit B.

June 19, 2012
Site ID CT11365D
Page 2

The planned modifications to the Manchester Facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1 . The proposed modification will not increase the height of the tower. T-Mobile's replacement antennas will be installed at the 163 foot level. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.

2 . The installation of the T-Mobile equipment in the existing compound, as reflected on the attached site plan, will not require an extension of the site boundaries. T-Mobile's proposed equipment will be located entirely within the existing compound area.

3 . The proposed modification to the Facility will not increase the noise levels at the existing facility by six decibels or more.

4 . The operation of the replacement antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a RF Exposure Analysis prepared by EBI dated June 11, 2012 T-Mobile' operations would add 0.423% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 56.973% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and equipment at the Manchester Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

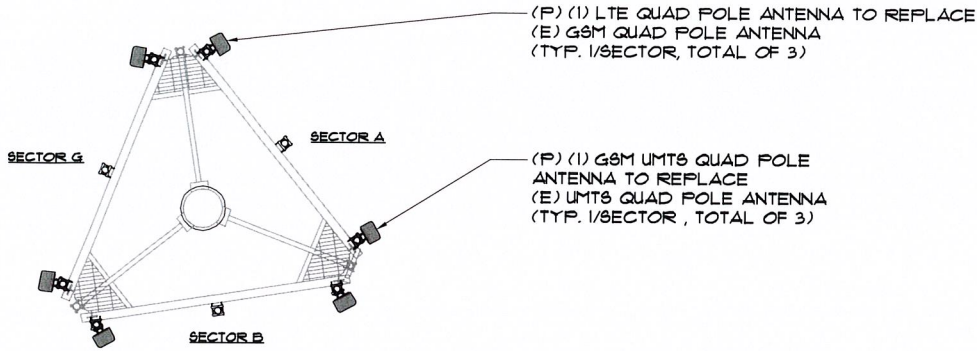
Sincerely,



Julie D. Kohler, Esq.

cc: Mayor, Leo V. Diana, Town of Manchester
Mark Richard, T-Mobile
Scott Chase, Northeast Site Solutions

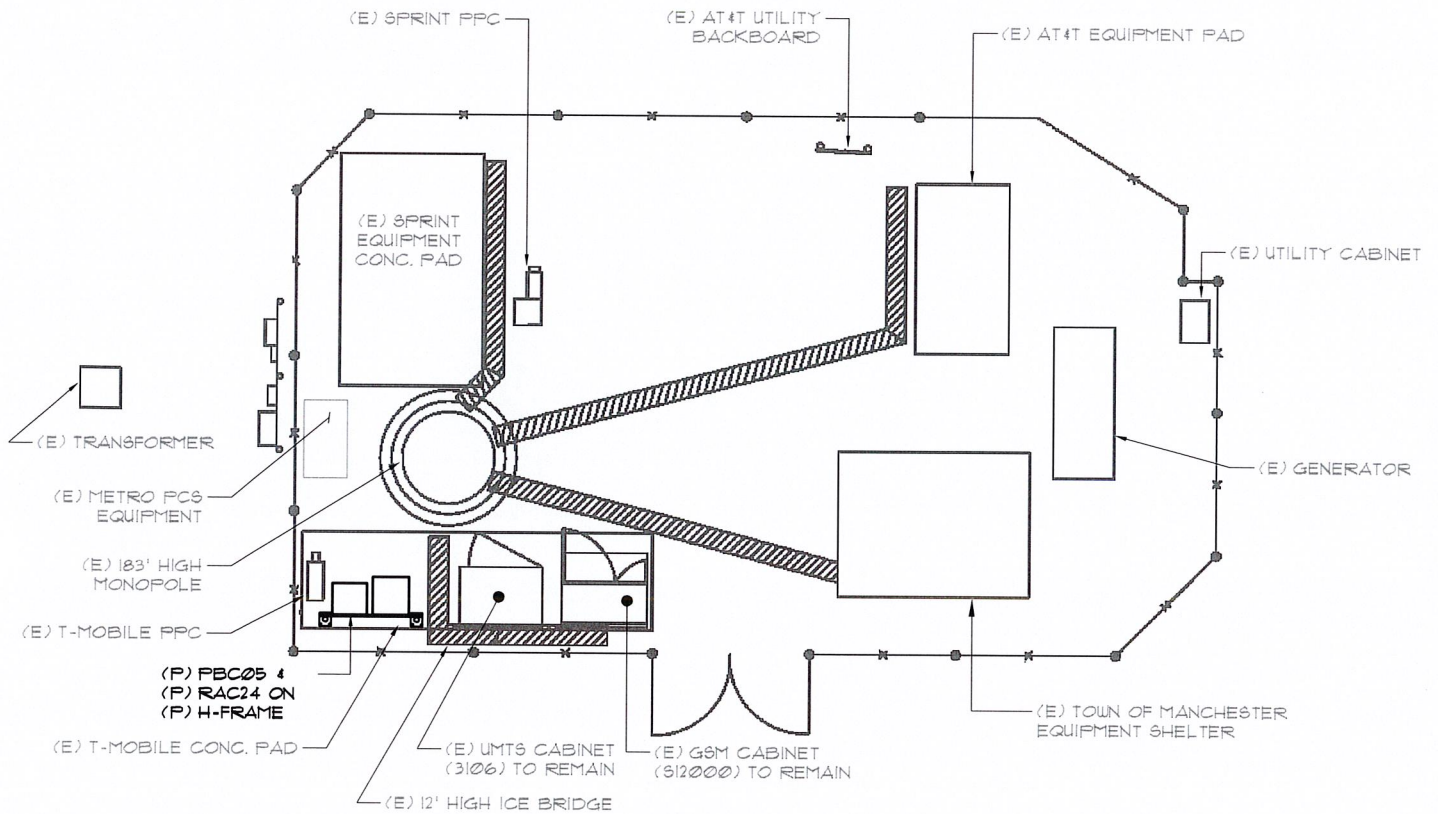
EXHIBIT A



ANTENNA PLAN

2
LE-1

N.T.S.



ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE / LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

SITE PLAN

N.T.S.

1
LE-1

1
LE-2

Configuration

2C

SUBMITTALS

LE REV A	04.24.12

ATLANTIS GROUP
1340 Centre Street
Suite 203
Newton, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

LEASE EXHIBIT

SITE NUMBER:
CT11365D
SITE NAME:
CT365/MANCHESTER PD_MP
SITE ADDRESS:
239 E.MIDDLE TPK
MANCHESTER, CT 06040

NORTHEAST TOWERS

199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

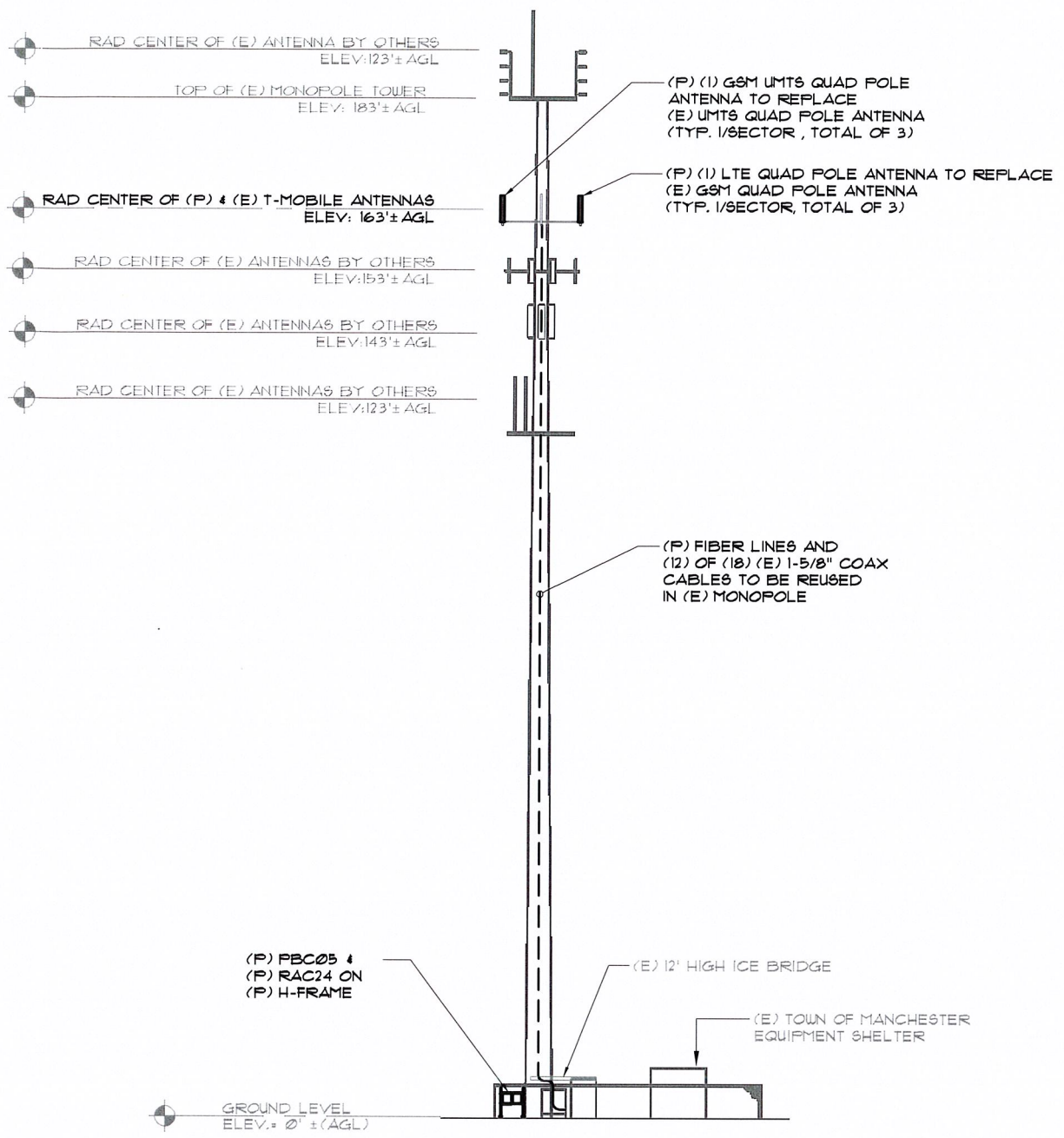
T-MOBILE NORTHEAST, LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

DRAWN BY: EB

CHECKED BY: SM

PAGE 1 OF 2



ELEVATION 1
 N.T.S. LE-2

Configuration
2C

SUBMITTALS	
LE REV A	04.24.12

ATLANTIS GROUP
 1340 Centre Street
 Suite 203
 Newton, MA 02459
 Office: 617-965-0789
 Fax: 617-213-5056

LEASE EXHIBIT
 SITE NUMBER:
 CT11365D
 SITE NAME:
 CT365/MANCHESTER PD_MP
 SITE ADDRESS:
 239 E.MIDDLE TPK
 MANCHESTER, CT 06040

NORTHEAST TOWERS
 199 BRICKYARD ROAD
 FARMINGTON, CT 06032
 OFFICE: (860) 677-1999
 FOR
T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860) 692-7100
 FAX: (860) 692-7159

EXHIBIT B

5-4-2012

Re: Structural Evaluation Letter
 T-Mobile Site ID: CT11365D
 T-Mobile Site Name: CT365/Manchester PD_MP
 Site Address: 239 E. Middle Turnpike, Manchester, CT 06040

Atlantis Group Inc. (Atlantis Group) evaluated the structural capacity of the existing wireless telecommunication installation on the monopole at the above referenced address for the additions and alterations proposed by T-Mobile. Please refer to the lease exhibit prepared by Atlantis Group, dated 4/24/2012 for details of the proposed changes at the site. The evaluation is based on:

- Structural Analysis prepared by Malouf Engineering Intl., Inc., dated 03-18-09.

Proposed Changes:

Equipment Cabinets: T-Mobile equipment cabinets are located directly on a concrete slab on grade at the base of the monopole. T-Mobile is proposing to add a PBC05 cabinet and RAC24 cabinet mounted on an H-frame. The existing UMTS 3106 (1875 lbs.) and GSM S12000 (1257 lbs.) cabinets will remain.

Antennas and accessories: T-Mobile is proposing the following changes to the antennas, which are attached to a monopole platform:

Existing Configuration of T-MOBILE Appurtenances:

Rad Center (ft)	Antenna & TMA		Mount
163	UMTS Antenna GSM Antenna TMA	(3) APX16DWV-16DWVS (3) APX16DWV-16DWVS (3) dd B4, (3) dd B2	(1) Low-Profile Platform

Proposed Configuration of T-MOBILE Appurtenances:

Rad Center (ft)	Antenna & TMA		Mount
163	GSM/UMTS QUAD POLE LTE QUAD POLE TMA	(3) AIR21 B2A/B4P (3) AIR21 B4A/B2P (3) dd B4	(1) Low-Profile Platform

Evaluation Conditions: The analysis is based on the information provided to Atlantis Group and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength. It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Atlantis Group will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance. Contractor should inspect the condition of the existing structure, mounts

CT11365D
Structural Letter

and connections and notify Atlantis Group for any discrepancies and deficiencies before proceeding with the construction.

It is assumed that all prior additions and alterations by T-Mobile has been properly designed and structural components, including building structural members, have been qualified for the changed conditions. Atlantis Group does not assume any liability which may arise due to invalidity of this assumption.

The evaluation results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Atlantis Group to generate an additional structural evaluation.

Conclusion:

Cabinets: As the existing cabinet configuration on the concrete slab on grade is not modified and load addition being within capacity of slab, the structure is considered to have **adequate** structural capacity without further evaluation per 2005 Connecticut Building Code, 2005 Connecticut Supplement and 2009 Amendment.

Antenna Mounts & Monopole: Current monopole usage is 79.3% of capacity as a maximum. The proposed antennas are smaller than existing, which imparts less loading on the structure. Therefore, as the structure was previously qualified for the existing configuration and higher wind loads, the design still applies and the monopole is considered to have **adequate** strength for the proposed changes.

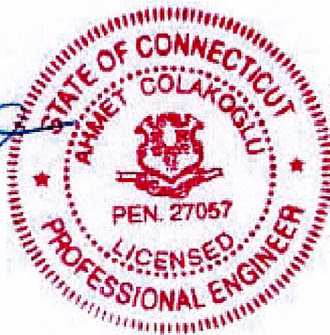
The proposed H-frame and connection design is not within the scope of this letter.

Therefore, the additions and alterations proposed by T-Mobile **can be implemented as intended** with the conditions outlined in this letter.

Should you need any clarifications or have any questions about this letter, please contact me at (617) 965-0789.

Sincerely,
Atlantis Group
5-4-2012


Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057



1340 Centre Street Suite 203
Newton Massachusetts, 02459
Phone: 617-965-0789
Fax: 617-965-0103

EXHIBIT C

**RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS**

T-Mobile Existing Facility

Site ID: CT11365D

**Manchester Police Department Monopole
239 East Middle Turnpike
Manchester, CT 06040**

June 11, 2012

June 11, 2012

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Re: Emissions Values for Site CT11365D –Manchester Police Department Monopole

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 239 East Middle Turnpike, Manchester, CT, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band is 567 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band is 1000 $\mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 239 East Middle Turnpike, Manchester, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is a 6 foot person standing at the base of the tower

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 GSM channels (1935.000 MHz—to 1945.000 MHz) were considered for each sector of the proposed installation.
- 2) 2 UMTS channels (2110.000 MHz to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
- 3) 2 LTE channels (2110.000 MHz to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
- 4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 6) The antenna used in this modeling is the Ericsson AIR21 for LTE, UMTS and GSM. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.6 dBd gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications

- 7) The antenna mounting height centerline of the proposed antennas is **163 feet** above ground level (AGL)
- 8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT11365D - Manchester PD Monopole
Site Address	239 E. Middle Tpk, Manchester, CT 06040
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	Antenna analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	163	157	None	0	0	48.326044	0.704836	0.07048%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-	0	0	0	-3.95	163	157	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A/B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	163	157	None	0	0	24.163022	0.352418	0.03524%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	163	157	1-5/8"	0	0	24.163022	0.352418	0.03524%

Sector total Power Density Value: 0.14097%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	Antenna analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	163	157	None	0	0	48.326044	0.704836	0.07048%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-	0	0	0	-3.95	163	157	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	163	157	None	0	0	24.163022	0.352418	0.03524%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	163	157	1-5/8"	0	0	24.163022	0.352418	0.03524%

Sector total Power Density Value: 0.14097%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	Antenna analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	163	157	None	0	0	48.326044	0.704836	0.07048%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-	0	0	0	-3.95	163	157	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	163	157	None	0	0	24.163022	0.352418	0.03524%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	163	157	1-5/8"	0	0	24.163022	0.352418	0.03524%

Sector total Power Density Value: 0.14097%

Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.42290%
Town Emergency Services	8.9500%
Sprint / Nextel	10.1900%
Cleanwire	0.8100%
Pocket	2.2500%
Verizon Wireless	16.8000%
AT&T	17.5100%
Total Site MPE %	56.973%

Summary

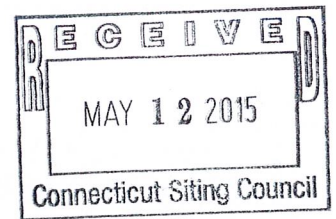
All calculations performed for this analysis yielded results that were well within the allowable limits for general public exposure to RF Emissions.

The anticipated Maximum Composite contributions from the T-Mobile facility are **0.423% (0.141% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **56.973%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government

·T· ·Mobile·



Please Reply To:
Sam Simons
35 Griffin Road South
Bloomfield, CT 06002
203-482-5156
Sam.Simons@T-Mobile.com

May 11, 2015

Attorney Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06501

Re: EM-T-Mobile-077-120621
T-Mobile Site ID CT11365D
239 E. Middle Tpk, Manchester CT
Notice of Construction Completion

Dear Attorney Bachman:

The Connecticut Siting Council ("Council") acknowledged the above referenced T-Mobile Northeast LLC ("T-Mobile") notice of exempt modification on July 11, 2012. T-Mobile hereby notifies the Council that construction of the acknowledged modifications were complete as of November 6, 2013.

Please don't hesitate to contact me with any questions.

Sincerely,

Sam Simons

Samuel Simons, T-Mobile

cc: Mark Richard, T-Mobile