

JAWCO, Inc.  
Proposed Translator, Parkersburg, WV

Proposed: 92.9 MHZ., Ch. 225; 250 watts ERP, 115 meters AHAAT  
39° 20' 17.4"; 81° 29' 56.6"  
259 Pleasant Valley School Road, Vienna, WV

This proposal is for an FM translator to rebroadcast AM station WJAW, St. Marys, WV.

WJAW is a Class D station with a daytime operating power of 1,000 watts. Map 1 shows WJAW's daytime 2 mv/m contour (based on M-3, the red circle). The 60 dbu contour of the translator will partially extend past this contour (blue circle) but remains inside the 25 mile circle from the AM transmitter site at Newport, Ohio (black circle). Map 2 shows the coverage of Parkersburg by the proposed translator, and also demonstrates that the translator's 60 dbu contour remains inside this 25 mile circle from the WJAW transmitter.

Table 1

Channel	Call	City of License	Distance (km)	Bearing
222A/92.3	WXCR	New Martinsville, WV	64.5	55°
223L-1/92.5	WMBP-LP	Mineral Wells, WV	16.85	188°
224B-1/92.7	WHIZ-FM	South Zanesville, WV	64.44	311°
224A/92.7	WGIE	Clarksburg, WV	102.19	93°
225B/92.9	WCWV	Summersville, WV	131.30	146°
226A/93.1	WNTO	Racine, Ohio	64.36	228°
227B/93.3	WODC	Ashville, Ohio	140.55	296°
228D/93.5	W228DJ	Ravenswood, WV	36.64	203°
228A/93.5	WBNV	Barnesville, Ohio	67.42	21°

The IF beat frequencies are 103.5 and 103.7 MHZ., there are no local full-power stations. There are no Channel 6 stations within 100 km. of this site.

Table 2  
Signal towards WCWV

Bearing	ERP (Watts)	AHAAT (Meters)	Distance to 34 dbu Contour (km)
120°	247	91.3	58.3
125°	250	87.1	57.6
130°	250	88.6	57.9
135°	246	91.7	58.4
140°	244	90.9	58.1
146°	244	97.5	59.4
150°	244	102.8	60.4
155°	244	105.6	60.9
160°	242	106.7	61.0
165°	242	111	61.7
170°	242	113.6	62.2

Table 3  
Signal towards WHIZ-FM

Bearing	ERP (Watts)	AHAAT (Meters)	Distance to 51 dbu Contour (km)
285°	186	110.2	22.5
290°	172	110.2	22.1
295°	159	109.7	21.6
300°	143	109.8	21.0
305°	134	109.2	20.6
311°	123	106.7	19.8
315°	115	105.2	19.3
320°	107	105.3	18.9
325°	99	105.6	18.5
330°	93	103.3	17.0
335°	88	101.1	17.4

**Allocation Matters.** The two stations of interest are WCWV, Summersville, WV, co-channel; and WHIZ-FM, South Zanesville, Ohio, on the lower first adjacent channel, Ch. 228, 92.7 MHz. WCWV is a Class B station 131.3 kilometers from this site at a bearing of 146°. Hence the 50/10 34 dbu interfering contour cannot cross the 54 dbu service contour of WCWV.

As Table 2 and Map 3 demonstrate, there is no overlap between these two contours. WHIZ-FM is a class B-1 station located 64.44 kilometers from this site at a bearing of 311°, so the 51 dbu 50/10 contour cannot cross the 57 dbu service contour of this first adjacent station. Map 4 and Table 2 demonstrate that there is no overlap between these two contours.

The upper first adjacent station is WNTO, Racine, Ohio, 64.36 km at a bearing of 228°. The translator's 54 dbu contour on this bearing will fall at 22.3 km. On the reverse bearing of 48° towards the translator site, the WNTO 60 dbu service contour falls at 27.5 km. Leaving the two contours separated by 14 ½ kilometers.

The nearest second adjacent station is WMBP-LP, Ch. 223 L-1, 92.5 MHz., Mineral Wells, WV. WMBP is 16.85 KM south of the translator site and has a service contour of about 5 to 5 ½ kilometers. The 100 dbu contour of the translator will extend only around 1 km. from the tower, leaving an approximate 10 km margin toward this station's protected contour. The remaining second and third adjacent stations are too distant to be a factor. The nearest point on the Canadian border is the southern tip of Pelee Island, in Lake Erie, 283 kilometers from this site at 340°. The proposed 34 dbu contour on this bearing only extends 46 kilometers.

### **Environmental**

The registered tower (ARN #1285964) proposed for this translator is located on a 17 acre site that is not open to the public. Site owner Mid Ohio Valley Radio Corporation leases the site to Seven Ranges Radio Company for their WVVV tower. Burbach Broadcasting of WV, LLC, also leases space in the transmitter building for equipment storage. In August of this year, Fellowship Baptist Church (FBC) erected a temporary facility for their co-owned WNRJ (FM), after termination of the lease at the licensed site for this station. WNRJ presently operates under an STA with 750 watts ERP, non-directional. FBC is exploring whether to rebuild their licensed

directional installation at this or another site; or to continue operations at a reduced power using contour protection as permitted by 47 CFR Section 73.215.

After the July translator window, there are four translators proposed for this site:

1. Fellowship Baptist Church, for WHNK (AM) at 100' with 175 watts, Ch. 251, 98.1 MHz., BNPFT-20170726APU ;
2. JAWCO, Inc, for WJAW (AM), at 125' with 250 watts, Ch. 225, 92.9 MHz., BNPFT-20170726ADL;
3. Burbach of WV, for WVNT (AM) at 150', with 250 watts, Ch. 278, 103.5 MHz., BNPFT-20170727ADX; and
4. Burbach of WV, for WADC (AM) at 175', with 250 watts, Ch. 234, 94.7 MHz., BNPFT-20170727AEB.

Carl E. Smith Consulting engineers prepared a study of the non-ionizing radiation compliance for the WNRJ (FM) STA application. A full copy of that study is attached to this exhibit. This exhibit notes (on page 1) that the effect on exposure limits at ground level of the four proposed translator operations would be “de minimus,” compared with the levels produced by the four full power stations at this site and at an adjoining tower site owned by Vertical Bridge. In summary the study notes that: “There are four ‘short form’ applications for new FM translators which specify operation from the WVVV tower, but the facilities proposed in all four of these applications are predicted to generate power densities of less than 5% of the permitted level for uncontrolled exposure at ground level. As a result, none of the facilities proposed in these ‘short form’ applications need to be considered in this analysis.”

**Construction.** The site for this registered tower contains a 60' by 40' commercial garage now used as a transmitter building. At one time the site was used for a commercial truck painting business. Prior to the construction of the tower, an archaeological survey was conducted, confirming what was obvious by casual observation, that the immediate 2 to 2 ½

acres surrounding this building had been leveled at the time of construction of the garage in the early 90's. As part of the environmental assessment several Indian tribes, and the state and local historical societies were contacted. No objections were filed to the registration of the tower. The site is 2.8 KM (1.75 miles) from WLTP (AM), 5 kw DA-D. As a requirement for the licensing of WVVV at this site, a Method of Moments study was performed, finding no effect on the operation of the WLTP directional array. The FAA found "no hazard" as a result of their study, 2012-AEA-2634.

The transmission line for the translator will be run along the side of the building to the tower along elevated hangers. Hence no ground disturbance is required. The transmission equipment for the translator will be co-located with the transmission equipment for WVVV and WNRJ in the building at this site, and any construction on the tower will be coordinated so as to reduce or eliminate RF exposure to the tower climbers.

Maps and Exhibits follow:

Map 1: 2 mv/m daytime contour for WJAW, 60 DBU contour for translator, 25 mile circle

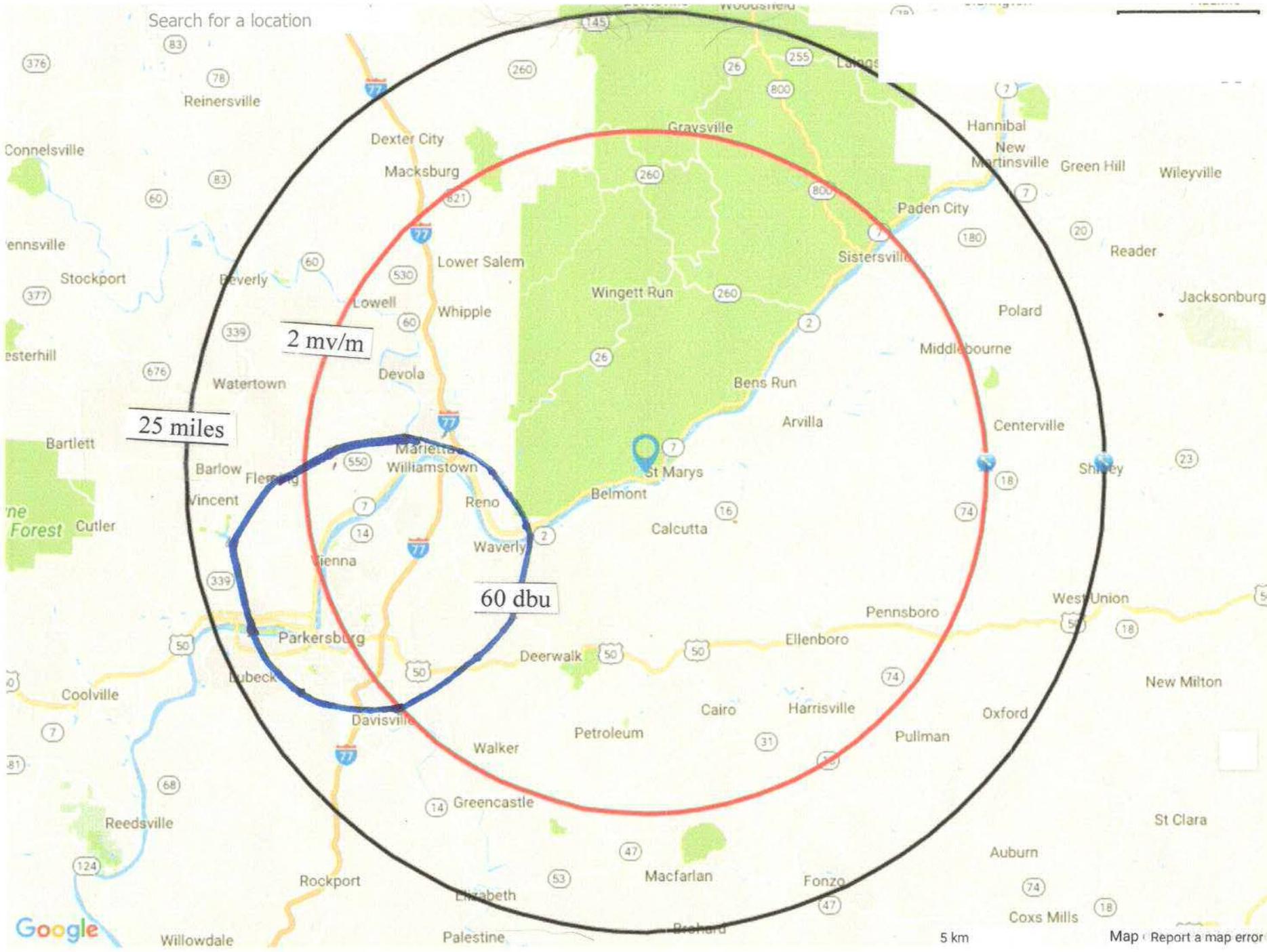
Map 2: Showing 60 dbu translator and 25 mile circle from WJAW tower

Map 3: Protection of WCVW, Summersville, WV

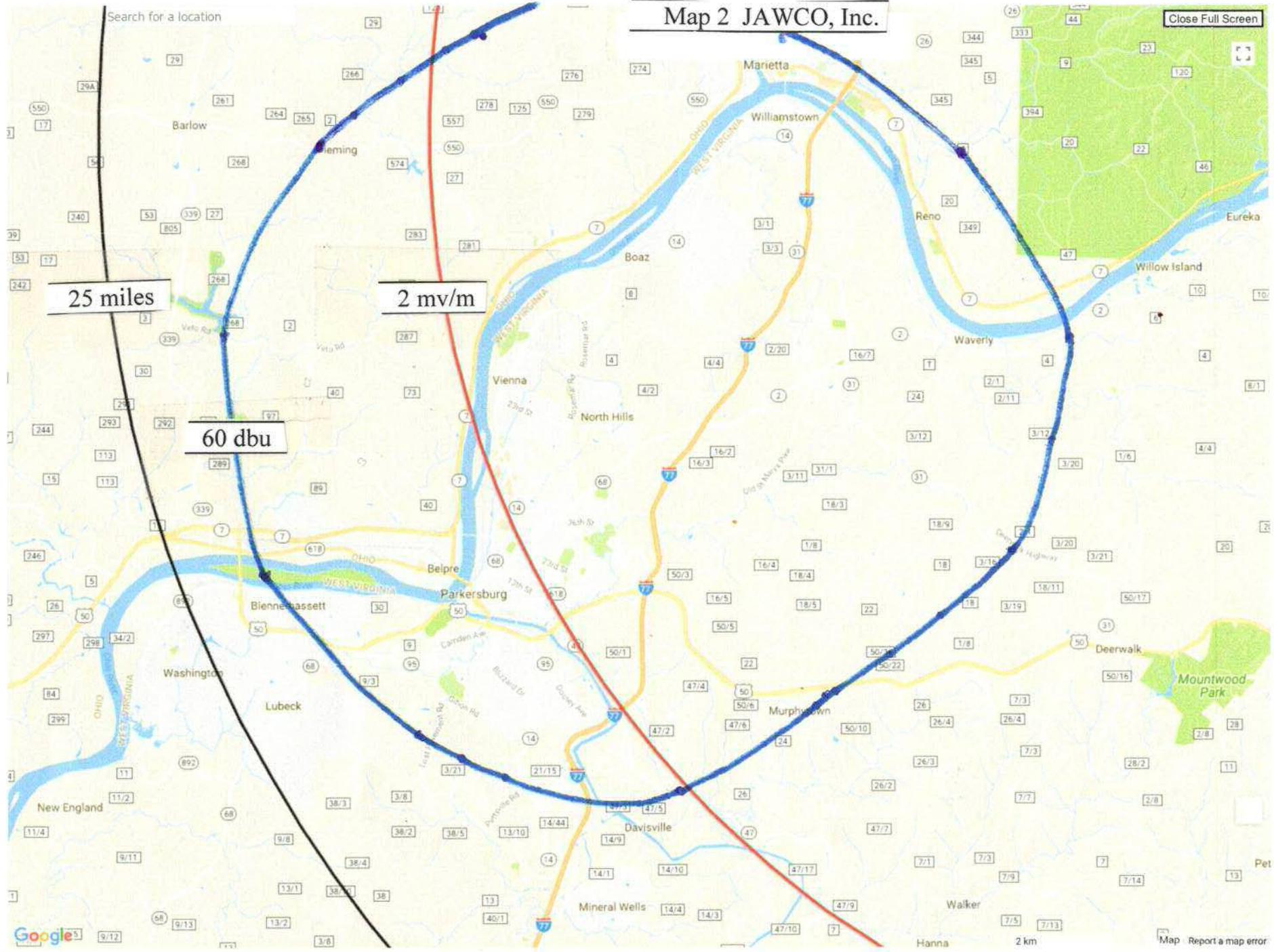
Map 4: Protection of WHIZ-FM, South Zanesville, Ohio

Exhibit: Non-Ionizing Radiation Compliance (Courtesy Fellowship Baptist Church)

# Map 1 JAWCO, Inc.

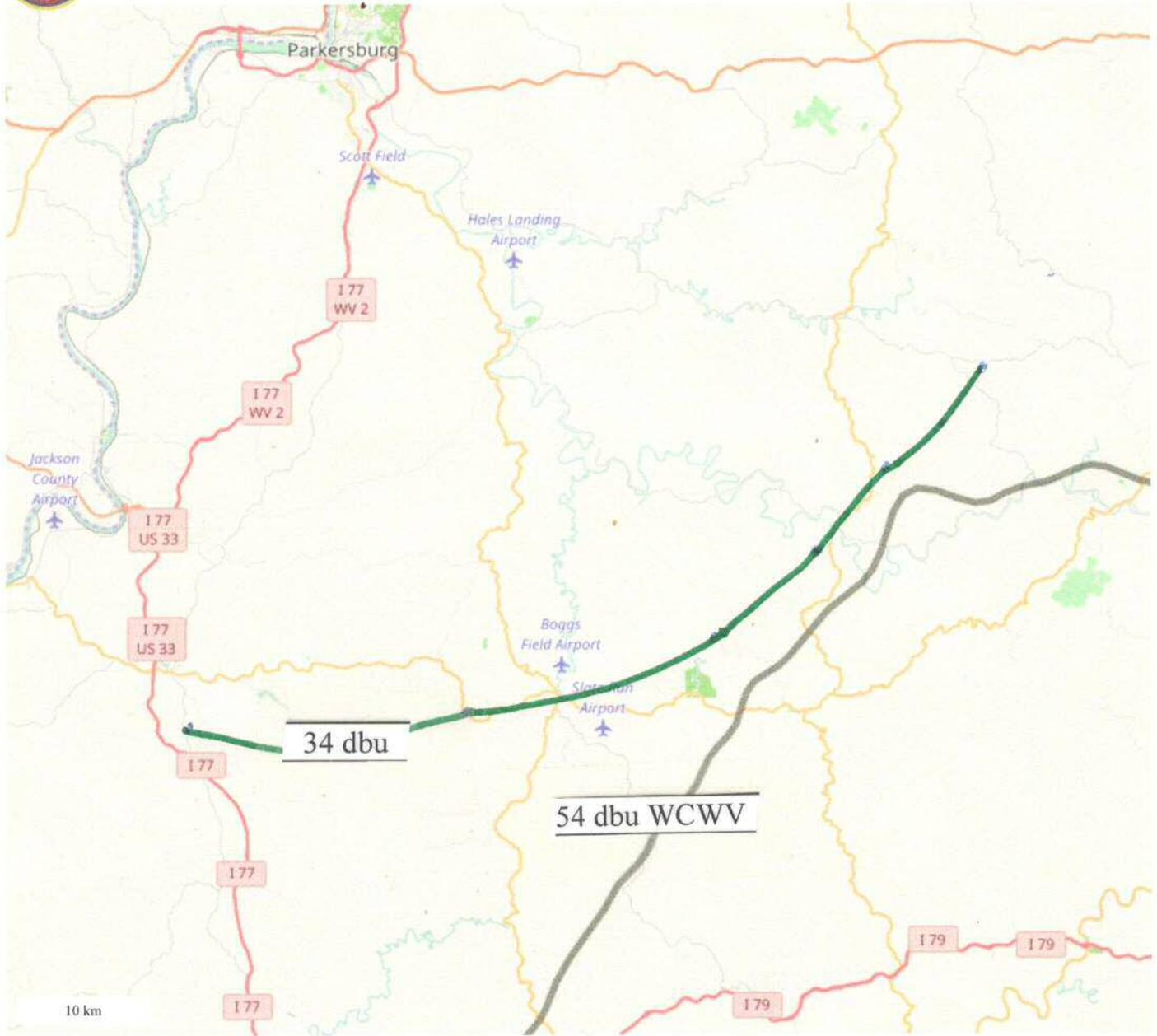


### Map 2 JAWCO, Inc.





54 dBu Service Contour for WCWV, Summersville, WV, 92.9 MHz BLH-2014





57 dBu Service Contour for WHIZ-FM, South Zanesville, OH, 92.7 MHz BMLH-20040415AEI

- Open Street Map
- USGS Topo
- USGS Topo + Imagery
- USGS Imagery
- USGS Shaded Relief



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NONIONIZING RADIATION COMPLIANCE  
Fellowship Baptist Church of Vienna, WV  
Vienna, WV

The proposed WNRJ facilities will fully comply with the current FCC Standard with regard to human exposure to nonionizing radiation. These facilities will employ a three bay “Ring-Stub” (EPA Type 1) circularly polarized full wave spaced non-directional antenna that will be mounted at the 50.3 meter level on an existing 59.4 meter tower. The tower which will support the proposed antenna presently supports the antenna for WVVV(FM) - Williamstown, West Virginia, which operates on Channel 245A with a circularly polarized effective radiated power of 3.5 kilowatts using an ERI LPX-2E, two bay circularly polarized full wave spaced non-directional antenna which is mounted at a height of 56.2 meters above ground. An adjacent tower supports the antennas for WNUS(FM) - Belpre, Ohio, which operates on Channel 296A with a circularly polarized effective radiated power of 3.8 kilowatts using an ERI LPX-2E, two bay circularly polarized full wave spaced non-directional antenna which is mounted at a height of 50.0 meters above ground and WDMX(FM) - Vienna, West Virginia, which operates on channel 261A with a circularly polarized effective radiated power of 1.65 kilowatts, mounted at 55.0 meters above ground. As a worst case assumption, the nonionizing radiation calculations for WDMX assumed the use of a single bay EPA Type 1 antenna. There are no other non-excluded sources within 315 meters of this site.<sup>1</sup>

The predicted power density levels at two meters above ground for the proposed WNRJ facilities were calculated using the FCC’s “FM Model” computer program. The results of these calculations are shown in Figure 35.0. This figure shows that the maximum predicted power density at two meters above ground level for the proposed facilities will be 12.7  $\mu\text{W}/\text{cm}^2$ , which will occur at a horizontal distance of 10 meters from

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<sup>1</sup>There are four “short form” applications for new FM translators which specify operation from the WVVV tower, but the facilities proposed in all four of these applications are predicted to generate power densities of less than 5% of the permitted level for uncontrolled exposure at ground level. As a result, none of the facilities proposed in these “short form” applications need to be considered in this analysis.

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the base of this tower. Since the permitted power density in the FM band is 200  $\mu\text{W}/\text{cm}^2$ , this amounts to only 6.4% of the permitted level for uncontrolled exposure.

The power density levels at two meters above ground level for the licensed WVVV facilities were also calculated using the FCC's "FM Model" computer program. The results of these calculations are shown in Figure 35.1. This figure shows that the worst case predicted power density at two meters above ground level for WVVV is 11.4  $\mu\text{W}/\text{cm}^2$ , which will occur at a horizontal distance of 36.4 meters from the base of this tower. Since the permitted power density in the FM band is 200  $\mu\text{W}/\text{cm}^2$ , this amount to only 5.7% of the permitted level for uncontrolled exposure.

The power density levels at two meters above ground level for the licensed WNUS facilities were also calculated using the FCC's "FM Model" computer program. The results of these calculations are shown in Figure 35.2. This figure shows that the worst case predicted power density at two meters above ground level for WNUS is 15.8  $\mu\text{W}/\text{cm}^2$ , which will occur at a horizontal distance of 32.2 meters from the base of their tower. Since the permitted power density in the FM band is 200  $\mu\text{W}/\text{cm}^2$ , this amount to only 7.9% of the permitted level for uncontrolled exposure.

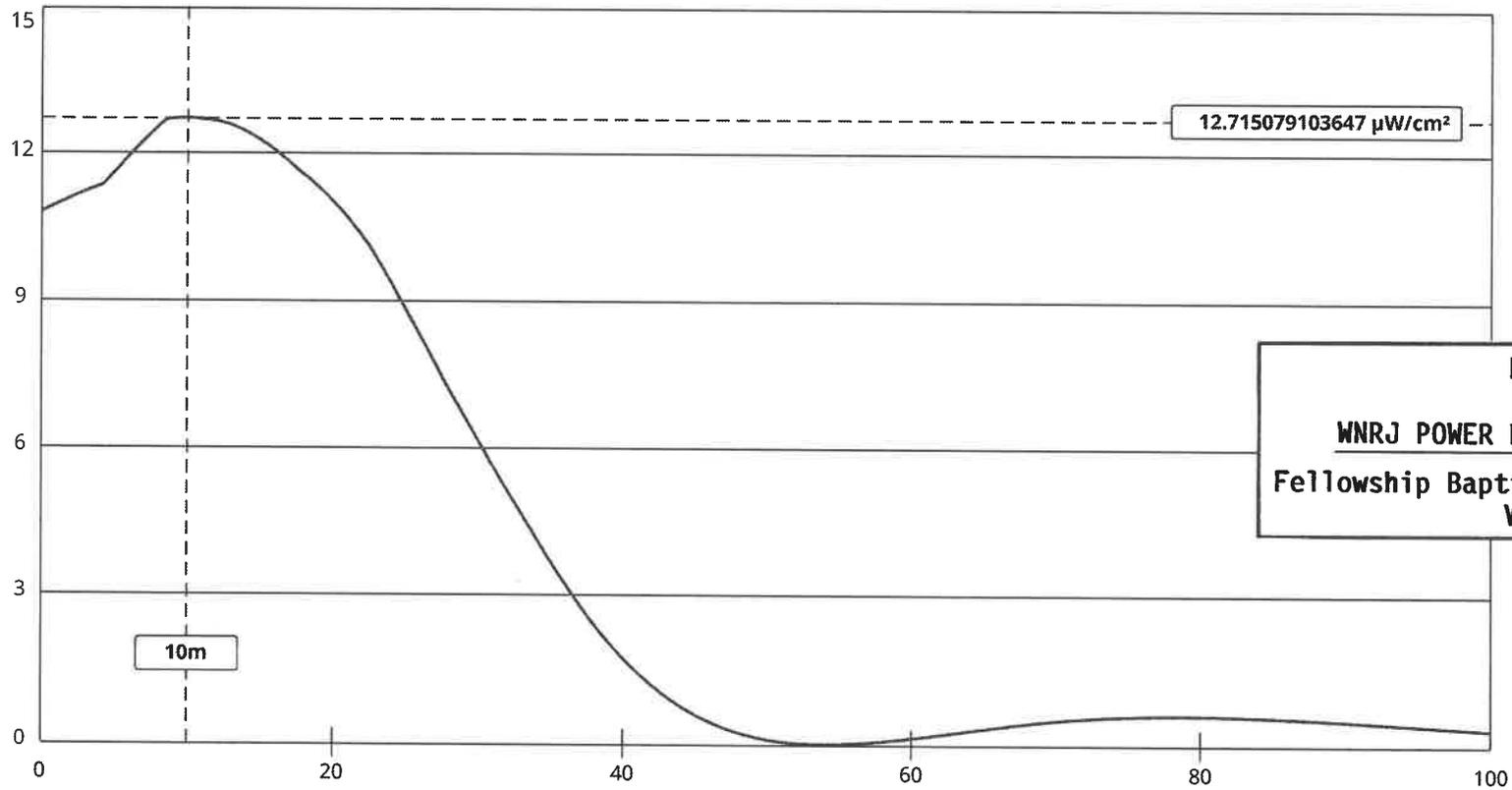
Finally, the power density levels at two meters above ground level for the licensed WDMX facilities were also calculated using the FCC's "FM Model" computer program. The results of these calculations are shown in Figure 35.3. This figure shows that the worst case predicted power density at two meters above ground level for WDMX is 23.6  $\mu\text{W}/\text{cm}^2$ , which will occur at a horizontal distance of 14.2 meters from the base of their tower. Since the permitted power density in the FM band is 200  $\mu\text{W}/\text{cm}^2$ , this amount to only 11.8% of the permitted level for uncontrolled exposure.

Assuming, as a worst case, that the maximum predicted power density for all four stations occurs at the same location yields a total of only 31.8% of the permitted level for uncontrolled exposure. Thus, the implementation of the proposed WNRJ facilities will

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not be predicted to result in power densities that are in excess of the permitted level for uncontrolled exposure in areas which are accessible to the general public.

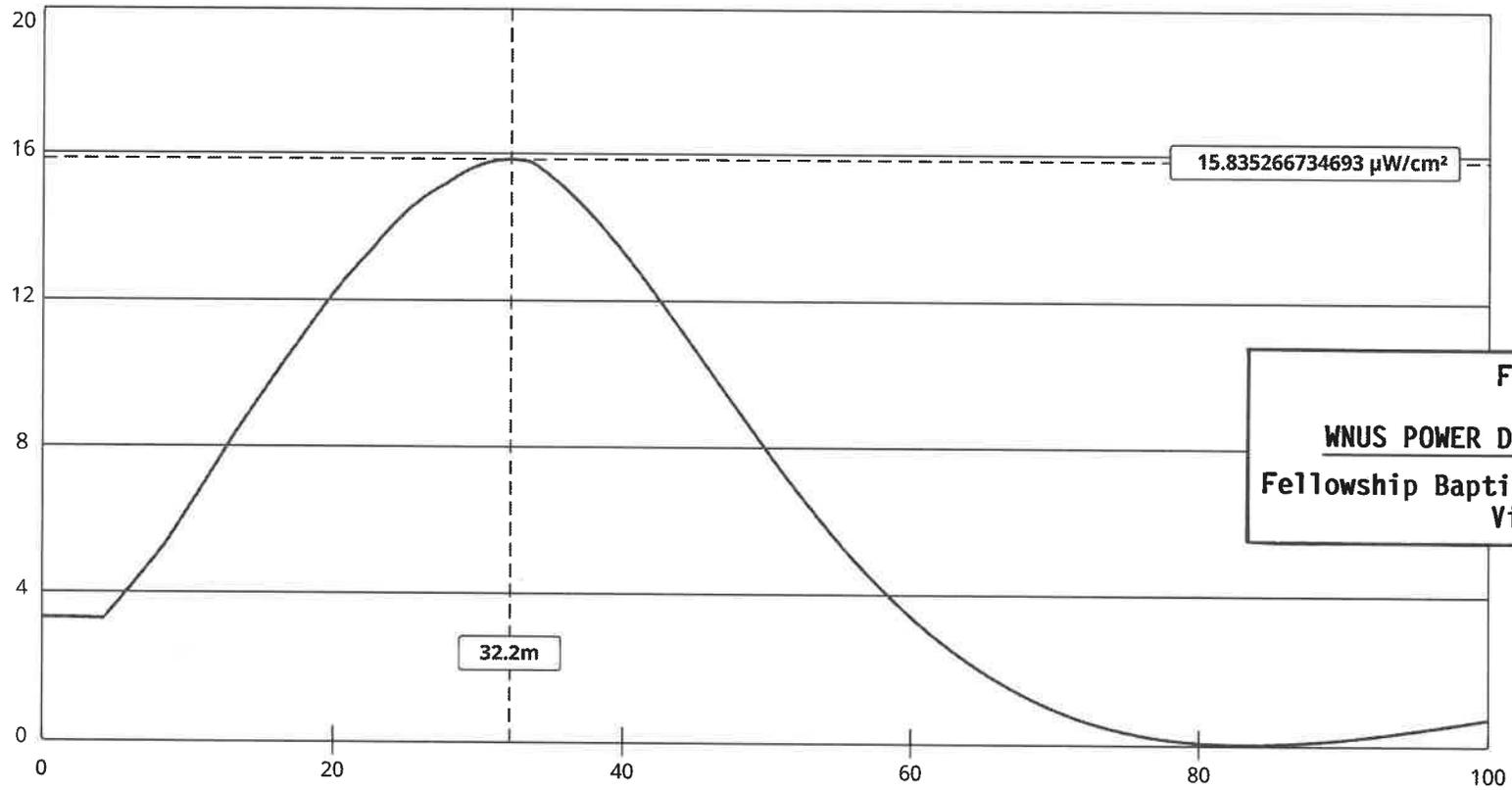
WNRJ will take appropriate steps to insure that workers that must be on this tower will not be exposed to levels of nonionizing radiation that are in excess of the permitted level for controlled exposure. These steps will include the cessation of operation or a reduction in power, as appropriate, when work becomes necessary in areas on this tower where the power density levels are in excess of the permitted level for controlled exposure.



**FIG. 35.0**  
**WNRJ POWER DENSITY CALCULATIONS**  
**Fellowship Baptist Church of Vienna, WV**  
**Vienna, WV**

View Tabular Results +

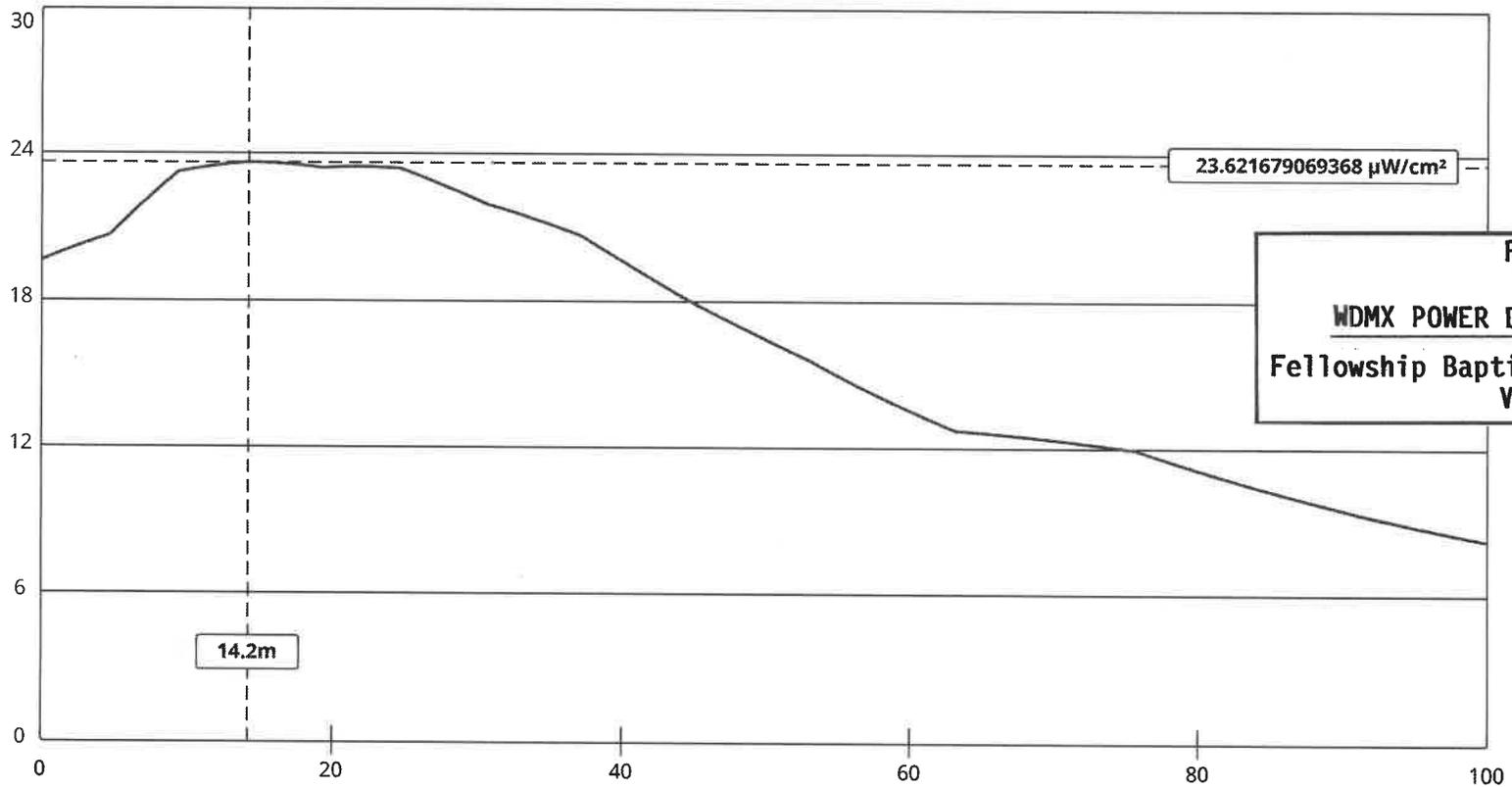
Channel Selection	Channel 280 (103.9 MHz) ▾		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other" ▾		
Height (m)	50.3	Distance (m)	100
ERP-H (W)	750	ERP-V (W)	750
Num of Elements	3	Element Spacing (λ)	1
Num of Points	500	Apply	



**FIG. 35.2**  
**WNUS POWER DENSITY CALCULATIONS**  
**Fellowship Baptist Church of Vienna, WV**  
**Vienna, WV**

View Tabular Results +

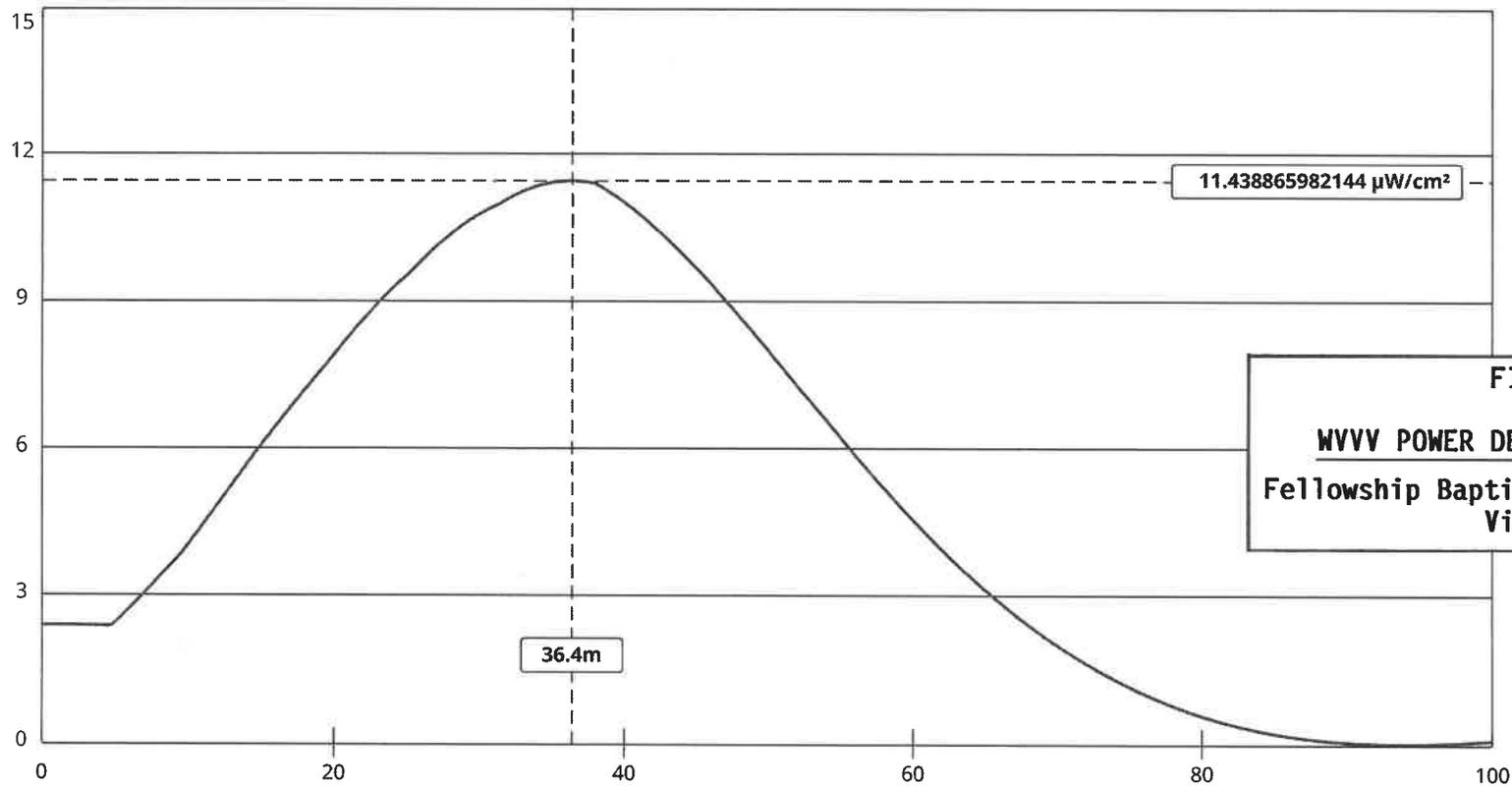
Channel Selection	Channel 296 (107.1 MHz) ▾		
Antenna Type +	EPA Type 3: Opposed U Dipole ▾		
Height (m)	50	Distance (m)	100
ERP-H (W)	3800	ERP-V (W)	3800
Num of Elements	2	Element Spacing (λ)	1
Num of Points	500	Apply	



**FIG. 35.3**  
**WDMX POWER DENSITY CALCULATIONS**  
**Fellowship Baptist Church of Vienna, WV**  
**Vienna, WV**

[View Tabular Results +](#)

Channel Selection	Channel 261 (100.1 MHz) ▾		
Antenna Type †	EPA Type 1: Ring-and-Stub or "Other" ▾		
Height (m)	55	Distance (m)	100
ERP-H (W)	1650	ERP-V (W)	1650
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500	Apply	



**FIG. 35.1**  
**WVVV POWER DENSITY CALCULATIONS**  
**Fellowship Baptist Church of Vienna, WV**  
**Vienna, WV**

[View Tabular Results +](#)

Channel Selection	Channel 245 (96.9 MHz) ▼		
Antenna Type +	EPA Type 3: Opposed U Dipole ▼		
Height (m)	56.2	Distance (m)	100
ERP-H (W)	3500	ERP-V (W)	3500
Num of Elements	2	Element Spacing (λ)	1
Num of Points	500	Apply	