



Antenna Model:

TFU-24WB-R C160

Proposal Number:

Date: **5-Jun-17**

Customer: **Nexstar**

Location: **Lubbock, TX**

Electrical Specifications

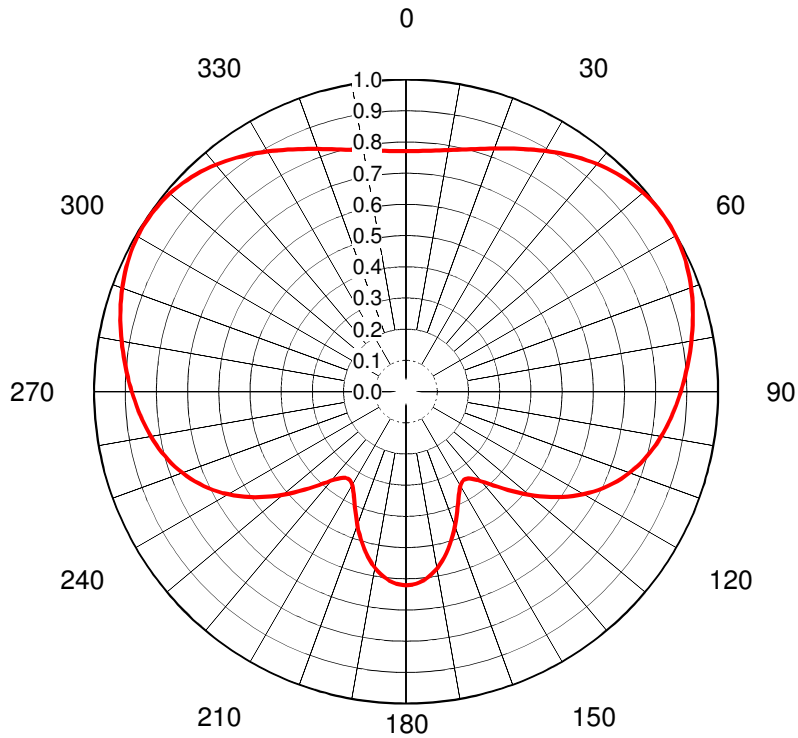
Polarization:	Horizontal				
Azimuth Pattern:	Directional				
Antenna Input:	6-1/8"	75 Ohm	EIA/DCA		
VSWR:	Channel	1.15 : 1		Band	1.15 : 1
Bandwidth:	222 MHz				
Rated Input Power:	60 kW	(17.78 dBk)	Maximum combined average power		

Mechanical Specifications

Mounting:	Side Mounted				
Environmental Protection:	Full Radome				
Height:	43.5 ft (13.3m)				
Weight:	1850 lb (0.8t)	Excludes Mounts			
Effective Projected Area:	96.5 ft² (9m²)	TIA/EIA-222-F	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
1		27	551 MHz	700 kW (28.45 dBk)	23.1 kW (13.65 dBk)	35.03 (15.44dB)	29.39 (14.68dB)
2		31	575 MHz	700.0 kW (28.45 dBk)	22.6 kW (13.55 dBk)	35.94 (15.56dB)	29.70 (14.73dB)
3		40	629 MHz	700.0 kW (28.45 dBk)	23.9 kW (13.79 dBk)	34.27 (15.35dB)	27.20 (14.35dB)



AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No.

Date

5-Jun-17

Call Letters

Channel

31

Frequency

575 MHz

Antenna Type

TFU-24WB-R C160

Gain

1.67 (2.22dB)

Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.771	36	0.929	72	0.965	108	0.778	144	0.344	180	0.621	216	0.342	252	0.778	288	0.961
1	0.771	37	0.935	73	0.960	109	0.770	145	0.340	181	0.620	217	0.347	253	0.786	289	0.964
2	0.772	38	0.941	74	0.956	110	0.762	146	0.339	182	0.619	218	0.355	254	0.793	290	0.968
3	0.772	39	0.947	75	0.952	111	0.753	147	0.338	183	0.616	219	0.363	255	0.800	291	0.972
4	0.774	40	0.952	76	0.947	112	0.744	148	0.340	184	0.613	220	0.373	256	0.806	292	0.975
5	0.775	41	0.958	77	0.943	113	0.735	149	0.344	185	0.608	221	0.385	257	0.813	293	0.978
6	0.777	42	0.963	78	0.938	114	0.725	150	0.349	186	0.603	222	0.397	258	0.819	294	0.981
7	0.779	43	0.967	79	0.933	115	0.715	151	0.355	187	0.597	223	0.410	259	0.824	295	0.984
8	0.781	44	0.972	80	0.929	116	0.704	152	0.363	188	0.590	224	0.424	260	0.830	296	0.986
9	0.783	45	0.976	81	0.924	117	0.693	153	0.373	189	0.582	225	0.438	261	0.835	297	0.989
10	0.786	46	0.980	82	0.919	118	0.682	154	0.383	190	0.574	226	0.453	262	0.841	298	0.991
11	0.789	47	0.983	83	0.914	119	0.670	155	0.394	191	0.564	227	0.468	263	0.846	299	0.992
12	0.793	48	0.987	84	0.910	120	0.657	156	0.406	192	0.554	228	0.483	264	0.851	300	0.994
13	0.796	49	0.990	85	0.905	121	0.645	157	0.419	193	0.543	229	0.499	265	0.856	301	0.995
14	0.800	50	0.992	86	0.900	122	0.631	158	0.431	194	0.532	230	0.514	266	0.860	302	0.995
15	0.804	51	0.994	87	0.895	123	0.618	159	0.445	195	0.520	231	0.530	267	0.865	303	0.996
16	0.809	52	0.996	88	0.890	124	0.604	160	0.458	196	0.508	232	0.545	268	0.870	304	0.996
17	0.814	53	0.998	89	0.886	125	0.590	161	0.471	197	0.495	233	0.560	269	0.875	305	0.995
18	0.819	54	0.999	90	0.881	126	0.575	162	0.484	198	0.482	234	0.575	270	0.879	306	0.994
19	0.824	55	1.000	91	0.876	127	0.560	163	0.497	199	0.469	235	0.590	271	0.884	307	0.993
20	0.829	56	1.000	92	0.871	128	0.545	164	0.510	200	0.455	236	0.604	272	0.888	308	0.992
21	0.835	57	1.000	93	0.866	129	0.530	165	0.522	201	0.442	237	0.618	273	0.893	309	0.990
22	0.840	58	1.000	94	0.861	130	0.514	166	0.534	202	0.429	238	0.632	274	0.898	310	0.988
23	0.846	59	0.999	95	0.856	131	0.499	167	0.545	203	0.416	239	0.645	275	0.902	311	0.986
24	0.852	60	0.998	96	0.851	132	0.484	168	0.556	204	0.403	240	0.658	276	0.907	312	0.983
25	0.859	61	0.997	97	0.846	133	0.468	169	0.566	205	0.391	241	0.671	277	0.912	313	0.980
26	0.865	62	0.995	98	0.841	134	0.453	170	0.575	206	0.380	242	0.682	278	0.916	314	0.976
27	0.871	63	0.993	99	0.836	135	0.439	171	0.583	207	0.370	243	0.694	279	0.921	315	0.972
28	0.878	64	0.991	100	0.830	136	0.425	172	0.591	208	0.360	244	0.705	280	0.926	316	0.968
29	0.884	65	0.988	101	0.824	137	0.411	173	0.598	209	0.352	245	0.716	281	0.930	317	0.964
30	0.891	66	0.986	102	0.819	138	0.398	174	0.604	210	0.346	246	0.726	282	0.935	318	0.959
31	0.897	67	0.983	103	0.813	139	0.386	175	0.609	211	0.341	247	0.736	283	0.939	319	0.954
32	0.904	68	0.979	104	0.806	140	0.375	176	0.613	212	0.337	248	0.745	284	0.944	320	0.949
33	0.910	69	0.976	105	0.800	141	0.365	177	0.617	213	0.336	249	0.754	285	0.948	321	0.944
34	0.917	70	0.972	106	0.793	142	0.357	178	0.619	214	0.336	250	0.763	286	0.952	322	0.938
35	0.923	71	0.969	107	0.786	143	0.350	179	0.620	215	0.338	251	0.771	287	0.956	323	0.932

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ELEVATION PATTERN

Proposal No.

Date **5-Jun-17**

Call Letters

Channel **31**

Frequency **575 MHz**

Antenna Type **TFU-24WB-R C160**

RMS Directivity at Main Lobe

21.6 (13.34 dB)

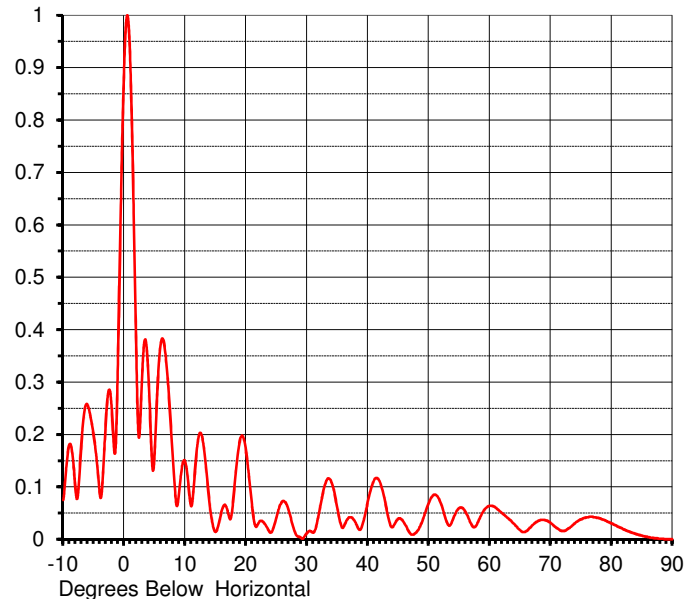
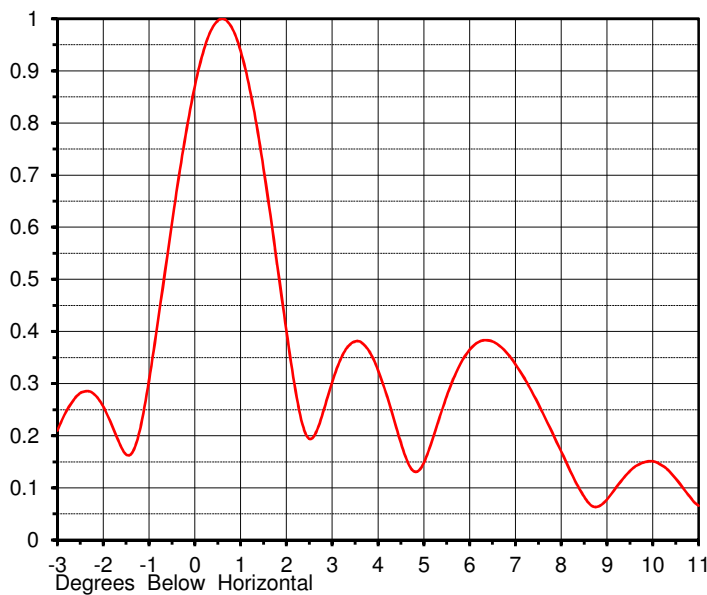
Beam Tilt **0.50 deg**

RMS Directivity at Horizontal

17.8 (12.50 dB)

Pattern Number **24W216050**

Calculated



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.075	10.0	0.148	30.0	0.012	50.0	0.070	70.0	0.031
-9.0	0.181	11.0	0.063	31.0	0.013	51.0	0.085	71.0	0.021
-8.0	0.095	12.0	0.180	32.0	0.052	52.0	0.067	72.0	0.016
-7.0	0.188	13.0	0.181	33.0	0.106	53.0	0.031	73.0	0.021
-6.0	0.256	14.0	0.069	34.0	0.109	54.0	0.040	74.0	0.031
-5.0	0.196	15.0	0.014	35.0	0.058	55.0	0.060	75.0	0.038
-4.0	0.086	16.0	0.054	36.0	0.024	56.0	0.052	76.0	0.042
-3.0	0.230	17.0	0.052	37.0	0.042	57.0	0.028	77.0	0.042
-2.0	0.238	18.0	0.089	38.0	0.031	58.0	0.032	78.0	0.040
-1.0	0.363	19.0	0.190	39.0	0.024	59.0	0.055	79.0	0.036
0.0	0.909	20.0	0.167	40.0	0.073	60.0	0.064	80.0	0.030
1.0	0.905	21.0	0.061	41.0	0.113	61.0	0.060	81.0	0.024
2.0	0.341	22.0	0.030	42.0	0.108	62.0	0.050	82.0	0.019
3.0	0.329	23.0	0.030	43.0	0.061	63.0	0.040	83.0	0.014
4.0	0.302	24.0	0.013	44.0	0.023	64.0	0.029	84.0	0.010
5.0	0.170	25.0	0.043	45.0	0.039	65.0	0.017	85.0	0.007
6.0	0.374	26.0	0.073	46.0	0.030	66.0	0.016	86.0	0.004
7.0	0.324	27.0	0.054	47.0	0.010	67.0	0.027	87.0	0.002
8.0	0.151	28.0	0.014	48.0	0.014	68.0	0.035	88.0	0.001
9.0	0.089	29.0	0.003	49.0	0.038	69.0	0.037	89.0	0.000
								90.0	0.000

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Summary

Proposal No.
Date **5-Jun-17**
Call Letters
Channel **31**
Frequency **575 MHz**
Antenna Type **TFU-24WB-R C160**

Antenna

		Hpol
ERP:	700 kW	(28.45 dBk)
Peak Gain*	35.94	(15.56 dB)

Antenna Input Power **19.5 kW (12.90 dBk)**

Transmission Line

Type:	Rigid	Attenuation:	(0.65 dB)
Size:	8-3/16"	Efficiency:	86.0%
Impedance:	75 Ohm		
Length:	750 ft	228.6 m	

Transmitter Output

22.6 kW (13.55 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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