

TECHNICAL ATTACHMENT
NEW LPFM FOR TOBYHANNA, PA

State: PA
City: TOBYHANNA
Channel: 248

Antenna Structure Registration: 1031353

Do you have an FCC Antenna Structure Registration Number?: Y
Yes/No/Filed with the FAA No

Latitude: 41-9-49.6 N
Longitude: 75-19-6.5 W
Structure Type: TOWER
Overall Structure Height: 60.6
Support Structure: 54.9
Ground Elevation: 611.7

Antenna Data

	HORIZONTAL	VERTICAL
Height of Radiation Center Above Ground Level	10	10
Height of Radiation Center AMSL	(FORM CALCULATES)	
MIn Radiated Power	(FORM CALCULATES)	
Max Radiated Power	(FORM CALCULATES)	

Antenna Type

Directional
Non-Directional X

Directional Antenna

Technical Certification

Environmental Effect

*Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? See 47 C.F.R. Section 1.1306?

NO

Interference

*Does the applicant certify that the proposed facility complies with engineering requirements...?

NO

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude 41° 9' 49.6" North
Longitude 75° 19' 6.5" West (NAD 83)
Height of antenna radiation center above mean sea level: 621.7 meters AMSL
Number of Evenly Spaced Radials = 8 0° is referenced to True North

Results

Calculated HAAT = 146 meters
Antenna Height Above Average Terrain calculated using 1 km [GLOBE terrain data](#)

Individual "Radial HAAT" Values, in meters	
0°	84.1 m
45°	156.7 m
90°	257.5 m
135°	319.0 m
180°	260.4 m
225°	44.1 m
270°	42.4 m
315°	6.4 m

Select Contour Type:

F(50.50) Service Contour -- FM and NTSC (analog) TV
F(50.10) Interfering Contour
F(50.90) Digital TV Service Contour

Select Channel Range:
(not TV Virtual Channel)

FM Radio or TV Transmit Channels 2-6
TV Transmit Channels 7-13
TV Transmit Channels 14-69

Find This:

Field Strength, given a Distance (in km)
Distance, Given a Field Strength (in dBu)
FM ERP, given Distance and Field Strength [F(50.50) Service Contour]

1
ERP (kW) 5.56 Distance (km)
146
HAAT (meters) 60
Find Result Clear Form

Results:

Calculated ERP (rounded per Section 73.212) = 0.004 kW
(FM 60 dBu Service Contour only)
Unrounded ERP = 0.004027 kW

Power = 4 W ERP

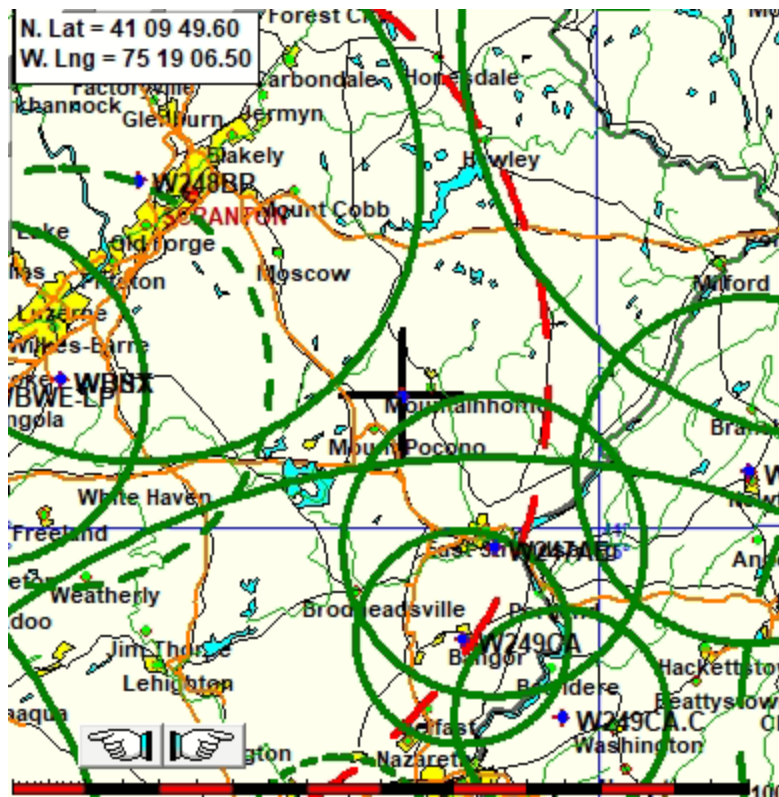
SPACING

REFERENCE
41 09 49.60 N. CLASS = L1 Int = DATA 10-16-23
75 19 06.50 W. Current Spacings to 2nd Adj. SEARCH
12-10-23

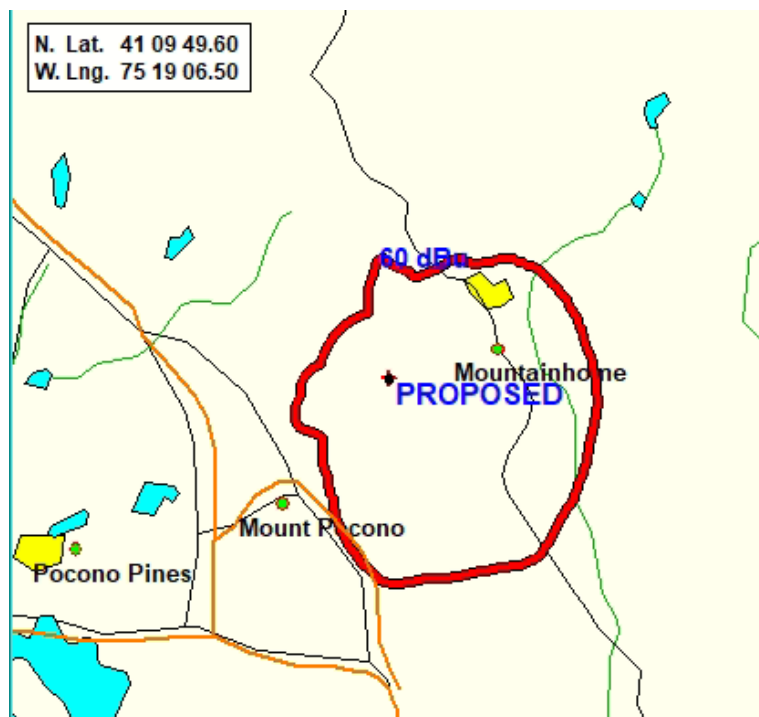
----- Channel 248 - 97.5 MHz -----

Call	Channel	Location	Azi	Dist	FCC	Margin
WBSX	LIC-D 250B	Hazleton PA	272.7	46.53	66.5	-20.0
W247AE	LIC-D 247D	East Stroudsburg PA	148.6	24.09	20.5	3.6
W248BP	LIC-D 248D	Scranton PA	309.3	46.30	38.5	7.8
WPEN	LIC-Z 248B	Burlington NJ	174.4	120.62	111.5	9.1
WBHT	LIC-N 246A	Mountain Top PA	272.8	46.46	28.5	18.0
W249CA	LIC-D 249D	Bangor PA	165.9	34.07	14.5	19.6
WZAD	LIC 247A	Wurtsboro NY	52.4	80.28	55.5	24.8
WRSK-LPLIC	248L1	Newton NJ	102.3	48.37	23.5	24.9
W249CA	CP -D 249D	Washington NJ	153.6	48.80	14.5	34.3
WBWE-LP	LIC 248L1	Wilkes Barre PA	270.2	58.27	23.5	34.8
W246AA	LIC 246D	Allentown, Etc. PA	187.7	63.31	13.5	49.8
WSKQ-FM	LIC 250B	New York NY	112.0	121.32	66.5	54.8
WQHT	LIC 246B	New York NY	112.0	121.32	66.5	54.8
WTBD-FM	LIC 248A	Delhi NY	14.2	122.90	66.5	56.4
W248DK	LIC-D 248D	Bloomsburg PA	255.3	96.48	38.5	58.0
WRVV	LIC-N 247B	Harrisburg PA	235.6	159.38	96.5	62.9
WCZX	LIC 249A	Hyde Park NY	60.3	126.64	55.5	71.1
WYXL	LIC 247B	Ithaca NY	329.2	169.00	96.5	72.5

Reference station has protected zone issue: Canada
All separation margins include rounding



FCC 60 dBu F(50, 50)



SECOND ADJACENT WAIVER REQUEST

Proposed facility is short-spaced to

CALL	CH	DBU at Proposed	Distance to Interference Contour
WBSX	250B	57.6 dBu	183.5

The value of 57.6 dBu will then be used to determine interference compliance. Interference will occur when the WBSX signal strength's interfering signal exceeds the desired signal by 40 dBu. So the area of predicted interference would then be bounded by the 97.6 dBu contour. The 97.6 dBu contour plotted below.



Due to zero population within this radiation radius, as demonstrated in the aerial shot, this meets the "Living Way" Criteria to qualify for a Waiver of 47 C.F.R. Section 73.807.

Applicant respectfully requests a "second adjacent channel waiver" with regards to Section 47 C.F.R. Section 73.807 of the FCC rules based upon the "Living Way" precedence (Living Way Ministries, Inc., Memorandum Opinion and Order, 17 FCC Red 17054, 17056, ¶ 5 (2002), recon. denied 23 FCC Red 15070 (2008)).