

August 2019
KLOB(FM) Channel 234A
Thousand Palms, CA
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 234A (94.7 MHz) with a maximum lobe effective radiated power of 1.35 kilowatts. Operation is proposed with a 2-element circularly-polarized half-wave-spaced directional antenna which will be installed on an existing tower on Edom Hill.

The antenna support structure does 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.

DETERMINATION Results							
PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7720.88 MTRS (7.72090 KM) AWAY							
Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	33-50-7.00N	116-30-35.00W	PALM SPRINGS INTL	RIVERSIDE PALM SPRINGS, CA	121.4	3048.0
PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7927.84 MTRS (7.92780 KM) AWAY							
Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	33-50-26.00N	116-31-3.00W	PALM SPRINGS INTL	RIVERSIDE PALM SPRINGS, CA	121.4	3048.0
Your Specifications							
NAD83 Coordinates							
Latitude						33-52-00.0 north	
Longitude						116-26-02.0 west	
Measurements (Meters)							
Overall Structure Height (AGL)						51.8	
Support Structure Height (AGL)						51.8	
Site Elevation (AMSL)						479.7	
Structure Type							
LTOWER - Lattice Tower							

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.

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

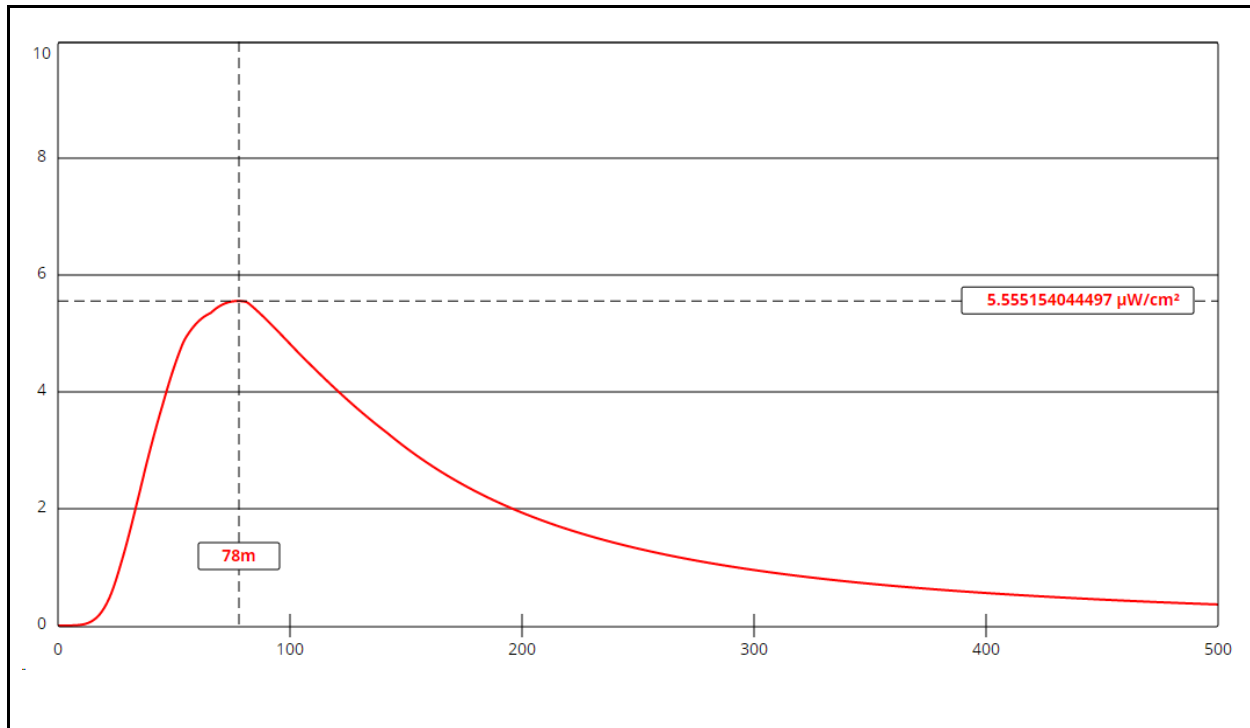
Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

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

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 3 element pattern, which is the element pattern for the “Opposed U Dipole” (or “rototiller”) antenna proposed for use. The highest calculated ground level power density occurs at a distance of 78 meters from the base of the antenna support structure. At this point the power density is calculated to be 5.6 $\mu W/cm^2$, which is 2.8% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

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

KLOB 234A Thousand Palms

Antenna Type: "rototiller" (Type 3)

No. of Elements: 2

Element Spacing: 0.5 wavelength

Distance: 500 meters

Horizontal ERP: 1.35 kW

Vertical ERP: 1.35 kW

Antenna Height: 40 meters AGL

Maximum Calculated Power Density is $5.6 \mu\text{W}/\text{cm}^2$ at 78 meters from the antenna structure.