

CITY OF LICENSE
CALL LETTERS
PREPARED FOR
VERSION
JOB

Syracuse, NY
W228CS
SYRACUSE COMMUNITY RADIO, INC.
1.1
117011

CONSOLIDATED

ENGINEERING EXHIBIT

FCC Form 349 - Section II-A - Engineering

ENGINEERING STATEMENT
MINOR-MODIFICATION TO W228CS, SYRACUSE, NY
>change to CH229<
Syracuse Community Radio

SUMMARY

Syracuse Community Radio (SCR), hereby submits this application for a minor change to licensed FM translator W228CS, Syracuse, NY. The applicant proposes to move one channel higher, to Ch229. No other changes of any kind are proposed. This change is to reduce the potential for interference to co-channel station WARW, Remson, NY, outside their protected contour.

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

EXHIBIT 13

OVERLAP REQUIREMENTS

INTERFERENCE PROTECTION

REFERENCE	Move to ch229 Syracuse Community Radio, Inc.	COR= 193 M	DISPLAY DATES
43 02 11.2 N.	CH# 229D - 93.7 MHz, Pwr= 0.055 kW, HAAT= 0.0 M,		DATA 01-29-17
76 07 10.1 W.	Average Protected F(50-50)= 4.8 km Omni-directional		SEARCH 02-17-17

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
226B Syracuse	WNTQ	LIC	C NY	142.2 322.3	12.62 BMLH20000606AAN	42 56 48.0 76 01 28.0	97.000 201	10.3 512	87.5 Radio License Holding Cbc,	-75.9*
228D Syracuse	W228CS!	LIC	C NY	0.0 270.0	0.00 BLFT20170117AAA	43 02 11.2 76 07 10.1	0.055	6.9 193	4.8 Syracuse Community Radio,	-15.3
231D Elmwood	W231CS	LIC	DC NY	302.4 122.4	4.54 BLFT20140715ACA	43 03 30.0 76 10 00.0	0.250	0.7 216	5.5 Renard Communications Corp	-1.5*
231D Elmwood	W231CS	CP	DC NY	302.4 122.4	4.54 BPFT20160531AAF	43 03 30.0 76 10 00.0	0.170	0.6 237	5.1 Renard Communications Corp	-1.1*
230B Norwich	WKXZ	LIC	CX NY	134.7 315.2	76.91 BMLH20041109AAG	42 32 51.0 75 27 09.0	26.000 206	79.0 639	66.4 Townsquare Media Oneonta L	0.6
229A Clyde	WCIP	LIC	C NY	265.8 85.3	60.90 BMLED20010511AAY	42 59 38.0 76 51 59.0	3.800 100	82.2 241	27.3 Family Life Ministries, In	15.2
228A Rensen	WARW	LIC	CX NY	67.4 247.9	71.50 BLED20100601AJH	43 16 51.0 75 18 14.0	2.100 172	51.3 447	34.3 Educational Media Foundati	27.8

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= East Zone, Co to 3rd adjacent.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C, H, V, E), Beamtilt (Y, N, X)
Incoming contour overlap is ignored.
***affixed to 'IN' or 'OUT' values = site inside restricted contour.

Contour protection to all co-channel and first-adjacent channel stations is shown above, and by **Exhibits 13a and 13b.**

Regarding contour protection to 2nd and 3rd-adjacent channel stations:

- No change of any kind, other than a frequency change from ch228 to ch229, is proposed. W228CS is currently inside the protected contour of WNTQ, Syracuse, which is 2nd adjacent. With this proposal, WNTQ would become 3rd adjacent,

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

with *no change to the overlap area*. Therefore, no new interference exhibit is required with respect to this station.

2. Likewise, W231CS (LIC and CP) is currently 3rd-adjacent to W228CS, and would become 2nd-adjacent with this proposal. With no change in the overlap area, no new interference exhibit is required.
3. All other 2nd and 3rd adjacent stations are out of range.

MAXIMUM ERP COMPLIANCE

No change to the antenna height, location, or non-directional ERP is proposed. The facility will continue to comply with 74.1235(b)(1) regarding Maximum Allowable ERP (MERP).

Radial (Degrees)	Radial HAAT (m)	MERP (W)	Prop. ERP (W)
0	68.4	55	55.0
30	67.7	55	55.0
60	58.6	55	55.0
90	4.6	250	55.0
120	-35.5	250	55.0
150	-87.8	250	55.0
180	-119.9	250	55.0
210	-18.3	250	55.0
240	-49.0	250	55.0
270	25.4	250	55.0
300	63.2	55	55.0
330	62.8	55	55.0

BORDER ISSUES

The proposed 34dBu contour does not touch Canadian soil. It clears the nearest Canada landfall by over 80km.

BROWN BROADCAST SERVICES INCORPORATED

PROTECTED ZONES REPORT:

Protected zones report for W228CS on channel 229D 02-17-2017

Lat. 43 02 11.2 Lng. 76 07 10.1, ERP= 0.055 kw, HAAT= 0 m

The translator's 34 dBu F(50-10) contour does not touch Canada.

Facility is okay with respect to AM station towers.

Closest AM Facility is WSIV, EAST SYRACUSE, NY, L, ND2 at 244.9° at a distance of 3.6 km

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 94.6 km= Canandaigua, NY

Facility is okay toward West Virginia Quiet Zone. Distance to center = 591.2 km

Facility is okay toward Table Mountain. Distance to Center = 2449.5 km, Azimuth = 272.4 Degrees True

BROWN BROADCAST SERVICES
INCORPORATED

Exhibit 13a

First-Adjacent Channel Contour Protection

Brown Broadcast Services, Inc.
Job: W228CS to Ch229.fmj
Master Database: 2017_Feb_17.fmd
Lat: N43:02:11 Lon: W076:07:11 NAD-27
Scale: 1:200000
Channel: 229 Class: DX

PROPOSED
Interfering: 48dBu F(50,10)
AFFECTED
Protected: 54dBu F(50,50)

rfInvestigator Version 3.8.16
by rfSoftware, Inc.
Date: 2/19/2017 5:25:51 PM
Key:
City Grade
Protected
Co-Channel
1st Adj
2nd/3rd Adj

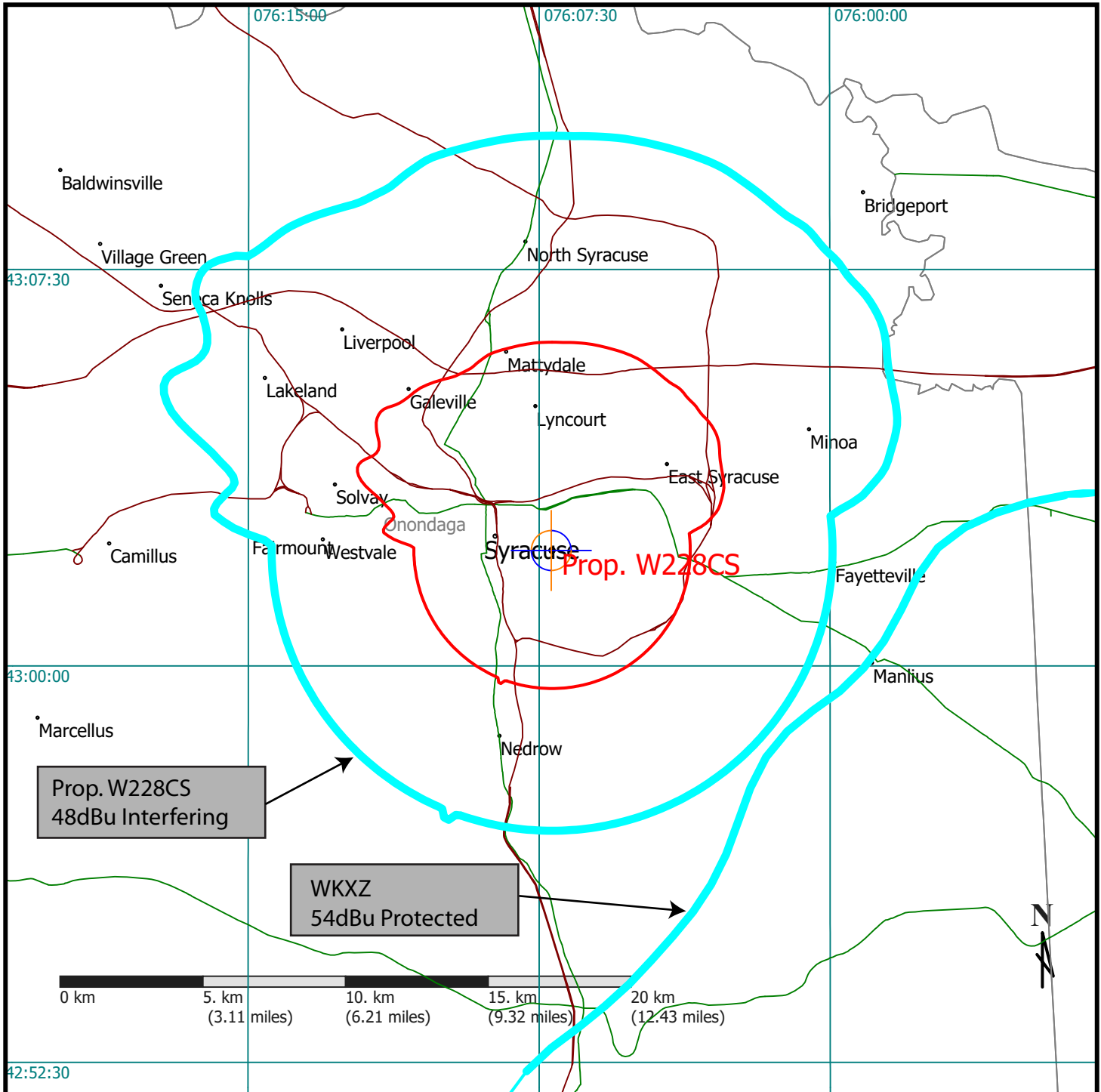


EXHIBIT 13b

FMOVER ANALYSIS

Proposed W228CS vs WKXZ

02-17-2017 Terrain Data: FCC NGDC 30 Sec FMOver Analysis

WKXZ BMLH20041109AAG

W228CS

Channel = 230B
 Max ERP = 26 kW
 RCAMSL = 639 m
 N. Lat. 42 32 51.0
 W. Lng. 75 27 09.0
 Protected
 54 dBu

Channel = 229D
 Max ERP = 0.055 kW
 RCAMSL = 193 m
 N. Lat. 43 02 11.2
 W. Lng. 76 07 10.1
 Interfering
 48 dBu

Azi muth (degrees)	ERP (kW)	HAAT (m)	Di st (km)	Azi muth (degrees)	ERP (kW)	HAAT (m)	Di st (km)	Actual (dBu)	I X (km)
270.0	026.0000	0201.3	064.2	190.0	000.0550	-0048.4	055.5	22.16	
271.0	026.0000	0199.5	064.1	190.0	000.0550	-0048.2	054.4	22.40	
272.0	026.0000	0198.2	064.0	190.1	000.0550	-0047.9	053.2	22.64	
273.0	026.0000	0197.5	063.9	190.2	000.0550	-0047.3	052.1	22.88	
274.0	026.0000	0196.9	063.8	190.3	000.0550	-0046.8	051.0	23.13	
275.0	026.0000	0196.1	063.8	190.3	000.0550	-0046.5	049.9	23.37	
276.0	026.0000	0194.7	063.6	190.3	000.0550	-0046.7	048.8	23.61	
277.0	026.0000	0192.4	063.4	190.1	000.0550	-0047.6	047.7	23.85	
278.0	026.0000	0190.4	063.2	189.9	000.0550	-0048.7	046.5	24.11	
279.0	026.0000	0189.1	063.1	189.8	000.0550	-0049.3	045.4	24.38	
280.0	026.0000	0188.3	063.0	189.8	000.0550	-0049.8	044.3	24.67	
281.0	026.0000	0188.1	063.0	189.7	000.0550	-0050.1	043.2	24.97	
282.0	026.0000	0189.4	063.1	189.9	000.0550	-0049.2	042.1	25.29	
283.0	026.0000	0191.9	063.4	190.1	000.0550	-0047.5	041.0	25.62	
284.0	026.0000	0194.6	063.6	190.4	000.0550	-0045.8	039.9	25.97	
285.0	026.0000	0197.5	063.9	190.7	000.0550	-0044.0	038.8	26.33	
286.0	026.0000	0200.4	064.2	191.0	000.0550	-0042.3	037.6	26.71	
287.0	026.0000	0203.3	064.4	191.3	000.0550	-0040.6	036.5	27.10	
288.0	026.0000	0206.3	064.7	191.6	000.0550	-0038.8	035.3	27.51	
289.0	026.0000	0210.9	065.2	192.1	000.0550	-0035.3	034.2	27.94	
290.0	026.0000	0217.1	065.7	192.8	000.0550	-0029.5	033.0	28.39	
291.0	026.0000	0224.3	066.4	193.7	000.0550	-0020.3	031.8	28.87	
292.0	026.0000	0231.3	067.0	194.6	000.0550	-0010.5	030.5	29.41	
293.0	026.0000	0235.3	067.4	195.0	000.0550	-0006.4	029.3	30.00	
294.0	026.0000	0236.1	067.4	194.8	000.0550	-0008.6	028.1	30.63	
295.0	026.0000	0233.7	067.2	194.0	000.0550	-0017.8	027.0	31.28	
296.0	026.0000	0229.1	066.8	192.6	000.0550	-0031.6	026.0	31.94	
297.0	026.0000	0223.8	066.3	190.9	000.0550	-0042.9	024.9	32.61	
298.0	026.0000	0219.5	066.0	189.2	000.0550	-0053.7	024.0	33.29	
299.0	026.0000	0217.1	065.7	187.8	000.0550	-0067.9	022.9	34.01	
300.0	026.0000	0218.1	065.8	186.9	000.0550	-0074.6	021.8	34.83	
301.0	026.0000	0221.0	066.1	186.4	000.0550	-0076.8	020.7	35.72	
302.0	026.0000	0223.2	066.3	185.5	000.0550	-0080.4	019.5	36.62	
303.0	026.0000	0222.9	066.3	183.8	000.0550	-0093.2	018.5	37.44	
304.0	026.0000	0219.6	066.0	181.1	000.0550	-0112.0	017.7	38.13	
305.0	026.0000	0215.3	065.6	177.9	000.0550	-0132.1	017.0	38.74	
306.0	026.0000	0211.2	065.2	174.4	000.0550	-0146.1	016.3	39.28	
307.0	026.0000	0208.4	064.9	170.9	000.0550	-0140.9	015.7	39.84	
308.0	026.0000	0206.8	064.8	167.4	000.0550	-0123.7	015.0	40.40	

BROWN BROADCAST SERVICES
 INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

309.0	026.0000	0206.3	064.7	163.8	000.0550	-0117.7	014.4	41.14
310.0	026.0000	0206.4	064.7	160.0	000.0550	-0083.5	013.8	41.91
311.0	026.0000	0207.6	064.8	155.9	000.0550	-0066.9	013.1	42.75
312.0	026.0000	0210.5	065.1	151.7	000.0550	-0082.1	012.4	43.75
313.0	026.0000	0215.0	065.5	147.1	000.0550	-0110.8	011.7	44.86
314.0	026.0000	0219.9	066.0	141.9	000.0550	-0128.1	011.0	45.94
315.0	026.0000	0223.9	066.4	136.0	000.0550	-0110.1	010.6	46.71
316.0	026.0000	0225.9	066.5	129.6	000.0550	-0081.9	010.4	46.94
317.0	026.0000	0225.0	066.5	123.5	000.0550	-0054.7	010.7	46.48
318.0	026.0000	0223.8	066.3	117.8	000.0550	-0025.9	011.1	45.76
319.0	026.0000	0224.1	066.4	112.4	000.0550	-0003.6	011.6	45.08
320.0	026.0000	0226.8	066.6	106.9	000.0550	-0007.1	011.9	44.51
321.0	026.0000	0232.2	067.1	101.1	000.0550	-0011.3	012.2	44.06
322.0	026.0000	0239.1	067.7	095.2	000.0550	-0012.3	012.6	43.52
323.0	026.0000	0244.1	068.1	090.4	000.0550	0000.8	013.2	42.63
324.0	026.0000	0244.9	068.2	087.3	000.0550	0011.7	014.2	41.42
325.0	026.0000	0242.5	068.0	085.4	000.0550	0019.5	015.3	40.20
326.0	026.0000	0238.3	067.6	084.4	000.0550	0024.0	016.5	39.17
327.0	026.0000	0232.6	067.1	084.0	000.0550	0025.5	017.7	38.11
328.0	026.0000	0225.9	066.5	084.0	000.0550	0025.5	019.0	37.03
329.0	026.0000	0219.1	065.9	084.1	000.0550	0025.1	020.3	35.99
330.0	026.0000	0212.5	065.3	084.3	000.0550	0024.5	021.6	34.98
331.0	026.0000	0207.0	064.8	084.3	000.0550	0024.5	022.9	34.05
332.0	026.0000	0203.5	064.5	084.0	000.0550	0025.6	024.1	33.22
333.0	026.0000	0202.7	064.4	083.2	000.0550	0028.5	025.1	32.48
334.0	026.0000	0203.9	064.5	082.1	000.0550	0032.1	026.1	32.33
335.0	026.0000	0206.2	064.7	080.9	000.0550	0036.2	027.2	32.65
336.0	026.0000	0209.8	065.1	079.6	000.0550	0039.5	028.2	32.76
337.0	026.0000	0214.1	065.5	078.3	000.0550	0041.7	029.2	32.66
338.0	026.0000	0217.3	065.8	077.4	000.0550	0043.6	030.3	32.48
339.0	026.0000	0218.2	065.8	076.9	000.0550	0044.6	031.4	32.12
340.0	026.0000	0217.7	065.8	076.7	000.0550	0044.9	032.5	31.70
341.0	026.0000	0216.8	065.7	076.6	000.0550	0045.0	033.7	31.25
342.0	026.0000	0215.5	065.6	076.6	000.0550	0045.0	034.8	30.78
343.0	026.0000	0214.0	065.4	076.7	000.0550	0044.9	036.0	30.30
344.0	026.0000	0213.0	065.4	076.7	000.0550	0044.8	037.1	29.86
345.0	026.0000	0212.5	065.3	076.7	000.0550	0044.9	038.3	29.44
346.0	026.0000	0213.0	065.4	076.6	000.0550	0045.0	039.4	29.05
347.0	026.0000	0212.4	065.3	076.6	000.0550	0044.9	040.5	28.64
348.0	026.0000	0209.1	065.0	077.1	000.0550	0044.2	041.7	28.11
349.0	026.0000	0200.9	064.2	078.1	000.0550	0042.1	042.8	27.38
350.0	026.0000	0191.7	063.3	079.3	000.0550	0040.0	043.9	26.67
351.0	026.0000	0184.4	062.6	080.2	000.0550	0038.2	045.0	26.02
352.0	026.0000	0180.5	062.3	080.7	000.0550	0036.9	046.1	25.49
353.0	026.0000	0176.3	061.9	081.2	000.0550	0035.1	047.2	24.90
354.0	026.0000	0172.5	061.5	081.7	000.0550	0033.3	048.2	24.32
355.0	026.0000	0169.0	061.1	082.2	000.0550	0031.7	049.3	23.80
356.0	026.0000	0168.2	061.0	082.4	000.0550	0031.2	050.3	23.48
357.0	026.0000	0167.0	060.9	082.6	000.0550	0030.5	051.4	23.13
358.0	026.0000	0165.9	060.7	082.8	000.0550	0029.8	052.4	22.82
359.0	026.0000	0161.4	060.2	083.5	000.0550	0027.2	053.4	22.60

BROWN BROADCAST SERVICES INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

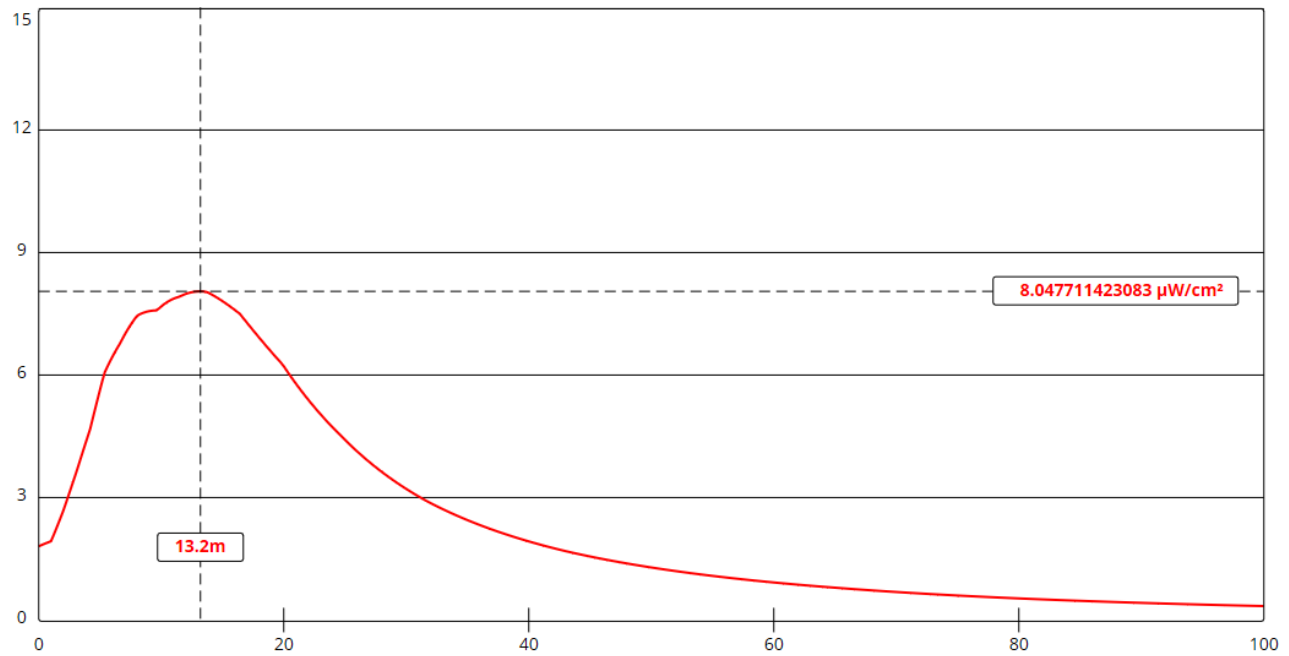
503-245-6065

EXHIBIT 17

ENVIRONMENTAL PROTECTION ACT / NEIR ANALYSIS

No changes to the existing licensed antenna are proposed. A Jampro 1-bay JLCP antenna is installed at 17.2m AGL, atop a bell tower. The antenna is 13.2m above the uppermost populated surface - the second floor of the host building. The ERP will remain unchanged at 55 watts. Calculations were made using FM Model (online version), using the appropriate "Type 4" setting. FM Model predicted a peak exposure of $8\mu\text{W}/\text{cm}^2$, at 13.2 meters from the tower. This represents 4% of the Maximum Permissible Exposure (MPE) 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.

Access to the bell tower is restricted. The applicant will ensure that the site is posted with appropriate RF exposure warning signs. If access 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.


[View Tabular Results +](#)

Channel Selection	Channel 250 (97.9 MHz) ▾		
Antenna Type +	EPA Type 4: Two-Piece Spiral ▾		
Height (m)	<input type="text" value="13.5"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="55"/>	ERP-V (W)	<input type="text" value="55"/>
Num of Elements	<input type="text" value="1"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	

BROWN BROADCAST SERVICES

Michael D. Brown

3740 S.W. Comus St.

INCORPORATED

Portland, Oregon 97219-7418

503-245-6065