



Antenna Model: **TFU-12DSB-R-P300BNT**

Proposal Number: **C-70186**  
Date: **26-Mar-17**  
Customer: **TEGNA**  
Location: **New Orleans, LA**

#### Electrical Specifications

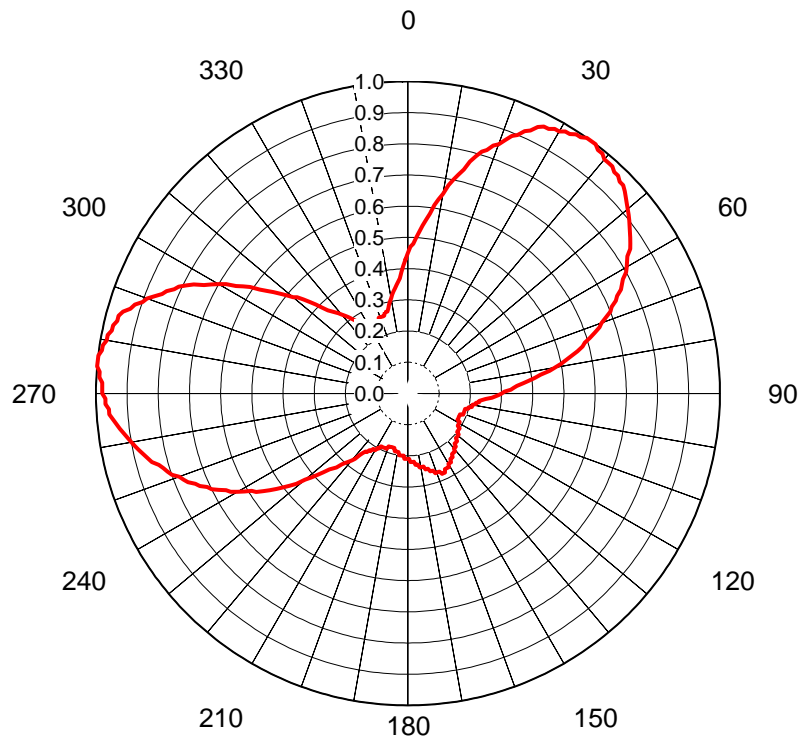
Polarization: **Horizontal**  
Azimuth Pattern: **Directional**  
Antenna Input: **3-1/8"** **50 Ohm** **EIA/DCA**  
VSWR: **Channel** **1.08 : 1**  
Bandwidth: **6 MHz**  
Rated Input Power: **15 kW** **(11.76 dBk)** **Maximum Average Power**

#### Mechanical Specifications

Mounting: **Side Mounted**  
Environmental Protection: **Full Radome**  
Height: **21.3 ft (6.5m)**  
Weight: **650 lb (0.3t)** **Excludes Mounts**  
Effective Projected Area: **22.8 ft² (2.1m²)** **TIA-222-G** **Basic Wind Speed: 130 m/h (209.2 km/h)**

#### Channel Specifications

Call	CH	Freq	Hpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak at Horizontal Hpol Gain
WBXN	36	605 MHz	5.92 kW (7.72 dBk)	0.4 kW -(4.12 dBk)	37.56 (15.75dB)	32.20 (15.08dB)



## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-70186**  
 Date **26-Mar-17**  
 Call Letters **WBXN**  
 Channel **36**  
 Frequency **605 MHz**  
 Antenna Type **TFU-12DSB-R-P300BNT**  
 Gain **3 (4.78dB)**  
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.450	36	1.000	72	0.630	108	0.190	144	0.240	180	0.210	216	0.230	252	0.810	288	0.920
1	0.470	37	1.000	73	0.610	109	0.190	145	0.250	181	0.210	217	0.240	253	0.820	289	0.900
2	0.480	38	0.990	74	0.590	110	0.190	146	0.250	182	0.210	218	0.250	254	0.830	290	0.890
3	0.500	39	0.990	75	0.580	111	0.190	147	0.250	183	0.210	219	0.270	255	0.850	291	0.870
4	0.520	40	0.980	76	0.560	112	0.180	148	0.260	184	0.200	220	0.280	256	0.860	292	0.850
5	0.540	41	0.980	77	0.540	113	0.180	149	0.260	185	0.200	221	0.290	257	0.870	293	0.840
6	0.560	42	0.980	78	0.520	114	0.180	150	0.260	186	0.200	222	0.300	258	0.880	294	0.820
7	0.580	43	0.970	79	0.500	115	0.180	151	0.270	187	0.200	223	0.310	259	0.890	295	0.810
8	0.610	44	0.970	80	0.480	116	0.180	152	0.270	188	0.200	224	0.330	260	0.900	296	0.790
9	0.630	45	0.960	81	0.460	117	0.180	153	0.270	189	0.190	225	0.340	261	0.910	297	0.770
10	0.650	46	0.960	82	0.430	118	0.180	154	0.270	190	0.190	226	0.350	262	0.920	298	0.740
11	0.680	47	0.950	83	0.410	119	0.190	155	0.280	191	0.190	227	0.370	263	0.930	299	0.720
12	0.700	48	0.940	84	0.390	120	0.190	156	0.280	192	0.190	228	0.390	264	0.940	300	0.700
13	0.720	49	0.930	85	0.370	121	0.190	157	0.280	193	0.190	229	0.410	265	0.950	301	0.680
14	0.740	50	0.920	86	0.350	122	0.190	158	0.270	194	0.180	230	0.430	266	0.960	302	0.650
15	0.770	51	0.910	87	0.340	123	0.190	159	0.270	195	0.180	231	0.460	267	0.960	303	0.630
16	0.790	52	0.900	88	0.330	124	0.200	160	0.270	196	0.180	232	0.480	268	0.970	304	0.610
17	0.810	53	0.890	89	0.310	125	0.200	161	0.270	197	0.180	233	0.500	269	0.970	305	0.580
18	0.820	54	0.880	90	0.300	126	0.200	162	0.260	198	0.180	234	0.520	270	0.980	306	0.560
19	0.840	55	0.870	91	0.290	127	0.200	163	0.260	199	0.180	235	0.540	271	0.980	307	0.540
20	0.850	56	0.860	92	0.280	128	0.200	164	0.260	200	0.180	236	0.560	272	0.980	308	0.520
21	0.870	57	0.850	93	0.270	129	0.210	165	0.250	201	0.190	237	0.580	273	0.990	309	0.500
22	0.890	58	0.830	94	0.250	130	0.210	166	0.250	202	0.190	238	0.590	274	0.990	310	0.480
23	0.900	59	0.820	95	0.240	131	0.210	167	0.250	203	0.190	239	0.610	275	1.000	311	0.470
24	0.920	60	0.810	96	0.230	132	0.210	168	0.240	204	0.190	240	0.630	276	1.000	312	0.450
25	0.930	61	0.800	97	0.230	133	0.210	169	0.240	205	0.190	241	0.650	277	1.000	313	0.430
26	0.950	62	0.780	98	0.220	134	0.220	170	0.240	206	0.190	242	0.660	278	0.990	314	0.410
27	0.960	63	0.770	99	0.220	135	0.220	171	0.240	207	0.190	243	0.680	279	0.990	315	0.390
28	0.960	64	0.760	100	0.210	136	0.220	172	0.230	208	0.200	244	0.700	280	0.980	316	0.370
29	0.970	65	0.740	101	0.210	137	0.220	173	0.230	209	0.200	245	0.710	281	0.980	317	0.360
30	0.970	66	0.730	102	0.210	138	0.230	174	0.230	210	0.210	246	0.730	282	0.970	318	0.350
31	0.980	67	0.710	103	0.200	139	0.230	175	0.220	211	0.210	247	0.740	283	0.970	319	0.340
32	0.980	68	0.700	104	0.200	140	0.230	176	0.220	212	0.210	248	0.760	284	0.960	320	0.330
33	0.990	69	0.680	105	0.190	141	0.240	177	0.220	213	0.220	249	0.770	285	0.960	321	0.320
34	0.990	70	0.660	106	0.190	142	0.240	178	0.220	214	0.220	250	0.780	286	0.950	322	0.310
35	1.000	71	0.650	107	0.190	143	0.240	179	0.210	215	0.230	251	0.800	287	0.930	323	0.300

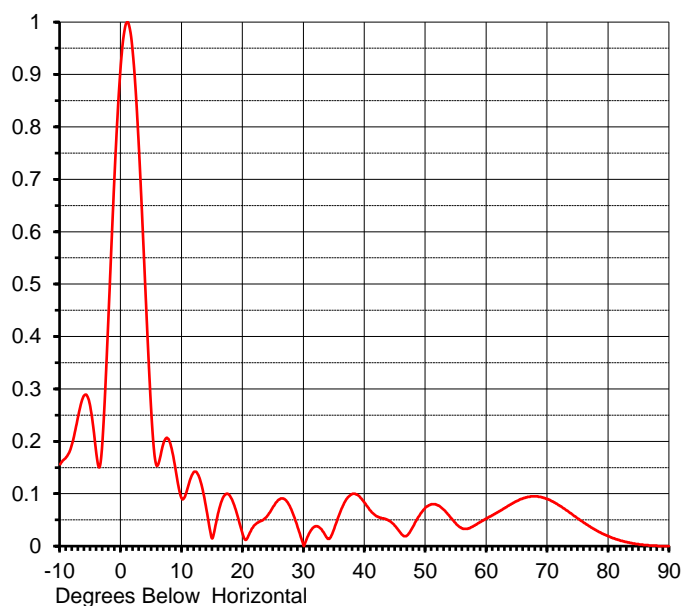
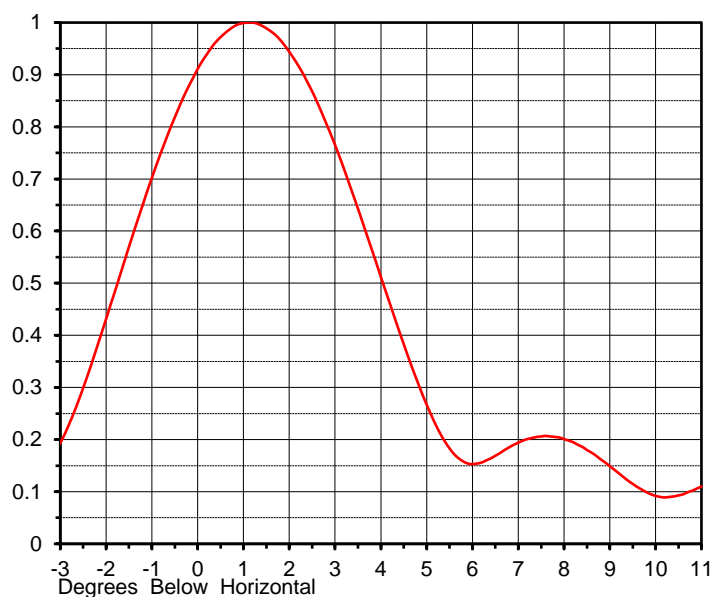
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## ELEVATION PATTERN

Proposal No. **C-70186**  
 Date **26-Mar-17**  
 Call Letters **WBXN**  
 Channel **36**  
 Frequency **605 MHz**  
 Antenna Type **TFU-12DSB-R-P300BNT**

RMS Directivity at Main Lobe **12.5 ( 10.97 dB )**  
 RMS Directivity at Horizontal **10.7 ( 10.29 dB )**  
**Calculated**

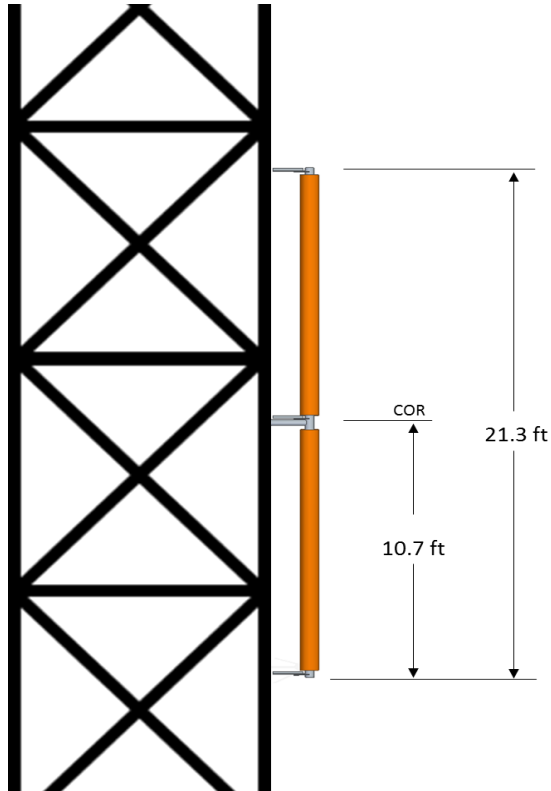
Beam Tilt **1.00 deg**  
 Pattern Number **12L125100**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.156	10.0	0.090	30.0	0.000	50.0	0.074	70.0	0.090
-9.0	0.170	11.0	0.114	31.0	0.027	51.0	0.080	71.0	0.084
-8.0	0.197	12.0	0.142	32.0	0.038	52.0	0.078	72.0	0.077
-7.0	0.250	13.0	0.125	33.0	0.030	53.0	0.069	73.0	0.069
-6.0	0.288	14.0	0.070	34.0	0.014	54.0	0.056	74.0	0.061
-5.0	0.262	15.0	0.015	35.0	0.034	55.0	0.042	75.0	0.052
-4.0	0.171	16.0	0.066	36.0	0.066	56.0	0.034	76.0	0.044
-3.0	0.211	17.0	0.097	37.0	0.090	57.0	0.034	77.0	0.037
-2.0	0.459	18.0	0.093	38.0	0.100	58.0	0.039	78.0	0.030
-1.0	0.727	19.0	0.062	39.0	0.096	59.0	0.046	79.0	0.024
0.0	0.926	20.0	0.021	40.0	0.082	60.0	0.053	80.0	0.019
1.0	1.000	21.0	0.022	41.0	0.067	61.0	0.059	81.0	0.014
2.0	0.931	22.0	0.041	42.0	0.057	62.0	0.066	82.0	0.010
3.0	0.742	23.0	0.048	43.0	0.053	63.0	0.073	83.0	0.008
4.0	0.486	24.0	0.058	44.0	0.048	64.0	0.080	84.0	0.005
5.0	0.247	25.0	0.076	45.0	0.038	65.0	0.086	85.0	0.003
6.0	0.154	26.0	0.089	46.0	0.023	66.0	0.091	86.0	0.002
7.0	0.198	27.0	0.088	47.0	0.021	67.0	0.094	87.0	0.001
8.0	0.198	28.0	0.068	48.0	0.039	68.0	0.095	88.0	0.000
9.0	0.142	29.0	0.035	49.0	0.059	69.0	0.093	89.0	0.000
								90.0	0.000

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## MECHANICAL SPECIFICATIONS



Proposal No. **C-70186**  
 Date **26-Mar-17**  
 Call Letters **WBXN**  
 Channel **36**  
 Frequency **605 MHz**  
 Antenna Type **TFU-12DSB-R-P300BNT**

### Preliminary Specifications

#### Side Mounted

#### With ice TIA-222-G

Height AGL(z) 11100 ft (3383.3 m)  
 Basic Wind Speed 130 m/h (209.2 km/h)

Structure Class III  
 Exposure Category C  
 Topography Category 1

Design Ice 0.25 in  $t_{iz} = 0.62$  in  
 Wind Speed w/Ice 30 m/h (48.3 km/h)

#### Mechanical Specifications

		without ice	with ice	
Height	H2	21.3 ft (6.5m)		
Height of Center of Radiation	H3	10.65 ft (3.2m)		
Effective Projected Area	(EPA) <sub>A</sub>	22.8 ft <sup>2</sup> (2.1m <sup>2</sup> )	47.6 ft <sup>2</sup> (4.4m <sup>2</sup> )	Mounts Excluded
Weight	W	650 lb (0.3t)	1180 lb (0.5t)	Mounts Excluded

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

Prepared by: KLP

Date: 26-Mar-17

ME: JCB

EE:

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## Summary

Proposal No.	<b>C-70186</b>
Date	<b>26-Mar-17</b>
Call Letters	<b>WBXN</b>
Channel	<b>36</b>
Frequency	<b>605 MHz</b>
Antenna Type	<b>TFU-12DSB-R-P300BNT</b>

## Antenna

		<b>Hpol</b>
<b>ERP:</b>	<b>5.92 kW</b>	<b>( 7.72 dBk )</b>
Peak Gain*	37.56	( 15.75 dB )

<b>Antenna Input Power</b>	<b>0.2 kW</b>	<b>-( 7.96 dBk )</b>
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## Transmission Line

Type:	<b>Flexline Air</b>	Attenuation:	<b>( 3.84 dB )</b>
Size:	<b>3"</b>	Efficiency:	<b>41.3%</b>
Impedance:	<b>50 Ohm</b>		
Length:	<b>939 ft</b>	<b>286.2 m</b>	

## Transmitter Output

<b>0.4 kW</b>	<b>-( 4.12 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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