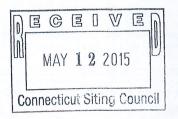
T. · Mobile



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

May 5, 2015

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

Re: EM-T-Mobile-107-120614A

T-Mobile Site ID CT11720A
525 Orange Center Rd (Orange) 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 9, 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.

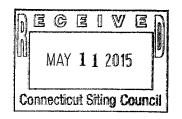
Sincerely,

Samuel Simons, T-Mobile

Sam Simons

cc: Mark Richard, T-Mobile

#### ·T· · · Mobile·



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

May 5, 2015

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

Re: EM-T-Mobile-107-120614A

T-Mobile Site ID CT11412A 525 Orange Center Rd. Orange 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 9, 2012. T-Mobile hereby notifies the Council that construction of the acknowledged modifications were complete as of Sepember 10, 2013.

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

Sincerely,

Samuel Simons, T-Mobile

Sam Simons

cc: Mark Richard, T-Mobile

#### 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 9, 2012

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

RE: **EM-T-MOBILE-107-120614A** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 525 Orange Center Road, Orange, 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 13, 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 James M. Zeoli, First Selectman, Town of Orange Paul Dinice, Zoning Enforcement Officer, Town of Orange



### EM-T-MOBILE-107-120614A

#### JULIE D. KOHLER

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

June 13, 2012

ORIGINAL

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

REGERVED)

CONNECTICUT SITING COUNCIL

Re: Notice of Exempt Modification Tow of Orange/T-Mobile co-location Site ID CT11412A 525 Orange Center Road, Orange 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 Orange owns the existing telecommunications tower and related facility at 525 Orange Center Road, Orange Connecticut (latitude 41.27363, longitude -73.01184). T-Mobile intends to replace six antennas and related equipment at this existing facility in Orange ("Orange 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 First Selectman, James Zeoli.

The existing Orange Facility consists of a 160 foot tower. T-Mobile plans to replace six antenna mounted on the tower at a centerline of 121 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 26, 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 18, 2012 and attached hereto as Exhibit B.



June 13, 2012 Site ID CT11412A Page 2

The planned modifications to the Orange 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 121 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 replacement 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 0.788% 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 37.538% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

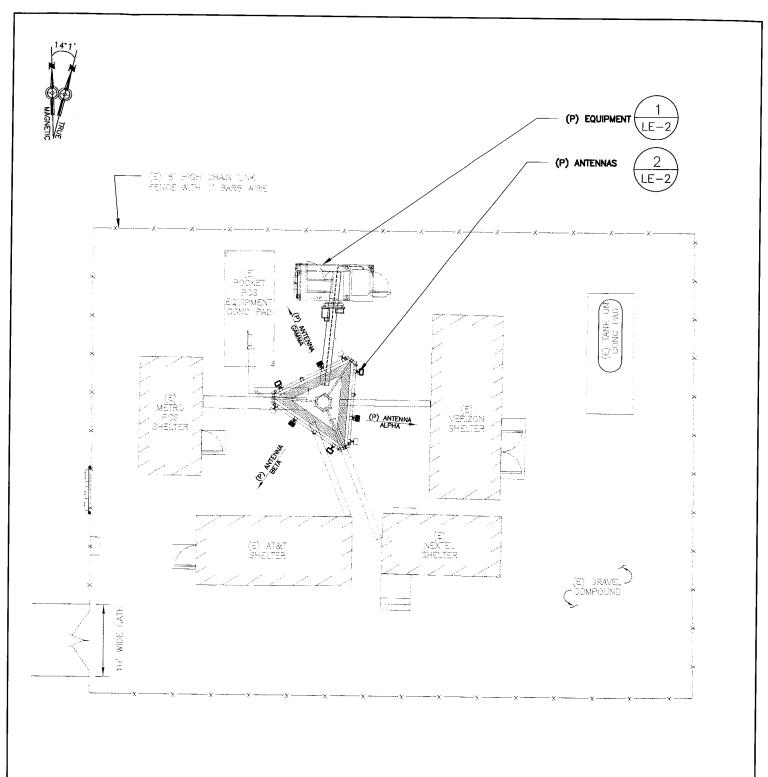
For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and equipment at the Orange Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Julie D. Kohler, Esq.

cc: First Selectman James Zeoli, Town of Orange Mark Richard, T-Mobile Scott Chase, Northeast Site Solutions

## **EXHIBIT A**



**COMPOUND PLAN** 





Configuration 2C

SUBM	ITTALS
LE REV A	04.25.12
LE REV 0	04.26.12

TLANTIS GROUP 1340 Centre Street

Suite 203 Newton, MA 02459 Office: 617-965-0789 Fax: 617-213-5056

### LEASE EXHIBIT

CT11412A

SITE NAME:

**ORANGE/TOWN HIGH PLAINS** 

SITE ADDRESS:

**525 ORANGE CENTER ROAD** ORANGE, CT 06477

-	_			
	DRA	WN	BY:	SB

CHECKED BY: SM

#### **NORTHEAST TOWERS**

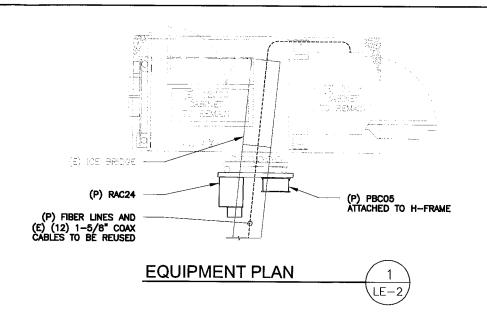
199 BRICKYARD ROAD FARMINGTON, CT 06032 OFFICE: (860) 677-1999

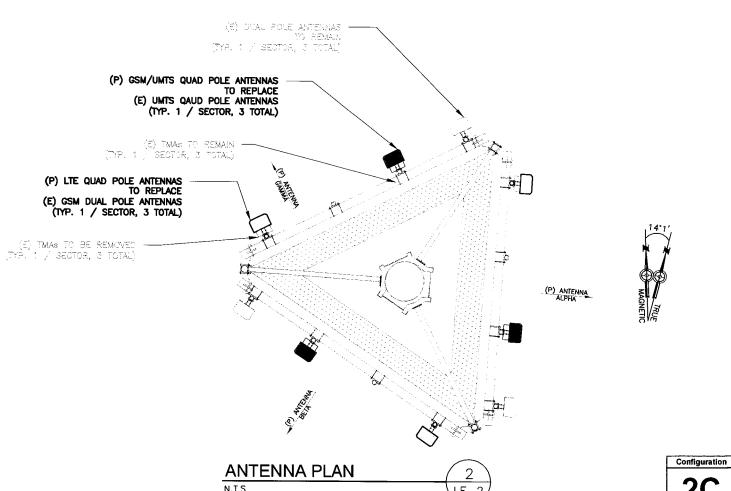
FOR

T-MOBILE NORTHEAST, LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002

OFFICE: (860) 692-7100 FAX: (860) 692-7159

PAGE1 OF 3





SUBMITTALS

LE REV A 04.25.12

LE REV 0 04.26.12

TLANTIS G R O U P

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

#### **LEASE EXHIBIT**

SITE NUMBER: CT11412A

SITE NAME:

ORANGE/TOWN HIGH PLAINS

SITE ADDRESS: 525 ORANGE CENTER ROAD ORANGE, CT 06477

DRAWN BY: SB

CHECKED BY: SM

#### 20

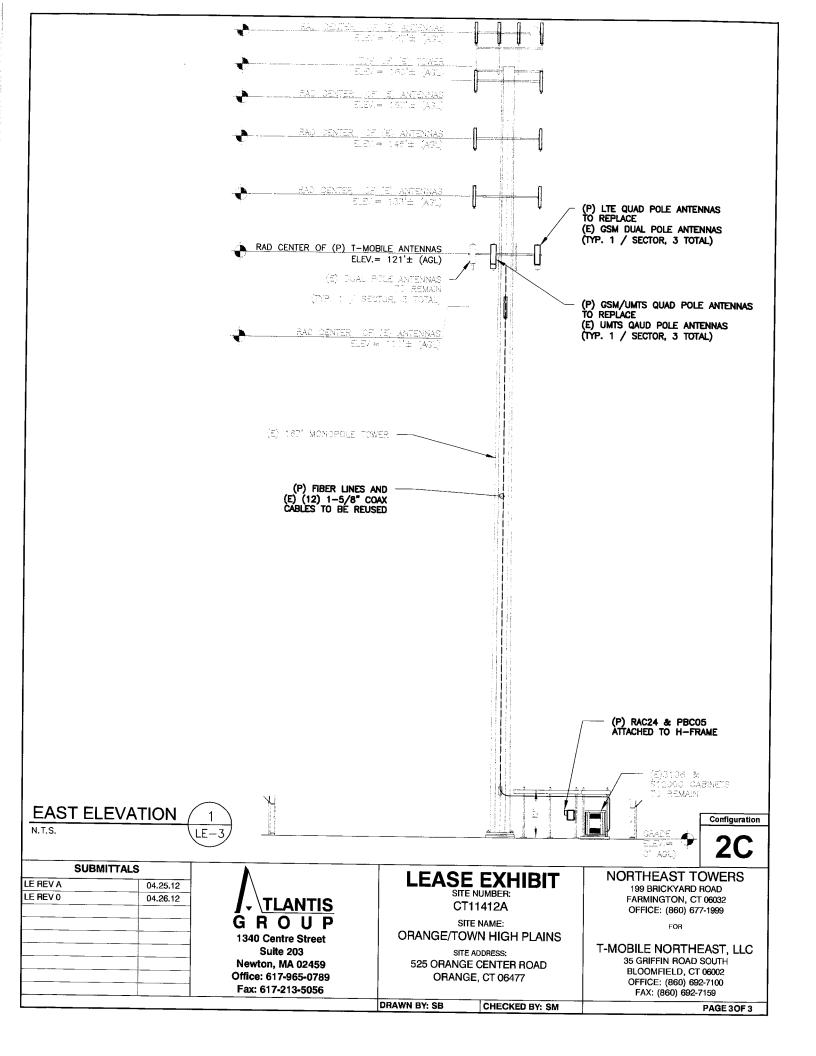
NORTHEAST TOWERS 199 BRICKYARD ROAD FARMINGTON, CT 06032 OFFICE: (860) 677-1999

FOR

#### T-MOBILE NORTHEAST, LLC

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

PAGE 20F3



# EXHIBIT B



5-18-2012

Re: Structural Evaluation Letter

T-Mobile Site ID: CT11412A

T-Mobile Site Name: Orange/Town High Plains

Site Address: 525 Orange Center Road, Orange, CT, 06477

Atlantis Group Inc. (Atlantis Group) evaluated the structural capacity of the existing wireless telecommunication installation on the tower 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 4/26/2012 for details of the proposed changes at the site. The evaluation is based on the structural analysis by Armor Tower, Inc. dated May 14, 2010.

#### **Proposed Changes:**

**Equipment Cabinets:** T-Mobile equipment cabinets are located on a concrete slab on grade. T-Mobile is proposing to add a PBC05 cabinet (529 lbs.) and RAC24 cabinet (270 lbs.) mounted on an existing H-frame. The existing GSM S12000 cabinet (1257lbs.) and RBS 3106 cabinet (1522 lbs.) will remain.

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

**Existing Configuration of T-MOBILE Appurtenances:** 

Rad Center (ft)		Antenna & TMA	Mount
121	UMTS Antenna	(3) APX16DWV-16DWVS	(1) Low Profile Platform
	GSM Antenna	(6) RR90-17-02DP	
	TMA	(3) dd B4 & (3) dd B2	

**Proposed Configuration of T-MOBILE Appurtenances:** 

Rad Center (ft)	Anten	na & TMA	Mount
121	GSM/UMTS QUAD POLE	(3) AIR21 B2A/B4P	(1) Low Profile Platform
	LTE QUAD POLE	(3) AIR21 B4A/B2P	
	DUMMY ANTENNA	(3) RR90-17-02DP	
	TMA	(3) dd B4	

**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

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

#### CT11412A Structural Letter

existing structure, mounts 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 have 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:**

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

<u>Antenna Mounts:</u> The usage of the monopole was calculated at 95.5% in the referenced analysis. Due to the antenna swap the moment and the usage of capacity will increase to 97%. The structure is **adequate** for the proposed changes.

H-frame and H-frame 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

5-18-2012

Ahmet Colakoglu, PE

**Connecticut Professional Engineer** 

Chlile

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: CT11412A

Town High Plains 525 Orange Center Road Orange, CT 06477

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 CT11412A -Town High Plains

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 525 Orange Center Road, Orange, 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 ( $\mu$ W/cm2). The number of  $\mu$ W/cm2 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 ( $\mu$ W/cm2). The general population exposure limit for the cellular band is 567  $\mu$ W/cm2, and the general population exposure limit for the PCS band is 1000  $\mu$ W/cm2. 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 525 Orange Center Road, Orange, 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 / 1980.000 MHz—to 1985.000 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 **121 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	CT11412A - Town High Plains
Site Addresss	525 Orange Center Road, Orange, CT 06477
Site Type	Monopole

	Power Density Percentage	0.13137%	0.00000%	0.06568%	0.06568%			Power	Density Percentage	0.13137%	0.00000%	0.06568%	0.06568%			Power Density	0.13137%	0.00000%	0.06568%	0.06568%	
	Power Density Value	1.313686	0	0.656843	0.656843			Power	Density Value	1.313686	0	0.656843	0.656843			Power Density Value	1.313686	0	0.656843	0.656843	
	ERP	48.326044	0	24.163022	24.163022	0.26274%			ERP	48.326044	0	24.163022	24.163022 0.656843	0.26274%		9	4	0	24.163022		1000000
	Cable Loss Additional (dB) Loss	0	0	0	0	Sector total Power Density Value:			Additional	0	0	0	0	Sector total Power Density Value: 0.26274%		Cable Loss Additional	0	0	0	0	
		0	0	0	0	al Power De			Cable Loss (dB)	0	0	0	0	al Power De		Cable Loss	0	0	0	0	The Property of the Party of th
	Cable Size	None	None	None	1-5/8"	Sector tota			Cable Size	None	None	None	1-5/8"	Sector tota		Cable Size	None	None	None	1-5/8"	CONTRACTOR OF THE PARTY OF THE
	analysis height	115	115	115	115			•	analysis height	115	115	115	115			analysis height	115	115	115	115	
	Antenna Height (ft)	121	121	121	121			ENDOSE CENTRALED YEAR OF PE	Antenna Height (ft)	121	121	121	121			Antenna Heisht (ft)	121	121	121	121	
	Antenna Gain in direction of sample Antenna point (dBd) Height (ft)	-3.95	-3.95	-3.95	-3.95			Antenna Gain in direction	of sample point (dBd)	-3.95	-3.95	-3.95	-3.95			Antenna Gain in direction of sample	-3.95	-3.95	-3.95	-3.95	
Sector 1	Composite Power	120	0	09	09		Sector 2		Composite	120	0	09	90		Sector 3	Composite	120	0	09	9	
Š	Number of Channels	2		2	2		35		Number of Channels	2		2	2		Se	Number of Channels	2		2	2	
	Power Out Per Channel (Watts)	09		30	30			TO A STATE OF THE PARTY OF	(Watts)	09		30	30			Power Out Per Channel I	09		30	30	
	Technology	ELE	-	STMU/MSD	NMTS				Technology	LTE	•	STMU/MSS	NMTS			Terhnology	LTE	-	GSM / UMTS	UMTS	
	Frequency Band	AWS - 2100 MHz	•	PCS - 1950 MHz	AWS - 2100 MHz				Frequency Band	AWS - 2100 MHz		PCS - 1950 MHz	AWS - 2100 MHz			Frontienty Rand	AWS - 2100 MHz		PCS - 1950 MHz	AWS - 2100 MHz	
	Status	Active	Not Used	Active	Passive				Status	Active	Not Used	Active	Passive			Status	Active	Not Used	Active	Passive	
	Antenna Model	AIR21 B4A/B2P		AIR21 B2A / B4P	AIR21 B2A / B4P				Antenna Model	AIR21 B4A/B2P	AIR21 B4A/B2P	AIR21 B2A / B4P	AIR21 B2A / B4P			Antenna Model	AIR21 B4A/B2P	AIR21 B4A/B2P	AIR21 B2A / B4P	AIR21 B2A / B4P	
	Antenna Number Antenna Make	Ericsson	Ericsson	Ericsson	Ericsson				Antenna Number Antenna Make	Ericsson	Ericsson	Ericsson	Ericsson			Antenna Make	Ericsson	Ericsson	Ericsson	Ericsson	
	Antenna Number (	1a	1b	Za	28				Antenna Number /	1a	1b	2a	28			Antenna		1b	2a	28	

dinos suc	our composure un E 70
Carrier	WPE %
T-Mobile	0.78821%
AT&T	8.7100%
Pocket	2.3300%
Verizon Wireless	17.3500%
Clearwire	0.6700%
Sprint	2.6900%
Nextel	2.0000%
Total Site MPE %	37.538%



#### **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 **0.788%** (**0.263% 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 **37.538%** 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