

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of JACKSONVILLE EDUCATORS BROADCASTING, INC., licensee of full-power non-commercial digital television station WJEB-DT, Channel 44 in Jacksonville, Florida, in support of its request for Special Temporary Authority to use an interim antenna for its operation on Channel 44 (pre-repack) while the new repack antenna on Channel 21 is installed in accordance with Construction Permit LMS-0000028163. No change in site location is proposed herein.

It is proposed to mount an ERI broadband directional, horizontally-polarized antenna at the 91.4-meter level of the existing 323.4-meter WJEB-DT tower. The proposed effective radiated power for the facility is 362 kW in the horizontal plane. Exhibit B is a map upon which the predicted service contours of the STA facility are plotted. As shown, the community of Jacksonville is completely encompassed by the proposed STA 48 dBu city-grade service contour. In Exhibit C we have plotted the service contours of the main licensed WJEB-DT facility and that of the proposed STA operation. As shown, the service contour of the STA facility is completely contained within that licensed to WJEB-DT in BLCDT-20100226ABZ.

Elevation and azimuth pattern information for the proposed antenna are provided in Exhibit D. Since the STA facility proposed herein has a service contour contained completely within that licensed to WJEB-DT, no interference study is included herein. A power density calculation appears as Exhibit E.

Since no change in the overall height or location of the existing WJEB-DT tower is proposed herein, the Federal Aviation Administration has not been notified of this application.

EXHIBIT A

In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1020783 to this tower.

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 flourish at the end.

KEVIN T. FISHER

November 19, 2019

**CONTOUR POPULATION**  
**2015 U.S. CENSUS**  
**CITY-GRADE : 1,367,023 (580,228 HH)**  
**NOISE-LIMITED : 1,460,754 (618,035 HH)**

**Smith and Fisher, LLC**

**PROPOSED  
N/L CONTOUR**

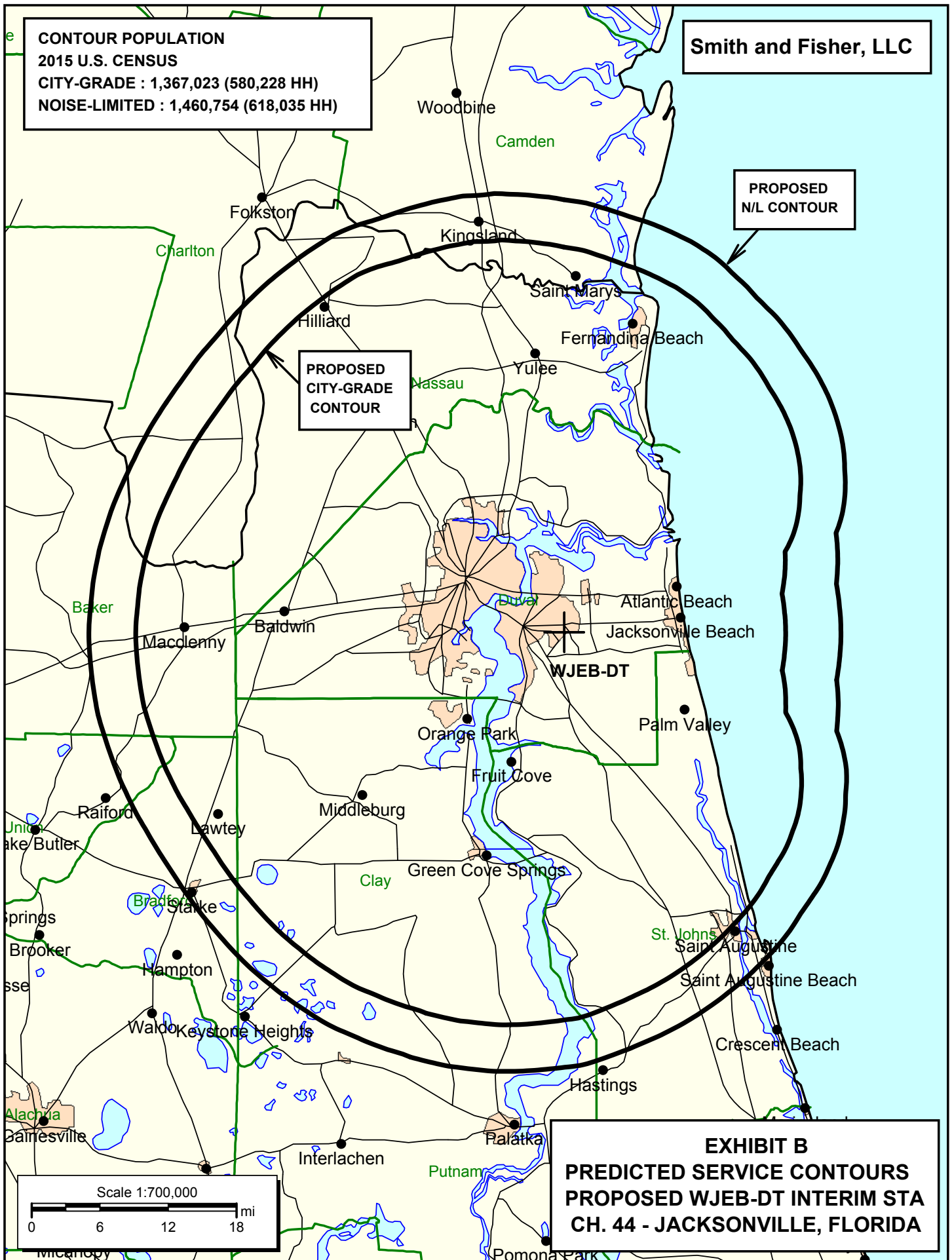
**PROPOSED  
CITY-GRADE  
CONTOUR**

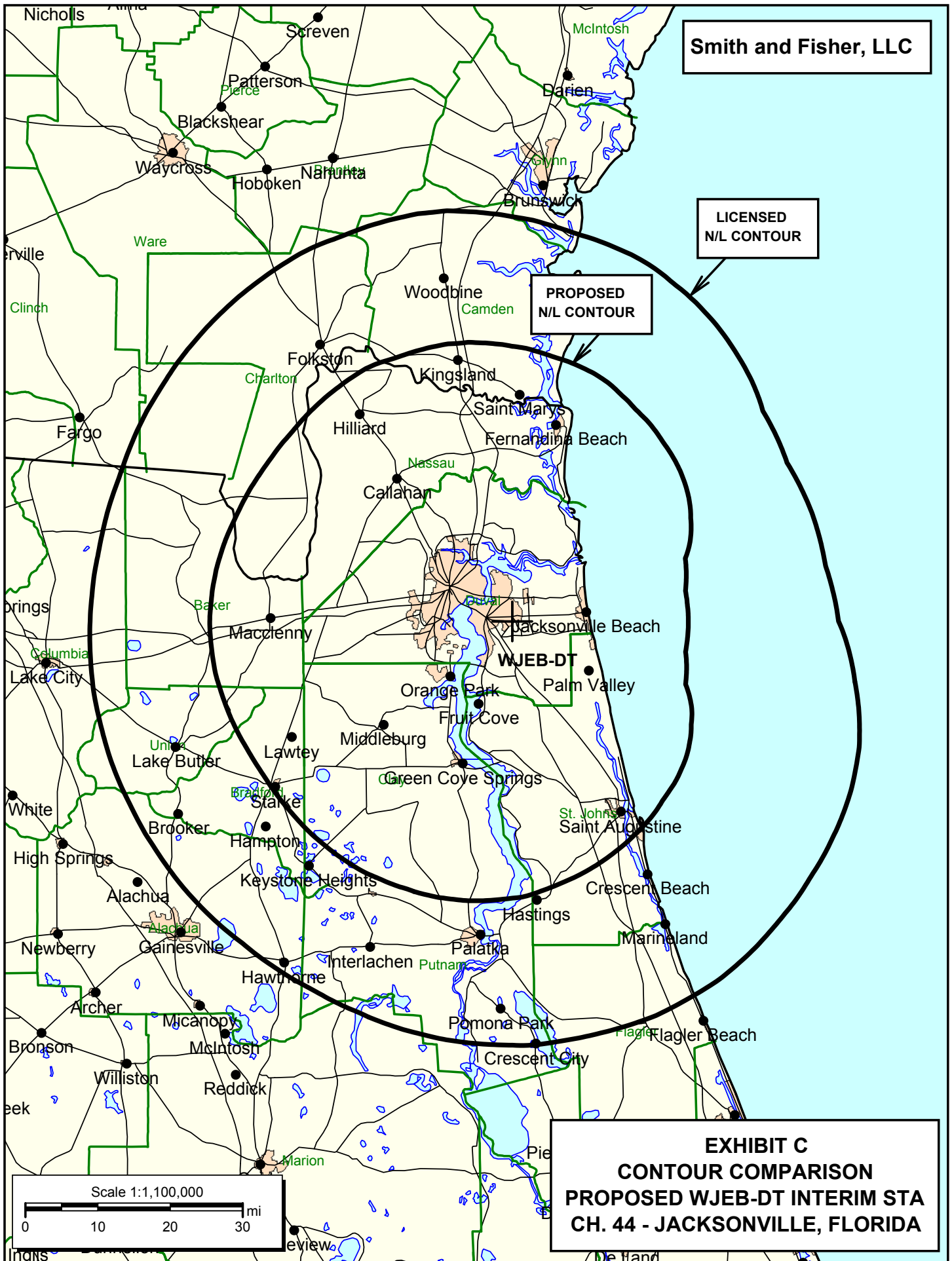
**WJEB-DT**

Scale 1:700,000

0 6 12 18 mi

**EXHIBIT B**  
**PREDICTED SERVICE CONTOURS**  
**PROPOSED WJEB-DT INTERIM STA**  
**CH. 44 - JACKSONVILLE, FLORIDA**





### Azimuth Pattern

Type: i230NC-H-28Polarization: HorizontalDirectivity: 2.91 numeric (4.64 dB)

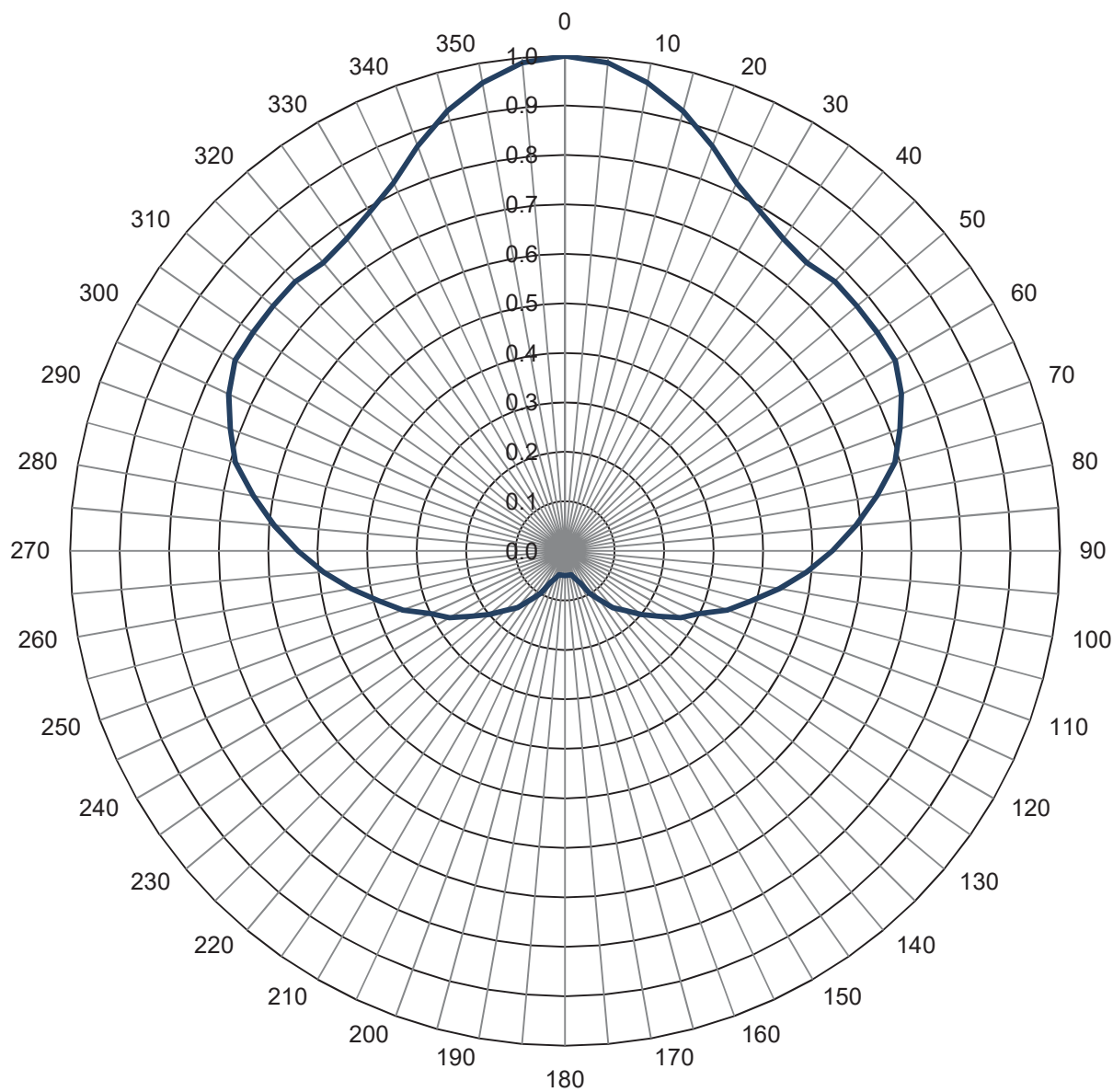
Frequency: \_\_\_\_\_

Peak(s) at: \_\_\_\_\_

Location: \_\_\_\_\_

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

### Relative Field



**Tabulated Data for Azimuth Pattern**Type: i230NC-H-28

Angle	Field	dB
0	1.000	0.00
2	1.000	0.00
4	0.990	-0.09
6	0.980	-0.18
8	0.970	-0.26
10	0.960	-0.35
12	0.940	-0.54
14	0.930	-0.63
16	0.900	-0.92
18	0.880	-1.11
20	0.870	-1.21
22	0.850	-1.41
24	0.830	-1.62
26	0.820	-1.72
28	0.800	-1.94
30	0.790	-2.05
32	0.780	-2.16
34	0.770	-2.27
36	0.770	-2.27
38	0.760	-2.38
40	0.760	-2.38
42	0.760	-2.38
44	0.760	-2.38
46	0.770	-2.27
48	0.770	-2.27
50	0.770	-2.27
52	0.770	-2.27
54	0.770	-2.27
56	0.770	-2.27
58	0.770	-2.27
60	0.770	-2.27
62	0.760	-2.38
64	0.750	-2.50
66	0.740	-2.62
68	0.730	-2.73
70	0.720	-2.85
72	0.710	-2.97
74	0.700	-3.10
76	0.670	-3.48
78	0.650	-3.74
80	0.640	-3.88
82	0.620	-4.15
84	0.600	-4.44
86	0.580	-4.73
88	0.560	-5.04
90	0.540	-5.35
92	0.530	-5.51
94	0.500	-6.02
96	0.480	-6.38
98	0.460	-6.74

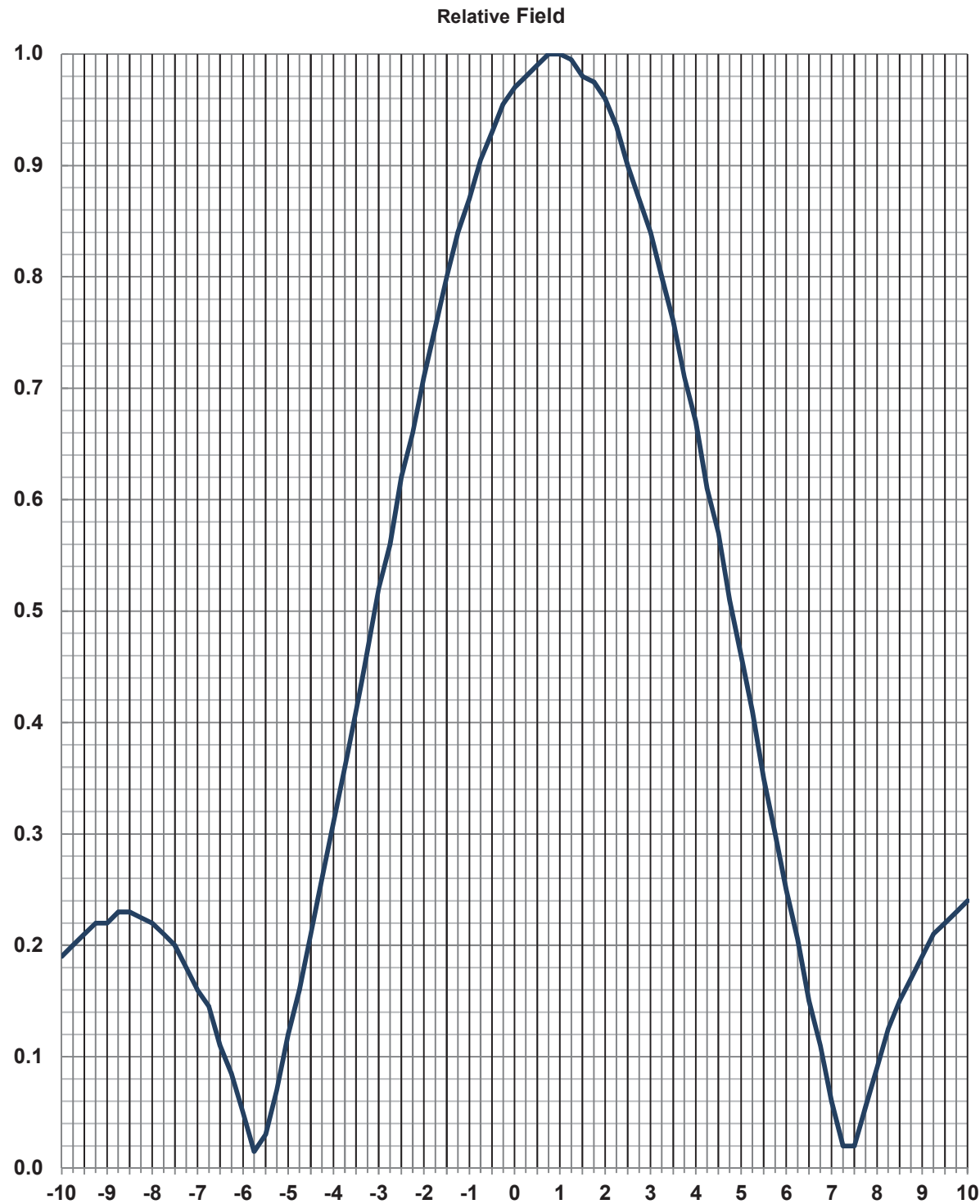
Angle	Field	dB
100	0.440	-7.13
102	0.420	-7.54
104	0.400	-7.96
106	0.380	-8.40
108	0.360	-8.87
110	0.350	-9.12
112	0.320	-9.90
114	0.310	-10.17
116	0.290	-10.75
118	0.280	-11.06
120	0.270	-11.37
122	0.250	-12.04
124	0.230	-12.77
126	0.220	-13.15
128	0.210	-13.56
130	0.200	-13.98
132	0.190	-14.42
134	0.180	-14.89
136	0.170	-15.39
138	0.160	-15.92
140	0.150	-16.48
142	0.140	-17.08
144	0.130	-17.72
146	0.120	-18.42
148	0.110	-19.17
150	0.100	-20.00
152	0.090	-20.92
154	0.080	-21.94
156	0.070	-23.10
158	0.070	-23.10
160	0.060	-24.44
162	0.060	-24.44
164	0.050	-26.02
166	0.050	-26.02
168	0.050	-26.02
170	0.050	-26.02
172	0.050	-26.02
174	0.050	-26.02
176	0.050	-26.02
178	0.050	-26.02
180	0.050	-26.02
182	0.050	-26.02
184	0.050	-26.02
186	0.050	-26.02
188	0.050	-26.02
190	0.050	-26.02
192	0.050	-26.02
194	0.050	-26.02
196	0.050	-26.02
198	0.060	-24.44

Angle	Field	dB
200	0.060	-24.44
202	0.070	-23.10
204	0.070	-23.10
206	0.080	-21.94
208	0.090	-20.92
210	0.100	-20.00
212	0.110	-19.17
214	0.120	-18.42
216	0.130	-17.72
218	0.140	-17.08
220	0.150	-16.48
222	0.160	-15.92
224	0.170	-15.39
226	0.180	-14.89
228	0.190	-14.42
230	0.200	-13.98
232	0.210	-13.56
234	0.220	-13.15
236	0.230	-12.77
238	0.250	-12.04
240	0.270	-11.37
242	0.280	-11.06
244	0.290	-10.75
246	0.310	-10.17
248	0.320	-9.90
250	0.350	-9.12
252	0.360	-8.87
254	0.380	-8.40
256	0.400	-7.96
258	0.420	-7.54
260	0.440	-7.13
262	0.460	-6.74
264	0.480	-6.38
266	0.500	-6.02
268	0.530	-5.51
270	0.540	-5.35
272	0.560	-5.04
274	0.580	-4.73
276	0.600	-4.44
278	0.620	-4.15
280	0.640	-3.88
282	0.650	-3.74
284	0.670	-3.48
286	0.700	-3.10
288	0.710	-2.97
290	0.720	-2.85
292	0.730	-2.73
294	0.740	-2.62
296	0.750	-2.50
298	0.760	-2.38

Angle	Field	dB
300	0.770	-2.27
302	0.770	-2.27
304	0.770	-2.27
306	0.770	-2.27
308	0.770	-2.27
310	0.770	-2.27
312	0.770	-2.27
314	0.770	-2.27
316	0.760	-2.38
318	0.760	-2.38
320	0.760	-2.38
322	0.760	-2.38
324	0.770	-2.27
326	0.770	-2.27
328	0.780	-2.16
330	0.790	-2.05
332	0.800	-1.94
334	0.820	-1.72
336	0.830	-1.62
338	0.850	-1.41
340	0.870	-1.21
342	0.880	-1.11
344	0.900	-0.92
346	0.930	-0.63
348	0.940	-0.54
350	0.960	-0.35
352	0.970	-0.26
354	0.980	-0.18
356	0.990	-0.09
358	1.000	0.00
360	1.000	0.00

Elevation Pattern

Type:	i230NC-16-28	Polarization:	Horizontal
Directivity:		Frequency:	
Main Lobe:	10.96 numeric (10.40 dB)	Location:	
Horizontal:	10.31 numeric (10.13 dB)	Beam Tilt:	0.75 degrees



**Tabulated Data for Elevation Pattern**

Type: i230NC-16-28

-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
-10.00	0.190	-14.42	2.25	0.935	-0.58	19.00	0.060	-24.44	43.50	0.040	-27.96	68.00	0.050	-26.02
-9.75	0.200	-13.98	2.50	0.900	-0.92	19.50	0.050	-26.02	44.00	0.030	-30.46	68.50	0.050	-26.02
-9.50	0.210	-13.56	2.75	0.870	-1.21	20.00	0.030	-30.46	44.50	0.020	-33.98	69.00	0.050	-26.02
-9.25	0.220	-13.15	3.00	0.840	-1.51	20.50	0.010	-40.00	45.00	0.010	-40.00	69.50	0.050	-26.02
-9.00	0.220	-13.15	3.25	0.800	-1.94	21.00	0.010	-40.00	45.50	0.010	-40.00	70.00	0.050	-26.02
-8.75	0.230	-12.77	3.50	0.760	-2.38	21.50	0.030	-30.46	46.00	0.010	-40.00	70.50	0.050	-26.02
-8.50	0.230	-12.77	3.75	0.710	-2.97	22.00	0.050	-26.02	46.50	0.010	-40.00	71.00	0.050	-26.02
-8.25	0.225	-12.96	4.00	0.670	-3.48	22.50	0.060	-24.44	47.00	0.020	-33.98	71.50	0.050	-26.02
-8.00	0.220	-13.15	4.25	0.610	-4.29	23.00	0.080	-21.94	47.50	0.020	-33.98	72.00	0.040	-27.96
-7.75	0.210	-13.56	4.50	0.570	-4.88	23.50	0.090	-20.92	48.00	0.020	-33.98	72.50	0.040	-27.96
-7.50	0.200	-13.98	4.75	0.510	-5.85	24.00	0.100	-20.00	48.50	0.020	-33.98	73.00	0.040	-27.96
-7.25	0.180	-14.89	5.00	0.460	-6.74	24.50	0.110	-19.17	49.00	0.030	-30.46	73.50	0.040	-27.96
-7.00	0.160	-15.92	5.25	0.410	-7.74	25.00	0.110	-19.17	49.50	0.030	-30.46	74.00	0.040	-27.96
-6.75	0.145	-16.77	5.50	0.350	-9.12	25.50	0.120	-18.42	50.00	0.030	-30.46	74.50	0.040	-27.96
-6.50	0.110	-19.17	5.75	0.300	-10.46	26.00	0.120	-18.42	50.50	0.020	-33.98	75.00	0.040	-27.96
-6.25	0.085	-21.41	6.00	0.250	-12.04	26.50	0.120	-18.42	51.00	0.020	-33.98	75.50	0.040	-27.96
-6.00	0.050	-26.02	6.25	0.205	-13.76	27.00	0.120	-18.42	51.50	0.020	-33.98	76.00	0.040	-27.96
-5.75	0.015	-36.48	6.50	0.150	-16.48	27.50	0.110	-19.17	52.00	0.010	-40.00	76.50	0.040	-27.96
-5.50	0.030	-30.46	6.75	0.110	-19.17	28.00	0.110	-19.17	52.50	0.010	-40.00	77.00	0.040	-27.96
-5.25	0.070	-23.10	7.00	0.060	-24.44	28.50	0.110	-19.17	53.00	0.000	---	77.50	0.040	-27.96
-5.00	0.120	-18.42	7.25	0.020	-33.98	29.00	0.110	-19.17	53.50	0.000	---	78.00	0.040	-27.96
-4.75	0.160	-15.92	7.50	0.020	-33.98	29.50	0.100	-20.00	54.00	0.000	---	78.50	0.040	-27.96
-4.50	0.210	-13.56	7.75	0.055	-25.19	30.00	0.090	-20.92	54.50	0.010	-40.00	79.00	0.040	-27.96
-4.25	0.260	-11.70	8.00	0.090	-20.92	30.50	0.080	-21.94	55.00	0.010	-40.00	79.50	0.040	-27.96
-4.00	0.310	-10.17	8.25	0.125	-18.06	31.00	0.080	-21.94	55.50	0.020	-33.98	80.00	0.030	-30.46
-3.75	0.360	-8.87	8.50	0.150	-16.48	31.50	0.070	-23.10	56.00	0.020	-33.98	80.50	0.030	-30.46
-3.50	0.410	-7.74	8.75	0.170	-15.39	32.00	0.070	-23.10	56.50	0.020	-33.98	81.00	0.030	-30.46
-3.25	0.465	-6.65	9.00	0.190	-14.42	32.50	0.070	-23.10	57.00	0.030	-30.46	81.50	0.030	-30.46
-3.00	0.520	-5.68	9.25	0.210	-13.56	33.00	0.060	-24.44	57.50	0.030	-30.46	82.00	0.030	-30.46
-2.75	0.560	-5.04	9.50	0.220	-13.15	33.50	0.050	-26.02	58.00	0.030	-30.46	82.50	0.030	-30.46
-2.50	0.620	-4.15	9.75	0.230	-12.77	34.00	0.040	-27.96	58.50	0.040	-27.96	83.00	0.020	-33.98
-2.25	0.660	-3.61	10.00	0.240	-12.40	34.50	0.030	-30.46	59.00	0.040	-27.96	83.50	0.020	-33.98
-2.00	0.710	-2.97	10.50	0.240	-12.40	35.00	0.010	-40.00	59.50	0.040	-27.96	84.00	0.020	-33.98
-1.75	0.755	-2.44	11.00	0.230	-12.77	35.50	0.000	---	60.00	0.040	-27.96	84.50	0.020	-33.98
-1.50	0.800	-1.94	11.50	0.210	-13.56	36.00	0.020	-33.98	60.50	0.040	-27.96	85.00	0.020	-33.98
-1.25	0.840	-1.51	12.00	0.180	-14.89	36.50	0.030	-30.46	61.00	0.040	-27.96	85.50	0.020	-33.98
-1.00	0.870	-1.21	12.50	0.150	-16.48	37.00	0.040	-27.96	61.50	0.040	-27.96	86.00	0.020	-33.98
-0.75	0.905	-0.87	13.00	0.120	-18.42	37.50	0.050	-26.02	62.00	0.040	-27.96	86.50	0.020	-33.98
-0.50	0.930	-0.63	13.50	0.080	-21.94	38.00	0.060	-24.44	62.50	0.050	-26.02	87.00	0.020	-33.98
-0.25	0.955	-0.40	14.00	0.040	-27.96	38.50	0.070	-23.10	63.00	0.050	-26.02	87.50	0.020	-33.98
0.00	0.970	-0.26	14.50	0.030	-30.46	39.00	0.080	-21.94	63.50	0.050	-26.02	88.00	0.010	-40.00
0.25	0.980	-0.18	15.00	0.030	-30.46	39.50	0.080	-21.94	64.00	0.050	-26.02	88.50	0.010	-40.00
0.50	0.990	-0.09	15.50	0.050	-26.02	40.00	0.080	-21.94	64.50	0.050	-26.02	89.00	0.010	-40.00
0.75	1.000	0.00	16.00	0.070	-23.10	40.50	0.080	-21.94	65.00	0.050	-26.02	89.50	0.010	-40.00
1.00	1.000	0.00	16.50	0.080	-21.94	41.00	0.070	-23.10	65.50	0.050	-26.02	90.00	0.010	-40.00
1.25	0.995	-0.04	17.00	0.090	-20.92	41.50	0.070	-23.10	66.00	0.050	-26.02			
1.50	0.980	-0.18	17.50	0.090	-20.92	42.00	0.070	-23.10	66.50	0.050	-26.02			
1.75	0.975	-0.22	18.00	0.090	-20.92	42.50	0.060	-24.44	67.00	0.050	-26.02			
2.00	0.960	-0.35	18.50	0.080	-21.94	43.00	0.050	-26.02	67.50	0.050	-26.02			

POWER DENSITY CALCULATION

PROPOSED WJEB-DT STA REQUEST  
CHANNEL 44 – JACKSONVILLE, 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 Dalton facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 362 kW, an antenna radiation center 91.4 meters above ground, and the specific elevation pattern of the proposed ERI antenna, maximum power density two meters above ground of  $0.0034 \text{ mW/cm}^2$  is calculated to occur 30 meters west of the base of the tower. Since this is only 0.8 percent of the  $0.43 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 44 (650-656 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.