

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@po.state.ct.us

Web Site: www.state.ct.us/csc/index.htm

December 2, 2003

Stephen J. Humes, Esq.
LeBoeuf, Lamb, Greene & MacRae LLP
Goodwin Square
225 Asylum Street, 13th Floor
Hartford, CT 06103

RE: **EM-T-MOBILE-064-031027** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 123 Meadow Street, Hartford, Connecticut.

Dear Attorney Humes:

At a public meeting held on November 20, 2003, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated October 27, 2003. 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. 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.

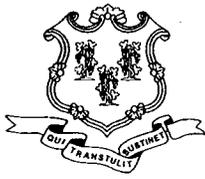
Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz, P.E.
Chairman

PBK/laf

- c: Honorable Eddie A. Perez, Mayor, City of Hartford
Robert A. LaPorte, Chairman of City Plan Com., City of Hartford
Sandy M. Carter, Verizon Wireless
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels
Thomas F. Flynn III, Nextel Communications Inc.
Christopher B. Fisher, Esq., Cuddy & Feder LLP



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Web Site: www.ct.gov/csc

October 28, 2003

Honorable Eddie A. Perez
Mayor
City of Hartford
Municipal Building
550 Main Street
Hartford, CT 06103

RE: **EM-T-MOBILE-064-031027** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 123 Meadow Street, Hartford, Connecticut.

Dear Mr. Perez:

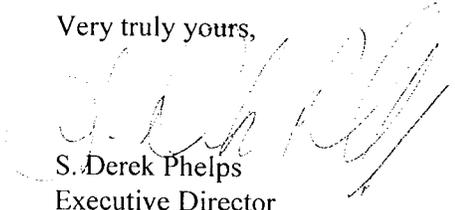
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for November 20, 2003, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,



S. Derek Phelps
Executive Director

SDP/ld

Enclosure: Notice of Intent

c: Robert A. LaPorte, Chairman of City Planning Com., City of Hartford

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.

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GOODWIN SQUARE
225 ASYLUM STREET, 13TH FLOOR
HARTFORD, CT 06103

(860) 293-3500

FACSIMILE: (860) 293-3555

E-MAIL ADDRESS: STEPHEN.HUMES@LLGM.COM

WRITER'S DIRECT DIAL: (860) 293-3744

WRITER'S DIRECT FACSIMILE: (860) 241-1344

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CONNECTICUT
SITING COUNCIL

October 27, 2003

Pamela Katz, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

EM-T-MOBILE-064-031027

Re: Notice of Exempt Modification
123 Meadow Street, Hartford, Connecticut

Dear Chairman Katz and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. (hereinafter T-Mobile) in the above-referenced matter. T-Mobile intends to add one (1) more S8000 cabinet and three (3) EMS RR65-18-02DP antennas to its existing three-antenna array currently mounted on a low profile platform on the existing monopole tower facility at 123 Meadow Street in Hartford. Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction that 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 City Manager, Lee C. Erdmann.

Background

T-Mobile holds the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of Connecticut. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation.

Discussion

The existing facility consists of a one hundred fifty foot (150') monopole tower (see drawing attached as Exhibit B) and surrounding compound. The coordinates for the site are **Lat: 41°-44-36** and **Long: 72°-40-04**. The tower is in the northeast section of Hartford. The tower is approximately six hundred eighty-five feet (685') east of Ledyard Street, roughly five hundred forty eight feet (548') west of Locust Street, and one thousand eight hundred ninety-eight feet (1,898') north of Airport Road.

T-Mobile's proposal calls for the addition of three (3) dualpol antennas to its existing three (3) antenna array, creating a total of nine (9) antennas. The proposed configuration is a cluster of three sectors with three antennas per sector mounted on an existing low profile platform at the one hundred twenty-three foot (123') centerline above ground level ("AGL") as stated in the RF memo. The model number for the new antennas is EMS-RR65-18-02DP. A new structural analysis of the tower has been completed and is attached as Exhibit D. As stated in the structural analysis, the existing tower structure is capable of supporting the proposed T-Mobile installation. One new Nortel S8000 equipment cabinet will be installed to accompany two existings T-Mobile cabinets. Utilities will be run via underground conduit from those currently in place.

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

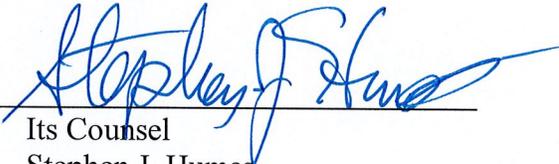
1. The proposed modification will not increase the height of T-Mobile's approved antennas on the tower and will not extend the boundaries of the existing compound area. The enclosed tower drawings confirm that the planned changes will not increase the overall height of the tower.
2. The installation of T-Mobile equipment, as reflected on the attached site plan, will not require an extension of the site boundaries.
3. The proposed modification to the facility will not increase the noise levels at the existing facility by six decibels or more. T-Mobile's equipment is self-contained and requires no additional heating, ventilation or cooling equipment.
4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the site boundary, to a level at or above the applicable standard. The "worst-case" RF power density calculations, for a point at the site boundary, are attached hereto as Exhibit E.

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

Thank you for your consideration of this matter.

Respectfully submitted,

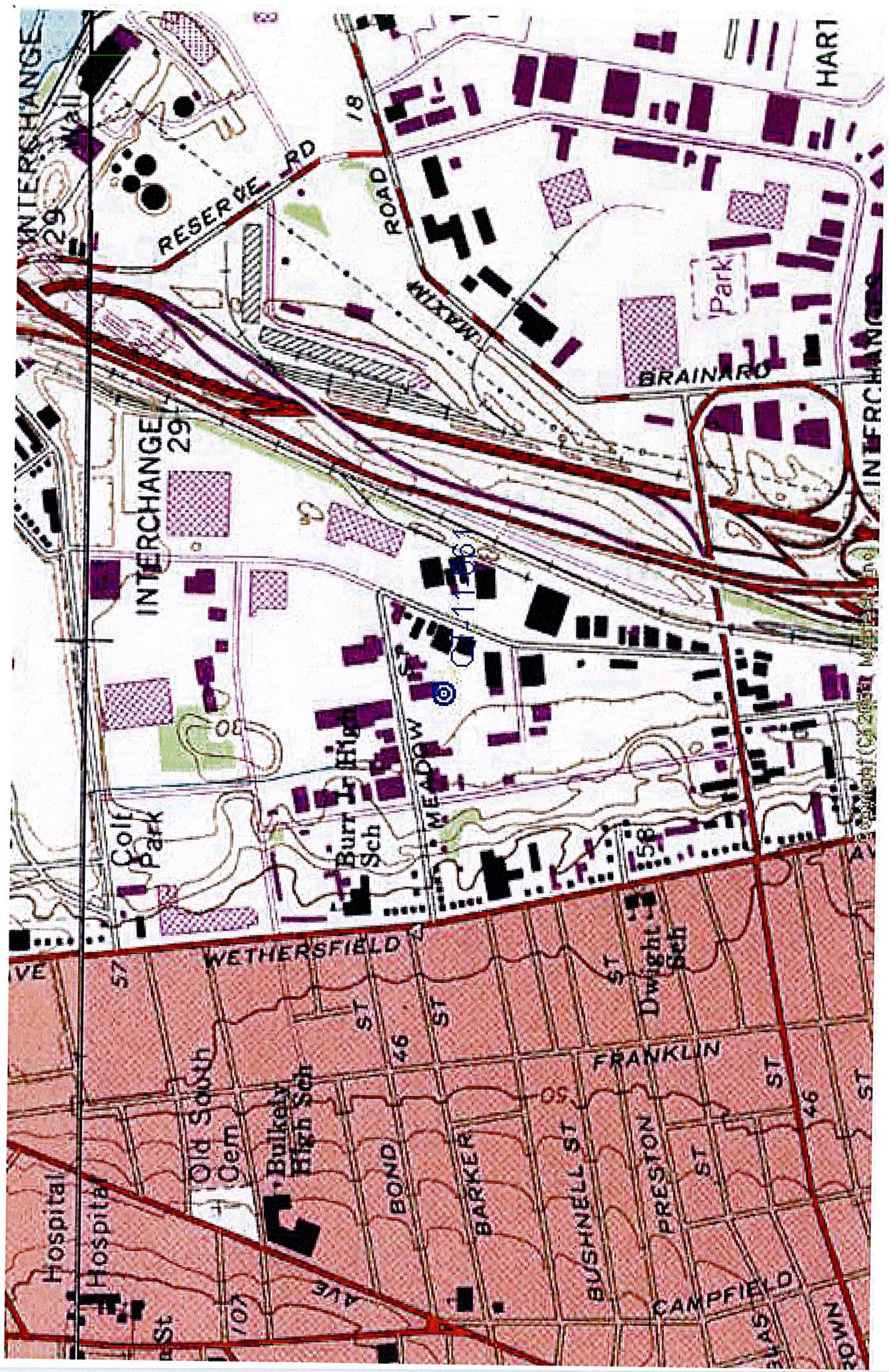
OMNIPOINT COMMUNICATIONS, INC.

By: 
Its Counsel
Stephen J. Humes

cc: Hartford City Manager, Lee C. Erdman

Exhibit A
Site Map

123 Meadow Street
Hartford, Connecticut



INTERCHANGE 29

RESERVE RD

ROAD 18

MIXER

BRAINARD

Park

HART

INTERCHANGE

Golf Park

Burr Jr High Sch

MEADOW ST

58

VE

57

WETHERSFIELD

ST

ST

Dwight Sch

Hospital

Hospital

Old South Cem

Bulkely High Sch

BOND ST

BARKER ST

BUSHNELL ST

FRANKLIN

PRESTON ST

ST

46

ST

107

AVE

CAMPFIELD

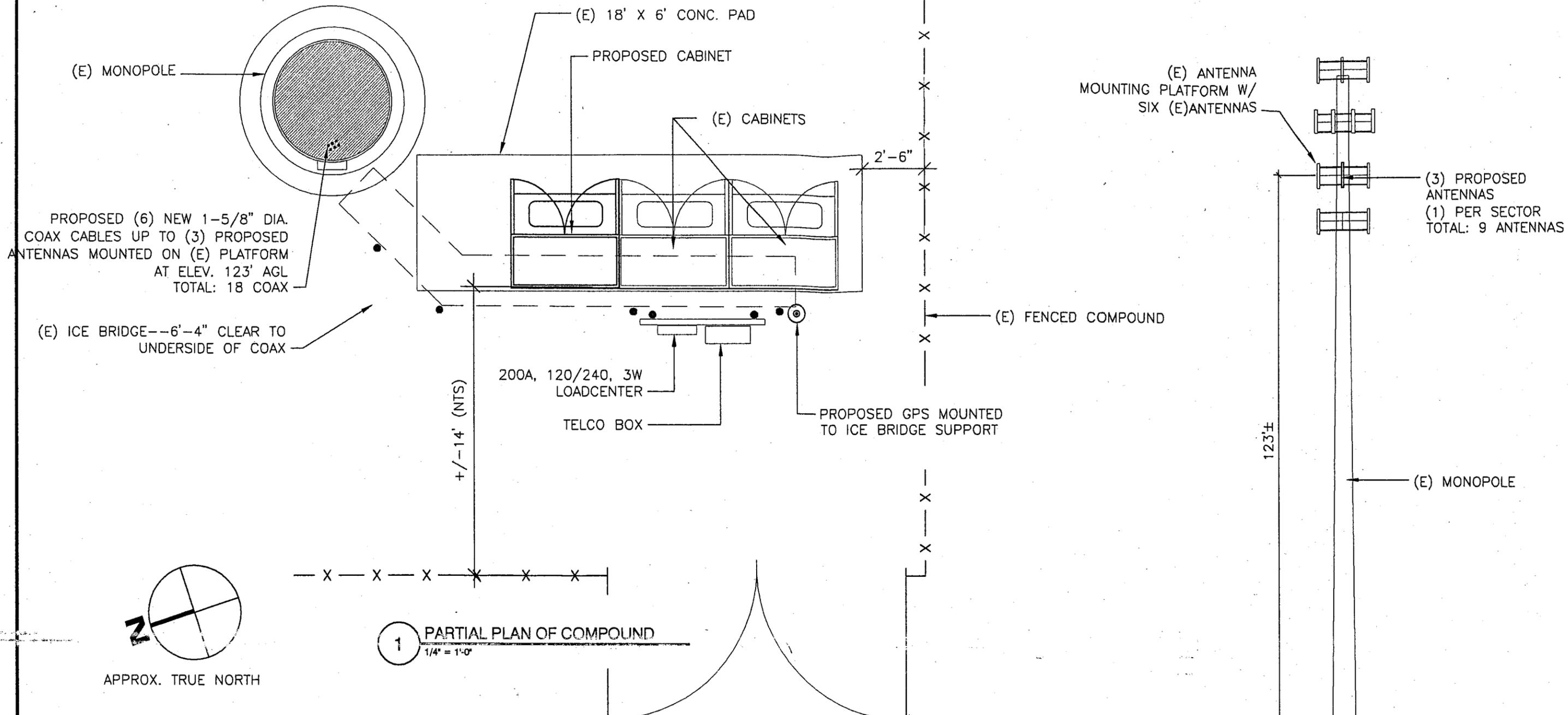
345

DOWN

11500

Exhibit B
Design Drawings

123 Meadow Street
Hartford, Connecticut



NOTE:
 PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. T-MOBILE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. T-MOBILE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

T-Mobile

100 FILLEY STREET
 BLOOMFIELD, CT. 06002

SITE NUMBER: **CT-11-661A**
 SITE NAME: **HARTFORD SOUTH2/FRANKLIN AVE.**
 ADDRESS: **123 MEADOW STREET
 HARTFORD, CT**

LEASE EXHIBIT

REVISIONS	DESIGNED BY:	DATE: 2/20/03
	DRAWN BY: MW	SCALE: AS NOTED
	PM:	L-1
	FILE:	Sheet No.

SH

Exhibit C
Equipment Specifications

123 Meadow Street
Hartford, Connecticut



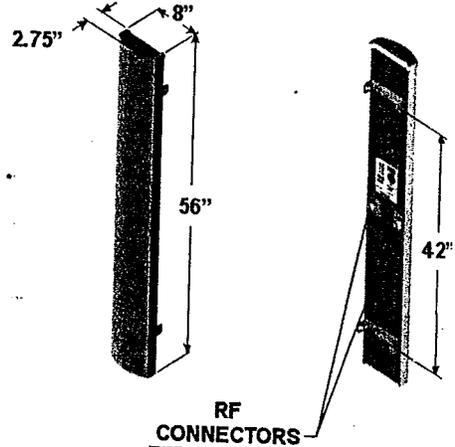
RR65-18-XXDP

DualPol® Polarization
1850 MHz - 1990 MHz



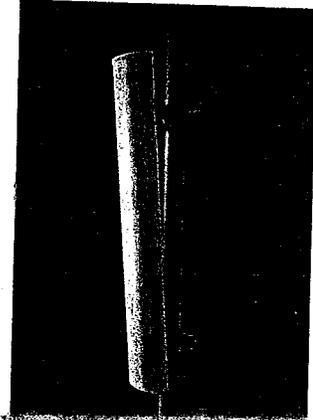
Electrical Specifications

Azimuth Beamwidth	65°
Elevation Beamwidth	6°
Gain	17.5 dBi (15.4 dBd)
Polarization	Dual Linear Slant ($\pm 45^\circ$)
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 30 dB
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2; 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	≤ -150 dBc
Lightning Protection	[2 x 20 W (+ 43 dBm)] Chassis Ground



Mechanical Specifications

Dimensions (L x W x D)	56 in x 8 in x 2.75 in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3ft ² (.29 m ²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Weight	18 lbs (8.2 kg)

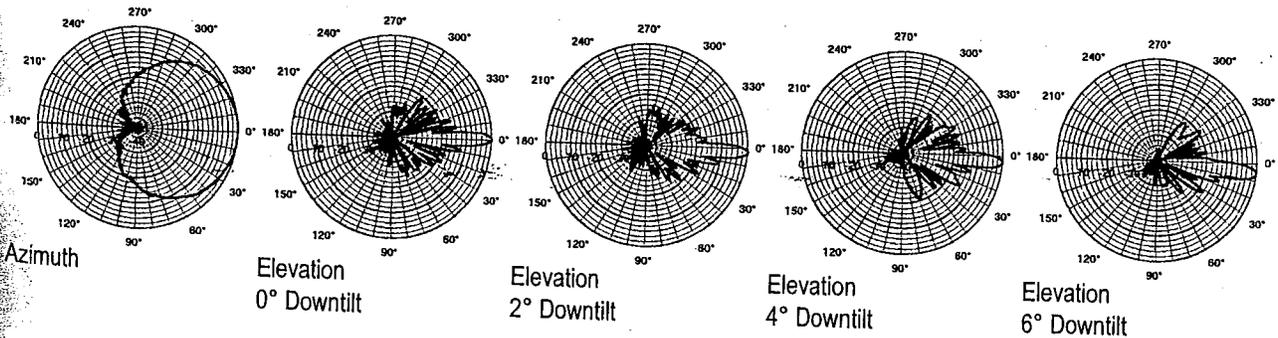


Mounting Options

MTG-100-10, MTG-302-10, MTG-DXX-20, MTG-CXX-10, MTG-C02-10, MTG-TXX-10*

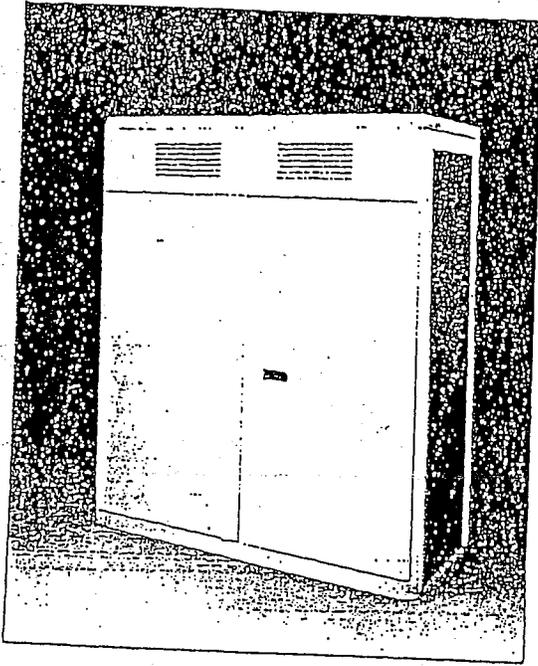
Note: *Model number shown represents a series of products. See Mounting Options section for specific model number.

Patterns



Revised 04/05/02

S8000 Outdoor Base Transceiver Station



Nortel's S8000 Outdoor Base Transceiver Station has been designed to meet the economic and performance requirements of network operators. Based on a highly integrated RF and digital design, the S8000 Outdoor Base Transceiver Station represents a major technology advancement and delivers all the benefits of a compact, modular, high quality and high performance product.

Nortel's S8000 Outdoor BTS: Radio Performance Leadership - Reduced Site Acquisition and Operating Costs

Installation

- The S8000 Outdoor Base Transceiver Station (BTS) offers compact packaging and requires minimal floor space, only .88 sq m (9.5 sq ft.). Front only access keeps total space required, including maintenance access, to only 1.8 sq m (19.4 sq ft.) per cabinet.

Transmission

- Integrated drop and insert connection to the Base Station Controller (BSC) and signaling concentration on the A-bis interface provide significant transmission cost reduction.
- Optional integrated digital microwave radio.

Maintenance

- Highly reliable technology, redundant architecture and integrated battery backup ensure high availability service.
- Front access and interconnections, as well as powerful fault detection, help reduce lifetime maintenance costs.

Industry leading performance

- New RF technology and advanced digital processing techniques provide very high receive sensitivity (-108 dBm guaranteed) and improved diversity gain (up to 6 dB). This provides higher resistance to interference, as well as, improved speech quality and cell coverage.
- Nortel's proven experience in frequency hopping, 1*3 frequency reuse, sophisticated microcellular handover algorithms and support of half-rate vocoders enables the operator to maximize use of available spectrum and deploy fewer cell sites.

Fast network deployment

- The S8000 BTS can be shipped fully equipped and tested, which provides fast network roll out to meet operator time to market requirements.

Modular and flexible configuration

- The S8000 supports eight transceivers (TRX) per cabinet in Omni and sectored configurations. The typical one cabinet S222 configuration may be expanded up to S332 or S422 without an additional cabinet.

• Frequency range		900 MHz GSM
		900 MHz GSM extended
		1800 MHz DCS
		1900 MHz PCS
• Receive sensitivity (guaranteed)		-108 dBm
• Dimensions	Height	1600 mm / 5 ft. 3 in.
	Width	1350 mm / 4 ft. 5 in.
	Depth	650 mm / 2 ft. 1 in.
• Weight	Fully equipped	600 kg / 1300 lbs.
• Capacity		8 TRX per cabinet
• Configuration	Trisectorial	up to 3 cabinets
	Omnidirectional	up to S888
• Amplifier output power		up to O16
• Power control	Static	30 W (± 1.5 dB)
	Dynamic	6 steps of 2 dB
• Frequency hopping		15 steps of 2 dB
		RF synthesized
• Supported vocoders		baseband
		Full rate
		Enhanced full rate
• Encryption algorithms		Half rate
• Power supply		A5/1 A5/2
• Power back-up		230V AC 50/60 Hz
• Operating temperature range		Integrated battery back-up plus optional battery cabinet allows provisioning up to 8 hours back-up time.
		-40°C to +50°C
		-40°F to +122°F

For more information,
please contact your local Nortel account representative.

In the USA:
Northern Telecom
2221 Lakeside Boulevard
Richardson TX 75082
USA
Telephone: 1-800-4-NORTEL
1-800-466-7838 or (214) 684-3935 -
<http://www.nortel.com/wireless>

In Canada:
Northern Telecom
2920 Matheson Boulevard East
Mississauga ON L4W 4M7
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Telephone: 1-800-4-NORTEL

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Northern Telecom (CALA) Corporation
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England
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Nortel Yatra Cellular
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78042 Guyancourt Cedex
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12-12bis rue Jean Jaurès
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NORTEL
NORTHERN TELECOM

Exhibit D

Structural Analysis

123 Meadow Street

Hartford, Connecticut



CT-0004 [Petro Lock]
 Structural Evaluation of 147' FWT Monopole
 99 Meadow St.
 Hartford, CT 06114
 Hartford County

Date: September 22, 2003

SpectraSite Engineering has performed a *Level 1 evaluation*¹ for the above-noted tower. The evaluation was based on requirements of the TIA/EIA-222-F Standard for a basic wind speed of **80 mph** without ice and 75% of the wind load with 1/2" radial ice.

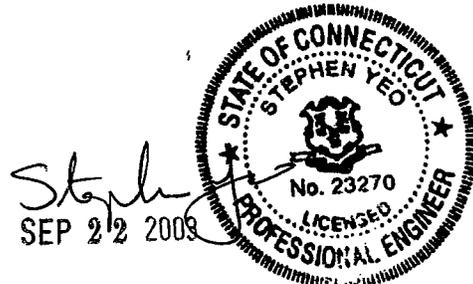
Table 1. Existing and Proposed Antennas

ELEVATION (Ft-AGL)	ANTENNA	CARRIER	COAX*	NOTES
153	(12) Decibel DB844H90E-XY on Platform w/ Handrails	Néxtel	(12) 1-1/4"	Existing
137	(9) Allgon 7184.14 on Platform w/ Handrails	AT&T	(9) 1-5/8"	Existing
123	(6) EMS RR65-18-02DP on T-Arm Mounts	T-Mobile	(12) 1-5/8"	Existing
123	(3) EMS RR65-18-02DP on Existing T-Arm Mounts	T-Mobile	(6) 1-5/8"	Proposed
98	(6) Decibel 980F65T2E-M (3) Decibel 980F65T2E-M on Low Profile Platform	Sprint	(6) 1-1/4" (12) 1-1/4"	Existing Reserved

* Coax installed inside monopole.

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with requirements of the TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added or if actual loads are found different from those mentioned in Table 1.



Analysis prepared by:
 Ashley A. Miller, E.I.
 Engineering Associate
 Contact (919) 466-5527
 with any questions

Stephen Yeo, P.E.
 Structural Design Manager

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Connecticut.

¹ *Level 1 evaluation* means:
 • the applied (existing and proposed) loads (Table 1) on the tower are compared to the original design loads,
 • the design wind criteria is compared to the recent code requirements.

Exhibit E

Power Density Calculations

123 Meadow Street

Hartford, Connecticut

Technical Memo

To: Stephen Humes
From: Hassan Syed - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11661
Date: October 21, 2003

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 123 Meadow Street, Hartford, 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 1935-1945 MHz frequency band.
- 2) The antenna array consists of three sectors, with 3 antennas per sector.
- 3) The model number of each antenna is EMS RR65-18-02DP
- 4) The antenna center line height is 123 ft.
- 5) The maximum transmit power from any sector is 1957.58 Watts Effective Radiated Power (EIRP) assuming 8 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 123 Meadow Street, Hartford, CT, is 0.03137 mW/cm². This value represents 3.137% of the Maximum Permissible Emission (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 29.13%. The combined Power Density for the site is 32.267% of the M.P.E. standard.

New England Market



Connecticut

Worst Case Power Density

Site:	CT11661
Site Address:	123 Meadow Street
Town:	Hartford
Tower Height:	0 ft.
Tower Style:	Monopole
Base Station TX output	20 W
Number of channels	8
Antenna Model	EMS RR65-18-02DP
Cable Size	1 5/8 in.
Cable Length	140 ft.
Antenna Height	123.0 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	4.50 dB
Antenna Gain	17.0 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	1.6240 dB
Total Attenuation	6.1240 dB
Total EIRP per Channel (In Watts)	53.89 dBm 244.70 W
Total EIRP per Sector (In Watts) nsg	62.92 dBm 1957.58 W 10.8760
Power Density (S) =	0.031374 mW/cm ²
Voicestream Worst Case % MPE =	3.1374%
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	
Cingular	
Sprint PCS	25.1100 %
AT&T Wireless	1.5800 %
Nextel	2.4400 %
Total Excluding Voicestream	29.1300 %
Voicestream	3.1374
Total % MPE for Site	32.2674%