Technical Exhibit FCC Form 349
MOUNTAIN MUSIC MINISTRIES, LLC
Long Form Application
Facility ID# 200495
.25 kW Vertical
Bristol, TN

Purpose Of Application

Mountain Music Ministries, LLC, ("Mountain"), the licensee of WIGN (AM) FID# 63979 hereby tenders for filing, the required long form application for the singleton translator.

Interference To Other Facilities

This proposed facility complies with 47CFR 74.1204 of the Commission's rules for interference to other facilities. There is no overlap of the proposed facility's interfering contours with the protected contours of any other application or facility with the exception of WHCB FID# 2460 Ch 218 C1, Bristol, TN. This facility has a contour of 82.5 dBu 50-50 at the proposed WIGN translator site. No actual interference will occur as the proposed facility's 122.5 dBu 50-10 contour does not reach ground level, The 50 meter tower for the proposed new site is an existing tower. The proposed 2 bay vertical only antenna will be mounted at 48 meters above ground level. Mountain acknowledges that operation of this facility will cease if there are any complaints of interference. See the following pages for demonstration of no interference and compliance with 74.1204.

Environmental

The proposed location is an existing tower. The antenna proposed above was studied using the OET FM model program. Using this program, with the EPA Type 10 antenna mounted at 48 meters above ground level, the worst-case power density at 2 meters above ground level was found to be .3286 microwatts/cm², which occurs 88 meters from the base of the support structure. This is .164 % of the maximum level for the general population, uncontrolled exposure level, and exempts the facility from further study, as it is an insignificant contributor.

WIGN Translator
Mountain Music Ministries, Llc

REFERENCE CH# 221D - 92.1 MHz, Pwr= 0.25 kW, HAAT= 4.0 M, COR= 578 M
36 33 57.0 N. Average Protected F(50-50)= 7.09 km
82 09 27.0 W. Omni-directional

DISPLAY DATES
DATA 12-13-17
SEARCH 12-13-17

CH CITY	CALL STATE	TYPE	ANT <--	AZI	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
218C1	WHCB	LIC	_CN	171.9	14.78	36 26 03.0	1.500	2.6	55.6	3.5	-42.0*
Bristol	TN			351.9	BLED19930210KD	82 08 03.0	715	1337	Appalachian Educational Co		
221D	1761644	APP	_C_	0.0	0.00	36 33 57.0	0.250	23.8	7.1	-30.8*	-30.8*
Bristol	TN			0.0	BNPFT20170728ABH	82 09 27.0		578	Mountain Music Ministries,		
221C3	WMNC-FM	LIC	_CX	156.5	98.51	35 45 09.0	25.000	117.7	41.8	-27.5*	32.0
Morganton	NC			336.7	BLH20081202AFH	81 43 19.0	100	478	Cooper Broadcasting Compan		
221A	AL9287	RSV-A	___	342.3	67.61	37 08 42.0	6.000	85.0	24.4	-24.4*	17.4
Clinchco	VA			162.2	RM10984	82 23 22.0	100	663			
221A	WDIC-FM	LIC	_CN	342.3	67.61	37 08 42.0	2.500	80.0	25.5	-19.3*	17.2
Clinchco	VA			162.2	BLH19920212KE	82 23 22.0	154	713	Dickenson County Broadcast		
221C3	WPKE-FM	CP	ZCX	349.6	101.72	37 27 56.0	1.700	101.4	38.5	-6.2	38.6
Coal Run	KY			169.5	BPH20111031AIP	82 21 57.0	377	770	East Kentucky Broadcasting		
222D	W222AG	LIC	_C_	206.2	36.82	36 16 07.0	0.021	24.1	15.8	-0.2	1.8
Johnson City	TN			26.1	BLFT20070417AAK	82 20 21.0	402	1020	Jet Broadcasting, Inc.		
220C2	WVTR«	LIC	DCN	74.9	78.92	36 44 52.0	4.500	61.2	38.9	61.5R	17.4M
Marion	VA			255.4	BLED19911030KA	81 18 15.0	454	1355	Virginia Tech Foundation,		
274C3	WVEK-FM	LIC	_C_	263.7	38.69	36 31 36.0	1.750	17.9	5.5	11.5R	27.2M
Weber City	VA			83.4	BLH20080821ABX	82 35 13.0	376	835	Holston Valley Broadcastin		
274C3	AL5363	RSV-A	___	263.7	38.69	36 31 36.0	25.000	17.9	5.5	11.5R	27.2M
Weber City	VA			83.4	RM11280	82 35 13.0	100	548			
223D	W223AA	LIC	_CN	300.8	60.02	36 50 26.0	0.250	1.1	28.5	50.8	29.7
Big Stone Gap	VA			120.4	BLFT19920630TA	82 44 14.0	462	1139	Valley Broadcasting And Co		
220C	WUOT«	LIC	_C_	249.2	171.77	36 00 19.0	81.000	124.9	84.0	103.5R	68.3M
Knoxville	TN			68.2	BLED20161212ABU	83 56 23.0	482	793	University Of Tennessee		
223D	W225AA	CP	_C_	131.9	54.90	36 14 06.0	0.010	0.2	12.2	47.6	41.3
Boone	NC			312.2	BPFT20170717ADN	81 42 07.0		1457	Isothermal Community Colle		
223D	1769635	APP	_C_	60.8	66.51	36 51 21.6	0.250	1.1	18.4	58.3	46.8
Marion	VA			241.2	BNPFT20170726AIX	81 30 17.6		862	Bristol Broadcasting Compa		
222C	WXLK	LIC	DCX	67.9	191.60	37 11 51.0	100.000	138.0	92.6	46.9	87.8
Roanoke	VA			249.1	BLH20110722ADP	80 09 10.0	605	1191	Mel Wheeler, Inc.		

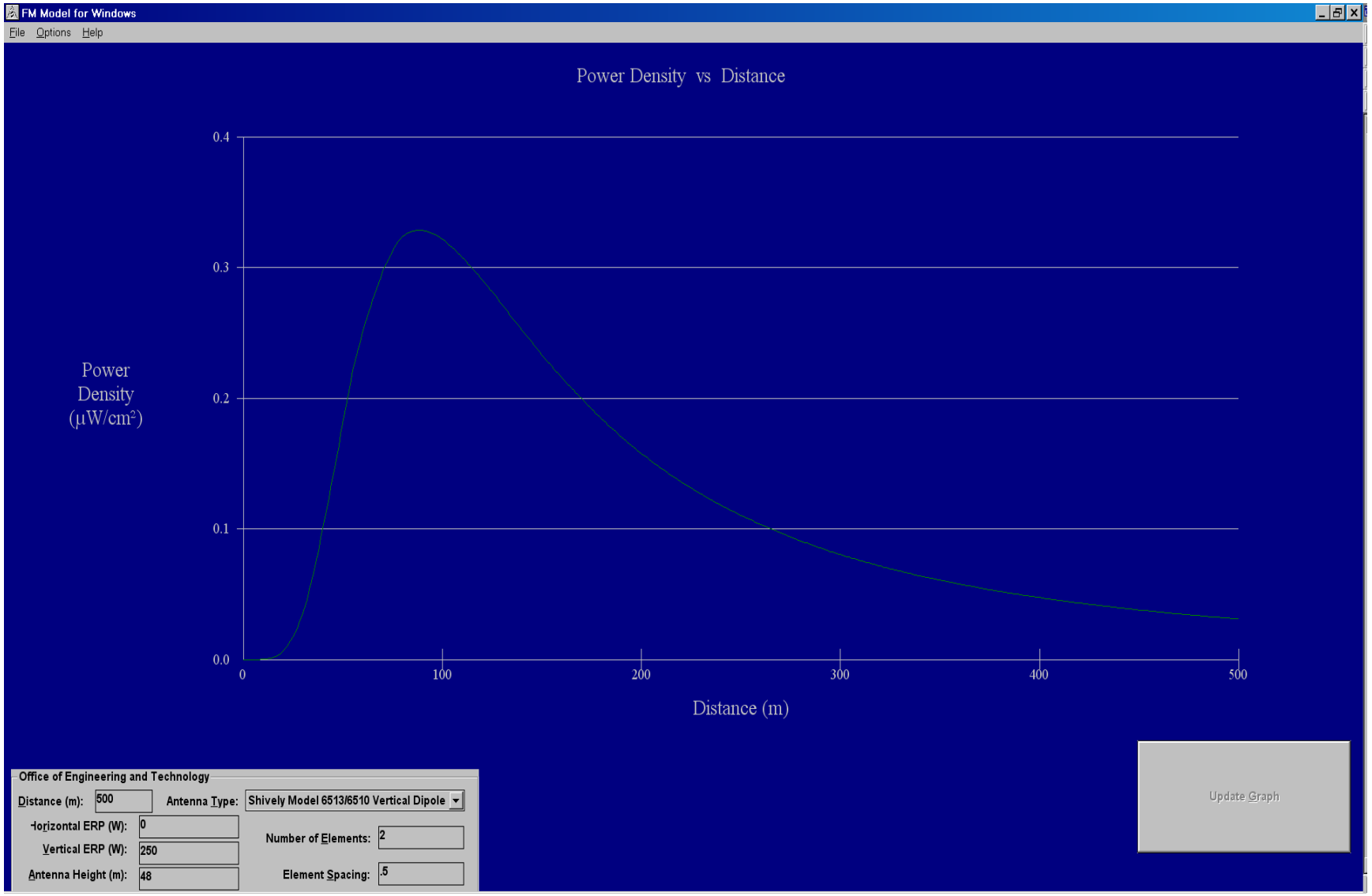
Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, 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 restricted contour.
Reference station has protected zone issue: AM tower

1761644 Bristol, TN, Showing Protection to WHCB
74.1204(d) Study - Using FCC 30 SEC Terrain Database
Translator Maximum Licensed ERP = 0.25
Translator Antenna Height AG = 48 Meters
1761644 Antenna Model = SWR_FMEV_2_HW

Protected Station's Contour = 82.51269 dBu
Translator's full Interference contour 122.51269

Review Azimuth = 0 Degrees True
Relative Field on the horizon at Review Azimuth = 1.000
Translator ERP on the horizon at Review Azimuth = 0.25 kW
Distance between stations = 14.8 km
Protected Station= WHCB, 1.5 kW, 1337 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.2500	083.0492	083.0492	048.000
05.00	0.987	1.0	0.2435	081.9696	081.6577	040.856
10.00	0.95	1.0	0.2256	078.8967	077.6981	034.300
15.00	0.89	1.0	0.1980	073.9138	071.3952	028.870
20.00	0.812	1.0	0.1648	067.4360	063.3691	024.936
25.00	0.721	1.0	0.1300	059.8785	054.2683	022.694
30.00	0.622	1.0	0.0967	051.6566	044.7359	022.172
35.00	0.52	1.0	0.0676	043.1856	035.3756	023.230
40.00	0.42	1.0	0.0441	034.8807	026.7201	025.579
45.00	0.327	1.0	0.0267	027.1571	019.2030	028.797
50.00	0.244	1.0	0.0149	020.2640	013.0255	032.477
55.00	0.173	1.0	0.0075	014.3675	008.2409	036.231
60.00	0.115	1.0	0.0033	009.5507	004.7753	039.729
65.00	0.07	1.0	0.0012	005.8134	002.4569	042.731
70.00	0.039	1.0	0.0004	003.2389	001.1078	044.956
75.00	0.018	1.0	0.0001	001.4949	000.3869	046.556
80.00	0.003	1.0	0.0000	000.2491	000.0433	047.755
85.00	0.001	1.0	0.0000	000.0830	000.0072	047.917
90.00	0.0	1.0	0.0000	000.0083	000.0000	047.992


FM Model for Windows
File Options Help
Power Density vs Distance
Power Density (μW/cm²)
0.4
0.3
0.2
0.1
0.0
0
100
200
300
400
500
Distance (m)
Office of Engineering and Technology
Distance (m): 500
Antenna Type: Shively Model 6513/6510 Vertical Dipole
Horizontal ERP (W): 0
Vertical ERP (W): 250
Antenna Height (m): 48
Number of Elements: 2
Element Spacing: .5
Update Graph