

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/esc/index.htm

November 24, 2003

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

RE: **EM-T-MOBILE-107-031027** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 800 Ogg Meadow Road, Orange, 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.

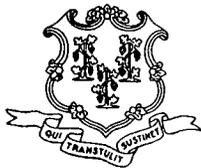
Very truly yours,


Pamela B. Katz, P.E.

Chairman

PBK/laf

c: Honorable Mitchell R. Goldblatt, First Selectman, Town of Orange
Paul Dinice, Zoning Enforcement Officer, Town of Orange
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels
Michele G. Briggs, Southwestern Bell Mobile Systems
Christopher B. Fisher, Esq., Cuddy & Feder



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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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

October 29, 2003

Honorable Mitchell R. Goldblatt
First Selectman
Town of Orange
Town Hall
617 Orange Center Road
Orange, CT 06477-2423

RE: **EM-T-MOBILE-107-031027** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 800 Ogg Meadow Road, Orange, Connecticut.

Dear Mr. Goldblatt:

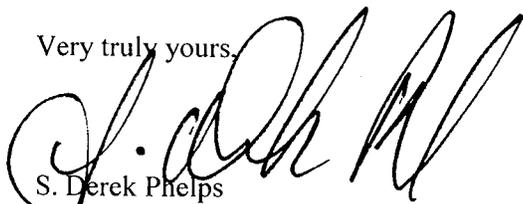
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

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: Paul Dinice, Zoning Enforcement Officer, Town of Orange

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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October 27, 2003

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OCT 27 2003

CONNECTICUT
SITING COUNCIL

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

EM-T-MOBILE-107-031027

Re: Notice of Exempt Modification
800 Ogg Meadow Road Orange, 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 twelve cables, two S8000 cabinets, and three antennas to its existing three-antenna array currently mounted on an existing platform on the existing monopole tower facility at 800 Ogg Meadow Road in Orange. 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 Orange First Selectman, Mitchell R. Goldblatt.

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 sixty foot (160') monopole tower (see drawing attached as Exhibit B) and surrounding compound. The coordinates for the site are **Lat: 41°-18-28.36** and **Long: 73°-1-56.45**. The tower is in the northeast corner of Orange. The tower is approximately two hundred forty-nine feet (249') east of the Wilbur Cross Parkway, roughly one thousand seventy feet (1,070') north of Derby Avenue, and roughly one thousand five hundred eighty-seven feet (1,587') west of Orange Center Road.

T-Mobile's proposal calls for the addition of three (3) panel antennas to its existing three (3) antenna array, creating a total of six (6) antennas. The proposed configuration is a cluster of three sectors with two antennas per sector mounted on an existing low profile platform at the one hundred twenty-five foot (125') centerline above ground level ("AGL"). The model number for the new antennas is EMS-RR90-17-02DP. 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. Two new Nortel S8000 equipment cabinets and twelve (12) coaxial cables will be installed. A 5' 6" x 10' x 12" concrete pad will be installed to support the proposed cabinets. Utilities will be run via underground conduit from those currently in place.

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 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 F.

For the foregoing reasons, T-Mobile respectfully submits that the proposed addition of antennas and equipment at the Orange 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: Orange First Selectman, Mitchell R. Goldblatt

Exhibit A
Site Map

800 Ogg Meadow Road
Orange, Connecticut

Exhibit B
Design Drawings

800 Ogg Meadow Road
Orange, 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 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.

7 40 FT. UNDERGROUND ELECT LOCATION UNKNOWN

(6) PROPOSED AND (6) FUTURE 1-5/8" DIA COAXIAL CABLES UP INSIDE MONOPOLE TO (3) PROPOSED ANTENNAS AND 3 FUTURE ANTENNAS MOUNTED ON (E) PLATFORM @ ELEVATION 125' TOTAL: 18 COAX, 9 ANTENNAS

100A, 120/240 CB AT METER SOCKET

(E) ANTENNA MOUNTING FRAME W/ (3) ANTENNAS

(3) FUTURE ANTENNAS (1) PER SECTOR TOTAL: 9 ANTENNAS

ADD (3) PROPOSED ANTENNAS (1 PER SECTOR)

PROPOSED 5'-6" X ±10' X 12" CONCRETE PAD

(E) SPRINT PAD

PROPOSED GPS ANTENNA @ TOP OF ICE BRIDGE

ELEC. DISCONNECT

TELCO BOX

(E) CONC. PAD

(E) FENCE

(E) BTS CABINET

LINE OF (ICE) ICEBRIDGE OVER EQUIPMENT

± 160'

(E) ICE BRIDGE TO ADJACENT SHELTER 8" CLEAR UNDER

APPROXIMATE TRUE NORTH

1 PARTIAL PLAN OF COMPOUND

1/4" = 1'-0"

APPROX. TRUE NORTH

ADJACENT SHELTER

2 MONOPOLE ELEVATION N.T.S.

Handwritten signature and date: 2/21/03

T-Mobile

100 FILLEY STREET
BLOOMFIELD, CT. 06002

SITE NUMBER: **CT-11-084B**
SITE NAME: **ORANGE/MP X56-57**
ADDRESS: **800 OGG MEADOW RD.
ORANGE CT**

LEASE EXHIBIT

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

Exhibit C
Equipment Specifications

800 Ogg Meadow Road
Orange, Connecticut

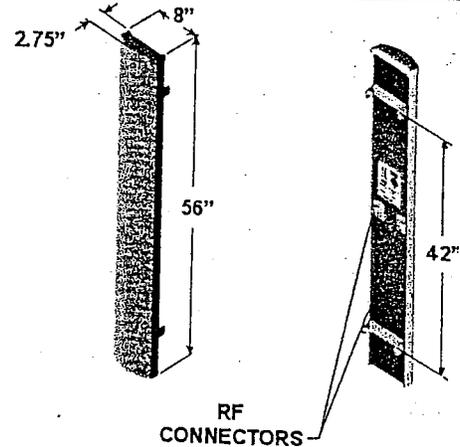
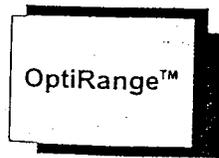
EMS
Wireless

RR90-17-XXDP

DualPol® Polarization
1850 MHz - 1990 MHz

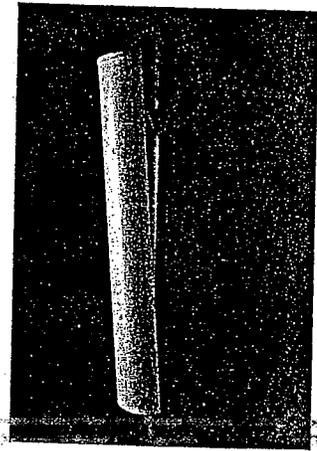
Electrical Specifications

Azimuth Beamwidth	90°
Elevation Beamwidth	6°
Gain	16.5 dBi (14.4 dBd)
Polarization	Dual Linear Slant ($\pm 45^\circ$)
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 28 dB (≥ 30 dB Typ.)
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	3.1ft ² (.29 m ²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31lbs (139 N)
Weight	18 lbs (8.2 kg)

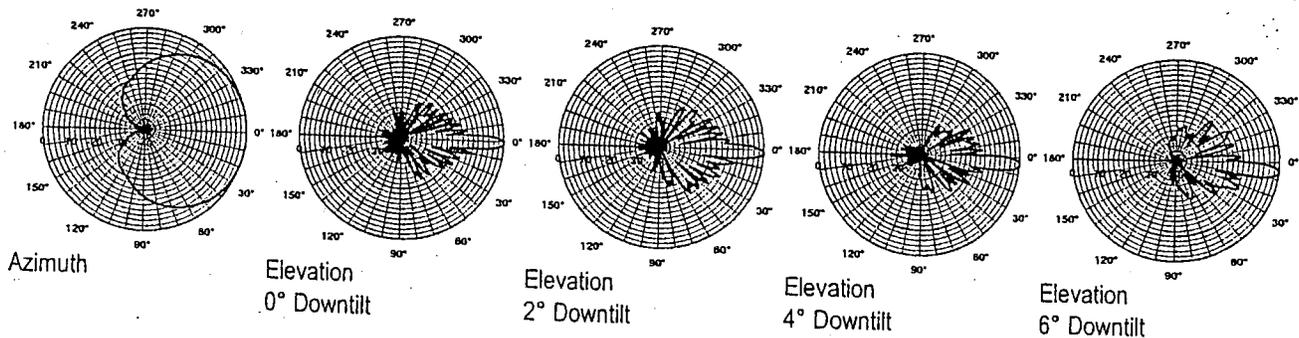


Mounting Options

MTG-P00-10, MTG-S02-10, 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

Mobile WIRELESS INTRODUCTION

Drawing from more than 30 years in the development of highly reliable systems, EMS Wireless has applied that knowledge and experience to the needs of commercial wireless communication service providers.

EMS Wireless offers a broad selection of innovative base station antennas offering superior performance for all wireless protocols including PCS, cellular, GSM, CDMA, TDMA and IDEN among others.

Mobile WIRELESS PRODUCTS

Frequency Bands:

- PCS (1850-1990 MHz)
- Cellular (806-960 MHz)
- Dualband (806-896 and 1850-1900 MHz)
- CDMA 450 (450-470 MHz)
- GSM 900 (890-960 MHz)
- GSM 1800 (1710-1880 MHz)
- MMDS (2305-2360 MHz)

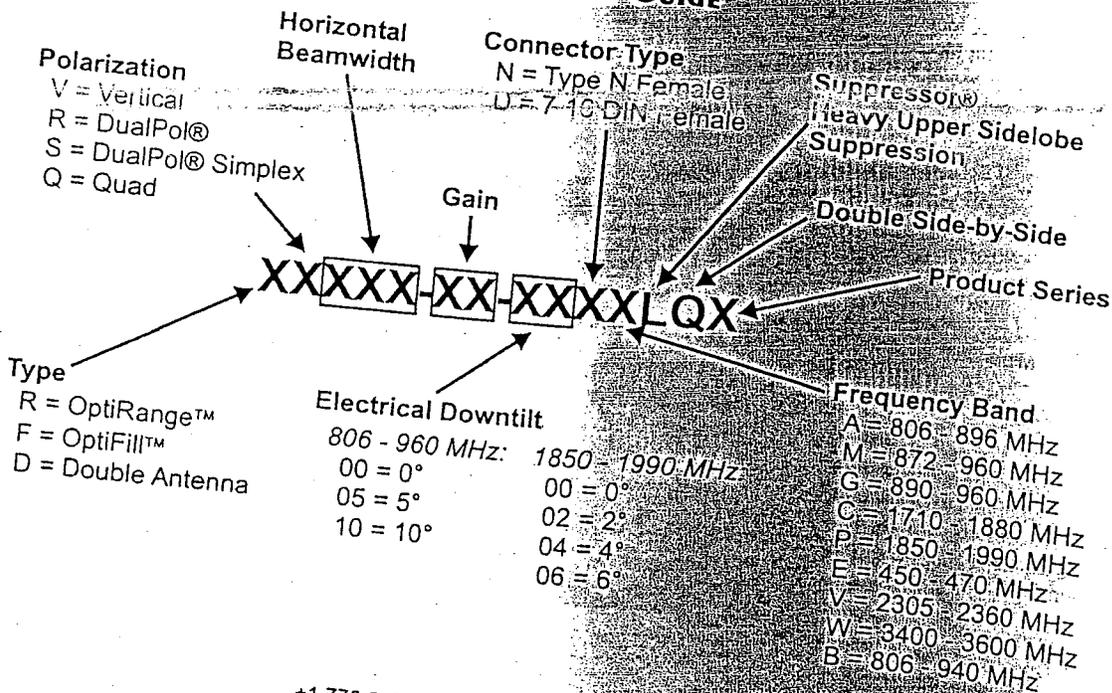
Micro AcCELLerator™ Series:

- MTRR75-17-XXXDPL (PCS)
- MTFR90-11-XXXDAL2-CMX (Cellular)

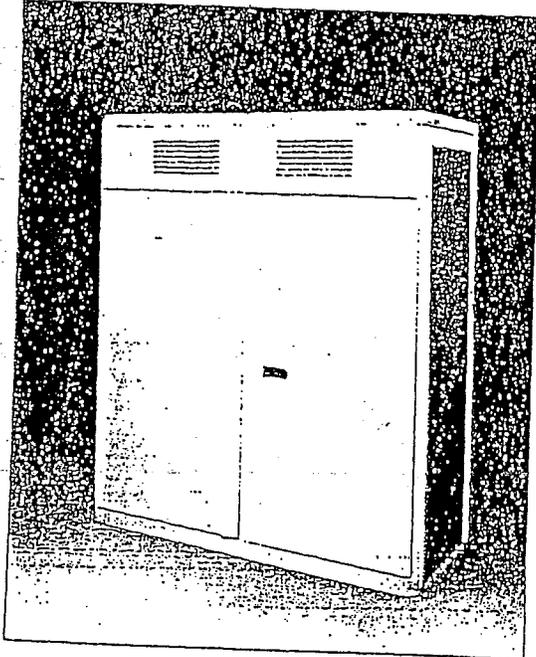
AcCELLerator™ Series:

- 16" AcCELLerator™
- 19" AcCELLerator™
- 30" AcCELLerator™
- 36" AcCELLerator™

Mobile WIRELESS STANDARD MODEL NUMBER GUIDE



58000 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 sector 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
		up to 3 cabinets
• Configuration	Trisectorial	up to S888
	Omnidirectional	up to O16
• Amplifier output power		30 W (± 1.5 dB)
• Power control	Static	6 steps of 2 dB
	Dynamic	15 steps of 2 dB
• Frequency hopping		RF synthesized
		baseband
• Supported vocoders		Full rate
		Enhanced full rate
		Half rate
• Encryption algorithms		A5/1 A5/2
• Power supply		230V AC 50/60 Hz
• Power back-up		Integrated battery back-up plus optional battery cabinet allows provisioning up to 8 hours back-up time.
• Operating temperature range		-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) 684-5935 -
<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

In the Caribbean and Latin America:
Northern Telecom (CALA) Corporation
1500 Concord Terrace
Sunrise FL 33323
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Telephone: (305) 851-8400

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151 Lorong Chuan
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34th Floor, Central Plaza
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Hong Kong
Telephone (852) 2585 2888

In Europe:
Nortel Limited
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Maidenhead
Berkshire SL6 1AY
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Nortel Matra Cellular
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1 place des Frères Montgolfier
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Publication Reference S80.INS.0696
Printed in France

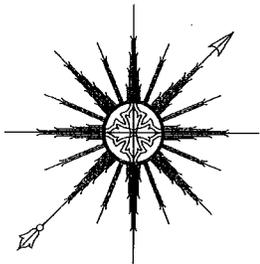
*Nortel and A World of Networks are trademarks of Northern Telecom Limited.

Information subject to change. Northern Telecom reserves the right to make changes, without notice, in equipment design as engineering or manufacturing methods warrant.

NORTEL
NORTHERN TELECOM

Exhibit D
Structural Analysis

800 Ogg Meadow Road
Orange, Connecticut



ALL-POINTS TECHNOLOGY CORPORATION, P.C.

June 16, 2003

Crown Castle Atlantic
500 West Cummings Park
Suite 3400
Woburn, MA 01801

Attn: Lincoln Erhard
Re: T-Mobile USA Co-location
160' Monopole Tower
Orange, Connecticut
Crown BU #806939

Dear Lincoln,

All-Points Technology Corporation, P.C. performed a structural analysis of Crown Castle's 160' Valmont monopole tower located on Ogg Meadow Road in Orange, Connecticut. The tower was analyzed in accordance with EIA/TIA-222-F, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a wind speed of 90-mph and 1/2" radial ice. The analysis evaluated T-Mobile's proposed six RR90-17-02DP panel antennas on the existing platform at 130', fed by twelve 1-5/8" waveguide cables.

Our analysis indicates the tower and foundation are capable of supporting the proposed antennas. Waveguide cables may be installed internally or banded to the outside of the pole.

We appreciate this opportunity to provide you with our services. Please call if you have any questions.

Sincerely,
All-Points Technology Corporation, P.C.

Robert E. Adair, P.E.
Principal

CT105591 Orange II ltr 6-16-03.doc



Exhibit E

Power Density Calculations

800 Ogg Meadow Road

Orange, Connecticut



T-Mobile USA Inc.
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Stephen Humes
From: Jeetendra Ghare - Radio Frequency Engineer
cc: Overbey Jason
Subject: Power Density Report for CT11084B
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 800 Ogg Meadow Rd., Orange, 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 2 antennas per sector.
- 3) The model number for each antenna is EMS RR90-17-02DP.
- 4) The antenna center line height is 125 ft.
- 5) The maximum transmit power from any sector is 1588.99 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

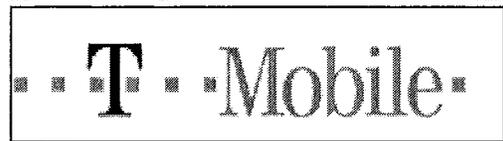
Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a Monopole at 800 Ogg Meadow Rd., Orange, CT, is 0.02462 mW/cm². This value represents 2.462% 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 19.875%. The combined Power Density for the site is 22.337% of the M.P.E. standard.

New England Market



Connecticut

Worst Case Power Density

Site:	CT11084B
Site Address:	800 Ogg Meadow Rd.
Town:	Orange
Tower Height:	160 ft.
Tower Style:	Monopole

Base Station TX output	20 W
Number of channels	8
Antenna Model	EMS RR90-17-02DP
Cable Size	1 5/8 in.
Cable Length	175 ft.
Antenna Height	125.0 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	4.50 dB

Antenna Gain	16.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	2.0300 dB
Total Attenuation	6.5300 dB
Total EIRP per Channel (In Watts)	52.98 dBm 198.62 W
Total EIRP per Sector (In Watts)	62.01 dBm 1588.99 W
nsg	9.9700

Power Density (S) =	0.024618 mW/cm ²
---------------------	-----------------------------

T-Mobile USA Worst Case % MPE =	2.4618%
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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
BAM	4.7000 %
SNET	5.4000 %
Sprint	4.3000 %
Nextel	4.2000 %
Metricom	0.2750 %
AT&T	1.0000 %
Total Excluding T-Mobile USA	19.8750 %
T-Mobile USA	2.4618
Total % MPE for Site	22.3368%