

Doug Vernier - Telecommunications Consultants
401 Main St., Suite 213, Cedar Falls, IA 50613

Allocation Map Study
Regents Of The University Of Minnesota
CH# 293D - 106.5 MHz, Pwr= 0.006 kW, HAAT= 63.4 M, COR= 332 M
Average Protected F(50-50)= 4.07 km
Omni-directional

DISPLAY DATES
DATA 11-04-09
SEARCH 11-04-09

REFERENCE
44 56 47.4 N.
93 19 24.1 W.

CH CITY	CALL	TYPE STATE	ANT AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
296C2 Coon Rapids	WFMP	LIC NCX MN	48.2 228.4	19.4 BLH20020628ABW	45 03 45.0 93 08 21.0	22.000 179	5.2 454	48.4 Wfmp-fm, Lic	-29.1*<****
293D St. Louis Park	KUOM-FM	LIC _CX MN	235.5 55.5	0.1 BLED20050414AAG	44 56 46.0 93 19 27.0	0.008 77	14.4 345	4.6 Regents Of The University	-16.2*< **
293D St. Louis Park	KDXL	LIC _CX MN	263.2 83.2	3.0 BMLD20020814AAT	44 56 36.0 93 21 39.0	0.008 26	10.7 297	3.3 Independent School Distric	-11.0*< ***
294D West St. Paul	K294AM	LIC _CN MN	107.6 287.8	20.2 BLFT19960116TB	44 53 29.0 93 04 46.0	0.170 96	17.9 360	12.1 Fresh Air, Incorporated	1.3
293D Elko	K293BA	LIC _C_ MN	176.9 356.9	41.7 BLFT20061228AAR	44 34 19.0 93 17 41.0	0.196 179	36.4 394	10.7 Refuge Media Group (new Bo	17.1
292A River Falls	WEVR-FM	LIC NCN WI	96.7 277.2	53.5 BLH19981112KK	44 53 19.0 92 39 02.0	6.000 100	47.3 393	30.8 Hanten Broadcasting Compan	16.2
291C3 Elk River	KLCI	LIC _C_ MN	318.8 138.6	43.3 BLH20010710AAW	45 14 20.0 93 41 14.0	9.100 164	3.9 453	39.5 Milestone Radio Lic	3.5
293C1 Fairmont	KFMC-FM	LIC _CN MN	212.6 31.8	173.2 BLH19850225LM	43 37 45.0 94 29 00.0	100.000 113	151.9 478	56.1 Woodward Broadcasting, Inc	103.9
290C3 Red Wing	KWNG	LIC NCN MN	125.5 306.0	78.1 BLH19930217KA	44 32 14.0 92 31 21.0	12.000 100	3.8 381	38.2 Sorenson Broadcasting Corp	39.5
294C2 Chetek	WATQ	LIC _CN WI	77.5 258.6	128.2 BLH19970602KI	45 11 04.0 91 43 52.0	35.000 178	75.6 510	51.1 Capstar Tx Limited Partner	70.9
293A Sunburg	KLFN	LIC _CX MN	288.9 107.7	150.5 BLH20021108AA0	45 22 14.0 95 08 28.0	6.000 100	86.9 483	28.5 Lakeland Broadcasting Comp	111.0
295C3 Dassel	KARP-FM	LIC NCN MN	276.9 96.0	98.0 BLH19990405KB	45 02 43.0 94 33 32.0	7.000 169	3.6 518	37.3 Iowa City Broadcasting Com	60.3
290C3 Winthrop	KHRS	LIC _CX MN	240.3 59.5	105.0 BLH20080708AKE	44 28 25.0 94 28 15.0	23.000 105	4.1 413	39.7 Ketelsen Radio, Inc.	64.9
294C1 Brainerd	WJJY-FM	LIC _CX MN	334.1 153.3	185.6 BMLH20020125AAH	46 26 34.0 94 22 55.0	100.000 170	93.2 554	62.8 BI Broadcasting, Inc.	117.3
295C0 Rochester	KROC-FM	LIC _CN MN	154.7 335.3	168.8 BLH7076	43 34 15.0 92 25 37.0	100.000 338	10.8 755	75.8 Cumulus Licensing Lic	92.8
292A Sarona	WPLT	LIC ZCX WI	51.9 232.8	132.8 BLH20080922AA0	45 40 28.0 91 58 52.0	3.400 134	31.7 520	21.4 Zoe Communications, Inc.	102.9

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 = 2, 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 protected contour.
"***" Existing Facility - licensed for 8 watts, as opposed to proposal for 6 watts
"****" Share channel station
"*****" 3rd adjacent channel is protected under existing license which has a higher HAAT and ERP

Reference station has protected zone issue: AM tower

HOW TO READ THE FM COMPUTER PRINT-OUT

Class D Reference Station

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table. Contour distances are in kilometers and are predicted using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "* OUT *" shows the greatest distance in kilometers of overlap (or smallest distance of clearance) between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap. Since class D stations are able to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database.

Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

The columns labeled "INT" and "PRO" contain the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the minimum spacings the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows the **available clear space** separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

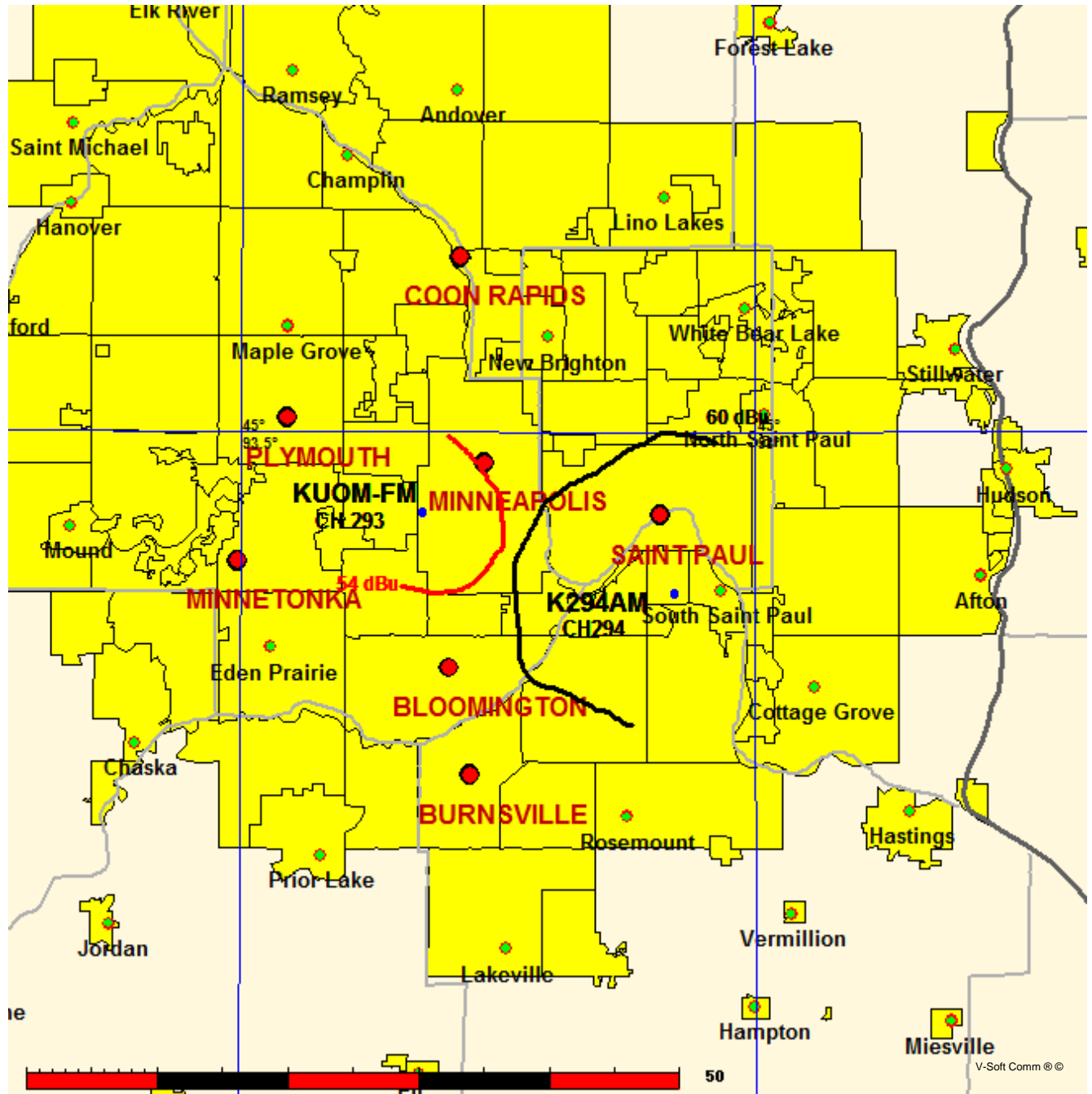
The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

Allocation Map Study
Regents Of The University Of Minnesota

FMCommander Single Allocation Study - 11-06-2009 - FCC NGDC 30 Sec
KUOM-FM's Overlaps (In= -2.57 km, Out= 1.27 km)

KUOM-FM CH 293 D
Lat= 44 56 47.4, Lng= 93 19 24.1
0.006 kW 63.4 M HAAT, 332 M COR
Prot.= 60 dBu, Intef.= 54 dBu

K294AM CH 294 D BLFT19960116TB
Lat= 44 53 29.0, Lng= 93 04 46.0
0.17 kW 96 M HAAT, 360 M COR
Prot.= 60 dBu, Intef.= 54 dBu



11-06-2009 FCC NGDC 30 Sec Terrain Data

K294AM BLFT19960116TB

Channel = 294D

Max ERP = 0.17 kW

RCAMSL = 360 M

N. Lat. 44 53 29.0

W. Lng. 93 04 46.0

Protected

60 dBu

KUOM-FM

Channel = 293D

Max ERP = 0.006 kW

RCAMSL = 332 M

N. Lat. 44 56 47.4

W. Lng. 93 19 24.1

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
228.0	000.1700	0092.6	011.3	141.6	000.0060	0084.6	017.5	37.72	
229.0	000.1700	0094.3	011.4	141.9	000.0060	0084.8	017.3	37.89	
230.0	000.1700	0096.1	011.5	142.3	000.0060	0085.0	017.1	38.08	
231.0	000.1700	0098.2	011.6	142.7	000.0060	0085.2	016.9	38.27	
232.0	000.1700	0100.8	011.8	143.3	000.0060	0085.4	016.7	38.46	
233.0	000.1700	0104.0	011.9	143.9	000.0060	0085.6	016.5	38.65	
234.0	000.1700	0107.7	012.1	144.6	000.0060	0085.4	016.3	38.81	
235.0	000.1700	0111.4	012.3	145.3	000.0060	0085.1	016.1	38.96	
236.0	000.1700	0114.7	012.5	145.9	000.0060	0084.9	015.8	39.13	
237.0	000.1700	0117.4	012.6	146.4	000.0060	0084.9	015.6	39.32	
238.0	000.1700	0119.3	012.7	146.7	000.0060	0085.0	015.4	39.52	
239.0	000.1700	0120.9	012.8	147.0	000.0060	0085.1	015.2	39.72	
240.0	000.1700	0122.1	012.9	147.2	000.0060	0085.2	014.9	39.77	
241.0	000.1700	0122.9	012.9	147.3	000.0060	0085.2	014.7	40.03	
242.0	000.1700	0123.2	012.9	147.3	000.0060	0085.2	014.5	40.29	
243.0	000.1700	0123.2	012.9	147.2	000.0060	0085.2	014.3	40.55	
244.0	000.1700	0123.1	012.9	147.1	000.0060	0085.1	014.0	40.82	
245.0	000.1700	0122.8	012.9	146.9	000.0060	0085.0	013.8	41.09	
246.0	000.1700	0122.4	012.9	146.7	000.0060	0085.0	013.6	41.37	
247.0	000.1700	0121.7	012.9	146.4	000.0060	0084.9	013.4	41.65	
248.0	000.1700	0120.9	012.8	146.0	000.0060	0084.9	013.2	41.94	
249.0	000.1700	0119.6	012.8	145.5	000.0060	0085.0	013.0	42.23	
250.0	000.1700	0118.3	012.7	145.0	000.0060	0085.3	012.8	42.54	
251.0	000.1700	0116.7	012.6	144.4	000.0060	0085.5	012.6	42.83	
252.0	000.1700	0115.1	012.5	143.7	000.0060	0085.5	012.4	43.11	
253.0	000.1700	0113.6	012.5	143.1	000.0060	0085.3	012.2	43.35	
254.0	000.1700	0112.5	012.4	142.4	000.0060	0085.0	012.0	43.60	
255.0	000.1700	0111.3	012.3	141.8	000.0060	0084.7	011.9	43.84	
256.0	000.1700	0110.5	012.3	141.2	000.0060	0084.5	011.7	44.10	
257.0	000.1700	0110.1	012.3	140.6	000.0060	0084.4	011.5	44.37	
258.0	000.1700	0109.8	012.3	140.0	000.0060	0084.3	011.3	44.66	
259.0	000.1700	0109.4	012.2	139.4	000.0060	0084.3	011.1	44.94	
260.0	000.1700	0109.1	012.2	138.8	000.0060	0084.3	011.0	45.23	
261.0	000.1700	0108.9	012.2	138.2	000.0060	0084.4	010.8	45.53	
262.0	000.1700	0108.8	012.2	137.5	000.0060	0084.4	010.6	45.83	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
263.0	000.1700	0109.0	012.2	136.9	000.0060	0084.4	010.4	46.14
264.0	000.1700	0109.0	012.2	136.2	000.0060	0084.2	010.3	46.41
265.0	000.1700	0108.7	012.2	135.4	000.0060	0083.8	010.1	46.65
266.0	000.1700	0108.5	012.2	134.5	000.0060	0083.4	009.9	46.88
267.0	000.1700	0108.6	012.2	133.7	000.0060	0083.2	009.8	47.14
268.0	000.1700	0108.6	012.2	132.8	000.0060	0083.3	009.6	47.43
269.0	000.1700	0108.6	012.2	131.9	000.0060	0083.4	009.5	47.71
270.0	000.1700	0108.7	012.2	131.0	000.0060	0083.3	009.3	47.95
271.0	000.1700	0109.1	012.2	130.1	000.0060	0082.8	009.2	48.19
272.0	000.1700	0109.7	012.2	129.1	000.0060	0082.3	009.0	48.43
273.0	000.1700	0110.3	012.3	128.2	000.0060	0082.1	008.9	48.70
274.0	000.1700	0111.0	012.3	127.1	000.0060	0082.2	008.7	48.98
275.0	000.1700	0111.6	012.3	126.0	000.0060	0082.2	008.6	49.25
276.0	000.1700	0112.4	012.4	124.9	000.0060	0081.7	008.4	49.47
277.0	000.1700	0113.0	012.4	123.7	000.0060	0080.8	008.3	49.63
278.0	000.1700	0113.3	012.4	122.4	000.0060	0080.5	008.2	49.80
279.0	000.1700	0113.4	012.4	121.0	000.0060	0080.6	008.1	49.98
280.0	000.1700	0113.4	012.4	119.6	000.0060	0080.5	008.0	50.13
281.0	000.1700	0113.2	012.4	118.1	000.0060	0081.4	008.0	50.35
282.0	000.1700	0112.7	012.4	116.5	000.0060	0084.1	007.9	50.70
283.0	000.1700	0111.8	012.4	114.9	000.0060	0085.8	007.9	50.89
284.0	000.1700	0110.6	012.3	113.3	000.0060	0085.6	008.0	50.84
285.0	000.1700	0109.3	012.2	111.7	000.0060	0085.0	008.0	50.70
286.0	000.1700	0108.2	012.2	110.2	000.0060	0083.4	008.0	50.44
287.0	000.1700	0107.3	012.1	108.6	000.0060	0080.8	008.1	50.09
288.0	000.1700	0106.5	012.1	107.1	000.0060	0079.2	008.1	49.84
289.0	000.1700	0106.0	012.0	105.7	000.0060	0077.7	008.1	49.59
290.0	000.1700	0105.6	012.0	104.2	000.0060	0076.3	008.2	49.37
291.0	000.1700	0105.4	012.0	102.8	000.0060	0075.8	008.2	49.25
292.0	000.1700	0105.1	012.0	101.3	000.0060	0075.1	008.3	49.06
293.0	000.1700	0104.7	012.0	100.0	000.0060	0073.9	008.3	48.81
294.0	000.1700	0104.4	012.0	098.6	000.0060	0073.3	008.4	48.61
295.0	000.1700	0103.9	011.9	097.3	000.0060	0072.7	008.5	48.39
296.0	000.1700	0103.6	011.9	096.0	000.0060	0071.9	008.6	48.15
297.0	000.1700	0103.5	011.9	094.7	000.0060	0070.8	008.6	47.87
298.0	000.1700	0103.6	011.9	093.4	000.0060	0069.7	008.7	47.60
299.0	000.1700	0103.8	011.9	092.2	000.0060	0068.8	008.8	47.34
300.0	000.1700	0104.1	011.9	090.9	000.0060	0069.3	008.9	47.25
301.0	000.1700	0104.5	012.0	089.7	000.0060	0070.0	009.0	47.17
302.0	000.1700	0105.0	012.0	088.5	000.0060	0070.6	009.1	47.09
303.0	000.1700	0105.5	012.0	087.3	000.0060	0071.1	009.2	46.96
304.0	000.1700	0105.5	012.0	086.3	000.0060	0071.2	009.3	46.75
305.0	000.1700	0104.9	012.0	085.4	000.0060	0071.3	009.4	46.48
306.0	000.1700	0103.6	011.9	084.7	000.0060	0071.4	009.6	46.16
307.0	000.1700	0101.9	011.8	084.2	000.0060	0071.4	009.8	45.79
308.0	000.1700	0100.1	011.7	083.7	000.0060	0071.3	010.0	45.41
309.0	000.1700	0098.4	011.6	083.3	000.0060	0071.2	010.2	45.03
310.0	000.1700	0097.1	011.6	082.8	000.0060	0071.0	010.4	44.67
311.0	000.1700	0096.4	011.5	082.2	000.0060	0070.9	010.6	44.35
312.0	000.1700	0095.9	011.5	081.6	000.0060	0070.8	010.8	44.06
313.0	000.1700	0095.5	011.5	081.0	000.0060	0070.6	011.0	43.76

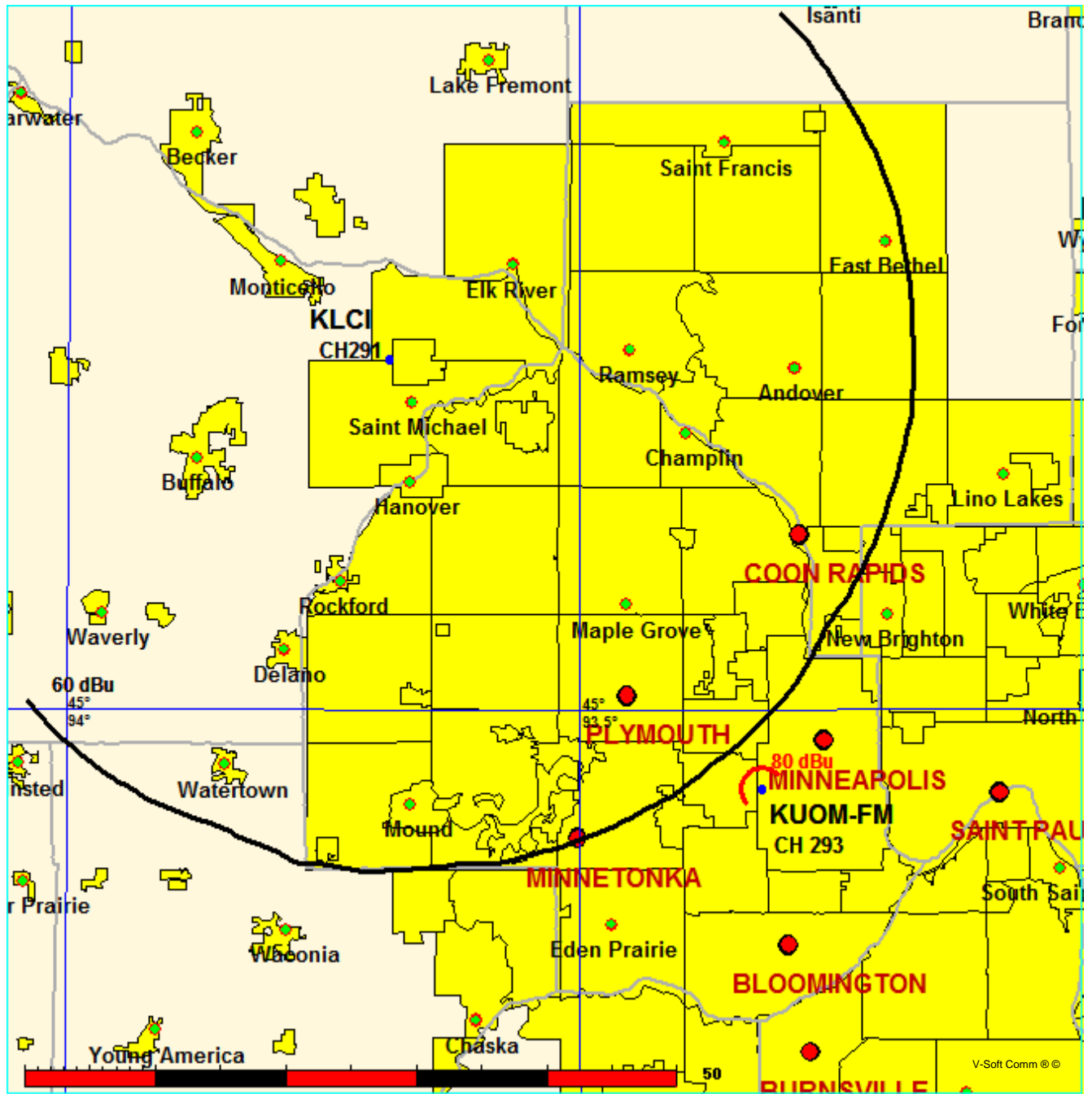
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
314.0	000.1700	0095.1	011.4	080.5	000.0060	0070.4	011.1	43.45
315.0	000.1700	0094.6	011.4	080.0	000.0060	0070.3	011.3	43.14
316.0	000.1700	0093.8	011.4	079.6	000.0060	0070.1	011.5	42.82
317.0	000.1700	0092.6	011.3	079.4	000.0060	0070.0	011.7	42.49
318.0	000.1700	0091.3	011.2	079.2	000.0060	0069.9	011.9	42.15
319.0	000.1700	0090.1	011.2	079.0	000.0060	0069.8	012.1	41.83
320.0	000.1700	0089.3	011.1	078.8	000.0060	0069.7	012.3	41.53
321.0	000.1700	0088.7	011.1	078.5	000.0060	0069.6	012.5	41.24
322.0	000.1700	0088.0	011.0	078.2	000.0060	0069.4	012.7	40.94
323.0	000.1700	0087.1	011.0	078.1	000.0060	0069.3	012.9	40.65
324.0	000.1700	0086.3	010.9	077.9	000.0060	0069.2	013.1	40.36
325.0	000.1700	0085.5	010.9	077.8	000.0060	0069.1	013.3	40.08
326.0	000.1700	0084.8	010.8	077.6	000.0060	0069.0	013.5	39.81
327.0	000.1700	0084.2	010.8	077.5	000.0060	0068.9	013.6	39.54
328.0	000.1700	0084.1	010.8	077.3	000.0060	0068.7	013.8	39.29
329.0	000.1700	0084.5	010.8	076.9	000.0060	0068.5	014.0	39.04
330.0	000.1700	0085.2	010.9	076.5	000.0060	0068.2	014.2	38.79
331.0	000.1700	0085.8	010.9	076.2	000.0060	0067.9	014.3	38.55
332.0	000.1700	0086.0	010.9	075.9	000.0060	0067.8	014.5	38.32
333.0	000.1700	0086.1	010.9	075.7	000.0060	0067.7	014.7	38.09
334.0	000.1700	0086.4	010.9	075.5	000.0060	0067.6	014.9	37.86
335.0	000.1700	0086.9	011.0	075.2	000.0060	0067.4	015.1	37.88
336.0	000.1700	0087.6	011.0	075.0	000.0060	0067.3	015.2	37.70
337.0	000.1700	0088.6	011.1	074.6	000.0060	0067.2	015.4	37.53
338.0	000.1700	0089.5	011.1	074.4	000.0060	0067.1	015.6	37.36
339.0	000.1700	0090.1	011.2	074.2	000.0060	0067.0	015.8	37.18
340.0	000.1700	0090.9	011.2	073.9	000.0060	0066.9	016.0	37.00
341.0	000.1700	0091.7	011.3	073.7	000.0060	0066.8	016.2	36.81
342.0	000.1700	0092.6	011.3	073.5	000.0060	0066.6	016.4	36.63
343.0	000.1700	0093.4	011.3	073.3	000.0060	0066.4	016.6	36.43
344.0	000.1700	0094.4	011.4	073.1	000.0060	0066.2	016.8	36.24
345.0	000.1700	0094.9	011.4	073.1	000.0060	0066.1	017.0	36.05
346.0	000.1700	0095.0	011.4	073.1	000.0060	0066.1	017.2	35.88
347.0	000.1700	0095.0	011.4	073.1	000.0060	0066.2	017.4	35.72

Allocation Map Study
Regents Of The University Of Minnesota

FMCommander Single Allocation Study - 11-06-2009 - FCC NGDC 30 Sec
KUOM-FM's Overlaps (In= 35.78 km, Out= 3.55 km)

KUOM-FM CH 293 D
Lat= 44 56 47.4, Lng= 93 19 24.1
0.006 kW 63.4 M HAAT, 332 M COR
Prot.= 60 dBu, Intef.= 80 dBu

KLCI CH 291 C3 BLH20010710AAW
Lat= 45 14 20.0, Lng= 93 41 14.0
9.1 kW 164 M HAAT, 453 M COR
Prot.= 60 dBu, Intef.= 100 dBu



11-06-2009 FCC NGDC 30 Sec Terrain Data

KLCI BLH20010710AAW

Channel = 291C3

Max ERP = 9.1 kW

RCAMSL = 453 M

N. Lat. 45 14 20.0

W. Lng. 93 41 14.0

Protected

60 dBu

KUOM-FM

Channel = 293D

Max ERP = 0.006 kW

RCAMSL = 332 M

N. Lat. 44 56 47.4

W. Lng. 93 19 24.1

Interfering

80 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
079.0	009.1000	0175.7	040.3	015.1	000.0060	0071.2	041.6	22.09	
080.0	009.1000	0175.4	040.2	015.5	000.0060	0071.1	041.0	22.32	
081.0	009.1000	0175.0	040.2	015.9	000.0060	0071.0	040.3	22.56	
082.0	009.1000	0174.9	040.2	016.3	000.0060	0070.9	039.7	22.81	
083.0	009.1000	0174.9	040.2	016.7	000.0060	0070.8	039.1	23.06	
084.0	009.1000	0174.9	040.2	017.1	000.0060	0070.7	038.4	23.31	
085.0	009.1000	0174.5	040.2	017.4	000.0060	0070.6	037.8	23.57	
086.0	009.1000	0174.1	040.1	017.8	000.0060	0070.5	037.1	23.82	
087.0	009.1000	0173.9	040.1	018.1	000.0060	0070.3	036.4	24.08	
088.0	009.1000	0173.6	040.1	018.5	000.0060	0070.0	035.8	24.33	
089.0	009.1000	0173.8	040.1	018.9	000.0060	0069.8	035.1	24.58	
090.0	009.1000	0174.0	040.1	019.3	000.0060	0069.5	034.5	24.83	
091.0	009.1000	0174.2	040.1	019.7	000.0060	0069.4	033.8	25.10	
092.0	009.1000	0174.4	040.1	020.1	000.0060	0069.2	033.1	25.37	
093.0	009.1000	0174.3	040.1	020.5	000.0060	0069.0	032.5	25.65	
094.0	009.1000	0174.2	040.1	020.9	000.0060	0068.9	031.8	25.93	
095.0	009.1000	0174.3	040.1	021.2	000.0060	0068.6	031.1	26.22	
096.0	009.1000	0174.4	040.1	021.6	000.0060	0068.4	030.5	26.54	
097.0	009.1000	0174.1	040.1	021.9	000.0060	0068.2	029.8	26.88	
098.0	009.1000	0173.5	040.1	022.1	000.0060	0068.0	029.1	27.25	
099.0	009.1000	0172.6	040.0	022.3	000.0060	0067.9	028.4	27.64	
100.0	009.1000	0172.2	039.9	022.5	000.0060	0067.8	027.7	28.05	
101.0	009.1000	0172.0	039.9	022.8	000.0060	0067.6	027.0	28.46	
102.0	009.1000	0171.6	039.9	023.0	000.0060	0067.4	026.3	28.90	
103.0	009.1000	0171.2	039.8	023.2	000.0060	0067.3	025.6	29.35	
104.0	009.1000	0170.9	039.8	023.4	000.0060	0067.2	024.9	29.82	
105.0	009.1000	0170.6	039.8	023.6	000.0060	0067.1	024.2	30.30	
106.0	009.1000	0170.2	039.7	023.7	000.0060	0066.9	023.6	30.80	
107.0	009.1000	0169.8	039.7	023.9	000.0060	0066.9	022.9	31.31	
108.0	009.1000	0169.5	039.7	024.0	000.0060	0066.8	022.2	31.83	
109.0	009.1000	0169.3	039.6	024.1	000.0060	0066.6	021.5	32.36	
110.0	009.1000	0169.1	039.6	024.2	000.0060	0066.6	020.8	32.91	
111.0	009.1000	0169.0	039.6	024.3	000.0060	0066.5	020.1	33.46	
112.0	009.1000	0168.8	039.6	024.3	000.0060	0066.4	019.4	34.03	
113.0	009.1000	0168.5	039.6	024.3	000.0060	0066.5	018.7	34.61	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
114.0	009.1000	0168.1	039.5	024.2	000.0060	0066.5	018.0	35.20
115.0	009.1000	0167.8	039.5	024.1	000.0060	0066.7	017.3	35.81
116.0	009.1000	0167.5	039.5	023.9	000.0060	0066.8	016.6	36.42
117.0	009.1000	0167.2	039.4	023.7	000.0060	0067.0	016.0	37.03
118.0	009.1000	0166.7	039.4	023.3	000.0060	0067.2	015.3	37.67
119.0	009.1000	0166.0	039.3	022.8	000.0060	0067.6	014.6	38.19
120.0	009.1000	0165.2	039.2	022.2	000.0060	0068.0	013.9	39.07
121.0	009.1000	0164.8	039.2	021.5	000.0060	0068.4	013.3	40.02
122.0	009.1000	0164.8	039.2	021.0	000.0060	0068.8	012.6	41.01
123.0	009.1000	0165.3	039.2	020.6	000.0060	0069.0	011.9	42.06
124.0	009.1000	0166.2	039.3	020.3	000.0060	0069.1	011.2	43.18
125.0	009.1000	0167.2	039.4	019.9	000.0060	0069.3	010.5	44.34
126.0	009.1000	0168.0	039.5	019.3	000.0060	0069.6	009.8	45.56
127.0	009.1000	0168.5	039.6	018.4	000.0060	0070.1	009.2	46.84
128.0	009.1000	0168.9	039.6	017.1	000.0060	0070.7	008.5	48.14
129.0	009.1000	0169.2	039.6	015.5	000.0060	0071.1	007.8	49.43
130.0	009.1000	0169.4	039.7	013.4	000.0060	0071.9	007.2	50.97
131.0	009.1000	0169.6	039.7	010.8	000.0060	0071.5	006.6	52.54
132.0	009.1000	0169.6	039.7	007.4	000.0060	0068.6	006.0	53.85
133.0	009.1000	0169.3	039.6	003.0	000.0060	0068.0	005.5	55.50
134.0	009.1000	0169.0	039.6	357.6	000.0060	0069.3	005.0	57.28
135.0	009.1000	0168.8	039.6	351.1	000.0060	0068.5	004.6	58.69
136.0	009.1000	0168.8	039.6	343.3	000.0060	0065.6	004.2	59.75
137.0	009.1000	0168.8	039.6	334.3	000.0060	0061.9	003.9	60.44
138.0	009.1000	0168.7	039.6	324.2	000.0060	0051.6	003.8	59.45
139.0	009.1000	0168.2	039.5	313.9	000.0060	0054.2	003.8	59.70
140.0	009.1000	0167.6	039.5	304.2	000.0060	0049.5	004.0	58.04
141.0	009.1000	0167.3	039.4	295.5	000.0060	0046.3	004.3	56.24
142.0	009.1000	0167.4	039.4	287.8	000.0060	0044.3	004.6	54.51
143.0	009.1000	0167.7	039.5	281.1	000.0060	0045.6	005.0	53.40
144.0	009.1000	0168.0	039.5	275.6	000.0060	0049.9	005.5	52.69
145.0	009.1000	0168.2	039.5	271.1	000.0060	0048.4	006.0	50.71
146.0	009.1000	0168.2	039.5	267.6	000.0060	0046.6	006.6	48.75
147.0	009.1000	0168.0	039.5	265.0	000.0060	0044.2	007.2	46.72
148.0	009.1000	0167.4	039.4	263.0	000.0060	0042.7	007.9	44.99
149.0	009.1000	0166.8	039.4	261.5	000.0060	0041.7	008.5	43.51
150.0	009.1000	0166.3	039.3	260.2	000.0060	0040.9	009.2	42.12
151.0	009.1000	0166.2	039.3	258.9	000.0060	0040.3	009.8	40.83
152.0	009.1000	0166.3	039.3	257.7	000.0060	0039.9	010.5	39.60
153.0	009.1000	0166.3	039.3	256.8	000.0060	0039.6	011.1	38.43
154.0	009.1000	0166.3	039.3	256.0	000.0060	0039.3	011.8	37.31
155.0	009.1000	0166.2	039.3	255.5	000.0060	0039.1	012.5	36.24
156.0	009.1000	0166.0	039.3	255.0	000.0060	0039.0	013.2	35.24
157.0	009.1000	0166.0	039.3	254.6	000.0060	0038.9	013.8	34.32
158.0	009.1000	0165.8	039.3	254.4	000.0060	0038.9	014.5	33.47
159.0	009.1000	0165.5	039.2	254.3	000.0060	0038.9	015.2	32.86
160.0	009.1000	0165.4	039.2	254.1	000.0060	0039.0	015.9	32.27
161.0	009.1000	0165.2	039.2	254.0	000.0060	0039.0	016.6	31.68
162.0	009.1000	0164.8	039.2	254.1	000.0060	0039.0	017.2	31.09
163.0	009.1000	0164.5	039.1	254.1	000.0060	0039.0	017.9	30.52
164.0	009.1000	0164.6	039.1	254.1	000.0060	0039.0	018.6	29.95

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
165.0	009.1000	0164.5	039.1	254.1	000.0060	0039.0	019.3	29.38
166.0	009.1000	0164.2	039.1	254.2	000.0060	0038.9	020.0	28.82
167.0	009.1000	0164.0	039.1	254.4	000.0060	0038.9	020.6	28.27
168.0	009.1000	0163.6	039.0	254.6	000.0060	0038.9	021.3	27.74
169.0	009.1000	0162.9	039.0	255.0	000.0060	0039.0	022.0	27.23
170.0	009.1000	0161.7	038.8	255.4	000.0060	0039.1	022.7	26.75
171.0	009.1000	0160.6	038.7	255.9	000.0060	0039.3	023.3	26.30
172.0	009.1000	0160.0	038.6	256.2	000.0060	0039.4	024.0	25.84
173.0	009.1000	0160.0	038.6	256.4	000.0060	0039.5	024.7	25.38
174.0	009.1000	0160.3	038.7	256.5	000.0060	0039.5	025.3	24.93
175.0	009.1000	0160.5	038.7	256.7	000.0060	0039.6	026.0	24.49
176.0	009.1000	0160.6	038.7	256.9	000.0060	0039.6	026.7	24.08
177.0	009.1000	0160.7	038.7	257.1	000.0060	0039.7	027.3	23.68
178.0	009.1000	0160.7	038.7	257.3	000.0060	0039.8	028.0	23.30
179.0	009.1000	0161.0	038.7	257.5	000.0060	0039.8	028.7	22.92
180.0	009.1000	0161.4	038.8	257.7	000.0060	0039.9	029.3	22.57
181.0	009.1000	0161.7	038.8	257.9	000.0060	0039.9	030.0	22.23
182.0	009.1000	0162.1	038.9	258.2	000.0060	0040.0	030.7	21.92
183.0	009.1000	0161.9	038.8	258.5	000.0060	0040.2	031.3	21.65
184.0	009.1000	0161.5	038.8	258.9	000.0060	0040.3	032.0	21.40
185.0	009.1000	0161.2	038.8	259.3	000.0060	0040.5	032.6	21.17
186.0	009.1000	0160.5	038.7	259.8	000.0060	0040.7	033.2	20.96
187.0	009.1000	0160.3	038.7	260.1	000.0060	0040.8	033.9	20.74
188.0	009.1000	0160.3	038.7	260.5	000.0060	0041.0	034.5	20.52
189.0	009.1000	0160.6	038.7	260.8	000.0060	0041.2	035.2	20.30
190.0	009.1000	0161.4	038.8	261.0	000.0060	0041.3	035.8	20.07
191.0	009.1000	0161.4	038.8	261.3	000.0060	0041.6	036.5	19.87
192.0	009.1000	0159.8	038.6	262.0	000.0060	0041.9	037.0	19.73
193.0	009.1000	0157.7	038.4	262.7	000.0060	0042.4	037.6	19.62
194.0	009.1000	0156.2	038.2	263.3	000.0060	0042.9	038.1	19.49
195.0	009.1000	0155.6	038.1	263.7	000.0060	0043.2	038.7	19.34
196.0	009.1000	0155.2	038.1	264.2	000.0060	0043.5	039.3	19.17
197.0	009.1000	0154.9	038.1	264.6	000.0060	0043.8	039.9	19.02
198.0	009.1000	0154.3	038.0	265.0	000.0060	0044.2	040.5	18.90