

**October 2021
KMNT(FM) Channel 282C3
Chehalis, WA
Allocation Study**

The instant application proposes to relocate the KMNT antenna to the top section of the existing tower.

The attached spacing study shows that the proposed operation meets the co-channel and adjacent channel spacing requirements for Class C3 stations as prescribed in §73.207 of the Commission's Rules.

Hatfield & Dawson Consulting Engineers

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SEARCH PARAMETERS FM Database Date: 20211019

Channel: 282C3 104.3 MHz Page 1

Latitude: 46 33 19.1 (NAD83)

Longitude: 123 3 29.8

Safety Zone: 32 km

Job Title: KMNT 282C3 CHEHALIS

Call	City	Channel	ERP(kW)	Latitude	Bearing	Dist	Req
Status	St FCC File No.	Freq. HAAT(m)	Longitude	deg-True	(km)	(km)	
K228FA	LONGVIEW	228D	0.100	46 10 58.4	169.6	42.09	0
LIC	WA BLFT-20131216DXC	93.5	122 57 33.4		0.00	TRANS	
KVAS-FM	ILWACO	280C3	11.000	46 10 55.4	234.3	70.80	43
LIC	WA BLH-20060213ACC	103.9	123 48 13.5	SS	27.80	CLEAR	
KFIS	SCAPPOOSE	281C2	7.000	45 29 19.4	166.6	121.83	117
LIC	OR BLH-20020306AAK	104.1	122 41 44.3	SS	4.83	CLOSE	
K281AD	OLYMPIA	281D	0.050	47 3 9.3	16.1	57.58	0
LIC	WA BLFT-19931228TD	104.1	122 50 49.4		0.00	TRANS	
K281DE	ABERDEEN	281D	0.250	46 55 59.3	309.5	66.55	0
LIC	WA 0000084218	104.1	123 44 1.5		0.00	TRANS	
K281CI	TACOMA	281D	0.060	DA 47 14 52.3	30.5	89.62	0
LIC	WA BMLFT-20180618AA	104.1	122 27 22.4		0.00	TRANS	
KMNT	CHEHALIS	282C3	2.350	46 33 17.4	214.5	0.06	153
LIC	WA BLH-20050720AEZ	104.3	123 3 31.5		-152.94	SHORT	
K282BY	SALEM	282D	0.180	DA 44 59 49.4	182.5	173.36	0
LIC	OR BLFT-20180404AAS	104.3	123 9 16.4		0.00	TRANS	
K282BV	WHEELER, ETC.	282D	0.023	DA 45 41 9.3	213.7	115.82	0
LIC	OR BLFT-20170619AAR	104.3	123 53 3.4		0.00	TRANS	
K283BT	ASTORIA	283D	0.070	46 11 4.4	236.0	73.37	0
LIC	OR BLFT-20130403AAL	104.5	123 50 49.5		0.00	TRANS	
KXXP	WHITE SALMON	283C1	4.900	45 38 55.4	133.9	144.30	144
LIC	WA BLH-20190625AAT	104.5	121 43 21.3	SS	0.30	CLOSE	
KLSW	COVINGTON	283C2	6.700	47 32 34.4	32.9	131.40	117
LIC	WA BLED-20160509ABE	104.5	122 6 29.4		14.40	CLEAR	
K283BL	PORTLAND	283D	0.099	45 31 20.4	168.1	117.32	0
LIC	OR BLFT-20170919ABE	104.5	122 44 49.4		0.00	TRANS	

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SEARCH PARAMETERS	FM Database Date: 20211019
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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KXXP	WHITE SALMON		283C2	0.500	45 38 55.7	133.9	144.30	117
APP	WA 0000158062		104.5	963.0	121 43 20.9		27.30	CLEAR
KDUX-FM	HOQUIAM		284C2	31.000	46 56 0.3	309.6	66.44	56
LIC	WA BLH-20140506ACW		104.7	110.0	123 43 53.5		10.44	CLEAR
K284BM	LONGVIEW		284D	0.041	46 10 54.4	168.8	42.33	0
LIC	WA BLFT-20080228ABE		104.7	0.0	122 57 5.4		0.00	TRANS
K284CG	OLYMPIA		284D	0.070	DA 47 0 19.4	9.8	50.79	0
LIC	WA BLFT-20170717ADC		104.7	0.0	122 56 39.5		0.00	TRANS
KTDD	EATONVILLE		285C3	17.000	DA 46 50 23.4	62.3	68.85	43
LIC	WA BLH-20020117AAM		104.9	124.0	122 15 31.4	SS	25.85	CLEAR

===== END OF FM SPACING STUDY FOR CHANNEL 282 =====

**October 2021
KMNT(FM) Channel 282C3
Chehalis, WA
RF Exposure Study**

Facilities Proposed

The proposed operation will be on Channel 282C3 (104.3 MHz) with an effective radiated power of 2.4 kilowatts. Operation is proposed with a 3-element circularly-polarized omni-directional half-wave-spaced antenna, mounted on an existing tower on Crego Hill.

While the tower has historically had an FCC Antenna Structure Registration Number, it has been determined that removal of the top beacon will bring the overall height down to 200 feet, which will obviate the need for FCC ASR. The beacon will be removed at the same time the KMNT antenna height is changed, and so no FCC ASR is required.

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.

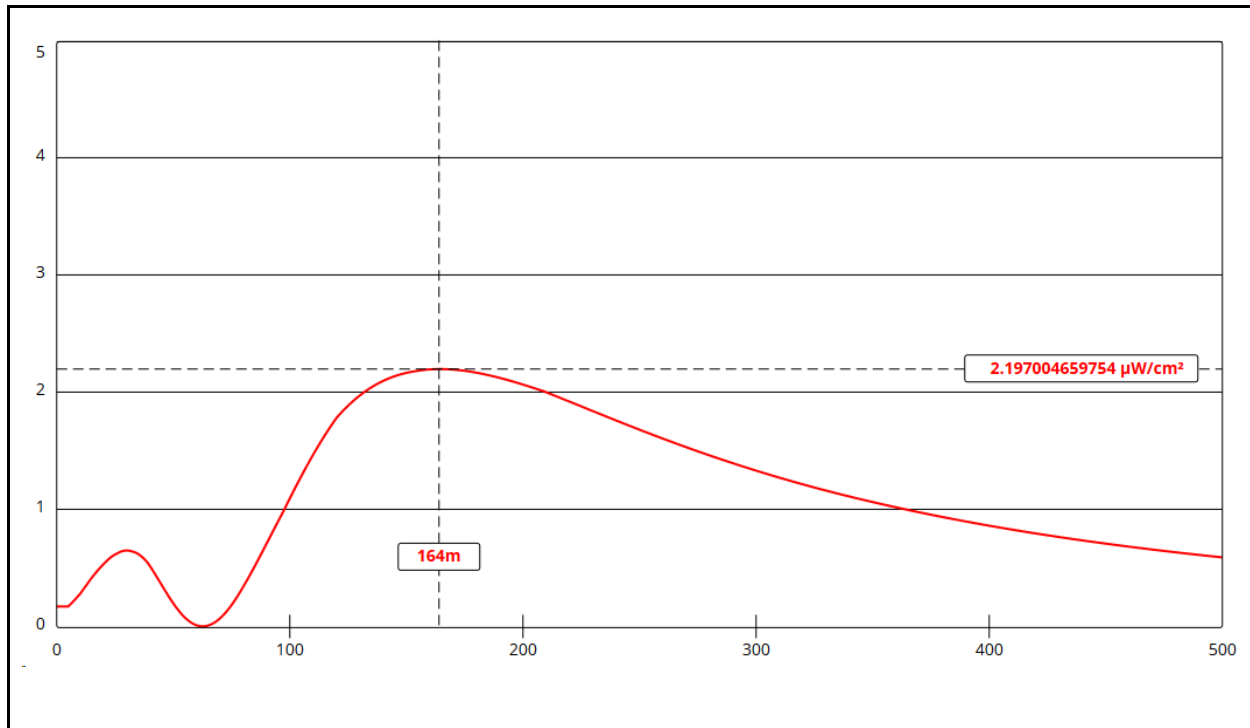
Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 3 element pattern, which is the element pattern for the ERI LPX-3E-HW antenna proposed for use.

The highest calculated ground level power density occurs at a distance of 164 meters from the base of the antenna support structure. At this point the power density is calculated to be $2.2 \mu\text{W}/\text{cm}^2$, which is 1.1% of $200 \mu\text{W}/\text{cm}^2$ (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 KMNT 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 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

KMNT 282C3 Chehalis

Antenna Type: ERI LPX-3E-HW "rototiller" (Type 3)

No. of Elements: 3

Element Spacing: 0.5 wavelength

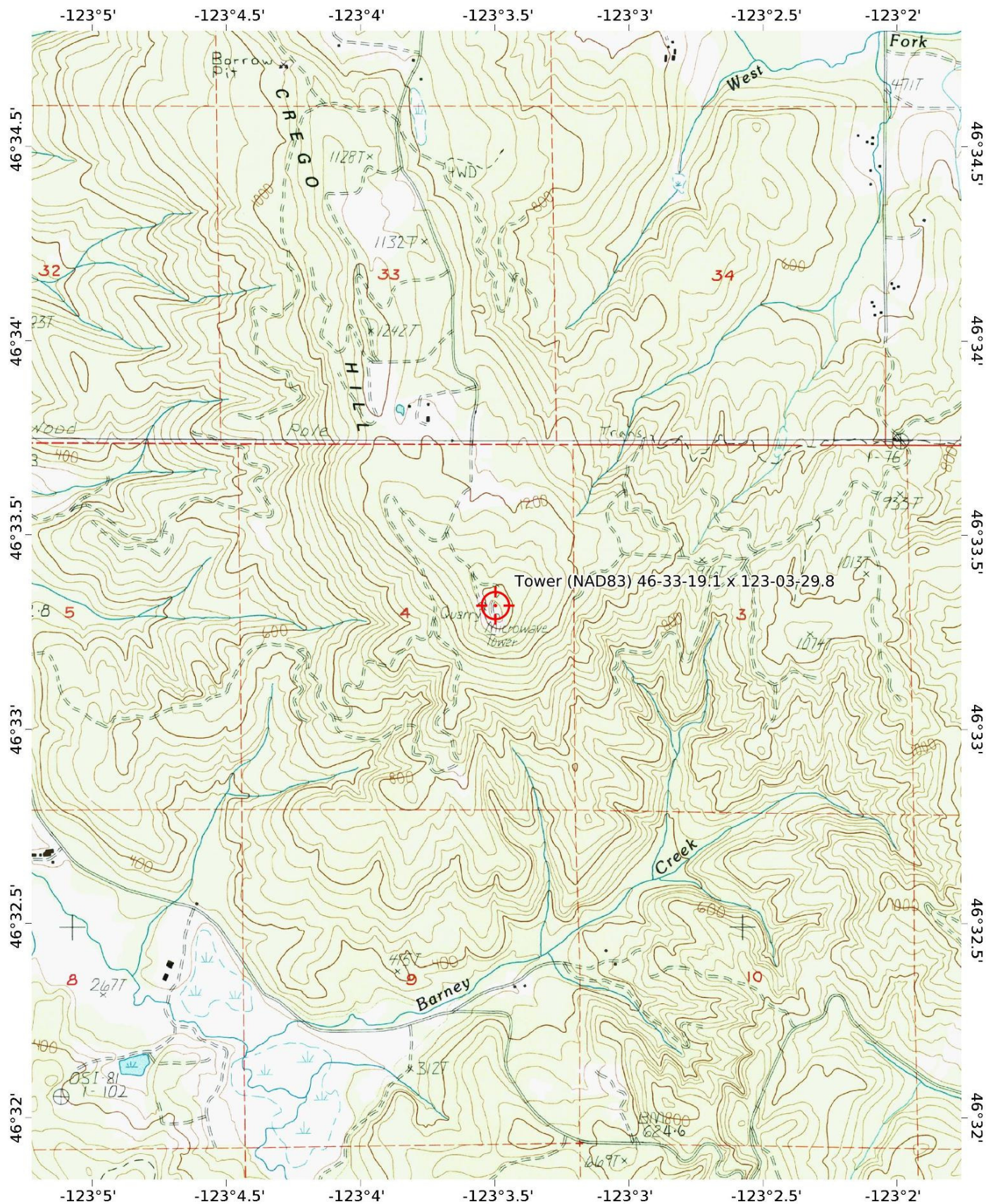
Distance: 500 meters

Horizontal ERP: 2.4 kW

Vertical ERP: 2.4 kW

Antenna Height: 58 meters AGL

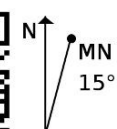
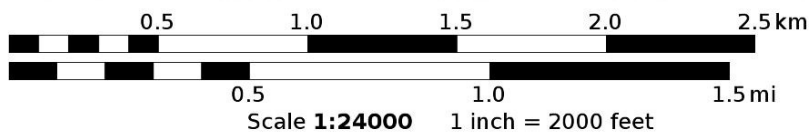
Maximum Calculated Power Density is 2.2 $\mu\text{W}/\text{cm}^2$ at 164 meters from the antenna structure.



Mercator Projection

WG84

USNG Zone 10TDS



Hatfield & Dawson Consulting Engineers

