



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN AMENDMENT TO AN  
APPLICATION FOR A MINOR MODIFICATION OF A  
POST REPACK CONSTRUCTION PERMIT  
FILE # 0000028214  
WNAB - NASHVILLE, TENNESSEE  
APPLICATION FILE #0000034797  
DTV - CH. 30 - 725 kW - 425 m HAAT**

Prepared for: NASHVILLE LICENSE HOLDINGS, L.L.C.

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, License No. 7418, and in the State of New York, License No. 63418.

**GENERAL**

This office has been authorized by NASHVILLE LICENSE HOLDINGS, L.L.C., licensee of WNAB channel 23, facility ID number 73310, licensed to Nashville, Tennessee, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for an amendment to its pending application for a minor modification of its post-reassignment construction permit, File # 0000028214, that authorizes WNAB to use channel 30 for its post-reassignment broadcasting. The purpose of the instant application for amendment is to resolve predicted interference issues with other applicants. It not only proposes to increase WNAB's ERP to 725 kW, but also to change the directional antenna azimuth pattern.

## **DIRECTIONAL ANTENNA**

The applicant proposes to substitute and install a new Dielectric TFU-26DSC/VP-R C170 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 366 meters, and a height above average terrain of 425 meters. The antenna manufacturer's directional horizontal plane azimuth radiation pattern for the different horizontally polarized component is shown in exhibit 2 and tabulated in exhibit 3. The manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown in exhibits 4 and 5, and is tabulated in Exhibit 6.

## **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 (40.32 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Nashville, Tennessee.

## **ALLOCATION CONSIDERATIONS**

### ***Post-Transition DTV Considerations***

A study was performed, using the FCC's software, tv\_study, v. 2.2.5, to determine if the instant application for construction permit is predicted to cause new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results, shown in Appendix B, indicate that the instant application for construction permit is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. (See Appendix B)

### ***International DTV Considerations***

The WNAB site is located beyond the coordination distances from the nearest points on both the US-Canadian border and US/Mexican border.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WNAB 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**

The FCC's guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions are generally based on recommendations by the National

**STATEMENT OF JOHN E. HIDLE, P.E.**  
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Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or “controlled” situations, and for “uncontrolled” environments that apply in all other cases that might affect the general public. The FCC Office of Engineering and Technology’s technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated facilities comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. OET Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC’s policies and guidelines. The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHz and 300 MHz is 200 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) for an “uncontrolled” environment, and is 1000 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) for a “controlled” environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHz and 1500 MHz, primarily UHF DTV stations, is determined for an “uncontrolled” environment by dividing the operating frequency in MHz by 1.5, and is determined for a “controlled” environment by dividing the operating frequency in MHz by 0.3.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHz and 300 MHz is 200 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) for an “uncontrolled” environment, and is 1000 microwatts per centimeter

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squared ( $\mu\text{W}/\text{cm}^2$ ) for a “controlled” environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHz and 1500 MHz, primarily UHF TV stations, is determined for an “uncontrolled” environment by dividing the operating frequency in MHz by 1.5, and is similarly determined for a “controlled” environment by dividing the operating frequency in MHz by 0.3.

The predicted emissions of WNAB must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WNAB, which will operate on television Channel 30 (566-572 MHz), the MPE is 379.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 1,896.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed WNAB facility will operate with a maximum ERP of 725 kW from an elliptically polarized directional transmitting antenna with a centerline height of 366 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WNAB facility is predicted to produce a power density at two meters above ground level of 20.583  $\mu\text{W}/\text{cm}^2$ , which is 5.426% of the FCC guideline value for an “uncontrolled” environment, and 1.085% of the FCC’s guideline value for “controlled” environments. There are two other full-power DTV facilities, one LPTV DTV facility, four full-power FM stations, one LPFM station and three FM auxiliary facilities that are located at the WNAB site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 71.69% of the limit applicable to “uncontrolled” environments, and 14.338% of the limit for “controlled” environments. (See Appendix A)

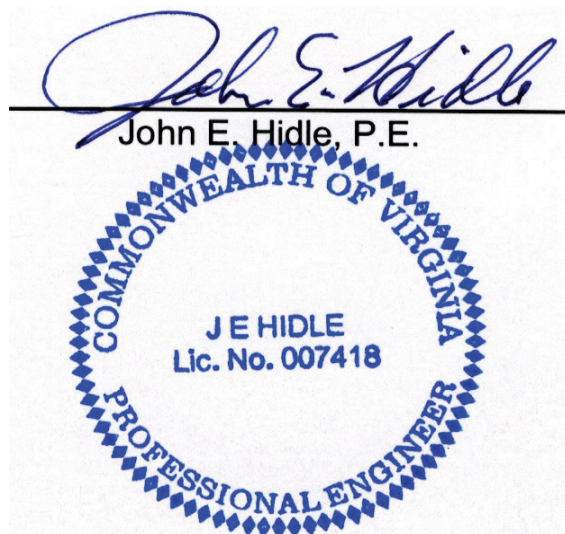
**OCCUPATIONAL SAFETY**

The licensee of WNAB is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WNAB 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.

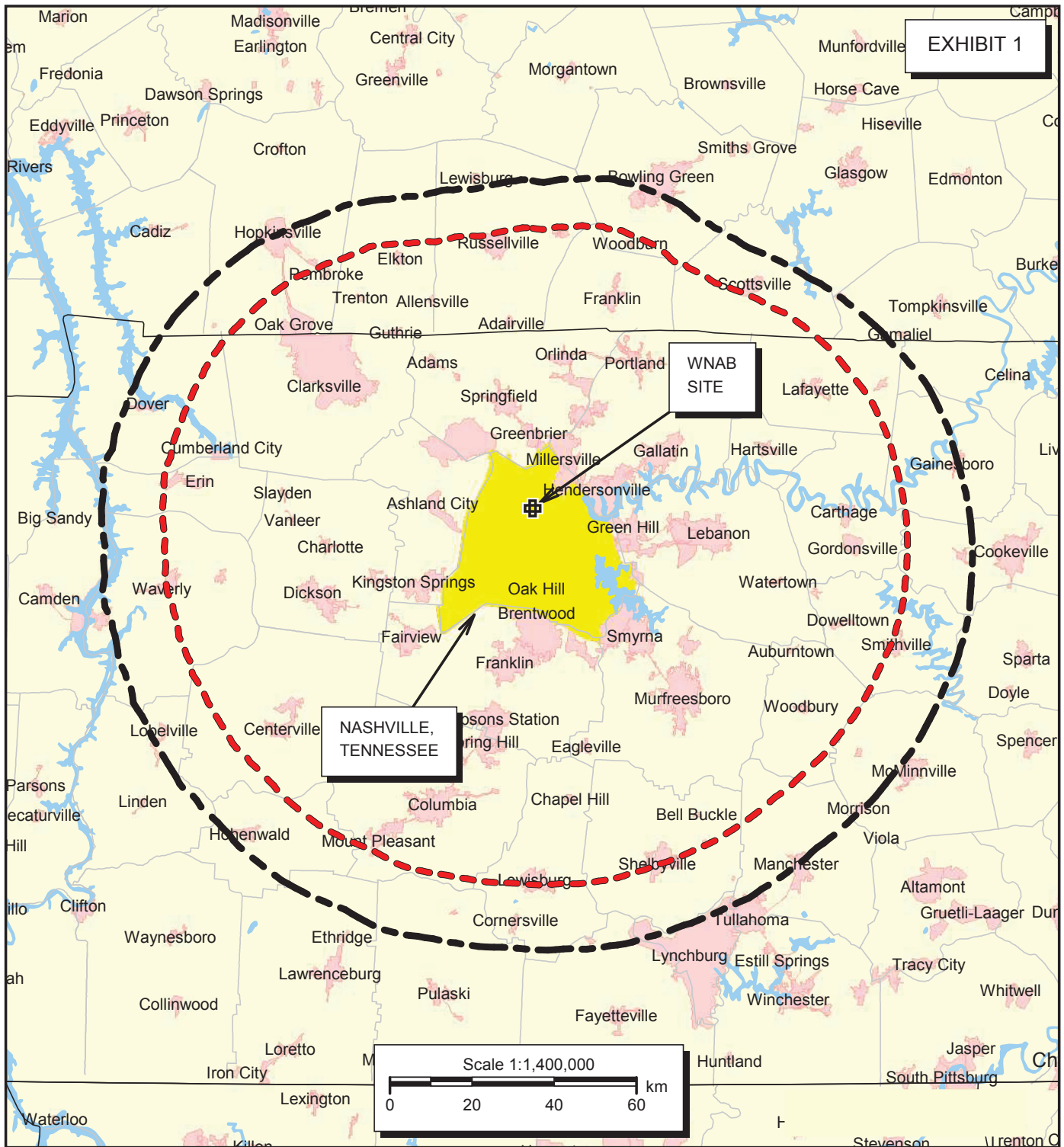
**SUMMARY**

It is submitted that the instant application for an amendment to its application, file # 0000034797, for a minor modification of its post-reassignment channel 30 construction permit, file # 0000028214, to increase WNAB's ERP to 725 kW, and change its directional antenna azimuth pattern to resolve interference issues, 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: April 2, 2018







## PREDICTED COVERAGE CONTOURS

WNAB - NASHVILLE, TENNESSEE  
DTV Channel 30 - 725 kW ERP - 425 M HAAT  
APRIL, 2018

Predicted Noise Limited 40.32 dBu  
F(50,90) Coverage Contour



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



Date	02 Apr 2018		
Call Letters	WNAB	Channel	30
Location	Nashville, Tennessee		
Customer	Nashville License Holdings, LLC		
Antenna Type	TFU-26DSC/VP-R C170		

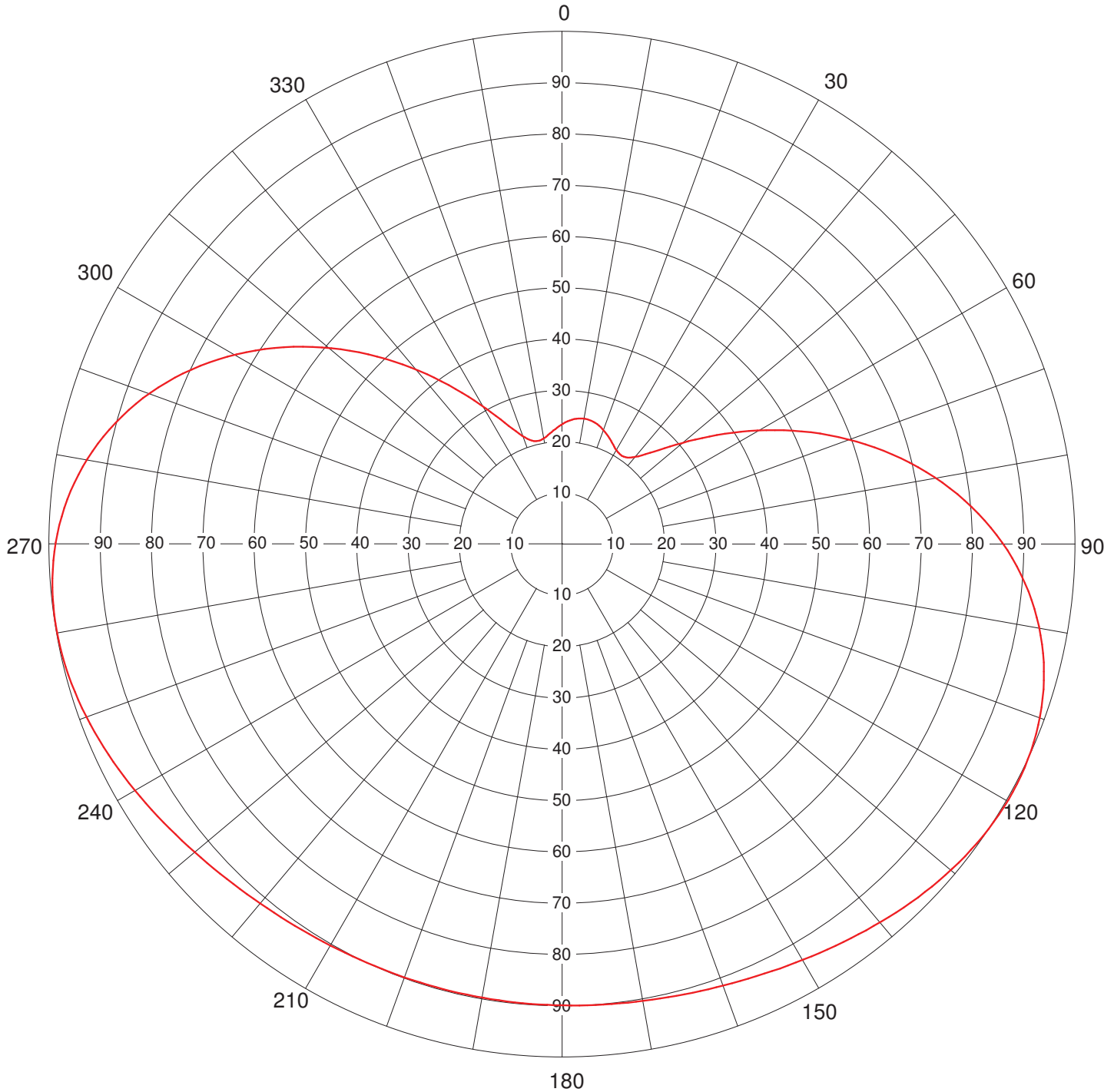
### AZIMUTH PATTERN

Gain  
Calculated / Measured

**1.70 (2.30 dB)**  
**Calculated**

Frequency  
Drawing #

**569 MHz**  
**TFU-C170**



Remarks:





Date **02 Apr 2018**  
 Call Letters **WNAB** Channel **30**  
 Location **Nashville, Tennessee**  
 Customer **Nashville License Holdings, LLC**  
 Antenna Type **TFU-26DSC/VP-R C170**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-C170**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.232	45	0.251	90	0.854	135	0.976	180	0.900	225	0.926	270	0.987	315	0.512
1	0.234	46	0.260	91	0.864	136	0.973	181	0.900	226	0.928	271	0.984	316	0.497
2	0.236	47	0.269	92	0.874	137	0.971	182	0.900	227	0.930	272	0.981	317	0.482
3	0.238	48	0.280	93	0.883	138	0.968	183	0.900	228	0.932	273	0.977	318	0.466
4	0.240	49	0.290	94	0.893	139	0.965	184	0.900	229	0.934	274	0.973	319	0.451
5	0.241	50	0.302	95	0.901	140	0.963	185	0.900	230	0.936	275	0.968	320	0.437
6	0.242	51	0.313	96	0.910	141	0.960	186	0.899	231	0.939	276	0.963	321	0.422
7	0.243	52	0.326	97	0.918	142	0.957	187	0.899	232	0.941	277	0.958	322	0.407
8	0.244	53	0.338	98	0.925	143	0.954	188	0.899	233	0.944	278	0.952	323	0.393
9	0.244	54	0.352	99	0.933	144	0.952	189	0.899	234	0.946	279	0.946	324	0.379
10	0.245	55	0.365	100	0.940	145	0.949	190	0.899	235	0.949	280	0.940	325	0.365
11	0.244	56	0.379	101	0.946	146	0.946	191	0.899	236	0.952	281	0.933	326	0.352
12	0.244	57	0.393	102	0.952	147	0.944	192	0.899	237	0.954	282	0.925	327	0.338
13	0.243	58	0.407	103	0.958	148	0.941	193	0.899	238	0.957	283	0.918	328	0.326
14	0.242	59	0.422	104	0.963	149	0.939	194	0.899	239	0.960	284	0.910	329	0.313
15	0.241	60	0.437	105	0.968	150	0.936	195	0.900	240	0.963	285	0.901	330	0.302
16	0.240	61	0.451	106	0.973	151	0.934	196	0.900	241	0.965	286	0.893	331	0.290
17	0.238	62	0.466	107	0.977	152	0.932	197	0.900	242	0.968	287	0.883	332	0.280
18	0.236	63	0.482	108	0.981	153	0.930	198	0.900	243	0.971	288	0.874	333	0.269
19	0.234	64	0.497	109	0.984	154	0.928	199	0.900	244	0.973	289	0.864	334	0.260
20	0.232	65	0.512	110	0.987	155	0.926	200	0.900	245	0.976	290	0.854	335	0.251
21	0.229	66	0.527	111	0.990	156	0.924	201	0.901	246	0.978	291	0.843	336	0.243
22	0.227	67	0.543	112	0.992	157	0.922	202	0.901	247	0.981	292	0.832	337	0.235
23	0.224	68	0.558	113	0.994	158	0.920	203	0.901	248	0.983	293	0.821	338	0.229
24	0.222	69	0.573	114	0.996	159	0.918	204	0.902	249	0.986	294	0.809	339	0.223
25	0.219	70	0.588	115	0.997	160	0.917	205	0.902	250	0.988	295	0.797	340	0.218
26	0.216	71	0.604	116	0.998	161	0.915	206	0.903	251	0.990	296	0.785	341	0.214
27	0.214	72	0.619	117	0.999	162	0.914	207	0.903	252	0.992	297	0.773	342	0.210
28	0.211	73	0.634	118	1.000	163	0.912	208	0.904	253	0.993	298	0.760	343	0.207
29	0.209	74	0.648	119	1.000	164	0.911	209	0.905	254	0.995	299	0.747	344	0.206
30	0.207	75	0.663	120	1.000	165	0.910	210	0.905	255	0.996	300	0.733	345	0.204
31	0.206	76	0.677	121	1.000	166	0.909	211	0.906	256	0.997	301	0.720	346	0.204
32	0.205	77	0.692	122	0.999	167	0.908	212	0.907	257	0.998	302	0.706	347	0.204
33	0.204	78	0.706	123	0.998	168	0.907	213	0.908	258	0.999	303	0.692	348	0.205
34	0.204	79	0.720	124	0.997	169	0.906	214	0.909	259	1.000	304	0.677	349	0.206
35	0.204	80	0.733	125	0.996	170	0.905	215	0.910	260	1.000	305	0.663	350	0.207
36	0.206	81	0.747	126	0.995	171	0.905	216	0.911	261	1.000	306	0.648	351	0.209
37	0.207	82	0.760	127	0.993	172	0.904	217	0.912	262	1.000	307	0.634	352	0.211
38	0.210	83	0.773	128	0.992	173	0.903	218	0.914	263	0.999	308	0.619	353	0.214
39	0.214	84	0.785	129	0.990	174	0.903	219	0.915	264	0.998	309	0.604	354	0.216
40	0.218	85	0.797	130	0.988	175	0.902	220	0.917	265	0.997	310	0.588	355	0.219
41	0.223	86	0.809	131	0.986	176	0.902	221	0.918	266	0.996	311	0.573	356	0.222
42	0.229	87	0.821	132	0.983	177	0.901	222	0.920	267	0.994	312	0.558	357	0.224
43	0.235	88	0.832	133	0.981	178	0.901	223	0.922	268	0.992	313	0.543	358	0.227
44	0.243	89	0.843	134	0.978	179	0.901	224	0.924	269	0.990	314	0.527	359	0.229

Remarks:

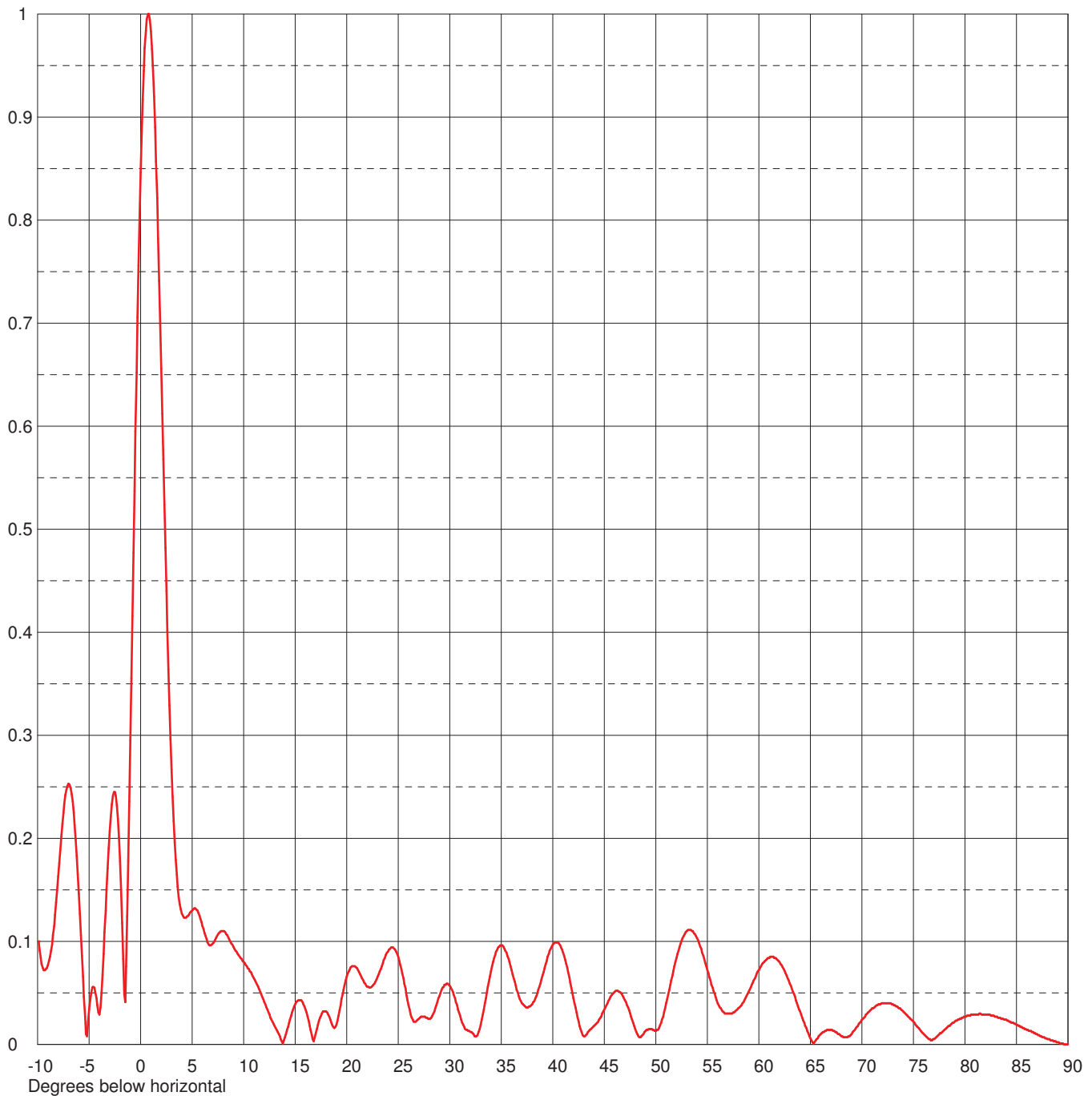


Date  
Call Letters  
Location  
Customer  
Antenna Type

02 Apr 2018  
**WNAB** Channel **30**  
**Nashville, Tennessee**  
**Nashville License Holdings, LLC**  
**TFU-26DSC/VP-R C170**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>22.5 (13.52 dB)</b>	Beam Tilt	<b>0.75 Degrees</b>
RMS Gain at Horizontal	<b>16.1 (12.07 dB)</b>	Frequency	<b>569.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>26Q225075-90</b>



Remarks:



Date

02 Apr 2018

Call Letters

WNAB

Channel

30

Location

Nashville, Tennessee

Customer

Nashville License Holdings, LLC

Antenna Type

TFU-26DSC/VP-R C170

**ELEVATION PATTERN**

RMS Gain at Main Lobe

**22.5 (13.52 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**16.1 (12.07 dB)**

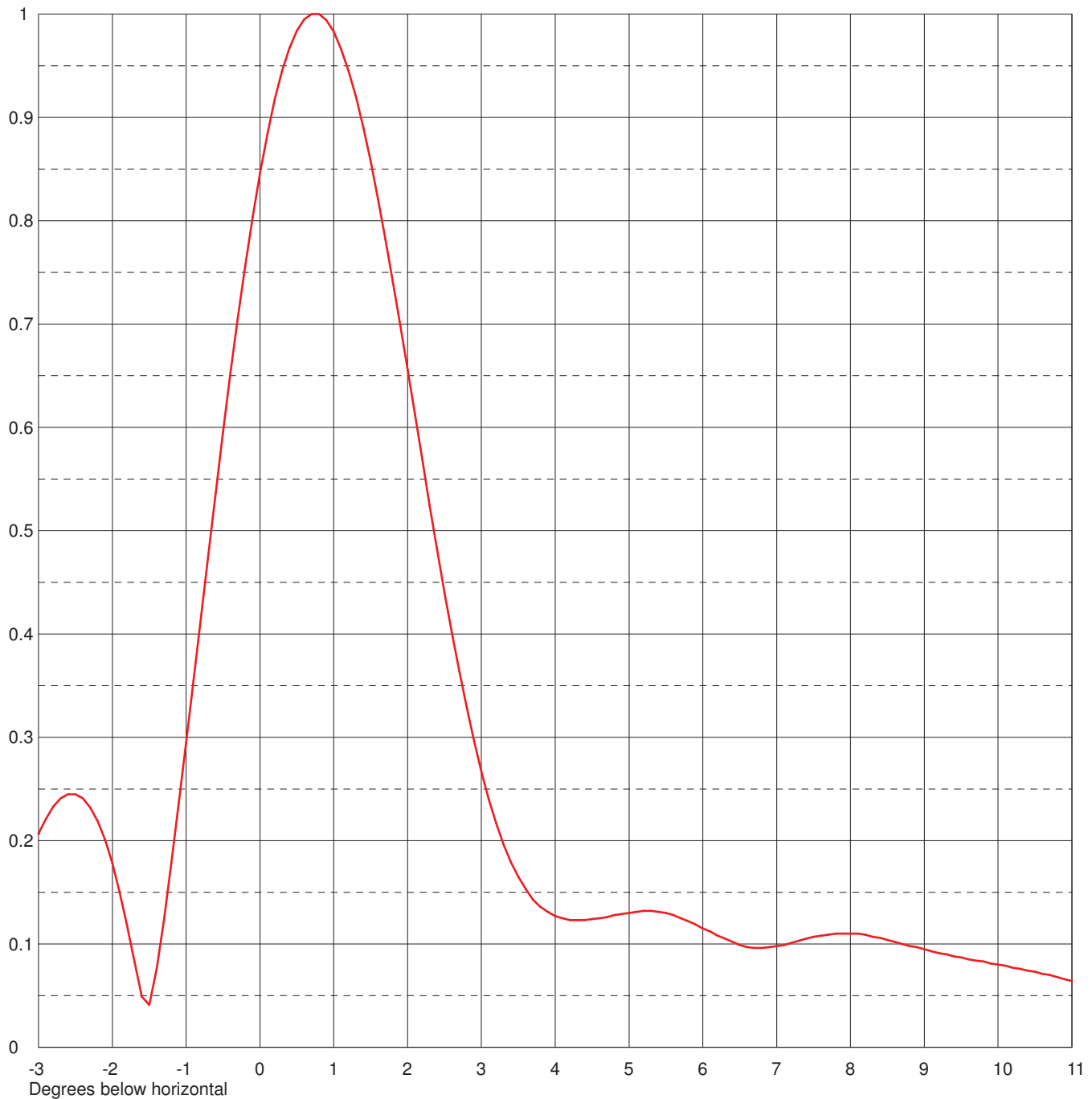
Frequency

**569.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**26Q225075**

Remarks:



Date **02 Apr 2018**  
Call Letters **WNAB** Channel **30**  
Location **Nashville, Tennessee**  
Customer **Nashville License Holdings, LLC**  
Antenna Type **TFU-26DSC/VP-R C170**

**TABULATION OF ELEVATION PATTERN**Elevation Pattern Drawing # **26Q225075**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.110	2.4	0.482	10.6	0.071	30.5	0.045	51.0	0.040	71.5	0.038
-9.5	0.074	2.6	0.401	10.8	0.068	31.0	0.028	51.5	0.062	72.0	0.040
-9.0	0.077	2.8	0.329	11.0	0.064	31.5	0.015	52.0	0.084	72.5	0.040
-8.5	0.106	3.0	0.267	11.5	0.054	32.0	0.012	52.5	0.101	73.0	0.039
-8.0	0.163	3.2	0.217	12.0	0.041	32.5	0.008	53.0	0.110	73.5	0.036
-7.5	0.225	3.4	0.179	12.5	0.029	33.0	0.019	53.5	0.110	74.0	0.032
-7.0	0.253	3.6	0.153	13.0	0.018	33.5	0.045	54.0	0.103	74.5	0.027
-6.5	0.225	3.8	0.136	13.5	0.008	34.0	0.071	54.5	0.089	75.0	0.022
-6.0	0.146	4.0	0.127	14.0	0.007	34.5	0.090	55.0	0.072	75.5	0.016
-5.5	0.046	4.2	0.123	14.5	0.024	35.0	0.096	55.5	0.055	76.0	0.010
-5.0	0.034	4.4	0.123	15.0	0.039	35.5	0.089	56.0	0.040	76.5	0.005
-4.5	0.055	4.6	0.125	15.5	0.043	36.0	0.072	56.5	0.032	77.0	0.005
-4.0	0.029	4.8	0.128	16.0	0.034	36.5	0.053	57.0	0.030	77.5	0.010
-3.5	0.109	5.0	0.130	16.5	0.014	37.0	0.040	57.5	0.031	78.0	0.014
-3.0	0.207	5.2	0.132	17.0	0.011	37.5	0.036	58.0	0.035	78.5	0.018
-2.8	0.233	5.4	0.131	17.5	0.028	38.0	0.039	58.5	0.041	79.0	0.022
-2.6	0.245	5.6	0.128	18.0	0.032	38.5	0.050	59.0	0.051	79.5	0.025
-2.4	0.241	5.8	0.122	18.5	0.021	39.0	0.067	59.5	0.062	80.0	0.027
-2.2	0.219	6.0	0.115	19.0	0.019	39.5	0.085	60.0	0.072	80.5	0.028
-2.0	0.178	6.2	0.108	19.5	0.044	40.0	0.097	60.5	0.080	81.0	0.029
-1.8	0.118	6.4	0.102	20.0	0.066	40.5	0.099	61.0	0.084	81.5	0.030
-1.6	0.049	6.6	0.097	20.5	0.076	41.0	0.089	61.5	0.084	82.0	0.029
-1.4	0.076	6.8	0.096	21.0	0.074	41.5	0.070	62.0	0.080	82.5	0.028
-1.2	0.178	7.0	0.098	21.5	0.064	42.0	0.045	62.5	0.071	83.0	0.027
-1.0	0.295	7.2	0.101	22.0	0.056	42.5	0.022	63.0	0.059	83.5	0.025
-0.8	0.416	7.4	0.105	22.5	0.057	43.0	0.008	63.5	0.046	84.0	0.024
-0.6	0.537	7.6	0.108	23.0	0.066	43.5	0.013	64.0	0.032	84.5	0.021
-0.4	0.652	7.8	0.110	23.5	0.079	44.0	0.018	64.5	0.018	85.0	0.019
-0.2	0.756	8.0	0.110	24.0	0.090	44.5	0.024	65.0	0.006	85.5	0.017
0.0	0.846	8.2	0.109	24.5	0.094	45.0	0.034	65.5	0.004	86.0	0.014
0.2	0.917	8.4	0.106	25.0	0.085	45.5	0.044	66.0	0.010	86.5	0.012
0.4	0.967	8.6	0.102	25.5	0.064	46.0	0.051	66.5	0.013	87.0	0.010
0.6	0.995	8.8	0.098	26.0	0.038	46.5	0.051	67.0	0.014	87.5	0.007
0.8	1.000	9.0	0.095	26.5	0.022	47.0	0.043	67.5	0.012	88.0	0.005
1.0	0.983	9.2	0.091	27.0	0.025	47.5	0.030	68.0	0.008	88.5	0.004
1.2	0.945	9.4	0.088	27.5	0.027	48.0	0.015	68.5	0.007	89.0	0.002
1.4	0.890	9.6	0.085	28.0	0.025	48.5	0.007	69.0	0.010	89.5	0.001
1.6	0.821	9.8	0.083	28.5	0.032	49.0	0.013	69.5	0.017	90.0	0.000
1.8	0.741	10.0	0.080	29.0	0.047	49.5	0.015	70.0	0.024		
2.0	0.656	10.2	0.077	29.5	0.058	50.0	0.013	70.5	0.030		
2.2	0.568	10.4	0.074	30.0	0.057	50.5	0.021	71.0	0.035		

Remarks:

## APPENDIX A

### SUMMARY OF RADIOFREQUENCY RADIATION STUDY

WNAB, Nashville, TN  
Channel 30, 725 kW, 425 m HAAT  
April, 2018

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLAR- IZATION</u>	<u>ANTENNA HEIGHT</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR**</u>	<u>WORST-CASE PREDICTED POWER DENSITY (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>FCC UNCONTROLLED LIMIT (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WNAB*	DT	30	569	H	366	725.000	0.300	16.453	379.33	4.34%
WNAB*	DT	30	569	V	366	182.000	0.300	4.130	379.33	1.09%
WZTV*	DT	20	509	H	350	1000.000	0.300	24.829	339.33	7.32%
WZTV*	DT	20	509	V	350	250.000	0.300	6.207	339.33	1.83%
WUXP-TV	DT	21	515	H	352	1000.000	0.300	24.546	343.33	7.15%
WRTN-LD (CP)	DT	17	491	H	305	15.000	0.300	0.491	327.33	0.15%
W223BV	FM	223	92.5	H & V	283	0.140	1.000	0.118	200.00	0.06%
WCJK	FM	242	96.3	H & V	372	39.000	<note 1>	0.123	200.00	0.06%
WLVU	FM	246	97.1	H & V	168	9.000	<note 2>	0.240	200.00	0.12%
WSIX-FM (AUX)	FM	250	97.9	H & V	237	15.500	1.000	18.754	200.00	9.38%
WUBT	FM	266	101.1	H & V	237	1.900	1.000	2.299	200.00	1.15%
WNRQ (AUX)	FM	290	105.9	H & V	237	15.500	1.000	18.754	200.00	9.38%
WNFN	FM	294	106.7	H & V	233	2.950	1.000	3.694	200.00	1.85%
WRVW (AUX)	FM	298	107.5	H & V	237	46.000	1.000	55.658	200.00	27.83%
<b>TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =</b>										<b>71.69%</b>

\* WNAB and WZTV are proposing elliptical polarization. The table above includes both the horizontal and vertical power levels for the proposed WNAB and WZTV operations.

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

note 1: FM Model Antenna: EPA Type 3; ERI Rototiller Type, 8-bay, half-wave spaced antenna.

note 2: FM Model Antenna: EPA Type 1 (worst case analysis); 13-bay, 0.83-wave spaced antenna.



# **WNAB - NASHVILLE, TENNESSEE** **Longley-Rice Interference Analysis** **Amended Appendix B** **April, 2018**

tvstudy v2.2.5 (4uoc83)  
 Database: localhost, Study: WNAB 30 DIE C170 725K, Model: Longley-Rice  
 Start: 2018.04.02 11:07:49

Study created: 2018.04.02 11:07:49

Study build station data: LMS TV 2018-04-01

Proposal: WNAB D30 DT APP NASHVILLE, TN  
 File number: WNAB 30 DIE C170 725K  
 Facility ID: 73310  
 Station data: User record  
 Record ID: 472  
 Country: U.S.  
 Zone: II

Search options:  
 Non-U.S. records included  
 Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WKGB-TV	D29	DT	CP	BOWLING GREEN, KY	BLANK0000025285	92.9 km
Yes	WKGB-TV	D29	DT	APP	BOWLING GREEN, KY	BLANK0000034655	92.9
No	WKOP-TV	D29	DT	CP	KNOXVILLE, TN	BLANK0000024513	256.5
Yes	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	308.9
No	WDGA-CD	D30	DC	CP	DALTON, GA	BLANK0000028635	234.1
No	WEIU-TV	D30	DT	CP	CHARLESTON, IL	BLANK0000029172	390.8
Yes	WTCT	D30	DT	CP	MARION, IL	BLANK0000034912	244.8
Yes	WKPC-TV	D30	DT	CP	LOUISVILLE, KY	BLANK0000034634	248.8
No	WKMR	D30	DT	CP	MOREHEAD, KY	BLANK0000029752	367.7
No	WYFF	D30	DT	CP	GREENVILLE, SC	BLANK0000034525	399.1
No	WVUT	D31	DT	CP	VINCENNES, IN	BLANK0000027953	272.2
Yes	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000034649	121.2
No	WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	221.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30  
 Latitude: 36 15 49.80 N (NAD83)  
 Longitude: 86 47 38.90 W  
 Height AMSL: 609.2 m  
 HAAT: 425.0 m  
 Peak ERP: 725 kW  
 Antenna: DIELECTRIC-TFU-26DSC/VP-R C170 0.0 deg  
 Elev Pattn: Generic  
 Elec Tilt: 0.75

40.3 dBu contour:  
 Azimuth ERP HAAT Distance



# **Appendix B - Interference Analysis** **WNAB - Nashville, Tennessee** **Channel 30 - 725 kW - Page 2**

0.0 deg	39.0 kW	368.9 m	79.8 km
45.0	49.0	426.2	85.0
90.0	529	454.6	106.1
135.0	690	447.1	108.2
180.0	587	455.5	107.2
225.0	622	458.3	108.1
270.0	706	404.1	104.6
315.0	190	386.2	92.2

Distance to Canadian border: 698.6 km

Distance to Mexican border: 1493.7 km

Conditions at FCC monitoring station: Powder Springs GA  
Bearing: 144.2 degrees Distance: 326.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 290.5 degrees Distance: 1662.7 km

Study cell size: 2.00 km  
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

## ----- Interference to BLANK0000025285 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	WKGB-TV	D29	DT	CP	BOWLING GREEN, KY	BLANK0000025285				
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	92.9 km			
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	92.9			
	WEVV-TV	D28	DT	CP	EVANSVILLE, IN	BLANK0000027564	119.6			
	WJYL-CD	D29	DC	CP	JEFFERSONVILLE, IN	BLANK0000034246	158.9			
	WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	358.0			
Service area		Terrain-limited			IX-free, before	IX-free, after	Percent New IX			
13748.9	384,344	13641.0	382,982		13525.4	380,928	13529.4	381,033	-0.03	-0.03
Undesired				Total IX	Unique IX, before		Unique IX, after			
WNAB D30 DT BL		39.9	1,009		35.9	975				
WNAB D30 DT APP		35.9	904			31.9	870			
WEVV-TV D28 DT CP		47.8	861		47.8	861	47.8	861		
WJYL-CD D29 DC CP		23.9	172		23.9	172	23.9	172		
WKNO D29 DT LIC		8.0	46		4.0	12	4.0	12		

## ----- Interference to BLANK0000034655 APP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	WKGB-TV	D29	DT	APP	BOWLING GREEN, KY	BLANK0000034655				
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	92.9 km			
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	92.9			
	WEVV-TV	D28	DT	CP	EVANSVILLE, IN	BLANK0000027564	119.6			
	WJYL-CD	D29	DC	CP	JEFFERSONVILLE, IN	BLANK0000034246	158.9			
	WPTO	D29	DT	CP	OXFORD, OH	BLANK0000034602	292.0			
	WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	358.0			
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX			
15067.8	413,268	14952.1		411,587	14828.7	409,520	14836.6	409,808	-0.05	-0.07
Undesired				Total IX	Unique IX, before		Unique IX, after			
WNAB D30 DT BL				35.8	969	35.8	969			
WNAB D30 DT APP				27.9	681			27.9	681	

**Appendix B - Interference Analysis**  
**WNAB - Nashville, Tennessee**  
**Channel 30 - 725 kW - Page 3**

WEVV-TV D28 DT CP	51.7	795	51.7	795	51.7	795
WJYL-CD D29 DC CP	27.9	291	27.9	291	27.9	291
WPTO D29 DT CP	4.0	10	4.0	10	4.0	10
WKNO D29 DT LIC	4.0	2	4.0	2	4.0	2

-----  
Interference to BLCDT20021219AAV LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	308.9 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	308.9
	WBRC	D29	DT	CP	BIRMINGHAM, AL	BLANK0000034162	0.8
	WGIQ	D30	DT	CP	LOUISVILLE, AL	BLANK0000027851	234.7
	WEIQ	D30	DT	CP	MOBILE, AL	BLANK0000027848	330.2
	WDGA-CD	D30	DC	CP	DALTON, GA	BLANK0000028635	215.4
	WMTG-TV	D30	DT	CP	MACON, GA	BLANK0000026604	312.7
	WLBT	D30	DT	LIC	JACKSON, MS	BLCDT20100119AEE	362.5
	WNCF	D31	DT	LIC	MONTGOMERY, AL	BLANK0000001319	148.4
-----							
	Service area	Terrain-limited		IX-free, before		IX-free, after	
	32651.6	1,837,072	31395.4	1,802,810	30074.3	1,779,999	29986.5
							1,776,139
							0.29
							0.22

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	199.5	6,889	199.5
WNAB D30 DT APP	287.3	10,749	287.3
WBRC D29 DT CP	435.8	8,067	423.8
WGIQ D30 DT CP	248.1	3,017	224.0
WEIQ D30 DT CP	44.1	117	20.1
WDGA-CD D30 DC CP	8.0	408	8.0
WMTG-TV D30 DT CP	8.0	446	8.0
WLBT D30 DT LIC	12.0	0	0.0
WNCF D31 DT LIC	417.8	3,055	385.7

-----  
Interference to BLANK0000034912 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WTCT	D30	DT	CP	MARION, IL	BLANK0000034912	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	244.8 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	244.8
	W29CI-D	D29	DC	LIC	SALEM, IL	BLDTA20120913AAP	111.8
	WEIU-TV	D30	DT	CP	CHARLESTON, IL	BLANK0000029172	232.3
	WKPC-TV	D30	DT	CP	LOUISVILLE, KY	BLANK0000034634	293.8
-----							
	Service area	Terrain-limited		IX-free, before		IX-free, after	
	24409.8	608,457	24290.2	607,620	24134.2	606,591	24114.2
							606,458
							0.08
							0.02

Undesired	Total IX	Unique IX, before	Unique IX, after
WNAB D30 DT BL	107.7	409	95.8
WNAB D30 DT APP	123.7	528	115.7
W29CI-D D29 DC LIC	48.3	620	48.3
WEIU-TV D30 DT CP	11.9	44	4.0
WKPC-TV D30 DT CP	4.0	0	0.0

-----  
Interference to BLANK0000034634 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKPC-TV	D30	DT	CP	LOUISVILLE, KY	BLANK0000034634	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	248.7 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	248.8
	WJYL-CD	D29	DC	CP	JEFFERSONVILLE, IN	BLANK0000034246	0.3
	WKGB-TV	D29	DT	CP	BOWLING GREEN, KY	BLANK0000025285	158.5
	WEIU-TV	D30	DT	CP	CHARLESTON, IL	BLANK0000029172	252.3

**Appendix B - Interference Analysis**  
**WNAB - Nashville, Tennessee**  
**Channel 30 - 725 kW - Page 4**

WTCT		D30	DT	CP	MARION, IL		BLANK0000034912		293.8	
WKMR		D30	DT	CP	MOREHEAD, KY		BLANK0000029752		212.8	
Service area		Terrain-limited			IX-free, before		IX-free, after		Percent New IX	
17061.5	1,525,649	16770.0	1,517,431		16638.5	1,515,352	16642.4	1,515,352	-0.02	0.00
Undesired				Total IX		Unique IX, before		Unique IX, after		
WNAB D30 DT BL		27.8	336		12.0	72				
WNAB D30 DT APP		15.9	181				8.0	72		
WJYL-CD D29 DC CP		12.0	66		8.0	11	8.0	11		
WEIU-TV D30 DT CP		24.1	758		4.0	2	4.0	2		
WTCT D30 DT CP		47.9	1,004		19.9	155	23.9	164		
WKMR D30 DT CP		67.7	1,572		47.7	764	51.7	910		

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Interference to BLANK0000034649 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000034649	
Undesireds:	WNAB	D30	DT	BL	NASHVILLE, TN	DTVBL73310	121.2 km
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	121.2
	WTCT	D30	DT	CP	MARION, IL	BLANK0000034912	139.5
	WVUT	D31	DT	CP	VINCENNES, IN	BLANK0000027953	162.6
	KDNL-TV	D31	DT	LIC	ST. LOUIS, MO	BLCDT20021216AAE	291.4
	WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	307.6
	WLMT	D31	DT	LIC	MEMPHIS, TN	BLCDT20050427ABN	293.9
	WNPX-TV	D32	DT	CP	COOKEVILLE, TN	BLANK0000034404	120.7
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
17622.1	526,486	17522.4	525,904	17068.5	520,705	17068.5	0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
WNAB D30 DT BL		4.0	44	0.0	0		
WNAB D30 DT APP		4.0	44			0.0	0
WTCT D30 DT CP		4.0	62	0.0	0	0.0	0
WVUT D31 DT CP		27.8	486	19.8	378	19.8	378
KDNL-TV D31 DT LIC		95.6	373	75.7	311	75.7	311
WBXX-TV D31 DT CP		60.0	1,716	48.1	1,266	48.1	1,266
WLMT D31 DT LIC		59.8	500	43.8	500	43.8	500
WNPX-TV D32 DT CP		238.6	2,574	230.6	2,188	230.6	2,188

-----  
Interference to proposal scenario 1  
0.69% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	
Undesireds:	WKGB-TV	D29	DT	CP	BOWLING GREEN, KY	BLANK0000025285	92.9 km
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	308.9
	WTCT	D30	DT	CP	MARION, IL	BLANK0000034912	244.8
	WKPC-TV	D30	DT	CP	LOUISVILLE, KY	BLANK0000034634	248.8
	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000034649	121.2

Service area		Terrain-limited		IX-free		Percent IX	
31019.1	2,185,591	30159.8	2,174,158	29385.0	2,159,185	2.57	0.69

Undesired		Total IX		Unique IX		Prct Unique IX	
WKGB-TV D29 DT CP		80.2	646	40.1	346	0.13	0.02
WIAT D30 DT LIC		278.4	6,263	262.3	6,154	0.87	0.28
WTCT D30 DT CP		460.4	8,397	388.2	7,758	1.29	0.36
WKPC-TV D30 DT CP		20.0	261	11.9	76	0.04	0.00
WKMA-TV D31 DT CP		12.0	64	0.0	0	0.00	0.00

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Interference to proposal scenario 2  
\*\*MX: 0.76% interference received

**Appendix B - Interference Analysis**  
**WNAB - Nashville, Tennessee**  
**Channel 30 - 725 kW - Page 5**

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WNAB	D30	DT	APP	NASHVILLE, TN	WNAB 30 DIE C170 725K	
Undesireds:	WKGB-TV	D29	DT	APP	BOWLING GREEN, KY	BLANK0000034655	92.9 km
	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	308.9
	WTCT	D30	DT	CP	MARION, IL	BLANK0000034912	244.8
	WKPC-TV	D30	DT	CP	LOUISVILLE, KY	BLANK0000034634	248.8
	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000034649	121.2

Service area	Terrain-limited	IX-free	Percent IX
31019.1 2,185,591	30159.8 2,174,158	29361.0 2,157,708	2.65 0.76

Undesired	Total IX	Unique IX	Prcnt Unique IX
WKGB-TV D29 DT APP 108.3	2,289	1,823	0.21 0.08
WIAT D30 DT LIC 278.4	6,263	6,154	0.87 0.28
WTCT D30 DT CP 460.4	8,397	7,758	1.29 0.36
WKPC-TV D30 DT CP 20.0	261	76	0.04 0.00
WKMA-TV D31 DT CP 12.0	64	0	0.00 0.00