LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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WRITER'S DIRECT DIAL:
(860) 293-3744

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January 30, 2001

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

Re: Request by VoiceStream Wireless Corp. for an Order to Approve the Shared Use of a Tower Facility
Rt. 71 and Orchard Road, Berlin, Connecticut

Dear Chairman Gelston and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents VoiceStream Wireless Corporation ("VoiceStream") in the above-referenced matter. Pursuant to Connecticut General Statutes §16-50aa, VoiceStream hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use by the applicant of an existing tower located at Rt. 71 and Orchard Road in Berlin, Connecticut. VoiceStream proposes to install antennas on the existing tower, and the equipment associated with this facility would be located near the base of the tower within the existing compound (see "Exhibit A"). VoiceStream requests that the Council find that the proposed shared use of the tower satisfies the criteria stated in §16-50aa and issue an order approving the proposed use.

Background

In February 2000, VoiceStream acquired from Omnipoint Communications, Inc. the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of Connecticut. VoiceStream is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation.

The tower at Rt. 71 and Orchard Road in Berlin is a 123-foot Sprint Sites USA monopole tower. The coordinates for the site are **41°-35'-23" N** and **72°-48'-20" W**. The tower currently holds Sprint PCS antennas with centerlines at 123 feet above ground level ("AGL") and the Council has already approved Nextel's antennas in a previous tower sharing application. VoiceStream and the owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and the owner has

authorized VoiceStream to act on its behalf to apply for all necessary local, state and federal permits, approvals and authorizations which may be required for the proposed shared use of this facility.

VoiceStream proposes to install an antenna cluster comprised of three sectors, with 4 antennas per sector. The model numbers for each sector are as follows: EMS-RR65-1900DP, EMS RR90-17-02DP and EMS-RR33-20-00DP. The proposed antennas have centerlines at the 105-foot elevation. The radio transmission equipment associated with these antennas, a Nortel S8000 cabinet, would be located near the base of the tower on an existing concrete pad. Exhibit B contains specifications for the proposed antennas and equipment cabinet.

C.G.S. §16-50aa (c) (1) provides in pertinent part that upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." The shared use of the tower satisfies those criteria as follows:

A. **Technical Feasibility** - The existing tower was designed to accommodate multiple carriers, and VoiceStream is the second carrier to propose co-location. A structural analysis of the tower with the proposed VoiceStream installation has been performed and is attached as Exhibit C. The proposed shared use of this tower therefore is technically feasible.

B. **Legal Feasibility** Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the proposed shared use of an existing tower facility such as the facility on Rt. 71 and Orchard Road in Berlin. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. § 16-50x(a) vests exclusive jurisdiction over these facilities in the Council, which shall "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing towers facilities. Under this statutory authority vested in the Council, an order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installations.

C. **Environmental Feasibility** The proposed shared use would have a minimal environmental effects, if any, for the following reasons:

1. The proposed installations (i.e., three sectors with 4 antennas per sector) would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing site. In particular, the proposed installations would not increase the height of the existing tower, and would not extend the boundaries of the existing compound area.

2. The proposed installations would not increase the noise levels at the existing facility by six decibels or more.

3. Operation of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the American National Standards Institute ("ANSI"). The "worst-case" exposure calculated for operation of this facility (i.e., calculated at the base of the tower, which represents the closest publicly accessible point within the broadcast field

of the antennas), with the Sprint and VoiceStream antennas, would be 27.34 % of the ANSI standard. These calculations are attached as Exhibit D.

4. The proposed installations would not require any water or sanitary facilities, or generate air emissions or discharges to water or sanitary facilities, or generate air emissions or discharges to water bodies. After construction is complete (approximately two weeks), the propose installations would not generate any traffic other than periodic maintenance visits.

The proposed use of this facility would therefore have a minimal environmental effect, if any, and is environmentally feasible.

D. **Economic Feasibility** As previously mentioned, SBA, Inc. and VoiceStream have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties. The proposed tower sharing is therefore economically feasible.

E. **Public Safety Concerns** As stated above, the existing tower is structurally capable of supporting the proposed VoiceStream antennas. The tower stands on a compound accessible from an existing access drive off Dickinson Road. VoiceStream is not aware of any other public safety concerns relative to the proposed sharing of the existing tower. In fact, the provision of new or improved phone service through shared use of the existing tower will enhance the safety and welfare of area residents.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at Rt. 71 and Orchard Road in Berlin, Connecticut satisfies the criteria stated in C.G.S. §16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of towers in Connecticut. VoiceStream therefore respectfully requests that the Council issue an order approving the proposed shared use of this tower.

Thank you for your consideration of this matter.

Respectfully submitted,

VOICESTREAM WIRELESS CORPORATION

By: _____
Its Counsel
Stephen J. Humes
Diane W. Whitney

Attachments

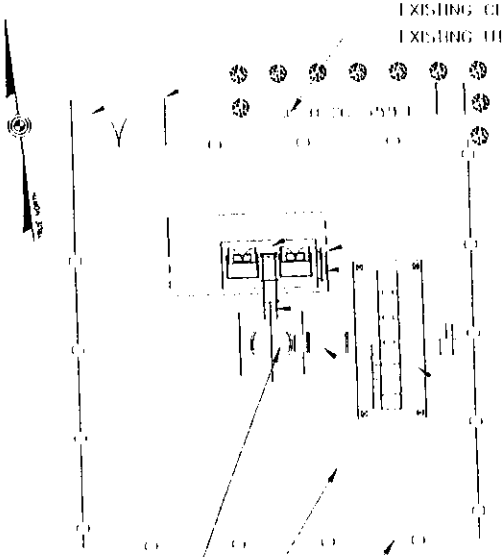
cc: Bonnie L. Therrien, Town Manager, Town of Berlin

Exhibit A

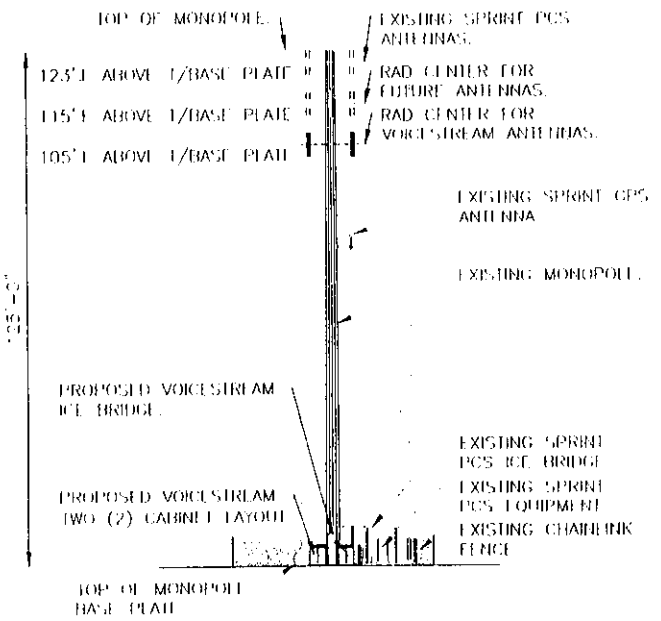
Design Drawings
Route 71 and Orchard Road
Berlin, CT

LEASE EXHIBIT

THE LEASE PLAN IS DIAGRAMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION EQUIPMENT AND ANTENNA MOUNTS WITHIN THE EXISTING COMPOUND. ACTUAL LOCATION OF LEASE AREA WILL BE FINALIZED UPON COMPLETION OF DESIGN.



2 / L-1 PARTIAL SITE PLAN
NOT TO SCALE



1 / L-1 TOWER ELEVATION
NOT TO SCALE

REVISIONS

01	11/08/00	LEASE EXHIBIT
02		
03		
04		
05		

VoiceStream WIRELESS

NATCOMM

Natcomm, L.L.C.

CT11-6048
BERLIN

ROUTE 71, ORCHARD ROAD
BERLIN, CONNECTICUT 06037

PROJECT NO	274A
DRAWN BY:	JBA
CHECKED BY:	JJP
SCALE:	AS NOTED
DATE:	11/08/00

LEASE EXHIBIT

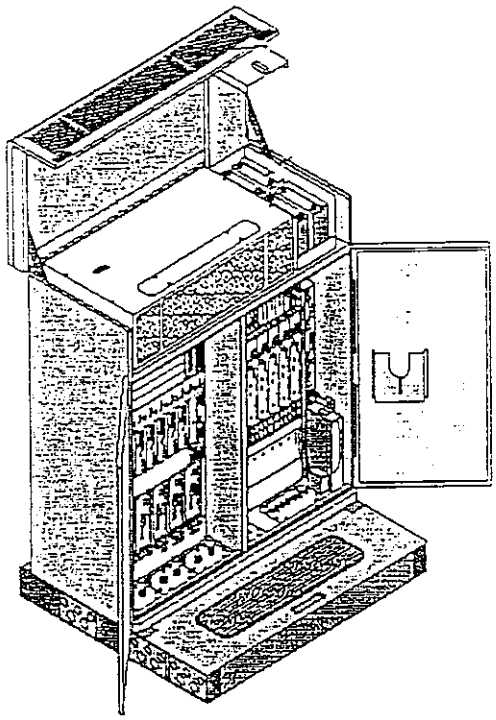
L-1
DWG 1 OF 1

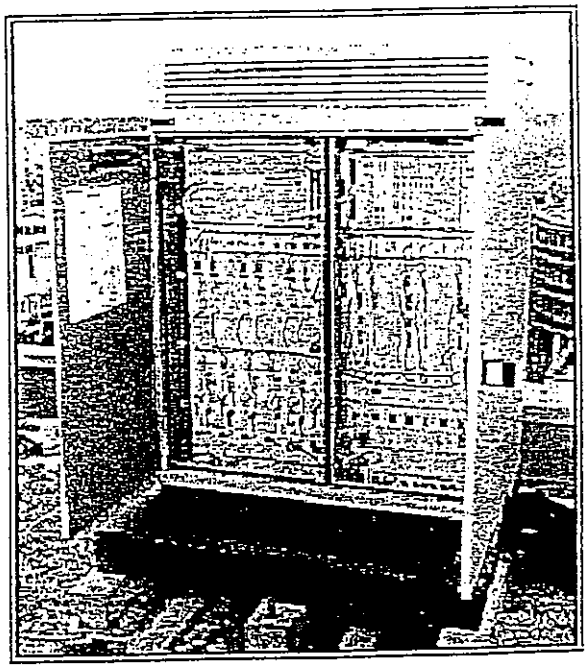
Exhibit B

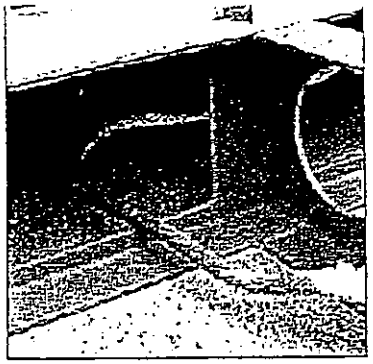
Equipment Specifications
Route 71 and Orchard Road
Berlin, CT

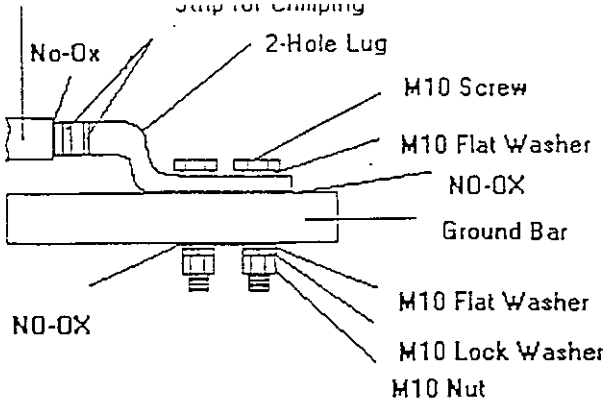
NORTEL NETWORKS™

S8000 BTS
Site Specifications









Apply a light coating of No Oxidation (NO-OX) to the ground bar area.

Dimensions. Weights & Clearances

BTS

Weight: 915 pounds
Dimensions: 53.2"W x 26"D x 63"H

Clearances while transporting in building:

Door Access:

Height: 6.6 feet
Width 3 feet

Corridor Access:

Height: 6.6 feet
Width: 3.6 feet (straight), 6.6 feet (right angle)

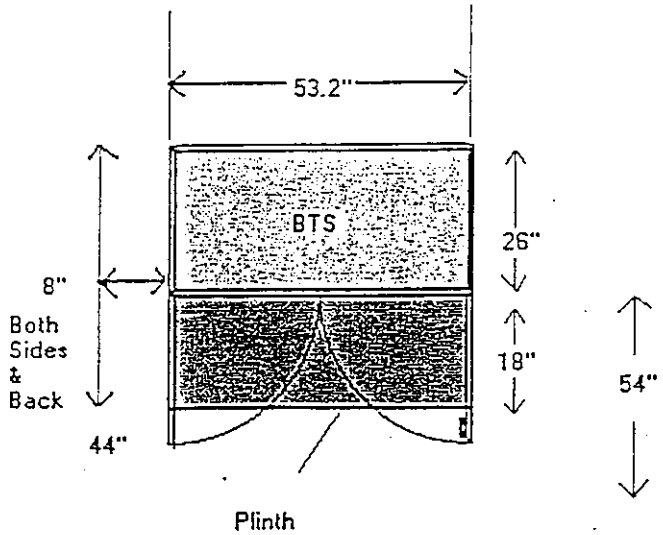
Clearances when installed:

Above: 28 inches for opening of hood
Rear: 8 inches for installation of outer skin
Sides: 8 inches for adjustment of door hinges
Front: 54 inches to open door and technician access

Plinth

Weight:
87 pounds

Dimensions:
53.2"W x 44"D x 10.2"H



Plinth

Floor Characteristics

Minimum Floor Resistance:
123 pounds/foot^2

Flatness:
¼ inch over 78 inches

Electrical Specifications

Split Single-Phase

3 wires plus ground

L1: Black 6 gauge

L2: Red 6 gauge

Neutral: White 6 gauge

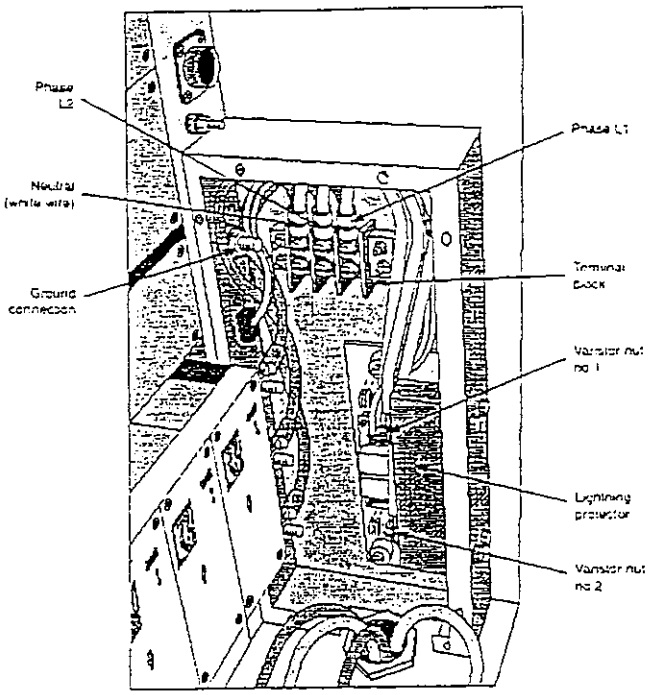
Ground: Yellow/Green 6 gauge

Maximum distance between AC box and BTS: 105 feet

187 ~ 254 VAC between L1 and L2

99 ~ 127 VAC between Neutral and L1 or L2

45 ~ 65 Hertz



AC connection to BTS located at the front, lower, right-hand side of BTS

Circuit Breaker in AC Box

Up to 4 transmitters

30 A, bipolar, C curve

5 or more transmitters

40A, bipolar, C curve

BTS to Ground connection

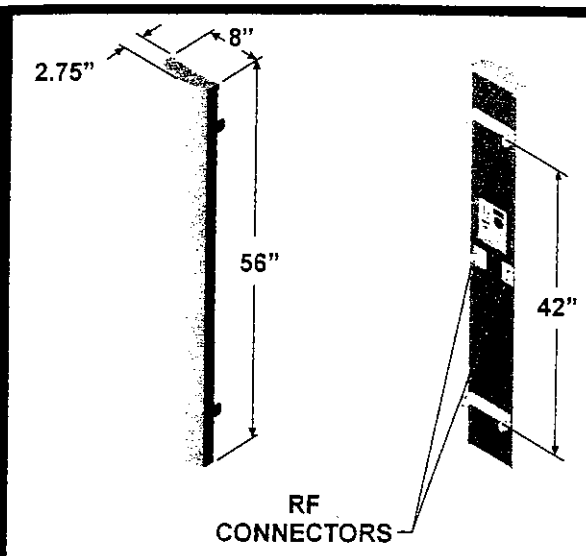
Minimum 2 AWG, run in most direct route as possible towards true earth, minimizing bends. No bend shall be less than 90 degrees.

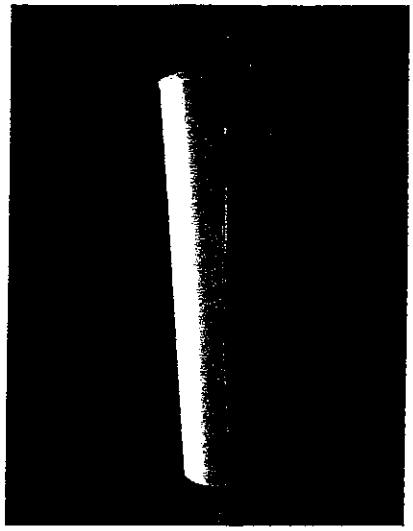
EMS WIRELESS

OptiRange™

RR90-17-XXXP

1850 MHz - 1990 MHz (P)





- 90° beamwidth
- 16.5 dBi gain
- ±45° DualPol™
- 56 inch

SPECIFICATIONS

Electrical

Azimuth Beamwidth	90°
Elevation Beamwidth	6°
Gain	16.5 dBi (14.4 dBd)
Polarization	Slant. ±45°
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2:Type N or 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	<-147 dBc (2 tone @ +43 dBm (20W) ea.)
Lightning Protection	Chassis Ground

Mechanical

Dimensions (L x W x D)	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft² (.29 m²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Weight	18 lbs (8.2 kg)

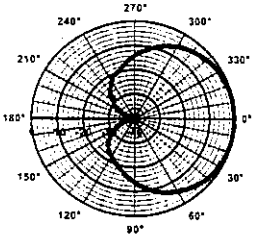
Note: Patent Pending and US Patent number 5, 757, 246.

Values and patterns are representative and variations may occur. Specifications may change without notice due to continuous product enhancements. Digitized pattern data is availabie from the factory or via the web site www.emswireless.com and reflect all updates.

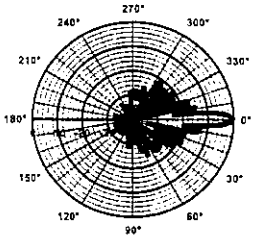
MOUNTING OPTIONS

Model Number	Description	Comments
MTG-P00-10	Standard Mount (Supplied with antenna)	Mounts to Wall or 1.5 inch to 5.0 inch O.D. Pole (3.8 cm to 12.7 cm)
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart , 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

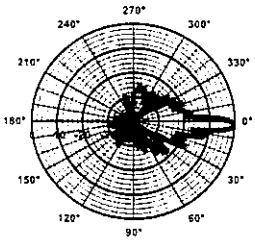
* Model number shown represents a series of products. See mounting options section for specific model number.



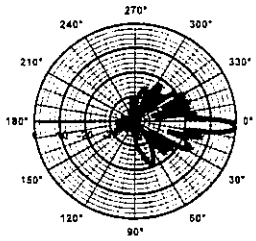
Azimuth



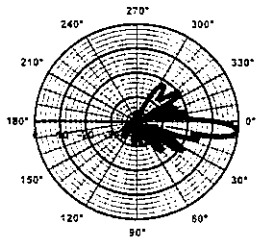
Elevation
0° Downtilt



Elevation
2° Downtilt



Elevation
4° Downtilt



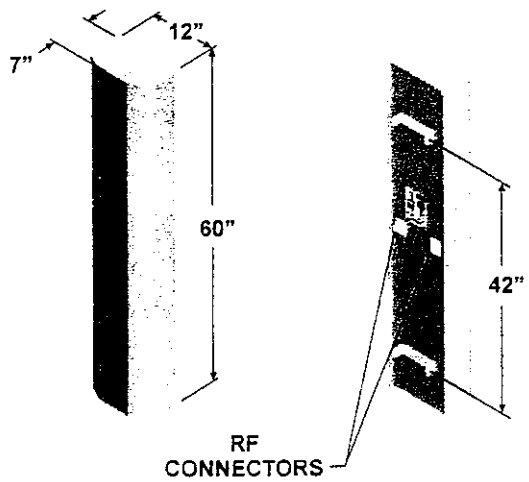
Elevation
6° Downtilt

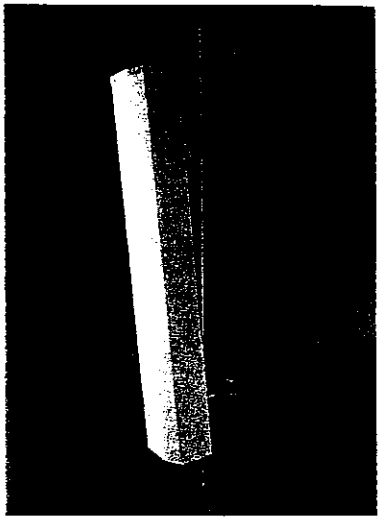
EMS WIRELESS

OptiRange™

RR33-20-XXXP

1850 MHz - 1990 MHz (P)





33° beamwidth

19.7 dBi gain

DualPol™

60 inch

SPECIFICATIONS

Electrical

Azimuth Beamwidth	33°
Elevation Beamwidth	6°
Gain	19.7 dBi (17.6 dBd)
Polarization	Slant. ± 45°
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°, 2°
VSWR	1.35:1 Max
Connectors	2:Type N or 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	<-147 dBc (2 tone @ +43 dBm (20W) ea.)
Lightning Protection	Chassis Ground

Mechanical

Dimensions (L x W x D)	60in x 12in x 7in (152.4 cm x 30.5 cm x 17.8 cm)
Rated Wind Velocity	130 mph (209 km/hr)
Equivalent Flat Plate Area	5ft² (.46 m²)
Front Wind Load @ 100 mph (161 kph)	144 lbs (640 N)
Side Wind Load @ 100 mph (161 kph)	80 lbs (356 N)
Weight	27 lbs (12.3 kg)

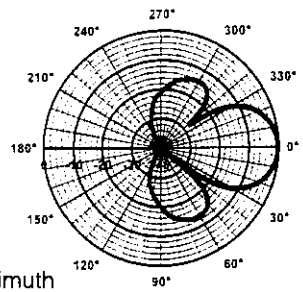
Note: Patent Pending and US Patent number 6, 757, 246.

Values and patterns are representative and variations may occur. Specifications may change without notice due to continuous product enhancements. Digitized pattern data is available from the factory or via the web site www.emswireless.com and reflect all updates.

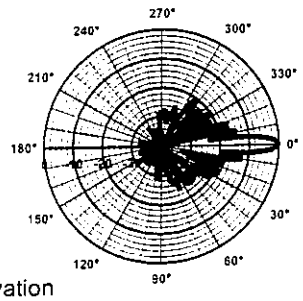
MOUNTING OPTIONS

Model Number	Description	Comments
MTG-P00-10	Standard Mount (Supplied with antenna)	Mounts to Wall or 1.5 inch to 5.0 inch O.D. Pole (3.8 cm to 12.7 cm)
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart, 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

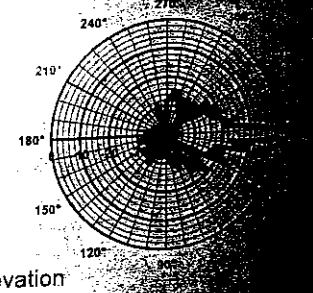
* Model number shown represents a series of products. See mounting options section for specific model number.



Azimuth



Elevation
0° Downtilt



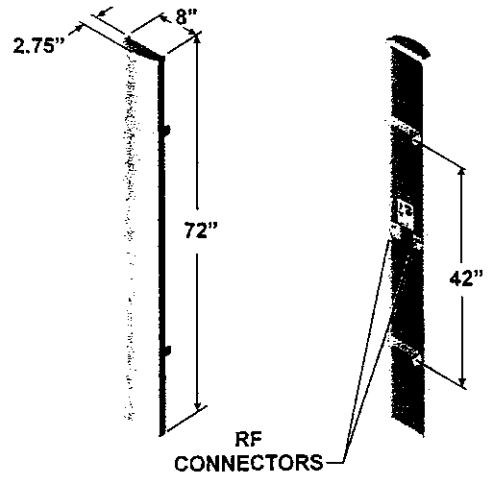
Elevation
2° Downtilt

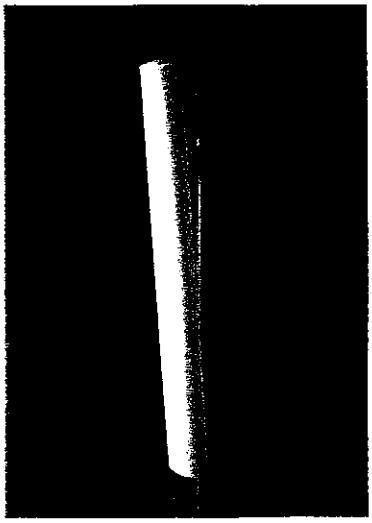
EMS WIRELESS

OptiRange™

RR65-19-00XP

1850 MHz - 1990 MHz (P)





65° beamwidth

19.0 dBi gain

±45° DualPol™

72 inch

SPECIFICATIONS

Electrical

Azimuth Beamwidth	65°
Elevation Beamwidth	4.5°
Gain	19.0 dBi (16.9 dBd)
Polarization	Slant, ± 45°
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°
VSWR	1.35:1 Max
Connectors	2;Type N or 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	<-147 dBc (2 tone @ +43 dBm (20W) ea.)
Lightning Protection	Chassis Ground

Mechanical

Dimensions (L x W x D)	72in x 8in x 2.75in (183 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	4ft² (0.37 m²)
Front Wind Load @ 100 mph (161 kph)	115 lbs (512 N)
Side Wind Load @ 100 mph (161 kph)	40 lbs (176 N)
Weight	23 lbs (10.4 kg)

Note: Patent Pending and US Patent number 5, 757, 246.

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Model Number	Description	Comments
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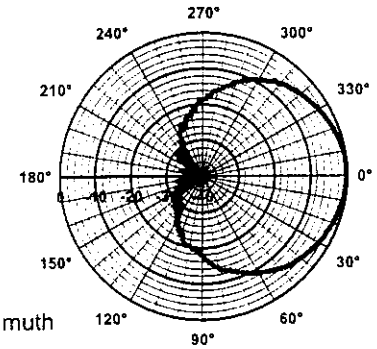
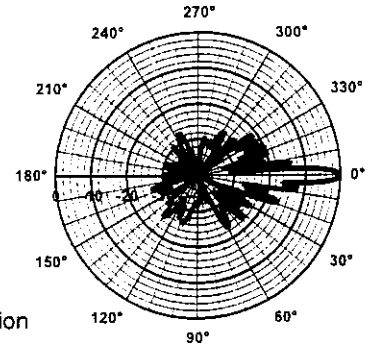
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart , 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

* Model number shown represents a series of products. See mounting options section for specific model number.



Azimuth



Elevation

Exhibit C

Structural Analysis
Route 71 and Orchard Road
Berlin, CT

Natcomm L.L.C.

Natcomm L.L.C. Project # 274A

63-2 North Branford Road
Branford, Connecticut 06405
(203) 488-0580
Fax (203) 488-8587
email jpintek@natcommllc.com

To:	**Voicestream Wireless**	**Date**	November 7, 2000
	100 Filley Street	**Re:**	CT11-604B
	Bloomfield, CT06002		Berlin
Attn.:	Dave Weinpahl	**Tel. No.**	860-692-7127

WE ARE SENDING YOU

- [X] Attached
- [ ] First Class Mail
- [X] UPS
- [ ] By Fax (Including Cover Sheet
- [ ] Courier

_____ pages)

THE FOLLOWING

- [ ] Shop Drawings
- [X] Prints
- [ ] Specifications
- [ ] Samples
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REMARKS:

COPY TO:

1 - File
1 - VoiceStream (Brendan Sharkey)
1 - VoiceStream (Andrew Pearsall)
1 - Natcomm L.L.C. (Kathy Jones)

Regards,

NATCOMM, L.L.C.

Jason J. Pintek, P.E.
Project Manager

filename: \274A trans\Lease Exhibit

NATCOMM, LLC

Consulting Engineers

November 5, 2000

Mr. Dave Weinpahl, P.E.
VoiceStream Wireless
100 Filley Street
Bloomfield, CT 06002

Re.: VoiceStream ~ Site No. CT-11-604B
Rt. 71 and Orchard Rd., Berlin, Connecticut
Natcomm, LLC Project No. 274C

Dear Mr. Weinpahl:

We have completed a review of the structural assessment and loading conditions for the existing Sprint Sites USA tower at the above referenced site. The review was performed to determine the adequacy of the 123 ft. self supported monopole tower for carrying additional loads from the proposed VoiceStream antennas and cables. The analysis is in compliance with local codes and regulations.

The calculations are based on the proposed equipment being installed at 105 ft. above the tower base plate elevation. The dead loads of the existing and proposed equipment, as well as live loads from wind forces and ice build-up on the tower and equipment were considered.

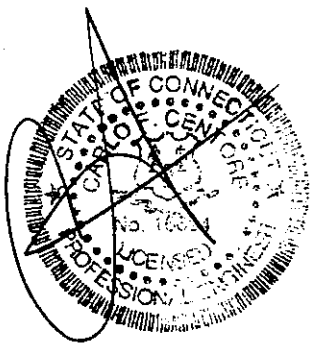
Review of the structural analysis report completed by Paul J. Ford and Company dated June 6, 2000 has shown that the tower is adequate to support the proposed equipment loading. The structural report specifies a total of 12 antennas (Model No. DAPA 48000 PCS Panel) at this elevation. The proposed antenna models and quantities to be installed, according to the RF Engineer - Samson Bockrai, are as follows: Alpha Sector = RR65-19-00DP, 1 new and 1 future; Beta Sector = RR33-20-00DP, 1 new and 1 future; Gamma Sector = RR90-17-02DP, 1 new and 1 future. This is a total 6 proposed antennas versus 12 used for the tower analysis.

A comparison of the specifications for the different antenna models has shown that two of the proposed antennas have slightly higher values for wind load and weight than the design model. However, the reduction in the total number of antennas to be installed will impose significantly less wind load on the tower and will ultimately reduce the overturning moment at the base of the structure. This evaluation is based on information provided by the antenna manufacturers.

In conclusion, the existing monopole tower located at Rt. 71 and Orchard Road, Berlin, CT is suitable for installation of the proposed VoiceStream equipment. If there are any questions regarding this matter, please feel free to call.

Sincerely,

Walter E. Pierson, P.E.
Project Engineer



c.c. J. Pintek, Natcomm, LLC.
C.F. Centore, Natcomm, LLC.

Exhibit D

Power Density Calculations
Route 71 and Orchard Road
Berlin, CT

VoiceStream WIRELESS

OMNIPOINT COMMUNICATIONS
100 Filley st.
Bloomfield, CT 06002
Phone: (860) 796-3366
Fax: (860) 692 - 7159

Technical Memo

From: Samson Bockrai (Radio Engineering Consultant)
Subject: Power Density Report for CT11604
Date: 28/01/2001

1. Introduction:
This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the proposed OMNIPOINT Communications Inc. PCS antenna installation on Sprints 123ft Monopole, located @ Rt. 71 & Orchard Rd., Berline, CT. This study incorporates the most conservative considerations for determining the practical combined worst case power density level that would be theoretically encountered from several locations surrounding the transmitting location.

2. Discussion:
The following assumptions were used in the calculations:

1) The emissions from the OCI transmitters are in the 1930-1950 Mhz frequency band.
2) The antenna cluster consists of three sectors, with 4 antenna per sector. The model number of the Antenna/Sector is EMS-RR65-19-00DP, EMS-RR-90-17-02DP and EMS-RR33-20-00DP.
3) The antenna height is 105' CenterLine.
4) The maximum transmit power from each sector is 3228.13 Watts Effective Isotropic Radiated Power (EIRP).
5) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
6) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
7) The average ground level of the studied area does not significantly change with respect to the transmitting location.

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

3. Conclusion:
Based on the above worse case assumptions, the power density calculations from the proposed OMNIPOINT Communications Inc., PCS antenna installation are on the order of **1,000** to **10,000** times less than the FCC/ANSI/IEEE C95.1-1991 standard of 1000 microwatts per square centimeter ($\mu w/cm^2$). Details are shown in the attachment. Furthermore, the proposed antenna location for Omnipoint Communications at Rt.71 & Orchard Road, Berlin, CT, will not interfere with existing public safety telecommunications, AM band and FM band radio broadcast, TV, Police Communication, HAM Radio communications and other signals in the area.

Worst Case Power Density for site CT11604 located @ Rt. 71 and Orchard road , Berlin, CT

Region 11 - Connecticut Power Density Calculation - Worst Case				
Base Station TX output	15 W		41.76	
Number of channels	4			
Antenna Model	EMS: RR-33-20/ RV-33-20			
Antanna Gain	19.7 dBi			
Cable Size	1 5/8" 4			
Cable Length	120 ft			
Jumper & Connector loss	1 dB			
Cable Loss per foot	0.0116			
Total Cable Loss	1.392 dB			
Total Attenuation	2.392 dB			
Total EIRP per channel	59.07 dB	807.03	W	
Total EIRP per sector	65.09 dB	3228.13	W	
Ground Reflection	1.6			
Frequency	1930 MHz			
Antenna Height	105 ft	3200.4	cm	
nsg	17.308			
Power Density (S) =	**0.064238 mW / cm^2**			
% MPE =	**6.4238%**			

%MPE for Nextel = 4.4650%
%MPE for Sprint = 16.4515%
%MPE for VoiceStream = 6.4238%
Total % MPE = 27.3403 %

Equation Used :

$$S = \frac{(1000)(grf)^2(Power)*10^{(nsg/10)}}{4\pi(R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997