November 2014
KXMQ(FM) Channel 249C2 McNary, AZ
KXBK(FM) Channel 278C3 Taylor, AZ
KZXQ(FM) Channel 283C3 Lake of the Woods, AZ
RF Exposure Study

Facilities Proposed

Combined operation of KXMQ, KXBK, and KZXQ is proposed, from a 4-element, circularly-polarized, omni-directional antenna which will be side-mounted on a tower atop Porter Mountain. The antenna support structure will not exceed 60.96 meters (200 feet) above ground and does not require notification to the Federal Aviation Administration. Therefore, this structure does not require an Antenna Structure Registration Number.

RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Since the Commission's FMModel software does not include an element pattern for the Scala 6832-4 antenna to be used, calculations of the power density produced by the antenna system assume a Type 1 element pattern, which is the "worst case" element pattern. Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

The proposed operation of KXMQ will be on Channel 249C2 (97.7 MHz) with an effective radiated power of 4.1 kilowatts. The interbay spacing is 0.81 wavelength at this station's frequency. The highest calculated ground level power density occurs at a distance of 1 meter from the base of the antenna support structure. At this point the power density is calculated to be 9.9 $\mu W/cm^2$, which is less than 5% 200 $\mu W/cm^2$ (the FCC MPE for uncontrolled environments at the station's frequency).

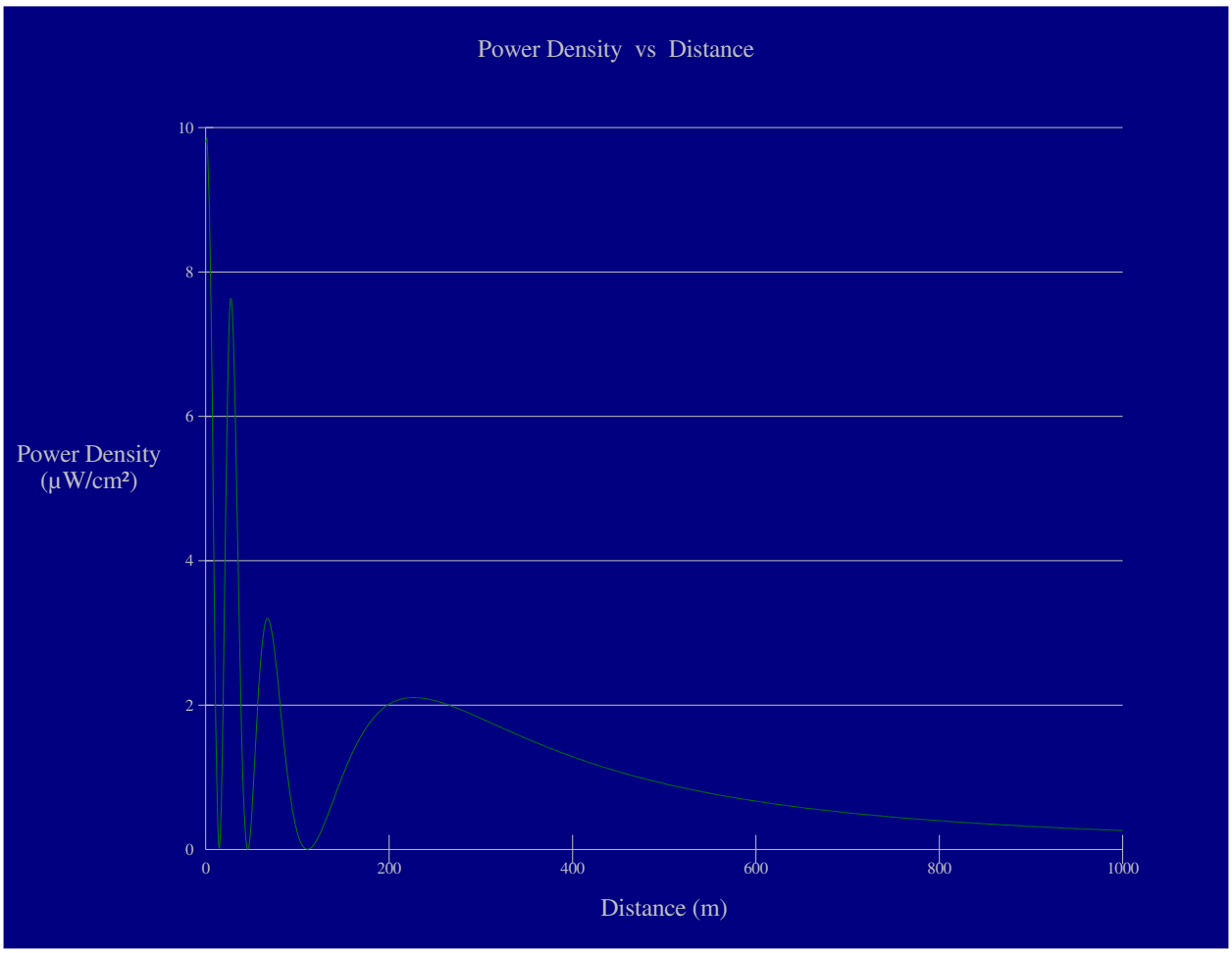
The proposed operation of KXBK will be on Channel 278C3 (103.5 MHz) with an effective radiated power of 1.250 kilowatts. The interbay spacing is 0.86 wavelength at this station's frequency. The highest calculated ground level power density occurs at a distance of 1 meter from the base of the antenna support structure. At this point the power density is calculated to be 10.8 $\mu W/cm^2$, which is 5.4% 200 $\mu W/cm^2$ (the FCC MPE for uncontrolled environments at the station's frequency).

The proposed operation of KZXQ will be on Channel 283C3 (104.5 MHz) with an effective radiated power of 0.820 kilowatts. The interbay spacing is 0.87 wavelength at this station's frequency. The highest calculated ground level power density occurs at a distance of 1 meter from the base of the antenna support structure. At this point the power density is calculated to be 8.4 $\mu W/cm^2$, which is less than 5% 200 $\mu W/cm^2$ (the FCC MPE for uncontrolled environments at the station's frequency).

Calculations of the power density produced by the nearby KFRM antenna system assume the appropriate element pattern for the PSI FHR-10C "Power-Tiller" antenna which is in use by that station. The highest calculated ground level power density occurs at a distance of 18 meters from the base of the antenna support structure. At this point the power density is calculated to be 61.3 $\mu W/cm^2$.

Calculations of the power density produced by the nearby K300CL antenna system assume the appropriate element pattern for the PSI FML-2-DA antenna which is in use by that station. The highest calculated ground level power density occurs at a distance of 11 meters from the base of the antenna support structure. At this point the power density is calculated to be 3.1 $\mu W/cm^2$.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

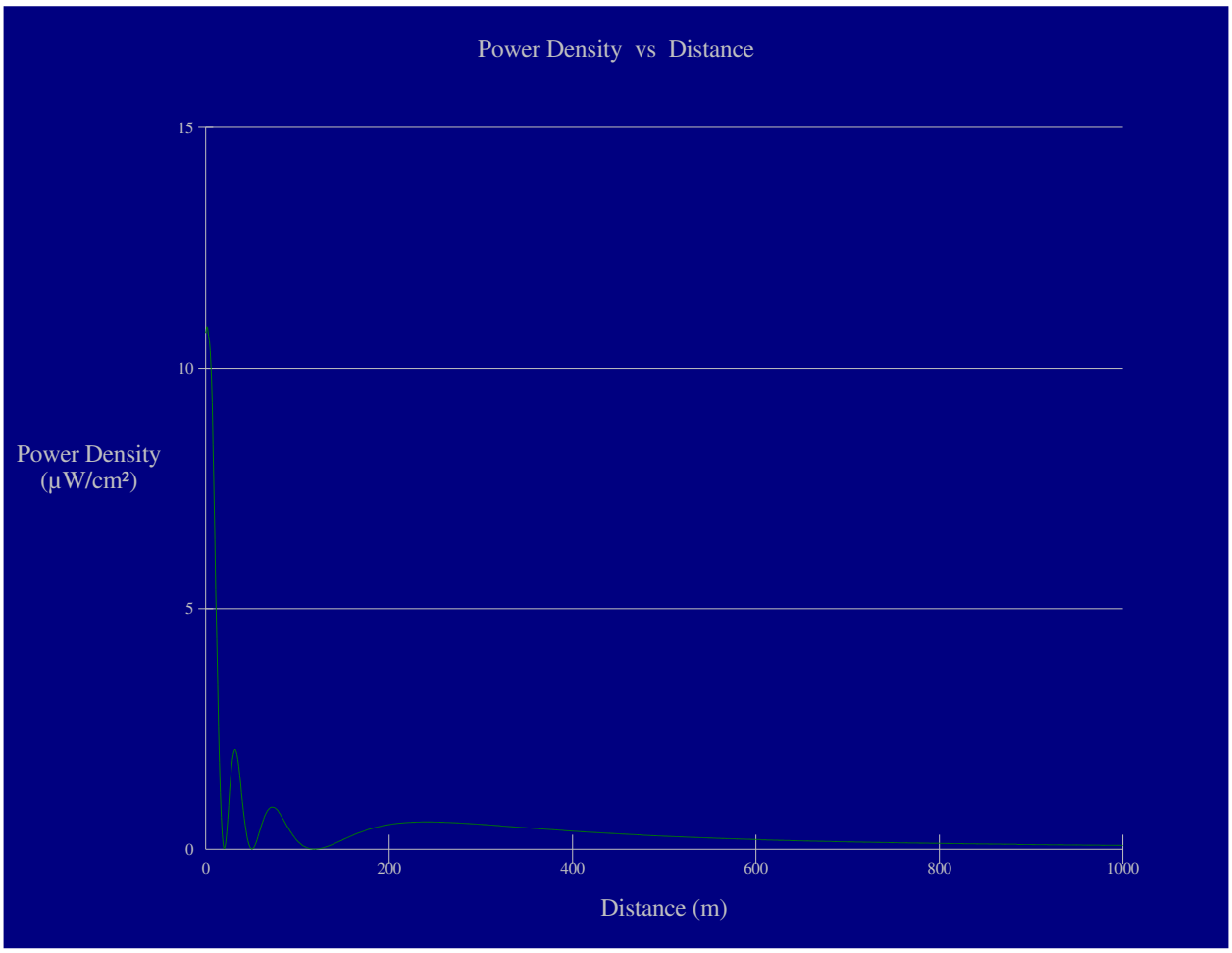


Ground-Level RF Exposure **OET FMModel**

KXMQ 249C2 McNary

Antenna Type:	Shively 6832-4 (ring-stub element model used for this study)
No. of Elements:	4
Element Spacing:	0.81 wavelength
Distance:	1000 meters
Horizontal ERP:	4.1 kW
Vertical ERP:	4.1 kW
Antenna Height:	38 meters AGL

Maximum Calculated Power Density is 9.9 µW/cm^2 at 1 meters from the antenna structure.

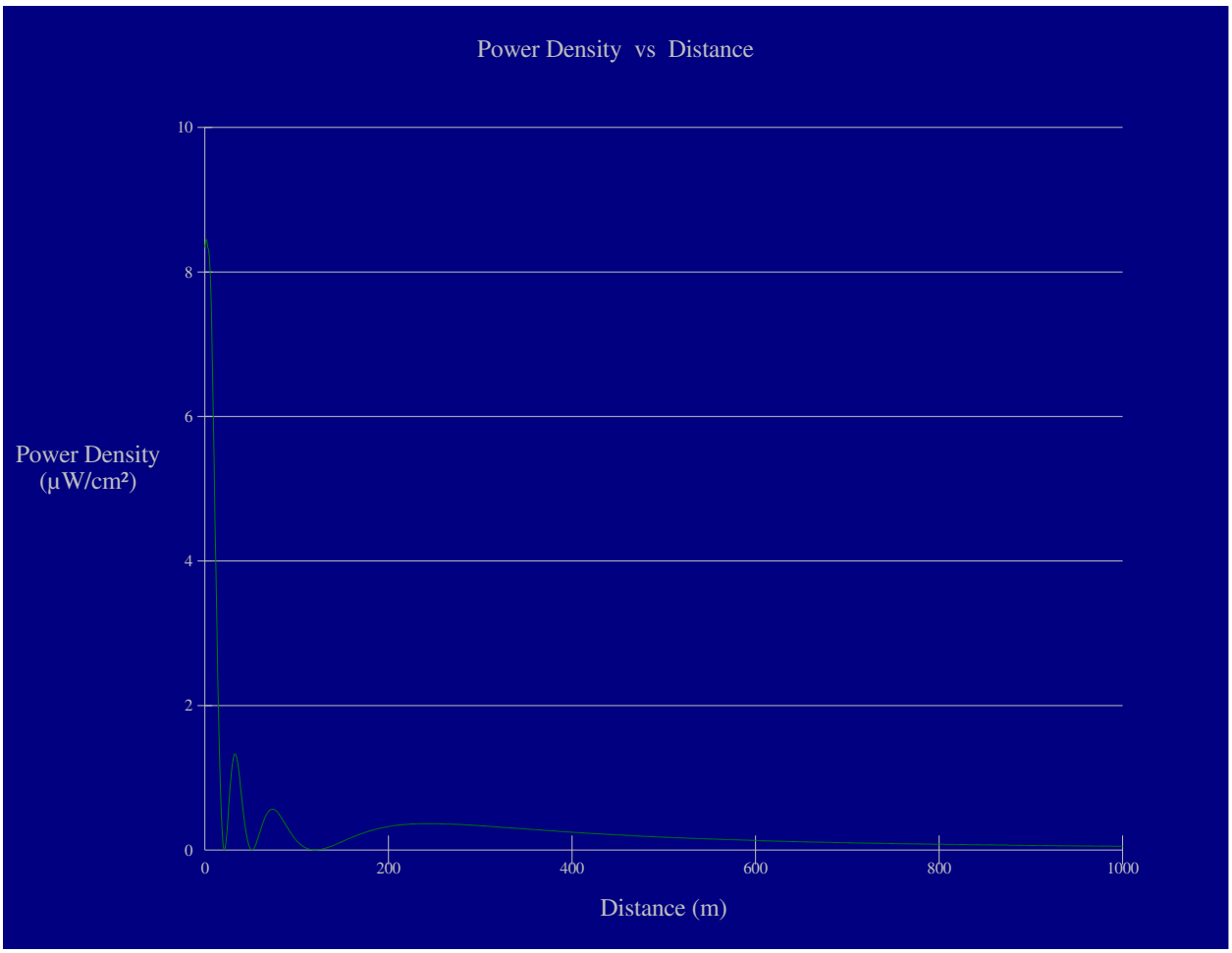


Ground-Level RF Exposure **OET FMModel**

KXBK 278C3 Taylor

Antenna Type:	Shively 6832-4 (ring-stub element model used for this study)
No. of Elements:	4
Element Spacing:	0.86 wavelength
Distance:	1000 meters
Horizontal ERP:	1.25 kW
Vertical ERP:	1.25 kW
Antenna Height:	38 meters AGL

Maximum Calculated Power Density is 10.8 µW/cm^2 at 1 meters from the antenna structure.



Ground-Level RF Exposure **OET FMModel**

KZXQ 283C3 Lake of the Woods

Antenna Type:	Shively 6832-4 (ring-stub element model used for this study)
No. of Elements:	4
Element Spacing:	0.87 wavelength
Distance:	1000 meters
Horizontal ERP:	0.820 kW
Vertical ERP:	0.820 kW
Antenna Height:	38 meters AGL

Maximum Calculated Power Density is 8.4 µW/cm^2 at 1 meters from the antenna structure.