

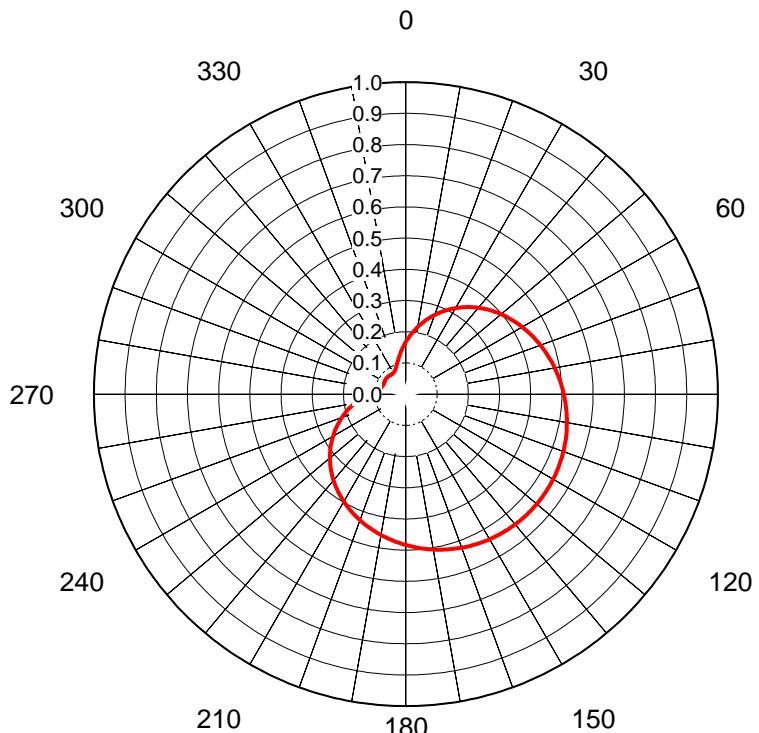
AZIMUTH PATTERN Horizontal Polarization

Proposal No. C-71703
 Date 11-Mar-21
 Call Letters WKBD
 Channel 34
 Frequency 593 MHz
 Antenna Type TLP-24H/VP-R
 Gain 1.72 (2.36dB)
 Calculated

Pattern Number TLP-H-34 Hpol

Deg	Value																		
0	0.560	36	0.915	72	0.786	108	0.938	144	0.957	180	0.768	216	0.906	252	0.650	288	0.444	324	0.499
1	0.571	37	0.917	73	0.783	109	0.944	145	0.951	181	0.768	217	0.909	253	0.638	289	0.448	325	0.496
2	0.584	38	0.918	74	0.781	110	0.949	146	0.945	182	0.768	218	0.910	254	0.627	290	0.452	326	0.492
3	0.596	39	0.918	75	0.779	111	0.954	147	0.938	183	0.769	219	0.911	255	0.615	291	0.456	327	0.489
4	0.609	40	0.918	76	0.777	112	0.958	148	0.931	184	0.769	220	0.911	256	0.604	292	0.460	328	0.485
5	0.622	41	0.917	77	0.776	113	0.963	149	0.924	185	0.770	221	0.911	257	0.593	293	0.464	329	0.481
6	0.635	42	0.915	78	0.776	114	0.967	150	0.917	186	0.771	222	0.910	258	0.582	294	0.468	330	0.477
7	0.648	43	0.913	79	0.776	115	0.970	151	0.910	187	0.772	223	0.909	259	0.571	295	0.473	331	0.474
8	0.661	44	0.911	80	0.777	116	0.973	152	0.903	188	0.774	224	0.906	260	0.560	296	0.477	332	0.470
9	0.675	45	0.907	81	0.779	117	0.976	153	0.896	189	0.776	225	0.904	261	0.550	297	0.482	333	0.466
10	0.688	46	0.904	82	0.781	118	0.979	154	0.888	190	0.779	226	0.900	262	0.539	298	0.486	334	0.463
11	0.701	47	0.900	83	0.784	119	0.982	155	0.881	191	0.783	227	0.896	263	0.529	299	0.491	335	0.459
12	0.714	48	0.895	84	0.787	120	0.984	156	0.873	192	0.786	228	0.891	264	0.519	300	0.495	336	0.456
13	0.727	49	0.890	85	0.791	121	0.986	157	0.865	193	0.791	229	0.886	265	0.510	301	0.499	337	0.453
14	0.740	50	0.885	86	0.795	122	0.989	158	0.858	194	0.795	230	0.880	266	0.500	302	0.503	338	0.450
15	0.752	51	0.880	87	0.800	123	0.991	159	0.850	195	0.800	231	0.873	267	0.492	303	0.506	339	0.448
16	0.765	52	0.875	88	0.805	124	0.993	160	0.842	196	0.805	232	0.866	268	0.483	304	0.509	340	0.446
17	0.777	53	0.870	89	0.811	125	0.994	161	0.834	197	0.811	233	0.858	269	0.475	305	0.512	341	0.445
18	0.788	54	0.865	90	0.816	126	0.996	162	0.827	198	0.817	234	0.850	270	0.467	306	0.515	342	0.444
19	0.799	55	0.859	91	0.822	127	0.997	163	0.819	199	0.823	235	0.841	271	0.460	307	0.517	343	0.444
20	0.810	56	0.854	92	0.829	128	0.998	164	0.811	200	0.828	236	0.831	272	0.454	308	0.519	344	0.445
21	0.820	57	0.849	93	0.835	129	0.999	165	0.804	201	0.835	237	0.821	273	0.448	309	0.520	345	0.447
22	0.830	58	0.844	94	0.842	130	1.000	166	0.797	202	0.841	238	0.810	274	0.443	310	0.521	346	0.450
23	0.839	59	0.839	95	0.849	131	0.998	167	0.791	203	0.847	239	0.800	275	0.439	311	0.522	347	0.453
24	0.848	60	0.834	96	0.856	132	0.996	168	0.785	204	0.853	240	0.788	276	0.436	312	0.522	348	0.458
25	0.856	61	0.830	97	0.863	133	0.994	169	0.780	205	0.858	241	0.777	277	0.433	313	0.522	349	0.463
26	0.864	62	0.825	98	0.870	134	0.993	170	0.776	206	0.864	242	0.766	278	0.432	314	0.521	350	0.468
27	0.872	63	0.821	99	0.878	135	0.991	171	0.773	207	0.870	243	0.754	279	0.431	315	0.520	351	0.475
28	0.879	64	0.816	100	0.885	136	0.989	172	0.770	208	0.875	244	0.742	280	0.430	316	0.519	352	0.482
29	0.885	65	0.812	101	0.892	137	0.986	173	0.769	209	0.880	245	0.731	281	0.430	317	0.517	353	0.490
30	0.891	66	0.808	102	0.899	138	0.984	174	0.768	210	0.885	246	0.719	282	0.431	318	0.515	354	0.498
31	0.896	67	0.804	103	0.906	139	0.980	175	0.768	211	0.890	247	0.707	283	0.432	319	0.513	355	0.507
32	0.901	68	0.800	104	0.913	140	0.977	176	0.768	212	0.894	248	0.696	284	0.434	320	0.511	356	0.517
33	0.906	69	0.796	105	0.919	141	0.972	177	0.768	213	0.898	249	0.684	285	0.436	321	0.508	357	0.527
34	0.909	70	0.793	106	0.926	142	0.968	178	0.768	214	0.901	250	0.673	286	0.438	322	0.505	358	0.537
35	0.912	71	0.789	107	0.932	143	0.962	179	0.768	215	0.904	251	0.661	287	0.441	323	0.502	359	0.548

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AZIMUTH PATTERN Vertical Polarization

Proposal No. C-71703
 Date 11-Mar-21
 Call Letters WKBD
 Channel 34
 Frequency 593 MHz
 Antenna Type TLP-24H/VP-R
 Gain 2.18 (3.39dB)
 Calculated

Pattern Number TLP-H-34 Vpol

Deg	Value																		
0	0.168	36	0.345	72	0.464	108	0.535	144	0.542	180	0.484	216	0.376	252	0.208	288	0.080	324	0.078
1	0.172	37	0.349	73	0.467	109	0.536	145	0.542	181	0.481	217	0.372	253	0.203	289	0.079	325	0.078
2	0.177	38	0.353	74	0.469	110	0.537	146	0.541	182	0.479	218	0.369	254	0.197	290	0.079	326	0.078
3	0.183	39	0.357	75	0.472	111	0.538	147	0.540	183	0.476	219	0.365	255	0.192	291	0.079	327	0.078
4	0.188	40	0.361	76	0.475	112	0.539	148	0.539	184	0.474	220	0.361	256	0.187	292	0.078	328	0.078
5	0.193	41	0.365	77	0.477	113	0.540	149	0.538	185	0.471	221	0.357	257	0.182	293	0.078	329	0.079
6	0.198	42	0.369	78	0.479	114	0.541	150	0.537	186	0.469	222	0.353	258	0.177	294	0.078	330	0.079
7	0.203	43	0.373	79	0.482	115	0.542	151	0.536	187	0.466	223	0.349	259	0.172	295	0.078	331	0.080
8	0.208	44	0.377	80	0.484	116	0.543	152	0.535	188	0.464	224	0.344	260	0.167	296	0.078	332	0.080
9	0.213	45	0.381	81	0.487	117	0.543	153	0.533	189	0.461	225	0.340	261	0.162	297	0.078	333	0.081
10	0.219	46	0.384	82	0.489	118	0.544	154	0.532	190	0.458	226	0.336	262	0.157	298	0.079	334	0.082
11	0.224	47	0.388	83	0.491	119	0.545	155	0.531	191	0.456	227	0.331	263	0.153	299	0.079	335	0.083
12	0.229	48	0.391	84	0.493	120	0.545	156	0.530	192	0.453	228	0.327	264	0.148	300	0.079	336	0.085
13	0.234	49	0.395	85	0.496	121	0.546	157	0.528	193	0.450	229	0.322	265	0.144	301	0.079	337	0.086
14	0.240	50	0.398	86	0.498	122	0.546	158	0.527	194	0.447	230	0.318	266	0.139	302	0.079	338	0.088
15	0.245	51	0.402	87	0.500	123	0.546	159	0.525	195	0.445	231	0.313	267	0.135	303	0.080	339	0.090
16	0.250	52	0.405	88	0.502	124	0.547	160	0.524	196	0.442	232	0.309	268	0.130	304	0.080	340	0.092
17	0.255	53	0.409	89	0.504	125	0.547	161	0.522	197	0.439	233	0.304	269	0.126	305	0.080	341	0.094
18	0.260	54	0.412	90	0.506	126	0.547	162	0.520	198	0.436	234	0.299	270	0.122	306	0.080	342	0.096
19	0.265	55	0.415	91	0.508	127	0.548	163	0.519	199	0.433	235	0.294	271	0.119	307	0.080	343	0.099
20	0.270	56	0.418	92	0.510	128	0.548	164	0.517	200	0.430	236	0.290	272	0.115	308	0.080	344	0.102
21	0.275	57	0.421	93	0.512	129	0.548	165	0.515	201	0.427	237	0.285	273	0.111	309	0.080	345	0.105
22	0.280	58	0.425	94	0.514	130	0.548	166	0.513	202	0.424	238	0.280	274	0.108	310	0.081	346	0.108
23	0.285	59	0.428	95	0.516	131	0.548	167	0.512	203	0.421	239	0.275	275	0.105	311	0.081	347	0.112
24	0.290	60	0.431	96	0.517	132	0.548	168	0.510	204	0.418	240	0.270	276	0.102	312	0.080	348	0.115
25	0.295	61	0.434	97	0.519	133	0.547	169	0.508	205	0.414	241	0.265	277	0.099	313	0.080	349	0.119
26	0.300	62	0.437	98	0.521	134	0.547	170	0.506	206	0.411	242	0.260	278	0.096	314	0.080	350	0.123
27	0.305	63	0.439	99	0.522	135	0.547	171	0.504	207	0.408	243	0.255	279	0.094	315	0.080	351	0.127
28	0.309	64	0.442	100	0.524	136	0.547	172	0.502	208	0.405	244	0.249	280	0.091	316	0.080	352	0.131
29	0.314	65	0.445	101	0.526	137	0.546	173	0.499	209	0.401	245	0.244	281	0.089	317	0.080	353	0.135
30	0.319	66	0.448	102	0.527	138	0.546	174	0.497	210	0.398	246	0.239	282	0.087	318	0.080	354	0.139
31	0.323	67	0.451	103	0.529	139	0.546	175	0.495	211	0.394	247	0.234	283	0.086	319	0.079	355	0.144
32	0.328	68	0.454	104	0.530	140	0.545	176	0.493	212	0.391	248	0.229	284	0.084	320	0.079	356	0.148
33	0.332	69	0.456	105	0.531	141	0.544	177	0.491	213	0.387	249	0.223	285	0.083	321	0.079	357	0.153
34	0.336	70	0.459	106	0.533	142	0.544	178	0.488	214	0.384	250	0.218	286	0.082	322	0.079	358	0.158
35	0.341	71	0.462	107	0.534	143	0.543	179	0.486	215	0.380	251	0.213	287	0.081	323	0.078	359	0.163

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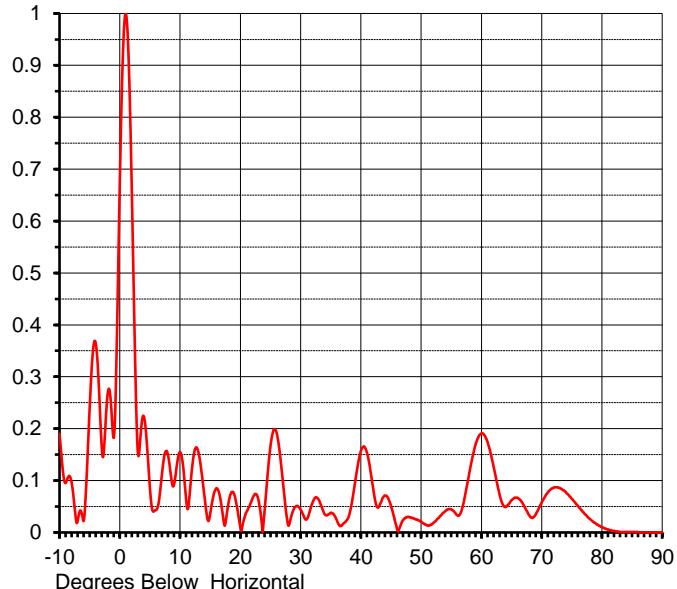
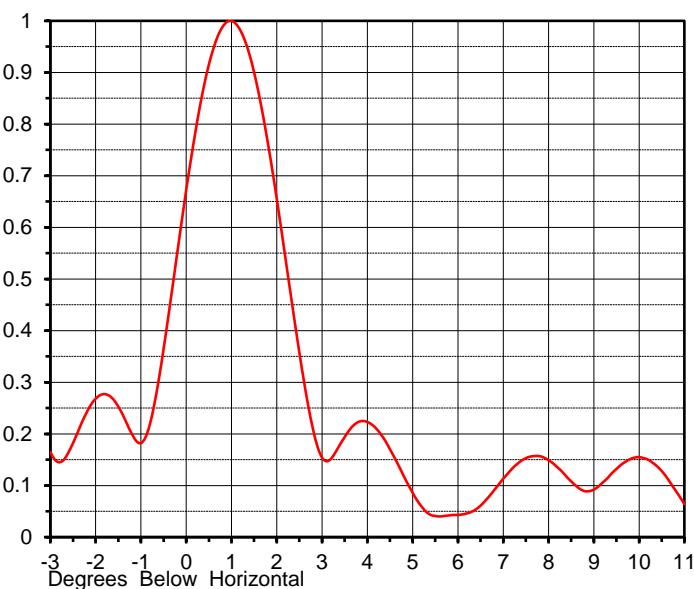
ELEVATION PATTERN

Proposal No. **C-71703**
 Date **11-Mar-21**
 Call Letters **WKBD**
 Channel **34**
 Frequency **593 MHz**
 Antenna Type **TLP-24H/VP-R**

RMS Directivity at Main Lobe
 RMS Directivity at Horizontal

21.0 (13.22 dB)
9.5 (9.78 dB)
Calculated

Beam Tilt **1.00 deg**
 Pattern Number **24L210100-34**



Angle	Field								
-10.0	0.190	10.0	0.155	30.0	0.044	50.0	0.021	70.0	0.058
-9.0	0.095	11.0	0.064	31.0	0.025	51.0	0.014	71.0	0.077
-8.0	0.097	12.0	0.125	32.0	0.058	52.0	0.018	72.0	0.086
-7.0	0.022	13.0	0.157	33.0	0.063	53.0	0.029	73.0	0.086
-6.0	0.022	14.0	0.074	34.0	0.035	54.0	0.041	74.0	0.078
-5.0	0.240	15.0	0.036	35.0	0.038	55.0	0.044	75.0	0.065
-4.0	0.365	16.0	0.085	36.0	0.024	56.0	0.033	76.0	0.051
-3.0	0.165	17.0	0.041	37.0	0.016	57.0	0.055	77.0	0.038
-2.0	0.268	18.0	0.054	38.0	0.031	58.0	0.115	78.0	0.026
-1.0	0.182	19.0	0.073	39.0	0.094	59.0	0.168	79.0	0.017
0.0	0.672	20.0	0.010	40.0	0.157	60.0	0.191	80.0	0.010
1.0	1.000	21.0	0.039	41.0	0.154	61.0	0.175	81.0	0.006
2.0	0.655	22.0	0.065	42.0	0.088	62.0	0.128	82.0	0.003
3.0	0.154	23.0	0.063	43.0	0.050	63.0	0.074	83.0	0.001
4.0	0.223	24.0	0.038	44.0	0.071	64.0	0.049	84.0	0.001
5.0	0.086	25.0	0.166	45.0	0.051	65.0	0.062	85.0	0.001
6.0	0.043	26.0	0.193	46.0	0.007	66.0	0.067	86.0	0.000
7.0	0.113	27.0	0.105	47.0	0.024	67.0	0.053	87.0	0.000
8.0	0.149	28.0	0.013	48.0	0.030	68.0	0.032	88.0	0.000
9.0	0.092	29.0	0.048	49.0	0.026	69.0	0.034	89.0	0.000
								90.0	0.000

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