

**CHESTNUT RIDGE, TN
BNPFT-20030317FCH
SHORT FORM AMENDMNET**

This is a unilateral technical short form amendment by Middle Tennessee State University for its application BNPFT-20030317fch eliminating the conflict with WYCQ, Inc. application BNPFT-20030312BBY at Shelbyville, TN on channel 235. The MTSU application is amended to its 2nd adjacent channel 237 which is a minor change.

There is no settlement agreement.

An LPFM preclusion study is included as E1 demonstrating that the amended application will not conflict with any LPFM channel point in the Nashville, TN or Huntsville, AL 30X30 grids.

Allocation discussion:

All exhibits utilize the FCC 30 second terrain database.

- E1 Channel study
- E2 60 dBu contours
- E3 NADCON and TOWERAIR

A channel study is included as E1 demonstrating compliance with §74.1204. A plot of the proposed 60 dBu is provided as E2 showing that it is within 80 km of the WMOT 60 dBu and may be used as a non-fill in translator. The 60 dBu overlaps the original short form since it is at the same site except for a 3 second coordinate correction.

HAAT and 60 dBu tabulation:

N. Lat. = 35-21-18 W. Lng. = 86-31-27
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Middle Tennessee State University -BNPFT20030317FCH


Azi.	AV EL	HAAT	dBk	60-F5
000	233.7	162.3	-20.00	7.39
030	245.4	150.6	-20.00	7.11
060	283.9	112.1	-20.00	6.20
090	306.3	89.7	-20.00	5.52
120	287.3	108.7	-20.00	6.10
150	267.9	128.1	-20.00	6.58
180	298.0	98.0	-20.00	5.79
210	289.4	106.6	-20.00	6.04
240	259.4	136.6	-20.00	6.78
270	282.3	113.7	-20.00	6.24
300	278.4	117.6	-20.00	6.34
330	253.3	142.7	-20.00	6.92

Ave El= 273.78 M HAAT= 122.22 M AMSL= 396 M

RF Exposure Calculation:

The proposed facility will utilize a one bay PSI circularly polarized antenna with a center of radiation at 30 meters AGL. The RF contribution of the proposed translator was calculated using the formula provided below to be 0.85 $\mu\text{Watts}/\text{cm}^2$ or 0.43% of the maximum permissible 200 microwatts/cm² exposure for general population/uncontrolled exposure, and well below 5% of that limit which requires consideration. The proposed translator clearly complies with Commission RF radiation limits.

$$S \text{ (RF in } \mu\text{Watts}/\text{cm}^2) = \frac{33.4 (F^2 - \text{Vertical Factor}) \times (H \text{ ERP} + V \text{ ERP in Watts})}{R^2 \text{ (distance to radiation center in meters} - 2 \text{ m)}}$$


Charles M. Anderson, May 23, 2013

E1 CHANNEL STUDY

REFERENCE	Middle Tennessee State University	DISPLAY DATES
35 21 18.0 N.	CH# 237D - 95.3 MHz, Pwr= 0.01 kw, HAAT= 122.9 M, COR= 396 M	DATA 05-23-13
86 31 30.0 W.	Average Protected F(50-50)= 6.46 km	SEARCH 05-23-13
	Omni-directional	

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
238C Nashville	WSM-FM	LIC _CX	TN	340.7 160.5	92.47 BLH20111011AKK	36 08 27.0 86 51 56.0	100.000 375	110.1 549	75.3 Cumulus Licensing Llc	-24.4*	7.4
235D Chestnut Ridge	637465	APP _C_	TN	0.0 0.0	0.00 BNPFT20030317FCH	35 21 18.0 86 31 30.0	0.010 123	0.2 396	7.4 Middle Tennessee State Uni	-7.6*	-7.6*
236C2 Huntsville	WRTT-FM	LIC ZC_	AL	189.6 9.6	62.67 BLH20000522AAT	34 47 53.0 86 38 24.0	12.000 277	60.8 519	40.9 Southern Stone Communicati	-4.4	13.1
235D Shelbyville	632837	APP _C_	TN	28.5 208.5	19.86 BNPFT20030312BBY	35 30 44.0 86 25 13.0	0.250 156	1.1 409	16.7 Wycq, Inc.	11.7	2.7
237D Cowan	W237DT	LIC _C_	TN	115.6 295.8	49.86 BLFT20120814AAT	35 09 39.0 86 01 51.0	0.250 -50	36.1 335	10.5 Wiseman Media	7.6	20.1
240D Lewisburg	W240CC	LIC _C_	TN	277.3 97.1	21.77 BLFT20091216ADE	35 22 46.0 86 45 46.0	0.250 133	1.1 401	13.2 Marshall County Radio Corp	14.5	8.2
237C3 Ooltewah	WPLZ	LIC NCX	TN	102.7 283.4	111.27 BLH20090731AEV	35 07 45.0 85 20 02.0	3.400 275	90.5 649	33.0 J. L. Brewer Broadcasting	15.1	59.0
239D Winchester	W239AE	LIC _CN	TN	127.6 307.9	46.23 BLFT19980729TA	35 06 02.0 86 07 22.0	0.010 226	0.2 586	10.0 Bible Broadcasting Network	39.6	36.0
234D Hollywood	637523	APP _C_	TN	287.7 107.4	47.69 BNPFT20030317FCE	35 29 03.0 87 01 33.0	0.010 128	0.2 373	7.0 Middle Tennessee State Uni	41.3	40.4
234D Columbia	632721	APP _C_	TN	299.0 118.8	51.58 BNPFT20030310BLP	35 34 44.0 87 01 23.0	0.250 7	1.1 225	7.1 Rural Life Foundation, Inc	44.0	43.9
234D Pulaski	W234AW	LIC _C_	TN	247.2 66.9	53.23 BLFT20070612ACK	35 10 08.0 87 03 51.0	0.250 -9	1.1 237	7.1 Rural Life Foundation, Inc	45.3	45.9
236C0 Bowling Green	AL7496	RSV-A	KY	9.8 190.0	175.38 RM10850	36 54 43.0 86 11 21.0	100.000 450	122.5 634	82.5	45.4	82.4

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 protected contour.

144990

BNPFT20030317FCH

Latitude: 35-21-18 N

Longitude: 086-31-27 W

ERP: 0.01 kW

Channel: 237

Frequency: 95.3 MHz

AMSL Height: 396.0 m

Elevation: 366.0 m

Horiz. Pattern: Omni

EXHIBIT E2

WMOT 60 DBU

PROPOSED 60 DBU

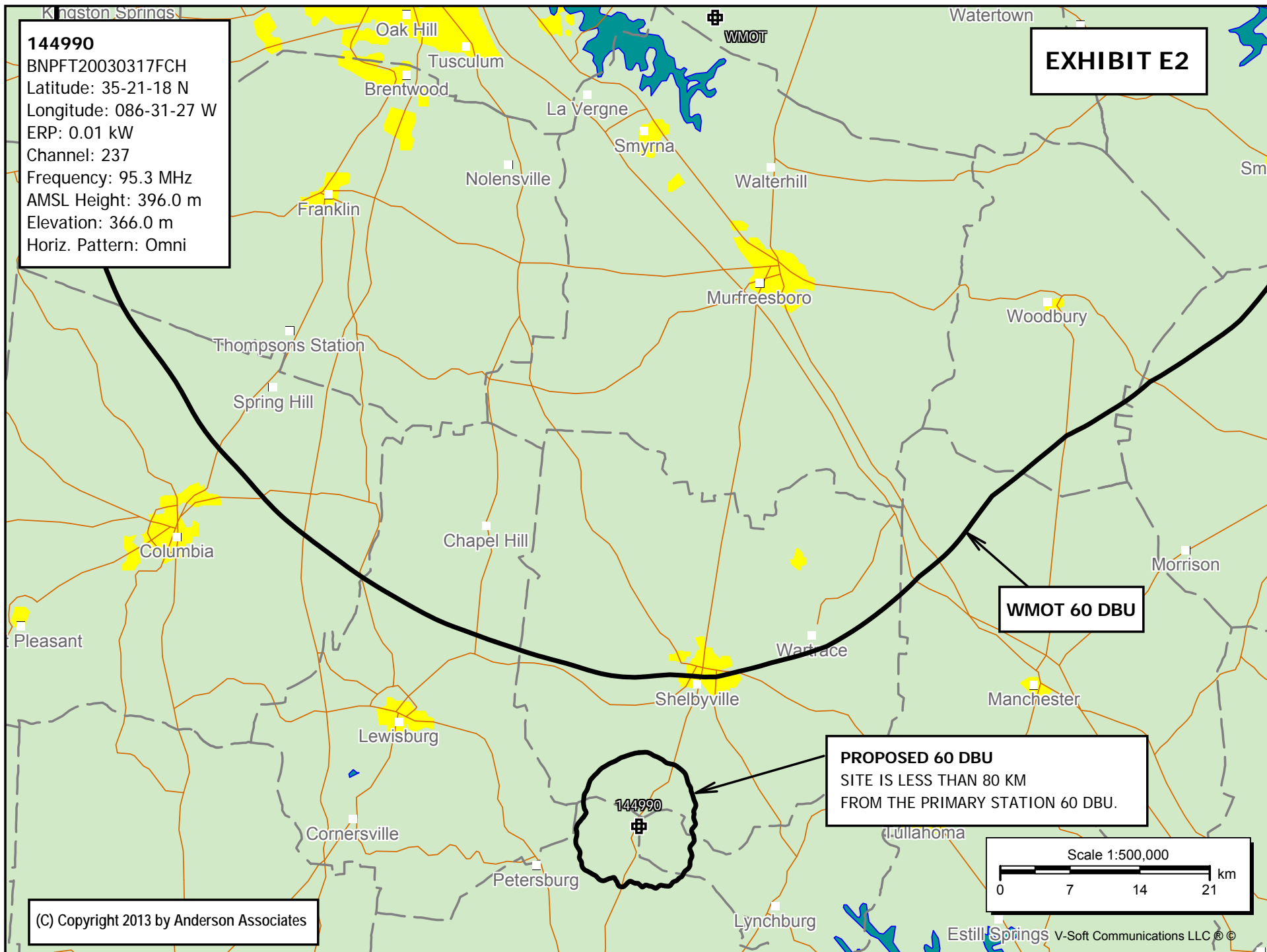
SITE IS LESS THAN 80 KM
FROM THE PRIMARY STATION 60 DBU.

Scale 1:500,000

0 7 14 21 km

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Output from NADCON for station CHESTNUT RIDGE TX

North American Datum Conversion

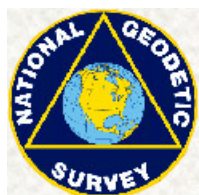
NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	35 21 18.08580	86 31 26.81526
NAD 83 datum values:	35 21 18.36000	86 31 26.79600
NAD 27 - NAD 83 shift values:	-0.27420	0.01926(secs.)
	-8.451	0.486 (meters)
Magnitude of total shift:		8.465(meters)



[NGS HOME PAGE](http://www.ngs.noaa.gov/cgi-bin/nadcon.prl5/23/2013)http://www.ngs.noaa.gov/cgi-bin/nadcon.prl5/23/2013 1:37 PM

TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	35-21-18.0 north
Longitude	086-31-27.0 west

Measurements (Meters)

Overall Structure Height (AGL)	40
Support Structure Height (AGL)	0
Site Elevation (AMSL)	366

Structure Type

LTOWER - Lattice Tower



CLOSE WINDOW