

KUTC(FM)
Mount Pleasant, UT
Proposed Minor Modification
Of Licensed Facility

Application Overview:

KUTC(FM) (FCC Facility ID# 41895) proposes to modify its currently Permitted Facilities using the following parameters:

Tech Box:

Channel:	229
Class:	C
Antenna Coordinates:	N39-51-15, W111-42-17 (NAD 27)
ASRN:	N/A
Tower Height AGL:	22 m
COR AMSL:	2896 m
COR AGL:	16 m
COR HAAT:	709 m
ERP:	48 kW
Directional Antenna:	Yes - see Exhibit 7

Antenna Site City-Grade Coverage:

Exhibit 4 demonstrates that the proposed facility's antenna site provides city grade coverage of KUTC(FM)'s community of license – Mount Pleasant, UT. As can be seen in the Exhibit, 100% of Mount Pleasant's community boundaries are encompassed by the F(50,50) 70

dBu contour of the proposed facility. Also, no major terrain obstructions are located between the antenna site and the community.

Interference Study (Requesting Section 73.215 Contour Protection):

Exhibit 5 is a channel spacings study from the proposed KUTC(FM) antenna site. It notes that the proposed KUTC(FM) antenna site would otherwise be slightly shortspaced to:

-KUBL(FM) Salt Lake City, UT 227C (see BLH-20021203ACG)

-KODJ(FM) Salt Lake City, UT on 231C (see BLH-20061005ADE)

Therefore, the applicant requests Section 73.215 contour protection processing.

KUTC(FM) is eligible to request 73.215 Contour Protection towards KUBL(FM) as it complies with the minimum separation requirements on its second adjacent channel at its proposed antenna site. The channel spacings study in Exhibit 5 shows that the proposed KUTC(FM) 229C antenna location is spaced 98.89 kilometers from the KUBL(FM) site. In order to be eligible for 73.215 Contour Protection, the minimum “C to C” spacing for second adjacent channel stations must be at least 98.5 kilometers. The proposed KUTC(FM) 229C antenna site satisfies this requirement by 0.39 kilometers.

Using the facilities proposed herein, KUTC(FM) 229C complies with the contour protection requirements of Section 73.215 towards KUBL(FM). The attached overlap tabulation studies and overlap map in Exhibit 5A demonstrates that this application complies with the contour protection requirements of Section 73.215.

In reviewing the attached studies, it should be noted that since KUBL(FM) does not utilize maximum Class C facilities, the following overlap studies were conducted assuming “Maximized” Class C Facilities for KUBL(FM) (100 kW at an HAAT of 600 meters).

Using the KUTC(FM) 229C technical parameters proposed in this application, Exhibit 5A demonstrates that the proposed KUTC(FM) F(50,50) 60 dBu Protected Contour does not overlap the F(50,10) 100 dBu Interfering Contour of KUBL(FM) operations on Channel 227C. Likewise, Exhibit 5A demonstrates that the F(50,50) 60 dBu Protected Contour for KUBL(FM) does not overlap the proposed F(50,10) 100 dBu Interfering Contour of the instant KUTC(FM) application on 229C. Therefore, it appears as though the instant application meets the requirements of Section 73.215 towards KUBL(FM).

KUTC(FM) is eligible to request 73.215 Contour Protection towards KODJ(FM) as it complies with the minimum separation requirements on its second adjacent channel at its proposed antenna site. The channel spacings study in Exhibit 5 shows that the proposed KUTC(FM) antenna location is spaced 98.92 kilometers from the KODJ(FM) site. In order to be eligible for 73.215 Contour Protection, the minimum “C to C” spacing for second adjacent channel stations must be at least 98.5 kilometers. The proposed KUTC(FM) antenna site satisfies this requirement by 0.42 kilometers.

Using the facilities proposed herein, KUTC(FM) complies with the contour protection requirements of Section 73.215 towards KODJ(FM). The attached overlap tabulation studies and

overlap map in Exhibit 5B demonstrates that this application complies with the contour protection requirements of Section 73.215.

In reviewing the attached studies, it should be noted that since KODJ(FM) does not utilize Class C maximum class facilities, the following overlap studies were conducted assuming “Maximized” Class C Facilities for KODJ(FM) (100 kW at an HAAT of 600 meters).

Using the KUTC(FM) technical parameters proposed in this application, Exhibit 5B demonstrates that the proposed KUTC(FM) F(50,50) 60 dBu Protected Contour does not overlap the F(50,10) 100 dBu Interfering Contour of KODJ(FM) operations on Channel 231C. Likewise, Exhibit 5B demonstrates that the F(50,50) 60 dBu Protected Contour for KODJ(FM) does not overlap the proposed F(50,10) 100 dBu Interfering Contour of the instant KUTC(FM) application on 229C. Therefore, it appears as though the instant application meets the requirements of Section 73.215 towards KODJ(FM).

Downward Radiation Study (FM Model):

The proposed FM Facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OET Bulletin No. 65, Evaluating Compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (OET Bulletin 65, Second Edition 97-01, August, 1997). The Commission’s FM Model Power Density Prediction program was employed to determine the Field. Using the Shively 6800 Series antenna with 6 sections and 0.5 wavelength spacing, and the AGL height and ERP proposed in this application, the highest predicted power density 2

meters above ground is less than 89.4% of the Uncontrolled Standard with a Power Density of 178.8 microwatts per square centimeter 84 meters from the base of the tower.

Even though the site will fully comply with the Uncontrolled Site Standards, access to the transmitting site will be restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines.

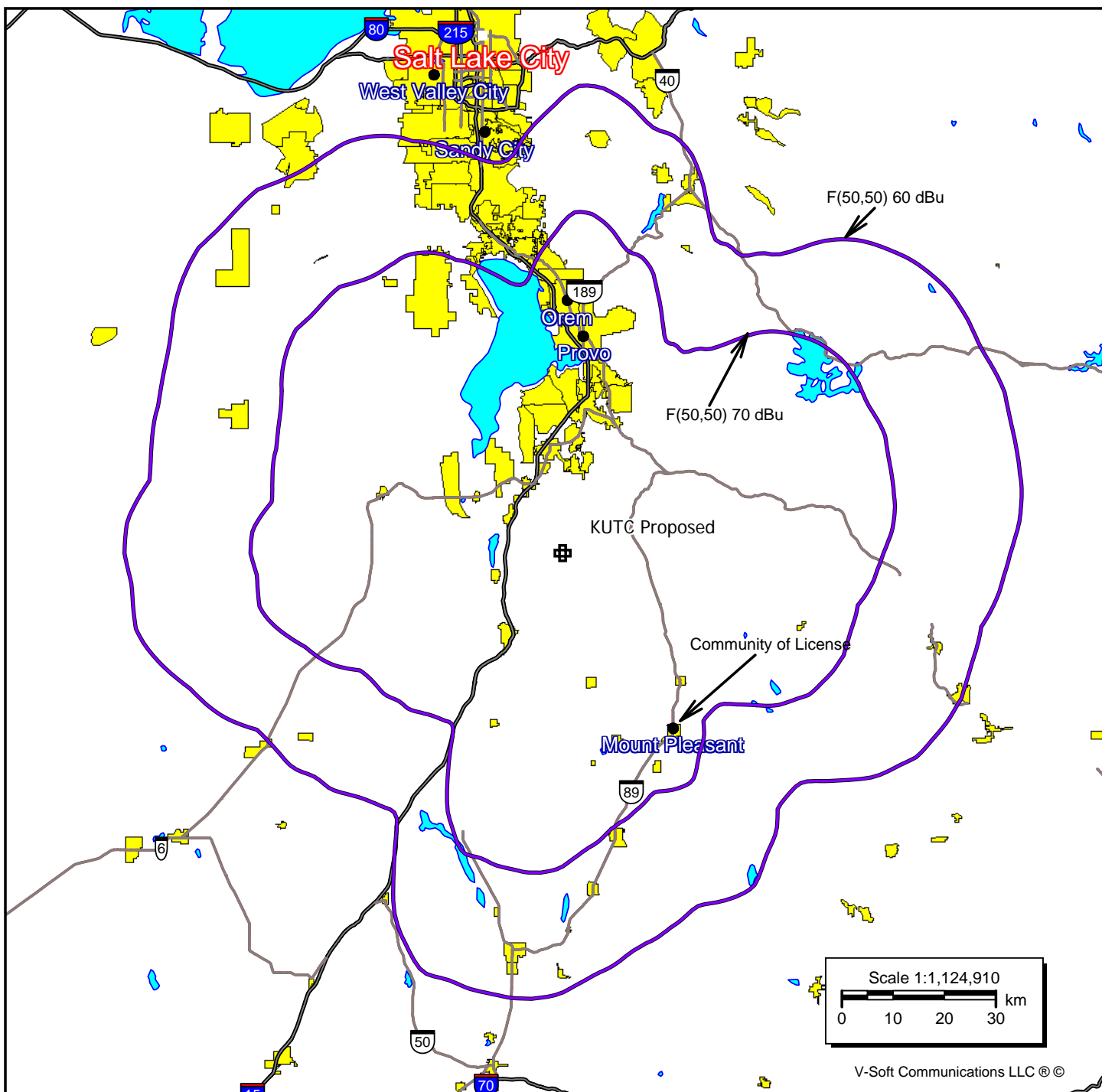
Existing Tower:

The proposed facility is exempt from environmental processing because the facility is not located at a location specified in Section 1.1307(a)(1)-(8) of the Commission's Rules and since the tower in question already exists.

Exhibit 4

Proposed Antenna Site Contour Map:

**F(50,50) Protected Contour
F(50,50) City-Grade Contour**



KUTC Proposed

Channel: 229C
Frequency: 93.7 MHz
Latitude: 39-51-15 N
Longitude: 111-42-17 W
COR AGL Height: 16.0 m
COR AMSL Height: 2896.0 m
Base Elevation: 2880.0 m
COR HAAT: 709.42 m
ERP: 48.00 kW
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Exhibit 5

Proposed Antenna Site Channel Spacings Study

KUTC(FM) Section 73.207 Channel Study

REFERENCE		DISPLAY DATES
39 51 15.0 N.	CLASS = C	DATA 07-09-13
111 42 17.0 W.	Current Spacings to 3rd Adj.	SEARCH 07-23-13
----- Channel 229 - 93.7 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
KUTC	CP -Z 229C	Mount Pleasant	UT	0.0	0.00	289.5	-289.5
AL1834	RSV-A 229C	Mount Pleasant	UT	127.6	40.57	289.5	-248.9
KUTC	LIC 229C	Richfield	UT	185.4	59.41	289.5	-230.1
KUBL-FM	LIC 227C	Salt Lake City	UT	335.0	98.89	104.5	-5.6
KODJ	LIC 231C	Salt Lake City	UT	335.0	98.92	104.5	-5.6
KSOP-FM	LIC 282C	Salt Lake City	UT	335.0	98.89	47.5	51.4
KZBQ	LIC 229C	Pocatello	ID	348.9	341.23	289.5	51.7
KYLZ	CP -Z 230C0	Enoch	UT	205.5	271.63	219.5	52.1

RSV-R = reserved - needs protection, RSV-A = allocation
All separation margins include rounding

Exhibit 5A

Section 73.215 Contour Overlap Tabulations

KUTC(FM) 229C

vs:

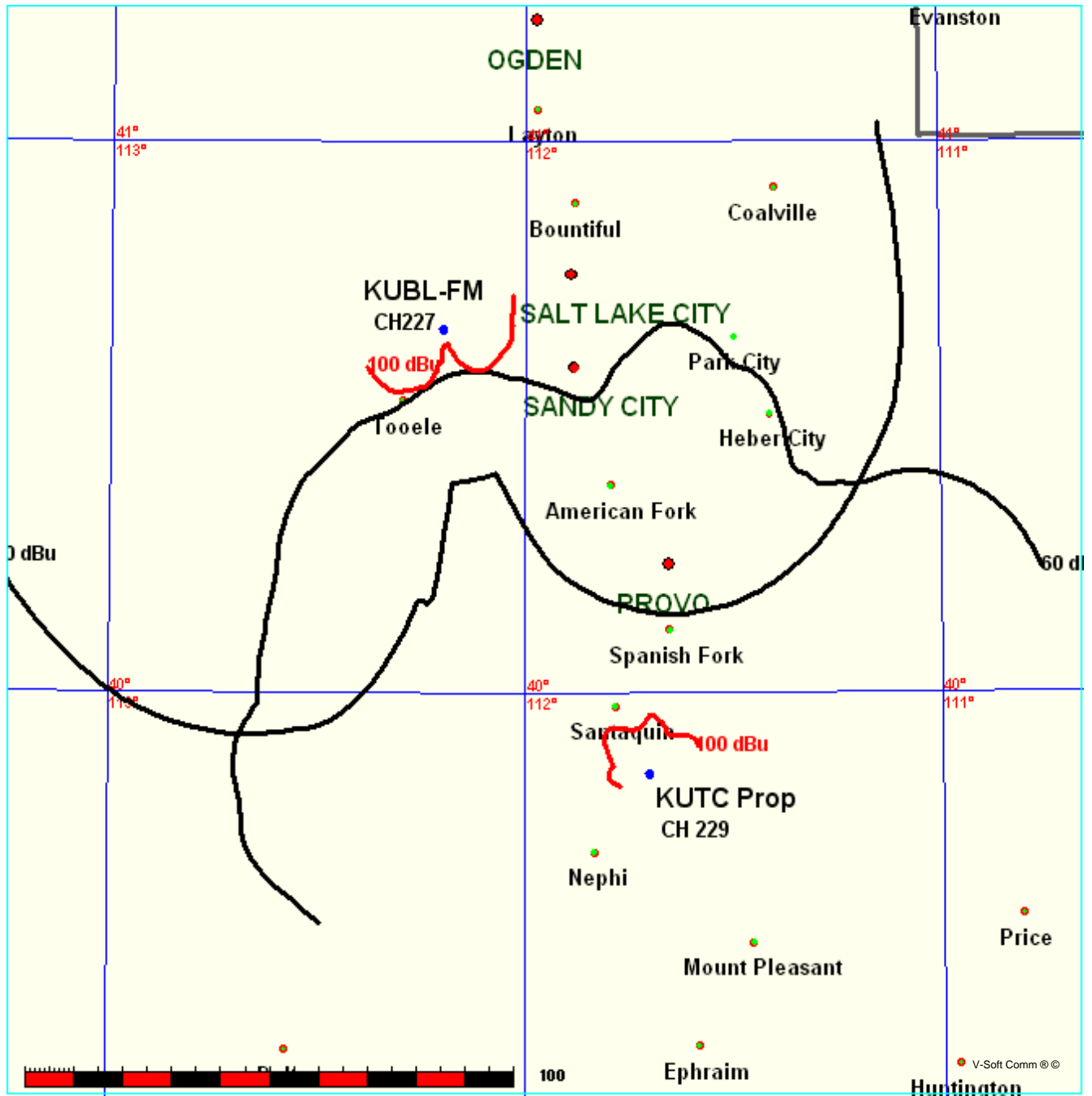
KUBL(FM) 227C

KUTC(FM) vs KUBL(FM) Section 73.215 Overlap Map

FMCommander Single Allocation Study - 07-23-2013 - NGDC 30 SEC
KUTC Prop's Overlaps (In= 3.61 km, Out= 36.37 km)

KUTC Prop CH 229 C DA
Lat= 39 51 15.0, Lng= 111 42 17.0
48.0 kW 709.42 M HAAT, 2896 M COR
Prot.= 60 dBu, Intef.= 100 dBu

KUBL-FM^ CH 227 C BLH20021203ACG
Lat= 40 39 34.0, Lng= 112 12 05.0
Max CIs: 100.0 kW 600 M HAAT, 2263 M COR
Prot.= 60 dBu, Intef.= 100 dBu



07-23-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

KUTC Prop

Channel = 229C

Max ERP = 48 kW

RCAMSL = 2896 M

N. Lat. 39 51 15.0

W. Lng. 111 42 17.0

Protected

60 dBu

KUBL-FM BLH20021203ACG

(^ Max Class Parameters)

Channel = 227C

Max ERP = 100 kW

RCAMSL = 2263 M

N. Lat. 40 39 34.0

W. Lng. 112 12 05.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
275.0	015.5952	0995.2	084.2	207.0	100.0000	0592.2	092.0	66.04	
276.0	015.1605	0985.2	083.7	207.0	100.0000	0593.1	090.5	66.53	
277.0	014.7320	0972.7	083.1	207.0	100.0000	0592.8	088.9	67.01	
278.0	014.3096	0958.9	082.5	206.9	100.0000	0591.8	087.4	67.48	
279.0	013.8933	0944.6	081.9	206.9	100.0000	0590.1	085.8	67.94	
280.0	013.4832	0930.7	081.3	206.7	100.0000	0588.1	084.3	68.39	
281.0	013.9968	0917.7	081.4	207.1	100.0000	0594.5	083.0	68.94	
282.0	014.5200	0908.4	081.6	207.5	100.0000	0601.7	081.6	69.49	
283.0	015.0528	0902.2	081.9	207.9	100.0000	0609.5	080.3	70.04	
284.0	015.5952	0896.8	082.1	208.4	100.0000	0617.4	079.0	70.59	
285.0	016.1472	0892.1	082.4	208.8	100.0000	0625.2	077.7	71.14	
286.0	016.7088	0887.8	082.7	209.3	100.0000	0633.0	076.3	71.68	
287.0	017.2800	0883.1	082.9	209.7	100.0000	0640.5	075.0	72.22	
288.0	017.8608	0877.4	083.1	210.1	100.0000	0647.4	073.6	72.75	
289.0	018.4512	0869.4	083.3	210.5	100.0000	0653.2	072.2	73.27	
290.0	019.0512	0859.5	083.4	210.7	100.0000	0658.0	070.8	73.78	
291.0	020.0312	0850.4	083.7	211.2	100.0000	0665.4	069.5	74.32	
292.0	021.0357	0843.0	084.0	211.7	100.0000	0672.8	068.1	74.85	
293.0	022.0648	0836.5	084.3	212.2	100.0000	0680.0	066.7	75.39	
294.0	023.1185	0831.1	084.7	212.6	100.0000	0687.1	065.3	75.93	
295.0	024.1968	0826.0	085.0	213.1	100.0000	0694.0	063.9	76.48	
296.0	025.2996	0821.5	085.3	213.6	100.0000	0700.7	062.4	77.04	
297.0	026.4271	0819.2	085.7	214.2	100.0000	0707.9	061.0	77.61	
298.0	027.5791	0819.7	086.2	214.8	100.0000	0715.8	059.6	78.21	
299.0	028.7557	0823.7	086.7	215.5	100.0000	0724.7	058.1	78.83	
300.0	029.9568	0829.7	087.4	216.2	100.0000	0734.1	056.7	79.47	
301.0	031.5706	0835.4	088.1	217.1	100.0000	0744.8	055.3	80.12	
302.0	033.2268	0839.3	088.7	218.0	100.0000	0754.4	053.8	80.78	
303.0	034.9252	0841.5	089.3	218.8	100.0000	0763.0	052.3	81.42	
304.0	036.6660	0842.1	089.9	219.6	100.0000	0770.5	050.8	82.06	
305.0	038.4492	0841.0	090.3	220.3	100.0000	0776.9	049.3	82.69	
306.0	040.2747	0838.5	090.7	221.0	100.0000	0782.5	047.8	83.31	
307.0	042.1425	0834.9	091.1	221.6	100.0000	0787.4	046.2	83.95	
308.0	044.0527	0830.4	091.5	222.1	100.0000	0791.6	044.7	84.60	
309.0	046.0052	0824.7	091.7	222.7	100.0000	0795.3	043.1	85.27	
310.0	048.0000	0818.6	092.0	223.1	100.0000	0798.5	041.5	85.96	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
311.0	048.0000	0813.1	091.8	223.0	100.0000	0797.6	039.9	86.63
312.0	048.0000	0808.6	091.7	222.8	100.0000	0796.6	038.3	87.31
313.0	048.0000	0805.8	091.6	222.7	100.0000	0795.7	036.7	88.01
314.0	048.0000	0805.1	091.6	222.7	100.0000	0795.2	035.1	88.73
315.0	048.0000	0806.8	091.6	222.7	100.0000	0795.2	033.5	89.46
316.0	048.0000	0809.4	091.7	222.7	100.0000	0795.3	031.9	90.21
317.0	048.0000	0812.1	091.8	222.6	100.0000	0795.1	030.3	91.01
318.0	048.0000	0814.5	091.9	222.5	100.0000	0794.3	028.7	91.85
319.0	048.0000	0815.9	091.9	222.3	100.0000	0792.4	027.1	92.74
320.0	048.0000	0815.7	091.9	221.8	100.0000	0789.0	025.5	93.66
321.0	046.0052	0814.1	091.4	220.0	100.0000	0774.7	024.0	94.46
322.0	044.0527	0812.5	090.9	218.0	100.0000	0753.9	022.6	95.21
323.0	042.1425	0812.9	090.4	215.7	100.0000	0727.5	021.2	95.89
324.0	040.2747	0816.7	090.1	213.3	100.0000	0696.5	019.8	96.52
325.0	038.4492	0824.2	089.8	210.8	100.0000	0659.2	018.5	97.06
326.0	036.6660	0835.8	089.7	208.2	100.0000	0613.4	017.1	97.46
327.0	034.9252	0853.0	089.7	205.4	100.0000	0565.1	015.8	97.76
328.0	033.2268	0875.8	089.7	202.4	100.0000	0517.4	014.4	98.10
329.0	031.5706	0901.7	089.9	198.8	100.0000	0470.4	013.1	99.03
330.0	029.9568	0926.3	089.9	194.0	100.0000	0383.2	011.9	99.15
331.0	029.2781	0945.2	090.1	188.7	100.0000	0218.9	010.8	96.19
332.0	028.6072	0956.1	090.1	181.4	100.0000	0106.1	009.9	91.23
333.0	027.9441	0959.3	089.9	172.5	100.0000	-0103.1	009.4	81.30
334.0	027.2888	0956.5	089.5	162.8	100.0000	-0008.4	009.4	81.42
335.0	026.6412	0948.8	089.1	153.3	100.0000	0132.4	009.7	93.47
336.0	026.0014	0936.8	088.6	144.9	100.0000	0256.6	010.4	98.18
337.0	025.3694	0920.4	087.9	138.0	100.0000	0357.9	011.4	99.39
338.0	024.7452	0898.7	087.2	132.6	100.0000	0419.8	012.7	98.73
339.0	024.1287	0870.4	086.2	128.9	100.0000	0453.0	014.3	97.31
340.0	023.5200	0835.6	085.0	126.5	100.0000	0472.6	016.1	96.13
341.0	024.7452	0795.9	084.4	123.6	100.0000	0496.3	017.5	95.36
342.0	026.0014	0754.7	083.6	121.6	100.0000	0512.1	019.0	94.38
343.0	027.2888	0713.0	082.7	120.1	100.0000	0522.0	020.6	93.28
344.0	028.6072	0671.7	081.7	119.1	100.0000	0527.8	022.3	92.11
345.0	029.9568	0632.9	080.8	118.3	100.0000	0531.6	024.0	90.98
346.0	031.3375	0596.7	079.8	117.7	100.0000	0534.2	025.7	89.90
347.0	032.7492	0564.4	078.8	117.4	100.0000	0535.5	027.4	88.83
348.0	034.1921	0536.5	077.8	117.2	100.0000	0536.2	029.1	87.84
349.0	035.6661	0514.6	077.0	116.9	100.0000	0537.7	030.7	87.01
350.0	037.1712	0499.4	076.5	116.1	100.0000	0540.6	032.1	86.40
351.0	038.1919	0491.2	076.2	115.1	100.0000	0544.7	033.3	85.91
352.0	039.2264	0491.2	076.5	113.5	100.0000	0552.2	034.2	85.61
353.0	040.2747	0504.0	077.6	110.8	100.0000	0567.4	034.9	85.62
354.0	041.3368	0532.5	079.6	106.9	100.0000	0593.1	035.2	85.91
355.0	042.4128	0562.0	081.4	103.3	100.0000	0625.3	035.9	86.18
356.0	043.5026	0590.4	083.0	100.2	100.0000	0646.5	036.8	86.10
357.0	044.6062	0617.9	084.3	097.8	100.0000	0651.9	038.0	85.68
358.0	045.7236	0646.9	085.6	095.5	100.0000	0653.5	039.2	85.15
359.0	046.8549	0676.9	087.0	093.4	100.0000	0656.2	040.6	84.61
000.0	048.0000	0712.7	088.5	091.2	100.0000	0659.8	042.0	84.04
001.0	048.0000	0748.3	089.7	089.5	100.0000	0661.4	043.6	83.42

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
002.0	048.0000	0775.2	090.6	088.4	100.0000	0663.0	045.2	82.80
003.0	048.0000	0779.6	090.7	088.4	100.0000	0663.0	046.8	82.19
004.0	048.0000	0777.6	090.7	088.6	100.0000	0662.7	048.3	81.61
005.0	048.0000	0770.9	090.5	089.0	100.0000	0662.1	049.9	81.03
006.0	048.0000	0752.7	089.8	089.9	100.0000	0660.9	051.4	80.47
007.0	048.0000	0732.7	089.2	090.8	100.0000	0659.9	052.9	79.91
008.0	048.0000	0708.9	088.3	091.9	100.0000	0659.1	054.3	79.36
009.0	048.0000	0682.4	087.4	093.0	100.0000	0657.0	055.8	78.81
010.0	048.0000	0650.3	086.3	094.3	100.0000	0654.6	057.2	78.28
011.0	048.0000	0620.3	085.2	095.5	100.0000	0653.5	058.6	77.76
012.0	048.0000	0597.7	084.3	096.4	100.0000	0652.8	060.0	77.26
013.0	048.0000	0588.6	083.9	096.9	100.0000	0652.3	061.4	76.76
014.0	048.0000	0587.0	083.9	097.1	100.0000	0652.2	062.8	76.27
015.0	048.0000	0581.2	083.6	097.5	100.0000	0652.0	064.3	75.80
016.0	048.0000	0567.3	083.0	098.2	100.0000	0651.6	065.6	75.35
017.0	048.0000	0551.1	082.2	099.1	100.0000	0650.4	066.9	74.91
018.0	048.0000	0531.9	081.1	100.1	100.0000	0647.0	068.2	74.45
019.0	048.0000	0506.6	079.7	101.5	100.0000	0639.6	069.4	73.97
020.0	048.0000	0482.2	078.1	102.9	100.0000	0628.6	070.6	73.44
021.0	048.0000	0458.5	076.4	104.4	100.0000	0614.3	071.8	72.86
022.0	048.0000	0433.1	074.5	106.0	100.0000	0599.6	072.9	72.28
023.0	048.0000	0406.1	072.5	107.6	100.0000	0587.5	074.0	71.74
024.0	048.0000	0381.8	070.8	109.0	100.0000	0578.5	075.1	71.22
025.0	048.0000	0359.5	069.3	110.3	100.0000	0570.4	076.2	70.71
026.0	048.0000	0344.1	068.2	111.1	100.0000	0565.0	077.3	70.23
027.0	048.0000	0342.3	068.1	111.3	100.0000	0564.0	078.5	69.82
028.0	048.0000	0346.3	068.4	111.2	100.0000	0564.7	079.7	69.43
029.0	048.0000	0345.4	068.3	111.3	100.0000	0563.8	080.8	69.02
030.0	048.0000	0340.7	068.0	111.7	100.0000	0561.8	082.0	68.60
031.0	048.0000	0339.7	067.9	111.8	100.0000	0560.8	083.1	68.20
032.0	048.0000	0348.9	068.5	111.5	100.0000	0562.6	084.4	67.82
033.0	048.0000	0364.5	069.6	111.0	100.0000	0566.1	085.8	67.45
034.0	048.0000	0376.2	070.5	110.6	100.0000	0568.3	087.2	67.06

07-23-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

KUBL-FM BLH20021203ACG
 (^ Max Class Parameters)
 Channel = 227C
 Max ERP = 100 kW
 RCAMSL = 2263 M
 N. Lat. 40 39 34.0
 W. Lng. 112 12 05.0
 Protected
 60 dBu

KUTC Prop

Channel = 229C
 Max ERP = 48 kW
 RCAMSL = 2896 M
 N. Lat. 39 51 15.0
 W. Lng. 111 42 17.0
 Interfering
 100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
095.0	100.0000	0653.9	093.9	032.0	048.0000	0348.5	096.1	55.14	
096.0	100.0000	0653.2	093.8	032.4	048.0000	0354.7	094.6	55.78	
097.0	100.0000	0652.3	093.8	032.8	048.0000	0361.4	093.1	56.44	
098.0	100.0000	0651.8	093.8	033.2	048.0000	0367.8	091.6	57.10	
099.0	100.0000	0650.6	093.7	033.6	048.0000	0372.7	090.1	57.73	
100.0	100.0000	0647.5	093.6	034.0	048.0000	0376.3	088.6	58.34	
101.0	100.0000	0642.6	093.4	034.3	048.0000	0378.9	087.0	58.94	
102.0	100.0000	0635.9	093.2	034.6	048.0000	0381.0	085.4	59.54	
103.0	100.0000	0627.7	092.9	034.8	048.0000	0382.6	083.8	60.14	
104.0	100.0000	0618.3	092.5	035.0	048.0000	0384.2	082.1	60.75	
105.0	100.0000	0608.5	092.1	035.2	048.0000	0385.7	080.5	61.36	
106.0	100.0000	0599.8	091.8	035.3	048.0000	0387.5	078.9	61.97	
107.0	100.0000	0592.1	091.5	035.5	048.0000	0389.6	077.3	62.58	
108.0	100.0000	0585.1	091.2	035.7	048.0000	0392.0	075.7	63.20	
109.0	100.0000	0578.6	091.0	035.9	048.0000	0394.7	074.1	63.83	
110.0	100.0000	0572.1	090.7	036.0	048.0000	0397.2	072.5	64.45	
111.0	100.0000	0565.9	090.4	036.2	048.0000	0399.5	070.9	65.06	
112.0	100.0000	0559.9	090.1	036.3	048.0000	0401.6	069.3	65.66	
113.0	100.0000	0554.5	089.9	036.4	048.0000	0403.7	067.7	66.27	
114.0	100.0000	0549.7	089.6	036.5	048.0000	0405.8	066.1	66.87	
115.0	100.0000	0545.3	089.4	036.6	048.0000	0407.7	064.5	67.47	
116.0	100.0000	0541.1	089.2	036.6	048.0000	0409.3	062.9	68.06	
117.0	100.0000	0537.2	088.9	036.7	048.0000	0410.5	061.4	68.66	
118.0	100.0000	0533.1	088.7	036.7	048.0000	0410.9	059.8	69.24	
119.0	100.0000	0528.4	088.4	036.7	048.0000	0409.8	058.2	69.80	
120.0	100.0000	0522.7	088.1	036.5	048.0000	0406.9	056.6	70.32	
121.0	100.0000	0516.1	087.7	036.3	048.0000	0402.1	055.1	70.79	
122.0	100.0000	0508.8	087.3	036.0	048.0000	0396.4	053.5	71.24	
123.0	100.0000	0501.2	086.8	035.6	048.0000	0390.4	052.0	71.67	
124.0	100.0000	0493.2	086.3	035.1	048.0000	0385.2	050.4	72.11	
125.0	100.0000	0485.0	085.8	034.5	048.0000	0380.6	048.9	72.55	
126.0	100.0000	0476.7	085.3	033.9	048.0000	0375.3	047.4	72.97	
127.0	100.0000	0468.4	084.7	033.1	048.0000	0366.5	046.0	73.29	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
128.0	100.0000	0460.3	084.2	032.3	048.0000	0353.2	044.6	73.48
129.0	100.0000	0452.1	083.6	031.3	048.0000	0341.3	043.2	73.71
130.0	100.0000	0443.6	083.0	030.2	048.0000	0339.9	041.8	74.24
131.0	100.0000	0434.9	082.3	029.0	048.0000	0345.6	040.5	74.98
132.0	100.0000	0425.8	081.7	027.6	048.0000	0344.7	039.3	75.50
133.0	100.0000	0416.3	081.0	026.0	048.0000	0343.9	038.1	76.02
134.0	100.0000	0406.1	080.2	024.3	048.0000	0375.7	037.0	77.40
135.0	100.0000	0394.9	079.4	022.3	048.0000	0425.5	036.0	79.14
136.0	100.0000	0382.7	078.5	020.1	048.0000	0480.9	035.1	80.69
137.0	100.0000	0369.9	077.5	017.7	048.0000	0539.3	034.3	82.14
138.0	100.0000	0357.5	076.6	015.2	048.0000	0579.2	033.7	83.18
139.0	100.0000	0345.6	075.8	012.7	048.0000	0590.0	033.0	83.65
140.0	100.0000	0333.4	074.9	010.0	048.0000	0649.3	032.6	84.91
141.0	100.0000	0319.9	073.9	007.2	048.0000	0727.8	032.3	86.13
142.0	100.0000	0305.0	072.8	004.2	048.0000	0777.1	032.2	86.72
143.0	100.0000	0288.8	071.5	001.1	048.0000	0750.8	032.3	86.36
144.0	100.0000	0271.8	070.1	357.9	045.5661	0642.5	032.8	84.49
145.0	100.0000	0254.6	068.6	354.8	042.1734	0555.4	033.3	82.33
146.0	100.0000	0238.1	067.3	351.9	039.1540	0491.0	034.0	80.51
147.0	100.0000	0222.8	065.9	349.3	036.0755	0509.8	034.7	80.17
148.0	100.0000	0208.8	064.6	346.8	032.4850	0570.1	035.6	80.47
149.0	100.0000	0194.3	063.3	344.5	029.2677	0652.3	036.5	80.99
150.0	100.0000	0177.2	061.6	342.3	026.3641	0742.9	037.9	81.13
151.0	100.0000	0159.6	059.7	340.2	023.7969	0826.9	039.6	80.83
152.0	100.0000	0145.9	057.9	338.5	024.4564	0886.4	041.2	80.86
153.0	100.0000	0135.9	056.5	336.9	025.4019	0921.3	042.5	80.83
154.0	100.0000	0122.4	054.6	335.6	026.2774	0942.6	044.4	80.42
155.0	100.0000	0103.0	051.4	334.4	027.0231	0953.9	047.5	79.45
156.0	100.0000	0081.4	047.1	333.6	027.5581	0958.3	051.9	77.98
157.0	100.0000	0062.0	042.6	333.1	027.9053	0959.2	056.4	76.45
158.0	100.0000	0041.8	035.9	333.0	027.9724	0959.3	063.2	74.17
159.0	100.0000	0021.1	031.0	332.9	028.0090	0959.3	068.1	72.62
160.0	100.0000	0004.4	031.0	332.5	028.3044	0958.4	068.2	72.64
161.0	100.0000	-0002.9	031.0	332.0	028.6016	0956.2	068.2	72.64
162.0	100.0000	-0004.1	031.0	331.6	028.8985	0952.4	068.3	72.62
163.0	100.0000	-0010.2	031.0	331.1	029.1953	0947.0	068.4	72.58
164.0	100.0000	-0025.5	031.0	330.7	029.4913	0940.1	068.6	72.52
165.0	100.0000	-0044.8	031.0	330.2	029.7865	0931.7	068.7	72.45
166.0	100.0000	-0056.6	031.0	329.8	030.2457	0922.2	068.8	72.38
167.0	100.0000	-0066.5	031.0	329.4	030.9334	0911.8	069.0	72.33
168.0	100.0000	-0079.6	031.0	329.0	031.6204	0900.9	069.2	72.27
169.0	100.0000	-0094.6	031.0	328.6	032.3071	0890.0	069.4	72.20
170.0	100.0000	-0107.2	031.0	328.1	032.9939	0879.3	069.6	72.12
171.0	100.0000	-0114.1	031.0	327.7	033.6775	0869.3	069.8	72.04
172.0	100.0000	-0109.6	031.0	327.3	034.3594	0860.0	070.0	71.96
173.0	100.0000	-0095.7	031.0	326.9	035.0380	0851.7	070.2	71.88
174.0	100.0000	-0069.0	031.0	326.5	035.7126	0844.4	070.5	71.81
175.0	100.0000	-0029.3	031.0	326.2	036.3821	0838.2	070.7	71.74
176.0	100.0000	0009.3	031.0	325.8	037.0469	0832.9	071.0	71.68
177.0	100.0000	0037.0	033.9	324.1	040.0591	0817.4	068.8	72.51
178.0	100.0000	0043.0	036.3	322.5	043.0400	0812.3	067.1	73.28

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
179.0	100.0000	0050.8	039.3	320.5	046.9118	0814.9	065.2	74.28
180.0	100.0000	0067.5	043.9	317.3	048.0000	0813.0	062.2	75.33
181.0	100.0000	0094.6	049.8	312.7	048.0000	0806.3	058.6	76.46
182.0	100.0000	0121.9	054.5	308.5	045.0657	0827.5	056.4	77.22
183.0	100.0000	0128.4	055.5	307.2	042.4952	0834.1	056.7	76.95
184.0	100.0000	0124.6	054.9	307.1	042.3837	0834.4	057.8	76.55
185.0	100.0000	0125.2	055.0	306.6	041.3019	0836.6	058.5	76.19
186.0	100.0000	0147.1	058.1	303.4	035.6541	0841.9	057.9	75.83
187.0	100.0000	0172.3	061.1	300.2	030.3399	0831.1	057.6	75.13
188.0	100.0000	0198.1	063.6	297.5	027.0386	0819.1	057.7	74.45
189.0	100.0000	0229.7	066.5	294.4	023.5835	0828.9	057.9	73.89
190.0	100.0000	0263.9	069.4	291.4	020.4470	0847.1	058.4	73.29
191.0	100.0000	0297.4	072.2	288.5	018.1799	0873.4	059.2	72.79
192.0	100.0000	0326.5	074.4	286.3	016.9061	0886.2	060.3	72.24
193.0	100.0000	0354.7	076.4	284.3	015.7832	0895.1	061.5	71.62
194.0	100.0000	0382.7	078.5	282.5	014.7603	0905.3	062.9	70.98
195.0	100.0000	0407.7	080.3	280.9	013.9254	0919.4	064.4	70.39
196.0	100.0000	0427.8	081.8	279.7	013.6126	0935.2	065.9	69.95
197.0	100.0000	0444.6	083.0	278.8	013.9743	0947.4	067.5	69.68
198.0	100.0000	0459.6	084.1	278.1	014.2650	0957.4	069.1	69.35
199.0	100.0000	0472.3	085.0	277.6	014.4579	0963.9	070.7	68.95
200.0	100.0000	0484.5	085.8	277.3	014.6074	0968.7	072.4	68.52
201.0	100.0000	0497.2	086.6	277.0	014.7408	0973.0	074.0	68.08
202.0	100.0000	0511.0	087.4	276.7	014.8704	0976.9	075.7	67.62
203.0	100.0000	0525.9	088.3	276.4	015.0030	0980.8	077.4	67.16
204.0	100.0000	0541.7	089.2	276.1	015.1324	0984.4	079.2	66.68
205.0	100.0000	0558.2	090.1	275.8	015.2256	0986.9	080.9	66.20
206.0	100.0000	0575.1	090.8	275.7	015.2789	0988.2	082.7	65.70
207.0	100.0000	0592.7	091.5	275.7	015.3029	0988.8	084.4	65.19
208.0	100.0000	0610.6	092.2	275.7	015.3065	0988.9	086.1	64.68
209.0	100.0000	0628.3	092.9	275.7	015.2984	0988.7	087.9	64.16
210.0	100.0000	0645.6	093.6	275.7	015.2785	0988.2	089.6	63.63
211.0	100.0000	0662.2	094.2	275.8	015.2437	0987.3	091.4	63.09
212.0	100.0000	0677.8	094.8	275.9	015.1921	0986.0	093.1	62.55
213.0	100.0000	0692.2	095.4	276.1	015.1237	0984.2	094.9	62.00
214.0	100.0000	0705.8	095.9	276.3	015.0422	0981.9	096.6	61.43

Exhibit 5B

Section 73.215 Contour Overlap Tabulations

KUTC(FM) 229C

vs:

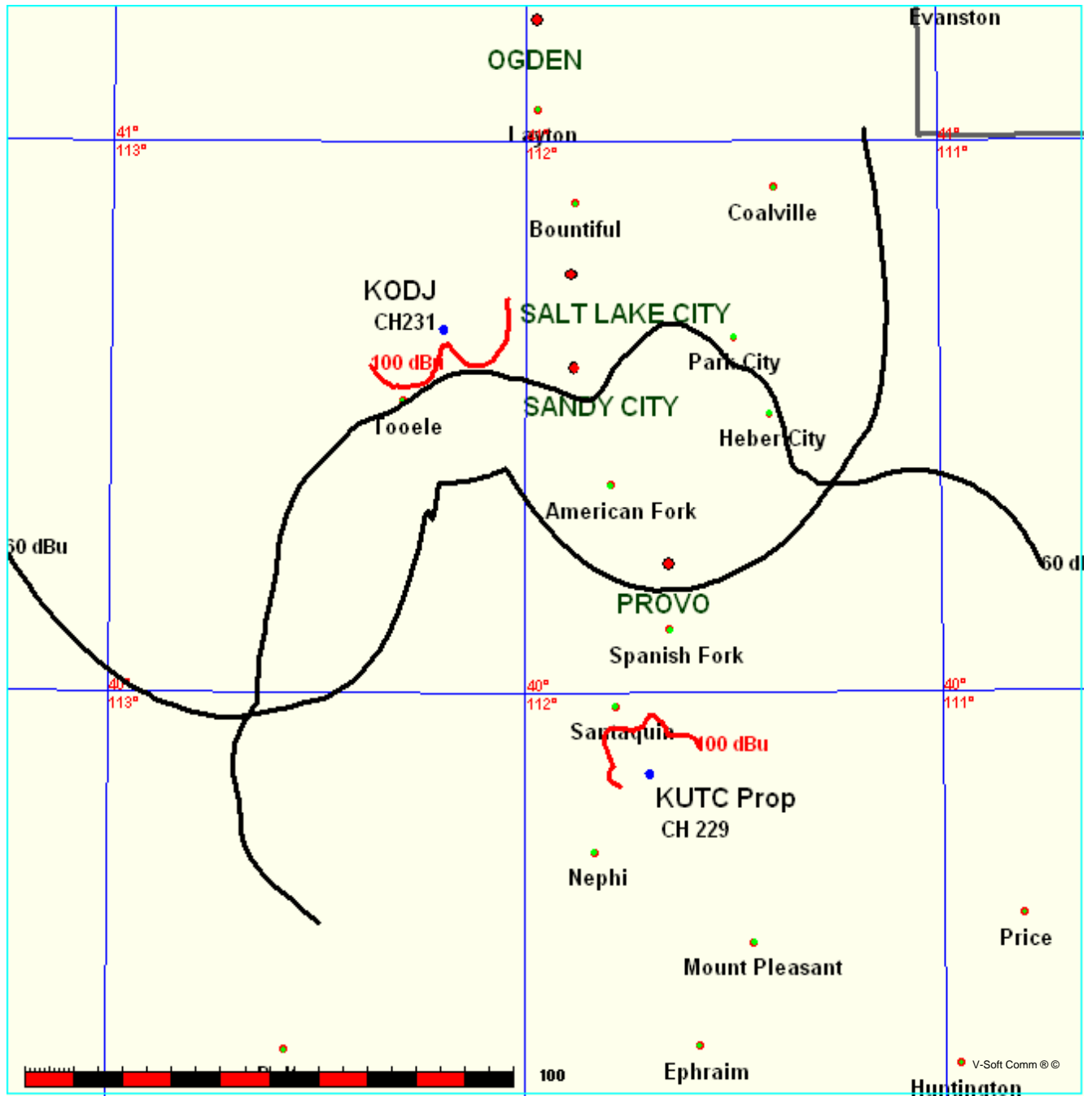
KODJ(FM) 231

KUTC(FM) vs KODJ(FM) Section 73.215 Overlap Map

FMCommander Single Allocation Study - 07-23-2013 - NGDC 30 SEC
KUTC Prop's Overlaps (In= 6.61 km, Out= 57.92 km)

KUTC Prop CH 229 C DA
Lat= 39 51 15.0, Lng= 111 42 17.0
48.0 kW 709.42 M HAAT, 2896 M COR
Prot.= 60 dBu, Intef.= 100 dBu

KODJ^ CH 231 C BLH20061005ADE
Lat= 40 39 35.0, Lng= 112 12 05.0
Max CIs: 100.0 kW 600 M HAAT, 2182 M COR
Prot.= 60 dBu, Intef.= 100 dBu



07-23-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

KUTC Prop

Channel = 229C

Max ERP = 48 kW

RCAMSL = 2896 M

N. Lat. 39 51 15.0

W. Lng. 111 42 17.0

Protected

60 dBu

KODJ BLH20061005ADE

(^ Max Class Parameters)

Channel = 231C

Max ERP = 100 kW

RCAMSL = 2182 M

N. Lat. 40 39 35.0

W. Lng. 112 12 05.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
275.0	015.5952	0995.2	084.2	207.0	100.0000	0512.3	092.1	64.34	
276.0	015.1605	0985.2	083.7	207.0	100.0000	0513.2	090.5	64.82	
277.0	014.7320	0972.7	083.1	207.0	100.0000	0512.9	089.0	65.30	
278.0	014.3096	0958.9	082.5	206.9	100.0000	0511.8	087.4	65.77	
279.0	013.8933	0944.6	081.9	206.8	100.0000	0510.2	085.8	66.23	
280.0	013.4832	0930.7	081.3	206.7	100.0000	0508.2	084.3	66.68	
281.0	013.9968	0917.7	081.4	207.1	100.0000	0514.6	083.0	67.25	
282.0	014.5200	0908.4	081.6	207.5	100.0000	0521.8	081.7	67.85	
283.0	015.0528	0902.2	081.9	207.9	100.0000	0529.6	080.4	68.46	
284.0	015.5952	0896.8	082.1	208.4	100.0000	0537.5	079.0	69.07	
285.0	016.1472	0892.1	082.4	208.8	100.0000	0545.4	077.7	69.69	
286.0	016.7088	0887.8	082.7	209.3	100.0000	0553.2	076.4	70.31	
287.0	017.2800	0883.1	082.9	209.7	100.0000	0560.6	075.0	70.91	
288.0	017.8608	0877.4	083.1	210.1	100.0000	0567.5	073.7	71.51	
289.0	018.4512	0869.4	083.3	210.4	100.0000	0573.3	072.3	72.08	
290.0	019.0512	0859.5	083.4	210.7	100.0000	0578.2	070.9	72.63	
291.0	020.0312	0850.4	083.7	211.2	100.0000	0585.4	069.5	73.20	
292.0	021.0357	0843.0	084.0	211.7	100.0000	0592.7	068.1	73.76	
293.0	022.0648	0836.5	084.3	212.1	100.0000	0600.0	066.7	74.31	
294.0	023.1185	0831.1	084.7	212.6	100.0000	0607.1	065.3	74.86	
295.0	024.1968	0826.0	085.0	213.1	100.0000	0613.9	063.9	75.42	
296.0	025.2996	0821.5	085.3	213.6	100.0000	0620.6	062.5	75.98	
297.0	026.4271	0819.2	085.7	214.1	100.0000	0627.7	061.0	76.56	
298.0	027.5791	0819.7	086.2	214.8	100.0000	0635.7	059.6	77.16	
299.0	028.7557	0823.7	086.7	215.5	100.0000	0644.5	058.2	77.79	
300.0	029.9568	0829.7	087.4	216.2	100.0000	0653.9	056.7	78.43	
301.0	031.5706	0835.4	088.1	217.1	100.0000	0664.6	055.3	79.09	
302.0	033.2268	0839.3	088.7	218.0	100.0000	0674.2	053.8	79.75	
303.0	034.9252	0841.5	089.3	218.8	100.0000	0682.7	052.3	80.41	
304.0	036.6660	0842.1	089.9	219.6	100.0000	0690.1	050.8	81.05	
305.0	038.4492	0841.0	090.3	220.3	100.0000	0696.5	049.3	81.69	
306.0	040.2747	0838.5	090.7	220.9	100.0000	0702.0	047.8	82.32	
307.0	042.1425	0834.9	091.1	221.5	100.0000	0706.8	046.2	82.96	
308.0	044.0527	0830.4	091.5	222.1	100.0000	0711.0	044.7	83.63	
309.0	046.0052	0824.7	091.7	222.6	100.0000	0714.6	043.1	84.31	
310.0	048.0000	0818.6	092.0	223.1	100.0000	0717.8	041.5	85.01	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
311.0	048.0000	0813.1	091.8	223.0	100.0000	0716.8	039.9	85.70
312.0	048.0000	0808.6	091.7	222.8	100.0000	0715.8	038.3	86.39
313.0	048.0000	0805.8	091.6	222.7	100.0000	0715.0	036.7	87.10
314.0	048.0000	0805.1	091.6	222.6	100.0000	0714.5	035.1	87.82
315.0	048.0000	0806.8	091.6	222.6	100.0000	0714.5	033.5	88.56
316.0	048.0000	0809.4	091.7	222.6	100.0000	0714.6	031.9	89.31
317.0	048.0000	0812.1	091.8	222.6	100.0000	0714.3	030.3	90.11
318.0	048.0000	0814.5	091.9	222.5	100.0000	0713.5	028.7	90.96
319.0	048.0000	0815.9	091.9	222.2	100.0000	0711.6	027.1	91.85
320.0	048.0000	0815.7	091.9	221.7	100.0000	0708.3	025.5	92.78
321.0	046.0052	0814.1	091.4	220.0	100.0000	0694.0	024.0	93.56
322.0	044.0527	0812.5	090.9	217.9	100.0000	0673.4	022.6	94.27
323.0	042.1425	0812.9	090.4	215.7	100.0000	0646.9	021.2	94.89
324.0	040.2747	0816.7	090.1	213.3	100.0000	0616.0	019.8	95.44
325.0	038.4492	0824.2	089.8	210.8	100.0000	0578.7	018.5	95.86
326.0	036.6660	0835.8	089.7	208.1	100.0000	0532.9	017.1	96.15
327.0	034.9252	0853.0	089.7	205.4	100.0000	0484.3	015.8	96.56
328.0	033.2268	0875.8	089.7	202.4	100.0000	0436.3	014.4	96.86
329.0	031.5706	0901.7	089.9	198.8	100.0000	0389.0	013.1	97.61
330.0	029.9568	0926.3	089.9	194.0	100.0000	0302.1	012.0	97.14
331.0	029.2781	0945.2	090.1	188.6	100.0000	0138.6	010.8	91.97
332.0	028.6072	0956.1	090.1	181.4	100.0000	0025.5	009.9	80.38
333.0	027.9441	0959.3	089.9	172.6	100.0000	-0184.1	009.5	81.24
334.0	027.2888	0956.5	089.5	162.9	100.0000	-0090.5	009.4	81.37
335.0	026.6412	0948.8	089.1	153.4	100.0000	0051.0	009.7	85.39
336.0	026.0014	0936.8	088.6	145.0	100.0000	0175.1	010.4	94.83
337.0	025.3694	0920.4	087.9	138.1	100.0000	0276.9	011.5	97.16
338.0	024.7452	0898.7	087.2	132.7	100.0000	0338.7	012.8	97.00
339.0	024.1287	0870.4	086.2	129.0	100.0000	0372.0	014.3	95.73
340.0	023.5200	0835.6	085.0	126.6	100.0000	0391.7	016.1	94.42
341.0	024.7452	0795.9	084.4	123.7	100.0000	0415.6	017.5	93.88
342.0	026.0014	0754.7	083.6	121.6	100.0000	0431.5	019.0	93.02
343.0	027.2888	0713.0	082.7	120.2	100.0000	0441.4	020.6	91.96
344.0	028.6072	0671.7	081.7	119.2	100.0000	0447.1	022.3	90.79
345.0	029.9568	0632.9	080.8	118.4	100.0000	0450.9	024.0	89.64
346.0	031.3375	0596.7	079.8	117.8	100.0000	0453.5	025.7	88.53
347.0	032.7492	0564.4	078.8	117.5	100.0000	0454.8	027.4	87.43
348.0	034.1921	0536.5	077.8	117.3	100.0000	0455.6	029.1	86.41
349.0	035.6661	0514.6	077.0	116.9	100.0000	0457.0	030.7	85.55
350.0	037.1712	0499.4	076.5	116.2	100.0000	0460.0	032.1	84.91
351.0	038.1919	0491.2	076.2	115.2	100.0000	0464.2	033.3	84.40
352.0	039.2264	0491.2	076.5	113.5	100.0000	0471.8	034.2	84.10
353.0	040.2747	0504.0	077.6	110.8	100.0000	0487.3	034.9	84.12
354.0	041.3368	0532.5	079.6	106.9	100.0000	0513.3	035.2	84.44
355.0	042.4128	0562.0	081.4	103.3	100.0000	0545.6	035.9	84.75
356.0	043.5026	0590.4	083.0	100.3	100.0000	0565.7	036.8	84.72
357.0	044.6062	0617.9	084.3	097.8	100.0000	0570.4	038.0	84.32
358.0	045.7236	0646.9	085.6	095.5	100.0000	0572.1	039.2	83.82
359.0	046.8549	0676.9	087.0	093.4	100.0000	0575.0	040.6	83.31
000.0	048.0000	0712.7	088.5	091.2	100.0000	0578.0	042.0	82.78
001.0	048.0000	0748.3	089.7	089.5	100.0000	0579.8	043.6	82.20

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
002.0	048.0000	0775.2	090.6	088.4	100.0000	0581.3	045.2	81.62
003.0	048.0000	0779.6	090.7	088.4	100.0000	0581.4	046.8	81.02
004.0	048.0000	0777.6	090.7	088.6	100.0000	0581.0	048.3	80.45
005.0	048.0000	0770.9	090.5	089.1	100.0000	0580.4	049.9	79.89
006.0	048.0000	0752.7	089.8	089.9	100.0000	0579.2	051.4	79.33
007.0	048.0000	0732.7	089.2	090.8	100.0000	0578.0	052.9	78.79
008.0	048.0000	0708.9	088.3	091.9	100.0000	0577.6	054.3	78.27
009.0	048.0000	0682.4	087.4	093.0	100.0000	0575.8	055.8	77.74
010.0	048.0000	0650.3	086.3	094.3	100.0000	0573.3	057.2	77.22
011.0	048.0000	0620.3	085.2	095.5	100.0000	0572.1	058.6	76.72
012.0	048.0000	0597.7	084.3	096.5	100.0000	0571.4	060.0	76.23
013.0	048.0000	0588.6	083.9	097.0	100.0000	0570.9	061.4	75.73
014.0	048.0000	0587.0	083.9	097.2	100.0000	0570.8	062.8	75.23
015.0	048.0000	0581.2	083.6	097.5	100.0000	0570.5	064.3	74.75
016.0	048.0000	0567.3	083.0	098.3	100.0000	0570.2	065.6	74.28
017.0	048.0000	0551.1	082.2	099.1	100.0000	0569.2	066.9	73.82
018.0	048.0000	0531.9	081.1	100.2	100.0000	0566.2	068.2	73.34
019.0	048.0000	0506.6	079.7	101.5	100.0000	0559.4	069.4	72.81
020.0	048.0000	0482.2	078.1	102.9	100.0000	0549.0	070.6	72.20
021.0	048.0000	0458.5	076.4	104.4	100.0000	0535.0	071.8	71.50
022.0	048.0000	0433.1	074.5	106.1	100.0000	0520.1	072.9	70.77
023.0	048.0000	0406.1	072.5	107.7	100.0000	0507.9	074.0	70.10
024.0	048.0000	0381.8	070.8	109.0	100.0000	0498.8	075.1	69.52
025.0	048.0000	0359.5	069.3	110.3	100.0000	0490.6	076.2	68.96
026.0	048.0000	0344.1	068.2	111.2	100.0000	0485.1	077.3	68.45
027.0	048.0000	0342.3	068.1	111.3	100.0000	0484.1	078.5	68.05
028.0	048.0000	0346.3	068.4	111.2	100.0000	0484.8	079.7	67.67
029.0	048.0000	0345.4	068.3	111.4	100.0000	0483.9	080.9	67.26
030.0	048.0000	0340.7	068.0	111.7	100.0000	0481.8	082.0	66.84
031.0	048.0000	0339.7	067.9	111.9	100.0000	0480.8	083.2	66.44
032.0	048.0000	0348.9	068.5	111.6	100.0000	0482.7	084.4	66.07
033.0	048.0000	0364.5	069.6	111.0	100.0000	0486.2	085.8	65.71
034.0	048.0000	0376.2	070.5	110.6	100.0000	0488.5	087.2	65.33

07-23-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

KODJ BLH20061005ADE

KUTC Prop

(^ Max Class Parameters)

Channel = 231C

Channel = 229C

Max ERP = 100 kW

Max ERP = 48 kW

RCAMSL = 2182 M

RCAMSL = 2896 M

N. Lat. 40 39 35.0

N. Lat. 39 51 15.0

W. Lng. 112 12 05.0

W. Lng. 111 42 17.0

Protected

Interfering

60 dBu

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
095.0	100.0000	0572.5	090.7	030.3	048.0000	0339.7	094.7	55.28	
096.0	100.0000	0571.8	090.7	030.6	048.0000	0339.1	093.2	55.71	
097.0	100.0000	0570.9	090.6	031.0	048.0000	0339.8	091.8	56.19	
098.0	100.0000	0570.3	090.6	031.4	048.0000	0342.2	090.3	56.72	
099.0	100.0000	0569.4	090.6	031.8	048.0000	0346.2	088.8	57.32	
100.0	100.0000	0566.8	090.5	032.1	048.0000	0350.7	087.3	57.94	
101.0	100.0000	0562.4	090.3	032.4	048.0000	0354.8	085.8	58.58	
102.0	100.0000	0556.2	090.0	032.6	048.0000	0357.9	084.2	59.20	
103.0	100.0000	0548.3	089.6	032.7	048.0000	0359.8	082.6	59.80	
104.0	100.0000	0539.2	089.0	032.7	048.0000	0360.3	081.0	60.37	
105.0	100.0000	0529.4	088.5	032.7	048.0000	0359.7	079.3	60.91	
106.0	100.0000	0520.5	087.9	032.7	048.0000	0359.2	077.7	61.45	
107.0	100.0000	0512.7	087.5	032.7	048.0000	0359.0	076.1	62.00	
108.0	100.0000	0505.6	087.1	032.7	048.0000	0359.0	074.5	62.56	
109.0	100.0000	0499.0	086.7	032.6	048.0000	0359.0	072.9	63.11	
110.0	100.0000	0492.5	086.3	032.6	048.0000	0358.5	071.4	63.65	
111.0	100.0000	0486.1	085.9	032.6	048.0000	0357.7	069.8	64.18	
112.0	100.0000	0480.0	085.5	032.5	048.0000	0356.6	068.3	64.69	
113.0	100.0000	0474.4	085.1	032.4	048.0000	0355.4	066.7	65.20	
114.0	100.0000	0469.5	084.8	032.4	048.0000	0354.2	065.2	65.71	
115.0	100.0000	0465.0	084.5	032.3	048.0000	0352.9	063.7	66.21	
116.0	100.0000	0460.7	084.2	032.2	048.0000	0351.3	062.2	66.70	
117.0	100.0000	0456.8	083.9	032.0	048.0000	0349.5	060.7	67.19	
118.0	100.0000	0452.6	083.6	031.9	048.0000	0347.2	059.2	67.66	
119.0	100.0000	0448.0	083.3	031.6	048.0000	0344.3	057.8	68.12	
120.0	100.0000	0442.5	082.9	031.3	048.0000	0341.2	056.3	68.57	
121.0	100.0000	0436.0	082.4	030.8	048.0000	0339.2	054.8	69.06	
122.0	100.0000	0428.8	081.9	030.2	048.0000	0339.8	053.4	69.62	
123.0	100.0000	0421.1	081.3	029.6	048.0000	0342.7	052.0	70.25	
124.0	100.0000	0413.2	080.7	028.8	048.0000	0346.1	050.6	70.88	
125.0	100.0000	0404.9	080.1	028.0	048.0000	0346.1	049.3	71.40	
126.0	100.0000	0396.6	079.5	027.0	048.0000	0342.4	048.0	71.78	
127.0	100.0000	0388.3	078.9	026.0	048.0000	0344.1	046.8	72.33	

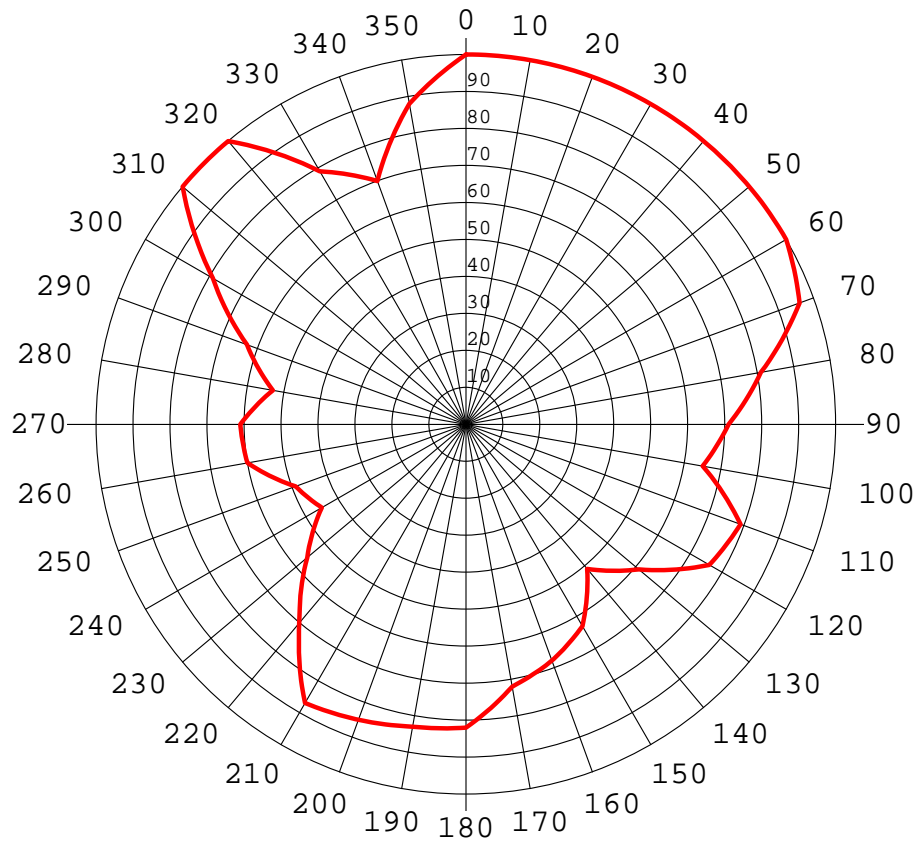
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
128.0	100.0000	0380.1	078.3	024.9	048.0000	0361.1	045.5	73.32
129.0	100.0000	0371.9	077.7	023.8	048.0000	0387.3	044.4	74.52
130.0	100.0000	0363.4	077.1	022.5	048.0000	0419.5	043.2	75.81
131.0	100.0000	0354.7	076.4	021.1	048.0000	0455.6	042.2	77.10
132.0	100.0000	0345.7	075.8	019.6	048.0000	0491.1	041.2	78.26
133.0	100.0000	0336.3	075.1	018.0	048.0000	0531.9	040.2	79.46
134.0	100.0000	0326.2	074.3	016.2	048.0000	0563.7	039.4	80.41
135.0	100.0000	0315.1	073.5	014.3	048.0000	0586.3	038.7	81.12
136.0	100.0000	0303.0	072.6	012.1	048.0000	0595.9	038.1	81.54
137.0	100.0000	0290.2	071.6	009.8	048.0000	0657.2	037.6	82.72
138.0	100.0000	0277.7	070.6	007.4	048.0000	0724.0	037.3	83.75
139.0	100.0000	0265.8	069.6	005.0	048.0000	0771.4	037.1	84.39
140.0	100.0000	0253.6	068.5	002.5	048.0000	0779.1	037.0	84.52
141.0	100.0000	0240.2	067.4	000.1	048.0000	0714.7	037.0	83.76
142.0	100.0000	0225.3	066.1	357.4	045.1021	0630.2	037.4	82.15
143.0	100.0000	0209.1	064.7	354.8	042.1586	0555.0	038.0	80.28
144.0	100.0000	0192.0	063.0	352.1	039.3697	0491.9	038.8	78.41
145.0	100.0000	0174.7	061.4	349.7	036.6626	0503.9	039.8	77.91
146.0	100.0000	0158.1	059.5	347.3	033.1359	0556.3	041.1	77.94
147.0	100.0000	0142.7	057.5	345.1	030.0266	0631.0	042.7	78.12
148.0	100.0000	0128.6	055.5	343.1	027.3928	0709.6	044.3	78.12
149.0	100.0000	0114.2	053.4	341.3	025.1136	0783.8	046.2	77.92
150.0	100.0000	0097.3	050.4	339.6	023.7811	0851.3	049.0	77.41
151.0	100.0000	0079.6	046.7	338.1	024.7135	0897.4	052.5	76.75
152.0	100.0000	0065.6	043.5	336.9	025.4342	0922.3	055.6	75.99
153.0	100.0000	0055.5	040.8	336.0	026.0023	0936.9	058.2	75.32
154.0	100.0000	0042.5	036.1	335.2	026.4914	0946.4	062.8	73.92
155.0	100.0000	0023.3	031.0	334.7	026.8219	0951.4	068.0	72.39
156.0	100.0000	0001.8	031.0	334.3	027.1133	0954.8	068.0	72.47
157.0	100.0000	-0017.8	031.0	333.8	027.4077	0957.4	068.0	72.53
158.0	100.0000	-0037.8	031.0	333.4	027.7035	0958.8	068.1	72.58
159.0	100.0000	-0058.7	031.0	332.9	027.9995	0959.3	068.1	72.61
160.0	100.0000	-0075.9	031.0	332.5	028.2964	0958.5	068.2	72.63
161.0	100.0000	-0084.0	031.0	332.0	028.5931	0956.3	068.3	72.63
162.0	100.0000	-0085.5	031.0	331.6	028.8902	0952.5	068.4	72.61
163.0	100.0000	-0091.8	031.0	331.1	029.1868	0947.2	068.5	72.57
164.0	100.0000	-0107.0	031.0	330.7	029.4827	0940.3	068.6	72.52
165.0	100.0000	-0126.4	031.0	330.3	029.7778	0932.0	068.7	72.44
166.0	100.0000	-0138.5	031.0	329.8	030.2248	0922.5	068.9	72.37
167.0	100.0000	-0148.3	031.0	329.4	030.9120	0912.1	069.0	72.32
168.0	100.0000	-0161.3	031.0	329.0	031.5986	0901.3	069.2	72.26
169.0	100.0000	-0176.2	031.0	328.6	032.2849	0890.3	069.4	72.19
170.0	100.0000	-0188.8	031.0	328.2	032.9712	0879.6	069.6	72.11
171.0	100.0000	-0195.7	031.0	327.7	033.6544	0869.6	069.8	72.03
172.0	100.0000	-0191.2	031.0	327.3	034.3359	0860.3	070.0	71.95
173.0	100.0000	-0177.2	031.0	326.9	035.0141	0852.0	070.2	71.88
174.0	100.0000	-0150.3	031.0	326.6	035.6883	0844.7	070.5	71.80
175.0	100.0000	-0110.3	031.0	326.2	036.3574	0838.4	070.7	71.74
176.0	100.0000	-0071.6	031.0	325.8	037.0218	0833.1	071.0	71.67
177.0	100.0000	-0043.7	031.0	325.4	037.6795	0828.6	071.3	71.61
178.0	100.0000	-0037.7	031.0	325.1	038.3307	0824.9	071.6	71.56

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
179.0	100.0000	-0029.8	031.0	324.7	038.9747	0821.7	071.9	71.50
180.0	100.0000	-0013.0	031.0	324.4	039.6110	0819.0	072.2	71.45
181.0	100.0000	0014.1	031.0	324.0	040.2381	0816.8	072.5	71.39
182.0	100.0000	0041.4	035.7	321.2	045.5673	0813.7	069.2	72.90
183.0	100.0000	0048.0	038.3	319.4	048.0000	0816.0	067.8	73.60
184.0	100.0000	0044.3	036.9	319.8	048.0000	0815.8	069.2	73.15
185.0	100.0000	0045.3	037.2	319.2	048.0000	0816.0	069.4	73.09
186.0	100.0000	0067.4	043.9	314.6	048.0000	0805.9	065.6	74.15
187.0	100.0000	0092.7	049.4	310.1	048.0000	0817.9	063.0	75.10
188.0	100.0000	0118.6	054.0	306.0	040.3466	0838.4	061.5	75.09
189.0	100.0000	0150.3	058.5	301.8	032.9583	0838.8	060.5	74.55
190.0	100.0000	0184.5	062.3	298.1	027.6679	0819.9	060.2	73.69
191.0	100.0000	0218.0	065.5	294.9	024.0929	0826.5	060.4	73.09
192.0	100.0000	0246.9	068.0	292.4	021.4086	0840.4	061.1	72.52
193.0	100.0000	0274.9	070.3	290.0	019.0845	0859.2	061.9	71.94
194.0	100.0000	0302.6	072.6	287.9	017.7876	0878.2	063.0	71.49
195.0	100.0000	0327.2	074.4	286.2	016.8137	0886.9	064.2	70.95
196.0	100.0000	0347.2	075.9	284.9	016.0871	0892.5	065.5	70.40
197.0	100.0000	0363.9	077.1	283.9	015.5324	0897.4	066.9	69.86
198.0	100.0000	0378.7	078.2	283.1	015.0805	0901.9	068.3	69.33
199.0	100.0000	0391.5	079.1	282.4	014.7341	0905.7	069.8	68.81
200.0	100.0000	0403.7	080.0	281.8	014.4309	0909.7	071.3	68.29
201.0	100.0000	0416.6	081.0	281.3	014.1346	0914.8	072.8	67.77
202.0	100.0000	0430.5	082.0	280.7	013.8384	0921.4	074.4	67.24
203.0	100.0000	0445.6	083.1	280.1	013.5423	0929.1	076.1	66.70
204.0	100.0000	0461.7	084.3	279.5	013.6686	0937.1	077.7	66.28
205.0	100.0000	0478.1	085.4	279.1	013.8654	0943.7	079.5	65.87
206.0	100.0000	0495.3	086.4	278.7	014.0363	0949.5	081.2	65.44
207.0	100.0000	0513.0	087.5	278.3	014.1882	0954.8	083.0	65.00
208.0	100.0000	0530.9	088.6	278.0	014.3243	0959.4	084.8	64.53
209.0	100.0000	0548.6	089.6	277.7	014.4293	0962.9	086.6	64.06
210.0	100.0000	0565.9	090.4	277.6	014.4807	0964.6	088.4	63.56
211.0	100.0000	0582.5	091.1	277.6	014.4857	0964.8	090.1	63.04
212.0	100.0000	0597.9	091.7	277.7	014.4549	0963.8	091.8	62.52
213.0	100.0000	0612.3	092.3	277.8	014.4023	0962.0	093.5	61.98
214.0	100.0000	0625.8	092.8	277.9	014.3365	0959.8	095.2	61.44

Exhibit 7

Proposed Directional Pattern Azimuth Tabulations

KUTC Proposed Azimuth Pattern



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	1.000	16.81	48.0	0.00	180	0.820	15.09	32.3	-1.72
10	1.000	16.81	48.0	0.00	190	0.830	15.19	33.1	-1.62
20	1.000	16.81	48.0	0.00	200	0.850	15.40	34.7	-1.41
30	1.000	16.81	48.0	0.00	210	0.870	15.60	36.3	-1.21
40	1.000	16.81	48.0	0.00	220	0.700	13.71	23.5	-3.10
50	1.000	16.81	48.0	0.00	230	0.560	11.78	15.1	-5.04
60	1.000	16.81	48.0	0.00	240	0.450	9.88	9.7	-6.94
70	0.960	16.46	44.2	-0.35	250	0.490	10.62	11.5	-6.20
80	0.810	14.98	31.5	-1.83	260	0.600	12.38	17.3	-4.44
90	0.710	13.84	24.2	-2.97	270	0.610	12.52	17.9	-4.29
100	0.650	13.07	20.3	-3.74	280	0.530	11.30	13.5	-5.51
110	0.790	14.76	30.0	-2.05	290	0.630	12.80	19.1	-4.01
120	0.760	14.43	27.7	-2.38	300	0.790	14.76	30.0	-2.05
130	0.610	12.52	17.9	-4.29	310	1.000	16.81	48.0	0.00
140	0.510	10.96	12.5	-5.85	320	1.000	16.81	48.0	0.00
150	0.630	12.80	19.1	-4.01	330	0.790	14.76	30.0	-2.05
160	0.680	13.46	22.2	-3.35	340	0.700	13.71	23.5	-3.10
170	0.720	13.96	24.9	-2.85	350	0.880	15.70	37.2	-1.11

Rotation Angle = 0