



Daniel F. Caruso
Chairman

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

Internet: ct.gov/csc

March 11, 2009

Jennifer Young Gaudet
HPC Development LLC
53 Lake Avenue Ext.
Danbury, CT 06811

RE: **EM-T-MOBILE-015-090206** - Omnipoint Communications, a subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 623 Pine Street, Bridgeport, Connecticut.

Dear Mrs. 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 coax shall be installed per page 10 of the structural analysis report dated January 15, 2009 and sealed by Michael Bohlinger, P.E.; and
- The Council shall be notified in writing that coax was installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated February 5, 2009, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

May 11, 2009

Page 2

Thank you for your attention and cooperation.

Very truly yours,

A handwritten signature in black ink that reads "S. Derek Phelps" with a small "RC" or similar mark at the end.

S. Derek Phelps
Executive Director

SDP/MP/laf

c: Honorable Bill Finch, Mayor, City of Bridgeport
Melanie J. Howlett, Associate City Attorney
RCSC



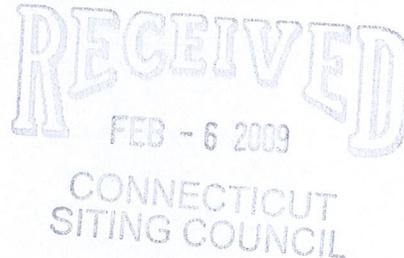
EM-T-MOBILE-015-090206

ORIGINAL

February 5, 2009

VIA OVERNIGHT DELIVERY

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Mr. S. Derek Phelps, Executive Director



Re: Omnipoint Communications, Inc. – exempt modification
623 Pine Street, Bridgeport, Connecticut

Dear Mr. Phelps:

This letter and attachments are submitted on behalf of Omnipoint Communications, Inc. (also referred to herein as “T-Mobile”). T-Mobile is enhancing the capabilities of its wireless system in Connecticut by implementing UMTS technology. In order to do so, T-Mobile will modify antenna and equipment configurations at a number of its existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which 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 Mayor of Bridgeport.

T-Mobile plans to modify the existing facility at 623 Pine Street, Bridgeport (coordinates 41°09'56.5” N, -73°12'59.9” W). Attached are a compound plan and elevation depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to T-Mobile’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. The height of the overall structure will be unaffected. Both T-Mobile’s existing and proposed antennas will be located at an approximate center line of 184’ AGL on the approximately 250’ tower. Three panel antennas and three TMAs, one each per sector, will be added. None of the modifications will extend the height of the tower.

2. The proposed changes will not extend the site boundaries. T-Mobile will install one additional cabinet within its existing equipment room. Thus, there will be no effect on the site compound.
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 power density calculation, T-Mobile's operations at the site will result in a power density of 2.6910%; the combined site operations will result in a total power density of 61.3510%.

Please feel free to call me at (860) 798-7454 with questions concerning this matter.
Thank you for your consideration.

Respectfully yours,

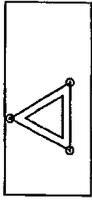


Jennifer Young Gaudet

cc: Honorable Bill Finch, Mayor, City of Bridgeport
Radio Communications Corp. (underlying property owner)

Attachments

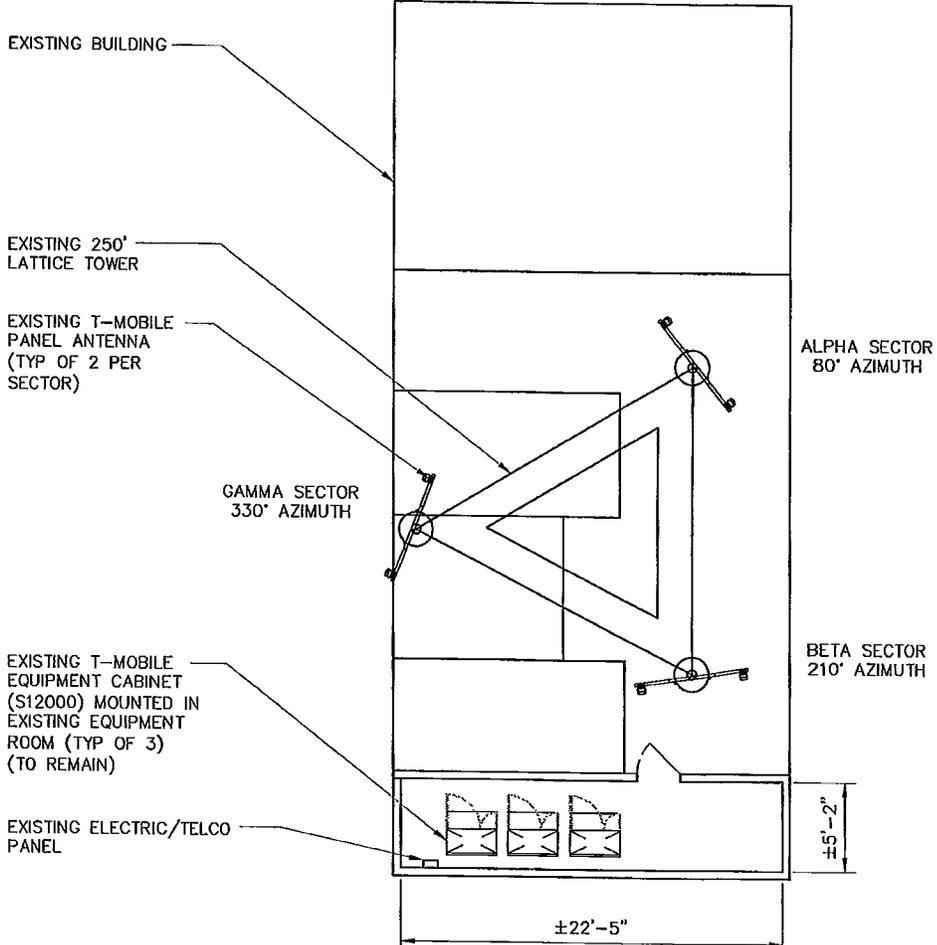
PINE STREET



NOTE:
EXISTING ANTENNAS BY OTHERS
NOT SHOWN FOR CLARITY

KEY PLAN

SCALE: NTS



EXISTING BUILDING PLAN

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

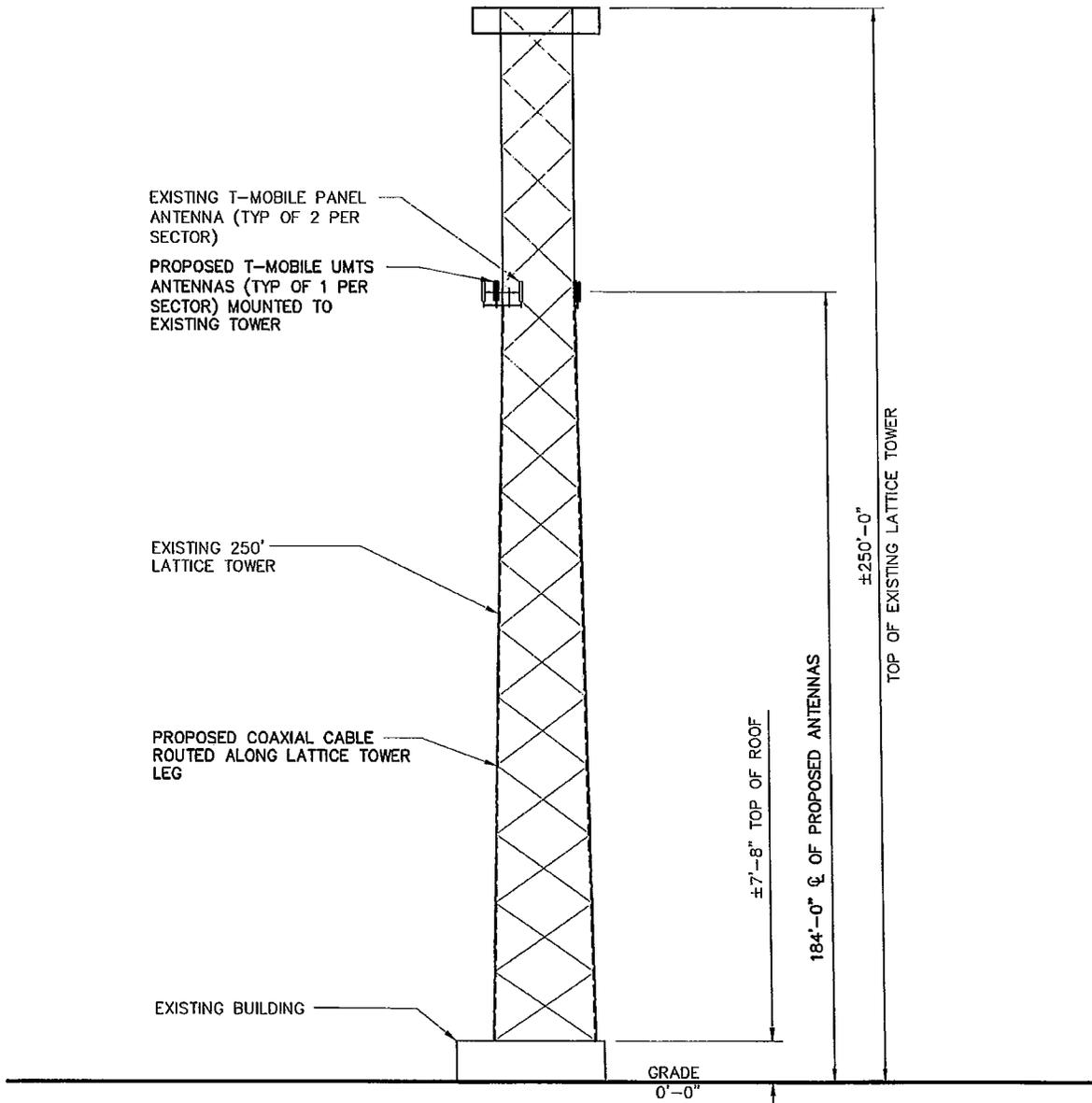


NOTES:

1. LEASE EXHIBITS ARE A CONCEPTUAL DESIGN OF LEASE AGREEMENT ONLY. ACTUAL CONSTRUCTION DOCUMENTS MAY VARY TO COMPLY WITH BUILDING CODES.
2. THE INFORMATION SHOWN IS TAKEN FROM A SURVEY PERFORMED BY "KMB DESIGN GROUP, LLC." DURING SITE VISIT.
3. ELECTRIC/ TELCO SERVICES SHALL BE CONFIRMED PRIOR TO CONSTRUCTION DOCUMENT PHASE.
4. 24 HR. 7 DAYS PER WEEK ACCESS IS REQUIRED FOR SERVICE TECHNICIAN.

	TITLE: KEY & BUILDING PLAN		PROJECT: PINE STREET			
	CLIENT: 		ADDRESS: 623 PINE STREET FAIRFIELD, CT 06604 FAIRFIELD COUNTY		2	1-30-09
SITE NO: CT11014B	KMB NO: 350.0004.037	DRAWN BY: JLS	CHECKED BY: RJG			
				LE1		

NOTE:
EXISTING ANTENNAS BY OTHERS
NOT SHOWN FOR CLARITY



NORtheast ELEVATION

SCALE: 1" = 40'



TITLE: **ELEVATION**
 CLIENT: **Omnipoint**
COMMUNICATIONS, INC.
 290 FAIRFIELD ROAD
 33 GREYHOUND SOUTH
 BLOOMFIELD, CT 06003

PROJECT: **PINE STREET**
 ADDRESS: **623 PINE STREET
 FAIRFIELD, CT 06604
 FAIRFIELD COUNTY**

SITE NO: **CT11014B**

KMB NO: **350.0004.037** DRAWN BY: **JLS** CHECKED BY: **RCG**

2	1-30-09	JRB
1	12-03-08	MAD
0	11-21-08	JLS

LE3

STRUCTURAL ANALYSIS AND REPORT

FOR

HPC DEVELOPMENT, LLC

PINE STREET BRIDGEPORT
BRIDGEPORT WEST TOWER
PROJECT NO. CT11014B

BRIDGEPORT, CONNECTICUT

250 FT. SELF-SUPPORTED TRIANGULAR TOWER

Prepared By:



CONSULTING ENGINEERS, INC.

32 West Upper Ferry Road
Ewing, New Jersey 08628-0829
Phone: (609) 538-0400 Fax (609) 538-8858

January 15, 2009

Prepared to EIA/TIA-222-F June 1996
Structural Standards for Steel Antenna Towers
and Antenna Supporting Structures

Structural wind & ice: 85 MPH and 74 MPH with ½ radial ice

HPC DEVELOPMENT, LLC

PROJECT: BRIDGEPORT

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Load Case 1 - EXISTING LOAD CONDITION
Load Case 2 - PROPOSED LOAD CONDITION

1.0 EXECUTIVE SUMMARY

Structure

- 250 ft. Self-Support Communications Tower
- Owner - Radio Communications, Inc.
- Location -Bridgeport, CT

Equipment

Proposed at 184 AGL elev - installation of proposed (3) RFS-APX16DWV-16SQV-S-E-ACU Antenna and (3) RFS-ATMAA1412D=1A20 Amplifiers and (6) 1 5/8" coax.

Synopsis

The tower as it exists and with the proposed equipment installation does meet the EIA/TIA-F standards. The maximum tower utilization with proposed and existing antenna is 90.1%.

Information on the existing foundations has been reviewed. Utilizing the proposed loading reactions of the tower, a foundations analysis indicates that the existing capacity of the foundation will meet the EIA/TIA-F and IBC standards.

- End of Executive Summary -

2.0 APPURTENANCE LISTING

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Omni antenna	276.5	(2) MetroPCS Antenna (MetroPCS)	126
yaggi in radom	264		
Beacon	264	mounting frames w/stable bar	126
Omni antenna	264	mounting frames w/stable bar	126
Omni antenna	264	mounting frames w/stable bar	126
Top Platform	264	(2) APL866513 w/Mount Pipe (Verizon)	116
Omni antenna	256 - 239		
Omni antenna	238	(2) APL866513 w/Mount Pipe (Verizon)	116
(2) APX16PV-16VL (T-Mobile)	184	(2) APL196516 (Verizon)	116
(2) APX16PV-16VL (T-Mobile)	184	mounting frames w/stable bar (Verizon)	116
(2) APX16PV-16VL (T-Mobile)	184	mounting frames w/stable bar (Verizon)	116
mounting frames w/stable bar (T-Mobile)	184	(2) APL866513 w/Mount Pipe (Verizon)	116
mounting frames w/stable bar (T-Mobile)	184	mounting frames w/stable bar (Verizon)	116
mounting frames w/stable bar (T-Mobile)	184	mounting frames w/stable bar (Verizon)	116
amp lifier (T-Mobile)	184	(2) APL196516 (Verizon)	116
amp lifier (T-Mobile)	184	(2) APL196516 (Verizon)	116
amp lifier (T-Mobile)	184	TV 65 antenna	108
APX16DWV-16DWV (T-Mobile)	184	TV 65 antenna	108
APX16DWV-16DWV (T-Mobile)	184	(4) sector antenna (Nextel)	85
APX16DWV-16DWV (T-Mobile)	184	mounting frames w/stable bar	85
amp lifier (T-Mobile)	184	(4) sector antenna (Nextel)	85
amp lifier (T-Mobile)	184	(4) sector antenna (Nextel)	85
amp lifier (T-Mobile)	184	mounting frames w/stable bar	85
(2) MetroPCS Antenna (MetroPCS)	126	mounting frames w/stable bar	85
(2) MetroPCS Antenna (MetroPCS)	126		

* Proposed T-Mobile antenna and amplifiers at 184 ft. AGL.

3.0 COMMENTARY

A tower climb was performed by KM Consulting Engineers Inc. (KMCE) in September 2005 in order to ascertain tower inventory, antenna configurations, tower member sizes and general condition of the tower. The structure is a Rohn self-supported tower located at 623 Pine Street, Bridgeport, CT.

The tower is a 250 ft. structure with a triangular platform located at the top of the tower. Our scope of work is to determine if the existing structure is capable of withstanding additional stresses/forces imposed by the addition of (3) T-Mobile antenna and amplifiers at 184 ft. AGL.

The following report will provide analytical calculations and commentary regarding the capacity of the existing tower and subsequent recommendations.

4.0 ANALYSIS PROCEDURE

KM Consulting Engineers, Inc. carried out their structural analysis by correlating an inventory/field inspection and processing the retrieved data into RISATower analytical program.

This program runs in conjunction with the guidelines set down in the EIA/TIA-222-F June 1996 Standard "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures."

The existing Tower is analyzed by placing wind forces on the structure in 30° positional increments around the tower (ie. forces directly onto the tower corners, faces and parallel to the faces). This enables the user to "create" a three-dimensional representation, yielding results for maximum worst case scenarios.

In effect, the production of these results allows the user to study the structural integrity of the tower when influenced by wind forces from any direction.

The proceeding report includes analysis for the tower with the addition of a microwave antenna in the scenario previously stated. For clarity, the analysis shall include worst case loadings and a typical elevation view with maximum foundation loads tabulated.

5.0 WIND AND ICE LOADING

The existing 250 ft. self-supported tower is located at 623 Pine Street, Bridgeport, CT.

Structural wind speed has been taken as 85 MPH (concurrent with listings applicable for Fairfield County, CT) for EIA/TIA-222-F.

Additionally, the tower has been analyzed for ½" radial ice loading with a reduced wind speed of 74 MPH, for EIA/TIA-222-F.

6.0 EQUIPMENT LOADING

The preceding analytical data has been formulated for the following:

Load Case #1: Existing 250 ft. self-supported tower with existing inventory.
Capacity utilization is LC1 - 91.9% for EIA/TIA 222-F.

Load Case #2: Existing 250 ft. self-supported tower with existing inventory and adding (3) T-Mobile antenna and amplifiers at 184 ft. Capacity utilization is LC2 - 90.1% for the EIA/TIA-222-F.

The tower foundation has adequate capacity for the Load Case 2 in the EIA/TIA 222-F analysis.

7.0 TOWER ANALYSIS AND RESULTS

The tower was analyzed for the existing inventory plus the proposed loading condition

For Load Cases #1 & 2: The existing tower meets the standards of EIA/TIA 222 F.

The tower foundation has adequate capacity to meet the EIA/TIA-222-F and IBC standards. The IBC requires that the foundation resist two time the wind load.

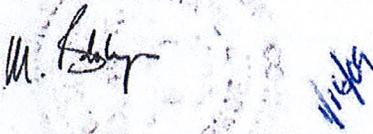
8.0 RECOMMENDATIONS

Further to our calculations, we conclude that the tower structure and foundation meets the standards of EIA/TIA 222 F and the IBC.

We recommend the following:

1. The antenna and amplifiers be mounted as per this report at rad center 184' AGL, add six new coax to the towers' A face.

Prepared By:

A circular professional seal for Michael L. Bohlinger, PE, is visible. The seal contains the text "MICHAEL L. BOHLINGER, PE" and "STATE OF CONNECTICUT". A handwritten signature in blue ink is written over the seal. To the right of the seal, the initials "MB" are written in blue ink.

Michael L. Bohlinger, PE
Principal
CT License No. 20405

Technical Memo

To: HPC
From: Farid Marbough - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11014B
Date: January 26, 2009

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a Self Support Tower at 623 Pine Street, Bridgeport, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

- 1) The emissions from T-Mobile transmitters are in the (1940-1949.8), (2140-2145), (2110-2120)MHz frequency Band.
- 2) The antenna array consists of three sectors, with 3 antennas per sector.
- 3) The model number for GSM antenna is APX16PV-16PVL.
- 3) The model number for UMTS antenna is APX16DWV-16DWV.
- 4) GSM antenna center line height is 184 ft.
- 4) UMTS antenna center line height is 184 ft.
- 5) The maximum transmit power from any GSM sector is 1900.73 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
- 5) The maximum transmit power from any UMTS sector is 1985.59 Watts Effective Radiated Power (EiRP) assuming 2 channels per sector.
- 6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
- 7) Power levels emitting from the antennas 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.
- 8) The average ground level of the studied area does not change significantly with respect to the transmitting location

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a Self Support Tower at 623 Pine Street, Bridgeport, CT, is 0.02691 mW/cm². This value represents 2.691% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm²) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area. The combined Power Density from other carriers is 58.66%. The combined Power Density for the site is 61.351% of the M.P.E. standard.

Connecticut Market



Worst Case Power Density

Site: CT11014B
Site Address: 623 Pine Street
Town: Bridgeport
Tower Height: 250 ft.
Tower Style: Self Support Tower

GSM Data

Base Station TX output	20 W
Number of channels	8
Antenna Model	APX16PV-16PVL
Cable Size	1 5/8 in.
Cable Length	220 ft.
Antenna Height	184.0 ft.
Ground Reflection	1.6
Frequency	1945.0 MHz
Jumper & Connector loss	4.50 dB
Antenna Gain	17.8 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	2.5520 dB
Total Attenuation	7.0520 dB
Total EIRP per Channel (In Watts)	53.76 dBm 237.59 W
Total EIRP per Sector (In Watts)	62.79 dBm 1900.73 W
nsg	10.7480

UMTS Data

Base Station TX output	40 W
Number of channels	2
Antenna Model	APX16DWW-16DWW
Cable Size	1 5/8 in.
Cable Length	220 ft.
Antenna Height	184.0 ft.
Ground Reflection	1.6
Frequency	2.1 GHz
Jumper & Connector loss	1.50 dB
Antenna Gain	18.0 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	2.5520 dB
Total Attenuation	4.0520 dB
Total EIRP per Channel (In Watts)	59.97 dBm 992.80 W
Total EIRP per Sector (In Watts)	62.98 dBm 1985.59 W
nsg	13.9480

Power Density (S) = 0.013161 mW/cm²

Power Density (S) = 0.013749 mW/cm²

T-Mobile Worst Case % MPE =

2.6910%

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	% of Standard
Verizon	11.6600 %
Cingular	
Sprint	18.9200 %
AT&T Wireless	
Nextel	
MetroPCS	11.6400 %
Other Antenna Systems	16.4400 %
Total Excluding T-Mobile	58.6600 %
T-Mobile	2.6910
Total % MPE for Site	61.3510%