

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of HUNTSVILLE TV, L.L.C., licensee of full-power digital television station WHDF-DT, Channel 14 in Florence, Alabama, in support of its Application for Construction Permit to specify operation on its post-repack channel, Channel 2. No change in site location or antenna height is proposed herein.

It is proposed to mount a Dielectric directional horizontally-polarized antenna at the 401-meter level of the existing 410.6-meter tower on which the present WHDF-DT antenna is mounted. The proposed effective radiated power for the facility is 9.9 kW, which is the allotted repack power level for WHDF-DT. Exhibit B is a map upon which the predicted service contours are plotted. As shown, the community of Florence is completely encompassed by the proposed 35 dBu city-grade service contour.

Azimuth and elevation pattern information for the proposed antenna are provided in Exhibit C. It is important to note that, while the proposed Channel 2 azimuth pattern differs from that of the presently licensed Channel 14 pattern for WHDF-DT, it is the best approximation given the significant lack of pattern diversity for low-band VHF antennas.

An interference study conducted using the FCC's TVStudy program, and employing a cell size of 2 kilometers and an increment spacing of 1 kilometer, concludes that the proposed facility will not cause significant interference to any co-channel or adjacent-channel post-repack full-power or Class A television station. A power density calculation appears as Exhibit D.

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

EXHIBIT A

addition, the Federal Communications Commission issued Antenna Structure Registration Number 1059649 to this tower.

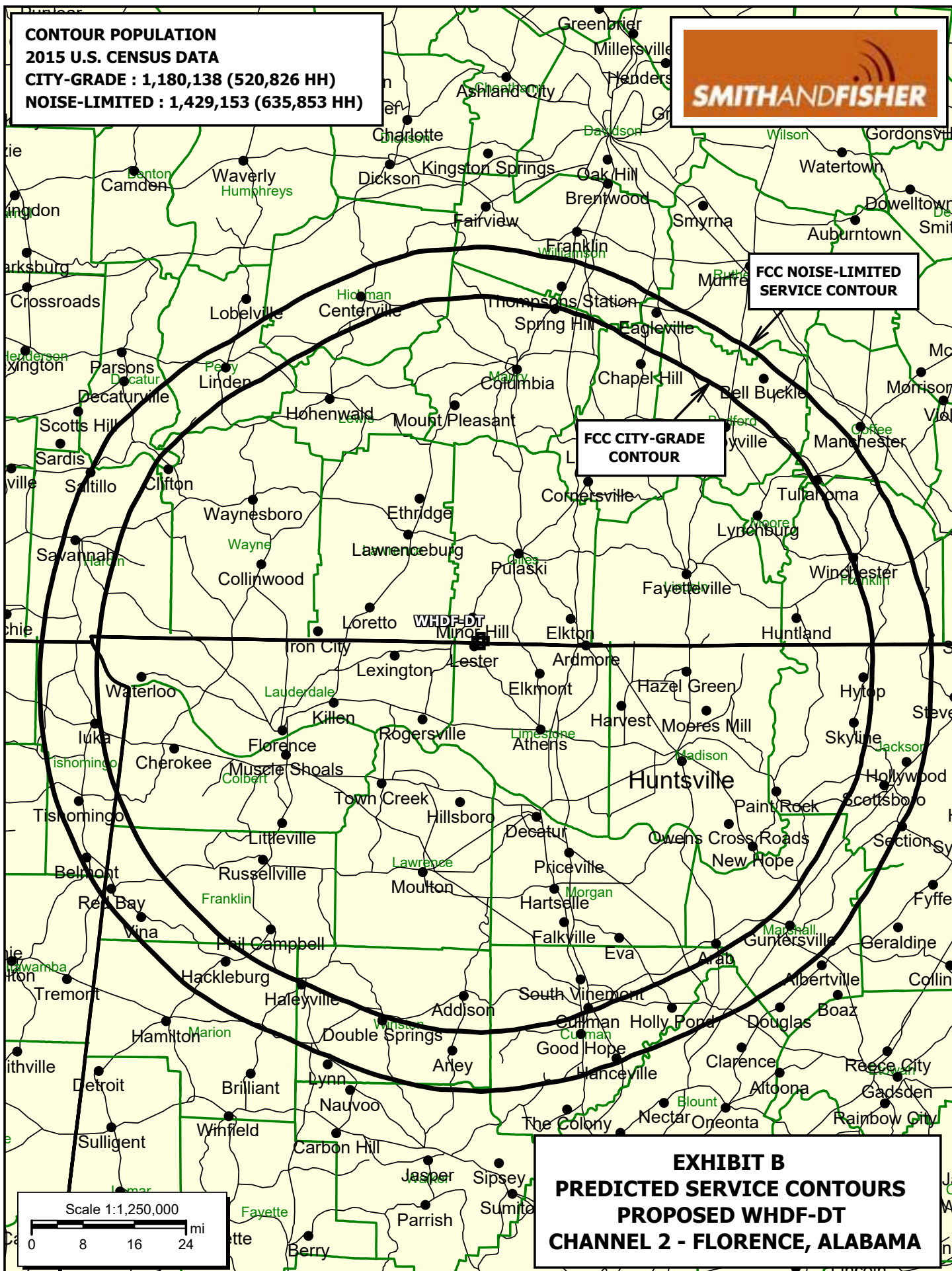
I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

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

KEVIN T. FISHER

July 5, 2017

CONTOUR POPULATION
2015 U.S. CENSUS DATA
CITY-GRADE : 1,180,138 (520,826 HH)
NOISE-LIMITED : 1,429,153 (635,853 HH)



**FCC NOISE-LIMITED
SERVICE CONTOUR**

**FCC CITY-GRADE
CONTOUR**

EXHIBIT B
PREDICTED SERVICE CONTOURS
PROPOSED WHDF-DT
CHANNEL 2 - FLORENCE, ALABAMA

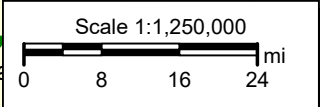


EXHIBIT C

Horizontal Polarization AZIMUTH PATTERN

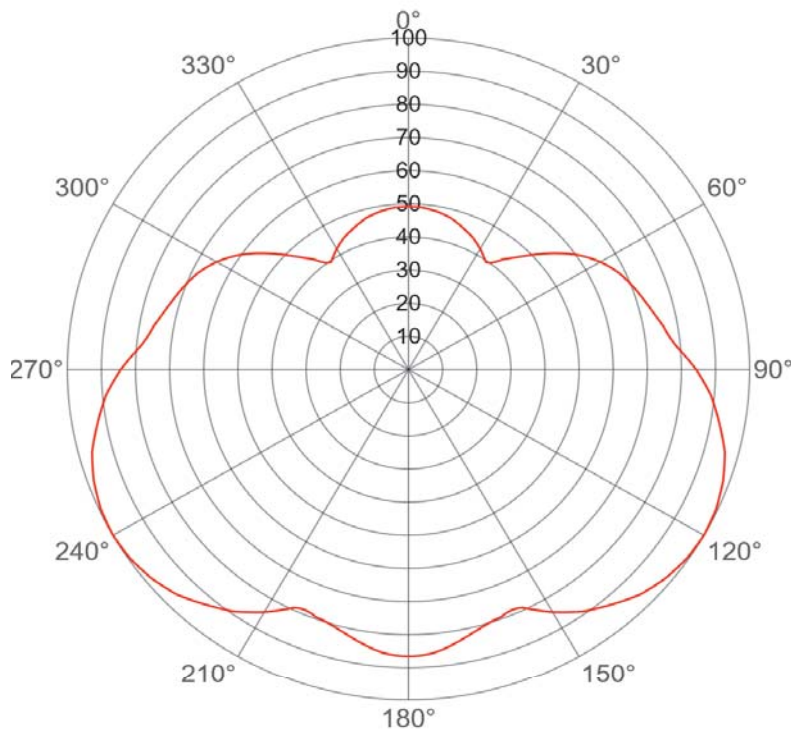


Exhibit No.

Date 10 May 2017

Call Letters WHDF

Channel 2

Antenna Type THB-C3-3/9-1

Location Minor Hill, TN

Customer

Gain 1.7 (2.30 dB)

Calculated

Drawing # THB-C3

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.493	36	0.398	72	0.717	108	0.973	144	0.898	180	0.866	216	0.898	252	0.973	288	0.717	324	0.398
1	0.492	37	0.404	73	0.721	109	0.977	145	0.891	181	0.865	217	0.905	253	0.969	289	0.712	325	0.396
2	0.492	38	0.412	74	0.726	110	0.982	146	0.882	182	0.864	218	0.912	254	0.965	290	0.708	326	0.401
3	0.491	39	0.422	75	0.731	111	0.984	147	0.873	183	0.863	219	0.919	255	0.960	291	0.703	327	0.406
4	0.491	40	0.435	76	0.736	112	0.987	148	0.864	184	0.861	220	0.926	256	0.953	292	0.699	328	0.411
5	0.491	41	0.444	77	0.741	113	0.990	149	0.855	185	0.858	221	0.933	257	0.946	293	0.694	329	0.416
6	0.489	42	0.453	78	0.746	114	0.992	150	0.845	186	0.854	222	0.940	258	0.939	294	0.689	330	0.421
7	0.488	43	0.464	79	0.752	115	0.995	151	0.835	187	0.850	223	0.946	259	0.932	295	0.684	331	0.425
8	0.487	44	0.474	80	0.758	116	0.996	152	0.824	188	0.845	224	0.953	260	0.925	296	0.678	332	0.429
9	0.485	45	0.486	81	0.762	117	0.997	153	0.814	189	0.840	225	0.960	261	0.918	297	0.671	333	0.433
10	0.484	46	0.498	82	0.768	118	0.998	154	0.803	190	0.834	226	0.965	262	0.911	298	0.664	334	0.438
11	0.482	47	0.510	83	0.774	119	0.999	155	0.792	191	0.829	227	0.969	263	0.904	299	0.657	335	0.442
12	0.480	48	0.522	84	0.781	120	1.000	156	0.788	192	0.824	228	0.973	264	0.897	300	0.649	336	0.445
13	0.478	49	0.534	85	0.790	121	0.999	157	0.786	193	0.818	229	0.977	265	0.890	301	0.641	337	0.448
14	0.476	50	0.546	86	0.800	122	0.998	158	0.787	194	0.813	230	0.982	266	0.881	302	0.632	338	0.452
15	0.474	51	0.558	87	0.811	123	0.997	159	0.790	195	0.809	231	0.984	267	0.871	303	0.623	339	0.455
16	0.471	52	0.570	88	0.822	124	0.996	160	0.795	196	0.804	232	0.987	268	0.862	304	0.614	340	0.458
17	0.468	53	0.582	89	0.833	125	0.995	161	0.796	197	0.801	233	0.990	269	0.853	305	0.604	341	0.461
18	0.464	54	0.593	90	0.843	126	0.992	162	0.798	198	0.798	234	0.992	270	0.843	306	0.593	342	0.464
19	0.461	55	0.604	91	0.853	127	0.990	163	0.801	199	0.796	235	0.995	271	0.833	307	0.582	343	0.468
20	0.458	56	0.614	92	0.862	128	0.987	164	0.804	200	0.795	236	0.996	272	0.822	308	0.570	344	0.471
21	0.455	57	0.623	93	0.871	129	0.984	165	0.809	201	0.790	237	0.997	273	0.811	309	0.558	345	0.474
22	0.452	58	0.632	94	0.881	130	0.982	166	0.813	202	0.787	238	0.998	274	0.800	310	0.546	346	0.476
23	0.448	59	0.641	95	0.890	131	0.977	167	0.818	203	0.786	239	0.999	275	0.790	311	0.534	347	0.478
24	0.445	60	0.649	96	0.897	132	0.973	168	0.824	204	0.788	240	1.000	276	0.781	312	0.522	348	0.480
25	0.442	61	0.657	97	0.904	133	0.969	169	0.829	205	0.792	241	0.999	277	0.774	313	0.510	349	0.482
26	0.438	62	0.664	98	0.911	134	0.965	170	0.834	206	0.803	242	0.998	278	0.768	314	0.498	350	0.484
27	0.433	63	0.671	99	0.918	135	0.960	171	0.840	207	0.814	243	0.997	279	0.762	315	0.486	351	0.485
28	0.429	64	0.678	100	0.925	136	0.953	172	0.845	208	0.824	244	0.996	280	0.758	316	0.474	352	0.487
29	0.425	65	0.684	101	0.932	137	0.946	173	0.850	209	0.835	245	0.995	281	0.752	317	0.464	353	0.488
30	0.421	66	0.689	102	0.939	138	0.940	174	0.854	210	0.845	246	0.992	282	0.746	318	0.453	354	0.489
31	0.416	67	0.694	103	0.946	139	0.933	175	0.858	211	0.855	247	0.990	283	0.741	319	0.444	355	0.491
32	0.411	68	0.699	104	0.953	140	0.926	176	0.861	212	0.864	248	0.987	284	0.736	320	0.435	356	0.491
33	0.406	69	0.703	105	0.960	141	0.919	177	0.863	213	0.873	249	0.984	285	0.731	321	0.422	357	0.491
34	0.401	70	0.708	106	0.965	142	0.912	178	0.864	214	0.882	250	0.982	286	0.726	322	0.412	358	0.492
35	0.396	71	0.712	107	0.969	143	0.905	179	0.865	215	0.891	251	0.977	287	0.721	323	0.404	359	0.492

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ELEVATION PATTERN

Exhibit No.

Date

10 May 2017

Call Letters

WHDF

Channel

2

Antenna Type

THB-C3-3/9-1

Location

Minor Hill, TN

Customer

EXHIBIT C

Future fill is available!

RMS Gain at Main Lobe

3.2 (5.05 dB)

RMS Gain at Horizontal

3.2 (5.05 dB)

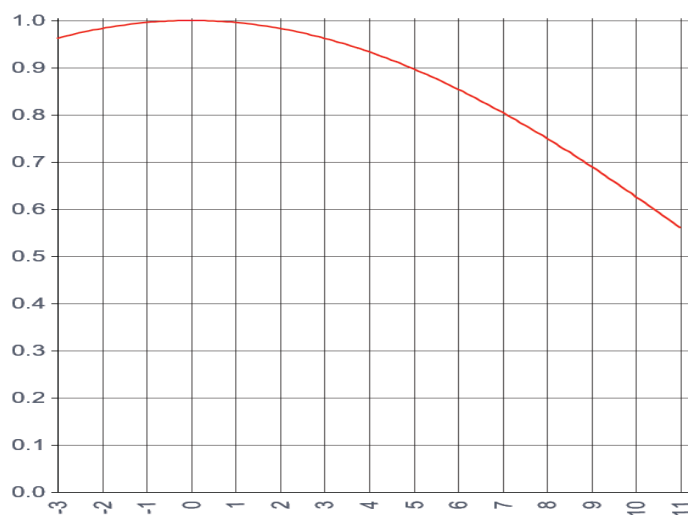
Calculated

Beam Tilt

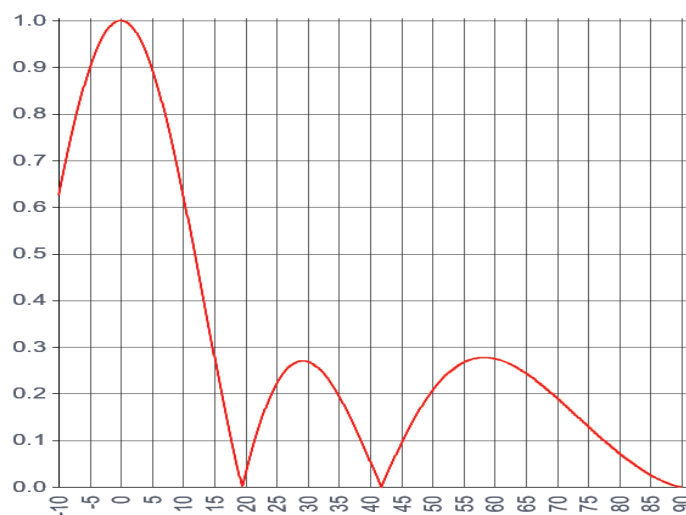
0 Degrees

Drawing #

03H032000



Degrees below horizontal



Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.626	10	0.626	30	0.269	50	0.206	70	0.191
-9	0.690	11	0.560	31	0.262	51	0.223	71	0.179
-8	0.750	12	0.491	32	0.251	52	0.237	72	0.166
-7	0.805	13	0.421	33	0.236	53	0.249	73	0.154
-6	0.854	14	0.351	34	0.217	54	0.259	74	0.142
-5	0.897	15	0.281	35	0.195	55	0.267	75	0.130
-4	0.934	16	0.213	36	0.171	56	0.272	76	0.118
-3	0.962	17	0.148	37	0.144	57	0.276	77	0.106
-2	0.983	18	0.085	38	0.115	58	0.277	78	0.094
-1	0.996	19	0.026	39	0.086	59	0.277	79	0.083
0	1.000	20	0.028	40	0.055	60	0.275	80	0.072
1	0.996	21	0.078	41	0.025	61	0.271	81	0.062
2	0.983	22	0.122	42	0.006	62	0.266	82	0.052
3	0.962	23	0.161	43	0.036	63	0.260	83	0.043
4	0.934	24	0.194	44	0.065	64	0.252	84	0.034
5	0.897	25	0.221	45	0.093	65	0.244	85	0.026
6	0.854	26	0.242	46	0.119	66	0.235	86	0.018
7	0.805	27	0.257	47	0.144	67	0.224	87	0.012
8	0.750	28	0.266	48	0.167	68	0.214	88	0.007
9	0.690	29	0.270	49	0.188	69	0.202	89	0.002

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POWER DENSITY CALCULATION

PROPOSED WHDF-DT
CHANNEL 2 – FLORENCE, ALABAMA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Florence facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 9.9 kW, an antenna radiation center 401 meters above ground, and the specific elevation pattern of the proposed Dielectric antenna, maximum power density two meters above ground of 0.00012 mW/cm^2 is calculated to occur 240 meters south of the base of the tower. Since this is significantly less than 0.1 percent of the 0.20 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 2 (54-60 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.