Consulting Engineers
CTJC
CARL T. JONES CORPORATION

STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF A REQUEST FOR
STA TO OPERATE USING A TEMPORARY
INTERIM FACILITY FOR TRANSITION PENDING
COMPLETION OF ITS PERMANENT FACILITY
WYDO - GREENVILLE, NORTH CAROLINA
DTV - CH. 19 - 146 kW - 123.1 m HAAT

Prepared for: New Bern (WYDO-TV) Licensee, Inc.

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 New Bern (WYDO-TV) Licensee, Inc., licensee of WYDO, channel 19, facility ID number 35582, licensed to Greenville, North Carolina, to prepare this statement, and associated exhibits in support of a request for STA to operate using an interim antenna to facilitate the installation of its permanent authorized post transition facility. The instant STA will allow WYDO to commence operation on its post transition channel 19 using the proposed interim antenna. WYDO's permanent channel 19 facility will be completed as authorized by construction permit file number 0000034494. The proposed interim ERP is 146 kW and the interim HAAT is 123.1 meters.

DIRECTIONAL ANTENNA

The applicant intends to install a Dielectric model TFU-16WB/VP-R C160 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 122 meters, and a height above average terrain of 123.1 meters. The antenna manufacturer's directional horizontal plane azimuth radiation pattern of both the horizontal and vertical signal components, and the vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane are all shown and tabulated in the antenna exhibits submitted herein.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours 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 (39.25 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour encompasses the majority of the area of the principal community of license, Greenville, North Carolina. Exhibit 1 also shows that the predicted STA Noise Limited Contour is contained wholly within WYDO's authorized Noise Limited Contour.

RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE

The licensee of WYDO is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WYDO antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

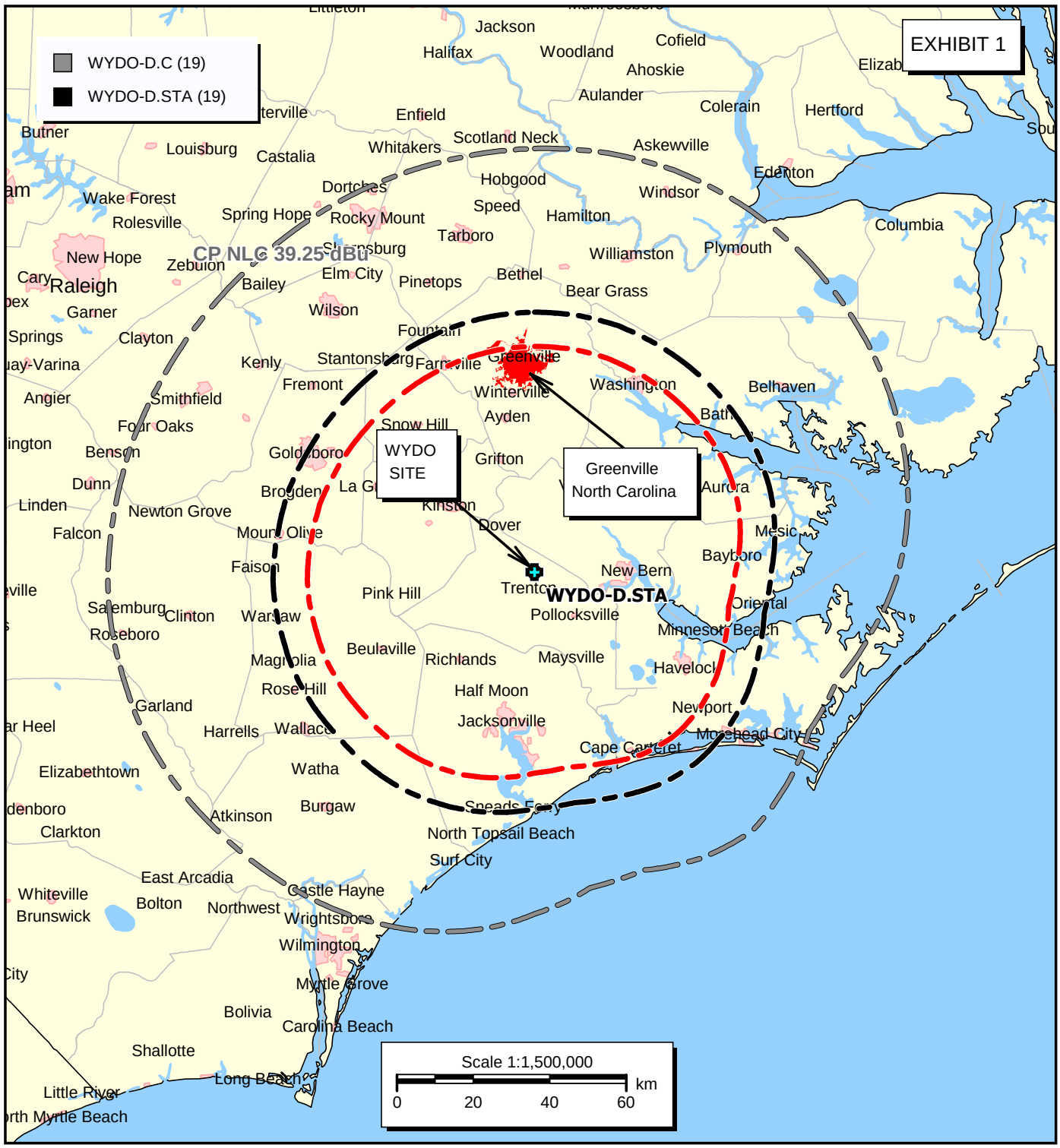
The proposed WYDO channel 19 post-transition STA facility will operate with a maximum ERP of 146 kW from an elliptically polarized directional transmitting antenna with a centerline height of 122 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WYDO facility is predicted to produce a worst-case power density at two meters above ground level of 30.486 $\mu W/cm^2$, which is 9.09% of the FCC guideline value of 335.33 $\mu W/cm^2$ for an “uncontrolled” environment, and 1.810% of the FCC’s guideline value for "controlled" environments. There is one other DTV facility to be located at the WYDO site. The total accumulated predicted power density at two meters above ground level of 30.792 $\mu W/cm^2$, which is 9.24% of the FCC guideline value of 335.33 $\mu W/cm^2$ for an “uncontrolled” environment, and 1.848% of the FCC’s guideline value for "controlled" environments. (See Appendix A)

Further, the applicant will continue to cooperate and coordinate with other any other site users and reduce power 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 STA request will allow WYDO to commence its broadcast operation on its post-transition channel 19 using the proposed interim antenna and facility until its permanent facility, as authorized by construction permit file number 0000034494, is completed and ready for operation. It is also submitted that the requested STA, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement 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: December 9, 2019



PREDICTED COVERAGE CONTOURS

WYDO-D STA - GREENVILLE, NORTH CAROLINA
DTV Channel 19 - 146 kW ERP - 123.1 M HAAT
DEC, 2019

Predicted Noise Limited 39.25 dBu
F(50,90) Coverage Contour

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

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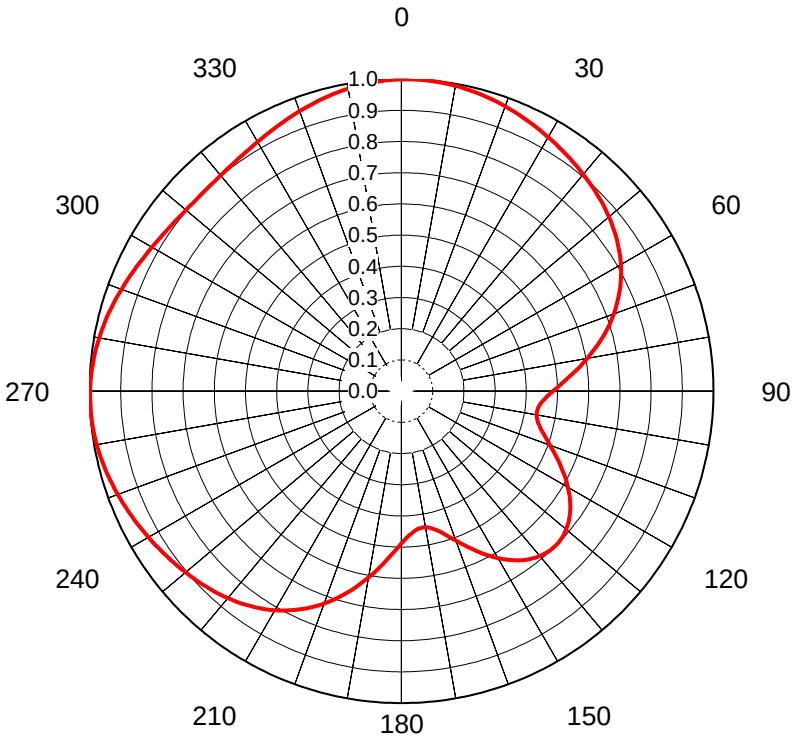
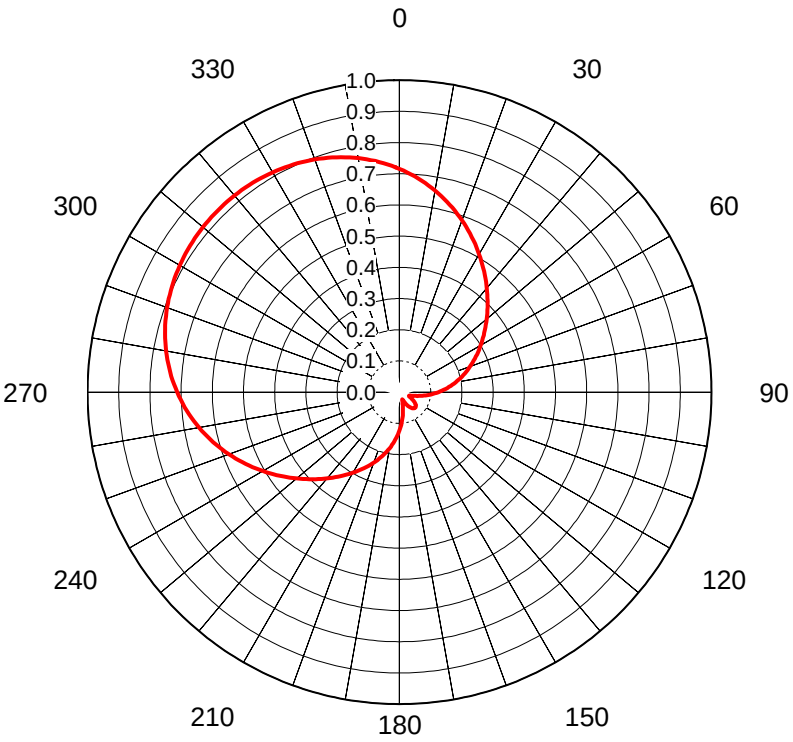


AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	**WYDO STA**
Date	**6-Dec-19**
Call Letters	**WYDO**
Channel	**19**
Frequency	**503 MHz**
Antenna Type	**TFU-16WB/VP-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	Deg	Value
0	0.999	36	0.920	72	0.702	108	0.487	144	0.669	180	0.488	216	0.847	252	0.974	288	0.961	324	0.908
1	1.000	37	0.917	73	0.691	109	0.496	145	0.662	181	0.498	217	0.852	253	0.976	289	0.958	325	0.910
2	1.000	38	0.913	74	0.679	110	0.506	146	0.654	182	0.509	218	0.857	254	0.979	290	0.955	326	0.913
3	1.000	39	0.910	75	0.667	111	0.517	147	0.646	183	0.520	219	0.862	255	0.981	291	0.952	327	0.915
4	1.000	40	0.907	76	0.655	112	0.528	148	0.637	184	0.531	220	0.866	256	0.984	292	0.948	328	0.917
5	0.999	41	0.903	77	0.643	113	0.539	149	0.628	185	0.543	221	0.870	257	0.986	293	0.945	329	0.920
6	0.999	42	0.900	78	0.630	114	0.550	150	0.618	186	0.556	222	0.875	258	0.988	294	0.942	330	0.923
7	0.998	43	0.896	79	0.617	115	0.562	151	0.608	187	0.568	223	0.879	259	0.990	295	0.939	331	0.926
8	0.997	44	0.892	80	0.605	116	0.573	152	0.597	188	0.581	224	0.882	260	0.992	296	0.935	332	0.929
9	0.995	45	0.889	81	0.592	117	0.584	153	0.587	189	0.593	225	0.886	261	0.993	297	0.932	333	0.932
10	0.994	46	0.885	82	0.579	118	0.595	154	0.576	190	0.606	226	0.890	262	0.994	298	0.929	334	0.935
11	0.992	47	0.881	83	0.566	119	0.606	155	0.565	191	0.619	227	0.893	263	0.996	299	0.926	335	0.938
12	0.991	48	0.877	84	0.554	120	0.616	156	0.553	192	0.631	228	0.897	264	0.997	300	0.923	336	0.941
13	0.989	49	0.873	85	0.541	121	0.626	157	0.542	193	0.644	229	0.900	265	0.997	301	0.920	337	0.945
14	0.986	50	0.868	86	0.529	122	0.635	158	0.531	194	0.656	230	0.904	266	0.998	302	0.918	338	0.948
15	0.984	51	0.864	87	0.518	123	0.644	159	0.520	195	0.668	231	0.907	267	0.998	303	0.915	339	0.951
16	0.982	52	0.859	88	0.506	124	0.652	160	0.510	196	0.680	232	0.910	268	0.998	304	0.913	340	0.955
17	0.979	53	0.854	89	0.496	125	0.660	161	0.500	197	0.692	233	0.914	269	0.998	305	0.911	341	0.958
18	0.977	54	0.849	90	0.486	126	0.667	162	0.490	198	0.703	234	0.917	270	0.998	306	0.909	342	0.961
19	0.974	55	0.843	91	0.476	127	0.674	163	0.481	199	0.714	235	0.920	271	0.998	307	0.907	343	0.965
20	0.971	56	0.837	92	0.468	128	0.680	164	0.473	200	0.724	236	0.924	272	0.997	308	0.905	344	0.968
21	0.968	57	0.832	93	0.460	129	0.685	165	0.465	201	0.735	237	0.927	273	0.996	309	0.904	345	0.971
22	0.965	58	0.825	94	0.454	130	0.689	166	0.459	202	0.745	238	0.930	274	0.995	310	0.903	346	0.974
23	0.962	59	0.819	95	0.448	131	0.693	167	0.453	203	0.754	239	0.933	275	0.993	311	0.902	347	0.977
24	0.959	60	0.812	96	0.444	132	0.696	168	0.449	204	0.763	240	0.937	276	0.992	312	0.901	348	0.979
25	0.956	61	0.805	97	0.441	133	0.698	169	0.445	205	0.772	241	0.940	277	0.990	313	0.900	349	0.982
26	0.953	62	0.797	98	0.439	134	0.699	170	0.443	206	0.781	242	0.943	278	0.988	314	0.900	350	0.985
27	0.950	63	0.789	99	0.439	135	0.699	171	0.442	207	0.789	243	0.946	279	0.986	315	0.900	351	0.987
28	0.946	64	0.781	100	0.440	136	0.699	172	0.443	208	0.797	244	0.950	280	0.984	316	0.900	352	0.989
29	0.943	65	0.772	101	0.442	137	0.698	173	0.445	209	0.804	245	0.953	281	0.982	317	0.900	353	0.991
30	0.940	66	0.763	102	0.445	138	0.696	174	0.447	210	0.811	246	0.956	282	0.979	318	0.901	354	0.993
31	0.937	67	0.754	103	0.449	139	0.693	175	0.452	211	0.818	247	0.959	283	0.976	319	0.901	355	0.994
32	0.933	68	0.744	104	0.455	140	0.690	176	0.457	212	0.824	248	0.962	284	0.974	320	0.902	356	0.996
33	0.930	69	0.734	105	0.462	141	0.686	177	0.463	213	0.830	249	0.965	285	0.971	321	0.904	357	0.997
34	0.927	70	0.724	106	0.469	142	0.681	178	0.471	214	0.836	250	0.968	286	0.968	322	0.905	358	0.998
35	0.923	71	0.713	107	0.477	143	0.675	179	0.479	215	0.842	251	0.971	287	0.965	323	0.907	359	0.999



AZIMUTH PATTERN
Verttical Polarization

Proposal No.	**WYDO STA**
Date	**6-Dec-19**
Call Letters	**WYDO**
Channel	**19**
Frequency	**503 MHz**
Antenna Type	**TFU-16WB/VP-R C160**
Gain	**2.65 (4.23dB)**
	Calculated
Pattern Number	**WB-C160-19 Vpol**

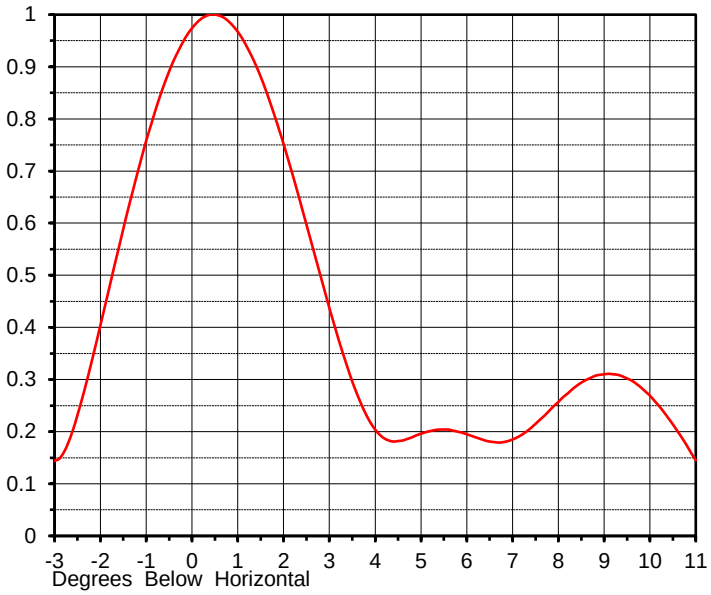
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.716	36	0.465	72	0.229	108	0.036	144	0.061	180	0.123	216	0.335	252	0.596	288	0.787	324	0.820
1	0.710	37	0.458	73	0.224	109	0.034	145	0.059	181	0.129	217	0.341	253	0.604	289	0.790	325	0.819
2	0.705	38	0.450	74	0.218	110	0.033	146	0.057	182	0.135	218	0.348	254	0.611	290	0.793	326	0.818
3	0.699	39	0.443	75	0.212	111	0.032	147	0.055	183	0.141	219	0.354	255	0.618	291	0.795	327	0.817
4	0.693	40	0.435	76	0.206	112	0.033	148	0.052	184	0.147	220	0.361	256	0.625	292	0.798	328	0.816
5	0.687	41	0.428	77	0.200	113	0.034	149	0.049	185	0.153	221	0.368	257	0.632	293	0.800	329	0.815
6	0.681	42	0.421	78	0.195	114	0.035	150	0.046	186	0.159	222	0.374	258	0.639	294	0.802	330	0.813
7	0.675	43	0.414	79	0.189	115	0.037	151	0.044	187	0.165	223	0.381	259	0.646	295	0.804	331	0.812
8	0.669	44	0.406	80	0.183	116	0.039	152	0.041	188	0.171	224	0.388	260	0.652	296	0.806	332	0.810
9	0.662	45	0.399	81	0.177	117	0.042	153	0.038	189	0.177	225	0.395	261	0.659	297	0.808	333	0.809
10	0.656	46	0.392	82	0.171	118	0.044	154	0.035	190	0.182	226	0.402	262	0.665	298	0.810	334	0.807
11	0.649	47	0.385	83	0.166	119	0.047	155	0.032	191	0.188	227	0.409	263	0.672	299	0.812	335	0.805
12	0.643	48	0.378	84	0.160	120	0.049	156	0.029	192	0.194	228	0.416	264	0.678	300	0.813	336	0.803
13	0.636	49	0.372	85	0.154	121	0.052	157	0.027	193	0.200	229	0.423	265	0.684	301	0.814	337	0.801
14	0.629	50	0.365	86	0.148	122	0.054	158	0.026	194	0.206	230	0.430	266	0.690	302	0.816	338	0.799
15	0.622	51	0.358	87	0.142	123	0.057	159	0.025	195	0.211	231	0.438	267	0.696	303	0.817	339	0.796
16	0.615	52	0.351	88	0.136	124	0.059	160	0.025	196	0.217	232	0.445	268	0.702	304	0.818	340	0.794
17	0.608	53	0.345	89	0.130	125	0.061	161	0.027	197	0.223	233	0.453	269	0.707	305	0.819	341	0.791
18	0.601	54	0.338	90	0.125	126	0.063	162	0.029	198	0.229	234	0.460	270	0.713	306	0.820	342	0.788
19	0.593	55	0.332	91	0.119	127	0.064	163	0.032	199	0.234	235	0.468	271	0.718	307	0.821	343	0.785
20	0.586	56	0.325	92	0.113	128	0.066	164	0.035	200	0.240	236	0.475	272	0.723	308	0.821	344	0.782
21	0.579	57	0.319	93	0.107	129	0.067	165	0.040	201	0.246	237	0.483	273	0.728	309	0.822	345	0.779
22	0.571	58	0.313	94	0.102	130	0.068	166	0.044	202	0.252	238	0.490	274	0.733	310	0.823	346	0.776
23	0.564	59	0.307	95	0.096	131	0.069	167	0.049	203	0.257	239	0.498	275	0.738	311	0.823	347	0.773
24	0.556	60	0.300	96	0.090	132	0.070	168	0.054	204	0.263	240	0.506	276	0.743	312	0.823	348	0.769
25	0.549	61	0.294	97	0.085	133	0.071	169	0.059	205	0.269	241	0.513	277	0.747	313	0.824	349	0.765
26	0.541	62	0.288	98	0.079	134	0.071	170	0.065	206	0.275	242	0.521	278	0.751	314	0.824	350	0.762
27	0.533	63	0.282	99	0.074	135	0.071	171	0.070	207	0.281	243	0.529	279	0.756	315	0.824	351	0.758
28	0.526	64	0.276	100	0.069	136	0.071	172	0.076	208	0.286	244	0.536	280	0.760	316	0.824	352	0.754
29	0.518	65	0.270	101	0.064	137	0.070	173	0.082	209	0.292	245	0.544	281	0.764	317	0.824	353	0.749
30	0.511	66	0.264	102	0.059	138	0.070	174	0.087	210	0.298	246	0.552	282	0.767	318	0.823	354	0.745
31	0.503	67	0.258	103	0.054	139	0.069	175	0.093	211	0.304	247	0.559	283	0.771	319	0.823	355	0.740
32	0.495	68	0.253	104	0.050	140	0.068	176	0.099	212	0.310	248	0.567	284	0.774	320	0.823	356	0.736
33	0.488	69	0.247	105	0.046	141	0.067	177	0.105	213	0.316	249	0.574	285	0.778	321	0.822	357	0.731
34	0.480	70	0.241	106	0.042	142	0.065	178	0.111	214	0.323	250	0.582	286	0.781	322	0.822	358	0.726
35	0.473	71	0.235	107	0.039	143	0.063	179	0.117	215	0.329	251	0.589	287	0.784	323	0.821	359	0.721

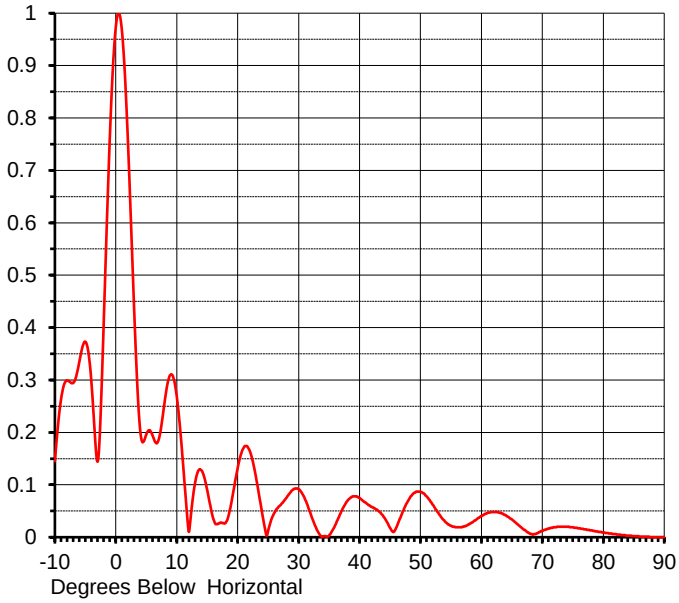
ELEVATION PATTERN

Proposal No.	**WYDO STA**
Date	**6-Dec-19**
Call Letters	**WYDO**
Channel	**19**
Frequency	**503 MHz**
Antenna Type	**TFU-16WB/VP-R C160**

RMS Directivity at Main Lobe	**14.1 (11.50 dB)**	Beam Tilt	**0.55 deg**
RMS Directivity at Horizontal	**13.4 (11.27 dB)**	Pattern Number	**16W141055-19**

Calculated





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.145	10.0	0.269	30.0	0.092	50.0	0.087	70.0	0.012
-9.0	0.262	11.0	0.145	31.0	0.074	51.0	0.078	71.0	0.016
-8.0	0.299	12.0	0.010	32.0	0.044	52.0	0.062	72.0	0.019
-7.0	0.294	13.0	0.103	33.0	0.014	53.0	0.045	73.0	0.020
-6.0	0.334	14.0	0.128	34.0	0.001	54.0	0.030	74.0	0.020
-5.0	0.373	15.0	0.090	35.0	0.003	55.0	0.022	75.0	0.019
-4.0	0.295	16.0	0.035	36.0	0.023	56.0	0.019	76.0	0.017
-3.0	0.144	17.0	0.027	37.0	0.049	57.0	0.020	77.0	0.015
-2.0	0.404	18.0	0.027	38.0	0.069	58.0	0.025	78.0	0.013
-1.0	0.758	19.0	0.068	39.0	0.078	59.0	0.032	79.0	0.011
0.0	0.974	20.0	0.132	40.0	0.075	60.0	0.040	80.0	0.009
1.0	0.967	21.0	0.171	41.0	0.066	61.0	0.046	81.0	0.007
2.0	0.752	22.0	0.164	42.0	0.058	62.0	0.048	82.0	0.006
3.0	0.437	23.0	0.115	43.0	0.051	63.0	0.047	83.0	0.004
4.0	0.204	24.0	0.047	44.0	0.038	64.0	0.042	84.0	0.003
5.0	0.196	25.0	0.012	45.0	0.018	65.0	0.034	85.0	0.002
6.0	0.195	26.0	0.046	46.0	0.018	66.0	0.024	86.0	0.001
7.0	0.185	27.0	0.061	47.0	0.046	67.0	0.014	87.0	0.001
8.0	0.257	28.0	0.075	48.0	0.070	68.0	0.007	88.0	0.000
9.0	0.310	29.0	0.090	49.0	0.085	69.0	0.007	89.0	0.000
								90.0	0.000

APPENDIX A

SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WYDO

Greenville, North Carolina

December 9, 2019

CALL	SERVICE	CHANNEL	FREQUENCY	POLAR-IZATION	ANTENNA HEIGHT	ERP (kW)	VERT. RELATIVE FIELD FACTOR	WORST-CASE PREDICTED POWER DENSITY (μW/cm²)	FCC UNCONTROLLED LIMIT (μW/cm²)	*PERCENT OF UNCONTROLLED LIMIT*
WYDO	DT	19	503	H & V	122	146.000	0.300	30.486	335.33	*9.09%*
WCTI-TV	DT	10	195	H & V	581.6	34.200	0.300	0.306	200.00	*0.15%*

TOTAL PERCENTAGE OF FCC GUIDELINE VALUE = *9.24%*

* *For television stations a very conservative vertical relative field factor of 0.3 was assumed pursuant to OET Bulletin 65.*

Consulting Engineers
CTJC
CARL T. JONES CORPORATION

ERROR: undefined
OFFENDING COMMAND:

STACK: