July 2016
FM Translator K257CN
Juneau, Alaska   Channel 257D
Allocation Study

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. There are no cochannel or adjacent channel stations close enough to require the preparation of detailed allocation study maps.

The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

The attached 34 dBu contour map demonstrates that the interfering contour is entirely contained within US territory, and does not cross the border into Canada.

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FMSTUDY.EXE     Copyright 2016, Hatfield & Dawson, LLC        Version 4.01
==============================================================================
SEARCH PARAMETERS                              FM Database Date: 160705
       Channel: 257A    99.3 MHz                          Page   1
      Latitude:  58 22 11
     Longitude: 134 33  8
   Safety Zone:  50 km
     Job Title: K257CN JUNEAU


Call    City            Channel ERP(kW)     Latitude Bearing    Dist   Req
Status  St  FCC File No.  Freq. HAAT(m)     Longitude deg-True   (km)   (km)
==============================================================================
K203CH  JUNEAU            203D   0.050       58-18-05  139.3    10.04     0
 LIC    AK  BLFT-51023AIR  88.5   0.0        134-26-26           0.00 TRANS

K257CN  JUNEAU            257D   0.010 DA    58-22-11    0.0     0.00     0
 CP     AK  BPFT-41024ACJ  99.3   0.0        134-33-08           0.00 TRANS

K257CN  MENDENHALL VALLEY 257D   0.050 DA    58-21-57  264.8     4.75     0
 LIC    AK  BLFT-850806TC  99.3   0.0        134-37-59           0.00 TRANS

         ═════  END OF FM SPACING STUDY FOR CHANNEL 257  ═════
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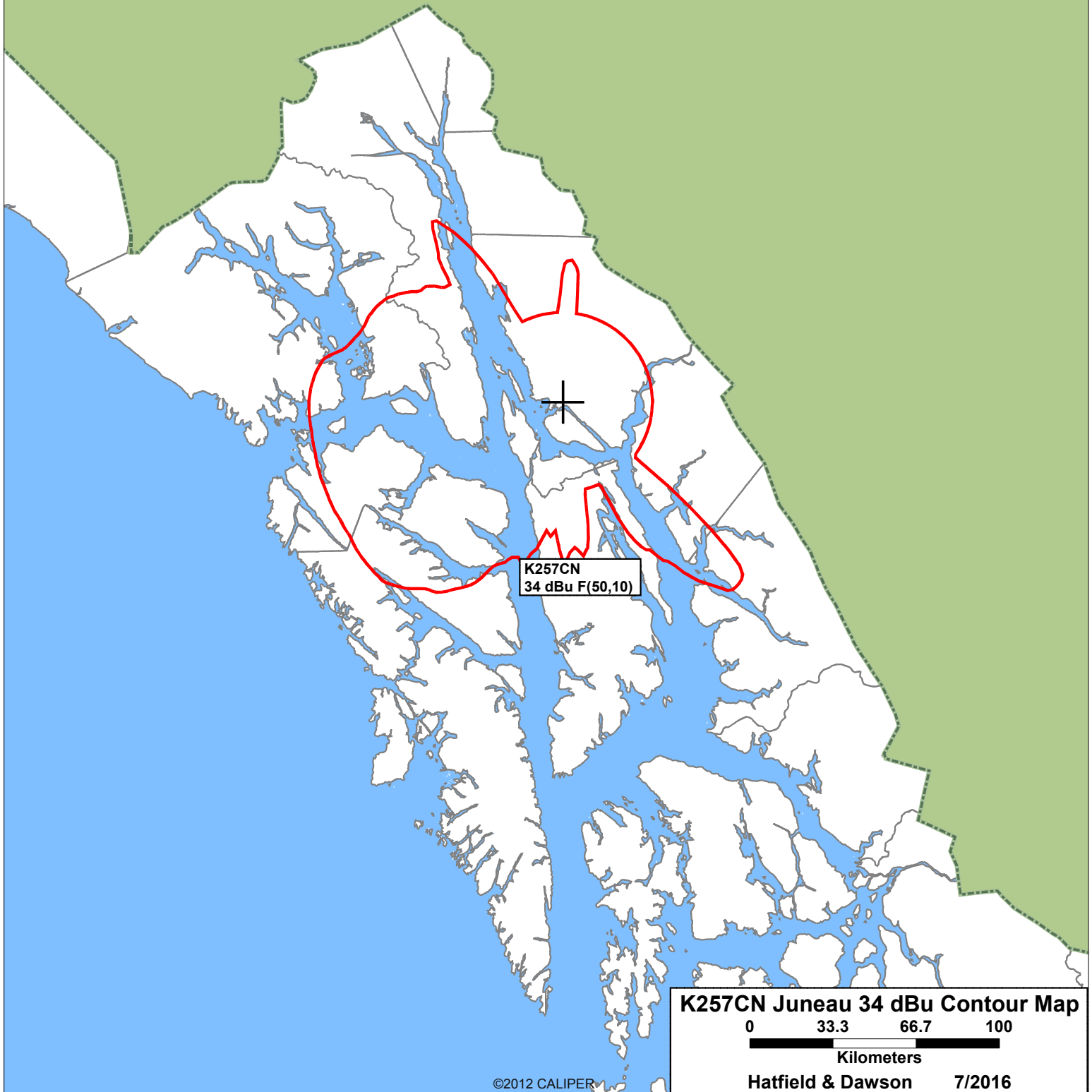
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Yukon Territory

British Columbia

K257CN
34 dBu F(50,10)

K257CN Juneau 34 dBu Contour Map

| 0 | 33.3 | 66.7 | 100 |

Kilometers

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Facilities Proposed

The proposed operation will be on Channel 257D (99.3 MHz) with an effective radiated power of 250 watts. Operation is proposed with an antenna mounted on an existing tower on Heintzelman Ridge, with FCC Antenna Structure Registration Number 1220012.

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 2 element pattern, which is the element pattern for the Nicom BKG77-2 0.85 wave antenna proposed for use. The highest calculated ground level power density occurs at a distance of 12 meters from the base of the antenna support structure. At this point the power density is calculated to be 3.0 $\mu W/cm^2$, which is 1.5% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of K257CN alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease

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operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

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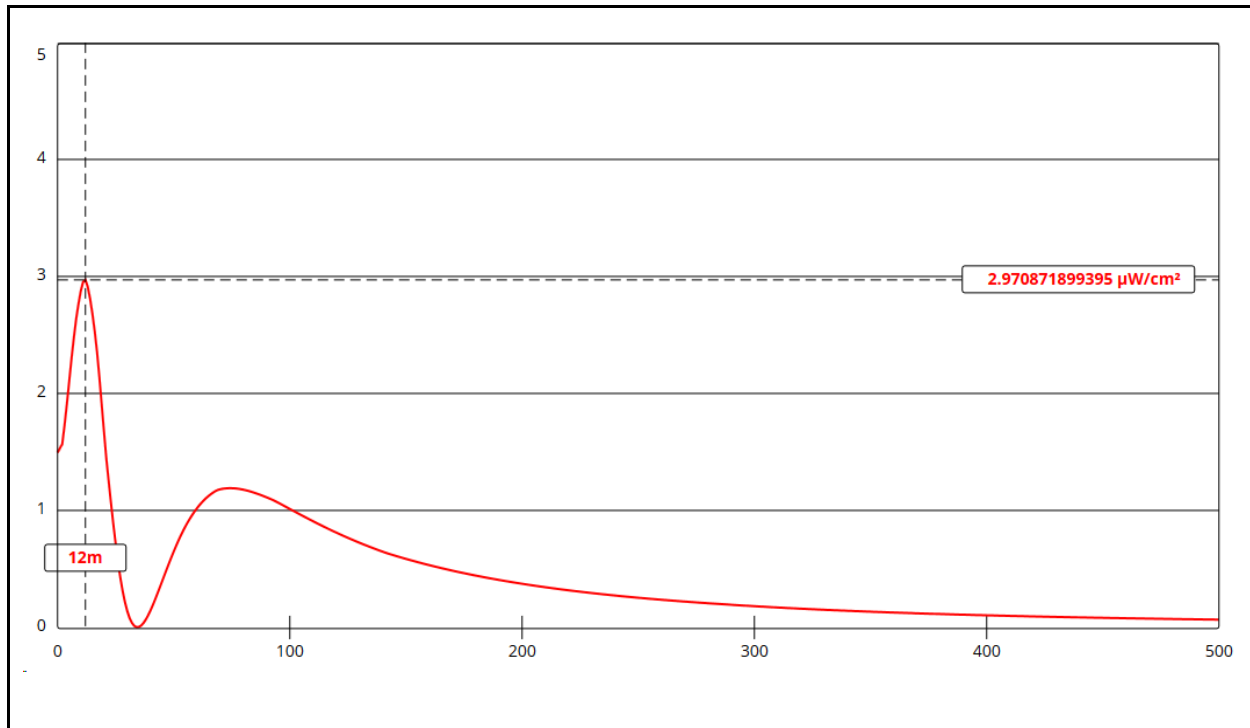
Ground-Level RF Exposure   **OET FMModel**

K257CN Juneau

Antenna Type:	Nicom BKG77-2 (Type 2)
No. of Elements:	2
Element Spacing:	0.85 wavelength

Distance:	1000 meters
Horizontal ERP:	0.250 kW
Vertical ERP:	0.250 kW

Antenna Height: 27 meters AGL

Maximum Calculated Power Density is 3.0 $\mu W/cm^2$ at 12 meters from the antenna structure.

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