



Antenna Model:

**TLP-8F (SP)**

Proposal Number: **C-70869**  
Date: **5-Jun-17**  
Customer: **Nexstar**  
Location: **Georgetown, TX**

### Electrical Specifications

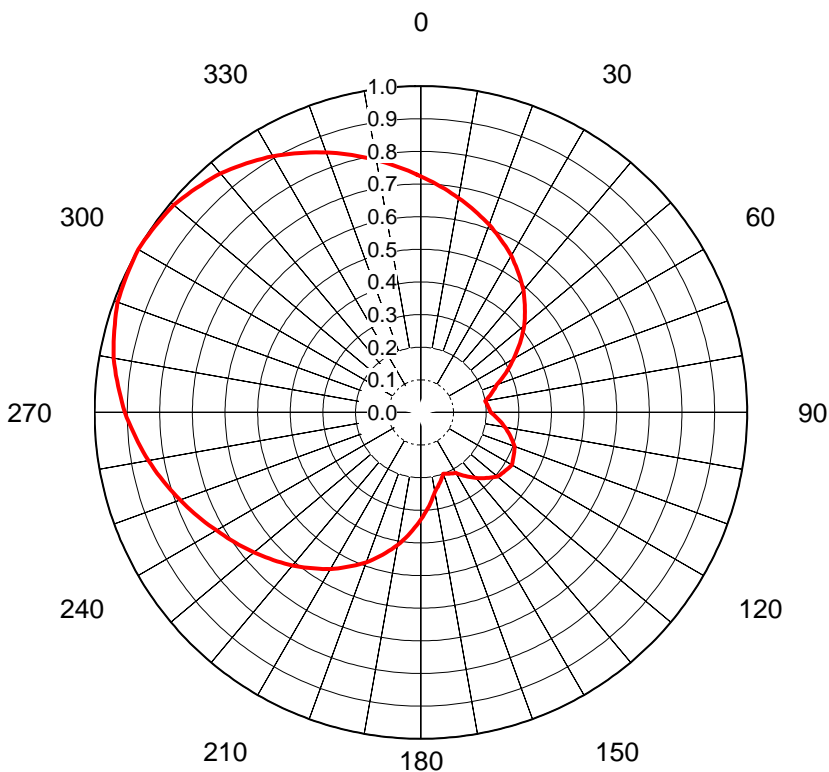
Polarization: **Horizontal**  
Azimuth Pattern: **Directional**  
Antenna Input: **1-5/8"** **50 Ohm** **EIA/DCA**  
VSWR: **Channel** **1.08 : 1** **Band** **1.08 : 1**  
Bandwidth: **6 MHz**  
Rated Input Power: **5 kW** **(6.99 dBk)** **Maximum Average Power**

### Mechanical Specifications

Mounting: **Side Mounted**  
Environmental Protection: **Slot Cover**  
Height: **15.9 ft (4.8m)**  
Weight: **184 lb (0.1t)** **Excludes Mounts**  
Effective Projected Area: **24.39 ft² (2.3m²)** **TIA-222-G** **Basic Wind Speed: 90 m/h (144.8 km/h)**

### Channel Specifications

Call	CH	Freq	Hpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak at Horizontal Hpol Gain
KHPX-CD	29	563 MHz	0.184 kW -(7.35 dBk)	0.017 kW -(17.58 dBk)	20.37 (13.09dB)	20.25 (13.06dB)



## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-70869**  
Date **5-Jun-17**  
Call Letters **KHPX-CD**  
Channel **29**  
Frequency **563 MHz**  
Antenna Type **TLP-8F (SP)**  
Gain **2.55 (4.06dB)**  
Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.723	36	0.515	72	0.238	108	0.297	144	0.243	180	0.328	216	0.589	252	0.798	288	0.982	324	0.936
1	0.717	37	0.508	73	0.233	109	0.302	145	0.238	181	0.336	217	0.595	253	0.804	289	0.986	325	0.932
2	0.712	38	0.502	74	0.228	110	0.306	146	0.233	182	0.345	218	0.600	254	0.810	290	0.989	326	0.927
3	0.706	39	0.495	75	0.223	111	0.308	147	0.228	183	0.354	219	0.606	255	0.817	291	0.990	327	0.922
4	0.701	40	0.489	76	0.219	112	0.309	148	0.224	184	0.362	220	0.612	256	0.823	292	0.991	328	0.917
5	0.695	41	0.481	77	0.214	113	0.311	149	0.219	185	0.370	221	0.618	257	0.829	293	0.992	329	0.912
6	0.689	42	0.474	78	0.209	114	0.312	150	0.214	186	0.379	222	0.623	258	0.835	294	0.993	330	0.907
7	0.684	43	0.466	79	0.205	115	0.314	151	0.213	187	0.387	223	0.628	259	0.842	295	0.994	331	0.901
8	0.678	44	0.459	80	0.200	116	0.316	152	0.211	188	0.396	224	0.634	260	0.848	296	0.996	332	0.895
9	0.673	45	0.451	81	0.201	117	0.317	153	0.210	189	0.405	225	0.640	261	0.854	297	0.997	333	0.889
10	0.667	46	0.443	82	0.203	118	0.319	154	0.208	190	0.413	226	0.645	262	0.860	298	0.998	334	0.883
11	0.661	47	0.436	83	0.204	119	0.320	155	0.207	191	0.421	227	0.650	263	0.866	299	0.999	335	0.877
12	0.656	48	0.428	84	0.206	120	0.322	156	0.206	192	0.428	228	0.656	264	0.872	300	1.000	336	0.872
13	0.650	49	0.421	85	0.207	121	0.320	157	0.204	193	0.436	229	0.661	265	0.877	301	0.999	337	0.866
14	0.645	50	0.413	86	0.208	122	0.319	158	0.203	194	0.443	230	0.667	266	0.883	302	0.998	338	0.860
15	0.640	51	0.405	87	0.210	123	0.317	159	0.201	195	0.451	231	0.673	267	0.889	303	0.997	339	0.854
16	0.634	52	0.396	88	0.211	124	0.316	160	0.200	196	0.459	232	0.678	268	0.895	304	0.996	340	0.848
17	0.628	53	0.387	89	0.213	125	0.314	161	0.205	197	0.466	233	0.684	269	0.901	305	0.994	341	0.842
18	0.623	54	0.379	90	0.214	126	0.312	162	0.209	198	0.474	234	0.689	270	0.907	306	0.993	342	0.835
19	0.618	55	0.370	91	0.219	127	0.311	163	0.214	199	0.481	235	0.695	271	0.912	307	0.992	343	0.829
20	0.612	56	0.362	92	0.224	128	0.309	164	0.219	200	0.489	236	0.701	272	0.917	308	0.991	344	0.823
21	0.606	57	0.354	93	0.228	129	0.308	165	0.223	201	0.495	237	0.706	273	0.922	309	0.990	345	0.817
22	0.600	58	0.345	94	0.233	130	0.306	166	0.228	202	0.502	238	0.712	274	0.927	310	0.989	346	0.810
23	0.595	59	0.336	95	0.238	131	0.302	167	0.233	203	0.508	239	0.717	275	0.932	311	0.986	347	0.804
24	0.589	60	0.328	96	0.243	132	0.297	168	0.238	204	0.515	240	0.723	276	0.936	312	0.982	348	0.798
25	0.583	61	0.320	97	0.248	133	0.293	169	0.242	205	0.521	241	0.729	277	0.941	313	0.979	349	0.791
26	0.577	62	0.312	98	0.252	134	0.288	170	0.247	206	0.528	242	0.735	278	0.946	314	0.976	350	0.785
27	0.571	63	0.304	99	0.257	135	0.284	171	0.255	207	0.535	243	0.742	279	0.951	315	0.973	351	0.779
28	0.566	64	0.296	100	0.262	136	0.280	172	0.263	208	0.541	244	0.748	280	0.956	316	0.969	352	0.773
29	0.560	65	0.287	101	0.266	137	0.275	173	0.271	209	0.548	245	0.754	281	0.959	317	0.966	353	0.766
30	0.554	66	0.279	102	0.271	138	0.271	174	0.279	210	0.554	246	0.760	282	0.963	318	0.963	354	0.760
31	0.548	67	0.271	103	0.275	139	0.266	175	0.287	211	0.560	247	0.766	283	0.966	319	0.959	355	0.754
32	0.541	68	0.263	104	0.280	140	0.262	176	0.296	212	0.566	248	0.773	284	0.969	320	0.956	356	0.748
33	0.535	69	0.255	105	0.284	141	0.257	177	0.304	213	0.571	249	0.779	285	0.973	321	0.951	357	0.742
34	0.528	70	0.247	106	0.288	142	0.252	178	0.312	214	0.577	250	0.785	286	0.976	322	0.946	358	0.735
35	0.521	71	0.242	107	0.293	143	0.248	179	0.320	215	0.583	251	0.791	287	0.979	323	0.941	359	0.729

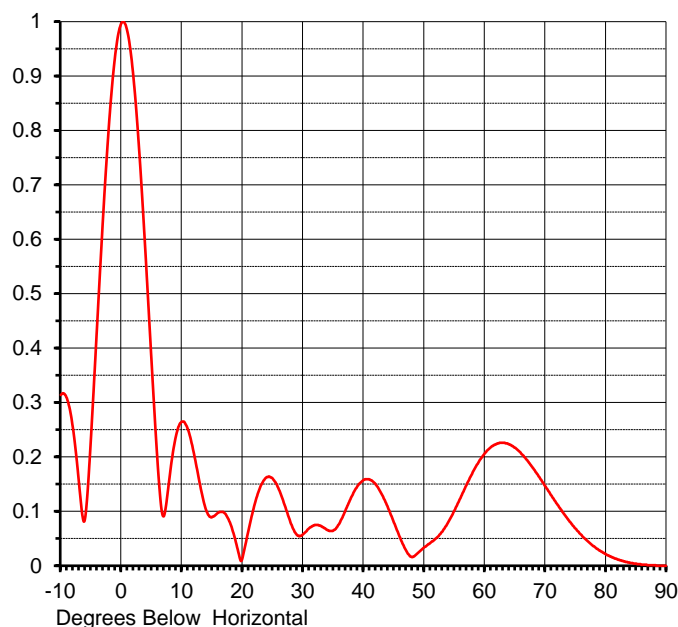
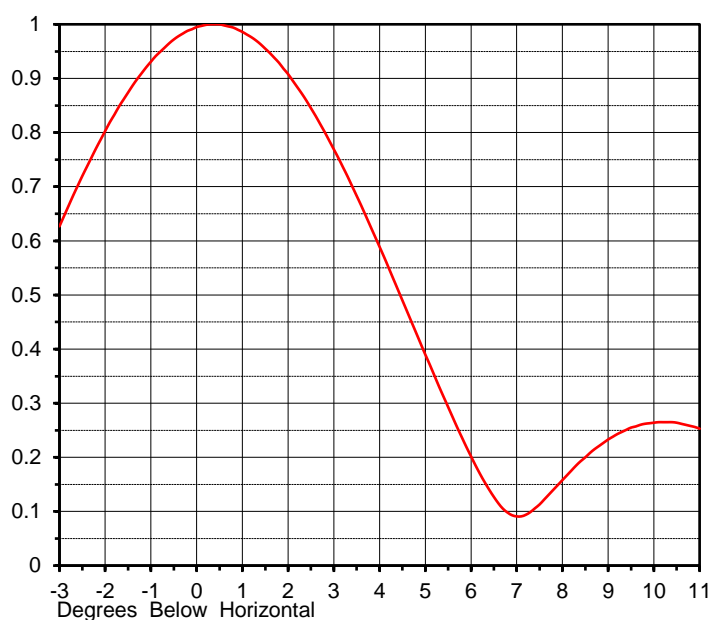
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## ELEVATION PATTERN

Proposal No. **C-70869**  
 Date **5-Jun-17**  
 Call Letters **KHPX-CD**  
 Channel **29**  
 Frequency **563 MHz**  
 Antenna Type **TLP-8F (SP)**

RMS Directivity at Main Lobe **8.0 ( 9.03 dB )**  
 RMS Directivity at Horizontal **8.0 ( 9.03 dB )**  
**Calculated**

Beam Tilt **0.25 deg**  
 Pattern Number **08L080025**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.314	10.0	0.265	30.0	0.058	50.0	0.034	70.0	0.146
-9.0	0.308	11.0	0.250	31.0	0.069	51.0	0.042	71.0	0.129
-8.0	0.253	12.0	0.205	32.0	0.075	52.0	0.051	72.0	0.112
-7.0	0.152	13.0	0.148	33.0	0.073	53.0	0.063	73.0	0.096
-6.0	0.087	14.0	0.102	34.0	0.066	54.0	0.081	74.0	0.081
-5.0	0.240	15.0	0.090	35.0	0.065	55.0	0.102	75.0	0.068
-4.0	0.444	16.0	0.098	36.0	0.078	56.0	0.125	76.0	0.056
-3.0	0.646	17.0	0.097	37.0	0.102	57.0	0.149	77.0	0.045
-2.0	0.819	18.0	0.077	38.0	0.127	58.0	0.172	78.0	0.036
-1.0	0.941	19.0	0.039	39.0	0.147	59.0	0.191	79.0	0.028
0.0	0.997	20.0	0.015	40.0	0.158	60.0	0.207	80.0	0.021
1.0	0.981	21.0	0.066	41.0	0.158	61.0	0.218	81.0	0.016
2.0	0.896	22.0	0.113	42.0	0.149	62.0	0.224	82.0	0.011
3.0	0.753	23.0	0.147	43.0	0.131	63.0	0.226	83.0	0.008
4.0	0.570	24.0	0.163	44.0	0.107	64.0	0.223	84.0	0.005
5.0	0.371	25.0	0.160	45.0	0.079	65.0	0.217	85.0	0.004
6.0	0.185	26.0	0.140	46.0	0.052	66.0	0.206	86.0	0.002
7.0	0.091	27.0	0.110	47.0	0.028	67.0	0.194	87.0	0.001
8.0	0.167	28.0	0.077	48.0	0.016	68.0	0.179	88.0	0.001
9.0	0.238	29.0	0.056	49.0	0.024	69.0	0.163	89.0	0.000
								90.0	0.000

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## MECHANICAL SPECIFICATIONS

Proposal No. **C-70869**  
 Date **5-Jun-17**  
 Call Letters **KHPX-CD**  
 Channel **29**  
 Frequency **563 MHz**  
 Antenna Type **TLP-8F (SP)**

### Preliminary Specifications

#### Side Mounted

##### With ice TIA-222-G

Height AGL(z) 436 ft (132.9 m)  
 Basic Wind Speed 90 m/h (144.8 km/h)

Structure Class I  
 Exposure Category C  
 Topography Category 1

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	H2	15.9 ft (4.8m)		
Height of Center of Radiation	H3	7.95 ft (2.4m)		
Effective Projected Area	(EPA) <sub>A</sub>	24.39 ft <sup>2</sup> (2.3m <sup>2</sup> )	35.85 ft <sup>2</sup> (3.3m <sup>2</sup> )	Mounts Excluded
Weight	W	184 lb (0.1t)	913 lb (0.4t)	Mounts Excluded

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

Prepared by: DLS      Date: 5-Jun-17      ME:      EE:

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## Summary

Proposal No.	<b>C-70869</b>
Date	<b>5-Jun-17</b>
Call Letters	<b>KHPX-CD</b>
Channel	<b>29</b>
Frequency	<b>563 MHz</b>
Antenna Type	<b>TLP-8F (SP)</b>

## Antenna

		Hpol
ERP:	<b>0.184 kW</b>	<b>-( 7.35 dBk )</b>
Peak Gain*	20.37	( 13.09 dB )

<b>Antenna Input Power</b>	<b>0.010 kW</b>	<b>-( 20.00 dBk )</b>
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## Transmission Line

Type:	<b>Flexline Air</b>	Attenuation:	<b>( 2.42 dB )</b>
Size:	<b>1-5/8"</b>	Efficiency:	<b>57.3%</b>
Impedance:	<b>50 Ohm</b>		
Length:	<b>475 ft</b>	<b>144.8 m</b>	

## Transmitter Output

<b>0.017 kW</b>	<b>-( 17.58 dBk )</b>
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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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