



Antenna Model: **TFU-8WB-R C160**

Reference Number: **C-71471**  
Date: **6-Mar-20**  
Customer:  
Location: **Paducah, KY**

#### Electrical Specifications

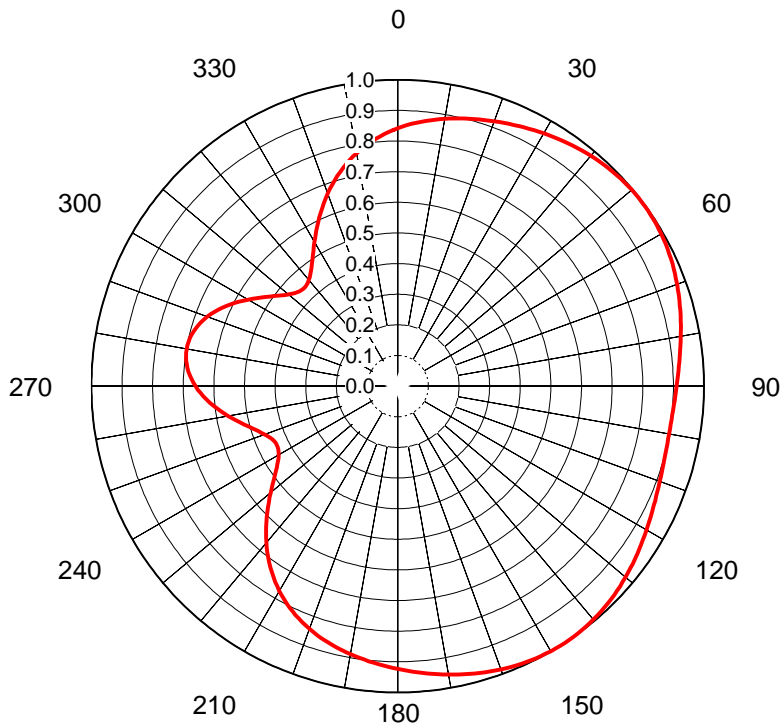
Polarization: **Horizontal**  
Azimuth Pattern: **C160**  
Antenna Input: **4-1/16 in 50 Ohm EIA/DCA**  
VSWR: Channel **1.15:1** Band **1.15:1**  
Bandwidth: **470-698 MHz**  
Rated Input Power: **20 kW (13.01 dBk) Maximum Average Power**

#### Mechanical Specifications

Mounting: **Side Mounted**  
Environmental Protection: **Full Radome**  
Height:  
Weight: **mounts excluded**  
Effective Projected Area:

#### Channel Specifications

Call	Ch	Freq	Hpol ERP	TPO	Peak Gain Main Lobe Hpol	Peak Gain at Horizontal Hpol
WPSD	19	503	155 kW (21.89 dBk)	17.8 kW (12.50 dBk)	11.47 (10.60dB)	10.95 (10.39dB)



## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-71471**  
 Date **6-Mar-20**  
 Call Letters **WPSD**  
 Channel **19**  
 Frequency **503 MHz**  
 Antenna Type **TFU-8WB-R C160**  
 Gain **1.5 (1.75dB)**  
 Calculated

Pattern Number **WB-C160-19 Hpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.842	36	0.971	72	0.965	108	0.907	144	0.999	180	0.923	216	0.713	252	0.477	288	0.675
1	0.847	37	0.974	73	0.961	109	0.908	145	0.999	181	0.920	217	0.702	253	0.487	289	0.669
2	0.852	38	0.976	74	0.958	110	0.910	146	1.000	182	0.917	218	0.691	254	0.496	290	0.662
3	0.857	39	0.979	75	0.955	111	0.913	147	1.000	183	0.913	219	0.679	255	0.506	291	0.654
4	0.862	40	0.981	76	0.952	112	0.915	148	1.000	184	0.910	220	0.667	256	0.517	292	0.646
5	0.866	41	0.984	77	0.948	113	0.917	149	1.000	185	0.907	221	0.655	257	0.528	293	0.637
6	0.870	42	0.986	78	0.945	114	0.920	150	0.999	186	0.903	222	0.643	258	0.539	294	0.628
7	0.875	43	0.988	79	0.942	115	0.923	151	0.999	187	0.900	223	0.630	259	0.550	295	0.618
8	0.879	44	0.990	80	0.939	116	0.926	152	0.998	188	0.896	224	0.617	260	0.562	296	0.608
9	0.882	45	0.992	81	0.935	117	0.929	153	0.997	189	0.892	225	0.605	261	0.573	297	0.597
10	0.886	46	0.993	82	0.932	118	0.932	154	0.995	190	0.889	226	0.592	262	0.584	298	0.587
11	0.890	47	0.994	83	0.929	119	0.935	155	0.994	191	0.885	227	0.579	263	0.595	299	0.576
12	0.893	48	0.996	84	0.926	120	0.938	156	0.992	192	0.881	228	0.566	264	0.606	300	0.565
13	0.897	49	0.997	85	0.923	121	0.941	157	0.991	193	0.877	229	0.554	265	0.616	301	0.553
14	0.900	50	0.997	86	0.920	122	0.945	158	0.989	194	0.873	230	0.541	266	0.626	302	0.542
15	0.904	51	0.998	87	0.918	123	0.948	159	0.986	195	0.868	231	0.529	267	0.635	303	0.531
16	0.907	52	0.998	88	0.915	124	0.951	160	0.984	196	0.864	232	0.518	268	0.644	304	0.520
17	0.910	53	0.998	89	0.913	125	0.955	161	0.982	197	0.859	233	0.506	269	0.652	305	0.510
18	0.914	54	0.998	90	0.911	126	0.958	162	0.979	198	0.854	234	0.496	270	0.660	306	0.500
19	0.917	55	0.998	91	0.909	127	0.961	163	0.977	199	0.849	235	0.486	271	0.667	307	0.490
20	0.920	56	0.998	92	0.907	128	0.965	164	0.974	200	0.843	236	0.476	272	0.674	308	0.481
21	0.924	57	0.997	93	0.905	129	0.968	165	0.971	201	0.837	237	0.468	273	0.680	309	0.473
22	0.927	58	0.996	94	0.904	130	0.971	166	0.968	202	0.832	238	0.460	274	0.685	310	0.465
23	0.930	59	0.995	95	0.903	131	0.974	167	0.965	203	0.825	239	0.454	275	0.689	311	0.459
24	0.933	60	0.993	96	0.902	132	0.977	168	0.962	204	0.819	240	0.448	276	0.693	312	0.453
25	0.937	61	0.992	97	0.901	133	0.979	169	0.959	205	0.812	241	0.444	277	0.696	313	0.449
26	0.940	62	0.990	98	0.900	134	0.982	170	0.956	206	0.805	242	0.441	278	0.698	314	0.445
27	0.943	63	0.988	99	0.900	135	0.985	171	0.953	207	0.797	243	0.439	279	0.699	315	0.443
28	0.946	64	0.986	100	0.900	136	0.987	172	0.950	208	0.789	244	0.439	280	0.699	316	0.442
29	0.950	65	0.984	101	0.900	137	0.989	173	0.946	209	0.781	245	0.440	281	0.699	317	0.443
30	0.953	66	0.982	102	0.900	138	0.991	174	0.943	210	0.772	246	0.442	282	0.698	318	0.445
31	0.956	67	0.979	103	0.901	139	0.993	175	0.940	211	0.763	247	0.445	283	0.696	319	0.447
32	0.959	68	0.976	104	0.901	140	0.994	176	0.937	212	0.754	248	0.449	284	0.693	320	0.452
33	0.962	69	0.974	105	0.902	141	0.996	177	0.933	213	0.744	249	0.455	285	0.690	321	0.457
34	0.965	70	0.971	106	0.904	142	0.997	178	0.930	214	0.734	250	0.462	286	0.686	322	0.463
35	0.968	71	0.968	107	0.905	143	0.998	179	0.927	215	0.724	251	0.469	287	0.681	323	0.471

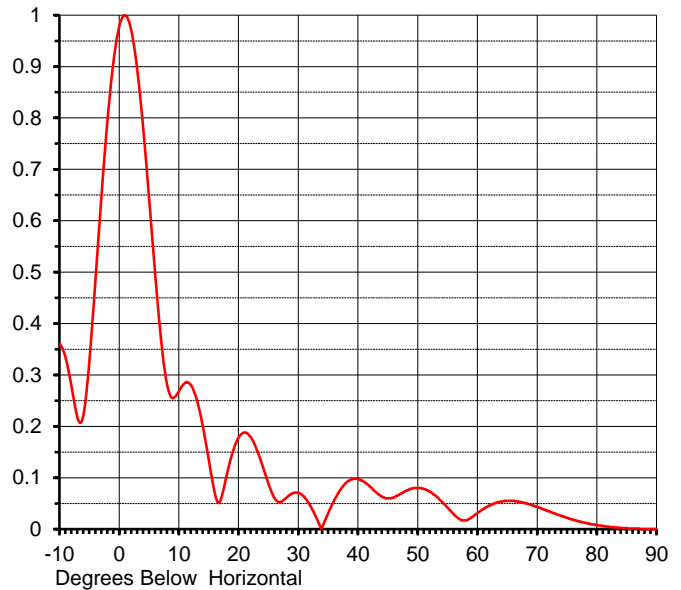
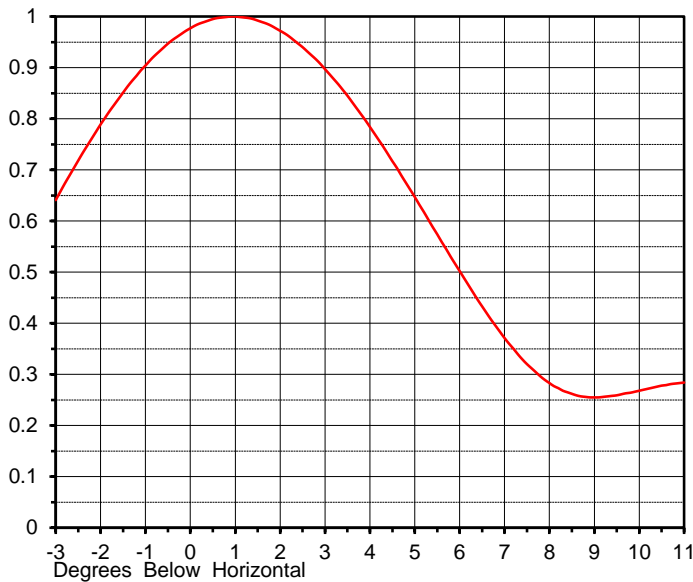
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## ELEVATION PATTERN

Proposal No. **C-71471**  
 Date **6-Mar-20**  
 Call Letters **WPSD**  
 Channel **19**  
 Frequency **503 MHz**  
 Antenna Type **TFU-8WB-R C160**

RMS Directivity at Main Lobe **7.7 ( 8.84 dB )**  
 RMS Directivity at Horizontal **7.3 ( 8.63 dB )**  
**Calculated**

Beam Tilt **1.05 deg**  
 Pattern Number **08W077105-19**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.361	10.0	0.268	30.0	0.071	50.0	0.080	70.0	0.043
-9.0	0.335	11.0	0.284	31.0	0.063	51.0	0.078	71.0	0.039
-8.0	0.279	12.0	0.281	32.0	0.046	52.0	0.073	72.0	0.035
-7.0	0.218	13.0	0.252	33.0	0.023	53.0	0.065	73.0	0.030
-6.0	0.221	14.0	0.201	34.0	0.004	54.0	0.054	74.0	0.026
-5.0	0.325	15.0	0.136	35.0	0.031	55.0	0.042	75.0	0.022
-4.0	0.479	16.0	0.071	36.0	0.056	56.0	0.030	76.0	0.018
-3.0	0.641	17.0	0.057	37.0	0.076	57.0	0.020	77.0	0.015
-2.0	0.789	18.0	0.104	38.0	0.090	58.0	0.017	78.0	0.012
-1.0	0.904	19.0	0.149	39.0	0.097	59.0	0.023	79.0	0.010
0.0	0.977	20.0	0.178	40.0	0.097	60.0	0.031	80.0	0.008
1.0	1.000	21.0	0.188	41.0	0.092	61.0	0.039	81.0	0.006
2.0	0.972	22.0	0.180	42.0	0.083	62.0	0.046	82.0	0.005
3.0	0.897	23.0	0.156	43.0	0.072	63.0	0.051	83.0	0.003
4.0	0.784	24.0	0.124	44.0	0.063	64.0	0.054	84.0	0.002
5.0	0.647	25.0	0.089	45.0	0.060	65.0	0.055	85.0	0.002
6.0	0.502	26.0	0.061	46.0	0.062	66.0	0.055	86.0	0.001
7.0	0.371	27.0	0.053	47.0	0.068	67.0	0.053	87.0	0.001
8.0	0.283	28.0	0.061	48.0	0.074	68.0	0.051	88.0	0.000
9.0	0.255	29.0	0.069	49.0	0.079	69.0	0.047	89.0	0.000
								90.0	0.000

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## Summary

Proposal No.	<b>C-71471</b>
Date	<b>6-Mar-20</b>
Call Letters	<b>WPSD</b>
Channel	<b>19</b>
Frequency	<b>503 MHz</b>
Antenna Type	<b>TFU-8WB-R C160</b>

## Antenna

		Hpol
ERP:	<b>155 kW</b>	<b>( 21.89 dBk )</b>
Peak Gain	<b>11.47</b>	<b>( 10.60 dBd )</b>

Antenna Input Power	<b>13.5 kW</b>	<b>( 11.29 dBk )</b>
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## Transmission Line

Type:	<b>Rigid</b>	Attenuation:	<b>( 1.21 dB )</b>
Size:	<b>4-1/16"</b>	Efficiency:	<b>75.7%</b>
Impedance:	<b>50 Ohm</b>		
Length:	<b>800 ft</b>	<b>243.8 m</b>	

## Transmitter Output

	<b>17.8 kW</b>	<b>( 12.50 dBk )</b>
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Transmitter filter losses not included

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