

**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 2<sup>nd</sup> 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 E1= 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  $\mu$ Watts/cm<sup>2</sup> or 0.43% of the maximum permissible 200 microwatts/cm<sup>2</sup> 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.

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

  
Charles M. Anderson, May 23, 2013

# E1 CHANNEL STUDY

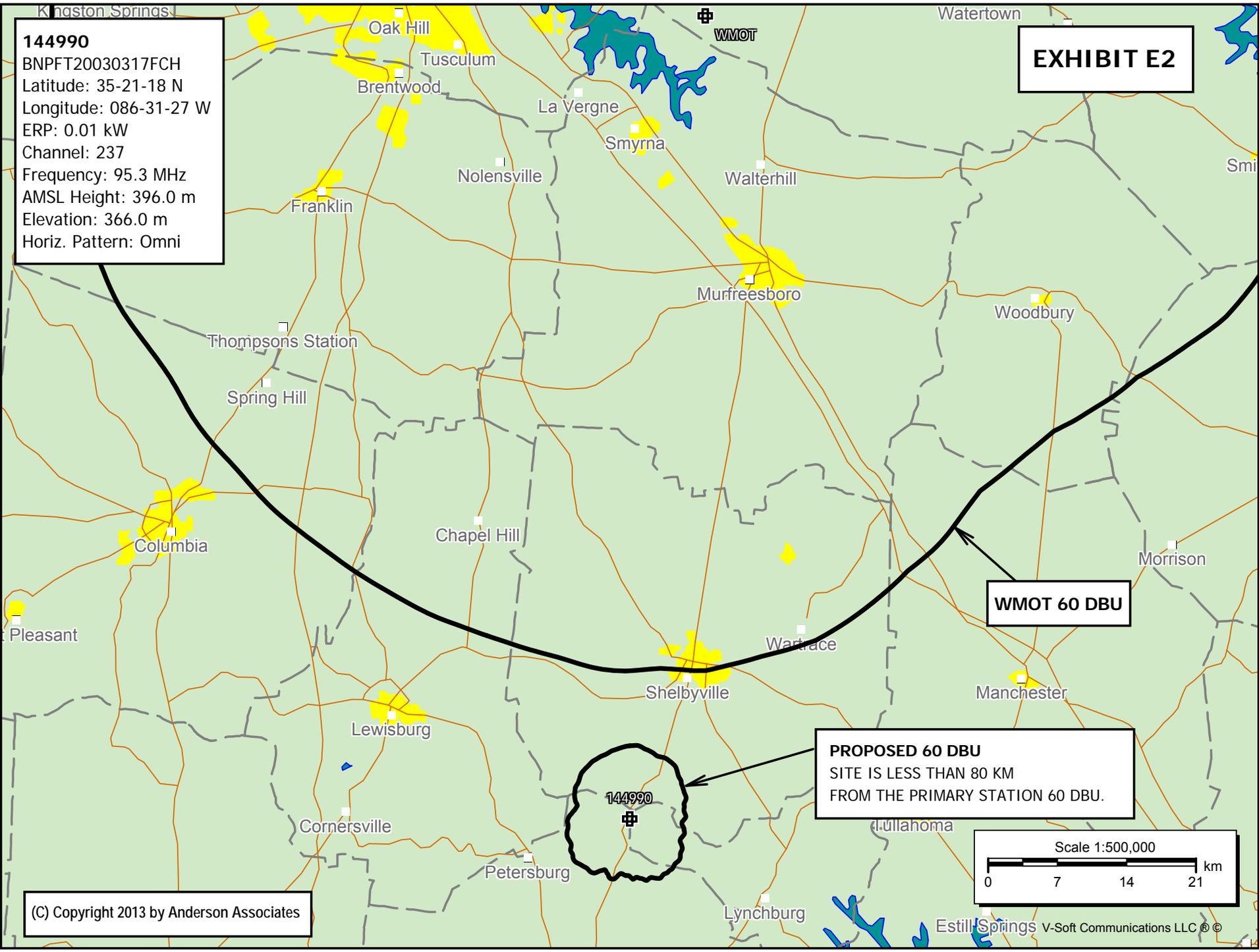
Middle Tennessee State University  
 CH# 237D - 95.3 MHz, Pwr= 0.01 kw, HAAT= 122.9 M, COR= 396 M      DISPLAY DATES  
 35 21 18.0 N.      DATA 05-23-13  
 86 31 30.0 W.      Average Protected F(50-50)= 6.46 km      SEARCH 05-23-13  
 Omni-directional

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

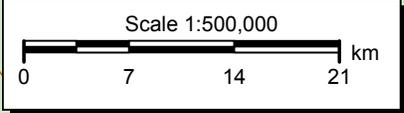
**EXHIBIT E2**

**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



**WMOT 60 DBU**

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



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# Output from NADCON for station CHESTNUT RIDGE TX

North American Datum Conversion

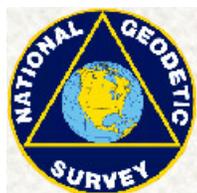
NAD 83 to NAD 27

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

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CLOSE WINDOW