Dielectric®

Antenna Model: **TLP-24W/VP-R (SP)**

Proposal Number:	**C-71096**
Date:	**27-Feb-18**
Customer:	**Caguas Educational Television**
Location:	**Caguas, PR**

Electrical Specifications

Polarization:	**Elliptical**		
Azimuth Pattern:	**Directional**		
Antenna Input:	**3-1/8"**	**50 Ohm**	**EIA/DCA**
VSWR:	Channel	**1.08 : 1**	
Bandwidth:	**6 MHz**		
Rated Input Power:	**9 kW**	**(9.42 dBk)**	**Maximum Average Power**

Mechanical Specifications

Mounting:	**Side Mounted**			
Environmental Protection:	**Full Radome**			
Height:	**50.7 ft (15.5m)**			
Weight:	**950 lb (0.4t)**	Excludes Mounts		
Effective Projected Area:	**50.6 ft² (4.7m²)**	**TIA-222-G**	Basic Wind Speed:	**145 m/h (233.4 km/h)**

Channel Specifications

Call	CH	Freq	Hpol ERP	Vpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak Main Lobe Vpol Gain	Peak at Horizontal Hpol Gain	Peak at Horizontal Vpol Gain
WUJA	24	533 MHz	120.0 kW (20.79 dBk)	36.0 kW (15.56 dBk)	6.68 kW (8.25 dBk)	23.06 (13.63dB)	6.92 (8.40dB)	4.55 (6.58dB)	1.36 (1.35dB)

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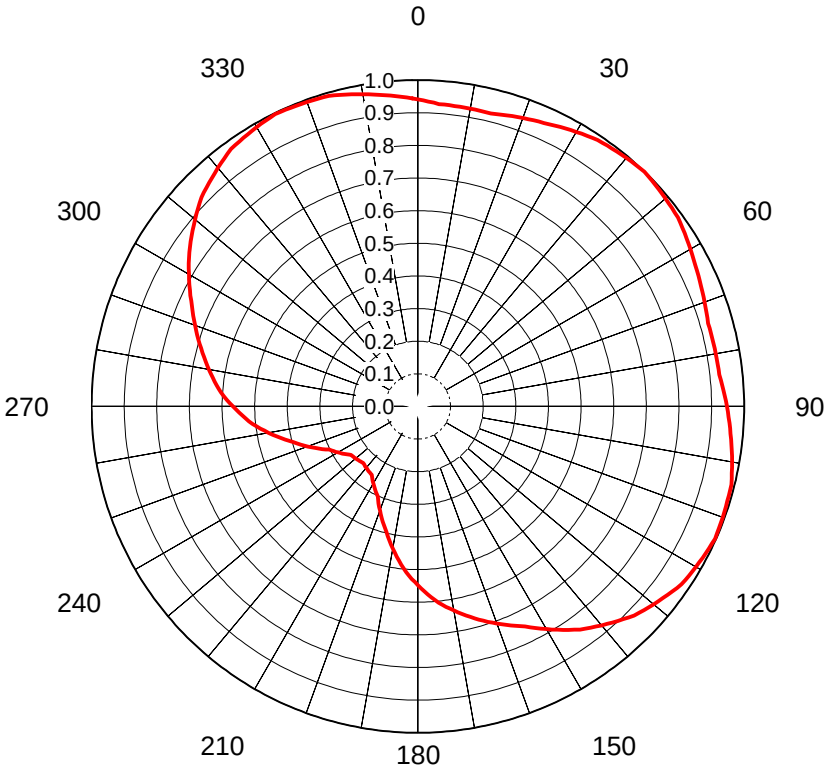

AZIMUTH PATTERN
Horizontal Polarization

In Free Space

Proposal No.	**C-71096**
Date	**27-Feb-18**
Call Letters	**WUJA**
Channel	**24**
Frequency	**533 MHz**
Antenna Type	**TLP-24W/VP-R (SP)**
Gain	**1.57 (1.95dB)**
	Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.941	36	0.988	72	0.930	108	0.993	144	0.845	180	0.548	216	0.251	252	0.378	288	0.711	324	0.975
1	0.938	37	0.989	73	0.928	109	0.993	145	0.836	181	0.539	217	0.249	253	0.387	289	0.719	325	0.977
2	0.935	38	0.991	74	0.925	110	0.994	146	0.826	182	0.529	218	0.248	254	0.397	290	0.727	326	0.979
3	0.932	39	0.993	75	0.925	111	0.995	147	0.817	183	0.520	219	0.247	255	0.408	291	0.735	327	0.982
4	0.929	40	0.994	76	0.926	112	0.996	148	0.807	184	0.510	220	0.246	256	0.420	292	0.742	328	0.984
5	0.929	41	0.996	77	0.926	113	0.996	149	0.798	185	0.499	221	0.245	257	0.431	293	0.750	329	0.986
6	0.928	42	0.997	78	0.927	114	0.997	150	0.788	186	0.487	222	0.243	258	0.442	294	0.758	330	0.988
7	0.928	43	0.998	79	0.927	115	0.995	151	0.779	187	0.476	223	0.242	259	0.454	295	0.767	331	0.990
8	0.927	44	1.000	80	0.927	116	0.993	152	0.769	188	0.465	224	0.241	260	0.465	296	0.775	332	0.993
9	0.927	45	0.998	81	0.928	117	0.990	153	0.760	189	0.454	225	0.242	261	0.476	297	0.784	333	0.995
10	0.927	46	0.997	82	0.928	118	0.988	154	0.750	190	0.442	226	0.243	262	0.487	298	0.793	334	0.997
11	0.926	47	0.996	83	0.929	119	0.986	155	0.743	191	0.431	227	0.245	263	0.499	299	0.802	335	0.996
12	0.926	48	0.994	84	0.929	120	0.984	156	0.736	192	0.420	228	0.246	264	0.510	300	0.810	336	0.996
13	0.925	49	0.993	85	0.932	121	0.982	157	0.729	193	0.408	229	0.247	265	0.520	301	0.819	337	0.995
14	0.925	50	0.991	86	0.935	122	0.979	158	0.722	194	0.397	230	0.248	266	0.529	302	0.828	338	0.994
15	0.928	51	0.989	87	0.938	123	0.977	159	0.715	195	0.387	231	0.249	267	0.539	303	0.836	339	0.993
16	0.930	52	0.988	88	0.941	124	0.975	160	0.708	196	0.378	232	0.251	268	0.548	304	0.845	340	0.993
17	0.933	53	0.987	89	0.944	125	0.970	161	0.701	197	0.368	233	0.252	269	0.558	305	0.853	341	0.992
18	0.935	54	0.985	90	0.947	126	0.964	162	0.694	198	0.359	234	0.253	270	0.567	306	0.860	342	0.991
19	0.938	55	0.982	91	0.950	127	0.959	163	0.687	199	0.350	235	0.258	271	0.576	307	0.868	343	0.991
20	0.941	56	0.978	92	0.953	128	0.954	164	0.680	200	0.340	236	0.263	272	0.586	308	0.876	344	0.990
21	0.943	57	0.975	93	0.956	129	0.948	165	0.673	201	0.331	237	0.268	273	0.595	309	0.883	345	0.987
22	0.946	58	0.971	94	0.959	130	0.943	166	0.665	202	0.321	238	0.273	274	0.605	310	0.891	346	0.984
23	0.948	59	0.968	95	0.962	131	0.938	167	0.658	203	0.312	239	0.278	275	0.613	311	0.899	347	0.981
24	0.951	60	0.965	96	0.965	132	0.933	168	0.650	204	0.302	240	0.282	276	0.620	312	0.907	348	0.978
25	0.954	61	0.961	97	0.968	133	0.927	169	0.642	205	0.297	241	0.287	277	0.627	313	0.914	349	0.975
26	0.958	62	0.958	98	0.971	134	0.922	170	0.635	206	0.292	242	0.292	278	0.635	314	0.922	350	0.971
27	0.961	63	0.954	99	0.975	135	0.914	171	0.627	207	0.287	243	0.297	279	0.642	315	0.927	351	0.968
28	0.965	64	0.951	100	0.978	136	0.907	172	0.620	208	0.282	244	0.302	280	0.650	316	0.933	352	0.965
29	0.968	65	0.948	101	0.981	137	0.899	173	0.613	209	0.278	245	0.312	281	0.658	317	0.938	353	0.962
30	0.971	66	0.946	102	0.984	138	0.891	174	0.605	210	0.273	246	0.321	282	0.665	318	0.943	354	0.959
31	0.975	67	0.943	103	0.987	139	0.883	175	0.595	211	0.268	247	0.331	283	0.673	319	0.948	355	0.956
32	0.978	68	0.941	104	0.990	140	0.876	176	0.586	212	0.263	248	0.340	284	0.680	320	0.954	356	0.953
33	0.982	69	0.938	105	0.991	141	0.868	177	0.576	213	0.258	249	0.350	285	0.688	321	0.959	357	0.950
34	0.985	70	0.935	106	0.991	142	0.860	178	0.567	214	0.253	250	0.359	286	0.696	322	0.964	358	0.947
35	0.987	71	0.933	107	0.992	143	0.853	179	0.558	215	0.252	251	0.368	287	0.703	323	0.970	359	0.944

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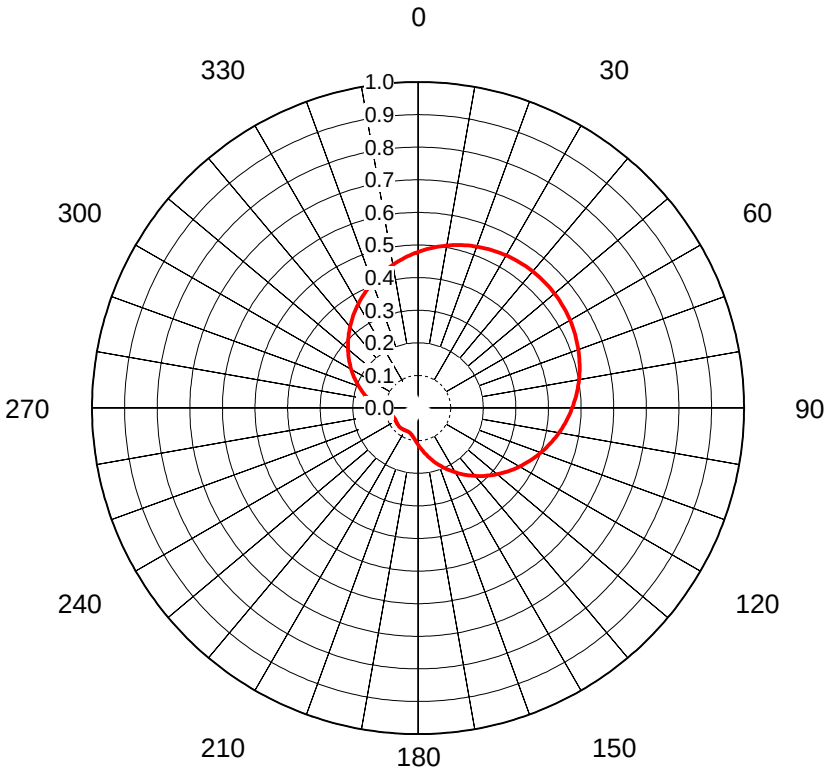


AZIMUTH PATTERN
Vertical Polarization

In Free Space

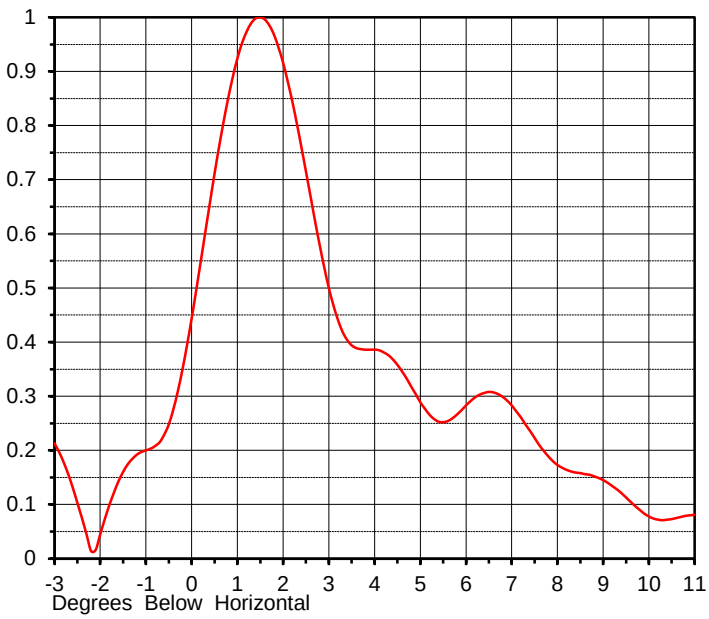
Proposal No.	**C-71096**
Date	**27-Feb-18**
Call Letters	**WUJA**
Channel	**24**
Frequency	**533 MHz**
Antenna Type	**TLP-24W/VP-R (SP)**
Gain	**2.49 (3.96dB)**
	Calculated

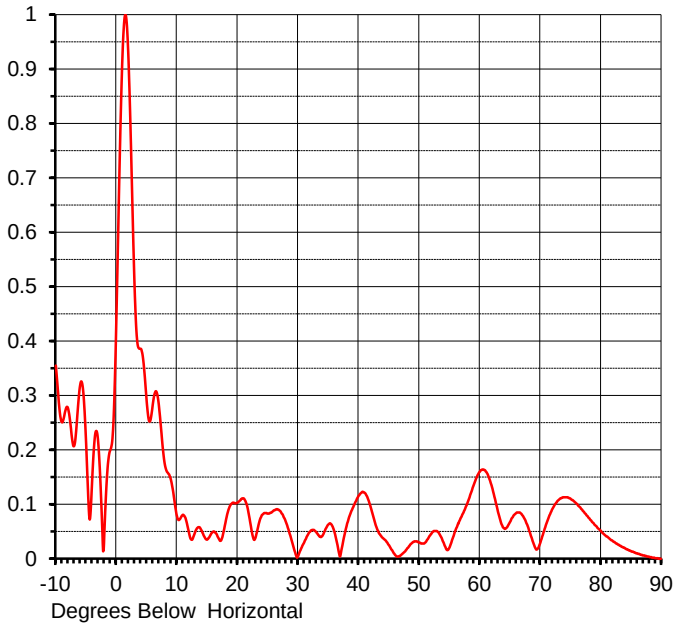
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.479	36	0.545	72	0.519	108	0.408	144	0.254	180	0.112	216	0.080	252	0.082	288	0.185	324	0.342
1	0.482	37	0.546	73	0.517	109	0.404	145	0.250	181	0.109	217	0.080	253	0.083	289	0.189	325	0.346
2	0.485	38	0.546	74	0.515	110	0.400	146	0.245	182	0.107	218	0.081	254	0.084	290	0.193	326	0.351
3	0.488	39	0.547	75	0.513	111	0.396	147	0.241	183	0.104	219	0.081	255	0.085	291	0.198	327	0.355
4	0.491	40	0.547	76	0.511	112	0.392	148	0.236	184	0.101	220	0.081	256	0.086	292	0.202	328	0.359
5	0.493	41	0.547	77	0.508	113	0.388	149	0.232	185	0.099	221	0.081	257	0.088	293	0.206	329	0.363
6	0.496	42	0.548	78	0.506	114	0.384	150	0.228	186	0.097	222	0.081	258	0.089	294	0.210	330	0.368
7	0.499	43	0.548	79	0.504	115	0.380	151	0.223	187	0.095	223	0.081	259	0.091	295	0.215	331	0.372
8	0.501	44	0.548	80	0.501	116	0.376	152	0.219	188	0.093	224	0.081	260	0.093	296	0.219	332	0.376
9	0.504	45	0.548	81	0.499	117	0.372	153	0.215	189	0.091	225	0.081	261	0.095	297	0.223	333	0.380
10	0.506	46	0.548	82	0.496	118	0.368	154	0.210	190	0.089	226	0.081	262	0.097	298	0.228	334	0.384
11	0.508	47	0.547	83	0.493	119	0.363	155	0.206	191	0.088	227	0.081	263	0.099	299	0.232	335	0.388
12	0.511	48	0.547	84	0.491	120	0.359	156	0.202	192	0.086	228	0.081	264	0.101	300	0.236	336	0.392
13	0.513	49	0.547	85	0.488	121	0.355	157	0.198	193	0.085	229	0.081	265	0.104	301	0.241	337	0.396
14	0.515	50	0.546	86	0.485	122	0.351	158	0.193	194	0.084	230	0.081	266	0.107	302	0.245	338	0.400
15	0.517	51	0.546	87	0.482	123	0.346	159	0.189	195	0.083	231	0.080	267	0.109	303	0.250	339	0.404
16	0.519	52	0.545	88	0.479	124	0.342	160	0.185	196	0.082	232	0.080	268	0.112	304	0.254	340	0.408
17	0.521	53	0.545	89	0.476	125	0.338	161	0.181	197	0.081	233	0.080	269	0.115	305	0.258	341	0.412
18	0.523	54	0.544	90	0.473	126	0.333	162	0.177	198	0.080	234	0.080	270	0.118	306	0.263	342	0.416
19	0.525	55	0.543	91	0.470	127	0.329	163	0.173	199	0.080	235	0.080	271	0.121	307	0.267	343	0.420
20	0.527	56	0.542	92	0.466	128	0.325	164	0.169	200	0.079	236	0.079	272	0.124	308	0.272	344	0.424
21	0.529	57	0.542	93	0.463	129	0.320	165	0.165	201	0.079	237	0.079	273	0.128	309	0.276	345	0.428
22	0.530	58	0.541	94	0.460	130	0.316	166	0.161	202	0.079	238	0.079	274	0.131	310	0.281	346	0.431
23	0.532	59	0.540	95	0.456	131	0.311	167	0.157	203	0.079	239	0.079	275	0.135	311	0.285	347	0.435
24	0.533	60	0.538	96	0.453	132	0.307	168	0.153	204	0.078	240	0.079	276	0.138	312	0.289	348	0.439
25	0.535	61	0.537	97	0.449	133	0.303	169	0.149	205	0.078	241	0.078	277	0.142	313	0.294	349	0.442
26	0.536	62	0.536	98	0.446	134	0.298	170	0.145	206	0.078	242	0.078	278	0.145	314	0.298	350	0.446
27	0.537	63	0.535	99	0.442	135	0.294	171	0.142	207	0.078	243	0.078	279	0.149	315	0.303	351	0.449
28	0.538	64	0.533	100	0.439	136	0.289	172	0.138	208	0.079	244	0.078	280	0.153	316	0.307	352	0.453
29	0.540	65	0.532	101	0.435	137	0.285	173	0.135	209	0.079	245	0.079	281	0.157	317	0.311	353	0.456
30	0.541	66	0.530	102	0.431	138	0.281	174	0.131	210	0.079	246	0.079	282	0.161	318	0.316	354	0.460
31	0.542	67	0.529	103	0.428	139	0.276	175	0.128	211	0.079	247	0.079	283	0.165	319	0.320	355	0.463
32	0.542	68	0.527	104	0.424	140	0.272	176	0.124	212	0.079	248	0.079	284	0.169	320	0.325	356	0.466
33	0.543	69	0.525	105	0.420	141	0.267	177	0.121	213	0.080	249	0.080	285	0.173	321	0.329	357	0.470
34	0.544	70	0.523	106	0.416	142	0.263	178	0.118	214	0.080	250	0.080	286	0.177	322	0.333	358	0.473
35	0.545	71	0.521	107	0.412	143	0.258	179	0.115	215	0.080	251	0.081	287	0.181	323	0.338	359	0.476

ELEVATION PATTERN

Proposal No.	**C-71096**
Date	**27-Feb-18**
Call Letters	**WUJA**
Channel	**24**
Frequency	**533 MHz**
Antenna Type	**TLP-24W/VP-R (SP)**

RMS Directivity at Main Lobe	**17.5 (12.43 dB)**	Beam Tilt	**1.50 deg**
RMS Directivity at Horizontal	**3.4 (5.31 dB)**	Pattern Number	**24L175150**
	Calculated		





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.355	10.0	0.078	30.0	0.005	50.0	0.030	70.0	0.030
-9.0	0.251	11.0	0.081	31.0	0.030	51.0	0.030	71.0	0.065
-8.0	0.277	12.0	0.047	32.0	0.050	52.0	0.046	72.0	0.092
-7.0	0.207	13.0	0.049	33.0	0.049	53.0	0.050	73.0	0.108
-6.0	0.318	14.0	0.053	34.0	0.042	54.0	0.030	74.0	0.113
-5.0	0.212	15.0	0.036	35.0	0.063	55.0	0.021	75.0	0.110
-4.0	0.145	16.0	0.050	36.0	0.049	56.0	0.053	76.0	0.101
-3.0	0.213	17.0	0.035	37.0	0.007	57.0	0.078	77.0	0.088
-2.0	0.045	18.0	0.066	38.0	0.060	58.0	0.104	78.0	0.075
-1.0	0.200	19.0	0.101	39.0	0.093	59.0	0.136	79.0	0.062
0.0	0.444	20.0	0.103	40.0	0.116	60.0	0.160	80.0	0.051
1.0	0.924	21.0	0.111	41.0	0.121	61.0	0.160	81.0	0.041
2.0	0.916	22.0	0.073	42.0	0.094	62.0	0.132	82.0	0.032
3.0	0.500	23.0	0.040	43.0	0.056	63.0	0.086	83.0	0.025
4.0	0.386	24.0	0.080	44.0	0.038	64.0	0.056	84.0	0.019
5.0	0.289	25.0	0.083	45.0	0.025	65.0	0.068	85.0	0.014
6.0	0.283	26.0	0.089	46.0	0.007	66.0	0.084	86.0	0.010
7.0	0.283	27.0	0.088	47.0	0.007	67.0	0.080	87.0	0.006
8.0	0.173	28.0	0.067	48.0	0.019	68.0	0.057	88.0	0.003
9.0	0.145	29.0	0.031	49.0	0.031	69.0	0.024	89.0	0.001
								90.0	0.000