

### 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

May 24, 2002

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

RE:

**EM-AT&T-047-020513** - AT&T Wireless notice of intent to modify an existing telecommunications facility located at 232 South Main Street, East Windsor, Connecticut.

#### Dear Attorney Fisher:

At a public meeting held on May 21, 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 received May 13, 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. Gelsto

Chairman

MAG/DM/laf

c: Honorable Linda L. Roberts, First Selectman, Town of East Windsor

Donald Poland, Town Planner, Town of East Windsor

**Balch Communications** 

Sandy M. Carter, Verizon Wireless

Thomas F. Flynn III, Nextel Communications

Stephen J. Humes, Esq., LeBoeuf, Lamb, Greene, and MacRae

Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC

Michele G. Briggs, SNET Mobility LLC

#### NOTICE OF INTENT TO MODIFY AN EXISTING TELECOMMUNICATIONS FACILITY AT 232 SOUTH MAIN STREET, EAST WINDSOR, 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, by and through its agent AT&T Wireless PCS, Inc., ("AT&T Wireless") hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 232 South Main Street, East Windsor, Connecticut (the "South Main Street Facility") fowned by Balch Communications. AT&T Wireless and the tower owner have agreed to share the use of the South Main Street Facility, as detailed below.

#### The South Main Street Facility

CONNECTICUT SITING COUNCIL

The South Main Street Facility consists of an approximately one hundred eighty eight (188) foot lattice tower (the "Tower") and associated equipment currently being used for wireless communications by Verizon, Nextel, VoiceStream, Sprint, Cingular and the municipality. The surrounding land uses are predominantly commercial.

#### **AT&T Wireless' Facility**

As shown on the enclosed plans prepared by URS Corporation, including a site plan and tower elevation of the South Main Street 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 6 panel antennas at approximately the 184 foot level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76" H x 30" W x 30" D) located on a concrete pad. As evidenced in the letter of structural integrity prepared by URS Corporation, 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 South Main Street 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 Nader Soliman, 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.

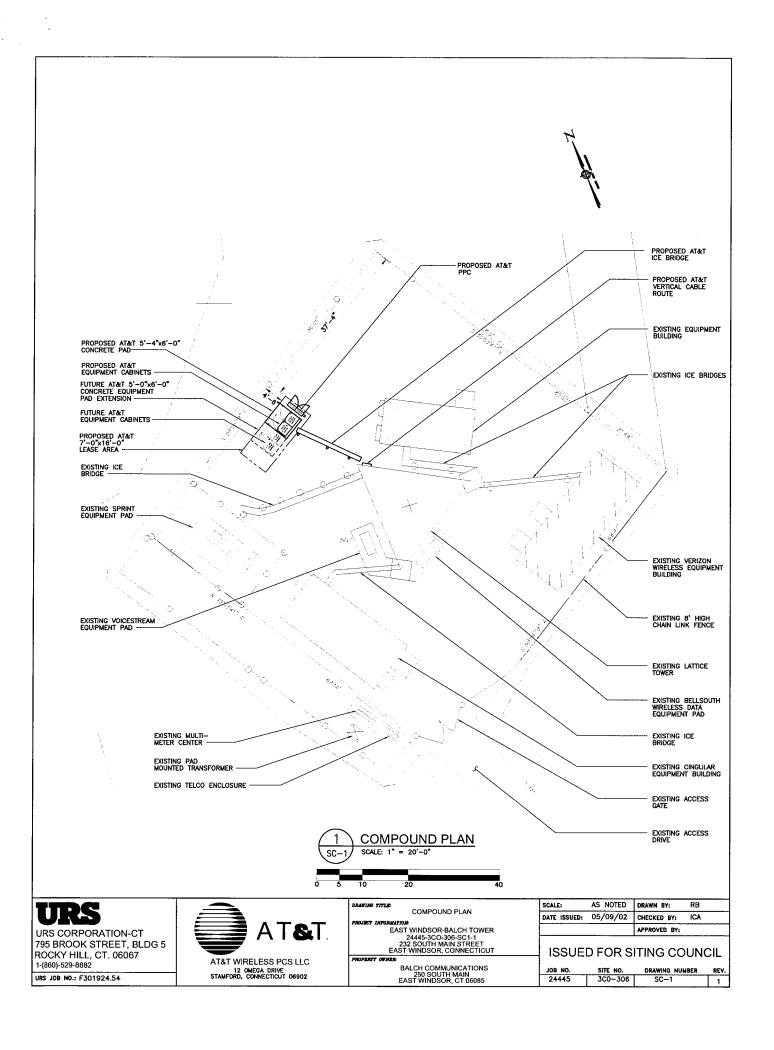
#### **Conclusion**

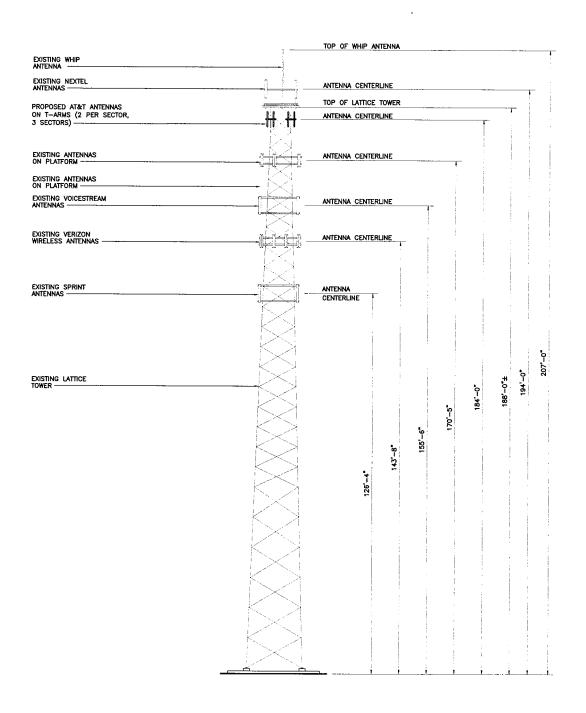
Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the South Main Street Facility meets the Council's exemption criteria.

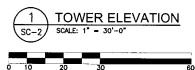
Respectfully Submitted,

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

cc: First Selectman, Town of East Windsor Harold Hewett, Bechtel







URS CORPORATION-CT 795 BROOK STREET, BLDG 5 ROCKY HILL, CT. 06067 1-(860)-529-8882

URS JOB NO.: F301924.54



AT&T WIRELESS PCS LLC
12 OMEGA DRIVE
STAMFORD, CONNECTICUT 06902

RAFING	TITLE:		
		TOWER	<b>ELEVA</b>

EAST WINDSOR-BALCH TOWER 24445-3CO-306-SC2-1 232 SOUTH MAIN STREET EAST WINDSOR, CONNECTICUT

•••	UNIMAR	
		BALCH COMMUNICATIONS
		250 SOUTH MAIN
		EAST WINDSOR CT 06085

		APPROVED BY:	
DATE ISSUED:	05/09/02	CHECKED BY:	ICA
SCALE:	AS NOTED	DRAWN BY:	RB

#### ISSUED FOR SITING COUNCIL

JOB NO.	SITE NO.	DRAWING NUMBER	RE\
24445	300-306	SC-2	T



May 1, 2002

Mr. Mortimer A. Gelston Chairman Connecticut Siting Council 10 Franklin Square New Britain, Connecticut 06051

Reference:

**Proposed Telecommunications Facility** 

AT&T Site No.: CT-306 232 South Main Street East Windsor, Connecticut

F300001924.54

Dear Mr. Gelston:

URS Corporation (URS) conducted a review and evaluated the existing 188' self support lattice tower structure located at 232 South Main Street East Windsor, Connecticut. The purpose of this review was to evaluate the affect of the proposed AT&T Wireless antennas and mount on the tower structure. The tower and its foundation were designed by Rohn Industries; Inc. Rohn File No. 34769H dated September 30, 1996. The tower and its foundation were originally designed to support six telecommunications carriers between the elevations of 120' - 188'. In addition the tower was designed to support 6 dishes in various sizes between elevation 65' - 110'. The tower currently is supporting 5 carriers between elevation 125' -194'. The proposed AT&T antennas and mount considered in this review are as listed below:

Antenna and Mount	Carrier	Antenna Center Elevation
(6) Allgon 7250.03 on (3) T-arms with (12) 1.5/8" coax cables	AT&T	184'-0"

It is our determination that the existing tower and it's foundation have sufficient structural capacity to support the presently installed carriers and the AT&T installation as specified above. This evaluation is based on requirements of the TIA/EIA-222-F dated March 1996 and the Connecticut State Building Code dated 1999 and the latest supplement and amendments.

If you should have any questions, please call.

Sincerely,

URS Corporation AES

Mohsen Sahirad, P.E. Senior Structural Engineer

MS/mks

cc:

Donald Huntley, P.E. - Bechtel Telecommunications

NO. 21283

Christopher Fisher - Cuddy Feder Worby

Ignacio C. Artaiz, AIA - URS Douglas J. Roberts, AIA - URS Alitz Abadjian, PM - URS

CF/Book

**URS** Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Tel: 860.529.8882 Fax: 860.529.3991





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

SITE ID: 907-007-306

May 3, 2002

Prepared by AT&T Wireless Services, Inc.
Nader Soliman 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 232 South Main Street, East Windsor, CT 06085. 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: East Windsor SW	
Number of simultaneously operating channels	<mark>16</mark>
Type of antenna	Allgon 7250.03
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	184.00 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 facility<sup>1</sup>:

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

Where, N= Number of channels, R= distance in cm from the RC (Radiation Center) of antenna, and  $EIRP(\theta) =$  The isotropic power expressed in milliwatts in the direction of prediction point. This is the correct equation for antennas which have their gain expressed in dBi, which is the usual case for the PCS bands.

$$PowerDensity = \frac{P_{in} / ch * N * 10^{3}}{2 * \pi * R * h * \alpha / 360} (mW/cm^{2})$$
 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,  $\alpha$  = 3 dB beam-width of horizontal pattern.

<sup>&</sup>lt;sup>1</sup> RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts (μ W), 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. <sup>2</sup> 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 0.001806 mW/cm<sup>2</sup> which occurs at 210 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.000400 mW/cm<sup>2</sup> 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

Frequency	Public/Uncontrolled	Occupational/controlled	Maximum power density at Accessible location
Cellular	.580 mW/cm <sup>2</sup>	2.9 mW/cm <sup>2</sup>	0.001806 mW/cm <sup>2</sup>
PCS	1 mW/cm <sup>2</sup>	5 mW/cm <sup>2</sup>	

The maximum power density at the proposed facility represents only 0.25% of the public MPE limit for PCS frequencies.

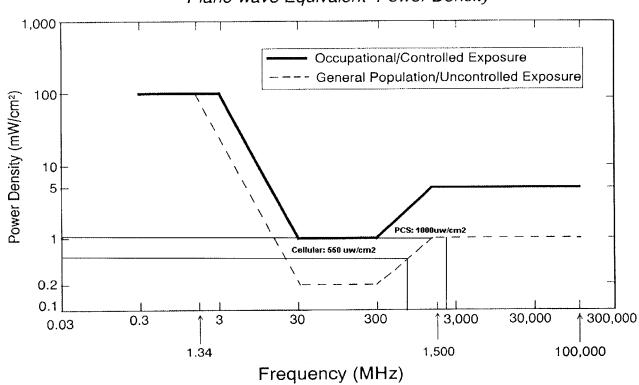
#### 6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is 0.001806 mW/cm<sup>2</sup>, a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

<sup>&</sup>lt;sup>2</sup> 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."

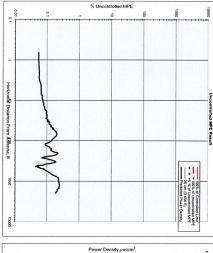
#### 7. FCC Limits for Maximum Permissible Exposure

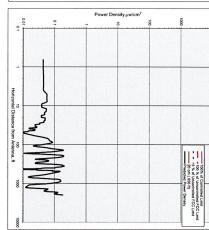
## FCC Limits for Maximum Permissible Exposure (MPE) Plane-wave Equivalent Power Density



8. Exhibit A



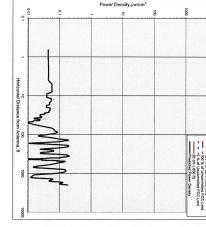


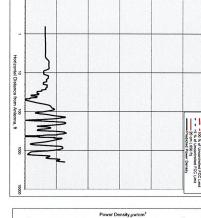


Antenna System One

1000

100% of Controlled Limit
100% of Uncontrolled FCC Limit
5% of Uncontrolled FCC Limit
20 cm ( 656 ft)
Predicted Power Dentaly





# Antenna System One # Watts Watts feet

Number of Artenna Systems: Meets FCC Controlled Limits for The Artennas Systems.

WOS? Y/N?	Distance to Ant <sub>bottom</sub> fe		Height of aperture for	Miscellaneous Att.	Down tilt deg	Max Ant Gain d	Antenna Model No.	roof surface)	(above ground or	Calculation Point fe	(Center of Radiator) fe	Max Pwr/Ch Into Ant. W.	Max ERP/Ch W	# of Channels	- reduciney
/N?	feet	degrees	feet	dB	degrees	dBd				feet	feet	Watts	Watts	#	-
0	124.25	90.00	4.00	0.00	0.00	14.00	Algon7184.15	0.00	0.00	0.00	126.25	9.95	250.00	16	

(Center of Radiator)
Calculation Point
(above ground or
roof surface)
Anterna Model No.
Max Ant Gain

units	Antenna System Two
Value	8

Horizontal Distance from Antenna, ft

-		
	units	Antenna System Two
	Value	8

Antenna System Three

Ant HBW degrees	Height of aperture	Miscellaneous Att.	Down tilt	Max Ant Gain	Antenna Model No.	roof surface)	(above ground or	Calculation Point	(Center of Radiator)	Max Pwr/Ch Into Ant.	Max ERP/Ch	# of Channels	Frequency	
	feet	dB	degrees	dBd				feet	feet	Watts	Watts	#	MHz	units
90.00	4.66	0.00	0.00	14.40	RR901702	0.00	0.00	0.00	155.50	9.08	250.00	16	1865.20	Value

Y/N?

153.17	feet	Distance to Antivation
90,00	degrees	Ant HBW
4.66	feet	Height of aperture
0.00	dB	Miscellaneous Att.
0.00	degrees	Down tilt
14.40	dBd	Max Ant Gain
RR901702		Antenna Model No.
0.00		roof surface)
0.00		(above ground or
0.00	feet	Calculation Point
155.50	feet	(Center of Radiator)
9.08	Watts	dax Pwr/Ch Into Ant.
250.00	Watts	Max ERP/Ch
16	12	# of Channels
1865.20	MHz	Frequency
Value	units	

Site ID: 907-007-306
Site Name: East Windsor SW
Site Locarbon: 232 S Main St.
East Windsor, CT 06085

Performed By: Nader Soliman **Date:** 5/3/02

Ant System ONE Owner: AT&T
Sector: 3
Azimuth: 0/120/240

Ant System TWO Owner: Sprint
Sector: 3
Azimuth 0/120/140

degrees
dB
feet
degrees
feet
Y/N?

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

Ant System Four Owner: Town
Sector: 1
Azimuth: 360

Ant System Five Owner: Nextel
Sector: 3
Azimuth: 0/120/240

Ant System SX Owner. Cingular Sector: 3 Azimuth: 0/120/240

Y/N?

WOS7 SOW	Distance to Antimition feet	Ant HBW degrees	Height of aperture feet	Miscellaneous Att. dB	Down tilt degrees	Max Ant Gain dBd	Antenna Model No.	roof surface)	(above ground or	Calculation Point feet	(Center of Radiator) feet	Max Pwr/Ch Into Ant. Watts	Max ERP/Ch Watts	# of Channels #	Frequency MHz	Oiiio
n	141.75	s 95.00	4.00	0.00	s 0.00	11.30	ALP9212	0.00	0.00	0.00	143.75	18.53	250.00	16	880.00	Adiuc

n	Y/N?	WOS?
169.25	feet	Distance to Ant <sub>bettern</sub>
110.00	degrees	Ant HBW
2.50	feet	Height of aperture
0.00	8	Miscellaneous Att.
0.00	degrees	Down tilt
13.60	dBd	Max Ant Gain
Algon 7120.16.05		Antenna Model No.
0.00		roof surface)
0.00		(above ground or
0.00	feet	Calculation Point
170.50	feet	(Center of Radiator)
10.91	Watts	Max Pwr/Ch Into Ant.

WOS?	Distance to Ant <sub>bettern</sub>	Ant HBW	Height of aperture	Miscellaneous Att.	Down tilt	Max Ant Gain	Antenna Model No.	roof surface)	(above ground or	Calculation Point	(Center of Radiator)	Max Pwr/Ch Into Ant.	Max ERP/Ch	# of Channels	Frequency	
Y/N?	feet	degrees	feet	æ	degrees	dBd				feet	feet	Watts	Watts	Ħ	MHz	200000000000000000000000000000000000000
n	169.25	110.00	2.50	0.00	0.00	13.60	Algon 7120.16.05	0.00	0.00	0.00	170.50	10.91	250.00	16	880.00	

	WOS7 Y/N7	Distance to Ant <sub>bettern</sub> feet	Ant HBW degrees	Height of aperture feet	Miscellaneous Att. dB	Down tilt degrees	Max Ant Gain dBd	Antenna Model No.	roof surface)	(above ground or	Calculation Point feet	(Center of Radiator) feet	Max Pwr/Ch Into Ant. Watts	Max ERP/Ch Watts	# of Channels #	Frequency MHz	units
880,000 16 250,000 10,91 170,50 0,000 0,000 0,000 0,000 113,60 113,60 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000 110,000	7					es		Algon 7120.16.05									s Value

			-
Frequency			Horizontal
MHz	units	Antenna System Five	Horizontal Distance from Antenna, ft
851.00	Value	a	nna, ft
		l	10000
			Г

Antenna System Six

Antenna System Seven

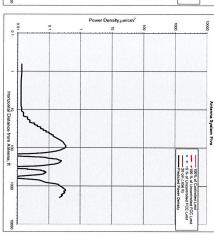
Horizontal Distance from Anienna, ft 1000

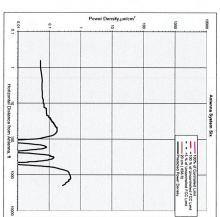
Antenna System Four

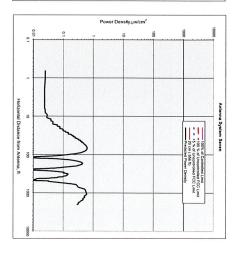
units MHz

Watts
Watts
feet

Watts
Watts
feet







#### 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 Rcd 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.