

CITY OF LICENSE
CALL LETTERS
FACILITY ID
PREPARED FOR
VERSION
JOB

Red Bluff, CA
KTHM
77121
Tehama County Community Broadcasters
1.0
114034

CONSOLIDATED

ENGINEERING EXHIBIT

FCC Form 340 - Section VII - FM Engineering

ENGINEERING STATEMENT
PROPOSED MINOR-CHANGE TO LICENSED STATION
KTHM, Red Bluff, CA
Tehama County Community Broadcasters

SUMMARY:

Tehama County Community Broadcasters (TCCB) hereby seeks a minor change to licensed station KTHM, Red Bluff, CA (BLED-20091023AAA; FID: 77121).

By a letter dated and received by the Commission today - December 16, 2015 - the licensee has requested that the previous Construction Permit (BPED-20121119ACQ) be cancelled. A courtesy copy of that letter is attached, herein.

This application proposes changes to the frequency (first-adjacent), location, height, ERP, Class, and antenna pattern, from the current licensed facilities.

BROWN BROADCAST SERVICES

Michael D. Brown

INCORPORATED
3740 S.W. Comus St. Portland, Oregon 97219-7418

503-245-6065

ADMITTED IN
CALIFORNIA AND IN THE
DISTRICT OF COLUMBIA

MICHAEL COUZENS
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December 16, 2015

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street Southwest
Washington, D.C. 20554

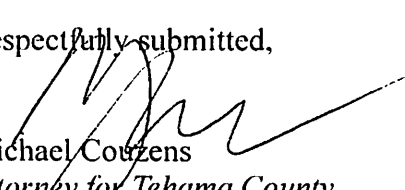
Re: Tehama County Community Broadcasters
KTHM, Facility ID 77121
BPED-20121119ACQ

Dear Ms. Secretary:

On behalf of Tehama County Community Broadcasters, I am enclosing the construction permit for changes (BPED-20121119ACQ) for immediate cancellation. The licensee has decided to make separate application for different changes.

Any questions with respect to this matter should be directed to the undersigned.

Respectfully submitted,


Michael Couzens
Attorney for Tehama County
Community Broadcasters

Fed Ex Air Bill

8083 8360 9579

Exhibit 16 - Community of License Coverage

Brown Broadcast Services, Inc.
Job: KTHM Dec 2015.fmj
Master Database: 2015_Dec_14.fmd
Lat: N40:15:31 Lon: W122:05:20 NAD-27
Scale: 1:750000
Channel: 215 Class: C1

rfInvestigator Version 3.8.4
by rfSoftware, Inc.
Date: 12/16/2015 1:45:32 PM

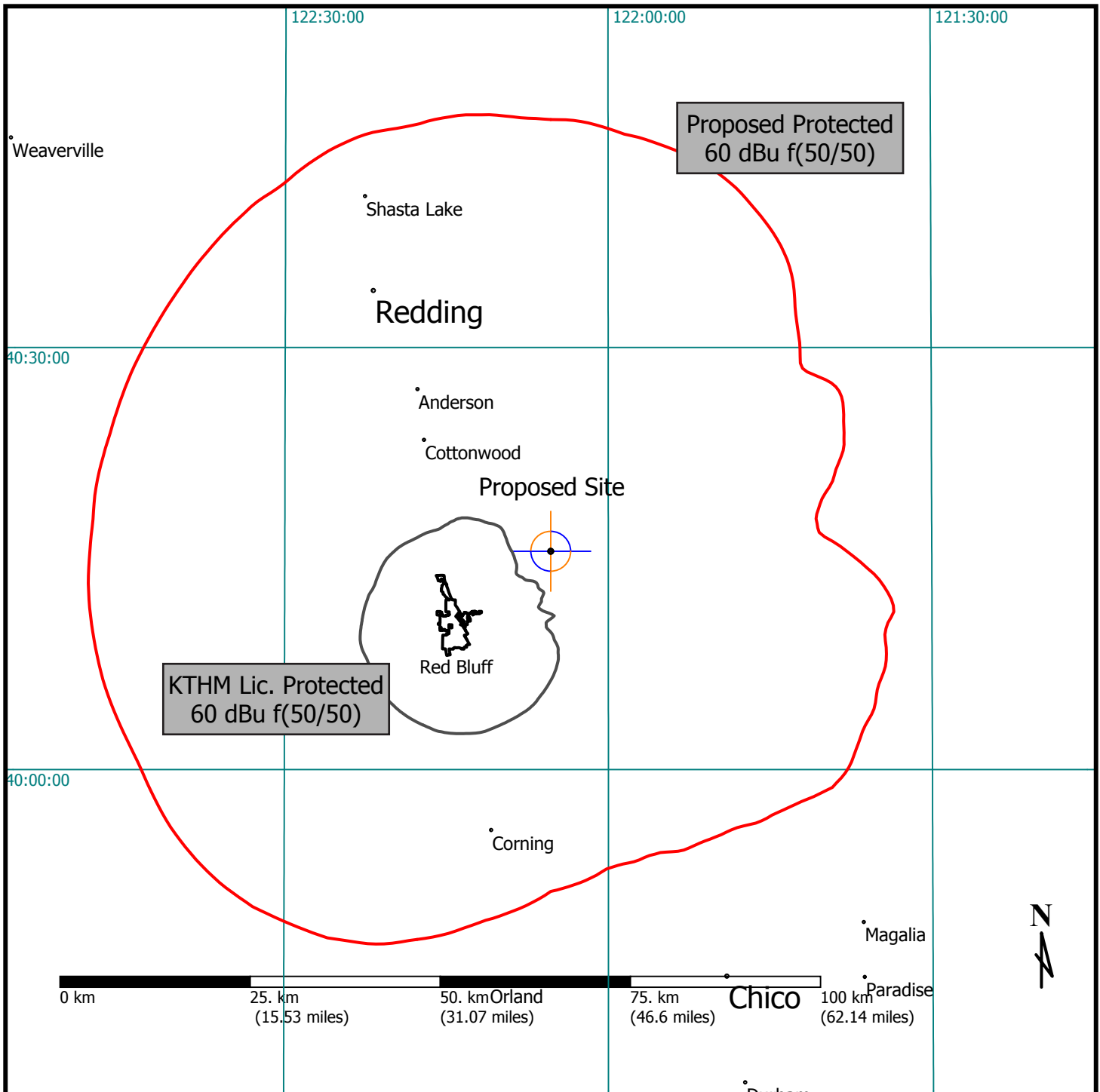


EXHIBIT 18

CONTOUR OVERLAP PROTECTION

CHANNEL STUDY

This proposed minor-change meets the contour overlap requirements of §73.509 to other reserved-band stations, and §73.207 to all I.F.-spaced stations. The KTHM CP listed below, was requested by the licensee to be cancelled, today. The license of KRBP (“DKRBP”) was cancelled and call sign deleted by the Commission on September 29, 2014. The license renewal was also dismissed. No correspondence that would indicate further action has been found. As such, it should not require contour protection.

Tehama County Community Broadcasters											
REFERENCE		CH# 215C1- 90.9 MHz, Pwr= 7.4 kW DA, HAAT= 417.3 M, COR= 674 M								DISPLAY DATES	
40 15 31.0 N.		Average Protected F(50-50)= 54.4 km								DATA 12-14-15	
122 05 20.0 W.		Standard Directional								SEARCH 12-16-15	
CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DI ST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
215C1 Red Bluff	KTHM!	CP	DCX CA	0.0 0.0	0.00 BPED20121119ACQ	40 15 31.0 122 05 20.0	6.800 412	135.9 674	56.9 Tehama County Community Br	-192.7	-192.7
214A Red Bluff	KTHM!	LIC	VX CA	232.3 52.2	15.35 BLED20091023AAA	40 10 27.0 122 13 55.0	0.100 -41	13.8 299	9.9 Tehama County Community Br	-60.2	-85.7
214A Rock Creek	DKRBP	LIC	CX CA	121.6 302.0	74.48 BLED20120817ACN	39 54 20.0 121 20 41.0	1.000 -783	14.2 536	10.2 Christian Faith Center Of	12.5	-6.0
216C0 Garberville	KMUD	CP	DVX CA	264.1 83.0	137.01 BMPED20121026ACA	40 07 13.0 123 41 31.0	9.000 784	72.2 1229	36.5 Redwood Community Radio	9.2	0.0
217C2 Redding	KARQ	CP	DCX CA	309.1 128.7	60.94 BMPED20140417AAZ	40 36 10.0 122 38 58.0	0.200 1116	0.9 1931	42.2 Educational Media Foundati	0.1	13.3
215B Sacramento	KXJZ	LIC	CN CA	163.0 343.3	179.82 BLED19841106KS	38 42 38.0 121 28 54.0	50.000 147	137.0 155	51.5 California State Universit	0.2	20.2
215C1 Klamath Falls	KSKF	LIC	E OR	10.4 190.7	207.94 BLED19960111KX	42 05 50.0 121 37 59.0	6.500 687	151.5 2004	68.1 Southern Oregon Universi	0.3	6.1
216C1 Garberville	KMUD	LIC	DV CA	264.1 83.0	137.01 BLED20001019AAC	40 07 13.0 123 41 31.0	5.500 793	65.3 1229	32.1 Redwood Community Radio	16.1	4.4
216A Oroville	KROV	LIC	DCX CA	141.3 321.8	106.95 BLED20130424ACP	39 30 18.0 121 18 35.0	0.225 378	48.8 991	30.4 Bird Street Media Project	13.9	8.4
213C2 Burney	KIBC	LIC	CN CA	21.3 201.6	73.59 BLED19980206KA	40 52 29.0 121 46 13.0	3.000 444	2.9 1631	29.3 Burney Educational Broadca	15.9	31.6
218A Redding	KARQ	LIC	DVX CA	337.6 157.3	78.11 BMLED20090520ABH	40 54 27.0 122 26 37.0	0.420 376	1.4 1174	40.4 Educational Media Foundati	16.8	31.7
269A Hamilton City	KVXX«	LIC	NCX CA	137.9 318.1	46.75 BLH20050620ABF	39 56 46.0 121 43 17.0	0.530 335	0.0 1037	0.0 Tom F. Huth	21.5R	25.3M
214B Philo	KZYX	LIC	CN CA	222.2 41.3	184.16 BLED19891024KD	39 01 22.0 123 31 17.0	3.400 514	80.5 849	53.3 Mendocino County Public Br	42.3	37.7

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference Zone= - Zone 2, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
« = Station meets FCC minimum distance spacing for its class.

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All contour calculations were made using the methods and procedures described in 47 CFR §73.313(c). FMOver calculations were done using V-Soft FM Commander software, using “HAAT method 0 (zero)”, 51 data points per radial, and the FCC-modified version of the NGDC 30 second terrain database. According to V-Soft, this combination results in “astounding agreement” with FCC software.

PROTECTED ZONES REPORT

Protected zones report for KTHM.CP on channel 215C1 12-16-2015
Lat. 40 15 31.0 Lng. 122 05 20.0, ERP= 7.4 kw, HAAT= 417.3M

Facility is okay with respect to AM station towers.

Closest AM Facility is KBLF, RED BLUFF, CA, L, ND2 at 236.1° at a distance of 13.0 km

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 282.8 km= Livermore, CA

Facility is okay toward West Virginia Quiet Zone. Distance to center = 3678.9 km

Facility is okay toward Table Mountain. Distance to Center = 1434.8 km, Azimuth = 85.1 Degrees True

BROWN BROADCAST SERVICES INCORPORATED

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Portland, Oregon 97219-7418

503-245-6065

Exhibit 18a - Co-Channel Contour Protection

Brown Broadcast Services, Inc.
Job: KTHM Dec 2015.fmj
Master Database: 2015_Dec_14.fmd
Lat: N40:15:31 Lon: W122:05:20 NAD-27
Scale: 1:2500000
Channel: 215 Class: C1

rfInvestigator Version 3.8.4
by rfSoftware, Inc.
Date: 12/16/2015 1:48:43 PM

PROPOSED
Protected: 60dBu F(50,50)
Interfering: 40dBu F(50,10)
AFFECTED
Protected: 60dBu F(50,50)
Interfering: 40dBu F(50,10)

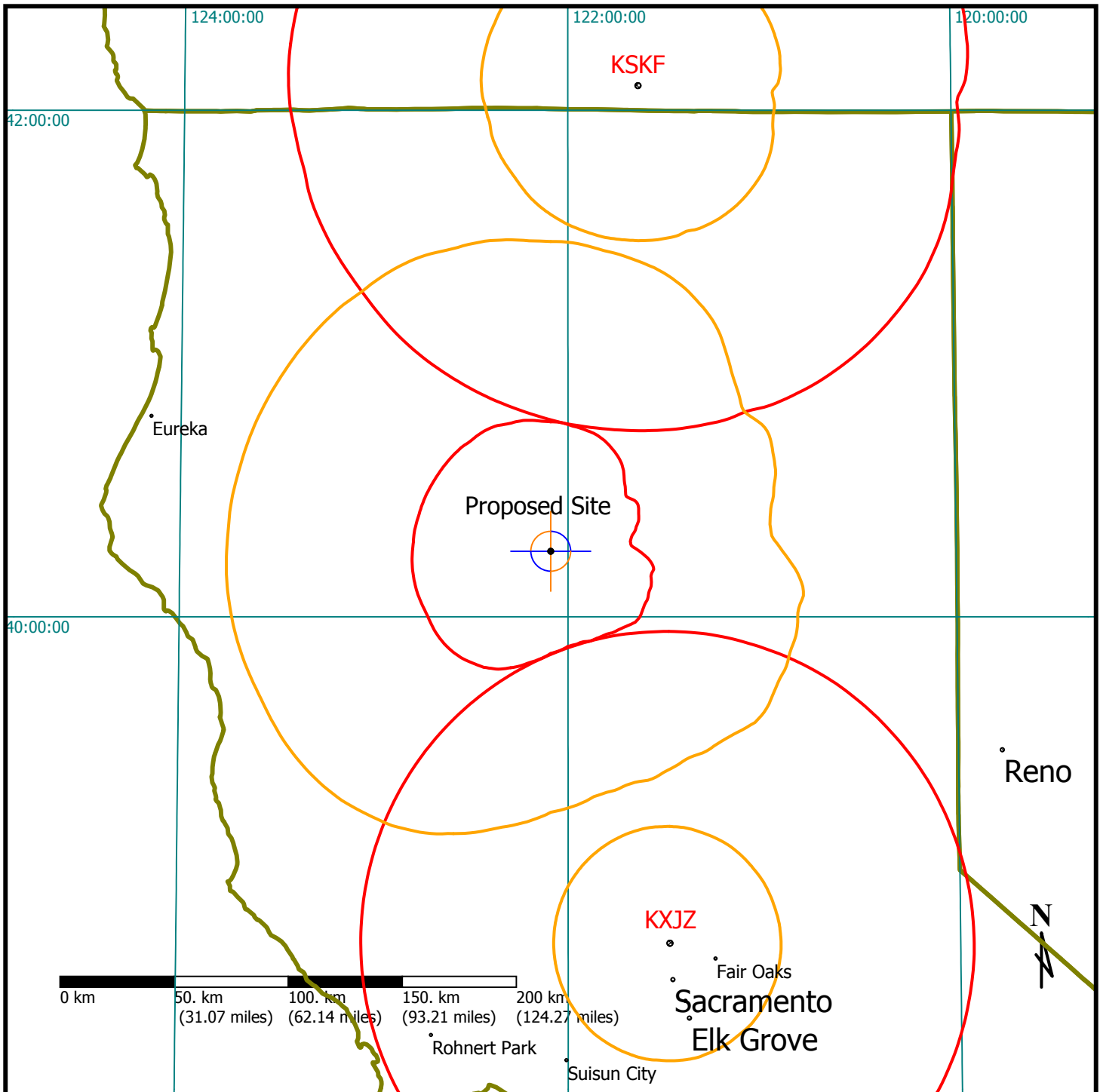


EXHIBIT 18b

FMOver Analysis -

Prop. KTHM vs. KSKF, Klamath Falls, OR

12-16-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KTHM Proposed

KSKF BLED19960111KX

Channel = 215C1
Max ERP = 7.4 kW
RCAMSL = 674 m
N. Lat. 40 15 31.0
W. Lng. 122 05 20.0
Protected
60 dBu

Channel = 215C1
Max ERP = 6.5 kW
RCAMSL = 2004 m
N. Lat. 42 05 50.0
W. Lng. 121 37 59.0
Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
325.0	007.4000	0511.7	059.9	205.1	006.5000	0738.2	171.3	35.06	
326.0	007.4000	0513.7	060.0	205.0	006.5000	0738.1	170.3	35.29	
327.0	007.4000	0515.0	060.1	204.8	006.5000	0738.0	169.4	35.52	
328.0	007.4000	0516.0	060.2	204.7	006.5000	0737.9	168.5	35.74	
329.0	007.4000	0516.8	060.2	204.5	006.5000	0737.8	167.6	35.97	
330.0	007.4000	0517.5	060.3	204.3	006.5000	0737.6	166.7	36.18	
331.0	007.4000	0517.8	060.3	204.1	006.5000	0737.4	165.9	36.39	
332.0	007.4000	0517.4	060.3	203.8	006.5000	0737.3	165.0	36.60	
333.0	007.4000	0516.8	060.2	203.6	006.5000	0737.1	164.2	36.79	
334.0	007.4000	0516.1	060.2	203.3	006.5000	0736.8	163.5	36.99	
335.0	007.4000	0515.2	060.1	203.1	006.5000	0736.6	162.7	37.17	
336.0	007.4000	0513.5	060.0	202.8	006.5000	0736.4	162.0	37.34	
337.0	007.4000	0510.8	059.8	202.5	006.5000	0736.1	161.4	37.50	
338.0	007.4000	0507.4	059.6	202.2	006.5000	0735.9	160.8	37.64	
339.0	007.4000	0503.7	059.4	201.9	006.5000	0735.7	160.3	37.77	
340.0	007.4000	0500.2	059.2	201.5	006.5000	0735.6	159.8	37.90	
341.0	007.4000	0497.5	059.0	201.2	006.5000	0735.5	159.2	38.03	
342.0	007.4000	0495.4	058.9	200.9	006.5000	0735.4	158.7	38.17	
343.0	007.4000	0494.8	058.8	200.6	006.5000	0735.4	158.1	38.32	
344.0	007.4000	0495.0	058.8	200.3	006.5000	0735.4	157.4	38.47	
345.0	007.4000	0494.3	058.8	200.0	006.5000	0735.4	156.9	38.61	
346.0	007.4000	0492.9	058.7	199.7	006.5000	0735.5	156.4	38.74	
347.0	007.4000	0491.8	058.6	199.3	006.5000	0735.5	155.9	38.86	
348.0	007.4000	0490.7	058.6	199.0	006.5000	0735.6	155.4	38.98	
349.0	007.4000	0488.1	058.4	198.6	006.5000	0735.6	155.0	39.07	
350.0	007.4000	0485.5	058.3	198.3	006.5000	0735.6	154.7	39.16	
351.0	007.3262	0484.7	058.1	197.9	006.5000	0735.6	154.4	39.24	
352.0	007.2674	0483.5	058.0	197.5	006.5000	0735.6	154.1	39.32	
353.0	007.2089	0481.4	057.7	197.2	006.5000	0735.7	153.8	39.38	
354.0	007.1360	0479.3	057.5	196.8	006.5000	0735.8	153.6	39.43	
355.0	007.0635	0477.5	057.3	196.4	006.5000	0736.0	153.5	39.47	
356.0	007.0058	0476.2	057.2	196.1	006.5000	0736.2	153.3	39.53	
357.0	006.9483	0476.0	057.1	195.7	006.5000	0736.6	153.0	39.59	
358.0	006.8768	0476.0	057.0	195.3	006.5000	0737.0	152.8	39.65	
359.0	006.8056	0475.9	056.9	195.0	006.5000	0737.5	152.6	39.70	
000.0	006.7490	0476.0	056.8	194.6	006.5000	0738.0	152.4	39.75	
001.0	006.7349	0476.1	056.8	194.2	006.5000	0738.4	152.2	39.81	
002.0	006.7207	0476.3	056.8	193.9	006.5000	0738.8	152.0	39.86	
003.0	006.7066	0475.3	056.7	193.5	006.5000	0739.1	151.9	39.89	
004.0	006.6926	0474.2	056.6	193.1	006.5000	0739.3	151.8	39.92	

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Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
005.0	006.6644	0472.4	056.5	192.7	006.5000	0739.5	151.8	39.92	
006.0	006.6504	0470.1	056.3	192.4	006.5000	0739.5	151.9	39.91	
007.0	006.6364	0467.4	056.1	192.0	006.5000	0739.5	152.0	39.89	
008.0	006.6224	0464.6	055.9	191.6	006.5000	0739.3	152.1	39.86	
009.0	006.6084	0461.3	055.7	191.2	006.5000	0738.9	152.2	39.81	
010.0	006.5944	0458.7	055.6	190.9	006.5000	0738.4	152.4	39.77	
011.0	006.6785	0456.1	055.5	190.5	006.5000	0737.8	152.4	39.75	
012.0	006.7490	0453.2	055.5	190.1	006.5000	0737.2	152.5	39.72	
013.0	006.8341	0449.8	055.4	189.8	006.5000	0736.6	152.6	39.69	
014.0	006.9054	0446.2	055.3	189.4	006.5000	0736.1	152.8	39.64	
015.0	006.9914	0442.7	055.2	189.1	006.5000	0735.7	153.0	39.59	
016.0	007.0780	0439.4	055.2	188.7	006.5000	0735.4	153.1	39.54	
017.0	007.1505	0436.3	055.1	188.4	006.5000	0735.1	153.4	39.49	
018.0	007.2381	0433.2	055.0	188.0	006.5000	0734.9	153.6	39.43	
019.0	007.3115	0430.2	054.9	187.7	006.5000	0734.7	153.8	39.37	
020.0	007.4000	0427.4	054.9	187.3	006.5000	0734.6	154.1	39.30	
021.0	007.4000	0424.8	054.8	187.0	006.5000	0734.5	154.4	39.21	
022.0	007.4000	0421.9	054.6	186.7	006.5000	0734.5	154.8	39.11	
023.0	007.4000	0418.3	054.4	186.3	006.5000	0734.4	155.3	39.00	
024.0	007.4000	0414.2	054.2	186.0	006.5000	0734.2	155.8	38.87	
025.0	007.4000	0410.1	054.0	185.7	006.5000	0734.1	156.3	38.74	
026.0	007.4000	0405.7	053.7	185.4	006.5000	0733.9	156.9	38.60	
027.0	007.4000	0400.8	053.4	185.2	006.5000	0733.6	157.5	38.45	
028.0	007.4000	0395.1	053.1	184.9	006.5000	0733.5	158.1	38.29	
029.0	007.4000	0388.7	052.8	184.6	006.5000	0733.5	158.8	38.11	
030.0	007.4000	0382.2	052.4	184.4	006.5000	0733.5	159.5	37.94	
031.0	007.4000	0376.2	052.1	184.2	006.5000	0733.6	160.2	37.76	
032.0	007.4000	0370.6	051.8	183.9	006.5000	0733.6	160.9	37.59	
033.0	007.4000	0365.0	051.5	183.7	006.5000	0733.6	161.6	37.41	
034.0	007.4000	0359.2	051.1	183.5	006.5000	0733.5	162.4	37.22	
035.0	007.4000	0353.1	050.7	183.3	006.5000	0733.5	163.2	37.02	
036.0	007.4000	0346.6	050.3	183.1	006.5000	0733.5	164.0	36.82	
037.0	007.4000	0339.6	049.9	182.9	006.5000	0733.5	164.8	36.60	
038.0	007.4000	0332.4	049.4	182.8	006.5000	0733.5	165.7	36.38	
039.0	007.4000	0324.5	048.9	182.6	006.5000	0733.6	166.6	36.15	
040.0	007.4000	0315.8	048.3	182.5	006.5000	0733.7	167.6	35.91	
041.0	007.4000	0306.1	047.7	182.4	006.5000	0733.7	168.6	35.66	
042.0	007.4000	0295.1	047.0	182.4	006.5000	0733.8	169.7	35.40	
043.0	007.4000	0283.6	046.2	182.3	006.5000	0733.8	170.8	35.13	
044.0	007.4000	0272.1	045.5	182.3	006.5000	0733.9	171.9	34.87	
045.0	007.4000	0261.8	044.8	182.3	006.5000	0733.9	172.9	34.62	
046.0	007.4000	0252.8	044.2	182.2	006.5000	0733.9	173.9	34.40	
047.0	007.4000	0244.6	043.7	182.2	006.5000	0734.0	174.8	34.19	
048.0	007.4000	0236.5	043.2	182.1	006.5000	0734.0	175.7	33.98	
049.0	007.4000	0228.3	042.6	182.1	006.5000	0734.0	176.6	33.78	
050.0	007.4000	0220.4	042.1	182.0	006.5000	0734.1	177.6	33.58	
051.0	007.4000	0212.0	041.5	182.0	006.5000	0734.1	178.5	33.38	
052.0	007.4000	0203.7	040.8	182.0	006.5000	0734.1	179.5	33.18	
053.0	007.4000	0198.0	040.4	182.0	006.5000	0734.1	180.3	33.02	
054.0	007.4000	0197.2	040.3	181.9	006.5000	0734.2	180.9	32.90	

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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

12-16-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KSKF BLED19960111KX

KTHM Proposed

Channel = 215C1
 Max ERP = 6.5 kW
 RCAMSL = 2004 m
 N. Lat. 42 05 50.0
 W. Lng. 121 37 59.0
 Protected
 60 dBu

Channel = 215C1
 Max ERP = 7.4 kW
 RCAMSL = 674 m
 N. Lat. 40 15 31.0
 W. Lng. 122 05 20.0
 Interfering
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
146.0	006.5000	0731.0	067.8	027.1	007.4000	0400.5	166.7	31.86	
147.0	006.5000	0732.5	067.9	026.9	007.4000	0401.5	165.7	32.09	
148.0	006.5000	0733.9	067.9	026.7	007.4000	0402.5	164.6	32.32	
149.0	006.5000	0735.0	068.0	026.5	007.4000	0403.5	163.6	32.55	
150.0	006.5000	0735.7	068.0	026.3	007.4000	0404.6	162.6	32.77	
151.0	006.5000	0736.0	068.0	026.0	007.4000	0405.6	161.6	32.99	
152.0	006.5000	0735.8	068.0	025.8	007.4000	0406.8	160.6	33.21	
153.0	006.5000	0735.4	068.0	025.5	007.4000	0407.9	159.7	33.43	
154.0	006.5000	0735.1	068.0	025.3	007.4000	0409.0	158.8	33.64	
155.0	006.5000	0735.0	068.0	025.0	007.4000	0410.2	157.8	33.85	
156.0	006.5000	0735.0	068.0	024.7	007.4000	0411.3	156.9	34.06	
157.0	006.5000	0734.6	067.9	024.4	007.4000	0412.6	156.1	34.26	
158.0	006.5000	0732.9	067.9	024.1	007.4000	0413.9	155.2	34.46	
159.0	006.5000	0728.5	067.7	023.7	007.4000	0415.3	154.5	34.64	
160.0	006.5000	0720.6	067.5	023.4	007.4000	0416.8	153.9	34.81	
161.0	006.5000	0711.9	067.2	023.0	007.4000	0418.4	153.3	34.96	
162.0	006.5000	0707.6	067.0	022.6	007.4000	0419.8	152.6	35.13	
163.0	006.5000	0712.7	067.2	022.3	007.4000	0420.9	151.7	35.33	
164.0	006.5000	0722.7	067.5	022.0	007.4000	0421.7	150.7	35.56	
165.0	006.5000	0731.2	067.8	021.8	007.4000	0422.7	149.8	35.78	
166.0	006.5000	0734.5	067.9	021.4	007.4000	0423.7	149.0	35.97	
167.0	006.5000	0735.6	068.0	021.0	007.4000	0424.7	148.3	36.14	
168.0	006.5000	0735.5	068.0	020.7	007.4000	0425.7	147.6	36.30	
169.0	006.5000	0735.4	068.0	020.3	007.4000	0426.7	147.0	36.45	
170.0	006.5000	0735.8	068.0	019.9	007.3894	0427.7	146.4	36.60	
171.0	006.5000	0736.6	068.0	019.5	007.3539	0428.8	145.7	36.73	
172.0	006.5000	0737.3	068.0	019.1	007.3178	0430.0	145.2	36.86	
173.0	006.5000	0737.9	068.1	018.7	007.2862	0431.2	144.6	36.99	
174.0	006.5000	0737.9	068.1	018.2	007.2549	0432.5	144.1	37.11	
175.0	006.5000	0737.7	068.0	017.8	007.2201	0433.9	143.6	37.23	
176.0	006.5000	0736.8	068.0	017.4	007.1813	0435.2	143.2	37.34	
177.0	006.5000	0735.9	068.0	016.9	007.1436	0436.6	142.8	37.44	
178.0	006.5000	0735.6	068.0	016.5	007.1108	0438.0	142.4	37.55	
179.0	006.5000	0735.5	068.0	016.0	007.0779	0439.4	142.1	37.65	
180.0	006.5000	0735.5	068.0	015.5	007.0380	0440.9	141.7	37.74	
181.0	006.5000	0734.8	067.9	015.1	006.9977	0442.5	141.4	37.83	
182.0	006.5000	0734.1	067.9	014.6	006.9572	0444.1	141.2	37.91	
183.0	006.5000	0733.5	067.9	014.1	006.9166	0445.7	141.0	37.98	
184.0	006.5000	0733.6	067.9	013.7	006.8809	0447.4	140.7	38.06	
185.0	006.5000	0733.6	067.9	013.2	006.8469	0449.2	140.5	38.13	
186.0	006.5000	0734.2	067.9	012.7	006.8088	0450.8	140.4	38.20	
187.0	006.5000	0734.5	067.9	012.2	006.7679	0452.5	140.2	38.25	
188.0	006.5000	0734.9	068.0	011.7	006.7306	0454.0	140.1	38.29	

BROWN BROADCAST SERVICES INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
189.0	006.5000	0735.6	068.0	011.3	006.6965	0455.4	140.0	38.33	
190.0	006.5000	0736.9	068.0	010.8	006.6592	0456.8	139.9	38.37	
191.0	006.5000	0738.6	068.1	010.3	006.6183	0458.0	139.9	38.39	
192.0	006.5000	0739.5	068.1	009.8	006.5972	0459.1	139.9	38.41	
193.0	006.5000	0739.4	068.1	009.3	006.6040	0460.3	139.9	38.43	
194.0	006.5000	0738.6	068.1	008.8	006.6108	0461.9	140.0	38.45	
195.0	006.5000	0737.4	068.0	008.3	006.6175	0463.6	140.2	38.46	
196.0	006.5000	0736.3	068.0	007.9	006.6243	0465.0	140.4	38.46	
197.0	006.5000	0735.7	068.0	007.4	006.6309	0466.3	140.6	38.45	
198.0	006.5000	0735.6	068.0	006.9	006.6376	0467.7	140.8	38.44	
199.0	006.5000	0735.6	068.0	006.4	006.6442	0469.0	141.0	38.42	
200.0	006.5000	0735.4	068.0	006.0	006.6508	0470.2	141.3	38.39	
201.0	006.5000	0735.4	068.0	005.5	006.6573	0471.3	141.6	38.36	
202.0	006.5000	0735.8	068.0	005.0	006.6638	0472.3	141.9	38.31	
203.0	006.5000	0736.5	068.0	004.6	006.6761	0473.4	142.2	38.27	
204.0	006.5000	0737.4	068.0	004.1	006.6890	0474.0	142.6	38.21	
205.0	006.5000	0738.1	068.1	003.7	006.6971	0474.6	143.0	38.14	
206.0	006.5000	0738.5	068.1	003.2	006.7034	0475.1	143.4	38.05	
207.0	006.5000	0738.5	068.1	002.8	006.7095	0475.5	143.9	37.96	
208.0	006.5000	0738.2	068.1	002.4	006.7155	0476.0	144.4	37.86	
209.0	006.5000	0737.8	068.0	002.0	006.7214	0476.3	144.9	37.75	
210.0	006.5000	0737.3	068.0	001.5	006.7273	0476.2	145.5	37.62	
211.0	006.5000	0737.1	068.0	001.1	006.7330	0476.1	146.1	37.49	
212.0	006.5000	0737.0	068.0	000.7	006.7387	0476.1	146.7	37.36	
213.0	006.5000	0737.0	068.0	000.3	006.7443	0476.0	147.3	37.22	
214.0	006.5000	0737.0	068.0	359.9	006.7519	0476.0	147.9	37.08	
215.0	006.5000	0737.0	068.0	359.6	006.7733	0475.9	148.6	36.94	
216.0	006.5000	0736.9	068.0	359.2	006.7942	0475.9	149.3	36.79	
217.0	006.5000	0736.5	068.0	358.8	006.8169	0475.9	150.0	36.64	
218.0	006.5000	0736.0	068.0	358.5	006.8417	0475.9	150.8	36.49	
219.0	006.5000	0735.2	068.0	358.2	006.8659	0475.9	151.6	36.33	
220.0	006.5000	0734.2	067.9	357.8	006.8892	0476.0	152.4	36.16	
221.0	006.5000	0733.0	067.9	357.5	006.9120	0476.0	153.2	35.99	
222.0	006.5000	0731.7	067.8	357.2	006.9339	0476.0	154.0	35.82	
223.0	006.5000	0730.1	067.8	356.9	006.9538	0476.0	154.9	35.63	
224.0	006.5000	0728.1	067.7	356.6	006.9700	0476.0	155.8	35.44	
225.0	006.5000	0725.5	067.6	356.4	006.9853	0475.9	156.8	35.24	
226.0	006.5000	0722.5	067.5	356.1	007.0000	0476.1	157.7	35.04	
227.0	006.5000	0719.2	067.4	355.9	007.0139	0476.3	158.7	34.83	
228.0	006.5000	0715.8	067.3	355.6	007.0272	0476.6	159.7	34.62	
229.0	006.5000	0712.8	067.2	355.4	007.0402	0476.9	160.7	34.42	
230.0	006.5000	0709.8	067.1	355.2	007.0527	0477.2	161.7	34.20	
231.0	006.5000	0707.4	067.0	355.0	007.0653	0477.5	162.7	33.99	
232.0	006.5000	0705.3	066.9	354.8	007.0802	0477.9	163.7	33.78	
233.0	006.5000	0703.9	066.9	354.6	007.0950	0478.2	164.7	33.57	
234.0	006.5000	0703.3	066.9	354.4	007.1098	0478.6	165.7	33.36	
235.0	006.5000	0703.1	066.9	354.2	007.1243	0479.0	166.7	33.15	

BROWN BROADCAST SERVICES
INCORPORATED

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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

EXHIBIT 18c

FMOver Analysis -

Prop. KTHM vs. KXJZ, Sacramento, CA

12-16-2015 Terrain Data: FCC NGDC 30 Sec FMOver Analysis

KTHM Proposed

KXJZ BLED19841106KS

Channel = 215C1
 Max ERP = 7.4 kW
 RCAMSL = 674 m
 N. Lat. 40 15 31.0
 W. Lng. 122 05 20.0
 Protected
 60 dBu

Channel = 215B
 Max ERP = 50 kW
 RCAMSL = 155 m
 N. Lat. 38 42 38.0
 W. Lng. 121 28 54.0
 Interfering
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
118.0	007.4000	0294.1	046.9	356.1	050.0000	0142.9	150.3	37.53	
119.0	007.4000	0293.9	046.9	355.9	050.0000	0143.0	149.6	37.64	
120.0	007.4000	0295.2	047.0	355.8	050.0000	0143.0	148.9	37.76	
121.0	007.4000	0297.9	047.2	355.6	050.0000	0143.0	148.1	37.89	
122.0	007.4000	0301.1	047.4	355.5	050.0000	0143.1	147.4	38.02	
123.0	007.4000	0304.3	047.6	355.4	050.0000	0143.1	146.6	38.15	
124.0	007.4000	0307.5	047.8	355.3	050.0000	0143.1	145.8	38.29	
125.0	007.4000	0310.8	048.0	355.1	050.0000	0143.2	145.0	38.43	
126.0	007.4000	0312.6	048.1	354.9	050.0000	0143.2	144.3	38.56	
127.0	007.4000	0313.4	048.2	354.7	050.0000	0143.3	143.6	38.68	
128.0	007.4000	0313.1	048.2	354.5	050.0000	0143.3	143.0	38.80	
129.0	007.4000	0312.3	048.1	354.2	050.0000	0143.4	142.5	38.90	
130.0	007.4000	0310.9	048.0	354.0	050.0000	0143.4	142.0	39.00	
131.0	007.1055	0310.4	047.6	353.6	050.0000	0143.6	141.7	39.06	
132.0	006.8170	0310.9	047.3	353.3	050.0000	0143.8	141.4	39.12	
133.0	006.5345	0311.6	046.9	352.9	050.0000	0143.9	141.1	39.18	
134.0	006.2579	0312.1	046.6	352.6	050.0000	0144.1	140.9	39.22	
135.0	005.9873	0313.0	046.2	352.2	050.0000	0144.2	140.7	39.27	
136.0	005.7227	0315.2	046.0	351.9	050.0000	0144.3	140.4	39.33	
137.0	005.4641	0318.0	045.8	351.6	050.0000	0144.5	140.1	39.38	
138.0	005.2115	0321.0	045.5	351.2	050.0000	0144.6	139.9	39.43	
139.0	004.9648	0323.9	045.3	350.9	050.0000	0144.7	139.7	39.48	
140.0	004.7242	0327.4	045.1	350.6	050.0000	0144.7	139.4	39.52	
141.0	004.5577	0330.8	045.0	350.3	050.0000	0144.8	139.1	39.58	
142.0	004.3943	0333.9	044.8	350.0	050.0000	0144.8	138.9	39.63	
143.0	004.2338	0335.5	044.6	349.7	050.0000	0144.9	138.7	39.66	
144.0	004.0764	0335.9	044.3	349.3	050.0000	0144.9	138.7	39.68	
145.0	003.9219	0335.8	044.0	349.0	050.0000	0145.0	138.7	39.68	
146.0	003.7704	0336.5	043.7	348.6	050.0000	0145.0	138.6	39.69	
147.0	003.6219	0339.0	043.5	348.3	050.0000	0145.0	138.5	39.71	
148.0	003.4763	0343.1	043.4	348.0	050.0000	0145.0	138.4	39.74	
149.0	003.3338	0347.9	043.3	347.7	050.0000	0145.0	138.2	39.77	
150.0	003.1942	0352.7	043.2	347.4	050.0000	0145.0	138.1	39.80	
151.0	003.0891	0356.3	043.1	347.1	050.0000	0145.0	137.9	39.82	
152.0	002.9857	0359.5	043.0	346.8	050.0000	0145.0	137.9	39.84	
153.0	002.8842	0363.3	042.9	346.4	050.0000	0145.0	137.8	39.86	
154.0	002.7843	0368.5	042.9	346.1	050.0000	0145.0	137.6	39.88	
155.0	002.6862	0374.8	042.9	345.8	050.0000	0145.0	137.5	39.91	
156.0	002.5899	0381.0	042.9	345.5	050.0000	0145.0	137.4	39.94	
157.0	002.4954	0385.9	042.8	345.2	050.0000	0145.0	137.3	39.94	

BROWN BROADCAST SERVICES
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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
158.0	002.4026	0388.3	042.6	344.9	050.0000	0145.0	137.4	39.92	
159.0	002.3115	0389.7	042.3	344.6	050.0000	0145.0	137.6	39.88	
160.0	002.2222	0392.1	042.1	344.3	050.0000	0145.0	137.8	39.85	
161.0	002.1706	0395.2	042.1	343.9	050.0000	0145.0	137.8	39.85	
162.0	002.1196	0397.9	042.0	343.6	050.0000	0145.0	137.9	39.84	
163.0	002.0693	0402.3	042.0	343.3	050.0000	0145.0	137.8	39.84	
164.0	002.0195	0409.4	042.1	343.0	050.0000	0145.0	137.7	39.86	
165.0	001.9703	0416.4	042.2	342.7	050.0000	0145.0	137.6	39.88	
166.0	001.9217	0421.5	042.3	342.4	050.0000	0145.0	137.6	39.88	
167.0	001.8738	0425.7	042.2	342.1	050.0000	0145.0	137.7	39.86	
168.0	001.8264	0430.8	042.3	341.8	050.0000	0145.0	137.8	39.85	
169.0	001.7796	0436.8	042.3	341.5	050.0000	0145.0	137.8	39.85	
170.0	001.7335	0443.1	042.4	341.2	050.0000	0145.0	137.9	39.84	
171.0	001.7342	0448.9	042.7	340.9	050.0000	0145.0	137.7	39.87	
172.0	001.7349	0455.5	043.0	340.5	050.0000	0145.0	137.5	39.90	
173.0	001.7356	0461.2	043.3	340.2	050.0000	0145.0	137.4	39.92	
174.0	001.7364	0466.2	043.5	339.9	050.0000	0145.0	137.4	39.93	
175.0	001.7371	0471.5	043.8	339.5	050.0000	0145.0	137.3	39.94	
176.0	001.7378	0475.5	044.0	339.2	050.0000	0145.0	137.4	39.94	
177.0	001.7385	0479.5	044.2	338.9	050.0000	0145.0	137.4	39.93	
178.0	001.7392	0483.5	044.4	338.5	050.0000	0145.0	137.5	39.92	
179.0	001.7399	0487.2	044.5	338.2	050.0000	0145.0	137.6	39.90	
180.0	001.7407	0490.9	044.7	337.9	050.0000	0145.0	137.7	39.87	
181.0	001.8125	0494.5	045.3	337.5	050.0000	0145.0	137.5	39.91	
182.0	001.8857	0497.3	045.8	337.1	050.0000	0145.0	137.3	39.94	
183.0	001.9604	0499.5	046.3	336.7	050.0000	0145.0	137.3	39.95	
184.0	002.0365	0501.7	046.7	336.3	050.0000	0145.0	137.2	39.96	
185.0	002.1141	0503.7	047.2	335.9	050.0000	0145.0	137.2	39.96	
186.0	002.1931	0505.0	047.6	335.5	050.0000	0145.0	137.3	39.95	
187.0	002.2736	0506.2	048.0	335.2	050.0000	0145.0	137.4	39.94	
188.0	002.3556	0507.9	048.5	334.8	050.0000	0145.0	137.4	39.92	
189.0	002.4390	0509.6	048.9	334.4	050.0000	0145.0	137.6	39.89	
190.0	002.5238	0510.9	049.3	334.0	050.0000	0145.0	137.7	39.86	
191.0	002.6525	0511.6	049.8	333.6	050.0000	0145.0	137.8	39.84	
192.0	002.7843	0512.1	050.3	333.2	050.0000	0145.0	138.0	39.81	
193.0	002.9194	0513.3	050.9	332.7	050.0000	0145.0	138.2	39.78	
194.0	003.0576	0515.2	051.4	332.3	050.0000	0145.0	138.3	39.74	
195.0	003.1991	0517.5	052.0	331.9	050.0000	0145.0	138.5	39.71	
196.0	003.3437	0519.6	052.5	331.4	050.0000	0145.0	138.8	39.66	
197.0	003.4916	0521.1	053.0	331.0	050.0000	0145.0	139.1	39.60	
198.0	003.6426	0522.1	053.5	330.6	050.0000	0145.0	139.4	39.53	
199.0	003.7968	0523.1	054.0	330.2	050.0000	0145.0	139.8	39.45	
200.0	003.9543	0524.3	054.5	329.8	050.0000	0145.0	140.2	39.37	
201.0	004.1558	0525.8	055.0	329.4	050.0000	0145.0	140.6	39.30	
202.0	004.3624	0527.3	055.6	329.0	050.0000	0145.0	141.1	39.22	
203.0	004.5740	0528.5	056.1	328.6	050.0000	0145.0	141.5	39.13	
204.0	004.7906	0528.8	056.6	328.2	050.0000	0145.0	142.1	39.02	
205.0	005.0122	0528.5	057.0	327.8	050.0000	0145.0	142.7	38.91	
206.0	005.2389	0527.5	057.4	327.5	050.0000	0145.0	143.3	38.79	
207.0	005.4705	0526.0	057.8	327.2	050.0000	0145.0	144.0	38.66	

BROWN BROADCAST SERVICES
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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

12-16-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KXJZ BLED19841106KS

KTHM Proposed

Channel = 215B
 Max ERP = 50 kW
 RCAMSL = 155 m
 N. Lat. 38 42 38.0
 W. Lng. 121 28 54.0
 Protected
 60 dBu

Channel = 215C1
 Max ERP = 7.4 kW
 RCAMSL = 674 m
 N. Lat. 40 15 31.0
 W. Lng. 122 05 20.0
 Interfering
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
298.0	050.0000	0145.0	051.5	177.3	001.7387	0480.6	148.2	31.22	
299.0	050.0000	0145.0	051.5	177.1	001.7386	0479.9	147.4	31.38	
300.0	050.0000	0145.0	051.5	176.9	001.7385	0479.1	146.7	31.54	
301.0	050.0000	0145.0	051.5	176.7	001.7383	0478.3	145.9	31.69	
302.0	050.0000	0145.0	051.5	176.5	001.7382	0477.6	145.2	31.84	
303.0	050.0000	0145.0	051.5	176.3	001.7380	0476.8	144.5	31.99	
304.0	050.0000	0145.0	051.5	176.1	001.7379	0475.9	143.7	32.13	
305.0	050.0000	0145.0	051.5	175.9	001.7377	0475.0	143.0	32.28	
306.0	050.0000	0145.0	051.5	175.6	001.7375	0474.1	142.3	32.42	
307.0	050.0000	0145.0	051.5	175.4	001.7374	0473.2	141.7	32.56	
308.0	050.0000	0145.0	051.5	175.2	001.7372	0472.2	141.0	32.69	
309.0	050.0000	0145.0	051.5	174.9	001.7370	0471.2	140.3	32.83	
310.0	050.0000	0145.0	051.5	174.7	001.7368	0469.9	139.7	32.95	
311.0	050.0000	0145.0	051.5	174.4	001.7366	0468.5	139.1	33.07	
312.0	050.0000	0145.0	051.5	174.1	001.7365	0466.9	138.4	33.18	
313.0	050.0000	0145.0	051.5	173.9	001.7363	0465.4	137.8	33.29	
314.0	050.0000	0145.0	051.5	173.6	001.7360	0464.0	137.3	33.40	
315.0	050.0000	0145.0	051.5	173.3	001.7358	0462.5	136.7	33.50	
316.0	050.0000	0145.0	051.5	173.0	001.7356	0461.1	136.1	33.60	
317.0	050.0000	0145.0	051.5	172.7	001.7354	0459.6	135.6	33.70	
318.0	050.0000	0145.0	051.5	172.4	001.7352	0457.9	135.1	33.78	
319.0	050.0000	0145.0	051.5	172.0	001.7350	0455.8	134.6	33.86	
320.0	050.0000	0145.0	051.5	171.7	001.7347	0453.5	134.1	33.92	
321.0	050.0000	0145.0	051.5	171.4	001.7345	0451.3	133.6	33.98	
322.0	050.0000	0145.0	051.5	171.1	001.7343	0449.2	133.2	34.03	
323.0	050.0000	0145.0	051.5	170.7	001.7340	0447.3	132.7	34.09	
324.0	050.0000	0145.0	051.5	170.4	001.7338	0445.3	132.3	34.14	
325.0	050.0000	0145.0	051.5	170.0	001.7335	0443.2	131.9	34.18	
326.0	050.0000	0145.0	051.5	169.7	001.7486	0441.0	131.5	34.25	
327.0	050.0000	0145.0	051.5	169.3	001.7652	0438.7	131.2	34.32	
328.0	050.0000	0145.0	051.5	168.9	001.7821	0436.5	130.9	34.39	
329.0	050.0000	0145.0	051.5	168.6	001.7993	0434.3	130.5	34.45	
330.0	050.0000	0145.0	051.5	168.2	001.8168	0432.0	130.2	34.50	
331.0	050.0000	0145.0	051.5	167.8	001.8345	0429.8	130.0	34.55	
332.0	050.0000	0145.0	051.5	167.4	001.8525	0427.8	129.7	34.60	
333.0	050.0000	0145.0	051.5	167.1	001.8707	0426.0	129.5	34.65	
334.0	050.0000	0145.0	051.5	166.7	001.8892	0424.3	129.3	34.69	
335.0	050.0000	0145.0	051.5	166.3	001.9079	0422.7	129.1	34.74	
336.0	050.0000	0145.0	051.5	165.9	001.9268	0421.1	128.9	34.78	
337.0	050.0000	0145.0	051.5	165.5	001.9459	0419.2	128.7	34.80	
338.0	050.0000	0145.0	051.5	165.1	001.9652	0417.0	128.6	34.82	
339.0	050.0000	0145.0	051.5	164.7	001.9847	0414.5	128.5	34.82	
340.0	050.0000	0145.0	051.5	164.3	002.0043	0411.7	128.4	34.80	

BROWN BROADCAST SERVICES INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
341.0	050.0000	0145.0	051.5	163.9	002.0241	0408.7	128.4	34.77	
342.0	050.0000	0145.0	051.5	163.5	002.0440	0405.7	128.3	34.74	
343.0	050.0000	0145.0	051.5	163.1	002.0641	0402.9	128.3	34.70	
344.0	050.0000	0145.0	051.5	162.7	002.0842	0400.5	128.3	34.67	
345.0	050.0000	0145.0	051.5	162.3	002.1044	0398.8	128.3	34.66	
346.0	050.0000	0145.0	051.5	161.9	002.1247	0397.6	128.4	34.65	
347.0	050.0000	0145.0	051.5	161.5	002.1451	0396.7	128.4	34.65	
348.0	050.0000	0145.0	051.5	161.1	002.1655	0395.6	128.5	34.64	
349.0	050.0000	0145.0	051.5	160.7	002.1859	0394.3	128.7	34.61	
350.0	050.0000	0144.8	051.5	160.3	002.2062	0393.0	128.8	34.57	
351.0	050.0000	0144.7	051.5	159.9	002.2295	0391.9	129.0	34.54	
352.0	050.0000	0144.3	051.4	159.5	002.2639	0390.8	129.2	34.52	
353.0	050.0000	0143.9	051.4	159.1	002.2981	0389.9	129.5	34.50	
354.0	050.0000	0143.4	051.3	158.8	002.3321	0389.3	129.7	34.47	
355.0	050.0000	0143.2	051.3	158.4	002.3664	0388.8	130.0	34.45	
356.0	050.0000	0143.0	051.2	158.0	002.4005	0388.4	130.3	34.42	
357.0	050.0000	0142.9	051.2	157.7	002.4347	0387.8	130.6	34.40	
358.0	050.0000	0142.9	051.2	157.3	002.4690	0386.9	130.9	34.35	
359.0	050.0000	0142.9	051.2	156.9	002.5031	0385.6	131.2	34.29	
000.0	050.0000	0142.7	051.2	156.6	002.5368	0384.1	131.6	34.22	
001.0	050.0000	0142.5	051.2	156.2	002.5700	0382.2	132.0	34.12	
002.0	050.0000	0142.3	051.2	155.9	002.6029	0380.2	132.4	34.02	
003.0	050.0000	0142.2	051.1	155.5	002.6357	0378.1	132.8	33.90	
004.0	050.0000	0142.2	051.1	155.2	002.6685	0375.9	133.2	33.79	
005.0	050.0000	0142.2	051.1	154.8	002.7011	0373.8	133.6	33.67	
006.0	050.0000	0142.2	051.1	154.5	002.7333	0371.8	134.1	33.55	
007.0	050.0000	0142.0	051.1	154.2	002.7647	0369.7	134.6	33.42	
008.0	050.0000	0141.7	051.1	153.9	002.7950	0367.9	135.1	33.28	
009.0	050.0000	0141.2	051.0	153.6	002.8244	0366.3	135.7	33.14	
010.0	050.0000	0140.8	050.9	153.3	002.8535	0364.8	136.2	33.01	
011.0	050.0000	0140.6	050.9	153.0	002.8827	0363.3	136.8	32.88	
012.0	050.0000	0140.2	050.9	152.7	002.9105	0362.2	137.4	32.75	
013.0	050.0000	0139.6	050.8	152.5	002.9372	0361.2	138.0	32.61	
014.0	050.0000	0139.0	050.7	152.2	002.9631	0360.3	138.6	32.48	
015.0	050.0000	0138.5	050.6	152.0	002.9890	0359.4	139.3	32.35	
016.0	050.0000	0138.2	050.6	151.7	003.0150	0358.6	139.9	32.22	
017.0	050.0000	0138.1	050.6	151.5	003.0409	0357.8	140.6	32.10	
018.0	050.0000	0137.9	050.5	151.2	003.0659	0357.0	141.2	31.98	
019.0	050.0000	0137.7	050.5	151.0	003.0904	0356.3	141.9	31.85	
020.0	050.0000	0137.5	050.5	150.8	003.1144	0355.5	142.5	31.72	
021.0	050.0000	0137.4	050.5	150.5	003.1377	0354.7	143.2	31.59	
022.0	050.0000	0137.3	050.4	150.3	003.1607	0353.9	143.9	31.47	
023.0	050.0000	0137.2	050.4	150.1	003.1831	0353.1	144.6	31.34	
024.0	050.0000	0137.1	050.4	149.9	003.2079	0352.3	145.3	31.21	
025.0	050.0000	0136.9	050.4	149.7	003.2351	0351.3	146.1	31.09	
026.0	050.0000	0136.8	050.4	149.5	003.2614	0350.4	146.8	30.95	
027.0	050.0000	0136.7	050.4	149.3	003.2868	0349.5	147.5	30.82	

BROWN BROADCAST SERVICES
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503-245-6065

Exhibit 18d - 1st-Adjacent-Channel Contour Protection

Brown Broadcast Services, Inc.
Job: KTHM Dec 2015.fmj
Master Database: 2015_Dec_14.fmd
Lat: N40:15:31 Lon: W122:05:20 NAD-27
Scale: 1:1500000
Channel: 215 Class: C1

PROPOSED

Protected: 60dBu F(50,50)

Interfering: 54dBu F(50,10)

AFFECTED

Protected: 60dBu F(50,50)

Interfering: 54dBu F(50,10)

rfInvestigator Version 3.8.4
by rfSoftware, Inc.
Date: 12/16/2015 1:52:00 PM

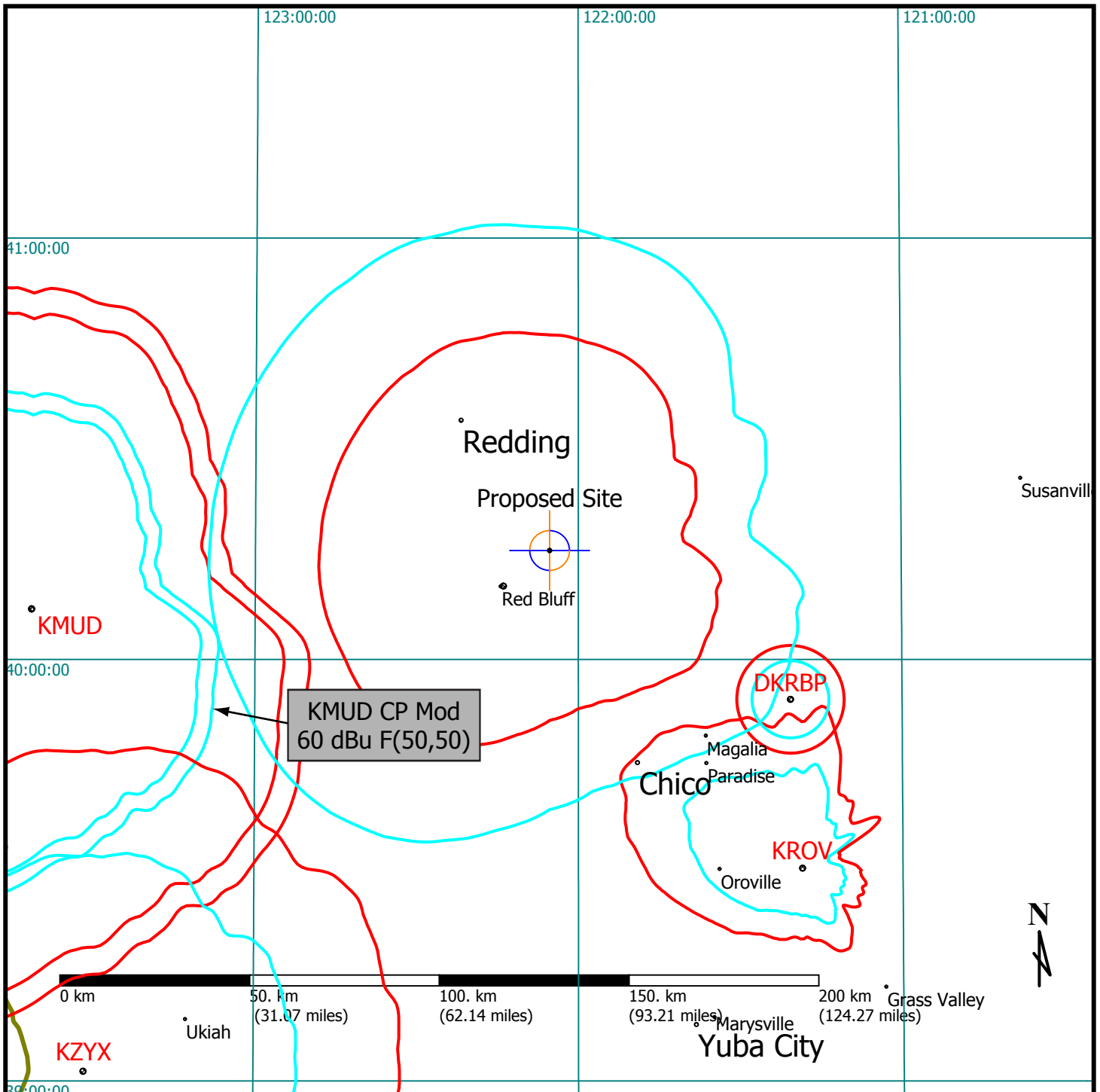


EXHIBIT 18e

FMOver Analysis -

Prop. KTHM vs. KMUD CP, Garberville, CA

12-16-2015 Terrain Data: FCC NGDC 30 Sec FMOver Analysis

KTHM Proposed

KMUD CP BMPED20121026ACA

Channel = 215C1
 Max ERP = 7.4 kW
 RCAMSL = 674 m
 N. Lat. 40 15 31.0
 W. Lng. 122 05 20.0
 Protected
 60 dBu

Channel = 216C0
 Max ERP = 9 kW
 RCAMSL = 1229 m
 N. Lat. 40 07 13.0
 W. Lng. 123 41 31.0
 Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
219.0	007.2747	0527.2	060.7	107.6	000.9683	0814.5	103.5	45.67	
220.0	007.4000	0528.3	060.9	107.5	000.9647	0815.1	102.4	45.98	
221.0	007.4000	0529.8	061.0	107.3	000.9575	0816.2	101.4	46.26	
222.0	007.4000	0531.7	061.1	107.1	000.9502	0817.4	100.4	46.55	
223.0	007.4000	0534.1	061.3	107.0	000.9429	0818.7	099.3	46.84	
224.0	007.4000	0536.3	061.4	106.8	000.9349	0820.3	098.3	47.14	
225.0	007.4000	0538.2	061.5	106.5	000.9258	0822.3	097.3	47.42	
226.0	007.4000	0539.5	061.6	106.3	000.9154	0824.8	096.3	47.70	
227.0	007.4000	0540.5	061.7	106.0	000.9040	0827.8	095.4	47.98	
228.0	007.4000	0541.4	061.7	105.7	000.8919	0831.4	094.4	48.25	
229.0	007.4000	0542.1	061.8	105.4	000.8790	0835.7	093.5	48.53	
230.0	007.4000	0542.6	061.8	105.0	000.8652	0840.4	092.5	48.80	
231.0	007.4000	0542.7	061.8	104.6	000.8506	0845.6	091.7	49.06	
232.0	007.4000	0542.7	061.8	104.2	000.8352	0851.3	090.8	49.31	
233.0	007.4000	0542.5	061.8	103.8	000.8191	0857.5	089.9	49.56	
234.0	007.4000	0542.3	061.8	103.4	000.8024	0864.3	089.1	49.80	
235.0	007.4000	0541.5	061.7	102.9	000.7847	0871.7	088.3	50.03	
236.0	007.4000	0540.2	061.7	102.4	000.7660	0879.5	087.6	50.24	
237.0	007.4000	0538.5	061.6	101.9	000.7466	0886.8	086.8	50.42	
238.0	007.4000	0536.7	061.5	101.3	000.7267	0893.1	086.2	50.58	
239.0	007.4000	0535.1	061.4	100.7	000.7066	0898.5	085.5	50.71	
240.0	007.4000	0533.3	061.2	100.2	000.6862	0903.6	084.9	50.83	
241.0	007.3882	0531.6	061.1	099.6	000.6686	0908.1	084.3	50.94	
242.0	007.3763	0530.0	061.0	098.9	000.6521	0910.1	083.7	51.03	
243.0	007.3645	0529.0	060.9	098.3	000.6358	0909.2	083.1	51.08	
244.0	007.3527	0528.5	060.9	097.7	000.6196	0906.4	082.5	51.12	
245.0	007.3409	0528.5	060.9	097.1	000.6036	0903.3	081.9	51.16	
246.0	007.3291	0528.8	060.9	096.5	000.5876	0898.7	081.4	51.18	
247.0	007.3174	0529.3	060.9	095.8	000.5715	0889.3	080.8	51.14	
248.0	007.3056	0530.0	060.9	095.2	000.5553	0874.9	080.3	51.04	
249.0	007.2938	0530.6	060.9	094.5	000.5390	0860.4	079.8	50.93	
250.0	007.2821	0531.3	061.0	093.8	000.5226	0846.5	079.3	50.80	
251.0	007.2821	0531.9	061.0	093.1	000.5062	0832.2	078.8	50.65	
252.0	007.2821	0532.5	061.0	092.4	000.4897	0815.5	078.4	50.45	
253.0	007.2821	0532.9	061.1	091.7	000.4731	0798.0	078.0	50.22	
254.0	007.2821	0533.1	061.1	090.9	000.4565	0783.1	077.6	49.99	
255.0	007.2821	0533.1	061.1	090.2	000.4398	0768.0	077.3	49.74	
256.0	007.2821	0532.9	061.1	089.4	000.4266	0752.7	077.0	49.49	
257.0	007.2821	0532.6	061.0	088.7	000.4145	0737.3	076.8	49.23	
258.0	007.2821	0532.2	061.0	087.9	000.4025	0721.8	076.6	48.95	

BROWN BROADCAST SERVICES
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Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
259.0	007.2821	0531.9	061.0	087.1	000.3906	0707.5	076.4	48.67	
260.0	007.2821	0531.6	061.0	086.3	000.3788	0694.1	076.3	48.39	
261.0	007.2938	0531.2	061.0	085.5	000.3672	0681.0	076.2	48.10	
262.0	007.3056	0530.8	061.0	084.7	000.3557	0668.0	076.1	47.79	
263.0	007.3174	0530.5	061.0	083.9	000.3443	0660.6	076.1	47.56	
264.0	007.3291	0529.8	060.9	083.1	000.3331	0657.0	076.1	47.36	
265.0	007.3409	0528.9	060.9	082.3	000.3221	0651.5	076.1	47.11	
266.0	007.3527	0528.1	060.9	081.5	000.3114	0645.7	076.2	46.85	
267.0	007.3645	0526.7	060.8	080.7	000.3009	0640.1	076.4	46.57	
268.0	007.3763	0525.3	060.7	079.9	000.2916	0635.4	076.6	46.30	
269.0	007.3882	0523.9	060.6	079.1	000.2916	0633.9	076.8	46.21	
270.0	007.4000	0522.5	060.6	078.4	000.2916	0635.7	077.0	46.16	
271.0	007.4000	0521.3	060.5	077.6	000.2916	0637.8	077.3	46.10	
272.0	007.4000	0520.0	060.4	076.9	000.2916	0639.4	077.6	46.03	
273.0	007.4000	0518.8	060.3	076.1	000.2916	0640.4	078.0	45.93	
274.0	007.4000	0518.1	060.3	075.4	000.2916	0640.9	078.3	45.83	
275.0	007.4000	0518.3	060.3	074.7	000.2916	0641.2	078.6	45.74	
276.0	007.4000	0518.5	060.3	074.0	000.2916	0641.1	079.0	45.63	
277.0	007.4000	0518.7	060.3	073.2	000.2916	0639.6	079.4	45.48	
278.0	007.4000	0518.6	060.3	072.6	000.2916	0636.7	079.8	45.30	
279.0	007.4000	0517.9	060.3	071.9	000.2916	0633.7	080.3	45.10	
280.0	007.4000	0517.1	060.2	071.2	000.2916	0632.1	080.8	44.91	
281.0	007.4000	0516.1	060.2	070.6	000.2916	0632.7	081.4	44.74	
282.0	007.4000	0515.2	060.1	070.0	000.2916	0635.1	081.9	44.60	
283.0	007.4000	0514.1	060.0	069.4	000.2916	0639.6	082.5	44.48	
284.0	007.4000	0513.2	060.0	068.8	000.2916	0645.3	083.2	44.37	
285.0	007.4000	0512.3	059.9	068.2	000.2916	0652.2	083.8	44.27	
286.0	007.4000	0512.1	059.9	067.7	000.2916	0660.3	084.5	44.20	
287.0	007.4000	0512.1	059.9	067.1	000.2916	0669.2	085.1	44.13	
288.0	007.4000	0511.9	059.9	066.6	000.2916	0678.1	085.8	44.05	
289.0	007.4000	0511.9	059.9	066.1	000.2916	0687.1	086.5	43.97	
290.0	007.4000	0511.9	059.9	065.6	000.2916	0696.2	087.2	43.87	
291.0	007.4000	0511.9	059.9	065.1	000.2916	0705.4	087.9	43.78	
292.0	007.4000	0512.0	059.9	064.6	000.2916	0714.1	088.6	43.67	
293.0	007.4000	0512.0	059.9	064.1	000.2916	0721.9	089.4	43.53	
294.0	007.4000	0511.7	059.9	063.7	000.2916	0728.8	090.2	43.38	
295.0	007.4000	0511.2	059.9	063.3	000.2916	0735.4	091.0	43.21	
296.0	007.4000	0510.7	059.8	062.9	000.2916	0741.6	091.9	43.04	
297.0	007.4000	0510.4	059.8	062.5	000.2916	0747.4	092.7	42.85	
298.0	007.4000	0510.3	059.8	062.1	000.2916	0752.6	093.5	42.66	
299.0	007.4000	0510.2	059.8	061.8	000.2916	0757.2	094.4	42.46	
300.0	007.4000	0509.9	059.8	061.4	000.2916	0761.6	095.3	42.25	
301.0	007.4000	0509.7	059.8	061.1	000.2916	0766.0	096.2	42.04	
302.0	007.4000	0509.8	059.8	060.8	000.2916	0770.8	097.1	41.83	
303.0	007.4000	0509.9	059.8	060.5	000.2916	0775.6	098.0	41.62	
304.0	007.4000	0509.8	059.8	060.2	000.2916	0779.9	098.9	41.40	
305.0	007.4000	0509.8	059.8	059.9	000.2916	0784.3	099.9	41.18	
306.0	007.4000	0510.2	059.8	059.7	000.2916	0788.7	100.8	40.95	
307.0	007.4000	0511.1	059.9	059.4	000.2916	0793.2	101.7	40.73	
308.0	007.4000	0511.6	059.9	059.2	000.2916	0797.1	102.7	40.50	

BROWN BROADCAST SERVICES
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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

12-16-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KMUD CP BMPED20121026ACA

KTHM Proposed

Channel = 216C0
 Max ERP = 9 kW
 RCAMSL = 1229 m
 N. Lat. 40 07 13.0
 W. Lng. 123 41 31.0
 Protected
 60 dBu

Channel = 215C1
 Max ERP = 7.4 kW
 RCAMSL = 674 m
 N. Lat. 40 15 31.0
 W. Lng. 122 05 20.0
 Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
038.0	000.4802	0910.7	046.9	281.8	007.4000	0515.4	109.0	48.36	
039.0	000.4577	0906.9	046.4	281.3	007.4000	0515.8	108.6	48.49	
040.0	000.4356	0901.4	045.8	280.9	007.4000	0516.3	108.2	48.62	
041.0	000.4199	0897.7	045.3	280.4	007.4000	0516.7	107.7	48.75	
042.0	000.4045	0896.0	044.9	280.0	007.4000	0517.1	107.3	48.89	
043.0	000.3894	0894.5	044.5	279.6	007.4000	0517.4	106.8	49.01	
044.0	000.3745	0890.2	044.1	279.2	007.4000	0517.8	106.5	49.12	
045.0	000.3600	0883.1	043.5	278.7	007.4000	0518.1	106.2	49.21	
046.0	000.3457	0873.7	042.9	278.2	007.4000	0518.5	106.0	49.28	
047.0	000.3318	0863.7	042.3	277.7	007.4000	0518.8	105.8	49.33	
048.0	000.3181	0855.3	041.7	277.2	007.4000	0518.8	105.6	49.37	
049.0	000.3047	0849.7	041.2	276.7	007.4000	0518.7	105.5	49.41	
050.0	000.2916	0845.9	040.6	276.2	007.4000	0518.6	105.3	49.45	
051.0	000.2916	0841.8	040.5	275.9	007.4000	0518.5	104.9	49.57	
052.0	000.2916	0836.1	040.4	275.6	007.4000	0518.4	104.5	49.67	
053.0	000.2916	0829.9	040.2	275.2	007.4000	0518.4	104.1	49.76	
054.0	000.2916	0824.7	040.1	274.9	007.4000	0518.3	103.8	49.86	
055.0	000.2916	0821.4	040.0	274.6	007.4000	0518.2	103.4	49.96	
056.0	000.2916	0820.4	040.0	274.2	007.4000	0518.2	103.0	50.07	
057.0	000.2916	0819.0	040.0	273.9	007.4000	0518.1	102.6	50.17	
058.0	000.2916	0812.4	039.8	273.5	007.4000	0518.2	102.4	50.25	
059.0	000.2916	0799.7	039.4	273.1	007.4000	0518.6	102.3	50.29	
060.0	000.2916	0783.4	039.0	272.7	007.4000	0519.2	102.3	50.30	
061.0	000.2916	0767.8	038.6	272.2	007.4000	0519.7	102.3	50.30	
062.0	000.2916	0754.4	038.2	271.8	007.4000	0520.3	102.3	50.32	
063.0	000.2916	0739.9	037.8	271.3	007.4000	0520.8	102.4	50.31	
064.0	000.2916	0723.9	037.3	270.9	007.4000	0521.4	102.5	50.29	
065.0	000.2916	0706.5	036.8	270.4	007.4000	0521.9	102.7	50.26	
066.0	000.2916	0688.1	036.2	270.0	007.3999	0522.5	102.9	50.20	
067.0	000.2916	0671.1	035.7	269.6	007.3948	0523.1	103.2	50.15	
068.0	000.2916	0655.5	035.3	269.2	007.3899	0523.7	103.4	50.10	
069.0	000.2916	0643.3	034.9	268.8	007.3854	0524.2	103.5	50.07	
070.0	000.2916	0635.0	034.6	268.4	007.3811	0524.8	103.6	50.07	
071.0	000.2916	0632.0	034.6	268.1	007.3771	0525.2	103.5	50.10	
072.0	000.2916	0634.1	034.6	267.8	007.3734	0525.7	103.3	50.17	
073.0	000.2916	0638.7	034.8	267.4	007.3698	0526.1	103.0	50.26	
074.0	000.2916	0641.1	034.8	267.1	007.3660	0526.6	102.8	50.32	
075.0	000.2916	0641.1	034.8	266.8	007.3621	0527.0	102.7	50.36	
076.0	000.2916	0640.6	034.8	266.5	007.3581	0527.5	102.6	50.40	
077.0	000.2916	0639.2	034.8	266.1	007.3541	0528.0	102.5	50.42	
078.0	000.2916	0637.0	034.7	265.8	007.3501	0528.3	102.5	50.43	
079.0	000.2916	0634.0	034.6	265.4	007.3461	0528.6	102.5	50.43	
080.0	000.2916	0635.7	034.7	265.1	007.3421	0528.9	102.4	50.46	

BROWN BROADCAST SERVICES INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
081.0	000.3047	0642.2	035.2	264.8	007.3383	0529.1	101.8	50.63	
082.0	000.3181	0649.3	035.8	264.4	007.3343	0529.4	101.2	50.80	
083.0	000.3318	0656.5	036.4	264.1	007.3302	0529.7	100.6	50.97	
084.0	000.3457	0661.2	036.9	263.7	007.3258	0530.0	100.1	51.11	
085.0	000.3600	0672.9	037.7	263.3	007.3212	0530.3	099.4	51.31	
086.0	000.3745	0689.2	038.5	262.9	007.3164	0530.5	098.6	51.53	
087.0	000.3894	0706.1	039.4	262.5	007.3112	0530.7	097.7	51.75	
088.0	000.4045	0724.4	040.3	262.0	007.3057	0530.8	096.9	51.98	
089.0	000.4199	0744.2	041.3	261.5	007.2999	0531.0	096.1	52.21	
090.0	000.4356	0764.2	042.2	261.0	007.2938	0531.2	095.3	52.44	
091.0	000.4577	0784.2	043.2	260.4	007.2872	0531.4	094.4	52.69	
092.0	000.4802	0805.2	044.3	259.8	007.2821	0531.7	093.5	52.94	
093.0	000.5034	0829.6	045.4	259.2	007.2821	0531.9	092.6	53.21	
094.0	000.5271	0850.3	046.4	258.6	007.2821	0532.1	091.9	53.43	
095.0	000.5513	0871.2	047.3	257.9	007.2821	0532.3	091.2	53.63	
096.0	000.5761	0892.5	048.2	257.2	007.2821	0532.5	090.6	53.82	
097.0	000.6014	0902.8	048.9	256.6	007.2821	0532.7	090.3	53.92	
098.0	000.6273	0908.0	049.4	255.9	007.2821	0532.9	090.2	53.97	
099.0	000.6537	0910.1	049.9	255.3	007.2821	0533.0	090.1	53.99	
100.0	000.6806	0904.9	050.1	254.7	007.2821	0533.1	090.3	53.95	
101.0	000.7157	0896.1	050.4	254.2	007.2821	0533.1	090.4	53.91	
102.0	000.7517	0885.0	050.6	253.6	007.2821	0533.1	090.6	53.83	
103.0	000.7885	0870.1	050.7	253.1	007.2821	0532.9	091.0	53.72	
104.0	000.8263	0854.7	050.8	252.6	007.2821	0532.7	091.4	53.60	
105.0	000.8649	0840.5	050.9	252.1	007.2821	0532.5	091.8	53.47	
106.0	000.9044	0827.7	051.0	251.6	007.2821	0532.2	092.2	53.33	
107.0	000.9448	0818.4	051.2	251.1	007.2821	0532.0	092.6	53.21	
108.0	000.9860	0811.9	051.4	250.6	007.2821	0531.6	093.0	53.10	
109.0	001.0282	0806.5	051.7	250.1	007.2821	0531.3	093.4	52.98	
110.0	001.0712	0798.7	051.8	249.6	007.2872	0531.0	093.8	52.85	
111.0	001.1247	0789.1	052.0	249.1	007.2930	0530.7	094.3	52.71	
112.0	001.1794	0779.9	052.2	248.6	007.2986	0530.4	094.8	52.57	
113.0	001.2354	0771.5	052.4	248.1	007.3042	0530.0	095.3	52.42	
114.0	001.2928	0765.1	052.7	247.6	007.3099	0529.7	095.8	52.28	
115.0	001.3514	0762.7	053.0	247.1	007.3161	0529.4	096.2	52.15	
116.0	001.4113	0764.0	053.5	246.5	007.3227	0529.0	096.6	52.03	
117.0	001.4726	0766.3	054.0	246.0	007.3294	0528.8	097.1	51.91	
118.0	001.5351	0765.6	054.3	245.5	007.3355	0528.6	097.6	51.77	
119.0	001.5990	0762.5	054.6	245.0	007.3410	0528.5	098.2	51.60	
120.0	001.6641	0761.1	055.0	244.5	007.3466	0528.4	098.8	51.44	
121.0	001.7503	0761.8	055.5	244.0	007.3531	0528.5	099.3	51.30	
122.0	001.8387	0764.1	056.0	243.4	007.3597	0528.7	099.9	51.16	
123.0	001.9293	0763.1	056.5	242.9	007.3655	0529.1	100.5	51.00	
124.0	002.0221	0761.7	056.9	242.4	007.3711	0529.5	101.2	50.83	
125.0	002.1170	0759.6	057.3	242.0	007.3764	0530.0	101.9	50.65	
126.0	002.2141	0757.0	057.6	241.6	007.3814	0530.6	102.7	50.46	
127.0	002.3134	0753.9	058.0	241.2	007.3860	0531.3	103.4	50.27	

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

Exhibit 18f - 2nd and 3rd-Adjacent-Channel Contour Protection

Brown Broadcast Services, Inc.

Job: KTHM Dec 2015.fmj

Master Database: 2015_Dec_14.fmd

Lat: N40:15:31 Lon: W122:05:20 NAD-27

Scale: 1:1000000

Channel: 215 Class: C1

rfInvestigator Version 3.8.4

by rfSoftware, Inc.

Date: 12/16/2015 1:55:56 PM

PROPOSED

Protected: 60dBu F(50,50)

Interfering: 100dBu F(50,10)

AFFECTED

Protected: 60dBu F(50,50)

Interfering: 100dBu F(50,10)

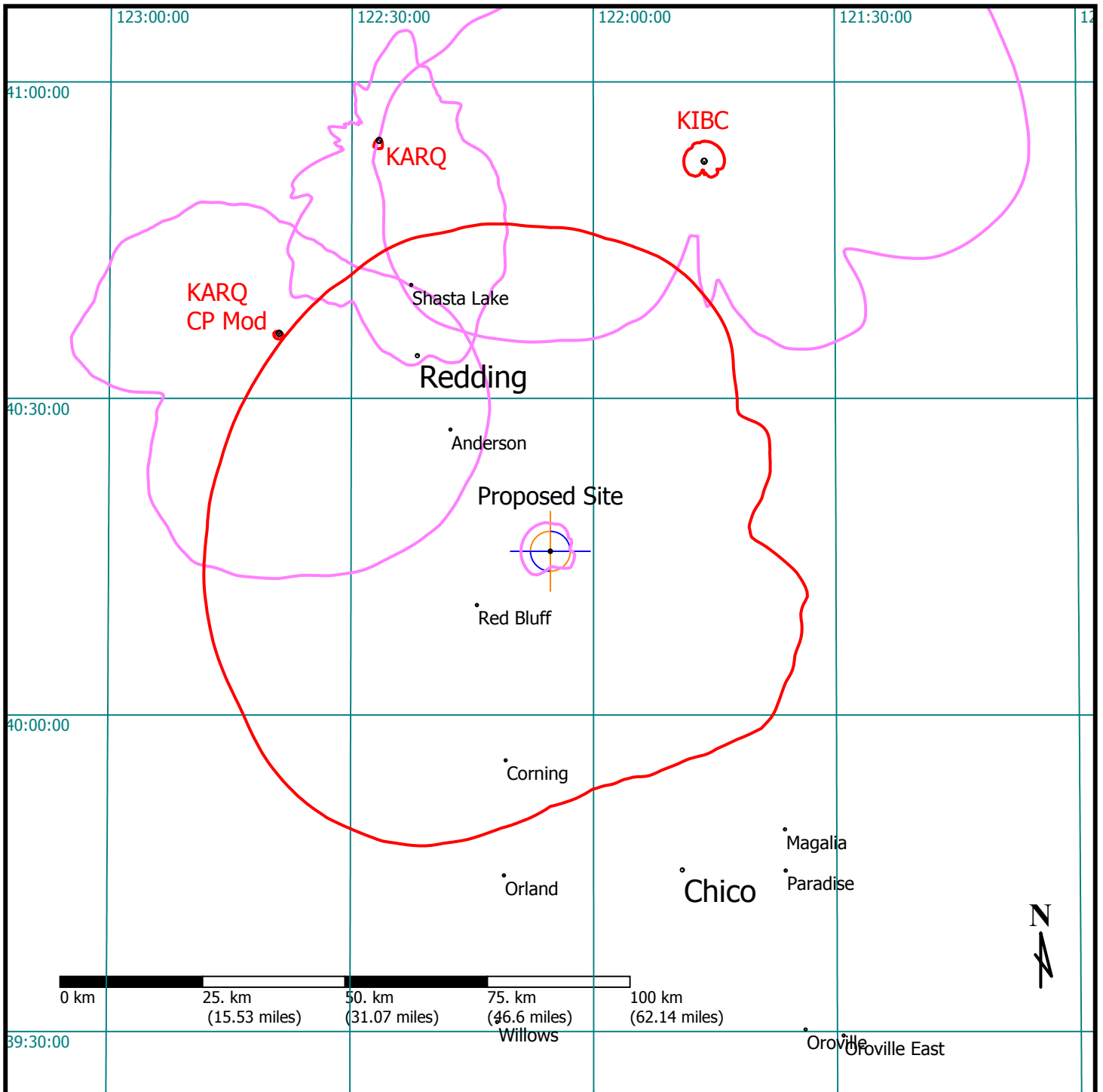


EXHIBIT 18g

FMOver Analysis -

Prop. KTHM vs. KARQ-CP, Redding, OR

12-16-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KTHM Proposed

KARQ CP BMPED20140417AAZ

Channel = 215C1
Max ERP = 7.4 kW
RCAMSL = 674 m
N. Lat. 40 15 31.0
W. Lng. 122 05 20.0
Protected
60 dBu

Channel = 217C2
Max ERP = 0.2 kW
RCAMSL = 1931 m
N. Lat. 40 36 10.0
W. Lng. 122 38 58.0
Interfering
100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
264.0	007.4000	0529.8	061.0	196.3	000.2000	1133.6	046.7	59.95	
265.0	007.4000	0528.9	061.0	196.7	000.2000	1136.0	045.7	60.35	
266.0	007.4000	0528.1	060.9	197.1	000.2000	1138.8	044.7	60.77	
267.0	007.4000	0526.7	060.8	197.5	000.2000	1141.4	043.7	61.19	
268.0	007.4000	0525.3	060.7	197.9	000.2000	1143.9	042.7	61.63	
269.0	007.4000	0523.9	060.7	198.3	000.2000	1145.9	041.7	62.07	
270.0	007.4000	0522.5	060.6	198.7	000.2000	1147.4	040.6	62.51	
271.0	007.4000	0521.3	060.5	199.1	000.2000	1148.3	039.6	62.95	
272.0	007.4000	0520.0	060.4	199.4	000.2000	1148.1	038.6	63.40	
273.0	007.4000	0518.8	060.3	199.8	000.2000	1146.9	037.6	63.84	
274.0	007.4000	0518.1	060.3	200.2	000.2000	1144.2	036.5	64.27	
275.0	007.4000	0518.3	060.3	200.7	000.2000	1138.5	035.5	64.67	
276.0	007.4000	0518.5	060.3	201.2	000.2000	1129.6	034.5	65.06	
277.0	007.4000	0518.7	060.3	201.7	000.2000	1118.8	033.5	65.43	
278.0	007.4000	0518.6	060.3	202.1	000.2000	1108.4	032.5	65.82	
279.0	007.4000	0517.9	060.3	202.5	000.2000	1100.1	031.5	66.24	
280.0	007.4000	0517.1	060.2	202.9	000.2000	1092.7	030.4	66.67	
281.0	007.4000	0516.1	060.2	203.2	000.2000	1086.5	029.4	67.13	
282.0	007.4000	0515.2	060.1	203.5	000.2000	1080.7	028.3	67.60	
283.0	007.4000	0514.1	060.0	203.8	000.2000	1075.9	027.3	68.10	
284.0	007.4000	0513.2	060.0	204.1	000.2000	1071.0	026.3	68.60	
285.0	007.4000	0512.3	059.9	204.4	000.2000	1066.1	025.2	69.12	
286.0	007.4000	0512.1	059.9	204.8	000.2000	1059.3	024.2	69.64	
287.0	007.4000	0512.1	059.9	205.2	000.2000	1051.6	023.2	70.16	
288.0	007.4000	0511.9	059.9	205.5	000.2000	1043.8	022.1	70.70	
289.0	007.4000	0511.9	059.9	205.9	000.2000	1035.9	021.1	71.26	
290.0	007.4000	0511.9	059.9	206.2	000.2000	1027.9	020.0	71.83	
291.0	007.4000	0511.9	059.9	206.6	000.2000	1019.7	019.0	72.42	
292.0	007.4000	0512.0	059.9	206.9	000.2000	1011.2	018.0	73.02	
293.0	007.4000	0512.0	059.9	207.2	000.2000	1004.0	016.9	73.65	
294.0	007.4000	0511.7	059.9	207.4	000.2000	0998.7	015.9	74.30	
295.0	007.4000	0511.2	059.9	207.5	000.2000	0995.7	014.8	74.43	
296.0	007.4000	0510.7	059.8	207.6	000.2000	0994.5	013.8	75.21	
297.0	007.4000	0510.4	059.8	207.6	000.2000	0993.5	012.7	76.05	
298.0	007.4000	0510.3	059.8	207.6	000.2000	0993.6	011.7	76.95	
299.0	007.4000	0510.2	059.8	207.5	000.2000	0996.1	010.7	77.93	
300.0	007.4000	0509.9	059.8	207.2	000.2000	1003.7	009.6	79.00	
301.0	007.4000	0509.7	059.8	206.8	000.2000	1015.0	008.6	80.16	
302.0	007.4000	0509.8	059.8	206.2	000.2000	1028.2	007.5	81.44	
303.0	007.4000	0509.9	059.8	205.3	000.2000	1048.6	006.5	82.93	

BROWN BROADCAST SERVICES
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Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
304.0	007.4000	0509.8	059.8	203.7	000.2000	1077.2	005.5	84.48	
305.0	007.4000	0509.8	059.8	201.3	000.2000	1126.3	004.4	86.23	
306.0	007.4000	0510.2	059.8	197.6	000.2000	1141.8	003.4	88.82	
307.0	007.4000	0511.1	059.9	191.0	000.2000	1158.2	002.4	92.11	
308.0	007.4000	0511.6	059.9	174.9	000.2000	1141.2	001.6	95.77	
309.0	007.4000	0511.6	059.9	132.7	000.1741	1241.9	001.1	98.79	
310.0	007.4000	0511.5	059.9	086.7	000.0365	1495.5	001.4	89.32	
311.0	007.4000	0511.8	059.9	067.1	000.0163	1409.4	002.3	81.83	
312.0	007.4000	0512.1	059.9	058.7	000.0118	1352.2	003.3	77.13	
313.0	007.4000	0512.3	059.9	054.5	000.0105	1308.2	004.3	73.82	
314.0	007.4000	0512.6	059.9	052.1	000.0097	1292.2	005.3	71.66	
315.0	007.4000	0513.0	060.0	050.5	000.0093	1275.4	006.3	69.96	
316.0	007.4000	0513.0	060.0	049.7	000.0091	1267.9	007.4	68.46	
317.0	007.4000	0513.0	060.0	049.3	000.0091	1265.5	008.4	67.21	
318.0	007.4000	0513.6	060.0	048.9	000.0090	1263.8	009.5	66.10	
319.0	007.4000	0514.0	060.0	048.6	000.0090	1263.3	010.5	65.08	
320.0	007.4000	0513.4	060.0	048.9	000.0090	1263.9	011.6	64.17	
321.0	007.4000	0511.8	059.9	049.4	000.0091	1266.2	012.6	63.36	
322.0	007.4000	0510.1	059.8	050.0	000.0092	1269.9	013.6	62.62	
323.0	007.4000	0509.5	059.8	050.3	000.0092	1273.1	014.7	61.96	
324.0	007.4000	0510.0	059.8	050.4	000.0093	1273.8	015.7	61.76	
325.0	007.4000	0511.7	059.9	050.3	000.0092	1272.3	016.8	61.20	
326.0	007.4000	0513.7	060.0	050.1	000.0092	1271.1	017.8	60.65	
327.0	007.4000	0515.0	060.1	050.2	000.0092	1271.9	018.9	60.13	
328.0	007.4000	0516.0	060.2	050.4	000.0093	1274.0	019.9	59.64	
329.0	007.4000	0516.8	060.2	050.6	000.0093	1276.8	021.0	59.16	
330.0	007.4000	0517.5	060.3	050.9	000.0094	1280.4	022.0	58.70	
331.0	007.4000	0517.8	060.3	051.3	000.0095	1285.0	023.1	58.27	
332.0	007.4000	0517.4	060.3	051.8	000.0097	1290.2	024.1	57.86	
333.0	007.4000	0516.8	060.2	052.3	000.0098	1293.9	025.1	57.46	
334.0	007.4000	0516.1	060.2	052.8	000.0100	1297.1	026.2	57.06	
335.0	007.4000	0515.2	060.1	053.4	000.0101	1299.6	027.2	56.68	
336.0	007.4000	0513.5	060.0	054.0	000.0103	1303.9	028.2	56.32	
337.0	007.4000	0510.8	059.8	054.8	000.0106	1311.3	029.2	56.00	
338.0	007.4000	0507.4	059.6	055.6	000.0108	1321.5	030.1	55.72	
339.0	007.4000	0503.7	059.4	056.5	000.0111	1332.0	031.1	55.45	
340.0	007.4000	0500.2	059.2	057.2	000.0113	1340.0	032.1	55.17	
341.0	007.4000	0497.5	059.0	057.9	000.0115	1346.5	033.0	54.86	
342.0	007.4000	0495.4	058.9	058.5	000.0117	1351.1	034.0	54.53	
343.0	007.4000	0494.8	058.8	059.0	000.0119	1354.3	035.0	54.17	
344.0	007.4000	0495.0	058.8	059.4	000.0120	1356.3	036.0	53.79	
345.0	007.4000	0494.3	058.8	059.8	000.0121	1359.4	037.0	53.44	
346.0	007.4000	0492.9	058.7	060.4	000.0124	1363.5	038.0	53.14	
347.0	007.4000	0491.8	058.6	060.9	000.0127	1368.2	038.9	52.86	
348.0	007.4000	0490.7	058.6	061.4	000.0130	1373.7	039.9	52.58	
349.0	007.4000	0488.1	058.4	062.0	000.0133	1381.7	040.8	52.36	
350.0	007.4000	0485.5	058.3	062.6	000.0136	1389.6	041.8	52.14	
351.0	007.3262	0484.7	058.1	063.2	000.0140	1396.3	042.7	51.91	
352.0	007.2674	0483.5	058.0	063.8	000.0143	1401.3	043.6	51.67	
353.0	007.2089	0481.4	057.7	064.5	000.0147	1405.3	044.5	51.45	

BROWN BROADCAST SERVICES
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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

12-16-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KARQ CP BMPED20140417AAZ

KTHM Proposed

Channel = 217C2
 Max ERP = 0.2 kW
 RCAMSL = 1931 m
 N. Lat. 40 36 10.0
 W. Lng. 122 38 58.0
 Protected
 60 dBu

Channel = 215C1
 Max ERP = 7.4 kW
 RCAMSL = 674 m
 N. Lat. 40 15 31.0
 W. Lng. 122 05 20.0
 Interfering
 100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
084.0	000.0325	1501.5	030.5	337.7	007.4000	0508.3	044.7	69.07	
085.0	000.0339	1499.3	030.9	338.0	007.4000	0507.3	044.1	69.29	
086.0	000.0354	1496.9	031.3	338.3	007.4000	0506.5	043.5	69.52	
087.0	000.0370	1494.6	031.6	338.5	007.4000	0505.7	042.9	69.75	
088.0	000.0385	1488.3	031.9	338.6	007.4000	0505.2	042.2	69.99	
089.0	000.0401	1482.9	032.2	338.8	007.4000	0504.6	041.6	70.24	
090.0	000.0418	1477.3	032.5	338.9	007.4000	0504.2	041.0	70.49	
091.0	000.0436	1471.6	032.9	339.0	007.4000	0503.7	040.3	70.75	
092.0	000.0455	1468.2	033.2	339.1	007.4000	0503.2	039.6	71.02	
093.0	000.0474	1467.1	033.6	339.3	007.4000	0502.7	039.0	71.30	
094.0	000.0494	1465.3	033.9	339.4	007.4000	0502.3	038.3	71.58	
095.0	000.0514	1461.8	034.3	339.4	007.4000	0502.1	037.6	71.87	
096.0	000.0535	1457.2	034.6	339.5	007.4000	0502.1	036.9	72.17	
097.0	000.0555	1457.3	034.9	339.5	007.4000	0501.9	036.2	72.47	
098.0	000.0577	1459.0	035.3	339.6	007.4000	0501.7	035.5	72.79	
099.0	000.0598	1461.7	035.7	339.6	007.4000	0501.6	034.8	73.11	
100.0	000.0620	1464.8	036.0	339.6	007.4000	0501.6	034.1	73.44	
101.0	000.0649	1468.3	036.5	339.7	007.4000	0501.3	033.3	73.79	
102.0	000.0677	1469.8	036.9	339.7	007.4000	0501.3	032.5	74.14	
103.0	000.0707	1469.1	037.3	339.6	007.4000	0501.5	031.8	74.49	
104.0	000.0737	1465.5	037.6	339.5	007.4000	0502.0	031.1	74.87	
105.0	000.0768	1459.0	037.9	339.2	007.4000	0502.9	030.3	75.25	
106.0	000.0799	1450.9	038.2	338.9	007.4000	0504.1	029.6	75.65	
107.0	000.0831	1443.8	038.5	338.5	007.4000	0505.5	028.9	76.07	
108.0	000.0863	1437.9	038.8	338.1	007.4000	0507.0	028.2	76.51	
109.0	000.0896	1431.8	039.0	337.6	007.4000	0508.7	027.5	76.96	
110.0	000.0930	1423.6	039.3	337.0	007.4000	0510.7	026.9	77.41	
111.0	000.0964	1412.0	039.5	336.3	007.4000	0512.8	026.2	77.85	
112.0	000.0998	1399.9	039.7	335.5	007.4000	0514.5	025.6	78.28	
113.0	000.1033	1388.0	039.8	334.6	007.4000	0515.6	025.0	78.69	
114.0	000.1068	1377.0	040.0	333.6	007.4000	0516.4	024.5	79.11	
115.0	000.1104	1367.5	040.2	332.6	007.4000	0517.0	023.9	79.52	
116.0	000.1141	1357.6	040.4	331.5	007.4000	0517.7	023.3	79.93	
117.0	000.1178	1347.3	040.6	330.3	007.4000	0517.7	022.8	80.32	
118.0	000.1216	1335.7	040.7	328.9	007.4000	0516.8	022.3	80.67	
119.0	000.1254	1324.9	040.9	327.5	007.4000	0515.5	021.8	81.00	
120.0	000.1293	1316.2	041.0	326.0	007.4000	0513.7	021.3	81.33	
121.0	000.1326	1310.3	041.2	324.4	007.4000	0510.7	020.9	81.63	
122.0	000.1361	1304.7	041.4	322.8	007.4000	0509.5	020.4	81.93	
123.0	000.1395	1299.1	041.5	321.0	007.4000	0511.8	020.0	82.26	
124.0	000.1430	1292.9	041.7	319.1	007.4000	0514.0	019.7	82.56	
125.0	000.1465	1285.7	041.8	317.1	007.4000	0513.0	019.4	82.78	
126.0	000.1501	1276.4	041.9	315.0	007.4000	0513.0	019.2	82.96	

BROWN BROADCAST SERVICES INCORPORATED

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Portland, Oregon 97219-7418

503-245-6065

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
127.0	000.1538	1265.5	042.0	312.9	007.4000	0512.2	019.0	83.09	
128.0	000.1574	1254.5	042.1	310.7	007.4000	0511.6	018.9	83.18	
129.0	000.1611	1246.9	042.2	308.4	007.4000	0511.6	018.7	83.28	
130.0	000.1649	1242.6	042.4	306.1	007.4000	0510.3	018.6	83.36	
131.0	000.1683	1241.9	042.6	303.8	007.4000	0509.8	018.5	83.44	
132.0	000.1716	1242.0	042.8	301.4	007.4000	0509.7	018.4	83.49	
133.0	000.1751	1242.1	042.9	299.0	007.4000	0510.2	018.4	83.51	
134.0	000.1785	1241.5	043.1	296.6	007.4000	0510.5	018.4	83.48	
135.0	000.1820	1240.4	043.3	294.2	007.4000	0511.6	018.5	83.43	
136.0	000.1856	1238.0	043.4	291.9	007.4000	0512.0	018.7	83.31	
137.0	000.1891	1234.6	043.6	289.7	007.4000	0511.9	018.9	83.15	
138.0	000.1927	1231.2	043.7	287.5	007.4000	0512.0	019.2	82.95	
139.0	000.1963	1228.1	043.8	285.3	007.4000	0512.1	019.5	82.72	
140.0	000.2000	1225.7	044.0	283.3	007.4000	0513.9	019.8	82.49	
141.0	000.2000	1224.4	044.0	281.6	007.4000	0515.6	020.3	82.14	
142.0	000.2000	1224.2	044.0	280.0	007.4000	0517.2	020.8	81.78	
143.0	000.2000	1225.0	044.0	278.4	007.4000	0518.3	021.3	81.40	
144.0	000.2000	1227.1	044.0	277.0	007.4000	0518.7	021.8	81.01	
145.0	000.2000	1229.5	044.0	275.6	007.4000	0518.4	022.4	80.60	
146.0	000.2000	1231.0	044.1	274.3	007.4000	0518.2	023.0	80.17	
147.0	000.2000	1231.5	044.1	273.2	007.4000	0518.5	023.6	79.74	
148.0	000.2000	1231.2	044.1	272.1	007.4000	0519.8	024.2	79.32	
149.0	000.2000	1230.2	044.0	271.2	007.4000	0521.0	024.9	78.89	
150.0	000.2000	1229.0	044.0	270.3	007.4000	0522.1	025.5	78.46	
151.0	000.2000	1227.9	044.0	269.5	007.4000	0523.2	026.2	78.04	
152.0	000.2000	1226.1	044.0	268.8	007.4000	0524.2	026.9	77.61	
153.0	000.2000	1224.8	044.0	268.1	007.4000	0525.1	027.6	77.20	
154.0	000.2000	1225.3	044.0	267.5	007.4000	0526.0	028.3	76.80	
155.0	000.2000	1227.9	044.0	266.9	007.4000	0527.0	029.0	76.41	
156.0	000.2000	1231.8	044.1	266.2	007.4000	0527.8	029.7	76.04	
157.0	000.2000	1235.8	044.1	265.7	007.4000	0528.4	030.4	75.67	
158.0	000.2000	1239.5	044.2	265.1	007.4000	0528.8	031.1	75.31	
159.0	000.2000	1241.7	044.2	264.7	007.4000	0529.2	031.9	74.96	
160.0	000.2000	1241.8	044.2	264.4	007.4000	0529.5	032.6	74.62	
161.0	000.2000	1239.1	044.2	264.1	007.4000	0529.7	033.4	74.28	
162.0	000.2000	1234.3	044.1	263.9	007.4000	0529.8	034.1	73.93	
163.0	000.2000	1227.6	044.0	263.8	007.4000	0529.9	034.9	73.59	
164.0	000.2000	1219.4	043.9	263.8	007.4000	0529.9	035.7	73.24	
165.0	000.2000	1211.7	043.8	263.8	007.4000	0529.9	036.5	72.91	
166.0	000.2000	1205.8	043.7	263.7	007.4000	0530.0	037.2	72.57	
167.0	000.2000	1200.9	043.7	263.7	007.4000	0530.0	038.0	72.24	
168.0	000.2000	1194.5	043.6	263.7	007.4000	0530.0	038.8	71.92	
169.0	000.2000	1185.6	043.4	263.8	007.4000	0529.9	039.5	71.59	
170.0	000.2000	1174.8	043.3	263.9	007.4000	0529.8	040.3	71.27	
171.0	000.2000	1163.8	043.1	264.1	007.4000	0529.7	041.1	70.96	
172.0	000.2000	1156.5	043.0	264.2	007.4000	0529.6	041.8	70.65	
173.0	000.2000	1149.0	042.9	264.3	007.4000	0529.5	042.6	70.35	

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EXHIBIT 24

ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS

The applicant proposes mounting a new antenna on an existing 304 meter registered tower. The proposed center of radiation is 137m AGL. A 4-bay, full-wavelength-spaced Jampro “double-V” antenna is proposed. Calculations were made using FM Model for Windows, version 2.10. It predicted a peak exposure of $3.6\mu\text{W}/\text{cm}^2$, at 52 meters from the base of the tower. This represents 1.8% of the Maximum Permissible Exposure (MPE) of $200\mu\text{W}/\text{cm}^2$ for uncontrolled environments. 47 CFR §1.1307(b)(3) exempts applicants from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

The applicant will ensure that public access to the tower is restricted by fencing, anti-climb devices, or other appropriate measures. The site will posted be with appropriate RF exposure warning signs. If tower climbing by authorized personnel becomes necessary, transmitter power will be reduced or operation will cease, as necessary, so as to not exceed the RF exposure limits.