

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

September 6, 2002

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

RE: **EM-AT&T-086-020828** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 1334 Route 85, Montville, Connecticut.

Dear Attorney Fisher:

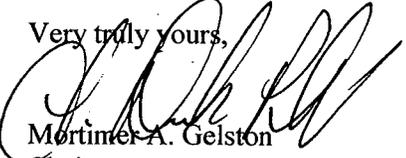
At a public meeting held on September 5, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice received in our office on August 28, 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.

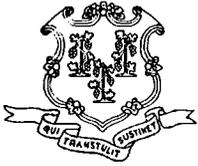
Thank you for your attention and cooperation.

Very truly yours,


Mortimer A. Gelston
Chairman

MAG/laf

c: Honorable Howard R. Beetham, Jr., Mayor, Town of Montville
Marcia Vlaun, Town Planner, Town of Montville
Maureen Woodstrom, Spectrasite Broadcast Group



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August 28, 2002

Honorable Howard R. Beetham, Jr.

Mayor

Town of Montville

Town Hall

310 Norwich New London Turnpike

Uncasville, CT 06382

RE: **EM-AT&T-086-020828** – AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 1334 Route 85, Montville, Connecticut.

Dear Mayor Beetham:

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 tentatively scheduled for September 5, 2002, 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,

D. Derek Phelps
Executive Director

SDP/slm

Enclosure: Notice of Intent

c: Marcia Vlaun, Town Planner, Town of Montville

RECEIVED

AUG 28 2002

CONNECTICUT
SITING COUNCIL

**NOTICE OF INTENT TO MODIFY AN
EXISTING TELECOMMUNICATIONS FACILITY AT
1334 ROUTE 85, MONTVILLE, 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 1334 Route 85, Montville, Connecticut (the "Route 85 Facility"), owned by SpectraSite Broadcast Group ("SpectraSite"). AT&T Wireless and SpectraSite have agreed to share the use of the Route 85 Facility, as detailed below.

The Route 85 Facility

The Route 85 Facility consists of two towers, one of which is an approximately one thousand eighty-nine (1089) foot guyed lattice tower (the "Tower"), and associated equipment currently being used for broadcasting and other communication purposes. The surrounding land use is predominantly undeveloped property.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by Natcomm, LLC, including a site plan and tower elevation of the Route 85 Facility, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets at grade needed to provide personal communications services ("PCS"). AT&T Wireless will install 6 panel antennas at approximately the 190 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 structural evaluation prepared by SpectraSite, 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 Route 85 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 WFI, annexed hereto as Exhibit B¹, 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

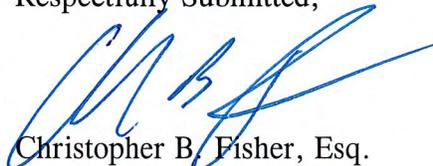
¹ Please note the Emissions Report incorrectly identifies the facility address as 1885 Route 85, the correct address is 1334 Route 85.

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. Indeed, actual measurements were taken at the Facility site to confirm compliance. 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

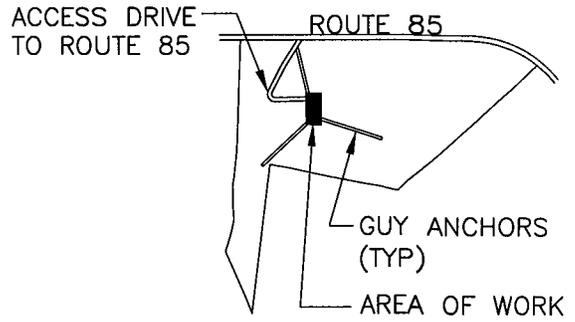
Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Route 85 Facility meets the Council's exemption criteria.

Respectfully Submitted,

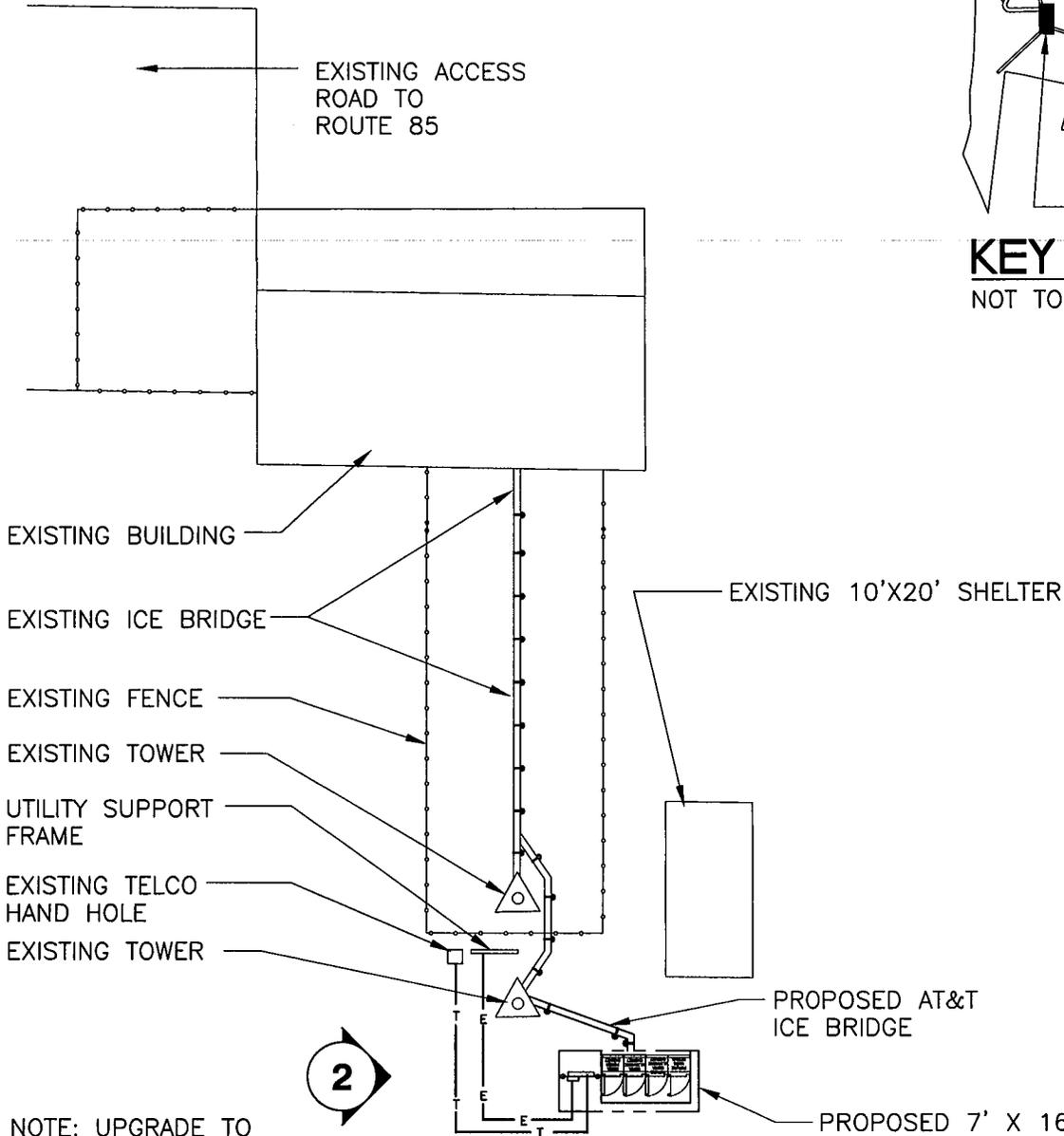


Christopher B. Fisher, Esq.
On behalf of AT&T Wireless

cc: Mayor, Town of Montville
RJ Wetzel, Bechtel



KEY PLAN
NOT TO SCALE



NOTE: UPGRADE TO ELECTRICAL REQUIRED TO COMPLY WITH LOCAL UTILITY POLICY.

2

1

COMPOUND PLAN

SCALE: 1" = 20'-0"

COORDINATES:
LATITUDE: 41°-25'-3.7"
LONGITUDE: 72°-11'-53.3"

"ISSUED FOR SITING COUNCIL"

02584-SC1.dwg 8-7-02 10:48:04 am CXT



Natcomm, LLC

63-2 North Branford Road
Branford, Connecticut 06405

Tel. (203) 488-0580
Fax (203) 488-8587

Consulting Engineers - Project Management
Civil - Structural - Mechanical - Electrical



AT&T

AT&T WIRELESS PCS LLC
12 OMEGA DRIVE
STAMFORD, CONNECTICUT 06907

DRAWING TITLE:

SITING COUNCIL

PROJECT INFORMATION:

MONTVILLE III
CT-737.2
ROUTE 85
MONTVILLE, CT

LESSOR:

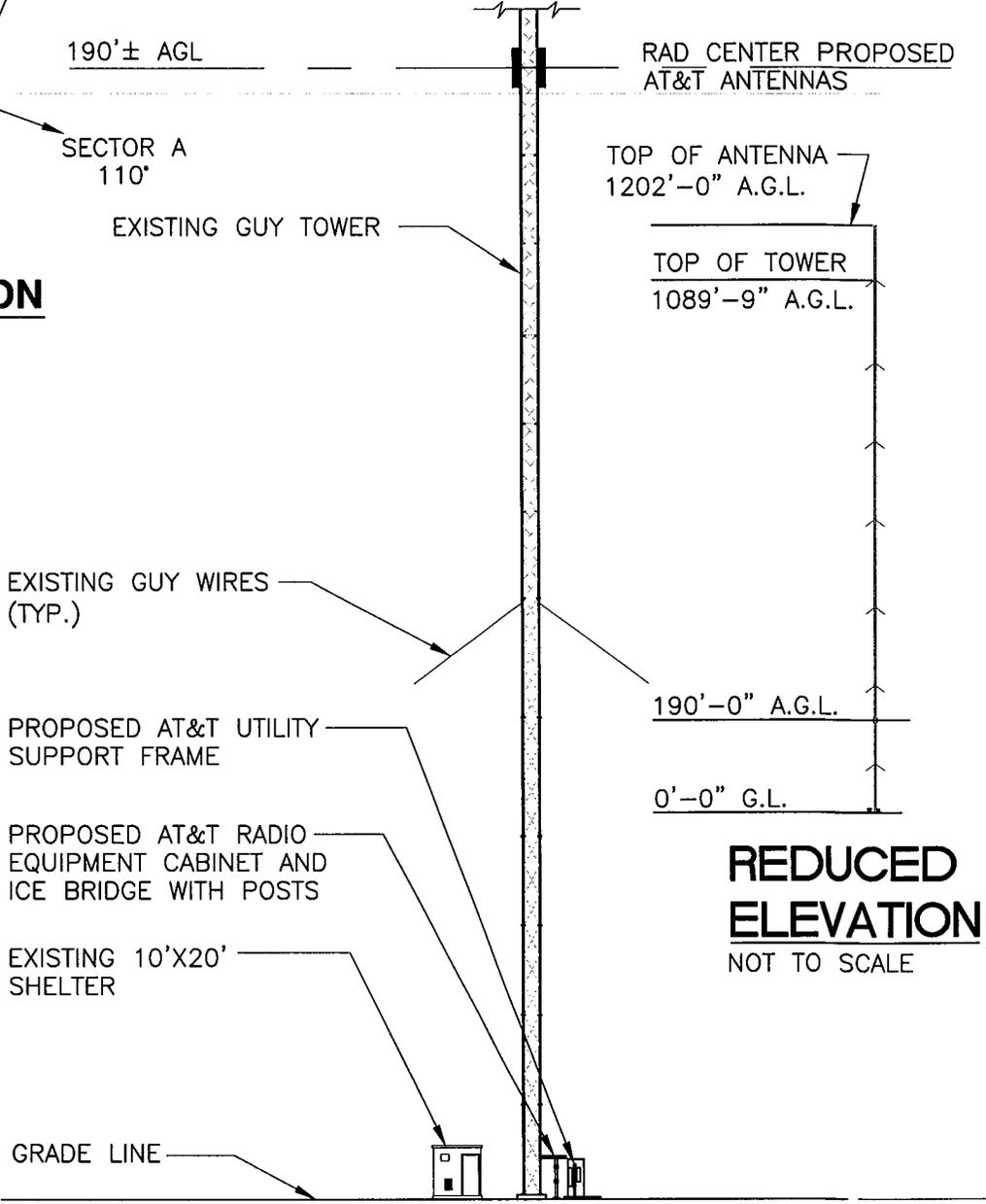
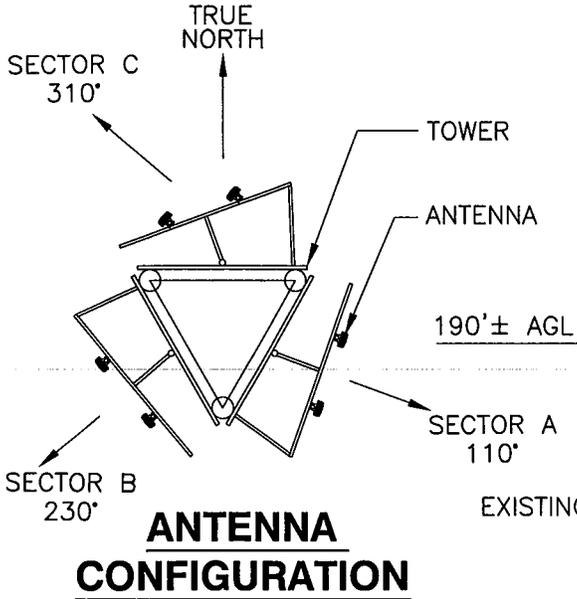
SPECTRASITE BROADCAST
5601 N.McARTHUR BLVD.
IRVING, TEXAS 75038

DRAWING NO.

907-009-737B-SC 1

REVISION NO. 0	DRAWN BY: P.A.M.
DATE ISSUED: 08/07/02	CHECKED BY: JJP
SCALE: AS NOTED	APPROVED BY: CFC
	SHEET NO. 1 OF 2
A/E PROJECT NO: 02584	

NOTE:
 STRUCTURAL ANALYSIS BY SPECTRASITE BROADCAST GROUP OF A 1089' GUYED TOWER MONTVILLE ROUTE 85, MONTVILLE, CT 06353 (CT-737) DATED JULY 24, 2002 BY JIANTAO YU, LICENSE NUMBER 22545.



2

TOWER ELEVATION
 SCALE: 1" = 30'-0"

"ISSUED FOR SITING COUNCIL"

Natcomm, LLC
 83-2 North Branford Road
 Branford, Connecticut 06405
 Tel. (203) 488-0580
 Fax (203) 488-8587
 Consulting Engineers - Project Management
 Civil - Structural - Mechanical - Electrical

AT&T
 AT&T WIRELESS PCS LLC
 12 OMEGA DRIVE
 STAMFORD, CONNECTICUT 06907

DRAWING TITLE:
 SITING COUNCIL

PROJECT INFORMATION:
 MONTVILLE III
 CT-737.2
 ROUTE 85
 MONTVILLE, CT

LESSOR:
 SPECTRASITE BROADCAST
 5601 N. MACARTHUR BLVD.
 IRVING, TEXAS 75038

DRAWING NO.
907-009-737B-SC 2

REVISION NO. 0	DRAWN BY: P.A.M.
DATE ISSUED: 08/07/02	CHECKED BY: JJP
SCALE: AS NOTED	APPROVED BY: CFC
SHEET NO. 2 OF 2	
A/E PROJECT NO:	02564

02564SC2.dwg 8-7-02



SpectraSite Broadcast Group

REPORT CT-0068-01

DATE: JULY 24, 2002

STRUCTURAL ANALYSIS
FOR A 1089.8' G-8 GUYED TOWER
1334 ROUTE 85, MONTVILLE, CT 06333

PREPARED BY: J.YU

APPROVED: REK

CHECKED BY: REK



Date	Pages	Remarks

Rev.	Date	Description
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Rev.	Date	Description
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A. AUTHORIZATION/PURPOSE

As authorized by Mr. Bob Kramm of SpectraSite Broadcast Group, a structural analysis was performed to investigate the adequacy of a 1089.8' G-8 guyed tower at Hartford, Connecticut to support specified equipment.

B. TOWER HISTORY

The tower was originally designed and furnished in 2000 by Central Tower, Inc. It was designed in accordance with EIA/TIA Standard 222-F for a wind speed rating of 90 mph with no ice and 78 mph with 1/2" radial ice while supporting the following equipment:

1. One (1) top mounted TFU 18 DSC-R antenna, fed with one (1) 6-1/8" rigid.
2. One (1) TFU-31JTT-R antenna top mounted on the top of TFU DSC-R, fed with one (1) DTW1500.
3. One (1) DB809 antenna at the 1001' level, fed with one (1) 7/8" line.
4. One (1) ASP705 antenna at the 1001' level, fed with one (1) 7/8" line.
5. One (1) 4' dish with ice shield at the 875' level, fed with one (1) EW63 waveguide.
6. Two (2) HMD24VO antennas at the 850' level, each fed with one (1) EW20 waveguide.
7. One (1) DB809 antenna at the 850' level, fed with one (1) 1-1/4" line.
8. One (1) ASP705 antenna at the 850' level, fed with one (1) 1-1/4" line.
9. Eighteen (18) whip antenna between 400' and 800' level, each fed with one (1) 1-5/8" line.
10. One (1) DB809 antenna at the 708' level, fed with one (1) 1-1/4" line.
11. One (1) SRL210 antenna at the 708' level, fed with one (1) 1/2" line.
12. Two (2) 8' dishes with ice shield at the 500' level, each fed with one (1) 1-5/8" line.
13. Two (2) 8' dishes with ice shield at the 350' level, each fed with one (1) 1-5/8" line.
14. One (1) 8' dish with ice shield at the 350' level, fed with one (1) EW63 waveguide.
15. Four (4) ASP950 antennas at the 270' level, each fed with one (1) 1-1/4" line.
16. Twelve (12) panel antennas at the 200' level, each fed with one (1) 1-5/8" line.

Rev.	Date	Description
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17. Twelve (12) panel antennas at the 150' level, each fed with one (1) 1-5/8" line.
18. Two (2) 8' dishes with ice shield at the 125' level, each fed with one (1) 1-5/8" line.
19. One (1) 2" conduit for lighting system for the full height of the tower.
20. One (1) climbing ladder with safety device for the full height of the tower.

C. CONDITIONS INVESTIGATED

The analysis was performed for the tower base on the Central Tower, Inc. Project No. GT-833, dated 9/29/2000; some photos and the tenant applications from AT & T and WVIT-TV.

Existing & Proposed Loading:

1. One (1) top mounted TFU 18 DSC-R antenna, fed with one (1) 6-1/8" rigid.
2. One (1) TFU-31JTT-R antenna top mounted on the top of TFU DSC-R, fed with one (1) DTW1500.
3. **One (1) MRC Ultrascan II at the 1000' level, fed with one (1) 7/8" line and one (1) 1" cable (Proposed).**
4. **Six (6) Allgon 7250.03 antennas at the 190' level, each fed with two (2) 1-5/8" lines (Proposed).**
5. One (1) 2" conduit for lighting system for the full height of the tower.
6. One (1) climbing ladder with safety device for the full height of the tower.

D. LOADS AND STRESSES

The analysis was performed using the basic design wind speed rating of 85 mph with no ice and 73.6 mph with 1/2" radial ice. This load was calculated and applied in accordance with the provisions of EIA/TIA Standard 222-F, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, dated March 1996.

Allowable unit stresses and minimum safety factors used to evaluate the adequacy of the structure were also in accordance with this EIA/TIA Standard.

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E. METHOD OF ANALYSIS

The analysis was performed using SBG Tower Version 2.0.0.14 analysis program (C-Concepts, Inc., 2002). SBG Tower is a general-purpose modeling, analysis and design program created specifically for communication towers. The program generates nodes and elements for a finite element analysis (FEA) and determines the pressure coefficients, wind pressures, ice loads and resulting forces on the tower for standard framing types including self-supporting towers, guyed towers and poles.

F. RESULTS

The results of the analysis show no overstresses in any tower component.

G. CONCLUSIONS AND RECOMMENDATIONS

Based on the preceding results, it is concluded that the tower with specified equipment is adequate to retain the basic design wind speed rating of 85 mph with no ice and 73.6 mph with 1/2" radial ice in accordance with EIA/TIA Standard 222-F.



Evaluation of Human Exposure to Radio Frequency Emissions

Prepared for
AT&T Wireless



City	<i>Montville, CT</i>
Site Name	<i>Montville III</i>
Site ID	<i>CT-737</i>
Structure Type	<i>Guyed Tower</i>
Report Date	<i>August 19, 2002</i>

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1 Introduction

The analysis of site CT-737 has been performed to determine its compliance with the rules and guidelines that were established by the Federal Communications Commission (FCC) regarding Maximum Permissible Exposure (MPE) to non-ionizing RF emissions. The evaluation of this site has been completed through the use of both predictive methods (using mathematical equations) and physical survey.

The equations and modeling tools used for any predictions or pre-calculations assume a worst case scenario in all instances and a 100% duty cycle for all the transmitters. Hence, actual exposure at this site is likely to be much less than predicted herein.

The physical survey was carried out using a Narda 8718 EME survey meter and a shaped E-field isotropic probe. This instrument has a shaped frequency response that has been calibrated to measure power density in percent of the FCC standard. The physical survey also verified antenna locations so as to enable any recommendations to ensure site compliance with the FCC rules.

Appendix I provides a brief description of the specifications of the survey meter.

An MPE and power density level modeling software was used for any proposed systems to predict power density levels in the vicinity of the site.

2 Site Description

Site CT-737 is a guyed tower with an overall height of 1202 feet above ground level (AGL). It has a broadcast antenna at the top, and another guyed tower beside it. AT&T will also install their GSM facility at this site. AT&T antenna height will be 190' AGL. This will be a 3-sector configuration with 1 antenna per sector. Figure 1 is a sketch of the tower and the proposed antenna location and orientation.

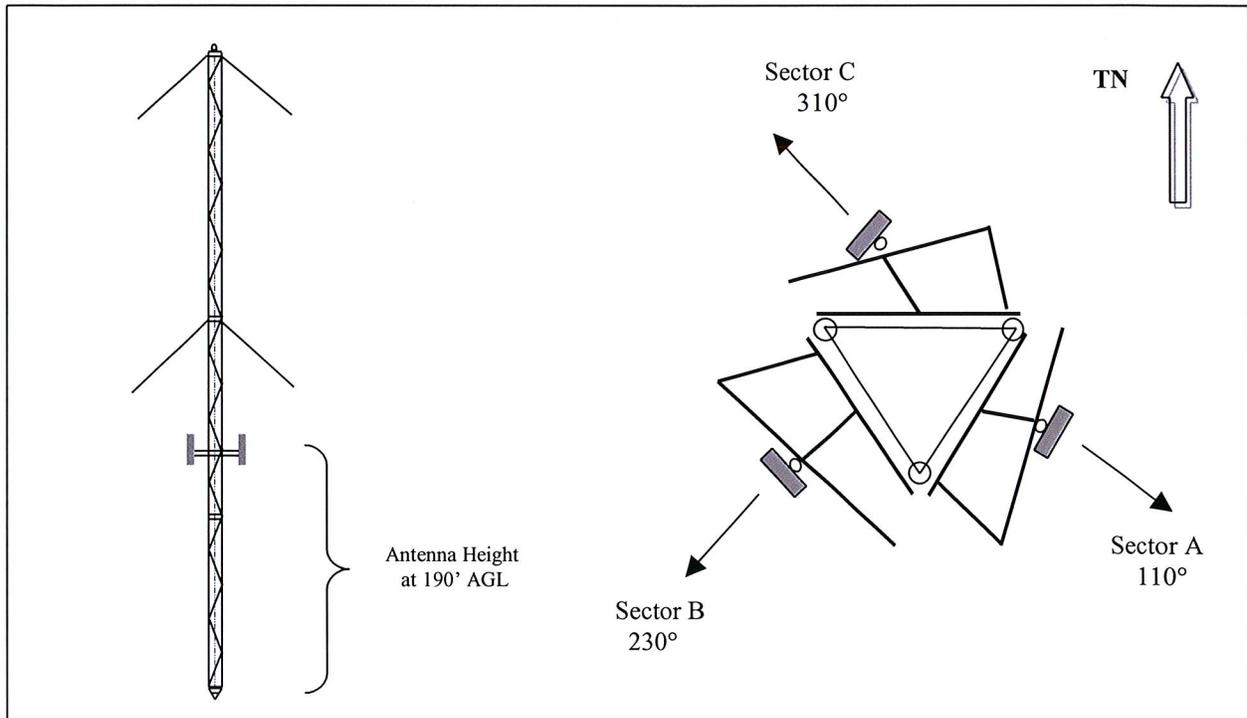


Figure 2-1. Sketch of the Tower, Proposed Antenna Location, and Orientation



Photo 2-1. View of Site CT-737 Looking East

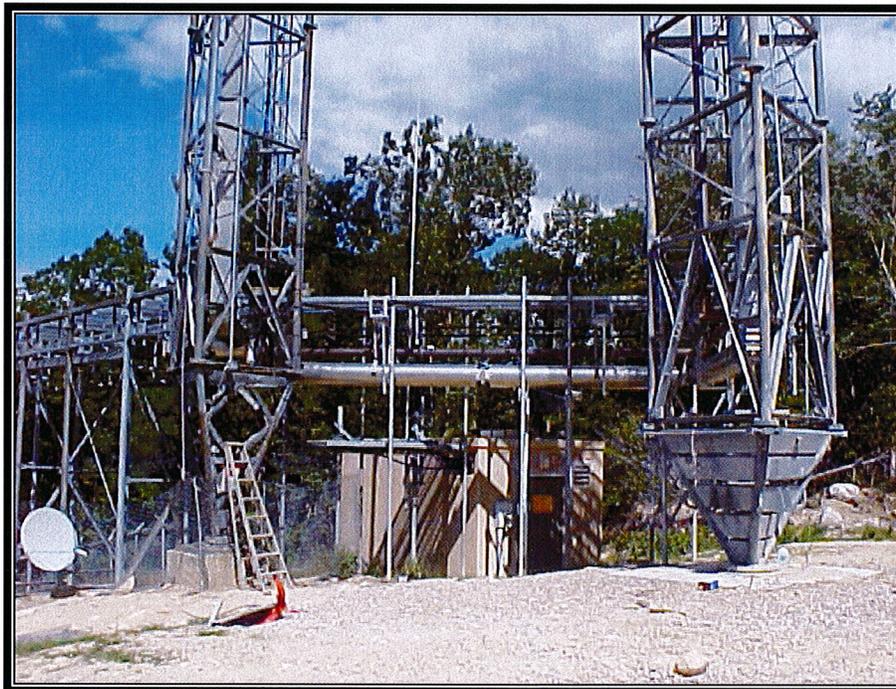


Photo 2-2. View of Tower Base & Existing Shelter



Photo 2-3. View of the Entire Site

3 Data Presentation

3.1 RF Study Objectives

The purpose of this study is to establish electromagnetic emissions compliance for this site with respect to the FCC regulations detailed in 47 U.S.C. Section 332(c)(7)(B)(iv) for both the controlled and uncontrolled environments. RF measurements were performed in a manner, which would consider the composite level of all operating systems that may be contributing to the RF environment in and around the site. A theoretical analysis was then done using the worst-case transmit parameters for the proposed system. The combined levels for both the RF measurements and the theoretical analysis were used to determine composite levels at each measured area.

3.2 Measurements and Results for Current Configuration

Table 3.2-1. Summary of Current Site Configuration

Site ID	CT-737
Site Name	Montville III
Latitude	41.41844
Longitude	72.19857
Address of Structure	1885 Route 85 Montville, CT
Type of Structure	Guyed Tower
Antenna Owner	N/A
Address of Antenna Owner	N/A
FCC Class and Type of Service	N/A
Azimuths (Deg.)	N/A
Elevation (AGL)	N/A
Antenna Configuration	N/A
Antenna Manufacturer	N/A
Antenna Type	N/A

Controlled environments are areas with limited access where there may be exposure by persons made aware of the potential risk as a consequence of employment or by other individuals made fully aware of the potential for exposure. Uncontrolled environments are locations where individuals are exposed who have no knowledge or control over their exposure. This may include members of the general population or workers who have not been made fully aware of the potential for exposure. The table that follows details the results of the on-site MPE measurements performed for both the controlled and uncontrolled environments at this facility.

On-site measurement data was recorded in areas in front of each of the proposed AT&T sector antennas and at other surrounding areas inside and outside of the fenced enclosure. For this analysis, the area inside the fenced enclosure is considered a controlled environment. All other areas were considered uncontrolled.

Figure 3.2-1 shows a sketch of the facility and indicates the measured areas.

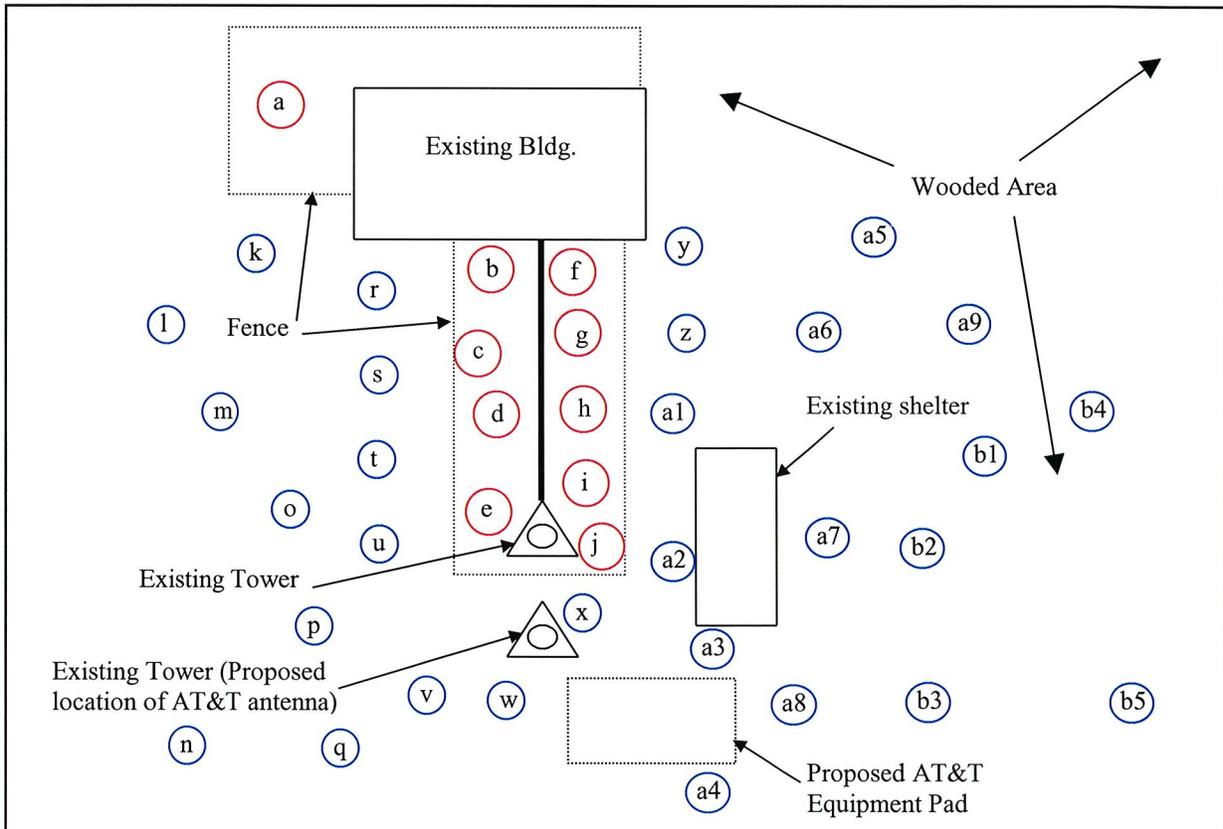


Figure 3.2-1. Sketch of the Facility Indicating Measurement Locations

The following table indicates the results of the on-site measurements taken at 6 feet above ground level. For all measured areas within the controlled environment, a maximum of 0.056% of the applicable MPE limit was recorded in region “e”, while a maximum of 0.485% of the MPE limit within the uncontrolled area was recorded in region “w”. These maximum levels were both recorded close to the towers.

Measured Area	MPE Limit Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard
<u>Controlled Area</u>		
a	Combined	0.010
b	Combined	0.011
c	Combined	0.037
d	Combined	0.021
e	Combined	0.056
f	Combined	0.001
g	Combined	0.010
h	Combined	0.018
i	Combined	0.037
j	Combined	0.027
Measured Area	MPE Limit Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard
<u>Uncontrolled Area</u>		
k	Combined	0.001
l	Combined	0.055
m	Combined	0.001
n	Combined	0.001
o	Combined	0.001
p	Combined	0.050
q	Combined	0.050
r	Combined	0.065
s	Combined	0.055
t	Combined	0.050
u	Combined	0.065
v	Combined	0.185
w	Combined	0.485
x	Combined	0.430
y	Combined	0.001
z	Combined	0.050

Measured Area	MPE Limit Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard
<u>Uncontrolled Area</u>		
a1	Combined	0.001
a2	Combined	0.055
a3	Combined	0.085
a4	Combined	0.055
a5	Combined	0.055
a6	Combined	0.001
a7	Combined	0.055
a8	Combined	0.090
a9	Combined	0.001
b1	Combined	0.001
b2	Combined	0.050
b3	Combined	0.001
b4	Combined	0.050
b5	Combined	0.050

3.3 Analysis and Results for Future Configuration

Table 3.3-1. Summary of Future Site Configuration

Site ID	CT-737
Site Name	Montville III
Latitude	41.41844
Longitude	72.19857
Address of Structure	1885 Route 85 Montville, CT
Type of Structure	Guyed Tower
Antenna Owner	AT&T Wireless
Address of Antenna Owner	15 E. Midland Ave. Paramus, NJ 07652
FCC Class and Type of Service	PCS GSM
Azimuths (Deg.)	110, 230, 310
Elevation (AGL)	190 ft.
Antenna Configuration	3 Sector - 1 Antenna per Sector
Antenna Manufacturer	Allgon
Antenna Type	Panel

Table 3.3-2. Summary of Proposed Antenna Parameters

Ant ID	Operator	Antenna Type or Model	Height Above Ground Level (Feet)	Azimuth (Degrees)	Number of Channels	Worst Case ERP per Sector Used for this Analysis (Watts)
1	PCS GSM (AT&T)	Allgon 7250.03	190	110	12	3000
2	PCS GSM (AT&T)	Allgon 7250.03	190	230	12	3000
3	PCS GSM (AT&T)	Allgon 7250.03	190	310	12	3000

For the future PCS GSM system, a worst case scenario with 12 channels at 250 Watts per channel (3000 Watts per sector) was used for the analysis. These values were chosen to be conservative and consider a higher ERP than will likely be used.

3.3.1 Ground Level Analysis – Controlled Environment

A controlled environment is defined as an area where the general public has no access and only authorized personnel like RF engineers or technicians would be. Since the fenced enclosure around the tower structure is locked and contained, it serves as a controlled environment. Therefore, only authorized personnel who are aware of the transmitters present inside the perimeter fence should be allowed access.

Figure 3.3.1-1 is a graphical representation of the site. It illustrates predicted levels (blue shade) for the proposed GSM system within the controlled area of the site. The blue shade indicates 0 – 5% of the FCC MPE limit for occupational/controlled environment exposures.

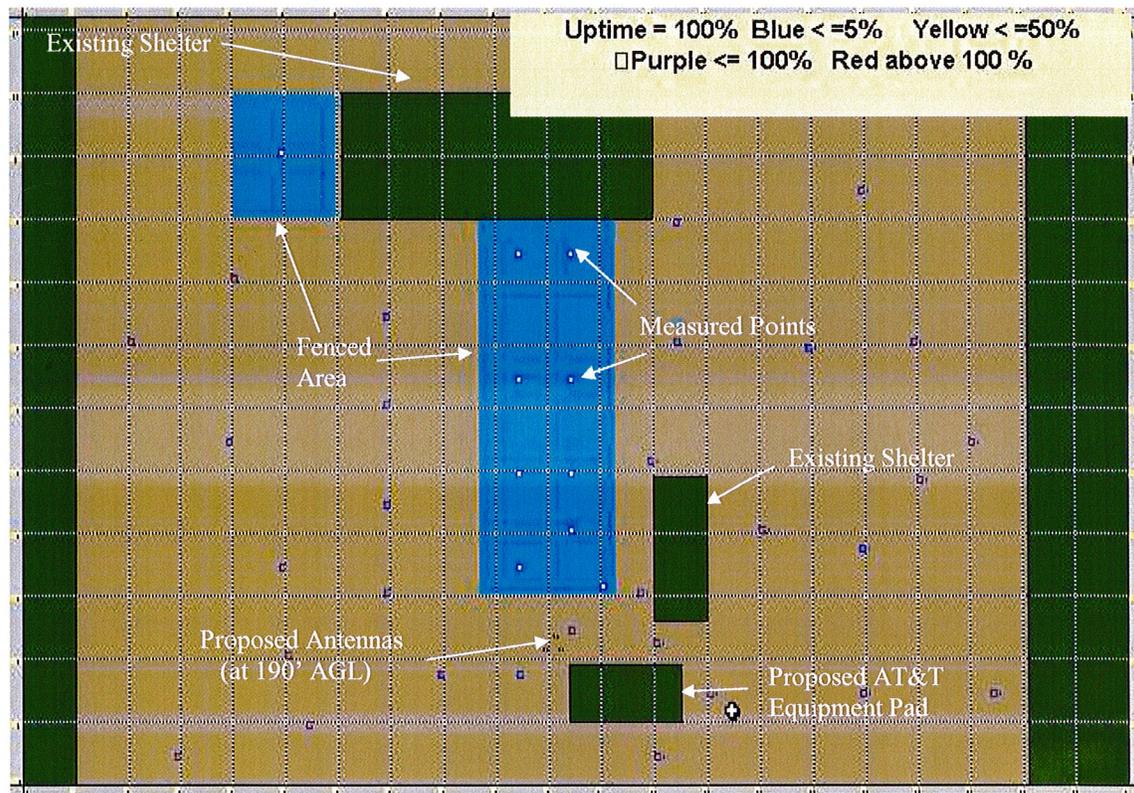


Figure 3.3.1-1. Roofview Plot Showing Predicted Power Density Levels

The following table illustrates the combination of the actual measurements taken at various points and the theoretical analysis for the future configuration using PCS-GSM. At all points, the worst case predicted level was combined with the measured levels to determine a composite value. For the proposed GSM system, a maximum of 12 channels at 250 Watts per channel was used.

Measured Area	Actual Measurements (Composite of All Existing Carriers)		Theoretical Analysis (Using Proposed PCS-GSM System Only)			Total % of the Standard (Composite)
	MPE Limit for Controlled Environment Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard	Predicted Value ($\mu\text{W}/\text{cm}^2$)	MPE Limit for PCS Band Controlled Environment Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard	
a	Combined	0.010	0.045	5000	0.0009	0.0109
b	Combined	0.011	0.04	5000	0.0008	0.0118
c	Combined	0.037	0.09	5000	0.0018	0.0388
d	Combined	0.021	0.26	5000	0.0052	0.0262
e	Combined	0.056	2.08	5000	0.0416	0.0976
f	Combined	0.001	0.025	5000	0.0005	0.0015
g	Combined	0.010	0.05	5000	0.0010	0.011
h	Combined	0.018	0.36	5000	0.0072	0.0252
i	Combined	0.037	0.205	5000	0.0041	0.0411
j	Combined	0.027	0.265	5000	0.0053	0.0323

Using the above predicted results and combining them with the measured levels within the controlled environment, the resulting worst-case composite level is just 0.0976% of the FCC MPE limit for controlled environments.

3.3.2 Ground Level Analysis – Uncontrolled Environment

An uncontrolled environment is defined as an area where the general public has unrestricted access. All of the surrounding area around the fenced enclosure serves as an uncontrolled environment.

Figure 3.3.2-1 is a graphical representation of the site. It illustrates the predicted levels (blue shade) within the uncontrolled area of the site. The blue shade indicates 0 – 5% of the FCC MPE limit for general population exposures.

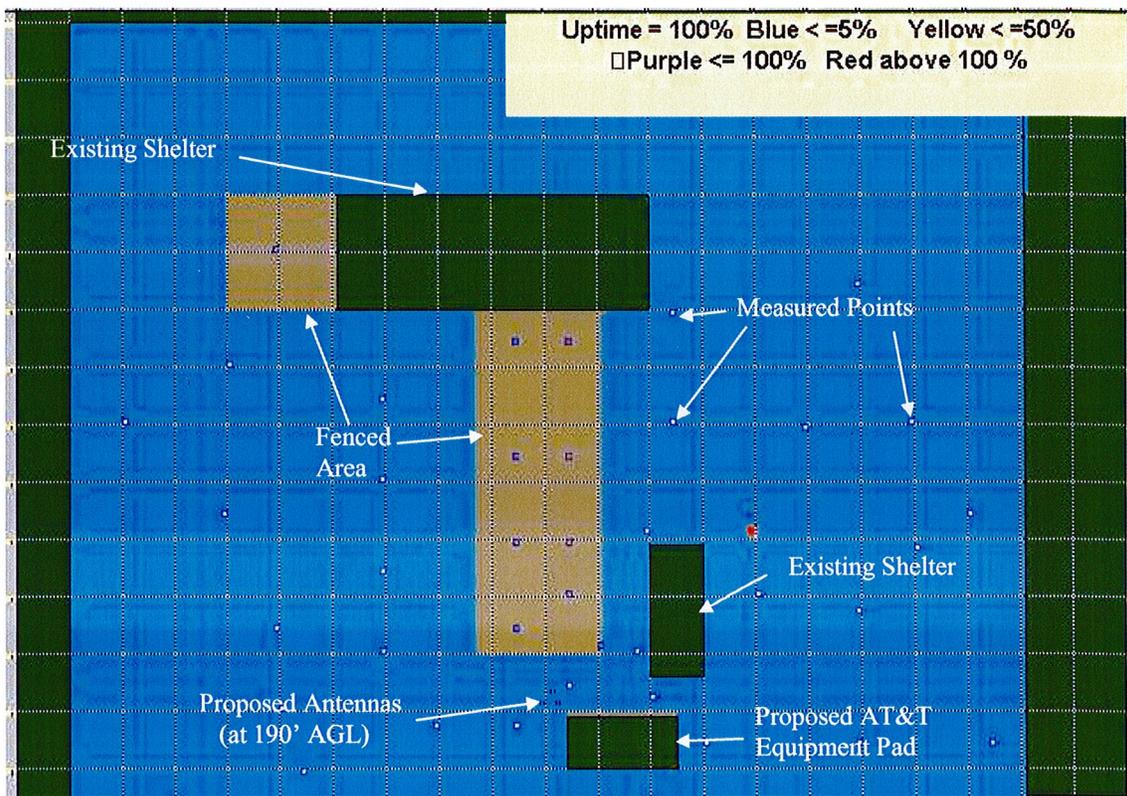


Figure 3.3.2-1. Roofview Plot Showing Predicted Power Density Levels

The following table illustrates the combination of the actual measurements taken at various points and the predictive analysis for the future configuration using PCS-GSM. At all points, the worst case predicted level was combined with the measured levels to determine a composite value. For the proposed GSM system, a maximum of 12 channels at 250 Watts per channel was used.

Measured Point	Actual Measurements (Composite of All Existing Carriers)		Theoretical Analysis (Using Proposed PCS-GSM System Only)			Total % of the Standard (Composite)
	MPE Limit for Uncontrolled Environment Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard	Predicted Value ($\mu\text{W}/\text{cm}^2$)	MPE Limit for PCS Band Uncontrolled Environment Set by FCC ($\mu\text{W}/\text{cm}^2$)	% of the Standard	
k	Combined	0.001	0.064	1000	0.0064	0.0074
l	Combined	0.055	0.050	1000	0.0050	0.06
m	Combined	0.001	0.090	1000	0.0090	0.01
n	Combined	0.001	0.068	1000	0.0068	0.0078
o	Combined	0.001	0.123	1000	0.0123	0.0133
p	Combined	0.050	0.130	1000	0.0130	0.063
q	Combined	0.050	0.167	1000	0.0167	0.0667
r	Combined	0.065	0.097	1000	0.0097	0.0747
s	Combined	0.055	0.179	1000	0.0179	0.0729
t	Combined	0.050	0.314	1000	0.0314	0.0814
u	Combined	0.065	0.333	1000	0.0333	0.0983
v	Combined	0.185	0.828	1000	0.0828	0.2678
w	Combined	0.485	9.824	1000	0.9824	1.4674
x	Combined	0.430	1.521	1000	0.1521	0.5821
y	Combined	0.001	0.010	1000	0.0010	0.002
z	Combined	0.050	0.014	1000	0.0014	0.0514
a1	Combined	0.001	0.031	1000	0.0031	0.0041
a2	Combined	0.055	0.332	1000	0.0332	0.0882
a3	Combined	0.085	0.798	1000	0.0798	0.1648
a4	Combined	0.055	0.483	1000	0.0483	0.1033
a5	Combined	0.055	0.005	1000	0.0005	0.0555
a6	Combined	0.001	0.012	1000	0.0012	0.0022
a7	Combined	0.055	0.067	1000	0.0067	0.0617
a8	Combined	0.090	0.469	1000	0.0469	0.1369
a9	Combined	0.001	0.012	1000	0.0012	0.0022
b1	Combined	0.001	0.028	1000	0.0028	0.0038
b2	Combined	0.050	0.053	1000	0.0053	0.0553
b3	Combined	0.001	0.112	1000	0.0112	0.0122
b4	Combined	0.050	0.020	1000	0.0020	0.052
b5	Combined	0.050	0.054	1000	0.0054	0.0554



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Using the above-predicted results and combining them with the measured levels within the uncontrolled environment, the resulting worst-case composite level is just 1.4674% of the FCC MPE limit for uncontrolled environments.

4 Summary / Recommendations

Based on a combination of on-site RF measurements and theoretical analysis for the proposed GSM system, the following maximum power density levels were calculated.

<u>Controlled Environment</u>	<u>% of Controlled MPE Limit</u>
Current Configuration -	0.056%
Future Configuration - With Addition of Proposed GSM System	0.0976%
<u>Uncontrolled Environment</u>	<u>% of Uncontrolled MPE Limit</u>
Current Configuration -	0.485%
Future Configuration - With Addition of Proposed GSM System	1.4674%

As indicated by the results shown here, all calculated power density levels fall well below their respective FCC MPE limits for all ground level exposures. In fact, all calculated levels fall below both the controlled and the more conservative uncontrolled environment MPE levels. The addition of the proposed GSM system using the worst case transmit parameters noted in this report shows only a relatively small increase with respect to the MPE limits.

The results presented here are based on ground level analysis only. We would recommend that transmit power be reduced or exposure time be limited when working on or directly around the antennas.

Appendix I

The Measurement Equipment

The field survey meter that was used to perform the field tests was the model 8718 field strength meter and the B8742D field intensity probe, both from Narda Microwave. The meter has a dynamic range of 30 dB and is capable of calculating percentage with respect to the FCC MPE limits. It is portable and has time as well as spatial averaging capabilities. It can also log data for future download and analysis.

The probe is an E-field isotropic shaped probe and is capable of detecting signals in the range 300 kHz to 3 GHz. The calibrated unit (meter and probe) displays the readout in percent of the FCC occupational/controlled MPE limit. The probe is capable of measuring values in the range .6% to 600% of the standard. The shaped response of the probe allows field measurements to be conducted quickly and accurately.