Dielectric®

Antenna Model: **TFU-26EST-R C220**

Proposal Number:	**C-71781-1**
Date:	**16-Nov-21**
Customer:	**DTV Pro's**
Location:	**Clearwater, FL**

Electrical Specifications

Polarization:	**Horizontal**		
Azimuth Pattern:	**Directional**		
Antenna Input:	**6-1/8"**	**75 Ohm**	**EIA/DCA**
VSWR:	Channel	**1.08 : 1**	
Bandwidth:	**MHz**		
Rated Input Power:	**20 kW**	**(13.01 dBk)**	**Maximum Average Power**

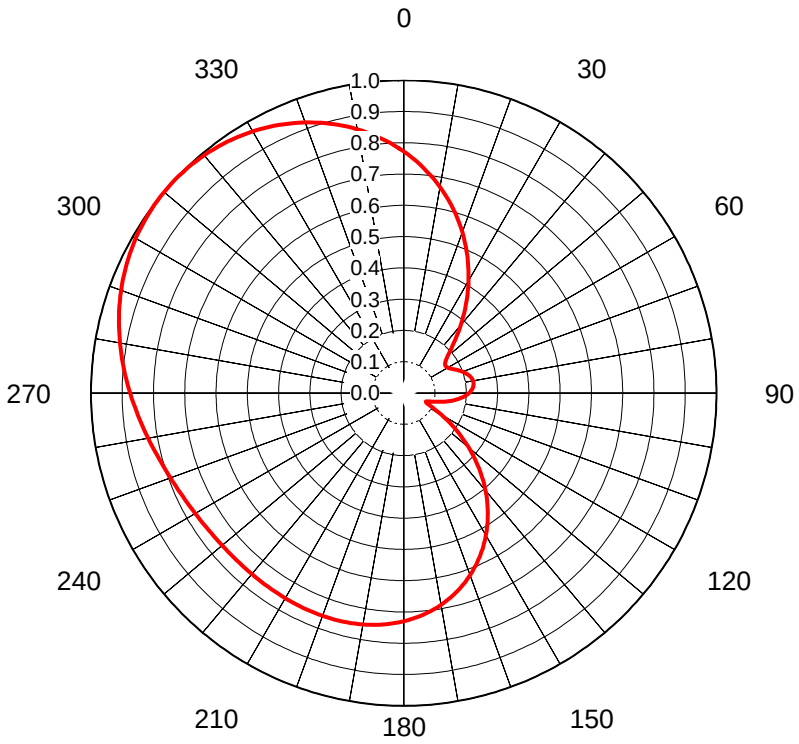
Mechanical Specifications

Mounting:	**Side Mounted**			
Environmental Protection:	**Full Radome**			
Height:	**55.1 ft (16.8m)**			
Weight:	**750 lb (0.3t)**	Excludes Mounts		
Effective Projected Area:	**41.8 ft² (3.9m²)**	**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
WCLF	21	515 MHz	1,000 kW (30.00 dBk)	24.6 kW (13.92 dBk)	54.47 (17.36dB)	36.71 (15.65dB)

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AZIMUTH PATTERN
Horizontal Polarization

In Free Space

Proposal No.	**C-71781-1**
Date	**16-Nov-21**
Call Letters	**WCLF**
Channel	**21**
Frequency	**515 MHz**
Antenna Type	**TFU-26EST-R C220**
Gain	**2.18 (3.38dB)**
	Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.772	36	0.334	72	0.207	108	0.088	144	0.457	180	0.730	216	0.756	252	0.800	288	0.954	324	0.984
1	0.763	37	0.321	73	0.211	109	0.082	145	0.469	181	0.733	217	0.756	253	0.803	289	0.958	325	0.981
2	0.753	38	0.309	74	0.214	110	0.079	146	0.480	182	0.736	218	0.756	254	0.807	290	0.961	326	0.979
3	0.743	39	0.296	75	0.217	111	0.076	147	0.492	183	0.738	219	0.755	255	0.810	291	0.965	327	0.976
4	0.733	40	0.284	76	0.219	112	0.077	148	0.503	184	0.741	220	0.755	256	0.814	292	0.968	328	0.973
5	0.723	41	0.271	77	0.221	113	0.077	149	0.515	185	0.743	221	0.755	257	0.818	293	0.971	329	0.969
6	0.712	42	0.260	78	0.223	114	0.083	150	0.525	186	0.745	222	0.755	258	0.822	294	0.974	330	0.966
7	0.702	43	0.248	79	0.224	115	0.088	151	0.536	187	0.747	223	0.755	259	0.826	295	0.977	331	0.962
8	0.691	44	0.238	80	0.225	116	0.096	152	0.546	188	0.748	224	0.756	260	0.830	296	0.980	332	0.958
9	0.680	45	0.227	81	0.226	117	0.105	153	0.557	189	0.750	225	0.756	261	0.834	297	0.982	333	0.954
10	0.668	46	0.217	82	0.225	118	0.116	154	0.566	190	0.751	226	0.756	262	0.838	298	0.985	334	0.950
11	0.657	47	0.207	83	0.225	119	0.126	155	0.576	191	0.753	227	0.756	263	0.843	299	0.987	335	0.946
12	0.645	48	0.199	84	0.224	120	0.138	156	0.585	192	0.754	228	0.757	264	0.847	300	0.989	336	0.941
13	0.634	49	0.191	85	0.223	121	0.150	157	0.594	193	0.755	229	0.757	265	0.852	301	0.991	337	0.936
14	0.622	50	0.184	86	0.221	122	0.163	158	0.603	194	0.756	230	0.758	266	0.856	302	0.993	338	0.931
15	0.610	51	0.177	87	0.219	123	0.176	159	0.612	195	0.756	231	0.759	267	0.861	303	0.994	339	0.926
16	0.597	52	0.172	88	0.216	124	0.189	160	0.620	196	0.757	232	0.760	268	0.865	304	0.995	340	0.920
17	0.585	53	0.167	89	0.213	125	0.203	161	0.628	197	0.757	233	0.760	269	0.870	305	0.997	341	0.915
18	0.573	54	0.164	90	0.209	126	0.216	162	0.635	198	0.758	234	0.761	270	0.875	306	0.998	342	0.909
19	0.560	55	0.161	91	0.205	127	0.230	163	0.643	199	0.758	235	0.762	271	0.879	307	0.999	343	0.903
20	0.547	56	0.160	92	0.200	128	0.244	164	0.650	200	0.758	236	0.764	272	0.884	308	0.999	344	0.897
21	0.534	57	0.159	93	0.195	129	0.258	165	0.657	201	0.758	237	0.765	273	0.889	309	1.000	345	0.891
22	0.521	58	0.160	94	0.190	130	0.272	166	0.664	202	0.759	238	0.767	274	0.893	310	1.000	346	0.884
23	0.508	59	0.160	95	0.184	131	0.285	167	0.670	203	0.759	239	0.768	275	0.898	311	1.000	347	0.878
24	0.495	60	0.162	96	0.177	132	0.299	168	0.676	204	0.758	240	0.770	276	0.903	312	1.000	348	0.871
25	0.482	61	0.165	97	0.171	133	0.313	169	0.682	205	0.758	241	0.772	277	0.907	313	1.000	349	0.864
26	0.468	62	0.168	98	0.164	134	0.327	170	0.687	206	0.758	242	0.774	278	0.912	314	0.999	350	0.856
27	0.455	63	0.171	99	0.157	135	0.340	171	0.693	207	0.758	243	0.776	279	0.917	315	0.998	351	0.849
28	0.441	64	0.175	100	0.149	136	0.354	172	0.698	208	0.758	244	0.778	280	0.921	316	0.998	352	0.841
29	0.428	65	0.179	101	0.141	137	0.367	173	0.703	209	0.758	245	0.780	281	0.926	317	0.997	353	0.833
30	0.414	66	0.183	102	0.133	138	0.381	174	0.707	210	0.757	246	0.783	282	0.930	318	0.995	354	0.825
31	0.401	67	0.187	103	0.125	139	0.394	175	0.712	211	0.757	247	0.785	283	0.934	319	0.994	355	0.817
32	0.388	68	0.191	104	0.117	140	0.407	176	0.716	212	0.757	248	0.788	284	0.938	320	0.992	356	0.808
33	0.374	69	0.196	105	0.109	141	0.420	177	0.720	213	0.757	249	0.791	285	0.943	321	0.990	357	0.799
34	0.361	70	0.200	106	0.101	142	0.432	178	0.723	214	0.756	250	0.794	286	0.946	322	0.988	358	0.790
35	0.348	71	0.203	107	0.094	143	0.445	179	0.727	215	0.756	251	0.797	287	0.950	323	0.986	359	0.781

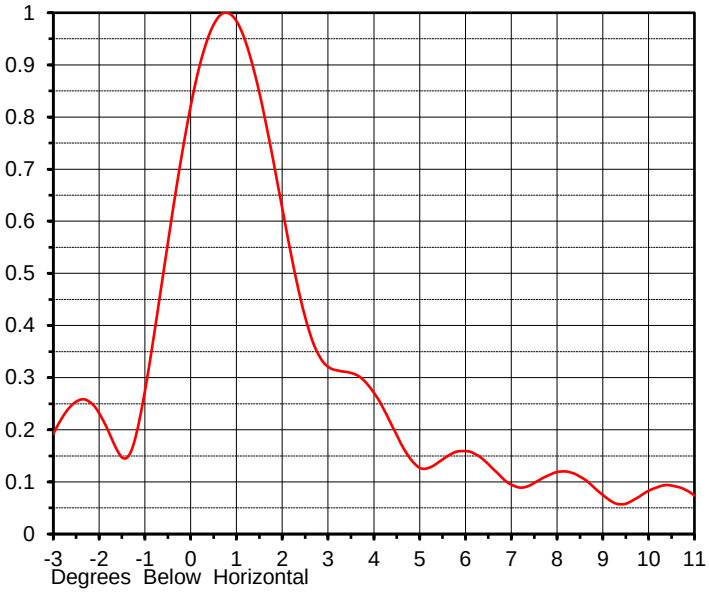
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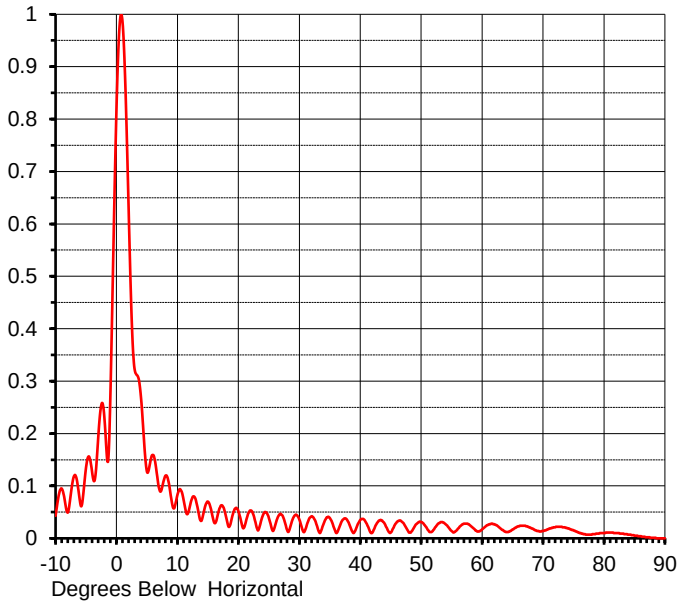
ELEVATION PATTERN

Proposal No.	**C-71781-1**
Date	**16-Nov-21**
Call Letters	**WCLF**
Channel	**21**
Frequency	**515 MHz**
Antenna Type	**TFU-26EST-R C220**

RMS Directivity at Main Lobe	**25.0 (13.98 dB)**	Beam Tilt	**0.75 deg**
RMS Directivity at Horizontal	**16.9 (12.28 dB)**	Pattern Number	**26E250075**

Calculated

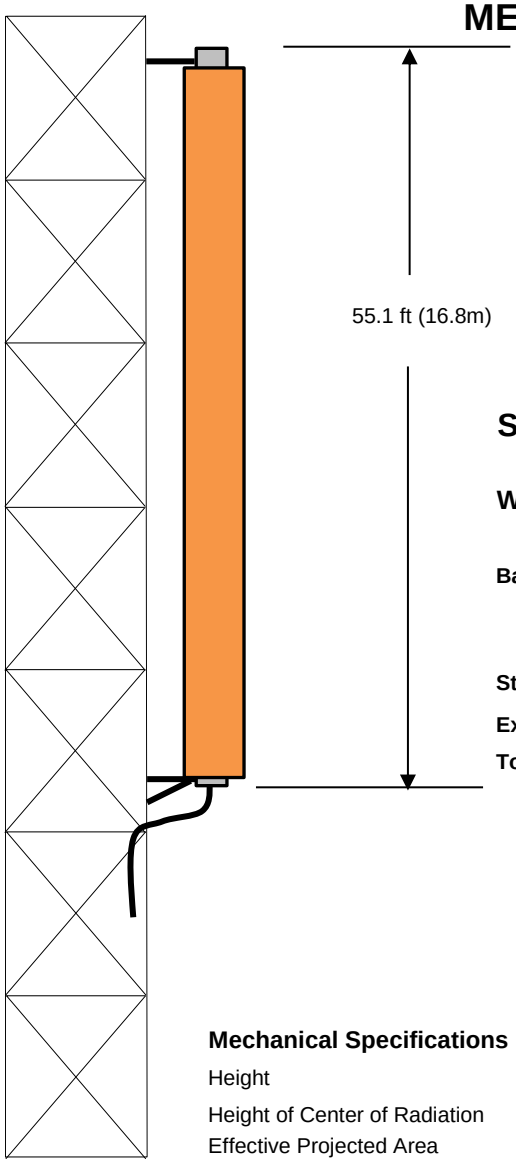




Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.043	10.0	0.083	30.0	0.036	50.0	0.031	70.0	0.014
-9.0	0.095	11.0	0.074	31.0	0.017	51.0	0.018	71.0	0.018
-8.0	0.049	12.0	0.059	32.0	0.042	52.0	0.016	72.0	0.021
-7.0	0.118	13.0	0.074	33.0	0.020	53.0	0.029	73.0	0.022
-6.0	0.071	14.0	0.035	34.0	0.028	54.0	0.027	74.0	0.019
-5.0	0.135	15.0	0.070	35.0	0.039	55.0	0.014	75.0	0.015
-4.0	0.126	16.0	0.031	36.0	0.011	56.0	0.018	76.0	0.010
-3.0	0.192	17.0	0.059	37.0	0.033	57.0	0.028	77.0	0.007
-2.0	0.232	18.0	0.040	38.0	0.032	58.0	0.025	78.0	0.007
-1.0	0.274	19.0	0.042	39.0	0.011	59.0	0.015	79.0	0.009
0.0	0.821	20.0	0.052	40.0	0.035	60.0	0.017	80.0	0.010
1.0	0.984	21.0	0.022	41.0	0.029	61.0	0.026	81.0	0.011
2.0	0.625	22.0	0.053	42.0	0.011	62.0	0.027	82.0	0.010
3.0	0.321	23.0	0.021	43.0	0.033	63.0	0.019	83.0	0.009
4.0	0.271	24.0	0.043	44.0	0.028	64.0	0.012	84.0	0.007
5.0	0.127	25.0	0.039	45.0	0.011	65.0	0.017	85.0	0.005
6.0	0.159	26.0	0.023	46.0	0.031	66.0	0.023	86.0	0.004
7.0	0.095	27.0	0.046	47.0	0.030	67.0	0.024	87.0	0.002
8.0	0.119	28.0	0.016	48.0	0.011	68.0	0.020	88.0	0.001
9.0	0.075	29.0	0.039	49.0	0.024	69.0	0.014	89.0	0.000
								90.0	0.000

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MECHANICAL SPECIFICATIONS



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Call Letters	**WCLF**
Channel	**21**
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Antenna Type	**TFU-26EST-R C220**

Preliminary Specifications

Side Mounted

Without ice TIA-222-G

Basic Wind Speed	130 m/h (209.2 km/h)
Structure Class	II
Exposure Category	D
Topography Category	1

Mechanical Specifications

Height	H2	55.1 ft (16.8m)	
Height of Center of Radiation	H3	27.55 ft (8.4m)	
Effective Projected Area	$(EPA)_A$	41.8 ft² (3.9m²)	Mounts Excluded
Weight	W	750 lb (0.3t)	Mounts Excluded

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

Prepared by:	CAB	**Date:**	1-Nov-21	**ME:**	**EE:**
Rev. No.1 by:	CAB	**Date:**	16-Nov-21		

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Summary

Proposal No.	**C-71781-1**
Date	**16-Nov-21**
Call Letters	**WCLF**
Channel	**21**
Frequency	**515 MHz**
Antenna Type	**TFU-26EST-R C220**

Antenna

	Hpol	
ERP:	**1,000 kW**	**(30.00 dBk)**
Peak Gain*	54.47	(17.36 dB)

Antenna Input Power

18.4 kW **(12.64 dBk)**

Transmission Line

Type:	**Rigid**		Attenuation:	**(1.28 dB)**
Size:	**8-3/16"**		Efficiency:	**74.5%**
Impedance:	**75 Ohm**			
Length:	**1550 ft**	**472.4 m**		

Transmitter Output

24.6 kW **(13.92 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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