



Antenna Model:

THV-2A11-R

Proposal Number: **C-71559**
Date: **30-Jul-20**
Customer: **Nexstar**
Location: **Bluefield, WV**

Electrical Specifications

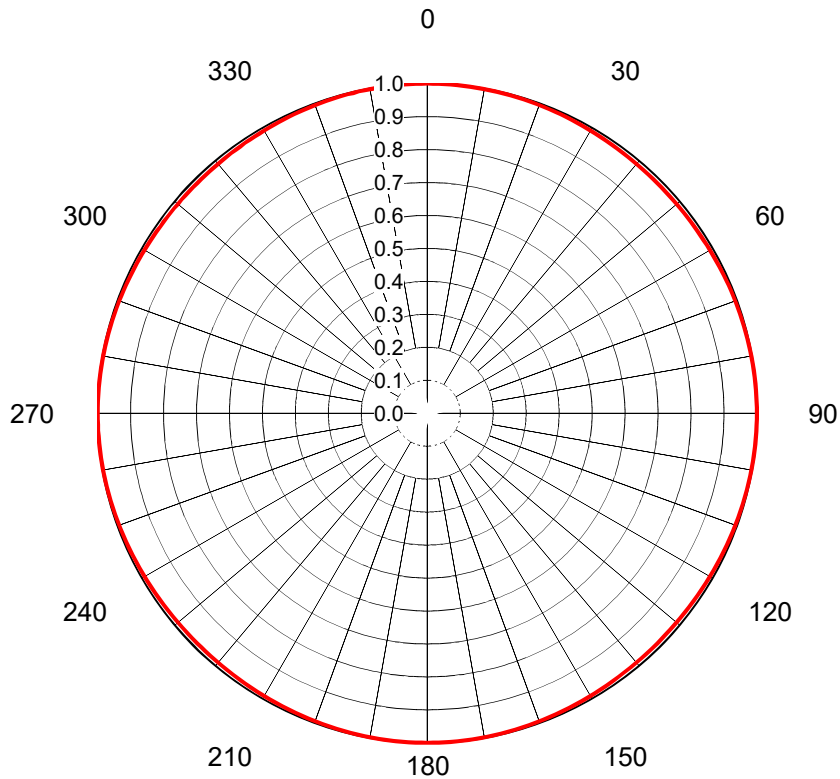
Polarization:	Horizontal				
Azimuth Pattern:	Omni				
Antenna Input:	3-1/8"	50 Ohm	EIA/DCA		
VSWR:	Channel	1.15 : 1		Band	1.15 : 1
Bandwidth:	6 MHz				
Rated Input Power:	10 kW	(10.00 dBk)	Maximum Average Power		

Mechanical Specifications

Mounting:	Top Mounted				
Environmental Protection:	Full Radome				
Height:	18 ft (5.5m)	less Lightning Protector	21 ft (6.4m)	with Lightning Protector	
Weight:	2250 lb (1t)				
Effective Projected Area:	29.2 ft² (2.7m²)	TIA-222-G	Basic Wind Speed:	89 m/h (143.2 km/h)	

Channel Specifications

Call	CH	Freq	Hpol ERP	TPO	RMS Main Lobe Hpol Gain	RMS at Horizontal Hpol Gain
WVNS	11	201 MHz	10.0 kW (10.00 dBk)	5.01 kW (7.00 dBk)	2.20 (3.42dB)	2.20 (3.42dB)



AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-71559**
 Date **30-Jul-20**
 Call Letters **WVNS**
 Channel **11**
 Frequency **201 MHz**
 Antenna Type **THV-2A11-R**
 Gain **1.01 (0.06dB)**
 Calculated
 Circularity **+/- 1.0 dB**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	1.000	36	0.988	72	0.996	108	0.996	144	0.988	180	1.000	216	0.988	252	0.996	288	0.996	324	0.988
1	1.000	37	0.988	73	0.996	109	0.995	145	0.989	181	1.000	217	0.988	253	0.996	289	0.995	325	0.989
2	1.000	38	0.988	74	0.996	110	0.995	146	0.989	182	1.000	218	0.988	254	0.996	290	0.995	326	0.989
3	1.000	39	0.988	75	0.997	111	0.994	147	0.989	183	1.000	219	0.988	255	0.997	291	0.994	327	0.989
4	1.000	40	0.987	76	0.997	112	0.994	148	0.990	184	1.000	220	0.987	256	0.997	292	0.994	328	0.990
5	1.000	41	0.987	77	0.997	113	0.993	149	0.990	185	1.000	221	0.987	257	0.998	293	0.993	329	0.990
6	0.999	42	0.987	78	0.998	114	0.993	150	0.990	186	0.999	222	0.987	258	0.998	294	0.993	330	0.990
7	0.999	43	0.987	79	0.998	115	0.992	151	0.991	187	0.999	223	0.987	259	0.998	295	0.992	331	0.991
8	0.999	44	0.987	80	0.998	116	0.992	152	0.991	188	0.999	224	0.987	260	0.998	296	0.992	332	0.991
9	0.999	45	0.987	81	0.999	117	0.992	153	0.992	189	0.999	225	0.987	261	0.999	297	0.992	333	0.992
10	0.998	46	0.987	82	0.999	118	0.991	154	0.992	190	0.998	226	0.987	262	0.999	298	0.991	334	0.992
11	0.998	47	0.987	83	0.999	119	0.991	155	0.992	191	0.998	227	0.987	263	0.999	299	0.991	335	0.992
12	0.998	48	0.987	84	0.999	120	0.990	156	0.993	192	0.998	228	0.987	264	0.999	300	0.990	336	0.993
13	0.998	49	0.987	85	1.000	121	0.990	157	0.993	193	0.997	229	0.987	265	1.000	301	0.990	337	0.993
14	0.997	50	0.987	86	1.000	122	0.990	158	0.994	194	0.997	230	0.987	266	1.000	302	0.990	338	0.994
15	0.997	51	0.988	87	1.000	123	0.989	159	0.994	195	0.997	231	0.988	267	1.000	303	0.989	339	0.994
16	0.996	52	0.988	88	1.000	124	0.989	160	0.995	196	0.996	232	0.988	268	1.000	304	0.989	340	0.995
17	0.996	53	0.988	89	1.000	125	0.989	161	0.995	197	0.996	233	0.988	269	1.000	305	0.989	341	0.995
18	0.996	54	0.988	90	1.000	126	0.988	162	0.996	198	0.996	234	0.988	270	1.000	306	0.988	342	0.996
19	0.995	55	0.989	91	1.000	127	0.988	163	0.996	199	0.995	235	0.989	271	1.000	307	0.988	343	0.996
20	0.995	56	0.989	92	1.000	128	0.988	164	0.996	200	0.995	236	0.989	272	1.000	308	0.988	344	0.996
21	0.994	57	0.989	93	1.000	129	0.988	165	0.997	201	0.994	237	0.989	273	1.000	309	0.988	345	0.997
22	0.994	58	0.990	94	1.000	130	0.987	166	0.997	202	0.994	238	0.990	274	1.000	310	0.987	346	0.997
23	0.993	59	0.990	95	1.000	131	0.987	167	0.997	203	0.993	239	0.990	275	1.000	311	0.987	347	0.998
24	0.993	60	0.990	96	0.999	132	0.987	168	0.998	204	0.993	240	0.990	276	0.999	312	0.987	348	0.998
25	0.992	61	0.991	97	0.999	133	0.987	169	0.998	205	0.992	241	0.991	277	0.999	313	0.987	349	0.998
26	0.992	62	0.991	98	0.999	134	0.987	170	0.998	206	0.992	242	0.991	278	0.999	314	0.987	350	0.998
27	0.992	63	0.992	99	0.999	135	0.987	171	0.999	207	0.992	243	0.992	279	0.999	315	0.987	351	0.999
28	0.991	64	0.992	100	0.998	136	0.987	172	0.999	208	0.991	244	0.992	280	0.998	316	0.987	352	0.999
29	0.991	65	0.992	101	0.998	137	0.987	173	0.999	209	0.991	245	0.992	281	0.998	317	0.987	353	0.999
30	0.990	66	0.993	102	0.998	138	0.987	174	0.999	210	0.990	246	0.993	282	0.998	318	0.987	354	0.999
31	0.990	67	0.993	103	0.997	139	0.987	175	1.000	211	0.990	247	0.993	283	0.998	319	0.987	355	1.000
32	0.990	68	0.994	104	0.997	140	0.987	176	1.000	212	0.990	248	0.994	284	0.997	320	0.987	356	1.000
33	0.989	69	0.994	105	0.997	141	0.988	177	1.000	213	0.989	249	0.994	285	0.997	321	0.988	357	1.000
34	0.989	70	0.995	106	0.996	142	0.988	178	1.000	214	0.989	250	0.995	286	0.996	322	0.988	358	1.000
35	0.989	71	0.995	107	0.996	143	0.988	179	1.000	215	0.989	251	0.995	287	0.996	323	0.988	359	1.000

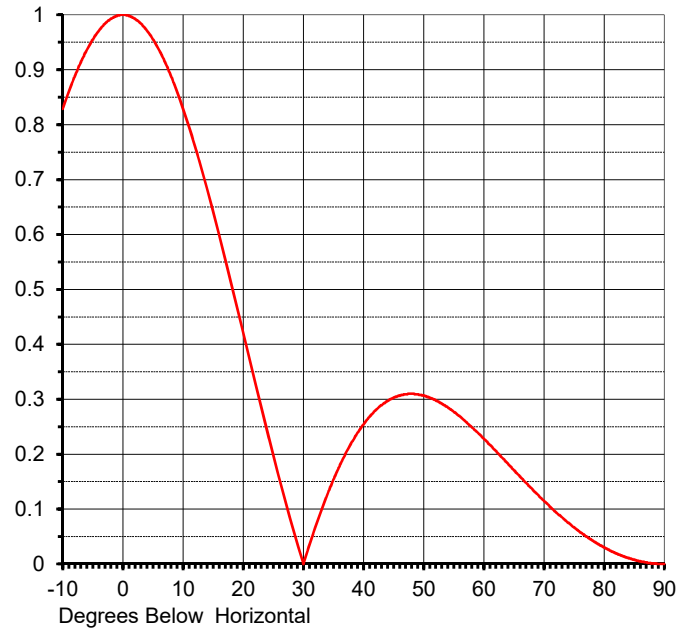
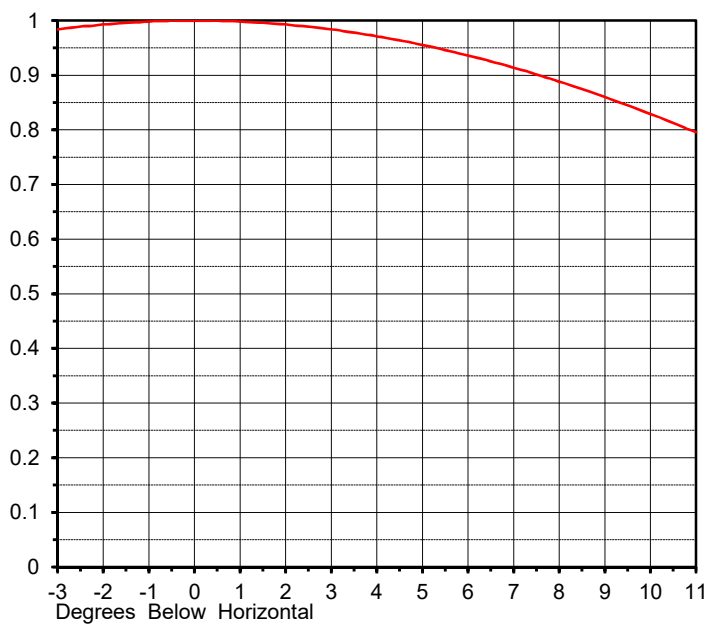
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ELEVATION PATTERN

Proposal No. **C-71559**
 Date **30-Jul-20**
 Call Letters **WVNS**
 Channel **11**
 Frequency **201 MHz**
 Antenna Type **THV-2A11-R**

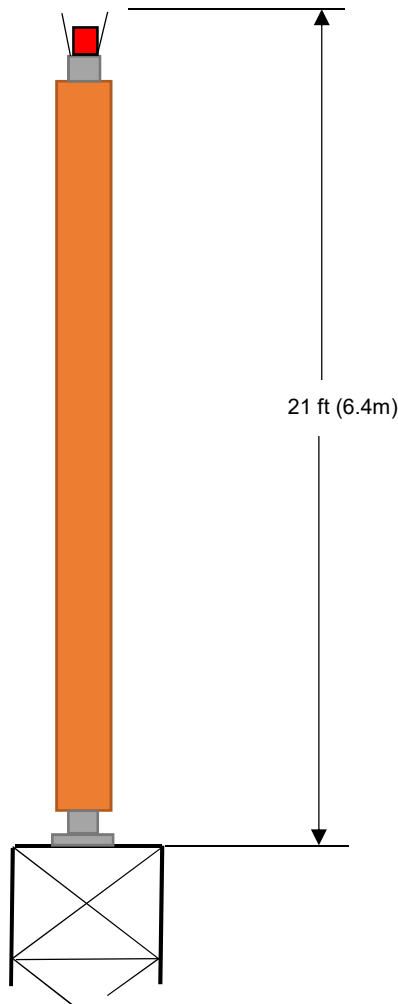
RMS Directivity at Main Lobe **2.2 (3.42 dB)**
 RMS Directivity at Horizontal **2.2 (3.42 dB)**
Calculated

Beam Tilt **0.00 deg**
 Pattern Number **2N022000**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.829	10.0	0.829	30.0	0.000	50.0	0.307	70.0	0.115
-9.0	0.860	11.0	0.796	31.0	0.035	51.0	0.303	71.0	0.104
-8.0	0.888	12.0	0.760	32.0	0.067	52.0	0.298	72.0	0.094
-7.0	0.914	13.0	0.722	33.0	0.098	53.0	0.292	73.0	0.085
-6.0	0.936	14.0	0.682	34.0	0.127	54.0	0.285	74.0	0.075
-5.0	0.955	15.0	0.641	35.0	0.154	55.0	0.277	75.0	0.067
-4.0	0.971	16.0	0.599	36.0	0.178	56.0	0.269	76.0	0.058
-3.0	0.984	17.0	0.555	37.0	0.201	57.0	0.259	77.0	0.050
-2.0	0.993	18.0	0.511	38.0	0.221	58.0	0.249	78.0	0.043
-1.0	0.998	19.0	0.466	39.0	0.239	59.0	0.239	79.0	0.036
0.0	1.000	20.0	0.420	40.0	0.254	60.0	0.228	80.0	0.030
1.0	0.998	21.0	0.375	41.0	0.268	61.0	0.217	81.0	0.024
2.0	0.993	22.0	0.330	42.0	0.280	62.0	0.206	82.0	0.019
3.0	0.984	23.0	0.285	43.0	0.289	63.0	0.194	83.0	0.015
4.0	0.971	24.0	0.241	44.0	0.297	64.0	0.183	84.0	0.011
5.0	0.955	25.0	0.198	45.0	0.303	65.0	0.171	85.0	0.008
6.0	0.936	26.0	0.155	46.0	0.307	66.0	0.159	86.0	0.005
7.0	0.914	27.0	0.114	47.0	0.309	67.0	0.148	87.0	0.003
8.0	0.888	28.0	0.075	48.0	0.310	68.0	0.137	88.0	0.001
9.0	0.860	29.0	0.036	49.0	0.309	69.0	0.126	89.0	0.000
								90.0	0.000

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MECHANICAL SPECIFICATIONS

Proposal No. **C-71559**
 Date **30-Jul-20**
 Call Letters **WVNS**
 Channel **11**
 Frequency **201 MHz**
 Antenna Type **THV-2A11-R**

Preliminary Specifications

Top Mounted

With ice TIA-222-G

Basic Wind Speed 89 m/h (143.2 km/h)

Structure Class II
 Exposure Category B
 Topography Category 5 Kzt= 1.769
 Height of Crest 779 ft (237.4 m)

Design Ice 0.75 in $t_{iz} = 0.00$ in
 Wind Speed w/Ice 30 m/h (48.3 km/h)

Mechanical Specifications

		without ice	with ice
Height with Lightning Protector	H4	21 ft (6.4m)	
Height less Lightning Protector	H2	18 ft (5.5m)	
Height of Center of Radiation	H3	9 ft (2.7m)	
Effective Projected Area	(EPA) _S	29.2 ft ² (2.7m ²)	76.9 ft ² (7.1m ²)
Moment Arm	D1	10.2 ft (3.1m)	11.1 ft (3.4m)

Weight W 2250 lb (1t) 4300 lb (2t)

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

Prepared by: JLS

Date: 30-Jul-20

ME:

EE:

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