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December 8, 1999

Magalie Roman Salas, Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
12th Street Lobby, TW-A325
Washington, DC 20554

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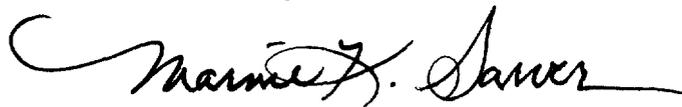
Re: DTV Channel 7, Knoxville, TN
PETITION FOR RULE MAKING

Dear Ms. Salas:

On behalf of Gannett Tennessee, L.P., licensee of Television Station WBIR-DT, Knoxville, Tennessee, we are submitting herewith, pursuant to Section 73.622(a) of the Commission's rules, an original and four (4) copies of a Petition for Rule Making to change the DTV channel allotted for use by WBIR-DT from Channel 31 to Channel 7.

If further information is required, please direct inquiries and correspondence to the undersigned.

Sincerely,



Marnie K. Sarver

Enclosures

cc: Mr. Cecil Walker (w/enc.)
Ms. Ardyth Diercks (w/enc.)
Mr. Jeff Lee (w/enc.) [For the Public Inspection File]
Mr. Bob Horton (w/enc.)
David P. Fleming, Esq. (w/enc.)
Mr. Jeff Andrew (w/enc.)

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20557

In the Matter of)
)
Amendment of Section 73.622(b) of)
the Commission's Rules, DTV)
Table of Allotments)
(Knoxville, Tennessee))

MM Docket No.
RM No.

RECEIVED
DEC 8 1999
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

To: Chief, Allocations Branch

PETITION FOR RULEMAKING

1. Gannett Tennessee, L.P. ("Gannett"), by its attorneys and pursuant to Section 73.623 of the Commission's rules, 77 C.F.R. §73.623, hereby requests that the Commission institute a rulemaking proceeding for the purpose of amending the Table of Allotments for the digital television service ("DTV Table") to change the initial DTV channel allotment for station WBIR-DT, Knoxville, Tennessee, from channel 31 to channel 7.¹

2. Gannett is the licensee of television station WBIR-TV, Knoxville, Tennessee, which currently operates on NTSC channel 10. The station has been allotted DTV channel 31 for its digital operations, with authorized power of 735 kilowatts.

¹ On October 26, 1999, Gannett requested an extension of time to submit its application for DTV construction permit pending the outcome of the proceeding being proposed herein.

3. Gannett proposes to amend the DTV Table of Allotments to substitute channel 7 in place of channel 31 at Knoxville, for the use of WBIR-DT. As demonstrated in the attached engineering exhibit, channel 7 can be used at the WBIR-DT reference coordinates with a directional antenna system to protect the authorized DTV facility of WLJC-DT, Beattyville, Kentucky. A channel 7 facility could operate with 40.9 kilowatts effective radiated power at the allotted height of 546 meters, per Section 73.622(f)(7)(i) of the Commission's rules, 47 C.F.R. §73.622(f)(7)(i). Most importantly, operations on channel 7 would meet the Commission's 2% / 10% *de minimis* interference limits regarding DTV proposals. See Section 73.623(c)(2) of the Commission's rules, 77 C.F.R. §73.623(c)(2).

4. As further set forth in the engineering statement, DTV operations on channel 7 at Knoxville would provide coverage to over 100 percent of the population-limited area provided by WBIR-TV NTSC channel 10. Moreover, the power utility and other expenses of a VHF DTV facility would be reduced from that of a comparable UHF DTV facility. In particular, significant cost savings would result from operation at 40.9 kilowatts, as opposed to 735 kilowatts, that could be directed to programming and other services to benefit the public.

5. In light of the foregoing, Gannett respectfully requests that the Commission commence a rulemaking proceeding to amend the DTV Table of Allotments to allot and assign DTV channel 7 (in lieu of channel 31) to Knoxville, Tennessee, for use by WBIR-DT.

Respectfully submitted,

GANNETT TENNESSEE, L.P.

By: 
Marnie K. Sarver

WILEY, REIN & FIELDING
1776 K Street, NW
Washington, DC 20006
(202) 719-7000

Its Attorneys

December 8, 1999

ENGINEERING STATEMENT

prepared for

Gannett Tennessee, L.P.

WBIR-DT Knoxville, Tennessee

This engineering statement has been prepared on behalf of *Gannett Tennessee, L.P.*, in support of a *Petition for Rulemaking*. In the Federal Communications Commission's Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders on Advanced Television,¹ DTV Channel 31 was allotted as a "paired" channel for the WBIR-TV analog Channel 10. A substitute DTV channel is proposed herein for WBIR-DT.

Discussion

An engineering review of the DTV allotments and NTSC assignments in the region surrounding Knoxville showed that a VHF channel could be used for WBIR-DT in lieu of the allotted UHF channel. Detailed interference studies were conducted in accordance with the terrain dependent Longley-Rice point-to-point propagation model, per the Commission's Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, July 2, 1997 ("OET-69").² The studies showed that Channel 7 could be used for WBIR-DT at 40.9 kW effective radiated power (ERP), the maximum ERP permitted for the antenna height above average terrain of 546 meters, per §73.622(f)(7)(i). A directional antenna pattern is proposed, as detailed in the facility summary data herein. DTV Channel 7 at Knoxville would provide coverage to over 100 percent of the population of the interference-limited area of WBIR-TV NTSC Channel 10.

¹See MM Docket 87-268, *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, FCC 98-315, released December 18, 1998.

²The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein, except that the terrain profile step size is 0.1 km (which provides a finer resolution than the Commission's standard 1 km step size). A standard cell size of 2 km was used. The Longley-Rice computer program input data, following the guidelines established under OET-69, includes a location variability of 50%, a time availability of 10%, a situation variability of 50%, horizontal polarization, 0.005 S/m conductivity, a climate constant of 15, an assumption of a continental temperate climate zone, and a receive antenna height of 10 meters. The service area for each DTV facility under study is that area predicted to receive signal levels of at least 36 dB μ using the Longley-Rice methodology, and within the DTV F(50,90) 36 dB μ service contour distance as determined per §73.625(b). In instances where the DTV reference ERP is 3.2 kW, the Grade B contour of the associated analog station (authorized as of April 3, 1997) is used to determine the extent of the DTV station's service area. The service area for each NTSC facility under study is that area predicted to receive signal levels of at least 56 dB μ using the Longley-Rice methodology, and within the NTSC F(50,50) 56 dB μ Grade B contour distance as determined per §73.684(c). Comparisons of various results of this computer program to the Commission's implementation of OET-69 show good correlation.

ENGINEERING STATEMENT

(page 2 of 3)

All stations considered in this study are listed in the attached **Table 1**. The results of the interference study, also summarized in **Table 1**, indicate that any additional interference to these stations meets the Commission's 2% / 10% interference limits regarding DTV proposals. Thus, this proposal is believed to be in compliance with the provisions of §73.623(c)(2) of the Commission's rules.

The technical data for the proposed Channel 7 allotment is summarized below. The location and antenna height are the same as that for the current DTV Channel 31 allotment for WBIR-DT. The directional antenna pattern's relative field horizontal plane pattern is supplied as **Figure 1** and **Table 2**, properly oriented to True North. **Figure 2** graphically presents the theoretical vertical plane (elevation) pattern for the antenna system.

Summary Technical Data for Proposed DTV Channel 7 Substitution Knoxville, Kentucky

Coordinates (NAD-27)	36° 00' 19" N-Lat 83° 56' 23" W-Lon
Channel	7
Effective Radiated Power	40.9 kW
Directional Antenna:	Dielectric THP-SP4-3-1 (no beamtilt)
Antenna Height	856 m AMSL 546 m HAAT

Summary

It is proposed that WBIR-DT Knoxville, Tennessee be permitted to substitute DTV Channel 7 in lieu of the allotted DTV Channel 31. Over 100 percent replication of the population

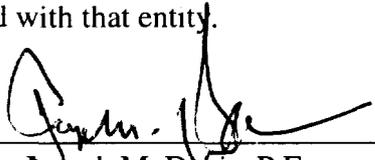
ENGINEERING STATEMENT

(page 3 of 3)

coverage of the existing WBIR-TV NTSC Channel 10 will be provided. Any interference caused to other DTV allotments or NTSC assignments meets the Commission's 2% / 10% *de minimis* limits. The power utility and other operating expenses of a 40.9 kW VHF DTV facility will be reduced from that of a comparable UHF DTV facility.

Certification

Under the penalty of perjury, the undersigned hereby certifies that the foregoing statement was prepared by him or under his direction, and that it is true and correct to the best of his knowledge and belief. Mr. Davis is a principal in the firm of *Cavell, Mertz & Davis, Inc.*, is a Registered Professional Engineer in Virginia, holds a Bachelor of Science degree from Old Dominion University in Electrical Engineering Technology, and has submitted numerous engineering exhibits to various local governmental authorities and the Federal Communications Commission. His qualifications are a matter of record with that entity.



Joseph M. Davis, P.E.
November 29, 1999

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(703) 591-0110

Table 1
INTERFERENCE ANALYSIS RESULTS SUMMARY
 prepared for
Gannett Tennessee, L.P.
 WBIR-DT Knoxville, Tennessee

<u>Stations Considered</u>	<u>City, State Channel, Type</u>	<u>Distance (km)</u>	<u>Baseline Population</u> (1)	<u>Initial Interference Percentage</u> (2)	<u>Additional Interference Percentage</u> (3)	<u>Proposed Change in Interference Population</u> (4)	<u>Proposed Change in Interference Percentage</u> (5)	<u>Final Interference Percentage</u> (6)
WSPA-TV (Lic)	Spartanburg, SC 7 NTSC	175.9	2,445,159	0.0	0.0	1,594	0.1	0.1
WLJC-DT (Reference)	Beattyville, KY 7 DTV	179.1			----- no interference predicted from proposal -----			
WLJC-DT (CP)	Beattyville, KY 7 DTV	179.1	89,000	0.0	0.0	452	0.5	0.5
WCIQ (TV) (Lic)	Mount Cheaha, AL 7 NTSC	327.8	2,172,630	0.0	0.0	8,370	0.4	0.4
WDBJ (TV) (Lic)	Roanoke, VA 7 NTSC	363.4	1,411,752	0.0	0.0	53	0.0	0.0
WTVW (TV) (Lic)	Evansville, IN 7 NTSC	378.1			----- no interference predicted from proposal -----			
WDCO-DT (Reference)	Cochran, GA 7 DTV	397.2			----- no interference predicted from proposal -----			
WHIO-TV (Lic)	Dayton, OH 7 NTSC	414.7			----- no interference predicted from proposal -----			

Table 1
INTERFERENCE ANALYSIS RESULTS SUMMARY
 (page 2 of 2)

<u>Stations Considered</u>	<u>City, State Channel, Type</u>	<u>Distance (km)</u>	<u>Baseline Population</u> (1)	<u>Initial Interference Percentage</u> (2)	<u>Additional Interference Percentage</u> (3)	<u>Proposed Change in Interference Population</u> (4)	<u>Proposed Change in Interference Percentage</u> (5)	<u>Final Interference Percentage</u> (6)
WVLT-TV (Lic)	Knoxville, TN 8 NTSC	0.8	1,064,755	0.0	0.0	3,661	0.3	0.3

Notes:

- (1) For DTV stations, greater of NTSC or DTV Service Population, from FCC Table
For NTSC stations, total population within noise-limited contour
- (2) For DTV stations, 100 percent minus FCC Table initial DTV/NTSC population match
For NTSC stations, initial percent loss: percent of population within (1) predicted to receive DTV only interference from FCC Table
- (3) Additional interference experienced due to DTV facilities authorized subsequent to initial allotment table
- (4) Net change in population receiving interference resulting from proposal; numbers in parenthesis indicate a *reduction* in interference
- (5) Proposal's impact in terms of percentage, equals (4)/(1) times 100 percent: not to exceed *de minimis* limit of 2.0 percent
- (6) Total interference: equals (2) + (3) + (5); proposal may not increase (2) + (3) above 10 percent

The determination of stations for consideration and the determination of baseline population and interference percentages were made as described in the Commission's August 10, 1998 Public Notice "Additional Application Processing Guidelines for Digital Television"

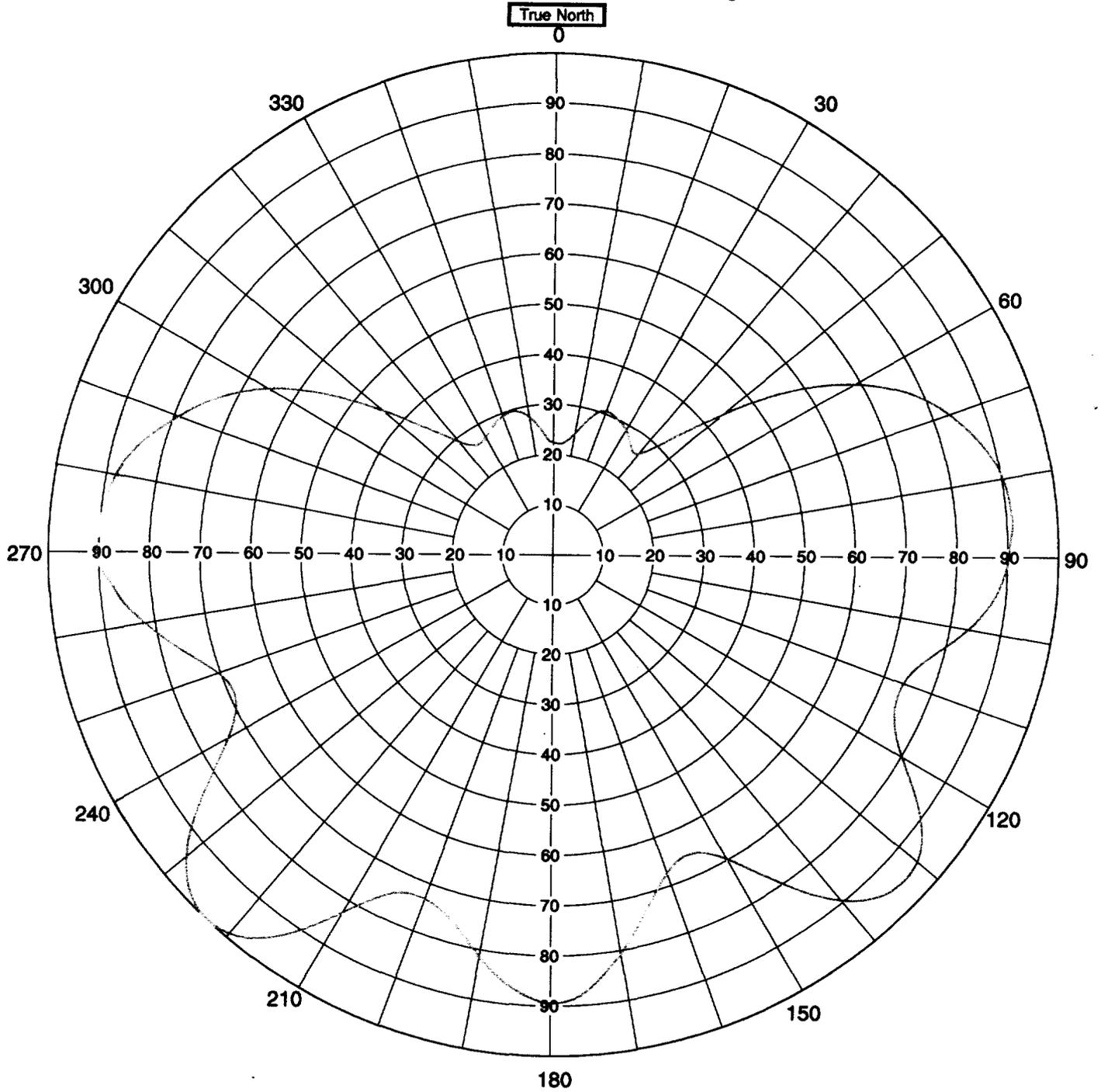
AZIMUTH PATTERN

RMS Gain at Main Lobe
Calculated / Measured

2.00 (3.01 dB)
Calculated

Frequency
Drawing #

MHz
THP-SP4-7



Remarks:

FIGURE 1
ANTENNA HORIZONTAL PLANE PATTERN

prepared November 1999 for
Gannett Tennessee, L.P.
WBIR-DT Knoxville, Tennessee

Ch. 7 40.9 kW 546 m

Cavell, Mertz and Davis, Inc.
Fairfax, Virginia

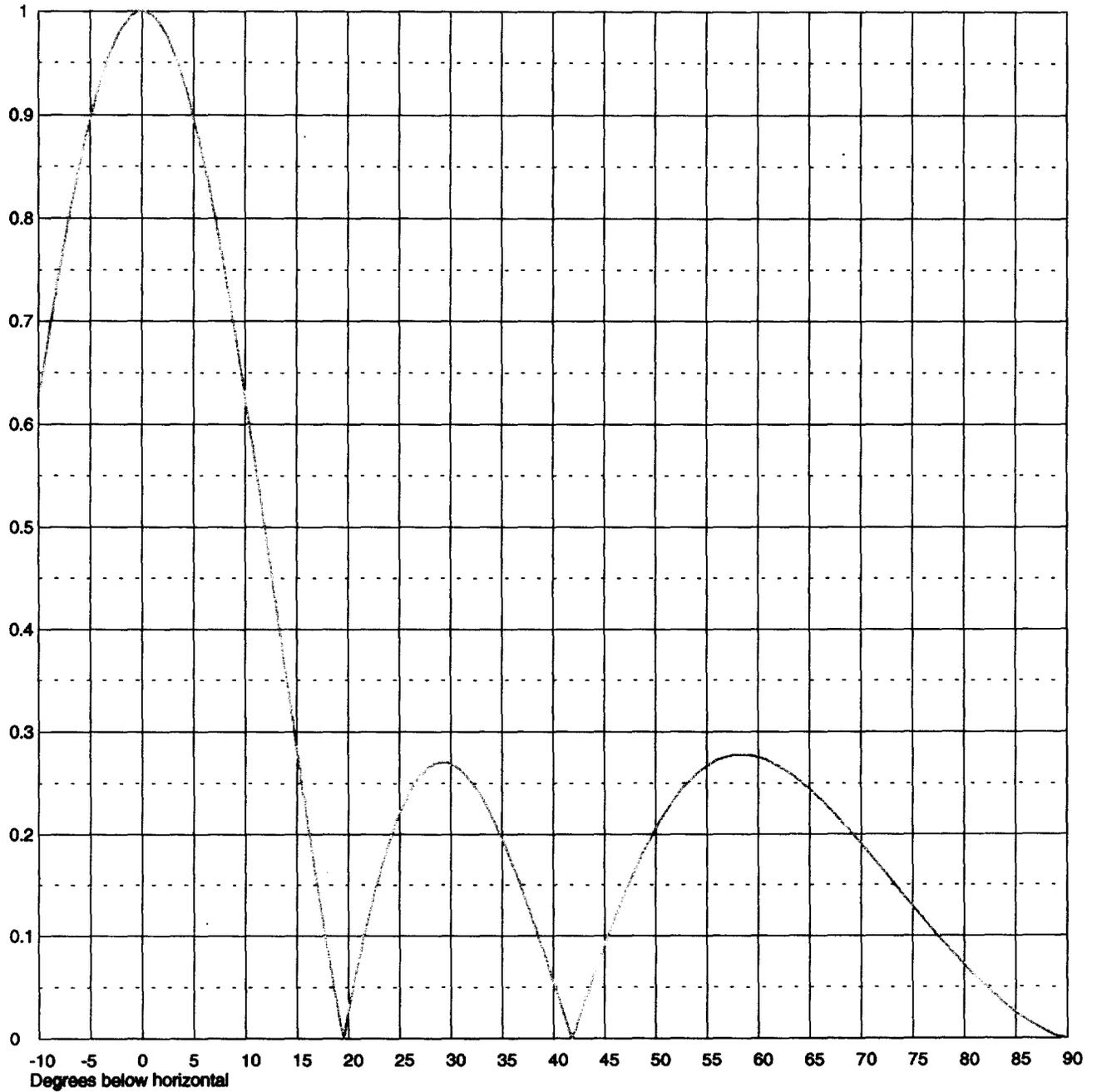
ELEVATION PATTERN

RMS Gain at Main Lobe
RMS Gain at Horizontal
Calculated / Measured

3.2 (5.05 dB)
3.2 (5.05 dB)
Calculated

Beam Tilt
Frequency
Drawing #

0.00 Degrees
177.00 MHz
03H03200-90



Remarks:

FIGURE 2
ANTENNA VERTICAL (ELEVATION) PLANE PATTERN

prepared November 1999 for
Gannett Tennessee, L.P.
WBIR-DT Knoxville, Tennessee

Ch. 7 40.9 kW 546 m

Covell, Mertz and Davis, Inc.
Fairfax, Virginia

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **THP-SP4-7**

Angle	Field														
0	0.223	45	0.321	90	0.901	135	0.948	180	0.894	225	0.995	270	0.904	315	0.352
1	0.222	46	0.341	91	0.900	136	0.942	181	0.893	226	0.990	271	0.904	316	0.337
2	0.221	47	0.363	92	0.896	137	0.934	182	0.888	227	0.982	272	0.901	317	0.324
3	0.221	48	0.387	93	0.892	138	0.924	183	0.882	228	0.971	273	0.900	318	0.312
4	0.222	49	0.412	94	0.886	139	0.911	184	0.876	229	0.959	274	0.899	319	0.301
5	0.223	50	0.438	95	0.880	140	0.897	185	0.868	230	0.944	275	0.898	320	0.291
6	0.225	51	0.465	96	0.873	141	0.880	186	0.859	231	0.927	276	0.896	321	0.283
7	0.229	52	0.493	97	0.865	142	0.862	187	0.849	232	0.908	277	0.893	322	0.276
8	0.233	53	0.520	98	0.856	143	0.841	188	0.839	233	0.887	278	0.890	323	0.271
9	0.238	54	0.546	99	0.846	144	0.820	189	0.827	234	0.865	279	0.886	324	0.268
10	0.245	55	0.572	100	0.835	145	0.798	190	0.815	235	0.843	280	0.881	325	0.265
11	0.252	56	0.598	101	0.824	146	0.776	191	0.802	236	0.820	281	0.876	326	0.264
12	0.260	57	0.622	102	0.812	147	0.755	192	0.790	237	0.799	282	0.869	327	0.264
13	0.268	58	0.645	103	0.799	148	0.735	193	0.778	238	0.778	283	0.861	328	0.265
14	0.276	59	0.667	104	0.787	149	0.716	194	0.767	239	0.759	284	0.853	329	0.266
15	0.284	60	0.687	105	0.775	150	0.700	195	0.758	240	0.742	285	0.843	330	0.268
16	0.291	61	0.706	106	0.765	151	0.686	196	0.750	241	0.727	286	0.833	331	0.270
17	0.297	62	0.724	107	0.756	152	0.675	197	0.744	242	0.714	287	0.823	332	0.273
18	0.301	63	0.742	108	0.749	153	0.667	198	0.739	243	0.704	288	0.812	333	0.276
19	0.304	64	0.758	109	0.744	154	0.661	199	0.735	244	0.697	289	0.802	334	0.280
20	0.306	65	0.773	110	0.741	155	0.657	200	0.733	245	0.692	290	0.791	335	0.283
21	0.306	66	0.787	111	0.740	156	0.657	201	0.732	246	0.689	291	0.779	336	0.286
22	0.305	67	0.800	112	0.740	157	0.658	202	0.733	247	0.689	292	0.768	337	0.288
23	0.304	68	0.811	113	0.741	158	0.662	203	0.736	248	0.692	293	0.756	338	0.290
24	0.302	69	0.822	114	0.744	159	0.668	204	0.741	249	0.697	294	0.744	339	0.292
25	0.300	70	0.832	115	0.749	160	0.675	205	0.749	250	0.704	295	0.731	340	0.294
26	0.298	71	0.842	116	0.755	161	0.685	206	0.759	251	0.713	296	0.717	341	0.295
27	0.296	72	0.851	117	0.763	162	0.696	207	0.773	252	0.723	297	0.702	342	0.296
28	0.294	73	0.859	118	0.774	163	0.708	208	0.789	253	0.734	298	0.687	343	0.296
29	0.292	74	0.868	119	0.787	164	0.721	209	0.808	254	0.746	299	0.670	344	0.296
30	0.289	75	0.876	120	0.802	165	0.735	210	0.829	255	0.759	300	0.653	345	0.295
31	0.286	76	0.883	121	0.819	166	0.750	211	0.851	256	0.771	301	0.634	346	0.293
32	0.282	77	0.889	122	0.837	167	0.764	212	0.873	257	0.783	302	0.615	347	0.291
33	0.277	78	0.895	123	0.855	168	0.779	213	0.894	258	0.796	303	0.594	348	0.287
34	0.273	79	0.900	124	0.874	169	0.793	214	0.914	259	0.808	304	0.573	349	0.283
35	0.268	80	0.903	125	0.891	170	0.807	215	0.933	260	0.820	305	0.551	350	0.278
36	0.264	81	0.906	126	0.907	171	0.821	216	0.949	261	0.832	306	0.529	351	0.273
37	0.261	82	0.908	127	0.920	172	0.834	217	0.964	262	0.843	307	0.507	352	0.267
38	0.260	83	0.910	128	0.932	173	0.847	218	0.975	263	0.854	308	0.485	353	0.260
39	0.261	84	0.911	129	0.941	174	0.859	219	0.985	264	0.863	309	0.463	354	0.253
40	0.264	85	0.911	130	0.947	175	0.870	220	0.992	265	0.871	310	0.442	355	0.246
41	0.270	86	0.911	131	0.952	176	0.880	221	0.997	266	0.878	311	0.422	356	0.238
42	0.279	87	0.909	132	0.954	177	0.887	222	0.999	267	0.888	312	0.403	357	0.231
43	0.290	88	0.906	133	0.954	178	0.891	223	1.000	268	0.897	313	0.385	358	0.226
44	0.304	89	0.904	134	0.952	179	0.893	224	0.999	269	0.902	314	0.368	359	0.224

Remarks:

TABLE 2
ANTENNA HORIZONTAL PLANE PATTERN
prepared November 1999 for
Gannett Tennessee, L.P.
WBIR-DT Knoxville, Tennessee
Ch. 7 40.9 kW 546 m
Cavell, Mertz and Davis, Inc.
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