Dielectric®

Antenna Model: **TLS-V8**

Proposal Number:	**C-71054-2**
Date:	**27-Jun-18**
Customer:	**Nexstar**
Location:	**Goldsboro, NC**

Electrical Specifications

Polarization:	**Horizontal**		
Azimuth Pattern:	**Omni**		
Antenna Input:	**3-1/8"**	**50 Ohm**	**EIA/DCA**
VSWR:	Channel	**1.10 : 1**	
Bandwidth:	**6 MHz**		
Rated Input Power:	**15 kW**	**(11.76 dBk)**	**Maximum Average Power**

Mechanical Specifications

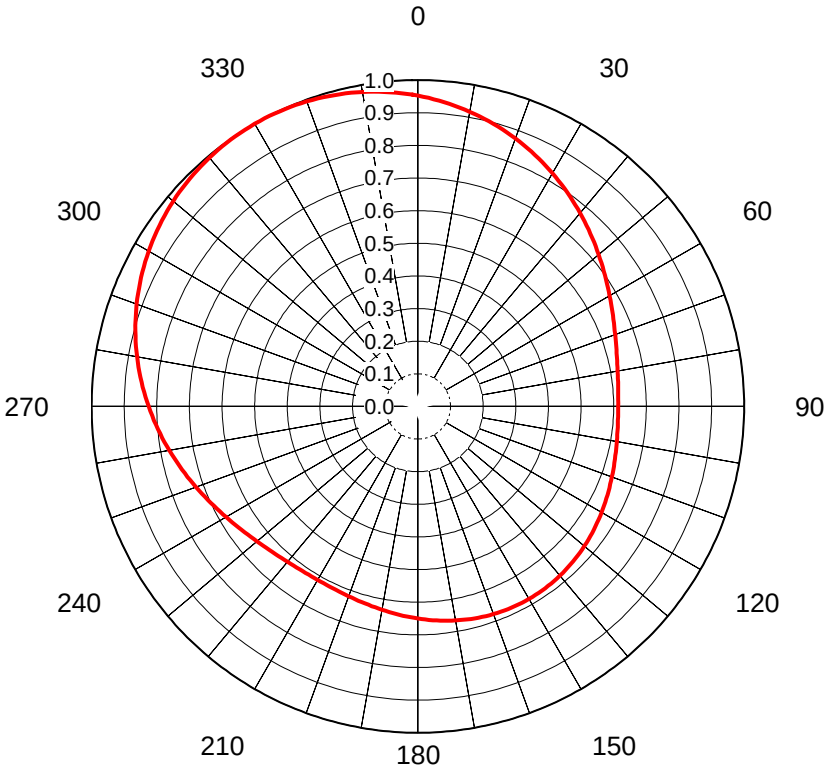
Mounting:	**Side Mounted**			
Environmental Protection:	**Full Radome**			
Height:	**46.8 ft (14.3m)**			
Weight:	**1100 lb (0.5t)**	Excludes Mounts		
Effective Projected Area:	**37.3 ft² (3.5m²)**	**TIA-222-G**	Basic Wind Speed:	**90 m/h (144.8 km/h)**

Channel Specifications

Call	CH	Freq	Hpol ERP	TPO	RMS Main Lobe Hpol Gain	RMS at Horizontal Hpol Gain
WNCN	8	183 MHz	29.0 kW (14.62 dBk)	6.44 kW (8.09 dBk)	8.20 (9.14dB)	7.60 (8.81dB)

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AZIMUTH PATTERN
Horizontal Polarization

In Free Space

Proposal No.	**C-71054-2**
Date	**27-Jun-18**
Call Letters	**WNCN**
Channel	**8**
Frequency	**183 MHz**
Antenna Type	**TLS-V8**
Gain	**1.68 (2.24dB)**
	Calculated
Circularity	**+/- 3.0 dB**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.952	36	0.794	72	0.638	108	0.630	144	0.680	180	0.650	216	0.617	252	0.733	288	0.909	324	0.998
1	0.949	37	0.789	73	0.635	109	0.631	145	0.680	181	0.648	217	0.618	253	0.738	289	0.913	325	0.999
2	0.946	38	0.784	74	0.633	110	0.633	146	0.680	182	0.647	218	0.619	254	0.743	290	0.917	326	0.999
3	0.943	39	0.779	75	0.631	111	0.634	147	0.681	183	0.645	219	0.620	255	0.748	291	0.921	327	0.999
4	0.939	40	0.774	76	0.629	112	0.636	148	0.681	184	0.643	220	0.622	256	0.753	292	0.925	328	1.000
5	0.936	41	0.769	77	0.627	113	0.638	149	0.681	185	0.641	221	0.623	257	0.758	293	0.929	329	1.000
6	0.932	42	0.763	78	0.625	114	0.640	150	0.681	186	0.640	222	0.625	258	0.763	294	0.932	330	1.000
7	0.929	43	0.758	79	0.623	115	0.641	151	0.681	187	0.638	223	0.627	259	0.769	295	0.936	331	1.000
8	0.925	44	0.753	80	0.622	116	0.643	152	0.681	188	0.636	224	0.629	260	0.774	296	0.939	332	1.000
9	0.921	45	0.748	81	0.620	117	0.645	153	0.681	189	0.634	225	0.631	261	0.779	297	0.943	333	0.999
10	0.917	46	0.743	82	0.619	118	0.647	154	0.680	190	0.633	226	0.633	262	0.784	298	0.946	334	0.999
11	0.913	47	0.738	83	0.618	119	0.648	155	0.680	191	0.631	227	0.635	263	0.789	299	0.949	335	0.999
12	0.909	48	0.733	84	0.617	120	0.650	156	0.680	192	0.630	228	0.638	264	0.794	300	0.952	336	0.998
13	0.905	49	0.728	85	0.616	121	0.652	157	0.679	193	0.628	229	0.641	265	0.800	301	0.955	337	0.997
14	0.901	50	0.723	86	0.615	122	0.653	158	0.679	194	0.627	230	0.643	266	0.805	302	0.958	338	0.997
15	0.896	51	0.719	87	0.615	123	0.655	159	0.678	195	0.625	231	0.646	267	0.810	303	0.961	339	0.996
16	0.892	52	0.714	88	0.615	124	0.657	160	0.677	196	0.624	232	0.649	268	0.815	304	0.964	340	0.995
17	0.888	53	0.709	89	0.614	125	0.658	161	0.676	197	0.623	233	0.653	269	0.820	305	0.967	341	0.993
18	0.883	54	0.704	90	0.614	126	0.660	162	0.675	198	0.621	234	0.656	270	0.825	306	0.969	342	0.992
19	0.879	55	0.700	91	0.614	127	0.662	163	0.674	199	0.620	235	0.660	271	0.830	307	0.972	343	0.991
20	0.874	56	0.695	92	0.614	128	0.663	164	0.673	200	0.619	236	0.663	272	0.835	308	0.974	344	0.989
21	0.869	57	0.691	93	0.615	129	0.665	165	0.672	201	0.618	237	0.667	273	0.840	309	0.976	345	0.988
22	0.865	58	0.687	94	0.615	130	0.666	166	0.671	202	0.617	238	0.671	274	0.845	310	0.979	346	0.986
23	0.860	59	0.683	95	0.615	131	0.667	167	0.670	203	0.617	239	0.674	275	0.850	311	0.981	347	0.984
24	0.855	60	0.678	96	0.616	132	0.669	168	0.669	204	0.616	240	0.678	276	0.855	312	0.983	348	0.983
25	0.850	61	0.674	97	0.617	133	0.670	169	0.667	205	0.615	241	0.683	277	0.860	313	0.984	349	0.981
26	0.845	62	0.671	98	0.617	134	0.671	170	0.666	206	0.615	242	0.687	278	0.865	314	0.986	350	0.979
27	0.840	63	0.667	99	0.618	135	0.672	171	0.665	207	0.615	243	0.691	279	0.869	315	0.988	351	0.976
28	0.835	64	0.663	100	0.619	136	0.673	172	0.663	208	0.614	244	0.695	280	0.874	316	0.989	352	0.974
29	0.830	65	0.660	101	0.620	137	0.674	173	0.662	209	0.614	245	0.700	281	0.879	317	0.991	353	0.972
30	0.825	66	0.656	102	0.621	138	0.675	174	0.660	210	0.614	246	0.704	282	0.883	318	0.992	354	0.969
31	0.820	67	0.653	103	0.623	139	0.676	175	0.658	211	0.614	247	0.709	283	0.888	319	0.993	355	0.967
32	0.815	68	0.649	104	0.624	140	0.677	176	0.657	212	0.615	248	0.714	284	0.892	320	0.995	356	0.964
33	0.810	69	0.646	105	0.625	141	0.678	177	0.655	213	0.615	249	0.719	285	0.896	321	0.996	357	0.961
34	0.805	70	0.643	106	0.627	142	0.679	178	0.653	214	0.615	250	0.723	286	0.901	322	0.997	358	0.958
35	0.800	71	0.641	107	0.628	143	0.679	179	0.652	215	0.616	251	0.728	287	0.905	323	0.997	359	0.955

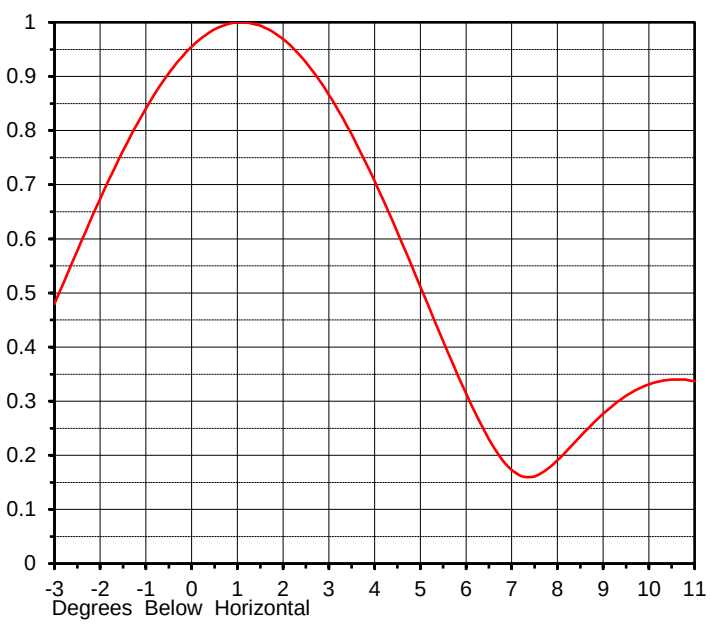
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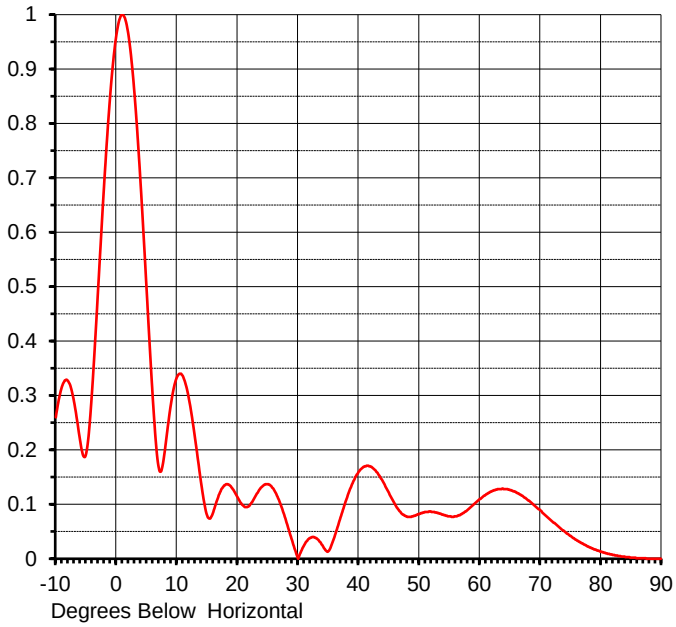
ELEVATION PATTERN

Proposal No.	**C-71054-2**
Date	**27-Jun-18**
Call Letters	**WNCN**
Channel	**8**
Frequency	**183 MHz**
Antenna Type	**TLS-V8**

RMS Directivity at Main Lobe	**8.2 (9.14 dB)**	Beam Tilt	**1.00 deg**
RMS Directivity at Horizontal	**7.6 (8.81 dB)**	Pattern Number	**08T082100**

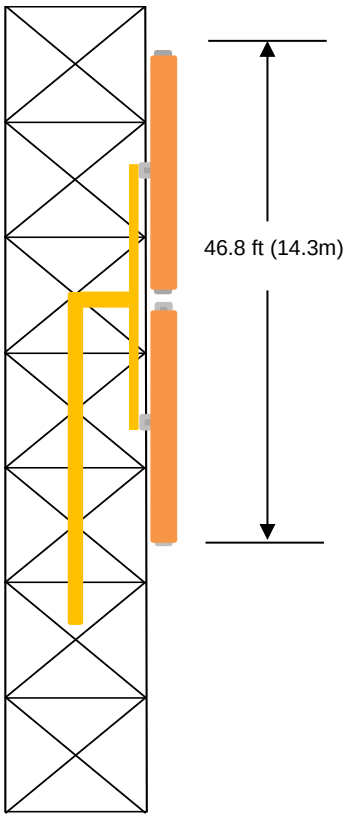
Calculated





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.260	10.0	0.334	30.0	0.000	50.0	0.082	70.0	0.089
-9.0	0.316	11.0	0.335	31.0	0.025	51.0	0.086	71.0	0.078
-8.0	0.327	12.0	0.292	32.0	0.038	52.0	0.086	72.0	0.068
-7.0	0.289	13.0	0.220	33.0	0.038	53.0	0.084	73.0	0.059
-6.0	0.218	14.0	0.138	34.0	0.025	54.0	0.081	74.0	0.050
-5.0	0.193	15.0	0.079	35.0	0.014	55.0	0.078	75.0	0.042
-4.0	0.311	16.0	0.086	36.0	0.040	56.0	0.078	76.0	0.034
-3.0	0.500	17.0	0.119	37.0	0.076	57.0	0.082	77.0	0.028
-2.0	0.693	18.0	0.136	38.0	0.110	58.0	0.090	78.0	0.022
-1.0	0.855	19.0	0.131	39.0	0.139	59.0	0.100	79.0	0.017
0.0	0.963	20.0	0.113	40.0	0.160	60.0	0.110	80.0	0.013
1.0	1.000	21.0	0.097	41.0	0.170	61.0	0.118	81.0	0.010
2.0	0.962	22.0	0.098	42.0	0.169	62.0	0.124	82.0	0.007
3.0	0.853	23.0	0.116	43.0	0.159	63.0	0.128	83.0	0.005
4.0	0.688	24.0	0.132	44.0	0.142	64.0	0.128	84.0	0.003
5.0	0.492	25.0	0.137	45.0	0.121	65.0	0.126	85.0	0.002
6.0	0.296	26.0	0.127	46.0	0.100	66.0	0.122	86.0	0.001
7.0	0.167	27.0	0.103	47.0	0.084	67.0	0.116	87.0	0.001
8.0	0.199	28.0	0.070	48.0	0.077	68.0	0.107	88.0	0.000
9.0	0.284	29.0	0.034	49.0	0.078	69.0	0.098	89.0	0.000
								90.0	0.000

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MECHANICAL SPECIFICATIONS

Proposal No.	**C-71054-2**
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Call Letters	**WNCN**
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Antenna Type	**TLS-V8**

Preliminary Specifications

Side Mounted

With ice TIA-222-G

Height AGL(z)	1750 ft (533.4 m)
Basic Wind Speed	90 m/h (144.8 km/h)
Structure Class	II
Exposure Category	C
Topography Category	1

Design Ice	0.75 in	t_{iz} = 2.09 in
Wind Speed w/Ice	40 m/h (64.4 km/h)	

Mechanical Specifications		**without ice**	**with ice**	
Height	H2	46.8 ft (14.3m)		
Height of Center of Radiation	H3	23.4 ft (7.1m)		
Effective Projected Area	$(EPA)_A$	37.3 ft² (3.5m²)	97.9 ft² (9.1m²)	Mounts Excluded
Weight	W	1100 lb (0.5t)	3100 lb (1.4t)	Mounts Excluded

Antenna designed in accordance with AISC specifications for design of structural steel as prescribed by TIA-222-G

Prepared by:	JBC	**Date:**	6-Dec-17	**ME:**	**EE:**
Rev. No.2 by:	JBC	**Date:**	27-Jun-18		

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Summary

Proposal No.	**C-71054-2**
Date	**27-Jun-18**
Call Letters	**WNCN**
Channel	**8**
Frequency	**183 MHz**
Antenna Type	**TLS-V8**

Antenna

		Hpol
ERP:	**29.0 kW**	**(14.62 dBk)**
RMS Gain*	8.20	(9.14 dB)

Antenna Input Power

3.54 kW **(5.49 dBk)**

Transmission Line

Type:	**Rigid**	Attenuation:	**(2.60 dB)**
Size:	**3-1/8"**	Efficiency:	**55.0%**
Impedance:	**50 Ohm**		
Length:	**1950 ft**	**594.4 m**	

Transmitter Output

6.44 kW **(8.09 dBk)**

Transmitter filter losses not included

* Directivity and Gain are with respect to half wave dipole. The gain includes feed system losses

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