

# Educational Media Foundation

5700 West Oaks Boulevard ♦ Rocklin ♦ California ♦ 95765

Exhibit 18

Tullahoma, TN

## Channel Study

REFERENCE		CH# 203A - 88.5 MHz, Pwr= 5 kW DA, HAAT= 101.0 M, COR= 410 M								DISPLAY DATES	
35 23 53.0 N.		Average Protected F(50-50)= 27.3 km								DATA 08-10-23	
86 08 40.0 W.		Standard Directional								SEARCH 08-13-23	
CH	CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr(kW)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG.	HAAT (M)	COR (M)	LICENSEE	(Overlap in km)	
203A	WKTH!	APP	DCN	0.0	0.00	35 23 53.00	5.000		---	Reference---	
Tullahoma			TN	0.0	0000215058	86 08 40.00	101	410	Educational Media Foundati		
203A	WKTH!	LIC	CN	209.4	7.32	35 20 26.10	1.900		---	Reference---	
Tullahoma			TN	29.4	0000112178	86 11 03.00	53	360	Educational Media Foundati		
202A	WBIA	LIC	CN	288.2	29.92	35 28 54.30	0.250	10.1	7.1	5.6	1.4
Shelbyville			TN	108.1	BLED19990709KA	86 27 28.00	14	264	American Family Associatio		
203A	WJIA	LIC	VN	187.9	108.86	34 25 33.30	2.200	73.3	23.7	8.5	1.5
Guntersville			AL	7.8	BLED19950905KB	86 18 24.90	130	368	Lake City Educational Broa		
203A	WTTU	LIC	HN	33.5	103.92	36 10 36.20	2.000	61.8	17.7	16.2	4.1
Cookeville			TN	213.8	BLED19921130KJ	85 30 19.90	50	378	Tennessee Technological Un		
203A	WTTU	STA	CN	33.5	103.92	36 10 33.39	2.000	57.9	15.7	20.1	6.1
Cookeville			TN	213.9	0000218110	85 30 15.13	50	365	Tennessee Technological Un		
205C	WMBW	LIC	CN	124.6	84.95	34 57 43.30	100.000	10.5	74.3	47.5	8.1
Chattanooga			TN	305.1	BMLLED20020919AAA	85 22 39.90	460	760	The Moody Bible Institute		
202A	WRCC	LIC	CN	33.5	58.82	35 50 20.20	0.085	13.5	9.7	19.4	9.3
Dibrell			TN	213.7	BMLLED20110118AAR	85 47 01.90	105	410	South Central Oklahoma Chr		
204C2	WAYM	LIC	DCN	319.6	95.06	36 02 49.90	5.000	65.3	43.9	10.1	22.2
Spring Hill			TN	139.2	BLED20080731AIM	86 49 48.90	330	529	Hope Media Group		
202A	WMTS-FM	LIC	CN	339.5	53.47	35 50 56.20	0.680	12.9	9.2	19.1	12.5
Murfreesboro			TN	159.3	BLED20040607AAH	86 21 11.00	42	234	Middle Tennessee State Uni		
203A	WWQS	LIC	DCN	72.3	121.97	35 43 24.20	6.000	68.3	15.8	28.4	24.9
Decatur			TN	253.1	0000198556	84 51 33.80	94	478	The Power Foundation		
203A	WVCP	LIC	CN	346.3	115.00	36 24 15.20	1.000	59.2	18.0	33.4	25.0
Gallatin			TN	166.1	BLED20030508ABK	86 27 01.00	67	248	Volunteer State Community		
203A	WVCP	CP	CN	344.2	125.82	36 29 18.10	1.000	70.8	23.5	32.7	31.1
Gallatin			TN	164.0	0000215127	86 31 40.90	107	332	Volunteer State Community		
201C1	WUTC	LIC	CN	104.9	81.33	35 12 26.20	30.000	5.2	47.7	50.1	31.1
Chattanooga			TN	285.4	BLED19931130KA	85 16 51.80	271	673	University Of Tennessee		
203A	WZXX	LIC	CN	258.9	109.75	35 12 12.30	0.076	40.9	12.3	51.3	38.4
Lawrenceburg			TN	78.3	BMLLED20090731ACW	87 19 39.10	166	435	Radio By Grace, Inc.		
256C0	WAHR«	ALO		214.2	80.44	34 47 53.30	100.000	0.0	0.0	25.0R	55.4M
Huntsville			AL	33.9		86 38 24.00	450	688	Southern Stone Communicati		
256C0	WAHR«	LIC	CN	214.2	80.44	34 47 53.30	100.000	0.0	0.0	25.0R	55.4M
Huntsville			AL	33.9	BLH19891219KC	86 38 24.00	300	538	Southern Stone Communicati		
201C3	WAYH	LIC	DCN	220.2	84.03	34 49 08.30	3.500	1.6	22.5	56.0	59.0
Harvest			AL	39.8	BLED20030307AAO	86 44 19.00	204	443	Hope Media Group		

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM

Contour distances are on direct line to and from reference station. Reference Zone= - Zone 2, Co to 3rd adjacent.

Call signs with exclamation marks need not be protected.

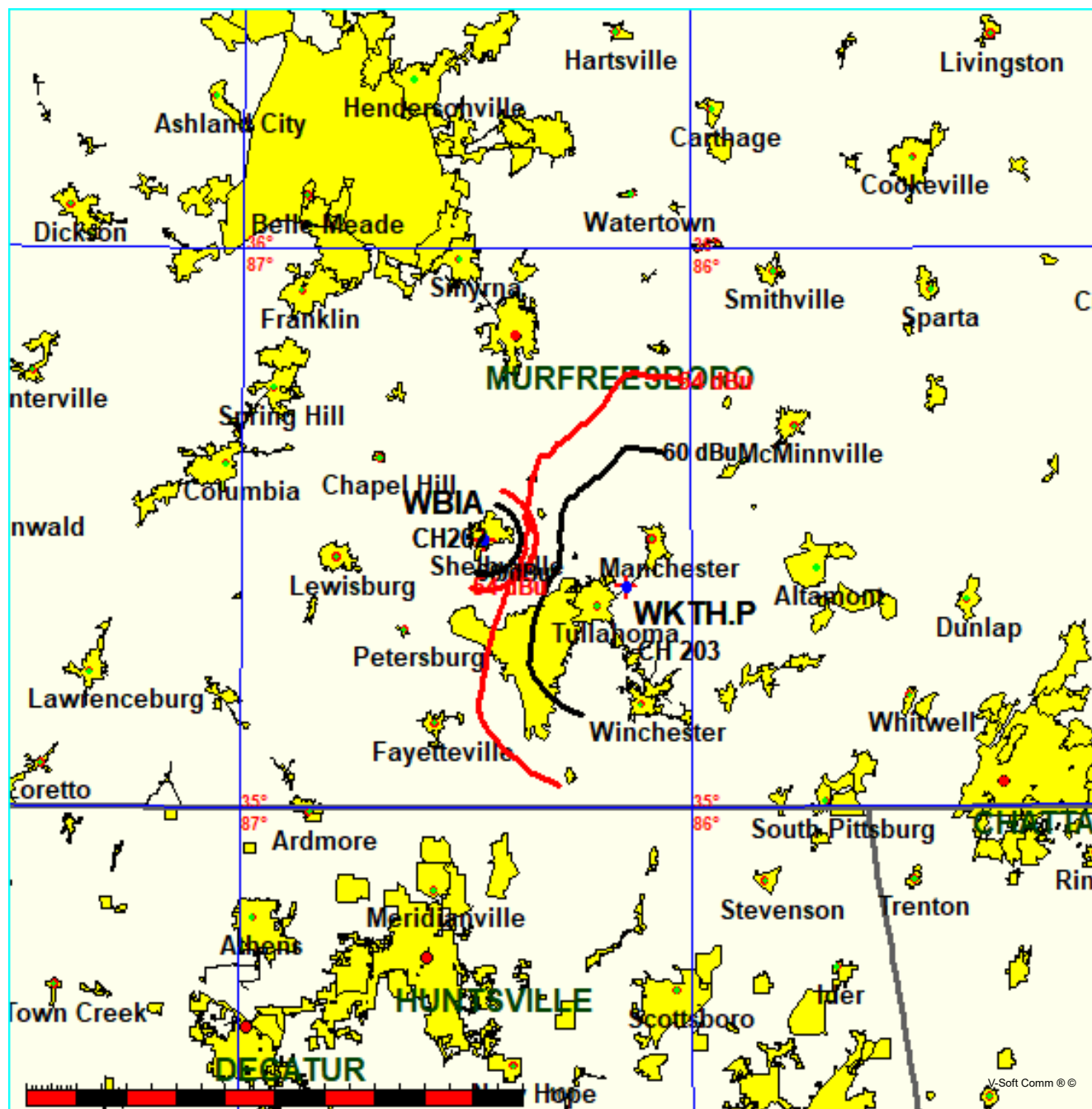
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)

« = Station meets FCC minimum distance spacing for its class.

FMCommander Single Allocation Study - 08-13-2023 - FCC NGDC 30 Sec  
WKTH.P's Overlaps (In= 5.57 km, Out= 1.42 km)

WKTH.P CH 203 A DA  
Lat= 35 23 53.00, Lng= 86 08 40.00  
5.0 kW 101 m HAAT, 410 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

WBIA CH 202 A BLED19990709KA  
Lat= 35 28 54.30, Lng= 86 27 28.00  
0.25 kW 14 m HAAT, 264 m COR  
Prot.= 60 dBu, Intef.= 54 dBu



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## WKTH.P vs. WBIA

08-13-2023      Terrain Data: FCC NGDC 30 Sec      FMOver Analysis

WBIA    BLED19990709KA

WKTH.P

Channel = 202A  
Max ERP = 0.25 kw  
RCAMSL = 264 m  
N. Lat. 35 28 54.30  
W. Lng. 86 27 28.00  
Protected  
60 dBu

Channel = 203A  
Max ERP = 5 kw  
RCAMSL = 410 m  
N. Lat. 35 23 53.00  
W. Lng. 86 08 40.00  
Interfering  
54 dBu

Azimuth (degrees)	ERP (kw)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kw)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
075.0	000.2500	0007.2	007.1	297.4	000.2987	0123.6	024.3	52.74	
076.0	000.2500	0007.7	007.1	297.2	000.2982	0123.8	024.2	52.80	
077.0	000.2500	0007.0	007.1	297.0	000.2976	0123.9	024.1	52.86	
078.0	000.2500	0005.4	007.1	296.8	000.2971	0124.0	024.0	52.92	
079.0	000.2500	0004.1	007.1	296.5	000.2965	0124.1	024.0	52.97	
080.0	000.2500	0004.0	007.1	296.3	000.2959	0124.2	023.9	53.02	
081.0	000.2500	0004.1	007.1	296.0	000.2953	0124.2	023.8	53.07	
082.0	000.2500	0004.6	007.1	295.8	000.2947	0124.2	023.7	53.11	
083.0	000.2500	0005.4	007.1	295.5	000.2941	0124.2	023.7	53.15	
084.0	000.2500	0006.9	007.1	295.3	000.2935	0124.1	023.6	53.18	
085.0	000.2500	0008.6	007.1	295.0	000.2929	0124.0	023.5	53.21	
086.0	000.2500	0011.0	007.1	294.8	000.2922	0123.9	023.5	53.24	
087.0	000.2500	0013.0	007.1	294.5	000.2916	0123.8	023.4	53.26	
088.0	000.2500	0015.1	007.1	294.2	000.2909	0123.6	023.4	53.28	
089.0	000.2500	0017.2	007.1	293.9	000.2903	0123.3	023.3	53.29	
090.0	000.2500	0019.1	007.1	293.7	000.2896	0122.9	023.3	53.29	
091.0	000.2500	0021.3	007.1	293.4	000.2889	0122.4	023.2	53.28	
092.0	000.2500	0023.4	007.1	293.1	000.2883	0121.8	023.2	53.26	
093.0	000.2500	0025.0	007.1	292.8	000.2876	0121.1	023.1	53.24	
094.0	000.2500	0024.9	007.1	292.5	000.2869	0120.4	023.1	53.21	
095.0	000.2500	0024.6	007.1	292.2	000.2862	0119.8	023.1	53.18	
096.0	000.2500	0024.3	007.1	291.9	000.2855	0119.1	023.0	53.15	
097.0	000.2500	0023.6	007.1	291.6	000.2847	0118.5	023.0	53.12	
098.0	000.2500	0022.4	007.1	291.3	000.2840	0117.9	023.0	53.09	
099.0	000.2500	0021.3	007.1	291.0	000.2833	0117.2	022.9	53.05	
100.0	000.2500	0020.1	007.1	290.7	000.2826	0116.4	022.9	53.00	
101.0	000.2500	0019.1	007.1	290.4	000.2819	0115.6	022.9	52.94	
102.0	000.2500	0018.4	007.1	290.1	000.2811	0114.7	022.9	52.88	
103.0	000.2500	0017.8	007.1	289.8	000.2835	0113.9	022.9	52.86	
104.0	000.2500	0017.0	007.1	289.5	000.2881	0113.1	022.8	52.88	
105.0	000.2500	0015.7	007.1	289.2	000.2926	0112.3	022.8	52.90	
106.0	000.2500	0014.3	007.1	288.9	000.2972	0111.6	022.8	52.91	
107.0	000.2500	0013.2	007.1	288.6	000.3019	0110.8	022.8	52.92	
108.0	000.2500	0012.3	007.1	288.3	000.3065	0110.1	022.8	52.93	
109.0	000.2500	0011.9	007.1	288.0	000.3113	0109.5	022.8	52.94	
110.0	000.2500	0011.4	007.1	287.6	000.3160	0108.9	022.8	52.96	
111.0	000.2500	0010.5	007.1	287.3	000.3208	0108.3	022.8	52.97	
112.0	000.2500	0009.3	007.1	287.0	000.3256	0107.8	022.8	52.99	
113.0	000.2500	0008.1	007.1	286.7	000.3304	0107.4	022.9	53.00	
114.0	000.2500	0007.0	007.1	286.4	000.3353	0106.9	022.9	53.01	
115.0	000.2500	0006.4	007.1	286.1	000.3401	0106.5	022.9	53.02	
116.0	000.2500	0006.6	007.1	285.8	000.3450	0106.0	022.9	53.03	

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117.0	000.2500	0007.2	007.1	285.5	000.3499	0105.4	022.9	53.02
118.0	000.2500	0007.7	007.1	285.2	000.3548	0104.9	023.0	53.01
119.0	000.2500	0007.9	007.1	284.9	000.3597	0104.2	023.0	53.00
120.0	000.2500	0007.3	007.1	284.6	000.3646	0103.6	023.0	52.97
121.0	000.2500	0006.4	007.1	284.3	000.3695	0102.9	023.1	52.95
122.0	000.2500	0005.6	007.1	284.0	000.3744	0102.2	023.1	52.91
123.0	000.2500	0005.6	007.1	283.7	000.3793	0101.6	023.1	52.88
124.0	000.2500	0006.1	007.1	283.4	000.3841	0100.9	023.2	52.84
125.0	000.2500	0006.5	007.1	283.1	000.3889	0100.3	023.2	52.80
126.0	000.2500	0005.9	007.1	282.8	000.3938	0099.7	023.3	52.77
127.0	000.2500	0004.5	007.1	282.6	000.3985	0099.1	023.3	52.72
128.0	000.2500	0003.0	007.1	282.3	000.4033	0098.4	023.4	52.67
129.0	000.2500	0001.5	007.1	282.0	000.4080	0097.7	023.4	52.62
130.0	000.2500	0000.3	007.1	281.8	000.4127	0097.0	023.5	52.56

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Exhibit 18-B

FMCommander Single Allocation Study - 07-22-2023 - FCC NGDC 30 Sec  
WKTH.P's Overlaps (In= 8.51 km, Out= 1.49 km)

WKTH.P CH 203 A DA

Lat= 35 23 53.00, Lng= 86 08 40.00

5.0 kW 101 m HAAT, 410 m COR

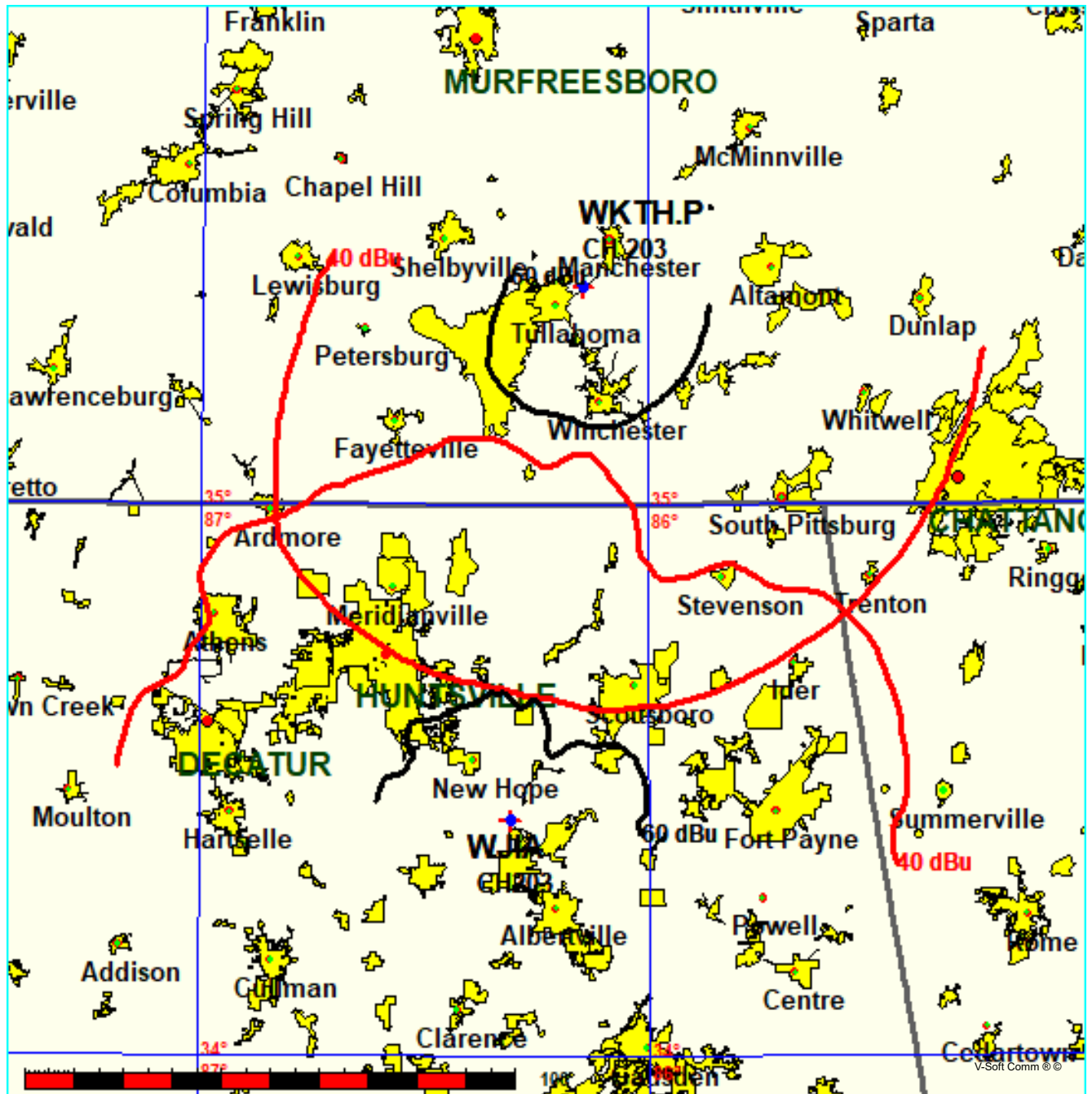
Prot.= 60 dBu, Intef.= 40 dBu

WJIA CH 203 A BLED19950905KB

Lat= 34 25 33.30, Lng= 86 18 24.90

2.2 kW 130 m HAAT, 368 m COR

Prot.= 60 dBu, Intef.= 40 dBu



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Exhibit 18-B

Tullahoma, TN

## WKTH.P vs. WJIA

07-22-2023      Terrain Data: FCC NGDC 30 Sec      FMOver Analysis

WJIA    BLED19950905KB

WKTH.P

Channel = 203A  
Max ERP = 2.2 kw  
RCAMSL = 368 m  
N. Lat. 34 25 33.30  
W. Lng. 86 18 24.90  
Protected  
60 dBu

Channel = 203A  
Max ERP = 5 kw  
RCAMSL = 410 m  
N. Lat. 35 23 53.00  
W. Lng. 86 08 40.00  
Interfering  
40 dBu

Azimuth (degrees)	ERP (kw)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kw)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
340.0	002.2000	0124.1	024.9	195.4	005.0000	0097.3	087.7	38.80	
341.0	002.2000	0123.5	024.8	195.2	005.0000	0097.3	087.5	38.86	
342.0	002.2000	0124.0	024.8	194.9	005.0000	0097.3	087.2	38.93	
343.0	002.2000	0124.7	024.9	194.7	005.0000	0097.2	086.9	39.00	
344.0	002.2000	0125.6	025.0	194.5	005.0000	0097.1	086.7	39.08	
345.0	002.2000	0126.8	025.1	194.3	005.0000	0097.1	086.3	39.16	
346.0	002.2000	0127.9	025.2	194.1	005.0000	0097.0	086.1	39.24	
347.0	002.2000	0129.9	025.3	193.8	005.0000	0097.0	085.7	39.33	
348.0	002.2000	0132.3	025.5	193.6	005.0000	0097.0	085.3	39.43	
349.0	002.2000	0135.3	025.8	193.4	005.0000	0096.9	084.9	39.54	
350.0	002.2000	0137.7	026.0	193.2	005.0000	0096.9	084.6	39.64	
351.0	002.2000	0139.6	026.1	193.0	005.0000	0096.8	084.3	39.72	
352.0	002.2000	0139.2	026.1	192.7	005.0000	0096.8	084.1	39.76	
353.0	002.2000	0137.3	025.9	192.3	005.0000	0096.8	084.1	39.76	
354.0	002.2000	0136.0	025.8	192.0	005.0000	0096.8	084.1	39.77	
355.0	002.2000	0135.7	025.8	191.7	005.0000	0096.8	084.0	39.81	
356.0	002.2000	0135.9	025.8	191.4	005.0000	0096.9	083.8	39.85	
357.0	002.2000	0134.6	025.7	191.1	005.0000	0097.0	083.8	39.86	
358.0	002.2000	0132.7	025.6	190.8	005.0000	0097.2	083.8	39.85	
359.0	002.2000	0129.4	025.3	190.5	005.0000	0097.4	084.0	39.82	
000.0	002.2000	0124.5	024.9	190.1	005.0000	0097.6	084.3	39.74	
001.0	002.2000	0119.3	024.5	189.8	005.0000	0097.9	084.7	39.66	
002.0	002.2000	0114.1	024.0	189.5	005.0000	0098.1	085.1	39.56	
003.0	002.2000	0110.1	023.6	189.2	005.0000	0098.3	085.4	39.48	
004.0	002.2000	0106.3	023.2	188.9	005.0000	0098.6	085.7	39.40	
005.0	002.2000	0103.2	022.9	188.6	005.0000	0098.8	086.0	39.32	
006.0	002.2000	0102.6	022.8	188.3	005.0000	0098.9	086.1	39.32	
007.0	002.2000	0106.7	023.3	188.1	005.0000	0098.9	085.6	39.44	
008.0	002.2000	0112.9	023.9	187.8	005.0000	0098.9	085.0	39.61	
009.0	002.2000	0117.4	024.3	187.5	005.0000	0098.9	084.6	39.72	
010.0	002.2000	0121.0	024.6	187.2	005.0000	0098.9	084.3	39.80	
011.0	002.2000	0123.4	024.8	186.9	005.0000	0099.0	084.2	39.85	
012.0	002.2000	0124.2	024.9	186.6	005.0000	0099.0	084.1	39.86	
013.0	002.2000	0122.3	024.7	186.3	005.0000	0099.1	084.3	39.81	
014.0	002.2000	0117.9	024.3	186.1	005.0000	0099.1	084.8	39.70	
015.0	002.2000	0111.9	023.8	185.8	005.0000	0099.2	085.4	39.53	
016.0	002.2000	0105.8	023.2	185.6	005.0000	0099.2	086.0	39.35	
017.0	002.2000	0100.7	022.6	185.5	005.0000	0099.3	086.6	39.18	
018.0	002.2000	0096.6	022.2	185.3	005.0000	0099.5	087.2	39.05	
019.0	002.2000	0092.5	021.7	185.1	005.0000	0099.7	087.7	38.91	
020.0	002.2000	0088.6	021.2	184.9	005.0000	0099.9	088.3	38.77	