

E-11 TECHNICAL REPORT

W227AK APPLICATION FOR MINOR CHANGE TO NON-ADJACENT CHANNEL 295 DUE TO DISPLACEMENT

This technical report has been developed in support of an application for a minor modification to FM translator W227AK requesting a change in channel to 295, and a waiver of Section 74.1233(a)(1) to permit the modification of license to a non-adjacent channel as a minor change.

W227AK Displacement

W227AK has been displaced from its current channel by the modification of station WMPZ to channel 228 and change in community of license to Harrison, TN. W227AK creates prohibited interference to WMPZ which is located only 11.8 km from the W227AK transmitter site. W227AK will also create prohibited interference on all of its adjacent and IF channels thus prohibiting a minor change application in accordance with Section 74.1204. See Exhibit E-1A. Channel studies are provided in Exhibit 3 demonstrating this interference and summarized below:

- 224 Interference to W224AZ**
- 225 Interference to W224AZ and to WMPZ on 228 (interference contour to WMPZ is 169 meters which encompasses a nearby road - map attached¹).**
- 226 Interference to WMPZ (see channel 225), W224AZ and WSAA**
- 227 Interference to WMPZ on 1st adjacent channel including city of license**
- 228 Co-channel to WMPZ**
- 229 Interference to WMPZ on 1st adjacent channel including city of license**
- 230 Interference to WMPZ (see 226 above).**
- 280 Interference to WURV**
- 281 Interference to WURV**

¹ The WMPZ 50, 50 contour at the W227AK site is 73.5 dBu. Adding 40 dBu yields an interference contour of 113.5 dBu at a distance of 169 meters. This interference contour will encompass a nearby road.

Although W227AK has not been able to operate, it did not submit this application at an earlier date because it has just been learned that the Commission staff will entertain a non-adjacent channel change in displacement situations. W227AK has filed an STA to remain silent until the requested channel change is made.

An allocation study has been conducted for a new channel. Channel 295 is the only channel that can replace W227AK's current facility. Interference studies are included as E-1 and E-1A demonstrating that the use of channel 295 meets the requirements of section 74.1204. The WSKZ 50, 50 contour at the W227AK site is 96.3 dBu. Adding 40 dBu yields a proposed interference contour of 136.3 dBu which occurs at a distance of 13 meters. Clearly, this contour will not reach the ground or any populated area from the antenna at 25 meters height. Consequently, based on this showing that the interfering contour will not reach a populated area, a waiver of Section 74.1204 is requested. Allocation exhibits are provided as required by FCC form 349 as follows:

E-1 Interference channel study on requested channel 295

E-1A Interference study to 2nd adjacent WSKZ

E-1B Interference study to WMPZ as a 2nd or 3rd adjacency

E-2 60 dBu plots

E-3 Interference channel studies demonstrating the unavailability of adjacent or IF channels for use by W227AK.

The RF contribution of the proposed translator was calculated to be .56 microwatts/cm². This is well below the 5% threshold of the maximum permissible 200 microwatts/cm² exposure for general population/uncontrolled exposure (10 microwatts/cm²) for exclusion from consideration. A vertical factor of .2 specified by Scala was used in the formula:

$$S \text{ (RF in microwatts/cm}^2\text{)} = \frac{33.4 (F2 - \text{Vert Factor}) X (H \text{ ERP} + V \text{ ERP in watts})}{R^2 \text{ (distance to radiation center in meters)}}$$

A handwritten signature in cursive script, reading "Charles M. Anderson", written in black ink.

Charles M. Anderson June 24, 2009

1519 Euclid Avenue

Bowling Green, KY 42103

© 2009 Charles M. Anderson and Associates

E-1 CHANNEL 295 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 295D - 106.9 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT ---	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
293C0 Chattanooga	AL4067	RSV TN	---	341.6 161.6	16.3 RM11229	35 09 42.0 85 19 06.0	100.000 450	13.9 840	92.3	-3.2<	-76.5*<
293C Chattanooga	WSKZ	LIC TN	_CN	341.6 161.6	16.3 BLH7303	35 09 42.0 85 19 06.0	100.000 329	12.5 721	86.4 Citadel Broadcasting Compa	-1.9<	-70.6*<(1)
296C1 Aragon	AL9861	RSV GA	---	160.2 340.4	77.3 RM11229	34 22 02.0 84 58 33.0	100.000 299	107.9 542	74.3	-34.7*<	-2.8< (2)
295C2 Monterey	WKXD-FM	LIC TN	ZCN	0.7 180.7	121.8 BLH19940201KB	36 07 13.0 85 14 44.0	23.000 224	121.2 726	46.2 Jwc Broadcasting	-4.4<	59.6
296C1 Aragon	WTSH-FM	CP GA	NCX	163.5 343.6	89.3 BMPH20081117ACS	34 15 03.0 84 59 05.0	100.000 158	86.8 399	57.3 Woman's World Broadcasting	-1.7<	26.0
296C2 Rockmart	WTSH-FM	LIC GA	_CN	163.5 343.6	89.3 BLH19921001KC	34 15 03.0 84 59 05.0	45.000 158	75.3 399	50.0 Woman's World Broadcasting	9.9	33.2
295C0 Homewood	WBPT	LIC AL	_C_	220.1 39.3	222.2 BLH20040722ADV	33 29 04.0 86 48 25.0	100.000 404	182.6 597	79.6 Cox Radio, Inc.	35.3	129.2
295D Winchester	W295AV	LIC TN	_C_	283.3 102.9	77.8 BLFT20070815ABR	35 10 51.0 86 05 34.0	0.120	19.6 307	5.9 Way-fm Media Group, Inc.	51.1	47.9

(1) See E11 and E1A for proof of lack of interference based on interference ratio method.

(2) Reference point does not require protection on grant of CP.

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

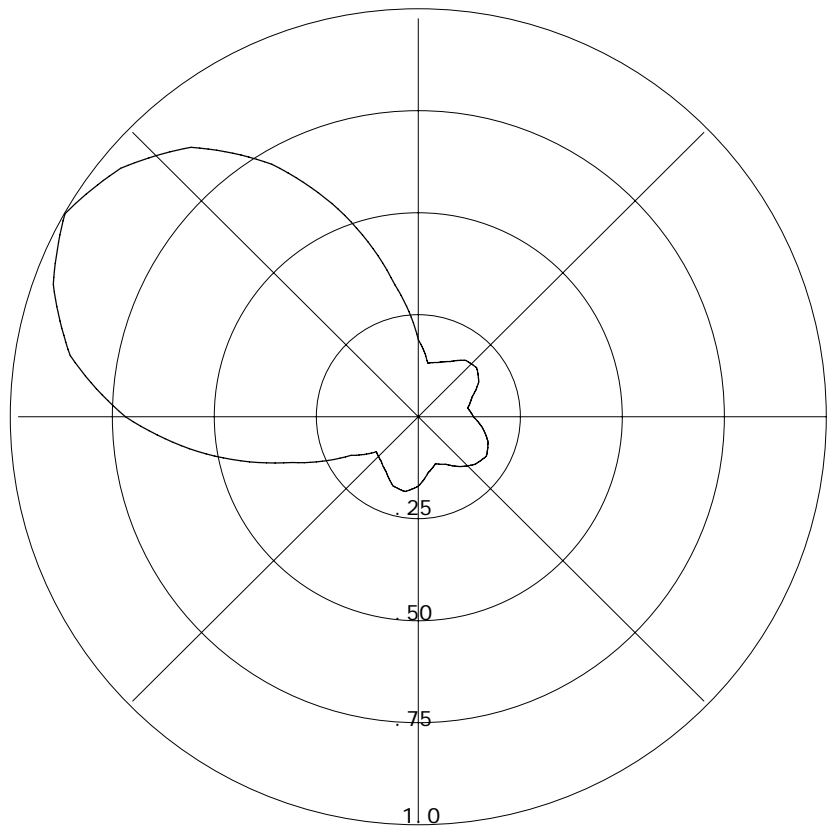
06-24-2009

RMS(V)= .432

Bearing Field % Voltage

Graph is Percent Relative Field Voltage

000	=	0.190
010	=	0.134
020	=	0.142
030	=	0.157
040	=	0.181
050	=	0.187
060	=	0.171
070	=	0.140
080	=	0.123
090	=	0.135
100	=	0.160
110	=	0.182
120	=	0.193
130	=	0.182
140	=	0.160
150	=	0.135
160	=	0.123
170	=	0.140
180	=	0.171
190	=	0.187
200	=	0.181
210	=	0.157
220	=	0.142
230	=	0.134
240	=	0.190
250	=	0.329
260	=	0.528
270	=	0.718
280	=	0.866
290	=	0.952
300	=	1.000
310	=	0.952
320	=	0.866
330	=	0.718
340	=	0.528
350	=	0.329



E1A W227AK

BLFT20070522ABR

Latitude: 35-01-21 N

Longitude: 085-15-42 W

ERP: 0.13 kW

HAAT: 99.45 m

Channel: 295

Frequency: 106.9 MHz

RCAMSL Height: 332.0 m

Site Elevation: 305.0 m

Horiz. Pattern: Directional



WSKZ

WSKZ

BLH7303

Latitude: 35-09-42 N

Longitude: 085-19-06 W

ERP: 100.00 kW

HAAT: 329.0 m

Channel: 293

Frequency: 106.5 MHz

RCAMSL Height: 721.0 m

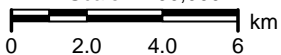
Site Elevation: 636.0 m



W227AK

WSKZ 50,50 CONTOUR AT W227AK SITE = 95.8 DBU**W227AK INTERFERING CONTOUR = 95.8 + 40 = 135.8 = 13 METERS**

Scale 1:200,000



E1B W227AK

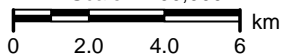
BLFT20070522ABR
Latitude: 35-01-21 N
Longitude: 085-15-42 W
ERP: 0.13 kW
HAAT: 99.45 m
Channel: 295
Frequency: 106.9 MHz
RCAMSL Height: 332.0 m
Site Elevation: 305.0 m
Horiz. Pattern: Directional

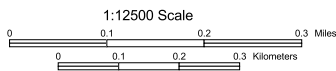
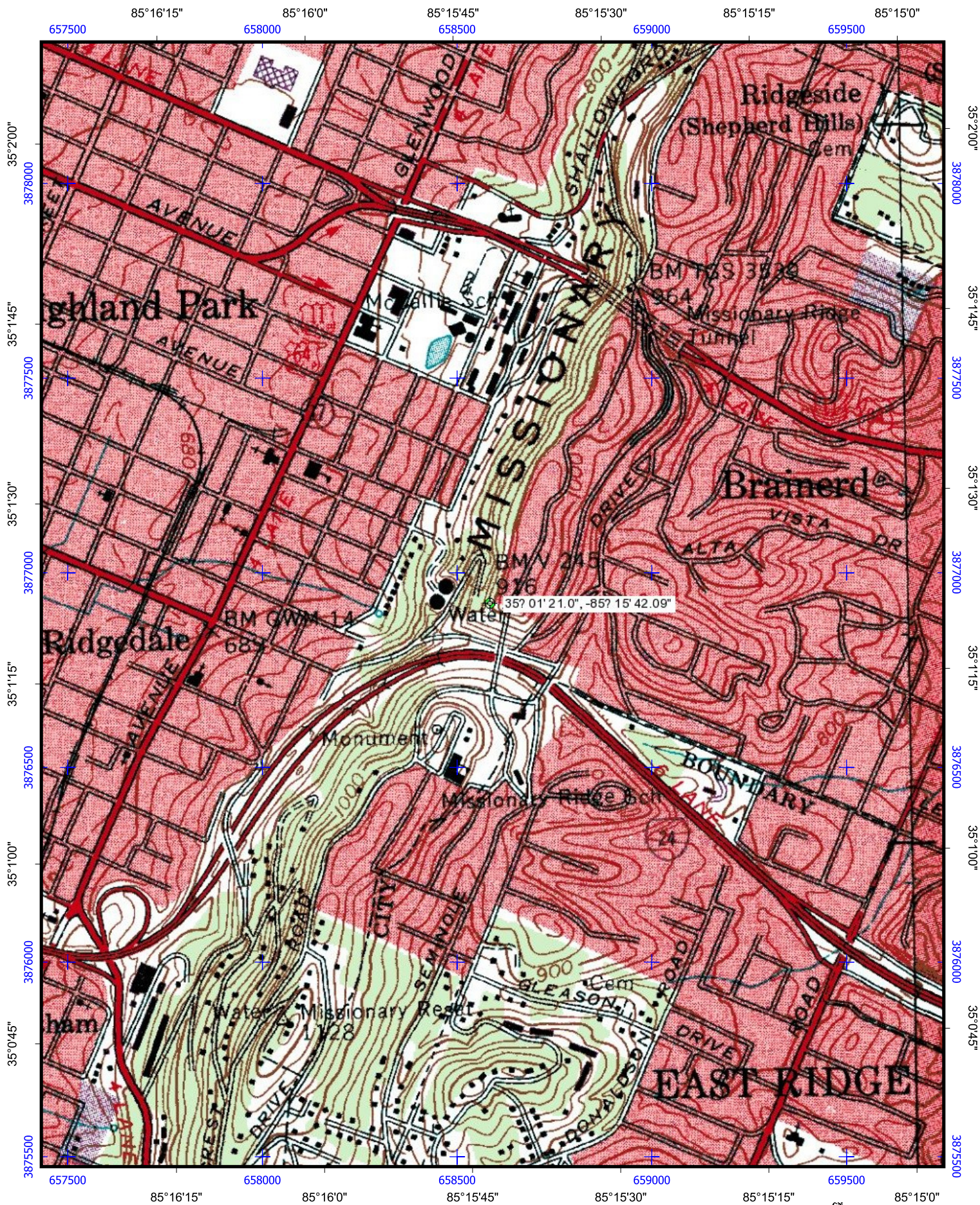
WMPZ

BLH20080625ABW
Latitude: 35-07-33 N
Longitude: 085-17-25 W
ERP: 6.00 kW
HAAT: 96.0 m
Channel: 228
Frequency: 93.5 MHz
RCAMSL Height: 436.0 m
Site Elevation: 287.0 m

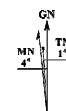
**WMPZ****W227AK****WMPZ 50,50 CONTOUR AT W227AK SITE = 73.58 DBU****W227AK INTERFERING CONTOUR = 73.5 + 40 = 113.5 = 169 METERS**

Scale 1:200,000





Universal Transverse Mercator (UTM) Projection Zone 16
North American Datum of 1983 (NAD83)
UTM Grid shown in Blue



Magnetic declination at center of map on
June 23, 2009

E3 CHANNEL 224 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 224D - 92.7 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130	0.2 332	5.0 J.I. Brewer Broadcasting,	-5.2*	-5.2*
222C0 Chattanooga	WDEF-FM	LIC	_C_	335.8 155.7	13.7 BMLH20050831ADG	35 08 06.0 85 19 25.0	100.000 360	12.7 743	87.5 Jackson Telecasters, Inc.	-3.7<	-74.3*<
224D Chatanooga	W224AZ	LIC	_C_	119.8 299.8	3.9 BLFT20090107AJU	35 00 19.0 85 13 30.0	0.080	17.4 262	5.3 Radio Assist Ministry, Inc	-18.7*<	-18.0*<
224D Chatanooga	W224AZ	CP	_C_	86.6 266.7	9.5 BPFT20090108AMZ	35 01 39.0 85 09 28.0	0.055	23.7 281	7.1 Radio Assist Ministry, Inc	-18.1*<	-9.8<
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	2.6 390	27.9 Wsaa Lic	33.6	12.4
224A Harri man	WI JV	LIC	ZC_	38.4 218.9	120.3 BLH20080428ABW	35 52 04.0 84 25 56.0	2.650 153	85.6 450	30.1 Progressive Media Inc.	30.0	75.3
224A Arab	WAFN-FM	LIC	NC_	235.6 55.0	131.2 BLH20040227ABH	34 21 04.0 86 26 27.0	1.450 190	78.6 457	27.0 Fun Media Group, Inc.	50.1	96.5
224A Arab	WAFN-FM	CP	NCX	235.4 54.7	131.6 BPH20070503ABA	34 20 40.5 86 26 23.4	1.150 202	77.3 470	26.5 Fun Media Group, Inc.	51.8	97.4
225C1 Atlanta	WZGC	LIC	NC_	147.7 328.2	159.3 BMLH20080226ABQ	33 48 26.0 84 20 21.8	66.000 340	102.3 612	70.3 Cbs Radio Inc. Of Atlanta	52.8	82.9

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 225 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 225D - 92.9 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 332	0.2 332	5.0 J.I. Brewer Broadcasting,	-5.2*	-5.2*
222C0 Chattanooga	WDEF-FM	LIC	_C_	335.8 155.7	13.7 BMLH20050831ADG	35 08 06.0 85 19 25.0	100.000 360	12.7 743	87.5 Jackson Telecasters, Inc.	-3.7<	-74.3*<
228A Harri son	AL7873	RSV	___	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	3.0 380	31.8	3.3	-21.2*<
228A Harri son	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	1.8 436	25.4 J.I. Brewer Broadcasting,	3.7	-13.9*<
225C1 Atl anta	WZGC	LIC	NC_	147.7 328.2	159.3 BMLH20080226ABQ	33 48 26.0 84 20 21.8	66.000 340	165.2 612	70.3 Cbs Radi o Inc. Of Atlanta	-10.1*<	75.6
224D Chata nooga	W224AZ	LIC	_C_	119.8 299.8	3.9 BLFT20090107AJU	35 00 19.0 85 13 30.0	0.080	7.5 262	5.3 Radi o Assist Mini stry, Inc	-8.8*<	-8.7*<
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	42.6 390	27.9 Wsaa LI c	-6.5*<	6.4
224D Chata nooga	W224AZ	CP	_C_	86.6 266.7	9.5 BPFT20090108AMZ	35 01 39.0 85 09 28.0	0.055	10.2 281	7.1 Radi o Assist Mini stry, Inc	-4.5*<	-3.1<
279C3 Wal den	WURV	LIC	_CX	347.2 167.2	11.8 BLH20080625ACA	35 07 33.0 85 17 25.0	25.000 89	0.0 429	0.0 Ci ti casters Li censes, Inc.	11.5R	0.26M
279C3 Wal den	AL2132	RSV	___	337.8 157.8	26.3 RM10053	35 14 32.0 85 22 17.0	25.000 100	0.0 557	0.0	11.5R	14.9M
225C Nashvi lle	WJXA	LIC	_CY	308.8 127.8	196.9 BLH19861204KB	36 07 14.0 86 58 07.0	100.000 321	171.0 507	71.6 South Central Communicati o	19.9	105.3

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 = 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)
""*""affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 226 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 226D - 93.1 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 130	7.1 332	5.0 J.I. Brewer Broadcasting,	-12.1*	-12.1*
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	83.0 390	27.9 Wsaa Lic	-46.8*<	-1.0<
228A Harri son	AL7873	RSV	___	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	3.0 380	31.8	3.3	-21.2*<
228A Harri son	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	1.8 436	25.4 J.I. Brewer Broadcasting,	3.7	-13.9*<
224D Chata nooga	W224AZ	LIC	_C_	119.8 299.8	3.9 BLFT20090107AJU	35 00 19.0 85 13 30.0	0.080	0.6 262	5.3 Radio Assist Ministry, Inc	-1.9*<	-1.6*<
279C3 Wal den	WURV	LIC	_CX	347.2 167.2	11.8 BLH20080625ACA	35 07 33.0 85 17 25.0	25.000 89	0.0 429	0.0 Ci ti casters Li censes, Inc.	11.5R	0.26M
224D Chata nooga	W224AZ	CP	_C_	86.6 266.7	9.5 BPFT20090108AMZ	35 01 39.0 85 09 28.0	0.055	0.5 281	7.1 Radio Assist Ministry, Inc	5.1	2.3
279C3 Wal den	AL2132	RSV	___	337.8 157.8	26.3 RM10053	35 14 32.0 85 22 17.0	25.000 100	0.0 557	0.0 11.5R	11.5R	14.9M
226A Gl encoe	WGMZ	LIC	NCN	205.0 24.7	130.6 BLH19931027KA	33 57 16.0 85 51 40.0	1.650 189	83.5 382	29.5 Capstar Tx Limited Partner	43.5	89.5
227C2 New Market	WWFF-FM	LIC	ZCX	258.9 78.1	127.7 BLH20071228ABT	34 47 37.0 86 37 51.0	14.500 279	76.9 512	52.3 Cumul us Li censi ng LI c	46.6	69.3
225C1 Atlan ta	WZGC	LIC	NC_	147.7 328.2	159.3 BMLH20080226ABQ	33 48 26.0 84 20 21.8	66.000 340	102.3 612	70.3 Cbs Radi o Inc. Of Atlanta	52.8	82.9
226L1 Spencer	WSPE-LP	LIC	___	346.6 166.5	80.4 BLL20041001AGF	35 43 38.0 85 28 04.0	0.004 145	8.0 575	2.5 Spencer Mountai n Broadcast	66.2	57.1

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 227 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 227D - 93.3 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 100	16.1 332	5.0 J.I. Brewer Broadcasting,	-21.1*	-21.1*
228A Harrison	AL7873	RSV	---	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	48.6 380	31.8	-42.3*<	-27.4*<
228A Harrison	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	38.2 436	25.4 J.I. Brewer Broadcasting,	-32.7*<	-22.4*<
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	42.6 390	27.9 Wsaa Lic	-6.5*<	6.4
227C2 New Market	WWFF-FM	LIC	ZCX	258.9 78.1	127.7 BLH20071228ABT	34 47 37.0 86 37 51.0	14.500 279	126.3 512	52.3 Cumulus Licensing Lic	-2.9<	61.8
224D Chattanooga	W224AZ	LIC	_C_	119.8 299.8	3.9 BLFT20090107AJU	35 00 19.0 85 13 30.0	0.080	0.6 262	5.3	-1.9*<	-1.6*<
224D Chattanooga	W224AZ	CP	_C_	86.6 266.7	9.5 BPFT20090108AMZ	35 01 39.0 85 09 28.0	0.055	0.5 281	7.1	5.1	2.3
230C3 Decatur	WAYA	LIC	NC_	50.2 230.5	59.7 BLH20080729ACZ	35 21 55.0 84 45 22.0	16.500 123	4.1 367	40.0 East Tennessee Radio Group	50.7	19.5
230C3 Decatur	AL1960	RSV	---	46.1 226.4	70.0 RM11337	35 27 30.0 84 42 18.0	25.000 100	4.7 366	44.1	60.4	25.8
281A Calhoun	WCLE-FM	LIC	ZCX	54.6 234.9	47.0 BLH20040709ACQ	35 15 59.0 84 50 23.0	2.300 159	0.0 405	0.0 Hartline, Lic	9.5R	37.5M
227C0 Manchester	WVFJ-FM	CP	ZCX	168.8 349.0	225.0 BPH20051031ABT	33 01 56.0 84 47 27.0	88.000 468	178.8 719	80.2	41.9	131.0
228A Coosa	WSRM	LIC	ZCX	178.1 358.1	87.5 BLH20090508AAF	34 14 02.0 85 13 50.0	1.200 226	34.0 444	22.7 Coosa Broadcasting Corpora	48.9	58.3
227C1 Manchester	WVFJ-FM	LIC	_CX	168.0 348.2	219.5 BMLH20030220AAJ	33 05 10.0 84 46 10.0	27.000 491	161.9 742	71.4	53.3	134.4
230D Valley Head	640400	APP	_C_	212.3 32.1	61.3 BNPFT20030314BGC	34 33 20.0 85 37 12.0	0.055	0.5 392	4.8	56.4	56.4
230D Valley Head	1002923	APP	_C_	212.3 32.1	61.3 BNPFT20030814AHL	34 33 20.0 85 37 12.0	0.055	0.5 392	4.8	56.4	56.4

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 228 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 228D - 93.5 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130	7.1 332	5.0 J.I. Brewer Broadcasting,	-12.1*	-12.1*
228A Harrison	AL7873	RSV	___	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	91.5 380	31.8	-85.1*<	-35.1*<
228A Harrison	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	74.7 436	25.4 J.I. Brewer Broadcasting,	-69.1*<	-34.3*<
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	2.6 390	27.9 Wsaa Lic	33.6	12.4
228A Coosa	WSRM	LIC	ZCX	178.1 358.1	87.5 BLH20090508AAF	34 14 02.0 85 13 50.0	1.200 226	68.2 444	22.7 Coosa Broadcasting Corpora	14.7	50.4
230C3 Decatur	WAYA	LIC	NC_	50.2 230.5	59.7 BLH20080729ACZ	35 21 55.0 84 45 22.0	16.500 123	4.1 367	40.0 East Tennessee Radio Group	50.7	19.5
230C3 Decatur	AL1960	RSV	___	46.1 226.4	70.0 RM11337	35 27 30.0 84 42 18.0	25.000 100	4.7 366	44.1	60.4	25.8
228A Lenoir City	WKZX-FM	LIC	NC_	51.7 232.4	124.5 BLH20010314AAE	35 42 38.0 84 10 46.0	2.000 176	83.7 458	29.4 Bp Broadcasters, Lic	35.9	79.5
281A Calhoun	WCLE-FM	LIC	ZCX	54.6 234.9	47.0 BLH20040709ACQ	35 15 59.0 84 50 23.0	2.300 159	0.0 405	0.0 Hartline, Lic	9.5R	37.5M
227C2 New Market	WWFF-FM	LIC	ZCX	258.9 78.1	127.7 BLH20071228ABT	34 47 37.0 86 37 51.0	14.500 279	76.9 512	52.3 Cumulus Licensing Lic	46.6	69.3
228D Rome	635137	APP	_C_	178.0 358.0	87.3 BNPFT20030313AMH	34 14 09.0 85 13 40.0	0.010	28.8 433	8.6 Covenant Communications In	54.0	64.3
230D Valley Head	640400	APP	_C_	212.3 32.1	61.3 BNPFT20030314BGC	34 33 20.0 85 37 12.0	0.055	0.5 392	4.8 Augusta Radio Fellowship I	56.4	56.4
230D Valley Head	1002923	APP	_C_	212.3 32.1	61.3 BNPFT20030814AHL	34 33 20.0 85 37 12.0	0.055	0.5 392	4.8 Augusta Radio Fellowship I	56.4	56.4

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 229 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 229D - 93.7 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 332	0.2	5.0 J.I. Brewer Broadcasting,	-5.2*	-5.2*
228A Harrison	AL7873	RSV	---	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	48.6 380	31.8	-42.3*<	-27.4*<
228A Harrison	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	38.2 436	25.4 J.I. Brewer Broadcasting,	-32.7*<	-22.4*<
232C3 Red Bank	WJTT	CP	ZCX	347.2 167.2	11.8 BPH20071113AJO	35 07 33.0 85 17 25.0	19.500 115	3.9 455	41.3 Brewer Broadcasting Of Cha	1.6	-29.8*<
232A Red Bank	WJTT	LIC	_CN	347.2 167.2	11.8 BLH19980814KD	35 07 33.0 85 17 25.0	4.700 113	3.6 460	39.3 Brewer Broadcasting Of Cha	2.0	-27.9*<
230C3 Decatur	WAYA	LIC	NC_	50.2 230.5	59.7 BLH20080729ACZ	35 21 55.0 84 45 22.0	16.500 123	60.2 367	40.0 East Tennessee Radio Group	-5.5*<	12.7
230C3 Decatur	AL1960	RSV	---	46.1 226.4	70.0 RM11337	35 27 30.0 84 42 18.0	25.000 100	66.4 366	44.1	-1.3<	18.9
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	2.6 390	27.9 Wsaa Lic	33.6	12.4
229C3 Baxter	WBXE	LIC	NCN	354.1 174.0	129.6 BLH19951011KG	36 11 03.0 85 24 40.0	6.100 201	94.3 565	34.0 Jwc Broadcasting	29.3	75.8
283A Dalton	WYYU	LIC	_CN	122.7 302.9	39.9 BLH19970721KB	34 49 42.0 84 53 41.0	6.000 100	0.0 342	0.0 North Georgia Radio Group,	9.5R	30.4M
228A Coosa	WSRM	LIC	ZCX	178.1 358.1	87.5 BLH20090508AAF	34 14 02.0 85 13 50.0	1.200 226	34.0 444	22.7 Coosa Broadcasting Corpora	48.9	58.3
230D Valley Head	640400	APP	_C_	212.3 32.1	61.3 BNPFT20030314BGC	34 33 20.0 85 37 12.0	0.055	6.9 392	4.8 Augusta Radio Fellowship I	50.0	50.1
230D Valley Head	1002923	APP	_C_	212.3 32.1	61.3 BNPFT20030814AHL	34 33 20.0 85 37 12.0	0.055	6.9 392	4.8 Augusta Radio Fellowship I	50.0	50.1
229C0 Birmingham	WDJC-FM	LIC	_CY	220.7 39.8	230.1 BLH19870205KC	33 26 36.0 86 52 50.0	100.000 307	174.2 488	73.8 Kimtron, Inc.	51.7	143.1
230A Lynchburg	AU7910440	RSV	---	292.6 112.0	101.0 RM11229	35 21 58.0 86 17 18.0	6.000 100	40.9 400	26.5	54.0	65.8

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 230 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 230D - 93.9 MHz, Pwr= 0.13 KW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 332	0.2	5.0 J.I. Brewer Broadcasting,	-5.2*	-5.2*
230C3 Decatur	AL1960	RSV	___	46.1 226.4	70.0 RM11337	35 27 30.0 84 42 18.0	25.000 100	119.9 366	44.1	-54.8*<	10.0
230C3 Decatur	WAYA	LIC	NC_	50.2 230.5	59.7 BLH20080729ACZ	35 21 55.0 84 45 22.0	16.500 123	109.5 367	40.0 East Tennessee Radio Group	-54.7*<	3.8
232C3 Red Bank	WJTT	CP	ZCX	347.2 167.2	11.8 BPH20071113AJ0	35 07 33.0 85 17 25.0	19.500 115	3.9 455	41.3 Brewer Broadcasting Of Cha	1.6	-29.8*<
232A Red Bank	WJTT	LIC	_CN	347.2 167.2	11.8 BLH19980814KD	35 07 33.0 85 17 25.0	4.700 113	3.6 460	39.3 Brewer Broadcasting Of Cha	2.0	-27.9*<
228A Harri son	AL7873	RSV	___	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	3.0 380	31.8	3.3	-21.2*<
228A Harri son	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	1.8 436	25.4 J.I. Brewer Broadcasting,	3.7	-13.9*<
230A Lynchburg	AU7910440	RSV	___	292.6 112.0	101.0 RM11229	35 21 58.0 86 17 18.0	6.000 100	84.4 400	26.5	10.5	54.2
283A Dal ton	WYYU	LIC	_CN	122.7 302.9	39.9 BLH19970721KB	34 49 42.0 84 53 41.0	6.000 100	0.0 342	0.0 North Georgia Radio Group,	9.5R	30.4M
231C0 Smyrna	AL5038	RSV	___	148.5 329.1	163.9 RM10983	33 45 35.0 84 20 07.0	100.000 450	125.3 733	84.3	34.5	73.7
230D Val ley Head	1002923	APP	_C_	212.3 32.1	61.3 BNPFT20030814AHL	34 33 20.0 85 37 12.0	0.055	15.5 392	4.8	41.4	42.5
230D Val ley Head	640400	APP	_C_	212.3 32.1	61.3 BNPFT20030314BGC	34 33 20.0 85 37 12.0	0.055	15.5 392	4.8	41.4	42.5
284A Coal mont	WSGM	LIC	DCN	303.7 123.4	51.6 BLH19931201KA	35 16 44.0 85 44 02.0	1.000 167	0.0 677	0.0 Cumberland Communication C	9.5R	42.1M
233A Cal houn	AL6109	VAC	___	149.6 329.8	75.8	34 26 00.0 84 50 33.0	6.000 100	2.9 339	30.5	68.8	45.2
231L1 Sewanee	WMTN-LP	LIC	___	291.0 110.6	62.0 BLL20040625AAT	35 13 11.0 85 53 51.0	0.002 205	7.2 633	5.0 St. Andrew's-sewanee Schoo	47.4	46.4
231C0 Smyrna	WSTR	LIC	_CX	148.5 329.1	164.0 BLH20060523ADI	33 45 33.0 84 20 05.0	100.000 310	107.5 594	74.0 Lincoln Financial Media Co	52.4	84.0

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 = 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)
""affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 280 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 280D - 103.9 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 332	0.2 332	5.0 J.I. Brewer Broadcasting,	9.5R	-9.5M
279C3 Wal den	WURV	LIC	_CX	347.2 167.2	11.8 BLH20080625ACA	35 07 33.0 85 17 25.0	25.000 89	75.8 429	51.3 Citi casters Li censes, Inc.	-70.2*<	-48.4*<
279C3 Wal den	AL2132	RSV	___	337.8 157.8	26.3 RM10053	35 14 32.0 85 22 17.0	25.000 100	52.6 557	32.5	-31.2*<	-13.1*<
282D Chattanooga	W282AY	LIC	_C_	331.0 151.0	13.5 BLFT20050525AGA	35 07 45.0 85 20 02.0	0.010	0.2 658	11.9 Immanuel Broadcasting Netw	8.3	1.1
281A Cal houn	WCLE-FM	LIC	ZCX	54.6 234.9	47.0 BLH20040709ACQ	35 15 59.0 84 50 23.0	2.300 159	40.7 405	26.9 Hartline, Lic	1.5	13.3
280A Bl ue Ri dge	WPPL	LIC	DC_	101.3 281.8	86.5 BLH20000216AAW	34 52 03.0 84 20 02.0	5.500 104	79.6 698	25.1 Fannin County Broadcasting	2.3	46.9
279L1 Boynton	WBFC-LP	LIC	___	149.9 329.9	16.9 BLL20070329AJG	34 53 27.0 85 10 07.0	0.005 129	7.7 387	5.4 Boynton Low Power Broadcas	5.1	5.6
283A Dal ton	WYYU	LIC	_CN	122.7 302.9	39.9 BLH19970721KB	34 49 42.0 84 53 41.0	6.000 100	2.5 342	25.3 North Georgia Radio Group,	32.4	14.4
226A Benton	WSAA	LIC	_CX	66.8 247.0	40.4 BLH20080828AAD	35 09 54.0 84 51 13.0	3.500 133	2.6 390	27.9 Wsaa Lic	9.5R	30.9M

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 = 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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.

E3 CHANNEL 281 STUDY

REFERENCE
35 01 21.0 N.
85 15 42.0 W.

CH# 281D - 104.1 MHz, Pwr= 0.13 kW, HAAT= 84.0 M, COR= 332 M
Average Protected F(50-50)= 6.01 km
Standard Directional

DISPLAY DATES
DATA 06-24-09
SEARCH 06-24-09

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Chattanooga	W227AK	LIC	DC_	0.0 0.0	0.0 BLFT20070522ABR	35 01 21.0 85 15 42.0	0.130 332	0.2	5.0 J.I. Brewer Broadcasting,	9.5R	-9.5M
279C3 Wal den	WURV	LIC	_CX	347.2 167.2	11.8 BLH20080625ACA	35 07 33.0 85 17 25.0	25.000 89	5.7 429	51.3 Cit icasters Li censes, Inc.	-0.1<	-39.9*<
281A Cal houn	WCLE-FM	LIC	ZCX	54.6 234.9	47.0 BLH20040709ACQ	35 15 59.0 84 50 23.0	2.300 159	79.6 405	26.9 Hartline, Lic	-37.4*<	4.7
282D Chattanooga	W282AY	LIC	_C_	331.0 151.0	13.5 BLFT20050525AGA	35 07 45.0 85 20 02.0	0.010 658	17.8	11.9 Immanuel Broadcasting Netw	-9.2*<	-5.5<
279C3 Wal den	AL2132	RSV	___	337.8 157.8	26.3 RM10053	35 14 32.0 85 22 17.0	25.000 100	3.3 557	32.5 18.1		-6.6*<
284D Orchard Hills	W284AE	LIC	_C_	258.9 78.9	7.7 BLFT20011119ABO	35 00 33.0 85 20 41.0	0.010 665	0.2	12.1 Way-fm Media Group, Inc.	3.3	-4.8*<
281C0 Greenville	WALR-FM	LIC	NCX	167.5 347.7	182.9 BLH20070314ABH	33 24 43.0 84 50 03.0	100.000 371	182.3 618	79.3 Cox Radio, Inc.	-3.7<	89.9
228A Harri son	AL7873	RSV	___	9.8 189.8	10.8 RM11337	35 07 06.0 85 14 29.0	6.000 100	3.0 380	31.8 9.5R		1.3M
228A Harri son	WMPZ	LIC	ZEX	347.2 167.2	11.8 BLH20080625ABW	35 07 33.0 85 17 25.0	6.000 96	1.8 436	25.4 J.I. Brewer Broadcasting,	9.5R	2.3M
281C1 Greenville	AL2428	RSV	___	167.5 347.7	182.9 RM10813	33 24 43.0 84 50 03.0	100.000 299	174.7 548	74.1 3.9		95.0
283A Dal ton	WYYU	LIC	_CN	122.7 302.9	39.9 BLH19970721KB	34 49 42.0 84 53 41.0	6.000 100	2.5 342	25.3 North Georgia Radio Group,	32.4	14.4
282C Athens	WZYP	LIC	_CX	260.8 80.0	136.8 BMLH20081022ACH	34 49 06.0 86 44 16.0	100.000 340	108.6 576	74.6 Cumulus Li censing LI c	23.8	55.9
284A Coal mont	WSGM	LIC	DCN	303.7 123.4	51.6 BLH19931201KA	35 16 44.0 85 44 02.0	1.000 167	0.4 677	10.4 Cumberland Communication C	42.7	40.4
280A Blue Ridge	WPPL	LIC	DC_	101.3 281.8	86.5 BLH20000216AAW	34 52 03.0 84 20 02.0	5.500 104	38.3 698	25.1 Fannin County Broadcasting	43.6	54.8
284D Summerville	DW284AJ	LIC	_CN	183.0 3.0	61.4 BLFT19970707TG	34 28 10.0 85 17 48.0	0.010 201	0.2 448	8.7 Wccv	56.6	52.6
281A Carthage	WUCZ	LIC	_CN	336.7 156.3	156.1 BMLH19920817KD	36 18 43.0 85 57 08.0	4.900 110	92.4 340	33.4 Wood Broadcasting, Inc.	59.1	107.9

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 = 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)
""affixed to 'IN' or 'OUT' values = site inside protected contour.

CA5-FM/CP/RM

FM YAGI ANTENNA

6 dBd gain

88 to 108 MHz

Circularly polarized

The Scala CA5-FM/CP/RM is a ruggedly built yagi antenna, designed for professional FM transmit and receive applications.

Like all Scala antennas, the CA5-FM/CP/RM is made of the finest materials resulting in superior performance and long service life.

The CA5-FM/CP/RM may be used stand-alone or in stacked arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

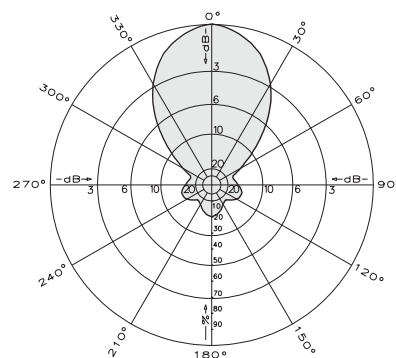
Specifications:

Frequency range	Any specified FM channel 88 to 108 MHz
Gain	6 dBd
Impedance	50 ohms
VSWR	< 1.5:1
Polarization	Circular
Front-to-back ratio	>14 dB
Maximum input power	250 watts
Azimuth pattern	61 degrees (half-power)
Elevation pattern	61 degrees (half-power)
Connector	N female
Weight	35 lb (15.9 kg)
Dimensions	79 x 56 x 50.8 inches maximum (2007 x 1422 x 1290 mm)
Equivalent flat plate area	2.84 ft ² (0.264 m ²) maximum
Wind survival rating*	120 mph (194 kph)
Shipping dimensions	84 x 13 x 8 inches maximum (2134 x 330 x 203 mm)
Shipping weight	38 lb (8.2 kg) maximum
Mounting	For masts of 2.375 inches (60 mm) OD.

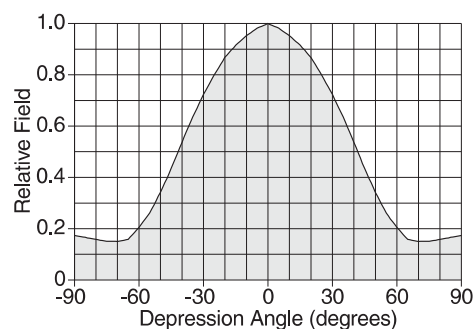
* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Order Information:

Contact Scala Customer Service for detailed order information.



Azimuth pattern (E-plane)



Elevation pattern (H-plane)



10748-B

[ASR Registration Search](#)**Registration 1224785** [Map Registration](#)**Registration Detail**

Reg Number	1224785	Status	Constructed
File Number	A0191343	Constructed	06/01/1988
FAA Study	89-ASO-255-OE	EMI	No
FAA Issue Date	03/16/1990	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long 35-01-21.2 N 085-15-41.8 W 119 S CREST RD
City, State CHATTANOOGA , TN
Center of
AM Array

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
304.8	42.7
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
347.5	42.7

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 9

Paint and Light in Accordance with FAA Circular Number 70/7460-1G

Owner & Contact Information

FRN	0006139919	Licensee ID	L00346730
-----	------------	-------------	-----------

Owner

HARRIS , RICHARD T	P: (423)624-8992
P.O. Box 22092	E:
CHATTANOOGA , TN 37422	

Contact

P:
E:

Last Action Status

Status	Constructed	Received	05/14/2001
Purpose	Notification	Entered	05/16/2001
Mode	Mail In (Manual)		

Related Applications

05/14/2001	A0191343 - Notification (NT)
04/13/2001	A0185647 - New (NE)

Comments**Comments**

None

Automated Letters

04/17/2001 Authorization, Reference 126602

CLOSE WINDOW