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.ct.gov/csc

March 5, 2004

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

RE: **EM-VER-084-118-157-161-040219** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify existing telecommunications facilities located at 623 Honey Spot Road, Milford; 56 Norfield Road, Weston; 79 East Ridge Avenue, Ridgefield; and Mather Street, Wilton, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on March 4, 2004, 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 dated February 19, 2004. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to 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,

Pamela B. Katz
Chairman

PBK/cm

c: Honorable Paul F. Hannah, Jr., First Selectman, Town of Wilton
Robert Nerney, Town Planner, Town of Wilton
Honorable Rudolph P. Marconi, First Selectman, Town of Ridgefield
Betty Brosius, Town Planner, Town of Ridgefield
Honorable Woody Bliss, First Selectman, Town of Weston
Robert P. Turner, Zoning Enforcement Officer, Town of Weston
Honorable James L. Richetelli, Jr., Mayor, City of Milford
Wade Pierce, City Planner, City of Milford

ROBINSON & COLE LLP

EM-VER-084-118-157-161-040219

Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

February 19, 2004

Via Hand Delivery

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

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

Stratford – 623 Honey Spot Road, Milford, CT
Weston – 56 Norfield Road, Weston, CT
Ridgefield – 79 East Ridge Avenue, Ridgefield, CT
Wilton – Mather Street, Wilton, CT

Dear Mr. Phelps:

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

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the chief elected officials in each municipality.

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

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

1. The proposed modifications will not result in any increase in the overall height of any of the existing tower structure. Cellco's replacement antennas will be mounted at the same level as its existing antennas.

2. The proposed modifications will not affect any ground-mounted equipment and will not require the extension of the site boundaries.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

4. The proposed modifications will not result in radio frequency (RF) power density levels at the facilities that exceed the Federal Communications Commission (FCC) adopted safety standard. Attached to this notice are RF Power Density calculations for both the Cellco cellular and PCS antennas at each of the sites identified.

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

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

Sincerely,

Kenneth C. Baldwin

cc: James L. Richetelli, Mayor, City of Milford
Woody Bliss, First Selectman, Town of Weston
Rudy Marconi, First Selectman, Town of Ridgefield
Paul F. Hannah, First Selectman, Town of Wilton
Sandy M. Carter, Verizon Wireless

General Power Density

Site Name: Stratford, CT
Tower Height: 85 Ft. rad center

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
Verizon	880	9	200	1800	85	0.0896	0.56733	15.79%
Verizon	1900	3	285	855	85	0.0426	1	4.26%
Total Percentage of Maximum Permissible Exposure								20.05%

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

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.

Swedcom

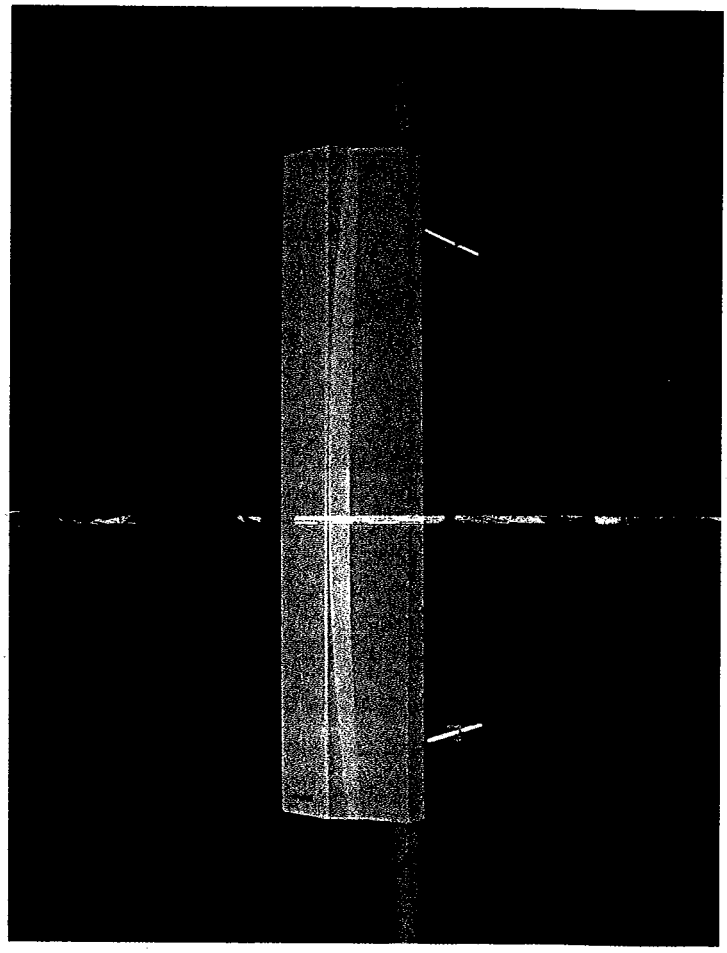
SC 9012-Din

Enhanced Log-Periodic Antenna

Features:

- ❑ **Small Size**
- ❑ **Aesthetically Pleasing**
- ❑ **Suitable For TDMA/CDMA/GSM**
- ❑ **High Return Loss**
- ❑ **Low Intermodulation**
- ❑ **High FTB**
- ❑ **Broadbanded**
- ❑ **Side-lobe Suppression**
- ❑ **Sturdy Design**
- ❑ **Down-Tilt Brackets Incl.**

* connector on backplane



Electrical Specification

Frequency Range:	**800-900 MHz**
Impedance:	**50 ohm**
Connector Type:	**7/16 Din**
Return Loss:	**20 dB**
Polarization:	**Vertical**
Gain:	**> 11 dBd**
Front To Back Ratio:	**> 30 dB**
Side-Lobe Suppression:	**18 dB**
Intermodulation (2x25W):	**IM3 > 146 dB**
	IM5 > 153 dB
	IM7/9 > 163 dB
Power Rating:	**500 W**
H-Plane (-3 dB point):	**85 - 92°**
V-Plane (-3 dB point):	**16 - 18°**
Lightning Protection:	**DC Grounded**

Mechanical Specification

Overall Height:	**43 in**	**[1092 mm]**
Width:	**6.5 in**	**[165 mm]**
Depth:	**8 in**	**[203 mm]**
Weight Including Tilt-Brackets:	**20 lbs**	**[9.1 Kg]**
Wind load measured up to:	**150 mph**	**[240 Km/h]**
Wind Area (Side of antenna):	**2.3 sq. ft.**	**[0.22 sq.m]**
Lateral Thrust At 113 mph/ 180Km/h (Worst Case):	**112 lbs**	**[500 N]**

Materials

Radiating Elements:	**Aluminum**
Extrusion:	**Aluminum**
Radome:	**Grey PVC**
Tilt-Bracket:	**Hot Dip Galvanized Steel**
Antenna Bolts:	**Stainless Steel**

The SC 9012-Din is made in U.S.A.

DECIBEL
Base Station Antennas

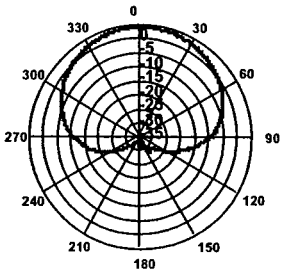
948F85T2E-M

16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

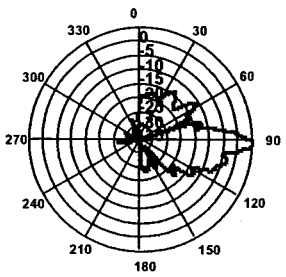
1850-1990 MHz

dB Director®
MaxFill™

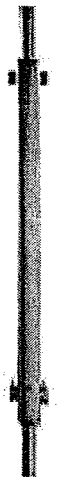
- Exceptional azimuth roll-off reducing soft hand-offs and improving capacity
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

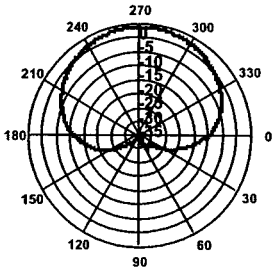


Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)





Horizontal 1850 MHz (Tilt=2)

ELECTRICAL		MECHANICAL	
Frequency (MHz):	1850-1990	**Weight:**	8.5 lbs (3.9 kg)
Polarization:	Vertical	**Dimensions (LxWxD):**	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Gain (dBd/dBi):	14/16.1	**Max. Wind Area:**	2.3 ft² (0.21 m²)
Azimuth BW:	85°	**Max. Wind Load (@ 100mph):**	92 lbf (409 N)
Elevation BW:	8°	**Max. Wind Speed:**	125 mph (201 km/h)
Beam Tilt:	2°	**Radiator Material:**	Low Loss Circuit Board
USLS* (dB):	>18	**Reflector Material:**	Passivated Aluminum
Null Fill* (dB):	15	**Radome Material:**	ABS, UV Resistant
Front-to-Back Ratio* (dB):	40	**Mounting Hardware Material:**	Galvanized Steel
VSWR:	<1.33:1	**Connector Type:**	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150	**Color:**	Light Gray
Impedance:	50 Ohms	**Standard Mounting Hardware:**	DB390 Pipe Mount Kit, included
Max Input Power:	250 Watts	**Downtilt Mounting Hardware:**	DB5098, optional
Lightning Protection:	DC Ground	**Opt. Mounting Hardware:**	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°,4°,6°		

Andrew Corporation
8635 Stemmons Freeway
Dallas, Texas U.S.A 75247-3701
Tel: 214.631.0310

Fax: 214.631.4706
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

dbtech@andrew.com

Date: 1/23/2004
* - Indicates Typical Values

General Power Density

Site Name: Weston, CT
Tower Height: 153 Ft. rad center

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
Verizon	880	9	200	1800	153	0.0277	0.56733	4.87%
Verizon	1900	3	285	855	153	0.0131	1	1.31%
Total Percentage of Maximum Permissible Exposure								6.19%

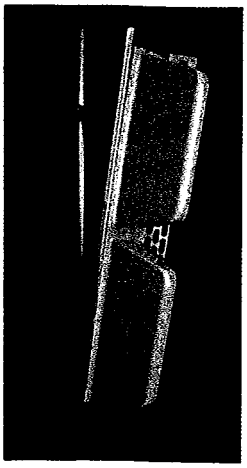
*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

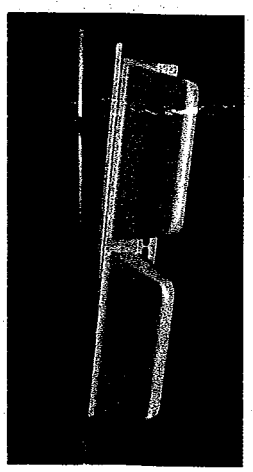
MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.

Electrical Specifications

	7129.16 (A-800-85-15i)	7130.14 (A-800-95-11i)
Gain	13 dBd (15 dBi)	9 dBd (11 dBi)
Polarization	linear, vertical	linear, vertical
VSWR, 50Ω	<1.5:1 (806 MHz to 824 MHz)	<1.5:1 (806 MHz to 824 MHz)
VSWR, 50Ω	<1.4:1 (824 MHz to 896 MHz)	<1.4:1 (824 MHz to 896 MHz)
Horizontal 3dB beamwidth	85°	95°
Vertical 3dB beamwidth	15°	30°
Custom electrical downtilts	0°	0°
40 degree cone Front-to-back ratio	>30 dB	>28 dB
Suppression of first upper side lobe	>17 dB	>15 dB
Maximum CW input power	500W	500W
Two tone intermodulation 3rd order	<-103 dBm for 2x20W (146 dBc at 2x43 dBm)	<-103 dBm for 2x20W (146 dBc at 2x43 dBm)





Mechanical Specifications

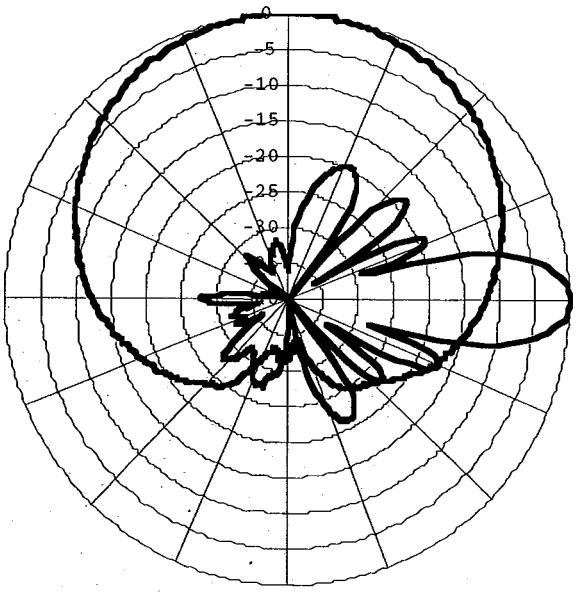
Connector	7/16 DIN or Type N side mounted	
Height	52" (1320 mm)	26.8" (680 mm)
Width	13" (330 mm)	11.4" (290 mm)
Depth	11.4" (290 mm)	11.4" (290 mm)
Weight	17.6 lbs (8 kg)	9.9 lbs (4.5 kg)
Survival wind speed	156 mph (70 m/s)	156 mph (70 m/s)
Maximum wind area	4.5 sq.ft (0.42 sq.m)	1.7 sq.ft (0.16 sq.m)
Maximum wind load @100mph	118 lbf (526 N)	44.6 lbf (199 N)

*All metallic components DC grounded for Lightning Protection

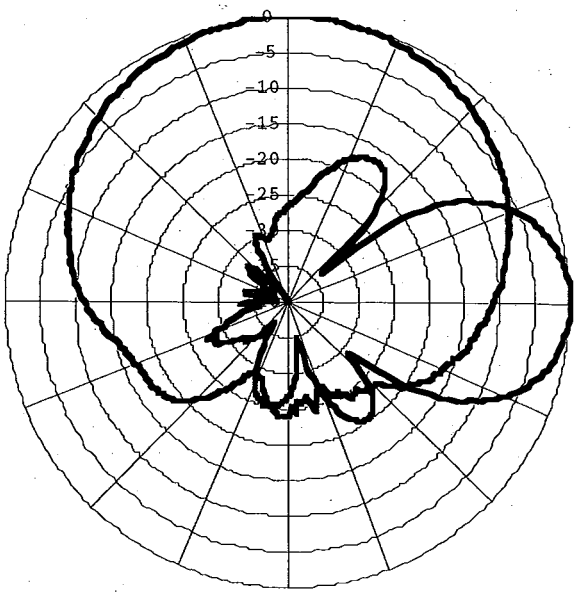
Mounting Hardware Options for Installation		
1) Pole mount	2165.10	2165.10
2) Combined pole mount/downtilt bracket	7254.10 (-1° to +24°)	7254.10 (-2° to +49°)

Comments
Gain is typical within frequency band.
Front-to-back ratio is defined within 20° from the backwards direction in any plane.
Sidelobe suppression and null fill is relative to peak of main beam.
Radome color is NCS 2502-B (RAL 7035)(gray).

For a complete list of released models pertaining to gain, electrical downtilt and connector placement, please see the quick reference guide on page 22.



Typical Horizontal and Vertical 7129.16 Patterns



Typical Horizontal and Vertical 7130.14 Patterns

A poster displaying a comparison of antenna patterns has been included at the back of the catalog.

ALLGON

QUICK REFERENCE GUIDE

40 Degree 800 MHz ALP

Gain	Part Number	Description	Page
12 dBd	7131.30.33.00	A-800-40-14i-15-D	23
	7131.30.05.00	A-800-40-14i-15-N	23
14 dBd	7131.20.33.00	A-800-40-16i-0-D	23
	7131.20.05.00	A-800-40-16i-0-N	23
16 dBd	7131.16.33.00	A-800-40-18i-0-D	23
	7131.16.05.00	A-800-40-18i-0-N	23

60 Degree 800 MHz ALP

Gain	Part Number	Description	Page
13 dBd	7125.14.33.00	A-800-60-13i-0-D	24
	7125.14.05.00	A-800-60-13i-0-N	24
14 dBd	7125.16.33.00	A-800-60-16i-0-D	24
	7125.16.05.00	A-800-60-16i-0-N	24
	7125.16.33.06	A-800-60-16i-6-D	24
16 dBd	7125.18.33.00	A-800-60-18i-0-D	25
	7125.18.05.00	A-800-60-18i-0-N	25

85 Degree 800 MHz ALP

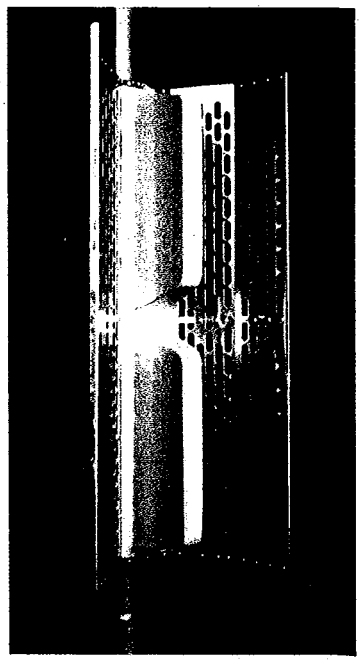
Gain	Part Number	Description	Page
7 dBd	7129.12.33.00	A-800-85-9i-0-D	25
9 dBd	7129.14.33.00	A-800-85-11i-0-D	26
	7129.14.05.00	A-800-85-11i-0-N	26
10 dBd	7129.32.33.00	A-800-85-12i-10-D	26
	7129.32.05.00	A-800-85-12i-10-N	26
11 dBd	7129.20.33.00	A-800-85-13i-0-D	26
	7129.20.05.00	A-800-85-13i-0-N	26
13 dBd	[illegible]	A-800-85-15i-0-D	27
	7129.16.05.00	A-800-85-15i-0-N	27

95 Degree 800 MHz ALP

Gain	Part Number	Description	Page
9 dBd	7130.14.33.00	A-800-95-11i-0-D	27
	7130.14.05.00	A-800-95-11i-0-N	27
12 dBd	7130.16.33.00	A-800-95-14i-0-D	28
	7130.16.05.00	A-800-95-14i-0-N	28
	7130.16.33.06	A-800-95-14i-6-D	28
14 dBd	7130.18.33.00	A-800-95-16i-0-D	28
	7130.18.05.00	A-800-95-16i-0-N	28

110 Degree 800 MHz ALP

Gain	Part Number	Description	Page
9 dBd	7120.20.05.00	A-800-110-11i-0-N	29
11 dBd	7120.16.33.00	A-800-110-13i-0-D	29
	7120.16.05.00	A-800-110-13i-0-N	29



800 MHz Allgon Log Periodic Antenna

Description Detail:

A - 8 0 0 - 9 5 - 1 4 i - 0 - D

- A-800-95-14i-0-D: Allgon Log Periodic Family
- 95: Frequency Band
- 14: Horizontal Beamwidth
- i: Gain in dBi
- 0: Electrical Downtilt Angle
- D: 7/16 DIN Connector

Antennas may be ordered using part number or description.

DECIBEL
Base Station Antennas

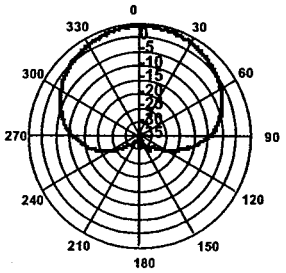
948F85T2E-M

16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

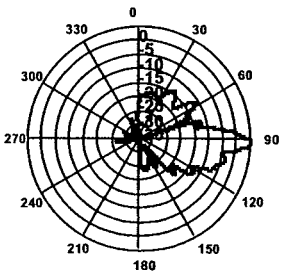
1850-1990 MHz

dB Director®
MaxFill™

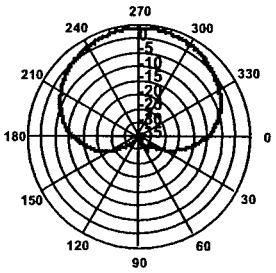
- Exceptional azimuth roll-off reducing soft hand-offs and improving capacity
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)

ELECTRICAL	
Frequency (MHz):	1850-1990
Polarization:	Vertical
Gain (dBd/dBi):	14/16.1
Azimuth BW:	85°
Elevation BW:	8°
Beam Tilt:	2°
USLS* (dB):	>18
Null Fill* (dB):	15
Front-to-Back Ratio* (dB):	40
VSWR:	<1.33:1
IM Suppression - Two 20 Watt Carriers:	-150
Impedance:	50 Ohms
Max Input Power:	250 Watts
Lightning Protection:	DC Ground
Opt Electrical Tilt:	0°,4°,6°

MECHANICAL	
Weight:	8.5 lbs (3.9 kg)
Dimensions (LxWxD):	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Max. Wind Area:	2.3 ft² (0.21 m²)
Max. Wind Load (@ 100mph):	92 lbf (409 N)
Max. Wind Speed:	125 mph (201 km/h)
Radiator Material:	Low Loss Circuit Board
Reflector Material:	Passivated Aluminum
Radome Material:	ABS, UV Resistant
Mounting Hardware Material:	Galvanized Steel
Connector Type:	7-16 DIN - Female (Bottom)
Color:	Light Gray
Standard Mounting Hardware:	DB390 Pipe Mount Kit, included
Downtilt Mounting Hardware:	DB5098, optional
Opt. Mounting Hardware:	DB5094-AZ Azimuth Wall Mount

ANDREW®

Andrew Corporation
8635 Stemmons Freeway
Dallas, Texas U.S.A 75247-3701
Tel: 214.631.0310

Fax: 214.631.4706
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

dbtech@andrew.com

Date: 1/23/2004
* - Indicates Typical Values

General Power Density

Site Name: Ridgefield, CT
Tower Height: 131 Ft. rad center

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
Verizon	880	9	200	1800	131	0.0377	0.56733	6.65%
Verizon	1900	3	285	855	131	0.0179	1	1.79%
Total Percentage of Maximum Permissible Exposure								8.44%

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

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

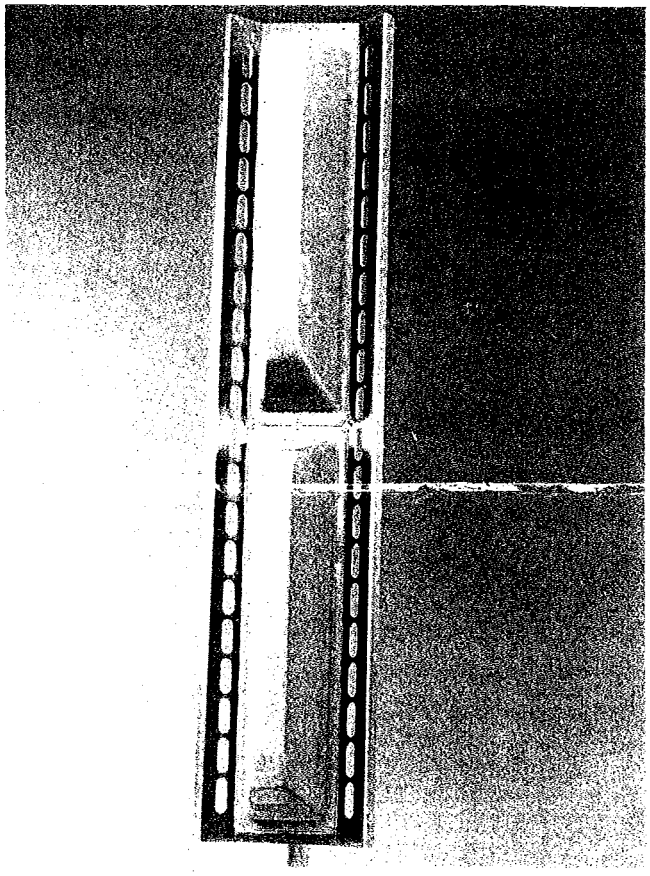
Absolute worst case scenario, maximum values used.

Swedcom Corporation

ALP 9212-N

Log-Periodic Reflector Antenna

92 Degrees 12 dBd



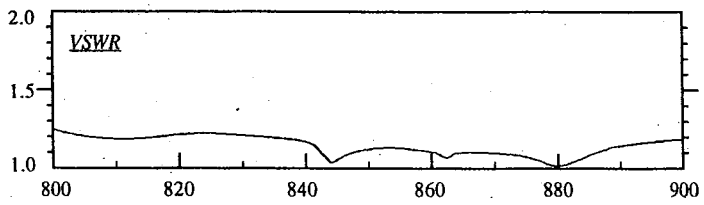
Features:

- **Broadbanded. (800-900 MHz)**
- **Low backlobe radiation. Front-to-back ratio better than 28 dB**
- **Low Intermodulation Products.**
- **Low Wind-load.**
- **Low weight.**
- **Small size.**
- **Rugged design.**

Please see the following pages including radiation patterns/tables for *ALP 9212-N.*

Electrical Specifications:

Frequency range:	806-896 MHz
Impedance:	50 ohm
Connector:	N-female or 7/8" EIA
VSWR:	Typ. 1.3:1 max 1.5:1
Polarization:	Vertical
Gain:	12 dBd
Front to back ratio:	>28 dB
Side-lobe supression:	>18 dB
Intermodulation: (2x25W):	IM3 >146 dB IM5 >153 dB IM7 & IM9 >163 dB
Power Rating:	500 W
H-Plane: -3 dB	95 °
E-Plane: -3 dB	15 °
Lightning Protection:	DC Grounded



Mechanical Specifications:

Overall Height:	52 in	(1320 mm)
Width:	11.4 in	(290 mm)
Depth:	11.4 in	(290 mm)
Weight including brackets:	26.7 lbs	(12 Kg)
Rated wind velocity:	113 mph	(180 Km/h)
Wind Area (CxA/Front):	3.9 sq.ft	(0.36 sq.m)
Lateral thrust at rated wind		
Worst case:	570 N	

Materials:

Radiating elements:	Aluminum
Element housing:	Grey PVC
Back-plate:	Aluminum
Mounting hardware	
clamps:	Hot dip galvanized steel
bolts:	Stainless steel

Manufactured by: ***Allgon System AB***

DECIBEL
Base Station Antennas

948F85T2E-M

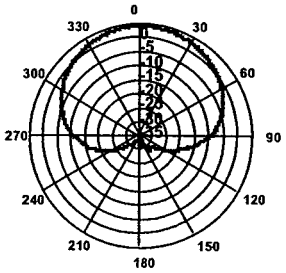
16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

1850-1990 MHz

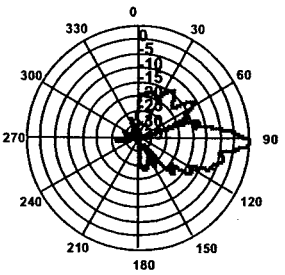
dB Director®
MaxFill™

- Exceptional azimuth roll-off reducing soft hand-offs and improving capacity
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

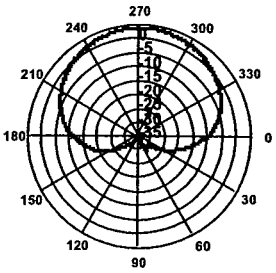
85°



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)

ELECTRICAL		MECHANICAL	
Frequency (MHz):	1850-1990	**Weight:**	8.5 lbs (3.9 kg)
Polarization:	Vertical	**Dimensions (LxWxD):**	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Gain (dBd/dBi):	14/16.1	**Max. Wind Area:**	2.3 ft² (0.21 m²)
Azimuth BW:	85°	**Max. Wind Load (@ 100mph):**	92 lbf (409 N)
Elevation BW:	8°	**Max. Wind Speed:**	125 mph (201 km/h)
Beam Tilt:	2°	**Radiator Material:**	Low Loss Circuit Board
USLS* (dB):	>18	**Reflector Material:**	Passivated Aluminum
Null Fill* (dB):	15	**Radome Material:**	ABS, UV Resistant
Front-to-Back Ratio* (dB):	40	**Mounting Hardware Material:**	Galvanized Steel
VSWR:	<1.33:1	**Connector Type:**	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150	**Color:**	Light Gray
Impedance:	50 Ohms	**Standard Mounting Hardware:**	DB390 Pipe Mount Kit, included
Max Input Power:	250 Watts	**Downtilt Mounting Hardware:**	DB5098, optional
Lightning Protection:	DC Ground	**Opt. Mounting Hardware:**	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°,4°,6°		

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8635 Stemmons Freeway
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Tel: 214.631.0310

Fax: 214.631.4706
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

dbtech@andrew.com

Date: 1/23/2004
* - Indicates Typical Values

General Power Density

Site Name: Wilton, CT
Tower Height: 153 Ft. rad center

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
Verizon	880	9	200	1800	153	0.0277	0.56733	4.87%
Verizon	1900	3	285	855	153	0.0131	1	1.31%
Total Percentage of Maximum Permissible Exposure								6.19%

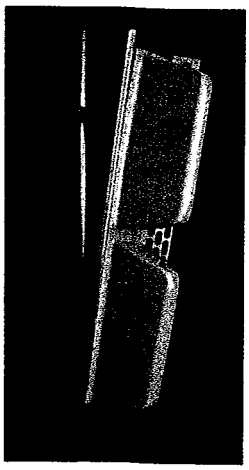
*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

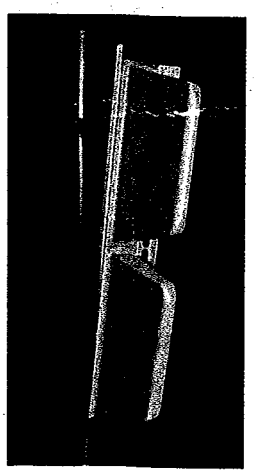
MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.

Electrical Specifications

	7129.16 (A-800-85-15i)	7130.14 (A-800-95-11i)
Gain	13 dBd (15 dBi)	9 dBd (11 dBi)
Polarization	linear, vertical	linear, vertical
VSWR, 50Ω	<1.5:1 (806 MHz to 824 MHz)	<1.5:1 (806 MHz to 824 MHz)
VSWR, 50Ω	<1.4:1 (824 MHz to 896 MHz)	<1.4:1 (824 MHz to 896 MHz)
Horizontal 3dB beamwidth	85°	95°
Vertical 3dB beamwidth	15°	30°
Custom electrical downtilts	0°	0°
40 degree cone Front-to-back ratio	>30 dB	>28 dB
Suppression of first upper side lobe	>17 dB	>15 dB
Maximum CW input power	500W	500W
Two tone intermodulation 3rd order	<-103 dBm for 2x20W (146 dBc at 2x43 dBm)	<-103 dBm for 2x20W (146 dBc at 2x43 dBm)





Mechanical Specifications

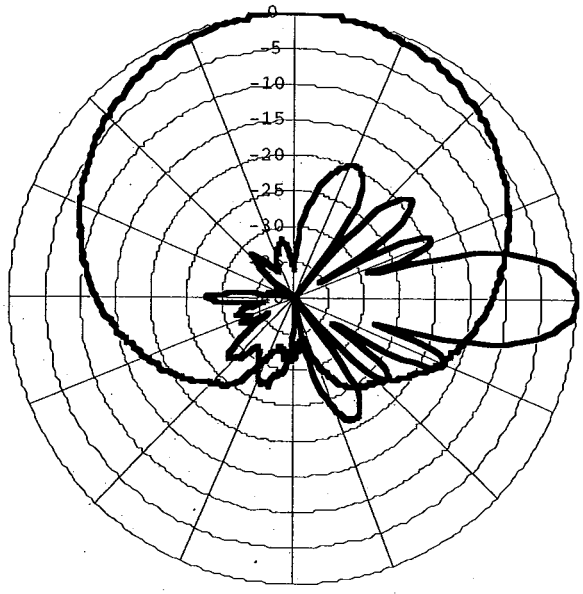
Connector	7/16 DIN or Type N side mounted	
Height	52" (1320 mm)	26.8" (680 mm)
Width	13" (330 mm)	11.4" (290 mm)
Depth	11.4" (290 mm)	11.4" (290 mm)
Weight	17.6 lbs (8 kg)	9.9 lbs (4.5 kg)
Survival wind speed	156 mph (70 m/s)	156 mph (70 m/s)
Maximum wind area	4.5 sq.ft (0.42 sq.m)	1.7 sq.ft (0.16 sq.m)
Maximum wind load @100mph	118 lbf (526 N)	44.6 lbf (199 N)

*All metallic components DC grounded for Lightning Protection

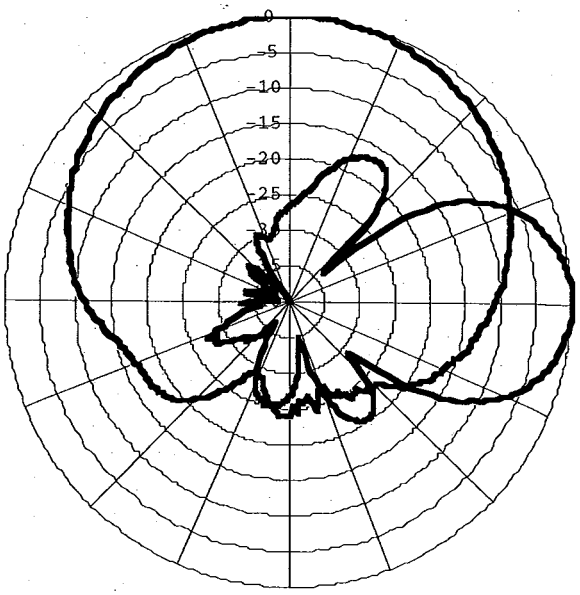
Mounting Hardware Options for Installation		
1) Pole mount	2165.10	2165.10
2) Combined pole mount/downtilt bracket	7254.10 (-1° to +24°)	7254.10 (-2° to +49°)

Comments
Gain is typical within frequency band.
Front-to-back ratio is defined within 20° from the backwards direction in any plane.
Sidelobe suppression and null fill is relative to peak of main beam.
Radome color is NCS 2502-B (RAL 7035)(gray).

For a complete list of released models pertaining to gain, electrical downtilt and connector placement, please see the quick reference guide on page 22.



Typical Horizontal and Vertical 7129.16 Patterns



Typical Horizontal and Vertical 7130.14 Patterns

A poster displaying a comparison of antenna patterns has been included at the back of the catalog.

ALLGON

QUICK REFERENCE GUIDE

90 Degree 800 MHz ALP

Gain	Part Number	Description	Page
9 dBd	7131.30.33.00	A-800-40-14i-15-D	23
	7131.30.05.00	A-800-40-14i-15-N	23
11 dBd	7131.20.33.00	A-800-40-16i-0-D	23
	7131.20.05.00	A-800-40-16i-0-N	23
13 dBd	7131.16.33.00	A-800-40-18i-0-D	23
	7131.16.05.00	A-800-40-18i-0-N	23

60 Degree 800 MHz ALP

Gain	Part Number	Description	Page
11dBd	7125.14.33.00	A-800-60-13i-0-D	24
	7125.14.05.00	A-800-60-13i-0-N	24
13 dBd	7125.16.33.00	A-800-60-16i-0-D	24
	7125.16.05.00	A-800-60-16i-0-N	24
	7125.16.33.06	A-800-60-16i-6-D	24
15dBd	7125.18.33.00	A-800-60-18i-0-D	25
	7125.18.05.00	A-800-60-18i-0-N	25

85 Degree 800 MHz ALP

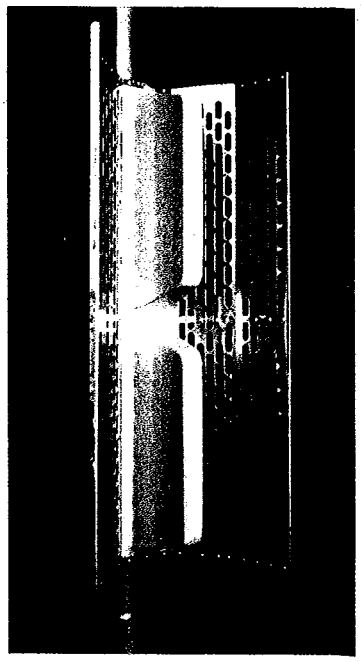
Gain	Part Number	Description	Page
7 dBd	7129.12.33.00	A-800-85-9i-0-D	25
9 dBd	7129.14.33.00	A-800-85-11i-0-D	26
	7129.14.05.00	A-800-85-11i-0-N	26
10 dBd	7129.32.33.00	A-800-85-12i-10-D	26
	7129.32.05.00	A-800-85-12i-10-N	26
11dBd	7129.20.33.00	A-800-85-13i-0-D	26
	7129.20.05.00	A-800-85-13i-0-N	26
13 dBd	7129.16.33.00	A-800-85-15i-0-D	27
	7129.16.05.00	A-800-85-15i-0-N	27

95 Degree 800 MHz ALP

Gain	Part Number	Description	Page
9dBd	7130.14.33.00	A-800-95-11i-0-D	27
	7130.14.05.00	A-800-95-11i-0-N	27
12 dBd	7130.16.33.00	A-800-95-14i-0-D	28
	7130.16.05.00	A-800-95-14i-0-N	28
	7130.16.33.06	A-800-95-14i-6-D	28
14dBd	7130.18.33.00	A-800-95-16i-0-D	28
	7130.18.05.00	A-800-95-16i-0-N	28

110 Degree 800 MHz ALP

Gain	Part Number	Description	Page
7 dBd	7120.20.05.00	A-800-110-11i-0-N	29
11dBd	7120.16.33.00	A-800-110-13i-0-D	29
	7120.16.05.00	A-800-110-13i-0-N	29



800 MHz Allgon Log Periodic Antenna

Description Detail:

A - 8 0 0 - 9 5 - 1 4 i - 0 - D

- A-800-95-14i-0-D: Allgon Log Periodic Family
- 800: Frequency Band
- 95: Horizontal Beamwidth
- 14: Gain in dBi
- 0: Electrical Downtilt Angle
- D: 7/16 DIN Connectors

Antennas may be ordered using part number or description.

DECIBEL
Base Station Antennas

948F85T2E-M

16.1 dBi, Directed Dipole Antenna
1850-1990 MHz

1850-1990 MHz

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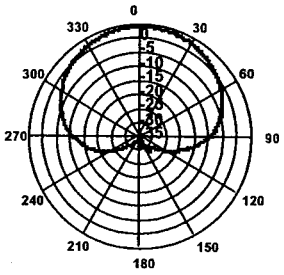
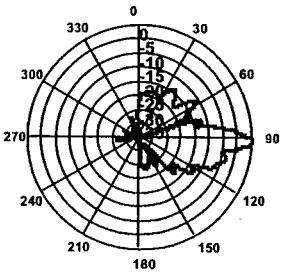
- Excellent upper side lobe suppression
- Deep null filling below the horizon assures improved signal intensity
- Low profile appearance and low wind loading profile for easier zoning approvals

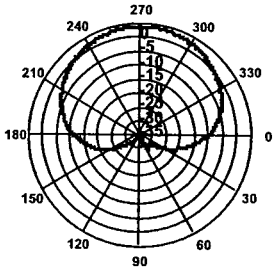
850



Azimuth 1850 MHz (Tilt=2)



Vertical 1850 MHz (Tilt=2)



Horizontal 1850 MHz (Tilt=2)

ELECTRICAL		MECHANICAL	
Frequency (MHz):	1850-1990	**Weight:**	8.5 lbs (3.9 kg)
Polarization:	Vertical	**Dimensions (LxWxD):**	48 X 3.5 X 7 in (1219 X 89 X 178 mm)
Gain (dBd/dBi):	14/16.1	**Max. Wind Area:**	2.3 ft² (0.21 m²)
Azimuth BW:	85°	**Max. Wind Load (@ 100mph):**	92 lbf (409 N)
Elevation BW:	8°	**Max. Wind Speed:**	125 mph (201 km/h)
Beam Tilt:	2°	**Radiator Material:**	Low Loss Circuit Board
USLS* (dB):	>18	**Reflector Material:**	Passivated Aluminum
Null Fill* (dB):	15	**Radome Material:**	ABS, UV Resistant
Front-to-Back Ratio* (dB):	40	**Mounting Hardware Material:**	Galvanized Steel
VSWR:	<1.33:1	**Connector Type:**	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150	**Color:**	Light Gray
Impedance:	50 Ohms	**Standard Mounting Hardware:**	DB390 Pipe Mount Kit, included
Max Input Power:	250 Watts	**Downtilt Mounting Hardware:**	DB5098, optional
Lightning Protection:	DC Ground	**Opt. Mounting Hardware:**	DB5094-AZ Azimuth Wall Mount
Opt Electrical Tilt:	0°,4°,6°		

ANDREW®

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Date: 1/23/2004
* - Indicates Typical Values