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Structural Analysis Report

Structure : 190 ft Self Supported Tower
ATC Site Name : Unity Village MO 2, MO
ATC Asset Number : 306035
Engineering Number : 13674005_C3_02
Proposed Carrier : DISH WIRELESS L.L.C.
Carrier Site Name : KCMCI00078B
Carrier Site Number : KCMCI00078B
Site Location : 2150 NW LOWENSTEIN
Lees Summit, MO 64081-1905
38.933600,-94.417500
County : Jackson
Date : May 26, 2021
Max Usage : 65%
Result : Pass

Prepared By:
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CLS Group
PE # PE-2014023899 Exp. 12/31/2022
COA # 2010039825 Exp. 12/31/2022

05/27/2021

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190 ft self supported tower to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	Allied Tower Drawing #B-16226, dated December 13, 1991
Foundation Drawing	Allied Tower Drawing #B-16327, dated February 6, 1992
Geotechnical Report	Geotechnology Job #J029737.02, dated May 19, 2017

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	109 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1 1/2" radial ice concurrent
Code:	ANSI/TIA-222-H / 2009 IBC
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.10$, $S_1 = 0.07$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
172.0	3	Ericsson AIR 32 B4A-B2P	Sector Frame	(2) 1.25" (31.8mm) Hybrid	VERIZON WIRELESS
	3	Ericsson RRUS B13 w/ RRUS A2			
	1	RFS DB-T1-6Z-12AB-0Z			
	1	RFS DB-B1-6C-12AB-0Z			
	3	Ericsson AIR 32 B2A-B4P			
	6	Andrew LNX-6515DS-A1M			
162.0	1	Andrew Microwaves UHX6-105	Leg	(1) EW37	AT&T MOBILITY
158.5	1	Raycap DC6-48-60-18-8C	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (6) 0.76" (19.2mm) 8 AWG 6 (12) 1 5/8" Coax (1) 3/8" (0.38"- 9.5mm) RET Control Cable	
155.1	1	Raycap DC6-48-60-18-8F ("Squid")			
151.0	3	Alcatel-Lucent RRH2x40-07-L (20.5" Height)			
	1	Raycap DC6-48-60-0-8F			
	3	Nokia AirScale RRH 4T4R B5 160W AHCA			
	3	Powerwave Allgon TT08-19DB111-001			
	3	Alcatel-Lucent B25 RRH4x30			
	6	Quintel QS86512-2			
	3	Commscope SBNHH-1D65C			
	3	Andrew SBNH-1D6565C			
	3	Alcatel-Lucent RRH4X25-WCS			
	3	Alcatel-Lucent B66A RRH4x45-4R w/ Solar Shield			
	3	Nokia Flexi RRH 4T4R B14 160W FRBI			
120.0	3	Andrew SBNHH-1D65C	Sector Frame	(5) 1 5/8" Coax (2) 1.46" (37.1mm) Hybrid (6) 7/8" Coax	T-MOBILE
	3	Andrew TMBX-6517-A1M			
	3	Nokia AHFIG 70.55 lbs			
	3	Nokia AirScale Dual RRH 4T4R B12/71 240W AHLOA			
	2	Commscope HELIAX FiberFeed 12 RRU Pendant Connect			
	3	Nokia AEHC			
	3	Commscope FFHH-65C-R3			

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
180.0	1	Commscope RDIDC-9181-PF-48	Sector Frame	(1) 1.75" (44.5mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines on the tower face with the least amount of existing lines.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	65%	Pass
Diagonals	39%	Pass
Horizontals	2%	Pass
Anchor Bolts	40%	Pass
Leg Bolts	57%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	387.1	522.6	274.1	52%
Axial (Kips)	421.4	568.9	321.6	57%
Shear (Kips)	56.9	76.8	42.8	56%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
180.0	Commscope RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	0.393	0.094	0.279
	Fujitsu TA08025-B604				
	Fujitsu TA08025-B605				
	JMA Wireless MX08FRO665-21				
162.0	Andrew Microwaves UHX6-105	AT&T MOBILITY	0.314	0.134	0.332

*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H



Standard Conditions

All engineering services performed by ATC Tower Services are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services

It is the responsibility of the client to ensure that the information provided to ATC Tower Services and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively “American Tower”) are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and ATC Tower Services, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

Quadrant 1

190.00

Sect 10

180.00

Sect 9

160.00

Sect 8

140.00

Sect 7

120.00

Sect 6

100.00

Sect 5

80.00

Sect 4

60.00

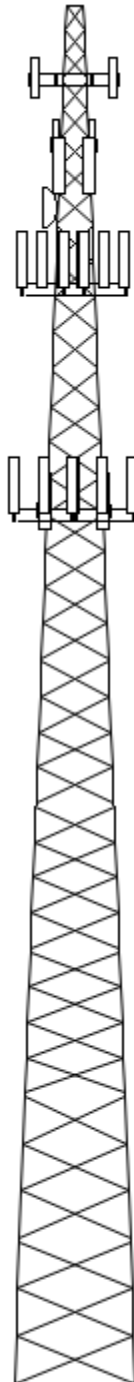
Sect 3

40.00

Sect 2

20.00

Sect 1



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Loads: 109 mph no ice
40 mph w/ 1"1/2 radial ice
Site Class: D Ss: 0.10 S1: 0.07
60 mph Serviceability

Job Information

Client : DISH WIRELESS L.L.C.

Tower : 306035

Location : Unity Village MO

Base Width : 17.00 ft

Code : ANSI/TIA-222-H

Topo Method: Method 1

Top Width : 2.75 ft

Risk Cat : II

Topo: 1

Tower Ht : 190.00 ft

Exposure : C

Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	SOL 50 ksi 4 1/2" SOLID	SAE 36 ksi 3.5X3.5X0.375	
2	SOL 50 ksi 4 1/4" SOLID	SAE 36 ksi 3.5X3.5X0.3125	
3	SOL 50 ksi 4" SOLID	SAE 36 ksi 3X3X0.375	
4	SOL 50 ksi 3 3/4" SOLID	SAE 36 ksi 3X3X0.25	
5	SOL 50 ksi 3 1/2" SOLID	SAE 36 ksi 2.5X2.5X0.3125	
6	SOL 50 ksi 3 1/4" SOLID	SAE 36 ksi 2.5X2.5X0.25	
7	SOL 50 ksi 3" SOLID	SAE 36 ksi 2.5X2.5X0.1875	
8	SOL 50 ksi 2 1/2" SOLID	SAE 36 ksi 2X2X0.1875	
9	SOL 50 ksi 1 3/4" SOLID	SAE 36 ksi 1.5X1.5X0.1875	
10	SOL 50 ksi 1 1/2" SOLID	SAE 36 ksi 1.5X1.5X0.1875	SAE 36 ksi 1.5X1.5X0.1875

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
180.00	Mounting Frame	3	Generic Flat Light Sector Fram
180.00	Panel	3	JMA Wireless MX08FRO665-21
180.00		3	Fujitsu TA08025-B604
180.00		3	Fujitsu TA08025-B605
180.00		1	Commscope RDIDC-9181-PF-48
172.00	Panel	6	Andrew LNX-6515DS-A1M
172.00	Panel	3	Ericsson AIR 32 B2A-B4P
172.00	Panel	3	Ericsson AIR 32 B4A-B2P
172.00		3	Ericsson RRUS B13 w/ RRUS A2
172.00		1	RFS DB-T1-6Z-12AB-0Z
172.00		1	RFS DB-B1-6C-12AB-0Z
171.00	Mounting Frame	3	Flat Light Sector Frame
162.00	Dish	1	Andrew Microwaves UHX6-105
158.50		1	Raycap DC6-48-60-18-8C
155.10		1	Raycap DC6-48-60-18-8F ("Squid
151.00	Mounting Frame	3	Generic Round Sector Frame
151.00	Panel	6	Quintel QS86512-2
151.00	Panel	3	Commscope SBNHH-1D65C
151.00	Panel	3	Andrew SBNH-1D6565C
151.00		3	Alcatel-Lucent RRH4X25-WCS
151.00		3	Alcatel-Lucent B66A RRH4x45-4R
151.00		3	Alcatel-Lucent B25 RRH4x30
151.00		3	Alcatel-Lucent RRH2x40-07-L (2
151.00		1	Raycap DC6-48-60-0-8F
151.00		3	Nokia Flexi RRH 4T4R B14 160W
151.00		3	Nokia AirScale RRH 4T4R B5 160
151.00		3	Powerwave Allgon TT08-19DB111-
121.60	Panel	3	Andrew SBNHH-1D65C
120.00	Mounting Frame	3	Flat Light Sector Frame
120.00	Panel	3	Commscope FFHH-65C-R3
120.00	Panel	3	Nokia AEHC
120.00	Panel	3	Andrew TMBX-6517-A1M
120.00		3	Nokia AHFIG 70.55 lbs
120.00		3	Nokia AirScale Dual RRH 4T4R B
120.00		2	Commscope HELIAX FiberFeed 12

Linear Appurtenance

From	To	Qty	Description
0.00	180.00	1	Waveguide
0.00	180.00	1	Climbing Ladder

Job Information			
Client : DISH WIRELESS L.L.C.			
Tower : 306035	Location : Unity Village MO	Base Width : 17.00 ft	
Code : ANSI/TIA-222-H	Topo Method: Method 1	Top Width : 2.75 ft	
Risk Cat : II	Topo: 1	Tower Ht : 190.00 ft	
	Exposure : C	Shape : Triangle	

0.00	180.00	1	1.75" (44.5mm) Hybri
5.00	172.00	2	1.25" (31.8mm) Hybri
5.00	162.00	1	EW37
5.00	151.00	1	Waveguide
5.00	151.00	1	3/8" (0.38"- 9.5mm)
5.00	151.00	12	1 5/8" Coax
5.00	151.00	6	0.76" (19.2mm) 8 AWG
5.00	151.00	2	0.39" (10mm) Fiber T
5.00	120.00	1	Waveguide
5.00	120.00	6	7/8" Coax
5.00	120.00	5	1 5/8" Coax
0.00	120.00	2	1.46" (37.1mm) Hybri

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	4,449.26	58.21	42.82
DL + WL + IL	1,211.77	135.21	12.08

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
321.61	274.14	25.87

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Analysis Parameters

Location:	Jackson County, MO	Height (ft):	190
Code:	ANSI/TIA-222-H	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	17.00
Tower Manufacturer:	Allied Tower	Top Face Width (ft):	2.75
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:	0.85		
Ke:	0.97		

Ice & Wind Parameters

Exposure Category:	C	Design Windspeed Without Ice:	109 mph
Risk Category:	II	Design Windspeed With Ice:	40 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.50 in
Crest Height:	0 ft	HMSL:	982.00 ft

Seismic Parameters

Analysis Method: Equivalent Lateral Force Method

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 0.95

T_L (sec):	12	p:	1.3	C_S :	0.035
S_S :	0.099	S_1 :	0.068	C_S , Max:	0.038
F_a :	1.600	F_v :	2.400	C_S , Min:	0.030
S_{ds} :	0.106	S_{d1} :	0.109		

Load Cases

1.2D + 1.0W Normal	109 mph Normal with No Ice
1.2D + 1.0W 60 deg	109 mph 60 degree with No Ice
1.2D + 1.0W 90 deg	109 mph 90 degree with No Ice
1.2D + 1.0W 120 deg	109 mph 120 degree with No Ice
1.2D + 1.0W 180 deg	109 mph 180 degree with No Ice
1.2D + 1.0W 210 deg	109 mph 210 degree with No Ice
1.2D + 1.0W 240 deg	109 mph 240 degree with No Ice
1.2D + 1.0W 300 deg	109 mph 300 degree with No Ice
1.2D + 1.0W 330 deg	109 mph 330 degree with No Ice
0.9D + 1.0W Normal	109 mph Normal with No Ice (Reduced DL)
0.9D + 1.0W 60 deg	109 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.0W 90 deg	109 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.0W 120 deg	109 mph 120 deg with No Ice (Reduced DL)
0.9D + 1.0W 180 deg	109 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.0W 210 deg	109 mph 210 deg with No Ice (Reduced DL)
0.9D + 1.0W 240 deg	109 mph 240 deg with No Ice (Reduced DL)
0.9D + 1.0W 300 deg	109 mph 300 deg with No Ice (Reduced DL)
0.9D + 1.0W 330 deg	109 mph 330 deg with No Ice (Reduced DL)

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Analysis Parameters

1.2D + 1.0Di + 1.0Wi Normal	40 mph Normal with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	40 mph 60 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	40 mph 90 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	40 mph 120 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	40 mph 180 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	40 mph 210 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	40 mph 240 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	40 mph 300 deg with 1.50 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	40 mph 330 deg with 1.50 in Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic Normal
1.2D + 1.0Ev + 1.0Eh 60 deg	Seismic 60 deg
1.2D + 1.0Ev + 1.0Eh 90 deg	Seismic 90 deg
1.2D + 1.0Ev + 1.0Eh 120 deg	Seismic 120 deg
1.2D + 1.0Ev + 1.0Eh 180 deg	Seismic 180 deg
1.2D + 1.0Ev + 1.0Eh 210 deg	Seismic 210 deg
1.2D + 1.0Ev + 1.0Eh 240 deg	Seismic 240 deg
1.2D + 1.0Ev + 1.0Eh 300 deg	Seismic 300 deg
1.2D + 1.0Ev + 1.0Eh 330 deg	Seismic 330 deg
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL) Normal
0.9D - 1.0Ev + 1.0Eh 60 deg	Seismic (Reduced DL) 60 deg
0.9D - 1.0Ev + 1.0Eh 90 deg	Seismic (Reduced DL) 90 deg
0.9D - 1.0Ev + 1.0Eh 120 deg	Seismic (Reduced DL) 120 deg
0.9D - 1.0Ev + 1.0Eh 180 deg	Seismic (Reduced DL) 180 deg
0.9D - 1.0Ev + 1.0Eh 210 deg	Seismic (Reduced DL) 210 deg
0.9D - 1.0Ev + 1.0Eh 240 deg	Seismic (Reduced DL) 240 deg
0.9D - 1.0Ev + 1.0Eh 300 deg	Seismic (Reduced DL) 300 deg
0.9D - 1.0Ev + 1.0Eh 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Tower Loading**Discrete Appurtenance Properties** 1.2D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	Commscope RDIDC-	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.0	35.74	45	26
180.0	Fujitsu TA08025-	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.0	35.74	72	230
180.0	Fujitsu TA08025-	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.0	35.74	72	270
180.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	35.74	918	1440
180.0	JMA Wireless	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.0	35.74	583	232
172.0	Andrew LNX-	6	50	11.4	8.0	11.9	7.1	0.80	0.70	-0.6	691.6	35.37	1153	359
172.0	Ericsson AIR 32 B2A-	3	106	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	35.40	334	381
172.0	Ericsson AIR 32 B4A-	3	106	6.5	4.7	12.9	8.7	0.80	0.71	-0.4	133.7	35.38	334	381
172.0	Ericsson RRUS B13	3	72	2.8	1.6	17.0	10.6	0.80	0.67	-1.6	215.6	35.33	135	259
172.0	RFS DB-B1-6C-12AB-	1	21	2.5	1.6	15.7	10.3	0.80	0.50	0.1	3.0	35.40	30	26
172.0	RFS DB-T1-6Z-12AB-	1	16	2.5	1.6	15.7	10.3	0.80	0.50	1.7	51.5	35.47	30	19
171.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	35.35	811	1440
162.0	Andrew Microwaves	1	281	35.7	6.0	72.0	0.0	1.00	1.00	1.0	1061.1	35.00	1061	337
158.5	Raycap DC6-48-60-	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.0	34.79	48	19
155.1	Raycap DC6-48-60-	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	34.63	35	38
151.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	2.9	290.6	34.58	100	191
151.0	Alcatel-Lucent B66A	3	57	2.5	2.2	11.8	7.2	0.80	0.67	0.3	35.8	34.45	119	204
151.0	Alcatel-Lucent	3	60	1.8	1.7	10.6	8.9	0.80	0.50	0.2	12.7	34.45	64	216
151.0	Alcatel-Lucent	3	70	3.2	2.6	12.0	8.7	0.80	0.72	0.2	32.0	34.45	160	252
151.0	Andrew SBNH-	3	66	11.4	8.0	11.9	7.1	0.80	0.70	0.3	168.9	34.45	563	238
151.0	Commscope SBNHH-	3	50	11.4	8.0	11.9	7.1	0.80	0.70	1.3	732.7	34.50	564	179
151.0	Generic Round	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	34.44	711	1080
151.0	Nokia AirScale RRH	3	35	1.3	1.1	11.6	6.5	0.80	0.50	2.6	117.9	34.56	45	127
151.0	Nokia Flexi RRH	3	51	2.4	1.9	12.6	6.3	0.80	0.67	1.1	125.2	34.49	114	183
151.0	Powerwave Allgon	3	22	0.8	1.2	6.7	5.4	0.80	0.50	0.6	16.7	34.47	28	79
151.0	Quintel QS86512-2	6	135	11.5	8.0	12.0	9.6	0.80	0.74	0.7	835.4	34.47	1193	972
151.0	Raycap DC6-48-60-0-	1	33	1.4	1.9	11.0	11.0	0.80	1.00	-0.2	6.4	34.43	32	39
121.6	Andrew SBNHH-	3	66	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	32.90	533	238
120.0	Andrew TMBX-6517-	3	20	6.0	7.0	6.5	3.3	0.80	0.77	0.4	124.0	32.84	310	71
120.0	Commscope FFHH-	3	126	21.1	8.0	25.2	9.3	0.80	0.63	1.5	1340.6	32.90	894	453
120.0	Commscope HELIAX	2	20	0.9	1.4	6.7	4.7	0.80	0.50	0.0	0.0	32.81	21	48
120.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	32.81	753	1440
120.0	Nokia AEHC	3	104	6.8	3.2	21.5	8.1	0.80	0.62	0.0	0.0	32.81	284	373
120.0	Nokia AHFIG 70.55	3	71	2.8	2.3	12.1	5.2	0.80	0.67	0.0	0.0	32.81	124	254
120.0	Nokia AirScale Dual	3	84	2.2	1.8	12.1	7.4	0.80	0.67	3.6	360.3	33.02	100	302
Totals		96	10330	749.6									12372	12396

Discrete Appurtenance Properties 0.9D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	Commscope RDIDC-	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.0	35.74	45	20
180.0	Fujitsu TA08025-	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.0	35.74	72	173
180.0	Fujitsu TA08025-	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.0	35.74	72	203
180.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	35.74	918	1080
180.0	JMA Wireless	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.0	35.74	583	174
172.0	Andrew LNX-	6	50	11.4	8.0	11.9	7.1	0.80	0.70	-0.6	691.6	35.37	1153	269
172.0	Ericsson AIR 32 B2A-	3	106	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	35.40	334	286
172.0	Ericsson AIR 32 B4A-	3	106	6.5	4.7	12.9	8.7	0.80	0.71	-0.4	133.7	35.38	334	286
172.0	Ericsson RRUS B13	3	72	2.8	1.6	17.0	10.6	0.80	0.67	-1.6	215.6	35.33	135	194
172.0	RFS DB-B1-6C-12AB-	1	21	2.5	1.6	15.7	10.3	0.80	0.50	0.1	3.0	35.40	30	19
172.0	RFS DB-T1-6Z-12AB-	1	16	2.5	1.6	15.7	10.3	0.80	0.50	1.7	51.5	35.47	30	14

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

171.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	35.35	811	1080
162.0	Andrew Microwaves	1	281	35.7	6.0	72.0	0.0	1.00	1.00	1.0	1061.1	35.00	1061	253
158.5	Raycap DC6-48-60-	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.0	34.79	48	14
155.1	Raycap DC6-48-60-	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	34.63	35	29
151.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	2.9	290.6	34.58	100	143
151.0	Alcatel-Lucent B66A	3	57	2.5	2.2	11.8	7.2	0.80	0.67	0.3	35.8	34.45	119	153
151.0	Alcatel-Lucent	3	60	1.8	1.7	10.6	8.9	0.80	0.50	0.2	12.7	34.45	64	162
151.0	Alcatel-Lucent	3	70	3.2	2.6	12.0	8.7	0.80	0.72	0.2	32.0	34.45	160	189
151.0	Andrew SBNH-	3	66	11.4	8.0	11.9	7.1	0.80	0.70	0.3	168.9	34.45	563	178
151.0	Commscope SBNHH-	3	50	11.4	8.0	11.9	7.1	0.80	0.70	1.3	732.7	34.50	564	134
151.0	Generic Round	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	34.44	711	810
151.0	Nokia AirScale RRH	3	35	1.3	1.1	11.6	6.5	0.80	0.50	2.6	117.9	34.56	45	95
151.0	Nokia Flexi RRH	3	51	2.4	1.9	12.6	6.3	0.80	0.67	1.1	125.2	34.49	114	137
151.0	Powerwave Allgon	3	22	0.8	1.2	6.7	5.4	0.80	0.50	0.6	16.7	34.47	28	59
151.0	Quintel QS86512-2	6	135	11.5	8.0	12.0	9.6	0.80	0.74	0.7	835.4	34.47	1193	729
151.0	Raycap DC6-48-60-0-	1	33	1.4	1.9	11.0	11.0	0.80	1.00	-0.2	6.4	34.43	32	30
121.6	Andrew SBNHH-	3	66	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	32.90	533	178
120.0	Andrew TMBX-6517-	3	20	6.0	7.0	6.5	3.3	0.80	0.77	0.4	124.0	32.84	310	53
120.0	Commscope FFHH-	3	126	21.1	8.0	25.2	9.3	0.80	0.63	1.5	1340.6	32.90	894	339
120.0	Commscope HELIAX	2	20	0.9	1.4	6.7	4.7	0.80	0.50	0.0	0.0	32.81	21	36
120.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	32.81	753	1080
120.0	Nokia AEHC	3	104	6.8	3.2	21.5	8.1	0.80	0.62	0.0	0.0	32.81	284	280
120.0	Nokia AHFIG 70.55	3	71	2.8	2.3	12.1	5.2	0.80	0.67	0.0	0.0	32.81	124	191
120.0	Nokia AirScale Dual	3	84	2.2	1.8	12.1	7.4	0.80	0.67	3.6	360.3	33.02	100	226
Totals		96	10330	749.6									12372	9297

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	Commscope RDIDC-	1	80	2.8	1.3	14.0	8.0	0.80	1.00	0.0	0.0	4.81	9	84
180.0	Fujitsu TA08025-	3	123	2.9	1.3	15.0	7.9	0.80	0.50	0.0	0.0	4.81	14	408
180.0	Fujitsu TA08025-	3	139	2.9	1.3	15.0	9.1	0.80	0.50	0.0	0.0	4.81	14	461
180.0	Generic Flat Light	3	705	33.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	4.81	229	2356
180.0	JMA Wireless	3	325	15.3	6.0	20.0	8.0	0.80	0.64	0.0	0.0	4.81	96	1015
172.0	Andrew LNX-	6	282	14.7	8.0	11.9	7.1	0.80	0.70	-0.6	120.0	4.76	200	1753
172.0	Ericsson AIR 32 B2A-	3	268	8.8	4.7	12.9	8.7	0.80	0.71	0.0	0.0	4.77	60	868
172.0	Ericsson AIR 32 B4A-	3	268	8.8	4.7	12.9	8.7	0.80	0.71	-0.4	24.2	4.76	60	868
172.0	Ericsson RRUS B13	3	146	3.9	1.6	17.0	10.6	0.80	0.67	-1.6	40.6	4.76	25	480
172.0	RFS DB-B1-6C-12AB-	1	102	3.6	1.6	15.7	10.3	0.80	0.50	0.1	0.6	4.77	6	107
172.0	RFS DB-T1-6Z-12AB-	1	97	3.6	1.6	15.7	10.3	0.80	0.50	1.7	9.9	4.78	6	100
171.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	4.76	203	2356
162.0	Andrew Microwaves	1	1000	39.2	6.0	72.0	0.0	1.00	1.00	1.0	157.0	4.71	157	1056
158.5	Raycap DC6-48-60-	1	74	2.8	1.7	18.2	6.4	0.80	1.00	0.0	0.0	4.69	9	78
155.1	Raycap DC6-48-60-	1	94	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	4.66	7	100
151.0	Alcatel-Lucent B25	3	113	3.1	1.8	12.0	7.2	0.80	0.67	2.9	57.5	4.66	20	372
151.0	Alcatel-Lucent B66A	3	127	3.7	2.2	11.8	7.2	0.80	0.67	0.3	7.0	4.64	23	415
151.0	Alcatel-Lucent	3	121	2.7	1.7	10.6	8.9	0.80	0.50	0.2	2.6	4.64	13	398
151.0	Alcatel-Lucent	3	162	4.5	2.6	12.0	8.7	0.80	0.72	0.2	6.1	4.64	30	527
151.0	Andrew SBNH-	3	296	14.7	8.0	11.9	7.1	0.80	0.70	0.3	29.2	4.64	97	928
151.0	Commscope SBNHH-	3	280	14.7	8.0	11.9	7.1	0.80	0.70	1.3	126.6	4.65	97	868
151.0	Generic Round	3	669	31.0	0.0	0.0	0.0	0.75	0.75	0.0	0.0	4.64	206	2186
151.0	Nokia AirScale RRH	3	75	2.0	1.1	11.6	6.5	0.80	0.50	2.6	25.2	4.65	10	245
151.0	Nokia Flexi RRH	3	114	3.5	1.9	12.6	6.3	0.80	0.67	1.1	24.3	4.65	22	371
151.0	Powerwave Allgon	3	49	1.4	1.2	6.7	5.4	0.80	0.50	0.6	4.1	4.64	7	159
151.0	Quintel QS86512-2	6	396	14.7	8.0	12.0	9.6	0.80	0.74	0.7	144.3	4.64	206	2538

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Tower Loading

151.0	Raycap DC6-48-60-0-	1	91	2.0	1.9	11.0	11.0	0.80	1.00	-0.2	1.3	4.64	6	98
121.6	Andrew SBNHH-	3	291	14.5	8.0	11.9	7.1	0.80	0.70	0.0	0.0	4.43	92	913
120.0	Andrew TMBX-6517-	3	122	8.6	7.0	6.5	3.3	0.80	0.77	0.4	24.0	4.42	60	379
120.0	Commscope FFHH-	3	529	24.8	8.0	25.2	9.3	0.80	0.63	1.5	211.5	4.43	141	1662
120.0	Commscope HELIAX	2	48	1.6	1.4	6.7	4.7	0.80	0.50	0.0	0.0	4.42	5	104
120.0	Flat Light Sector	3	692	32.6	0.0	0.0	0.0	0.75	0.67	0.0	0.0	4.42	184	2317
120.0	Nokia AEHC	3	254	8.6	3.2	21.5	8.1	0.80	0.62	0.0	0.0	4.42	48	824
120.0	Nokia AHFIG 70.55	3	134	3.9	2.3	12.1	5.2	0.80	0.67	0.0	0.0	4.42	24	445
120.0	Nokia AirScale Dual	3	146	3.2	1.8	12.1	7.4	0.80	0.67	3.6	70.1	4.45	19	487
Totals		96	26259	1095.0									2408	28325

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	Commscope RDIDC-	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.0	10.83	14	22
180.0	Fujitsu TA08025-	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.0	10.83	22	192
180.0	Fujitsu TA08025-	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.0	10.83	22	225
180.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	10.83	278	1200
180.0	JMA Wireless	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.0	10.83	177	194
172.0	Andrew LNX-	6	50	11.4	8.0	11.9	7.1	0.80	0.70	-0.6	209.5	10.72	349	299
172.0	Ericsson AIR 32 B2A-	3	106	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	10.73	101	317
172.0	Ericsson AIR 32 B4A-	3	106	6.5	4.7	12.9	8.7	0.80	0.71	-0.4	40.5	10.72	101	317
172.0	Ericsson RRUS B13	3	72	2.8	1.6	17.0	10.6	0.80	0.67	-1.6	65.3	10.70	41	216
172.0	RFS DB-B1-6C-12AB-	1	21	2.5	1.6	15.7	10.3	0.80	0.50	0.1	0.9	10.73	9	21
172.0	RFS DB-T1-6Z-12AB-	1	16	2.5	1.6	15.7	10.3	0.80	0.50	1.7	15.6	10.75	9	16
171.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.71	246	1200
162.0	Andrew Microwaves	1	281	35.7	6.0	72.0	0.0	1.00	1.00	1.0	321.5	10.60	322	281
158.5	Raycap DC6-48-60-	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.0	10.54	15	16
155.1	Raycap DC6-48-60-	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	10.49	10	32
151.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	2.9	88.0	10.48	30	159
151.0	Alcatel-Lucent B66A	3	57	2.5	2.2	11.8	7.2	0.80	0.67	0.3	10.9	10.44	36	170
151.0	Alcatel-Lucent	3	60	1.8	1.7	10.6	8.9	0.80	0.50	0.2	3.9	10.44	19	180
151.0	Alcatel-Lucent	3	70	3.2	2.6	12.0	8.7	0.80	0.72	0.2	9.7	10.44	49	210
151.0	Andrew SBNH-	3	66	11.4	8.0	11.9	7.1	0.80	0.70	0.3	51.2	10.44	171	198
151.0	Commscope SBNHH-	3	50	11.4	8.0	11.9	7.1	0.80	0.70	1.3	222.0	10.45	171	149
151.0	Generic Round	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	10.44	216	900
151.0	Nokia AirScale RRH	3	35	1.3	1.1	11.6	6.5	0.80	0.50	2.6	35.7	10.47	14	106
151.0	Nokia Flexi RRH	3	51	2.4	1.9	12.6	6.3	0.80	0.67	1.1	37.9	10.45	34	152
151.0	Powerwave Allgon	3	22	0.8	1.2	6.7	5.4	0.80	0.50	0.6	5.1	10.44	8	66
151.0	Quintel QS86512-2	6	135	11.5	8.0	12.0	9.6	0.80	0.74	0.7	253.1	10.45	362	810
151.0	Raycap DC6-48-60-0-	1	33	1.4	1.9	11.0	11.0	0.80	1.00	-0.2	1.9	10.43	10	33
121.6	Andrew SBNHH-	3	66	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	9.97	162	198
120.0	Andrew TMBX-6517-	3	20	6.0	7.0	6.5	3.3	0.80	0.77	0.4	37.6	9.95	94	59
120.0	Commscope FFHH-	3	126	21.1	8.0	25.2	9.3	0.80	0.63	1.5	406.2	9.97	271	377
120.0	Commscope HELIAX	2	20	0.9	1.4	6.7	4.7	0.80	0.50	0.0	0.0	9.94	6	40
120.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	9.94	228	1200
120.0	Nokia AEHC	3	104	6.8	3.2	21.5	8.1	0.80	0.62	0.0	0.0	9.94	86	311
120.0	Nokia AHFIG 70.55	3	71	2.8	2.3	12.1	5.2	0.80	0.67	0.0	0.0	9.94	38	212
120.0	Nokia AirScale Dual	3	84	2.2	1.8	12.1	7.4	0.80	0.67	3.6	109.2	10.00	30	251
Totals		96	10330	749.6									3749	10330

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.0	1.75" (44.5mm)	1	1.75	2.72	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	Climbing Ladder	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
5.00	172.0	1.25" (31.8mm)	2	1.25	1.21	100	1	Individual	0.00	N	1.00	1.00	0.00
5.00	162.0	EW37	1	2.90	0.84	100	2	Individual	0.00	N	1.00	1.00	0.00
5.00	151.0	0.39" (10mm) Fiber	2	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00
5.00	151.0	0.76" (19.2mm) 8	6	0.76	0.53	100	2	Individual	0.00	N	1.00	1.00	0.00
5.00	151.0	1 5/8" Coax	12	1.98	0.82	100	2	Individual	0.00	N	1.00	1.00	0.00
5.00	151.0	3/8" (0.38"-	1	0.38	0.23	100	2	Individual	0.00	N	1.00	1.00	0.00
5.00	151.0	Waveguide	1	2.00	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
0.00	120.0	1.46" (37.1mm)	2	1.46	1.70	100	3	Individual	0.00	N	1.00	1.00	0.00
5.00	120.0	1 5/8" Coax	5	1.98	0.82	100	3	Individual	0.00	N	1.00	1.00	0.00
5.00	120.0	7/8" Coax	6	1.09	0.33	83	3	Block	0.00	N	1.00	1.00	0.00
5.00	120.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Section Forces**LoadCase 1.2D + 1.0W Normal****109 mph Normal with No Ice**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	410	0	406	0	406
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1354	0	865	368	1233
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	2421	0	1173	1118	2291
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	3402	0	1537	1587	3125
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	4493	0	1706	2278	3984
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	5262	0	1840	2184	4024
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	5772	0	2190	2071	4261
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	7277	0	2258	1930	4187
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	7254	0	2089	1733	3822
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	37.87	107.03	0.00	8174	0	1929	1186	3115
														45819	0			30449

LoadCase 1.2D + 1.0W 60 deg**109 mph 60 degree with No Ice**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	410	0	348	0	348
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1354	0	747	368	1115
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	2421	0	1015	1118	2133
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	3402	0	1318	1587	2905
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	4493	0	1458	2278	3736
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	5262	0	1570	2184	3753
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	5772	0	1849	2071	3920
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	7277	0	1904	1930	3833
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	7254	0	1765	1733	3498
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.00	90.45	0.00	8174	0	1630	1186	2816
														45819	0			28059

LoadCase 1.2D + 1.0W 90 deg**109 mph 90 degree with No Ice**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	410	0	363	0	363
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1354	0	777	368	1144
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	2421	0	1054	1118	2172
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	3402	0	1373	1587	2960
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	4493	0	1520	2278	3798
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	5262	0	1637	2184	3821
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	5772	0	1934	2071	4005
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	7277	0	1992	1930	3922
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	7254	0	1846	1733	3579
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.50	94.68	0.00	8174	0	1707	1186	2893

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

45819 0 28658

LoadCase 1.2D + 1.0W 120 deg

109 mph 120 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	410	0	406	0	406	
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1354	0	865	368	1233	
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	2421	0	1173	1118	2291	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	3402	0	1537	1587	3125	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	4493	0	1706	2278	3984	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	5262	0	1840	2184	4024	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	5772	0	2190	2071	4261	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	7277	0	2258	1930	4187	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	7254	0	2089	1733	3822	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.00	107.39	0.00	8174	0	1936	1186	3122	
														45819	0				30455

LoadCase 1.2D + 1.0W 180 deg

109 mph 180 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	410	0	348	0	348	
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1354	0	747	368	1115	
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	2421	0	1015	1118	2133	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	3402	0	1318	1587	2905	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	4493	0	1458	2278	3736	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	5262	0	1570	2184	3753	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	5772	0	1849	2071	3920	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	7277	0	1904	1930	3833	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	7254	0	1765	1733	3498	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.00	90.45	0.00	8174	0	1630	1186	2816	
														45819	0				28059

LoadCase 1.2D + 1.0W 210 deg

109 mph 210 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	410	0	363	0	363
9 170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1354	0	777	368	1144
8 150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	2421	0	1054	1118	2172
7 130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	3402	0	1373	1587	2960
6 110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	4493	0	1520	2278	3798
5 90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	5262	0	1637	2184	3821
4 70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	5772	0	1934	2071	4005
3 50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	7277	0	1992	1930	3922

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	7254	0	1846	1733	3579
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.50	94.68	0.00	8174	0	1707	1186	2893
														45819	0			28658

LoadCase 1.2D + 1.0W 240 deg**109 mph 240 degree with No Ice**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	410	0	406	0	406
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1354	0	865	368	1233
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	2421	0	1173	1118	2291
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	3402	0	1537	1587	3125
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	4493	0	1706	2278	3984
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	5262	0	1840	2184	4024
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	5772	0	2190	2071	4261
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	7277	0	2258	1930	4187
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	7254	0	2089	1733	3822
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.00	107.39	0.00	8174	0	1936	1186	3122
														45819	0			30455

LoadCase 1.2D + 1.0W 300 deg**109 mph 300 degree with No Ice**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	410	0	348	0	348
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1354	0	747	368	1115
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	2421	0	1015	1118	2133
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	3402	0	1318	1587	2905
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	4493	0	1458	2278	3736
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	5262	0	1570	2184	3753
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	5772	0	1849	2071	3920
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	7277	0	1904	1930	3833
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	7254	0	1765	1733	3498
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.00	90.45	0.00	8174	0	1630	1186	2816
														45819	0			28059

LoadCase 1.2D + 1.0W 330 deg**109 mph 330 degree with No Ice**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	410	0	363	0	363
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1354	0	777	368	1144
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	2421	0	1054	1118	2172
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	3402	0	1373	1587	2960
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	4493	0	1520	2278	3798
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	5262	0	1637	2184	3821

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	5772	0	1934	2071	4005	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	7277	0	1992	1930	3922	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	7254	0	1846	1733	3579	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.50	94.68	0.00	8174	0	1707	1186	2893	
														45819	0				28658

LoadCase 0.9D + 1.0W Normal**109 mph Normal with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	307	0	406	0	406	
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1016	0	865	368	1233	
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	1816	0	1173	1118	2291	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	2552	0	1537	1587	3125	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	3370	0	1706	2278	3984	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	3947	0	1840	2184	4024	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	4329	0	2190	2071	4261	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	5458	0	2258	1930	4187	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	5440	0	2089	1733	3822	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.00	107.39	0.00	6130	0	1936	1186	3122	
														34364	0				30455

LoadCase 0.9D + 1.0W 60 deg**109 mph 60 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	307	0	348	0	348	
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1016	0	747	368	1115	
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	1816	0	1015	1118	2133	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	2552	0	1318	1587	2905	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	3370	0	1458	2278	3736	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	3947	0	1570	2184	3753	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	4329	0	1849	2071	3920	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	5458	0	1904	1930	3833	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	5440	0	1765	1733	3498	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.00	90.45	0.00	6130	0	1630	1186	2816	
														34364	0				28059

LoadCase 0.9D + 1.0W 90 deg**109 mph 90 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	307	0	363	0	363
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1016	0	777	368	1144
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	1816	0	1054	1118	2172
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	2552	0	1373	1587	2960

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	3370	0	1520	2278	3798
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	3947	0	1637	2184	3821
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	4329	0	1934	2071	4005
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	5458	0	1992	1930	3922
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	5440	0	1846	1733	3579
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.50	94.68	0.00	6130	0	1707	1186	2893
														34364	0			28658

LoadCase 0.9D + 1.0W 120 deg**109 mph 120 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	307	0	406	0	406
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1016	0	865	368	1233
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	1816	0	1173	1118	2291
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	2552	0	1537	1587	3125
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	3370	0	1706	2278	3984
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	3947	0	1840	2184	4024
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	4329	0	2190	2071	4261
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	5458	0	2258	1930	4187
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	5440	0	2089	1733	3822
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.00	107.39	0.00	6130	0	1936	1186	3122
														34364	0			30455

LoadCase 0.9D + 1.0W 180 deg**109 mph 180 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	307	0	348	0	348
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1016	0	747	368	1115
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	1816	0	1015	1118	2133
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	2552	0	1318	1587	2905
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	3370	0	1458	2278	3736
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	3947	0	1570	2184	3753
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	4329	0	1849	2071	3920
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	5458	0	1904	1930	3833
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	5440	0	1765	1733	3498
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.00	90.45	0.00	6130	0	1630	1186	2816
														34364	0	28059		

LoadCase 0.9D + 1.0W 210 deg**109 mph 210 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	307	0	363	0	363
9 170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1016	0	777	368	1144

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	1816	0	1054	1118	2172	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	2552	0	1373	1587	2960	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	3370	0	1520	2278	3798	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	3947	0	1637	2184	3821	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	4329	0	1934	2071	4005	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	5458	0	1992	1930	3922	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	5440	0	1846	1733	3579	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.50	94.68	0.00	6130	0	1707	1186	2893	
														34364	0				28658

LoadCase 0.9D + 1.0W 240 deg**109 mph 240 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	307	0	406	0	406	
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1016	0	865	368	1233	
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	1816	0	1173	1118	2291	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	2552	0	1537	1587	3125	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	3370	0	1706	2278	3984	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	3947	0	1840	2184	4024	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	4329	0	2190	2071	4261	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	5458	0	2258	1930	4187	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	5440	0	2089	1733	3822	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.00	107.39	0.00	6130	0	1936	1186	3122	
														34364	0				30455

LoadCase 0.9D + 1.0W 300 deg**109 mph 300 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	307	0	348	0	348	
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1016	0	747	368	1115	
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	1816	0	1015	1118	2133	
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	2552	0	1318	1587	2905	
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	3370	0	1458	2278	3736	
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	3947	0	1570	2184	3753	
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	4329	0	1849	2071	3920	
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	5458	0	1904	1930	3833	
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	5440	0	1765	1733	3498	
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.00	90.45	0.00	6130	0	1630	1186	2816	
														34364	0				28059

LoadCase 0.9D + 1.0W 330 deg**109 mph 330 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
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Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

10	185.00	35.94	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	307	0	363	0	363
9	170.00	35.31	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1016	0	777	368	1144
8	150.00	34.39	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	1816	0	1054	1118	2172
7	130.00	33.37	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	2552	0	1373	1587	2960
6	110.00	32.22	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	3370	0	1520	2278	3798
5	90.00	30.88	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	3947	0	1637	2184	3821
4	70.00	29.29	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	4329	0	1934	2071	4005
3	50.00	27.29	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	5458	0	1992	1930	3922
2	30.00	24.51	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	5440	0	1846	1733	3579
1	10.00	21.21	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.50	94.68	0.00	6130	0	1707	1186	2893
														34364	0			28658

LoadCase 1.2D + 1.0Di + 1.0Wi Normal**40 mph Normal with 1.50 in Radial Ice**

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	4.84	3.614	17.297	14.79	0.589	1.81	1.00	1.00	1.8	16.36	29.63	14.79	1217	807	122	0	122	
9	170.00	4.76	7.039	34.645	28.80	0.444	1.98	1.00	1.00	1.8	29.78	59.06	28.81	3600	2245	239	135	374	
8	150.00	4.63	9.782	37.543	29.20	0.379	2.11	1.00	1.00	1.7	33.33	70.26	29.20	6938	4517	277	490	767	
7	130.00	4.49	14.152	41.541	31.53	0.358	2.15	1.00	1.00	1.7	39.86	85.87	31.53	9702	6299	328	727	1055	
6	110.00	4.34	16.347	44.876	34.03	0.329	2.22	1.00	1.00	1.7	43.65	96.98	34.03	12533	8040	358	1010	1368	
5	90.00	4.16	18.435	47.845	36.16	0.306	2.28	1.00	1.00	1.7	47.19	107.55	36.17	13371	8108	380	981	1361	
4	70.00	3.94	24.821	50.736	38.22	0.306	2.28	1.00	1.00	1.6	55.31	126.07	38.22	14288	8516	423	916	1338	
3	50.00	3.68	27.573	53.218	39.87	0.292	2.32	1.00	1.00	1.6	59.31	137.49	39.87	15748	8470	429	849	1278	
2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	1.00	1.00	1.5	55.65	136.27	33.87	15101	7847	382	775	1157	
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	1.00	1.00	1.3	57.36	143.50	32.18	14388	6215	348	502	851	
														106884	61065				9671

LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg**40 mph 60 deg with 1.50 in Radial Ice**

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	4.84	3.614	17.297	14.79	0.589	1.81	0.80	1.00	1.8	15.64	28.32	14.79	1217	807	117	0	117
9	170.00	4.76	7.039	34.645	28.80	0.444	1.98	0.80	1.00	1.8	28.37	56.27	28.81	3600	2245	227	135	363
8	150.00	4.63	9.782	37.543	29.20	0.379	2.11	0.80	1.00	1.7	31.37	66.14	29.20	6938	4517	260	490	750
7	130.00	4.49	14.152	41.541	31.53	0.358	2.15	0.80	1.00	1.7	37.03	79.77	31.53	9702	6299	305	727	1031
6	110.00	4.34	16.347	44.876	34.03	0.329	2.22	0.80	1.00	1.7	40.38	89.72	34.03	12533	8040	331	1010	1341
5	90.00	4.16	18.435	47.845	36.16	0.306	2.28	0.80	1.00	1.7	43.50	99.15	36.17	13371	8108	351	981	1332
4	70.00	3.94	24.821	50.736	38.22	0.306	2.28	0.80	1.00	1.6	50.35	114.75	38.22	14288	8516	385	916	1300
3	50.00	3.68	27.573	53.218	39.87	0.292	2.32	0.80	1.00	1.6	53.80	124.71	39.87	15748	8470	390	849	1238
2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	0.80	1.00	1.5	50.14	122.76	33.87	15101	7847	344	775	1119
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	0.80	1.00	1.3	51.36	128.50	32.18	14388	6215	312	502	814
														106884	61065			

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces**LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg**

40 mph 90 deg with 1.50 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	4.84	3.614	17.297	14.79	0.589	1.81	0.85	1.00	1.8	15.82	28.65	14.79	1217	807	118	0	118
9	170.00	4.76	7.039	34.645	28.80	0.444	1.98	0.85	1.00	1.8	28.73	56.97	28.81	3600	2245	230	135	366
8	150.00	4.63	9.782	37.543	29.20	0.379	2.11	0.85	1.00	1.7	31.86	67.17	29.20	6938	4517	264	490	755
7	130.00	4.49	14.152	41.541	31.53	0.358	2.15	0.85	1.00	1.7	37.74	81.30	31.53	9702	6299	311	727	1037
6	110.00	4.34	16.347	44.876	34.03	0.329	2.22	0.85	1.00	1.7	41.20	91.53	34.03	12533	8040	338	1010	1348
5	90.00	4.16	18.435	47.845	36.16	0.306	2.28	0.85	1.00	1.7	44.42	101.25	36.17	13371	8108	358	981	1339
4	70.00	3.94	24.821	50.736	38.22	0.306	2.28	0.85	1.00	1.6	51.59	117.58	38.22	14288	8516	394	916	1310
3	50.00	3.68	27.573	53.218	39.87	0.292	2.32	0.85	1.00	1.6	55.18	127.90	39.87	15748	8470	400	849	1248
2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	0.85	1.00	1.5	51.52	126.14	33.87	15101	7847	354	775	1129
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	0.85	1.00	1.3	52.86	132.25	32.18	14388	6215	321	502	823
														106884	61065			9473

LoadCase 1.2D + 1.0Di + 1.0Wi 120 deg

40 mph 120 deg with 1.50 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	4.84	3.614	17.297	14.79	0.589	1.81	1.00	1.00	1.8	16.36	29.63	14.79	1217	807	122	0	122
9	170.00	4.76	7.039	34.645	28.80	0.444	1.98	1.00	1.00	1.8	29.78	59.06	28.81	3600	2245	239	135	374
8	150.00	4.63	9.782	37.543	29.20	0.379	2.11	1.00	1.00	1.7	33.33	70.26	29.20	6938	4517	277	490	767
7	130.00	4.49	14.152	41.541	31.53	0.358	2.15	1.00	1.00	1.7	39.86	85.87	31.53	9702	6299	328	727	1055
6	110.00	4.34	16.347	44.876	34.03	0.329	2.22	1.00	1.00	1.7	43.65	96.98	34.03	12533	8040	358	1010	1368
5	90.00	4.16	18.435	47.845	36.16	0.306	2.28	1.00	1.00	1.7	47.19	107.55	36.17	13371	8108	380	981	1361
4	70.00	3.94	24.821	50.736	38.22	0.306	2.28	1.00	1.00	1.6	55.31	126.07	38.22	14288	8516	423	916	1338
3	50.00	3.68	27.573	53.218	39.87	0.292	2.32	1.00	1.00	1.6	59.31	137.49	39.87	15748	8470	429	849	1278
2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	1.00	1.00	1.5	55.65	136.27	33.87	15101	7847	382	775	1157
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	1.00	1.00	1.3	57.36	143.50	32.18	14388	6215	348	502	851
														106884	61065			9671

LoadCase 1.2D + 1.0Di + 1.0Wi 180 deg

40 mph 180 deg with 1.50 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	4.84	3.614	17.297	14.79	0.589	1.81	0.80	1.00	1.8	15.64	28.32	14.79	1217	807	117	0	117
9	170.00	4.76	7.039	34.645	28.80	0.444	1.98	0.80	1.00	1.8	28.37	56.27	28.81	3600	2245	227	135	363
8	150.00	4.63	9.782	37.543	29.20	0.379	2.11	0.80	1.00	1.7	31.37	66.14	29.20	6938	4517	260	490	750
7	130.00	4.49	14.152	41.541	31.53	0.358	2.15	0.80	1.00	1.7	37.03	79.77	31.53	9702	6299	305	727	1031
6	110.00	4.34	16.347	44.876	34.03	0.329	2.22	0.80	1.00	1.7	40.38	89.72	34.03	12533	8040	331	1010	1341
5	90.00	4.16	18.435	47.845	36.16	0.306	2.28	0.80	1.00	1.7	43.50	99.15	36.17	13371	8108	351	981	1332
4	70.00	3.94	24.821	50.736	38.22	0.306	2.28	0.80	1.00	1.6	50.35	114.75	38.22	14288	8516	385	916	1300
3	50.00	3.68	27.573	53.218	39.87	0.292	2.32	0.80	1.00	1.6	53.80	124.71	39.87	15748	8470	390	849	1238
2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	0.80	1.00	1.5	50.14	122.76	33.87	15101	7847	344	775	1119
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	0.80	1.00	1.3	51.36	128.50	32.18	14388	6215	312	502	814

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

106884 61065

9406

LoadCase 1.2D + 1.0Di + 1.0Wi 210 deg

40 mph 210 deg with 1.50 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.00	4.84	3.614	17.297	14.79	0.589	1.81	0.85	1.00	1.8	15.82	28.65	14.79	1217	807	118	0	118
9 170.00	4.76	7.039	34.645	28.80	0.444	1.98	0.85	1.00	1.8	28.73	56.97	28.81	3600	2245	230	135	366
8 150.00	4.63	9.782	37.543	29.20	0.379	2.11	0.85	1.00	1.7	31.86	67.17	29.20	6938	4517	264	490	755
7 130.00	4.49	14.152	41.541	31.53	0.358	2.15	0.85	1.00	1.7	37.74	81.30	31.53	9702	6299	311	727	1037
6 110.00	4.34	16.347	44.876	34.03	0.329	2.22	0.85	1.00	1.7	41.20	91.53	34.03	12533	8040	338	1010	1348
5 90.00	4.16	18.435	47.845	36.16	0.306	2.28	0.85	1.00	1.7	44.42	101.25	36.17	13371	8108	358	981	1339
4 70.00	3.94	24.821	50.736	38.22	0.306	2.28	0.85	1.00	1.6	51.59	117.58	38.22	14288	8516	394	916	1310
3 50.00	3.68	27.573	53.218	39.87	0.292	2.32	0.85	1.00	1.6	55.18	127.90	39.87	15748	8470	400	849	1248
2 30.00	3.30	27.591	48.046	33.86	0.246	2.45	0.85	1.00	1.5	51.52	126.14	33.87	15101	7847	354	775	1129
1 10.00	2.86	29.974	47.197	32.18	0.229	2.50	0.85	1.00	1.3	52.86	132.25	32.18	14388	6215	321	502	823
													106884	61065			9473

LoadCase 1.2D + 1.0Di + 1.0Wi 240 deg

40 mph 240 deg with 1.50 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.00	4.84	3.614	17.297	14.79	0.589	1.81	1.00	1.00	1.8	16.36	29.63	14.79	1217	807	122	0	122
9 170.00	4.76	7.039	34.645	28.80	0.444	1.98	1.00	1.00	1.8	29.78	59.06	28.81	3600	2245	239	135	374
8 150.00	4.63	9.782	37.543	29.20	0.379	2.11	1.00	1.00	1.7	33.33	70.26	29.20	6938	4517	277	490	767
7 130.00	4.49	14.152	41.541	31.53	0.358	2.15	1.00	1.00	1.7	39.86	85.87	31.53	9702	6299	328	727	1055
6 110.00	4.34	16.347	44.876	34.03	0.329	2.22	1.00	1.00	1.7	43.65	96.98	34.03	12533	8040	358	1010	1368
5 90.00	4.16	18.435	47.845	36.16	0.306	2.28	1.00	1.00	1.7	47.19	107.55	36.17	13371	8108	380	981	1361
4 70.00	3.94	24.821	50.736	38.22	0.306	2.28	1.00	1.00	1.6	55.31	126.07	38.22	14288	8516	423	916	1338
3 50.00	3.68	27.573	53.218	39.87	0.292	2.32	1.00	1.00	1.6	59.31	137.49	39.87	15748	8470	429	849	1278
2 30.00	3.30	27.591	48.046	33.86	0.246	2.45	1.00	1.00	1.5	55.65	136.27	33.87	15101	7847	382	775	1157
1 10.00	2.86	29.974	47.197	32.18	0.229	2.50	1.00	1.00	1.3	57.36	143.50	32.18	14388	6215	348	502	851
													106884	61065			9671

LoadCase 1.2D + 1.0Di + 1.0Wi 300 deg

40 mph 300 deg with 1.50 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.00	4.84	3.614	17.297	14.79	0.589	1.81	0.80	1.00	1.8	15.64	28.32	14.79	1217	807	117	0	117
9 170.00	4.76	7.039	34.645	28.80	0.444	1.98	0.80	1.00	1.8	28.37	56.27	28.81	3600	2245	227	135	363
8 150.00	4.63	9.782	37.543	29.20	0.379	2.11	0.80	1.00	1.7	31.37	66.14	29.20	6938	4517	260	490	750
7 130.00	4.49	14.152	41.541	31.53	0.358	2.15	0.80	1.00	1.7	37.03	79.77	31.53	9702	6299	305	727	1031
6 110.00	4.34	16.347	44.876	34.03	0.329	2.22	0.80	1.00	1.7	40.38	89.72	34.03	12533	8040	331	1010	1341
5 90.00	4.16	18.435	47.845	36.16	0.306	2.28	0.80	1.00	1.7	43.50	99.15	36.17	13371	8108	351	981	1332
4 70.00	3.94	24.821	50.736	38.22	0.306	2.28	0.80	1.00	1.6	50.35	114.75	38.22	14288	8516	385	916	1300
3 50.00	3.68	27.573	53.218	39.87	0.292	2.32	0.80	1.00	1.6	53.80	124.71	39.87	15748	8470	390	849	1238

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	0.80	1.00	1.5	50.14	122.76	33.87	15101	7847	344	775	1119	
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	0.80	1.00	1.3	51.36	128.50	32.18	14388	6215	312	502	814	
														106884	61065				9406

LoadCase 1.2D + 1.0Di + 1.0Wi 330 deg**40 mph 330 deg with 1.50 in Radial Ice**

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	4.84	3.614	17.297	14.79	0.589	1.81	0.85	1.00	1.8	15.82	28.65	14.79	1217	807	118	0	118	
9	170.00	4.76	7.039	34.645	28.80	0.444	1.98	0.85	1.00	1.8	28.73	56.97	28.81	3600	2245	230	135	366	
8	150.00	4.63	9.782	37.543	29.20	0.379	2.11	0.85	1.00	1.7	31.86	67.17	29.20	6938	4517	264	490	755	
7	130.00	4.49	14.152	41.541	31.53	0.358	2.15	0.85	1.00	1.7	37.74	81.30	31.53	9702	6299	311	727	1037	
6	110.00	4.34	16.347	44.876	34.03	0.329	2.22	0.85	1.00	1.7	41.20	91.53	34.03	12533	8040	338	1010	1348	
5	90.00	4.16	18.435	47.845	36.16	0.306	2.28	0.85	1.00	1.7	44.42	101.25	36.17	13371	8108	358	981	1339	
4	70.00	3.94	24.821	50.736	38.22	0.306	2.28	0.85	1.00	1.6	51.59	117.58	38.22	14288	8516	394	916	1310	
3	50.00	3.68	27.573	53.218	39.87	0.292	2.32	0.85	1.00	1.6	55.18	127.90	39.87	15748	8470	400	849	1248	
2	30.00	3.30	27.591	48.046	33.86	0.246	2.45	0.85	1.00	1.5	51.52	126.14	33.87	15101	7847	354	775	1129	
1	10.00	2.86	29.974	47.197	32.18	0.229	2.50	0.85	1.00	1.3	52.86	132.25	32.18	14388	6215	321	502	823	
														106884	61065				9473

LoadCase 1.0D + 1.0W Service Normal**Serviceability - 60 mph Wind Normal**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	341	0	123	0	123	
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1129	0	262	111	373	
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	2018	0	355	339	694	
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	2835	0	466	481	947	
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	3744	0	517	690	1207	
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	4385	0	558	662	1219	
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	4810	0	663	628	1291	
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	6065	0	684	585	1269	
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	6045	0	633	525	1158	
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.48	108.74	0.00	6811	0	594	359	953	
														38182	0				9235

LoadCase 1.0D + 1.0W Service 60 deg**Serviceability - 60 mph Wind 60 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	341	0	106	0	106
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1129	0	226	111	338
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	2018	0	308	339	646
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	2835	0	399	481	880

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	3744	0	442	690	1132
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	4385	0	476	662	1137
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	4810	0	560	628	1188
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	6065	0	577	585	1161
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	6045	0	535	525	1060
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.48	91.80	0.00	6811	0	501	359	861
														38182	0			8510

LoadCase 1.0D + 1.0W Service 90 deg**Serviceability - 60 mph Wind 90 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	341	0	110	0	110
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1129	0	235	111	347
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	2018	0	319	339	658
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	2835	0	416	481	897
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	3744	0	461	690	1151
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	4385	0	496	662	1158
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	4810	0	586	628	1214
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	6065	0	604	585	1188
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	6045	0	559	525	1085
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.98	96.04	0.00	6811	0	525	359	884
														38182	0	8691		

LoadCase 1.0D + 1.0W Service 120 deg**Serviceability - 60 mph Wind 120 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	341	0	123	0	123
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1129	0	262	111	373
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	2018	0	355	339	694
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	2835	0	466	481	947
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	3744	0	517	690	1207
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	4385	0	558	662	1219
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	4810	0	663	628	1291
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	6065	0	684	585	1269
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	6045	0	633	525	1158
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.48	108.74	0.00	6811	0	594	359	953
														38182	0			

LoadCase 1.0D + 1.0W Service 180 deg**Serviceability - 60 mph Wind 180 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.00	10.89	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	341	0	106	0	106
9 170.00	10.70	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1129	0	226	111	338

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	2018	0	308	339	646
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	2835	0	399	481	880
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	3744	0	442	690	1132
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	4385	0	476	662	1137
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	4810	0	560	628	1188
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	6065	0	577	585	1161
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	6045	0	535	525	1060
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.48	91.80	0.00	6811	0	501	359	861
														38182	0			8510

LoadCase 1.0D + 1.0W Service 210 deg**Serviceability - 60 mph Wind 210 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	341	0	110	0	110
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1129	0	235	111	347
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	2018	0	319	339	658
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	2835	0	416	481	897
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	3744	0	461	690	1151
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	4385	0	496	662	1158
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	4810	0	586	628	1214
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	6065	0	604	585	1188
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	6045	0	559	525	1085
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.98	96.04	0.00	6811	0	525	359	884
														38182	0	8691		

LoadCase 1.0D + 1.0W Service 240 deg**Serviceability - 60 mph Wind 240 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	1.00	1.00	0.0	5.05	13.30	0.00	341	0	123	0	123
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	1.00	1.00	0.0	10.35	28.82	0.00	1129	0	262	111	373
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	1.00	1.00	0.0	14.52	40.13	0.00	2018	0	355	339	694
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	1.00	1.00	0.0	19.84	54.20	0.00	2835	0	466	481	947
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	1.00	1.00	0.0	22.50	62.31	0.00	3744	0	517	690	1207
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	1.00	1.00	0.0	25.05	70.11	0.00	4385	0	558	662	1219
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	1.00	1.00	0.0	31.93	87.94	0.00	4810	0	663	628	1291
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	1.00	1.00	0.0	35.15	97.33	0.00	6065	0	684	585	1269
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	1.00	1.00	0.0	35.62	100.28	0.00	6045	0	633	525	1158
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	1.00	1.00	0.0	38.48	108.74	0.00	6811	0	594	359	953
														38182	0			9235

LoadCase 1.0D + 1.0W Service 300 deg**Serviceability - 60 mph Wind 300 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
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Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:33 PM

Customer: DISH WIRELESS L.L.C.

Section Forces

10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	0.80	1.00	0.0	4.32	11.40	0.00	341	0	106	0	106	
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	0.80	1.00	0.0	8.94	24.90	0.00	1129	0	226	111	338	
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	0.80	1.00	0.0	12.56	34.72	0.00	2018	0	308	339	646	
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	0.80	1.00	0.0	17.01	46.47	0.00	2835	0	399	481	880	
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	0.80	1.00	0.0	19.23	53.25	0.00	3744	0	442	690	1132	
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	0.80	1.00	0.0	21.37	59.79	0.00	4385	0	476	662	1137	
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	0.80	1.00	0.0	26.96	74.26	0.00	4810	0	560	628	1188	
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	0.80	1.00	0.0	29.63	82.06	0.00	6065	0	577	585	1161	
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	0.80	1.00	0.0	30.10	84.75	0.00	6045	0	535	525	1060	
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	0.80	1.00	0.0	32.48	91.80	0.00	6811	0	501	359	861	
														38182	0				8510

LoadCase 1.0D + 1.0W Service 330 deg**Serviceability - 60 mph Wind 330 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.00	10.89	3.614	2.502	0.000	0.188	2.64	0.85	1.00	0.0	4.50	11.88	0.00	341	0	110	0	110	
9	170.00	10.70	7.039	5.839	0.000	0.146	2.78	0.85	1.00	0.0	9.29	25.88	0.00	1129	0	235	111	347	
8	150.00	10.42	9.782	8.341	0.000	0.152	2.76	0.85	1.00	0.0	13.05	36.07	0.00	2018	0	319	339	658	
7	130.00	10.11	14.152	10.009	0.000	0.161	2.73	0.85	1.00	0.0	17.72	48.40	0.00	2835	0	416	481	897	
6	110.00	9.76	16.347	10.843	0.000	0.151	2.77	0.85	1.00	0.0	20.05	55.52	0.00	3744	0	461	690	1151	
5	90.00	9.36	18.435	11.678	0.000	0.143	2.80	0.85	1.00	0.0	22.29	62.37	0.00	4385	0	496	662	1158	
4	70.00	8.88	24.821	12.512	0.000	0.155	2.75	0.85	1.00	0.0	28.21	77.68	0.00	4810	0	586	628	1214	
3	50.00	8.27	27.573	13.346	0.000	0.151	2.77	0.85	1.00	0.0	31.01	85.88	0.00	6065	0	604	585	1188	
2	30.00	7.43	27.591	14.180	0.000	0.138	2.82	0.85	1.00	0.0	31.48	88.63	0.00	6045	0	559	525	1085	
1	10.00	6.43	29.974	15.014	0.000	0.135	2.83	0.85	1.00	0.0	33.98	96.04	0.00	6811	0	525	359	884	
														38182	0				8691

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

Spectral Response Acceleration for Short Period (S_s):	0.10
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Long-Period Transition Period (T_L - Seconds):	12
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.11
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s :	0.04
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.95
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.23
Total Unfactored Dead Load:	48.51 k
Seismic Base Shear (E):	2.22 k

LoadCase 1.2D + 1.0Ev + 1.0Eh**Seismic**

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.00	341	204,550	0.017	37	417
9	170.00	1,129	609,644	0.050	111	1,378
8	150.00	2,018	934,913	0.077	171	2,464
7	130.00	2,835	1,102,58	0.091	201	3,462
6	110.00	3,744	1,186,45	0.098	216	4,572
5	90.00	4,385	1,086,76	0.089	198	5,355
4	70.00	4,810	876,105	0.072	160	5,873
3	50.00	6,065	731,489	0.060	133	7,405
2	30.00	6,045	389,942	0.032	71	7,381
1	10.00	6,811	114,375	0.009	21	8,317
Commscope RDIDC-9181-PF-48	180.00	22	12,688	0.001	2	27
Fujitsu TA08025-B604	180.00	192	111,061	0.009	20	234
Fujitsu TA08025-B605	180.00	225	130,353	0.011	24	275
Generic Flat Light Sector Frame	180.00	1,200	695,217	0.057	127	1,465
JMA Wireless MX08FRO665-21	180.00	193	112,104	0.009	20	236
Andrew LNX-6515DS-A1M	172.00	299	163,731	0.013	30	365
Ericsson AIR 32 B2A-B4P	172.00	317	173,923	0.014	32	388
Ericsson AIR 32 B4A-B2P	172.00	317	173,923	0.014	32	388
Ericsson RRUS B13 w/ RRUS A2	172.00	216	118,360	0.010	22	264
RFS DB-B1-6C-12AB-0Z	172.00	21	11,726	0.001	2	26
RFS DB-T1-6Z-12AB-0Z	172.00	16	8,767	0.001	2	20
Flat Light Sector Frame	171.00	1,200	652,874	0.054	119	1,465
Andrew Microwaves UHX6-105	162.00	281	143,083	0.012	26	343

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

Raycap DC6-48-60-18-8C	158.50	16	7,932	0.001	1	20
Raycap DC6-48-60-18-8F ("Squid")	155.10	32	15,351	0.001	3	39
Alcatel-Lucent B25 RRH4x30	151.00	159	74,279	0.006	14	194
Alcatel-Lucent B66A RRH4x45-4R w/	151.00	170	79,605	0.007	15	208
Alcatel-Lucent RRH2x40-07-L (20.5"	151.00	180	84,090	0.007	15	220
Alcatel-Lucent RRH4X25-WCS	151.00	210	98,104	0.008	18	256
Andrew SBNH-1D6565C	151.00	198	92,639	0.008	17	242
Commscope SBNHH-1D65C	151.00	149	69,514	0.006	13	182
Generic Round Sector Frame	151.00	900	420,448	0.035	77	1,099
Nokia AirScale RRH 4T4R B5 160W AHCA	151.00	106	49,473	0.004	9	129
Nokia Flexi RRH 4T4R B14 160W FRBI	151.00	152	71,056	0.006	13	186
Powerwave Allgon TT08-19DB111-001	151.00	66	30,833	0.003	6	81
Quintel QS86512-2	151.00	810	378,403	0.031	69	989
Raycap DC6-48-60-0-8F	151.00	33	15,323	0.001	3	40
Andrew SBNHH-1D65C	121.60	198	71,053	0.006	13	242
Andrew TMBX-6517-A1M	120.00	59	20,941	0.002	4	73
Commscope FFHH-65C-R3	120.00	377	132,943	0.011	24	460
Commscope HELIAX FiberFeed 12 RRU	120.00	40	14,102	0.001	3	49
Flat Light Sector Frame	120.00	1,200	423,049	0.035	77	1,465
Nokia AEHC	120.00	311	109,570	0.009	20	380
Nokia AHFIG 70.55 lbs	120.00	212	74,668	0.006	14	259
Nokia AirScale Dual RRH 4T4R B12/71	120.00	251	88,629	0.007	16	307
		48,512	12,166,624	1.000	2,220	59,240

LoadCase 0.9D - 1.0Ev + 1.0Eh**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.00	341	204,550	0.017	37	300
9	170.00	1,129	609,644	0.050	111	992
8	150.00	2,018	934,913	0.077	171	1,773
7	130.00	2,835	1,102,58	0.091	201	2,492
6	110.00	3,744	1,186,45	0.098	216	3,291
5	90.00	4,385	1,086,76	0.089	198	3,854
4	70.00	4,810	876,105	0.072	160	4,227
3	50.00	6,065	731,489	0.060	133	5,330
2	30.00	6,045	389,942	0.032	71	5,313
1	10.00	6,811	114,375	0.009	21	5,986
Commscope RDIDC-9181-PF-48	180.00	22	12,688	0.001	2	19
Fujitsu TA08025-B604	180.00	192	111,061	0.009	20	168
Fujitsu TA08025-B605	180.00	225	130,353	0.011	24	198
Generic Flat Light Sector Frame	180.00	1,200	695,217	0.057	127	1,055
JMA Wireless MX08FRO665-21	180.00	193	112,104	0.009	20	170
Andrew LNX-6515DS-A1M	172.00	299	163,731	0.013	30	263
Ericsson AIR 32 B2A-B4P	172.00	317	173,923	0.014	32	279
Ericsson AIR 32 B4A-B2P	172.00	317	173,923	0.014	32	279
Ericsson RRUS B13 w/ RRUS A2	172.00	216	118,360	0.010	22	190
RFS DB-B1-6C-12AB-0Z	172.00	21	11,726	0.001	2	19
RFS DB-T1-6Z-12AB-0Z	172.00	16	8,767	0.001	2	14
Flat Light Sector Frame	171.00	1,200	652,874	0.054	119	1,055
Andrew Microwaves UHX6-105	162.00	281	143,083	0.012	26	247
Raycap DC6-48-60-18-8C	158.50	16	7,932	0.001	1	14
Raycap DC6-48-60-18-8F ("Squid")	155.10	32	15,351	0.001	3	28
Alcatel-Lucent B25 RRH4x30	151.00	159	74,279	0.006	14	140

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

Alcatel-Lucent B66A RRH4x45-4R w/	151.00	170	79,605	0.007	15	150
Alcatel-Lucent RRH2x40-07-L (20.5"	151.00	180	84,090	0.007	15	158
Alcatel-Lucent RRH4X25-WCS	151.00	210	98,104	0.008	18	185
Andrew SBNH-1D6565C	151.00	198	92,639	0.008	17	174
Commscope SBNHH-1D65C	151.00	149	69,514	0.006	13	131
Generic Round Sector Frame	151.00	900	420,448	0.035	77	791
Nokia AirScale RRH 4T4R B5 160W AHCA	151.00	106	49,473	0.004	9	93
Nokia Flexi RRH 4T4R B14 160W FRBI	151.00	152	71,056	0.006	13	134
Powerwave Allgon TT08-19DB111-001	151.00	66	30,833	0.003	6	58
Quintel QS86512-2	151.00	810	378,403	0.031	69	712
Raycap DC6-48-60-0-8F	151.00	33	15,323	0.001	3	29
Andrew SBNHH-1D65C	121.60	198	71,053	0.006	13	174
Andrew TMBX-6517-A1M	120.00	59	20,941	0.002	4	52
Commscope FFHH-65C-R3	120.00	377	132,943	0.011	24	331
Commscope HELIAX FiberFeed 12 RRU	120.00	40	14,102	0.001	3	35
Flat Light Sector Frame	120.00	1,200	423,049	0.035	77	1,055
Nokia AEHC	120.00	311	109,570	0.009	20	273
Nokia AHFIG 70.55 lbs	120.00	212	74,668	0.006	14	186
Nokia AirScale Dual RRH 4T4R B12/71	120.00	251	88,629	0.007	16	221
		48,512	12,166,623	1.000	2,220	42,637

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 1		Section 1		Bot Elev (ft): 0.00				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num		Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	SOL - 4 1/2" SOLID	-315.65	1.2D + 1.0W Normal	6.51	100	100	100	69.4	50.0	503.25	0	0	0.00	0.00	62	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.375	-8.41	1.2D + 1.0W 90 deg	17.05	50	50	50	148.9	36.0	32.01	2	1	27.61	52.20	30	Bolt Shear

		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member													
LEG	SOL - 4 1/2" SOLID	274.78	0.9D + 1.0W 60 deg	50	65	715.68	0	0	0.00	0.00		38	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.375	8.19	1.2D + 1.0W 90 deg	36	58	72.50	2	1	27.61	41.76	34.87	29	Bolt Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		246.72	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression		288.16	1.2D + 1.0W Normal	0.00	0		
Bot Tension		275.22	0.9D + 1.0W 180 deg	843.15	11	6	2" F1554 GD 55
Bot Compression		321.98	1.2D + 1.0W Normal	824.41	40		

Section: 2		Section 2		Bot Elev (ft): 20.00				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 4 1/4" SOLID	-281.04	1.2D + 1.0W Normal	6.51	100	100	100	73.5	50.0	430.15	0	0	0.00	0.00	65	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.3125	-8.12	1.2D + 1.0W 90 deg	15.67	50	50	50	136.3	36.0	32.20	2	1	27.61	43.50	29	Bolt Shear

		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member													
LEG	SOL - 4 1/4" SOLID	242.83	1.2D + 1.0W 60 deg	50	65	638.37	0	0	0.00	0.00		38	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.3125	7.85	1.2D + 1.0W 90 deg	36	58	61.18	2	1	27.61	34.80	29.06	28	Bolt Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		216.39	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression		251.57	1.2D + 1.0W Normal	0.00	0		
Bot Tension		246.72	0.9D + 1.0W 180 deg	523.32	47	6	1.25" A325
Bot Compression		0.00		0.00	0		

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 3		Section 3		Bot Elev (ft): 40.00				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Shear	Bear		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use
													(kip)	(kip)	%
LEG	SOL - 4" SOLID	-245.83	1.2D + 1.0W Normal	4.88	100	100	100	58.6	50.0	440.08	0	0	0.00	0.00	55
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.375	-7.34	1.2D + 1.0W 90 deg	14.63	50	50	50	149.6	36.0	26.99	2	1	27.61	52.20	27
			</												

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 4" SOLID	216.21	0.9D + 1.0W 60 deg	50	65	565.47	0	0	0.00	0.00		38	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.375	7.31	1.2D + 1.0W 90 deg	36	58	60.43	2	1	27.61	41.76	30.79	26	Bolt Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	185.08	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression	213.91	1.2D + 1.0W Normal	0.00	0		
Bot Tension	216.39	0.9D + 1.0W 180 deg	523.32	41	6	1.25" A325
Bot Compression	0.00		0.00	0		

Section: 4		Section 4		Bot Elev (ft): 60.00				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	SOL - 3 3/4" SOLID	-208.31	1.2D + 1.0W Normal	4.88	100	100	100	62.5	50.0	373.68	0	0	0.00	0.00	55	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	-6.75	1.2D + 1.0W 90 deg	13.23	50	50	50	134.1	36.0	22.92	2	1	27.61	34.80	29	Member Z

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 3 3/4" SOLID	184.78	0.9D + 1.0W 60 deg	50	65	497.02	0	0	0.00	0.00		37	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	6.69	1.2D + 1.0W 90 deg	36	58	41.37	2	1	27.61	27.84	20.53	32	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	152.56	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression	176.10	1.2D + 1.0W Normal	0.00	0		
Bot Tension	185.08	0.9D + 1.0W 180 deg	327.10	57	6	1 A325
Bot Compression	0.00		0.00	0		

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 5		Section 5		Bot Elev (ft): 80.00				Height (ft): 20.000								
		Pu	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Bear phiRn	Use %	Controls
Max Compression Member		(kip)			X	Y	Z					phiRnv (kip)	phiRn (kip)			
LEG	SOL - 3 1/2" SOLID	-170.53	1.2D + 1.0W Normal	4.88	100	100	100	66.9	50.0	312.05	0	0	0.00	0.00	54	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.3125	-6.23	1.2D + 1.0W 90 deg	11.84	50	50	50	145.4	36.0	19.77	2	1	17.67	34.80	35	Bolt Shear

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 3 1/2" SOLID	152.11	0.9D + 1.0W 60 deg	50	65	432.95	0	0	0.00	0.00		35	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.3125	6.21	1.2D + 1.0W 90 deg	36	58	41.90	2	1	17.67	27.73	21.75	35	Bolt Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		118.65	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression		137.53	1.2D + 1.0W Normal	0.00	0		
Bot Tension		152.56	0.9D + 1.0W 180 deg	327.10	47	6	1 A325
Bot Compression		0.00		0.00	0		

Section: 6		Section 6		Bot Elev (ft): 100.0				Height (ft): 20.000								
		Pu	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Bear phiRn	Use %	Controls
Max Compression Member		(kip)			X	Y	Z					phiRnv (kip)	phiRn (kip)			
LEG	SOL - 3 1/4" SOLID	-131.93	1.2D + 1.0W Normal	5.00	100	100	100	73.9	50.0	250.38	0	0	0.00	0.00	52	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	-5.94	1.2D + 1.0W 90 deg	10.57	50	50	50	129.2	36.0	20.41	2	1	17.67	27.84	33	Bolt Shear

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 3 1/4" SOLID	112.06	1.2D + 1.0W 180 deg	50	65	373.32	0	0	0.00	0.00		30	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	5.89	1.2D + 1.0W 90 deg	36	58	34.24	2	1	17.67	22.18	17.40	33	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		80.16	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression		95.14	1.2D + 1.0W Normal	0.00	0		
Bot Tension		118.65	0.9D + 1.0W 180 deg	218.07	54	4	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:34 PM

Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 7		Section 7		Bot Elev (ft): 120.0				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Shear	Bear		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use
													(kip)	(kip)	%
LEG	SOL - 3" SOLID	-89.65	1.2D + 1.0W Normal	4.88	100	100	100	78.1	50.0	203.71	0	0	0.00	0.00	44 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.1875	-4.66	1.2D + 1.0W 90 deg	8.289	50	50	50	105.4	36.0	21.14	2	1	17.67	20.88	26 Bolt Shear

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 3" SOLID	79.85	1.2D + 1.0W 60 deg	50	65	318.10	0	0	0.00	0.00		25	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.1875	4.59	1.2D + 1.0W 90 deg	36	58	25.99	2	1	17.67	16.64	13.05	35	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	49.72	0.9D + 1.0W 180 deg	0.00	0	0	
Top Compression	59.39	1.2D + 1.0W Normal	0.00	0		
Bot Tension	80.16	0.9D + 1.0W 180 deg	218.07	37	4	1 A325
Bot Compression	0.00		0.00	0		

Section: 8		Section 8		Bot Elev (ft): 140.0				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 2 1/2" SOLID	-54.52	1.2D + 1.0W Normal	4.88	100	100	100	93.7	50.0	116.30	0	0	0.00	0.00	46	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	-4.32	1.2D + 1.0W 90 deg	7.966	50	50	50	121.3	36.0	13.83	2	1	17.67	20.88	31	Member Z

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 2 1/2" SOLID	48.91	1.2D + 1.0W 180 deg	50	65	220.95	0	0	0.00	0.00		22	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	4.33	1.2D + 1.0W 90 deg	36	58	19.89	2	1	17.67	16.64	11.01	39	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	19.05	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression	24.12	1.2D + 1.0W 120 deg	0.00	0		
Bot Tension	49.72	0.9D + 1.0W 180 deg	120.41	41	4	0.75" A325
Bot Compression	0.00		0.00	0		

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

5/26/2021 1:41:35 PM

Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 9		Section 9		Bot Elev (ft): 160.0				Height (ft): 20.000								
		Pu	Load Case	Len (ft)	Bracing %				F'y (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Use %	Controls
Max Compression Member		(kip)			X	Y	Z	KL/R					phiRnv (kip)	Bear phiRn (kip)		
LEG	SOL - 1 3/4" SOLID	-20.74	1.2D + 1.0W Normal	3.90	100	100	100	107.1	50.0	46.81	0	0	0.00	0.00	44	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 1.5X1.5X0.1875	-2.19	1.2D + 1.0W Normal	6.213	50	50	50	127.2	36.0	9.37	2	1	17.67	20.88	23	Member Z

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 1 3/4" SOLID	18.63	1.2D + 1.0W 60 deg	50	65	108.24	0	0	0.00	0.00		17	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 1.5X1.5X0.1875	2.33	1.2D + 1.0W 60 deg	36	58	13.85	2	1	17.67	16.64	8.97	25	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.02	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		2.26	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension		19.05	0.9D + 1.0W 60 deg	120.41	16	4	0.75" A325
Bot Compression		0.00		0.00	0		

Section: 10		Section 10		Bot Elev (ft): 180.0				Height (ft): 10.000								
		Pu	Load Case	Len (ft)	Bracing %				F'y (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Use %	Controls
Max Compression Member		(kip)			X	Y	Z	KL/R					phiRnv (kip)	Bear phiRn (kip)		
LEG	SOL - 1 1/2" SOLID	-0.91	1.2D + 1.0W Normal	0.25	100	100	100	8.0	50.0	79.15	0	0	0.00	0.00	1	Member X
HORIZ	SAE - 1.5X1.5X0.1875	-0.21	1.2D + 1.0W Normal	2.752	100	100	100	116.3	36.0	10.96	2	1	17.67	20.88	1	Member Z
DIAG	SAE - 1.5X1.5X0.1875	-0.39	1.2D + 1.0W 210 deg	4.676	50	50	50	101.8	36.0	12.86	2	1	17.67	20.88	3	Member Z

		Pu	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member		(kip)											
LEG	SOL - 1 1/2" SOLID	0.25	1.2D + 1.0W Normal	50	65	79.52	0	0	0.00	0.00		0	Member
HORIZ	SAE - 1.5X1.5X0.1875	0.21	1.2D + 1.0W 60 deg	36	58	13.85	2	1	17.67	16.64	8.97	2	Blk Shear
DIAG	SAE - 1.5X1.5X0.1875	0.37	1.2D + 1.0W 330 deg	36	58	13.85	2	1	17.67	16.64	8.97	4	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		0.10	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension		0.02	0.9D + 1.0W 60 deg	120.41	0	4	0.75" A325
Bot Compression		0.00		0.00	0		

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal	9.81	00.00	0	1	0.00	321.61	-25.87	
	9.81	00.00	120	1a	8.61	-131.70	-8.47	
	9.81	00.00	240	1b	-8.61	-131.70	-8.47	
1.2D + 1.0W 60 deg	9.81	00.00	0	1	-2.79	163.96	-12.70	
	9.81	00.00	120	1a	-12.39	163.52	3.93	
	9.81	00.00	240	1b	-19.83	-269.26	-11.45	
1.2D + 1.0W 90 deg	9.81	00.00	0	1	-3.31	19.41	-0.85	
	9.81	00.00	120	1a	-19.56	272.10	9.41	
	9.81	00.00	240	1b	-18.16	-233.30	-8.55	
1.2D + 1.0W 120 deg	9.81	00.00	0	1	-3.05	-131.70	11.70	
	9.81	00.00	120	1a	-22.40	321.18	12.93	
	9.81	00.00	240	1b	-11.64	-131.26	-3.21	
1.2D + 1.0W 180 deg	9.81	00.00	0	1	0.00	-269.70	22.91	
	9.81	00.00	120	1a	-9.61	163.96	8.76	
	9.81	00.00	240	1b	9.61	163.96	8.76	
1.2D + 1.0W 210 deg	9.81	00.00	0	1	1.67	-233.80	20.02	
	9.81	00.00	120	1a	0.91	19.66	3.28	
	9.81	00.00	240	1b	17.93	272.36	12.23	
1.2D + 1.0W 240 deg	9.81	00.00	0	1	3.05	-131.70	11.70	
	9.81	00.00	120	1a	11.64	-131.26	-3.21	
	9.81	00.00	240	1b	22.40	321.18	12.93	
1.2D + 1.0W 300 deg	9.81	00.00	0	1	2.79	163.96	-12.70	
	9.81	00.00	120	1a	19.83	-269.26	-11.45	
	9.81	00.00	240	1b	12.39	163.52	3.93	
1.2D + 1.0W 330 deg	9.81	00.00	0	1	1.64	272.61	-21.66	
	9.81	00.00	120	1a	16.50	-233.55	-11.44	
	9.81	00.00	240	1b	2.38	19.15	-2.43	
0.9D + 1.0W Normal	9.81	00.00	0	1	0.00	316.34	-25.64	
	9.81	00.00	120	1a	8.80	-136.34	-8.59	
	9.81	00.00	240	1b	-8.80	-136.34	-8.59	
0.9D + 1.0W 60 deg	9.81	00.00	0	1	-2.80	158.90	-12.48	
	9.81	00.00	120	1a	-12.19	158.46	3.82	
	9.81	00.00	240	1b	-20.03	-273.70	-11.56	
0.9D + 1.0W 90 deg	9.81	00.00	0	1	-3.31	14.56	-0.63	
	9.81	00.00	120	1a	-19.37	266.89	9.29	
	9.81	00.00	240	1b	-18.35	-237.79	-8.66	
0.9D + 1.0W 120 deg	9.81	00.00	0	1	-3.05	-136.34	11.92	
	9.81	00.00	120	1a	-22.20	315.90	12.81	
	9.81	00.00	240	1b	-11.84	-135.90	-3.32	
0.9D + 1.0W 180 deg	9.81	00.00	0	1	0.00	-274.14	23.13	
	9.81	00.00	120	1a	-9.41	158.90	8.65	
	9.81	00.00	240	1b	9.41	158.90	8.65	
0.9D + 1.0W 210 deg	9.81	00.00	0	1	1.67	-238.29	20.24	
	9.81	00.00	120	1a	1.11	14.81	3.17	

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

	9.81	00.00	240	1b	17.73	267.15	12.12
0.9D + 1.0W 240 deg	9.81	00.00	0	1	3.05	-136.34	11.92
	9.81	00.00	120	1a	11.84	-135.90	-3.32
	9.81	00.00	240	1b	22.20	315.90	12.81
0.9D + 1.0W 300 deg	9.81	00.00	0	1	2.80	158.90	-12.48
	9.81	00.00	120	1a	20.03	-273.70	-11.56
	9.81	00.00	240	1b	12.19	158.46	3.82
0.9D + 1.0W 330 deg	9.81	00.00	0	1	1.64	267.40	-21.43
	9.81	00.00	120	1a	16.69	-238.04	-11.56
	9.81	00.00	240	1b	2.19	14.30	-2.55
1.2D + 1.0Di + 1.0Wi Normal	9.81	00.00	0	1	0.00	127.38	-6.35
	9.81	00.00	120	1a	3.24	3.92	-2.87
	9.81	00.00	240	1b	-3.24	3.92	-2.87
1.2D + 1.0Di + 1.0Wi 60 deg	9.81	00.00	0	1	-0.84	85.52	-2.75
	9.81	00.00	120	1a	-2.80	85.44	0.65
	9.81	00.00	240	1b	-6.60	-35.75	-3.81
1.2D + 1.0Di + 1.0Wi 90 deg	9.81	00.00	0	1	-0.98	45.07	0.71
	9.81	00.00	120	1a	-4.84	115.35	2.23
	9.81	00.00	240	1b	-6.07	-25.21	-2.94
1.2D + 1.0Di + 1.0Wi 120 deg	9.81	00.00	0	1	-0.87	3.92	4.24
	9.81	00.00	120	1a	-5.50	127.30	3.17
	9.81	00.00	240	1b	-4.10	3.99	-1.37
1.2D + 1.0Di + 1.0Wi 180 deg	9.81	00.00	0	1	0.00	-35.83	7.62
	9.81	00.00	120	1a	-1.96	85.52	2.10
	9.81	00.00	240	1b	1.96	85.52	2.10
1.2D + 1.0Di + 1.0Wi 210 deg	9.81	00.00	0	1	0.49	-25.29	6.73
	9.81	00.00	120	1a	1.10	45.11	0.49
	9.81	00.00	240	1b	4.35	115.39	3.07
1.2D + 1.0Di + 1.0Wi 240 deg	9.81	00.00	0	1	0.87	3.92	4.24
	9.81	00.00	120	1a	4.10	3.99	-1.37
	9.81	00.00	240	1b	5.50	127.30	3.17
1.2D + 1.0Di + 1.0Wi 300 deg	9.81	00.00	0	1	0.84	85.52	-2.75
	9.81	00.00	120	1a	6.60	-35.75	-3.81
	9.81	00.00	240	1b	2.80	85.44	0.65
1.2D + 1.0Di + 1.0Wi 330 deg	9.81	00.00	0	1	0.49	115.43	-5.31
	9.81	00.00	120	1a	5.58	-25.25	-3.78
	9.81	00.00	240	1b	-0.12	45.03	-1.20
1.2D + 1.0Ev + 1.0Eh Normal M1	9.81	00.00	0	1	0.00	37.89	-2.23
	9.81	00.00	120	1a	-0.28	9.98	0.04
	9.81	00.00	240	1b	0.28	9.98	0.04
1.2D + 1.0Ev + 1.0Eh 60 deg M1	9.81	00.00	0	1	-0.11	28.59	-1.58
	9.81	00.00	120	1a	-1.42	28.59	0.69
	9.81	00.00	240	1b	-0.34	0.67	-0.20
1.2D + 1.0Ev + 1.0Eh 90 deg M1	9.81	00.00	0	1	-0.13	19.28	-0.92
	9.81	00.00	120	1a	-1.81	35.40	0.97
	9.81	00.00	240	1b	-0.22	3.17	-0.06
1.2D + 1.0Ev + 1.0Eh 120 deg M1	9.81	00.00	0	1	-0.11	9.98	-0.26
	9.81	00.00	120	1a	-1.93	37.89	1.12
	9.81	00.00	240	1b	0.17	9.98	0.23

Site Number: 306035

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

1.2D + 1.0Ev + 1.0Eh 180 deg M1	9.81	00.00	0	1	0.00	0.68	0.40
	9.81	00.00	120	1a	-1.31	28.59	0.88
	9.81	00.00	240	1b	1.31	28.59	0.88
1.2D + 1.0Ev + 1.0Eh 210 deg M1	9.81	00.00	0	1	0.06	3.17	0.22
	9.81	00.00	120	1a	-0.73	19.28	0.57
	9.81	00.00	240	1b	1.75	35.40	1.08
1.2D + 1.0Ev + 1.0Eh 240 deg M1	9.81	00.00	0	1	0.11	9.98	-0.26
	9.81	00.00	120	1a	-0.17	9.98	0.23
	9.81	00.00	240	1b	1.93	37.89	1.12
1.2D + 1.0Ev + 1.0Eh 300 deg M1	9.81	00.00	0	1	0.11	28.59	-1.58
	9.81	00.00	120	1a	0.34	0.67	-0.20
	9.81	00.00	240	1b	1.42	28.59	0.69
1.2D + 1.0Ev + 1.0Eh 330 deg M1	9.81	00.00	0	1	0.06	35.40	-2.06
	9.81	00.00	120	1a	0.16	3.17	-0.17
	9.81	00.00	240	1b	0.86	19.28	0.35
0.9D - 1.0Ev + 1.0Eh Normal M1	9.81	00.00	0	1	0.00	32.46	-1.98
	9.81	00.00	120	1a	-0.06	4.59	-0.09
	9.81	00.00	240	1b	0.06	4.59	-0.09
0.9D - 1.0Ev + 1.0Eh 60 deg M1	9.81	00.00	0	1	-0.11	23.17	-1.32
	9.81	00.00	120	1a	-1.20	23.17	0.56
	9.81	00.00	240	1b	-0.57	-4.70	-0.33
0.9D - 1.0Ev + 1.0Eh 90 deg M1	9.81	00.00	0	1	-0.13	13.88	-0.66
	9.81	00.00	120	1a	-1.59	29.97	0.84
	9.81	00.00	240	1b	-0.45	-2.21	-0.18
0.9D - 1.0Ev + 1.0Eh 120 deg M1	9.81	00.00	0	1	-0.11	4.59	0.00
	9.81	00.00	120	1a	-1.71	32.46	0.99
	9.81	00.00	240	1b	-0.05	4.59	0.10
0.9D - 1.0Ev + 1.0Eh 180 deg M1	9.81	00.00	0	1	0.00	-4.70	0.65
	9.81	00.00	120	1a	-1.09	23.17	0.75
	9.81	00.00	240	1b	1.09	23.17	0.75
0.9D - 1.0Ev + 1.0Eh 210 deg M1	9.81	00.00	0	1	0.06	-2.21	0.48
	9.81	00.00	120	1a	-0.51	13.88	0.44
	9.81	00.00	240	1b	1.53	29.97	0.95
0.9D - 1.0Ev + 1.0Eh 240 deg M1	9.81	00.00	0	1	0.11	4.59	0.00
	9.81	00.00	120	1a	0.05	4.59	0.10
	9.81	00.00	240	1b	1.71	32.46	0.99
0.9D - 1.0Ev + 1.0Eh 300 deg M1	9.81	00.00	0	1	0.11	23.17	-1.32
	9.81	00.00	120	1a	0.57	-4.70	-0.33
	9.81	00.00	240	1b	1.20	23.17	0.56
0.9D - 1.0Ev + 1.0Eh 330 deg M1	9.81	00.00	0	1	0.06	29.97	-1.80
	9.81	00.00	120	1a	0.38	-2.21	-0.29
	9.81	00.00	240	1b	0.64	13.88	0.22
1.0D + 1.0W Service Normal	9.81	00.00	0	1	0.00	107.66	-8.34
	9.81	00.00	120	1a	2.18	-29.58	-2.32
	9.81	00.00	240	1b	-2.18	-29.58	-2.32
1.0D + 1.0W Service 60 deg	9.81	00.00	0	1	-0.85	59.93	-4.34
	9.81	00.00	120	1a	-4.18	59.80	1.43
	9.81	00.00	240	1b	-5.58	-71.22	-3.22

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

1.0D + 1.0W Service 90 deg	9.81	00.00	0	1	-1.00	16.17	-0.75
	9.81	00.00	120	1a	-6.36	92.67	3.10
	9.81	00.00	240	1b	-5.07	-60.33	-2.35
1.0D + 1.0W Service 120 deg	9.81	00.00	0	1	-0.92	-29.58	3.05
	9.81	00.00	120	1a	-7.22	107.53	4.17
	9.81	00.00	240	1b	-3.10	-29.44	-0.73
1.0D + 1.0W Service 180 deg	9.81	00.00	0	1	0.00	-71.35	6.45
	9.81	00.00	120	1a	-3.34	59.93	2.91
	9.81	00.00	240	1b	3.34	59.93	2.91
1.0D + 1.0W Service 210 deg	9.81	00.00	0	1	0.50	-60.48	5.57
	9.81	00.00	120	1a	-0.15	16.25	1.24
	9.81	00.00	240	1b	5.86	92.75	3.96
1.0D + 1.0W Service 240 deg	9.81	00.00	0	1	0.92	-29.58	3.05
	9.81	00.00	120	1a	3.10	-29.44	-0.73
	9.81	00.00	240	1b	7.22	107.53	4.17
1.0D + 1.0W Service 300 deg	9.81	00.00	0	1	0.85	59.93	-4.34
	9.81	00.00	120	1a	5.58	-71.22	-3.22
	9.81	00.00	240	1b	4.18	59.80	1.43
1.0D + 1.0W Service 330 deg	9.81	00.00	0	1	0.50	92.83	-7.06
	9.81	00.00	120	1a	4.57	-60.41	-3.22
	9.81	00.00	240	1b	1.15	16.09	-0.49

Max Uplift:	274.14(kip)	Moment Ice:	1,211.77 (kip-ft)	Moment:	4,449.26 (kip-ft)	1.2D + 1.0W Normal
Max Down:	321.61(kip)	Total Down Ice:	135.21 (kip)	Total Down:	58.21 (kip)	
Max Shear:	25.87 (kip)	Total Shear Ice:	12.08 (kip)	Total Shear:	42.82 (kip)	

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
109 mph Normal with No Ice	120.00	0.577	0.2213	0.6443	0.6620
109 mph Normal with No Ice	120.25	0.580	0.2222	0.6448	0.6580
109 mph Normal with No Ice	150.00	0.907	0.3317	0.8080	0.8727
109 mph Normal with No Ice	154.88	0.966	0.3386	0.6455	0.7289
109 mph Normal with No Ice	159.75	1.027	0.3319	1.0269	1.0269
109 mph Normal with No Ice	160.25	1.036	0.3306	1.0994	1.0994
109 mph Normal with No Ice	171.95	1.190	0.2248	0.6558	0.6927
109 mph Normal with No Ice	180.00	1.298	0.2183	0.9141	0.9141
109 mph 60 degree with No Ice	120.00	0.554	0.3065	0.5779	0.6542
109 mph 60 degree with No Ice	120.25	0.556	0.3076	0.5837	0.6598
109 mph 60 degree with No Ice	150.00	0.871	0.4548	0.6593	0.8009
109 mph 60 degree with No Ice	154.88	0.928	0.4632	0.6539	0.7865
109 mph 60 degree with No Ice	159.75	0.986	0.4615	0.8921	1.0044
109 mph 60 degree with No Ice	160.25	0.994	0.4600	0.9027	1.0131
109 mph 60 degree with No Ice	171.95	1.142	0.3197	0.8107	0.8714
109 mph 60 degree with No Ice	180.00	1.247	0.3138	0.8945	0.9480
109 mph 90 degree with No Ice	120.00	0.559	-0.3015	0.5553	0.6001
109 mph 90 degree with No Ice	120.25	0.561	-0.3025	0.5625	0.6028
109 mph 90 degree with No Ice	150.00	0.878	-0.4371	0.6031	0.7214
109 mph 90 degree with No Ice	154.88	0.935	-0.4422	0.6707	0.8033
109 mph 90 degree with No Ice	159.75	0.994	-0.4459	0.8435	0.8714
109 mph 90 degree with No Ice	160.25	1.001	-0.4446	0.8260	0.8543
109 mph 90 degree with No Ice	171.95	1.151	-0.3172	0.8635	0.9020
109 mph 90 degree with No Ice	180.00	1.257	-0.3157	0.8840	0.8985
109 mph 120 degree with No Ice	120.00	0.576	-0.3284	0.5991	0.6501
109 mph 120 degree with No Ice	120.25	0.578	-0.3295	0.6056	0.6523
109 mph 120 degree with No Ice	150.00	0.904	-0.4803	0.6798	0.8079
109 mph 120 degree with No Ice	154.88	0.963	-0.4873	0.6848	0.8239
109 mph 120 degree with No Ice	159.75	1.023	-0.4896	0.9332	0.9648
109 mph 120 degree with No Ice	160.25	1.031	-0.4882	0.9453	0.9762
109 mph 120 degree with No Ice	171.95	1.185	-0.3454	0.8350	0.8846
109 mph 120 degree with No Ice	180.00	1.293	-0.3420	0.9251	0.9402
109 mph 180 degree with No Ice	120.00	0.555	0.2159	0.6211	0.6419
109 mph 180 degree with No Ice	120.25	0.558	0.2168	0.6210	0.6378
109 mph 180 degree with No Ice	150.00	0.874	0.3224	0.7844	0.8480
109 mph 180 degree with No Ice	154.88	0.931	0.3287	0.6205	0.7022
109 mph 180 degree with No Ice	159.75	0.990	0.3188	0.9805	0.9805
109 mph 180 degree with No Ice	160.25	0.999	0.3170	1.0501	1.0501
109 mph 180 degree with No Ice	171.95	1.148	0.2144	0.6316	0.6639
109 mph 180 degree with No Ice	180.00	1.252	0.2075	0.8833	0.8833
109 mph 210 degree with No Ice	120.00	0.560	0.2155	0.6084	0.6390
109 mph 210 degree with No Ice	120.25	0.563	0.2162	0.6090	0.6397
109 mph 210 degree with No Ice	150.00	0.881	0.3166	0.7523	0.8055
109 mph 210 degree with No Ice	154.88	0.939	0.3217	0.6519	0.7079
109 mph 210 degree with No Ice	159.75	0.998	0.3226	0.9451	0.9866
109 mph 210 degree with No Ice	160.25	1.006	0.3216	0.9900	1.0308
109 mph 210 degree with No Ice	171.95	1.157	0.2262	0.7019	0.7299
109 mph 210 degree with No Ice	180.00	1.262	0.2232	0.8767	0.8995
109 mph 240 degree with No Ice	120.00	0.576	0.3284	0.5991	0.6501
109 mph 240 degree with No Ice	120.25	0.578	0.3295	0.6056	0.6523
109 mph 240 degree with No Ice	150.00	0.904	0.4803	0.6798	0.8079
109 mph 240 degree with No Ice	154.88	0.963	0.4873	0.6848	0.8239
109 mph 240 degree with No Ice	159.75	1.023	0.4896	0.9332	0.9648
109 mph 240 degree with No Ice	160.25	1.031	0.4882	0.9453	0.9762
109 mph 240 degree with No Ice	171.95	1.185	0.3454	0.8350	0.8846

Site Number: 306035

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

109 mph 240 degree with No Ice	180.00	1.293	0.3420	0.9251	0.9402
109 mph 300 degree with No Ice	120.00	0.554	0.1958	0.5779	0.6542
109 mph 300 degree with No Ice	120.25	0.556	0.1964	0.5837	0.6598
109 mph 300 degree with No Ice	150.00	0.871	0.2795	0.6593	0.8009
109 mph 300 degree with No Ice	154.88	0.928	0.2813	0.6539	0.7865
109 mph 300 degree with No Ice	159.75	0.986	0.2854	0.8921	1.0044
109 mph 300 degree with No Ice	160.25	0.994	0.2847	0.9027	1.0131
109 mph 300 degree with No Ice	171.95	1.142	0.2055	0.8107	0.8714
109 mph 300 degree with No Ice	180.00	1.247	0.2063	0.8945	0.9480
109 mph 330 degree with No Ice	120.00	0.560	0.0850	0.6106	0.6953
109 mph 330 degree with No Ice	120.25	0.563	0.0852	0.6107	0.6960
109 mph 330 degree with No Ice	150.00	0.881	0.1187	0.7586	0.9065
109 mph 330 degree with No Ice	154.88	0.939	0.1187	0.6437	0.8057
109 mph 330 degree with No Ice	159.75	0.998	0.1215	0.9454	1.0629
109 mph 330 degree with No Ice	160.25	1.006	0.1213	0.9963	1.1015
109 mph 330 degree with No Ice	171.95	1.157	0.0890	0.7066	0.7856
109 mph 330 degree with No Ice	180.00	1.262	0.0904	0.8816	0.9434
109 mph Normal with No Ice (Reduced DL)	120.00	0.576	0.2213	0.6430	0.6608
109 mph Normal with No Ice (Reduced DL)	120.25	0.579	0.2223	0.6434	0.6568
109 mph Normal with No Ice (Reduced DL)	150.00	0.905	0.3318	0.8063	0.8710
109 mph Normal with No Ice (Reduced DL)	154.88	0.964	0.3387	0.6439	0.7276
109 mph Normal with No Ice (Reduced DL)	159.75	1.025	0.3320	1.0236	1.0236
109 mph Normal with No Ice (Reduced DL)	160.25	1.034	0.3307	1.0959	1.0959
109 mph Normal with No Ice (Reduced DL)	171.95	1.187	0.2249	0.6539	0.6908
109 mph Normal with No Ice (Reduced DL)	180.00	1.295	0.2183	0.9117	0.9117
109 mph 60 deg with No Ice (Reduced DL)	120.00	0.553	0.3063	0.5765	0.6529
109 mph 60 deg with No Ice (Reduced DL)	120.25	0.555	0.3075	0.5823	0.6585
109 mph 60 deg with No Ice (Reduced DL)	150.00	0.869	0.4545	0.6575	0.7993
109 mph 60 deg with No Ice (Reduced DL)	154.88	0.926	0.4630	0.6524	0.7852
109 mph 60 deg with No Ice (Reduced DL)	159.75	0.984	0.4612	0.8898	1.0023
109 mph 60 deg with No Ice (Reduced DL)	160.25	0.992	0.4598	0.9003	1.0110
109 mph 60 deg with No Ice (Reduced DL)	171.95	1.140	0.3196	0.8087	0.8695
109 mph 60 deg with No Ice (Reduced DL)	180.00	1.244	0.3137	0.8915	0.9451
109 mph 90 deg with No Ice (Reduced DL)	120.00	0.558	-0.3015	0.5540	0.5990
109 mph 90 deg with No Ice (Reduced DL)	120.25	0.560	-0.3024	0.5612	0.6017
109 mph 90 deg with No Ice (Reduced DL)	150.00	0.876	-0.4370	0.6015	0.7200
109 mph 90 deg with No Ice (Reduced DL)	154.88	0.933	-0.4422	0.6691	0.8020
109 mph 90 deg with No Ice (Reduced DL)	159.75	0.992	-0.4458	0.8406	0.8687
109 mph 90 deg with No Ice (Reduced DL)	160.25	0.999	-0.4446	0.8229	0.8514
109 mph 90 deg with No Ice (Reduced DL)	171.95	1.149	-0.3171	0.8615	0.9002
109 mph 90 deg with No Ice (Reduced DL)	180.00	1.254	-0.3156	0.8811	0.8957
109 mph 120 deg with No Ice (Reduced DL)	120.00	0.575	-0.3282	0.5978	0.6489
109 mph 120 deg with No Ice (Reduced DL)	120.25	0.577	-0.3292	0.6042	0.6510
109 mph 120 deg with No Ice (Reduced DL)	150.00	0.902	-0.4799	0.6782	0.8063
109 mph 120 deg with No Ice (Reduced DL)	154.88	0.961	-0.4870	0.6832	0.8225
109 mph 120 deg with No Ice (Reduced DL)	159.75	1.021	-0.4893	0.9301	0.9618
109 mph 120 deg with No Ice (Reduced DL)	160.25	1.029	-0.4879	0.9420	0.9731
109 mph 120 deg with No Ice (Reduced DL)	171.95	1.182	-0.3452	0.8331	0.8827
109 mph 120 deg with No Ice (Reduced DL)	180.00	1.290	-0.3418	0.9227	0.9379
109 mph 180 deg with No Ice (Reduced DL)	120.00	0.554	0.2160	0.6197	0.6408
109 mph 180 deg with No Ice (Reduced DL)	120.25	0.557	0.2169	0.6196	0.6367
109 mph 180 deg with No Ice (Reduced DL)	150.00	0.872	0.3225	0.7827	0.8465
109 mph 180 deg with No Ice (Reduced DL)	154.88	0.930	0.3288	0.6190	0.7009
109 mph 180 deg with No Ice (Reduced DL)	159.75	0.988	0.3189	0.9781	0.9781
109 mph 180 deg with No Ice (Reduced DL)	160.25	0.997	0.3172	1.0477	1.0477
109 mph 180 deg with No Ice (Reduced DL)	171.95	1.145	0.2145	0.6296	0.6622
109 mph 180 deg with No Ice (Reduced DL)	180.00	1.249	0.2077	0.8803	0.8803
109 mph 210 deg with No Ice (Reduced DL)	120.00	0.559	0.2153	0.6072	0.6379
109 mph 210 deg with No Ice (Reduced DL)	120.25	0.562	0.2160	0.6076	0.6385
109 mph 210 deg with No Ice (Reduced DL)	150.00	0.879	0.3163	0.7507	0.8038
109 mph 210 deg with No Ice (Reduced DL)	154.88	0.937	0.3214	0.6503	0.7064
109 mph 210 deg with No Ice (Reduced DL)	159.75	0.996	0.3223	0.9421	0.9839

Site Number: 306035

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

109 mph 210 deg with No Ice (Reduced DL)	160.25	1.004	0.3213	0.9869	1.0285
109 mph 210 deg with No Ice (Reduced DL)	171.95	1.154	0.2260	0.7001	0.7279
109 mph 210 deg with No Ice (Reduced DL)	180.00	1.259	0.2230	0.8744	0.8966
109 mph 240 deg with No Ice (Reduced DL)	120.00	0.575	0.3282	0.5978	0.6489
109 mph 240 deg with No Ice (Reduced DL)	120.25	0.577	0.3292	0.6042	0.6510
109 mph 240 deg with No Ice (Reduced DL)	150.00	0.902	0.4799	0.6782	0.8063
109 mph 240 deg with No Ice (Reduced DL)	154.88	0.961	0.4870	0.6832	0.8225
109 mph 240 deg with No Ice (Reduced DL)	159.75	1.021	0.4893	0.9301	0.9618
109 mph 240 deg with No Ice (Reduced DL)	160.25	1.029	0.4879	0.9420	0.9731
109 mph 240 deg with No Ice (Reduced DL)	171.95	1.182	0.3452	0.8331	0.8827
109 mph 240 deg with No Ice (Reduced DL)	180.00	1.290	0.3418	0.9227	0.9379
109 mph 300 deg with No Ice (Reduced DL)	120.00	0.553	0.1959	0.5765	0.6529
109 mph 300 deg with No Ice (Reduced DL)	120.25	0.555	0.1965	0.5823	0.6585
109 mph 300 deg with No Ice (Reduced DL)	150.00	0.869	0.2797	0.6575	0.7993
109 mph 300 deg with No Ice (Reduced DL)	154.88	0.926	0.2815	0.6524	0.7852
109 mph 300 deg with No Ice (Reduced DL)	159.75	0.984	0.2856	0.8898	1.0023
109 mph 300 deg with No Ice (Reduced DL)	160.25	0.992	0.2849	0.9003	1.0110
109 mph 300 deg with No Ice (Reduced DL)	171.95	1.140	0.2057	0.8087	0.8695
109 mph 300 deg with No Ice (Reduced DL)	180.00	1.244	0.2064	0.8915	0.9451
109 mph 330 deg with No Ice (Reduced DL)	120.00	0.559	0.0851	0.6092	0.6940
109 mph 330 deg with No Ice (Reduced DL)	120.25	0.562	0.0853	0.6093	0.6947
109 mph 330 deg with No Ice (Reduced DL)	150.00	0.879	0.1190	0.7568	0.9048
109 mph 330 deg with No Ice (Reduced DL)	154.88	0.937	0.1189	0.6421	0.8044
109 mph 330 deg with No Ice (Reduced DL)	159.75	0.996	0.1218	0.9424	1.0608
109 mph 330 deg with No Ice (Reduced DL)	160.25	1.004	0.1215	0.9930	1.0994
109 mph 330 deg with No Ice (Reduced DL)	171.95	1.154	0.0892	0.7045	0.7837
109 mph 330 deg with No Ice (Reduced DL)	180.00	1.260	0.0905	0.8787	0.9407
40 mph Normal with 1.50 in Radial Ice	120.00	0.154	0.0343	0.1631	0.1631
40 mph Normal with 1.50 in Radial Ice	120.25	0.154	0.0344	0.1641	0.1641
40 mph Normal with 1.50 in Radial Ice	150.00	0.238	0.0519	0.1974	0.2041
40 mph Normal with 1.50 in Radial Ice	154.88	0.253	0.0527	0.1661	0.1742
40 mph Normal with 1.50 in Radial Ice	159.75	0.268	0.0506	0.2481	0.2481
40 mph Normal with 1.50 in Radial Ice	160.25	0.270	0.0503	0.2619	0.2619
40 mph Normal with 1.50 in Radial Ice	171.95	0.309	0.0313	0.1738	0.1765
40 mph Normal with 1.50 in Radial Ice	180.00	0.337	0.0296	0.2279	0.2279
40 mph 60 deg with 1.50 in Radial Ice	120.00	0.152	-0.0424	0.1548	0.1605
40 mph 60 deg with 1.50 in Radial Ice	120.25	0.152	-0.0425	0.1557	0.1613
40 mph 60 deg with 1.50 in Radial Ice	150.00	0.234	0.0623	0.1736	0.1844
40 mph 60 deg with 1.50 in Radial Ice	154.88	0.249	0.0630	0.1698	0.1788
40 mph 60 deg with 1.50 in Radial Ice	159.75	0.264	0.0622	0.2254	0.2338
40 mph 60 deg with 1.50 in Radial Ice	160.25	0.266	0.0618	0.2280	0.2362
40 mph 60 deg with 1.50 in Radial Ice	171.95	0.304	-0.0420	0.2040	0.2080
40 mph 60 deg with 1.50 in Radial Ice	180.00	0.331	-0.0417	0.2326	0.2359
40 mph 90 deg with 1.50 in Radial Ice	120.00	0.152	-0.0523	0.1498	0.1521
40 mph 90 deg with 1.50 in Radial Ice	120.25	0.153	-0.0525	0.1508	0.1530
40 mph 90 deg with 1.50 in Radial Ice	150.00	0.235	-0.0749	0.1634	0.1735
40 mph 90 deg with 1.50 in Radial Ice	154.88	0.249	-0.0753	0.1724	0.1881
40 mph 90 deg with 1.50 in Radial Ice	159.75	0.265	-0.0758	0.2187	0.2220
40 mph 90 deg with 1.50 in Radial Ice	160.25	0.267	-0.0755	0.2188	0.2221
40 mph 90 deg with 1.50 in Radial Ice	171.95	0.305	-0.0521	0.2129	0.2149
40 mph 90 deg with 1.50 in Radial Ice	180.00	0.332	-0.0517	0.2285	0.2300
40 mph 120 deg with 1.50 in Radial Ice	120.00	0.154	-0.0480	0.1556	0.1598
40 mph 120 deg with 1.50 in Radial Ice	120.25	0.154	-0.0481	0.1575	0.1618
40 mph 120 deg with 1.50 in Radial Ice	150.00	0.237	-0.0688	0.1733	0.1831
40 mph 120 deg with 1.50 in Radial Ice	154.88	0.252	-0.0692	0.1724	0.1836
40 mph 120 deg with 1.50 in Radial Ice	159.75	0.268	-0.0696	0.2337	0.2397
40 mph 120 deg with 1.50 in Radial Ice	160.25	0.270	-0.0693	0.2385	0.2443
40 mph 120 deg with 1.50 in Radial Ice	171.95	0.308	-0.0473	0.2052	0.2081
40 mph 120 deg with 1.50 in Radial Ice	180.00	0.336	-0.0468	0.2299	0.2324
40 mph 180 deg with 1.50 in Radial Ice	120.00	0.152	0.0341	0.1623	0.1623
40 mph 180 deg with 1.50 in Radial Ice	120.25	0.153	0.0342	0.1621	0.1621
40 mph 180 deg with 1.50 in Radial Ice	150.00	0.235	0.0516	0.1965	0.2004

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

40 mph 180 deg with 1.50 in Radial Ice	154.88	0.249	0.0524	0.1638	0.1720
40 mph 180 deg with 1.50 in Radial Ice	159.75	0.265	0.0502	0.2394	0.2394
40 mph 180 deg with 1.50 in Radial Ice	160.25	0.267	0.0498	0.2510	0.2510
40 mph 180 deg with 1.50 in Radial Ice	171.95	0.305	0.0309	0.1727	0.1731
40 mph 180 deg with 1.50 in Radial Ice	180.00	0.332	0.0292	0.2306	0.2306
40 mph 210 deg with 1.50 in Radial Ice	120.00	0.152	0.0288	0.1576	0.1624
40 mph 210 deg with 1.50 in Radial Ice	120.25	0.153	0.0289	0.1583	0.1632
40 mph 210 deg with 1.50 in Radial Ice	150.00	0.235	0.0414	0.1879	0.1968
40 mph 210 deg with 1.50 in Radial Ice	154.88	0.250	0.0417	0.1685	0.1731
40 mph 210 deg with 1.50 in Radial Ice	159.75	0.265	0.0418	0.2343	0.2414
40 mph 210 deg with 1.50 in Radial Ice	160.25	0.267	0.0416	0.2434	0.2501
40 mph 210 deg with 1.50 in Radial Ice	171.95	0.306	0.0283	0.1829	0.1866
40 mph 210 deg with 1.50 in Radial Ice	180.00	0.333	0.0280	0.2264	0.2282
40 mph 240 deg with 1.50 in Radial Ice	120.00	0.154	0.0480	0.1556	0.1598
40 mph 240 deg with 1.50 in Radial Ice	120.25	0.154	0.0481	0.1575	0.1618
40 mph 240 deg with 1.50 in Radial Ice	150.00	0.237	0.0688	0.1733	0.1831
40 mph 240 deg with 1.50 in Radial Ice	154.88	0.252	0.0692	0.1724	0.1836
40 mph 240 deg with 1.50 in Radial Ice	159.75	0.268	0.0696	0.2337	0.2397
40 mph 240 deg with 1.50 in Radial Ice	160.25	0.270	0.0693	0.2385	0.2443
40 mph 240 deg with 1.50 in Radial Ice	171.95	0.308	0.0473	0.2052	0.2081
40 mph 240 deg with 1.50 in Radial Ice	180.00	0.336	0.0468	0.2299	0.2324
40 mph 300 deg with 1.50 in Radial Ice	120.00	0.152	0.0424	0.1548	0.1605
40 mph 300 deg with 1.50 in Radial Ice	120.25	0.152	0.0425	0.1557	0.1613
40 mph 300 deg with 1.50 in Radial Ice	150.00	0.234	0.0605	0.1736	0.1844
40 mph 300 deg with 1.50 in Radial Ice	154.88	0.249	0.0607	0.1698	0.1788
40 mph 300 deg with 1.50 in Radial Ice	159.75	0.264	0.0612	0.2254	0.2338
40 mph 300 deg with 1.50 in Radial Ice	160.25	0.266	0.0610	0.2280	0.2362
40 mph 300 deg with 1.50 in Radial Ice	171.95	0.304	0.0420	0.2040	0.2080
40 mph 300 deg with 1.50 in Radial Ice	180.00	0.331	0.0417	0.2326	0.2359
40 mph 330 deg with 1.50 in Radial Ice	120.00	0.152	0.0234	0.1589	0.1653
40 mph 330 deg with 1.50 in Radial Ice	120.25	0.153	0.0235	0.1587	0.1652
40 mph 330 deg with 1.50 in Radial Ice	150.00	0.235	0.0333	0.1902	0.2019
40 mph 330 deg with 1.50 in Radial Ice	154.88	0.250	0.0334	0.1681	0.1766
40 mph 330 deg with 1.50 in Radial Ice	159.75	0.265	0.0338	0.2339	0.2395
40 mph 330 deg with 1.50 in Radial Ice	160.25	0.267	0.0337	0.2440	0.2464
40 mph 330 deg with 1.50 in Radial Ice	171.95	0.306	0.0234	0.1844	0.1893
40 mph 330 deg with 1.50 in Radial Ice	180.00	0.333	0.0234	0.2276	0.2313
Seismic Normal M1	120.00	0.038	0.0015	0.0420	0.0420
Seismic Normal M1	120.25	0.038	0.0015	0.0424	0.0424
Seismic Normal M1	150.00	0.061	0.0019	0.0512	0.0512
Seismic Normal M1	154.88	0.065	0.0018	0.0476	0.0476
Seismic Normal M1	159.75	0.069	0.0023	0.0703	0.0703
Seismic Normal M1	160.25	0.070	0.0023	0.0731	0.0731
Seismic Normal M1	171.95	0.081	0.0020	0.0549	0.0549
Seismic Normal M1	180.00	0.089	0.0021	0.0607	0.0607
Seismic 60 deg M1	120.00	0.038	-0.0015	0.0422	0.0422
Seismic 60 deg M1	120.25	0.038	-0.0015	0.0424	0.0424
Seismic 60 deg M1	150.00	0.061	0.0019	0.0515	0.0515
Seismic 60 deg M1	154.88	0.065	0.0018	0.0477	0.0477
Seismic 60 deg M1	159.75	0.069	0.0023	0.0715	0.0715
Seismic 60 deg M1	160.25	0.070	0.0023	0.0731	0.0731
Seismic 60 deg M1	171.95	0.081	0.0020	0.0546	0.0546
Seismic 60 deg M1	180.00	0.089	0.0022	0.0630	0.0630
Seismic 90 deg M1	120.00	0.038	-0.0017	0.0416	0.0416
Seismic 90 deg M1	120.25	0.038	-0.0017	0.0417	0.0417
Seismic 90 deg M1	150.00	0.061	-0.0021	0.0510	0.0510
Seismic 90 deg M1	154.88	0.065	-0.0021	0.0485	0.0485
Seismic 90 deg M1	159.75	0.069	-0.0026	0.0691	0.0691
Seismic 90 deg M1	160.25	0.070	-0.0026	0.0703	0.0703
Seismic 90 deg M1	171.95	0.081	-0.0023	0.0548	0.0548
Seismic 90 deg M1	180.00	0.089	-0.0025	0.0619	0.0619
Seismic 120 deg M1	120.00	0.038	-0.0015	0.0420	0.0420

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Seismic 120 deg M1	120.25	0.038	-0.0015	0.0424	0.0424
Seismic 120 deg M1	150.00	0.061	0.0019	0.0512	0.0512
Seismic 120 deg M1	154.88	0.065	0.0018	0.0476	0.0477
Seismic 120 deg M1	159.75	0.069	0.0023	0.0702	0.0702
Seismic 120 deg M1	160.25	0.070	0.0023	0.0731	0.0731
Seismic 120 deg M1	171.95	0.081	0.0020	0.0549	0.0549
Seismic 120 deg M1	180.00	0.089	0.0022	0.0607	0.0607
Seismic 180 deg M1	120.00	0.038	0.0015	0.0422	0.0422
Seismic 180 deg M1	120.25	0.038	0.0015	0.0424	0.0424
Seismic 180 deg M1	150.00	0.061	0.0019	0.0515	0.0515
Seismic 180 deg M1	154.88	0.065	0.0018	0.0477	0.0477
Seismic 180 deg M1	159.75	0.069	0.0023	0.0715	0.0715
Seismic 180 deg M1	160.25	0.070	0.0023	0.0731	0.0731
Seismic 180 deg M1	171.95	0.081	0.0020	0.0546	0.0546
Seismic 180 deg M1	180.00	0.089	0.0022	0.0630	0.0630
Seismic 210 deg M1	120.00	0.038	0.0009	0.0416	0.0416
Seismic 210 deg M1	120.25	0.038	0.0009	0.0417	0.0417
Seismic 210 deg M1	150.00	0.061	0.0011	0.0510	0.0510
Seismic 210 deg M1	154.88	0.065	0.0011	0.0485	0.0485
Seismic 210 deg M1	159.75	0.069	0.0013	0.0691	0.0691
Seismic 210 deg M1	160.25	0.070	0.0013	0.0703	0.0703
Seismic 210 deg M1	171.95	0.081	0.0012	0.0548	0.0548
Seismic 210 deg M1	180.00	0.089	0.0012	0.0619	0.0619
Seismic 240 deg M1	120.00	0.038	0.0015	0.0420	0.0420
Seismic 240 deg M1	120.25	0.038	0.0015	0.0424	0.0424
Seismic 240 deg M1	150.00	0.061	0.0019	0.0512	0.0512
Seismic 240 deg M1	154.88	0.065	0.0018	0.0476	0.0477
Seismic 240 deg M1	159.75	0.069	0.0023	0.0702	0.0702
Seismic 240 deg M1	160.25	0.070	0.0023	0.0731	0.0731
Seismic 240 deg M1	171.95	0.081	0.0020	0.0549	0.0549
Seismic 240 deg M1	180.00	0.089	0.0022	0.0607	0.0607
Seismic 300 deg M1	120.00	0.038	0.0015	0.0422	0.0422
Seismic 300 deg M1	120.25	0.038	0.0015	0.0424	0.0424
Seismic 300 deg M1	150.00	0.061	0.0019	0.0515	0.0515
Seismic 300 deg M1	154.88	0.065	0.0018	0.0477	0.0477
Seismic 300 deg M1	159.75	0.069	0.0023	0.0715	0.0715
Seismic 300 deg M1	160.25	0.070	0.0023	0.0731	0.0731
Seismic 300 deg M1	171.95	0.081	0.0020	0.0546	0.0546
Seismic 300 deg M1	180.00	0.089	0.0022	0.0630	0.0630
Seismic 330 deg M1	120.00	0.038	0.0009	0.0416	0.0416
Seismic 330 deg M1	120.25	0.038	0.0009	0.0417	0.0417
Seismic 330 deg M1	150.00	0.061	0.0011	0.0510	0.0510
Seismic 330 deg M1	154.88	0.065	0.0010	0.0485	0.0485
Seismic 330 deg M1	159.75	0.069	0.0013	0.0691	0.0691
Seismic 330 deg M1	160.25	0.070	0.0013	0.0703	0.0703
Seismic 330 deg M1	171.95	0.081	0.0012	0.0548	0.0548
Seismic 330 deg M1	180.00	0.089	0.0013	0.0619	0.0619
Seismic (Reduced DL) Normal M1	120.00	0.038	0.0015	0.0420	0.0420
Seismic (Reduced DL) Normal M1	120.25	0.038	0.0015	0.0423	0.0423
Seismic (Reduced DL) Normal M1	150.00	0.061	0.0019	0.0511	0.0511
Seismic (Reduced DL) Normal M1	154.88	0.065	0.0018	0.0475	0.0475
Seismic (Reduced DL) Normal M1	159.75	0.069	0.0022	0.0702	0.0702
Seismic (Reduced DL) Normal M1	160.25	0.070	0.0023	0.0729	0.0729
Seismic (Reduced DL) Normal M1	171.95	0.081	0.0020	0.0547	0.0547
Seismic (Reduced DL) Normal M1	180.00	0.088	0.0021	0.0609	0.0609
Seismic (Reduced DL) 60 deg M1	120.00	0.038	-0.0015	0.0421	0.0421
Seismic (Reduced DL) 60 deg M1	120.25	0.038	-0.0015	0.0423	0.0423
Seismic (Reduced DL) 60 deg M1	150.00	0.061	0.0019	0.0513	0.0513
Seismic (Reduced DL) 60 deg M1	154.88	0.065	0.0018	0.0475	0.0476
Seismic (Reduced DL) 60 deg M1	159.75	0.069	0.0023	0.0711	0.0711
Seismic (Reduced DL) 60 deg M1	160.25	0.070	0.0023	0.0729	0.0729
Seismic (Reduced DL) 60 deg M1	171.95	0.081	0.0020	0.0545	0.0545

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Seismic (Reduced DL) 60 deg M1	180.00	0.088	0.0022	0.0625	0.0625
Seismic (Reduced DL) 90 deg M1	120.00	0.038	-0.0017	0.0414	0.0415
Seismic (Reduced DL) 90 deg M1	120.25	0.038	-0.0017	0.0416	0.0416
Seismic (Reduced DL) 90 deg M1	150.00	0.061	-0.0021	0.0509	0.0509
Seismic (Reduced DL) 90 deg M1	154.88	0.065	-0.0021	0.0484	0.0484
Seismic (Reduced DL) 90 deg M1	159.75	0.069	-0.0026	0.0687	0.0687
Seismic (Reduced DL) 90 deg M1	160.25	0.070	-0.0026	0.0701	0.0701
Seismic (Reduced DL) 90 deg M1	171.95	0.081	-0.0023	0.0546	0.0546
Seismic (Reduced DL) 90 deg M1	180.00	0.088	-0.0025	0.0614	0.0615
Seismic (Reduced DL) 120 deg M1	120.00	0.038	-0.0015	0.0419	0.0419
Seismic (Reduced DL) 120 deg M1	120.25	0.038	-0.0015	0.0423	0.0423
Seismic (Reduced DL) 120 deg M1	150.00	0.061	0.0019	0.0511	0.0511
Seismic (Reduced DL) 120 deg M1	154.88	0.065	0.0018	0.0475	0.0476
Seismic (Reduced DL) 120 deg M1	159.75	0.069	0.0023	0.0702	0.0702
Seismic (Reduced DL) 120 deg M1	160.25	0.070	0.0023	0.0729	0.0729
Seismic (Reduced DL) 120 deg M1	171.95	0.081	0.0020	0.0547	0.0547
Seismic (Reduced DL) 120 deg M1	180.00	0.088	0.0022	0.0609	0.0609
Seismic (Reduced DL) 180 deg M1	120.00	0.038	0.0015	0.0421	0.0421
Seismic (Reduced DL) 180 deg M1	120.25	0.038	0.0015	0.0423	0.0423
Seismic (Reduced DL) 180 deg M1	150.00	0.061	0.0019	0.0513	0.0513
Seismic (Reduced DL) 180 deg M1	154.88	0.065	0.0018	0.0476	0.0476
Seismic (Reduced DL) 180 deg M1	159.75	0.069	0.0022	0.0711	0.0711
Seismic (Reduced DL) 180 deg M1	160.25	0.070	0.0023	0.0728	0.0728
Seismic (Reduced DL) 180 deg M1	171.95	0.081	0.0020	0.0545	0.0545
Seismic (Reduced DL) 180 deg M1	180.00	0.088	0.0021	0.0625	0.0625
Seismic (Reduced DL) 210 deg M1	120.00	0.038	0.0009	0.0414	0.0415
Seismic (Reduced DL) 210 deg M1	120.25	0.038	0.0009	0.0416	0.0416
Seismic (Reduced DL) 210 deg M1	150.00	0.061	0.0011	0.0509	0.0509
Seismic (Reduced DL) 210 deg M1	154.88	0.065	0.0010	0.0484	0.0484
Seismic (Reduced DL) 210 deg M1	159.75	0.069	0.0013	0.0687	0.0687
Seismic (Reduced DL) 210 deg M1	160.25	0.070	0.0013	0.0701	0.0701
Seismic (Reduced DL) 210 deg M1	171.95	0.081	0.0012	0.0546	0.0546
Seismic (Reduced DL) 210 deg M1	180.00	0.088	0.0012	0.0615	0.0615
Seismic (Reduced DL) 240 deg M1	120.00	0.038	0.0015	0.0419	0.0419
Seismic (Reduced DL) 240 deg M1	120.25	0.038	0.0015	0.0423	0.0423
Seismic (Reduced DL) 240 deg M1	150.00	0.061	0.0019	0.0511	0.0511
Seismic (Reduced DL) 240 deg M1	154.88	0.065	0.0018	0.0475	0.0476
Seismic (Reduced DL) 240 deg M1	159.75	0.069	0.0023	0.0702	0.0702
Seismic (Reduced DL) 240 deg M1	160.25	0.070	0.0023	0.0729	0.0729
Seismic (Reduced DL) 240 deg M1	171.95	0.081	0.0020	0.0547	0.0547
Seismic (Reduced DL) 240 deg M1	180.00	0.088	0.0022	0.0609	0.0609
Seismic (Reduced DL) 300 deg M1	120.00	0.038	0.0015	0.0421	0.0421
Seismic (Reduced DL) 300 deg M1	120.25	0.038	0.0015	0.0423	0.0423
Seismic (Reduced DL) 300 deg M1	150.00	0.061	0.0019	0.0513	0.0513
Seismic (Reduced DL) 300 deg M1	154.88	0.065	0.0018	0.0475	0.0476
Seismic (Reduced DL) 300 deg M1	159.75	0.069	0.0023	0.0711	0.0711
Seismic (Reduced DL) 300 deg M1	160.25	0.070	0.0023	0.0729	0.0729
Seismic (Reduced DL) 300 deg M1	171.95	0.081	0.0020	0.0545	0.0545
Seismic (Reduced DL) 300 deg M1	180.00	0.088	0.0022	0.0625	0.0625
Seismic (Reduced DL) 330 deg M1	120.00	0.038	0.0009	0.0414	0.0415
Seismic (Reduced DL) 330 deg M1	120.25	0.038	0.0009	0.0416	0.0416
Seismic (Reduced DL) 330 deg M1	150.00	0.061	0.0011	0.0509	0.0509
Seismic (Reduced DL) 330 deg M1	154.88	0.065	0.0010	0.0484	0.0484
Seismic (Reduced DL) 330 deg M1	159.75	0.069	0.0013	0.0687	0.0687
Seismic (Reduced DL) 330 deg M1	160.25	0.070	0.0013	0.0701	0.0701
Seismic (Reduced DL) 330 deg M1	171.95	0.081	0.0012	0.0546	0.0546
Seismic (Reduced DL) 330 deg M1	180.00	0.088	0.0012	0.0614	0.0615
Serviceability - 60 mph Wind Normal	120.00	0.175	0.0661	0.1945	0.2002
Serviceability - 60 mph Wind Normal	120.25	0.175	0.0664	0.1948	0.1989
Serviceability - 60 mph Wind Normal	150.00	0.274	0.0990	0.2445	0.2637
Serviceability - 60 mph Wind Normal	154.88	0.292	0.1010	0.1950	0.2196
Serviceability - 60 mph Wind Normal	159.75	0.311	0.0985	0.3097	0.3097

Site Number: 306035

Code:

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Serviceability - 60 mph Wind Normal	160.25	0.314	0.0981	0.3317	0.3317
Serviceability - 60 mph Wind Normal	171.95	0.360	0.0659	0.1982	0.2087
Serviceability - 60 mph Wind Normal	180.00	0.393	0.0637	0.2756	0.2756
Serviceability - 60 mph Wind 60 deg	120.00	0.168	0.0784	0.1750	0.1918
Serviceability - 60 mph Wind 60 deg	120.25	0.168	0.0787	0.1767	0.1934
Serviceability - 60 mph Wind 60 deg	150.00	0.263	0.1158	0.1994	0.2306
Serviceability - 60 mph Wind 60 deg	154.88	0.281	0.1177	0.1987	0.2252
Serviceability - 60 mph Wind 60 deg	159.75	0.298	0.1170	0.2699	0.2942
Serviceability - 60 mph Wind 60 deg	160.25	0.301	0.1166	0.2730	0.2969
Serviceability - 60 mph Wind 60 deg	171.95	0.346	0.0806	0.2454	0.2582
Serviceability - 60 mph Wind 60 deg	180.00	0.377	0.0790	0.2713	0.2826
Serviceability - 60 mph Wind 90 deg	120.00	0.169	-0.0911	0.1681	0.1815
Serviceability - 60 mph Wind 90 deg	120.25	0.170	-0.0914	0.1701	0.1823
Serviceability - 60 mph Wind 90 deg	150.00	0.266	-0.1320	0.1827	0.2180
Serviceability - 60 mph Wind 90 deg	154.88	0.283	-0.1335	0.2029	0.2429
Serviceability - 60 mph Wind 90 deg	159.75	0.301	-0.1346	0.2551	0.2638
Serviceability - 60 mph Wind 90 deg	160.25	0.303	-0.1342	0.2499	0.2587
Serviceability - 60 mph Wind 90 deg	171.95	0.348	-0.0951	0.2614	0.2726
Serviceability - 60 mph Wind 90 deg	180.00	0.380	-0.0945	0.2681	0.2723
Serviceability - 60 mph Wind 120 deg	120.00	0.174	-0.0851	0.1810	0.1926
Serviceability - 60 mph Wind 120 deg	120.25	0.175	-0.0853	0.1831	0.1946
Serviceability - 60 mph Wind 120 deg	150.00	0.273	-0.1236	0.2054	0.2328
Serviceability - 60 mph Wind 120 deg	154.88	0.291	-0.1251	0.2063	0.2375
Serviceability - 60 mph Wind 120 deg	159.75	0.310	-0.1259	0.2819	0.2982
Serviceability - 60 mph Wind 120 deg	160.25	0.312	-0.1255	0.2857	0.3016
Serviceability - 60 mph Wind 120 deg	171.95	0.358	-0.0886	0.2525	0.2624
Serviceability - 60 mph Wind 120 deg	180.00	0.391	-0.0878	0.2790	0.2866
Serviceability - 60 mph Wind 180 deg	120.00	0.168	0.0658	0.1883	0.1942
Serviceability - 60 mph Wind 180 deg	120.25	0.169	0.0661	0.1882	0.1931
Serviceability - 60 mph Wind 180 deg	150.00	0.264	0.0983	0.2376	0.2566
Serviceability - 60 mph Wind 180 deg	154.88	0.282	0.1003	0.1880	0.2130
Serviceability - 60 mph Wind 180 deg	159.75	0.300	0.0976	0.2972	0.2972
Serviceability - 60 mph Wind 180 deg	160.25	0.302	0.0971	0.3183	0.3183
Serviceability - 60 mph Wind 180 deg	171.95	0.347	0.0652	0.1911	0.2009
Serviceability - 60 mph Wind 180 deg	180.00	0.379	0.0629	0.2679	0.2679
Serviceability - 60 mph Wind 210 deg	120.00	0.170	0.0514	0.1841	0.1983
Serviceability - 60 mph Wind 210 deg	120.25	0.170	0.0516	0.1844	0.1986
Serviceability - 60 mph Wind 210 deg	150.00	0.267	0.0749	0.2279	0.2525
Serviceability - 60 mph Wind 210 deg	154.88	0.284	0.0759	0.1964	0.2183
Serviceability - 60 mph Wind 210 deg	159.75	0.302	0.0763	0.2858	0.3058
Serviceability - 60 mph Wind 210 deg	160.25	0.305	0.0761	0.2995	0.3185
Serviceability - 60 mph Wind 210 deg	171.95	0.350	0.0535	0.2125	0.2250
Serviceability - 60 mph Wind 210 deg	180.00	0.382	0.0530	0.2648	0.2743
Serviceability - 60 mph Wind 240 deg	120.00	0.174	0.0851	0.1810	0.1926
Serviceability - 60 mph Wind 240 deg	120.25	0.175	0.0853	0.1831	0.1946
Serviceability - 60 mph Wind 240 deg	150.00	0.273	0.1236	0.2054	0.2328
Serviceability - 60 mph Wind 240 deg	154.88	0.291	0.1251	0.2063	0.2375
Serviceability - 60 mph Wind 240 deg	159.75	0.310	0.1259	0.2819	0.2982
Serviceability - 60 mph Wind 240 deg	160.25	0.312	0.1255	0.2857	0.3016
Serviceability - 60 mph Wind 240 deg	171.95	0.358	0.0886	0.2525	0.2624
Serviceability - 60 mph Wind 240 deg	180.00	0.391	0.0878	0.2790	0.2866
Serviceability - 60 mph Wind 300 deg	120.00	0.168	0.0728	0.1750	0.1918
Serviceability - 60 mph Wind 300 deg	120.25	0.168	0.0730	0.1767	0.1934
Serviceability - 60 mph Wind 300 deg	150.00	0.263	0.1051	0.1994	0.2306
Serviceability - 60 mph Wind 300 deg	154.88	0.281	0.1061	0.1987	0.2252
Serviceability - 60 mph Wind 300 deg	159.75	0.298	0.1071	0.2699	0.2942
Serviceability - 60 mph Wind 300 deg	160.25	0.301	0.1068	0.2730	0.2969
Serviceability - 60 mph Wind 300 deg	171.95	0.346	0.0758	0.2454	0.2582
Serviceability - 60 mph Wind 300 deg	180.00	0.377	0.0754	0.2713	0.2826
Serviceability - 60 mph Wind 330 deg	120.00	0.170	0.0395	0.1847	0.2037
Serviceability - 60 mph Wind 330 deg	120.25	0.170	0.0396	0.1846	0.2038
Serviceability - 60 mph Wind 330 deg	150.00	0.267	0.0568	0.2291	0.2624

Site Number: 306035

Code:

ANSI/TIA-222-H

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Site Name: Unity Village MO 2, MO

Engineering Number: 13674005_C3_02

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Customer: DISH WIRELESS L.L.C.

Serviceability - 60 mph Wind 330 deg	154.88	0.284	0.0573	0.1956	0.2295
Serviceability - 60 mph Wind 330 deg	159.75	0.302	0.0579	0.2851	0.3112
Serviceability - 60 mph Wind 330 deg	160.25	0.305	0.0578	0.3007	0.3232
Serviceability - 60 mph Wind 330 deg	171.95	0.350	0.0411	0.2134	0.2306
Serviceability - 60 mph Wind 330 deg	180.00	0.382	0.0410	0.2670	0.2802

Maximum Reactions Summary

Anchor Group	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	58.21	135.21	321.61	25.87	42.82	12.08	4449.26	1211.77