

INTRODUCTION

This report and the accompanying technical exhibits are submitted to **amend a construction permit request for a minor modification** to licensed translator W222BZ at Bluhmtown, Tennessee, FCC File No. BLFT-20151230BHR. A change in location, HAAT and antenna is proposed. The facility will continue to serve as a fill-in rebroadcasting WMOT-FM HD2, 89.5 megahertz at Murfreesboro, Tennessee, FCC Facility ID 41997. The proposed 60 dBu contour remains within the 60 dBu of WMOT. The proposed move is 34.2 kilometers at 267 degrees. **The proposed 60 dBu contour overlaps the licensed 60 dBu contour.**

TECHNICAL ANALYSIS

An overlap study in Figure E-1 shows a portion of the W222BZ modification to channel 222D is within the WJXA channel 225C and WFCM channel 219C3 third adjacent protected contours. Therefore, the interfering +40 dBu F50,10 calculated within the WJXA contour is 103.6 dBu and within the WFCM contour is calculated at 104.7 dBu. Using the vertical elevation pattern of the BEXT TFC2K **five bay** off the shelf, the vertical analysis ensures the lowest point of the interference will not reach the ground i.e., any buildings or population. Using the vertical elevation pattern of the antenna (exhibit E-5) the actual line of sight F squared x kW reduced ERP from the interfering contour to the base of the tower was calculated geometrically relative to the tower site elevation at approximately two-degree intervals: Height Above Ground = COR AGL - (Line of Sight Distance x Sine(x)), where (x) is the depression angle from horizontal. Therefore, **a waiver of section 74.1204 for this facility is requested** in accordance with the Living Way Ministries FCC 08-242 ruling.

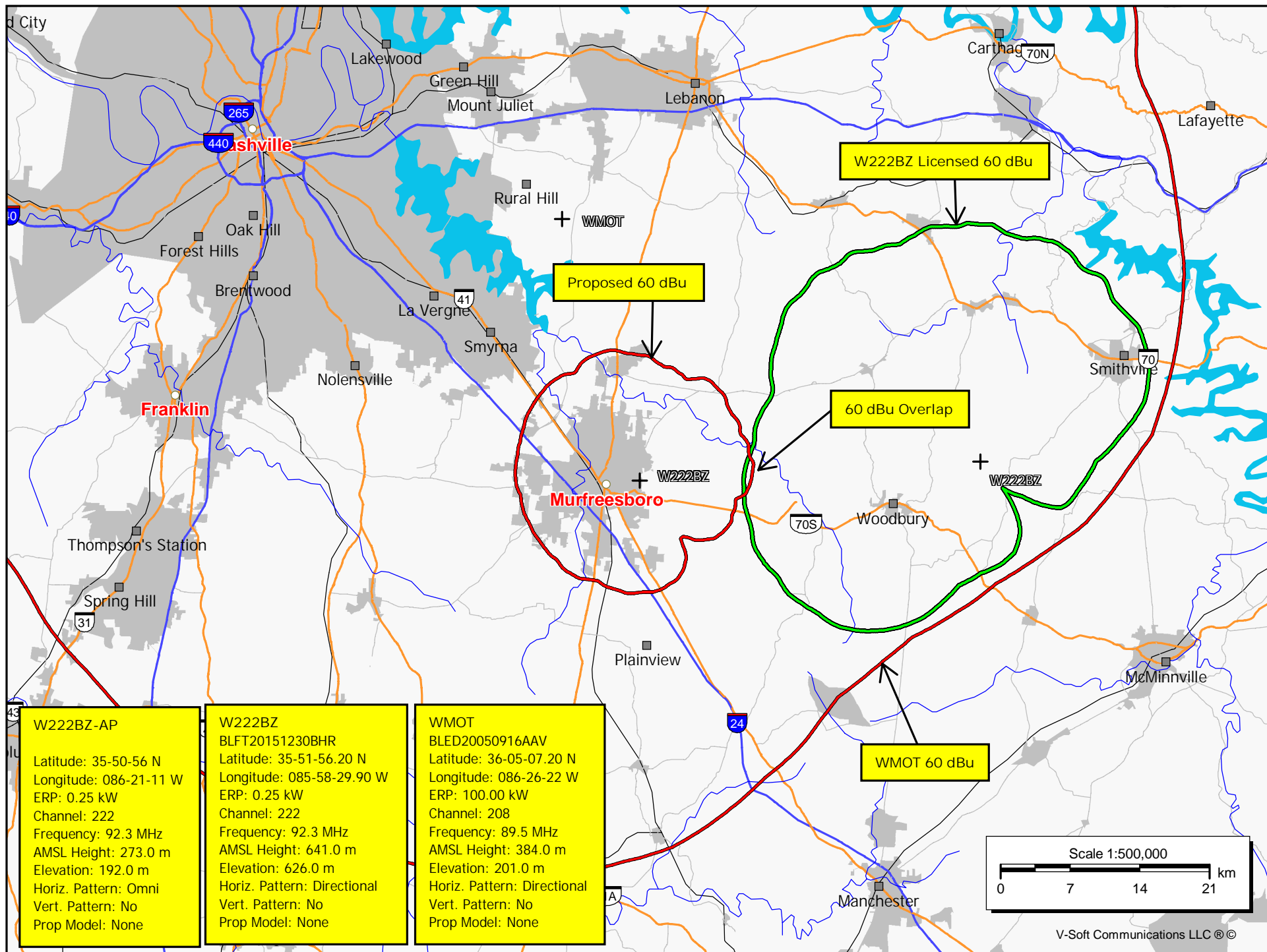
The W222BZ modification will be located on an existing tower, ASR 1061283, at coordinates N. 35-50-56.0 - W. 86-21-11.0 (NAD83). The antenna will be mounted at a COR AGL of **81.0 meters**, 274 meters AMSL, and will operate at an ERP of **0.250 kilowatts**.

RF EXPOSURE

The RF contribution is calculated using the formula from OET Bulletin 65: $S \text{ (rf in microwatts/cm}^2\text{)} = 33.4 \times F \text{ sq} \times (H \text{ ERP} + V \text{ ERP in watts}) / R \text{ sq}$ (height of radiation centers in meters - 2 m). Using the worst case vertical (F) factor of 1.0, the RF is calculated to be well below the 5% of the 200 uW/cm² maximum permissible for public exposure, allowing exclusion from consideration. The area around the tower is fenced, posted and the applicant controls access to tower.

CONCLUSION

It is concluded that the proposed minor modification complies with all Commission rules and policies.



REFERENCE
35 50 56.20 N.
86 21 11.00 W.

CH# 222D - 92.3 MHz, Pwr= 0.25 kW DA, HAAT= 80.6 M, COR= 273 M
Average Protected F(50-50)= 11.61 km
Standard Directional

DISPLAY DATES
DATA 11-29-22
SEARCH 11-29-22

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
222CO Chattanooga	WDEF-FM	LIC_CN TN	130.1 310.7	122.40 BMLH20050831ADG	35 08 06.30 85 19 24.90	100.000 360	166.1 743	66.7 Jackson	-52.8*	25.1 Telecasters, Inc.
222D Blumtown	W222BZ	APP DCN TN	0.0 0.0	0.00 0000197032	35 50 56.00 86 21 11.00	0.120	26.6 277	7.9 Middle Tennessee State Uni	-39.2*	-51.3*
222D Blumtown	W222BZ	LIC DVN TN	86.8 267.0	34.11 BLFT20151230BHR	35 51 56.20 85 58 29.90	0.250	72.3 641	23.7 Middle Tennessee State Uni	-49.4*	-28.8*
225C Nashville	WJXA	LIC_CN TN	298.8 118.4	63.07 BLH19861204KB	36 07 14.20 86 58 07.00	100.000 321	9.9 507	71.5 Midwest Communications, In	40.1	-9.5*
219C3 Murfreesboro	WFCM-FM	LIC DEN TN	257.5 77.3	24.78 BLED20050411AAI	35 48 01.20 86 37 17.00	2.500 231	2.4 468	32.3 The Moody Bible Institute	10.3	-8.6*
221A Goodlettsville	WQOK	LIC_CN TN	324.3 144.1	61.45 BLH20130125ACM	36 17 50.20 86 45 11.00	3.500 133	49.2 319	32.8 Cumulus Licensing LLC	-0.8	9.0
275C1 La Vergne	WBUZ	LIC_CN TN	257.5 77.3	24.84 BMLH20021209ABP	35 48 01.20 86 37 17.00	100.000 291	47.1 530	31.3 Wycq, Inc	21.5R	3.3M
223D Brentwood	W223BV	LIC_CN TN	319.5 139.2	60.82 0000177663	36 15 49.80 86 47 38.90	0.250	37.6 526	24.8 Educational Media Foundati	10.0	16.1
223D Lewesburg	W223CY	LIC_CN TN	221.4 41.1	58.85 BLFT20180710ABA	35 27 03.30 86 46 57.00	0.250	14.1 270	10.2 Wj j m, Inc.	33.1	31.7
221D Mcminville	W221ED	LIC_CN TN	111.1 291.4	55.83 0000156787	35 40 00.00 85 46 35.00	0.250	12.6 355	8.8 Peg Broadcasting, LLC	33.3	32.2

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.

General data of antenna System

TX station	
Site Name	
System of coordinates	WGS84
Longitude	
Latitude	
Ground level a.s.l. (m)	1.0
Antenna system height (m)	1.0
Transmitter power(Watt)	1000.000
Carrier wave frequency (MHz)	96.100
Antenna system central frequency (MHz)	96.100
Antenna base diagrams type 1	TFC2K
Polarization (H/V/C/X)	C
Transmitting cable attenuation (dB)	0.6
Additional attenuations(dB)	0.3
Base diagrams sectors (T = All, F = Front)	T
Velocity factor of cables to Antennas (0÷1)	0.89
Coordinate System(C = cartesian, P = polar)	P
Mast side / diameter(cm)	0.0
Mast cross section (T/Q/C)	Q
Structure rotation w.r.t. North (°)	0.0
Mast rotation w.r.t. North (°)	0.0

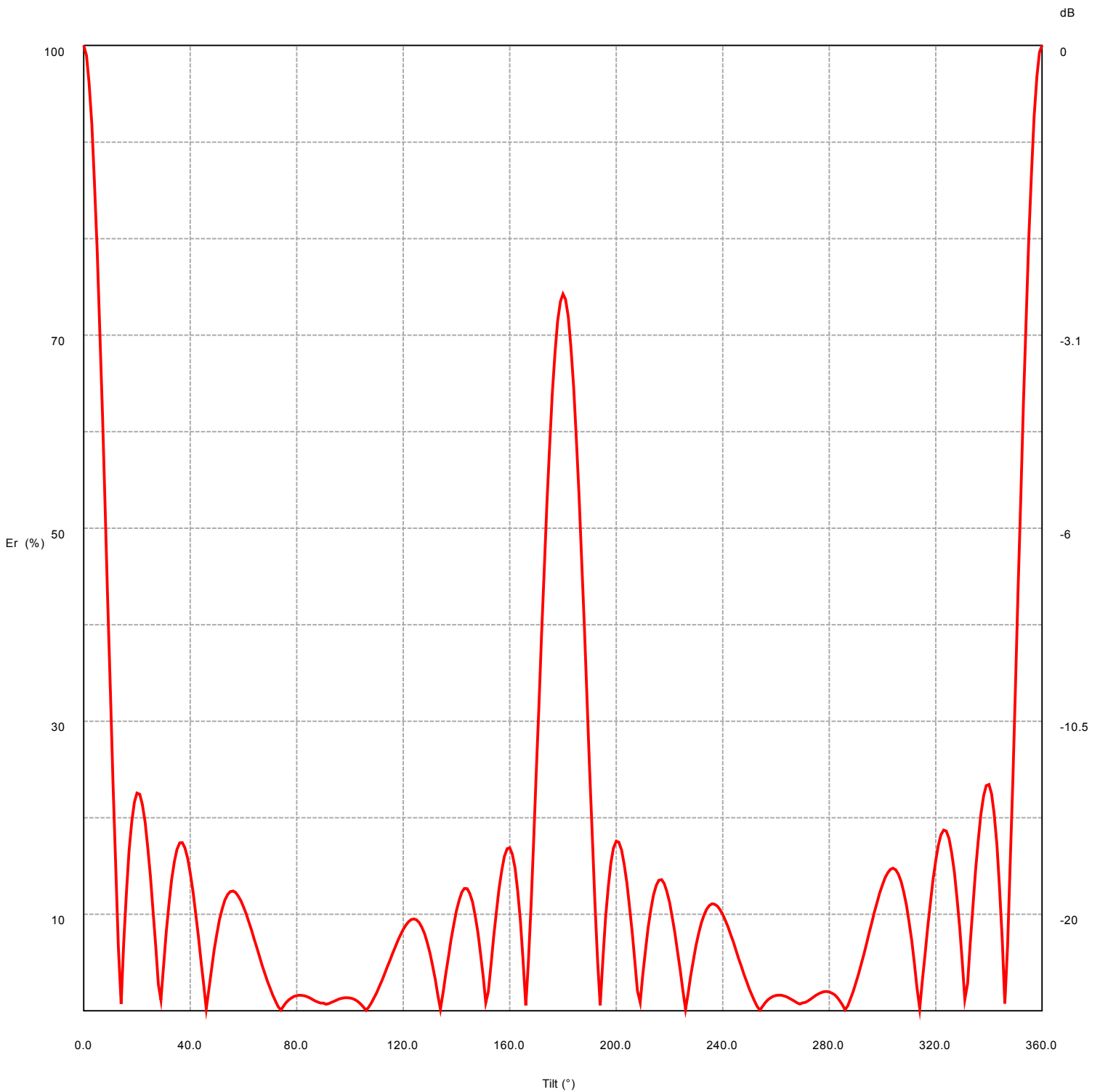
Information about antennas used in the System

	Antenna
Manufacturer	Telecom
Antenna model	TFC2K
Band start(MHz)	87
Band stop(MHz)	108
diagrams Frequency(MHz)	96.10
Polariz (H/V/C/X)	C
Vertical dist (cm)	320
Height (cm)	250
Width (cm)	170
Thickness (cm)	150
Weight (Kg)	80
Maximum power (KW)	4
Gain (dBd)	-3.51
North E.C. (cm)	0
East E.C. (cm)	0
Return loss (dB)	0
R.C.Phase (°)	0

Geometrical and electrical data of antenna System

	<i>Power</i> (%)	<i>Tilt</i> (°)	<i>Az.</i> (°/N)	<i>Phase</i> (°)	<i>V dist.</i> (m)	<i>Scr-d</i> (cm)	<i>Scr-Az</i> (°/N)	<i>Rot.</i> (1÷4)	<i>Type</i> (1÷2)	<i>L cables</i> (cm)	<i>Car. phase</i> (°)
1	20.000	0	0	0 +0.0	5.20	0.0	0.0	1	1	0.0	0.0
2	20.000	0	0	0 +0.0	2.60	0.0	0.0	1	1	0.0	0.0
3	20.000	0	0	0 +0.0	0.00	0.0	0.0	1	1	0.0	0.0
4	20.000	0	0	0 +0.0	-2.60	0.0	0.0	1	1	0.0	0.0
5	20.000	0	0	0 +0.0	-5.20	0.0	0.0	1	1	0.0	0.0

Vertical diagram at an azimuth of 65.0°



65.0° Az. (Total Antenna), Gain (dBd): 3.47

ERP T.Max(KW): 2.223 ERP E.Max(KW): 1.807

Vertical diagram at an azimuth of 65.0°

Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)
0.0	100.0	1.807	60.0	10.8	0.021	120.0	8.4	0.013
1.0	98.9	1.769	61.0	10.0	0.018	121.0	8.9	0.014
2.0	96.1	1.670	62.0	9.2	0.015	122.0	9.2	0.015
3.0	91.8	1.523	63.0	8.3	0.013	123.0	9.4	0.016
4.0	85.9	1.333	64.0	7.4	0.010	124.0	9.5	0.016
5.0	78.7	1.120	65.0	6.5	0.008	125.0	9.4	0.016
6.0	70.5	0.899	66.0	5.6	0.006	126.0	9.1	0.015
7.0	61.6	0.686	67.0	4.7	0.004	127.0	8.7	0.014
8.0	52.2	0.492	68.0	3.9	0.003	128.0	8.0	0.011
9.0	42.5	0.327	69.0	3.1	0.002	129.0	7.1	0.009
10.0	32.9	0.196	70.0	2.3	0.001	130.0	6.0	0.006
11.0	23.6	0.100	71.0	1.6	0.000	131.0	4.7	0.004
12.0	14.7	0.039	72.0	1.0	0.000	132.0	3.2	0.002
13.0	6.6	0.008	73.0	0.4	0.000	133.0	1.6	0.000
14.0	0.7	0.000	74.0	0.1	0.000	134.0	0.2	0.000
15.0	7.1	0.009	75.0	0.5	0.000	135.0	2.0	0.001
16.0	12.4	0.028	76.0	0.8	0.000	136.0	3.8	0.003
17.0	16.6	0.050	77.0	1.1	0.000	137.0	5.7	0.006
18.0	19.7	0.070	78.0	1.3	0.000	138.0	7.4	0.010
19.0	21.6	0.084	79.0	1.5	0.000	139.0	9.0	0.015
20.0	22.5	0.092	80.0	1.6	0.000	140.0	10.4	0.020
21.0	22.4	0.091	81.0	1.6	0.000	141.0	11.5	0.024
22.0	21.4	0.083	82.0	1.6	0.000	142.0	12.3	0.027
23.0	19.6	0.069	83.0	1.5	0.000	143.0	12.7	0.029
24.0	17.0	0.052	84.0	1.4	0.000	144.0	12.6	0.029
25.0	13.9	0.035	85.0	1.3	0.000	145.0	12.2	0.027
26.0	10.4	0.020	86.0	1.2	0.000	146.0	11.3	0.023
27.0	6.6	0.008	87.0	1.0	0.000	147.0	9.9	0.018
28.0	2.7	0.001	88.0	0.9	0.000	148.0	8.1	0.012
29.0	1.1	0.000	89.0	0.8	0.000	149.0	6.0	0.006
30.0	4.8	0.004	90.0	0.8	0.000	150.0	3.5	0.002
31.0	8.2	0.012	91.0	0.7	0.000	151.0	0.8	0.000
32.0	11.1	0.022	92.0	0.7	0.000	152.0	2.0	0.001
33.0	13.6	0.033	93.0	0.9	0.000	153.0	4.9	0.004
34.0	15.5	0.043	94.0	1.0	0.000	154.0	7.7	0.011
35.0	16.7	0.051	95.0	1.1	0.000	155.0	10.3	0.019
36.0	17.4	0.055	96.0	1.2	0.000	156.0	12.7	0.029
37.0	17.4	0.055	97.0	1.3	0.000	157.0	14.6	0.038
38.0	16.9	0.052	98.0	1.3	0.000	158.0	16.0	0.046
39.0	15.8	0.045	99.0	1.4	0.000	159.0	16.8	0.051
40.0	14.3	0.037	100.0	1.3	0.000	160.0	16.9	0.052
41.0	12.4	0.028	101.0	1.2	0.000	161.0	16.2	0.048
42.0	10.2	0.019	102.0	1.1	0.000	162.0	14.8	0.039
43.0	7.8	0.011	103.0	0.9	0.000	163.0	12.5	0.028
44.0	5.2	0.005	104.0	0.7	0.000	164.0	9.3	0.016
45.0	2.7	0.001	105.0	0.4	0.000	165.0	5.3	0.005
46.0	0.2	0.000	106.0	0.1	0.000	166.0	0.5	0.000
47.0	2.2	0.001	107.0	0.3	0.000	167.0	4.9	0.004
48.0	4.3	0.003	108.0	0.8	0.000	168.0	11.1	0.022
49.0	6.3	0.007	109.0	1.3	0.000	169.0	17.7	0.057
50.0	8.0	0.012	110.0	1.9	0.001	170.0	24.7	0.110
51.0	9.5	0.016	111.0	2.5	0.001	171.0	31.9	0.183
52.0	10.6	0.020	112.0	3.1	0.002	172.0	39.1	0.276
53.0	11.5	0.024	113.0	3.8	0.003	173.0	46.0	0.383
54.0	12.0	0.026	114.0	4.5	0.004	174.0	52.6	0.501
55.0	12.3	0.028	115.0	5.2	0.005	175.0	58.7	0.623
56.0	12.4	0.028	116.0	5.9	0.006	176.0	63.9	0.739
57.0	12.3	0.027	117.0	6.6	0.008	177.0	68.3	0.843
58.0	11.9	0.026	118.0	7.3	0.010	178.0	71.5	0.923
59.0	11.4	0.024	119.0	7.9	0.011	179.0	73.5	0.976

W222BZ - WJXA

W222BZ 106.63 dBu
(50:10) WJXA
Interference Contour



W222BZ Murfreesboro, TN, Showing Protection to WFCM-FM , Channel: 219
 Geographic Coordinates: N. 355056.0 W. 86 21 11.00
 74.1204(d) Study - Using FCC 30 SEC Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 236
 Translator or LPFM Antenna Height AG = 81 meters
 W222BZ Antenna Model = Bext TFC2K-5-83% Spaced

Protected Station's Contour = 64.88795 dBu
 Translator's or LPFM's full Interference contour 104.88795

Review Azimuth = 0 Degrees True
 Horizontal Relative Field at Review Azimuth = 1.000
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW
 Distance between stations = 24.8 km
 Protected Station= WFCM-FM, 2.5 kW, 468 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.2500	631.7896	631.7896	081.000
01.00	0.989	1.0	0.2445	624.8400	624.7448	070.095
02.00	0.961	1.0	0.2309	607.1499	606.7800	059.811
03.00	0.918	1.0	0.2107	579.9829	579.1880	050.646
04.00	0.859	1.0	0.1845	542.7073	541.3853	043.143
05.00	0.787	1.0	0.1548	497.2185	495.3264	037.665
06.00	0.705	1.0	0.1243	445.4117	442.9717	034.442
07.00	0.616	1.0	0.0949	389.1824	386.2815	033.571
08.00	0.522	1.0	0.0681	329.7942	326.5847	035.102
09.00	0.425	1.0	0.0452	268.5106	265.2048	038.996
10.00	0.329	1.0	0.0271	207.8588	204.7009	044.906
11.00	0.236	1.0	0.0139	149.1024	146.3629	052.550
12.00	0.147	1.0	0.0054	092.8731	090.8436	061.691
13.00	0.066	1.0	0.0011	041.6981	040.6294	071.620
14.00	0.007	1.0	0.0000	004.4225	004.2912	079.930
15.00	0.071	1.0	0.0013	044.8571	043.3286	069.390
16.00	0.124	1.0	0.0038	078.3419	075.3071	059.406
17.00	0.166	1.0	0.0069	104.8771	100.2944	050.337
18.00	0.197	1.0	0.0097	124.4626	118.3709	042.539
19.00	0.216	1.0	0.0117	136.4666	129.0317	036.571
20.00	0.225	1.0	0.0127	142.1527	133.5798	032.381
21.00	0.224	1.0	0.0125	141.5209	132.1211	030.283
22.00	0.214	1.0	0.0114	135.2030	125.3580	030.352
23.00	0.196	1.0	0.0096	123.8308	113.9868	032.615
24.00	0.17	1.0	0.0072	107.4042	098.1187	037.315
25.00	0.139	1.0	0.0048	087.8188	079.5908	043.886
26.00	0.104	1.0	0.0027	065.7061	059.0563	052.196
27.00	0.066	1.0	0.0011	041.6981	037.1533	062.069
28.00	0.027	1.0	0.0002	017.0583	015.0616	072.992
29.00	0.011	1.0	0.0000	006.9497	006.0783	077.631
30.00	0.048	1.0	0.0006	030.3259	026.2630	065.837
31.00	0.082	1.0	0.0017	051.8068	044.4071	054.318
32.00	0.111	1.0	0.0031	070.1287	059.4725	043.837
33.00	0.136	1.0	0.0046	085.9234	072.0614	034.203
34.00	0.155	1.0	0.0060	097.9274	081.1855	026.240
35.00	0.167	1.0	0.0070	105.5089	086.4278	020.483
36.00	0.174	1.0	0.0076	109.9314	088.9364	016.384
37.00	0.174	1.0	0.0076	109.9314	087.7951	014.842
38.00	0.169	1.0	0.0071	106.7725	084.1378	015.264
39.00	0.158	1.0	0.0062	099.8228	077.5769	018.179
40.00	0.143	1.0	0.0051	090.3459	069.2090	022.927
41.00	0.124	1.0	0.0038	078.3419	059.1254	029.603
42.00	0.102	1.0	0.0026	064.4425	047.8901	037.880
43.00	0.078	1.0	0.0015	049.2796	036.0408	047.391
44.00	0.052	1.0	0.0007	032.8531	023.6325	058.178
45.00	0.027	1.0	0.0002	017.0583	012.0621	068.938
46.00	0.002	1.0	0.0000	001.2636	000.8778	080.091
47.00	0.022	1.0	0.0001	013.8994	009.4793	070.835
48.00	0.041	1.0	0.0004	026.1140	017.4737	061.594
49.00	0.061	1.0	0.0009	038.3286	025.1458	052.073
50.00	0.08	1.0	0.0016	050.5432	032.4885	042.282

51.00	0.095	1.0	0.0023	060.0200	037.7718	034.356
52.00	0.106	1.0	0.0028	066.9697	041.2307	028.227
53.00	0.115	1.0	0.0033	072.6558	043.7254	022.974
54.00	0.12	1.0	0.0036	075.8148	044.5628	019.665
55.00	0.123	1.0	0.0038	077.7101	044.5727	017.344
56.00	0.124	1.0	0.0038	078.3419	043.8082	016.052
57.00	0.123	1.0	0.0038	077.7101	042.3240	015.827
58.00	0.119	1.0	0.0035	075.1830	039.8409	017.241
59.00	0.114	1.0	0.0032	072.0240	037.0951	019.263
60.00	0.108	1.0	0.0029	068.2333	034.1166	021.908
61.00	0.1	1.0	0.0025	063.1790	030.6298	025.742
62.00	0.092	1.0	0.0021	058.1246	027.2879	029.679
63.00	0.083	1.0	0.0017	052.4385	023.8066	034.277
64.00	0.074	1.0	0.0014	046.7524	020.4949	038.979
65.00	0.065	1.0	0.0011	041.0663	017.3554	043.781
66.00	0.056	1.0	0.0008	035.3802	014.3904	048.679
67.00	0.047	1.0	0.0006	029.6941	011.6024	053.666
68.00	0.039	1.0	0.0004	024.6398	009.2302	058.154
69.00	0.031	1.0	0.0002	019.5855	007.0188	062.715
70.00	0.023	1.0	0.0001	014.5312	004.9700	067.345
71.00	0.016	1.0	0.0001	010.1086	003.2910	071.442
72.00	0.01	1.0	0.0000	006.3179	001.9523	074.991
73.00	0.004	1.0	0.0000	002.5272	000.7389	078.583
74.00	0.001	1.0	0.0000	000.6318	000.1741	080.393
75.00	0.005	1.0	0.0000	003.1589	000.8176	077.949
76.00	0.008	1.0	0.0000	005.0543	001.2228	076.096
77.00	0.011	1.0	0.0000	006.9497	001.5633	074.228
78.00	0.013	1.0	0.0000	008.2133	001.7076	072.966
79.00	0.015	1.0	0.0001	009.4768	001.8083	071.697
80.00	0.016	1.0	0.0001	010.1086	001.7553	071.045
81.00	0.016	1.0	0.0001	010.1086	001.5813	071.016
82.00	0.016	1.0	0.0001	010.1086	001.4069	070.990
83.00	0.015	1.0	0.0001	009.4768	001.1549	071.594
84.00	0.014	1.0	0.0000	008.8451	000.9246	072.203
85.00	0.013	1.0	0.0000	008.2133	000.7158	072.818
86.00	0.012	1.0	0.0000	007.5815	000.5289	073.437
87.00	0.01	1.0	0.0000	006.3179	000.3307	074.691
88.00	0.009	1.0	0.0000	005.6861	000.1984	075.317
89.00	0.008	1.0	0.0000	005.0543	000.0882	075.946
90.00	0.008	1.0	0.0000	005.0543	000.0000	075.946

W222BZ Murfreesboro, TN, Showing Protection to WJXA, Channel: 225
 Geographic Coordinates: N. 355056.0 W. 86 21 11.00
 74.1204(d) Study - Using FCC 30 SEC Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 236
 Translator or LPFM Antenna Height AG = 81 meters
 W222BZ Antenna Model = Bext TFC2K-5-83% Spacing

Protected Station's Contour = 63.62558 dBu
 Translator's or LPFM's full Interference contour 103.62558

Review Azimuth = 0 Degrees True
 Horizontal Relative Field at Review Azimuth = 1.000
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW
 Distance between stations = 63.1 km
 Protected Station= WJXA, 100 kW, 507 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.2500	730.6191	730.6191	081.000
01.00	0.989	1.0	0.2445	722.5823	722.4722	068.389
02.00	0.961	1.0	0.2309	702.1249	701.6972	056.496
03.00	0.918	1.0	0.2107	670.7083	669.7891	045.898
04.00	0.859	1.0	0.1845	627.6018	626.0730	037.221
05.00	0.787	1.0	0.1548	574.9972	572.8092	030.886
06.00	0.705	1.0	0.1243	515.0864	512.2647	027.159
07.00	0.616	1.0	0.0949	450.0613	446.7067	026.151
08.00	0.522	1.0	0.0681	381.3832	377.6716	027.922
09.00	0.425	1.0	0.0452	310.5131	306.6902	032.425
10.00	0.329	1.0	0.0271	240.3737	236.7219	039.260
11.00	0.236	1.0	0.0139	172.4261	169.2581	048.100
12.00	0.147	1.0	0.0054	107.4010	105.0540	058.670
13.00	0.066	1.0	0.0011	048.2209	046.9850	070.153
14.00	0.007	1.0	0.0000	005.1143	004.9624	079.763
15.00	0.071	1.0	0.0013	051.8740	050.1064	067.574
16.00	0.124	1.0	0.0038	090.5968	087.0872	056.028
17.00	0.166	1.0	0.0069	121.2828	115.9833	045.540
18.00	0.197	1.0	0.0097	143.9320	136.8874	036.523
19.00	0.216	1.0	0.0117	157.8137	149.2158	029.621
20.00	0.225	1.0	0.0127	164.3893	154.4754	024.776
21.00	0.224	1.0	0.0125	163.6587	152.7885	022.350
22.00	0.214	1.0	0.0114	156.3525	144.9675	022.429
23.00	0.196	1.0	0.0096	143.2013	131.8175	025.047
24.00	0.17	1.0	0.0072	124.2052	113.4671	030.481
25.00	0.139	1.0	0.0048	101.5560	092.0410	038.081
26.00	0.104	1.0	0.0027	075.9844	068.2943	047.691
27.00	0.066	1.0	0.0011	048.2209	042.9651	059.108
28.00	0.027	1.0	0.0002	019.7267	017.4177	071.739
29.00	0.011	1.0	0.0000	008.0368	007.0292	077.104
30.00	0.048	1.0	0.0006	035.0697	030.3713	063.465
31.00	0.082	1.0	0.0017	059.9108	051.3535	050.144
32.00	0.111	1.0	0.0031	081.0987	068.7756	038.024
33.00	0.136	1.0	0.0046	099.3642	083.3338	026.882
34.00	0.155	1.0	0.0060	113.2460	093.8852	017.674
35.00	0.167	1.0	0.0070	122.0134	099.9475	011.016
36.00	0.174	1.0	0.0076	127.1277	102.8485	006.276
37.00	0.174	1.0	0.0076	127.1277	101.5287	004.493
38.00	0.169	1.0	0.0071	123.4746	097.2993	004.981
39.00	0.158	1.0	0.0062	115.4378	089.7120	008.353
40.00	0.143	1.0	0.0051	104.4785	080.0352	013.842
41.00	0.124	1.0	0.0038	090.5968	068.3742	021.563
42.00	0.102	1.0	0.0026	074.5231	055.3815	031.134
43.00	0.078	1.0	0.0015	056.9883	041.6786	042.134
44.00	0.052	1.0	0.0007	037.9922	027.3293	054.608
45.00	0.027	1.0	0.0002	019.7267	013.9489	067.051
46.00	0.002	1.0	0.0000	001.4612	001.0151	079.949
47.00	0.022	1.0	0.0001	016.0736	010.9622	069.244
48.00	0.041	1.0	0.0004	030.1989	020.2070	058.558
49.00	0.061	1.0	0.0009	044.3242	029.0793	047.548
50.00	0.08	1.0	0.0016	058.4495	037.5706	036.225

51.00	0.095	1.0	0.0023	069.4088	043.6804	027.059
52.00	0.106	1.0	0.0028	077.4456	047.6803	019.972
53.00	0.115	1.0	0.0033	084.0212	050.5652	013.898
54.00	0.12	1.0	0.0036	087.6743	051.5337	010.070
55.00	0.123	1.0	0.0038	089.8661	051.5451	007.386
56.00	0.124	1.0	0.0038	090.5968	050.6611	005.892
57.00	0.123	1.0	0.0038	089.8661	048.9446	005.632
58.00	0.119	1.0	0.0035	086.9437	046.0731	007.268
59.00	0.114	1.0	0.0032	083.2906	042.8978	009.606
60.00	0.108	1.0	0.0029	078.9069	039.4534	012.665
61.00	0.1	1.0	0.0025	073.0619	035.4211	017.099
62.00	0.092	1.0	0.0021	067.2170	031.5564	021.651
63.00	0.083	1.0	0.0017	060.6414	027.5306	026.968
64.00	0.074	1.0	0.0014	054.0658	023.7009	032.406
65.00	0.065	1.0	0.0011	047.4902	020.0702	037.959
66.00	0.056	1.0	0.0008	040.9147	016.6415	043.623
67.00	0.047	1.0	0.0006	034.3391	013.4174	049.391
68.00	0.039	1.0	0.0004	028.4941	010.6741	054.581
69.00	0.031	1.0	0.0002	022.6492	008.1167	059.855
70.00	0.023	1.0	0.0001	016.8042	005.7474	065.209
71.00	0.016	1.0	0.0001	011.6899	003.8059	069.947
72.00	0.01	1.0	0.0000	007.3062	002.2577	074.051
73.00	0.004	1.0	0.0000	002.9225	000.8544	078.205
74.00	0.001	1.0	0.0000	000.7306	000.2014	080.298
75.00	0.005	1.0	0.0000	003.6531	000.9455	077.471
76.00	0.008	1.0	0.0000	005.8450	001.4140	075.329
77.00	0.011	1.0	0.0000	008.0368	001.8079	073.169
78.00	0.013	1.0	0.0000	009.4980	001.9748	071.710
79.00	0.015	1.0	0.0001	010.9593	002.0911	070.242
80.00	0.016	1.0	0.0001	011.6899	002.0299	069.488
81.00	0.016	1.0	0.0001	011.6899	001.8287	069.454
82.00	0.016	1.0	0.0001	011.6899	001.6269	069.424
83.00	0.015	1.0	0.0001	010.9593	001.3356	070.122
84.00	0.014	1.0	0.0000	010.2287	001.0692	070.827
85.00	0.013	1.0	0.0000	009.4980	000.8278	071.538
86.00	0.012	1.0	0.0000	008.7674	000.6116	072.254
87.00	0.01	1.0	0.0000	007.3062	000.3824	073.704
88.00	0.009	1.0	0.0000	006.5756	000.2295	074.428
89.00	0.008	1.0	0.0000	005.8450	000.1020	075.156
90.00	0.008	1.0	0.0000	005.8450	000.0000	075.155