

**Exhibit 29.1 - (As Amended)**

**Contour Protection Studies**

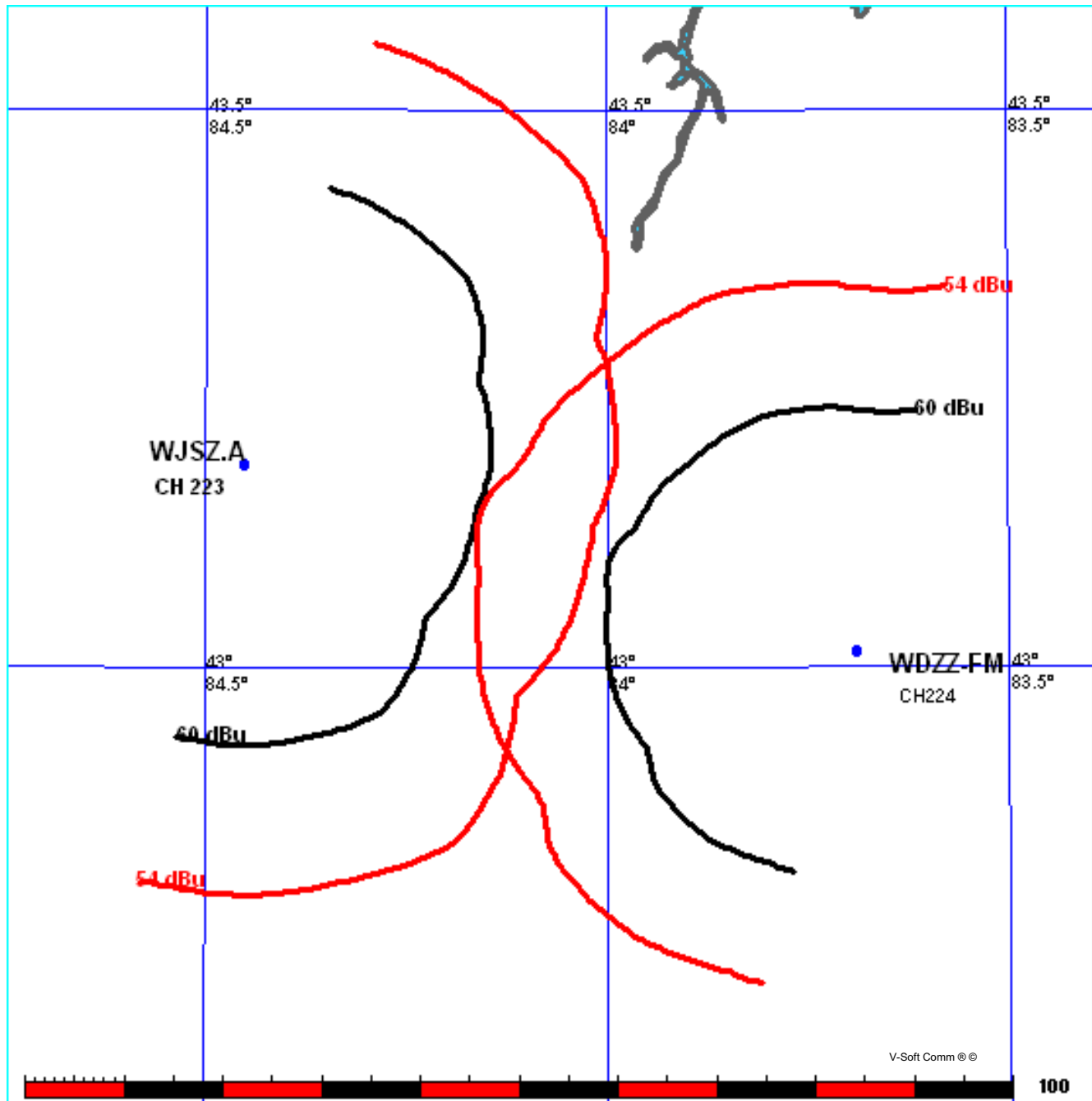
**Toward WDZZ-FM License**

**(Max Class Facilities - 3.0 kW at 100 m HAAT)**

FMCommander Single Allocation Study  
04-07-2008

WJSZ.A CH 223 A  
4.0 kW 330 M COR DA  
Prot. = 60 dBu  
Intef. = 54 dBu

WDZZ-FM CH 224 A BLH19790919AG  
3.0 kW, 335.1 M COR  
Prot. = 60 dBu  
Intef. = 54 dBu



04-07-2008

NGDC 30 SEC Terrain Data

FMOver Analysis

WJSZ.A

Channel = 223A

Max ERP = 4 kW

RCAMSL = 330 M

N. Lat. 43 10 56.0

W. Lng. 84 27 03.0

Protected

60 dBu

WDZZ-FM

BLH19790919AG

Channel = 224A

Max ERP = 3 kW

RCAMSL = 335.13 M

N. Lat. 43 00 57.0

W. Lng. 83 41 24.0

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
061.0	003.0405	0132.4	027.4	310.3	003.0000	0112.0	049.3	49.68
062.0	002.9142	0132.5	027.2	309.8	003.0000	0112.2	049.0	49.82
063.0	002.7905	0132.5	026.9	309.3	003.0000	0112.4	048.7	49.96
064.0	002.6696	0132.4	026.6	308.8	003.0000	0112.5	048.4	50.09
065.0	002.5513	0132.4	026.4	308.2	003.0000	0112.7	048.1	50.21
066.0	002.4357	0132.3	026.1	307.7	003.0000	0112.8	047.8	50.32
067.0	002.3227	0132.3	025.8	307.1	003.0000	0112.9	047.5	50.43
068.0	002.2125	0132.3	025.5	306.6	003.0000	0113.0	047.3	50.52
069.0	002.1049	0132.3	025.3	306.0	003.0000	0112.9	047.1	50.61
070.0	002.0000	0132.5	025.0	305.4	003.0000	0112.9	046.9	50.69
071.0	002.0000	0132.8	025.0	305.1	003.0000	0112.8	046.5	50.83
072.0	002.0000	0133.1	025.0	304.8	003.0000	0112.8	046.1	50.97
073.0	002.0000	0133.3	025.1	304.5	003.0000	0112.7	045.8	51.10
074.0	002.0000	0133.5	025.1	304.2	003.0000	0112.6	045.4	51.23
075.0	002.0000	0133.7	025.1	303.8	003.0000	0112.5	045.1	51.36
076.0	002.0000	0133.6	025.1	303.4	003.0000	0112.3	044.8	51.48
077.0	002.0000	0133.4	025.1	303.0	003.0000	0112.2	044.5	51.59
078.0	002.0000	0133.0	025.0	302.6	003.0000	0112.0	044.2	51.70
079.0	002.0000	0132.6	025.0	302.1	003.0000	0111.8	043.9	51.80
080.0	002.0000	0132.4	025.0	301.7	003.0000	0111.7	043.6	51.90
081.0	002.0000	0132.1	025.0	301.2	003.0000	0111.6	043.4	52.00
082.0	002.0000	0132.0	025.0	300.8	003.0000	0111.5	043.1	52.11
083.0	002.0000	0131.8	024.9	300.3	003.0000	0111.4	042.9	52.21
084.0	002.0000	0131.6	024.9	299.8	003.0000	0111.5	042.6	52.31
085.0	002.0000	0131.5	024.9	299.3	003.0000	0111.6	042.4	52.42
086.0	002.0000	0131.3	024.9	298.8	003.0000	0111.9	042.2	52.53
087.0	002.0000	0131.3	024.9	298.3	003.0000	0112.2	041.9	52.65
088.0	002.0000	0131.2	024.9	297.8	003.0000	0112.8	041.7	52.78
089.0	002.0000	0131.2	024.9	297.3	003.0000	0113.5	041.5	52.92
090.0	002.0000	0131.1	024.9	296.7	003.0000	0114.4	041.3	53.06
091.0	001.9678	0131.0	024.8	296.1	003.0000	0115.6	041.2	53.18
092.0	001.9359	0130.9	024.7	295.5	003.0000	0116.8	041.1	53.30
093.0	001.9043	0130.8	024.6	294.9	003.0000	0118.1	041.1	53.41
094.0	001.8729	0130.6	024.5	294.3	003.0000	0119.4	041.0	53.50
095.0	001.8417	0130.5	024.4	293.7	003.0000	0120.4	041.0	53.59
096.0	001.8109	0130.3	024.3	293.1	003.0000	0121.3	041.0	53.65
097.0	001.7803	0130.0	024.2	292.5	003.0000	0122.0	041.0	53.69

## FMOver Analysis

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
098.0	001.7499	0129.8	024.1	291.9	003.0000	0122.4	041.0	53.71
099.0	001.7198	0129.5	023.9	291.3	003.0000	0122.7	041.0	53.72
100.0	001.6900	0129.3	023.8	290.7	003.0000	0122.8	041.0	53.71
101.0	001.7030	0129.2	023.9	290.1	003.0000	0122.8	040.9	53.76
102.0	001.7161	0129.0	023.9	289.5	003.0000	0122.7	040.8	53.78
103.0	001.7292	0128.7	023.9	288.9	003.0000	0122.4	040.8	53.79
104.0	001.7424	0128.3	023.9	288.4	003.0000	0122.0	040.7	53.79
105.0	001.7556	0128.0	023.9	287.8	003.0000	0121.5	040.7	53.78
106.0	001.7689	0127.8	024.0	287.2	003.0000	0121.0	040.7	53.76
107.0	001.7822	0127.6	024.0	286.6	003.0000	0120.3	040.6	53.73
108.0	001.7956	0127.4	024.0	286.0	003.0000	0119.6	040.6	53.69
109.0	001.8090	0127.2	024.0	285.4	003.0000	0118.8	040.6	53.64
110.0	001.8225	0126.9	024.0	284.8	003.0000	0118.0	040.6	53.59
111.0	001.8399	0126.7	024.1	284.2	003.0000	0117.1	040.7	53.52
112.0	001.8573	0126.5	024.1	283.6	003.0000	0116.2	040.7	53.45
113.0	001.8749	0126.2	024.1	283.0	003.0000	0115.3	040.7	53.38
114.0	001.8925	0125.9	024.2	282.4	003.0000	0114.6	040.8	53.31
115.0	001.9102	0125.6	024.2	281.9	003.0000	0113.9	040.9	53.23
116.0	001.9280	0125.1	024.2	281.3	003.0000	0113.3	040.9	53.15
117.0	001.9459	0124.5	024.2	280.7	003.0000	0112.8	041.1	53.06
118.0	001.9638	0124.0	024.2	280.1	003.0000	0112.4	041.2	52.98
119.0	001.9819	0123.5	024.2	279.6	003.0000	0112.1	041.3	52.91
120.0	002.0000	0122.9	024.2	279.0	003.0000	0111.9	041.5	52.83
121.0	002.0000	0122.4	024.2	278.5	003.0000	0111.7	041.7	52.73
122.0	002.0000	0121.9	024.2	278.0	003.0000	0111.6	041.9	52.64
123.0	002.0000	0121.4	024.1	277.5	003.0000	0111.4	042.1	52.54
124.0	002.0000	0121.0	024.1	277.0	003.0000	0111.3	042.3	52.43
125.0	002.0000	0120.7	024.1	276.5	003.0000	0111.2	042.5	52.33
126.0	002.0000	0120.5	024.0	276.0	003.0000	0111.0	042.7	52.23
127.0	002.0000	0120.1	024.0	275.6	003.0000	0110.9	043.0	52.12
128.0	002.0000	0119.7	024.0	275.1	003.0000	0110.8	043.2	52.01
129.0	002.0000	0119.4	023.9	274.7	003.0000	0110.7	043.5	51.89
130.0	002.0000	0119.1	023.9	274.3	003.0000	0110.5	043.8	51.77
131.0	002.1049	0118.9	024.2	273.6	003.0000	0110.2	043.8	51.74
132.0	002.2125	0118.7	024.4	273.0	003.0000	0110.0	043.9	51.69
133.0	002.3227	0118.6	024.7	272.3	003.0000	0109.7	044.0	51.64
134.0	002.4357	0118.4	024.9	271.7	003.0000	0109.4	044.1	51.57
135.0	002.5513	0118.2	025.2	271.1	003.0000	0109.1	044.2	51.50
136.0	002.6696	0118.1	025.4	270.4	003.0000	0108.8	044.3	51.42
137.0	002.7905	0118.0	025.7	269.8	003.0000	0108.7	044.5	51.35
138.0	002.9142	0118.0	025.9	269.2	003.0000	0108.7	044.7	51.28
139.0	003.0405	0118.2	026.2	268.6	003.0000	0108.7	044.8	51.21
140.0	003.1696	0118.6	026.5	267.9	003.0000	0108.6	045.0	51.13
141.0	003.2483	0118.9	026.6	267.4	003.0000	0108.6	045.3	51.02
142.0	003.3279	0119.1	026.8	266.9	003.0000	0108.5	045.6	50.90
143.0	003.4086	0119.4	027.0	266.4	003.0000	0108.4	045.9	50.77
144.0	003.4902	0119.9	027.2	265.9	003.0000	0108.1	046.2	50.64
145.0	003.5727	0120.7	027.4	265.3	003.0000	0107.9	046.5	50.50
146.0	003.6562	0121.5	027.6	264.8	003.0000	0107.6	046.8	50.36
147.0	003.7407	0122.1	027.8	264.3	003.0000	0107.4	047.1	50.21
148.0	003.8262	0122.5	028.0	263.9	003.0000	0107.2	047.5	50.06

04-07-2008 NGDC 30 SEC Terrain Data

WDZZ-FM BLH19790919AG  
 Channel = 224A  
 Max ERP = 3 kW  
 RCAMSL = 335.13 M  
 N. Lat. 43 00 57.0  
 W. Lng. 83 41 24.0  
 Protected  
 60 dBu

WJSZ.A  
 Channel = 223A  
 Max ERP = 4 kW  
 RCAMSL = 330 M  
 N. Lat. 43 10 56.0  
 W. Lng. 84 27 03.0  
 Interfering  
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
242.0	003.0000	0095.6	023.7	125.7	002.0000	0120.6	050.6	47.92
243.0	003.0000	0094.6	023.6	125.4	002.0000	0120.7	050.3	48.05
244.0	003.0000	0094.0	023.5	125.1	002.0000	0120.7	050.0	48.18
245.0	003.0000	0093.8	023.5	124.9	002.0000	0120.8	049.6	48.32
246.0	003.0000	0093.9	023.5	124.6	002.0000	0120.8	049.3	48.46
247.0	003.0000	0094.3	023.5	124.4	002.0000	0120.9	048.9	48.61
248.0	003.0000	0095.0	023.6	124.2	002.0000	0120.9	048.5	48.76
249.0	003.0000	0095.9	023.7	124.1	002.0000	0121.0	048.1	48.92
250.0	003.0000	0097.0	023.9	123.9	002.0000	0121.0	047.7	49.09
251.0	003.0000	0098.0	024.0	123.7	002.0000	0121.1	047.3	49.25
252.0	003.0000	0099.0	024.1	123.5	002.0000	0121.2	046.9	49.41
253.0	003.0000	0099.9	024.2	123.3	002.0000	0121.3	046.5	49.58
254.0	003.0000	0100.8	024.3	123.1	002.0000	0121.4	046.1	49.74
255.0	003.0000	0101.7	024.4	122.8	002.0000	0121.5	045.7	49.90
256.0	003.0000	0102.5	024.5	122.5	002.0000	0121.6	045.3	50.06
257.0	003.0000	0103.2	024.6	122.3	002.0000	0121.8	045.0	50.22
258.0	003.0000	0104.0	024.7	121.9	002.0000	0121.9	044.6	50.37
259.0	003.0000	0104.7	024.8	121.6	002.0000	0122.1	044.3	50.53
260.0	003.0000	0105.3	024.8	121.3	002.0000	0122.3	043.9	50.68
261.0	003.0000	0105.8	024.9	120.9	002.0000	0122.5	043.6	50.83
262.0	003.0000	0106.2	024.9	120.5	002.0000	0122.7	043.3	50.97
263.0	003.0000	0106.7	025.0	120.1	002.0000	0122.9	043.0	51.11
264.0	003.0000	0107.2	025.0	119.6	001.9933	0123.1	042.7	51.24
265.0	003.0000	0107.7	025.1	119.2	001.9854	0123.4	042.4	51.36
266.0	003.0000	0108.2	025.1	118.7	001.9771	0123.6	042.1	51.48
267.0	003.0000	0108.5	025.2	118.3	001.9685	0123.9	041.8	51.59
268.0	003.0000	0108.6	025.2	117.7	001.9593	0124.1	041.6	51.69
269.0	003.0000	0108.7	025.2	117.2	001.9499	0124.4	041.4	51.78
270.0	003.0000	0108.8	025.2	116.7	001.9403	0124.7	041.2	51.87
271.0	003.0000	0109.1	025.2	116.2	001.9309	0125.0	040.9	51.96
272.0	003.0000	0109.5	025.3	115.6	001.9214	0125.3	040.7	52.06
273.0	003.0000	0110.0	025.3	115.1	001.9116	0125.5	040.5	52.14
274.0	003.0000	0110.4	025.4	114.5	001.9017	0125.8	040.3	52.23
275.0	003.0000	0110.7	025.4	113.9	001.8915	0126.0	040.1	52.30

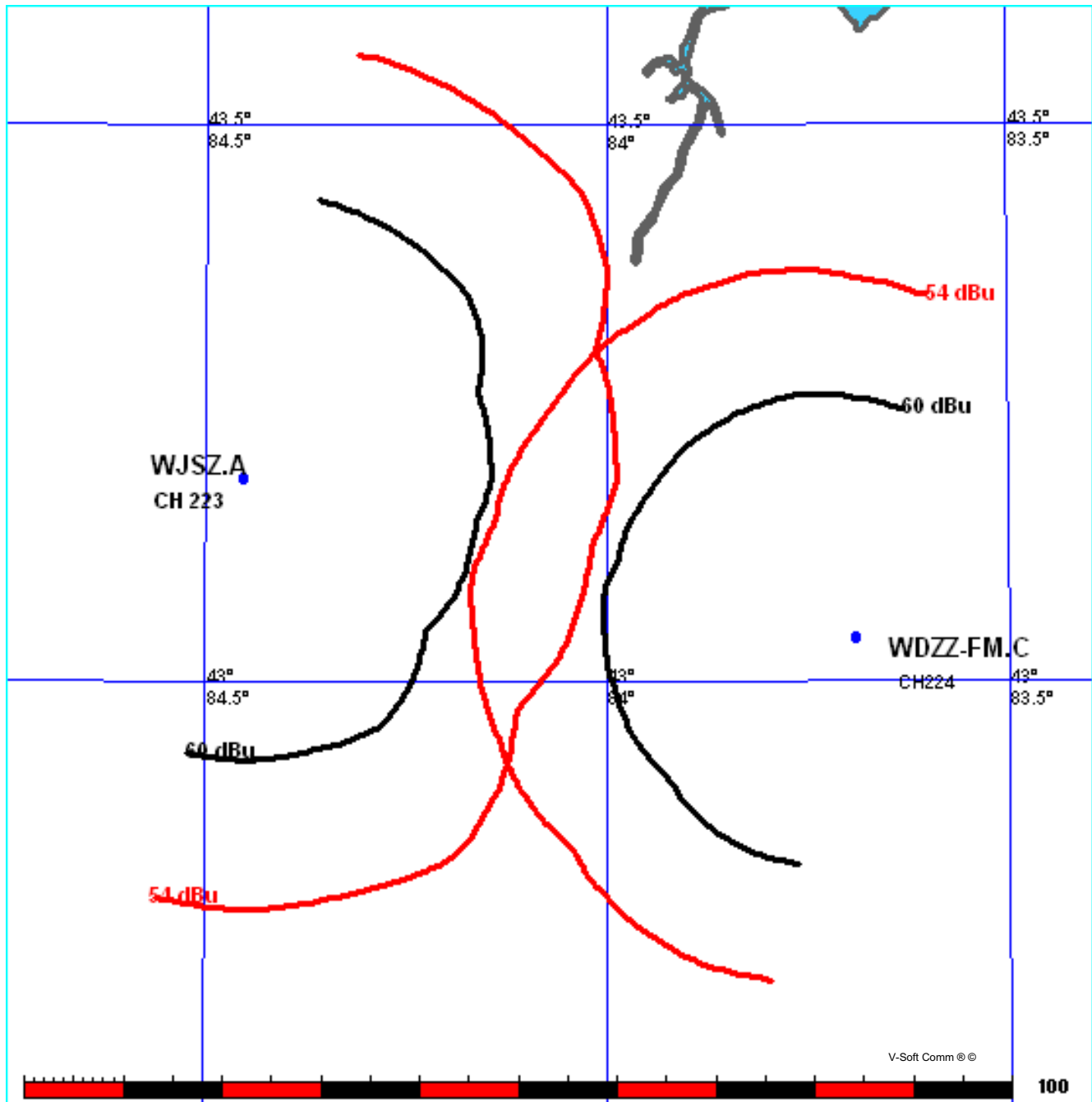
## FMOver Analysis

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
276.0	003.0000	0111.0	025.4	113.4	001.8811	0126.1	039.9	52.36
277.0	003.0000	0111.3	025.5	112.8	001.8706	0126.3	039.8	52.41
278.0	003.0000	0111.6	025.5	112.1	001.8599	0126.4	039.6	52.46
279.0	003.0000	0111.9	025.5	111.5	001.8492	0126.6	039.5	52.50
280.0	003.0000	0112.3	025.6	110.9	001.8384	0126.7	039.4	52.55
281.0	003.0000	0113.0	025.6	110.3	001.8275	0126.8	039.2	52.60
282.0	003.0000	0114.1	025.7	109.7	001.8180	0127.0	039.0	52.66
283.0	003.0000	0115.3	025.8	109.0	001.8094	0127.2	038.9	52.73
284.0	003.0000	0116.7	026.0	108.4	001.8007	0127.3	038.7	52.80
285.0	003.0000	0118.3	026.1	107.7	001.7919	0127.5	038.5	52.87
286.0	003.0000	0119.6	026.2	107.1	001.7829	0127.6	038.4	52.91
287.0	003.0000	0120.8	026.3	106.4	001.7738	0127.7	038.3	52.95
288.0	003.0000	0121.7	026.4	105.7	001.7645	0127.8	038.2	52.97
289.0	003.0000	0122.4	026.5	105.0	001.7553	0128.0	038.2	52.97
290.0	003.0000	0122.8	026.5	104.3	001.7461	0128.2	038.2	52.96
291.0	003.0000	0122.8	026.5	103.6	001.7369	0128.4	038.2	52.93
292.0	003.0000	0122.4	026.5	102.9	001.7280	0128.7	038.3	52.88
293.0	003.0000	0121.4	026.4	102.2	001.7193	0128.9	038.5	52.80
294.0	003.0000	0119.9	026.3	101.6	001.7110	0129.1	038.7	52.68
295.0	003.0000	0118.0	026.1	101.0	001.7031	0129.2	038.9	52.54
296.0	003.0000	0115.8	025.9	100.4	001.6957	0129.2	039.3	52.39
297.0	003.0000	0114.0	025.7	099.9	001.6937	0129.3	039.6	52.25
298.0	003.0000	0112.6	025.6	099.3	001.7103	0129.5	039.8	52.19
299.0	003.0000	0111.8	025.5	098.7	001.7273	0129.6	040.0	52.14
300.0	003.0000	0111.4	025.5	098.2	001.7447	0129.7	040.2	52.10
301.0	003.0000	0111.5	025.5	097.6	001.7626	0129.9	040.4	52.08
302.0	003.0000	0111.8	025.5	097.0	001.7807	0130.0	040.5	52.07
303.0	003.0000	0112.2	025.5	096.4	001.7987	0130.2	040.7	52.05
304.0	003.0000	0112.5	025.6	095.8	001.8166	0130.3	040.9	52.03
305.0	003.0000	0112.8	025.6	095.2	001.8342	0130.4	041.1	51.99
306.0	003.0000	0112.9	025.6	094.7	001.8512	0130.5	041.3	51.94
307.0	003.0000	0112.9	025.6	094.2	001.8676	0130.6	041.5	51.88
308.0	003.0000	0112.8	025.6	093.7	001.8834	0130.7	041.8	51.81
309.0	003.0000	0112.5	025.6	093.2	001.8985	0130.8	042.0	51.73
310.0	003.0000	0112.1	025.5	092.7	001.9131	0130.8	042.3	51.64
311.0	003.0000	0111.7	025.5	092.3	001.9271	0130.9	042.6	51.54
312.0	003.0000	0111.2	025.4	091.9	001.9405	0130.9	043.0	51.44
313.0	003.0000	0110.6	025.4	091.5	001.9533	0131.0	043.3	51.33
314.0	003.0000	0110.0	025.3	091.1	001.9655	0131.0	043.6	51.21
315.0	003.0000	0109.4	025.3	090.7	001.9773	0131.0	044.0	51.09
316.0	003.0000	0108.9	025.2	090.3	001.9888	0131.1	044.3	50.97
317.0	003.0000	0108.5	025.2	090.0	002.0000	0131.1	044.7	50.86
318.0	003.0000	0108.4	025.1	089.6	002.0000	0131.2	045.0	50.72
319.0	003.0000	0108.3	025.1	089.3	002.0000	0131.2	045.3	50.58
320.0	003.0000	0108.2	025.1	088.9	002.0000	0131.2	045.7	50.44
321.0	003.0000	0108.1	025.1	088.6	002.0000	0131.2	046.0	50.30
322.0	003.0000	0107.9	025.1	088.3	002.0000	0131.2	046.4	50.16
323.0	003.0000	0107.9	025.1	088.0	002.0000	0131.2	046.7	50.01
324.0	003.0000	0108.0	025.1	087.6	002.0000	0131.2	047.1	49.87
325.0	003.0000	0108.1	025.1	087.3	002.0000	0131.3	047.5	49.73
326.0	003.0000	0108.3	025.1	087.0	002.0000	0131.3	047.8	49.59

FMCommander Single Allocation Study  
04-07-2008

WJSZ.A CH 223 A  
4.0 kW 330 M COR DA  
Prot. = 60 dBu  
Intef. = 54 dBu

WDZZ-FM.C CH 224 A BPH20060822AID  
3.0 kW, 331.6 M COR  
Prot. = 60 dBu  
Intef. = 54 dBu



**Munn-Reese, Inc.**

Broadcast Engineering Consultants  
Coldwater, MI 49036

04-07-2008

NGDC 30 SEC Terrain Data

FMOver Analysis

WJSZ.A

Channel = 223A

Max ERP = 4 kW

RCAMSL = 330 M

N. Lat. 43 10 56.0

W. Lng. 84 27 03.0

Protected

60 dBu

WDZZ-FM.C BPH20060822AID

Channel = 224A

Max ERP = 3 kW

RCAMSL = 331.6 M

N. Lat. 43 02 29.0

W. Lng. 83 41 28.0

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
059.0	003.2483	0132.2	027.8	308.6	003.0000	0109.3	048.2	49.93
060.0	003.1696	0132.3	027.7	308.2	003.0000	0109.3	047.8	50.08
061.0	003.0405	0132.4	027.4	307.7	003.0000	0109.3	047.5	50.21
062.0	002.9142	0132.5	027.2	307.2	003.0000	0109.3	047.2	50.33
063.0	002.7905	0132.5	026.9	306.6	003.0000	0109.3	046.9	50.45
064.0	002.6696	0132.4	026.6	306.1	003.0000	0109.2	046.6	50.56
065.0	002.5513	0132.4	026.4	305.5	003.0000	0109.2	046.3	50.67
066.0	002.4357	0132.3	026.1	304.9	003.0000	0109.2	046.0	50.77
067.0	002.3227	0132.3	025.8	304.3	003.0000	0109.2	045.8	50.86
068.0	002.2125	0132.3	025.5	303.7	003.0000	0109.2	045.6	50.94
069.0	002.1049	0132.3	025.3	303.1	003.0000	0109.3	045.4	51.03
070.0	002.0000	0132.5	025.0	302.5	003.0000	0109.5	045.2	51.11
071.0	002.0000	0132.8	025.0	302.2	003.0000	0109.6	044.9	51.26
072.0	002.0000	0133.1	025.0	301.9	003.0000	0109.7	044.5	51.41
073.0	002.0000	0133.3	025.1	301.5	003.0000	0109.8	044.2	51.56
074.0	002.0000	0133.5	025.1	301.1	003.0000	0109.8	043.8	51.69
075.0	002.0000	0133.7	025.1	300.7	003.0000	0109.9	043.5	51.83
076.0	002.0000	0133.6	025.1	300.3	003.0000	0109.9	043.2	51.96
077.0	002.0000	0133.4	025.1	299.9	003.0000	0109.9	042.9	52.08
078.0	002.0000	0133.0	025.0	299.4	003.0000	0109.9	042.7	52.19
079.0	002.0000	0132.6	025.0	298.9	003.0000	0110.0	042.4	52.30
080.0	002.0000	0132.4	025.0	298.5	003.0000	0110.1	042.1	52.41
081.0	002.0000	0132.1	025.0	298.0	003.0000	0110.2	041.9	52.52
082.0	002.0000	0132.0	025.0	297.5	003.0000	0110.4	041.7	52.64
083.0	002.0000	0131.8	024.9	297.0	003.0000	0110.5	041.4	52.75
084.0	002.0000	0131.6	024.9	296.5	003.0000	0110.6	041.2	52.85
085.0	002.0000	0131.5	024.9	295.9	003.0000	0110.7	041.0	52.95
086.0	002.0000	0131.3	024.9	295.4	003.0000	0110.7	040.8	53.03
087.0	002.0000	0131.3	024.9	294.8	003.0000	0110.6	040.6	53.11
088.0	002.0000	0131.2	024.9	294.3	003.0000	0110.5	040.4	53.19
089.0	002.0000	0131.2	024.9	293.7	003.0000	0110.5	040.2	53.26
090.0	002.0000	0131.1	024.9	293.2	003.0000	0110.4	040.0	53.33
091.0	001.9678	0131.0	024.8	292.5	003.0000	0110.4	040.0	53.36
092.0	001.9359	0130.9	024.7	291.9	003.0000	0110.3	039.9	53.38
093.0	001.9043	0130.8	024.6	291.3	003.0000	0110.2	039.9	53.39
094.0	001.8729	0130.6	024.5	290.6	003.0000	0109.9	039.9	53.37
095.0	001.8417	0130.5	024.4	290.0	003.0000	0109.6	039.8	53.35

## FMOver Analysis

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
096.0	001.8109	0130.3	024.3	289.4	003.0000	0109.2	039.8	53.33
097.0	001.7803	0130.0	024.2	288.7	003.0000	0109.0	039.9	53.30
098.0	001.7499	0129.8	024.1	288.1	003.0000	0108.8	039.9	53.27
099.0	001.7198	0129.5	023.9	287.5	003.0000	0108.8	040.0	53.25
100.0	001.6900	0129.3	023.8	286.9	003.0000	0108.8	040.0	53.22
101.0	001.7030	0129.2	023.9	286.3	003.0000	0109.0	039.9	53.27
102.0	001.7161	0129.0	023.9	285.7	003.0000	0109.4	039.9	53.32
103.0	001.7292	0128.7	023.9	285.1	003.0000	0109.8	039.9	53.36
104.0	001.7424	0128.3	023.9	284.5	003.0000	0110.2	039.8	53.40
105.0	001.7556	0128.0	023.9	283.9	003.0000	0110.7	039.8	53.44
106.0	001.7689	0127.8	024.0	283.3	003.0000	0111.2	039.8	53.49
107.0	001.7822	0127.6	024.0	282.7	003.0000	0111.8	039.8	53.52
108.0	001.7956	0127.4	024.0	282.1	003.0000	0112.3	039.8	53.55
109.0	001.8090	0127.2	024.0	281.5	003.0000	0112.8	039.9	53.58
110.0	001.8225	0126.9	024.0	280.9	003.0000	0113.3	039.9	53.59
111.0	001.8399	0126.7	024.1	280.3	003.0000	0113.9	040.0	53.61
112.0	001.8573	0126.5	024.1	279.7	003.0000	0114.2	040.0	53.61
113.0	001.8749	0126.2	024.1	279.1	003.0000	0114.4	040.1	53.59
114.0	001.8925	0125.9	024.2	278.5	003.0000	0114.3	040.2	53.55
115.0	001.9102	0125.6	024.2	277.9	003.0000	0114.2	040.3	53.50
116.0	001.9280	0125.1	024.2	277.3	003.0000	0114.1	040.4	53.44
117.0	001.9459	0124.5	024.2	276.8	003.0000	0114.0	040.5	53.37
118.0	001.9638	0124.0	024.2	276.2	003.0000	0113.9	040.7	53.30
119.0	001.9819	0123.5	024.2	275.7	003.0000	0113.7	040.8	53.22
120.0	002.0000	0122.9	024.2	275.1	003.0000	0113.4	041.0	53.12
121.0	002.0000	0122.4	024.2	274.6	003.0000	0113.1	041.2	53.00
122.0	002.0000	0121.9	024.2	274.1	003.0000	0112.7	041.5	52.88
123.0	002.0000	0121.4	024.1	273.6	003.0000	0112.4	041.7	52.76
124.0	002.0000	0121.0	024.1	273.2	003.0000	0112.1	042.0	52.64
125.0	002.0000	0120.7	024.1	272.7	003.0000	0111.9	042.2	52.52
126.0	002.0000	0120.5	024.0	272.2	003.0000	0111.6	042.4	52.39
127.0	002.0000	0120.1	024.0	271.8	003.0000	0111.4	042.7	52.27
128.0	002.0000	0119.7	024.0	271.4	003.0000	0111.2	043.0	52.14
129.0	002.0000	0119.4	023.9	271.0	003.0000	0111.0	043.3	52.01
130.0	002.0000	0119.1	023.9	270.5	003.0000	0110.7	043.5	51.88
131.0	002.1049	0118.9	024.2	269.9	003.0000	0110.5	043.6	51.83
132.0	002.2125	0118.7	024.4	269.3	003.0000	0110.3	043.7	51.77
133.0	002.3227	0118.6	024.7	268.6	003.0000	0110.2	043.8	51.72
134.0	002.4357	0118.4	024.9	268.0	003.0000	0110.0	044.0	51.65
135.0	002.5513	0118.2	025.2	267.4	003.0000	0109.9	044.1	51.58
136.0	002.6696	0118.1	025.4	266.8	003.0000	0109.7	044.3	51.49
137.0	002.7905	0118.0	025.7	266.2	003.0000	0109.5	044.5	51.40
138.0	002.9142	0118.0	025.9	265.5	003.0000	0109.2	044.7	51.30
139.0	003.0405	0118.2	026.2	264.9	003.0000	0109.0	044.9	51.21
140.0	003.1696	0118.6	026.5	264.3	003.0000	0109.0	045.1	51.11
141.0	003.2483	0118.9	026.6	263.8	003.0000	0108.9	045.4	50.99
142.0	003.3279	0119.1	026.8	263.3	003.0000	0108.9	045.7	50.87
143.0	003.4086	0119.4	027.0	262.8	003.0000	0108.9	046.1	50.74
144.0	003.4902	0119.9	027.2	262.3	003.0000	0108.8	046.4	50.60
145.0	003.5727	0120.7	027.4	261.8	003.0000	0108.6	046.7	50.47
146.0	003.6562	0121.5	027.6	261.4	003.0000	0108.4	047.0	50.32

04-07-2008 NGDC 30 SEC Terrain Data

WDZZ-FM.C BPH20060822AID  
 Channel = 224A  
 Max ERP = 3 kW  
 RCAMSL = 331.6 M  
 N. Lat. 43 02 29.0  
 W. Lng. 83 41 28.0  
 Protected  
 60 dBu

WJSZ.A  
 Channel = 223A  
 Max ERP = 4 kW  
 RCAMSL = 330 M  
 N. Lat. 43 10 56.0  
 W. Lng. 84 27 03.0  
 Interfering  
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
240.0	003.0000	0100.1	024.2	124.1	002.0000	0121.0	049.4	48.41
241.0	003.0000	0100.8	024.3	124.0	002.0000	0121.0	049.0	48.57
242.0	003.0000	0101.4	024.4	123.8	002.0000	0121.1	048.6	48.73
243.0	003.0000	0102.0	024.5	123.6	002.0000	0121.1	048.2	48.89
244.0	003.0000	0102.5	024.5	123.4	002.0000	0121.2	047.8	49.05
245.0	003.0000	0102.9	024.6	123.2	002.0000	0121.3	047.4	49.21
246.0	003.0000	0103.3	024.6	123.0	002.0000	0121.4	047.0	49.37
247.0	003.0000	0103.6	024.6	122.7	002.0000	0121.5	046.7	49.52
248.0	003.0000	0103.9	024.7	122.5	002.0000	0121.6	046.3	49.68
249.0	003.0000	0104.1	024.7	122.2	002.0000	0121.8	045.9	49.83
250.0	003.0000	0104.1	024.7	121.9	002.0000	0122.0	045.6	49.98
251.0	003.0000	0104.2	024.7	121.5	002.0000	0122.1	045.2	50.13
252.0	003.0000	0104.3	024.7	121.2	002.0000	0122.3	044.9	50.28
253.0	003.0000	0104.6	024.7	120.9	002.0000	0122.5	044.6	50.43
254.0	003.0000	0105.0	024.8	120.5	002.0000	0122.7	044.2	50.58
255.0	003.0000	0105.3	024.8	120.2	002.0000	0122.8	043.9	50.74
256.0	003.0000	0105.8	024.9	119.8	001.9969	0123.0	043.5	50.88
257.0	003.0000	0106.2	024.9	119.5	001.9901	0123.2	043.2	51.02
258.0	003.0000	0106.5	024.9	119.1	001.9828	0123.4	042.9	51.15
259.0	003.0000	0106.9	025.0	118.6	001.9755	0123.7	042.6	51.28
260.0	003.0000	0107.5	025.1	118.2	001.9682	0123.9	042.2	51.41
261.0	003.0000	0108.2	025.1	117.8	001.9609	0124.1	041.9	51.55
262.0	003.0000	0108.7	025.2	117.4	001.9530	0124.3	041.6	51.68
263.0	003.0000	0108.9	025.2	116.9	001.9444	0124.6	041.3	51.79
264.0	003.0000	0108.9	025.2	116.4	001.9353	0124.9	041.1	51.90
265.0	003.0000	0109.1	025.2	115.9	001.9262	0125.1	040.8	52.00
266.0	003.0000	0109.4	025.3	115.4	001.9172	0125.4	040.6	52.10
267.0	003.0000	0109.8	025.3	114.9	001.9079	0125.6	040.3	52.21
268.0	003.0000	0110.0	025.3	114.3	001.8983	0125.8	040.1	52.30
269.0	003.0000	0110.3	025.3	113.8	001.8885	0126.0	039.9	52.38
270.0	003.0000	0110.5	025.4	113.2	001.8786	0126.2	039.7	52.46
271.0	003.0000	0111.0	025.4	112.6	001.8687	0126.3	039.5	52.54
272.0	003.0000	0111.5	025.5	112.1	001.8586	0126.4	039.3	52.62
273.0	003.0000	0112.1	025.5	111.5	001.8483	0126.6	039.1	52.70

## FMOver Analysis

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
274.0	003.0000	0112.7	025.6	110.9	001.8380	0126.7	038.9	52.77
275.0	003.0000	0113.3	025.6	110.3	001.8274	0126.8	038.7	52.84
276.0	003.0000	0113.8	025.7	109.7	001.8179	0127.0	038.5	52.90
277.0	003.0000	0114.1	025.7	109.0	001.8092	0127.2	038.4	52.95
278.0	003.0000	0114.3	025.7	108.4	001.8005	0127.3	038.3	52.98
279.0	003.0000	0114.3	025.8	107.7	001.7916	0127.5	038.2	53.01
280.0	003.0000	0114.1	025.7	107.0	001.7826	0127.6	038.2	53.01
281.0	003.0000	0113.2	025.6	106.3	001.7735	0127.7	038.2	52.98
282.0	003.0000	0112.4	025.6	105.7	001.7645	0127.8	038.2	52.95
283.0	003.0000	0111.5	025.5	105.0	001.7555	0128.0	038.3	52.91
284.0	003.0000	0110.6	025.4	104.3	001.7467	0128.2	038.4	52.86
285.0	003.0000	0109.8	025.3	103.7	001.7379	0128.4	038.5	52.82
286.0	003.0000	0109.2	025.2	103.0	001.7293	0128.7	038.5	52.77
287.0	003.0000	0108.8	025.2	102.4	001.7208	0128.9	038.6	52.73
288.0	003.0000	0108.8	025.2	101.7	001.7123	0129.1	038.6	52.70
289.0	003.0000	0109.1	025.2	101.1	001.7037	0129.2	038.7	52.68
290.0	003.0000	0109.6	025.3	100.4	001.6951	0129.2	038.7	52.65
291.0	003.0000	0110.1	025.3	099.7	001.6979	0129.3	038.7	52.66
292.0	003.0000	0110.3	025.4	099.1	001.7172	0129.5	038.8	52.69
293.0	003.0000	0110.4	025.4	098.4	001.7365	0129.7	038.9	52.70
294.0	003.0000	0110.5	025.4	097.8	001.7556	0129.8	039.0	52.71
295.0	003.0000	0110.6	025.4	097.2	001.7747	0130.0	039.1	52.71
296.0	003.0000	0110.7	025.4	096.6	001.7937	0130.2	039.2	52.71
297.0	003.0000	0110.5	025.4	096.0	001.8120	0130.3	039.4	52.69
298.0	003.0000	0110.2	025.3	095.4	001.8300	0130.4	039.6	52.65
299.0	003.0000	0110.0	025.3	094.8	001.8478	0130.5	039.8	52.61
300.0	003.0000	0109.9	025.3	094.2	001.8658	0130.6	039.9	52.57
301.0	003.0000	0109.8	025.3	093.7	001.8834	0130.7	040.2	52.52
302.0	003.0000	0109.7	025.3	093.1	001.9005	0130.8	040.4	52.47
303.0	003.0000	0109.4	025.3	092.6	001.9171	0130.8	040.6	52.40
304.0	003.0000	0109.2	025.2	092.1	001.9336	0130.9	040.9	52.34
305.0	003.0000	0109.2	025.2	091.6	001.9502	0131.0	041.1	52.27
306.0	003.0000	0109.2	025.2	091.0	001.9666	0131.0	041.3	52.21
307.0	003.0000	0109.3	025.2	090.5	001.9827	0131.1	041.6	52.13
308.0	003.0000	0109.3	025.2	090.0	001.9984	0131.1	041.8	52.06
309.0	003.0000	0109.4	025.3	089.6	002.0000	0131.2	042.1	51.95
310.0	003.0000	0109.6	025.3	089.1	002.0000	0131.2	042.4	51.84
311.0	003.0000	0110.1	025.3	088.6	002.0000	0131.2	042.6	51.72
312.0	003.0000	0110.4	025.4	088.1	002.0000	0131.2	042.9	51.61
313.0	003.0000	0110.6	025.4	087.7	002.0000	0131.2	043.2	51.48
314.0	003.0000	0110.5	025.4	087.3	002.0000	0131.3	043.5	51.35
315.0	003.0000	0110.3	025.4	086.9	002.0000	0131.3	043.9	51.21
316.0	003.0000	0110.4	025.4	086.5	002.0000	0131.3	044.2	51.07
317.0	003.0000	0110.5	025.4	086.1	002.0000	0131.3	044.5	50.93
318.0	003.0000	0110.7	025.4	085.7	002.0000	0131.4	044.8	50.80
319.0	003.0000	0110.8	025.4	085.4	002.0000	0131.4	045.2	50.66
320.0	003.0000	0110.7	025.4	085.1	002.0000	0131.5	045.6	50.51
321.0	003.0000	0110.3	025.3	084.8	002.0000	0131.5	045.9	50.35
322.0	003.0000	0109.8	025.3	084.5	002.0000	0131.6	046.3	50.20
323.0	003.0000	0109.4	025.3	084.3	002.0000	0131.6	046.7	50.04
324.0	003.0000	0109.0	025.2	084.1	002.0000	0131.6	047.1	49.88