



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

April 30, 2002

Mr. Christopher B. Fisher, Esq.
Cuddy & Feder & Worby
90 Maple Avenue
White Plains, NY 10601-5196

RE: **EM-AT&T-155-020401** – AT&T Wireless notice of intent to modify an existing telecommunications facility located at 3114 Albany Avenue, West Hartford, Connecticut.

Dear Atty. Fisher:

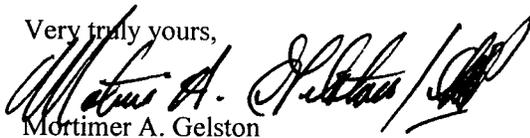
At a public meeting held on April 25, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice[s] dated April 1, 2002. 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,



Mortimer A. Gelston
Chairman

MAG/DM/laf

c: Mr. Barry M. Feldman, Town Manager, Town of West Hartford
Marlin Tower, LLC

CUDDY & FEDER & WORBY LLP

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April 4, 2002

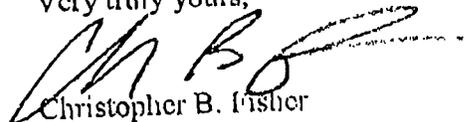
By Fax 860-827-2950
David Martin
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: AT&T -- Granby & W. Hartford Filings

Dear David:

In furtherance of our conversation the other day regarding MPE reports prepared for the above referenced sites, I have been advised by AT&T's RF Engineers that the MPE reports account for each antennas' pattern of radiation (See pages 22 and 23 of FCC OET Bulletin 65). This would account for differences in calculation and the methodology sometimes used by the Council as a guidepost for measuring power densities and what is scientifically and legally required for purposes of public safety and compliance with FCC MPE requirements. Should you have any further questions regarding same, please do not hesitate to contact me.

Very truly yours,


Christopher B. Fisher

**NOTICE OF INTENT TO MODIFY AN
EXISTING LATTICE TOWER FACILITY AT
3114 ALBANY AVENUE, WEST HARTFORD, CONNECTICUT**

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. seq. ("PUESA"), and Sections 16-50j-72(b) of the Regulations of Connecticut State Agencies adopted pursuant to the PUESA, AT&T Wireless PCS, LLC d/b/a AT&T Wireless ("AT&T Wireless") hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 3114 Albany Avenue, West Hartford, Connecticut (the "Albany Avenue Facility"), owned by Marlin Tower, LLC, AT&T Wireless and the tower owner have entered into a lease agreement permitting the shared use of the Albany Avenue Facility.

RECEIVED

The Albany Avenue Facility

The Albany Avenue Facility consists of an approximately three hundred forty-six (346) foot guyed lattice tower (the "Tower") and associated equipment currently being used for broadcast, and other accessory communications uses and planned for future wireless communications by Verizon Communications (Verizon). A chain link fence surrounds the Tower compound. The current adjacent land uses are Highway 44 and undeveloped land.

APR - 1 2002
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AT&T Wireless' Facility

As shown on the enclosed plans prepared by Goodkind & O'Dea, Inc., including a site plan and tower elevation of the Albany Avenue Facility, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets needed to provide personal communications services ("PCS") within the existing fenced compound. AT&T Wireless will install six (6) panel antennas at approximately the 140 foot level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76"H x 30" W x 30" D) on a concrete pad. As evidenced in the letter of structural integrity prepared by Goodkind & O'Dea, Inc., annexed hereto as Exhibit A, AT&T has confirmed that the tower is structurally capable of supporting the addition of AT&T Wireless' antennas.

AT&T Wireless' Facility Constitutes An Exempt Modification

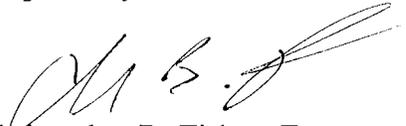
The proposed addition of AT&T Wireless' antennas and equipment to the Albany Avenue Facility constitutes an exempt "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and Council regulations promulgated pursuant thereto. Addition of AT&T Wireless' antennas and equipment to the Tower will not result in an increase of the Tower's height nor extend the site boundaries. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. As set forth in an Emissions Report prepared by Satish Bhandare, Radio Frequency Engineer, annexed hereto as Exhibit B, the total

radio frequency electromagnetic radiation power density at the Tower site's boundary will not be increased to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. For all the foregoing reasons, addition of AT&T Wireless' facility to the Tower constitutes an exempt modification which will not have a substantially adverse environmental effect.

Conclusion

Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Albany Avenue Facility meets the Council's exemption criteria.

Respectfully Submitted,



Christopher B. Fisher, Esq.
On behalf of AT&T Wireless

cc: Town Manager, Town of West Hartford
Harold Hewett, Bechtel

February 26, 2002

Mr. Don Huntley
Bechtel Telecommunications
210 Pomeroy Avenue, Suite 201
Meriden, CT 06450

**Re: Site No. CT204.2.1
346-Foot Guyed Tower
West Hartford NW – Marlin Tower, LLC
3114 Albany Avenue, West Hartford, CT 06334
Independent Structural Review**

Dear Sirs:

We have completed our structural review of the existing guyed tower's capacity to support an array of panel antennas on standoff T-arm pipe frames at the above referenced site, pursuant to Section 108.1.1 of the Connecticut State Building Code (CSBC). We reviewed the tower construction fabrication details dated August 4, 2000 prepared by PiROD INC.

Section 1609.1 of the Connecticut State Building Code addresses radio and television towers and references Section 3108.4 of the 1996 BOCA Code. The Boca Code references EIA/TIA 222-E for antenna supporting structures. The construction drawings state that the design conforms to the EIA/TIA 222-E code.

The guyed tower is 346ft high and the drawings state that it is designed to be extendable to 670ft. In it's initial (current) configuration the tower is designed to support 6 arrays of 12 panel antennas on standoff T-Frames between 150 and 250 ft above ground level (AGL). The tower is also designed to support VHF omni antennas, parabolic antennas and FM antennas with radomes. In the extended condition the tower will support omni antennas and coax feed lines located from 335ft AGL to 670ft AGL The AT&T Wireless PCS, LLC panel antennas, proposed to be located 140ft above the foundation, will be at an elevation lower than specified in the design notes on the drawings. Currently the tower is not supporting the full load of antennas for which the documents state it has been designed and there is ample capacity to support the proposed AT&T installation. No calculations for the foundation design were presented but a spread footing sized to bear on clean bedrock has been specified for the tower and reinforced concrete anchor blocks for the guys.

Upon review of the signed and sealed drawings prepared by John Erichsen P.E. for PiROD INC. it is our conclusion that the tower is adequate to support the proposed AT&T Wireless PCS, LLC antennas, coaxial cables and T-arm pipe frames. The design is in compliance with the Connecticut State Building Code.

Should you have any questions, please contact us.

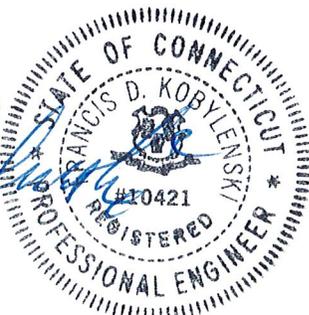
Very truly yours,

Goodkind & O'Dea, Inc.

A Dewberry Company

Francis D. Kobylenski
Francis D. Kobylenski, P.E.

Project Manager



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Connecticut Maryland Massachusetts New Jersey New York North Carolina Pennsylvania Virginia



**RF Exposure Analysis for Proposed
AT&T Wireless Antenna Facility**

SITE ID: 907-007-204

March 22, 2002

**Prepared by AT&T Wireless Services, Inc.
Frank Wentink RF Engineer**

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1. Introduction

This report constitutes an RF exposure analysis for the proposed AT&T Wireless antenna facility to be located at 3114 Albany Avenue; West Hartford, CT 06105. This analysis uses site-specific engineering data to determine the predicted levels of radio frequency (RF) electromagnetic energy in the vicinity of the proposed facility and compares those levels with the Maximum Permissible Exposure (MPE) limits established by the Federal Communications Commission.

2. Site Data

| | |
|---|--------------------|
| Site Name: Madison-East River | |
| Number of simultaneously operating channels | 16 |
| Type of antenna | Allgon 7250.02 |
| Power per channel (Watts ERP) | 250.0 Watts |
| Height of antenna (feet AGL) | 140 feet |
| Antenna Aperture Length | 5 feet |

3. RF Exposure Prediction

The following equations established by the FCC, in conjunction with the site data, were used to determine the levels of RF electromagnetic energy present in the vicinity of the proposed facility¹:

$$PowerDensity = \frac{0.64 * N * EIRP(\theta)}{\pi * R^2} (mw/cm^2) \quad Eq. 1-Far-field$$

Where, *N*= Number of channels, *R*= distance in cm from the RC (Radiation Center) of antenna, and *EIRP(θ)* = The isotropic power expressed in milliwatts in the direction of prediction point.

$$PowerDensity = \frac{P_{in} / ch * N * 10^3}{2 * \pi * R * h * \alpha / 360} (mw/cm^2) \quad Eq. 2-Near-field$$

Where *P_{in}/ch* = Input power to antenna terminals in watts/ch, *R* = distance to center of radiation, *h* = aperture height in meters, *α* = 3 dB band-width of horizontal pattern.

¹ RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts (μW), a millionth of a watt, per square centimeter (cm²). Data comparing predictive analysis with on site measurements has demonstrated that power density can be effectively predicted at given locations in the vicinity of a wireless antenna facility.

4. FCC Guidelines for Evaluating the Environmental Effects of RF Radiation

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by a Second Memorandum Opinion and Order. These new rules represent a consensus of the federal agencies responsible for the protection of public health and the environment, including the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Health and Safety (NIOSH), and the Occupational Safety and Health Administration (OSHA).

Under the laws that govern the delivery of wireless communications services in the United States, as amended by the Telecommunications Act of 1996, the FCC has exclusive jurisdiction over RF emissions from personal wireless antenna facilities, which include cellular, PCS, messaging and aviation sites.² Pursuant to its authority under federal law, the FCC has established rules to regulate the safety of emissions from these facilities.

5. Comparison with Standards

Exhibit A shows the levels of RF electromagnetic energy as one moves away from the antenna facility. As shown in Exhibit A, the maximum power density is 8.21 μ W/cm² which occurs at 400 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.62 μ W/cm² at a distance of 4 feet. Table 1 below shows the Maximum Permissible Exposure (MPE) limits established by the FCC. There are different MPE limits for public/uncontrolled and occupational/controlled environments.

Table 1: Maximum Permissible Exposure limits for RF radiation

| <i>Frequency</i> | <i>Public/Uncontrolled</i> | <i>Occupational/controlled</i> | <i>Maximum power density at Accessible location</i> |
|------------------|------------------------------|--------------------------------|---|
| Cellular | 580 μ W/cm ² | 2,900 μ W/cm ² | 8.21 μ W/cm ² |
| PCS | 1000 μ W/cm ² | 5,000 μ W/cm ² | |

The maximum power density at the proposed facility represents only 1.36% of the public MPE limit.

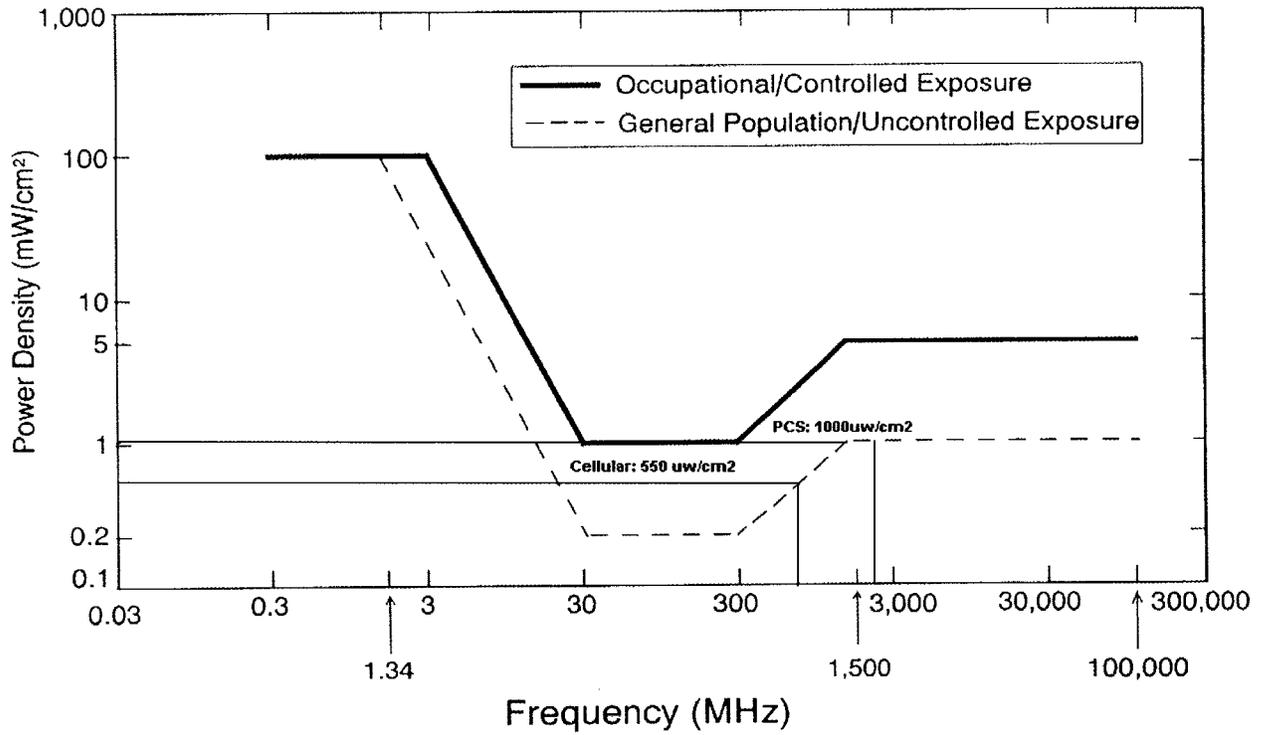
6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is 8.21 μ W/cm², a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

² 47 U.S. C. Section 332 (c) (7)(B)(iv) states that “[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission’s regulations concerning such emissions.”

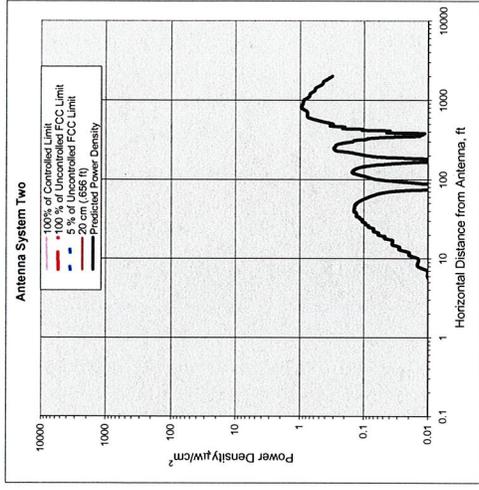
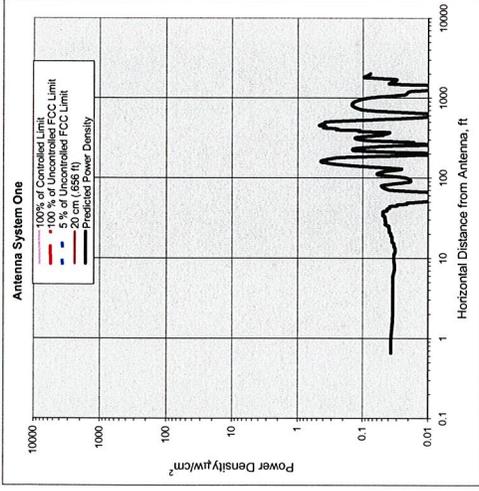
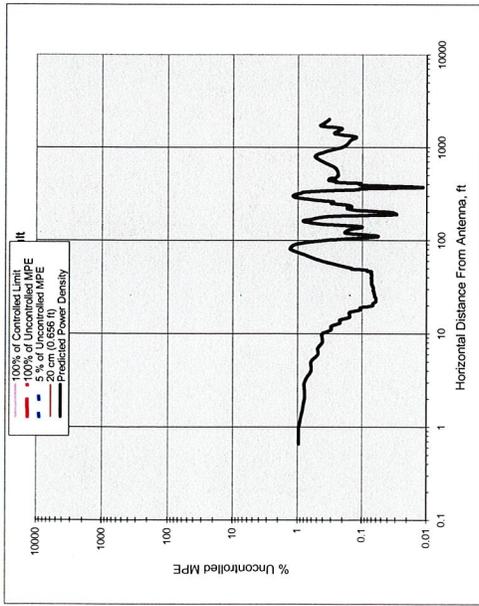
7. FCC Limits for Maximum Permissible Exposure

FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



8. Exhibit A

Heading



Number of Antenna Systems: 5

Meets FCC Controlled Limits for The Antennas Systems.

Meets FCC Uncontrolled Limits for The Antenna Systems.

Meets 5% of FCC Uncontrolled Limits for The Antenna Systems.

No Further Maximum Permissible Exposure (MPE) Analysis Required.

| | |
|---|---------------|
| Power Density | @Horiz. Dist. |
| μW/cm ² | feet |
| 2.64 | 80.00 |
| Maximum Power Density = | % of limit |
| 77.32 times lower than the MPE limit for uncontrolled environment | 1.29 |
| Composite Power (ERP) = | Watts |
| 31,260.00 | |

Site ID: 907-007-204
 Site Name: Madison-East River
 Site Location: 3114 Albany Avenue
 West Hartford, CT 06105

Ant System ONE Owner: AT&T
 Sector: 1
 Azimuth: 0/120/240

Ant System TWO Owner: Verizon Wireless
 Sector: 3
 Azimuth: 0/120/240

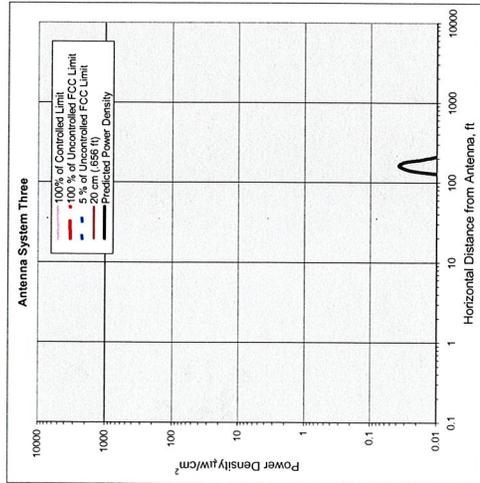
Antenna System One

| | | |
|-----------------------------------|---------|----------------|
| Frequency | units | Value |
| 1945 | MHz | 1945 |
| # of Channels | # | 16 |
| Max ERP/Ch | Watts | 250 |
| Max Pwr/Ch Into Ant. | Watts | 5,596,802,85 |
| (Center of Calculation Point | feet | 140 |
| or | feet | 0 |
| roof surface) | | 0 |
| No. | | Align 7,250,02 |
| Max. Ant Gain | dBd | 16.5 |
| Down tilt | degrees | 0 |
| Miscellaneous Att. | dB | 0 |
| Height of aperture | feet | 5.11 |
| Ant. HBW | degrees | 65 |
| Distance to Ant _{bottom} | feet | 137,445 |
| WOS? | Y/N? | n |

Antenna System Two

| | | |
|-----------------------------------|---------|----------------|
| Frequency | units | Value |
| 835 | MHz | 835 |
| # of Channels | # | 16 |
| Max ERP/Ch | Watts | 250 |
| Max Pwr/Ch Into Ant. | Watts | 10,184,506,95 |
| (Center of Point | feet | 130 |
| ground or | feet | 0 |
| roof surface) | | 0 |
| No. | | Align 71,25,16 |
| Max. Ant Gain | dBd | 13.9 |
| Down tilt | degrees | 0 |
| Miscellaneous Att. | dB | 0 |
| Height of aperture | feet | 4 |
| Ant. HBW | degrees | 60 |
| Distance to Ant _{bottom} | feet | 128 |
| WOS? | Y/N? | n |

Heading

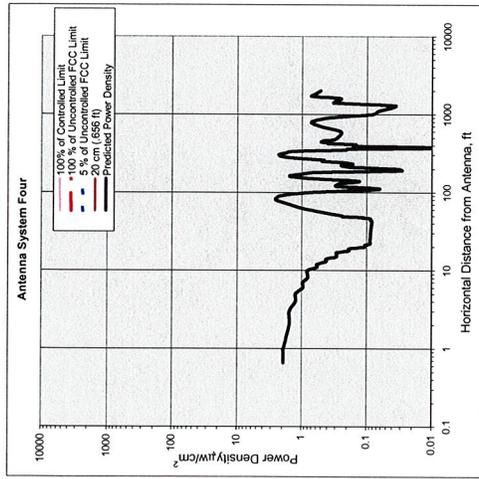


Antenna System Three

| | | |
|--|---------|-------------|
| Frequency | units | Value |
| # of Channels | MHz | 450 |
| Max ERP/Ch | # | 1 |
| Max Pwr/Ch Into Ant. | Watts | 250 |
| Max Pwr/Ch Into Ant. (Center of Radiator) | Watts | 30,05661087 |
| Calculation Point (above ground or roof surface) | feet | 200 |
| Calculation Point (above ground or roof surface) | feet | 0 |
| Calculation Point (above ground or roof surface) | feet | 0 |
| Antenna Model No. | | DB-420B |
| Max Ant Gain | dBd | 9.2 |
| Down tilt | degrees | 0 |
| Miscellaneous Att. | dB | 0 |
| Height of aperture | feet | 18 |
| Ant. HBW | degrees | 360 |
| Distance to Ant _{Horizontal} | feet | 191 |
| WOS? | Y/N? | n |

Ant System Three Owner: VHF

Sector: 1
Azimuth: 360

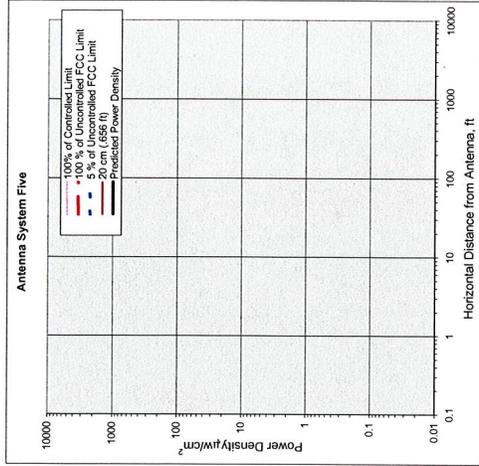


Antenna System Four

| | | |
|--|---------|-----------|
| Frequency | units | Value |
| # of Channels | MHz | 106.9 |
| Max ERP/Ch | # | 1 |
| Max Pwr/Ch Into Ant. | Watts | 2300 |
| Max Pwr/Ch Into Ant. (Center of Radiator) | Watts | 2300 |
| Calculation Point (above ground or roof surface) | feet | 130 |
| Calculation Point (above ground or roof surface) | feet | 0 |
| Calculation Point (above ground or roof surface) | feet | 0 |
| Antenna Model No. | | DB810K-XC |
| Max Ant Gain | dBd | 10 |
| Down tilt | degrees | 0 |
| Miscellaneous Att. | dB | 0 |
| Height of aperture | feet | 14.5 |
| Ant. HBW | degrees | 360 |
| Distance to Ant _{Horizontal} | feet | 122.75 |
| WOS? | Y/N? | n |

Ant System Four Owner: WCCC

Sector: 1
Azimuth: 360



Antenna System Five

| | | |
|--|---------|-----------|
| Frequency | units | Value |
| # of Channels | MHz | 91.9 |
| Max ERP/Ch | # | 1 |
| Max Pwr/Ch Into Ant. | Watts | 10 |
| Max Pwr/Ch Into Ant. (Center of Radiator) | Watts | 1 |
| Calculation Point (above ground or roof surface) | feet | 150 |
| Calculation Point (above ground or roof surface) | feet | 0 |
| Calculation Point (above ground or roof surface) | feet | 0 |
| Antenna Model No. | | DB810K-XC |
| Max Ant Gain | dBd | 10 |
| Down tilt | degrees | 0 |
| Miscellaneous Att. | dB | 0 |
| Height of aperture | feet | 14.5 |
| Ant. HBW | degrees | 360 |
| Distance to Ant _{Horizontal} | feet | 142.75 |
| WOS? | Y/N? | n |

Ant System Five Owner: WNNR

Sector: 1
Azimuth: 360

9. For Further Information

Additional information about the environmental impact of RF energy from personal wireless antenna facilities can be obtained from the Federal Communications Commission:

Dr. Robert Cleveland
Federal Communications Commission
Office of Engineering and Technology
Washington, DC 20554

RF Safety Program: 202-418-2464
Internet address: rfsafety@fcc.gov
RF Safety Web Site: www.fcc.gov/oet/rfsafety

10. References

- [1] The Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).
- [2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Red 2849 (1993).
- [3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. 61 Federal Register 41006 (1996).
- [4] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Second Memorandum Opinion and Order, ET Docket 93-62, adopted August 25, 1997.
- [5] *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields*, OET Bulletin 65, August, 1997.