Consulting Engineers
CTJC
CARL T. JONES CORPORATION

STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR
A CONSTRUCTION PERMIT FOR AN
AUXILIARY BROADCAST FACILITY FOR
WRGB - SCHENECTADY, NEW YORK
DTV - CH. 35 - 40 kW - 309 m HAAT

Prepared for: WRGB Licensee, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, No. 7418, and in New York State, No. 63418.

GENERAL

This office has been authorized by WRGB Licensee, LLC, licensee of WRGB, channel 35, licensed to Schenectady, New York, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a construction permit for an auxiliary digital broadcast facility to supplement its licensed facility.

DIRECTIONAL ANTENNA

The applicant intends to install a new Dielectric model TFU-8WB/VP-R C160 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 86 meters, and a height above average terrain of 309 meters. The antenna manufacturer's horizontal plane azimuth radiation patterns for both the horizontally polarized and vertically polarized components, and the manufacturer's vertical

plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane are shown and tabulated in the antenna exhibit.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours for both the main licensed and proposed auxiliary facilities were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 1 shows the predicted Noise Limited (40.77 dBu) contour and the Principal Community (48 dBu) contour for the proposed auxiliary facility. The Principal Community (48 dBu) contour of the auxiliary facility completely encompasses WRGB's licensed community Schenectady, New York. Exhibit 2 demonstrates that the proposed auxiliary noise limited contour exists wholly within the licensed main noise limited contour, as required by the FCC's Rules.

BLANKETING AND INTERMODULATION INTERFERENCE

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the WRGB site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE

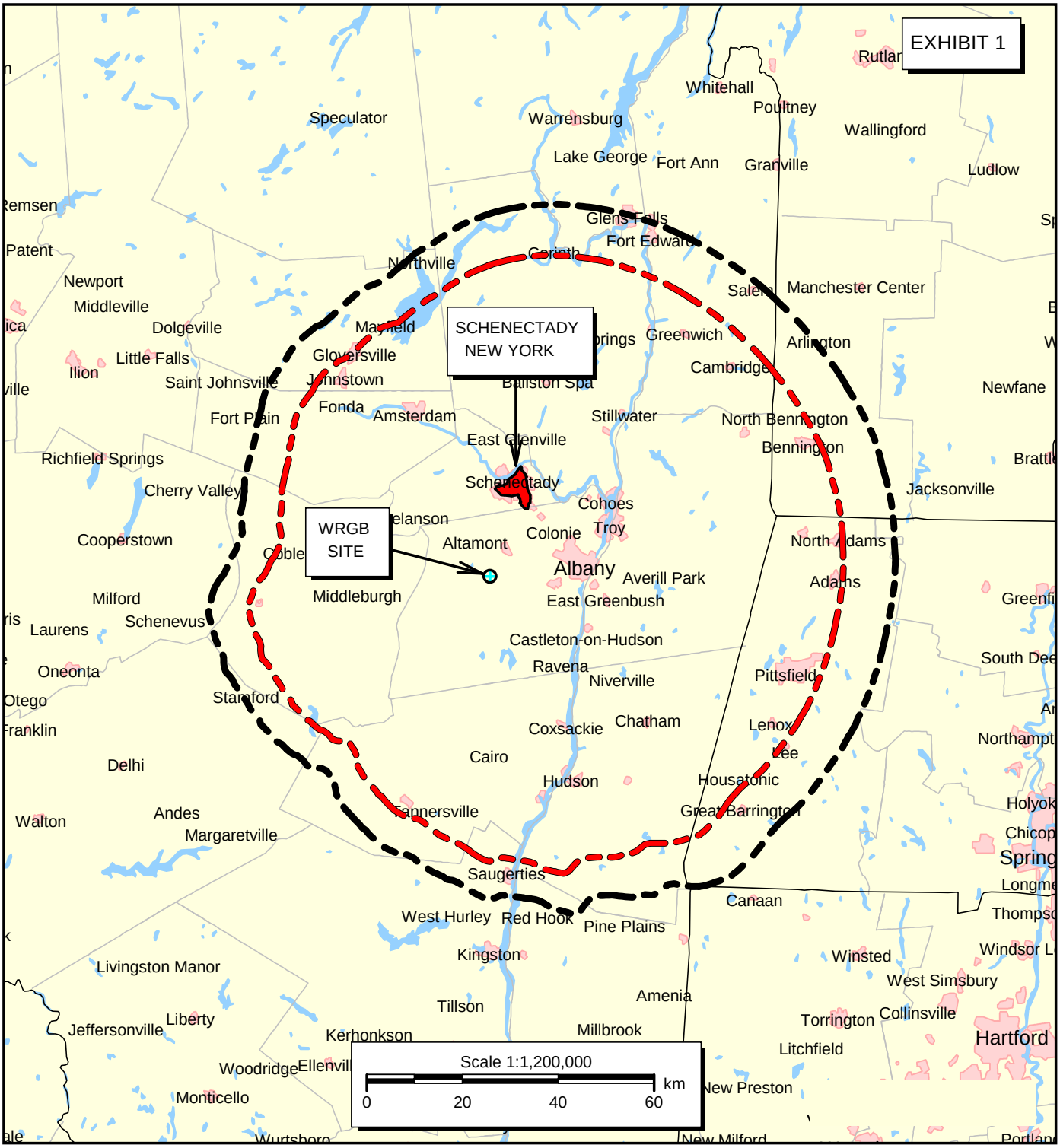
The licensee of WRGB is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WRGB antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

As shown in Appendix A the proposed WRGB channel 35 auxiliary facility, as proposed herein, will operate with a maximum ERP of 40 kW from an elliptically polarized directional transmitting antenna with a centerline height of 86 meters above ground level (AGL). Considering the elevation pattern provided elsewhere in this submission, the vertical plane relative field factor is less than 0.250 at all depression angles greater than 12 degrees. The proposed WRGB channel 35 auxiliary facility is predicted to produce a worst-case power density at two meters above ground level, at 39.2 meters from the tower base, of 5.18 $\mu W/cm^2$, which is 1.30% of the FCC guideline value of 399.33 $\mu W/cm^2$ for an “uncontrolled” environment, and 0.260% of the FCC’s guideline value for "controlled" environments. Therefore, pursuant to Section 1.1307(b)(3) of the FCC Rules, because the proposed facility would not exceed 5% of the uncontrolled and controlled exposure limits, the proposal’s power density contribution is considered insignificant. Further, the Applicant will continue to cooperate/coordinate with other site users and reduce power and/or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

SUMMARY

It is submitted that the instant application for a construction permit to provide an auxiliary DTV facility for WRGB, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: September 29, 2022



PREDICTED COVERAGE CONTOURS

WRGB AUX SCHENECTADY, NY
DTV Channel 35 - 40 kW ERP - 309 M HAAT
SEPTEMBER, 2022

Predicted Noise Limited 40.77 dBu
F(50,90) Coverage Contour

Predicted Principal Community 48 dBu
F(50,90) Coverage Contour

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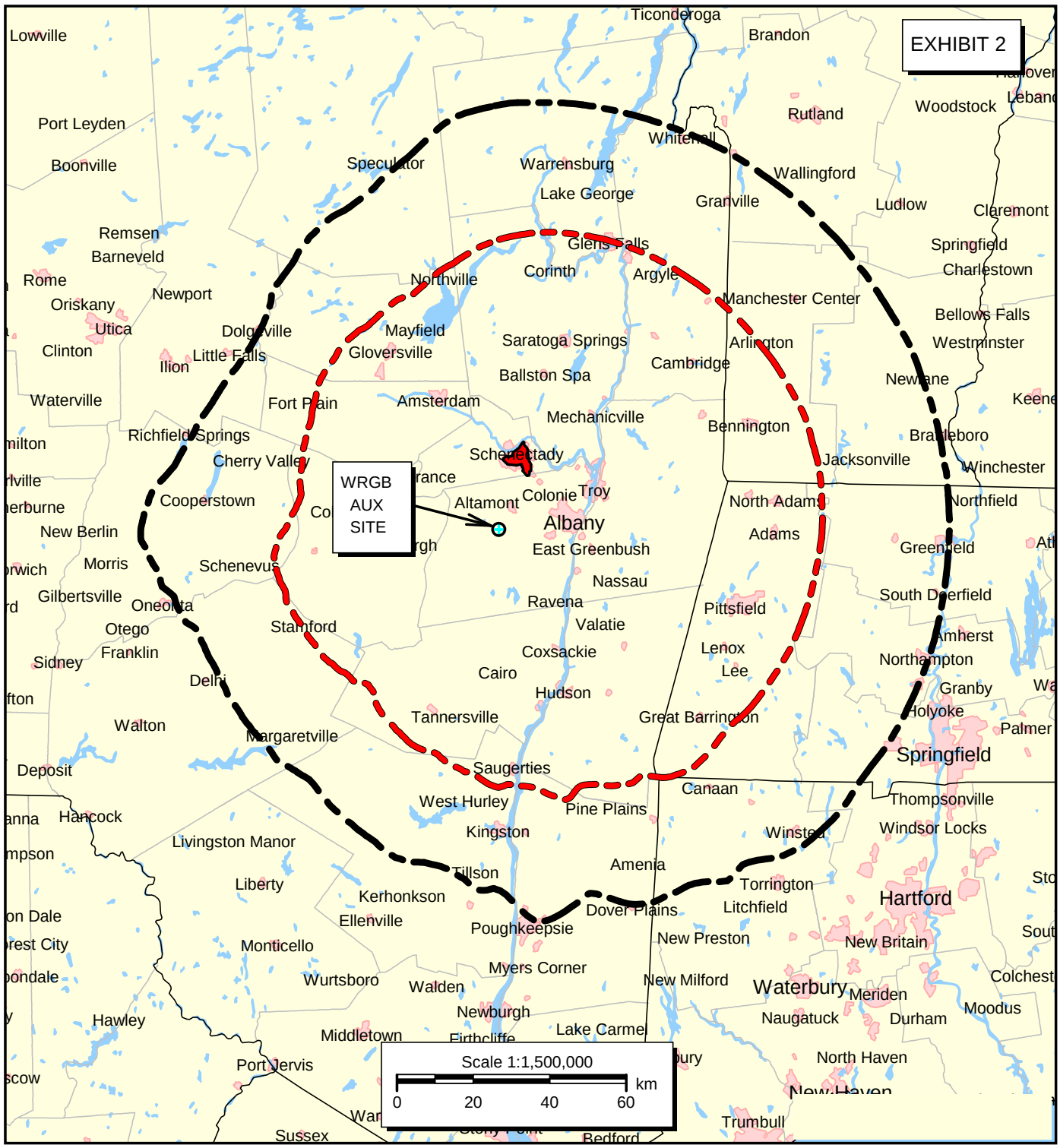

PREDICTED COVERAGE CONTOURS

WRGB MAIN SCHENECTADY, NY
DTV Channel 35 - 1000 kW ERP - 392 M HAAT

WRGB AUX SCHENECTADY, NY
DTV Channel 35 - 40 kW ERP - 309 M HAAT

SEPTEMBER, 2022

Predicted MAIN Noise Limited 40.77 dBu
F(50,90) Coverage Contour

Predicted AUX Noise Limied 40.77 dBu
F(50,90) Coverage Contour

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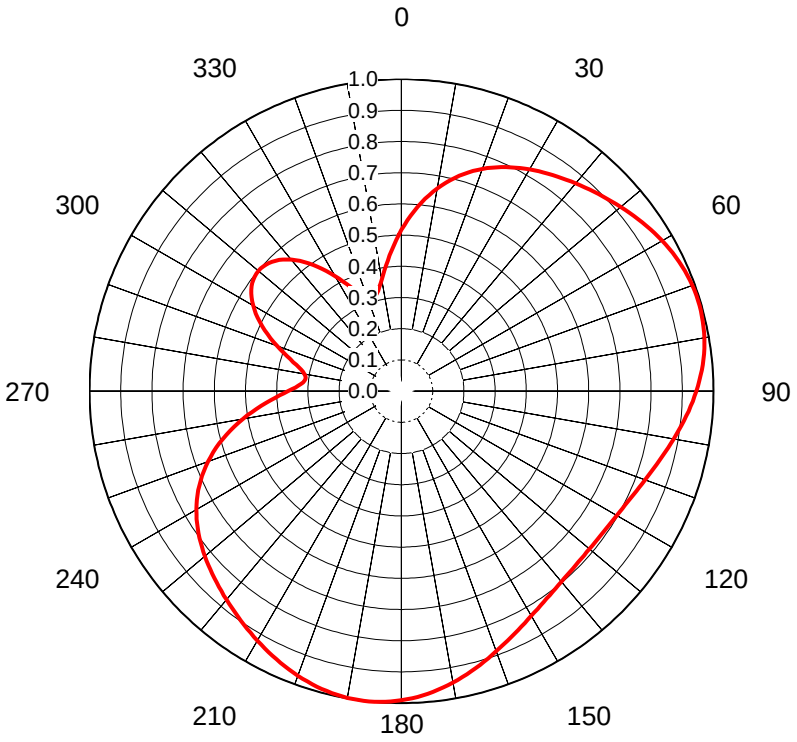

AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	**WRGB-Aux**
Date	**31-Mar-22**
Call Letters	**WRGB**
Channel	**35**
Frequency	**599 MHz**
Antenna Type	**TFU-8WB/VP-R C160**
Gain	**1.69 (2.27dB)**
	Calculated
Pattern Number	**WB-C160-35 Hpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.517	36	0.850	72	0.993	108	0.840	144	0.808	180	0.991	216	0.893	252	0.634	288	0.397	324	0.506
1	0.532	37	0.855	73	0.994	109	0.835	145	0.812	181	0.993	217	0.888	253	0.621	289	0.411	325	0.493
2	0.548	38	0.859	74	0.994	110	0.831	146	0.815	182	0.995	218	0.883	254	0.607	290	0.425	326	0.480
3	0.563	39	0.864	75	0.993	111	0.826	147	0.819	183	0.997	219	0.878	255	0.593	291	0.439	327	0.467
4	0.578	40	0.869	76	0.992	112	0.822	148	0.823	184	0.998	220	0.873	256	0.578	292	0.453	328	0.453
5	0.593	41	0.874	77	0.991	113	0.818	149	0.827	185	0.999	221	0.868	257	0.563	293	0.466	329	0.439
6	0.607	42	0.879	78	0.990	114	0.814	150	0.832	186	1.000	222	0.863	258	0.548	294	0.480	330	0.425
7	0.621	43	0.883	79	0.988	115	0.811	151	0.837	187	1.000	223	0.858	259	0.532	295	0.493	331	0.411
8	0.634	44	0.888	80	0.986	116	0.808	152	0.842	188	1.000	224	0.853	260	0.517	296	0.505	332	0.398
9	0.647	45	0.893	81	0.983	117	0.805	153	0.847	189	0.999	225	0.848	261	0.501	297	0.517	333	0.384
10	0.659	46	0.898	82	0.980	118	0.802	154	0.852	190	0.998	226	0.843	262	0.485	298	0.529	334	0.371
11	0.671	47	0.903	83	0.977	119	0.799	155	0.858	191	0.997	227	0.838	263	0.468	299	0.539	335	0.359
12	0.683	48	0.908	84	0.973	120	0.797	156	0.863	192	0.995	228	0.833	264	0.452	300	0.549	336	0.348
13	0.694	49	0.913	85	0.969	121	0.795	157	0.869	193	0.993	229	0.828	265	0.436	301	0.558	337	0.338
14	0.704	50	0.918	86	0.965	122	0.793	158	0.875	194	0.991	230	0.823	266	0.421	302	0.567	338	0.329
15	0.714	51	0.923	87	0.960	123	0.792	159	0.881	195	0.988	231	0.817	267	0.405	303	0.574	339	0.322
16	0.724	52	0.928	88	0.955	124	0.790	160	0.888	196	0.985	232	0.812	268	0.391	304	0.581	340	0.316
17	0.733	53	0.933	89	0.950	125	0.789	161	0.894	197	0.982	233	0.806	269	0.377	305	0.586	341	0.312
18	0.742	54	0.938	90	0.945	126	0.788	162	0.900	198	0.979	234	0.800	270	0.364	306	0.591	342	0.310
19	0.750	55	0.943	91	0.940	127	0.788	163	0.906	199	0.975	235	0.794	271	0.351	307	0.594	343	0.311
20	0.758	56	0.947	92	0.934	128	0.787	164	0.913	200	0.971	236	0.788	272	0.341	308	0.597	344	0.313
21	0.765	57	0.952	93	0.928	129	0.787	165	0.919	201	0.967	237	0.781	273	0.331	309	0.599	345	0.317
22	0.773	58	0.956	94	0.922	130	0.787	166	0.925	202	0.962	238	0.774	274	0.323	310	0.599	346	0.323
23	0.780	59	0.960	95	0.916	131	0.787	167	0.931	203	0.958	239	0.767	275	0.317	311	0.599	347	0.331
24	0.786	60	0.964	96	0.910	132	0.787	168	0.937	204	0.953	240	0.759	276	0.313	312	0.597	348	0.340
25	0.792	61	0.968	97	0.904	133	0.788	169	0.943	205	0.949	241	0.751	277	0.311	313	0.595	349	0.351
26	0.798	62	0.972	98	0.898	134	0.788	170	0.949	206	0.944	242	0.743	278	0.310	314	0.591	350	0.364
27	0.804	63	0.975	99	0.892	135	0.789	171	0.954	207	0.939	243	0.734	279	0.312	315	0.586	351	0.377
28	0.810	64	0.979	100	0.886	136	0.791	172	0.959	208	0.934	244	0.725	280	0.316	316	0.581	352	0.391
29	0.815	65	0.982	101	0.880	137	0.792	173	0.964	209	0.929	245	0.715	281	0.322	317	0.575	353	0.405
30	0.820	66	0.984	102	0.874	138	0.794	174	0.969	210	0.923	246	0.705	282	0.329	318	0.567	354	0.421
31	0.826	67	0.987	103	0.868	139	0.795	175	0.973	211	0.918	247	0.694	283	0.338	319	0.559	355	0.436
32	0.831	68	0.989	104	0.862	140	0.798	176	0.978	212	0.913	248	0.683	284	0.348	320	0.550	356	0.452
33	0.836	69	0.990	105	0.856	141	0.800	177	0.981	213	0.908	249	0.672	285	0.359	321	0.540	357	0.468
34	0.840	70	0.992	106	0.851	142	0.802	178	0.985	214	0.903	250	0.660	286	0.371	322	0.529	358	0.484
35	0.845	71	0.993	107	0.845	143	0.805	179	0.988	215	0.898	251	0.647	287	0.384	323	0.518	359	0.501

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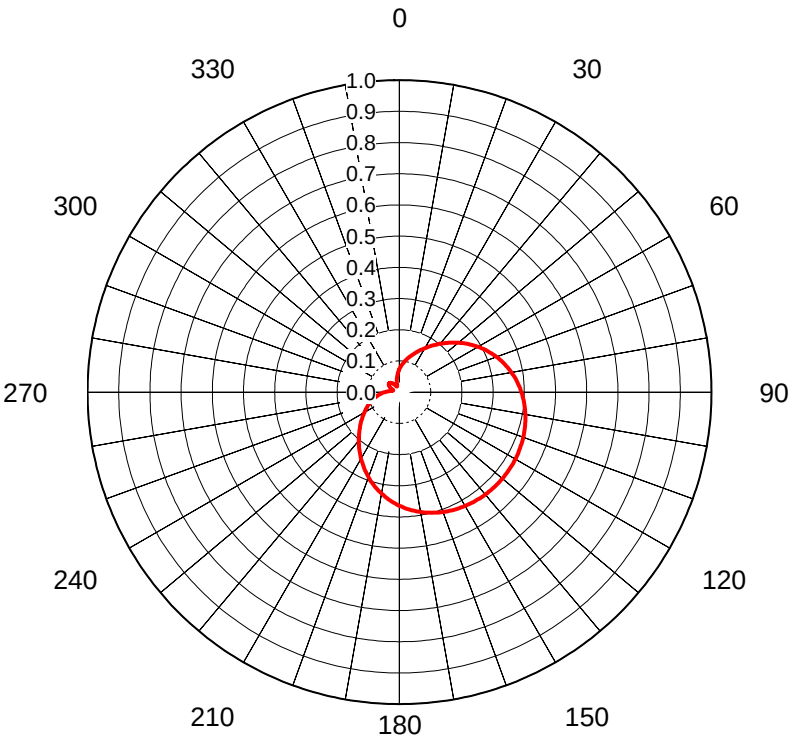

AZIMUTH PATTERN
Verttical Polarization

Proposal No.	**WRGB-Aux**
Date	**31-Mar-22**
Call Letters	**WRGB**
Channel	**35**
Frequency	**599 MHz**
Antenna Type	**TFU-8WB/VP-R C160**
Gain	**2.64 (4.21dB)**
	Calculated
Pattern Number	**WB-C160-35 Vpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.074	36	0.186	72	0.338	108	0.420	144	0.426	180	0.364	216	0.220	252	0.096	288	0.023	324	0.033
1	0.077	37	0.190	73	0.342	109	0.421	145	0.425	181	0.361	217	0.216	253	0.093	289	0.024	325	0.032
2	0.080	38	0.194	74	0.345	110	0.422	146	0.424	182	0.358	218	0.211	254	0.090	290	0.025	326	0.030
3	0.083	39	0.198	75	0.348	111	0.423	147	0.424	183	0.355	219	0.207	255	0.088	291	0.026	327	0.029
4	0.085	40	0.202	76	0.352	112	0.424	148	0.423	184	0.352	220	0.203	256	0.085	292	0.027	328	0.027
5	0.088	41	0.207	77	0.355	113	0.425	149	0.422	185	0.348	221	0.199	257	0.082	293	0.029	329	0.026
6	0.091	42	0.211	78	0.358	114	0.425	150	0.421	186	0.345	222	0.195	258	0.080	294	0.030	330	0.024
7	0.093	43	0.215	79	0.361	115	0.426	151	0.420	187	0.341	223	0.191	259	0.077	295	0.031	331	0.023
8	0.096	44	0.220	80	0.364	116	0.427	152	0.419	188	0.338	224	0.186	260	0.074	296	0.033	332	0.022
9	0.099	45	0.224	81	0.367	117	0.427	153	0.418	189	0.334	225	0.183	261	0.071	297	0.034	333	0.021
10	0.102	46	0.228	82	0.370	118	0.428	154	0.417	190	0.330	226	0.179	262	0.069	298	0.035	334	0.020
11	0.104	47	0.233	83	0.373	119	0.428	155	0.415	191	0.327	227	0.175	263	0.066	299	0.037	335	0.020
12	0.107	48	0.237	84	0.376	120	0.429	156	0.414	192	0.323	228	0.171	264	0.063	300	0.038	336	0.019
13	0.110	49	0.242	85	0.379	121	0.429	157	0.413	193	0.319	229	0.167	265	0.060	301	0.039	337	0.020
14	0.112	50	0.246	86	0.381	122	0.430	158	0.412	194	0.315	230	0.164	266	0.058	302	0.040	338	0.020
15	0.115	51	0.251	87	0.384	123	0.430	159	0.410	195	0.311	231	0.160	267	0.055	303	0.040	339	0.021
16	0.118	52	0.255	88	0.386	124	0.430	160	0.409	196	0.307	232	0.156	268	0.052	304	0.041	340	0.023
17	0.121	53	0.260	89	0.388	125	0.430	161	0.407	197	0.303	233	0.153	269	0.050	305	0.042	341	0.024
18	0.124	54	0.264	90	0.391	126	0.431	162	0.405	198	0.299	234	0.149	270	0.047	306	0.042	342	0.026
19	0.127	55	0.269	91	0.393	127	0.431	163	0.404	199	0.294	235	0.146	271	0.044	307	0.043	343	0.028
20	0.130	56	0.273	92	0.395	128	0.431	164	0.402	200	0.290	236	0.143	272	0.042	308	0.043	344	0.031
21	0.133	57	0.277	93	0.397	129	0.431	165	0.400	201	0.286	237	0.140	273	0.039	309	0.043	345	0.033
22	0.136	58	0.282	94	0.399	130	0.431	166	0.398	202	0.282	238	0.136	274	0.037	310	0.043	346	0.036
23	0.139	59	0.286	95	0.401	131	0.431	167	0.396	203	0.277	239	0.133	275	0.034	311	0.043	347	0.038
24	0.142	60	0.290	96	0.403	132	0.431	168	0.394	204	0.273	240	0.130	276	0.032	312	0.043	348	0.041
25	0.145	61	0.295	97	0.405	133	0.430	169	0.392	205	0.269	241	0.127	277	0.030	313	0.043	349	0.044
26	0.149	62	0.299	98	0.406	134	0.430	170	0.390	206	0.264	242	0.124	278	0.028	314	0.043	350	0.046
27	0.152	63	0.303	99	0.408	135	0.430	171	0.388	207	0.260	243	0.121	279	0.026	315	0.042	351	0.049
28	0.156	64	0.307	100	0.410	136	0.430	172	0.386	208	0.255	244	0.118	280	0.025	316	0.042	352	0.052
29	0.159	65	0.311	101	0.411	137	0.429	173	0.383	209	0.251	245	0.115	281	0.023	317	0.041	353	0.055
30	0.163	66	0.315	102	0.413	138	0.429	174	0.381	210	0.246	246	0.112	282	0.022	318	0.040	354	0.058
31	0.166	67	0.319	103	0.414	139	0.429	175	0.378	211	0.242	247	0.110	283	0.022	319	0.039	355	0.060
32	0.170	68	0.323	104	0.415	140	0.428	176	0.375	212	0.238	248	0.107	284	0.021	320	0.038	356	0.063
33	0.174	69	0.327	105	0.417	141	0.428	177	0.373	213	0.233	249	0.104	285	0.021	321	0.037	357	0.066
34	0.178	70	0.331	106	0.418	142	0.427	178	0.370	214	0.229	250	0.101	286	0.021	322	0.036	358	0.069
35	0.182	71	0.334	107	0.419	143	0.426	179	0.367	215	0.224	251	0.099	287	0.022	323	0.034	359	0.072

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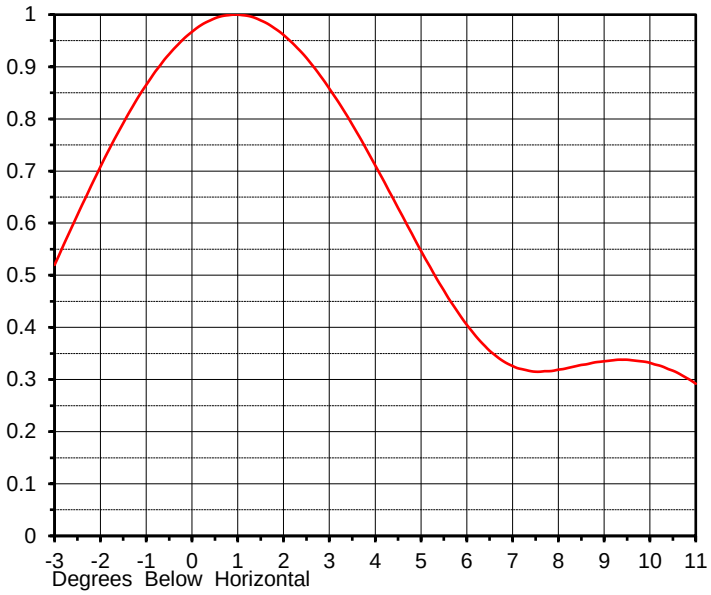
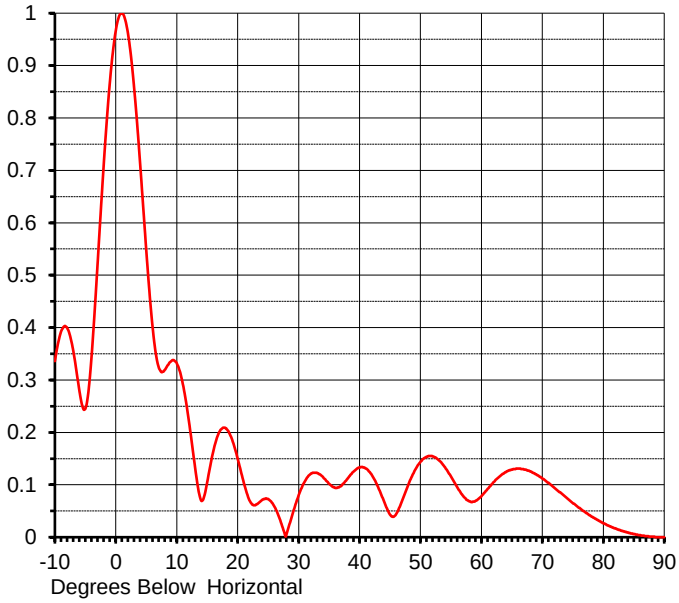
ELEVATION PATTERN

Proposal No.	**WRGB-Aux**
Date	**31-Mar-22**
Call Letters	**WRGB**
Channel	**35**
Frequency	**599 MHz**
Antenna Type	**TFU-8WB/VP-R C160**

RMS Directivity at Main Lobe	**8.0 (9.01 dB)**	Beam Tilt	**1.05 deg**
RMS Directivity at Horizontal	**7.5 (8.75 dB)**	Pattern Number	**08W080105-35**

Calculated





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.336	10.0	0.332	30.0	0.080	50.0	0.144	70.0	0.112
-9.0	0.392	11.0	0.292	31.0	0.106	51.0	0.153	71.0	0.104
-8.0	0.400	12.0	0.221	32.0	0.121	52.0	0.154	72.0	0.094
-7.0	0.357	13.0	0.134	33.0	0.123	53.0	0.147	73.0	0.085
-6.0	0.281	14.0	0.070	34.0	0.115	54.0	0.134	74.0	0.075
-5.0	0.245	15.0	0.105	35.0	0.102	55.0	0.116	75.0	0.065
-4.0	0.342	16.0	0.164	36.0	0.094	56.0	0.096	76.0	0.056
-3.0	0.520	17.0	0.201	37.0	0.098	57.0	0.079	77.0	0.048
-2.0	0.708	18.0	0.208	38.0	0.111	58.0	0.069	78.0	0.040
-1.0	0.865	19.0	0.189	39.0	0.125	59.0	0.069	79.0	0.033
0.0	0.967	20.0	0.150	40.0	0.133	60.0	0.078	80.0	0.027
1.0	1.000	21.0	0.104	41.0	0.131	61.0	0.092	81.0	0.021
2.0	0.961	22.0	0.069	42.0	0.119	62.0	0.105	82.0	0.017
3.0	0.858	23.0	0.062	43.0	0.097	63.0	0.116	83.0	0.012
4.0	0.711	24.0	0.071	44.0	0.069	64.0	0.124	84.0	0.009
5.0	0.547	25.0	0.073	45.0	0.043	65.0	0.129	85.0	0.006
6.0	0.405	26.0	0.059	46.0	0.044	66.0	0.131	86.0	0.004
7.0	0.326	27.0	0.032	47.0	0.070	67.0	0.129	87.0	0.002
8.0	0.319	28.0	0.005	48.0	0.100	68.0	0.126	88.0	0.001
9.0	0.335	29.0	0.044	49.0	0.126	69.0	0.120	89.0	0.000
								90.0	0.000

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WRGB
Channel 35 - Schenectady, New York
ERP = 40000.00 WATTS

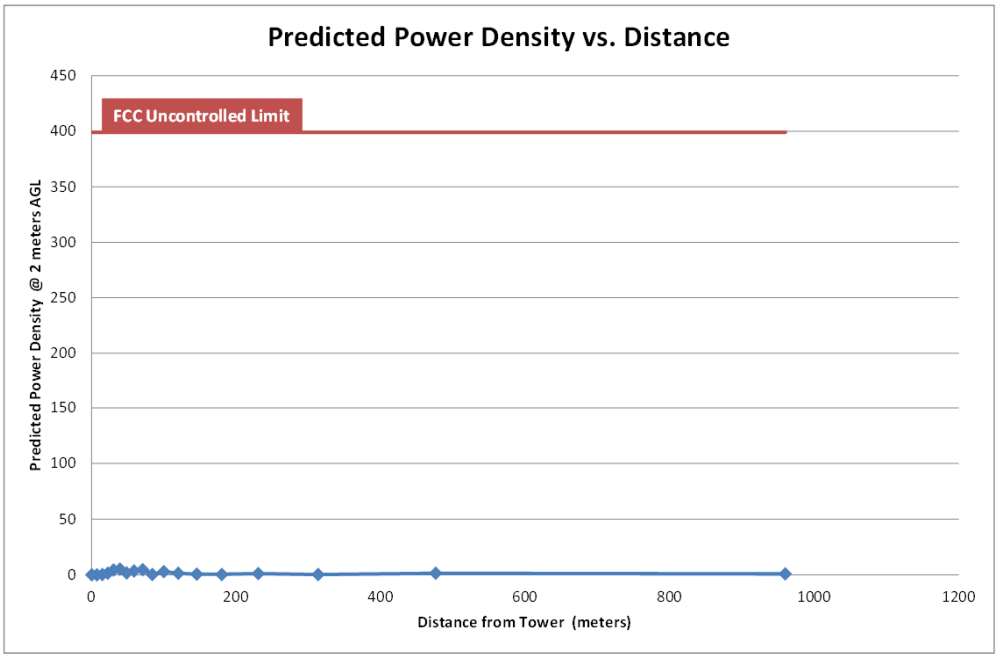
APPENDIX A

Maximum ERP 40 kW

Polarization ----------	2	Circular		
Antenna Height Above Ground --	86	meters	282.2	feet
FCC Uncontrolled RFR Limit ----	399.33	µW/cm²		

Maximum Computed Power Density *5.176* µW/cm²
1.30% of limit

Angle Below Horizontal (degrees)	<Point X> Horiz Distance from tower to 2 m AGL (meters)	Slant Distance from antenna to Point X (meters)	Vertical Pattern (REL. FIELD)	WRGB ERP (kW)	WRGB Calculated Power Density µW/cm²	Percent Limit	Limit Exceeded?
0			1.000	40.0000			
5	960.1	963.8	0.547	11.9684	0.861	0.22%	No
10	476.4	483.7	0.332	4.4090	1.259	0.32%	No
15	313.5	324.6	0.105	0.4410	0.280	0.07%	No
20	230.8	245.6	0.150	0.9000	0.997	0.25%	No
25	180.1	198.8	0.073	0.2132	0.360	0.09%	No
30	145.5	168.0	0.080	0.2560	0.606	0.15%	No
35	120.0	146.4	0.102	0.4162	1.296	0.32%	No
40	100.1	130.7	0.133	0.7076	2.768	0.69%	No
45	84.0	118.8	0.043	0.0740	0.350	0.09%	No
50	70.5	109.7	0.144	0.8294	4.608	1.15%	No
55	58.8	102.5	0.116	0.5382	3.419	0.86%	No
60	48.5	97.0	0.078	0.2434	1.728	0.43%	No
65	39.2	92.7	0.129	0.6656	5.176	1.30%	No
70	30.6	89.4	0.112	0.5018	4.195	1.05%	No
75	22.5	87.0	0.065	0.1690	1.493	0.37%	No
80	14.8	85.3	0.027	0.0292	0.268	0.07%	No
85	7.3	84.3	0.006	0.0014	0.014	0.00%	No
90	0.0	84.0	0.000	0.0000	0.000	0.00%	No



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