

TECHNICAL EXHIBIT  
AMENDMENT TO PENDING APPLICATION (BPCT-19960920LX)  
NEW NTSC STATION  
FACILITY ID: 127474  
TUPELO, MISSISSIPPI

May 19, 2004

CH 49      5000 KW (MAX-DA)      219 M

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Technical Narrative

This technical exhibit was prepared on behalf of KB Prime Media, LLC in support of an amendment to the pending channel 35 NTSC application (BPCT-19960920LX) at Tupelo, Mississippi. In MB Docket No. 03-221, RM-10796 the FCC amended the TV Table of Allotments, Section 73.606(b) of the Commission's Rules, by specifying TV channel 49 in lieu of TV channel 35 at Tupelo, Mississippi. In the Report and Order it further ordered that within 45 days of the effective date of the Order (April 5, 2004), a minor change application be filed specifying TV channel 49. Therefore, in response to the Commission's Order, this application has been prepared for NTSC channel 49.

By means of this application, KB Prime Media, LLC proposes to operate with the same facilities which were proposed in the Petition for Rulemaking. Namely, it is proposed to operate with a maximum directional effective radiated power (ERP) of 5000 kilowatts and an antenna radiation center height above average terrain (HAAT) of 219 meters. It is also proposed to operate with the same directional antenna system.<sup>1</sup> No changes are proposed.

The applicant proposes to side mount an Andrew ATW30H3-HSC4-49H "cardioid" type directional antenna at the 197.5 meter (648 feet) level on a new 205.4 meter (675

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<sup>1</sup> It is noted that although the same directional antenna system is proposed, some of the horizontal relative field values differ slightly due to an update in the Antenna Manufacturers pattern software.

foot) tower. The FCC has issued a Determination of No Hazard for the proposed tower (1996-ASO-5051-OE). As soon as the tower is registered, the FCC Tower Registration Number will be provided to the Commission.

Proposed Transmitter Location

The proposed tower location is uniquely described by the following geographic coordinates (NAD 27):<sup>2</sup>

33° 55' 37" North Latitude

88° 33' 36" West Longitude

Figure 1 is site map displaying the location of the proposed transmitter site. Figure 2 provides the horizontal and vertical relative field data for the proposed Andrew ATW30H3-HSC4-49H antenna.

Nearby AM/FM/TV Stations

There are no known full service AM stations within 5 kilometers (3.1 miles) and no known authorized full service NTSC stations within 16 kilometers (10 miles) of the proposed transmitter site. The following is a list of authorized full service FM stations within 16 kilometers (10 miles) of the proposed site.

<u>Station</u>	<u>Channel</u>	<u>Bearing(°True)</u>	<u>Distance(km)</u>
WAFM(FM), Amory, MS	237A	49	8.3
WAJS(FM), Tupelo, MS	219C2	270	9.5
WWKZ(FM), Aberdeen, MS	287C2	40	14.2

<sup>2</sup> It is proposed to operate on NTSC channel 49 from the same site location proposed in BPRM-20000717AER.

Although no prohibitive electromagnetic interference is expected, the applicant recognizes its responsibility to correct problems, which may arise due to its proposed operation.

#### Coverage Contours

The distances to predicted coverage contours were determined in accordance with the provisions of Section 73.684 and Figure 10b of Section 73.699 except that, pursuant to current FCC practice, no consideration was given to terrain roughness correction factors. The average elevations from 3.2 to 16.1 kilometers from the transmitter site, were obtained from the NGDC 30-second terrain database and were used for determining the distances to coverage contours. Figure 3 is a map showing the predicted coverage contours. The map provides the City Grade (80 dBu), Grade A (74 dBu) and Grade B (64 dBu) contours. The City Grade Contour encompasses 100% of Tupelo. The limits of Tupelo are identified and are based on information contained in the 2000 Census for Mississippi.

#### NTSC Allocation Considerations

Figure 4 is a separation study toward other NTSC and DTV allotments based on a 32 kilometer "buffer". As indicated, the proposed site is fully-spaced to all other NTSC stations or allotments except with respect to the channel 35 allotment at Tupelo, Mississippi. However, it is believed that this NTSC allotment will be displaced by the allotment of DTV channel 35 to station WCBI-TV, Ch. 4 at Columbus, Mississippi.

DTV Allocation Considerations

A determination of the potential for DTV interference was made in accordance with the procedures set forth in Section 73.623(c) and OET Bulletin No. 69.<sup>3</sup> Studies indicate that the proposed channel 49 operation would not cause prohibited interference to any DTV allotments, authorizations or applications for authorizations and, therefore, the proposed operation is in full compliance with the FCC's interference criterion with respect to pertinent DTV allotments. Interference calculations for the proposed NTSC operation are summarized below.

Protected Station	Facility	Ch.	City	State	FCC Service Pop.	Proposed Interference Population	% of Baseline
W53AF	CP	34	BOONEVILLE	MS	---	---	NONE
KRBU	CP	34	MAGEE	MS	---	---	NONE
BPET-19960701KF	APP	34	SENATOBIA	MS	---	---	NONE
BPET-19961001KI	APP	34	SENATOBIA	MS	---	---	NONE
BPET-19960716KF	APP	34	SENATOBIA	MS	---	---	NONE
BPET-19960724KL	APP	34	SENATOBIA	MS	---	---	NONE
BPCT-19960920LX	APP	35	TUPELO	MS	---	---	NONE
BPCT-19960920IU	APP	35	TUPELO	MS	363,046	8	0.00%
WIAT	LIC	42	BIRMINGHAM	AL	1,351,899	---	NONE
WKDH	CP	45	HOUSTON	MS	338,280	842	0.25%
WKDH	LIC	45	HOUSTON	MS	429,928	673	0.16%
WAFF	LIC	48	HUNTSVILLE	AL	816,493	---	NONE
W49AY	LIC	49	BIRMINGHAM	AL	---	---	NONE
WAFF-DT	PLN	49	HUNTSVILLE	AL	816,493	3,009	0.37%
KYPX	LIC	49	CAMDEN	AR	---	---	NONE
KVTJ	CP	49	JONESBORO	AR	256,498	---	NONE
KVTJ-DT	PLN	49	JONESBORO	AR	256,498	---	NONE
WXTX-DT	PLN	49	COLUMBUS	GA	492,218	---	NONE

<sup>3</sup> The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. A Sun based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

Protected Station	Facility	Ch.	City	State	FCC Service Pop.	Proposed Interference Population	% of Baseline
WXTX	CP	49	COLUMBUS	GA	492,218	---	NONE
WDNN-CA	LIC	49	DALTON	GA	---	---	NONE
WDKA	LIC	49	PADUCAH	KY	433,927	---	NONE
WTOK-DT	PLN	49	MERIDIAN	MS	290,360	822	0.28%
WNTZ	CP	49	NATCHEZ	MS	178,759	---	NONE
WNTZ-DT	PLN	49	NATCHEZ	MS	178,759	---	NONE
WNTZ	APP	49	NATCHEZ	MS	178,759	---	NONE
WBRC-DT	PLN	50	BIRMINGHAM	AL	1,599,832	---	NONE
WPXX-TV	LIC	50	MEMPHIS	TN	1,128,221	---	NONE
BPET-19961118KJ	APP	56	MEMPHIS	TN	1,116,535	---	NONE
BPET-19961211KE	APP	56	MEMPHIS	TN	---	---	NONE

From the above, it is apparent that the proposed NTSC operation on channel 49 complies with the FCC's interference standard towards all authorized analog, Class A and DTV assignments.

Class A Allocation Considerations

Using the procedures outlined in the FCC's OET-69 Bulletin, interference studies were prepared with respect co-channel and first adjacent Class A LPTV stations along with Class A stations operating on taboo channels. Based on our analysis, and shown in the table above, the proposed facility would not cause prohibited interference to any Class A LPTV stations.

The proposed transmitter site is over 1000 kilometers from the closest point of the Canadian border. The proposed site is over 1,200 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Powder Springs, Georgia, approximately 354 kilometers to the east. The proposed site is outside the National Radio Quiet Zone (VA/WVA), the closest point being over 828 kilometers to the northeast. The closest point of

the Table Mountain Radio Quiet Zone (CO) is over 1,600 kilometers to the northwest. The closest radio astronomy site operating on TV channel 37 is at North Liberty, Iowa, over 900 kilometers to the north. These separations are sufficient to not be a concern for coordination purposes.

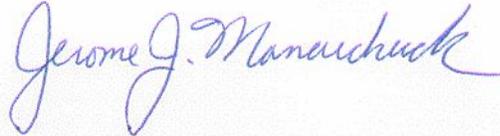
Environmental Consideration

Consideration has been given to the FCC's RF emission rules whose implementation date was October 15, 1997. Sheet 4 of Figure 2 provides vertical plane relative field information for the proposed Andrew ATW30H3-HSC4-49H directional antenna system. The power density calculations are based on a vertical relative field factor of 0.04 (for angles below 60 degrees downward), a visual ERP of 5000 kW and 10% aural power. The proposed power density at 2 meters above ground at the tower base will be  $0.0035 \text{ mW/cm}^2$ , which is 0.76% of the recommended limit of  $0.46 \text{ mW/cm}^2$  for channel 49, applicable to general population/uncontrolled exposure areas. Therefore, the proposed facility will comply with the FCC's RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter the restricted area appropriate measures shall be taken to limit RF energy exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of transmitter output power all together until workers leave the restricted area.

It is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic

field exposure. All other aspects of the environmental processing analysis will be provided to the FCC by the tower owner as part of the tower registration process.

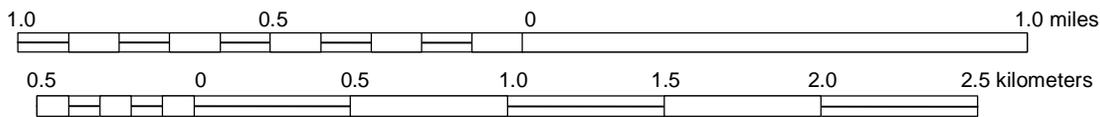
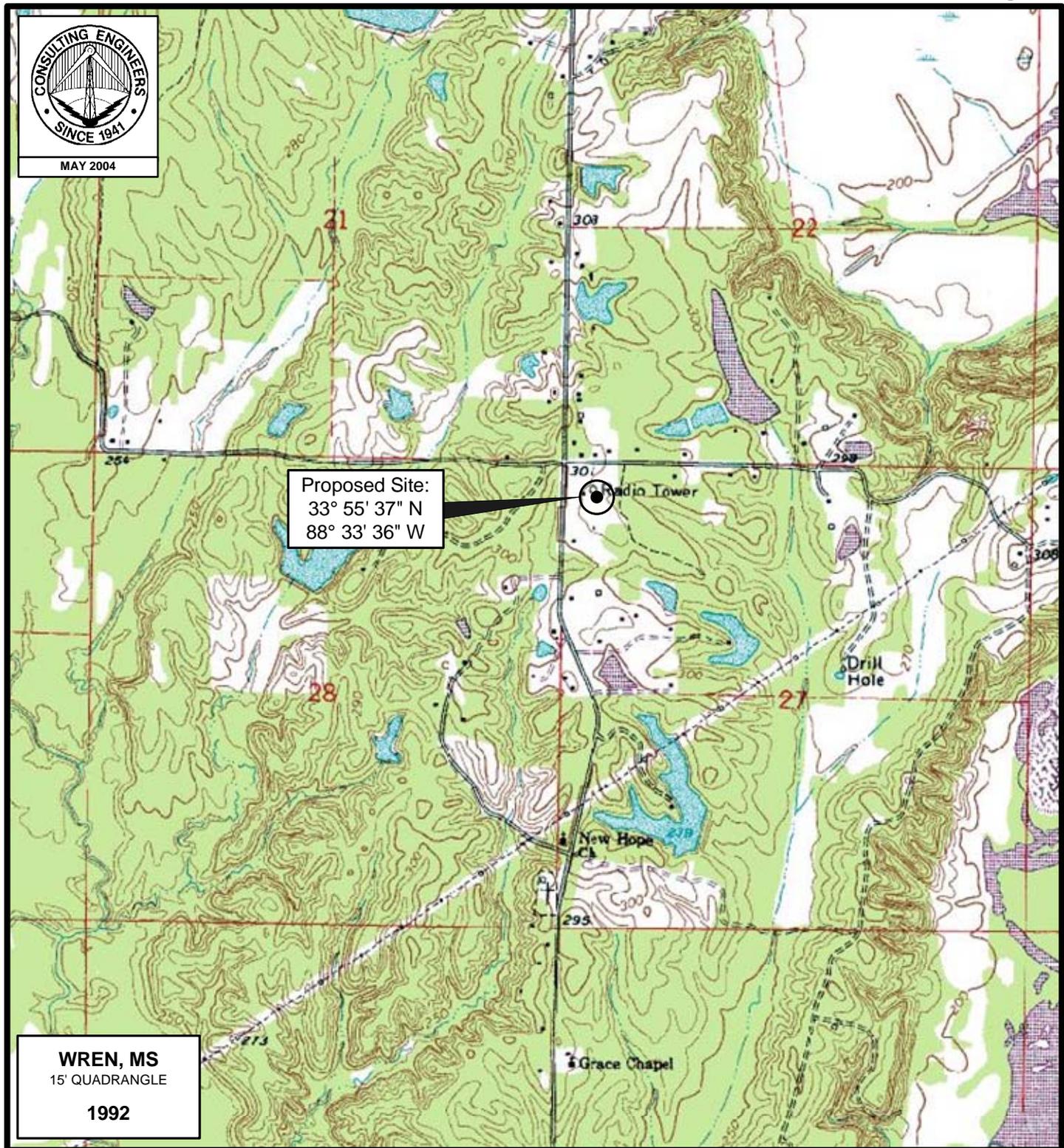


Jerome J. Manarchuck

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237

May 19, 2004

Figure 1



**PROPOSED TRANSMITTER SITE**  
NEW NTSC STATION  
TUPELO, MISSISSIPPI  
CH 49 5000 KW (MAX-DA) 219 M  
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



**AZIMUTH PATTERN**

Type: ATW-C4

	Numeric	dBd
Directivity:	<u>2.54</u>	<u>4.05</u>

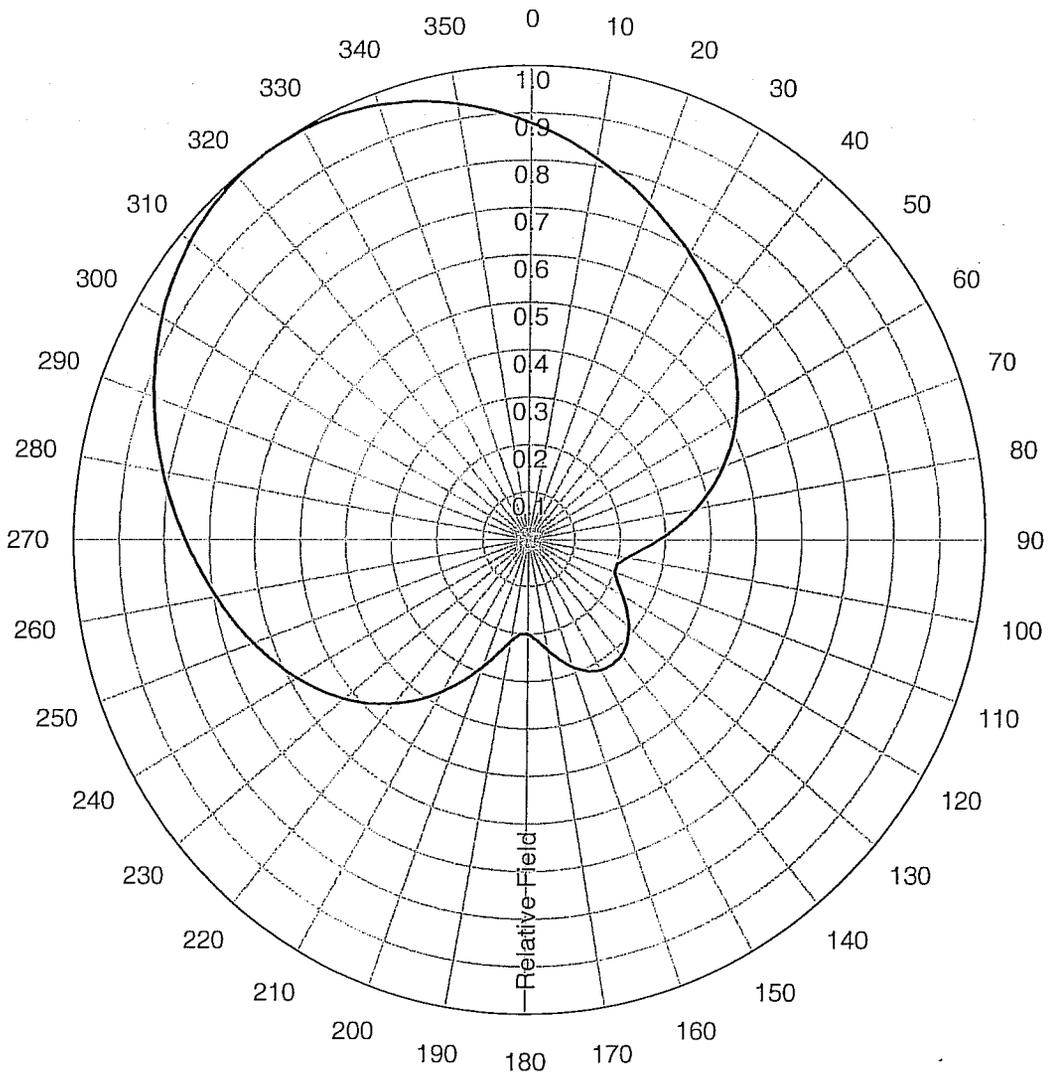
Peak(s) at: \_\_\_\_\_

Polarization: Horizontal

Channel: 49

Location: \_\_\_\_\_

Note: \_\_\_\_\_



ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A 60462



**AZIMUTH PATTERN  
FCC FILING FORMAT**

Type: ATW-C4  
Polarization: Horizontal

Angle	Field	ERP (kW)	ERP (dBk)
0	0.878	3854.420	35.860
10	0.816	3329.280	35.224
20	0.754	2842.580	34.537
30	0.695	2415.125	33.829
40	0.640	2048.000	33.113
50	0.584	1705.280	32.318
60	0.523	1367.645	31.360
70	0.452	1021.520	30.092
80	0.371	688.205	28.377
90	0.286	408.980	26.117
100	0.219	239.805	23.799
110	0.201	202.005	23.054
120	0.237	280.845	24.485
130	0.287	411.845	26.147
140	0.318	505.620	27.038
150	0.318	505.620	27.038
160	0.287	411.845	26.147
170	0.237	280.845	24.485
180	0.201	202.005	23.054
190	0.218	237.620	23.759
200	0.286	408.980	26.117
210	0.370	684.500	28.354
220	0.451	1017.005	30.073
230	0.523	1367.645	31.360
240	0.584	1705.280	32.318
250	0.640	2048.000	33.113
260	0.695	2415.125	33.829
270	0.754	2842.580	34.537
280	0.816	3329.280	35.224
290	0.878	3854.420	35.860
300	0.933	4352.445	36.387
310	0.975	4753.125	36.770
320	0.997	4970.045	36.964
330	0.997	4970.045	36.964
340	0.975	4753.125	36.770
350	0.933	4352.445	36.387



ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A 60462

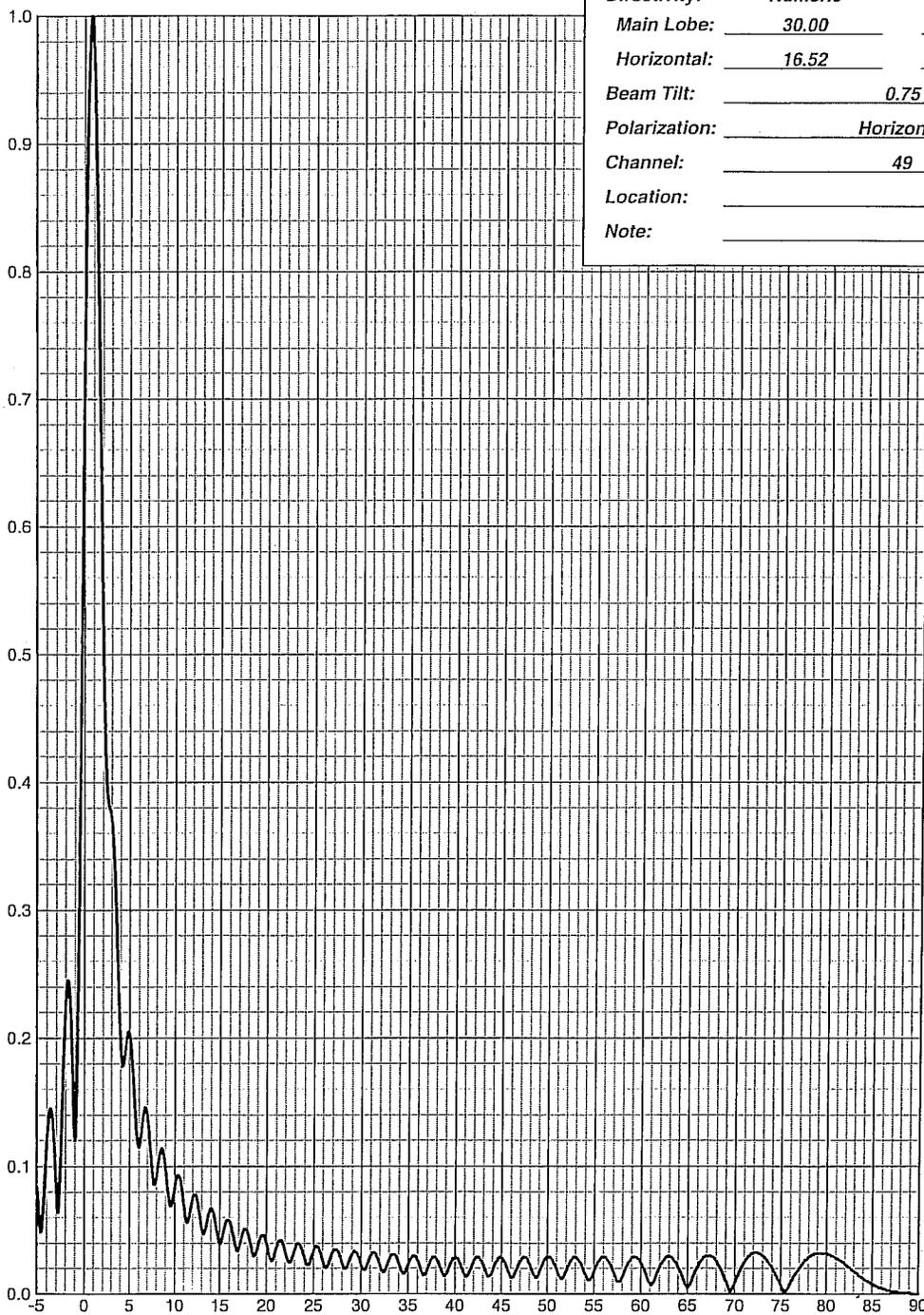


**ANDREW**

**ELEVATION PATTERN**

Type:	ATW30H3H	
Directivity:	Numeric	dBd
Main Lobe:	30.00	14.77
Horizontal:	16.52	12.18
Beam Tilt:	0.75	
Polarization:	Horizontal	
Channel:	49	
Location:		
Note:		

Relative Field



ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A 60462



**ELEVATION TABULATED DATA**

Type: ATW30H3H

Polarization: Horizontal

Angle	Field	dB									
-5.00	0.084	-21.51	6.50	0.140	-17.08	42.00	0.026	-31.70	88.00	0.001	-60.00
-4.75	0.059	-24.66	6.75	0.146	-16.74	43.00	0.023	-32.77	89.00	0.001	-60.00
-4.50	0.052	-25.68	7.00	0.137	-17.27	44.00	0.018	-34.89	90.00	0.000	0.00
-4.25	0.082	-21.67	7.25	0.118	-18.60	45.00	0.028	-31.06			
-4.00	0.119	-18.49	7.50	0.096	-20.35	46.00	0.013	-37.72			
-3.75	0.142	-16.98	7.75	0.086	-21.31	47.00	0.026	-31.70			
-3.50	0.143	-16.89	8.00	0.092	-20.72	48.00	0.024	-32.40			
-3.25	0.120	-18.45	8.25	0.106	-19.53	49.00	0.015	-36.48			
-3.00	0.081	-21.83	8.50	0.113	-18.94	50.00	0.029	-30.75			
-2.75	0.069	-23.29	8.75	0.110	-19.17	51.00	0.019	-34.42			
-2.50	0.116	-18.71	9.00	0.097	-20.26	52.00	0.018	-34.89			
-2.25	0.180	-14.89	9.25	0.080	-21.94	53.00	0.029	-30.75			
-2.00	0.229	-12.80	9.50	0.069	-23.22	54.00	0.016	-35.92			
-1.75	0.245	-12.23	9.75	0.073	-22.73	55.00	0.018	-34.89			
-1.50	0.221	-13.11	10.00	0.084	-21.51	56.00	0.029	-30.75			
-1.25	0.161	-15.84	11.00	0.069	-23.22	57.00	0.018	-34.89			
-1.00	0.120	-18.42	12.00	0.076	-22.38	58.00	0.013	-37.72			
-0.75	0.218	-13.25	13.00	0.050	-26.02	59.00	0.028	-31.06			
-0.50	0.385	-8.29	14.00	0.067	-23.48	60.00	0.024	-32.40			
-0.25	0.570	-4.89	15.00	0.039	-28.18	61.00	0.008	-41.94			
0.00	0.742	-2.59	16.00	0.057	-24.88	62.00	0.021	-33.56			
0.25	0.880	-1.12	17.00	0.036	-28.87	63.00	0.030	-30.46			
0.50	0.970	-0.26	18.00	0.048	-26.38	64.00	0.021	-33.56			
0.75	1.000	0.00	19.00	0.035	-29.12	65.00	0.005	-46.02			
1.00	0.972	-0.25	20.00	0.040	-27.96	66.00	0.021	-33.56			
1.25	0.891	-1.01	21.00	0.035	-29.12	67.00	0.030	-30.46			
1.50	0.772	-2.25	22.00	0.033	-29.63	68.00	0.026	-31.70			
1.75	0.638	-3.91	23.00	0.035	-29.12	69.00	0.011	-39.17			
2.00	0.514	-5.78	24.00	0.029	-30.75	70.00	0.009	-40.92			
2.25	0.429	-7.36	25.00	0.034	-29.37	71.00	0.025	-32.04			
2.50	0.389	-8.20	26.00	0.026	-31.70	72.00	0.032	-29.90			
2.75	0.379	-8.43	27.00	0.033	-29.63	73.00	0.030	-30.46			
3.00	0.369	-8.66	28.00	0.024	-32.40	74.00	0.021	-33.56			
3.25	0.341	-9.36	29.00	0.031	-30.17	75.00	0.007	-43.10			
3.50	0.293	-10.66	30.00	0.023	-32.77	76.00	0.008	-41.94			
3.75	0.237	-12.51	31.00	0.030	-30.46	77.00	0.020	-33.98			
4.00	0.192	-14.33	32.00	0.023	-32.77	78.00	0.029	-30.75			
4.25	0.179	-14.97	33.00	0.027	-31.37	79.00	0.032	-29.90			
4.50	0.189	-14.47	34.00	0.024	-32.40	80.00	0.032	-29.90			
4.75	0.203	-13.85	35.00	0.023	-32.77	81.00	0.028	-31.06			
5.00	0.203	-13.85	36.00	0.026	-31.70	82.00	0.023	-32.77			
5.25	0.185	-14.66	37.00	0.018	-34.89	83.00	0.018	-34.89			
5.50	0.155	-16.19	38.00	0.028	-31.06	84.00	0.012	-38.42			
5.75	0.126	-18.03	39.00	0.015	-36.48	85.00	0.008	-41.94			
6.00	0.115	-18.79	40.00	0.029	-30.75	86.00	0.005	-46.02			
6.25	0.125	-18.06	41.00	0.016	-35.92	87.00	0.002	-53.98			





Figure 4

## CDBS TV/DTV SEPARATION STUDY

Job Title: Separation Buffer: 32 km  
 Channel: 49 Coordinates: 33-55-37 88-33-36  
 Class: Zone: II  
 Type: TV

Call Id	City St	File Status Num	Channel Zone	ERP HAAT	DA Id	Latitude Longitude	Bear	Dist. (km)	Req. min	max
W53AF 68905	BOONEVILLE MS CP	BPTTA C 20030909AC	34(-) II	23.900 64651	N 64651	34-39-45 088-34-07	359.4	81.6 38.30	0.0 Class A	0.0
960716 82624	SENATOBIA MS	C	34(-) II		N 64651	34-37-02 089-58-03	301.1	150.5 30.64	119.9 Clear	119.9
960920 83946	TUPELO MS APP	BPCT C 19960920LX	35(+) II	5000.000 219	N 64651	33-55-37 088-33-36	97.1	0.0	95.7	95.7
960920 83923	TUPELO MS	C	35(+) II		N 64651	34-15-42 088-42-48	339.3	39.7 55.97	95.7 Short <sup>1</sup>	95.7
960920 83923	TUPELO MS APP	BPCT C 19960920IU	35(+) II	5000.000 257	N 64651	34-23-52 088-53-03	330.4	60.2 35.52	95.7 Short <sup>1</sup>	95.7
WKDH 83310	HOUSTON MS CP	BMPCT C 20010207AB	45(+) II	1854.000 491	D 38487	33-47-40 089-05-16	253.3	51.0 19.60	31.4 Clear	31.4
WKDH 83310	HOUSTON MS LIC	BLCT C 20010619AA	45(+) II	1500.000 491	N 38487	33-47-40 089-05-16	253.3	51.0 19.60	31.4 Clear	31.4
W49AY 24257	BIRMINGHAM AL LIC	BLTTL C 19920218JN	49(Z) II	0.970	N	33-29-02 086-48-35	106.4	169.5 111.26	0.0 Class A	0.0
DWTOKT	MERIDIAN MS DTV		49( ) III	1000.000 165	D	32-19-38 088-41-28	184.0	177.8 66.76	244.6 Short	244.6
WTOK-T 4686	MERIDIAN MS CP	BPCDT C 19991028ADIII	49( ) III	175.000 165	N 28059	32-19-38 088-41-28	184.0	177.8 66.76	244.6 Short	244.6
DWAFF	HUNTSVILLE AL DTV		49( ) II	50.000 579	D	34-42-39 086-32-07	64.3	205.6 38.96	244.6 Short	244.6
WAFF 591	HUNTSVILLE AL LIC	BLCDT C 20021023AB	49( ) II	41.000 552	N 43977	34-42-39 086-32-07	64.3	205.6 38.96	244.6 Short	244.6
KVTJ 2784	JONESBORO AR CP	BPCDT C 19990930AA	49( ) II	1000.000 295.3	D 32755	35-36-16 090-31-18	316.7	258.6 14.02	244.6 Close	244.6
WTVA 74148	TUPELO MS CP	BPCDT C 19990701KG	57( ) II	257.000 528	N	33-47-40 089-05-16	253.3	51.0 26.90	24.1 Short	96.6
DWTVA	TUPELO		57( )	1000.000	D	33-47-40	253.3	51.0	24.1	96.6

<sup>1</sup> The channel 35 NTSC allotment will be displaced by the allotment of DTV channel 35 to station WCBI-TV, Ch. 4 at Columbus, Mississippi. This application proposes operation on channel 49 which was substituted for the channel 35 allotment.