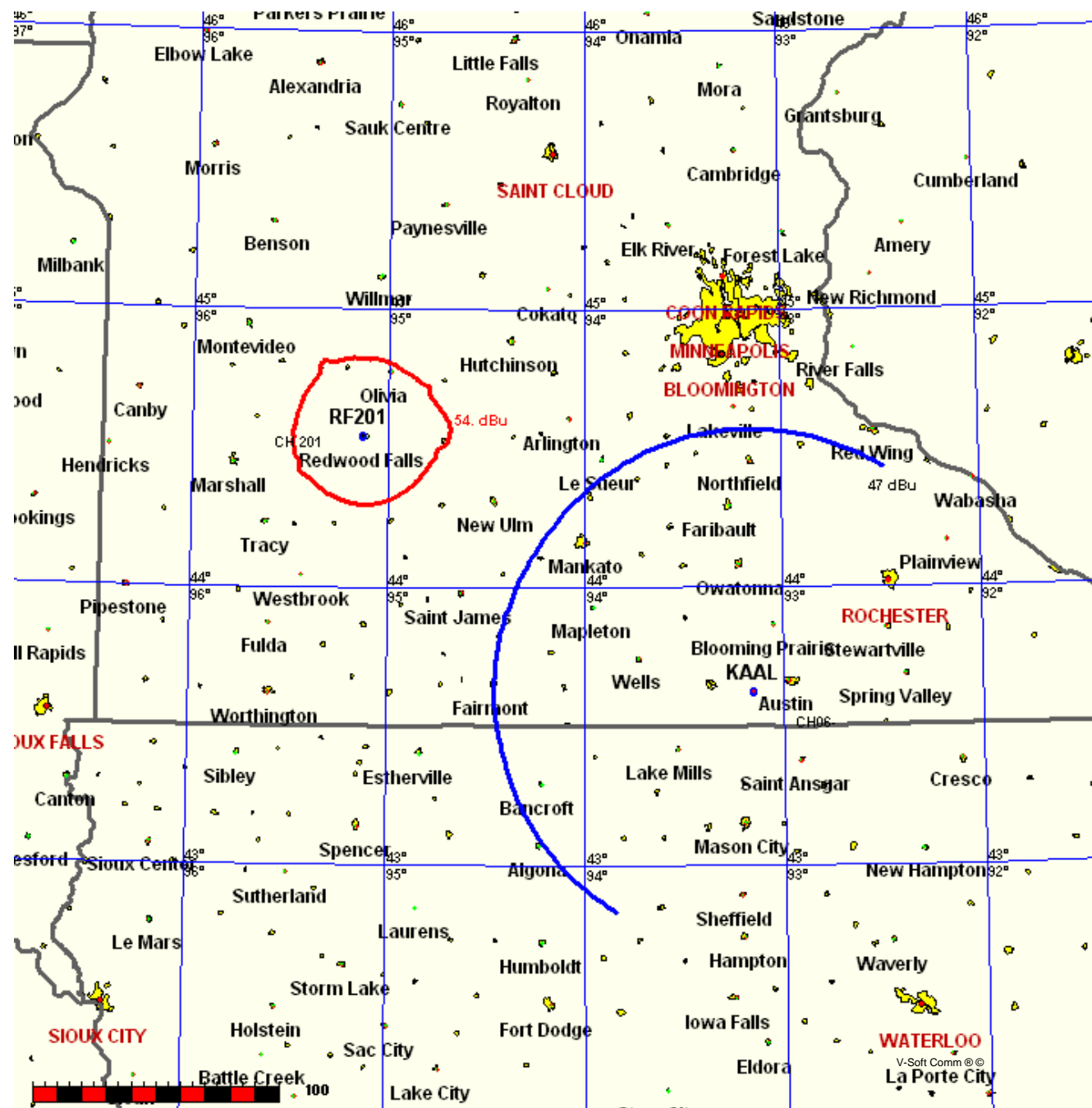


Minnesota Public Radio
Redwood Falls 201 v KAAL

FMCommander Single Allocation Study
10-04-2007

RF201	CH 201 A	KAAL	CH 06- 2C	BLCT2236
2.153 kW	392.4 M COR	100.0 kW,	696 M COR	
Intef. = 54.0 dBu		Prot. = 47 dBu		



10-04-2007 USGS 03 SEC Terrain Data

KAAL BLCT2236
 Channel = 06-2C
 Max ERP = 100 kW
 RCAMSL = 696 M
 N. Lat. 43 37 42.0
 W. Lng. 93 09 12.0
 Protected
 47 dBu

RF201
 Channel = 201A
 Max ERP = 2.1525 kW
 RCAMSL = 392.4 M
 N. Lat. 44 32 35.2
 W. Lng. 95 07 57.0
 Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
243.0	100.0000	0321.0	105.2	156.3	002.1525	0071.4	162.9	19.47
244.0	100.0000	0320.4	105.2	156.2	002.1525	0071.4	161.2	19.78
245.0	100.0000	0319.8	105.1	156.2	002.1525	0071.4	159.4	20.12
246.0	100.0000	0319.3	105.1	156.2	002.1525	0071.4	157.5	20.45
247.0	100.0000	0318.9	105.1	156.2	002.1525	0071.4	155.7	20.78
248.0	100.0000	0318.4	105.0	156.2	002.1525	0071.4	153.9	21.10
249.0	100.0000	0317.7	105.0	156.2	002.1525	0071.4	152.0	21.42
250.0	100.0000	0317.2	104.9	156.1	002.1525	0071.4	150.2	21.74
251.0	100.0000	0316.7	104.9	156.1	002.1525	0071.4	148.4	22.06
252.0	100.0000	0315.8	104.8	156.0	002.1525	0071.4	146.5	22.38
253.0	100.0000	0315.1	104.8	155.9	002.1525	0071.4	144.7	22.71
254.0	100.0000	0314.9	104.8	155.8	002.1525	0071.4	142.9	23.05
255.0	100.0000	0314.9	104.8	155.7	002.1525	0071.4	141.1	23.39
256.0	100.0000	0315.1	104.8	155.6	002.1525	0071.4	139.3	23.73
257.0	100.0000	0315.7	104.8	155.5	002.1525	0071.4	137.5	24.07
258.0	100.0000	0316.6	104.9	155.4	002.1525	0071.4	135.6	24.42
259.0	100.0000	0317.8	105.0	155.2	002.1525	0071.4	133.8	24.76
260.0	100.0000	0319.1	105.1	155.1	002.1525	0071.4	132.0	25.10
261.0	100.0000	0319.9	105.1	154.9	002.1525	0071.4	130.2	25.44
262.0	100.0000	0320.7	105.2	154.7	002.1525	0071.4	128.4	25.77
263.0	100.0000	0321.3	105.2	154.5	002.1525	0071.4	126.7	26.09
264.0	100.0000	0321.7	105.3	154.2	002.1525	0071.4	124.9	26.41
265.0	100.0000	0321.8	105.3	154.0	002.1525	0071.4	123.2	26.72
266.0	100.0000	0321.8	105.3	153.7	002.1525	0071.4	121.5	27.02
267.0	100.0000	0322.0	105.3	153.3	002.1525	0071.4	119.7	27.32
268.0	100.0000	0322.2	105.3	153.0	002.1525	0071.3	118.1	27.62
269.0	100.0000	0322.7	105.3	152.6	002.1525	0071.3	116.4	27.92
270.0	100.0000	0322.7	105.3	152.2	002.1525	0071.3	114.7	28.21
271.0	100.0000	0322.4	105.3	151.8	002.1525	0071.4	113.1	28.50
272.0	100.0000	0321.8	105.3	151.3	002.1525	0071.4	111.5	28.79
273.0	100.0000	0321.4	105.2	150.8	002.1525	0071.5	110.0	29.08
274.0	100.0000	0321.0	105.2	150.3	002.1525	0071.5	108.4	29.37
275.0	100.0000	0320.4	105.2	149.7	002.1525	0071.6	106.9	29.65
276.0	100.0000	0319.8	105.1	149.1	002.1525	0071.6	105.4	29.94
277.0	100.0000	0319.3	105.1	148.5	002.1525	0071.7	104.0	30.22

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
278.0	100.0000	0318.8	105.0	147.9	002.1525	0071.8	102.6	30.50
279.0	100.0000	0318.6	105.0	147.2	002.1525	0071.8	101.2	30.79
280.0	100.0000	0318.5	105.0	146.5	002.1525	0071.8	099.8	31.07
281.0	100.0000	0318.7	105.0	145.8	002.1525	0071.9	098.5	31.36
282.0	100.0000	0319.0	105.1	145.0	002.1525	0072.1	097.2	31.65
283.0	100.0000	0318.9	105.1	144.2	002.1525	0072.3	096.0	31.94
284.0	100.0000	0318.3	105.0	143.4	002.1525	0072.5	094.8	32.22
285.0	100.0000	0318.0	105.0	142.5	002.1525	0072.8	093.7	32.50
286.0	100.0000	0317.2	104.9	141.6	002.1525	0072.8	092.6	32.75
287.0	100.0000	0315.6	104.8	140.6	002.1525	0072.6	091.6	32.98
288.0	100.0000	0313.9	104.7	139.6	002.1525	0072.8	090.7	33.21
289.0	100.0000	0312.9	104.6	138.6	002.1525	0073.0	089.9	33.44
290.0	100.0000	0312.0	104.5	137.6	002.1525	0073.3	089.0	33.67
291.0	100.0000	0311.8	104.5	136.5	002.1525	0073.6	088.2	33.89
292.0	100.0000	0312.2	104.5	135.5	002.1525	0073.9	087.4	34.11
293.0	100.0000	0312.4	104.6	134.4	002.1525	0074.1	086.7	34.31
294.0	100.0000	0312.2	104.6	133.2	002.1525	0074.2	086.0	34.48
295.0	100.0000	0311.6	104.5	132.1	002.1525	0074.6	085.5	34.65
296.0	100.0000	0310.8	104.4	130.9	002.1525	0074.8	085.0	34.78
297.0	100.0000	0310.6	104.4	129.7	002.1525	0075.1	084.6	34.91
298.0	100.0000	0310.3	104.4	128.5	002.1525	0075.2	084.2	35.01
299.0	100.0000	0309.8	104.4	127.3	002.1525	0075.4	084.0	35.09
300.0	100.0000	0309.3	104.3	126.0	002.1525	0075.8	083.7	35.17
301.0	100.0000	0308.9	104.3	124.8	002.1525	0076.2	083.6	35.22
302.0	100.0000	0308.8	104.3	123.5	002.1525	0076.4	083.5	35.26
303.0	100.0000	0308.9	104.3	122.3	002.1525	0076.6	083.5	35.28
304.0	100.0000	0309.0	104.3	121.0	002.1525	0077.0	083.5	35.30
305.0	100.0000	0309.0	104.3	119.8	002.1525	0077.6	083.6	35.30
306.0	100.0000	0308.7	104.3	118.6	002.1525	0078.1	083.8	35.27
307.0	100.0000	0308.4	104.2	117.3	002.1525	0078.9	084.1	35.24
308.0	100.0000	0308.1	104.2	116.1	002.1525	0079.2	084.4	35.16
309.0	100.0000	0308.0	104.2	114.9	002.1525	0079.4	084.8	35.07
310.0	100.0000	0308.4	104.2	113.7	002.1525	0079.6	085.2	34.97
311.0	100.0000	0309.5	104.3	112.5	002.1525	0080.0	085.7	34.87
312.0	100.0000	0310.4	104.4	111.4	002.1525	0080.5	086.2	34.76
313.0	100.0000	0310.9	104.4	110.2	002.1525	0081.5	086.8	34.64
314.0	100.0000	0311.0	104.5	109.1	002.1525	0083.2	087.5	34.54
315.0	100.0000	0310.8	104.4	108.0	002.1525	0085.9	088.3	34.45
316.0	100.0000	0310.6	104.4	107.0	002.1525	0087.3	089.1	34.30
317.0	100.0000	0311.4	104.5	106.0	002.1525	0087.5	090.0	34.08
318.0	100.0000	0313.1	104.6	104.9	002.1525	0086.5	090.8	33.82
319.0	100.0000	0313.9	104.7	104.0	002.1525	0085.2	091.7	33.52
320.0	100.0000	0314.2	104.7	103.0	002.1525	0085.4	092.8	33.27
321.0	100.0000	0314.5	104.7	102.1	002.1525	0085.8	093.8	33.02
322.0	100.0000	0314.7	104.7	101.2	002.1525	0086.5	095.0	32.77
323.0	100.0000	0314.7	104.7	100.4	002.1525	0087.3	096.2	32.52
324.0	100.0000	0314.6	104.7	099.6	002.1525	0088.9	097.4	32.29
325.0	100.0000	0314.7	104.7	098.8	002.1525	0091.1	098.7	32.09
326.0	100.0000	0314.9	104.8	098.1	002.1525	0093.8	100.0	31.89
327.0	100.0000	0315.1	104.8	097.4	002.1525	0096.2	101.3	31.68
328.0	100.0000	0315.3	104.8	096.7	002.1525	0099.7	102.7	31.51

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
329.0	100.0000	0315.6	104.8	096.1	002.1525	0103.8	104.1	31.35
330.0	100.0000	0315.8	104.8	095.5	002.1525	0106.2	105.6	31.13
331.0	100.0000	0315.9	104.8	094.9	002.1525	0107.2	107.1	30.85
332.0	100.0000	0315.9	104.8	094.3	002.1525	0107.2	108.6	30.54
333.0	100.0000	0316.0	104.8	093.8	002.1525	0107.1	110.1	30.24
334.0	100.0000	0316.1	104.8	093.3	002.1525	0106.8	111.7	29.93
335.0	100.0000	0316.3	104.9	092.9	002.1525	0106.6	113.3	29.63
336.0	100.0000	0316.7	104.9	092.4	002.1525	0106.7	114.8	29.35
337.0	100.0000	0317.0	104.9	092.0	002.1525	0107.1	116.5	29.07
338.0	100.0000	0317.1	104.9	091.6	002.1525	0107.6	118.1	28.80
339.0	100.0000	0317.1	104.9	091.2	002.1525	0108.1	119.8	28.52
340.0	100.0000	0317.2	104.9	090.9	002.1525	0108.5	121.5	28.24
341.0	100.0000	0317.3	104.9	090.6	002.1525	0108.7	123.2	27.95
342.0	100.0000	0317.4	104.9	090.3	002.1525	0108.8	124.9	27.65
343.0	100.0000	0317.3	104.9	090.0	002.1525	0109.1	126.6	27.35
344.0	100.0000	0317.3	104.9	089.8	002.1525	0109.3	128.4	27.04
345.0	100.0000	0317.3	104.9	089.6	002.1525	0109.4	130.1	26.71
346.0	100.0000	0317.4	104.9	089.3	002.1525	0109.6	131.9	26.38
347.0	100.0000	0317.7	105.0	089.1	002.1525	0109.8	133.7	26.04
348.0	100.0000	0317.7	105.0	089.0	002.1525	0109.9	135.5	25.69
349.0	100.0000	0317.6	105.0	088.8	002.1525	0110.3	137.3	25.35
350.0	100.0000	0317.6	105.0	088.7	002.1525	0110.6	139.1	25.01
351.0	100.0000	0317.3	104.9	088.6	002.1525	0110.9	140.9	24.66
352.0	100.0000	0317.0	104.9	088.5	002.1525	0111.0	142.7	24.33
353.0	100.0000	0316.8	104.9	088.4	002.1525	0111.2	144.5	23.99
354.0	100.0000	0316.6	104.9	088.3	002.1525	0111.3	146.3	23.67
355.0	100.0000	0316.7	104.9	088.2	002.1525	0111.4	148.1	23.36
356.0	100.0000	0316.5	104.9	088.2	002.1525	0111.5	150.0	23.06
357.0	100.0000	0315.5	104.8	088.2	002.1525	0111.5	151.8	22.76
358.0	100.0000	0315.1	104.8	088.2	002.1525	0111.5	153.6	22.46
359.0	100.0000	0314.8	104.7	088.2	002.1525	0111.5	155.5	22.16
000.0	100.0000	0314.7	104.7	088.2	002.1525	0111.5	157.3	21.86
001.0	100.0000	0314.6	104.7	088.2	002.1525	0111.5	159.1	21.54
002.0	100.0000	0314.3	104.7	088.2	002.1525	0111.4	160.9	21.22
003.0	100.0000	0313.9	104.7	088.3	002.1525	0111.4	162.8	20.89

Channel-Six TV Protection Study

KAAL LI 06- 2C Dom Int 100.000 kW 320 M HAAT VHN
Austin MN 696.0 M COR AMSL
Lat= 43 37 42.0, Lng= 93 09 12.0
Kaal-tv, Llc BLCT2236
Fac ID# 18285
Dist.=188.31 km, Azi=122.1°, Rev Azi=303.4°

Direct line HAAT Grade B, 47 dBu= 104.3 km & Grade A= 54.94 km

Distance from reference to Grade B = 84.01 km

Cutoff Dist from Full Service or Class CA= 265

Maximum Co-located power= 1.1 kW

KAAL Signal Contour at Reference location = 26.6 dBu

CH. 201, U/D ratio = 7.0 dB, Maximum FM signal = 54.0 dBu , 6 dB credit added

TV/FM D to U values

47.0	54.0	55.0	59.7	63.0	65.4	71.0	72.1	79.0	79.4	87.0	86.7
48.0	54.7	56.0	60.4	64.0	66.1	72.0	73.0	80.0	80.3	88.0	87.7
49.0	55.3	57.0	61.1	65.0	66.9	73.0	73.9	81.0	81.2	89.0	88.6
50.0	56.0	58.0	61.7	66.0	67.7	74.0	74.7	82.0	82.1	90.0	89.5
51.0	56.7	59.0	62.4	67.0	68.6	75.0	75.7	83.0	83.0	91.0	89.5
52.0	57.5	60.0	63.1	68.0	69.4	76.0	76.6	84.0	83.9	92.0	89.5
53.0	58.2	61.0	63.9	69.0	70.3	77.0	77.5	85.0	84.9	93.0	89.5
54.0	58.9	62.0	64.6	70.0	71.2	78.0	78.4	86.0	85.8	94.0	89.5