



## ENGINEERING STUDY

KSBA (FM)

Requesting a Minor Modification to  
License number BLED-19881205KD

Channel 203A (88.5 MHz)

Upgrading to 203C3

Coos Bay, OR

Facility ID 50616

September, 2017

## **KSBA (FM)**

### **Requesting a Minor Modification to**

**License number BLED- 19881205KD**

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### **TECHNICAL STATEMENT**

This technical statement and attached exhibits were prepared on behalf of Southern Oregon University (“SOU”), licensee of radio station KSBA (FM), Channel 203, 88.5MHz, Coos Bay, OR. This application seeks to correct errors in coordinates, AMSL height, and HAAT, upgrade class to 203C3, and increase ERP.

#### **Facilities Proposed**

Location (NAD83)	43° 23' 25.0" N Latitude, 124° 07' 53.0" W Longitude
Location (NAD27)	43° 23' 25.6" N Latitude, 124° 07' 48.6" W Longitude
Channel	203C3 (88.5MHz)
Tower Overall AGL Height-	61m
Tower ASR	1061120
Proposed Antenna	CONTINENTAL G4CPL-2
Antenna AGL Height-	27m
Site AMSL Height-	284m
COR AMSL Height	311m
HAAT	184m
ERP	2.7 kW NON-DIRECTIONAL

## **ALLOCATION**

The proposed operation will utilize a non-directional antenna and will meet all spacing requirements to reserved band stations as a class C3 station. The overall allocation study is shown in Exhibit A. Contour protection to KYSO(FM), 204C0, in Selma, OR is examined more closely in Exhibit A.

The existing (proposed) KSBA facility is not within 320km of the common border between the US and Canada or Mexico.

A "main studio waiver" of 73.1125 for KSBA, has been previously granted to SOU and KSBA will serve essentially the same service area. It is requested that the main studio waiver be extended to this modified facility.

## **TV CHANNEL 6 PROTECTION**

There are no full power channel 6 TV stations currently licensed to operate within 235km of the proposed KSBA transmitter site.

## **COMMUNITY COVERAGE**

As demonstrated in Exhibit C, the proposed facility will cover 100% of Coos Bay, OR in area and population with the 60dBu and 70dBu signal.

## **ENVIRONMENTAL CONSIDERATIONS**

The proposed facility will use the same antenna at the same location as that currently licensed. Because there will be no physical changes to the facility, there will be no alteration of the existing proposed tower structure for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106.

The power density at 2m AGL was calculated for the proposed facility. The operation was calculated with 2.7kW with the existing 2-bay Continental G4CPL-2 antenna. Based upon the FCC “FM Model” (FCC website) Power Density vs. Distance calculator using a “EPA Type 1, Ring-stub” type antenna setting, the maximum power density at 2m AGL contributed by KSBA is expected to be 173  $\mu\text{W}/\text{cm}^2$  or 86.5% of the permitted 200  $\mu\text{W}/\text{cm}^2$  limit for uncontrolled exposure. The noted level was found at 6 meters from the tower base. The FCC calculator output is shown as Exhibit D. There are no tall buildings within 1,000m of the proposed tower.

There are other excluded and non-excluded RF sources at or near the proposed facility:

- KCBY-DT: TV Channel 11 (198.25MHz), 5kW, 55m AGL, 2.7% of Uncontrolled limit (excluded)
- K27CL-D: TV Channel 27 (549.25MHz), 5.6kW, 45m AGL, RFR unavailable, Estimated at 5% or less of Uncontrolled limit
- KZBY (FM): 213A (90.5MHz), 880 watts, 21m AGL, RFR 49% of uncontrolled limit @ 5m from KZBY tower base (located 60 meters from the KSBA tower).

It is believed, based upon the above evaluation that the impact of the proposed operation should not be a factor at ground level as defined under §1.1307(b)(3). The proposed KSBA antenna will not cause the RF density at the tower site to exceed public exposure limits by itself, or in combination with other RF sources and is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

Radio station KSBA (FM) along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted



Bert Goldman  
Technical Consultant

## EXHIBIT A- ALLOCATION STUDY

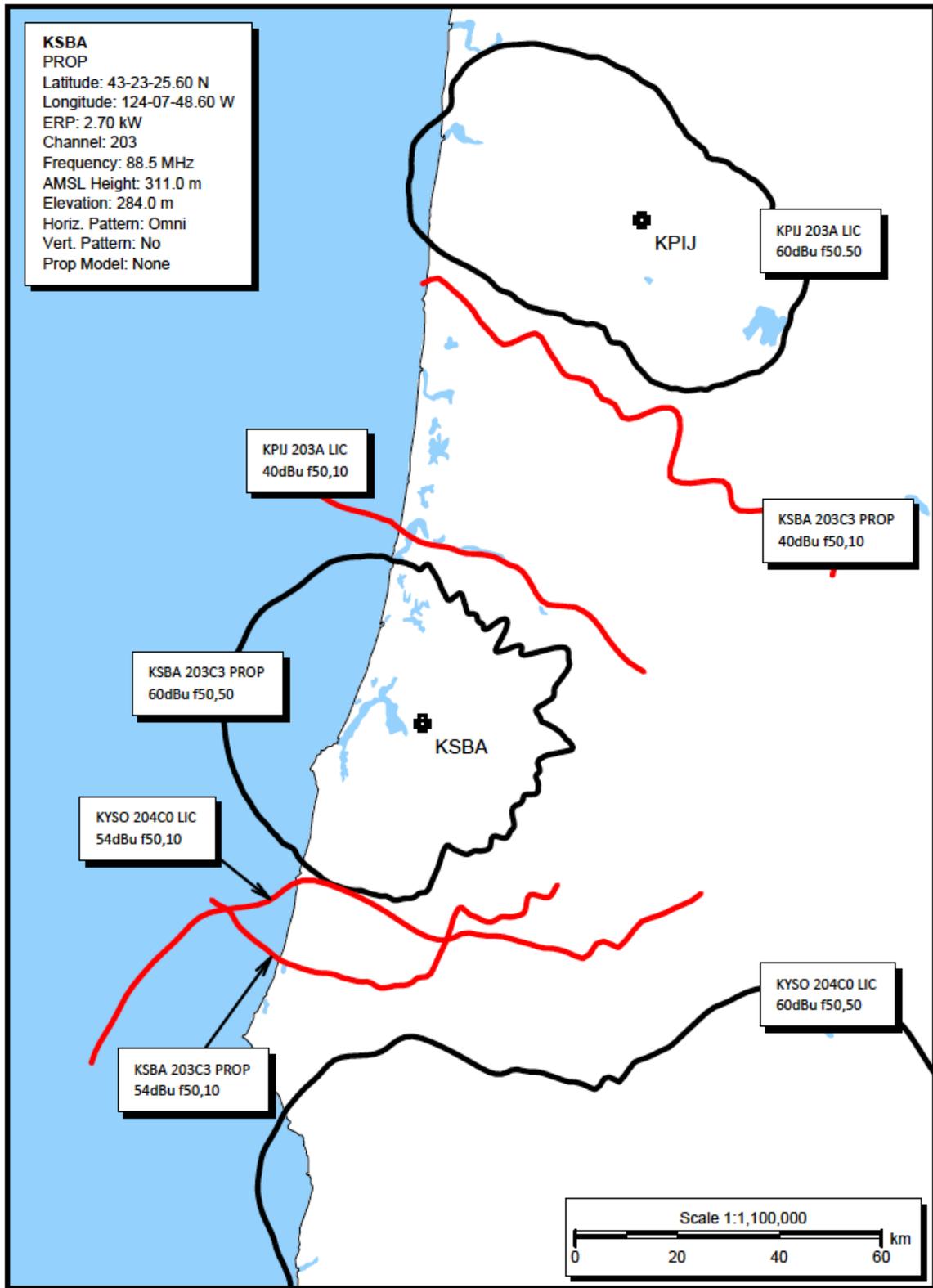
ComStudy 2.2 search of channel 203 (88.5 MHz Class C3) at 43-23-25.6 N, 124-07-48.6 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
KSBA	COOS BAY	OR 203 A	0.06	142.00	78.0	-23.44 dB LIC
KYSO	SELMA	OR 204 C0	131.57	163.00	162.9	0.82 dB
KPIJ	JUNCTION CITY	OR 203 C2	107.73	177.00	23.3	1.68 dB
KLFR	REEDSPORT	OR 206 A	37.00	42.00	4.4	3.64 dB
KAVE	OAKRIDGE	OR 203 A	141.43	142.00	73.4	11.91 dB
KLFO	FLORENCE	OR 201 A	63.14	42.00	4.1	18.19 dB
KMUZ	TURNER	OR 203 A	179.47	142.00	29.9	20.12 dB
KMPQ	ROSEBURG	OR 201 A	65.47	42.00	108.0	21.98 dB
KAIK	TILLAMOOK	OR 203 A	231.29	142.00	4.1	25.78 dB
KSRG	ASHLAND	OR 202 A	165.75	89.00	136.7	26.06 dB
KLMF	KLAMATH FALLS	OR 203 A	249.89	142.00	124.3	28.84 dB
KWRX	REDMOND	OR 203 C2	280.43	177.00	64.3	29.18 dB
KBVR	CORVALLIS	OR 204 A	147.34	89.00	27.4	29.12 dB
KQFE	SPRINGFIELD	OR 205 C3	106.55	43.00	49.8	32.79 dB
KBVM	PORTLAND	OR 202 C2	261.07	117.00	24.6	37.99 dB
KZRI	SANDY	OR 204 C1	289.43	144.00	40.8	38.09 dB
KSMF	ASHLAND	OR 206 C2	165.69	56.00	136.7	38.43 dB

CDBS as of 9/11/2017

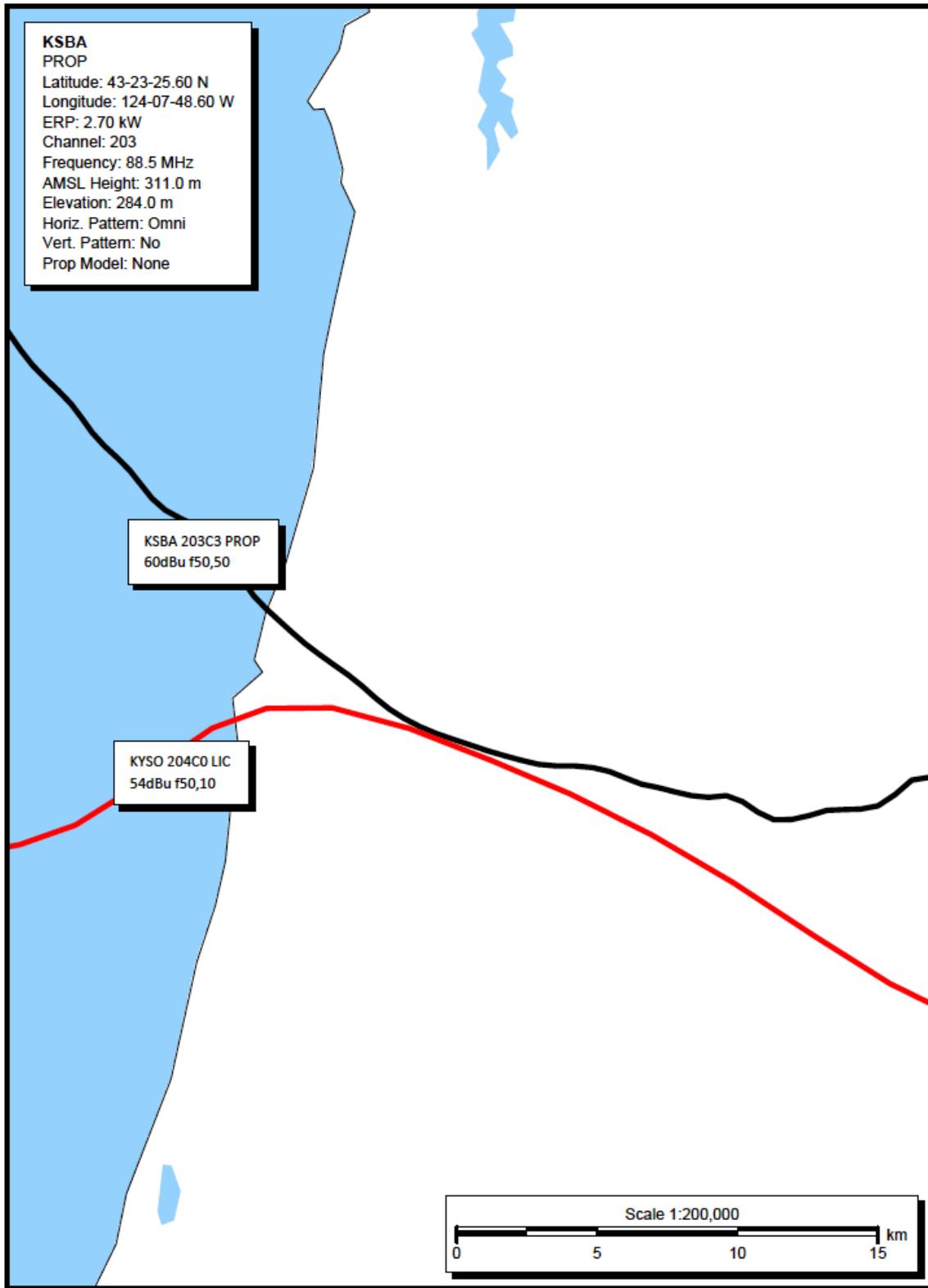
# EXHIBIT B Pertinent Protection Contours

## Contour Protections, KSBA 203C3 to KYSO, 204C0 and KPIJ 203A



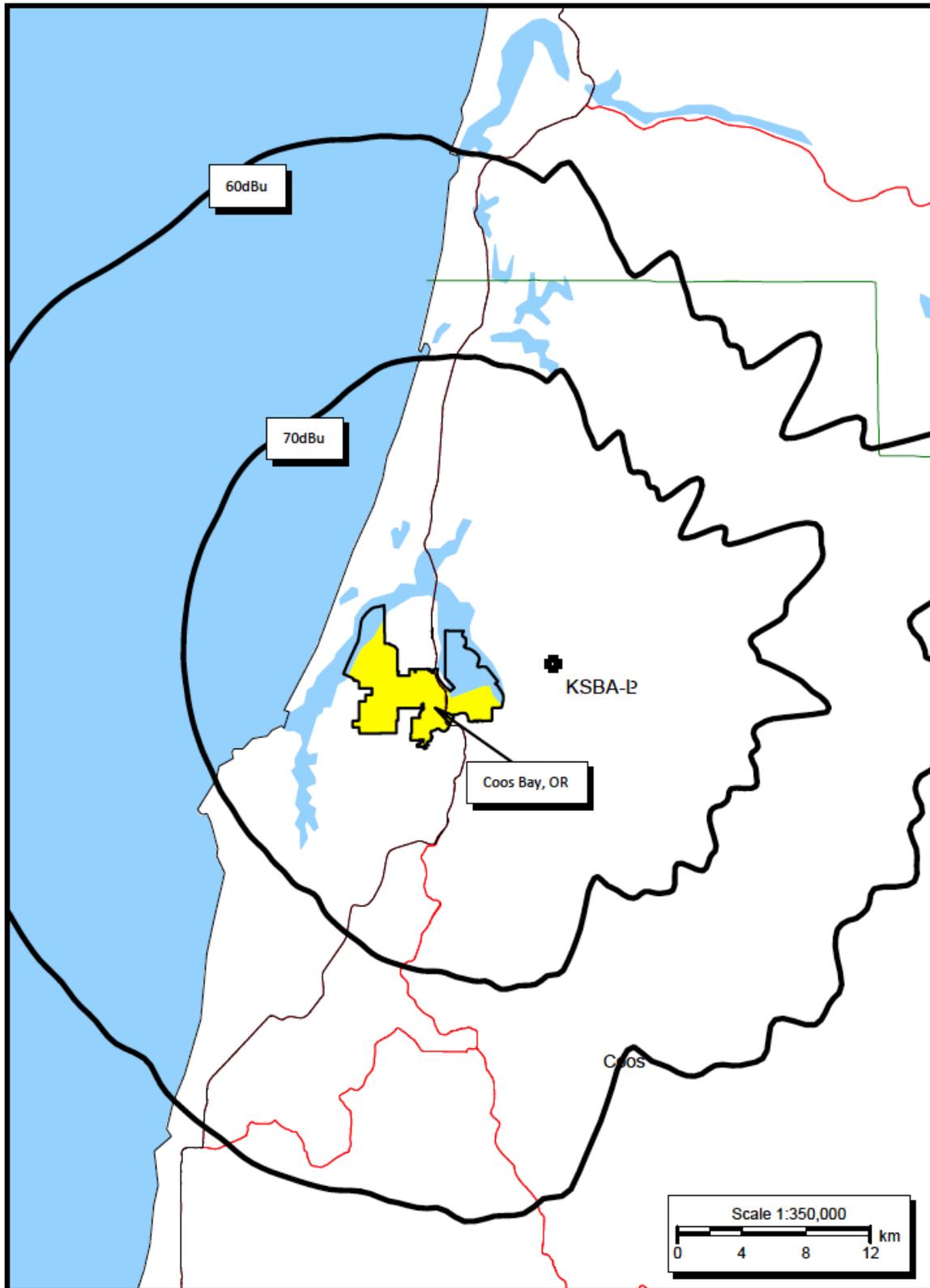
**EXHIBIT B1 Pertinent Protection Contours (close-up)**

Contour Protections (Close), KSBA 203C3 to KYSO, 204C0

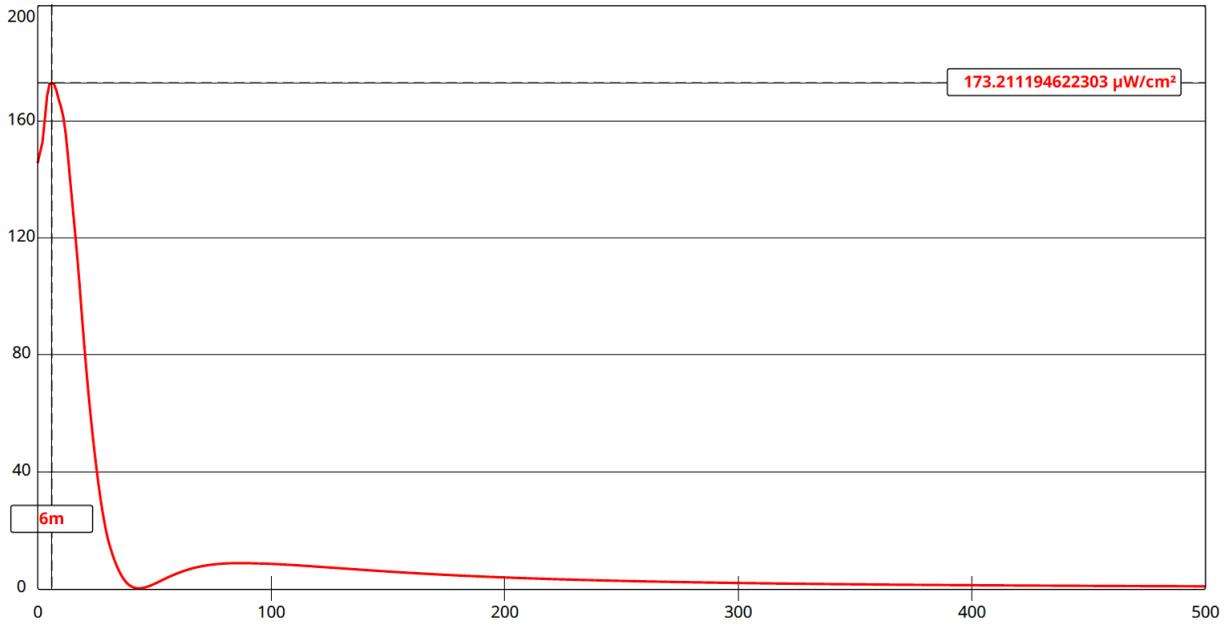


**EXHIBIT C- COMMUNITY COVERAGE**

KSBA Proposed Community Coverage, Coos Bay, OR



## EXHIBIT F - FCC FM Model Output



[View Tabular Results +](#)

Channel Selection	Channel 203 (88.5 MHz) ▾		
<a href="#">Antenna Type +</a>	EPA Type 1: Ring-and-Stub or "Other" ▾		
Height (m)	<input type="text" value="27"/>	Distance (m)	<input type="text" value="500"/>
ERP-H (W)	<input type="text" value="2700"/>	ERP-V (W)	<input type="text" value="2700"/>
Num of Elements	<input type="text" value="2"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	Apply	