



# 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](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

February 20, 2004

Kenneth C. Baldwin  
Robinson & Cole  
280 Trumbull Street  
Hartford, CT 06103-3597

RE: **EM-VER-077-089-094-155-159-163-164-040129** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify existing telecommunications facilities located at 266 Center Street, Manchester; 1 Hartford Square, New Britain; 167 Lester Street, New Britain; 123 Costello Road, Newington; 457 South Quaker Lane, West Hartford; 1358 New Britain Avenue, West Hartford; 23 Kelleher Court, Wethersfield; 349R Mountain Street, Willimantic; 482 Pigeon Hill Road, Windsor, Connecticut.

Dear Attorney Baldwin:

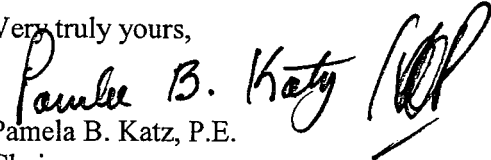
At a public meeting held on February 18, 2004, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated January 29, 2004. 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 existing facility sites that would not increase tower heights, extend the boundaries of the tower site, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

This decision is under the exclusive jurisdiction of the Council. Any additional change to these facilities 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: See attached list.

Recipient List:

Honorable Stephen T. Cassano, Mayor, Town of Manchester  
Thomas R. O'Marra, Zoning Enforcement Officer, Town of Manchester  
Honorable Timothy T. Stewart, Mayor, City of New Britain  
Stephen P. Schiller, Director of Planning, City of New Britain  
Honorable Thomas B. McBride, Mayor, Town of Newington  
Edmund Meehan, Town Planner, Town of Newington  
Honorable Jonathan Harris, Mayor, Town of West Hartford  
Mila Limson, Town Planner, Town of West Hartford  
Honorable Russell A. Morin, Mayor, Town of Wethersfield  
Peter Gillespie, Town Planner, Town of Wethersfield  
Honorable Michael T. Paulhus, First Selectman, Town of Windham  
James E. Finger, Town Planner, Town of Windham  
Honorable Donald Trinks, Mayor, Town of Windsor  
Mario Zavarella, Town Planner, Town of Windsor

Hartford, CT 06103-3597  
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kbaldwin@rc.com  
Direct (860) 275-8345

January 29, 2004

**RECEIVED**  
JAN 29 2004  
CONNECTICUT  
SITING COUNCIL

*Via Hand Delivery*

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

Re: **Notice of Exempt Modification – Antenna Swap**

**Manchester – 266 Center Street, Manchester, CT**  
**New Britain 2 – 1 Hartford Square, New Britain, CT**  
**New Britain 3 – 167 Lester Street, New Britain, CT**  
**Newington 2 – 123 Costello Road, Newington, CT**  
**West Hartford 2 – 457 South Quaker Lane, West Hartford, CT**  
**Corbins Corner – 1358 New Britain Avenue, West Hartford, CT**  
**Wethersfield 3 – 23 Kelleher Court, Wethersfield, CT**  
**Willimantic – 349R Mountain Street, Willimantic, CT**  
**Windsor MTSO 482 Pigeon Hill Road, Windsor, CT**

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) has established telecommunications facilities at each of the above-referenced tower sites. In each case, Cellco has received approval to install twelve (12) panel-type cellular antennas on the existing tower. Cellco now intends to modify each of these facilities by simply replacing six (6) of the cellular antennas with six (6) PCS antennas.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for 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 chief elected officials in each municipality.



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HART1-1153285-1

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January 29, 2004  
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As the Council knows, on May 23, 2003, Cellco acquired, from Northcoast Communications, a license to provide PCS service throughout Connecticut. The proposed modifications to each of these tower sites will allow Cellco to provide its customers in Connecticut, with enhanced wireless voice and data services. While these modifications are not significant, Cellco feels compelled to present these modifications to the Council for review.

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

1. The proposed modifications will not result in any increase in the overall height of the existing tower structure. Cellco's replacement antennas will be mounted at the same level as their existing antennas.
2. The proposed modifications will not affect any ground-mounted equipment and will not require the extension of the site boundaries.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.
4. The proposed modifications will not result in radio frequency (RF) power density levels at the facilities that exceed the Federal Communications Commission (FCC) adopted safety standard. Attached to this notice are RF Power Density calculations for both the Cellco cellular and PCS antennas at each of the sites identified.

Also attached are the specifications for the existing cellular and proposed PCS antennas to be used at each of these sites. Please note that the existing cellular antennas are in fact heavier and have a larger wind area than the proposed PCS antennas. An updated structural analysis is therefore not required for the proposed modifications.



# ROBINSON & COLE<sub>LLP</sub>

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For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facilities constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

cc: Steven R. Werbner, General Manager, Town of Manchester  
Lucian J. Pawlak, Mayor, City of New Britain  
Paul J. Fetherston, Town Manager of Newington  
Barry J. Feldman, Town Manager of West Hartford  
Bonnie L. Therrien, Town Manager of Wethersfield  
R. Leon Churchill, Jr., Town Manager of Windsor  
Michael T. Paulhus, First Selectman, Town of Willimantic  
Sandy M. Carter, Verizon Wireless





# DB948F85E-M

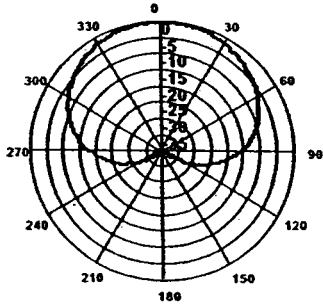
16.2 dBi, Log Periodic Antenna  
1850-1990 MHz

1850-1990 MHz

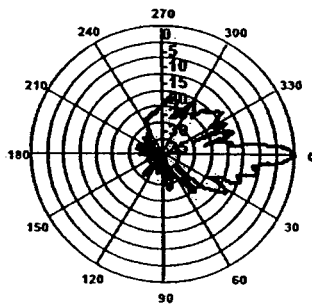
MaxFill™  
dB Director®

Exceptional azimuth roll-off reducing side-lobe and improving capacity  
Excellent upper side-lobe suppression  
Gain null filling below the horizon improves signal intensity  
Low profile appearance and low wind loading profile for easier zoning approval

85°



Horizontal 1920 MHz



Elevation (Vertical) 1920 MHz



Electrical		Mechanical	
Frequency (MHz):	1850-1990	Weight:	8.5 lbs (3.9 kg)
Polarization:	Vertical	Dimensions (LxWxD):	48 X 3.3 X 7 in (1219 X 84 X 178 mm)
Gain (dBd/dBi):	14.1/16.2	Max. Wind Area:	1.7 ft² (0.16 m²)
Azimuth BW:	85°	Max. Wind Load (@ 100mph):	68 lbf (302 N)
Elevation BW:	8°	Max. Wind Speed:	125 mph (201 km/h)
Beam Tilt:	0°	Radiator Material:	Low Loss Circuit Board
USLS* (dB):	>18	Reflector Material:	Pass. Aluminum
Null Fill* (dB):	15	Radome Material:	ABS, UV Resistant
Front-to-Back Ratio* (dB):	40	Mounting Hardware Material:	Galvanized Steel
VSWR:	1.33:1	Connector Type:	7/16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150	Color:	Light Gray
Impedance:	50 Ohms	Standard Mounting Hardware:	DB390 Pipe Mount Kit
Max Input Power:	250 Watts	Downtilt Mounting Hardware:	DB5098
Lightning Protection:	DC Ground	Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°, 2°, 4°, 6°		

8635 Stemmons Freeway Dallas, Texas U.S.A 75247-3701  
Dallas/FTWorth Area Tel: 214.631.0310 Fax: 214.631.4706  
Toll Free Tel: 1.800.676.5342 Fax: 1.800.229.4706  
www.decibelproducts.com  
dbtech@decibelproducts.com

\* Typical Values

Date: 1/24/2003



# DB844H90E-XY

12.4 dBd  
Wide Band Log Periodic Antenna

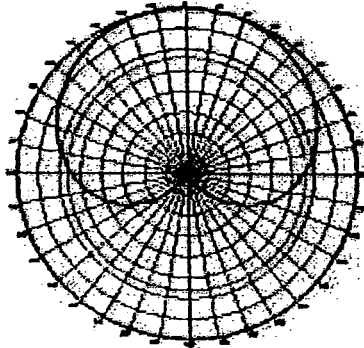
806-896 MHz  
880-960 MHz

dB Director®

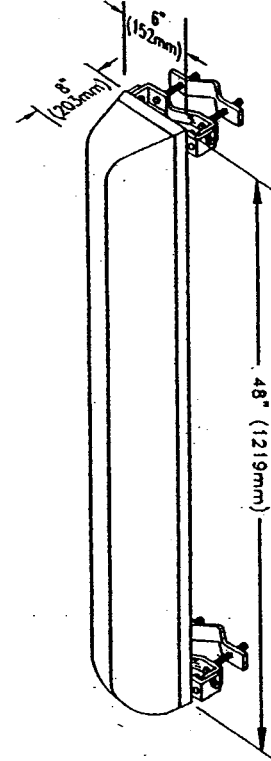
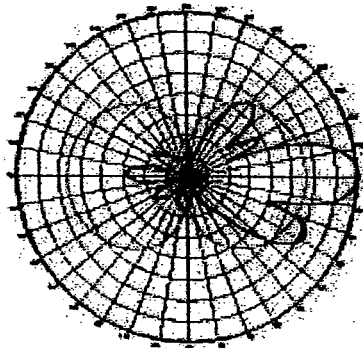
- Wide Band 806-960 MHz, ideal for multiple system requirements.
- Superior Azimuth pattern roll off, reducing sector to sector interference, improving call capacity.
- Extremely rugged, reliable design yet lightweight with low wind load.

90°

Azimuth  
(Horizontal)



Elevation  
(Vertical)



### Electrical

	806-896 MHz	880-960 MHz
Gain:	12 dBd (14.1 dBi)	12.4 dBd (14.5 dBi)
VSWR:	1.35:1	1.4:1
USLS:	> 15 dB	
Horizontal Beamwidth:	90°	
Vertical Beamwidth:	15°	
Front-to-Back Ratio:	40 dB	
Impedance:	50 Ohms	
Max. Input Power:	500 Watts	
Connector:	7/16 DIN (Back) (N-Female, optional)	
Lightning Protection:	DC Ground	

### Mechanical

Weight:	10 lbs (4.5 kg)
Wind Area:	2.8 ft <sup>2</sup> (0.26 m <sup>2</sup> )
Frontal Thrust:	80 lbf (356N) 35.9 kp (at 100 mph)
Lateral Thrust:	112 lbf (498N) 50.3 kp (at 100 mph)
Max. Wind Speed:	125 mph
Radiators:	Brass
Back Panel:	Pass. Aluminum
Radome:	ABS, UV Resistant
Mounting Hardware:	Galvanized Steel
Color:	Gray

### Mounting Options

Standard:	DB380 pipe mount kit included.
Downtilt:	DB5083 downtilt bracket, optional.

8635 Stemmons Freeway • Dallas, Texas U.S.A. 75247-3701  
Dallas/Ft. Worth Area Tel: 214.631.0310 • Fax: 214.631.4706  
Toll Free Tel: 1.800.676.5342 • Fax: 1.800.229.4706

www.decibelproducts.com  
dbtech@decibelproducts.com

099089-001 10/01-N



ISO9001 Compliant

General Power Density

Site Name: Manchester, CT  
 Tower Height: 116 ft rad center

Operator	Operating Frequency (MHz)	Number of Antennas	ERP per Antenna (watts)	Total ERP (watts)	Distance (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	1800	116	0.0481	0.56733	8.48%
VZW PCS	1900	3	285	855	116	0.0229	1	2.29%
<b>Total Percentage of Maximum Permissible Exposure</b>								<b>10.76%</b>

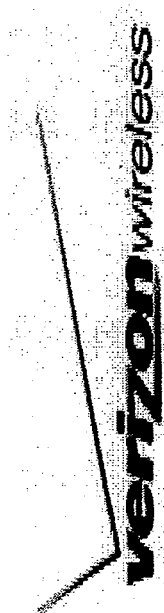
\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.





General Power Density

Site Name: New Britain 2, CT  
 Tower Height: 140 ft rad center

Operator	Operating Frequency (MHz)	Number of Transmitters	ERP Per Transmitter (watts)	Number of Antennas	Distance to Antenna (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (MPE)
Verizon	880	9	200	1800	140	0.0330	5.82%
VZW PCS	1900	3	285	855	140	0.0157	1.57%
<b>Total Percentage of Maximum Permissible Exposure</b>							<b>7.39%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: New Britain 3, CT  
 Tower Height: 120 ft rad center

Operator	Operating Frequency (MHz)	Number of Antennas	ERP/Power (watts)	Distance (feet)	Individual Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	120	0.0450	0.56733	7.92%
VZW PCS	1900	3	285	120	0.0214	1	2.14%
<b>Total Percentage of Maximum Permissible Exposure</b>							<b>10.06%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: Newington 2, CT  
 Tower Height: 115 ft rad center

Operator	Operating Frequency (MHz)	Number of Channels	Power (watts)	Distance (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Power Density (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	1800	115	0.0489	0.56733	8.63%
VZW PCS	1900	3	855	115	0.0232	1	2.32%
<b>Total Percentage of Maximum Permissible Exposure</b>							<b>10.95%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz  
 mW/cm<sup>2</sup> = milliwatts per square centimeter  
 ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: W Hartford 2, CT  
 Tower Height: 80 ft rad center

Operator	Operating Frequency (MHz)	Number of Channels	Power (watts)	Distance (feet)	Effective Radiated Power (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	80	0.1011	0.56733	17.83%
VZW PCS	1900	3	285	80	0.0480	1	4.80%
<b>Total Percentage of Maximum Permissible Exposure</b>							<b>22.63%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

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 mW/cm<sup>2</sup> = milliwatts per square centimeter  
 ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: Corbins Corner, CT  
 Tower Height: 107 ft rad center

Operator	Operating Frequency (MHz)	Number of ERP Emissions	ERP (watts)	Distance (feet)	Field Strength Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure Limit (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	107	0.0565	0.56733	9.97%
VZW PCS	1900	3	285	107	0.0269	1	2.69%
<b>Total Percentage of Maximum Permissible Exposure</b>							<b>12.65%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: Wethersfield 3, CT  
 Tower Height: 130 ft rad center

Operator	Operating Frequency (MHz)	Number of Trains	ERP per Train (watts)	ERP per Train (watts)	Distance to Edge of Site (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	1800	130	0.0383	0.56733	6.75%
VZW PCS	1900	3	285	855	130	0.0182	1	1.82%
<b>Total Percentage of Maximum Permissible Exposure</b>								<b>8.57%</b>

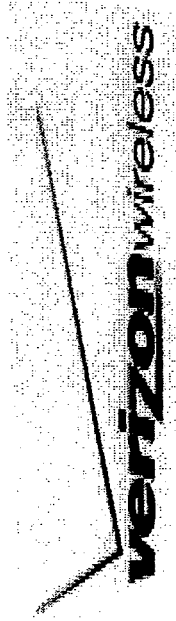
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MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: Willimantic, CT  
 Tower Height: 180 ft rad center

Operator	Operating Frequency (MHz)	Number of Channels	ERP (watts)	ERP (watts)	Distance (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	1800	180	0.0200	0.56733	3.52%
VZW PCS	1900	3	285	855	180	0.0095	1	0.95%
<b>Total Percentage of Maximum Permissible Exposure</b>								<b>4.47%</b>

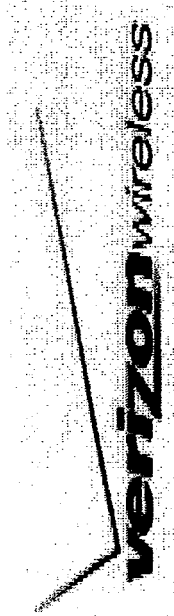
\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



General Power Density

Site Name: Windsor, CT  
 Tower Height: 158 ft rad center

Operator	Operating Frequencies (MHz)	Number of ERP Emission Channels	ERP (watts)	Distance (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure (mW/cm <sup>2</sup> )	Percentage of MPE
Verizon	880	9	200	158	0.0259	0.56733	4.57%
VZW PCS	1900	3	285	158	0.0123	1	1.23%
<b>Total Percentage of Maximum Permissible Exposure</b>							<b>5.80%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

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ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.

