

WORM-FM 269A Minor Modification

This technical report is submitted for a minor modification to WORM-FM 269A at Savannah, TN, FCC file number BLH-3332. A change in the antenna COR AGL, increase in ERP and correction of coordinates are submitted. An FAA form 7460-1 has been filed and when granted, the tower will be registered and the application amended.

WORM-FM Modification Analysis:

WORM-FM is a grandfathered 73.213(c) facility with a HAAT below 100 meters. Therefore it is permitted to increase power as long as the 60 dBu (50:50) does not exceed 24 km rounded and the 34 dBu(50:10) does not exceed 98 km rounded. That power has been determined to be 4.3 kW which produces a 60 dBu of 20.9 km and a 34 dBu (50:10) of 98.13 km.

Exhibit E-1 shows the WORM-FM modification is fully spaced under the former 3 kW rules at its current site at corrected coordinates:

35 14 23.1N 088 14 27.5W NAD83.

An ERI LP-4E four bay, full wavelength spaced, non-directional antenna is mounted on the 70.7 meter tower at a COR AGL of 64.9 meters, 199.0 meters AMSL, 61 meters HAAT (exhibit E-2) and will operate at 4.3 kW ERP.

70 dBu Community Coverage:

The WORM-FM modification will place a 70 dBu entirely over the Savannah, TN community of license city boundary (exhibit E-3).

RF Exposure Calculation:

The RF contribution of the WORM-FM modification was calculated using the FMModel program (exhibit E-4). The resulting value is 6.30 $\mu\text{W}/\text{cm}^2$ at a distance of 25.6 meters from the base

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of the tower, which is below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public, uncontrolled exposure, allowing exclusion from consideration.

Conclusion:

It is submitted the minor modification application for WORM-FM is in full compliance with the Commission rules and policies.



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E-1 WORM-FM Spacing Study Using Previous 3 kW Spacings

REFERENCE		DISPLAY DATES
35 14 23.10 N.	CLASS = A	DATA 04-05-22
88 14 27.50 W.	Former Spacings to 3rd Adj.	SEARCH 04-05-22
----- Channel 269 - 101.7 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
WORM-FM	LIC 269A	Savannah	TN	310.1	0.05	104.5	-104.5
WNWS-FM	LIC 268A	Jackson	TN	313.7	66.14	63.5	2.6
WFTA	LIC 270C2	Fulton	MS	194.2	111.77	104.5	7.3
WMXV	LIC 268A	St. Joseph	TN	117.8	73.47	63.5	10.0
WKOM	LIC 269A	Columbia	TN	68.5	116.65	104.5	12.2
WTPR-FM	LIC 269A	Mckinnon	TN	10.6	132.25	104.5	27.8
WOPC	LIC-N 267A	Linden	TN	38.8	55.25	26.5	28.8

Reference station has protected zone issue: AM tower
All separation margins include rounding.

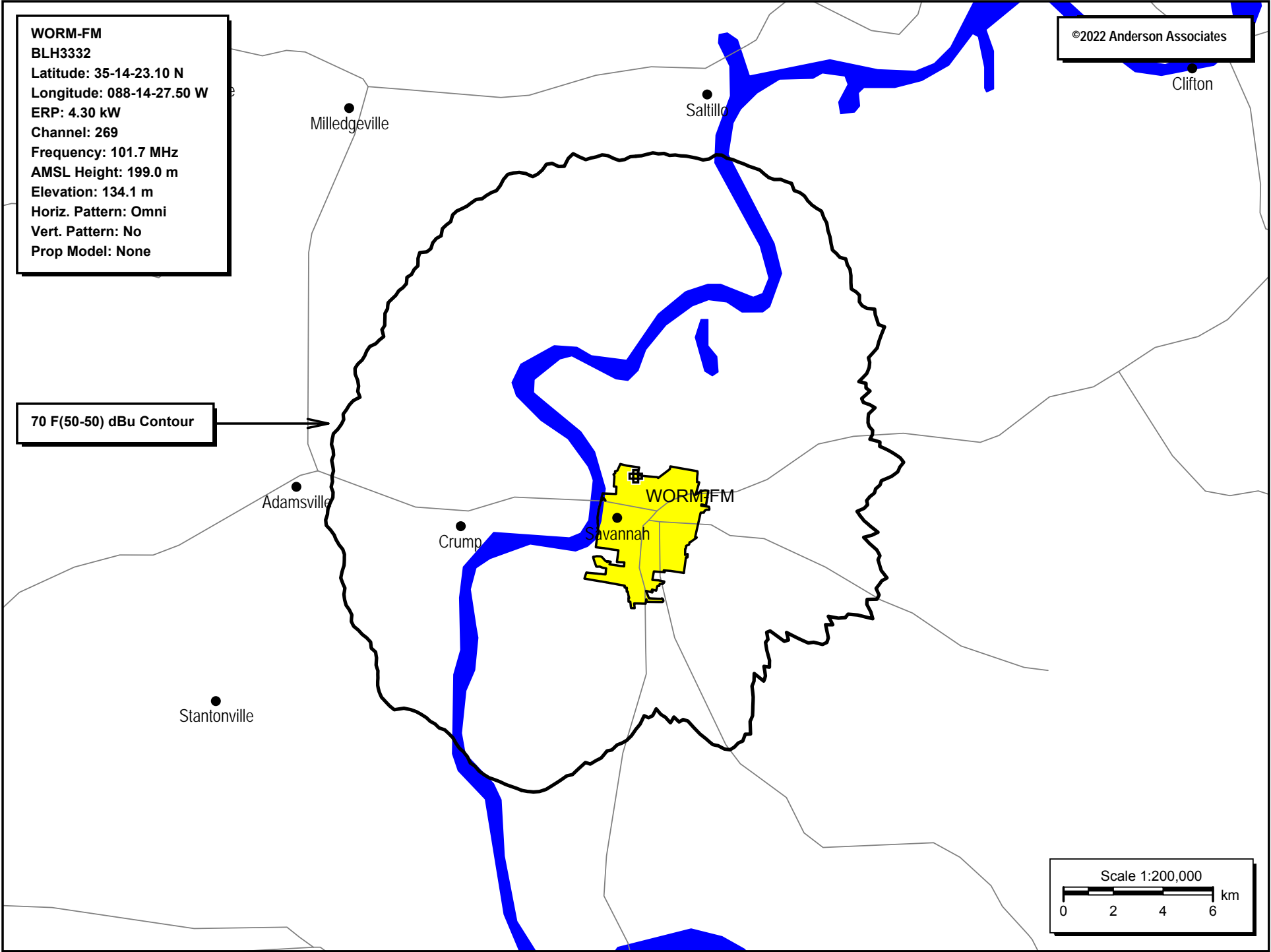
E-2 WORM-FM 269A Mod. HAAT

N. Lat. = 351423.1 W. Lng. = 881427.5
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 Meter

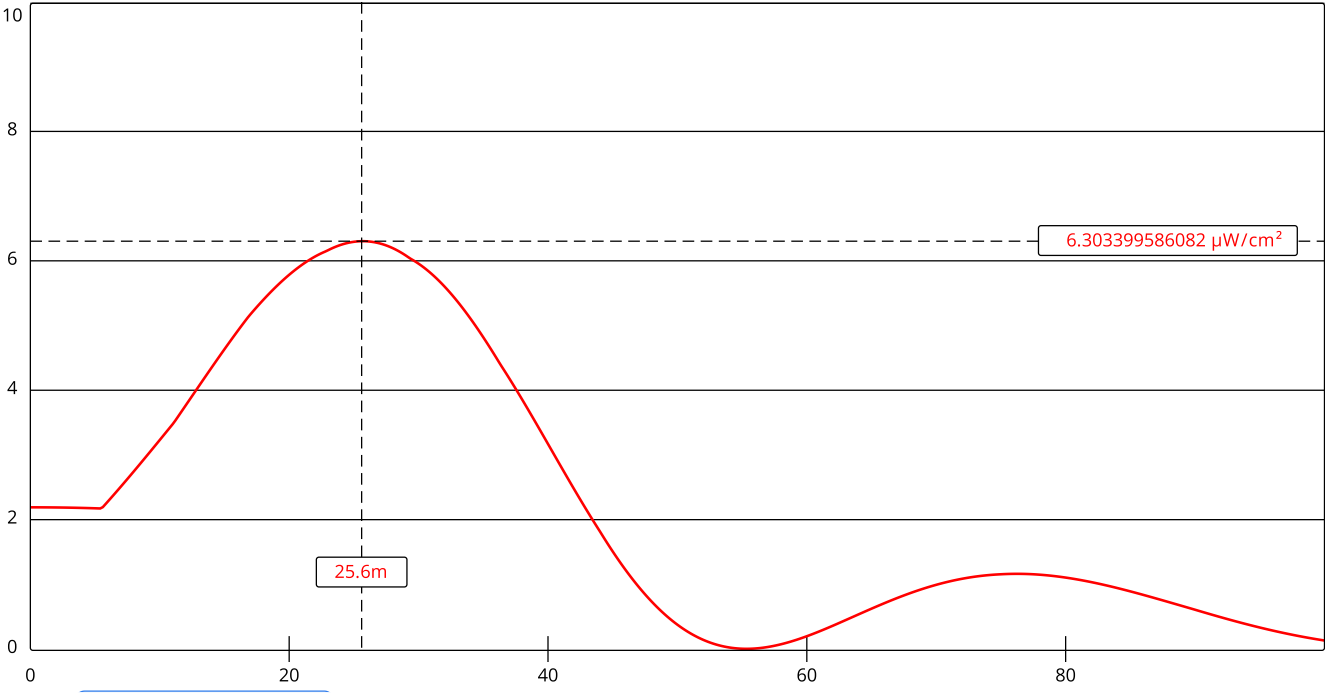
Azi.	AV EL	HAAT	ERP kW	60-F(50-50)
000	123.3	75.7	4.3000	23.03
045	134.0	65.0	4.3000	21.49
090	152.1	46.9	4.3000	18.28
135	161.1	37.9	4.3000	16.21
180	153.1	45.9	4.3000	18.07
225	119.1	79.9	4.3000	23.61
270	131.6	67.4	4.3000	21.84
315	129.4	69.6	4.3000	22.15

Ave EI= 137.95 M HAAT= 61.05 M AMSL= 199.0

E-3 WORM-FM 269A Mod. 70 dBu Contour Plot



E-4 WORM-FM 269A Mod. RF Calculation



Channel Selection	Channel 269 (101.7 MHz) ▼		
Antenna Type +	EPA Type 3: Opposed U Dipole ▼		
Height (m)	<input type="text" value="64.9"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="4300"/>	ERP-V (W)	<input type="text" value="4300"/>
Num of Elements	<input type="text" value="4"/>	Element Spacing (?)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>		