



# 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](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

Daniel F. Caruso  
Chairman

February 13, 2009

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

RE: **EM-T-MOBILE-135-090113B** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 168 Catoona Lane, Stamford, 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 configured per page 2 of the structural analysis report dated December 22, 2008 and sealed by Wm. E. Garrett, P.E.; and
- The Council shall be notified in writing that the coax has been configured as specified.

The proposed modifications are to be implemented as specified here and in your notice dated January 12, 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.

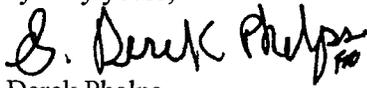
This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies 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.



CONNECTICUT SITING COUNCIL  
Affirmative Action / Equal Opportunity Employer

Thank you for your attention and cooperation.

Very truly yours,

A handwritten signature in black ink that reads "S. Derek Phelps". The signature is written in a cursive style with a small "PH" monogram at the end.

S. Derek Phelps  
Executive Director

SDP/MP/laf

c: The Honorable Dannel P. Malloy, Mayor, City of Stamford  
Robert Stein, Planning and Zoning Director, City of Stamford  
American Tower Corporation



EM-T-MOBILE-135-090113B

January 12, 2009

ORIGINAL

RECEIVED  
JAN 13 2009

CONNECTICUT  
SITING COUNCIL

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

Re: Omnipoint Communications, Inc. – exempt modification  
168 Catoona Lane, Stamford, 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 Stamford.

T-Mobile plans to modify the existing facility at 168 Catoona Lane, Stamford (coordinates 41°03'09" N, -73°33'46" 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 with an approximate center line between 165' and 167' AGL on the 300' tower. One antenna will be added, and two existing antennas will be replaced with UMTS antennas. None of the modifications will extend the height of the tower.

2. The proposed changes will not extend the site boundaries. T-Mobile will replace one of its existing cabinets with a new cabinet. 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 (utilizing the lowest possible center line of 165'), T-Mobile's operations at the site will result in a power density of 0.9994%; the combined site operations will result in a total power density of 35.0194%.

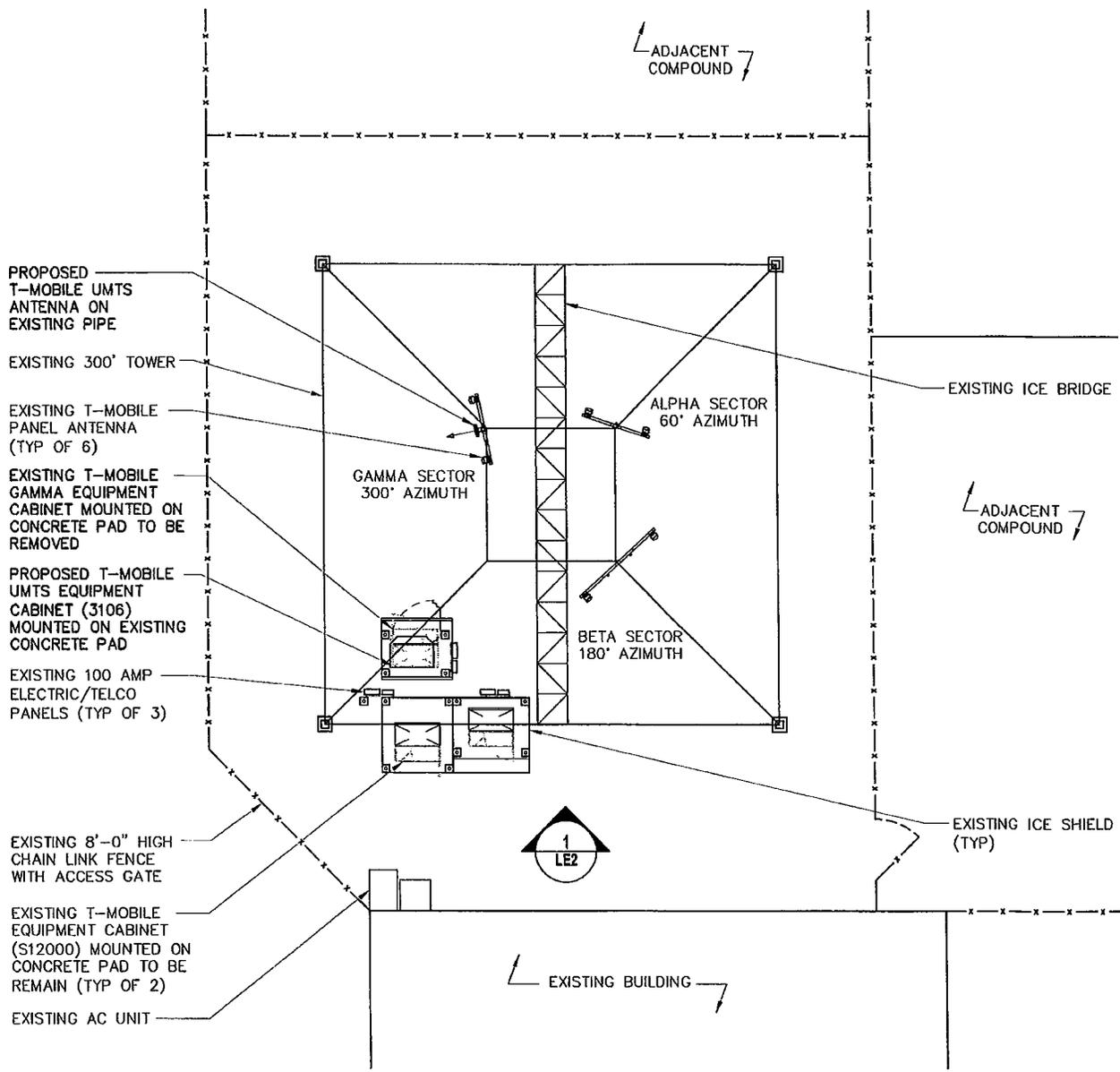
Please feel free to call me at (860) 798-7454 with questions concerning this matter.  
Thank you for your consideration.

Respectfully yours,

  
Jennifer Young Gaudet

cc: Honorable Dannel P. Malloy, Mayor, City of Stamford  
American Towers, Inc. (underlying property owner)

Attachments



**PROPOSED COMPOUND PLAN**  
 SCALE: 1/16" = 1'-0"



TITLE: **COMPOUND PLAN**  
 CLIENT: **Omnipoint**  
COMMUNICATIONS OF  
 THE TROPICAN ISLANDS  
 31 EASTERN ROAD SUITE 200  
 BLOOMFIELD, CT 06032

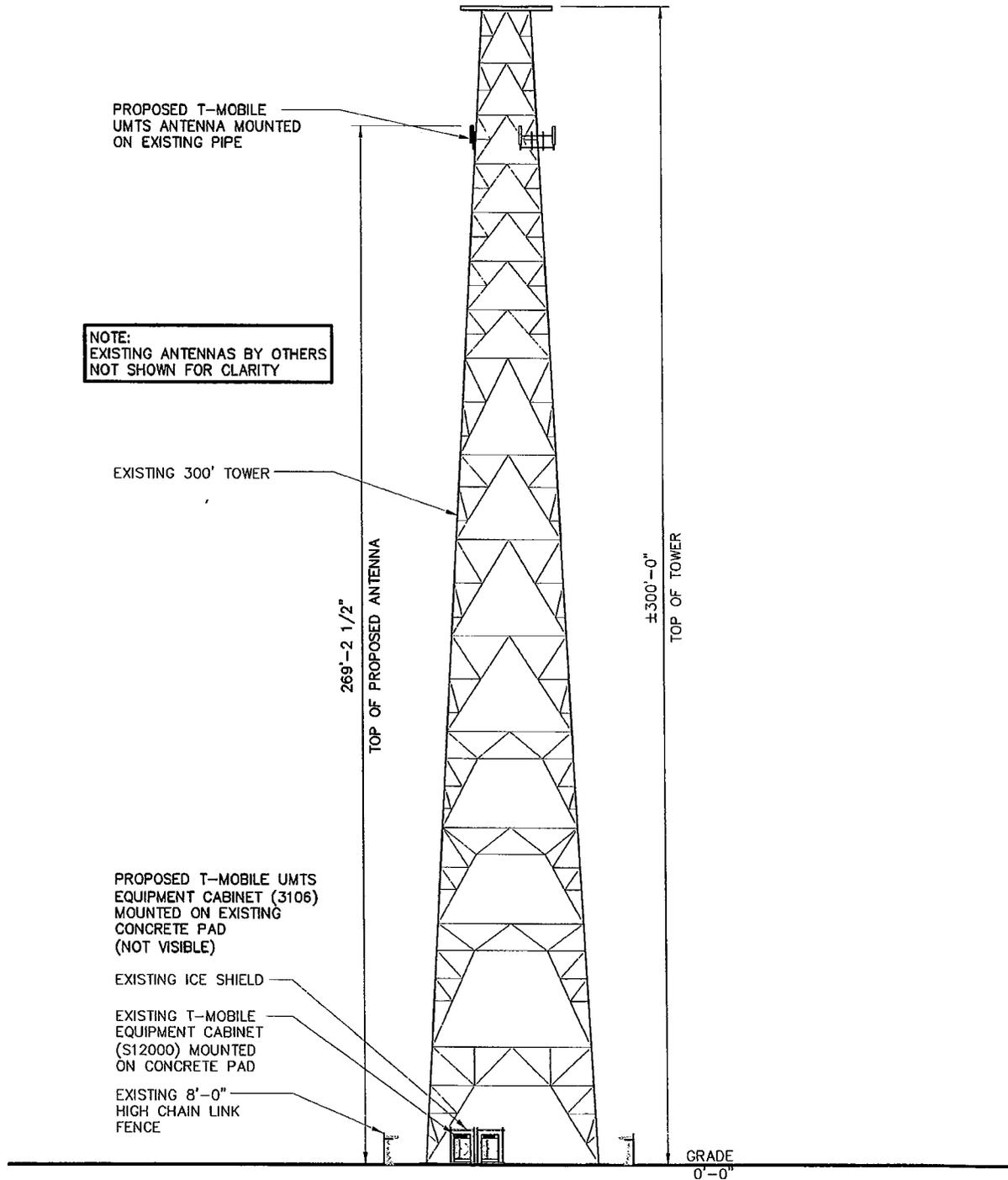
PROJECT: **CATOONA LANE**  
 ADDRESS: **168 CATOONA LANE  
 STAMFORD, CT 06901  
 FAIRFIELD COUNTY**

2	12-03-08	KCD
1	11-21-08	JLS
0	11-17-08	JLS

SITE NO: **CT11007A**

KMB NO: **350.0004.001**  
 DRAWN BY: **JLS**  
 CHECKED BY: *[Signature]*

**LE2**



**SOUTHWEST ELEVATION**

SCALE: 1" = 40'



	TITLE:	ELEVATION	PROJECT:	CATOONA LANE				
	CLIENT:		ADDRESS:	168 CATOONA LANE STAMFORD, CT 06901 FAIRFIELD COUNTY	2	12-03-08	KCD	
SITE NO:	CT11007A	KMB NO:	350.0004.001	DRAWN BY:	JLS	1	11-21-08	JLS
				CHECKED BY:		0	11-17-08	JLS
						LE3		



**AMERICAN TOWER**

---

## Structural Analysis Report

**Structure** : 300 ft Type H AT&T Tag Self Supported Tower

**ATC Site Name** : Stamford (Katoona), CT

**ATC Site Number** : 88018

**Proposed Carrier** : T-Mobile

**Carrier Site Name** : Stamford AT&T

**Carrier Site Number** : CT11007A

**County** : Fairfield

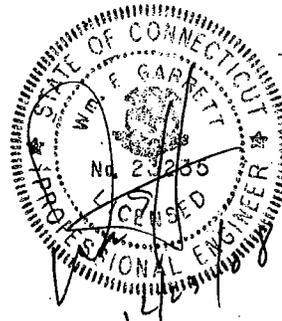
**Engineering Number** : 42718222

**Date** : December 22, 2008\*

**Usage** : 100% [P]

Submitted by:  
Scott Wirgau, PE  
Project Engineer

**American Tower Engineering Services**  
400 Regency Forest Drive  
Cary, NC 27518  
Phone: 919-468-0112



**Introduction**

The purpose of this report is to summarize results of the structural analysis performed on the 300 ft Type H AT&T Tag Self Supported Tower located northeast of the intersection of Catoona Lane and Myano Lane, Stamford, CT 06902, Fairfield County (ATC Site No. 88018). The tower information was taken from an analysis by CSEI (ATC Eng. No. 73123451, dated September 29, 2005). This analysis assumes that modifications per design by ATC (Job No. 42439132, dated September 26, 2008) have been completed.

**Analysis**

The tower was analyzed using Powerline Systems, Inc., Software. The analysis assumes that the tower is in good, undamaged, and non-corroded condition.

Basic Wind Speed: 85 mph (Fastest Mile)  
 Radial Ice: 74 mph (Fastest Mile) w/ 1/2" ice  
 Code: TIA/EIA-222-F / 2003 IBC Criteria per Section 1609.1.1, Exception (4) & Section 3108.4 w/ 2005 CT Supplements & 2008 CT Amendments

**Antenna Loads**

The following antenna loads were used in the tower analysis.

**Existing Antennas**

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
311.0	1	4' Dish w/ Radome	Dish	(1) 7/8"	Marcus Comm.
303.0	1	AML PGLN1PR-MFF	Platform	-	Bell Industries
	1	Scala OGB9-900N/DT3		(1) 7/8"	
302.0	1	RFS 200		(1) 1 5/8"	Lojack
300.0	1	TX RX 101-68-10-X-03N		(1) 1 1/4"	Marcus Comm.
294.0	6	Powerwave 7770.00	Side Arms	(12) 1 5/8"	AT&T Mobility
	6	Powerwave LGP21903		-	
	6	Powerwave LGP21401		-	
289.0	1	Dielectric TLP-08M-2E	Pipe	(1) 4"	Qualcomm
283.0	-	-	Catwalk	-	-
271.0	1	Rohde & Schwarz ADD090	Side Arm	(2) 7/8"	USCG
269.0	1	Til Tek TA-2350-DAB	Side Arm	(1) EW20	XM Satellite
248.0	3	Dapa 58010	Pipe	(3) 1 5/8"	AT&T Mobility
242.0	1	Sinclair SC381-HL	Side Arm	(1) 7/8"	USCG
	1	Sinclair SC281-L		(1) 7/8"	
235.0	6	Dapa 58412	Sector Frame	(6) 1 5/8"	AT&T Mobility
	3	EMS RR90-17-04DP		(3) 1 5/8"	
224.0	12	Decibel DB844H90E-XY	Sector Frame	(15) 1 5/8"	Sprint Nextel
215.5	1	8' Omni	Side Arm	(1) 3/8"	Lojack
212.5	-	-	Platform	-	-

Existing Antennas (continued)

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
205.0	1	Sinclair SC381-HL	Side Arm	(1) 7/8"	USCG
200.0	1	Sinclair SC281-L		(1) 7/8"	
200.0	2	TX RX 101-68-10-X-03N	Side Arm	(2) 1 1/4"	Marcus Comm.
194.0	2	TX RX 101-68-10-X-03N	Side Arm	(2) 1 1/4"	
180.0	3	Antel BCD-87010	Side Arm	(3) 7/8"	USA Mobility
160.0	6	Kathrein 800 10504	Sector Frame	(12) 1 5/8"	Metro PCS
154.0	9	Allgon 7184	Sector Frame	(9) 1 5/8"	Sprint Nextel
137.0	1	Antel BCD-87010 4	Side Arm	(1) 7/8"	Sensus Metering
100.0	1	TX RX 101-68-10-X-03N	Side Arm	(1) 1 1/4"	Marcus Comm.
	-	-	Platform	-	-
25.0	1	Til Tek TA-2324-LHCP	Dish	(1) 7/8"	XM Satellite
10.0	1	GPS Unit	Pipe	(1) 3/8"	Lojack

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
265.0	6	CCI DTMA-1819-DD-12	Sector Frame	-	T-Mobile
	7	RFS APX16DWV-16DWVS-E-A20		(24) 1 5/8"	

Double stack proposed coax in same location as existing lines so that no more than (12) coax are exposed to the wind.

**Results**

The maximum structure usage is: 100%

Leg Forces	Original Design Reactions	Current Analysis Reactions	% Of Design
Uplift (Kips)	N/A	303.8	N/A
Axial (Kips)	N/A	394.9	N/A

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

**Conclusion**

Based on the analysis results, the structure meets the requirements per TIA/EIA-222-F and 2003 IBC standards with 2005 CT supplements and 2008 CT amendments.

The tower and foundation can support the existing and proposed antennas with the TX line distribution as described in this report.

If you have any questions or require additional information, please call 919-466-5086.

## Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated; and we, therefore, assume that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

## Technical Memo

To: HPC  
From: Farid Marbough - Radio Frequency Engineer  
cc: Jason Overbey  
Subject: Power Density Report for CT11007A  
Date: January 8, 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 Monopole at 168 Catoona Lane, Stamford, 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 265 ft.
- 4) UMTS antenna center line height is 265 ft.
- 5) The maximum transmit power from any GSM sector is 1494.58 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
- 5) The maximum transmit power from any UMTS sector is 1561.31 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 Monopole at 168 Catoona Lane, Stamford, CT, is 0.00999 mW/cm<sup>2</sup>. This value represents 0.999% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm<sup>2</sup>) 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 34.02%. The combined Power Density for the site is 35.019% of the M.P.E. standard.

## Connecticut Market



### Worst Case Power Density

**Site:** CT11007A  
**Site Address:** 168 Catoona Lane  
**Town:** Stamford  
**Tower Height:** 300 ft.  
**Tower Style:** Monopole

GSM Data		UMTS Data	
Base Station TX output	20 W	Base Station TX output	40 W
Number of channels	8	Number of channels	2
Antenna Model	APX16PV-16PVL	Antenna Model	APX16DWV-16DWV
Cable Size	1 5/8 in.	Cable Size	1 5/8 in.
Cable Length	310 ft.	Cable Length	310 ft.
Antenna Height	265.0 ft.	Antenna Height	265.0 ft.
Ground Reflection	1.6	Ground Reflection	1.6
Frequency	1945.0 MHz	Frequency	2.1 GHz
Jumper & Connector loss	4.50 dB	Jumper & Connector loss	1.50 dB
Antenna Gain	17.8 dBi	Antenna Gain	18.0 dBi
Cable Loss per foot	0.0116 dB	Cable Loss per foot	0.0116 dB
Total Cable Loss	3.5960 dB	Total Cable Loss	3.5960 dB
Total Attenuation	8.0960 dB	Total Attenuation	5.0960 dB
Total EIRP per Channel (In Watts)	52.71 dBm 186.82 W	Total EIRP per Channel (In Watts)	58.92 dBm 780.66 W
Total EIRP per Sector (In Watts)	61.75 dBm 1494.58 W	Total EIRP per Sector (In Watts)	61.93 dBm 1561.31 W
nsg	9.7040	nsg	12.9040
Power Density (S) = 0.004888 mW/cm <sup>2</sup>		Power Density (S) = 0.005106 mW/cm <sup>2</sup>	
T-Mobile Worst Case % MPE =		0.9994%	

Equation Used:

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

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

### Co-Location Total

Carrier	% of Standard
Verizon	
Cingular	0.4700 %
Sprint	9.9200 %
AT&T Wireless	
Nextel	1.5000 %
MetroPCS	7.2200 %
Other Antenna Systems	14.9100 %
<b>Total Excluding T-Mobile</b>	<b>34.0200 %</b>
T-Mobile	0.9994
<b>Total % MPE for Site</b>	<b>35.0194%</b>



# 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](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

Daniel F. Caruso  
Chairman

January 16, 2009

The Honorable Dannel P. Malloy  
Mayor  
City of Stamford  
Stamford Government Center  
888 Washington Boulevard  
P. O. Box 10152  
Stamford, CT 06904-2152

RE: **EM-T-MOBILE-135-090113A** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 69 Guinea Road, Stamford, Connecticut.

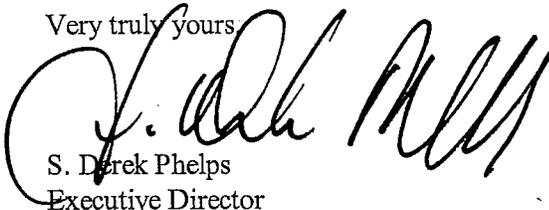
Dear Mayor Malloy:

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

If you have any questions or comments regarding this proposal, please call me or inform the Council by January 30, 2009.

Thank you for your cooperation and consideration.

Very truly yours



S. Derek Phelps  
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Robert Stein, Planning and Zoning Director, City of Stamford