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 kbaldwin@rc.com
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January 5, 2012

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CONNECTICUT
 SITING COUNCIL

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

Re: **Notice of Exempt Modification – Antenna Swap
 330 Middletown Road, Columbia, Connecticut**

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) wireless telecommunications antennas on the existing 148-foot tower at the above-referenced address. The tower is owned by American Tower Corporation. The Council approved Cellco’s shared use of the existing tower in 2002. Cellco now intends to modify its installation by replacing all of its existing antennas with six (6) LPA-80063/4CF cellular antennas; three (3) model BXA-171063-8BF PCS antennas; and three (3) model BXA-70063/6CF LTE antennas at the 135-foot level on the tower. Cellco also intends to install six (6) coax cable diplexers on its antenna platform. Attached behind Tab 1 are the specifications for the proposed replacement antennas and cable diplexers.

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 Carmen L. Vance, First Selectman of the Town of Columbia. A copy of this letter is also being sent to John and Genette Perkarski, the owners of the property on which the tower is located.

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 overall height of the existing tower. Cellco’s antennas and diplexers will be located at the 135-foot level on the existing 148-foot tower.



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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 cumulative power density table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Analysis 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:

Carmen L. Vance, Columbia First Selectman
John and Genette Perkariski
Sandy M. Carter



LPA-80063/4CF

When ordering replace "___" with connector type.

Mechanical specifications

Length	1205 mm	47.4 in
Width	386 mm	15.2 in
Depth	335 mm	13.2 in
Depth with z-bracket	375 mm	14.8 in
4) Weight	9.1 kg	20.0 lbs
Wind Area		
Fore/Aft	0.47 m ²	5.0 ft ²
Side	0.40 m ²	4.4 ft ²
Rated Wind Velocity (Safety factor 2.0)	>265 km/hr >165 mph	
Wind Load @ 100 mph (161 km/hr)		
Fore/Aft	665 N	149.5 lbs
Side	577 N	129.6 lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

Mounting and Downtilting

Mounting brackets attach to a pipe diameter of Ø50-102 mm (2.0-4.0 in). If the lock-down brace is used, the maximum diameter is Ø88.9 mm (3.5 in)

Mounting Bracket and Downtilt Bracket Kit #21699999

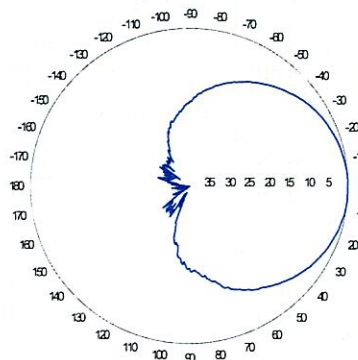
Electrical specifications

Frequency Range	806-960 MHz
Impedance	50Ω
3) Connector(s)	NE or E-DIN 1 port / center
1) VSWR	≤ 1.4:1
Polarization	Vertical
1) Gain	13 dBd
2) Power Rating	500 W
1) Half Power Angle	
H-Plane	63°
E-Plane	15°
1) Electrical Downtilt	0°
1) Null Fill	10%
Lightning Protection	Direct Ground

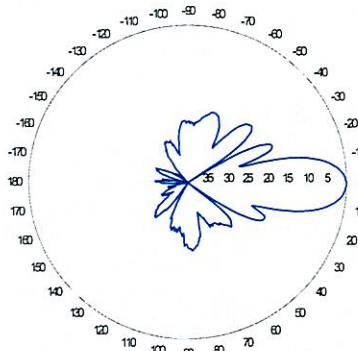
- 1) Typical values.
- 2) Power rating limited by connector only.
- 3) NE indicates an elongated N connector.
E-DIN indicates an elongated DIN connector.
- 4) The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

Radiation pattern¹⁾



Horizontal

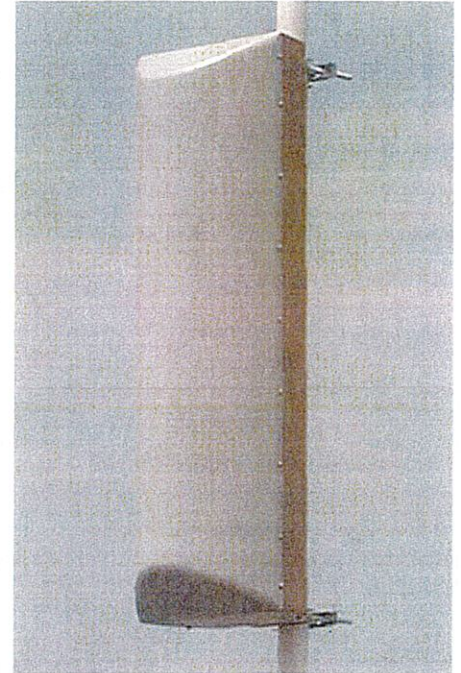


Vertical

Featuring upper side lobe suppression.

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back ratio.



Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:

- True log-periodic design allows for superior front-to-side characteristics to minimize sector overlap.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

This Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.

Antenna available with center-fed connector only.

CF Denotes a Center-Fed Connector.

806-960 MHz



Revision Date: 6/17/08

BXA-171063-8BF-EDIN-X

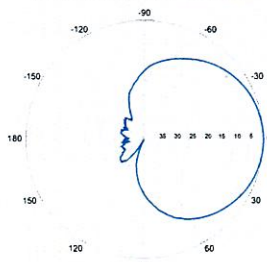
Replace "X" with desired electrical downtilt.

X-Pol | FET Panel | 63° | 17.4 dBi

Electrical Characteristics	1710-2170 MHz		
	1710-1880 MHz	1850-1990 MHz	1920-2170 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 m ² Side: 0.14 m ²	Front: 2.0 ft ² Side: 1.5 ft ²	
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		

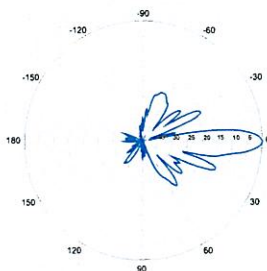


BXA-171063-8BF-EDIN-X



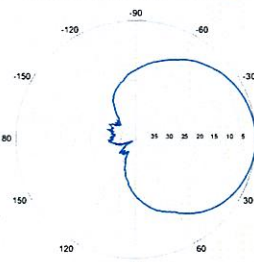
Horizontal | 1710-1880 MHz

BXA-171063-8BF-EDIN-0



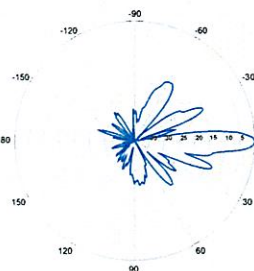
0° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-X



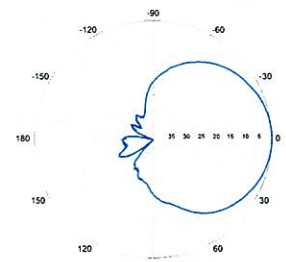
Horizontal | 1850-1990 MHz

BXA-171063-8BF-EDIN-0



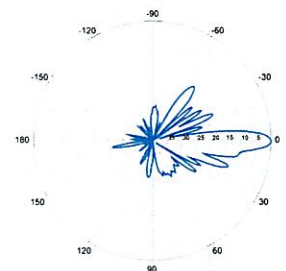
0° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-X



Horizontal | 1920-2170 MHz

BXA-171063-8BF-EDIN-0



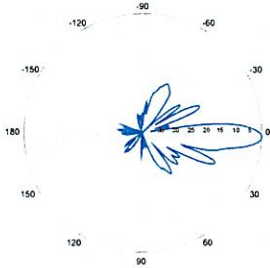
0° | Vertical | 1920-2170 MHz

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.

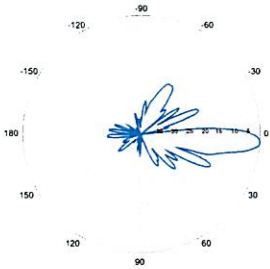
BXA-171063-8BF-EDIN-X

X-Pol | FET Panel | 63° | 17.4 dBi

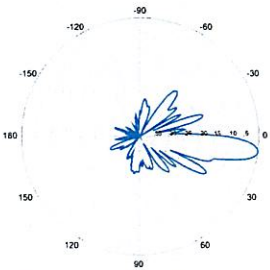
BXA-171063-8BF-EDIN-2



2° | Vertical | 1710-1880 MHz
BXA-171063-8BF-EDIN-4

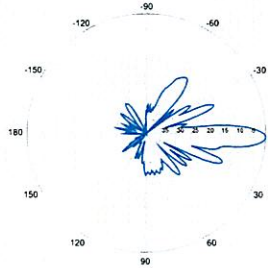


2° | Vertical | 1850-1990 MHz
BXA-171063-8BF-EDIN-4

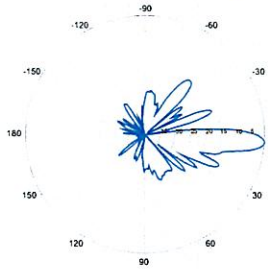


2° | Vertical | 1920-2170 MHz
BXA-171063-8BF-EDIN-4

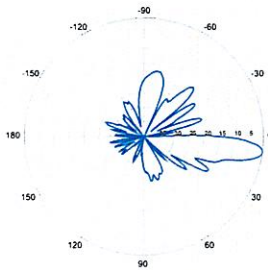
BXA-171063-8BF-EDIN-2



4° | Vertical | 1710-1880 MHz
BXA-171063-8BF-EDIN-4

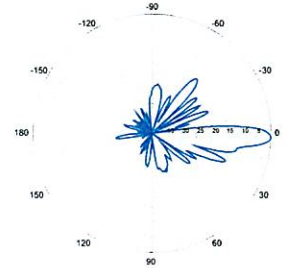


4° | Vertical | 1850-1990 MHz
BXA-171063-8BF-EDIN-8

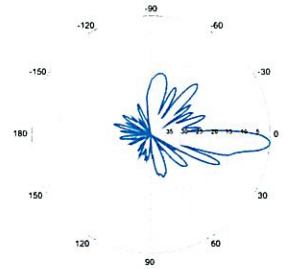


4° | Vertical | 1920-2170 MHz
BXA-171063-8BF-EDIN-4

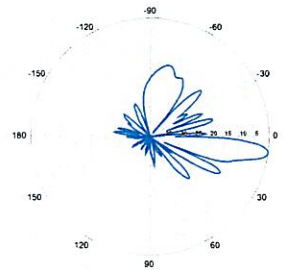
BXA-171063-8BF-EDIN-2



4° | Vertical | 1710-1880 MHz
BXA-171063-8BF-EDIN-4



4° | Vertical | 1850-1990 MHz
BXA-171063-8BF-EDIN-8



4° | Vertical | 1920-2170 MHz
BXA-171063-8BF-EDIN-4

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BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

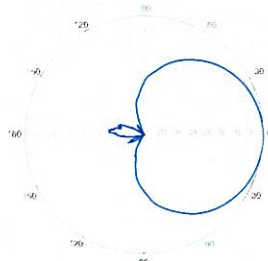
Replace "X" with desired electrical downtilt.

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



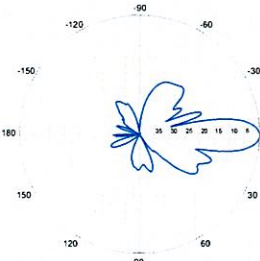
Electrical Characteristics	696-900 MHz		
Frequency bands	696-806 MHz	806-900 MHz	
Polarization	±45°		
Horizontal beamwidth	65°	63°	
Vertical beamwidth	13°	11°	
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)	
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10		
Impedance	50Ω		
VSWR	≤1.35:1		
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB	
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB	
Null fill	5% (-26.02 dB)		
Isolation between ports	< -25 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	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in	
Depth with z-brackets	172 mm	6.8 in	
Weight without mounting brackets	7.9 kg	17 lbs	
Survival wind speed	> 201 km/hr		
Wind area	Front: 0.51 m ² Side: 0.24 m ²	Front: 5.5 ft ² Side: 2.6 ft ²	
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf	
Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit	36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

BXA-70063-6CF-EDIN-X



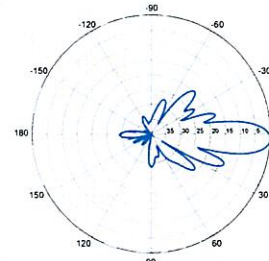
Horizontal | 750 MHz

BXA-70063-6CF-EDIN-0

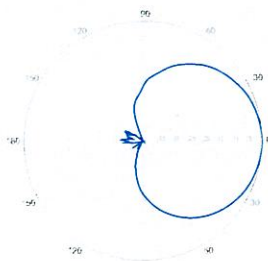


0° | Vertical | 750 MHz

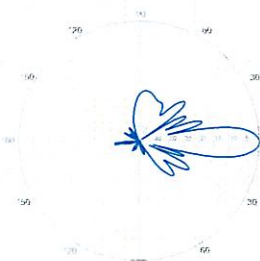
BXA-70063-6CF-EDIN-2



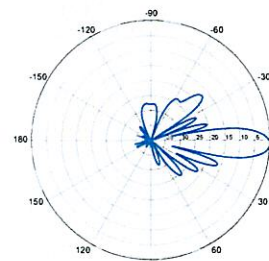
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz



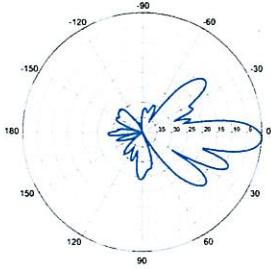
2° | Vertical | 850 MHz

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BXA-70063-6CF-EDIN-X

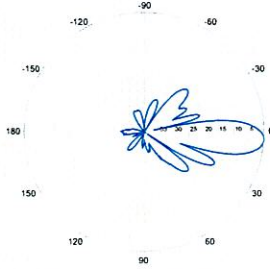
X-Pol | FET Panel | 63° | 14.5 dBd

BXA-70063-6CF-EDIN-3



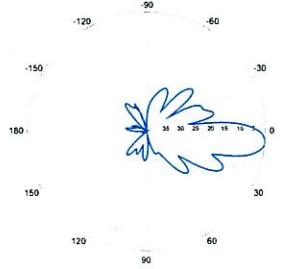
3° | Vertical | 750 MHz

BXA-70063-6CF-EDIN-4

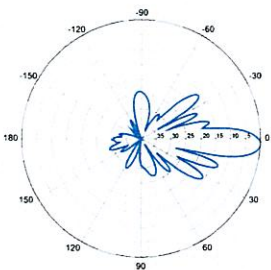


4° | Vertical | 750 MHz

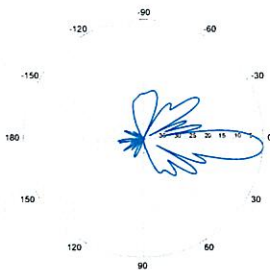
BXA-70063-6CF-EDIN-5



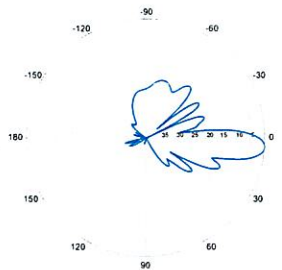
5° | Vertical | 750 MHz



3° | Vertical | 850 MHz

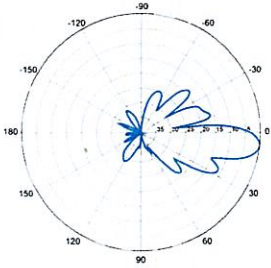


4° | Vertical | 850 MHz



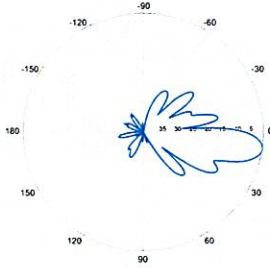
5° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-6



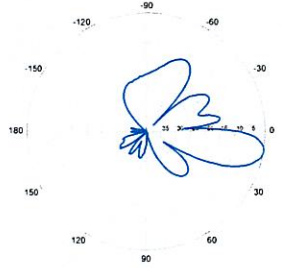
6° | Vertical | 750 MHz

BXA-70063-6CF-EDIN-8

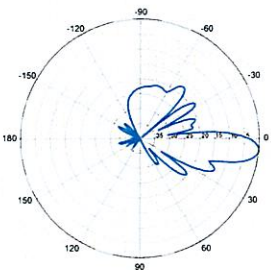


8° | Vertical | 750 MHz

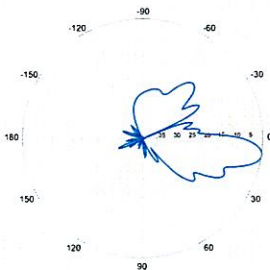
BXA-70063-6CF-EDIN-10



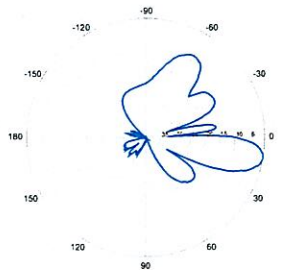
10° | Vertical | 750 MHz



6° | Vertical | 850 MHz



8° | Vertical | 850 MHz



10° | Vertical | 850 MHz

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ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Product Description

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.



Features/Benefits

- LTE ready design
- Extremely Low Insertion Loss
- High level of Rejection between bands – Protection against interferences
- Extremely High Power Handling Capability
- Integrated DC block/bypass versions available
- Very compact & small size design – Easy installation and reduced tower load
- In-line long-neck connectors for easy connection & waterproofing
- Exceptional reliability & environmental protection (IP 67)
- Equipped with 1 * Breathable Vent – Prevent any humidity inside the product
- Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)
- Grounding already provided through the mounting bracket
- Kit available for easy dual mount

Technical Specifications

Product Type	Diplexer/Cross Band Coupler
Frequency Range 1, MHz	698-960
Frequency Range 2, MHz	1710-2200
Application	LTE700, GSM900, UMTS, GSM1800, Cellular 800, PCS
Configuration	Sharelite Single diplexer, outdoor, DC pass in the 1710-2170MHz path, with mounting hardware SEM2-1A
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Return Loss All Ports Min/Typ, dB	19/23
Power Handling Continuous, Max, W	1250 at common port; 750 in low frequency path & 500 in high frequency path
Power Handling Peak, Max, W	15000 in low frequency path & 8000 in high frequency path
Impedance, Ohms	50
Insertion Loss, Path 1, dB	0.07 typ.
Insertion Loss, Path 2, dB	0.13 typ.
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 60/70@1710-2200MHz
IMP Level at the COM Port, Typ, dBm	-112 @ 2x43
DC Pass in Low Frequency Path	No
DC Pass in High Frequency Path	Yes
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	EN/IEC61000-4-5 Level 4
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	1.2 (2.6)
Shipping Weight, kg (lb)	3.2 (7) for 2 * single units in 1 * box, 9.8 (21.6) for 6 * units = 3 * Boxes in 1 * overwrap
Dimensions, H x W x D, mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
Shipping Dimensions, H x W x D, mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
Volume, L	0.43
Housing	Aluminum

Notes

All information contained in the present datasheet is subject to confirmation at time of ordering

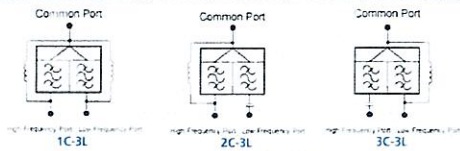


ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Other Documentation

FD9R6004/2C-3L Installation Instructions: [Wideband_Diplexer_Installation_Rev5.pdf](#)

Selection Guide Diplexer		698-960 / 1710-2200MHz			Mounting Hardware Included
	Model Number	Full DC Pass	DC Pass High Band	DC Pass Low Band	
Single	FD9R6004/1C-3L				X
	FD9R6004/2C-3L				X
	FD9R6004/3C-3L				X
Dual	KIT-FD9R6004/1C-DL				X
	KIT-FD9R6004/2C-DL				X
	KIT-FD9R6004/3C-DL				X



The FD9R6004 Series is upgradeable to a Dual Diplexer kit by means of 2 diplexers and mounting hardware kits SEM2-1A and SEM2-3

Mounting Hardware and Ground Cable Ordering Information		
Model Number	Description	
SEM2-1A	Mounting Hardware, Pole mount ø40-110mm (Included with the Single and Dual Diplexer) Wall Screws M6 (Not included with the product)	
SEM2-3	Assembly kit for 2 pcs of FD9R6004/xC-3L (Can be ordered separately but included with the Dual Diplexer Kit)	
CA020-2	Ground Cable, 2m, includes lugs (Optional)	
CA030-2	Ground Cable, 2m, includes lugs (Optional)	
SEM6	Mounting Hardware for 6 Diplexers, Tower Base (Optional)	

All information contained in the present datasheet is subject to confirmation at time of ordering

General		Power	Density					
Site Name: Columbia S								
Tower Height: Verizon @ 135ft								
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS.	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*Nextel	9	100	118	0.0232	851	0.5673	4.10%	
*Sprint	11	429	108	0.1455	1962.5	1.0000	14.55%	
*Cingular UMTS	1	500	150	0.0080	880	0.5867	1.36%	
*Cingular GSM	4	296	150	0.0189	880	0.5867	3.23%	
*Cingular GSM	2	427	150	0.0136	1900	1.0000	1.36%	
Verizon PCS	7	278	135	0.0384	1970	1.0000	3.84%	
Verizon Cellular	9	303	135	0.0538	869	0.5793	9.29%	
Verizon AWS	1	694	135	0.0137	2145	1.0000	1.37%	
Verizon 700	2	795	135	0.0314	698	0.4653	6.74%	
* Source: Siting Council								45.83%



PASSED

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 148 ft Summit Monopole
ATC Site Name : Columbia Central, CT
ATC Site Number : 302528
Proposed Carrier : Verizon Wireless
Carrier Site Name : Columbia South CT
Carrier Site Number : 117991
County : Tolland
Eng. Number : 48167222
Date : October 24, 2011
Usage : 91% Pole Shaft, 80% Anchor Bolts,
80% (Base Plate-Approximate)

Submitted by:
Cesar Rojas
Project Engineer

American Tower Engineering Services
8505 Freeport Parkway
Suite 135
Irving, TX 75063
Phone: 972-999-8900



Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 148 ft Summit Monopole located at Columbia Central, CT, Tolland County (ATC site #302528). The tower was originally designed and manufactured by Summit Manufacturing (Drawing #13998 dated May 2, 2001).

Analysis

The existing tower was analyzed using Semaan Engineering Solutions, Inc., Software.

Basic Wind Speed: 85.0 mph (Fastest Mile)
 Radial Ice: 73.6 mph (Fastest Mile) w/ 1/2" ice Concurrent
 Standard/Code: TIA/EIA-222-F / 2003 IBC Section 1609.1.1, Exception (4) and Section 3108.4 / 2005 & 2008 CT Supplement

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (I/O)	Carrier
148.0	2	14" x 9" TTA	Low Profile Platform	(12) 1 5/8 (I)	AT&T Mobility
	3	36" x 8" x 6" Panel			
	9	72" x 12" Panel			
	6	Powerwave LGP 21401			
	6	Powerwave LGP 21903			
120.0	9	48" x 12" Panel	Low Profile Platform	(12) 1 5/8 (I)	Sprint Nextel
	3	72" x 12" Panel			
108.0	12	Decibel DB980H90E-M	Sector Frames	(12) 1 1/4 (I)	
58.0	1	GPS	Side Arm	(1) 1/2 (I)	

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax (I/O)	Carrier
135.0	3	Antel BXA-171063-8CF-EDIN-X	Low Profile Platform	(12) 1 5/8 (I)	Verizon
	3	Antel BXA-70063/6CF			
	6	Antel LPA-80063/4CF			
	6	RFS FD9R6004/2C-3L			
30.0	1	GPS	Side Arm	(1) 1/2 (I)	

Note: (O) – Coax installed outside the pole shaft. (I) – Coax installed inside the pole shaft.

The existing and the proposed transmission lines were considered running inside or outside the pole shaft as indicated above.

Results

The existing 148 ft Summit Monopole with the existing and the proposed antennas is structurally acceptable per TIA/EIA-222 Rev F standards. The maximum structure usage is: 91% Pole Shaft, 80% Anchor Bolts, and 80% (Base Plate-Approximate).

Additional exit and/or entry ports may be required to accommodate the running of the proposed lines to the proposed antennas. These additional ports may not be installed without installation drawings providing the location, size and welding requirements of each port.

To ensure compliance with all conditions of this structural analysis, port installation drawings shall be provided by American Tower’s Engineering Department under a subsequent project.

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	3,316.0	3,003.1	90.6
Shear (kips)	35.0	27.6	79.0

The structure base reactions resulting from the current analysis do not exceed the ones shown on the original structural drawings or calculations. Therefore, assuming the original foundation was designed correctly, the existing foundation should be adequate to support the new reactions. Therefore, no modification to the existing foundation will be required.

The foundation and connections to the tower have factors of safety exceeding 2.0 with respect to wind

Conclusion

The existing monopole and its foundation were found to be adequate to support the existing and proposed antennas with the transmission lines distributed as described above, while meeting the requirements of the code or standard as specified in this report.

If you have any questions or require additional information, please call (972) 999-8900.

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications, and that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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Job Information	
Pole : 302528	Code: TIA/EIA-222 Rev F
Description : 148' Summit Monopole	
Client : Verizon Wireless	
Location : Columbia Central, CT	
Shape : 18 Sides	Base Elev (ft): 0.00
Height : 148.00 (ft)	Taper: 0.181424(in/ft)

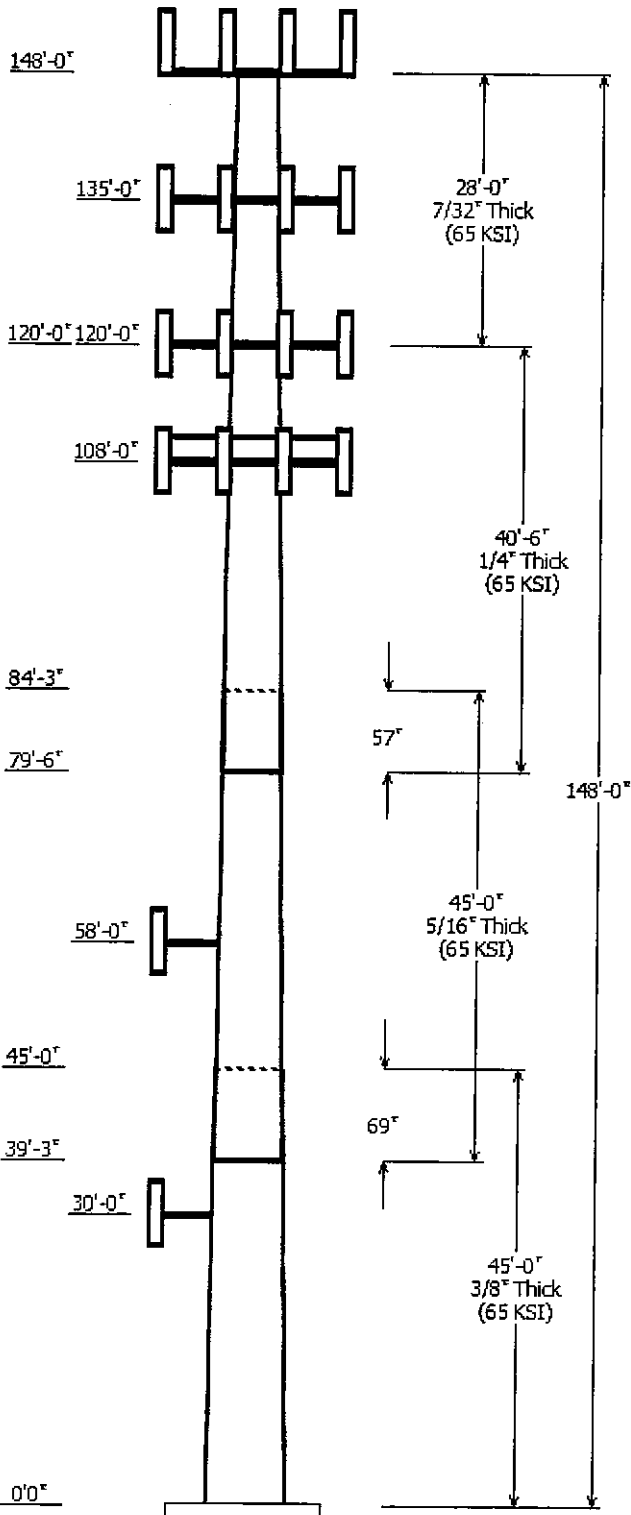
Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap		Steel Grade (ksi)
		Across Top	Flats Bottom			Length (in)	Taper (in/ft)	
1	45.000	43.56	51.72	0.375		0.000	0.181424	65
2	45.000	37.06	45.23	0.313	Slip Joint	69.000	0.181424	65
3	40.500	31.08	38.42	0.250	Slip Joint	57.000	0.181424	65
4	28.000	26.00	31.08	0.219	Butt Joint	0.000	0.181424	65

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
148.000	150.000	9	72" x 12" Panel	
148.000	150.000	6	Powerwave LGP 21903	
148.000	150.000	3	36" x 8" x 6" Panel	
148.000	150.000	6	Powerwave LGP 21401	
148.000	150.000	2	14" x 9" TTA	
148.000	150.000	1	Low Profile Platform	
135.000	135.000	6	Antel LPA-80063/4CF	
135.000	135.000	6	RFS FD9R6004/2C-3L	
135.000	135.000	3	Antel BXA-70063/6CF	
135.000	135.000	3	Antel BXA-171063-8CF-EDIN-X	
135.000	135.000	1	Low Profile Platform	
120.000	120.000	9	48" x 12" Panel	
120.000	120.000	3	72" x 12" Panel	
120.000	120.000	1	Low Profile Platform	
108.000	108.000	12	Decibel DB980H90E-M	
108.000	108.000	3	Sector Frame	
58.000	58.000	1	Side Arm	
58.000	58.000	1	GPS	
30.000	30.000	1	GPS	
30.000	30.000	1	Side Arm	

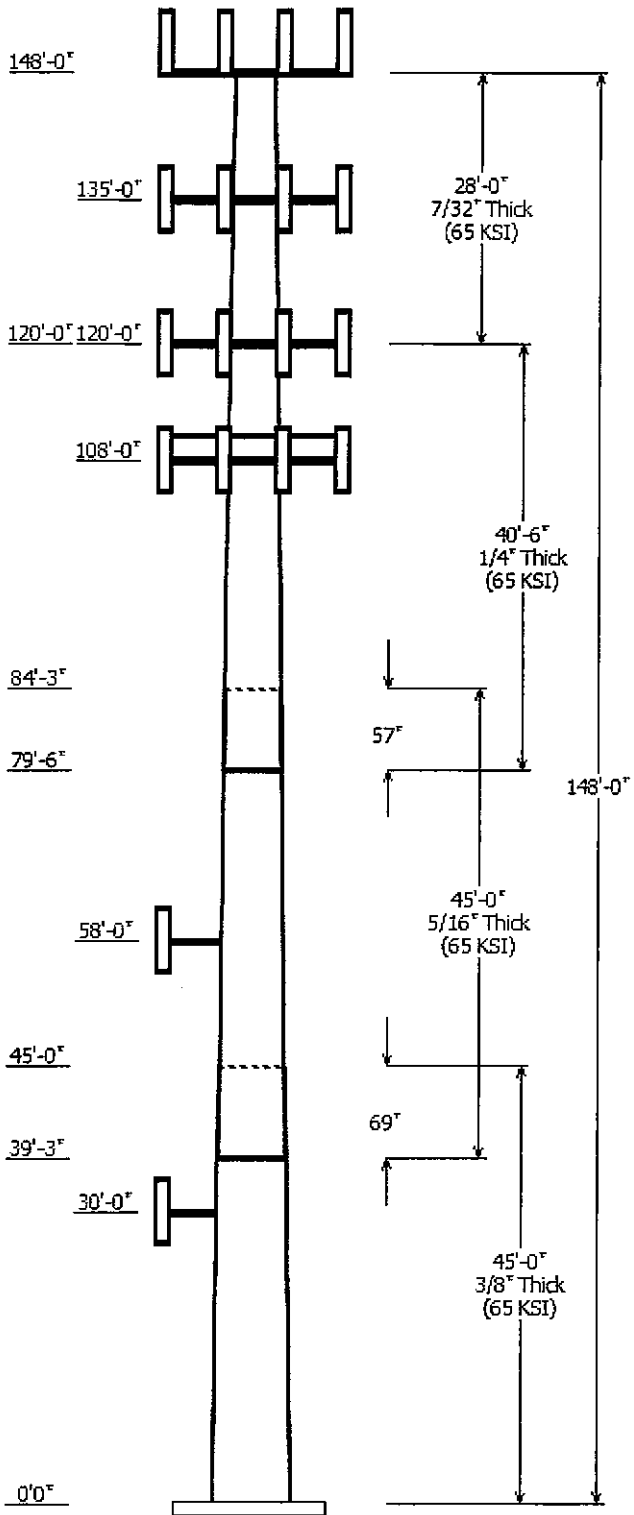
Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	30.000	1/2" Coax	No
0.000	58.000	1/2" Coax	No
0.000	108.0	1 1/4" Coax	No
0.000	120.0	1 5/8" Coax	No
0.000	135.0	1 5/8" Coax	No
0.000	148.0	1 5/8" Coax	No

Load Cases	
No Ice	85.00 mph Wind with No Ice
Ice	73.61 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

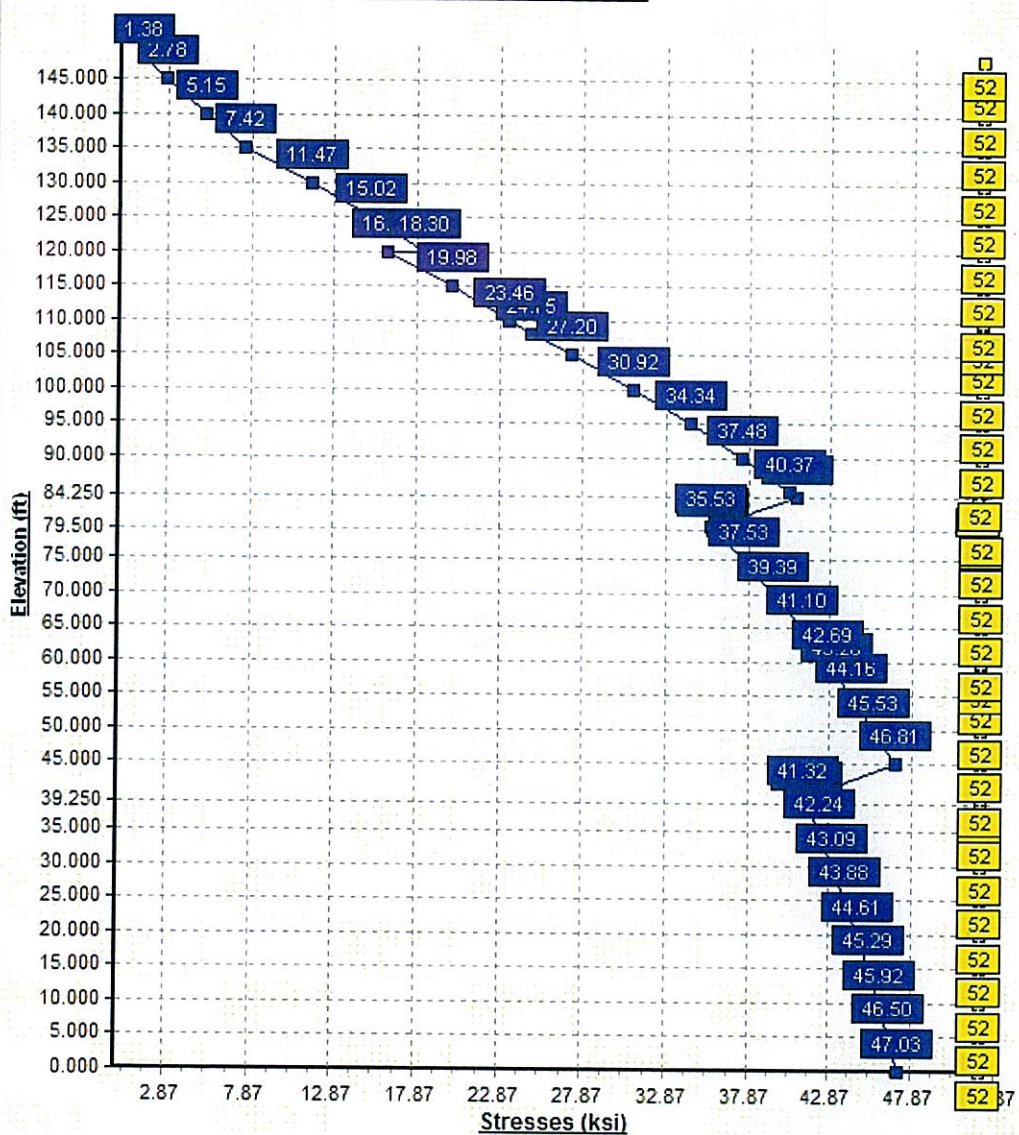
Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	3003.06	27.64	32.28
Ice	2563.34	22.98	40.31
Twist/Sway	1040.32	9.56	32.32



Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
Twist/Sway	0.00	0.000	0.000



Load Case : No Ice
Max Stress 90.5% at 0.0ft



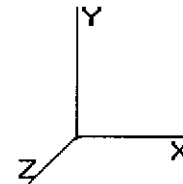
Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)

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Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top							
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	45.000	0.3750	65		0.00	8,615	51.72	0.00	61.12	20361.7	22.91	137.94	43.56	45.00	51.40	12112.2	19.07	116.16	0.181424	
2-18	45.000	0.3125	65	Slip	69.00	6,202	45.23	39.25	44.55	11356.3	24.11	144.74	37.06	84.25	36.45	6221.3	19.50	118.61	0.181424	
3-18	40.500	0.2500	65	Slip	57.00	3,773	38.42	79.50	30.29	5578.4	25.69	153.71	31.08	120.00	24.46	2937.6	20.51	124.32	0.181424	
4-18	28.000	0.2187	65	Butt	0.00	1,873	31.08	120.00	21.42	2577.7	23.65	142.11	26.00	148.00	17.90	1502.8	19.55	118.88	0.181424	
Shaft Weight						20,463														

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	Vert Ecc (ft)
148.00	14" x 9" TTA	2	10.00	1.230	1.00	18.36	1.460	1.00	0.000	2.000
148.00	36" x 8" x 6" Panel	3	25.00	2.800	1.00	40.00	3.240	1.00	0.000	2.000
148.00	72" x 12" Panel	9	45.00	8.400	0.78	92.28	9.230	0.78	0.000	2.000
148.00	Low Profile Platform	1	1500.00	21.700	1.00	2,250.00	27.200	1.00	0.000	2.000
148.00	Powerwave LGP 21401	6	14.10	1.290	0.67	21.26	1.530	0.67	0.000	2.000
148.00	Powerwave LGP 21903	6	5.50	0.270	0.67	7.90	0.380	0.67	0.000	2.000
135.00	Antel BXA-171063-8CF-EDIN-X	3	10.00	2.944	0.80	27.08	3.500	0.80	0.000	0.000
135.00	Antel BXA-70063/6CF	3	17.00	7.730	0.74	58.00	8.540	0.74	0.000	0.000
135.00	Antel LPA-80063/4CF	6	20.00	7.000	0.93	72.60	7.620	0.93	0.000	0.000
135.00	Low Profile Platform	1	1500.00	21.700	1.00	2,250.00	27.200	1.00	0.000	0.000
135.00	RFS FD9R6004/2C-3L	6	3.10	0.370	0.67	5.40	0.500	0.67	0.000	0.000
120.00	48" x 12" Panel	9	30.00	5.600	0.76	63.00	6.190	0.76	0.000	0.000
120.00	72" x 12" Panel	3	45.00	8.400	0.78	92.28	9.230	0.78	0.000	0.000
120.00	Low Profile Platform	1	1500.00	21.700	1.00	2,250.00	27.200	1.00	0.000	0.000
108.00	Decibel DB980H90E-M	12	8.50	3.896	0.80	29.47	4.589	0.80	0.000	0.000
108.00	Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.000
58.00	GPS	1	7.00	1.000	1.00	15.00	1.300	1.00	0.000	0.000
58.00	Side Arm	1	100.00	3.000	1.00	150.00	4.000	1.00	0.000	0.000
30.00	GPS	1	7.00	1.000	1.00	15.00	1.300	1.00	0.000	0.000
30.00	Side Arm	1	100.00	3.000	1.00	150.00	4.000	1.00	0.000	0.000
Totals		78	6958.20			11,407.97			Number of Loadings :	20

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	No Ice Weight (lb/ft)	CaAa (sf/ft)	Ice Weight (lb/ft)	CaAa (sf/ft)	Exposed To Wind
0.00	148.00	(12) 1 5/8" Coax	10.00	0.00	0.00	0.00	N
0.00	135.00	(12) 1 5/8" Coax	10.00	0.00	0.00	0.00	N
0.00	120.00	(12) 1 5/8" Coax	10.00	0.00	0.00	0.00	N
0.00	108.00	(12) 1 1/4" Coax	8.00	0.00	0.00	0.00	N
0.00	58.00	(1) 1/2" Coax	0.15	0.00	0.00	0.00	N
0.00	30.00	(1) 1/2" Coax	0.15	0.00	0.00	0.00	N
Total Weight			4,907.20 (lb)		0.00 (lb)		

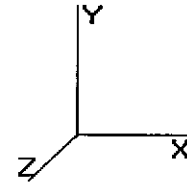
Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Segment Properties (Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3750	51.726	61.118	20,361.7	22.91	137.94	65	52	0.0
5.00		0.3750	50.819	60.038	19,301.6	22.48	135.52	65	52	1,030.7
10.00		0.3750	49.911	58.959	18,278.9	22.06	133.10	65	52	1,012.3
15.00		0.3750	49.004	57.879	17,293.0	21.63	130.68	65	52	993.9
20.00		0.3750	48.097	56.799	16,343.2	21.20	128.26	65	52	975.6
25.00		0.3750	47.190	55.720	15,428.9	20.78	125.84	65	52	957.2
30.00		0.3750	46.283	54.640	14,549.2	20.35	123.42	65	52	938.8
35.00		0.3750	45.376	53.560	13,703.7	19.93	121.00	65	52	920.5
39.25	Bot - Section 2	0.3750	44.605	52.643	13,011.3	19.56	118.95	65	52	767.9
40.00		0.3750	44.469	52.481	12,891.6	19.50	118.58	65	52	247.7
45.00	Top - Section 1	0.3125	44.187	43.516	10,583.3	23.52	141.40	65	52	1,631.7
50.00		0.3125	43.280	42.616	9,940.3	23.01	138.49	65	52	732.7
55.00		0.3125	42.372	41.717	9,323.9	22.50	135.59	65	52	717.4
58.00		0.3125	41.828	41.177	8,966.6	22.19	133.85	65	52	423.1
60.00		0.3125	41.465	40.817	8,733.6	21.99	132.69	65	52	279.0
65.00		0.3125	40.558	39.917	8,168.7	21.47	129.79	65	52	686.8
70.00		0.3125	39.651	39.018	7,628.7	20.96	126.88	65	52	671.5
75.00		0.3125	38.744	38.118	7,113.0	20.45	123.98	65	52	656.2
79.50	Bot - Section 3	0.3125	37.928	37.308	6,669.3	19.99	121.37	65	52	577.5
80.00		0.3125	37.837	37.218	6,621.1	19.94	121.08	65	52	114.9
84.25	Top - Section 2	0.2500	37.566	29.609	5,209.1	25.08	150.26	65	52	965.3
85.00		0.2500	37.430	29.501	5,152.3	24.99	149.72	65	52	75.4
90.00		0.2500	36.523	28.781	4,784.3	24.35	146.09	65	52	495.8
95.00		0.2500	35.615	28.061	4,434.3	23.71	142.46	65	52	483.6
100.0		0.2500	34.708	27.342	4,101.7	23.07	138.83	65	52	471.3
105.0		0.2500	33.801	26.622	3,786.3	22.43	135.20	65	52	459.1
108.0		0.2500	33.257	26.190	3,605.0	22.05	133.03	65	52	269.6
110.0		0.2500	32.894	25.902	3,487.4	21.79	131.58	65	52	177.3
115.0		0.2500	31.987	25.182	3,204.7	21.15	127.95	65	52	434.6
120.0	Top - Section 3	0.2500	31.080	24.463	2,937.6	20.51	124.32	65	52	422.3
120.0	Bot - Section 4	0.2187	31.080	21.422	2,577.7	23.65	142.11	65	52	
125.0		0.2187	30.173	20.792	2,357.0	22.92	137.96	65	52	359.1
130.0		0.2187	29.266	20.162	2,149.3	22.18	133.82	65	52	348.4
135.0		0.2187	28.359	19.533	1,954.1	21.45	129.67	65	52	337.7
140.0		0.2187	27.451	18.903	1,771.2	20.72	125.52	65	52	327.0
145.0		0.2187	26.544	18.273	1,600.0	19.99	121.37	65	52	316.3
148.0		0.2187	26.000	17.896	1,502.8	19.55	118.88	65	52	184.6
										20,462.6

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

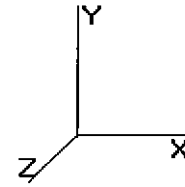
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Base Elev : 0.000 (ft)

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Load Case: No Ice

85.00 mph Wind with No Ice

23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Shaft Segment Forces

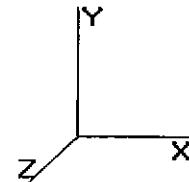
Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load (lb)	Tot Dead Load (lb)
0.00		0.00	1.00 18.496	31.25 366.39	0.650	0.000	0.00	0.000	0.00	0.00	0.0	0.0	0.0
5.00		0.00	1.00 18.496	31.25 359.96	0.650	0.000	5.00	21.363	13.89	434.1	0.0	1,030.7	
10.00		0.00	1.00 18.496	31.25 353.54	0.650	0.000	5.00	20.985	13.64	426.4	0.0	1,012.3	
15.00		0.00	1.00 18.496	31.25 347.11	0.650	0.000	5.00	20.607	13.39	418.7	0.0	993.9	
20.00		0.00	1.00 18.496	31.25 340.68	0.650	0.000	5.00	20.229	13.15	411.0	0.0	975.6	
25.00		0.00	1.00 18.496	31.25 334.26	0.650	0.000	5.00	19.852	12.90	403.3	0.0	957.2	
30.00	Appertunance(s)	0.00	1.00 18.496	31.25 327.83	0.650	0.000	5.00	19.474	12.66	395.7	0.0	938.8	
35.00		0.00	1.01 18.810	31.78 324.12	0.650	0.000	5.00	19.096	12.41	394.6	0.0	920.5	
39.25	Bot - Section 2	0.00	1.05 19.436	32.84 323.87	0.650	0.000	4.25	15.934	10.36	340.2	0.0	767.9	
40.00		0.00	1.05 19.541	33.02 323.76	0.650	0.000	0.75	2.823	1.83	60.6	0.0	247.7	
45.00	Top - Section 1	0.00	1.09 20.210	34.15 322.54	0.650	0.000	5.00	18.600	12.09	412.9	0.0	1,631.7	
50.00		0.00	1.12 20.827	35.19 325.31	0.650	0.000	5.00	18.222	11.84	416.9	0.0	732.7	
55.00		0.00	1.15 21.402	36.17 322.85	0.650	0.000	5.00	17.844	11.60	419.5	0.0	717.4	
58.00	Appertunance(s)	0.00	1.17 21.730	36.72 321.14	0.650	0.000	3.00	10.525	6.84	251.2	0.0	423.1	
60.00		0.00	1.18 21.941	37.08 319.89	0.650	0.000	2.00	6.941	4.51	167.3	0.0	279.0	
65.00		0.00	1.21 22.449	37.93 316.50	0.650	0.000	5.00	17.088	11.11	421.4	0.0	686.8	
70.00		0.00	1.24 22.929	38.75 312.71	0.650	0.000	5.00	16.710	10.86	420.9	0.0	671.5	
75.00		0.00	1.26 23.386	39.52 308.58	0.650	0.000	5.00	16.332	10.62	419.6	0.0	656.2	
79.50	Bot - Section 3	0.00	1.28 23.778	40.18 304.60	0.650	0.000	4.50	14.376	9.34	375.5	0.0	577.5	
80.00		0.00	1.28 23.821	40.25 304.15	0.650	0.000	0.50	1.599	1.04	41.8	0.0	114.9	
84.25	Top - Section 2	0.00	1.30 24.176	40.85 300.16	0.650	0.000	4.25	13.441	8.74	357.0	0.0	965.3	
85.00		0.00	1.31 24.237	40.96 303.49	0.650	0.000	0.75	2.344	1.52	62.4	0.0	75.4	
90.00		0.00	1.33 24.636	41.63 298.57	0.650	0.000	5.00	15.407	10.01	416.9	0.0	495.8	
95.00		0.00	1.35 25.020	42.28 293.41	0.650	0.000	5.00	15.029	9.77	413.1	0.0	483.6	
100.00		0.00	1.37 25.389	42.90 288.04	0.650	0.000	5.00	14.651	9.52	408.6	0.0	471.3	
105.00		0.00	1.39 25.745	43.51 282.47	0.650	0.000	5.00	14.273	9.28	403.7	0.0	459.1	
108.00	Appertunance(s)	0.00	1.40 25.953	43.86 279.04	0.650	0.000	3.00	8.382	5.45	239.0	0.0	269.6	
110.00		0.00	1.41 26.090	44.09 276.72	0.650	0.000	2.00	5.513	3.58	158.0	0.0	177.3	
115.00		0.00	1.42 26.423	44.65 270.81	0.650	0.000	5.00	13.517	8.79	392.3	0.0	434.6	
120.00	Top - Section 3	0.00	1.44 26.747	45.20 264.73	0.650	0.000	5.00	13.139	8.54	386.0	0.0	422.3	
125.00		0.00	1.46 27.060	45.73 258.51	0.650	0.000	5.00	12.761	8.29	379.3	0.0	359.1	
130.00		0.00	1.48 27.365	46.24 252.14	0.650	0.000	5.00	12.383	8.05	372.2	0.0	348.4	
135.00	Appertunance(s)	0.00	1.49 27.662	46.74 245.65	0.650	0.000	5.00	12.005	7.80	364.8	0.0	337.7	
140.00		0.00	1.51 27.951	47.23 239.03	0.650	0.000	5.00	11.627	7.56	357.0	0.0	327.0	
145.00		0.00	1.52 28.233	47.71 232.29	0.650	0.000	5.00	11.249	7.31	348.9	0.0	316.3	
148.00	Appertunance(s)	0.00	1.53 28.398	47.99 228.20	0.650	0.000	3.00	6.568	4.27	204.9	0.0	184.6	
Totals:								148.00			11,895.7	0.0	20,462.6

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice 85.00 mph Wind with No Ice 23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Discrete Appurtenance Segment Forces

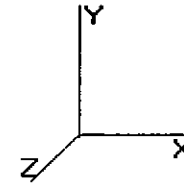
Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
30.00	GPS	1	18.496	31.258	1.00	1.00	0.000	0.000	31.26	0.00	0.00	7.00
30.00	Side Arm	1	18.496	31.258	1.00	3.00	0.000	0.000	93.77	0.00	0.00	100.00
58.00	GPS	1	21.730	36.723	1.00	1.00	0.000	0.000	36.72	0.00	0.00	7.00
58.00	Side Arm	1	21.730	36.723	1.00	3.00	0.000	0.000	110.17	0.00	0.00	100.00
108.0	Decibel DB980H90E-M	12	25.953	43.861	0.80	37.40	0.000	0.000	1,640.48	0.00	0.00	102.00
108.0	Sector Frame	3	25.953	43.861	0.75	32.40	0.000	0.000	1,421.11	0.00	0.00	900.00
120.0	48" x 12" Panel	9	26.747	45.202	0.76	38.30	0.000	0.000	1,731.41	0.00	0.00	270.00
120.0	72" x 12" Panel	3	26.747	45.202	0.78	19.65	0.000	0.000	888.36	0.00	0.00	135.00
120.0	Low Profile Platform	1	26.747	45.202	1.00	21.70	0.000	0.000	980.87	0.00	0.00	1,500.00
135.0	Antel BXA-171063-8CF	3	27.662	46.749	0.80	7.07	0.000	0.000	330.31	0.00	0.00	30.00
135.0	Antel BXA-70063/6CF	3	27.662	46.749	0.74	17.16	0.000	0.000	802.24	0.00	0.00	51.00
135.0	Antel LPA-80063/4CF	6	27.662	46.749	0.93	39.06	0.000	0.000	1,826.01	0.00	0.00	120.00
135.0	Low Profile Platform	1	27.662	46.749	1.00	21.70	0.000	0.000	1,014.44	0.00	0.00	1,500.00
135.0	RFS FD9R6004/2C-3L	6	27.662	46.749	0.67	1.49	0.000	0.000	69.53	0.00	0.00	18.60
148.0	14" x 9" TTA	2	28.507	48.177	1.00	2.46	0.000	2.000	118.52	0.00	237.03	20.00
148.0	36" x 8" x 6" Panel	3	28.507	48.177	1.00	8.40	0.000	2.000	404.69	0.00	809.38	75.00
148.0	72" x 12" Panel	9	28.507	48.177	0.78	58.97	0.000	2.000	2,840.93	0.00	5,681.86	405.00
148.0	Low Profile Platform	1	28.507	48.177	1.00	21.70	0.000	2.000	1,045.45	0.00	2,090.89	1,500.00
148.0	Powerwave LGP	6	28.507	48.177	0.67	5.19	0.000	2.000	249.84	0.00	499.68	84.60
148.0	Powerwave LGP	6	28.507	48.177	0.67	1.09	0.000	2.000	52.29	0.00	104.58	33.00
									15,688.39			6,958.20

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice	85.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	434.06	1,222.17	0.00	0.00
10.00	426.38	1,203.80	0.00	0.00
15.00	418.70	1,185.43	0.00	0.00
20.00	411.02	1,167.06	0.00	0.00
25.00	403.34	1,148.69	0.00	0.00
30.00	520.69	1,237.32	0.00	0.00
35.00	394.56	1,111.20	0.00	0.00
39.25	340.19	930.08	0.00	0.00
40.00	60.59	276.28	0.00	0.00
45.00	412.93	1,822.50	0.00	0.00
50.00	416.90	923.47	0.00	0.00
55.00	419.53	908.17	0.00	0.00
58.00	398.13	644.55	0.00	0.00
60.00	167.30	355.01	0.00	0.00
65.00	421.39	876.80	0.00	0.00
70.00	420.89	861.49	0.00	0.00
75.00	419.56	846.19	0.00	0.00
79.50	375.50	748.48	0.00	0.00
80.00	41.85	133.88	0.00	0.00
84.25	356.96	1,126.83	0.00	0.00
85.00	62.40	103.93	0.00	0.00
90.00	416.95	685.80	0.00	0.00
95.00	413.05	673.56	0.00	0.00
100.0	408.61	661.31	0.00	0.00
105.0	403.65	649.07	0.00	0.00
108.0	3,300.57	1,385.56	0.00	0.00
110.0	157.99	237.26	0.00	0.00
115.0	392.34	584.57	0.00	0.00
120.0	3,986.67	2,477.33	0.00	0.00
125.0	379.33	459.11	0.00	0.00
130.0	372.24	448.40	0.00	0.00
135.0	4,407.32	2,157.28	0.00	0.00
140.0	357.00	376.97	0.00	0.00
145.0	348.87	366.26	0.00	0.00
148.0	4,916.60	2,332.21	0.00	9,423.42
Totals:	27,584.07	32,328.03	0.00	9,423.42

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

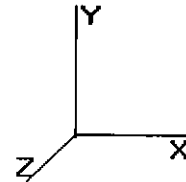
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Base Elev : 0.000 (ft)

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Load Case: No Ice 85.00 mph Wind with No Ice 23 Iterations
 Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

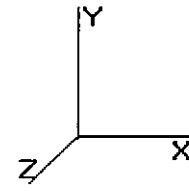
Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-27.643	-32.277	0.000	0.000	0.000	-3,003.056	0.000	0.000	0.000	0.000
5.00	-27.317	-30.958	0.000	0.000	0.000	-2,864.846	-0.110	0.000	0.110	-0.205
10.00	-26.992	-29.660	0.000	0.000	0.000	-2,728.261	-0.435	0.000	0.435	-0.411
15.00	-26.665	-28.382	0.000	0.000	0.000	-2,593.305	-0.977	0.000	0.977	-0.618
20.00	-26.338	-27.124	0.000	0.000	0.000	-2,459.981	-1.736	0.000	1.736	-0.826
25.00	-26.011	-25.888	0.000	0.000	0.000	-2,328.291	-2.713	0.000	2.713	-1.034
30.00	-25.555	-24.568	0.000	0.000	0.000	-2,198.240	-3.908	0.000	3.908	-1.243
35.00	-25.213	-23.382	0.000	0.000	0.000	-2,070.467	-5.322	0.000	5.322	-1.452
39.25	-24.889	-22.416	0.000	0.000	0.000	-1,963.311	-6.696	0.000	6.696	-1.630
40.00	-24.867	-22.089	0.000	0.000	0.000	-1,944.645	-6.954	0.000	6.954	-1.662
45.00	-24.472	-20.192	0.000	0.000	0.000	-1,820.310	-8.806	0.000	8.806	-1.869
50.00	-24.097	-19.190	0.000	0.000	0.000	-1,697.954	-10.875	0.000	10.875	-2.076
55.00	-23.703	-18.222	0.000	0.000	0.000	-1,577.469	-13.175	0.000	13.175	-2.310
58.00	-23.314	-17.547	0.000	0.000	0.000	-1,506.362	-14.672	0.000	14.672	-2.452
60.00	-23.180	-17.134	0.000	0.000	0.000	-1,459.734	-15.719	0.000	15.719	-2.546
65.00	-22.783	-16.187	0.000	0.000	0.000	-1,343.834	-18.508	0.000	18.508	-2.774
70.00	-22.378	-15.262	0.000	0.000	0.000	-1,229.922	-21.533	0.000	21.533	-2.998
75.00	-21.965	-14.361	0.000	0.000	0.000	-1,118.033	-24.790	0.000	24.790	-3.217
79.50	-21.572	-13.596	0.000	0.000	0.000	-1,019.192	-27.914	0.000	27.914	-3.409
80.00	-21.546	-13.427	0.000	0.000	0.000	-1,008.407	-28.272	0.000	28.272	-3.431
84.25	-21.142	-12.287	0.000	0.000	0.000	-916.839	-31.406	0.000	31.406	-3.607
85.00	-21.102	-12.137	0.000	0.000	0.000	-900.983	-31.975	0.000	31.975	-3.638
90.00	-20.686	-11.398	0.000	0.000	0.000	-795.474	-35.909	0.000	35.909	-3.872
95.00	-20.268	-10.679	0.000	0.000	0.000	-692.043	-40.082	0.000	40.082	-4.093
100.0	-19.846	-9.981	0.000	0.000	0.000	-590.707	-44.478	0.000	44.478	-4.299
105.0	-19.417	-9.316	0.000	0.000	0.000	-491.478	-49.080	0.000	49.080	-4.487
108.0	-16.029	-8.173	0.000	0.000	0.000	-433.227	-51.931	0.000	51.931	-4.591
110.0	-15.868	-7.919	0.000	0.000	0.000	-401.169	-53.867	0.000	53.867	-4.657
115.0	-15.446	-7.332	0.000	0.000	0.000	-321.830	-58.821	0.000	58.821	-4.804
120.0	-11.274	-5.180	0.000	0.000	0.000	-244.600	-63.917	0.000	63.917	-4.930
125.0	-10.865	-4.736	0.000	0.000	0.000	-188.230	-69.132	0.000	69.132	-5.035
130.0	-10.460	-4.307	0.000	0.000	0.000	-133.908	-74.453	0.000	74.453	-5.132
135.0	-5.879	-2.550	0.000	0.000	0.000	-81.606	-79.862	0.000	79.862	-5.203
140.0	-5.491	-2.203	0.000	0.000	0.000	-52.210	-85.332	0.000	85.332	-5.252
145.0	-5.111	-1.869	0.000	0.000	0.000	-24.755	-90.843	0.000	90.843	-5.283
148.0	-4.917	0.000	0.000	0.000	0.000	-9.423	-94.162	0.000	94.162	-5.292

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice 85.00 mph Wind with No Ice 23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.53	0.91	0.00	0.00	0.00	46.48	47.03	52.0	0.0	0.905
5.00	0.52	0.92	0.00	0.00	0.00	45.95	46.50	52.0	0.0	0.895
10.00	0.50	0.92	0.00	0.00	0.00	45.39	45.92	52.0	0.0	0.883
15.00	0.49	0.93	0.00	0.00	0.00	44.77	45.29	52.0	0.0	0.871
20.00	0.48	0.93	0.00	0.00	0.00	44.11	44.61	52.0	0.0	0.858
25.00	0.46	0.94	0.00	0.00	0.00	43.39	43.88	52.0	0.0	0.844
30.00	0.45	0.94	0.00	0.00	0.00	42.60	43.09	52.0	0.0	0.829
35.00	0.44	0.95	0.00	0.00	0.00	41.77	42.24	52.0	0.0	0.813
39.25	0.43	0.95	0.00	0.00	0.00	41.01	41.46	52.0	0.0	0.798
40.00	0.42	0.95	0.00	0.00	0.00	40.87	41.32	52.0	0.0	0.795
45.00	0.46	1.13	0.00	0.00	0.00	46.30	46.81	52.0	0.0	0.901
50.00	0.45	1.14	0.00	0.00	0.00	45.04	45.53	52.0	0.0	0.876
55.00	0.44	1.15	0.00	0.00	0.00	43.68	44.16	52.0	0.0	0.850
58.00	0.43	1.14	0.00	0.00	0.00	42.81	43.28	52.0	0.0	0.833
60.00	0.42	1.14	0.00	0.00	0.00	42.22	42.69	52.0	0.0	0.821
65.00	0.41	1.15	0.00	0.00	0.00	40.65	41.10	52.0	0.0	0.791
70.00	0.39	1.16	0.00	0.00	0.00	38.95	39.39	52.0	0.0	0.758
75.00	0.38	1.16	0.00	0.00	0.00	37.10	37.53	52.0	0.0	0.722
79.50	0.36	1.17	0.00	0.00	0.00	35.31	35.73	52.0	0.0	0.688
80.00	0.36	1.17	0.00	0.00	0.00	35.11	35.53	52.0	0.0	0.684
84.25	0.41	1.44	0.00	0.00	0.00	40.28	40.77	51.7	0.0	0.788
85.00	0.41	1.44	0.00	0.00	0.00	39.88	40.37	51.8	0.0	0.779
90.00	0.40	1.45	0.00	0.00	0.00	37.00	37.48	52.0	0.0	0.721
95.00	0.38	1.46	0.00	0.00	0.00	33.86	34.34	52.0	0.0	0.661
100.00	0.37	1.46	0.00	0.00	0.00	30.45	30.92	52.0	0.0	0.595
105.00	0.35	1.47	0.00	0.00	0.00	26.73	27.20	52.0	0.0	0.523
108.00	0.31	1.23	0.00	0.00	0.00	24.35	24.75	52.0	0.0	0.476
110.00	0.31	1.23	0.00	0.00	0.00	23.05	23.46	52.0	0.0	0.451
115.00	0.29	1.24	0.00	0.00	0.00	19.57	19.98	52.0	0.0	0.384
120.00	0.21	0.93	0.00	0.00	0.00	15.77	16.06	52.0	0.0	0.309
120.00	0.24	1.06	0.00	0.00	0.00	17.97	18.30	52.0	0.0	0.352
125.00	0.23	1.05	0.00	0.00	0.00	14.68	15.02	52.0	0.0	0.289
130.00	0.21	1.05	0.00	0.00	0.00	11.11	11.47	52.0	0.0	0.221
135.00	0.13	0.61	0.00	0.00	0.00	7.22	7.42	52.0	0.0	0.143
140.00	0.12	0.59	0.00	0.00	0.00	4.93	5.15	52.0	0.0	0.099
145.00	0.10	0.56	0.00	0.00	0.00	2.50	2.78	52.0	0.0	0.054
148.00	0.00	0.55	0.00	0.00	0.00	0.99	1.38	52.0	0.0	0.027

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

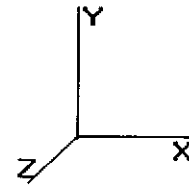
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Base Elev : 0.000 (ft)

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Load Case: Ice

73.61 mph Wind with Ice

23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Shaft Segment Forces

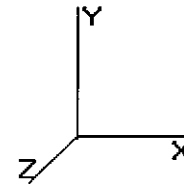
Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00 13.871	23.44 317.29	0.650		0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00 13.871	23.44 311.72	0.650		0.500	5.00	21.780	14.16	331.9	158.4	1,189.0
10.00		0.00	1.00 13.871	23.44 306.16	0.650		0.500	5.00	21.402	13.91	326.1	155.6	1,167.9
15.00		0.00	1.00 13.871	23.44 300.60	0.650		0.500	5.00	21.024	13.67	320.4	152.8	1,146.7
20.00		0.00	1.00 13.871	23.44 295.03	0.650		0.500	5.00	20.646	13.42	314.6	150.0	1,125.5
25.00		0.00	1.00 13.871	23.44 289.47	0.650		0.500	5.00	20.268	13.17	308.8	147.2	1,104.4
30.00	Appertunance(s)	0.00	1.00 13.871	23.44 283.90	0.650		0.500	5.00	19.890	12.93	303.1	144.4	1,083.2
35.00		0.00	1.01 14.106	23.84 280.69	0.650		0.500	5.00	19.512	12.68	302.4	141.6	1,062.0
39.25	Bot - Section 2	0.00	1.05 14.576	24.63 280.47	0.650		0.500	4.25	16.288	10.59	260.8	118.3	886.2
40.00		0.00	1.05 14.655	24.76 280.37	0.650		0.500	0.75	2.885	1.88	46.4	21.1	268.8
45.00	Top - Section 1	0.00	1.09 15.156	25.61 279.32	0.650		0.500	5.00	19.017	12.36	316.6	137.9	1,769.6
50.00		0.00	1.12 15.620	26.39 281.71	0.650		0.500	5.00	18.639	12.12	319.8	135.1	867.8
55.00		0.00	1.15 16.051	27.12 279.59	0.650		0.500	5.00	18.261	11.87	322.0	132.3	849.7
58.00	Appertunance(s)	0.00	1.17 16.296	27.54 278.10	0.650		0.500	3.00	10.775	7.00	192.9	78.4	501.5
60.00		0.00	1.18 16.455	27.80 277.03	0.650		0.500	2.00	7.108	4.62	128.5	51.8	330.8
65.00		0.00	1.21 16.836	28.45 274.08	0.650		0.500	5.00	17.505	11.38	323.7	126.7	813.5
70.00		0.00	1.24 17.196	29.06 270.81	0.650		0.500	5.00	17.127	11.13	323.5	123.9	795.4
75.00		0.00	1.26 17.538	29.63 267.23	0.650		0.500	5.00	16.749	10.89	322.7	121.1	777.3
79.50	Bot - Section 3	0.00	1.28 17.833	30.13 263.79	0.650		0.500	4.50	14.751	9.59	289.0	106.7	684.2
80.00		0.00	1.28 17.865	30.19 263.39	0.650		0.500	0.50	1.641	1.07	32.2	12.0	126.9
84.25	Top - Section 2	0.00	1.30 18.131	30.64 259.94	0.650		0.500	4.25	13.795	8.97	274.8	99.8	1,065.2
85.00		0.00	1.31 18.177	30.71 262.82	0.650		0.500	0.75	2.406	1.56	48.0	17.6	93.0
90.00		0.00	1.33 18.476	31.22 258.56	0.650		0.500	5.00	15.823	10.29	321.1	114.2	610.0
95.00		0.00	1.35 18.764	31.71 254.09	0.650		0.500	5.00	15.445	10.04	318.4	111.4	595.0
100.0		0.00	1.37 19.041	32.17 249.44	0.650		0.500	5.00	15.067	9.79	315.2	108.6	580.0
105.0		0.00	1.39 19.308	32.63 244.62	0.650		0.500	5.00	14.689	9.55	311.6	105.8	564.9
108.0	Appertunance(s)	0.00	1.40 19.464	32.89 241.65	0.650		0.500	3.00	8.632	5.61	184.6	62.5	332.1
110.0		0.00	1.41 19.566	33.06 239.64	0.650		0.500	2.00	5.679	3.69	122.1	41.2	218.5
115.0		0.00	1.42 19.816	33.49 234.52	0.650		0.500	5.00	13.934	9.06	303.3	100.2	534.8
120.0	Top - Section 3	0.00	1.44 20.059	33.89 229.26	0.650		0.500	5.00	13.556	8.81	298.7	97.4	519.8
125.0		0.00	1.46 20.294	34.29 223.87	0.650		0.500	5.00	13.178	8.57	293.8	94.6	453.8
130.0		0.00	1.48 20.523	34.68 218.36	0.650		0.500	5.00	12.800	8.32	288.6	91.8	440.2
135.0	Appertunance(s)	0.00	1.49 20.745	35.05 212.73	0.650		0.500	5.00	12.422	8.07	283.1	89.0	426.7
140.0		0.00	1.51 20.962	35.42 207.00	0.650		0.500	5.00	12.044	7.83	277.3	86.3	413.2
145.0		0.00	1.52 21.173	35.78 201.17	0.650		0.500	5.00	11.666	7.58	271.3	83.5	399.7
148.0	Appertunance(s)	0.00	1.53 21.297	35.99 197.62	0.650		0.500	3.00	6.818	4.43	159.5	49.1	233.7
Totals:								148.00			9,156.5	3,568.2	24,030.9

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice	73.61 mph Wind with Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
30.00	GPS	1	13.871	23.442	1.00	1.30	0.000	0.000	30.47	0.00	0.00	15.00
30.00	Side Arm	1	13.871	23.442	1.00	4.00	0.000	0.000	93.77	0.00	0.00	150.00
58.00	GPS	1	16.296	27.541	1.00	1.30	0.000	0.000	35.80	0.00	0.00	15.00
58.00	Side Arm	1	16.296	27.541	1.00	4.00	0.000	0.000	110.16	0.00	0.00	150.00
108.0	Decibel DB980H90E-M	12	19.464	32.894	0.80	44.05	0.000	0.000	1,449.12	0.00	0.00	353.69
108.0	Sector Frame	3	19.464	32.894	0.75	43.20	0.000	0.000	1,421.01	0.00	0.00	1,245.00
120.0	48" x 12" Panel	9	20.059	33.899	0.76	42.34	0.000	0.000	1,435.28	0.00	0.00	567.00
120.0	72" x 12" Panel	3	20.059	33.899	0.78	21.60	0.000	0.000	732.06	0.00	0.00	276.84
120.0	Low Profile Platform	1	20.059	33.899	1.00	27.20	0.000	0.000	922.05	0.00	0.00	2,250.00
135.0	Antel BXA-171063-8CF	3	20.745	35.059	0.80	8.40	0.000	0.000	294.50	0.00	0.00	81.24
135.0	Antel BXA-70063/6CF	3	20.745	35.059	0.74	18.96	0.000	0.000	664.68	0.00	0.00	174.00
135.0	Antel LPA-80063/4CF	6	20.745	35.059	0.93	42.52	0.000	0.000	1,490.71	0.00	0.00	435.60
135.0	Low Profile Platform	1	20.745	35.059	1.00	27.20	0.000	0.000	953.61	0.00	0.00	2,250.00
135.0	RFS FD9R6004/2C-3L	6	20.745	35.059	0.67	2.01	0.000	0.000	70.47	0.00	0.00	32.40
148.0	14" x 9" TTA	2	21.379	36.131	1.00	2.92	0.000	2.000	105.50	0.00	211.00	36.72
148.0	36" x 8" x 6" Panel	3	21.379	36.131	1.00	9.72	0.000	2.000	351.19	0.00	702.38	120.00
148.0	72" x 12" Panel	9	21.379	36.131	0.78	64.79	0.000	2.000	2,341.08	0.00	4,682.17	830.52
148.0	Low Profile Platform	1	21.379	36.131	1.00	27.20	0.000	2.000	982.76	0.00	1,965.51	2,250.00
148.0	Powerwave LGP	6	21.379	36.131	0.67	6.15	0.000	2.000	222.23	0.00	444.45	127.56
148.0	Powerwave LGP	6	21.379	36.131	0.67	1.53	0.000	2.000	55.19	0.00	110.39	47.40
									13,761.66			11,407.97

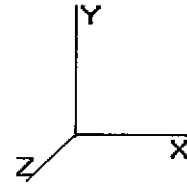
Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice 73.61 mph Wind with Ice 23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	331.87	1,380.52	0.00	0.00
10.00	326.11	1,359.36	0.00	0.00
15.00	320.35	1,338.19	0.00	0.00
20.00	314.59	1,317.02	0.00	0.00
25.00	308.84	1,295.85	0.00	0.00
30.00	427.32	1,439.68	0.00	0.00
35.00	302.36	1,252.76	0.00	0.00
39.25	260.80	1,048.38	0.00	0.00
40.00	46.45	297.38	0.00	0.00
45.00	316.62	1,960.39	0.00	0.00
50.00	319.81	1,058.57	0.00	0.00
55.00	321.97	1,040.46	0.00	0.00
58.00	338.85	780.92	0.00	0.00
60.00	128.48	406.80	0.00	0.00
65.00	323.73	1,003.50	0.00	0.00
70.00	323.52	985.39	0.00	0.00
75.00	322.68	967.28	0.00	0.00
79.50	288.96	855.20	0.00	0.00
80.00	32.20	145.86	0.00	0.00
84.25	274.75	1,226.68	0.00	0.00
85.00	48.04	121.48	0.00	0.00
90.00	321.15	800.05	0.00	0.00
95.00	318.36	785.00	0.00	0.00
100.0	315.15	769.95	0.00	0.00
105.0	311.56	754.91	0.00	0.00
108.0	3,054.70	2,044.75	0.00	0.00
110.0	122.07	278.48	0.00	0.00
115.0	303.31	684.82	0.00	0.00
120.0	3,388.08	3,763.61	0.00	0.00
125.0	293.77	553.76	0.00	0.00
130.0	288.56	540.24	0.00	0.00
135.0	3,757.04	3,499.97	0.00	0.00
140.0	277.33	463.22	0.00	0.00
145.0	271.33	449.71	0.00	0.00
148.0	4,217.46	3,675.87	0.00	8,115.91
Totals:	22,918.18	40,346.02	0.00	8,115.91

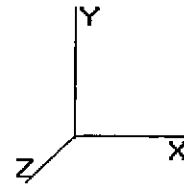
Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice

73.61 mph Wind with Ice

23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Stresses

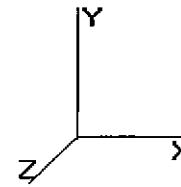
Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.66	0.76	0.00	0.00	0.00	39.67	40.35	52.0	0.0	0.776
5.00	0.65	0.76	0.00	0.00	0.00	39.28	39.94	52.0	0.0	0.769
10.00	0.63	0.77	0.00	0.00	0.00	38.84	39.50	52.0	0.0	0.760
15.00	0.62	0.78	0.00	0.00	0.00	38.36	39.01	52.0	0.0	0.750
20.00	0.61	0.78	0.00	0.00	0.00	37.84	38.47	52.0	0.0	0.740
25.00	0.60	0.79	0.00	0.00	0.00	37.26	37.89	52.0	0.0	0.729
30.00	0.58	0.79	0.00	0.00	0.00	36.64	37.24	52.0	0.0	0.717
35.00	0.57	0.80	0.00	0.00	0.00	35.96	36.56	52.0	0.0	0.703
39.25	0.56	0.81	0.00	0.00	0.00	35.34	35.93	52.0	0.0	0.691
40.00	0.55	0.81	0.00	0.00	0.00	35.23	35.81	52.0	0.0	0.689
45.00	0.62	0.96	0.00	0.00	0.00	39.96	40.62	52.0	0.0	0.781
50.00	0.61	0.97	0.00	0.00	0.00	38.92	39.56	52.0	0.0	0.761
55.00	0.60	0.98	0.00	0.00	0.00	37.78	38.42	52.0	0.0	0.739
58.00	0.58	0.97	0.00	0.00	0.00	37.06	37.68	52.0	0.0	0.725
60.00	0.58	0.98	0.00	0.00	0.00	36.57	37.18	52.0	0.0	0.715
65.00	0.56	0.99	0.00	0.00	0.00	35.24	35.85	52.0	0.0	0.690
70.00	0.55	0.99	0.00	0.00	0.00	33.80	34.40	52.0	0.0	0.662
75.00	0.54	1.00	0.00	0.00	0.00	32.23	32.82	52.0	0.0	0.631
79.50	0.53	1.01	0.00	0.00	0.00	30.70	31.28	52.0	0.0	0.602
80.00	0.52	1.01	0.00	0.00	0.00	30.53	31.10	52.0	0.0	0.598
84.25	0.62	1.25	0.00	0.00	0.00	35.05	35.73	51.7	0.0	0.691
85.00	0.61	1.25	0.00	0.00	0.00	34.70	35.38	51.8	0.0	0.683
90.00	0.60	1.26	0.00	0.00	0.00	32.21	32.88	52.0	0.0	0.633
95.00	0.58	1.27	0.00	0.00	0.00	29.49	30.15	52.0	0.0	0.580
100.00	0.57	1.28	0.00	0.00	0.00	26.51	27.17	52.0	0.0	0.523
105.00	0.56	1.29	0.00	0.00	0.00	23.25	23.91	52.0	0.0	0.460
108.00	0.50	1.07	0.00	0.00	0.00	21.15	21.73	52.0	0.0	0.418
110.00	0.49	1.07	0.00	0.00	0.00	20.04	20.61	52.0	0.0	0.396
115.00	0.48	1.07	0.00	0.00	0.00	17.02	17.60	52.0	0.0	0.339
120.00	0.35	0.80	0.00	0.00	0.00	13.72	14.14	52.0	0.0	0.272
120.00	0.40	0.92	0.00	0.00	0.00	15.64	16.11	52.0	0.0	0.310
125.00	0.38	0.92	0.00	0.00	0.00	12.80	13.27	52.0	0.0	0.255
130.00	0.37	0.91	0.00	0.00	0.00	9.69	10.18	52.0	0.0	0.196
135.00	0.21	0.53	0.00	0.00	0.00	6.29	6.57	52.0	0.0	0.126
140.00	0.20	0.51	0.00	0.00	0.00	4.31	4.59	52.0	0.0	0.088
145.00	0.18	0.50	0.00	0.00	0.00	2.18	2.52	52.0	0.0	0.048
148.00	0.00	0.47	0.00	0.00	0.00	0.86	1.19	52.0	0.0	0.023

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway

50.00 mph Wind with No Ice

22 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	6.400	10.81	215.52	0.650	0.000	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	6.400	10.81	211.74	0.650	0.000	5.00	21.363	13.89	150.2	0.0	1,030.7
10.00		0.00	1.00	6.400	10.81	207.96	0.650	0.000	5.00	20.985	13.64	147.5	0.0	1,012.3
15.00		0.00	1.00	6.400	10.81	204.18	0.650	0.000	5.00	20.607	13.39	144.9	0.0	993.9
20.00		0.00	1.00	6.400	10.81	200.40	0.650	0.000	5.00	20.229	13.15	142.2	0.0	975.6
25.00		0.00	1.00	6.400	10.81	196.62	0.650	0.000	5.00	19.852	12.90	139.6	0.0	957.2
30.00	Appertunance(s)	0.00	1.00	6.400	10.81	192.84	0.650	0.000	5.00	19.474	12.66	136.9	0.0	938.8
35.00		0.00	1.01	6.509	10.99	190.66	0.650	0.000	5.00	19.096	12.41	136.5	0.0	920.5
39.25	Bot - Section 2	0.00	1.05	6.725	11.36	190.51	0.650	0.000	4.25	15.934	10.36	117.7	0.0	767.9
40.00		0.00	1.05	6.762	11.42	190.44	0.650	0.000	0.75	2.823	1.83	21.0	0.0	247.7
45.00	Top - Section 1	0.00	1.09	6.993	11.81	189.73	0.650	0.000	5.00	18.600	12.09	142.9	0.0	1,631.7
50.00		0.00	1.12	7.207	12.17	191.36	0.650	0.000	5.00	18.222	11.84	144.3	0.0	732.7
55.00		0.00	1.15	7.406	12.51	189.91	0.650	0.000	5.00	17.844	11.60	145.2	0.0	717.4
58.00	Appertunance(s)	0.00	1.17	7.519	12.70	188.90	0.650	0.000	3.00	10.525	6.84	86.9	0.0	423.1
60.00		0.00	1.18	7.592	12.83	188.17	0.650	0.000	2.00	6.941	4.51	57.9	0.0	279.0
65.00		0.00	1.21	7.768	13.12	186.17	0.650	0.000	5.00	17.088	11.11	145.8	0.0	686.8
70.00		0.00	1.24	7.934	13.40	183.94	0.650	0.000	5.00	16.710	10.86	145.6	0.0	671.5
75.00		0.00	1.26	8.092	13.67	181.52	0.650	0.000	5.00	16.332	10.62	145.2	0.0	656.2
79.50	Bot - Section 3	0.00	1.28	8.228	13.90	179.18	0.650	0.000	4.50	14.376	9.34	129.9	0.0	577.5
80.00		0.00	1.28	8.242	13.93	178.91	0.650	0.000	0.50	1.599	1.04	14.5	0.0	114.9
84.25	Top - Section 2	0.00	1.30	8.365	14.13	176.56	0.650	0.000	4.25	13.441	8.74	123.5	0.0	965.3
85.00		0.00	1.31	8.387	14.17	178.52	0.650	0.000	0.75	2.344	1.52	21.6	0.0	75.4
90.00		0.00	1.33	8.525	14.40	175.62	0.650	0.000	5.00	15.407	10.01	144.3	0.0	495.8
95.00		0.00	1.35	8.657	14.63	172.59	0.650	0.000	5.00	15.029	9.77	142.9	0.0	483.6
100.0		0.00	1.37	8.785	14.84	169.43	0.650	0.000	5.00	14.651	9.52	141.4	0.0	471.3
105.0		0.00	1.39	8.908	15.05	166.16	0.650	0.000	5.00	14.273	9.28	139.7	0.0	459.1
108.0	Appertunance(s)	0.00	1.40	8.980	15.17	164.14	0.650	0.000	3.00	8.382	5.45	82.7	0.0	269.6
110.0		0.00	1.41	9.028	15.25	162.78	0.650	0.000	2.00	5.513	3.58	54.7	0.0	177.3
115.0		0.00	1.42	9.143	15.45	159.30	0.650	0.000	5.00	13.517	8.79	135.8	0.0	434.6
120.0	Top - Section 3	0.00	1.44	9.255	15.64	155.72	0.650	0.000	5.00	13.139	8.54	133.6	0.0	422.3
125.0		0.00	1.46	9.363	15.82	152.06	0.650	0.000	5.00	12.761	8.29	131.3	0.0	359.1
130.0		0.00	1.48	9.469	16.00	148.32	0.650	0.000	5.00	12.383	8.05	128.8	0.0	348.4
135.0	Appertunance(s)	0.00	1.49	9.572	16.17	144.50	0.650	0.000	5.00	12.005	7.80	126.2	0.0	337.7
140.0		0.00	1.51	9.672	16.34	140.60	0.650	0.000	5.00	11.627	7.56	123.5	0.0	327.0
145.0		0.00	1.52	9.769	16.51	136.64	0.650	0.000	5.00	11.249	7.31	120.7	0.0	316.3
148.0	Appertunance(s)	0.00	1.53	9.826	16.60	134.23	0.650	0.000	3.00	6.568	4.27	70.9	0.0	184.6
Totals:								148.00			4,116.2	0.0	20,462.6	

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

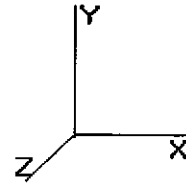
Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
30.00	GPS	1	6.400	10.816	1.00	1.00	0.000	0.000	10.82	0.00	0.00	7.00
30.00	Side Arm	1	6.400	10.816	1.00	3.00	0.000	0.000	32.45	0.00	0.00	100.00
58.00	GPS	1	7.519	12.707	1.00	1.00	0.000	0.000	12.71	0.00	0.00	7.00
58.00	Side Arm	1	7.519	12.707	1.00	3.00	0.000	0.000	38.12	0.00	0.00	100.00
108.0	Decibel DB980H90E-M	12	8.980	15.177	0.80	37.40	0.000	0.000	567.64	0.00	0.00	102.00
108.0	Sector Frame	3	8.980	15.177	0.75	32.40	0.000	0.000	491.73	0.00	0.00	900.00
120.0	48" x 12" Panel	9	9.255	15.641	0.76	38.30	0.000	0.000	599.10	0.00	0.00	270.00
120.0	72" x 12" Panel	3	9.255	15.641	0.78	19.65	0.000	0.000	307.39	0.00	0.00	135.00
120.0	Low Profile Platform	1	9.255	15.641	1.00	21.70	0.000	0.000	339.40	0.00	0.00	1,500.00
135.0	Antel BXA-171063-8CF	3	9.572	16.176	0.80	7.07	0.000	0.000	114.29	0.00	0.00	30.00
135.0	Antel BXA-70063/6CF	3	9.572	16.176	0.74	17.16	0.000	0.000	277.59	0.00	0.00	51.00
135.0	Antel LPA-80063/4CF	6	9.572	16.176	0.93	39.06	0.000	0.000	631.84	0.00	0.00	120.00
135.0	Low Profile Platform	1	9.572	16.176	1.00	21.70	0.000	0.000	351.02	0.00	0.00	1,500.00
135.0	RFS FD9R6004/2C-3L	6	9.572	16.176	0.67	1.49	0.000	0.000	24.06	0.00	0.00	18.60
148.0	14" x 9" TTA	2	9.864	16.670	1.00	2.46	0.000	2.000	41.01	0.00	82.02	20.00
148.0	36" x 8" x 6" Panel	3	9.864	16.670	1.00	8.40	0.000	2.000	140.03	0.00	280.06	75.00
148.0	72" x 12" Panel	9	9.864	16.670	0.78	58.97	0.000	2.000	983.02	0.00	1,966.04	405.00
148.0	Low Profile Platform	1	9.864	16.670	1.00	21.70	0.000	2.000	361.75	0.00	723.49	1,500.00
148.0	Powerwave LGP	6	9.864	16.670	0.67	5.19	0.000	2.000	86.45	0.00	172.90	84.60
148.0	Powerwave LGP	6	9.864	16.670	0.67	1.09	0.000	2.000	18.09	0.00	36.19	33.00
									5,428.51			6,958.20

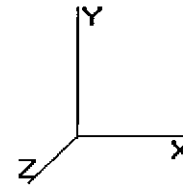
Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)

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Load Case: Twist/Sway 50.00 mph Wind with No Ice 22 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	150.19	1,222.17	0.00	0.00
10.00	147.54	1,203.80	0.00	0.00
15.00	144.88	1,185.43	0.00	0.00
20.00	142.22	1,167.06	0.00	0.00
25.00	139.56	1,148.69	0.00	0.00
30.00	180.17	1,237.32	0.00	0.00
35.00	136.53	1,111.20	0.00	0.00
39.25	117.71	930.08	0.00	0.00
40.00	20.97	276.28	0.00	0.00
45.00	142.88	1,822.50	0.00	0.00
50.00	144.26	923.47	0.00	0.00
55.00	145.16	908.17	0.00	0.00
58.00	137.76	644.55	0.00	0.00
60.00	57.89	355.01	0.00	0.00
65.00	145.81	876.80	0.00	0.00
70.00	145.64	861.49	0.00	0.00
75.00	145.18	846.19	0.00	0.00
79.50	129.93	748.48	0.00	0.00
80.00	14.48	133.88	0.00	0.00
84.25	123.51	1,126.83	0.00	0.00
85.00	21.59	103.93	0.00	0.00
90.00	144.27	685.80	0.00	0.00
95.00	142.92	673.56	0.00	0.00
100.0	141.39	661.31	0.00	0.00
105.0	139.67	649.07	0.00	0.00
108.0	1,142.06	1,385.56	0.00	0.00
110.0	54.67	237.26	0.00	0.00
115.0	135.76	584.57	0.00	0.00
120.0	1,379.47	2,477.33	0.00	0.00
125.0	131.26	459.11	0.00	0.00
130.0	128.80	448.40	0.00	0.00
135.0	1,525.02	2,157.28	0.00	0.00
140.0	123.53	376.97	0.00	0.00
145.0	120.72	366.26	0.00	0.00
148.0	1,701.25	2,332.21	0.00	3,260.70
Totals:	9,544.66	32,328.03	0.00	3,260.70

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
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 Taper : 0.181424 (in/ft)

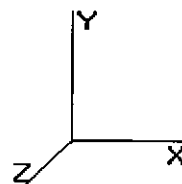
Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway

50.00 mph Wind with No Ice

22 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

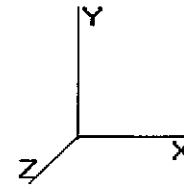
Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-9.564	-32.322	0.000	0.000	0.000	-1,040.318	0.000	0.000	0.000	0.000
5.00	-9.452	-31.088	0.000	0.000	0.000	-992.497	-0.038	0.000	0.038	-0.071
10.00	-9.339	-29.873	0.000	0.000	0.000	-945.239	-0.151	0.000	0.151	-0.142
15.00	-9.227	-28.676	0.000	0.000	0.000	-898.543	-0.338	0.000	0.338	-0.214
20.00	-9.114	-27.499	0.000	0.000	0.000	-852.409	-0.601	0.000	0.601	-0.286
25.00	-9.001	-26.339	0.000	0.000	0.000	-806.840	-0.940	0.000	0.940	-0.358
30.00	-8.844	-25.092	0.000	0.000	0.000	-761.834	-1.354	0.000	1.354	-0.431
35.00	-8.727	-23.972	0.000	0.000	0.000	-717.613	-1.844	0.000	1.844	-0.503
39.25	-8.615	-23.038	0.000	0.000	0.000	-680.525	-2.320	0.000	2.320	-0.565
40.00	-8.608	-22.755	0.000	0.000	0.000	-674.064	-2.410	0.000	2.410	-0.576
45.00	-8.472	-20.924	0.000	0.000	0.000	-631.026	-3.051	0.000	3.051	-0.648
50.00	-8.343	-19.991	0.000	0.000	0.000	-588.668	-3.768	0.000	3.768	-0.719
55.00	-8.208	-19.075	0.000	0.000	0.000	-546.953	-4.566	0.000	4.566	-0.801
58.00	-8.074	-18.427	0.000	0.000	0.000	-522.331	-5.085	0.000	5.085	-0.850
60.00	-8.028	-18.065	0.000	0.000	0.000	-506.184	-5.448	0.000	5.448	-0.882
65.00	-7.892	-17.180	0.000	0.000	0.000	-466.044	-6.415	0.000	6.415	-0.961
70.00	-7.753	-16.311	0.000	0.000	0.000	-426.586	-7.463	0.000	7.463	-1.039
75.00	-7.611	-15.458	0.000	0.000	0.000	-387.821	-8.593	0.000	8.593	-1.115
79.50	-7.476	-14.708	0.000	0.000	0.000	-353.571	-9.676	0.000	9.676	-1.182
80.00	-7.467	-14.570	0.000	0.000	0.000	-349.834	-9.801	0.000	9.801	-1.189
84.25	-7.328	-13.441	0.000	0.000	0.000	-318.098	-10.887	0.000	10.887	-1.250
85.00	-7.315	-13.332	0.000	0.000	0.000	-312.602	-11.085	0.000	11.085	-1.261
90.00	-7.173	-12.640	0.000	0.000	0.000	-276.027	-12.450	0.000	12.450	-1.342
95.00	-7.029	-11.961	0.000	0.000	0.000	-240.163	-13.897	0.000	13.897	-1.419
100.0	-6.885	-11.295	0.000	0.000	0.000	-205.017	-15.423	0.000	15.423	-1.491
105.0	-6.737	-10.644	0.000	0.000	0.000	-170.595	-17.020	0.000	17.020	-1.556
108.0	-5.562	-9.287	0.000	0.000	0.000	-150.384	-18.009	0.000	18.009	-1.592
110.0	-5.507	-9.048	0.000	0.000	0.000	-139.260	-18.681	0.000	18.681	-1.615
115.0	-5.361	-8.463	0.000	0.000	0.000	-111.726	-20.400	0.000	20.400	-1.666
120.0	-3.914	-6.025	0.000	0.000	0.000	-84.919	-22.169	0.000	22.169	-1.710
125.0	-3.772	-5.568	0.000	0.000	0.000	-65.351	-23.980	0.000	23.980	-1.746
130.0	-3.632	-5.122	0.000	0.000	0.000	-46.490	-25.827	0.000	25.827	-1.780
135.0	-2.042	-3.012	0.000	0.000	0.000	-28.328	-27.705	0.000	27.705	-1.804
140.0	-1.907	-2.639	0.000	0.000	0.000	-18.120	-29.605	0.000	29.605	-1.821
145.0	-1.775	-2.277	0.000	0.000	0.000	-8.586	-31.518	0.000	31.518	-1.832
148.0	-1.701	0.000	0.000	0.000	0.000	-3.261	-32.671	0.000	32.671	-1.835

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway

50.00 mph Wind with No Ice

22 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.53	0.32	0.00	0.00	0.00	16.10	16.64	52.0	0.0	0.320
5.00	0.52	0.32	0.00	0.00	0.00	15.92	16.45	52.0	0.0	0.316
10.00	0.51	0.32	0.00	0.00	0.00	15.73	16.24	52.0	0.0	0.312
15.00	0.50	0.32	0.00	0.00	0.00	15.51	16.02	52.0	0.0	0.308
20.00	0.48	0.32	0.00	0.00	0.00	15.28	15.78	52.0	0.0	0.304
25.00	0.47	0.33	0.00	0.00	0.00	15.04	15.52	52.0	0.0	0.299
30.00	0.46	0.33	0.00	0.00	0.00	14.77	15.23	52.0	0.0	0.293
35.00	0.45	0.33	0.00	0.00	0.00	14.48	14.94	52.0	0.0	0.287
39.25	0.44	0.33	0.00	0.00	0.00	14.21	14.66	52.0	0.0	0.282
40.00	0.43	0.33	0.00	0.00	0.00	14.17	14.61	52.0	0.0	0.281
45.00	0.48	0.39	0.00	0.00	0.00	16.05	16.55	52.0	0.0	0.318
50.00	0.47	0.39	0.00	0.00	0.00	15.62	16.10	52.0	0.0	0.310
55.00	0.46	0.40	0.00	0.00	0.00	15.14	15.62	52.0	0.0	0.300
58.00	0.45	0.40	0.00	0.00	0.00	14.85	15.31	52.0	0.0	0.295
60.00	0.44	0.40	0.00	0.00	0.00	14.64	15.10	52.0	0.0	0.291
65.00	0.43	0.40	0.00	0.00	0.00	14.10	14.54	52.0	0.0	0.280
70.00	0.42	0.40	0.00	0.00	0.00	13.51	13.94	52.0	0.0	0.268
75.00	0.41	0.40	0.00	0.00	0.00	12.87	13.29	52.0	0.0	0.256
79.50	0.39	0.40	0.00	0.00	0.00	12.25	12.66	52.0	0.0	0.244
80.00	0.39	0.40	0.00	0.00	0.00	12.18	12.59	52.0	0.0	0.242
84.25	0.45	0.50	0.00	0.00	0.00	13.98	14.46	51.7	0.0	0.279
85.00	0.45	0.50	0.00	0.00	0.00	13.84	14.31	51.8	0.0	0.276
90.00	0.44	0.50	0.00	0.00	0.00	12.84	13.31	52.0	0.0	0.256
95.00	0.43	0.50	0.00	0.00	0.00	11.75	12.21	52.0	0.0	0.235
100.00	0.41	0.51	0.00	0.00	0.00	10.57	11.02	52.0	0.0	0.212
105.00	0.40	0.51	0.00	0.00	0.00	9.28	9.72	52.0	0.0	0.187
108.00	0.35	0.43	0.00	0.00	0.00	8.45	8.84	52.0	0.0	0.170
110.00	0.35	0.43	0.00	0.00	0.00	8.00	8.39	52.0	0.0	0.161
115.00	0.34	0.43	0.00	0.00	0.00	6.79	7.17	52.0	0.0	0.138
120.00	0.25	0.32	0.00	0.00	0.00	5.47	5.75	52.0	0.0	0.111
120.00	0.28	0.37	0.00	0.00	0.00	6.24	6.55	52.0	0.0	0.126
125.00	0.27	0.37	0.00	0.00	0.00	5.10	5.40	52.0	0.0	0.104
130.00	0.25	0.36	0.00	0.00	0.00	3.86	4.16	52.0	0.0	0.080
135.00	0.15	0.21	0.00	0.00	0.00	2.50	2.68	52.0	0.0	0.052
140.00	0.14	0.20	0.00	0.00	0.00	1.71	1.88	52.0	0.0	0.036
145.00	0.12	0.20	0.00	0.00	0.00	0.87	1.05	52.0	0.0	0.020
148.00	0.00	0.19	0.00	0.00	0.00	0.34	0.48	52.0	0.0	0.009

Pole : 302528
 Location : Columbia Central, CT
 Height : 148.0 (ft)
 Base Dia : 51.72 (in)
 Top Dia : 26.00 (in)
 Shape : 18 Sides
 Taper : 0.181424 (in/ft)

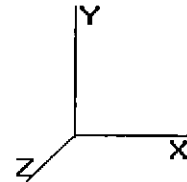
Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Analysis Summary

Load Case	Reactions						Combined Stress (ksi)	Max Stresses		
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)		Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	27.6	0.00	32.28	0.00	0.00	3003.06	47.03	52.0	0.00	0.905
Ice	23.0	0.00	40.31	0.00	0.00	2563.34	40.62	52.0	45.00	0.781
Twist/Sway	9.6	0.00	32.32	0.00	0.00	1040.32	16.64	52.0	0.00	0.320