Comprehensive Engineering Exhibit
Minor Modification to BPFT-20130307ABO
Facility ID No. 140551, W248AW

This exhibit is for the minor change modification application of translator W248AW seeking to relocate onto an existing tower via use of a Mattoon waiver, to become fill-in for AM station WNDE, Facility ID No.: 59591, Indianapolis, Indiana.

Antenna Location

The proposed antenna is to be mounted on the existing tower identified by Antenna Registration No.: 1026780, with a radiation center at 218 meters above ground, using a directional antenna having the emissivity pattern of Figure 1, with a maximum effective radiated power of 250 watts.

Below as Figure 2 is an overlap and spacing study, incorporating the antenna pattern, from which it can be determined that this proposal is within the protected contour of second adjacent channel stations WLHK and WGNR-FM. Section 74.1204(d) states that "*The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable*."

We will demonstrate that a lack of population and/or other factors allow this proposal to be compliant with 74.1204. The process commonly called "Living Way"[1], allows for the use of U/D Analysis, also known as "signal strength ratio methodology" to be utilized. In this instant case the facilities to be protected are second adjacent and are to be afforded protection from signals 40 dB stronger than they present in the location of the proposed antenna location.

Figure 3 is a map showing the predicted signal contours of WLHK and WGNR-FM more than 500 meters beyond the proposed antenna location utilizing the FCC F50:50 curve. WLHK has a much stronger signal in the area of this proposed location than WGNR-FM. Thus, protection of the WGNR-FM 62.0 dBu contour from a signal produced by this proposal exceeding 102.0 is required, and by protecting this "weaker" signal compared to WGNR-FM, the protection requirements are demonstrated.

The proposed antenna location is 218 meters above ground level upon the tower shown in the Google Earth picture of Figure 4. Utilizing the line of sight equation[2] it has been determined that a 102.0 dBu signal developed by 250 watts, emitted by the proposed antenna, does not reach any habitable area in Figure 5. The provisions of the rules section concerning prohibited overlap will not apply as it

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[1] As recently described in FCC 08-242 in connection with BPFT-19981001TA

[2] ReachDistMeters=106.92-(20*(LOG10[DistMeters]/1000)))+[ERPin dBk]

has been demonstrated that no actual interference will occur due to a lack of population and other factors as applied in this instant proposal.

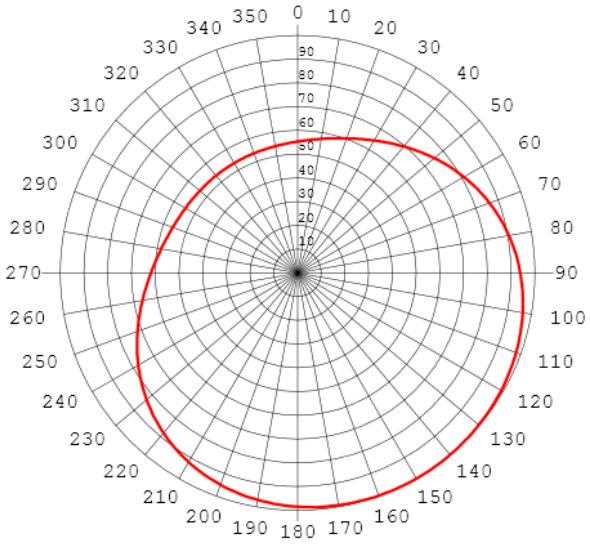
RF Fields Statement

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, “Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation.”

The proposed antenna system is a Scala“FMVMP-2”, 2- element; full-wave spaced antenna mounted 218 meters above ground. As this element type is modeled in the FM Model program has been set to calculate values for a “Rototiller” type of antenna element array, operated with an effective radiated power of 0.250 Kilowatts in both the vertical plane. At 2 meters above the surface, at 50 meters from the base of the tower, this proposal will contribute worst case, 0.17 microwatts per square centimeter, or 0.2 percent of the allowable ANSI limit for controlled exposure, and 1.0 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

Figure 1. Antenna Pattern



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.553	-11.17	0.076	-5.15	180	0.984	-6.16	0.242	-0.14
10	0.573	-10.86	0.082	-4.84	190	0.970	-6.29	0.235	-0.26
20	0.603	-10.41	0.091	-4.39	200	0.949	-6.48	0.225	-0.45
30	0.644	-9.84	0.104	-3.82	210	0.919	-6.75	0.211	-0.73
40	0.695	-9.18	0.121	-3.16	220	0.879	-7.14	0.193	-1.12
50	0.752	-8.50	0.141	-2.48	230	0.830	-7.64	0.172	-1.62
60	0.808	-7.87	0.163	-1.85	240	0.775	-8.23	0.150	-2.21
70	0.860	-7.33	0.185	-1.31	250	0.717	-8.91	0.129	-2.89
80	0.904	-6.90	0.204	-0.88	260	0.663	-9.59	0.110	-3.57
90	0.938	-6.58	0.220	-0.56	270	0.618	-10.20	0.095	-4.18
100	0.963	-6.35	0.232	-0.33	280	0.584	-10.69	0.085	-4.67
110	0.979	-6.20	0.240	-0.18	290	0.560	-11.06	0.078	-5.04
120	0.990	-6.11	0.245	-0.09	300	0.545	-11.29	0.074	-5.27
130	0.996	-6.06	0.248	-0.03	310	0.538	-11.40	0.072	-5.38
140	0.999	-6.03	0.250	-0.01	320	0.534	-11.47	0.071	-5.45
150	1.000	-6.02	0.250	0.00	330	0.534	-11.47	0.071	-5.45
160	0.998	-6.04	0.249	-0.02	340	0.536	-11.44	0.072	-5.42
170	0.993	-6.08	0.247	-0.06	350	0.542	-11.34	0.073	-5.32

Rotation Angle = 0

2/13/15 Id: 10001

Figure 2. Spacing Study

W248AW to ASR 1026780
Educational Media Foundation

REFERENCE CH# 248D - 97.5 MHz, Pwr= 0.25 kW DA, HAAT= 214.7 M, COR= 467.3 M DISPLAY DATES
39 53 42.9 N. Average Protected F(50-50)= 19.2 km DATA 02-13-15
86 12 04.0 W. Standard Directional SEARCH 02-13-15

CH CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr(kW)	INT(km)	PRO(km)	*IN*	*OUT*
CITY	STATE		<--	FILE #	LNG.	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
246B WLHK	LIC	CX	149.7	29.19	39 40 06.0	23.000	5.7	64.1	23.5	-34.9*
Shelbyville	IN		329.8	BMLH20070501AGZ	86 01 44.0	223	463	Emmis Radio License, Llc		
248D W248AW!	CP	C	149.7	29.19	39 40 06.0	0.240	58.0	18.5	-28.8	10.7
Indianapolis	IN		329.8	BPFT20130307ABO	86 01 44.0	215	455	Educational Media Foundati		
250B WGNR-FM	LIC	C	66.0	45.89	40 03 43.0	50.000	5.7	63.5	40.2	-17.6*
Anderson	IN		246.3	BMLED20030908ADX	85 42 34.0	149	405	The Moody Bible Institute		
248D W248AW!	LIC	C	165.0	43.97	39 30 46.0	0.035	13.7	4.3	30.2	39.7
Franklin	IN		345.1	BLFT20070919ABX	86 04 05.0	40	274	Educational Media Foundati		
248D W248BX	CP	C	327.5	51.51	40 17 09.0	0.140	20.4	6.1	31.1	45.4
Frankfort	IN		147.3	BNPFT20130822AEF	86 31 38.0	27	283	Kaspar Broadcasting Co, In		
249A WCLS	LIC	CX	207.1	83.82	39 13 22.0	6.000	45.2	29.3	38.6	54.5
Spencer	IN		26.8	BLH20051110ADE	86 38 40.0	100	321	Mid-america Radio Of India		
248A WTGR	LIC	ZCN	74.1	124.08	40 11 32.0	6.000	84.1	26.2	40.0	97.8
Union City	OH		255.0	BLH19941118KA	84 47 58.0	99	426	Positive Radio Group, Inc.		
Proposed to Canada as B1 on 920917-Accepted by Canada 921102										
248C1 WAMZ	LIC	CX	168.6	207.34	38 03 50.0	100.000	166.0	67.2	41.3	140.1
Louisville	KY		348.9	BMLH20080402AAP	85 43 52.0	205	372	Cc Licenses, Llc		
248C1 WAMZ	CP	CX	162.6	198.01	38 11 30.8	100.000	156.6	59.8	41.4	138.2
Louisville	KY		343.0	BPH20120419AAB	85 31 21.2	169	367	Cc Licenses, Llc		
248B WHMS-FM	LIC	CN	277.5	176.08	40 05 04.0	50.000	133.4	60.4	42.7	115.7
Champaign	IL		96.2	BLH19911022KB	88 14 53.0	109	328	D.w.s., Inc.		
249D W249CQ	CP	C	312.1	49.64	40 11 36.0	0.007	5.8	4.1	43.9	45.6
Cofax	IN		131.8	BNPFT20130829ACF	86 38 05.0	71	326	Friends Of Christian Radio		
248D W248BR	CP	C	288.5	70.14	40 05 31.0	0.038	22.6	6.8	47.6	63.4
Crawfordsville	IN		108.0	BNPFT20130326AAY	86 58 54.0	66	302	Friends Of Christian Radio		
245D W245CD	CP	C	314.5	78.84	40 23 24.0	0.250	1.1	10.4	77.7	68.4
Lafayette	IN		134.1	BNPFT20130823AAT	86 51 53.0	77	276	Kaspar Broadcasting Co, In		
249L1 WTGO-LP	LIC		314.5	78.86	40 23 26.0	0.100			70.9	73.2
Lafayette	IN		134.1	BLL20041008ACE	86 51 52.0	28	228	Harvest Chapel, Inc.		
248D W248BZ	CP	C	320.1	93.85	40 32 25.0	0.027	22.2	6.7	71.6	87.2
Delphi	IN		139.6	BNPFT20130829ACC	86 54 49.0	60	263	Friends Of Christian Radio		
247L1 WWCC-LP	LIC		314.5	78.86	40 23 26.0	0.014			71.7	73.7
West Lafayette	IN		134.1	BLL20050705AAY	86 51 52.0	79	279	Triangle Foundation, Inc.		

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference Zone= , Co to 3rd adjacent.
All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.
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.

Figure 3. Contour Map

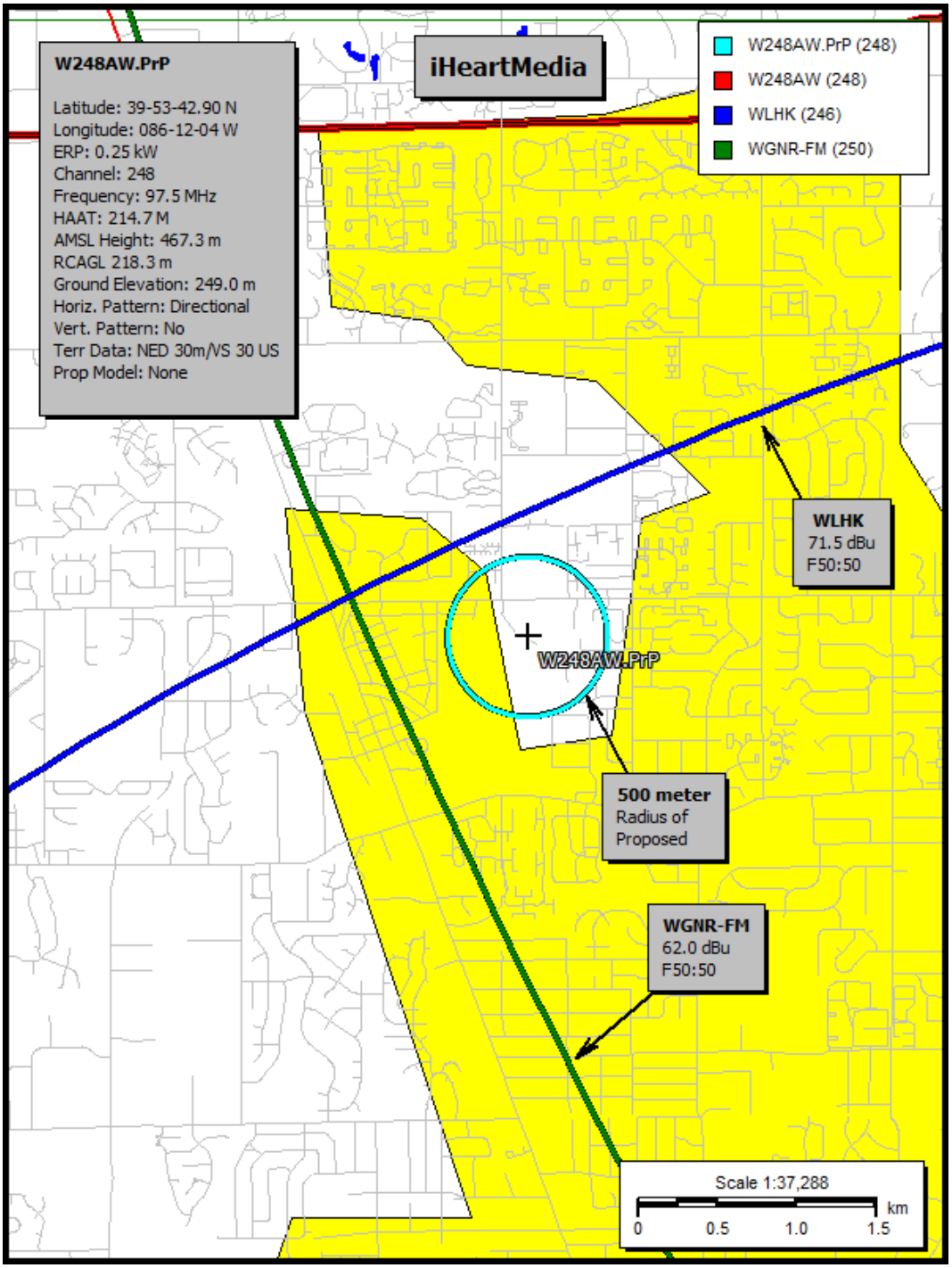


Figure 4. View of Antenna Location.

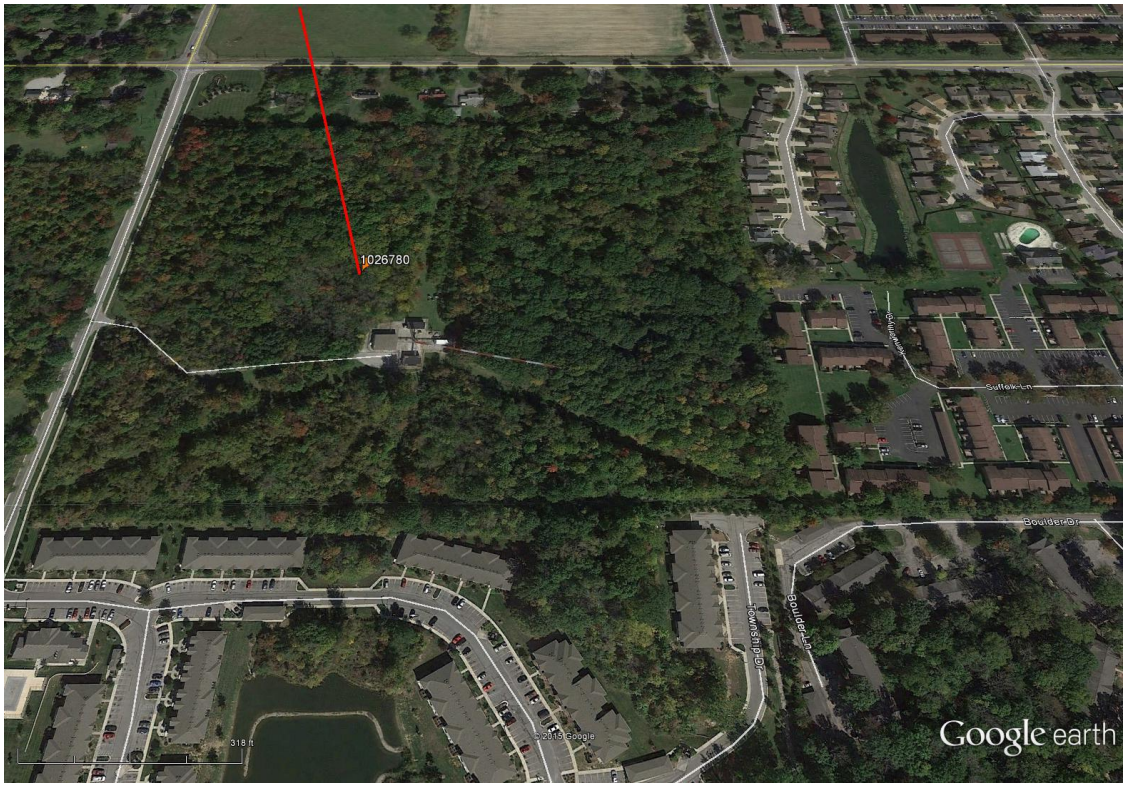


Figure 5. Distance to Signal Level Table.

Proposed Antenna:	Scala FMVMP-2	
Proposed Power:	0.25	kW
Antenna Height AGL:	218	meters
Interference Contour:	102	dBu f(50:10)
Artificial Rcv Antenna Height:	2	meters
Distance (Free Space) Equation:	=(10^((106.92-[desired dBu]+[ERP in dBk])/20))*1000	
Field Strength (dBu) Equation	"=106.92-(20*(LOG10[DistMeters]/1000)))+[ERPin dBk]	

Depression Angle Below Horizon	Antenna Relative Field	ERP in kW	ERP in dBk	Distance from Ant. to Interf Contour	Distance from Ant. to Artificial Plane	Field Strength in dBu @ Artificial Plane	Distance from Ant. to Ground Level	Field Strength in dBu @ Ground Level
0°	1.000	0.250	-6.02	880.99 m	infinite	---	infinite	---
-5°	0.967	0.234	-6.31	851.92 m	2478.32 m	92.72 dBu	########	92.64 dBu
-10°	0.873	0.191	-7.20	769.10 m	1243.89 m	97.82 dBu	########	97.74 dBu
-15°	0.726	0.132	-8.80	639.60 m	834.56 m	99.69 dBu	842.29 m	99.61 dBu
-20°	0.545	0.074	-11.29	480.14 m	631.54 m	99.62 dBu	637.39 m	99.54 dBu
-25°	0.350	0.031	-15.14	308.35 m	511.10 m	97.61 dBu	515.83 m	97.53 dBu
-30°	0.163	0.007	-21.78	143.60 m	432.00 m	92.43 dBu	436.00 m	92.35 dBu
-35°	0.010	0.000	-46.02	8.81 m	376.58 m	69.38 dBu	380.07 m	69.30 dBu
-40°	0.119	0.004	-24.51	104.84 m	336.04 m	91.88 dBu	339.15 m	91.80 dBu
-45°	0.198	0.010	-20.09	174.44 m	305.47 m	97.13 dBu	308.30 m	97.05 dBu
-50°	0.235	0.014	-18.60	207.03 m	281.97 m	99.32 dBu	284.58 m	99.24 dBu
-55°	0.240	0.014	-18.42	211.44 m	263.69 m	100.08 dBu	266.13 m	100.00 dBu
-60°	0.222	0.012	-19.09	195.58 m	249.42 m	99.89 dBu	251.72 m	99.81 dBu
-65°	0.189	0.009	-20.49	166.51 m	238.33 m	98.89 dBu	240.54 m	98.81 dBu
-70°	0.148	0.005	-22.62	130.39 m	229.86 m	97.08 dBu	231.99 m	97.00 dBu
-75°	0.105	0.003	-25.64	92.06 m	223.62 m	94.29 dBu	225.69 m	94.21 dBu
-80°	0.060	0.001	-30.46	52.86 m	219.33 m	89.64 dBu	221.36 m	89.56 dBu
-85°	0.018	0.000	-40.92	15.86 m	216.83 m	79.28 dBu	218.83 m	79.20 dBu
-90°	0.023	0.000	-38.79	20.26 m	216.00 m	81.44 dBu	218.00 m	81.36 dBu