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@ct.gov
www.ct.gov/csc

May 7, 2012

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

RE: **EM-VER-040-120420** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 116 Newgate Road, East Granby, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated April 19, 2012. 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. Please be advised that the validity of this action shall expire one year from the date of this letter. 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. Thank you for your attention and cooperation.

Very truly yours,

Linda Roberts

Linda Roberts
Executive Director

LR/CDM/laf

c: The Honorable James M. Hayden, First Selectman, Town of East Granby
Lincoln B. White, Zoning Enforcement Officer, Town of East Granby
Connecticut Department of Transportation

ROBINSON & COLE

EM-VER-040-120420

KENNETH C. BALDWIN

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April 19, 2012

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap**
116 Newgate Road, East Granby, Connecticut

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the top of an existing 75-foot tower at the above-referenced address. The tower and underlying property are owned by State of Connecticut Department of Transportation. Cellco's use of the tower was approved by the Council in 2001. Cellco now intends to replace eight (8) of its existing antennas with two (2) model LPA-80063-4CF cellular antennas; two (2) model BXA-171085-8BF PCS antennas; one (1) model BXA-171063-8BF PCS antenna; and three (3) model BXA-70063-4CF LTE antennas, all at the same 75-foot level. Cellco also intends to install six (6) additional coaxial cables attached to the outside of the monopole tower. Attached behind Tab 1 are the specifications for the replacement 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 James M. Hayden, First Selectman of the Town of East Granby.

The planned modifications to the facility 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 an increase in the height of the existing tower. Cellco's replacement antennas will be located at the same 75-foot level on the existing 75-foot tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, 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 operation of the replacement antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A power density table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Analysis Report confirming that the tower and foundation can support Cellco's proposed modifications. (See Tab 3).

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
James M. Hayden, East Granby First Selectman
Sandy M. Carter

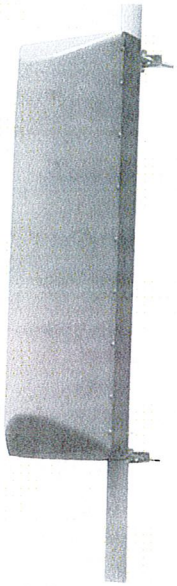
Amphenol ANTENNA SOLUTIONS

LPA-80063-4CF-EDIN-X

V-Pol | Log Periodic | 63° | 13.0 dBd

Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

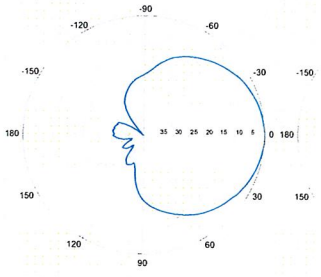


Electrical Characteristics	
Frequency bands	806-960 MHz
Polarization	Vertical
Horizontal beamwidth	63°
Vertical beamwidth	15°
Gain	13.0 dBd (15.1 dBi)
Electrical downtilt (X)	0, 2, 4, 5, 6, 8, 10, 12, 14
Impedance	50Ω
VSWR	≤1.4:1
Upper sidelobe suppression (0°)	-15.7 dB
Front-to-back ratio (+/-30°)	-31.7 dB
Null fill	5% (-26.02 dB)
Input power	500 W
Lightning protection	Direct Ground
Connector(s)	1 Port / EDIN or NE / Female / Center (Back)

Mechanical Characteristics		
Dimensions Length x Width x Depth	1205 x 385 x 332 mm	47.4 x 15.2 x 13.1 in
Depth of antenna with z-bracket	372 mm	14.6 in
Weight without mounting brackets	9.1 kg	20 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.46 m² Side: 0.39 m²	Front: 5.0 ft² Side: 4.2 ft²
Wind load @ 161 km/hr (100 mph)	Front: 660 N Side: 550 N	Front: 149 lbf Side: 124 lbf

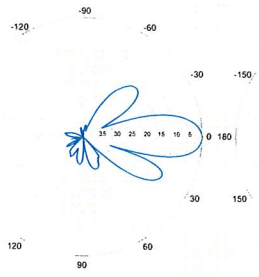
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting & Downtilt Bracket Kit (0-20°)	21699999	50-102 mm 2.0-4.0 in	5.4 kg 12 lbs
Lock-Down Brace	If the lock-down brace is used, the maximum diameter of the mounting pipe is 88.9 mm or 3.5 in.		

LPA-80063-4CF-EDIN-X



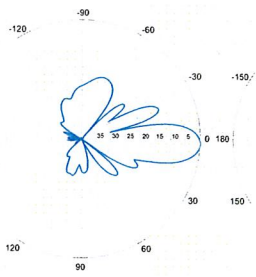
Horizontal

LPA-80063-4CF-EDIN-0



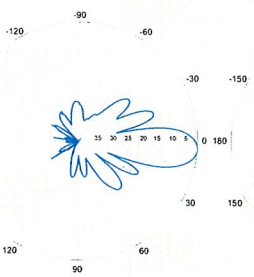
0° | Vertical

LPA-80063-4CF-EDIN-2



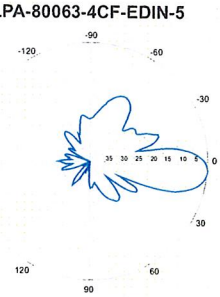
2° | Vertical

LPA-80063-4CF-EDIN-4



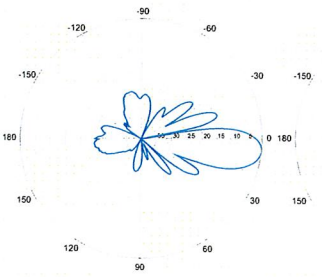
4° | Vertical

LPA-80063-4CF-EDIN-5



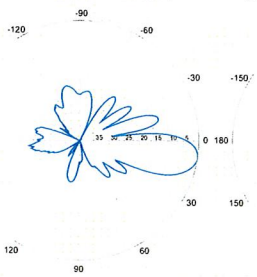
5° | Vertical

LPA-80063-4CF-EDIN-6



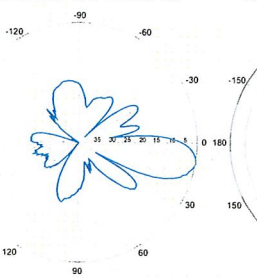
6° | Vertical

LPA-80063-4CF-EDIN-8



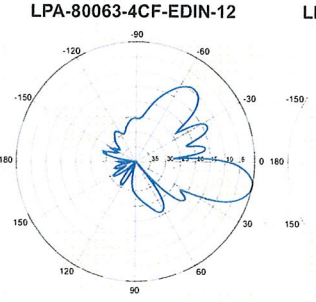
8° | Vertical

LPA-80063-4CF-EDIN-10



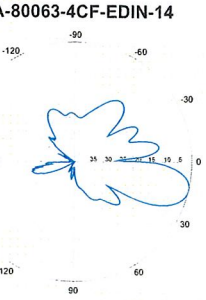
10° | Vertical

LPA-80063-4CF-EDIN-12



12° | Vertical

LPA-80063-4CF-EDIN-14



14° | Vertical

BXA-171085-8BF-EDIN-X

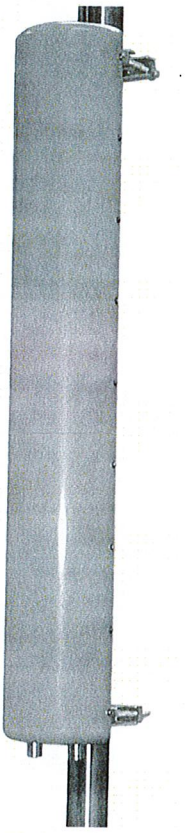
Replace "X" with desired electrical downtilt.

X-Pol | FET Panel | 85° | 16.4 dBi

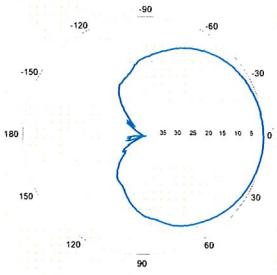
Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	88°	85°	80°
Vertical beamwidth	7°	7°	7°
Gain	13.5 dBd / 15.6 dBi	13.9 dBd / 16.0 dBi	14.3 dBd / 16.4 dBi
Electrical downtilt (X)	0, 2, 4		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back isolation	> 30 dB		
In-band isolation	> 28 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN / Female / Bottom		
Operating temperature	-40° to +60° C / -40° to +140° F		

Mechanical Characteristics		
Dimensions Length x Width x Depth	1232 x 154 x 105 mm	48.5 x 6.1 x 4.1 in
Depth with t-brackets	133 mm	5.2 in
Weight without mounting brackets	4.8 kg	10.5 lbs
Survival wind speed	296 km/hr	184 mph
Wind area	Front: 0.19 m² Side: 0.14 m²	Front: 2.0 ft² Side: 1.5 ft²
Wind load @ 161 km/hr (100 mph)	Front: 281 N Side: 223 N	Front: 63 lbf Side: 50 lbf

Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171085-8BF-EDIN-X-FP		

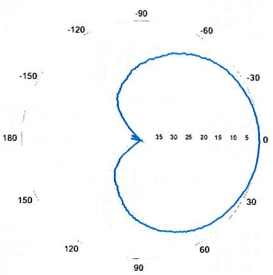


BXA-171085-8BF-EDIN-X



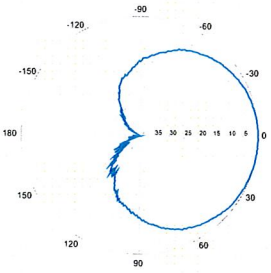
Horizontal | 1710-1880 MHz

BXA-171085-8BF-EDIN-X



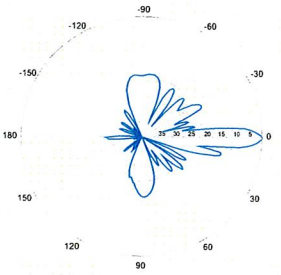
Horizontal | 1850-1990 MHz

BXA-171085-8BF-EDIN-X



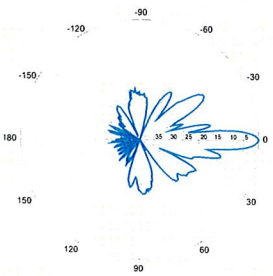
Horizontal | 1920-2170 MHz

BXA-171085-8BF-EDIN-0



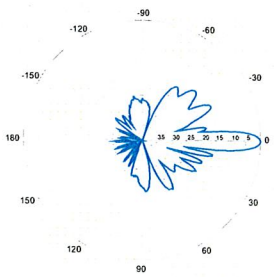
0° | Vertical | 1710-1880 MHz

BXA-171085-8BF-EDIN-0



0° | Vertical | 1850-1990 MHz

BXA-171085-8BF-EDIN-0



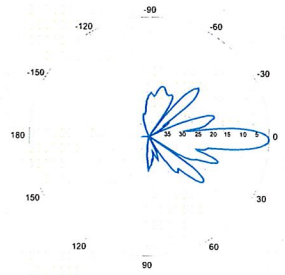
0° | Vertical | 1920-2170 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

BXA-171085-8BF-EDIN-X

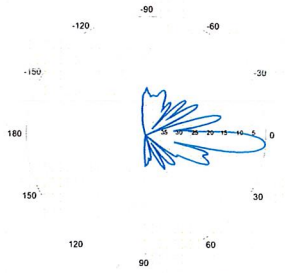
X-Pol | FET Panel | 85° | 16.4 dBi

BXA-171085-8BF-EDIN-2



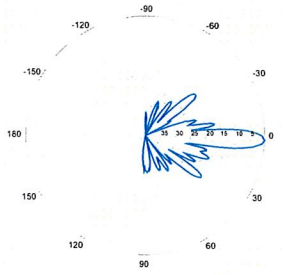
2° | Vertical | 1710-1880 MHz

BXA-171085-8BF-EDIN-4



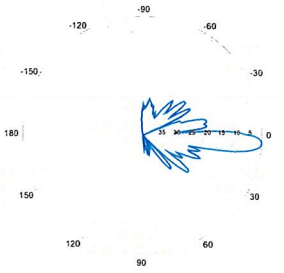
4° | Vertical | 1710-1880 MHz

BXA-171085-8BF-EDIN-2



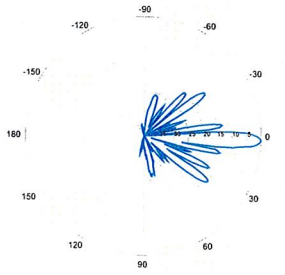
2° | Vertical | 1850-1990 MHz

BXA-171085-8BF-EDIN-4



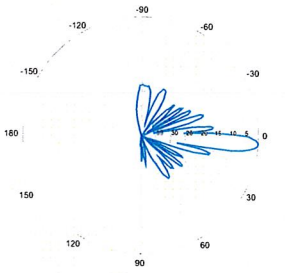
4° | Vertical | 1850-1990 MHz

BXA-171085-8BF-EDIN-2



2° | Vertical | 1920-2170 MHz

BXA-171085-8BF-EDIN-4

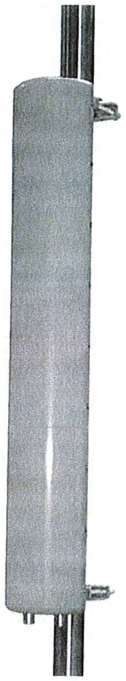


4° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-X

Replace "X" with desired electrical downtilt.

X-Pol | FET Panel | 63° | 17.4 dBi

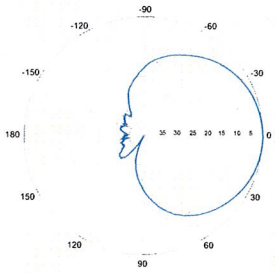


Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	68°	65°	60°
Vertical beamwidth	7°	7°	7°
Gain	14.5 dBd / 16.6 dBi	14.9 dBd / 17.0 dBi	15.3 dBd / 17.4 dBi
Electrical downtilt (X)	0, 2, 4, 8		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back isolation	> 30 dB		
In-band isolation	> 28 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN / Female / Bottom		
Operating temperature	-40° to +60° C / -40° to +140° F		

Mechanical Characteristics		
Dimensions Length x Width x Depth	1232 x 154 x 105 mm	48.5 x 6.1 x 4.1 in
Depth with t-brackets	133 mm	5.2 in
Weight without mounting brackets	4.8 kg	10.5 lbs
Survival wind speed	296 km/hr	184 mph
Wind area	Front: 0.19 m² Side: 0.14 m²	Front: 2.0 ft² Side: 1.5 ft²
Wind load @ 161 km/hr (100 mph)	Front: 281 N Side: 223 N	Front: 63 lbf Side: 50 lbf

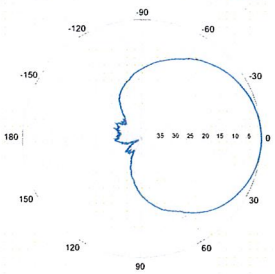
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-8BF-EDIN-X-FP		

BXA-171063-8BF-EDIN-X



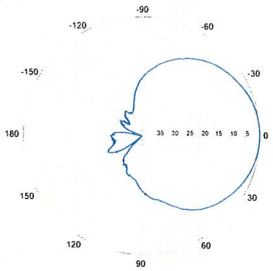
Horizontal | 1710-1880 MHz

BXA-171063-8BF-EDIN-X



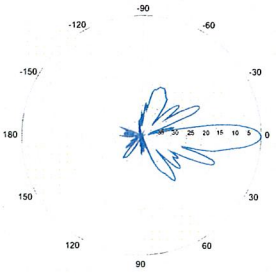
Horizontal | 1850-1990 MHz

BXA-171063-8BF-EDIN-X



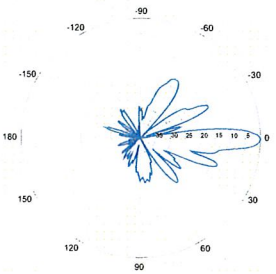
Horizontal | 1920-2170 MHz

BXA-171063-8BF-EDIN-0



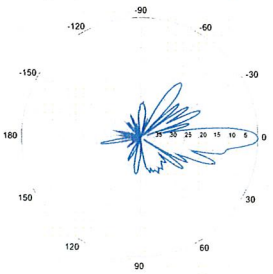
0° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-0



0° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-0

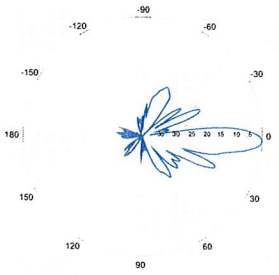


0° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-X

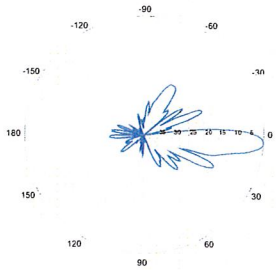
X-Pol | FET Panel | 63° | 17.4 dBi

BXA-171063-8BF-EDIN-2



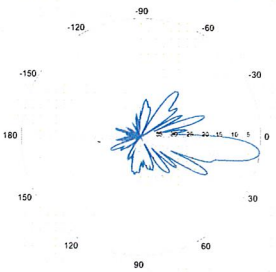
2° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-4



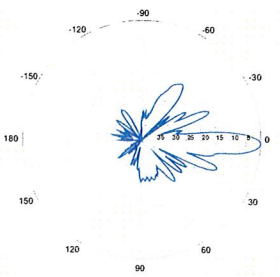
4° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-8



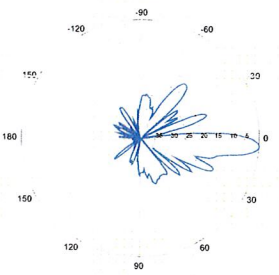
8° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-2



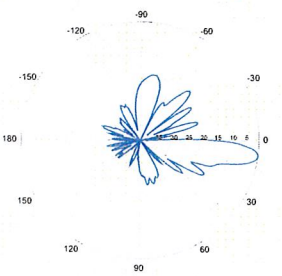
2° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-4



4° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-8



8° | Vertical | 1850-1990 MHz

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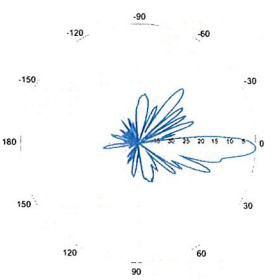
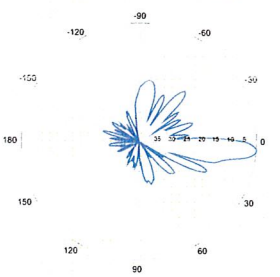


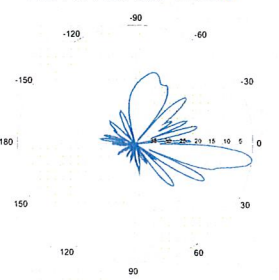
2° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-4



4° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-8



8° | Vertical | 1920-2170 MHz

Amphenol ANTENNA SOLUTIONS

BXA-70063-4CF-EDIN-X

X-Pol | FET Panel | 63° | 13.0 dBd

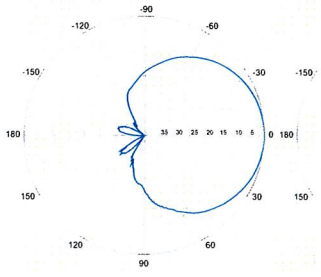
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics	696-900 MHz	
Frequency bands	696-806 MHz	806-900 MHz
Polarization	±45°	
Horizontal beamwidth	65°	63°
Vertical beamwidth	17°	15°
Gain	12.5 dBd (14.6 dBi)	13.0 dBd (15.1 dBi)
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 9, 10, 12, 14	
Impedance	50Ω	
VSWR	≤1.35:1	
Upper sidelobe suppression (0°)	-16.3 dB	-22.1 dB
Front-to-back ratio (+/-30°)	-36.1 dB	-34.9 dB
Null fill	5% (-26.02 dB)	
Isolation between ports	< -30 dB	
Input power with EDIN connectors	500 W	
Input power with NE connectors	300 W	
Lightning protection	Direct Ground	
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)	
Mechanical Characteristics		
Dimensions Length x Width x Depth	1205 x 285 x 133 mm	47.4 x 11.2 x 5.2 in
Depth with z-brackets	173 mm	6.8 in
Weight without mounting brackets	4.5 kg	9.9 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.34 m² Side: 0.16 m²	Front: 3.7 ft² Side: 1.7 ft²
Wind load @ 161 km/hr (100 mph)	Front: 498 N Side: 260 N	Front: 111 lbf Side: 55 lbf

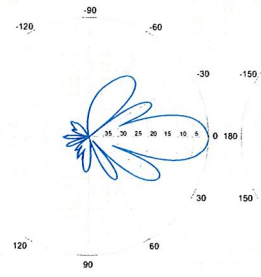
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	36210002	50-160 mm 2.0-6.3 in	4.5 kg 10 lbs
2-Point Downtilt Bracket Kit (0-20°)	36114003	50-160 mm 2.0-6.3 in	4.9 kg 11 lbs
Downtilt Mounting Applications	A mounting bracket and downtilt bracket kit must be ordered for downtilt applications		
Concealment Configurations	For concealment configurations, order BXA-70063-4CF-EDIN-X-FP		

BXA-70063-4CF-EDIN-X



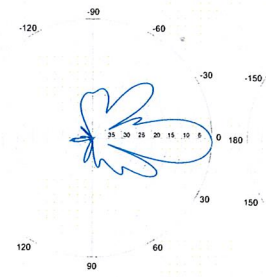
Horizontal | 750 MHz

BXA-70063-4CF-EDIN-0



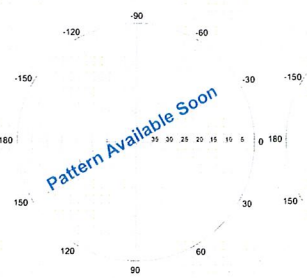
0° | Vertical | 750 MHz

BXA-70063-4CF-EDIN-2



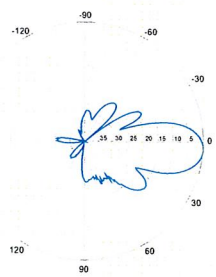
2° | Vertical | 750 MHz

BXA-70063-4CF-EDIN-3

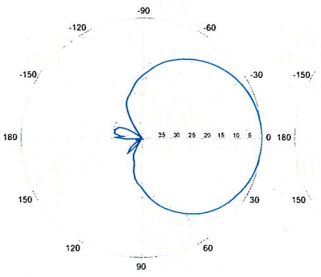


3° | Vertical | 750 MHz

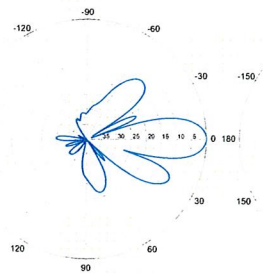
BXA-70063-4CF-EDIN-4



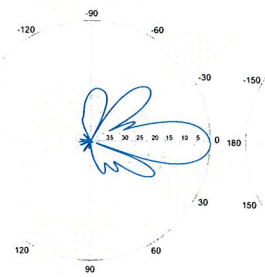
4° | Vertical | 750 MHz



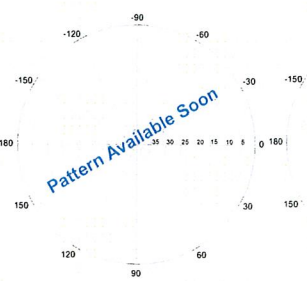
Horizontal | 850 MHz



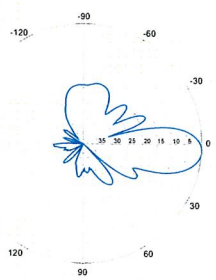
0° | Vertical | 850 MHz



2° | Vertical | 850 MHz



3° | Vertical | 850 MHz

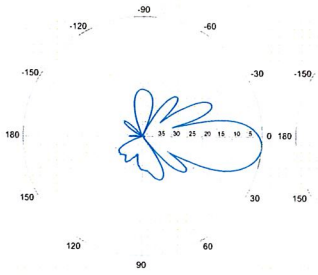


4° | Vertical | 850 MHz

BXA-70063-4CF-EDIN-X

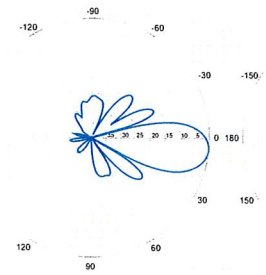
X-Pol | FET Panel | 63° | 13.0 dBd

BXA-70063-4CF-EDIN-5



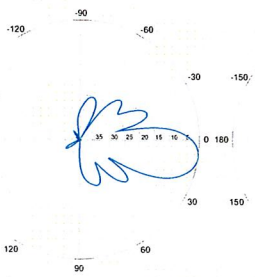
5° | Vertical | 750 MHz

BXA-70063-4CF-EDIN-6



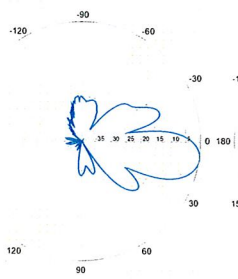
6° | Vertical | 750 MHz

BXA-70063-4CF-EDIN-8



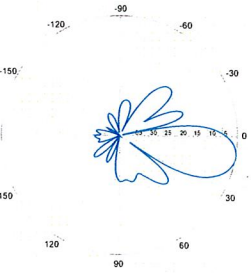
8° | Vertical | 750 MHz

BXA-70063-4CF-EDIN-9

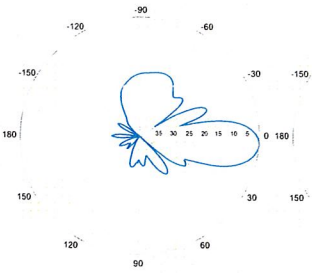


9° | Vertical | 750 MHz

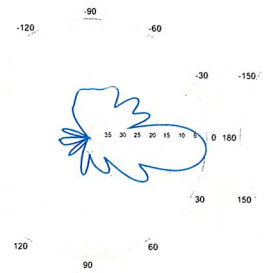
BXA-70063-4CF-EDIN-10



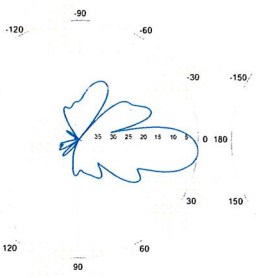
10° | Vertical | 750 MHz



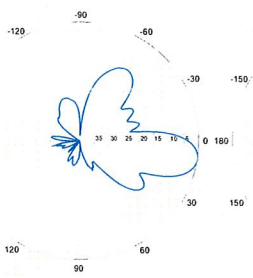
5° | Vertical | 850 MHz



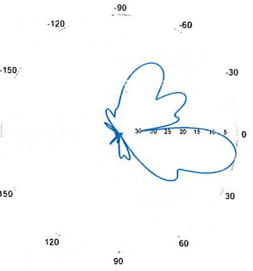
6° | Vertical | 850 MHz



8° | Vertical | 850 MHz

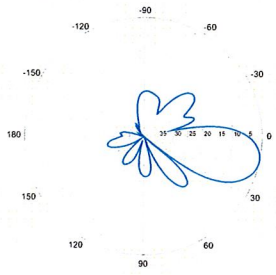


9° | Vertical | 850 MHz



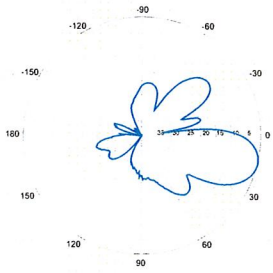
10° | Vertical | 850 MHz

BXA-70063-4CF-EDIN-12

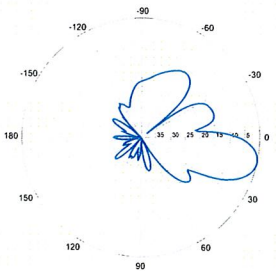


12° | Vertical | 750 MHz

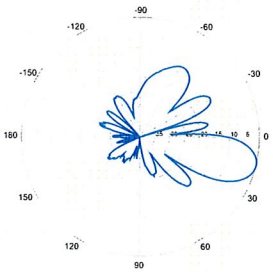
BXA-70063-4CF-EDIN-14



14° | Vertical | 750 MHz



12° | Vertical | 850 MHz



14° | Vertical | 850 MHz

Site Name: E Granby, CT
Cumulative Power Density

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)	(%)
VZW PCS	1970	11	335	3685	78	0.2178	1.0	21.78%
VZW Cellular	869	9	304	2736	78	0.1617	0.579333333	27.92%
VZW AWS	2145	1	670	670	78	0.0396	1.0	3.96%
VZW 700	698	2	624	1248	78	0.0738	0.465333333	15.85%

Total Percentage of Maximum Permissible Exposure 69.51%

*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 maximum values used.

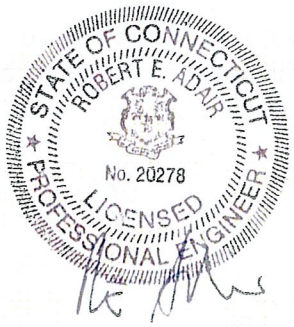
ALL-POINTS TECHNOLOGY CORPORATION, P.C.

STRUCTURAL ANALYSIS REPORT
75' MONOPOLE TOWER
EAST GRANBY, CONNECTICUT

Prepared for
Verizon Wireless

Verizon Site: East Granby

February 13, 2012



APT Project #CT141571

□ 3 SADDLEBROOK DRIVE · KILLINGWORTH, CT 06419 · PHONE 860-663-1697 · FAX 860-663-0935
⊗ P.O. BOX 504 · 116 GRANDVIEW ROAD · CONWAY, NH 03818 · PHONE 603-496-5853 · FAX 603-447-2124

STRUCTURAL ANALYSIS REPORT
75' MONOPOLE TOWER
EAST GRANBY, CONNECTICUT
prepared for
Verizon Wireless

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of this 75-foot monopole tower located in East Granby, Connecticut. The analysis was performed for equipment changes proposed by Verizon Wireless.

Our analysis indicates the tower meets the requirements of the Connecticut State Building Code with the proposed antennas. The existing foundation could not be evaluated, as information on its design or construction was not available to APT. Since the tower has significant available capacity the foundation is likely to be adequate.

INTRODUCTION:

A structural analysis of this communications tower was performed by APT for Verizon Wireless. The tower is located off Newgate Road in East Granby, Connecticut.

APT did not visit the tower site. This analysis relied on information provided by Verizon Wireless, which included a structural analysis report by L&W Engineering dated June 25, 2001, and existing and proposed antenna specifications.

The structure is a 75-foot galvanized steel, 18-sided tapered monopole manufactured by Summit Manufacturing, Inc. The analysis was conducted for the following antenna inventory (proposed changes shown in **bold** text):

Antenna	Elev.	Mount	Coax.
Ground rod	75'	Banded to pole	N.A.
Beacon	75'	Top plate	7/8"
(6) LPA-80063/4; (3) BXA-70063/4, (2) BXA-171063/8, (1) BXA-171085/8 [1]	75'	14' platform	**(18)** 1-5/8"

[1] Twelve panel antennas with twelve lines currently installed.

STRUCTURAL ANALYSIS:

Methodology:

The structural analysis was done in accordance with TIA/EIA-222-F (EIA), Structural Standards for Steel Antenna Towers and Antenna Supporting Structures; and the American Institute of Steel Construction (AISC), Manual of Steel Construction, Allowable Stress Design, Ninth Edition.

The analysis was conducted using a wind speed of 85 miles per hour and one-half inch of radial ice over the entire structure and all appurtenances. The TIA/EIA Standard requires a minimum of 80-mph wind load for Hartford County, Connecticut.

EIA requires two loading conditions to be evaluated to determine the tower's capacity. The higher stresses resulting from the two cases is used to calculate the tower capacity:

- Case 1 = Wind Load (without ice) + Tower Dead Load (controls)
- Case 2 = **0.75** Wind Load (with ice) + Ice Load + Tower Dead Load

EIA permits a one-third increase in allowable stresses for towers less than 700-feet tall. Allowable stresses of tower members were increased by one-third in computing the load capacity values indicated herein.

ANALYSIS RESULTS:

Our analysis determined the tower will support the proposed antenna array. The following table summarizes the capacity of the tower based on combined axial and bending stresses:

Elevation	Capacity
50'-75'	45%
24'-50'	55%
0'-24'	68%

The capability of the existing foundation to support the proposed changes could not be evaluated, as information on its design or construction was not available to APT. Since the tower has significant available capacity, the foundation is likely to be adequately sized.

Base reactions imposed with the proposed antennas were calculated to be as follows:

Compression:	8.1 kips
Total Shear:	2.8 kips
Overturning Moment:	178.0 ft-kips

CONCLUSIONS AND SUGGESTIONS:

As detailed above, our analysis indicates that the existing 75' Summit monopole tower in East Granby, Connecticut meets the requirements of the Connecticut State Building Code with Verizon Wireless's proposed equipment changes.

Waveguide cables may be installed inside the pole or banded to the outside in one layer.

LIMITATIONS:

This report is based on the following:

1. Tower is properly installed and maintained.
2. All members are in an undeteriorated condition.
3. All bolts are in place and are properly tightened.
4. Tower is in plumb condition.

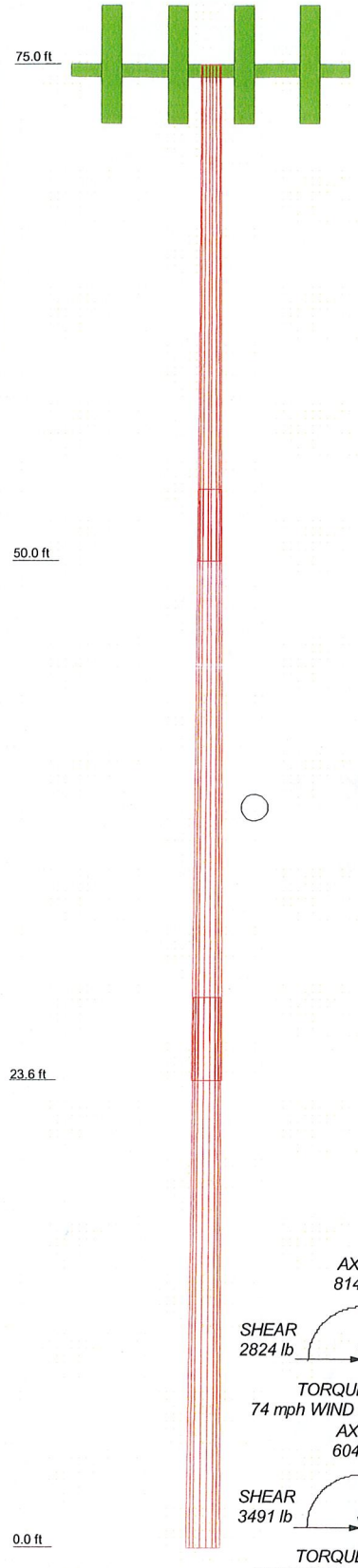
All-Points Technology Corporation, P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

1. Adding or relocating antennas.
2. Installing antenna mounting gates or side arms.
3. Extending tower.

APT hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

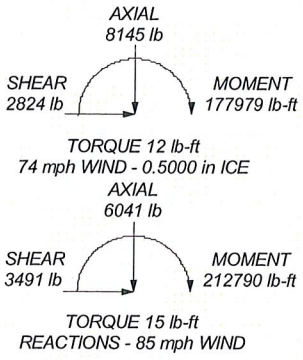
Appendix A

Tower Schematic



Section	1	2	3
Length (ft)	25.00	30.00	27.81
Number of Sides	18	18	18
Thickness (in)	0.1875	0.2500	0.2500
Socket Length (ft)	3.58	4.23	
Top Dia (in)	11.5000	13.8025	16.5236
Bot Dia (in)	14.6250	17.5525	20.0000
Grade		A572-65	
Weight (lb)	651.8	1249.7	1352.6

3254.1



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
BXA-70063/4	75	BXA-171085/8	75
BXA-70063/4	75	BXA-171063/8	75
BXA-70063/4	75	BXA-171063/8	75
(2) LPA-80063/4	75	14' low-profile platform	75
(2) LPA-80063/4	75	Flash Beacon Lighting	75
(2) LPA-80063/4	75	Generic Lightning Rod 4' copper	75

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

All-Points Technology Corporation
P.O. Box 504
Conway, NH 03818
Phone: (603) 496-5853
FAX: (603) 447-2124

Job: ***75' Summit Monopole***		
Project: ***CT141571 East Granby***		
Client: Verizon Wireless	Drawn by: Rob Adair	App'd:
Code: TIA/EIA-222-F	Date: 02/13/12	Scale: NTS
Path: C:\Users\Rob Adair\Documents\Jobs\2 Verizon LTE\CT141570 East Granby\CT141571 East Granby.er		Dwg No. E-1

Appendix B

Calculations

tnxTower	Job	Page
	75' Summit Monopole	1 of 3
All-Points Technology Corporation P.O. Box 504 Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	**Project** CT141571 East Granby	**Date** 17:15:20 02/13/12
	Client Verizon Wireless	**Designed by** Rob Adair

Tower Input Data

This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Basic wind speed of 85 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 74 mph is used in combination with ice.
Deflections calculated using a wind speed of 50 mph.
User specified elevation for calculation of G_h is 75.00 ft.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	75.00-50.00	25.00	3.58	18	11.5000	14.6250	0.1875	0.7500	A572-65 (65 ksi)
L2	50.00-23.58	30.00	4.23	18	13.8025	17.5525	0.2500	1.0000	A572-65 (65 ksi)
L3	23.58-0.00	27.81		18	16.5236	20.0000	0.2500	1.0000	A572-65 (65 ksi)

Monopole Base Plate Data

Base Plate Data	
Base plate is square	√
Anchor bolt grade	A354-BC
Anchor bolt size	2.6250 in
Number of bolts	16
Embedment length	72.0000 in
f'_c	4 ksi
Grout space	2.0000 in
Base plate grade	A633-60
Base plate thickness	3.0000 in
Bolt circle diameter	66.0000 in
Outer diameter	64.0000 in
Inner diameter	46.0000 in
Corner clipped	12.0000 in
Base plate type	Plain Plate

Feed Line/Linear Appurtenances

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1 5/8	C	No	Inside Pole	75.00 - 6.00	18	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C_AA_A Front	C_AA_A Side	Weight
			ft	°	ft		ft^2	ft^2	lb
BXA-70063/4	A	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	5.16 5.55	3.02 3.35	15.00 46.69
BXA-70063/4	B	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	5.16 5.55	3.02 3.35	15.00 46.69
BXA-70063/4	C	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	5.16 5.55	3.02 3.35	15.00 46.69
(2) LPA-80063/4	A	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	7.00 7.41	6.04 6.43	25.00 77.41
(2) LPA-80063/4	B	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	7.00 7.41	6.04 6.43	25.00 77.41
(2) LPA-80063/4	C	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	7.00 7.41	6.04 6.43	25.00 77.41
BXA-171085/8	A	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	2.94 3.26	2.16 2.46	20.00 38.78
BXA-171063/8	B	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	2.90 3.22	2.31 2.62	15.00 34.32
BXA-171063/8	C	From Face	4.00 0.00 0.00	0.0000	75.00	No Ice 1/2" Ice	2.90 3.22	2.31 2.62	15.00 34.32
14' low-profile platform	A	None		0.0000	75.00	No Ice 1/2" Ice	9.80 10.93	8.49 9.47	1200.00 2063.51
Flash Beacon Lighting	A	None		0.0000	75.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	50.00 70.00
Generic Lightning Rod 4' copper	C	None		0.0000	75.00	No Ice 1/2" Ice	0.50 1.00	0.50 1.00	0.00 0.00

Solution Summary

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	75 - 50	15.147	10	1.6659	0.0005
L2	53.58 - 23.58	8.183	10	1.3529	0.0002
L3	27.8113 - 0	2.347	10	0.7535	0.0001

tnxTower	Job	Page
	75' Summit Monopole	3 of 3
All-Points Technology Corporation P.O. Box 504 Conway, NH 03818 Phone: (603) 496-5853 FAX: (603) 447-2124	**Project** CT141571 East Granby	**Date** 17:15:20 02/13/12
	Client Verizon Wireless	**Designed by** Rob Adair

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
75.00	BXA-70063/4	10	15.147	1.6659	0.0005	11721

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	75 - 50	Pole	TP14.625x11.5x0.1875	1	-2284.19	50467.78	44.7	Pass
L2	50 - 23.58	Pole	TP17.5525x13.8025x0.25	2	-3977.02	115978.60	54.8	Pass
L3	23.58 - 0	Pole	TP20x16.5236x0.25	3	-6037.73	189321.98	67.8	Pass
							Summary	
						Pole (L3)	67.8	Pass
						Base Plate	65.0	Pass
						RATING =	**67.8**	**Pass**

ROBINSON & COLE LLP

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

Also admitted in Massachusetts

July 3, 2013

Melanie Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-VER-029-120106- 161 Pinney Street, Colebrook, Connecticut**
EM-VER-125-120423- 7 Surdan Mountain, Sharon, Connecticut
EM-VER-040-120420- 116 Newgate Road, East Granby, Connecticut
EM-VER-065-120319B- 22 Welsh Road, Hartland, Connecticut
EM-VER-039-120514- 35 Old Route 44, Eastford, Connecticut
EM-VER-065-120319A- 350 Hartland Road, Hartland, Connecticut
EM-VER-066-120117- 64 Hungerford Lane, Harwinton, Connecticut

Completion of Construction Activity

Dear Ms. Bachman:

The purpose of this letter is to notify the Siting Council that construction activity associated with the above-referenced Cellco Partnership d/b/a Verizon Wireless telecommunications facilities has been completed.

If you have any questions or need any additional information regarding this facility please do not hesitate to contact me.

Sincerely,

Kenneth C. Baldwin

Copy to:
Sandy M. Carter

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