

Comprehensive Engineering Exhibit

Amendment of Minor Change Application

BMPFT-20131217DFA

Facility ID No. 139698, W252CM

This exhibit is for amendment of the minor change application of translator W252CM BMPFT-20131217DFA for operation with a directional antenna, no other application parameters are to be changed.

Antenna Location

The proposed directional antenna is to be mounted on ASR 1042766 at 244 meters above ground, non-directional, with 250 watts maximum power utilizing the directional pattern of **Figure 1** below.

Below as **Figure 2** is a spacing study from which it can be determined that this proposal is within the protected contour of second adjacent channel stations WSIX-FM. Section 74.1244(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 74.1244. 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 contour of WSIX-FM at the proposed antenna location utilizing the FCC F50:50 curve. Thus, protection of the WSIX-FM 119.6dBu contour from a signal produced by this proposal exceeding 159.6 dBu is required.

Utilizing the line of sight equation² it has been determined that a 159.6 dBu signal is developed by 250 watts, as proposed, emitted by an isotropic emitter extends only out to a distance of 1.2 meters. As the antenna is mounted 244 meters above ground, and by examination of the image in **Figure 4** it can be seen that no habitable space extends into this radius of the antenna, the provisions of the rules section concerning prohibited overlap will not apply as it has been demonstrated that no actual interference will occur due to a lack of population and other factors as applied in this instant proposal.

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

² $\text{ReachDistMeters} = 106.92 - (20 * (\text{LOG10}[\text{DistMeters}/1000])) + [\text{ERP in dBk}]$

In **Figure 5**, the 60 dBu of the proposal is demonstrated to overlap the permit and be contained within that of the primary.

RF Radiation 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 antenna system is to be an ERI 100A-2, antenna, mounted 244 meters above ground level. This proposal will operate with a maximum effective radiated power of 0.250 kilowatt in the vertical and horizontal.

Using FM model set for a worst case "ring stub" antenna element, it has been determined that at 2 meters above ground, at 60 meters from the base of the tower, this proposal will contribute worst case 0.17 microwatts per square centimeter, or 0.02% of the allowable ANSI limit for controlled exposure, and 0.1% of the allowable limit for uncontrolled exposure. 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 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 access the pole for maintenance or inspection.



Figure 1. Directional Pattern

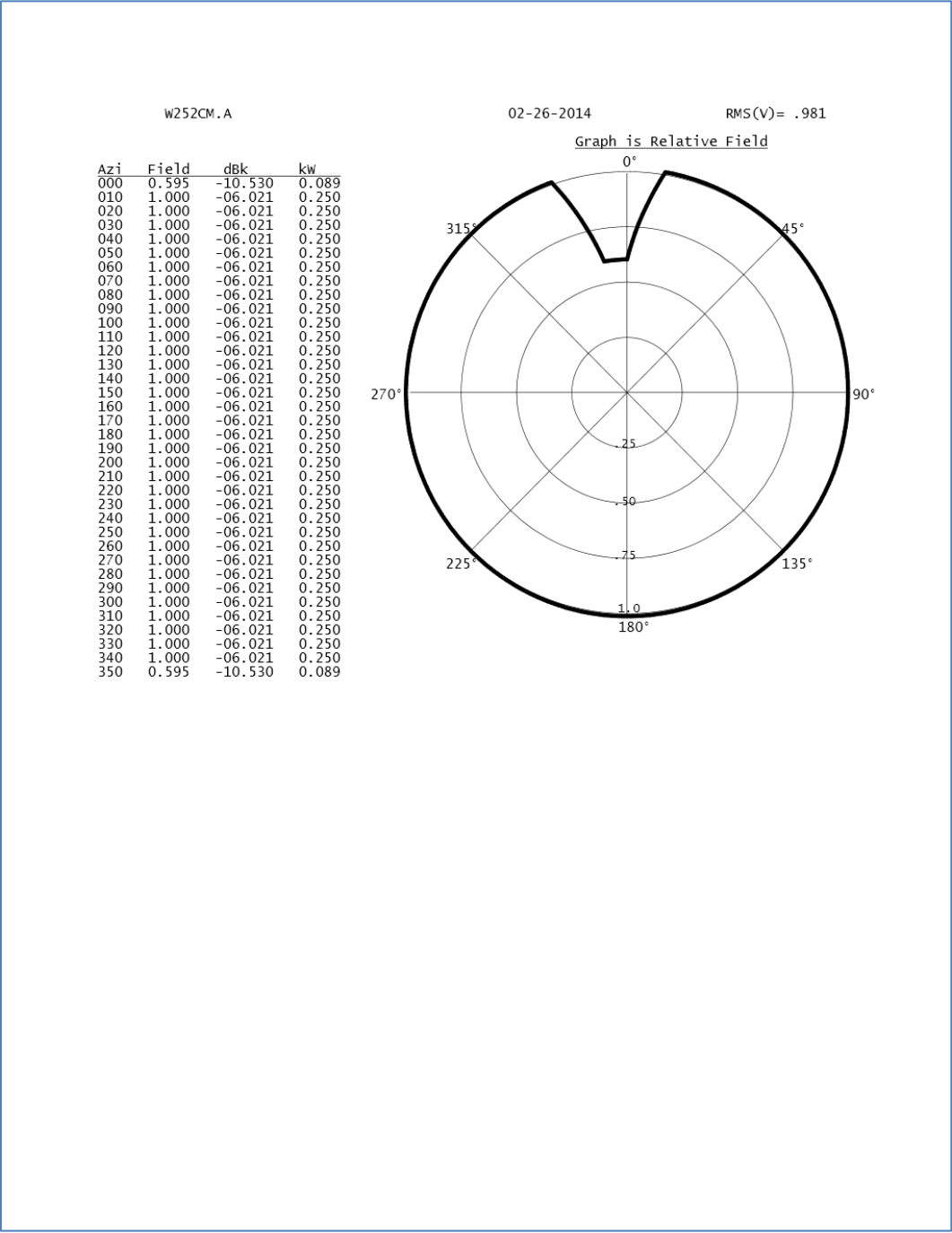


Figure 2. Spacing Study

w252CM Mod of Pending for DA Capstar Tx Limited Partnership											
REFERENCE		CH# 252D - 98.3 MHz, Pwr= 0.25 kw DA, HAAT= 0.0 M, COR= 496 M		Average Protected F(50-50)= 7.09 km		Standard Directional		DISPLAY DATES			
36 02 07.8 N.								DATA 02-26-14			
86 50 55.0 W.								SEARCH 02-26-14			
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)
252D	w252CM	APP _C_		0.0	0.00	36 02 07.8	0.250	71.5	23.8	-89.9*	-82.8*
Nashville		TN		0.0	BMPFT20131217DFA	86 50 55.0		496	Capstar	Tx Limited Partner	
250C0	WSIX-FM	LIC _CX		52.1	2.12	36 02 50.0	100.000	10.7	75.2	-30.8*	-74.1*
Nashville		TN		232.1	BMLH20050826ABB	86 49 48.0	349	550	Capstar	Tx Llc	
252D	w252CM	CP _C_		82.5	11.43	36 02 55.8	0.250	39.7	11.6	-50.5*	-67.5*
Nashville		TN		262.6	BNPFT20130304AAO	86 43 22.0	107	298	Capstar	Tx Limited Partner	
252C3	WKSJ-FM	LIC ZCX		202.5	106.27	35 09 00.0	18.000	104.4	34.6	-20.2	4.7
Loretto		TN		22.2	BLH20070427ABB	87 17 45.0	115	376	Pulaski	Broadcasting, Inc.	
252C1	WJLI	LIC _CX		298.8	168.12	36 45 09.0	100.000	162.2	64.1	-16.5	36.4
Metropolis		IL		117.9	BLH20030609ADV	88 29 58.0	213	358	Sun Media, Inc.		
254D	970829TG	APP _C_		353.7	19.35	36 12 32.0	0.080	0.6	5.4	0.4	13.3
Nashville		TN		173.6	BNPFT20131023AAP	86 52 21.0	22	194	Great Southern Broadcastin		
254D	970829TG	APP _C_		353.7	19.35	36 12 32.0	0.080	0.6	5.4	0.4	13.3
Translator for WFMQ, Lebanon, TN		TN			BNPFT19970829TG	86 52 21.0	22	194	Great Southern Broadcastin		
255A	WANT	CP _CX		72.4	44.61	36 09 20.0	3.900	2.7	28.9	19.4	14.6
Lebanon		TN		252.7	BPH20111118CPD	86 22 33.0	125	314	Bay-pointe Broadcasting, I		
253C2	WKSJ	LIC NCN		84.1	124.98	36 08 34.0	50.000	82.5	55.8	20.2	35.9
Cookeville		TN		264.9	BLH19910206KA	85 28 02.0	150	499	Cookeville Communications,		
252D	w252CV	CP _C_		14.6	106.11	36 57 37.0	0.250	46.7	13.7	36.3	23.0
Bowling Green		KY		194.8	BNPFT20130812AAI	86 32 49.0	123	297	Charles M. Anderson		
255D	w255AP	LIC _C_		281.2	46.13	36 06 53.0	0.023	0.3	5.4	23.3	39.6
Dickson		TN		100.9	BLFT20040120ABI	87 21 05.0	50	273	Pennyrile Christian Commun		
252D	WKSJ-FM1	LIC DC_		190.2	94.26	35 11 57.0	0.219	8.5	2.7	64.2	26.0
Pulaski		TN		10.1	BLFTB20120215ABS	87 01 55.8		243	Pulaski Broadcasting, Inc		
255A	WANT	LIC NCN		69.8	55.68	36 12 24.0	5.000	2.6	27.0	30.6	27.6
Lebanon		TN		250.1	BLH19931206KA	86 16 02.0	97	287	Bay-pointe Broadcasting, I		
254D	w254BW	CP _C_		211.3	64.52	35 32 19.0	0.250	1.1	10.7	41.3	52.7
Mount Pleasant		TN		31.1	BPFT20130425AEK	87 13 10.0	25	262	Roger wright Dba Prospect		
254D	w254BW	LIC _C_		207.4	74.59	35 26 19.0	0.250	1.1	14.1	51.3	59.4
Mount Pleasant		TN		27.2	BLFT20130124AED	87 13 41.0	86	357	Roger wright Dba Prospect		
254C1	WHOP-FM	LIC NCX		328.0	117.17	36 55 41.0	100.000	8.2	63.8	85.8	52.3
Hopkinsville		KY		147.6	BLH20041018ACH	87 32 50.0	189	366	Hop Broadcasting, Inc.		
252C3	WKEA-FM	LIC ZCX		153.0	186.75	34 32 00.0	11.000	107.1	41.7	59.5	82.9
Scottsboro		AL		333.5	BLH20070306ABV	85 55 20.0	150	505	Kea Radio, 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
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "IN" affixed to 'IN' or 'OUT' values = site inside protected contour.

Figure 3. Contour Map

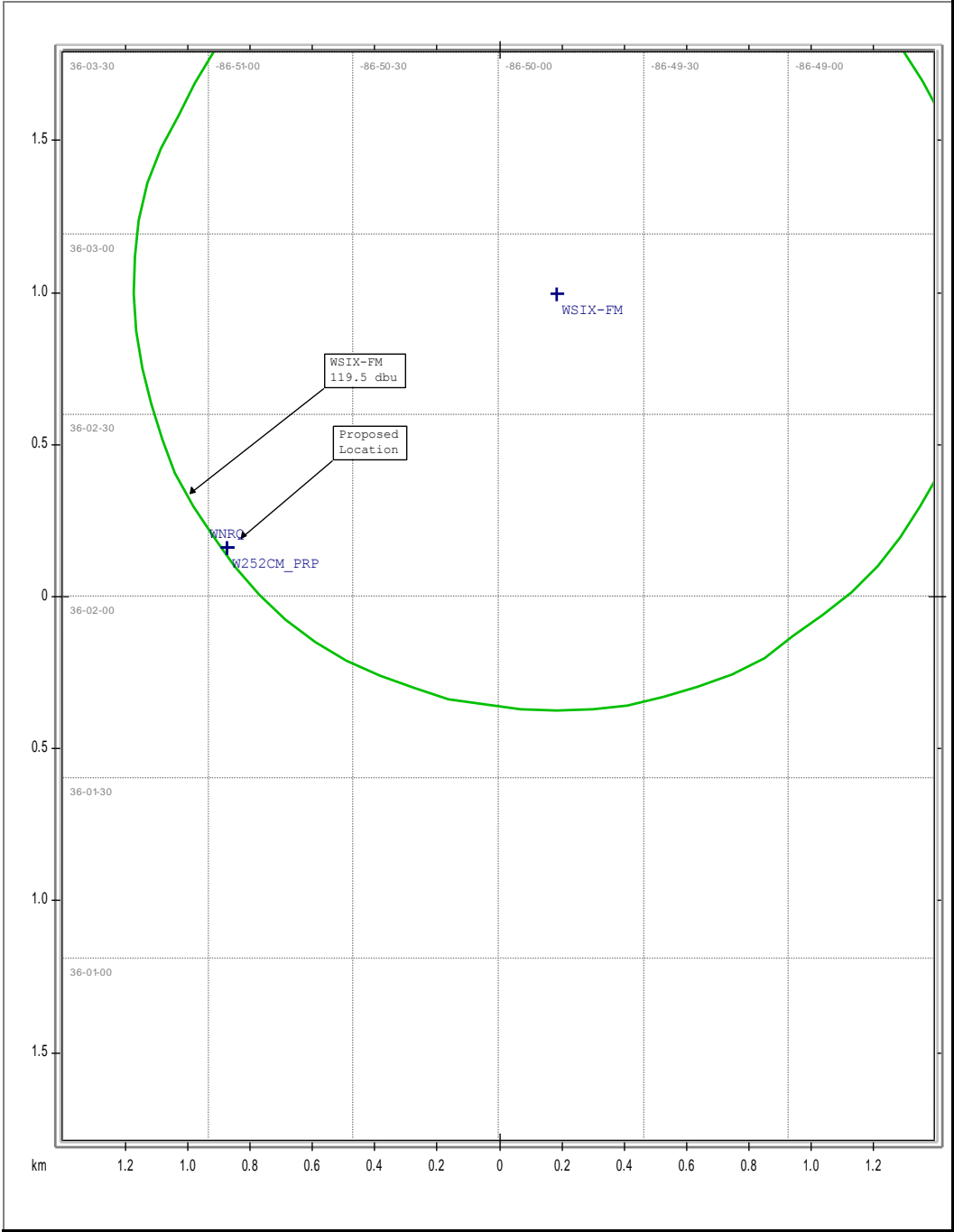


Figure 4. Aerial View of Antenna Location.



Figure 5. 60 dBu Contour Map

