

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of JACKSONVILLE EDUCATORS BROADCASTING, INC., licensee of full-power digital television station WTCE-DT, Channel 38 in Fort Pierce, Florida, in support of its Application for Construction Permit to specify operation on its post-repack channel, Channel 18. No change in site location, antenna azimuth pattern or antenna height is proposed herein.

It is proposed to mount an ERI directional horizontally-polarized slotted cylinder antenna at the 295-meter level of the existing 312-meter tower on which the present WTCE-DT antenna is mounted. The proposed effective radiated power for the facility is 649 kW, which is the allotted repack power level for WTCE-DT. Exhibit B is a map upon which the predicted service contours are plotted. As shown, the community of Fort Pierce is completely encompassed by the proposed 48 dBu city-grade service contour.

Azimuth and elevation pattern information for the proposed antenna are provided in Exhibit C. Since the facility proposed herein essentially specifies the repack allotment facility assigned to WTCE-DT, no interference study is included herein. A power density calculation appears as Exhibit D.

Since no change in the overall height or location of the existing WTCE-DT tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1018573 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read 'K. T. Fisher', with a stylized, elongated final letter.

KEVIN T. FISHER

May 22, 2017

CONTOUR POPULATION
2015 U.S. CENSUS DATA
CITY-GRADE : 2,033,877 (980,142 HH)
NOISE-LIMITED : 2,788,146 (1,330,972 HH)

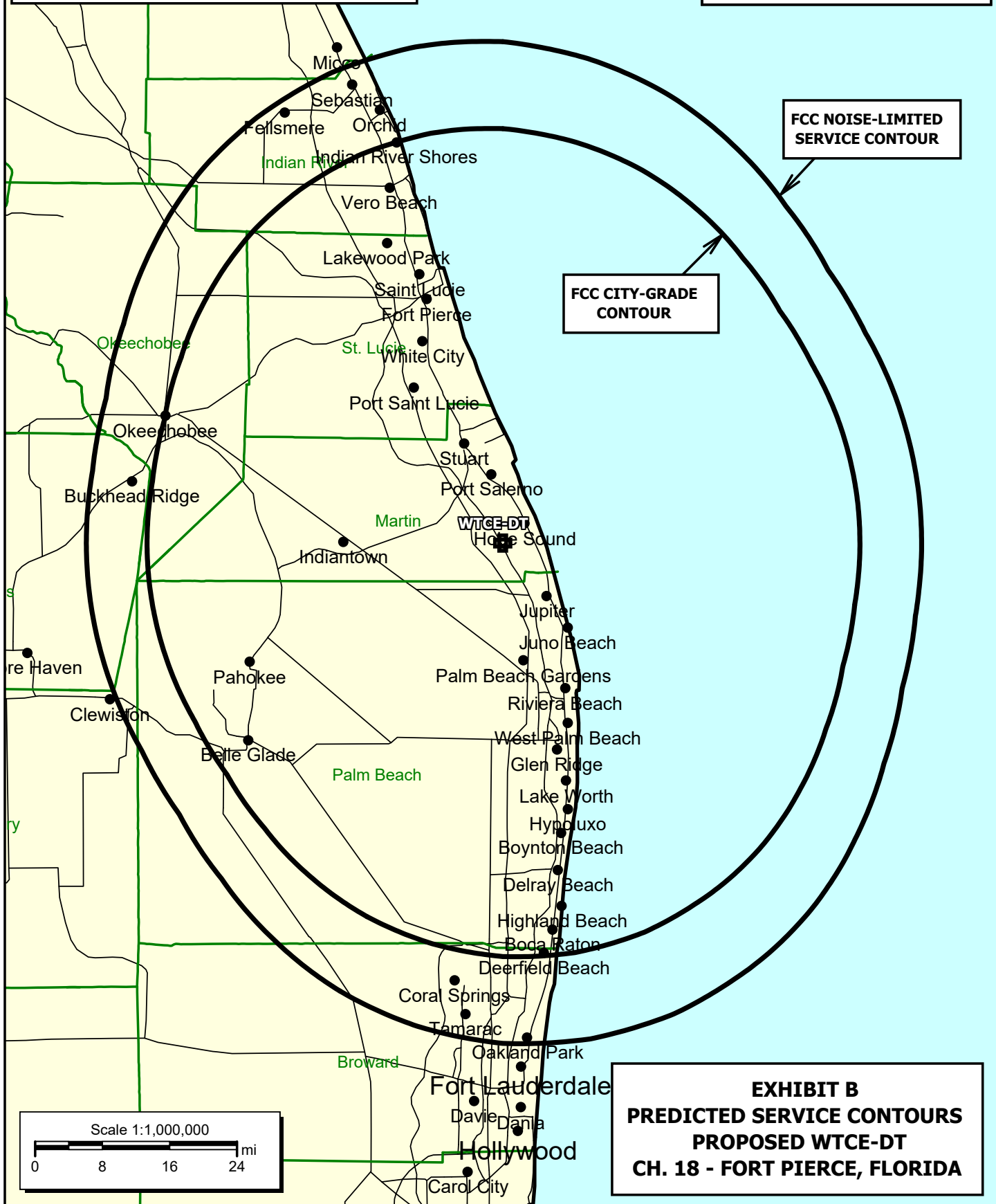


EXHIBIT B
PREDICTED SERVICE CONTOURS
PROPOSED WTCE-DT
CH. 18 - FORT PIERCE, FLORIDA

Specification Number: 20170227-647

Model: ATW22H3-HTPX-18H Page 6

Azimuth Pattern

Type: ATW-PX

Polarization:

Horizontal

Directivity: 2.30 numeric (3.62 dB)

Frequency:

18 (ATSC)

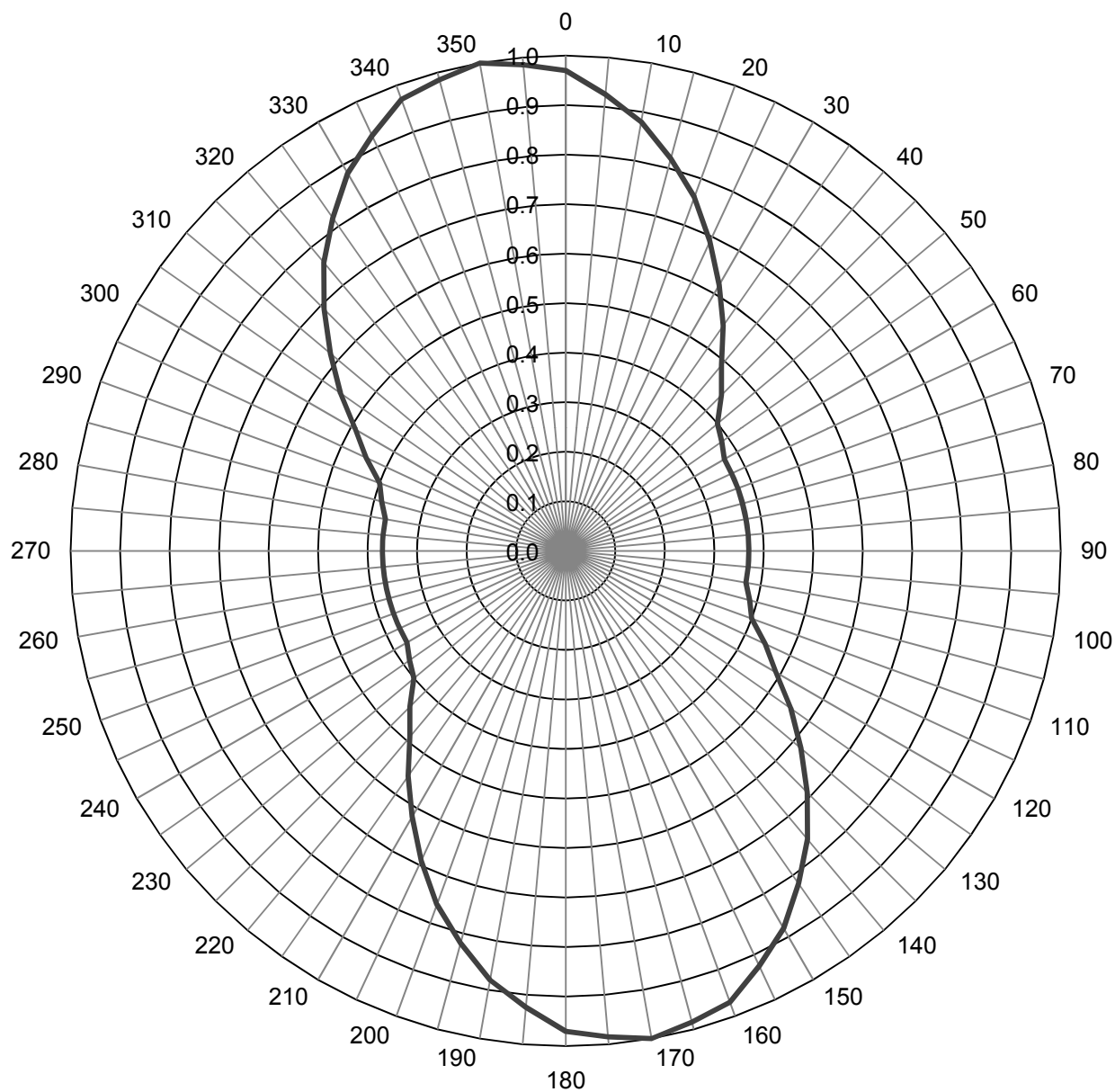
Peak(s) at:

Location:

Fort Pierce, FL

NOTE: Pattern shape and directivity may vary with channel and mounting configuration.

Relative Field



Tabulated Data for Azimuth Pattern

Type: ATW-PX

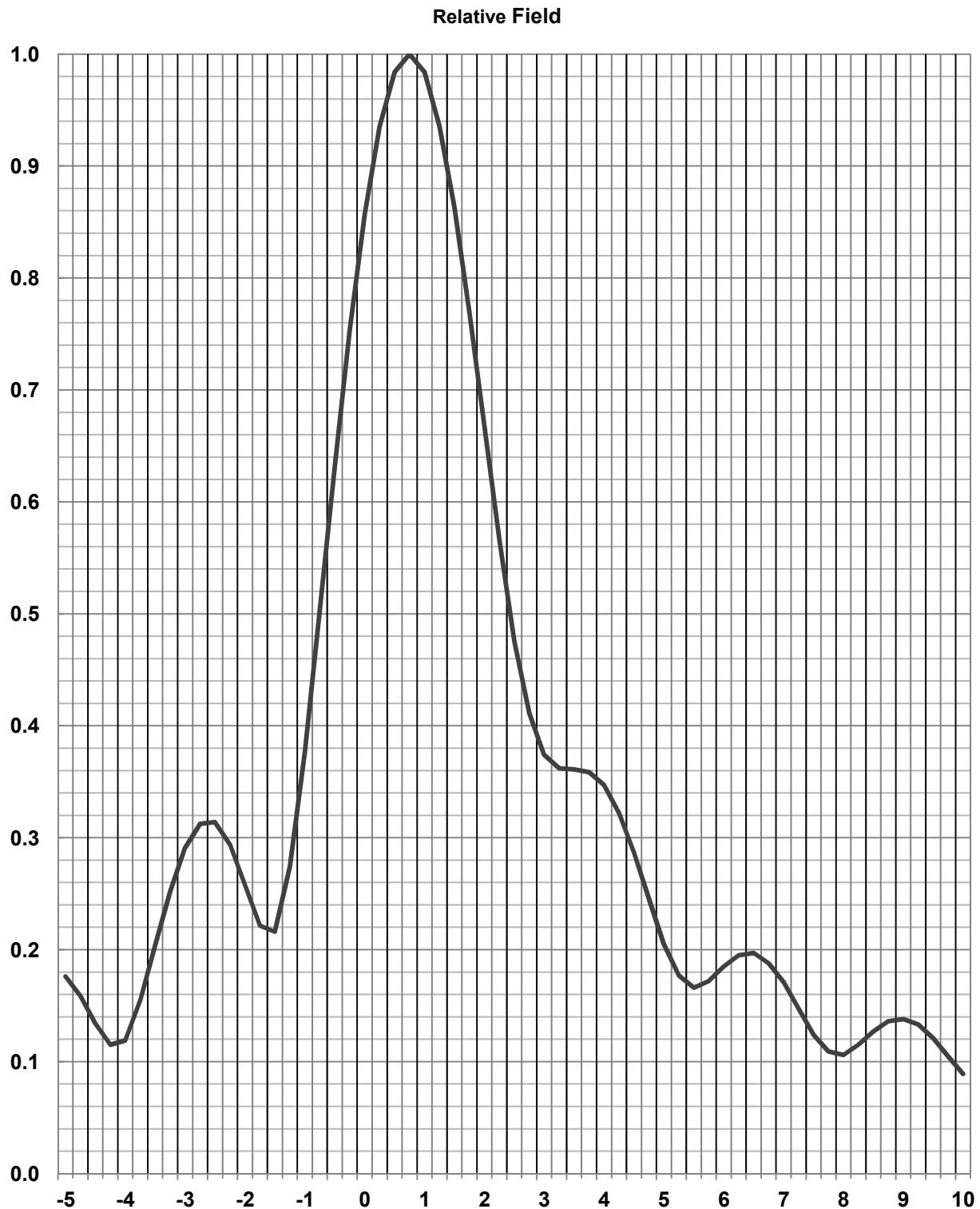
Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
0	0.970	-0.26	100	0.370	-8.64	200	0.760	-2.38	300	0.490	-6.20
2	0.952	-0.43	102	0.376	-8.50	202	0.732	-2.71	302	0.516	-5.75
4	0.934	-0.59	104	0.382	-8.36	204	0.704	-3.05	304	0.542	-5.32
6	0.916	-0.76	106	0.388	-8.22	206	0.676	-3.40	306	0.568	-4.91
8	0.898	-0.93	108	0.394	-8.09	208	0.648	-3.77	308	0.594	-4.52
10	0.880	-1.11	110	0.400	-7.96	210	0.620	-4.15	310	0.620	-4.15
12	0.856	-1.35	112	0.418	-7.58	212	0.594	-4.52	312	0.648	-3.77
14	0.832	-1.60	114	0.436	-7.21	214	0.568	-4.91	314	0.676	-3.40
16	0.808	-1.85	116	0.454	-6.86	216	0.542	-5.32	316	0.704	-3.05
18	0.784	-2.11	118	0.472	-6.52	218	0.516	-5.75	318	0.732	-2.71
20	0.760	-2.38	120	0.490	-6.20	220	0.490	-6.20	320	0.760	-2.38
22	0.732	-2.71	122	0.516	-5.75	222	0.472	-6.52	322	0.784	-2.11
24	0.704	-3.05	124	0.542	-5.32	224	0.454	-6.86	324	0.808	-1.85
26	0.676	-3.40	126	0.568	-4.91	226	0.436	-7.21	326	0.832	-1.60
28	0.648	-3.77	128	0.594	-4.52	228	0.418	-7.58	328	0.856	-1.35
30	0.620	-4.15	130	0.620	-4.15	230	0.400	-7.96	330	0.880	-1.11
32	0.594	-4.52	132	0.648	-3.77	232	0.394	-8.09	332	0.898	-0.93
34	0.568	-4.91	134	0.676	-3.40	234	0.388	-8.22	334	0.916	-0.76
36	0.542	-5.32	136	0.704	-3.05	236	0.382	-8.36	336	0.934	-0.59
38	0.516	-5.75	138	0.732	-2.71	238	0.376	-8.50	338	0.952	-0.43
40	0.490	-6.20	140	0.760	-2.38	240	0.370	-8.64	340	0.970	-0.26
42	0.472	-6.52	142	0.784	-2.11	242	0.370	-8.64	342	0.976	-0.21
44	0.454	-6.86	144	0.808	-1.85	244	0.370	-8.64	344	0.982	-0.16
46	0.436	-7.21	146	0.832	-1.60	246	0.370	-8.64	346	0.988	-0.10
48	0.418	-7.58	148	0.856	-1.35	248	0.370	-8.64	348	0.994	-0.05
50	0.400	-7.96	150	0.880	-1.11	250	0.370	-8.64	350	1.000	0.00
52	0.394	-8.09	152	0.898	-0.93	252	0.370	-8.64	352	0.994	-0.05
54	0.388	-8.22	154	0.916	-0.76	254	0.370	-8.64	354	0.988	-0.10
56	0.382	-8.36	156	0.934	-0.59	256	0.370	-8.64	356	0.982	-0.16
58	0.376	-8.50	158	0.952	-0.43	258	0.370	-8.64	358	0.976	-0.21
60	0.370	-8.64	160	0.970	-0.26	260	0.370	-8.64	360	0.970	-0.26
62	0.370	-8.64	162	0.976	-0.21	262	0.370	-8.64			
64	0.370	-8.64	164	0.982	-0.16	264	0.370	-8.64			
66	0.370	-8.64	166	0.988	-0.10	266	0.370	-8.64			
68	0.370	-8.64	168	0.994	-0.05	268	0.370	-8.64			
70	0.370	-8.64	170	1.000	0.00	270	0.370	-8.64			
72	0.370	-8.64	172	0.994	-0.05	272	0.370	-8.64			
74	0.370	-8.64	174	0.988	-0.10	274	0.370	-8.64			
76	0.370	-8.64	176	0.982	-0.16	276	0.370	-8.64			
78	0.370	-8.64	178	0.976	-0.21	278	0.370	-8.64			
80	0.370	-8.64	180	0.970	-0.26	280	0.370	-8.64			
82	0.370	-8.64	182	0.952	-0.43	282	0.376	-8.50			
84	0.370	-8.64	184	0.934	-0.59	284	0.382	-8.36			
86	0.370	-8.64	186	0.916	-0.76	286	0.388	-8.22			
88	0.370	-8.64	188	0.898	-0.93	288	0.394	-8.09			
90	0.370	-8.64	190	0.880	-1.11	290	0.400	-7.96			
92	0.370	-8.64	192	0.856	-1.35	292	0.418	-7.58			
94	0.370	-8.64	194	0.832	-1.60	294	0.436	-7.21			
96	0.370	-8.64	196	0.808	-1.85	296	0.454	-6.86			
98	0.370	-8.64	198	0.784	-2.11	298	0.472	-6.52			

Specification Number: 20170227-647

Model: ATW22H3-HTPX-18H Page 8

Elevation Pattern

Type:	ATW-22-H3H		Polarization:	Horizontal
Directivity:			Frequency:	18 (ATSC)
Main Lobe:	22.00 numeric	(13.42 dB)	Location:	Fort Pierce, FL
Horizontal:	16.16 numeric	(12.08 dB)	Beam Tilt:	0.75 degrees



Specification Number: 20170227-647

Model: ATW22H3-HTPX-18H Page 9

Tabulated Data for Elevation PatternType: ATW-22-H3H

-5 to 10 degrees in 0.25 degree increments.

10 to 90 degrees in 0.50 degree increments.

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5.00	0.176	-15.09	7.25	0.148	-16.62	29.00	0.041	-27.74	53.50	0.035	-29.12	78.00	0.040	-27.96
-4.75	0.159	-16.00	7.50	0.124	-18.13	29.50	0.049	-26.20	54.00	0.025	-32.04	78.50	0.034	-29.37
-4.50	0.134	-17.46	7.75	0.109	-19.25	30.00	0.047	-26.56	54.50	0.023	-32.77	79.00	0.029	-30.75
-4.25	0.115	-18.79	8.00	0.106	-19.49	30.50	0.037	-28.64	55.00	0.030	-30.46	79.50	0.023	-32.77
-4.00	0.119	-18.49	8.25	0.115	-18.79	31.00	0.028	-31.06	55.50	0.040	-27.96	80.00	0.019	-34.42
-3.75	0.155	-16.19	8.50	0.127	-17.92	31.50	0.033	-29.63	56.00	0.047	-26.56	80.50	0.015	-36.48
-3.50	0.204	-13.81	8.75	0.136	-17.33	32.00	0.043	-27.33	56.50	0.050	-26.02	81.00	0.013	-37.72
-3.25	0.252	-11.97	9.00	0.138	-17.20	32.50	0.047	-26.56	57.00	0.049	-26.20	81.50	0.013	-37.72
-3.00	0.291	-10.72	9.25	0.133	-17.52	33.00	0.042	-27.54	57.50	0.042	-27.54	82.00	0.013	-37.72
-2.75	0.313	-10.10	9.50	0.121	-18.34	33.50	0.032	-29.90	58.00	0.033	-29.63	82.50	0.015	-36.48
-2.50	0.314	-10.06	9.75	0.105	-19.62	34.00	0.026	-31.70	58.50	0.024	-32.40	83.00	0.016	-35.92
-2.25	0.294	-10.63	10.00	0.089	-21.01	34.50	0.034	-29.37	59.00	0.023	-32.77	83.50	0.017	-35.39
-2.00	0.258	-11.77	10.50	0.079	-22.05	35.00	0.043	-27.33	59.50	0.031	-30.17	84.00	0.018	-34.89
-1.75	0.222	-13.09	11.00	0.098	-20.18	35.50	0.046	-26.74	60.00	0.041	-27.74	84.50	0.018	-34.89
-1.50	0.216	-13.31	11.50	0.107	-19.41	36.00	0.040	-27.96	60.50	0.049	-26.20	85.00	0.018	-34.89
-1.25	0.274	-11.24	12.00	0.093	-20.63	36.50	0.030	-30.46	61.00	0.053	-25.51	85.50	0.018	-34.89
-1.00	0.377	-8.47	12.50	0.069	-23.22	37.00	0.025	-32.04	61.50	0.054	-25.35	86.00	0.017	-35.39
-0.75	0.503	-5.97	13.00	0.064	-23.88	37.50	0.033	-29.63	62.00	0.050	-26.02	86.50	0.016	-35.92
-0.50	0.632	-3.99	13.50	0.080	-21.94	38.00	0.042	-27.54	62.50	0.043	-27.33	87.00	0.014	-37.08
-0.25	0.753	-2.46	14.00	0.088	-21.11	38.50	0.045	-26.94	63.00	0.034	-29.37	87.50	0.012	-38.42
0.00	0.857	-1.34	14.50	0.077	-22.27	39.00	0.041	-27.74	63.50	0.025	-32.04	88.00	0.010	-40.00
0.25	0.935	-0.58	15.00	0.057	-24.88	39.50	0.031	-30.17	64.00	0.021	-33.56	88.50	0.008	-41.94
0.50	0.984	-0.14	15.50	0.053	-25.51	40.00	0.024	-32.40	64.50	0.026	-31.70	89.00	0.005	-46.02
0.75	1.000	0.00	16.00	0.068	-23.35	40.50	0.030	-30.46	65.00	0.036	-28.87	89.50	0.003	-50.46
1.00	0.984	-0.14	16.50	0.075	-22.50	41.00	0.040	-27.96	65.50	0.045	-26.94	90.00	0.000	---
1.25	0.936	-0.57	17.00	0.066	-23.61	41.50	0.045	-26.94	66.00	0.053	-25.51			
1.50	0.863	-1.28	17.50	0.049	-26.20	42.00	0.043	-27.33	66.50	0.057	-24.88			
1.75	0.770	-2.27	18.00	0.046	-26.74	42.50	0.035	-29.12	67.00	0.059	-24.58			
2.00	0.668	-3.50	18.50	0.059	-24.58	43.00	0.025	-32.04	67.50	0.058	-24.73			
2.25	0.566	-4.94	19.00	0.067	-23.48	43.50	0.025	-32.04	68.00	0.053	-25.51			
2.50	0.476	-6.45	19.50	0.060	-24.44	44.00	0.034	-29.37	68.50	0.046	-26.74			
2.75	0.411	-7.72	20.00	0.045	-26.94	44.50	0.043	-27.33	69.00	0.038	-28.40			
3.00	0.374	-8.54	20.50	0.040	-27.96	45.00	0.046	-26.74	69.50	0.029	-30.75			
3.25	0.362	-8.83	21.00	0.051	-25.85	45.50	0.042	-27.54	70.00	0.021	-33.56			
3.50	0.361	-8.85	21.50	0.060	-24.44	46.00	0.033	-29.63	70.50	0.019	-34.42			
3.75	0.359	-8.91	22.00	0.056	-25.04	46.50	0.024	-32.40	71.00	0.023	-32.77			
4.00	0.347	-9.19	22.50	0.043	-27.33	47.00	0.025	-32.04	71.50	0.031	-30.17			
4.25	0.322	-9.84	23.00	0.035	-29.12	47.50	0.035	-29.12	72.00	0.040	-27.96			
4.50	0.287	-10.84	23.50	0.044	-27.13	48.00	0.043	-27.33	72.50	0.048	-26.38			
4.75	0.246	-12.20	24.00	0.054	-25.35	48.50	0.047	-26.56	73.00	0.054	-25.35			
5.00	0.205	-13.76	24.50	0.053	-25.51	49.00	0.044	-27.13	73.50	0.059	-24.58			
5.25	0.177	-15.04	25.00	0.043	-27.33	49.50	0.036	-28.87	74.00	0.063	-24.01			
5.50	0.166	-15.60	25.50	0.033	-29.63	50.00	0.026	-31.70	74.50	0.064	-23.88			
5.75	0.172	-15.29	26.00	0.037	-28.64	50.50	0.023	-32.77	75.00	0.064	-23.88			
6.00	0.185	-14.66	26.50	0.048	-26.38	51.00	0.030	-30.46	75.50	0.062	-24.15			
6.25	0.195	-14.20	27.00	0.052	-25.68	51.50	0.040	-27.96	76.00	0.060	-24.44			
6.50	0.197	-14.11	27.50	0.045	-26.94	52.00	0.046	-26.74	76.50	0.056	-25.04			
6.75	0.188	-14.52	28.00	0.033	-29.63	52.50	0.048	-26.38	77.00	0.051	-25.85			
7.00	0.171	-15.34	28.50	0.031	-30.17	53.00	0.043	-27.33	77.50	0.046	-26.74			

POWER DENSITY CALCULATION
PROPOSED WTCE-DT
CHANNEL 18 – FORT PIERCE, FLORIDA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Fort Pierce facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 649 kW, an antenna radiation center 295 meters above ground, and the specific elevation pattern of the proposed ERI antenna, maximum power density two meters above ground of 0.00097 mW/cm^2 is calculated to occur 79 meters from the base of the tower. Since this is only 0.3 percent of the 0.33 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 18 (494-500 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.