



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN
APPLICATION TO AMEND A PENDING
APPLICATION FOR CONSTRUCTION PERMIT
BPCDT-19991101ACJ
WUTV-DT - BUFFALO, NEW YORK
DTV - CH. 14 - 1000.0 kW - 311.5 m HAAT**

Prepared for: WUTV Licensee, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

GENERAL

This office has been authorized by WUTV Licensee, LLC, licensee of WUTV, channel 29, Buffalo, New York, and applicant for construction permit of paired DTV allotment WUTV-DT, channel 14, Buffalo, New York, to evaluate a letter received from the Federal Communications Commission stating the results of the Commission's technical review of the subject application, BPCDT-19991101ACJ, to prepare this statement as a part of the applicant's response to that letter, and to prepare FCC Form 301, Sections III and III-D, and associated exhibits in support of an application to amend the pending application for construction permit for WUTV-DT, BPCDT-19991101ACJ.

ANALYSIS

The October 26, 2004 letter from the FCC states that, based on the results of the Commission's technical review, the WUTV-DT maximization application for construction permit "...cannot be granted because it would cause interference to an authorized broadcast facility." The letter further states: "... Specifically, a grant of your proposal would cause a reduction in the population that would receive service within the authorized coverage area of a construction permit(BPCT-870331LW), for a new NTSC station located in Bath, NY. Your proposal would caused 5.5 percent interference utilizing a 2 km cell."

The October 26, 2004 letter bases its inability to grant the WUTV-DT maximization application on the policies set forth in the *Public Notice, Additional Application Processing Guidelines for Digital Television (DTV)*, released August 10, 1998 ("Processing Guidelines Notice"). The Processing Guidelines Notice defines the technical and interference studies that must be performed to determine whether a proposal will comply with the 2 percent and 10 percent *de minimis* standards contained in Section 73.623(c)(2) of the Commission's Rules, which was established by the *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order in MM Docket No. 87-268*, 13 FCC Rcd 7418 (1998).

RESULTS

I have utilized the Commission's tv_process software, which is available on the FCC's website, to evaluate the pending WUTV-DT proposal. In order to confirm the Commission's findings set forth in the October 26th letter, I have analyzed the "raw data" from the tv_process study relative to the Bath, New York NTSC construction permit facility

(BPCT-870331LW). These results are provided in Attachment A. The Bath, New York NTSC construction permit facility is the third station in the list of "Stations Potentially Affected by Proposed Station" shown in the tv_process analysis results file. The analysis of the current record, beginning on page 4 of Attachment A, contains one scenario showing two licensed NTSC stations and the allotted facilities of WUTV-DT, which potentially affect the Bath CP. The "before analysis" and "after analysis" results which compare the predicted effects of WUTV-DT's allotment facilities with the predicted effects of WUTV-DT's pending application facilities show an increase of **5.5 percent** service lost as a result of WUTV-DT's pending application.

These data confirm that the Commission's analysis is correct as it relates to the Bath, New York construction permit facilities, therefore, in order to comply with Section 73.623(c)(2) of the Commission's Rules, an amendment seeking to modify WUTV-DT's pending application is necessary.

PROPOSED AMENDMENT

In order to bring the WUTV-DT application into compliance with the *de minimis* criteria specified in Section 73.623(c)(2) of the Commission's Rules when compared to the Bath, New York construction permit facility, I have further utilized the program tv_process to determine the appropriate modification(s) to propose.

PROPOSED DIRECTIONAL ANTENNA

The applicant proposes to modify its currently proposed antenna, a Dielectric TLP-16E (C) custom directional transmitting antenna which is to be mounted on the support structure directly beneath the licensed WUTV(TV) antenna. A Vertical Plan Antenna Sketch showing various elevations at WUTV(TV)'s licensed site is provided in Exhibit 1. The antenna manufacturer's horizontal plane azimuth radiation pattern, illustrating the proposed antenna's horizontal plane directional azimuth pattern characteristics is shown in exhibit 2, and tabulated in exhibit 3.

The proposed antenna modification, in accordance with §73.622(f)(4) of the Commission's rules, shall include an increase in electrical beam tilt from 1.0 degree to 1.50 degrees below the horizontal plane, and an additional mechanical beam tilt of 0.5 degrees below the horizontal plane toward azimuth 155 degrees True. The maximum lobe plane azimuth radiation pattern is shown in exhibit 2A and tabulated in exhibit 3A. The vertical plane radiation pattern, illustrating the proposed antenna's radiation characteristics above and below the horizontal plane, due to electrical beam tilt, is shown in exhibit 4A and 4B, and tabulated in exhibit 5. Additional horizontal plane pattern cuts and tabulations for angles 0.0°, 0.2°, 0.4°, 0.6°, 0.8°, 1.0°, 1.2°, 1.4°, 1.6°, 1.8°, 2.0° and 2.2° below the horizontal plane, and additional vertical plane patterns and tabulations at pertinent azimuths, illustrating the effects of both electrical and mechanical beam tilt, are included in Appendix B. This application complies with §73.685 of the Commission's rules.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 6 shows the predicted Noise Limited (41 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Buffalo, New York.

ALLOCATION CONSIDERATIONS

NTSC Allocation Considerations

The purpose of the instant application is to resolve predicted interference by WUTV-DT to the Bath, New York construction permit facility. The applicant proposes to employ beam tilt in excess of 1.0 degrees, as permitted by §73.622(f)(4), to reduce WUTV-DT's radiated power in the horizontal plane toward the Bath, New York co-channel NTSC construction permit facility's authorized service area sufficiently to achieve compliance with the 2% and 10% *de minimis* interference criteria in Section 73.623(c)(2). As shown on page 4 of Attachment B, the proposed combination of 1.5 degrees electrical and 0.5 degrees mechanical beam tilt, toward 155 degrees True, serves to reduce the effective

radiated power in the horizontal plane toward the Bath construction permit to the extent that the predicted reduction in the population that would receive service improves from **5.5%** to **0.3%**. The DTV facility for WUTV-DT as proposed herein now satisfies the *de minimis* interference requirements as they apply to all pertinent authorized NTSC facilities, including licenses, construction permits and any applicable pending applications. It is therefore submitted that the instant proposal corrects the 2% *de minimis* interference deficiency outlined in the FCC letter.

DTV Allocation Considerations

A study was performed to determine if the proposed relocation of WUTV-DT is predicted to cause any level of new prohibited interference to domestic DTV stations, expansion construction permits or DTV allotments. Results of the FCC program "tv-process" indicate that the instant proposal for WUTV-DT is predicted to cause no unacceptable level of new interference to the populations served by any domestic DTV station, expansion construction permit or allotment.

In consideration of international DTV requirements, it is noted that Industry Canada has judged that WUTV-DT's currently pending application is acceptable. Since the instant amendment proposes no changes toward the Canadian border it is submitted that further international coordination is not necessary.

Class A Television Allocation Considerations

As required in Section 73.623(c)(5) of the FCC's Rules, protection of class A TV stations, a study using tv_process, based on WUTV-DT's instant amendment to its pending

application, was performed. The study revealed that WUTV-DT's transmitter site is inside the service contour of class A station WBNF-CA, channel 15, Buffalo, New York. Indeed the stations are co-located. However, WUTV-DT's pending application predates the creation of the Low Power Class A television service and therefore is not required to provide protection to class A LPTV stations beyond that inherently provided by the facilities proposed in the original application. That original application proposed WUTV-DT to operate with 1000 kW at an antenna Height Above Average Terrain (HAAT) of 329 meters. The instant amendment proposes 1000 kW at a HAAT of 311.5 meters, which is predicted to provide a reduction in whatever interference might result from WUTV-DT initial DTV application..

BLANKETING AND INTERMODULATION INTERFERENCE

A number of broadcast and non-broadcast facilities are located within 10 km of the proposed WUTV-DT antenna site. The applicant recognizes its responsibility to remedy complaints of interference created by this proposal in accordance with applicable Rules.

ENVIRONMENTAL CONSIDERATIONS

RADIO FREQUENCY IMPACT

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National

Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines provide a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared (mW/cm^2) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula, $(\text{frequency}/1500)$. The MPE level for "controlled" environments is 1.0 milliwatts per centimeter squared (mW/cm^2) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula, $(\text{frequency}/300)$. The predicted emissions of WUTV-DT channel 14 must be considered, along with the predicted emissions from other proposed and existing stations at the proposed site. For WUTV-DT, which operates on television Channel 14 (470-476 MHz),

the MPE is 0.315 milliwatts per centimeter squared (mW/cm^2) in an "uncontrolled" environment and $1.58 \text{ mW}/\text{cm}^2$ in a "controlled" environment. The proposed WUTV-DT facility will operate with a maximum ERP of 1000 kW from a horizontally polarized directional transmitting antenna with a centerline height of 312.8 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the WUTV-DT facility is predicted to produce a power density at two meters above ground level of $0.03128 \text{ mW}/\text{cm}^2$, which is 9.92% of the FCC's guideline value for an "uncontrolled" environment, and 1.984% of the FCC's guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations within relevant proximity is only 25.32% of the limit for "uncontrolled" environments, and 5.06% of the limit for "controlled" environments.

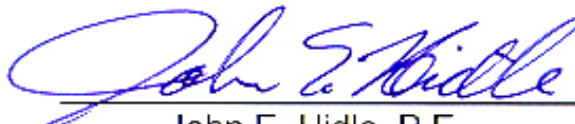
OCCUPATIONAL SAFETY

The applicant for WUTV-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WUTV-DT antenna. The applicant is committed to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel. In light of the above, the proposed WUTV-DT facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

SUMMARY

It is submitted that the instant proposal for construction permit for WUTV-DT as described herein complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 301, Sections III and III-D, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: October 29, 2004


John E. Hidle, P.E.



TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 10-28-2004 Time: 13:52:14

Record Selected for Analysis

WUTV BPCDT -19991101ACJ BUFFALO NY US
Channel 14 ERP 1000.0 kW HAAT 311.5 m RCAMSL 490.0 m
Latitude 043-01-32 Longitude 0078-55-43
Status APP Zone 1 Border C
Dir Antenna Make CDB Model 00000000065932 Beam tilt Y Ref Azimuth 0.0
Last update Cutoff date 19991117 Docket
Comments
Applicant WUTV LICENSEE, LLC

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	32.761	305.8	72.4
45.0	35.910	311.5	73.4
90.0	168.921	318.3	83.8
135.0	850.084	292.3	94.3
180.0	811.801	310.8	96.2
225.0	124.256	313.7	81.1
270.0	21.904	314.5	70.8
315.0	38.809	318.2	74.4

Evaluation toward Class A Stations

Station inside contour of Class A station
WBNF-CA 15 BUFFALO NY BLTTL 19990608JD

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WUTV 14 BUFFALO NY BPCDT 19991101ACJ

and station

SHORT TO: 870331LW 14 BATH NY BPCT 19870331LW
042-18-28 0077-13-17
Req. separation 217.3 Actual separation 161.1 Short 56.2 km

SHORT TO: WUTV-DT 14 BUFFALO NY DTVPLN DTVP0135
043-01-27 0078-55-40
Req. separation 196.3 Actual separation 0.2 Short 196.1 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
Distance to border = 7.9km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station	Call	City/State	ARN	
14	WUTV		BUFFALO NY	BPCDT	19991101ACJ

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
14	WKBD	DETROIT MI	362.8	LIC	BLCDT	-20001215ABR
14	WKBD	DETROIT MI	362.8	CP	BPCDT	-20000428ABU
14	870331LW	BATH NY	160.7	CP	BPCT	-19870331LW
15	WBNF-CA	BUFFALO NY	0.0	LIC	BLTTL	-19990608JD
15	WPSX-TV	CLEARFIELD PA	215.3	CP	BPEDT	-20000501AHR
15	WPSX-TV	CLEARFIELD PA	215.3	APP	BMPEDT	-20030527ADP
17	WNED-TV	BUFFALO NY	0.8	LIC	BLET	-19870206KE
21	WXXI-TV	ROCHESTER NY	109.8	LIC	BLET	-19800813KE
14	WKBD-DT	DETROIT MI	362.8	PLN	DTVPLN	-DTVP0126
15	WPSX-DT	CLEARFIELD PA	215.3	PLN	DTVPLN	-DTVP0180
15	CBLFT13	BELLEVILLE ON	199.0	LIC	CANADA	-00000814
18	CICOTV74	PETERBOROUGH ON	137.4	LIC	CANADA	-00000982
22	CHEXTV2	OSHAWA ON	103.7	LIC	CANADA	-00001154

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Analysis of Interference to Affected Station 3

NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
14	NEW	BATH NY	DTVPLN -NPLN1051

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
14	WUTV-DT	BUFFALO NY	160.6	PLN	DTVPLN -DTVP0135
14	WPTZ-DT	NORTH POLE NY	381.2	PLN	DTVPLN -DTVP0136
15	WPSX-DT	CLEARFIELD PA	166.1	PLN	DTVPLN -DTVP0180
16	WXXI-DT	ROCHESTER NY	96.6	PLN	DTVPLN -DTVP0226
17	WIXT-DT	SYRACUSE NY	120.8	PLN	DTVPLN -DTVP0263
28	WUHF-DT	ROCHESTER NY	96.6	PLN	DTVPLN -DTVP0678
29	WILF-DT	WILLIAMSPORT PA	123.5	PLN	DTVPLN -DTVP0718
18	WETMTV	ELMIRA NY	36.5	PLN	DTVPLN -NPLN1135
21	WXXITV	ROCHESTER NY	96.6	PLN	DTVPLN -NPLN1141
29	WUTV	BUFFALO NY	160.6	PLN	DTVPLN -NPLN1154
28	WBRETV	WILKES-BARRE PA	168.0	PLN	DTVPLN -NPLN1365
14	WTMW	ARLINGTON VA	374.5	PLN	DTVPLN -NPLN1545

Results for: 14N NY BATH	DTVPLN	NPLN1051	PLN
	POPULATION	AREA (sq km)	
within Noise Limited Contour	610747	17723.6	
not affected by terrain losses	398377	14396.6	
lost to NTSC IX	32958	334.7	
lost to additional IX by ATV	33626	576.7	
lost to all IX	66584	911.4	

Analysis of current record

Channel	Call	City/State	Application Ref. No.
14	870331LW	BATH NY	BPCT -19870331LW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
14	WUTV	BUFFALO NY	160.7	APP	BPCDT -19991101ACJ
14	WFDC-TV	ARLINGTON VA	374.5	CP MOD	BMPCT -19910730KE
15	WPSX-TV	CLEARFIELD PA	166.2	CP	BPEDT -20000501AHR
15	WPSX-TV	CLEARFIELD PA	166.2	APP	BMPEDT -20030527ADP
16	WXXI-TV	ROCHESTER NY	96.6	CP	BPEDT -19990114KF
17	WIXT-TV	SYRACUSE NY	120.8	LIC	BLCDT -20030812ABK
18	WETM-TV	ELMIRA NY	36.5	LIC	BLCT -19980615KE
21	WXXI-TV	ROCHESTER NY	96.6	LIC	BLET -19800813KE
28	WUHF	ROCHESTER NY	96.6	CP	BPCDT -19991101ACD
28	WBRE-TV	WILKES-BARRE PA	168.0	LIC	BLCT -19891005KF
29	WUTV	BUFFALO NY	160.7	LIC	BLCT -19990604KJ
29	WILF	WILLIAMSPORT PA	123.5	CP	BPCDT -19980825KJ
14	WUTV-DT	BUFFALO NY	160.6	PLN	DTVPLN -DTVP0135
14	WPTZ-DT	NORTH POLE NY	381.2	PLN	DTVPLN -DTVP0136
15	WPSX-DT	CLEARFIELD PA	166.1	PLN	DTVPLN -DTVP0180
16	WXXI-DT	ROCHESTER NY	96.6	PLN	DTVPLN -DTVP0226
17	WIXT-DT	SYRACUSE NY	120.8	PLN	DTVPLN -DTVP0263
28	WUHF-DT	ROCHESTER NY	96.6	PLN	DTVPLN -DTVP0678
29	WILF-DT	WILLIAMSPORT PA	123.5	PLN	DTVPLN -DTVP0718

Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 3
 Before Analysis

Results for: 14N NY BATH	BPCT	19870331LW	CP
	POPULATION	AREA (sq km)	
within Noise Limited Contour	610747	17723.6	
not affected by terrain losses	398377	14396.6	
lost to NTSC IX	32981	338.7	
lost to additional IX by ATV	33603	572.6	
lost to all IX	66584	911.4	

Potential Interfering Stations Included in above Scenario 1

18N NY ELMIRA	BLCT	19980615KE	LIC
21N NY ROCHESTER	BLET	19800813KE	LIC
14A NY BUFFALO	DTVPLN	DTVP0135	PLN

After Analysis

Results for: 14N NY BATH	BPCT	19870331LW	CP
	POPULATION	AREA (sq km)	
within Noise Limited Contour	610747	17723.6	
not affected by terrain losses	398377	14396.6	
lost to NTSC IX	32981	338.7	
lost to additional IX by ATV	67369	1701.8	
lost to all IX	100350	2040.5	

Potential Interfering Stations Included in above Scenario 1

18N NY ELMIRA	BLCT	19980615KE	LIC
21N NY ROCHESTER	BLET	19800813KE	LIC
14A NY BUFFALO	BPCDT	19991101ACJ	APP

The following station failed the de minimis interference criteria.

14D NY BUFFALO BPCDT 19991101ACJ
 ERP 1000.00 kW HAAT 311.5 m RCAMSL 490.0 m
 Antenna CDB 00000000065932

Due to interference to the following station and scenario: 1

14N NY BATH BPCT 19870331LW
 ERP 1000.00 kW HAAT 318.0 m RCAMSL 766.0 m
 Antenna none

Percent new DTV interference without proposal:	5.5	BPCT	19870331LW
Percent new DTV interference with proposal:	11.0	BPCT	19870331LW

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 10-28-2004 Time: 13:50:21

Record Selected for Analysis

WUTV BPCDT -NEWWUTVDT BUFFALO NY US
 Channel 14 ERP 1000.0 kW HAAT 311.5 m RCAMSL 490.0 m
 Latitude 043-01-32 Longitude 0078-55-43
 Status APP Zone 1 Border C
 Dir Antenna Make CDB Model 00000000066969 Beam tilt Y Ref Azimuth 0.0
 Last update Cutoff date 19991117 Docket
 Comments
 Applicant WUTV LICENSEE, LLC

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	21.609	305.8	70.1
45.0	17.161	311.5	69.2
90.0	51.076	318.3	76.0
135.0	146.689	292.3	80.0
180.0	139.876	310.8	81.6
225.0	39.601	313.7	74.1
270.0	11.025	314.5	67.0
315.0	26.082	318.2	72.1

Evaluation toward Class A Stations

Station inside contour of Class A station
 WBNF-CA 15 BUFFALO NY BLTTL 19990608JD

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WUTV 14 BUFFALO NY BPCDT NEWWUTVDT

and station

SHORT TO: 870331LW 14 BATH NY BPCT 19870331LW
 042-18-28 0077-13-17
 Req. separation 217.3 Actual separation 161.1 Short 56.2 km

SHORT TO: WUTV-DT 14 BUFFALO NY DTVPLN DTVP0135
 043-01-27 0078-55-40
 Req. separation 196.3 Actual separation 0.2 Short 196.1 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountian

Proposed facility is within the Canadian coordination distance
Distance to border = 7.9km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN	
14	WUTV	BUFFALO NY	BPCDT	NEWWUTVDT

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
14	WKBD	DETROIT MI	362.8	LIC	BLCDT	-20001215ABR
14	WKBD	DETROIT MI	362.8	CP	BPCDT	-20000428ABU
14	870331LW	BATH NY	160.7	CP	BPCT	-19870331LW
14	WSPX	SYRACUSE NY	235.4	APP	BPRM	-20021108ADJ
15	WBNF-CA	BUFFALO NY	0.0	LIC	BLTTL	-19990608JD
15	WPSX-TV	CLEARFIELD PA	215.3	CP	BPEDT	-20000501AHR
15	WPSX-TV	CLEARFIELD PA	215.3	APP	BMPEDT	-20030527ADP
17	WNED-TV	BUFFALO NY	0.8	LIC	BLET	-19870206KE
21	WXXI-TV	ROCHESTER NY	109.8	LIC	BLET	-19800813KE
14	WKBD-DT	DETROIT MI	362.8	PLN	DTVPLN	-DTVP0126
15	WPSX-DT	CLEARFIELD PA	215.3	PLN	DTVPLN	-DTVP0180
15	CBLFT13	BELLEVEILLE ON	199.0	LIC	CANADA	-00000814
18	CICOTV74	PETERBOROUGH ON	137.4	LIC	CANADA	-00000982
22	CHEXTV2	OSHAHA ON	103.7	LIC	CANADA	-00001154

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Analysis of Interference to Affected Station 3

NTSC Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
14	NEW	BATH NY	DTVPLN	-NPLN1051

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
14	WUTV-DT	BUFFALO NY	160.6	PLN	DTVPLN	-DTVP0135
14	WPTZ-DT	NORTH POLE NY	381.2	PLN	DTVPLN	-DTVP0136
15	WPSX-DT	CLEARFIELD PA	166.1	PLN	DTVPLN	-DTVP0180
16	WXXI-DT	ROCHESTER NY	96.6	PLN	DTVPLN	-DTVP0226
17	WIXT-DT	SYRACUSE NY	120.8	PLN	DTVPLN	-DTVP0263
28	WUHF-DT	ROCHESTER NY	96.6	PLN	DTVPLN	-DTVP0678
29	WILF-DT	WILLIAMSPORT PA	123.5	PLN	DTVPLN	-DTVP0718
18	WETMTV	ELMIRA NY	36.5	PLN	DTVPLN	-NPLN1135
21	WXXITV	ROCHESTER NY	96.6	PLN	DTVPLN	-NPLN1141
29	WUTV	BUFFALO NY	160.6	PLN	DTVPLN	-NPLN1154
28	WBRETV	WILKES-BARRE PA	168.0	PLN	DTVPLN	-NPLN1365
14	WTMW	ARLINGTON VA	374.5	PLN	DTVPLN	-NPLN1545

Results for: 14N NY BATH	DTVPLN	NPLN1051	PLN
	POPULATION	AREA (sq km)	
within Noise Limited Contour	610747	17723.6	
not affected by terrain losses	398377	14396.6	
lost to NTSC IX	32958	334.7	
lost to additional IX by ATV	33626	576.7	
lost to all IX	66584	911.4	

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
14	870331LW	BATH NY	BPCT	-19870331LW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
14	WUTV	BUFFALO NY	160.7	APP	BPCDT	-NEWWUTVDT
14	WFDC-TV	ARLINGTON VA	374.5	CP MOD	BMPCT	-19910730KE
15	WPSX-TV	CLEARFIELD PA	166.2	CP	BPEDT	-20000501AHR
15	WPSX-TV	CLEARFIELD PA	166.2	APP	BMPEDT	-20030527ADP
16	WXXI-TV	ROCHESTER NY	96.6	CP	BPEDT	-19990114KF
17	WIXT-TV	SYRACUSE NY	120.8	LIC	BLCDT	-20030812ABK
18	WETM-TV	ELMIRA NY	36.5	LIC	BLCT	-19980615KE
21	WXXI-TV	ROCHESTER NY	96.6	LIC	BLET	-19800813KE
28	WUHF	ROCHESTER NY	96.6	CP	BPCDT	-19991101ACD
28	WBRE-TV	WILKES-BARRE PA	168.0	LIC	BLCT	-19891005KF
29	WUTV	BUFFALO NY	160.7	LIC	BLCT	-19990604KJ
29	WILF	WILLIAMSPORT PA	123.5	CP	BPCDT	-19980825KJ
14	WUTV-DT	BUFFALO NY	160.6	PLN	DTVPLN	-DTVP0135
14	WPTZ-DT	NORTH POLE NY	381.2	PLN	DTVPLN	-DTVP0136
15	WPSX-DT	CLEARFIELD PA	166.1	PLN	DTVPLN	-DTVP0180
16	WXXI-DT	ROCHESTER NY	96.6	PLN	DTVPLN	-DTVP0226
17	WIXT-DT	SYRACUSE NY	120.8	PLN	DTVPLN	-DTVP0263
28	WUHF-DT	ROCHESTER NY	96.6	PLN	DTVPLN	-DTVP0678
29	WILF-DT	WILLIAMSPORT PA	123.5	PLN	DTVPLN	-DTVP0718

Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 3
 Before Analysis

Results for: 14N NY BATH	BPCT	19870331LW	CP
	POPULATION	AREA (sq km)	
within Noise Limited Contour	610747	17723.6	
not affected by terrain losses	398377	14396.6	
lost to NTSC IX	32981	338.7	
lost to additional IX by ATV	33603	572.6	
lost to all IX	66584	911.4	

Potential Interferring Stations Included in above Scenario 1

18N NY ELMIRA	BLCT	19980615KE	LIC
21N NY ROCHESTER	BLET	19800813KE	LIC
14A NY BUFFALO	DTVPLN	DTVP0135	PLN

After Analysis

Results for: 14N NY BATH	BPCT	19870331LW	CP
	POPULATION	AREA (sq km)	
within Noise Limited Contour	610747	17723.6	
not affected by terrain losses	398377	14396.6	
lost to NTSC IX	32981	338.7	
lost to additional IX by ATV	35716	746.0	
lost to all IX	68697	1084.8	

Potential Interferring Stations Included in above Scenario 1

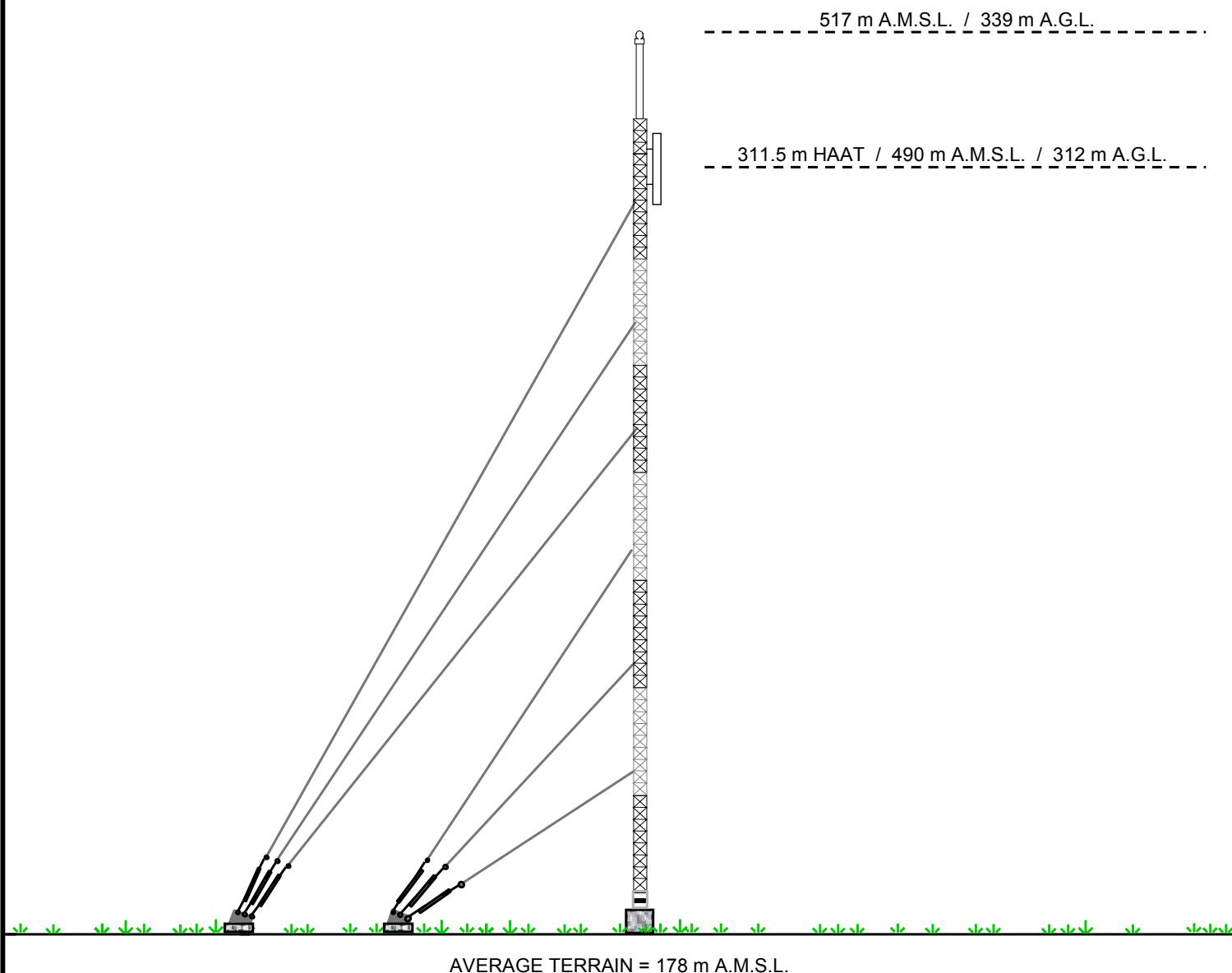
18N NY ELMIRA	BLCT	19980615KE	LIC
21N NY ROCHESTER	BLET	19800813KE	LIC
14A NY BUFFALO	BPCDT	NEWWUTVDT	APP

COORDINATES NAD-27

NORTH LATITUDE: 43° 01' 32"

WEST LONGITUDE: 78° 55' 43"

TOWER REG. # 1019110

**VERTICAL PLAN ANTENNA SKETCH**

WUTV-DT - BUFFALO, NEW YORK

311.5 m HAAT - 1000 kW ERP

OCTOBER, 2004

CARL T. JONES
CORPORATION

NOTE : NOT DRAWN TO SCALE



Date
Call Letters
Location
Customer
Antenna Type

28-Jun-04
WUTV
Buffalo, NY
TLP-16E (C)

Exhibit 2
Channel 14

AZIMUTH PATTERN:

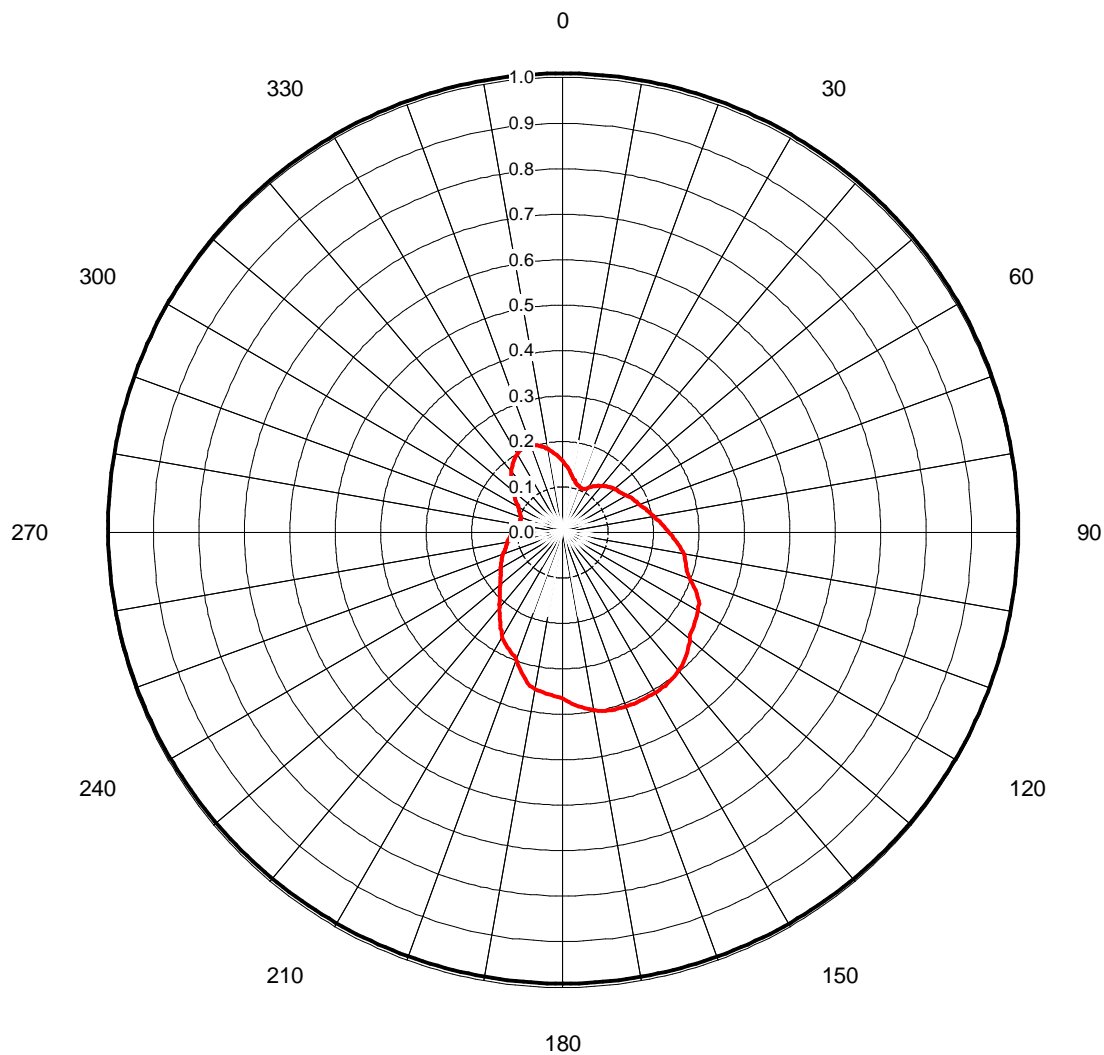
0.00° Depression Angle

Gain
Calculated / Measured

Calculated

Frequency
Drawing #

473.00 MHz
TLP-E



Mech. Tilt: 0.50°
@
Azimuth: 155 deg



Date
Call Letters
Location
Customer
Antenna Type

28-Jun-04
WUTV
Buffalo, NY
TLP-16E (C)

Channel

14

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.147	45	0.132	90	0.226	135	0.385	180	0.374	225	0.196	270	0.105	315	0.162
1	0.144	46	0.133	91	0.229	136	0.389	181	0.371	226	0.193	271	0.105	316	0.165
2	0.141	47	0.135	92	0.233	137	0.392	182	0.370	227	0.189	272	0.104	317	0.167
3	0.138	48	0.137	93	0.236	138	0.395	183	0.369	228	0.186	273	0.103	318	0.170
4	0.135	49	0.138	94	0.240	139	0.398	184	0.368	229	0.183	274	0.102	319	0.172
5	0.132	50	0.140	95	0.244	140	0.401	185	0.366	230	0.180	275	0.101	320	0.175
6	0.129	51	0.141	96	0.248	141	0.403	186	0.365	231	0.177	276	0.100	321	0.177
7	0.126	52	0.142	97	0.252	142	0.405	187	0.363	232	0.175	277	0.099	322	0.180
8	0.123	53	0.143	98	0.256	143	0.407	188	0.362	233	0.172	278	0.098	323	0.182
9	0.120	54	0.144	99	0.260	144	0.409	189	0.360	234	0.170	279	0.097	324	0.184
10	0.117	55	0.146	100	0.264	145	0.410	190	0.358	235	0.168	280	0.096	325	0.186
11	0.114	56	0.147	101	0.268	146	0.411	191	0.356	236	0.166	281	0.095	326	0.188
12	0.112	57	0.148	102	0.272	147	0.412	192	0.353	237	0.163	282	0.095	327	0.190
13	0.110	58	0.149	103	0.274	148	0.413	193	0.347	238	0.161	283	0.095	328	0.192
14	0.108	59	0.150	104	0.276	149	0.413	194	0.341	239	0.159	284	0.096	329	0.193
15	0.106	60	0.152	105	0.279	150	0.414	195	0.335	240	0.157	285	0.096	330	0.195
16	0.104	61	0.154	106	0.281	151	0.414	196	0.329	241	0.156	286	0.097	331	0.196
17	0.103	62	0.156	107	0.283	152	0.414	197	0.323	242	0.154	287	0.098	332	0.197
18	0.102	63	0.158	108	0.285	153	0.414	198	0.317	243	0.152	288	0.099	333	0.198
19	0.101	64	0.160	109	0.288	154	0.414	199	0.310	244	0.150	289	0.100	334	0.198
20	0.100	65	0.163	110	0.291	155	0.415	200	0.304	245	0.148	290	0.101	335	0.199
21	0.099	66	0.164	111	0.297	156	0.415	201	0.300	246	0.146	291	0.102	336	0.199
22	0.098	67	0.166	112	0.303	157	0.415	202	0.297	247	0.143	292	0.104	337	0.198
23	0.098	68	0.167	113	0.308	158	0.414	203	0.295	248	0.141	293	0.105	338	0.198
24	0.097	69	0.169	114	0.314	159	0.414	204	0.292	249	0.138	294	0.107	339	0.197
25	0.097	70	0.171	115	0.320	160	0.414	205	0.289	250	0.136	295	0.108	340	0.196
26	0.098	71	0.173	116	0.326	161	0.414	206	0.286	251	0.134	296	0.110	341	0.194
27	0.098	72	0.175	117	0.332	162	0.414	207	0.282	252	0.132	297	0.112	342	0.193
28	0.099	73	0.177	118	0.338	163	0.414	208	0.279	253	0.131	298	0.114	343	0.191
29	0.100	74	0.179	119	0.341	164	0.413	209	0.274	254	0.129	299	0.116	344	0.189
30	0.102	75	0.182	120	0.344	165	0.413	210	0.269	255	0.128	300	0.119	345	0.187
31	0.104	76	0.184	121	0.346	166	0.412	211	0.263	256	0.126	301	0.122	346	0.185
32	0.106	77	0.186	122	0.348	167	0.411	212	0.258	257	0.125	302	0.125	347	0.183
33	0.108	78	0.189	123	0.350	168	0.409	213	0.253	258	0.123	303	0.127	348	0.180
34	0.111	79	0.192	124	0.352	169	0.408	214	0.248	259	0.122	304	0.130	349	0.178
35	0.113	80	0.194	125	0.354	170	0.406	215	0.243	260	0.120	305	0.133	350	0.175
36	0.115	81	0.197	126	0.356	171	0.404	216	0.237	261	0.119	306	0.136	351	0.173
37	0.117	82	0.200	127	0.358	172	0.401	217	0.232	262	0.117	307	0.139	352	0.170
38	0.119	83	0.203	128	0.360	173	0.398	218	0.227	263	0.115	308	0.142	353	0.167
39	0.121	84	0.206	129	0.361	174	0.395	219	0.222	264	0.114	309	0.145	354	0.165
40	0.122	85	0.209	130	0.365	175	0.392	220	0.218	265	0.112	310	0.148	355	0.162
41	0.124	86	0.212	131	0.369	176	0.389	221	0.213	266	0.111	311	0.151	356	0.159
42	0.126	87	0.215	132	0.373	177	0.385	222	0.209	267	0.109	312	0.154	357	0.156
43	0.128	88	0.219	133	0.378	178	0.382	223	0.204	268	0.108	313	0.156	358	0.153
44	0.130	89	0.222	134	0.382	179	0.378	224	0.200	269	0.106	314	0.159	359	0.150



Exhibit No.
2A

Date
Call Letters
Location
Customer
Antenna Type

28 Oct 2004
WUTV-DT Channel **14**
Buffalo, NY
WUTV Licensee, LLC
TFU-16DSB-E (C)

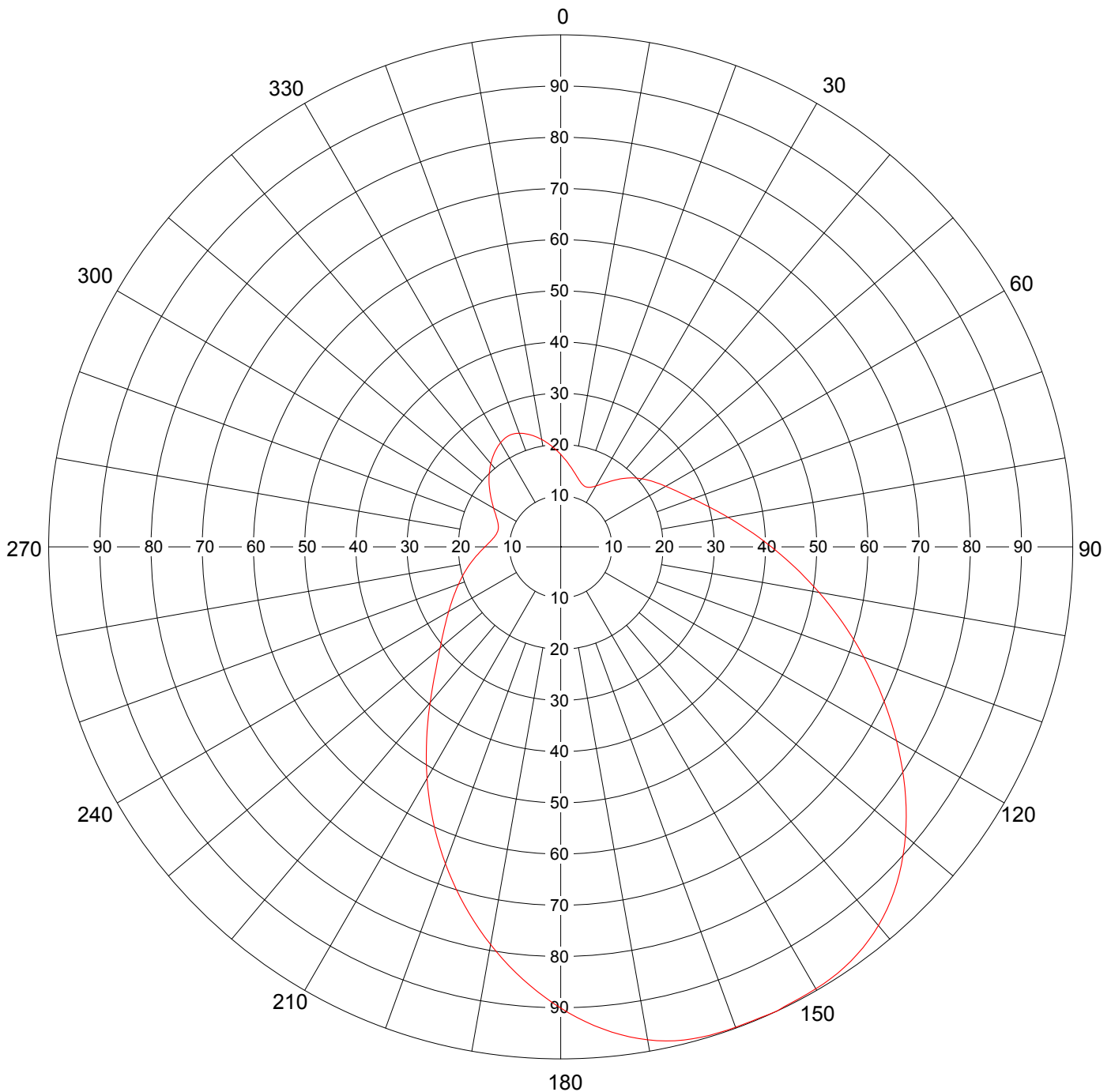
AZIMUTH PATTERN

RMS Gain at Main Lobe
Calculated / Measured

3.90 (5.91 dB)
Calculated

Frequency
Drawing #

473 MHz
DSB-E



Remarks:



Exhibit No.
3A

Date **28 Oct 2004**
Call Letters **WUTV-DT** Channel **14**
Location **Buffalo, NY**
Customer **WUTV Licensee, LLC**
Antenna Type **TFU-16DSB-E (C)**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **DSB-E**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.181	45	0.190	90	0.411	135	0.928	180	0.901	225	0.346	270	0.148	315	0.198
1	0.177	46	0.194	91	0.420	136	0.937	181	0.891	226	0.338	271	0.146	316	0.201
2	0.174	47	0.197	92	0.430	137	0.945	182	0.880	227	0.330	272	0.143	317	0.204
3	0.171	48	0.201	93	0.439	138	0.952	183	0.870	228	0.322	273	0.141	318	0.207
4	0.167	49	0.204	94	0.449	139	0.959	184	0.859	229	0.315	274	0.139	319	0.210
5	0.164	50	0.207	95	0.459	140	0.965	185	0.848	230	0.308	275	0.137	320	0.212
6	0.161	51	0.210	96	0.469	141	0.971	186	0.836	231	0.301	276	0.135	321	0.215
7	0.158	52	0.213	97	0.480	142	0.976	187	0.825	232	0.295	277	0.133	322	0.218
8	0.155	53	0.216	98	0.490	143	0.980	188	0.813	233	0.289	278	0.132	323	0.220
9	0.152	54	0.219	99	0.501	144	0.984	189	0.801	234	0.283	279	0.130	324	0.223
10	0.149	55	0.222	100	0.512	145	0.988	190	0.789	235	0.277	280	0.129	325	0.225
11	0.146	56	0.225	101	0.523	146	0.991	191	0.776	236	0.272	281	0.128	326	0.227
12	0.143	57	0.228	102	0.535	147	0.993	192	0.764	237	0.267	282	0.128	327	0.229
13	0.141	58	0.231	103	0.546	148	0.995	193	0.751	238	0.262	283	0.127	328	0.231
14	0.138	59	0.234	104	0.558	149	0.996	194	0.738	239	0.257	284	0.127	329	0.233
15	0.136	60	0.237	105	0.570	150	0.996	195	0.725	240	0.253	285	0.127	330	0.235
16	0.134	61	0.240	106	0.581	151	0.997	196	0.712	241	0.248	286	0.127	331	0.236
17	0.132	62	0.243	107	0.593	152	0.997	197	0.699	242	0.244	287	0.127	332	0.238
18	0.131	63	0.247	108	0.606	153	0.998	198	0.685	243	0.240	288	0.128	333	0.239
19	0.129	64	0.250	109	0.618	154	0.998	199	0.672	244	0.235	289	0.129	334	0.239
20	0.128	65	0.254	110	0.630	155	1.000	200	0.659	245	0.231	290	0.130	335	0.240
21	0.128	66	0.258	111	0.643	156	0.999	201	0.645	246	0.227	291	0.131	336	0.240
22	0.127	67	0.262	112	0.655	157	0.999	202	0.631	247	0.223	292	0.133	337	0.239
23	0.127	68	0.266	113	0.668	158	0.999	203	0.618	248	0.220	293	0.135	338	0.239
24	0.127	69	0.270	114	0.680	159	0.999	204	0.604	249	0.216	294	0.137	339	0.238
25	0.128	70	0.275	115	0.693	160	0.998	205	0.590	250	0.212	295	0.139	340	0.236
26	0.129	71	0.279	116	0.706	161	0.998	206	0.577	251	0.209	296	0.141	341	0.235
27	0.131	72	0.284	117	0.719	162	0.998	207	0.563	252	0.205	297	0.143	342	0.233
28	0.133	73	0.289	118	0.731	163	0.997	208	0.549	253	0.202	298	0.146	343	0.231
29	0.135	74	0.295	119	0.744	164	0.996	209	0.536	254	0.198	299	0.149	344	0.229
30	0.137	75	0.301	120	0.757	165	0.995	210	0.522	255	0.195	300	0.151	345	0.226
31	0.140	76	0.306	121	0.770	166	0.993	211	0.509	256	0.191	301	0.154	346	0.224
32	0.143	77	0.312	122	0.783	167	0.990	212	0.495	257	0.188	302	0.157	347	0.221
33	0.146	78	0.319	123	0.795	168	0.986	213	0.482	258	0.185	303	0.160	348	0.219
34	0.149	79	0.325	124	0.808	169	0.982	214	0.469	259	0.181	304	0.163	349	0.216
35	0.153	80	0.332	125	0.820	170	0.978	215	0.457	260	0.178	305	0.166	350	0.213
36	0.156	81	0.339	126	0.833	171	0.972	216	0.444	261	0.175	306	0.169	351	0.210
37	0.160	82	0.346	127	0.845	172	0.966	217	0.432	262	0.172	307	0.172	352	0.207
38	0.164	83	0.354	128	0.856	173	0.960	218	0.420	263	0.168	308	0.175	353	0.204
39	0.168	84	0.361	129	0.868	174	0.953	219	0.408	264	0.165	309	0.179	354	0.200
40	0.172	85	0.369	130	0.879	175	0.945	220	0.397	265	0.162	310	0.182	355	0.197
41	0.175	86	0.377	131	0.890	176	0.937	221	0.386	266	0.159	311	0.185	356	0.194
42	0.179	87	0.385	132	0.900	177	0.929	222	0.375	267	0.156	312	0.188	357	0.191
43	0.183	88	0.394	133	0.910	178	0.920	223	0.365	268	0.153	313	0.191	358	0.187
44	0.187	89	0.402	134	0.919	179	0.910	224	0.356	269	0.151	314	0.194	359	0.184

Remarks:



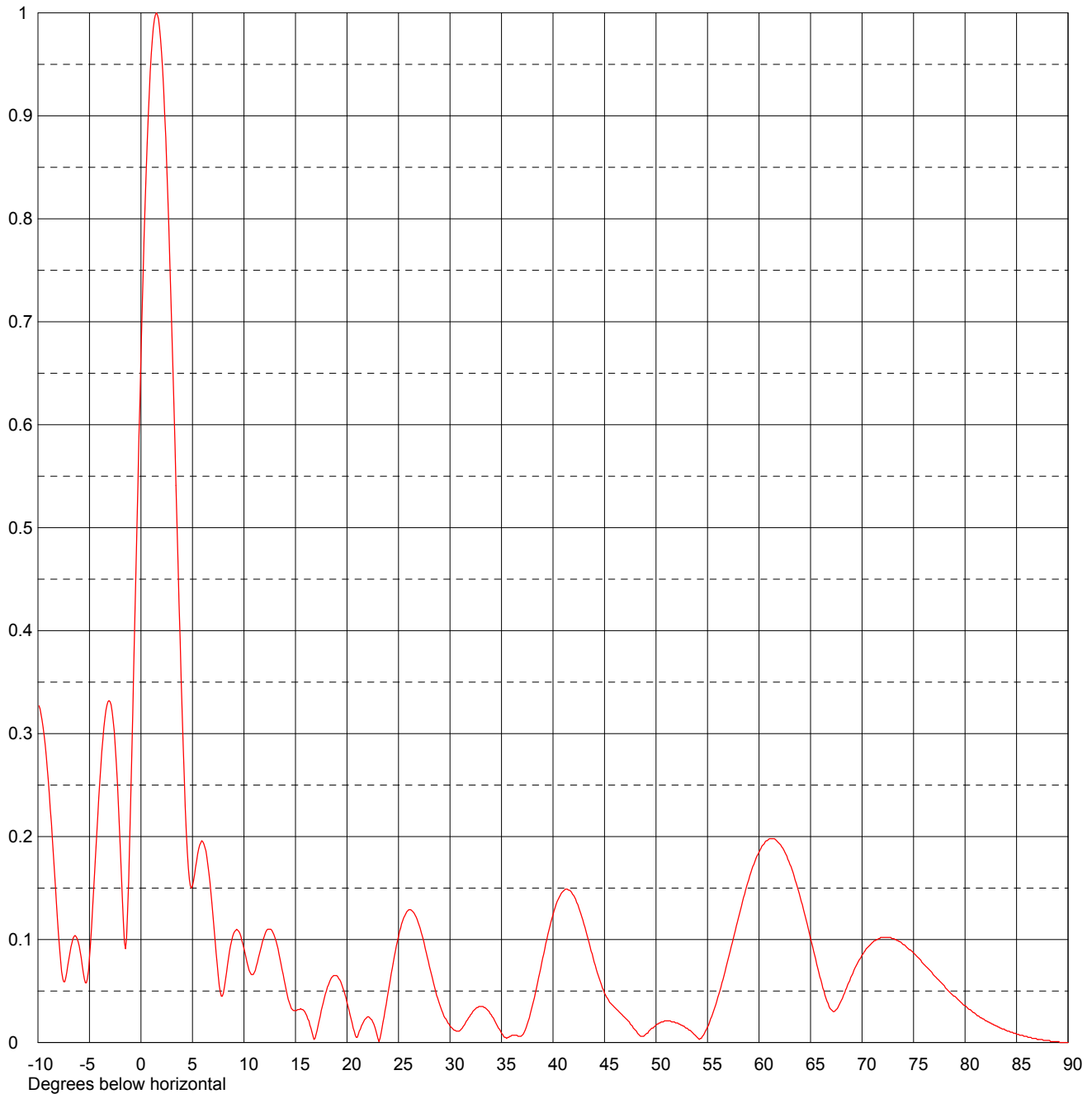
Exhibit No.
4A

Date
Call Letters
Location
Customer
Antenna Type

29 Oct 2004
WUTV-DT Channel **14**
BUFFALO, NY
WUTV LICENSEE, LLC
TLP-16E

ELEVATION PATTERN

RMS Gain at Main Lobe	15.5 (11.90 dB)	Beam Tilt	1.50 Degrees
RMS Gain at Horizontal	6.9 (8.39 dB)	Frequency	473.00 MHz
Calculated / Measured	Calculated	Drawing #	16L155150-90



Remarks:



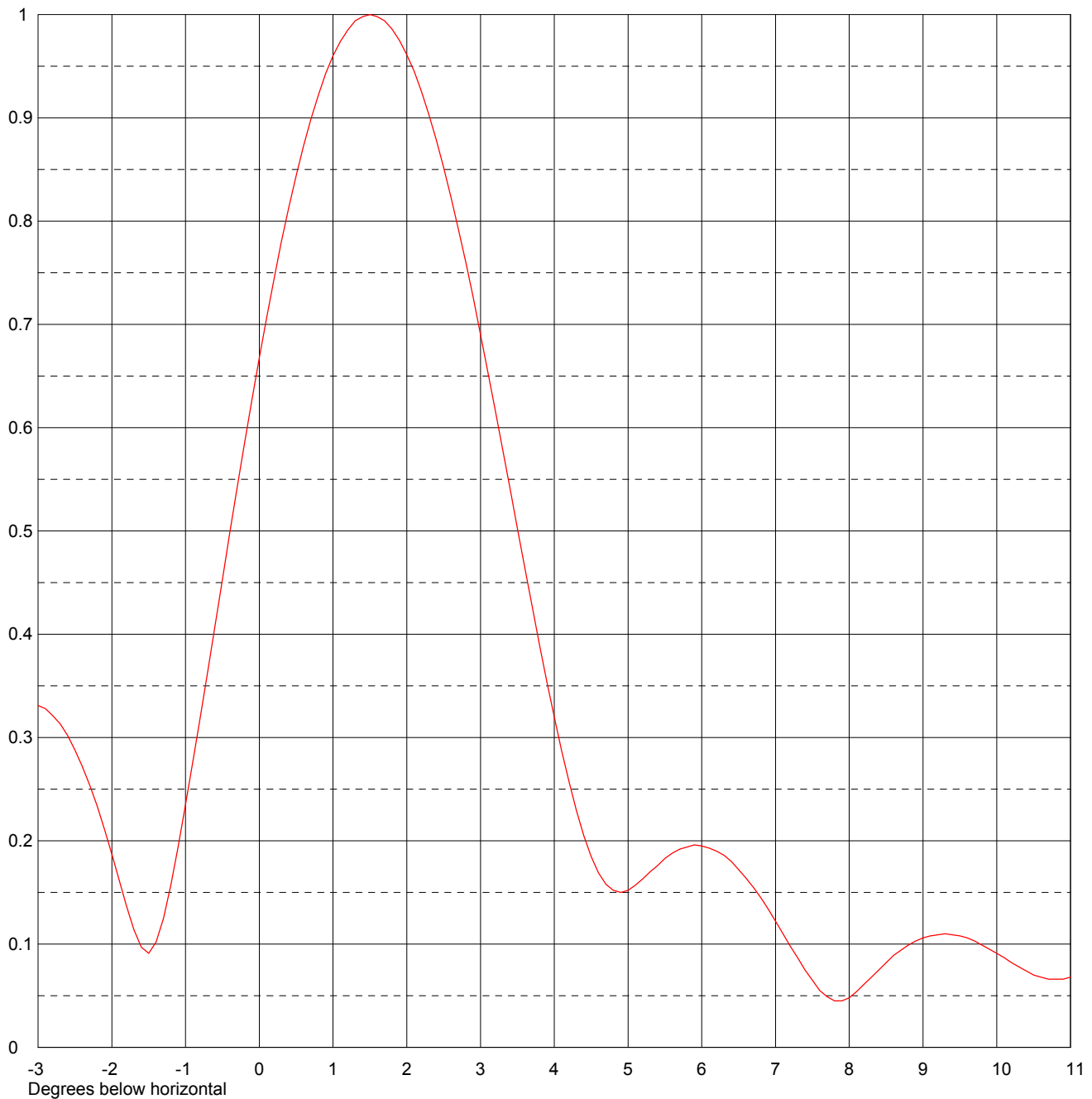
Exhibit No.
4B

Date
Call Letters
Location
Customer
Antenna Type

29 Oct 2004
WUTV-DT Channel **14**
BUFFALO, NY
WUTV LICENSEE, LLC
TLP-16E

ELEVATION PATTERN

RMS Gain at Main Lobe	15.5 (11.90 dB)	Beam Tilt	1.50 Degrees
RMS Gain at Horizontal	6.9 (8.39 dB)	Frequency	473.00 MHz
Calculated / Measured	Calculated	Drawing #	16L155150



Remarks:



Exhibit No.

5

Date

29 Oct 2004

Call Letters

WUTV-DT

Channel

14

Location

BUFFALO, NY

Customer

WUTV LICENSEE, LLC

Antenna Type

TLP-16E

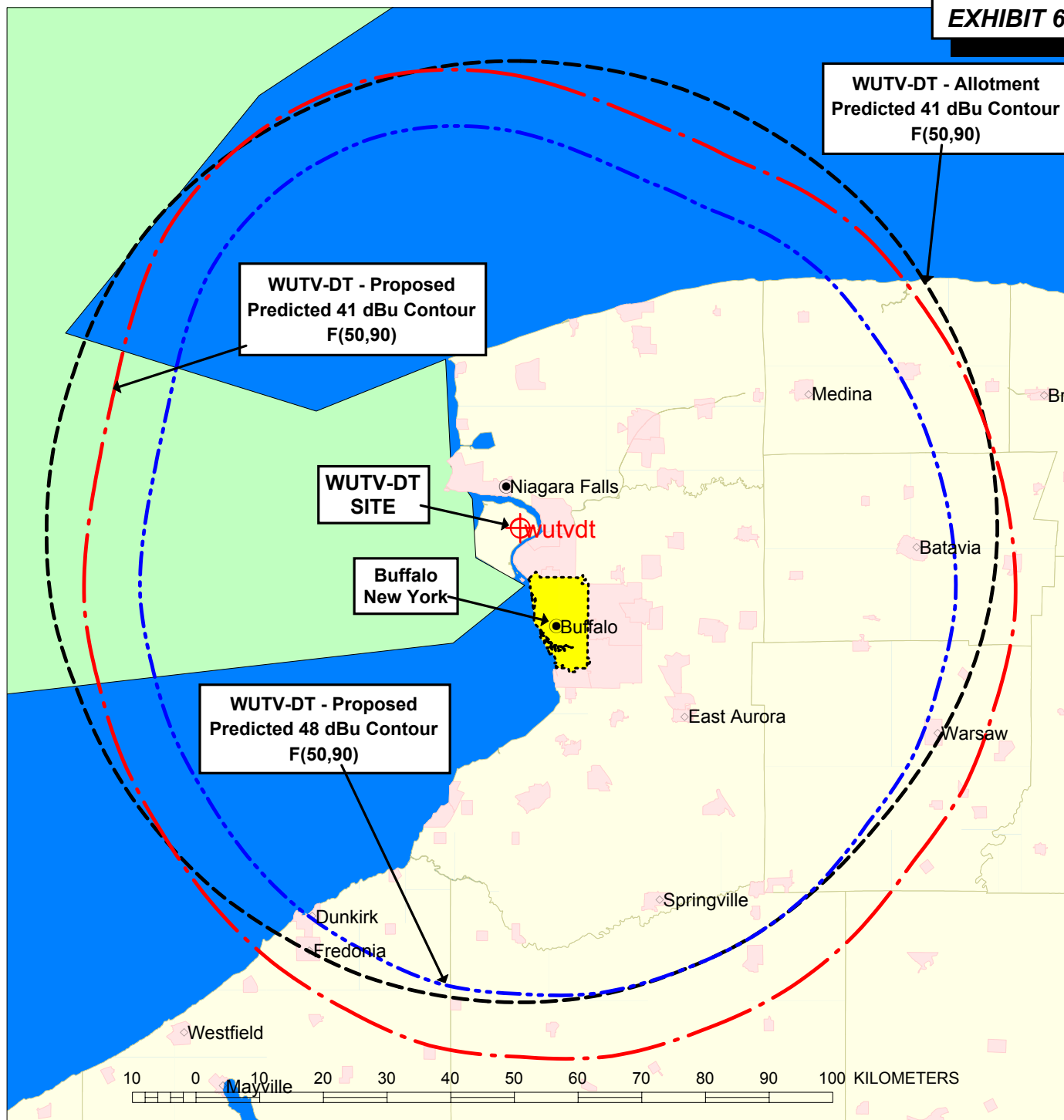
TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #

16L155150

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.329	2.4	0.879	10.6	0.068	30.5	0.012	51.0	0.021	71.5	0.100
-9.5	0.306	2.6	0.823	10.8	0.066	31.0	0.012	51.5	0.020	72.0	0.102
-9.0	0.255	2.8	0.760	11.0	0.068	31.5	0.019	52.0	0.019	72.5	0.102
-8.5	0.182	3.0	0.690	11.5	0.086	32.0	0.027	52.5	0.017	73.0	0.101
-8.0	0.104	3.2	0.617	12.0	0.104	32.5	0.033	53.0	0.014	73.5	0.099
-7.5	0.059	3.4	0.541	12.5	0.110	33.0	0.035	53.5	0.010	74.0	0.095
-7.0	0.081	3.6	0.464	13.0	0.102	33.5	0.033	54.0	0.005	74.5	0.091
-6.5	0.103	3.8	0.390	13.5	0.081	34.0	0.027	54.5	0.006	75.0	0.087
-6.0	0.094	4.0	0.320	14.0	0.056	34.5	0.018	55.0	0.015	75.5	0.082
-5.5	0.062	4.2	0.257	14.5	0.036	35.0	0.009	55.5	0.028	76.0	0.076
-5.0	0.082	4.4	0.205	15.0	0.031	35.5	0.004	56.0	0.044	76.5	0.071
-4.5	0.165	4.6	0.169	15.5	0.033	36.0	0.007	56.5	0.061	77.0	0.065
-4.0	0.253	4.8	0.152	16.0	0.028	36.5	0.007	57.0	0.081	77.5	0.060
-3.5	0.315	5.0	0.152	16.5	0.014	37.0	0.007	57.5	0.101	78.0	0.055
-3.0	0.331	5.2	0.163	17.0	0.008	37.5	0.018	58.0	0.121	78.5	0.049
-2.8	0.321	5.4	0.176	17.5	0.031	38.0	0.036	58.5	0.141	79.0	0.045
-2.6	0.302	5.6	0.188	18.0	0.050	38.5	0.058	59.0	0.158	79.5	0.040
-2.4	0.272	5.8	0.194	18.5	0.063	39.0	0.082	59.5	0.173	80.0	0.036
-2.2	0.234	6.0	0.195	19.0	0.065	39.5	0.105	60.0	0.185	80.5	0.032
-2.0	0.187	6.2	0.190	19.5	0.056	40.0	0.124	60.5	0.193	81.0	0.028
-1.8	0.137	6.4	0.180	20.0	0.039	40.5	0.139	61.0	0.198	81.5	0.024
-1.6	0.097	6.6	0.164	20.5	0.019	41.0	0.147	61.5	0.198	82.0	0.021
-1.4	0.102	6.8	0.145	21.0	0.005	41.5	0.148	62.0	0.193	82.5	0.019
-1.2	0.157	7.0	0.122	21.5	0.018	42.0	0.143	62.5	0.185	83.0	0.016
-1.0	0.235	7.2	0.098	22.0	0.025	42.5	0.131	63.0	0.173	83.5	0.014
-0.8	0.320	7.4	0.075	22.5	0.020	43.0	0.115	63.5	0.158	84.0	0.012
-0.6	0.409	7.6	0.055	23.0	0.004	43.5	0.097	64.0	0.141	84.5	0.010
-0.4	0.498	7.8	0.045	23.5	0.020	44.0	0.078	64.5	0.122	85.0	0.008
-0.2	0.585	8.0	0.048	24.0	0.049	44.5	0.062	65.0	0.101	85.5	0.007
0.0	0.668	8.2	0.061	24.5	0.078	45.0	0.048	65.5	0.081	86.0	0.006
0.2	0.744	8.4	0.075	25.0	0.103	45.5	0.039	66.0	0.061	86.5	0.004
0.4	0.813	8.6	0.089	25.5	0.121	46.0	0.034	66.5	0.043	87.0	0.003
0.6	0.873	8.8	0.099	26.0	0.129	46.5	0.029	67.0	0.032	87.5	0.003
0.8	0.922	9.0	0.106	26.5	0.126	47.0	0.024	67.5	0.032	88.0	0.002
1.0	0.960	9.2	0.109	27.0	0.114	47.5	0.018	68.0	0.041	88.5	0.001
1.2	0.985	9.4	0.109	27.5	0.096	48.0	0.012	68.5	0.053	89.0	0.001
1.4	0.998	9.6	0.106	28.0	0.074	48.5	0.006	69.0	0.065	89.5	0.000
1.6	0.998	9.8	0.099	28.5	0.054	49.0	0.008	69.5	0.076	90.0	0.000
1.8	0.986	10.0	0.091	29.0	0.037	49.5	0.013	70.0	0.085		
2.0	0.961	10.2	0.082	29.5	0.024	50.0	0.017	70.5	0.092		
2.2	0.925	10.4	0.074	30.0	0.016	50.5	0.020	71.0	0.097		

Remarks:



PREDICTED COVERAGE CONTOURS

**WUTV-DT - BUFFALO, NEW YORK
AMENDMENT APPLICATION
CH. 14 - 1000.0 kW - 311.5 m HAAT**

**48 dBu - Principal Community Contour
Population = 1,280,558**

**41 dBu - Noise Limited Contour
Population = 1,352,434**

**41 dBu - Noise Limited Contour
ALLOTMENT**

**CH. 14 - 50.0 kW ERP
263.8 meters HAAT
Population - 1,324,523**

OCTOBER 2004

**CARL T. JONES
CORPORATION**

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**
WUTV-DT, BUFFALO, NEW YORK
CHANNEL 14, 1000 kW ERP, 311.5 m HAAT
OCTOBER, 2004

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WUTV(TV)	TV	29	563	H	327	3980.000	0.300	0.05596	0.375	14.91%
WUTV-DT	DT	14	473	H	310	1000.000	0.300	0.03128	0.315	9.92%
WBNF-CA	TV	15	479	H	168	27.000	0.300	0.00144	0.319	0.45%
W36CD	TV	21	515	H	149	2.000	0.300	0.00014	0.343	0.04%
TOTAL PERCENTAGE OF ANSI VALUE=										25.32%

*** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.*



WUTV-DT

APPENDIX - B

ANTENNA CHARACTERISTICS

**0.5 DEGREE
MECHANICAL BEAM TILT
@
155 DEGREES TRUE**

**1.5 DEGREES
ELECTRICAL BEAM TILT**

OCTOBER 2004



Date
Call Letters
Location
Customer
Antenna Type

28-Jun-04
WUTV
Buffalo, NY
TLP-16E (C)

Exhibit 2
Channel 14

AZIMUTH PATTERN:

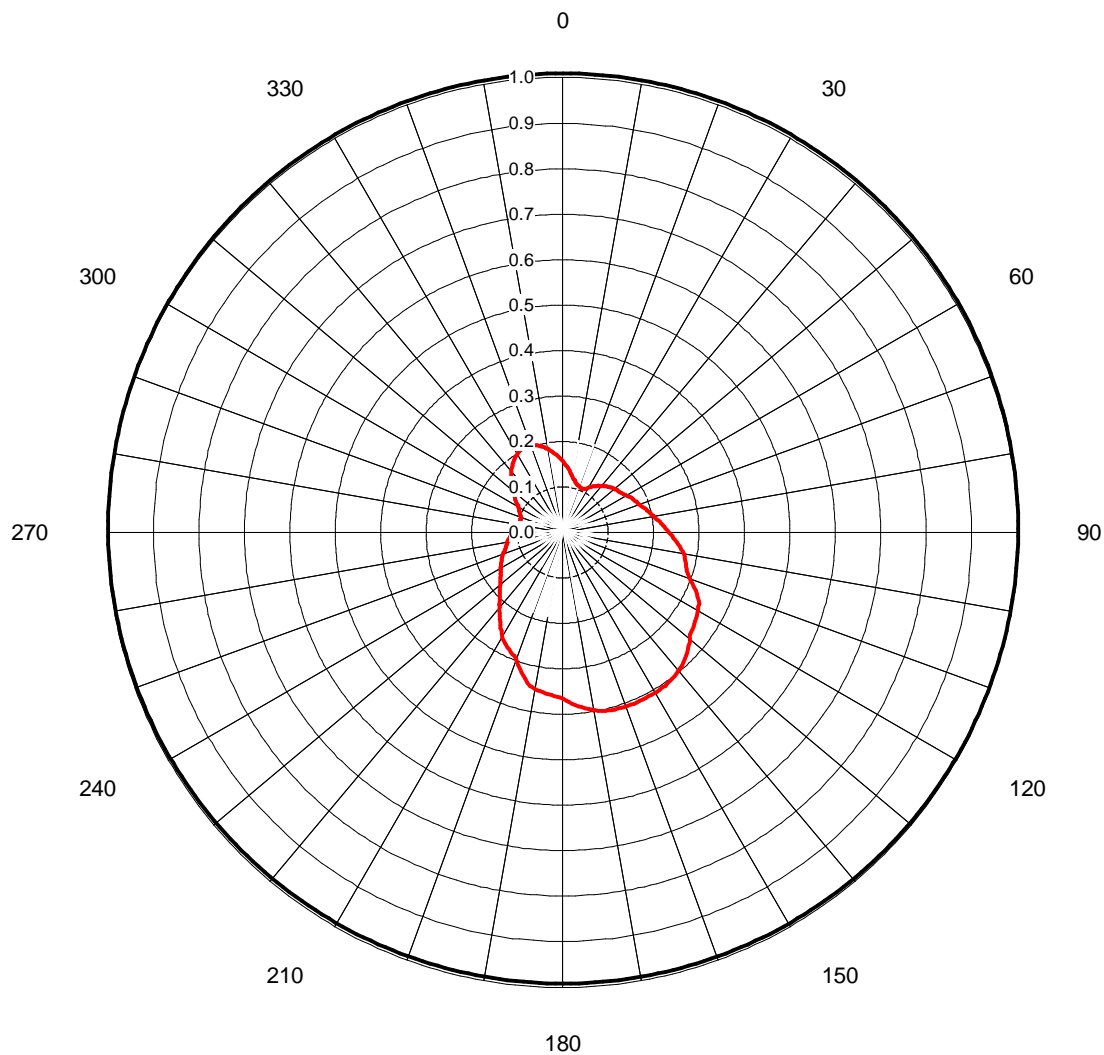
0.00° Depression Angle

Gain
Calculated / Measured

Calculated

Frequency
Drawing #

473.00 MHz
TLP-E



Mech. Tilt: 0.50°
@
Azimuth: 155 deg



Date
Call Letters
Location
Customer
Antenna Type

28-Jun-04
WUTV
Buffalo, NY
TLP-16E (C)

Channel

14

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

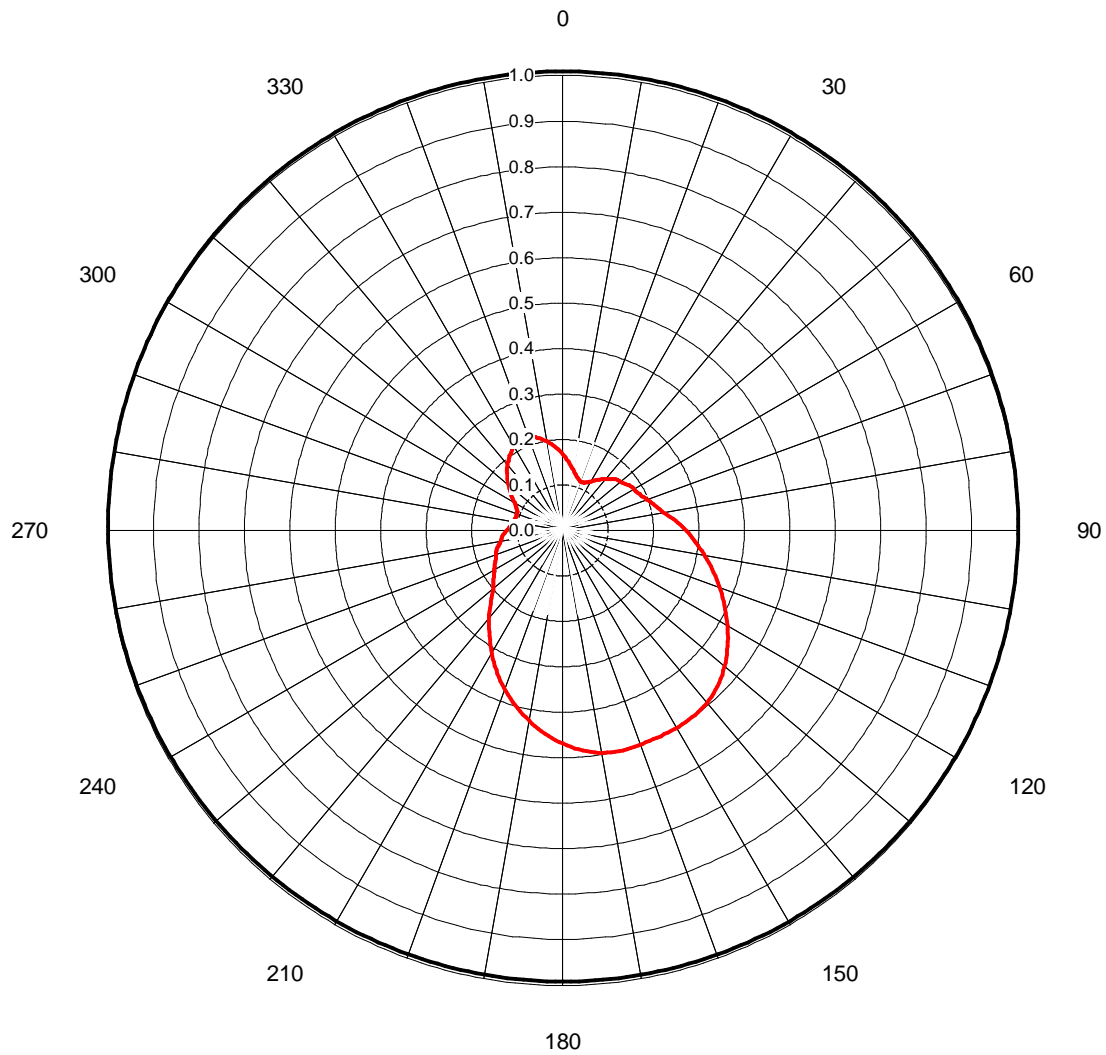
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.147	45	0.132	90	0.226	135	0.385	180	0.374	225	0.196	270	0.105	315	0.162
1	0.144	46	0.133	91	0.229	136	0.389	181	0.371	226	0.193	271	0.105	316	0.165
2	0.141	47	0.135	92	0.233	137	0.392	182	0.370	227	0.189	272	0.104	317	0.167
3	0.138	48	0.137	93	0.236	138	0.395	183	0.369	228	0.186	273	0.103	318	0.170
4	0.135	49	0.138	94	0.240	139	0.398	184	0.368	229	0.183	274	0.102	319	0.172
5	0.132	50	0.140	95	0.244	140	0.401	185	0.366	230	0.180	275	0.101	320	0.175
6	0.129	51	0.141	96	0.248	141	0.403	186	0.365	231	0.177	276	0.100	321	0.177
7	0.126	52	0.142	97	0.252	142	0.405	187	0.363	232	0.175	277	0.099	322	0.180
8	0.123	53	0.143	98	0.256	143	0.407	188	0.362	233	0.172	278	0.098	323	0.182
9	0.120	54	0.144	99	0.260	144	0.409	189	0.360	234	0.170	279	0.097	324	0.184
10	0.117	55	0.146	100	0.264	145	0.410	190	0.358	235	0.168	280	0.096	325	0.186
11	0.114	56	0.147	101	0.268	146	0.411	191	0.356	236	0.166	281	0.095	326	0.188
12	0.112	57	0.148	102	0.272	147	0.412	192	0.353	237	0.163	282	0.095	327	0.190
13	0.110	58	0.149	103	0.274	148	0.413	193	0.347	238	0.161	283	0.095	328	0.192
14	0.108	59	0.150	104	0.276	149	0.413	194	0.341	239	0.159	284	0.096	329	0.193
15	0.106	60	0.152	105	0.279	150	0.414	195	0.335	240	0.157	285	0.096	330	0.195
16	0.104	61	0.154	106	0.281	151	0.414	196	0.329	241	0.156	286	0.097	331	0.196
17	0.103	62	0.156	107	0.283	152	0.414	197	0.323	242	0.154	287	0.098	332	0.197
18	0.102	63	0.158	108	0.285	153	0.414	198	0.317	243	0.152	288	0.099	333	0.198
19	0.101	64	0.160	109	0.288	154	0.414	199	0.310	244	0.150	289	0.100	334	0.198
20	0.100	65	0.163	110	0.291	155	0.415	200	0.304	245	0.148	290	0.101	335	0.199
21	0.099	66	0.164	111	0.297	156	0.415	201	0.300	246	0.146	291	0.102	336	0.199
22	0.098	67	0.166	112	0.303	157	0.415	202	0.297	247	0.143	292	0.104	337	0.198
23	0.098	68	0.167	113	0.308	158	0.414	203	0.295	248	0.141	293	0.105	338	0.198
24	0.097	69	0.169	114	0.314	159	0.414	204	0.292	249	0.138	294	0.107	339	0.197
25	0.097	70	0.171	115	0.320	160	0.414	205	0.289	250	0.136	295	0.108	340	0.196
26	0.098	71	0.173	116	0.326	161	0.414	206	0.286	251	0.134	296	0.110	341	0.194
27	0.098	72	0.175	117	0.332	162	0.414	207	0.282	252	0.132	297	0.112	342	0.193
28	0.099	73	0.177	118	0.338	163	0.414	208	0.279	253	0.131	298	0.114	343	0.191
29	0.100	74	0.179	119	0.341	164	0.413	209	0.274	254	0.129	299	0.116	344	0.189
30	0.102	75	0.182	120	0.344	165	0.413	210	0.269	255	0.128	300	0.119	345	0.187
31	0.104	76	0.184	121	0.346	166	0.412	211	0.263	256	0.126	301	0.122	346	0.185
32	0.106	77	0.186	122	0.348	167	0.411	212	0.258	257	0.125	302	0.125	347	0.183
33	0.108	78	0.189	123	0.350	168	0.409	213	0.253	258	0.123	303	0.127	348	0.180
34	0.111	79	0.192	124	0.352	169	0.408	214	0.248	259	0.122	304	0.130	349	0.178
35	0.113	80	0.194	125	0.354	170	0.406	215	0.243	260	0.120	305	0.133	350	0.175
36	0.115	81	0.197	126	0.356	171	0.404	216	0.237	261	0.119	306	0.136	351	0.173
37	0.117	82	0.200	127	0.358	172	0.401	217	0.232	262	0.117	307	0.139	352	0.170
38	0.119	83	0.203	128	0.360	173	0.398	218	0.227	263	0.115	308	0.142	353	0.167
39	0.121	84	0.206	129	0.361	174	0.395	219	0.222	264	0.114	309	0.145	354	0.165
40	0.122	85	0.209	130	0.365	175	0.392	220	0.218	265	0.112	310	0.148	355	0.162
41	0.124	86	0.212	131	0.369	176	0.389	221	0.213	266	0.111	311	0.151	356	0.159
42	0.126	87	0.215	132	0.373	177	0.385	222	0.209	267	0.109	312	0.154	357	0.156
43	0.128	88	0.219	133	0.378	178	0.382	223	0.204	268	0.108	313	0.156	358	0.153
44	0.130	89	0.222	134	0.382	179	0.378	224	0.200	269	0.106	314	0.159	359	0.150

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 0.20° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
Call Letters **WUTV**
Location **Buffalo, NY**
Customer
Antenna Type **TLP-16E (C)**

Channel **14**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

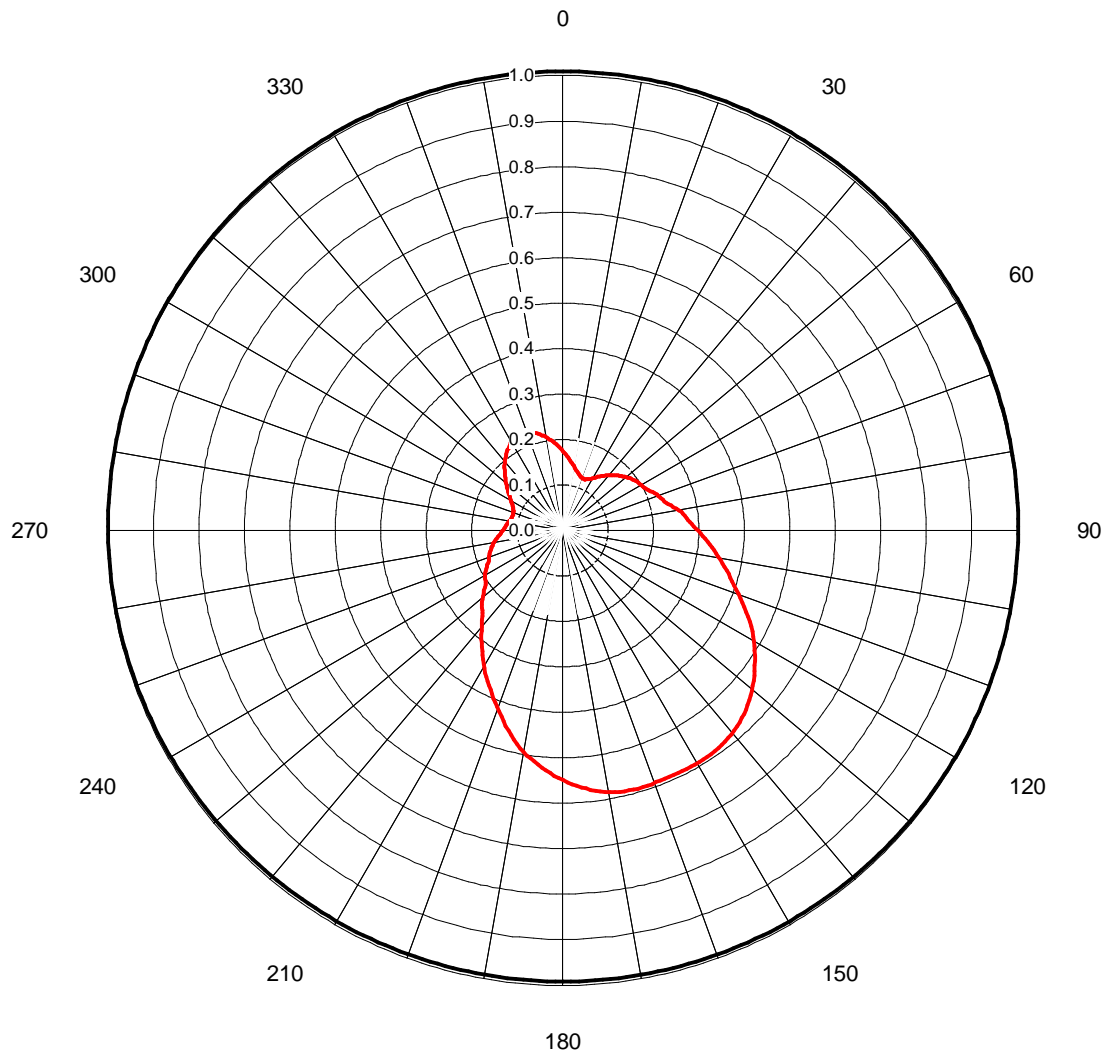
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.158	45	0.148	90	0.262	135	0.485	180	0.477	225	0.222	270	0.117	315	0.174
1	0.155	46	0.151	91	0.266	136	0.488	181	0.474	226	0.217	271	0.115	316	0.177
2	0.152	47	0.154	92	0.271	137	0.491	182	0.470	227	0.211	272	0.114	317	0.180
3	0.148	48	0.156	93	0.275	138	0.494	183	0.466	228	0.207	273	0.113	318	0.182
4	0.145	49	0.157	94	0.280	139	0.496	184	0.461	229	0.203	274	0.112	319	0.185
5	0.142	50	0.158	95	0.285	140	0.498	185	0.457	230	0.200	275	0.111	320	0.188
6	0.139	51	0.159	96	0.290	141	0.500	186	0.452	231	0.197	276	0.110	321	0.190
7	0.136	52	0.160	97	0.295	142	0.502	187	0.448	232	0.194	277	0.109	322	0.193
8	0.132	53	0.161	98	0.299	143	0.503	188	0.443	233	0.191	278	0.108	323	0.195
9	0.130	54	0.162	99	0.304	144	0.505	189	0.438	234	0.188	279	0.107	324	0.197
10	0.127	55	0.164	100	0.309	145	0.506	190	0.433	235	0.185	280	0.107	325	0.199
11	0.124	56	0.167	101	0.315	146	0.506	191	0.428	236	0.183	281	0.106	326	0.202
12	0.121	57	0.169	102	0.320	147	0.507	192	0.423	237	0.180	282	0.106	327	0.203
13	0.119	58	0.171	103	0.325	148	0.507	193	0.418	238	0.178	283	0.105	328	0.205
14	0.117	59	0.173	104	0.330	149	0.508	194	0.412	239	0.176	284	0.105	329	0.207
15	0.114	60	0.175	105	0.335	150	0.508	195	0.407	240	0.173	285	0.105	330	0.208
16	0.112	61	0.175	106	0.341	151	0.507	196	0.401	241	0.171	286	0.105	331	0.210
17	0.111	62	0.176	107	0.346	152	0.507	197	0.396	242	0.169	287	0.106	332	0.211
18	0.109	63	0.177	108	0.351	153	0.507	198	0.390	243	0.167	288	0.106	333	0.212
19	0.108	64	0.178	109	0.357	154	0.508	199	0.384	244	0.165	289	0.107	334	0.213
20	0.107	65	0.179	110	0.362	155	0.508	200	0.379	245	0.163	290	0.108	335	0.213
21	0.106	66	0.180	111	0.368	156	0.508	201	0.373	246	0.162	291	0.109	336	0.213
22	0.105	67	0.182	112	0.373	157	0.508	202	0.366	247	0.160	292	0.111	337	0.213
23	0.105	68	0.184	113	0.378	158	0.508	203	0.360	248	0.159	293	0.113	338	0.212
24	0.106	69	0.186	114	0.384	159	0.508	204	0.354	249	0.158	294	0.115	339	0.211
25	0.106	70	0.188	115	0.389	160	0.509	205	0.348	250	0.157	295	0.117	340	0.210
26	0.107	71	0.191	116	0.394	161	0.509	206	0.341	251	0.155	296	0.119	341	0.208
27	0.109	72	0.193	117	0.400	162	0.509	207	0.335	252	0.152	297	0.121	342	0.206
28	0.110	73	0.195	118	0.405	163	0.509	208	0.329	253	0.150	298	0.123	343	0.205
29	0.112	74	0.198	119	0.410	164	0.509	209	0.322	254	0.147	299	0.126	344	0.203
30	0.113	75	0.201	120	0.416	165	0.509	210	0.316	255	0.145	300	0.129	345	0.201
31	0.115	76	0.204	121	0.421	166	0.509	211	0.309	256	0.142	301	0.132	346	0.198
32	0.117	77	0.206	122	0.427	167	0.508	212	0.303	257	0.140	302	0.135	347	0.196
33	0.120	78	0.209	123	0.432	168	0.507	213	0.296	258	0.139	303	0.138	348	0.193
34	0.122	79	0.213	124	0.437	169	0.506	214	0.290	259	0.138	304	0.141	349	0.191
35	0.124	80	0.216	125	0.442	170	0.505	215	0.283	260	0.136	305	0.144	350	0.188
36	0.127	81	0.219	126	0.447	171	0.503	216	0.277	261	0.135	306	0.147	351	0.185
37	0.129	82	0.223	127	0.452	172	0.501	217	0.271	262	0.133	307	0.150	352	0.182
38	0.131	83	0.227	128	0.457	173	0.499	218	0.264	263	0.131	308	0.153	353	0.180
39	0.133	84	0.231	129	0.461	174	0.496	219	0.258	264	0.129	309	0.156	354	0.177
40	0.135	85	0.236	130	0.466	175	0.494	220	0.253	265	0.126	310	0.159	355	0.174
41	0.137	86	0.242	131	0.470	176	0.491	221	0.247	266	0.124	311	0.162	356	0.170
42	0.140	87	0.247	132	0.474	177	0.488	222	0.241	267	0.122	312	0.165	357	0.167
43	0.143	88	0.252	133	0.478	178	0.484	223	0.234	268	0.120	313	0.168	358	0.164
44	0.146	89	0.258	134	0.482	179	0.481	224	0.228	269	0.118	314	0.171	359	0.161

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 0.40° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
 Call Letters **WUTV** Channel **14**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TLP-16E (C)**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

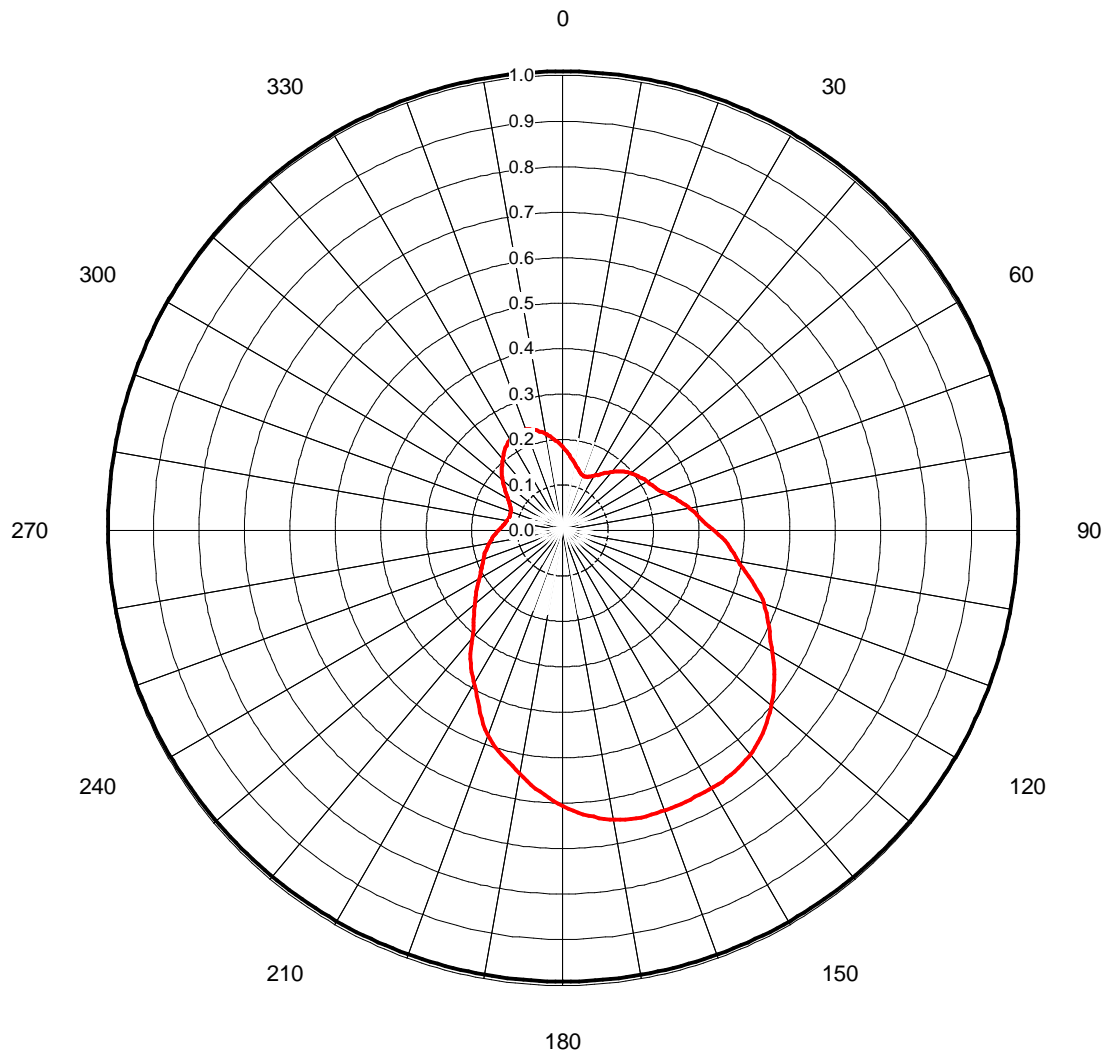
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.165	45	0.159	90	0.287	135	0.568	180	0.558	225	0.252	270	0.126	315	0.182
1	0.162	46	0.162	91	0.293	136	0.572	181	0.553	226	0.248	271	0.125	316	0.185
2	0.159	47	0.164	92	0.298	137	0.576	182	0.548	227	0.244	272	0.123	317	0.188
3	0.155	48	0.166	93	0.303	138	0.579	183	0.543	228	0.239	273	0.122	318	0.191
4	0.152	49	0.169	94	0.308	139	0.582	184	0.538	229	0.233	274	0.121	319	0.194
5	0.149	50	0.171	95	0.314	140	0.585	185	0.532	230	0.228	275	0.120	320	0.197
6	0.146	51	0.174	96	0.319	141	0.587	186	0.526	231	0.223	276	0.118	321	0.200
7	0.143	52	0.176	97	0.325	142	0.590	187	0.521	232	0.219	277	0.117	322	0.202
8	0.140	53	0.179	98	0.331	143	0.591	188	0.515	233	0.214	278	0.116	323	0.205
9	0.137	54	0.181	99	0.336	144	0.593	189	0.509	234	0.211	279	0.115	324	0.207
10	0.134	55	0.183	100	0.342	145	0.594	190	0.503	235	0.209	280	0.114	325	0.210
11	0.132	56	0.185	101	0.348	146	0.595	191	0.497	236	0.207	281	0.114	326	0.212
12	0.129	57	0.186	102	0.354	147	0.596	192	0.490	237	0.204	282	0.113	327	0.214
13	0.127	58	0.188	103	0.360	148	0.597	193	0.481	238	0.202	283	0.113	328	0.216
14	0.125	59	0.190	104	0.366	149	0.597	194	0.473	239	0.200	284	0.113	329	0.218
15	0.123	60	0.192	105	0.372	150	0.597	195	0.465	240	0.197	285	0.113	330	0.219
16	0.121	61	0.193	106	0.378	151	0.597	196	0.456	241	0.193	286	0.114	331	0.221
17	0.119	62	0.194	107	0.385	152	0.597	197	0.448	242	0.190	287	0.114	332	0.222
18	0.118	63	0.195	108	0.391	153	0.597	198	0.439	243	0.187	288	0.115	333	0.223
19	0.117	64	0.196	109	0.397	154	0.598	199	0.431	244	0.183	289	0.116	334	0.224
20	0.116	65	0.198	110	0.404	155	0.598	200	0.422	245	0.180	290	0.117	335	0.224
21	0.115	66	0.201	111	0.412	156	0.598	201	0.414	246	0.179	291	0.118	336	0.224
22	0.114	67	0.204	112	0.420	157	0.598	202	0.407	247	0.177	292	0.120	337	0.224
23	0.114	68	0.207	113	0.428	158	0.598	203	0.400	248	0.175	293	0.121	338	0.223
24	0.114	69	0.210	114	0.436	159	0.598	204	0.393	249	0.173	294	0.123	339	0.222
25	0.115	70	0.214	115	0.444	160	0.598	205	0.386	250	0.172	295	0.125	340	0.221
26	0.115	71	0.217	116	0.452	161	0.599	206	0.378	251	0.170	296	0.127	341	0.219
27	0.117	72	0.219	117	0.461	162	0.599	207	0.371	252	0.168	297	0.129	342	0.217
28	0.118	73	0.222	118	0.469	163	0.599	208	0.364	253	0.165	298	0.132	343	0.215
29	0.120	74	0.224	119	0.476	164	0.599	209	0.356	254	0.163	299	0.134	344	0.213
30	0.121	75	0.226	120	0.483	165	0.599	210	0.349	255	0.161	300	0.137	345	0.211
31	0.124	76	0.229	121	0.489	166	0.598	211	0.341	256	0.158	301	0.139	346	0.208
32	0.126	77	0.232	122	0.496	167	0.597	212	0.334	257	0.156	302	0.142	347	0.206
33	0.128	78	0.237	123	0.502	168	0.596	213	0.327	258	0.153	303	0.145	348	0.203
34	0.131	79	0.241	124	0.509	169	0.594	214	0.319	259	0.150	304	0.148	349	0.200
35	0.134	80	0.246	125	0.515	170	0.592	215	0.312	260	0.148	305	0.151	350	0.198
36	0.136	81	0.251	126	0.521	171	0.590	216	0.305	261	0.145	306	0.154	351	0.195
37	0.139	82	0.257	127	0.527	172	0.588	217	0.298	262	0.142	307	0.157	352	0.191
38	0.141	83	0.261	128	0.533	173	0.585	218	0.291	263	0.140	308	0.160	353	0.188
39	0.144	84	0.265	129	0.539	174	0.582	219	0.284	264	0.138	309	0.163	354	0.185
40	0.146	85	0.268	130	0.544	175	0.578	220	0.277	265	0.136	310	0.166	355	0.182
41	0.149	86	0.271	131	0.549	176	0.575	221	0.271	266	0.133	311	0.170	356	0.179
42	0.151	87	0.275	132	0.554	177	0.571	222	0.266	267	0.131	312	0.173	357	0.175
43	0.154	88	0.279	133	0.559	178	0.567	223	0.261	268	0.129	313	0.176	358	0.172
44	0.157	89	0.283	134	0.564	179	0.562	224	0.256	269	0.128	314	0.179	359	0.169

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 0.60° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
Call Letters **WUTV**
Location **Buffalo, NY**
Customer
Antenna Type **TLP-16E (C)**

Channel **14**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

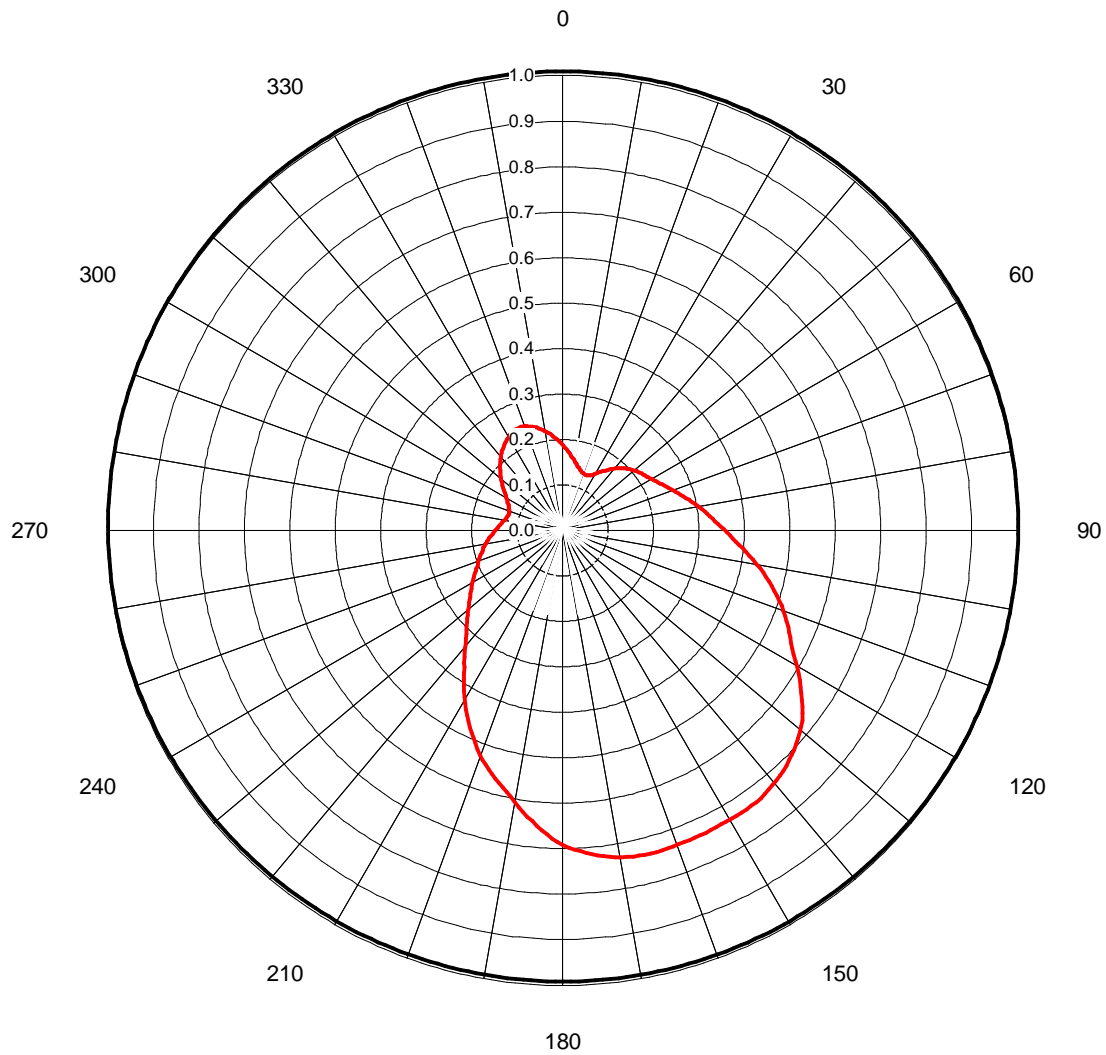
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0	0.174	45	0.172	90	0.320	135	0.627	180	0.614	225	0.277	270	0.134	315	0.190
1	0.171	46	0.175	91	0.328	136	0.631	181	0.609	226	0.272	271	0.132	316	0.193
2	0.167	47	0.178	92	0.335	137	0.636	182	0.603	227	0.267	272	0.130	317	0.196
3	0.164	48	0.181	93	0.342	138	0.640	183	0.597	228	0.262	273	0.128	318	0.199
4	0.161	49	0.183	94	0.350	139	0.643	184	0.591	229	0.257	274	0.126	319	0.202
5	0.157	50	0.185	95	0.358	140	0.646	185	0.585	230	0.252	275	0.125	320	0.204
6	0.154	51	0.188	96	0.363	141	0.649	186	0.579	231	0.248	276	0.124	321	0.207
7	0.151	52	0.190	97	0.369	142	0.652	187	0.572	232	0.243	277	0.123	322	0.210
8	0.148	53	0.192	98	0.374	143	0.654	188	0.566	233	0.239	278	0.122	323	0.212
9	0.145	54	0.194	99	0.380	144	0.656	189	0.559	234	0.235	279	0.121	324	0.215
10	0.142	55	0.196	100	0.385	145	0.657	190	0.552	235	0.230	280	0.120	325	0.217
11	0.139	56	0.198	101	0.391	146	0.659	191	0.545	236	0.226	281	0.120	326	0.219
12	0.137	57	0.200	102	0.397	147	0.660	192	0.538	237	0.221	282	0.119	327	0.221
13	0.134	58	0.202	103	0.405	148	0.660	193	0.532	238	0.217	283	0.119	328	0.223
14	0.132	59	0.204	104	0.414	149	0.661	194	0.526	239	0.213	284	0.119	329	0.225
15	0.130	60	0.206	105	0.423	150	0.661	195	0.520	240	0.210	285	0.119	330	0.226
16	0.127	61	0.208	106	0.431	151	0.661	196	0.514	241	0.207	286	0.119	331	0.228
17	0.126	62	0.209	107	0.440	152	0.661	197	0.507	242	0.204	287	0.120	332	0.229
18	0.124	63	0.211	108	0.449	153	0.661	198	0.501	243	0.201	288	0.121	333	0.230
19	0.122	64	0.213	109	0.458	154	0.661	199	0.494	244	0.198	289	0.122	334	0.231
20	0.121	65	0.215	110	0.466	155	0.662	200	0.487	245	0.196	290	0.123	335	0.231
21	0.120	66	0.217	111	0.472	156	0.662	201	0.479	246	0.193	291	0.124	336	0.231
22	0.120	67	0.220	112	0.479	157	0.662	202	0.468	247	0.191	292	0.126	337	0.231
23	0.120	68	0.222	113	0.485	158	0.662	203	0.458	248	0.189	293	0.128	338	0.230
24	0.120	69	0.225	114	0.491	159	0.662	204	0.448	249	0.187	294	0.130	339	0.229
25	0.120	70	0.228	115	0.497	160	0.662	205	0.438	250	0.185	295	0.132	340	0.227
26	0.121	71	0.232	116	0.503	161	0.662	206	0.428	251	0.183	296	0.134	341	0.226
27	0.123	72	0.236	117	0.509	162	0.663	207	0.418	252	0.180	297	0.137	342	0.224
28	0.124	73	0.240	118	0.515	163	0.663	208	0.408	253	0.177	298	0.139	343	0.222
29	0.126	74	0.244	119	0.522	164	0.662	209	0.400	254	0.175	299	0.142	344	0.220
30	0.128	75	0.249	120	0.530	165	0.662	210	0.393	255	0.172	300	0.145	345	0.218
31	0.130	76	0.254	121	0.537	166	0.661	211	0.386	256	0.170	301	0.148	346	0.216
32	0.132	77	0.259	122	0.545	167	0.660	212	0.378	257	0.167	302	0.150	347	0.213
33	0.134	78	0.263	123	0.552	168	0.659	213	0.371	258	0.165	303	0.153	348	0.210
34	0.137	79	0.268	124	0.559	169	0.657	214	0.363	259	0.162	304	0.156	349	0.208
35	0.140	80	0.272	125	0.566	170	0.655	215	0.356	260	0.160	305	0.159	350	0.205
36	0.143	81	0.277	126	0.573	171	0.652	216	0.346	261	0.157	306	0.163	351	0.202
37	0.146	82	0.282	127	0.580	172	0.649	217	0.336	262	0.154	307	0.166	352	0.199
38	0.149	83	0.287	128	0.587	173	0.646	218	0.327	263	0.152	308	0.169	353	0.196
39	0.152	84	0.291	129	0.593	174	0.642	219	0.318	264	0.149	309	0.172	354	0.193
40	0.155	85	0.295	130	0.599	175	0.638	220	0.309	265	0.146	310	0.175	355	0.190
41	0.158	86	0.299	131	0.605	176	0.634	221	0.301	266	0.143	311	0.178	356	0.187
42	0.162	87	0.304	132	0.611	177	0.629	222	0.294	267	0.141	312	0.181	357	0.184
43	0.165	88	0.308	133	0.617	178	0.625	223	0.288	268	0.138	313	0.184	358	0.180
44	0.168	89	0.313	134	0.622	179	0.620	224	0.282	269	0.136	314	0.187	359	0.177

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 0.80° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
 Call Letters **WUTV** Channel **14**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TLP-16E (C)**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

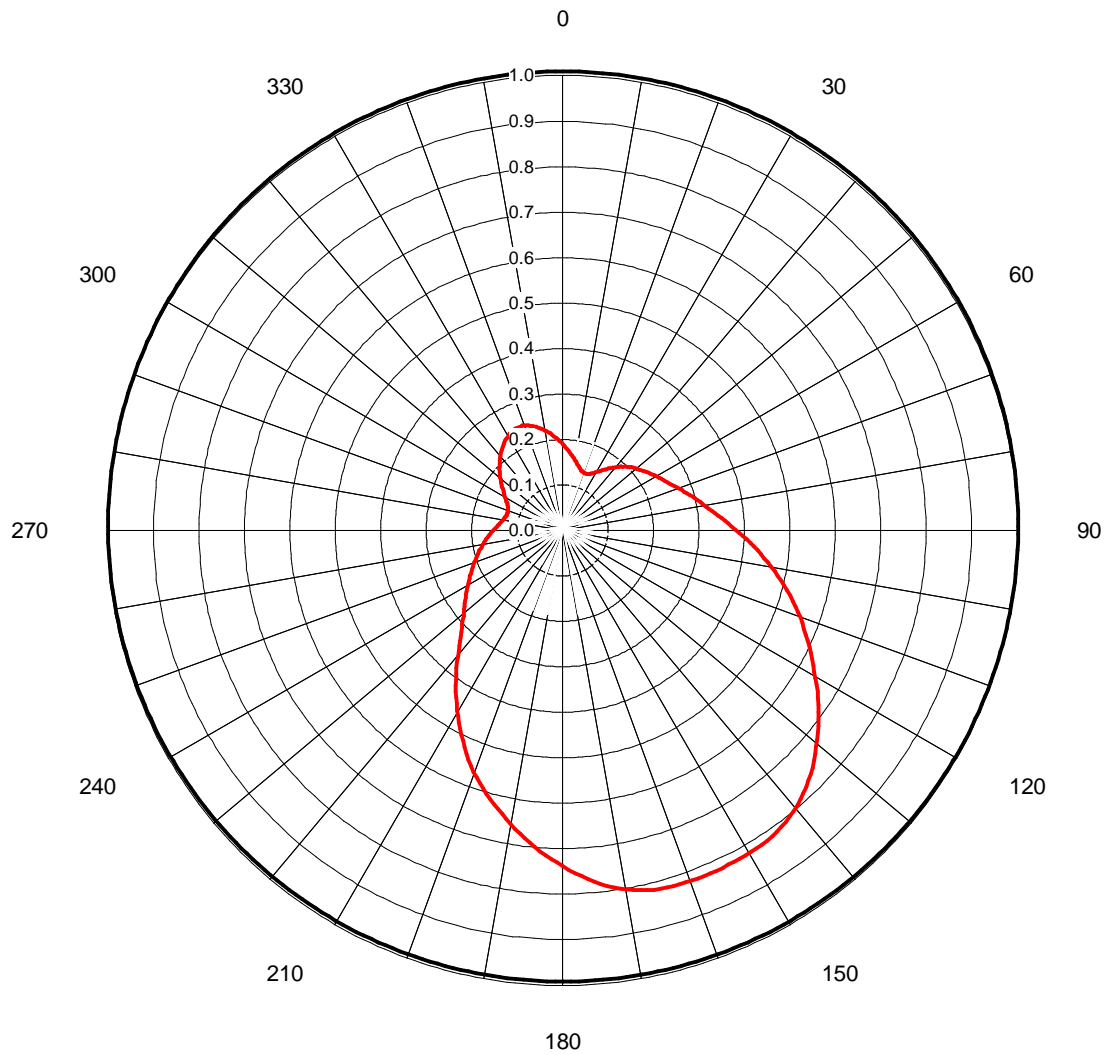
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.178	45	0.181	90	0.346	135	0.710	180	0.700	225	0.299	270	0.142	315	0.196
1	0.175	46	0.184	91	0.353	136	0.715	181	0.694	226	0.293	271	0.139	316	0.199
2	0.172	47	0.187	92	0.360	137	0.719	182	0.686	227	0.287	272	0.137	317	0.202
3	0.168	48	0.189	93	0.367	138	0.723	183	0.678	228	0.282	273	0.135	318	0.205
4	0.165	49	0.192	94	0.374	139	0.726	184	0.669	229	0.276	274	0.133	319	0.208
5	0.161	50	0.195	95	0.381	140	0.729	185	0.660	230	0.271	275	0.132	320	0.210
6	0.158	51	0.197	96	0.389	141	0.732	186	0.652	231	0.266	276	0.130	321	0.213
7	0.155	52	0.200	97	0.398	142	0.734	187	0.643	232	0.261	277	0.128	322	0.216
8	0.152	53	0.202	98	0.407	143	0.736	188	0.633	233	0.256	278	0.127	323	0.218
9	0.149	54	0.204	99	0.416	144	0.738	189	0.624	234	0.252	279	0.126	324	0.221
10	0.146	55	0.206	100	0.425	145	0.739	190	0.614	235	0.247	280	0.124	325	0.223
11	0.143	56	0.208	101	0.434	146	0.740	191	0.605	236	0.243	281	0.124	326	0.225
12	0.140	57	0.210	102	0.443	147	0.741	192	0.596	237	0.239	282	0.123	327	0.228
13	0.138	58	0.212	103	0.452	148	0.741	193	0.589	238	0.236	283	0.123	328	0.229
14	0.135	59	0.214	104	0.460	149	0.742	194	0.581	239	0.232	284	0.123	329	0.231
15	0.133	60	0.216	105	0.468	150	0.742	195	0.574	240	0.228	285	0.123	330	0.233
16	0.131	61	0.218	106	0.477	151	0.741	196	0.566	241	0.224	286	0.123	331	0.234
17	0.129	62	0.221	107	0.486	152	0.741	197	0.558	242	0.220	287	0.124	332	0.236
18	0.128	63	0.223	108	0.494	153	0.741	198	0.550	243	0.216	288	0.125	333	0.237
19	0.126	64	0.226	109	0.503	154	0.742	199	0.542	244	0.212	289	0.126	334	0.237
20	0.125	65	0.229	110	0.511	155	0.743	200	0.534	245	0.208	290	0.127	335	0.238
21	0.125	66	0.232	111	0.519	156	0.742	201	0.525	246	0.205	291	0.128	336	0.238
22	0.124	67	0.236	112	0.526	157	0.742	202	0.515	247	0.202	292	0.130	337	0.237
23	0.124	68	0.239	113	0.534	158	0.742	203	0.505	248	0.199	293	0.132	338	0.237
24	0.124	69	0.243	114	0.541	159	0.743	204	0.496	249	0.196	294	0.134	339	0.236
25	0.124	70	0.247	115	0.548	160	0.743	205	0.486	250	0.193	295	0.136	340	0.234
26	0.125	71	0.252	116	0.556	161	0.743	206	0.476	251	0.191	296	0.138	341	0.233
27	0.126	72	0.255	117	0.563	162	0.744	207	0.465	252	0.188	297	0.140	342	0.231
28	0.128	73	0.259	118	0.571	163	0.744	208	0.455	253	0.186	298	0.143	343	0.229
29	0.130	74	0.264	119	0.580	164	0.744	209	0.444	254	0.183	299	0.145	344	0.227
30	0.132	75	0.268	120	0.590	165	0.744	210	0.433	255	0.181	300	0.148	345	0.224
31	0.135	76	0.273	121	0.600	166	0.744	211	0.422	256	0.179	301	0.151	346	0.222
32	0.138	77	0.277	122	0.610	167	0.743	212	0.411	257	0.176	302	0.154	347	0.219
33	0.141	78	0.282	123	0.620	168	0.742	213	0.400	258	0.173	303	0.157	348	0.217
34	0.144	79	0.287	124	0.629	169	0.740	214	0.389	259	0.170	304	0.160	349	0.214
35	0.147	80	0.292	125	0.639	170	0.738	215	0.379	260	0.168	305	0.164	350	0.211
36	0.150	81	0.297	126	0.649	171	0.736	216	0.369	261	0.165	306	0.167	351	0.208
37	0.154	82	0.303	127	0.658	172	0.733	217	0.360	262	0.162	307	0.170	352	0.205
38	0.157	83	0.308	128	0.667	173	0.730	218	0.351	263	0.159	308	0.173	353	0.202
39	0.161	84	0.313	129	0.676	174	0.727	219	0.342	264	0.157	309	0.177	354	0.198
40	0.164	85	0.318	130	0.683	175	0.723	220	0.334	265	0.154	310	0.180	355	0.195
41	0.168	86	0.323	131	0.689	176	0.719	221	0.326	266	0.151	311	0.183	356	0.192
42	0.171	87	0.329	132	0.695	177	0.715	222	0.318	267	0.149	312	0.186	357	0.189
43	0.174	88	0.334	133	0.700	178	0.710	223	0.312	268	0.146	313	0.189	358	0.185
44	0.178	89	0.340	134	0.705	179	0.705	224	0.305	269	0.144	314	0.192	359	0.182

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 1.00° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
 Call Letters **WUTV** Channel **14**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TLP-16E (C)**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

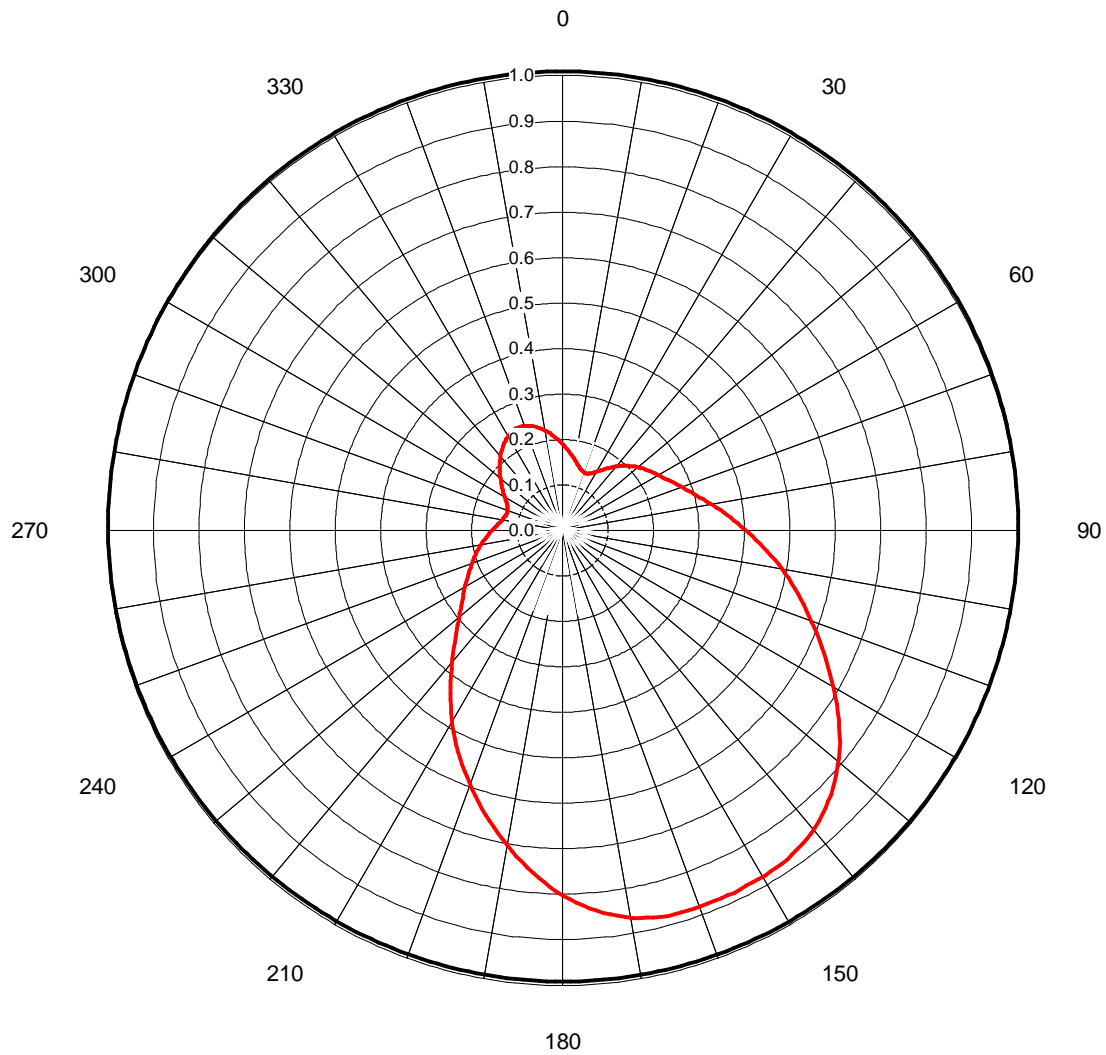
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0	0.180	45	0.186	90	0.371	135	0.770	180	0.747	225	0.315	270	0.145	315	0.197
1	0.177	46	0.189	91	0.379	136	0.777	181	0.739	226	0.307	271	0.143	316	0.200
2	0.173	47	0.193	92	0.387	137	0.783	182	0.731	227	0.301	272	0.141	317	0.203
3	0.170	48	0.196	93	0.396	138	0.789	183	0.724	228	0.295	273	0.139	318	0.206
4	0.167	49	0.198	94	0.405	139	0.795	184	0.716	229	0.289	274	0.137	319	0.209
5	0.164	50	0.201	95	0.414	140	0.800	185	0.708	230	0.284	275	0.135	320	0.212
6	0.160	51	0.203	96	0.422	141	0.805	186	0.699	231	0.279	276	0.133	321	0.215
7	0.157	52	0.206	97	0.431	142	0.809	187	0.691	232	0.274	277	0.132	322	0.218
8	0.154	53	0.208	98	0.439	143	0.813	188	0.682	233	0.270	278	0.130	323	0.220
9	0.151	54	0.211	99	0.448	144	0.816	189	0.673	234	0.265	279	0.129	324	0.223
10	0.149	55	0.213	100	0.457	145	0.819	190	0.664	235	0.260	280	0.128	325	0.225
11	0.146	56	0.216	101	0.466	146	0.821	191	0.655	236	0.256	281	0.127	326	0.227
12	0.143	57	0.219	102	0.475	147	0.823	192	0.646	237	0.251	282	0.127	327	0.229
13	0.140	58	0.222	103	0.484	148	0.824	193	0.638	238	0.247	283	0.126	328	0.231
14	0.138	59	0.225	104	0.493	149	0.825	194	0.629	239	0.243	284	0.126	329	0.233
15	0.136	60	0.228	105	0.503	150	0.826	195	0.620	240	0.239	285	0.126	330	0.235
16	0.134	61	0.230	106	0.512	151	0.826	196	0.611	241	0.235	286	0.126	331	0.236
17	0.132	62	0.233	107	0.521	152	0.827	197	0.602	242	0.231	287	0.126	332	0.238
18	0.130	63	0.236	108	0.531	153	0.827	198	0.593	243	0.228	288	0.127	333	0.239
19	0.128	64	0.239	109	0.541	154	0.828	199	0.584	244	0.224	289	0.128	334	0.239
20	0.127	65	0.242	110	0.550	155	0.829	200	0.575	245	0.221	290	0.129	335	0.240
21	0.127	66	0.245	111	0.558	156	0.828	201	0.564	246	0.217	291	0.131	336	0.240
22	0.126	67	0.249	112	0.567	157	0.828	202	0.554	247	0.214	292	0.132	337	0.239
23	0.126	68	0.252	113	0.576	158	0.828	203	0.543	248	0.211	293	0.134	338	0.239
24	0.126	69	0.256	114	0.584	159	0.828	204	0.532	249	0.207	294	0.136	339	0.238
25	0.127	70	0.260	115	0.593	160	0.828	205	0.521	250	0.204	295	0.138	340	0.236
26	0.128	71	0.264	116	0.602	161	0.828	206	0.510	251	0.201	296	0.141	341	0.235
27	0.130	72	0.268	117	0.610	162	0.827	207	0.499	252	0.198	297	0.143	342	0.233
28	0.132	73	0.272	118	0.619	163	0.827	208	0.488	253	0.194	298	0.146	343	0.231
29	0.134	74	0.277	119	0.628	164	0.826	209	0.477	254	0.191	299	0.148	344	0.229
30	0.136	75	0.282	120	0.638	165	0.825	210	0.466	255	0.188	300	0.151	345	0.226
31	0.139	76	0.287	121	0.647	166	0.823	211	0.455	256	0.184	301	0.154	346	0.224
32	0.142	77	0.292	122	0.657	167	0.821	212	0.444	257	0.181	302	0.157	347	0.221
33	0.145	78	0.296	123	0.666	168	0.818	213	0.433	258	0.179	303	0.160	348	0.218
34	0.148	79	0.301	124	0.676	169	0.814	214	0.422	259	0.176	304	0.163	349	0.216
35	0.151	80	0.306	125	0.685	170	0.810	215	0.411	260	0.173	305	0.166	350	0.213
36	0.154	81	0.311	126	0.694	171	0.806	216	0.400	261	0.170	306	0.169	351	0.210
37	0.158	82	0.317	127	0.703	172	0.801	217	0.389	262	0.168	307	0.172	352	0.207
38	0.161	83	0.322	128	0.711	173	0.796	218	0.378	263	0.165	308	0.175	353	0.204
39	0.165	84	0.329	129	0.720	174	0.790	219	0.368	264	0.161	309	0.178	354	0.200
40	0.168	85	0.335	130	0.729	175	0.784	220	0.358	265	0.158	310	0.182	355	0.197
41	0.172	86	0.342	131	0.737	176	0.777	221	0.348	266	0.156	311	0.185	356	0.194
42	0.175	87	0.348	132	0.746	177	0.770	222	0.339	267	0.153	312	0.188	357	0.190
43	0.179	88	0.355	133	0.754	178	0.763	223	0.330	268	0.150	313	0.191	358	0.187
44	0.183	89	0.363	134	0.762	179	0.755	224	0.322	269	0.147	314	0.194	359	0.184

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 1.20° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
Call Letters **WUTV**
Location **Buffalo, NY**
Customer
Antenna Type **TLP-16E (C)**

Channel **14**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

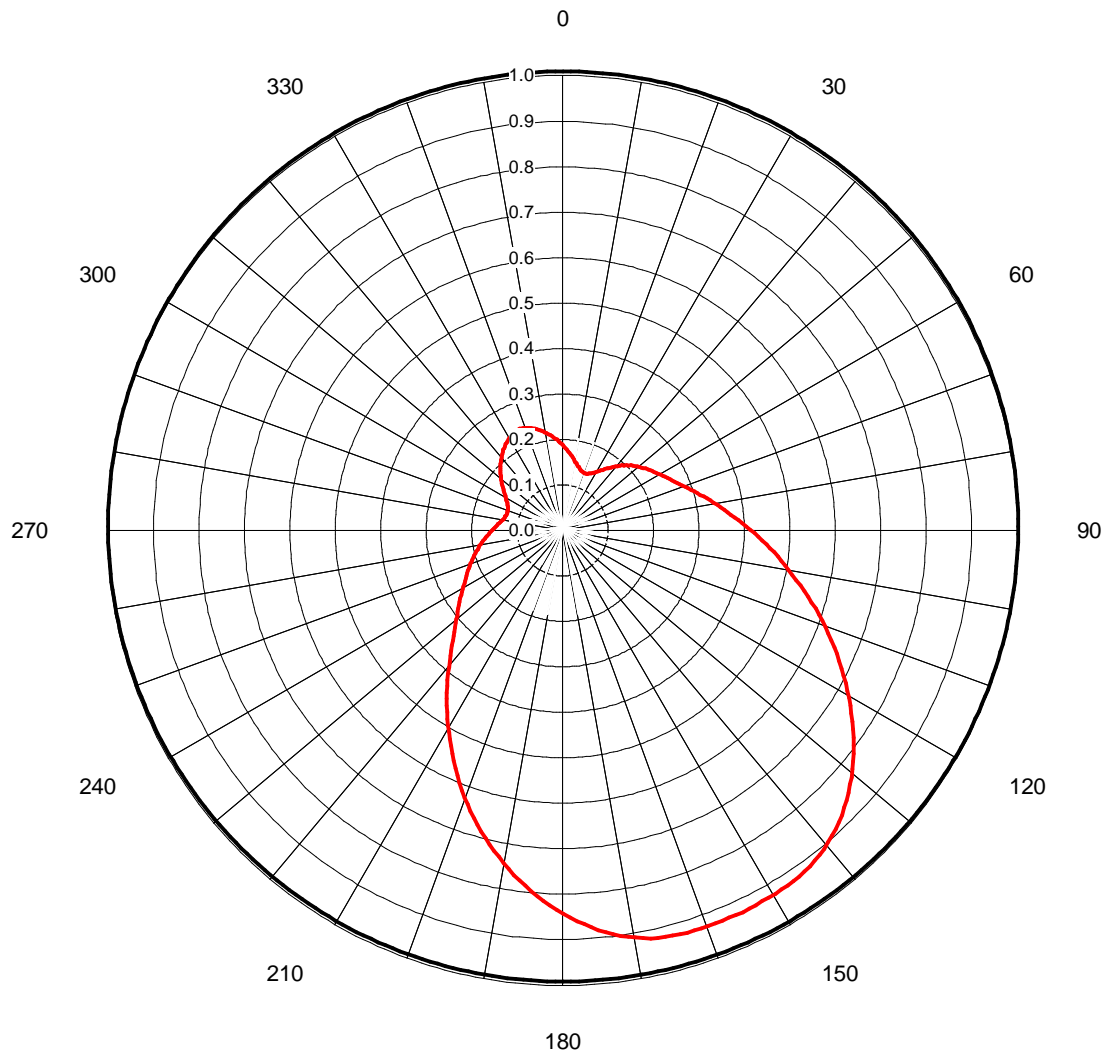
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0	0.180	45	0.189	90	0.392	135	0.832	180	0.811	225	0.332	270	0.148	315	0.197
1	0.177	46	0.193	91	0.400	136	0.839	181	0.803	226	0.325	271	0.145	316	0.200
2	0.173	47	0.196	92	0.408	137	0.845	182	0.793	227	0.317	272	0.143	317	0.203
3	0.170	48	0.199	93	0.416	138	0.851	183	0.784	228	0.310	273	0.141	318	0.206
4	0.167	49	0.202	94	0.425	139	0.857	184	0.774	229	0.303	274	0.138	319	0.209
5	0.164	50	0.205	95	0.434	140	0.862	185	0.764	230	0.296	275	0.136	320	0.212
6	0.161	51	0.208	96	0.443	141	0.866	186	0.754	231	0.290	276	0.135	321	0.214
7	0.157	52	0.211	97	0.452	142	0.870	187	0.743	232	0.284	277	0.133	322	0.217
8	0.154	53	0.214	98	0.461	143	0.874	188	0.733	233	0.278	278	0.132	323	0.220
9	0.152	54	0.217	99	0.471	144	0.877	189	0.722	234	0.273	279	0.130	324	0.222
10	0.149	55	0.220	100	0.480	145	0.879	190	0.711	235	0.268	280	0.129	325	0.224
11	0.146	56	0.222	101	0.490	146	0.881	191	0.699	236	0.264	281	0.128	326	0.227
12	0.143	57	0.225	102	0.500	147	0.883	192	0.688	237	0.260	282	0.128	327	0.229
13	0.141	58	0.228	103	0.509	148	0.884	193	0.678	238	0.255	283	0.127	328	0.231
14	0.138	59	0.231	104	0.518	149	0.885	194	0.667	239	0.251	284	0.127	329	0.232
15	0.136	60	0.234	105	0.527	150	0.886	195	0.656	240	0.247	285	0.127	330	0.234
16	0.134	61	0.236	106	0.537	151	0.886	196	0.646	241	0.242	286	0.127	331	0.236
17	0.132	62	0.239	107	0.546	152	0.886	197	0.635	242	0.238	287	0.127	332	0.237
18	0.131	63	0.242	108	0.556	153	0.886	198	0.623	243	0.234	288	0.128	333	0.238
19	0.129	64	0.245	109	0.565	154	0.887	199	0.612	244	0.230	289	0.129	334	0.239
20	0.128	65	0.248	110	0.575	155	0.888	200	0.601	245	0.226	290	0.130	335	0.239
21	0.128	66	0.252	111	0.585	156	0.888	201	0.590	246	0.223	291	0.131	336	0.239
22	0.127	67	0.256	112	0.596	157	0.887	202	0.579	247	0.219	292	0.133	337	0.239
23	0.127	68	0.260	113	0.606	158	0.887	203	0.568	248	0.216	293	0.135	338	0.238
24	0.127	69	0.264	114	0.617	159	0.887	204	0.558	249	0.213	294	0.137	339	0.237
25	0.128	70	0.268	115	0.627	160	0.887	205	0.547	250	0.209	295	0.139	340	0.235
26	0.129	71	0.273	116	0.638	161	0.887	206	0.536	251	0.206	296	0.141	341	0.234
27	0.131	72	0.277	117	0.649	162	0.887	207	0.525	252	0.203	297	0.143	342	0.232
28	0.133	73	0.281	118	0.659	163	0.887	208	0.514	253	0.200	298	0.146	343	0.230
29	0.135	74	0.286	119	0.671	164	0.886	209	0.502	254	0.196	299	0.149	344	0.228
30	0.137	75	0.291	120	0.682	165	0.886	210	0.490	255	0.193	300	0.151	345	0.226
31	0.140	76	0.296	121	0.694	166	0.884	211	0.478	256	0.190	301	0.154	346	0.223
32	0.143	77	0.301	122	0.705	167	0.882	212	0.466	257	0.187	302	0.157	347	0.221
33	0.146	78	0.307	123	0.717	168	0.880	213	0.454	258	0.183	303	0.160	348	0.218
34	0.149	79	0.313	124	0.728	169	0.876	214	0.443	259	0.180	304	0.163	349	0.215
35	0.153	80	0.320	125	0.739	170	0.873	215	0.432	260	0.177	305	0.166	350	0.212
36	0.156	81	0.326	126	0.750	171	0.869	216	0.420	261	0.173	306	0.169	351	0.209
37	0.160	82	0.333	127	0.761	172	0.864	217	0.409	262	0.170	307	0.172	352	0.206
38	0.164	83	0.340	128	0.771	173	0.859	218	0.398	263	0.167	308	0.175	353	0.203
39	0.167	84	0.347	129	0.782	174	0.853	219	0.388	264	0.164	309	0.178	354	0.200
40	0.171	85	0.354	130	0.791	175	0.847	220	0.378	265	0.161	310	0.181	355	0.197
41	0.175	86	0.361	131	0.800	176	0.841	221	0.368	266	0.158	311	0.184	356	0.193
42	0.179	87	0.368	132	0.809	177	0.834	222	0.358	267	0.156	312	0.188	357	0.190
43	0.182	88	0.376	133	0.817	178	0.827	223	0.349	268	0.153	313	0.191	358	0.187
44	0.186	89	0.384	134	0.825	179	0.819	224	0.341	269	0.150	314	0.194	359	0.183

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 1.40° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
 Call Letters **WUTV** Channel **14**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TLP-16E (C)**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

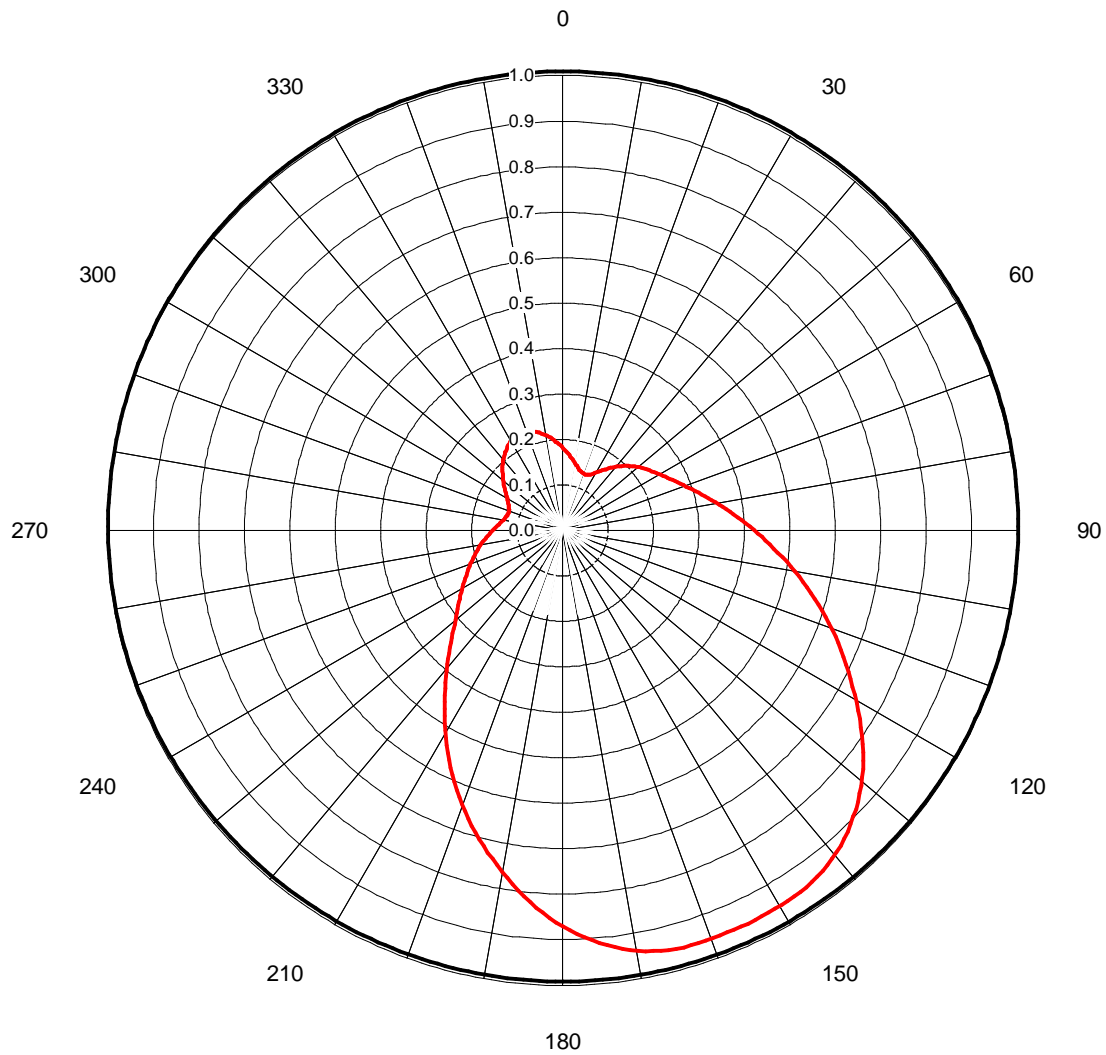
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.178	45	0.190	90	0.402	135	0.874	180	0.851	225	0.341	270	0.148	315	0.194
1	0.175	46	0.194	91	0.411	136	0.881	181	0.842	226	0.333	271	0.145	316	0.197
2	0.172	47	0.197	92	0.420	137	0.888	182	0.833	227	0.325	272	0.143	317	0.200
3	0.168	48	0.201	93	0.429	138	0.895	183	0.824	228	0.318	273	0.141	318	0.203
4	0.165	49	0.204	94	0.439	139	0.901	184	0.814	229	0.311	274	0.138	319	0.205
5	0.162	50	0.207	95	0.449	140	0.906	185	0.804	230	0.304	275	0.136	320	0.208
6	0.159	51	0.210	96	0.458	141	0.911	186	0.794	231	0.298	276	0.134	321	0.211
7	0.156	52	0.213	97	0.467	142	0.915	187	0.783	232	0.292	277	0.133	322	0.213
8	0.153	53	0.216	98	0.476	143	0.919	188	0.773	233	0.286	278	0.131	323	0.216
9	0.150	54	0.219	99	0.486	144	0.922	189	0.762	234	0.281	279	0.130	324	0.218
10	0.147	55	0.222	100	0.495	145	0.925	190	0.751	235	0.275	280	0.129	325	0.220
11	0.144	56	0.224	101	0.505	146	0.928	191	0.740	236	0.270	281	0.128	326	0.222
12	0.142	57	0.227	102	0.515	147	0.929	192	0.729	237	0.265	282	0.127	327	0.224
13	0.139	58	0.230	103	0.526	148	0.931	193	0.717	238	0.260	283	0.127	328	0.226
14	0.137	59	0.233	104	0.537	149	0.932	194	0.706	239	0.255	284	0.126	329	0.228
15	0.135	60	0.236	105	0.548	150	0.932	195	0.694	240	0.251	285	0.126	330	0.229
16	0.133	61	0.239	106	0.560	151	0.933	196	0.682	241	0.247	286	0.126	331	0.231
17	0.131	62	0.243	107	0.572	152	0.933	197	0.670	242	0.243	287	0.127	332	0.232
18	0.129	63	0.246	108	0.583	153	0.933	198	0.658	243	0.239	288	0.127	333	0.233
19	0.128	64	0.250	109	0.595	154	0.934	199	0.646	244	0.235	289	0.128	334	0.234
20	0.127	65	0.253	110	0.607	155	0.935	200	0.634	245	0.231	290	0.129	335	0.234
21	0.127	66	0.257	111	0.618	156	0.935	201	0.621	246	0.227	291	0.130	336	0.234
22	0.126	67	0.260	112	0.629	157	0.934	202	0.608	247	0.223	292	0.132	337	0.234
23	0.126	68	0.264	113	0.641	158	0.934	203	0.595	248	0.219	293	0.133	338	0.233
24	0.127	69	0.268	114	0.652	159	0.934	204	0.582	249	0.215	294	0.135	339	0.232
25	0.128	70	0.273	115	0.663	160	0.934	205	0.568	250	0.212	295	0.137	340	0.231
26	0.129	71	0.277	116	0.675	161	0.934	206	0.555	251	0.208	296	0.139	341	0.229
27	0.130	72	0.282	117	0.687	162	0.934	207	0.542	252	0.205	297	0.142	342	0.228
28	0.132	73	0.287	118	0.698	163	0.934	208	0.529	253	0.201	298	0.144	343	0.226
29	0.135	74	0.293	119	0.710	164	0.933	209	0.517	254	0.198	299	0.147	344	0.224
30	0.137	75	0.298	120	0.721	165	0.932	210	0.505	255	0.195	300	0.149	345	0.221
31	0.140	76	0.304	121	0.733	166	0.930	211	0.493	256	0.191	301	0.152	346	0.219
32	0.143	77	0.310	122	0.744	167	0.928	212	0.481	257	0.188	302	0.155	347	0.217
33	0.146	78	0.316	123	0.756	168	0.925	213	0.469	258	0.185	303	0.158	348	0.214
34	0.149	79	0.322	124	0.767	169	0.922	214	0.458	259	0.181	304	0.161	349	0.211
35	0.152	80	0.329	125	0.778	170	0.918	215	0.446	260	0.178	305	0.164	350	0.209
36	0.156	81	0.335	126	0.789	171	0.913	216	0.434	261	0.175	306	0.167	351	0.206
37	0.160	82	0.342	127	0.800	172	0.908	217	0.422	262	0.172	307	0.170	352	0.203
38	0.164	83	0.349	128	0.810	173	0.902	218	0.410	263	0.168	308	0.173	353	0.200
39	0.168	84	0.356	129	0.820	174	0.896	219	0.399	264	0.165	309	0.176	354	0.197
40	0.172	85	0.363	130	0.830	175	0.890	220	0.388	265	0.162	310	0.179	355	0.194
41	0.175	86	0.370	131	0.840	176	0.883	221	0.377	266	0.159	311	0.182	356	0.191
42	0.179	87	0.378	132	0.849	177	0.875	222	0.367	267	0.156	312	0.185	357	0.188
43	0.183	88	0.385	133	0.858	178	0.868	223	0.358	268	0.153	313	0.188	358	0.184
44	0.187	89	0.393	134	0.866	179	0.859	224	0.349	269	0.151	314	0.191	359	0.181

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 1.60° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
 Call Letters **WUTV** Channel **14**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TLP-16E (C)**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

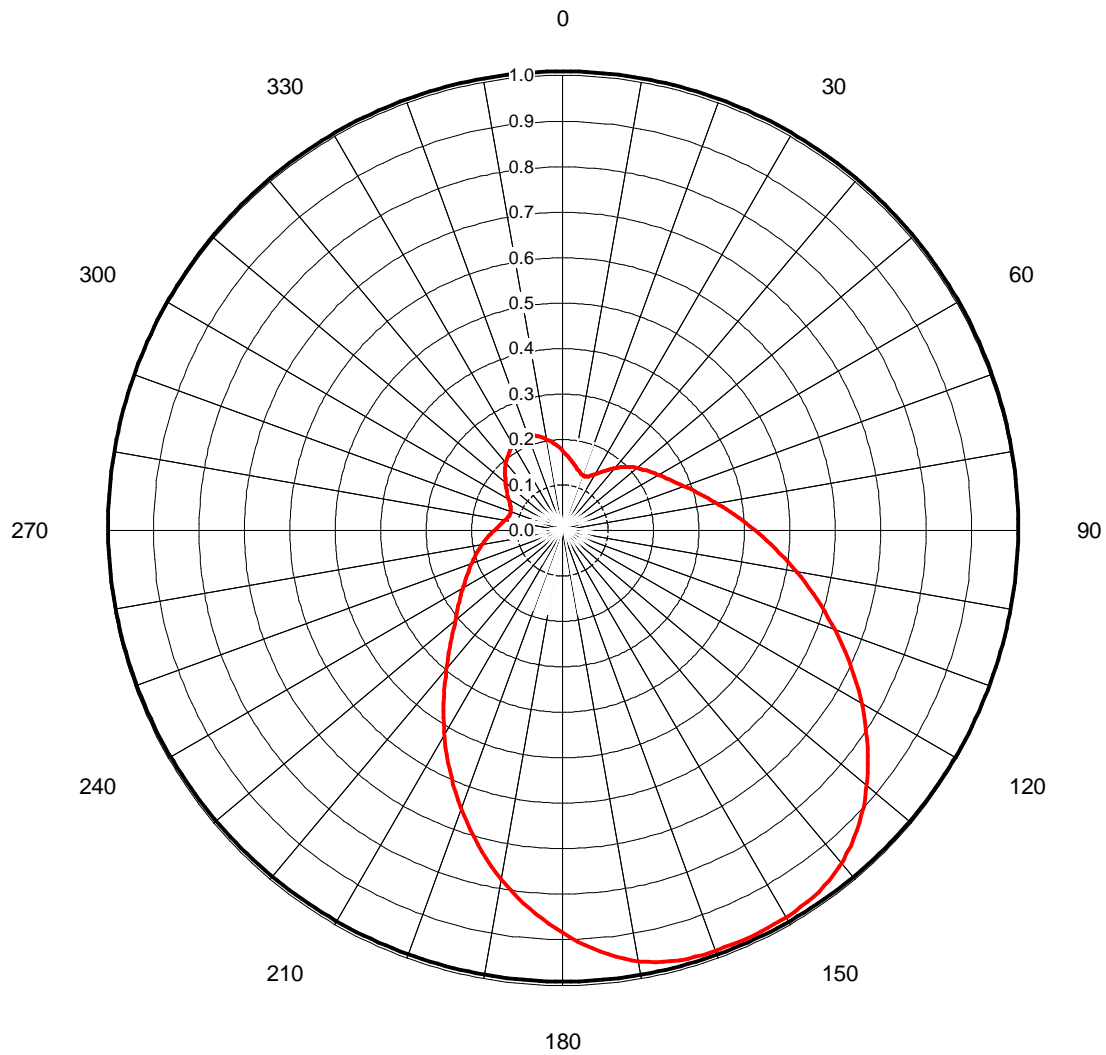
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.172	45	0.188	90	0.410	135	0.902	180	0.880	225	0.346	270	0.146	315	0.188
1	0.169	46	0.192	91	0.419	136	0.910	181	0.870	226	0.337	271	0.144	316	0.191
2	0.166	47	0.196	92	0.428	137	0.917	182	0.860	227	0.329	272	0.141	317	0.194
3	0.163	48	0.199	93	0.437	138	0.923	183	0.850	228	0.321	273	0.139	318	0.196
4	0.160	49	0.202	94	0.446	139	0.929	184	0.839	229	0.314	274	0.137	319	0.199
5	0.157	50	0.206	95	0.456	140	0.934	185	0.828	230	0.307	275	0.135	320	0.202
6	0.154	51	0.209	96	0.466	141	0.939	186	0.817	231	0.301	276	0.133	321	0.204
7	0.151	52	0.212	97	0.476	142	0.944	187	0.806	232	0.295	277	0.131	322	0.206
8	0.148	53	0.215	98	0.486	143	0.947	188	0.794	233	0.289	278	0.129	323	0.209
9	0.146	54	0.218	99	0.497	144	0.951	189	0.783	234	0.283	279	0.128	324	0.211
10	0.143	55	0.221	100	0.508	145	0.954	190	0.771	235	0.277	280	0.127	325	0.213
11	0.140	56	0.224	101	0.519	146	0.956	191	0.759	236	0.272	281	0.126	326	0.215
12	0.138	57	0.227	102	0.530	147	0.958	192	0.746	237	0.267	282	0.125	327	0.217
13	0.136	58	0.230	103	0.541	148	0.959	193	0.735	238	0.262	283	0.124	328	0.219
14	0.134	59	0.233	104	0.553	149	0.960	194	0.723	239	0.257	284	0.124	329	0.221
15	0.132	60	0.236	105	0.564	150	0.960	195	0.711	240	0.253	285	0.124	330	0.222
16	0.130	61	0.239	106	0.576	151	0.961	196	0.699	241	0.248	286	0.124	331	0.224
17	0.128	62	0.243	107	0.587	152	0.961	197	0.687	242	0.244	287	0.124	332	0.225
18	0.127	63	0.246	108	0.599	153	0.961	198	0.675	243	0.240	288	0.125	333	0.226
19	0.126	64	0.250	109	0.611	154	0.962	199	0.663	244	0.235	289	0.126	334	0.226
20	0.125	65	0.254	110	0.622	155	0.963	200	0.650	245	0.231	290	0.127	335	0.227
21	0.125	66	0.258	111	0.634	156	0.963	201	0.637	246	0.227	291	0.128	336	0.227
22	0.124	67	0.262	112	0.645	157	0.962	202	0.624	247	0.223	292	0.129	337	0.226
23	0.124	68	0.266	113	0.657	158	0.962	203	0.611	248	0.219	293	0.131	338	0.226
24	0.125	69	0.270	114	0.668	159	0.962	204	0.598	249	0.215	294	0.133	339	0.225
25	0.125	70	0.275	115	0.680	160	0.962	205	0.585	250	0.212	295	0.134	340	0.223
26	0.126	71	0.279	116	0.692	161	0.962	206	0.571	251	0.208	296	0.136	341	0.222
27	0.128	72	0.284	117	0.703	162	0.962	207	0.558	252	0.204	297	0.138	342	0.220
28	0.130	73	0.289	118	0.715	163	0.962	208	0.545	253	0.201	298	0.141	343	0.218
29	0.132	74	0.295	119	0.727	164	0.961	209	0.531	254	0.198	299	0.143	344	0.216
30	0.135	75	0.301	120	0.740	165	0.960	210	0.518	255	0.194	300	0.146	345	0.214
31	0.137	76	0.306	121	0.752	166	0.959	211	0.505	256	0.191	301	0.148	346	0.212
32	0.140	77	0.312	122	0.765	167	0.957	212	0.491	257	0.187	302	0.151	347	0.210
33	0.144	78	0.319	123	0.777	168	0.954	213	0.478	258	0.184	303	0.153	348	0.207
34	0.147	79	0.325	124	0.789	169	0.950	214	0.466	259	0.180	304	0.156	349	0.205
35	0.151	80	0.332	125	0.802	170	0.946	215	0.453	260	0.177	305	0.159	350	0.202
36	0.154	81	0.338	126	0.813	171	0.942	216	0.441	261	0.174	306	0.162	351	0.199
37	0.158	82	0.345	127	0.825	172	0.937	217	0.429	262	0.170	307	0.165	352	0.196
38	0.162	83	0.353	128	0.837	173	0.931	218	0.418	263	0.167	308	0.168	353	0.194
39	0.166	84	0.360	129	0.848	174	0.925	219	0.406	264	0.164	309	0.171	354	0.191
40	0.169	85	0.368	130	0.858	175	0.919	220	0.396	265	0.161	310	0.174	355	0.188
41	0.173	86	0.376	131	0.868	176	0.911	221	0.385	266	0.157	311	0.176	356	0.185
42	0.177	87	0.384	132	0.877	177	0.904	222	0.375	267	0.154	312	0.179	357	0.182
43	0.181	88	0.393	133	0.886	178	0.896	223	0.365	268	0.151	313	0.182	358	0.178
44	0.185	89	0.401	134	0.894	179	0.888	224	0.355	269	0.149	314	0.185	359	0.175

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 1.80° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
Call Letters **WUTV**
Location **Buffalo, NY**
Customer
Antenna Type **TLP-16E (C)**

Channel **14**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

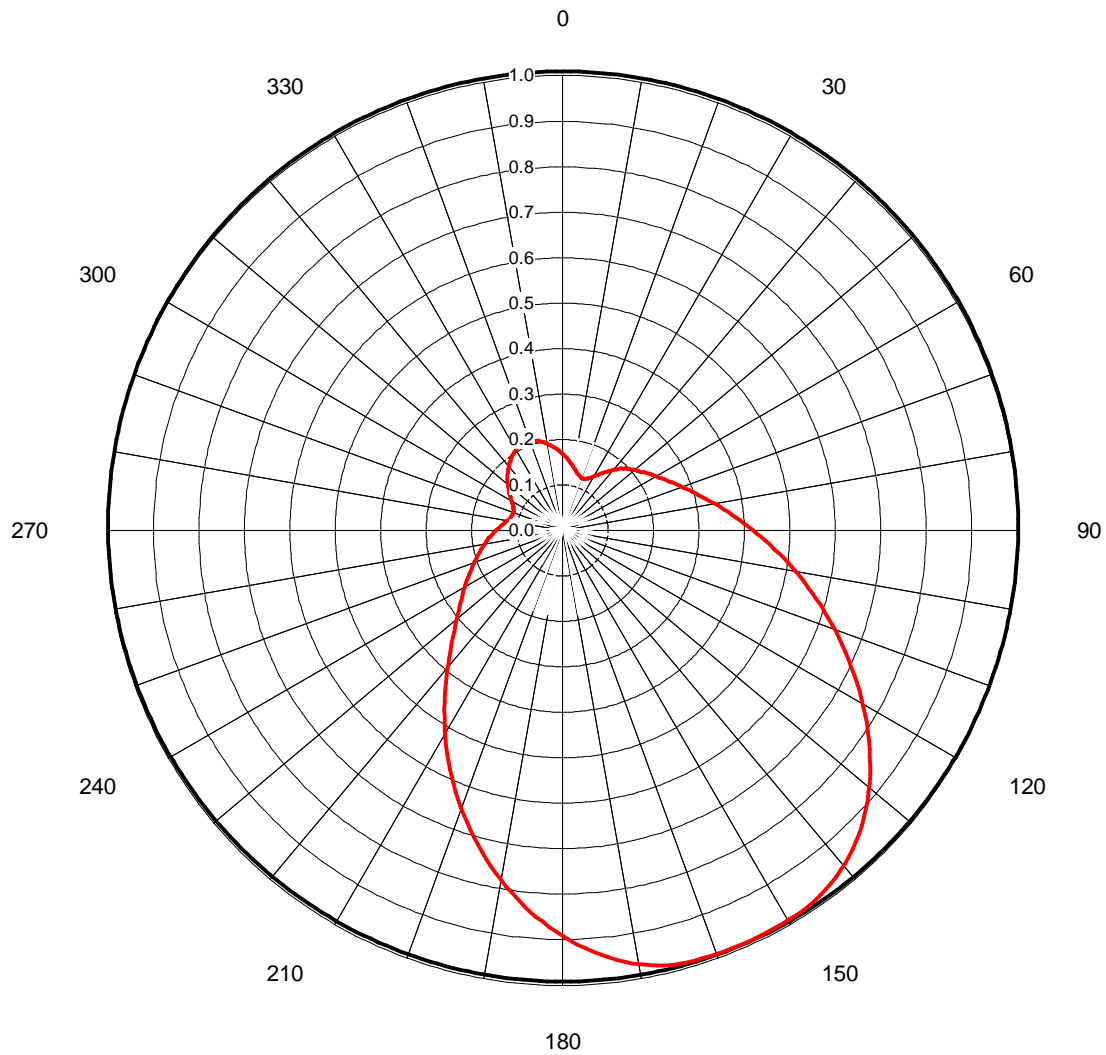
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.165	45	0.185	90	0.411	135	0.921	180	0.894	225	0.346	270	0.142	315	0.180
1	0.162	46	0.189	91	0.420	136	0.929	181	0.884	226	0.337	271	0.140	316	0.183
2	0.159	47	0.192	92	0.430	137	0.937	182	0.874	227	0.329	272	0.137	317	0.185
3	0.157	48	0.196	93	0.439	138	0.945	183	0.864	228	0.321	273	0.135	318	0.188
4	0.154	49	0.199	94	0.449	139	0.951	184	0.854	229	0.314	274	0.133	319	0.190
5	0.151	50	0.202	95	0.459	140	0.958	185	0.843	230	0.307	275	0.131	320	0.193
6	0.149	51	0.205	96	0.469	141	0.963	186	0.832	231	0.300	276	0.129	321	0.195
7	0.146	52	0.208	97	0.480	142	0.968	187	0.821	232	0.294	277	0.127	322	0.197
8	0.144	53	0.211	98	0.490	143	0.973	188	0.810	233	0.288	278	0.125	323	0.200
9	0.141	54	0.214	99	0.501	144	0.977	189	0.798	234	0.282	279	0.124	324	0.202
10	0.139	55	0.217	100	0.512	145	0.980	190	0.786	235	0.276	280	0.123	325	0.204
11	0.136	56	0.220	101	0.523	146	0.983	191	0.774	236	0.271	281	0.122	326	0.206
12	0.134	57	0.224	102	0.535	147	0.985	192	0.762	237	0.265	282	0.121	327	0.208
13	0.132	58	0.227	103	0.546	148	0.987	193	0.750	238	0.260	283	0.120	328	0.209
14	0.130	59	0.230	104	0.557	149	0.988	194	0.737	239	0.255	284	0.120	329	0.211
15	0.128	60	0.234	105	0.569	150	0.989	195	0.724	240	0.251	285	0.120	330	0.212
16	0.126	61	0.237	106	0.581	151	0.989	196	0.711	241	0.246	286	0.120	331	0.214
17	0.125	62	0.240	107	0.593	152	0.989	197	0.697	242	0.241	287	0.120	332	0.215
18	0.123	63	0.243	108	0.605	153	0.990	198	0.684	243	0.237	288	0.121	333	0.216
19	0.122	64	0.247	109	0.617	154	0.990	199	0.671	244	0.232	289	0.122	334	0.216
20	0.121	65	0.250	110	0.629	155	0.992	200	0.657	245	0.228	290	0.123	335	0.217
21	0.121	66	0.254	111	0.641	156	0.991	201	0.644	246	0.224	291	0.124	336	0.217
22	0.120	67	0.259	112	0.654	157	0.991	202	0.630	247	0.221	292	0.125	337	0.216
23	0.120	68	0.263	113	0.666	158	0.991	203	0.617	248	0.217	293	0.127	338	0.216
24	0.121	69	0.267	114	0.679	159	0.991	204	0.603	249	0.213	294	0.129	339	0.215
25	0.121	70	0.272	115	0.692	160	0.990	205	0.590	250	0.209	295	0.130	340	0.214
26	0.122	71	0.277	116	0.704	161	0.990	206	0.576	251	0.206	296	0.132	341	0.212
27	0.124	72	0.282	117	0.717	162	0.990	207	0.563	252	0.202	297	0.135	342	0.211
28	0.126	73	0.288	118	0.730	163	0.989	208	0.549	253	0.198	298	0.137	343	0.209
29	0.128	74	0.293	119	0.743	164	0.988	209	0.536	254	0.194	299	0.139	344	0.207
30	0.130	75	0.299	120	0.755	165	0.987	210	0.522	255	0.191	300	0.141	345	0.205
31	0.133	76	0.305	121	0.767	166	0.985	211	0.509	256	0.187	301	0.143	346	0.203
32	0.136	77	0.312	122	0.780	167	0.982	212	0.495	257	0.184	302	0.146	347	0.201
33	0.139	78	0.318	123	0.792	168	0.979	213	0.482	258	0.180	303	0.148	348	0.198
34	0.142	79	0.324	124	0.804	169	0.975	214	0.469	259	0.177	304	0.151	349	0.196
35	0.146	80	0.331	125	0.816	170	0.970	215	0.457	260	0.174	305	0.153	350	0.193
36	0.150	81	0.338	126	0.827	171	0.965	216	0.444	261	0.171	306	0.156	351	0.191
37	0.153	82	0.345	127	0.839	172	0.959	217	0.432	262	0.168	307	0.158	352	0.188
38	0.157	83	0.353	128	0.850	173	0.952	218	0.420	263	0.164	308	0.161	353	0.185
39	0.161	84	0.360	129	0.861	174	0.945	219	0.408	264	0.161	309	0.164	354	0.183
40	0.165	85	0.368	130	0.872	175	0.938	220	0.397	265	0.157	310	0.166	355	0.180
41	0.169	86	0.376	131	0.882	176	0.930	221	0.386	266	0.154	311	0.169	356	0.177
42	0.173	87	0.385	132	0.893	177	0.921	222	0.375	267	0.151	312	0.172	357	0.174
43	0.177	88	0.394	133	0.903	178	0.912	223	0.365	268	0.148	313	0.175	358	0.171
44	0.181	89	0.402	134	0.912	179	0.903	224	0.355	269	0.145	314	0.177	359	0.168

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 2.00° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date **24-Jun-04**
Call Letters **WUTV**
Location **Buffalo, NY**
Customer
Antenna Type **TLP-16E (C)**

Channel **14**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

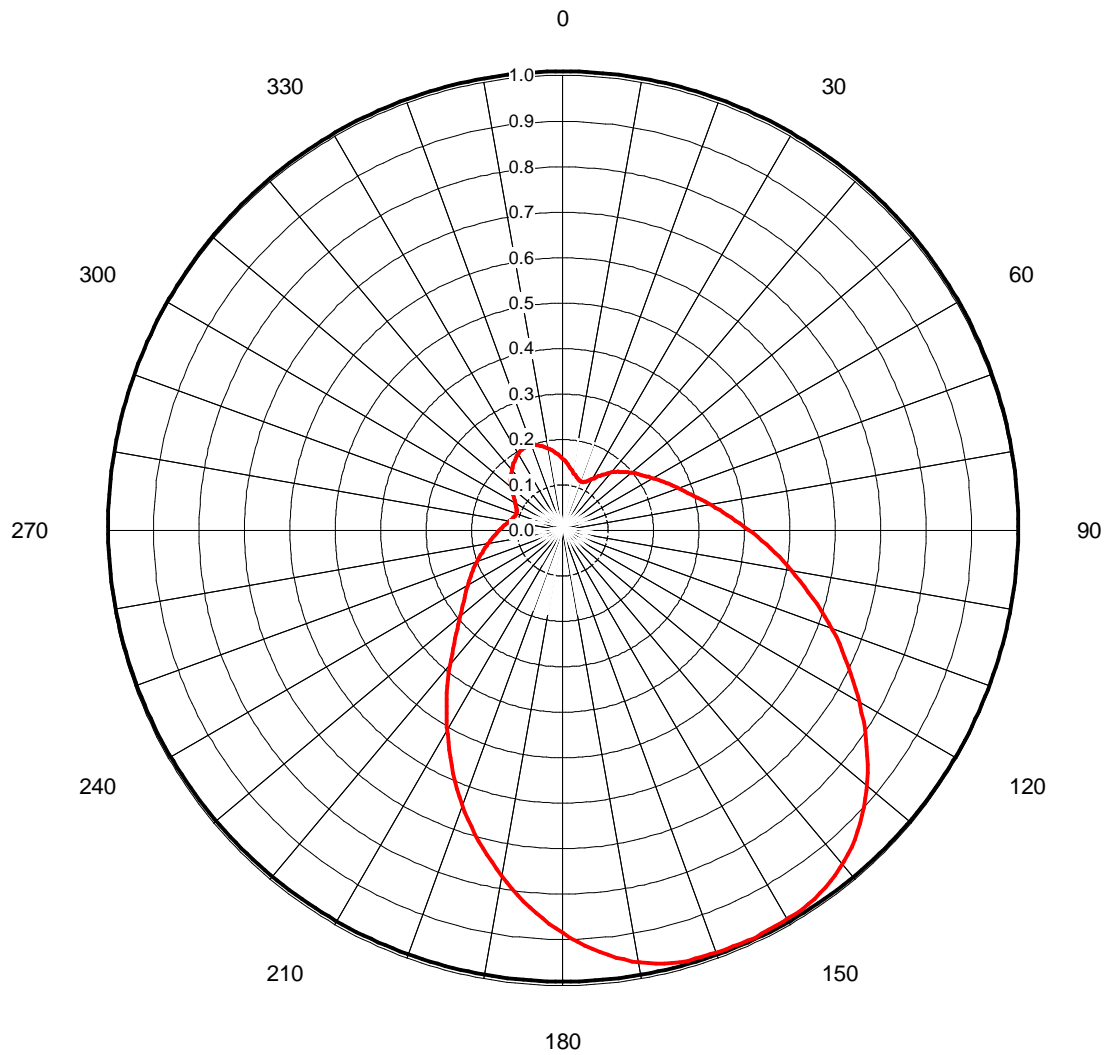
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.158	45	0.179	90	0.406	135	0.928	180	0.901	225	0.342	270	0.138	315	0.172
1	0.156	46	0.183	91	0.416	136	0.937	181	0.891	226	0.333	271	0.135	316	0.174
2	0.153	47	0.186	92	0.425	137	0.945	182	0.880	227	0.325	272	0.132	317	0.176
3	0.150	48	0.190	93	0.435	138	0.952	183	0.870	228	0.317	273	0.130	318	0.178
4	0.148	49	0.193	94	0.445	139	0.959	184	0.859	229	0.310	274	0.127	319	0.181
5	0.145	50	0.196	95	0.455	140	0.965	185	0.848	230	0.302	275	0.125	320	0.183
6	0.142	51	0.198	96	0.466	141	0.971	186	0.836	231	0.295	276	0.123	321	0.185
7	0.140	52	0.201	97	0.477	142	0.976	187	0.825	232	0.289	277	0.122	322	0.187
8	0.137	53	0.204	98	0.488	143	0.980	188	0.813	233	0.282	278	0.120	323	0.189
9	0.135	54	0.207	99	0.499	144	0.984	189	0.801	234	0.276	279	0.118	324	0.191
10	0.132	55	0.210	100	0.510	145	0.988	190	0.789	235	0.271	280	0.117	325	0.193
11	0.130	56	0.213	101	0.521	146	0.991	191	0.776	236	0.266	281	0.116	326	0.194
12	0.128	57	0.216	102	0.533	147	0.993	192	0.764	237	0.261	282	0.115	327	0.196
13	0.126	58	0.220	103	0.545	148	0.995	193	0.751	238	0.256	283	0.115	328	0.197
14	0.123	59	0.223	104	0.556	149	0.996	194	0.738	239	0.251	284	0.114	329	0.199
15	0.121	60	0.226	105	0.568	150	0.996	195	0.724	240	0.246	285	0.114	330	0.200
16	0.120	61	0.230	106	0.580	151	0.997	196	0.711	241	0.241	286	0.114	331	0.201
17	0.118	62	0.233	107	0.592	152	0.997	197	0.698	242	0.237	287	0.114	332	0.202
18	0.117	63	0.237	108	0.604	153	0.998	198	0.684	243	0.232	288	0.114	333	0.203
19	0.115	64	0.240	109	0.616	154	0.998	199	0.670	244	0.227	289	0.115	334	0.204
20	0.114	65	0.244	110	0.628	155	1.000	200	0.657	245	0.223	290	0.116	335	0.204
21	0.114	66	0.249	111	0.641	156	0.999	201	0.643	246	0.219	291	0.117	336	0.204
22	0.114	67	0.253	112	0.654	157	0.999	202	0.629	247	0.214	292	0.119	337	0.204
23	0.114	68	0.258	113	0.667	158	0.999	203	0.616	248	0.211	293	0.120	338	0.203
24	0.114	69	0.263	114	0.679	159	0.999	204	0.602	249	0.207	294	0.122	339	0.202
25	0.115	70	0.268	115	0.692	160	0.998	205	0.589	250	0.203	295	0.124	340	0.201
26	0.116	71	0.273	116	0.705	161	0.998	206	0.575	251	0.199	296	0.126	341	0.200
27	0.118	72	0.278	117	0.718	162	0.998	207	0.561	252	0.195	297	0.128	342	0.199
28	0.120	73	0.283	118	0.731	163	0.997	208	0.548	253	0.192	298	0.130	343	0.197
29	0.122	74	0.288	119	0.744	164	0.996	209	0.534	254	0.188	299	0.132	344	0.195
30	0.125	75	0.294	120	0.757	165	0.995	210	0.520	255	0.185	300	0.135	345	0.194
31	0.127	76	0.299	121	0.770	166	0.993	211	0.506	256	0.181	301	0.137	346	0.192
32	0.130	77	0.305	122	0.783	167	0.990	212	0.493	257	0.178	302	0.139	347	0.190
33	0.133	78	0.312	123	0.795	168	0.986	213	0.479	258	0.175	303	0.142	348	0.188
34	0.137	79	0.319	124	0.808	169	0.982	214	0.466	259	0.172	304	0.144	349	0.186
35	0.140	80	0.326	125	0.820	170	0.978	215	0.453	260	0.168	305	0.147	350	0.183
36	0.144	81	0.334	126	0.833	171	0.972	216	0.440	261	0.165	306	0.149	351	0.181
37	0.148	82	0.341	127	0.845	172	0.966	217	0.428	262	0.162	307	0.152	352	0.179
38	0.152	83	0.349	128	0.856	173	0.960	218	0.415	263	0.159	308	0.155	353	0.176
39	0.156	84	0.356	129	0.868	174	0.953	219	0.404	264	0.156	309	0.157	354	0.174
40	0.160	85	0.364	130	0.879	175	0.945	220	0.392	265	0.153	310	0.160	355	0.171
41	0.164	86	0.372	131	0.890	176	0.937	221	0.381	266	0.150	311	0.162	356	0.169
42	0.168	87	0.380	132	0.900	177	0.929	222	0.370	267	0.147	312	0.164	357	0.166
43	0.172	88	0.389	133	0.910	178	0.920	223	0.361	268	0.144	313	0.167	358	0.164
44	0.176	89	0.397	134	0.919	179	0.910	224	0.351	269	0.141	314	0.169	359	0.161

Date	24-Jun-04	
Call Letters	WUTV	Channel 14
Location	Buffalo, NY	
Customer		
Antenna Type	TLP-16E (C)	

AZIMUTH PATTERN: 2.20° Depression Angle

Gain
Calculated / Measured **Calculated**

Frequency **473.00 MHz**
Drawing # **TLP-E**



Mech. Tilt: 0.50°
@
Azimuth: 155 deg

Date	24-Jun-04	Channel	14
Call Letters	WUTV		
Location	Buffalo, NY		
Customer			
Antenna Type	TLP-16E (C)		

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-E**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.148	45	0.170	90	0.397	135	0.923	180	0.894	225	0.332	270	0.132	315	0.161
1	0.146	46	0.173	91	0.407	136	0.931	181	0.884	226	0.323	271	0.129	316	0.164
2	0.143	47	0.176	92	0.417	137	0.940	182	0.873	227	0.315	272	0.127	317	0.166
3	0.140	48	0.179	93	0.427	138	0.947	183	0.862	228	0.307	273	0.124	318	0.168
4	0.138	49	0.182	94	0.438	139	0.954	184	0.851	229	0.300	274	0.122	319	0.170
5	0.135	50	0.185	95	0.448	140	0.961	185	0.840	230	0.293	275	0.120	320	0.172
6	0.132	51	0.189	96	0.459	141	0.967	186	0.828	231	0.286	276	0.118	321	0.175
7	0.130	52	0.192	97	0.469	142	0.972	187	0.816	232	0.279	277	0.116	322	0.177
8	0.127	53	0.195	98	0.479	143	0.976	188	0.804	233	0.273	278	0.114	323	0.178
9	0.125	54	0.198	99	0.490	144	0.980	189	0.792	234	0.268	279	0.113	324	0.180
10	0.122	55	0.201	100	0.500	145	0.984	190	0.779	235	0.263	280	0.111	325	0.182
11	0.120	56	0.204	101	0.511	146	0.987	191	0.767	236	0.258	281	0.110	326	0.184
12	0.118	57	0.207	102	0.522	147	0.989	192	0.754	237	0.253	282	0.109	327	0.185
13	0.116	58	0.211	103	0.534	148	0.991	193	0.741	238	0.248	283	0.108	328	0.187
14	0.114	59	0.214	104	0.546	149	0.992	194	0.729	239	0.243	284	0.107	329	0.188
15	0.113	60	0.217	105	0.559	150	0.993	195	0.716	240	0.239	285	0.107	330	0.190
16	0.111	61	0.221	106	0.571	151	0.994	196	0.703	241	0.234	286	0.107	331	0.191
17	0.110	62	0.225	107	0.584	152	0.994	197	0.690	242	0.230	287	0.107	332	0.192
18	0.109	63	0.229	108	0.597	153	0.995	198	0.677	243	0.225	288	0.108	333	0.192
19	0.108	64	0.233	109	0.609	154	0.995	199	0.663	244	0.221	289	0.108	334	0.193
20	0.107	65	0.238	110	0.622	155	0.997	200	0.650	245	0.217	290	0.109	335	0.193
21	0.107	66	0.242	111	0.634	156	0.996	201	0.636	246	0.212	291	0.110	336	0.193
22	0.107	67	0.246	112	0.647	157	0.996	202	0.622	247	0.208	292	0.111	337	0.193
23	0.107	68	0.250	113	0.659	158	0.995	203	0.608	248	0.203	293	0.112	338	0.192
24	0.108	69	0.255	114	0.672	159	0.995	204	0.593	249	0.199	294	0.113	339	0.192
25	0.108	70	0.259	115	0.684	160	0.995	205	0.579	250	0.195	295	0.115	340	0.191
26	0.110	71	0.264	116	0.697	161	0.995	206	0.565	251	0.191	296	0.117	341	0.189
27	0.111	72	0.269	117	0.709	162	0.994	207	0.551	252	0.187	297	0.118	342	0.188
28	0.113	73	0.274	118	0.722	163	0.994	208	0.537	253	0.184	298	0.120	343	0.186
29	0.115	74	0.279	119	0.735	164	0.992	209	0.523	254	0.180	299	0.122	344	0.185
30	0.118	75	0.284	120	0.748	165	0.991	210	0.510	255	0.177	300	0.125	345	0.183
31	0.121	76	0.290	121	0.761	166	0.989	211	0.497	256	0.173	301	0.127	346	0.181
32	0.124	77	0.296	122	0.774	167	0.986	212	0.484	257	0.170	302	0.129	347	0.179
33	0.127	78	0.302	123	0.787	168	0.982	213	0.471	258	0.166	303	0.132	348	0.177
34	0.131	79	0.309	124	0.800	169	0.978	214	0.459	259	0.163	304	0.134	349	0.175
35	0.134	80	0.316	125	0.812	170	0.973	215	0.446	260	0.160	305	0.137	350	0.173
36	0.138	81	0.323	126	0.825	171	0.967	216	0.433	261	0.156	306	0.139	351	0.171
37	0.141	82	0.330	127	0.837	172	0.961	217	0.420	262	0.153	307	0.142	352	0.168
38	0.145	83	0.338	128	0.849	173	0.955	218	0.407	263	0.150	308	0.144	353	0.166
39	0.149	84	0.346	129	0.861	174	0.947	219	0.395	264	0.147	309	0.147	354	0.163
40	0.153	85	0.354	130	0.872	175	0.939	220	0.383	265	0.145	310	0.149	355	0.161
41	0.156	86	0.362	131	0.883	176	0.931	221	0.372	266	0.142	311	0.152	356	0.159
42	0.160	87	0.370	132	0.894	177	0.922	222	0.361	267	0.139	312	0.154	357	0.156
43	0.163	88	0.379	133	0.904	178	0.913	223	0.351	268	0.137	313	0.157	358	0.153
44	0.167	89	0.388	134	0.913	179	0.904	224	0.341	269	0.134	314	0.159	359	0.151



Proposal Number

Revision

Date

28 Jun 2004

Call Letters

WUTV

Channel

14

Location

Buffalo, NY

Customer

Antenna Type

TFU-16DSB-E (C)

ELEVATION PATTERN

RMS Gain at Main Lobe

15.5 (11.90 dB)

Beam Tilt

1.00 Degrees

RMS Gain at Horizontal

10.7 (10.29 dB)

Frequency

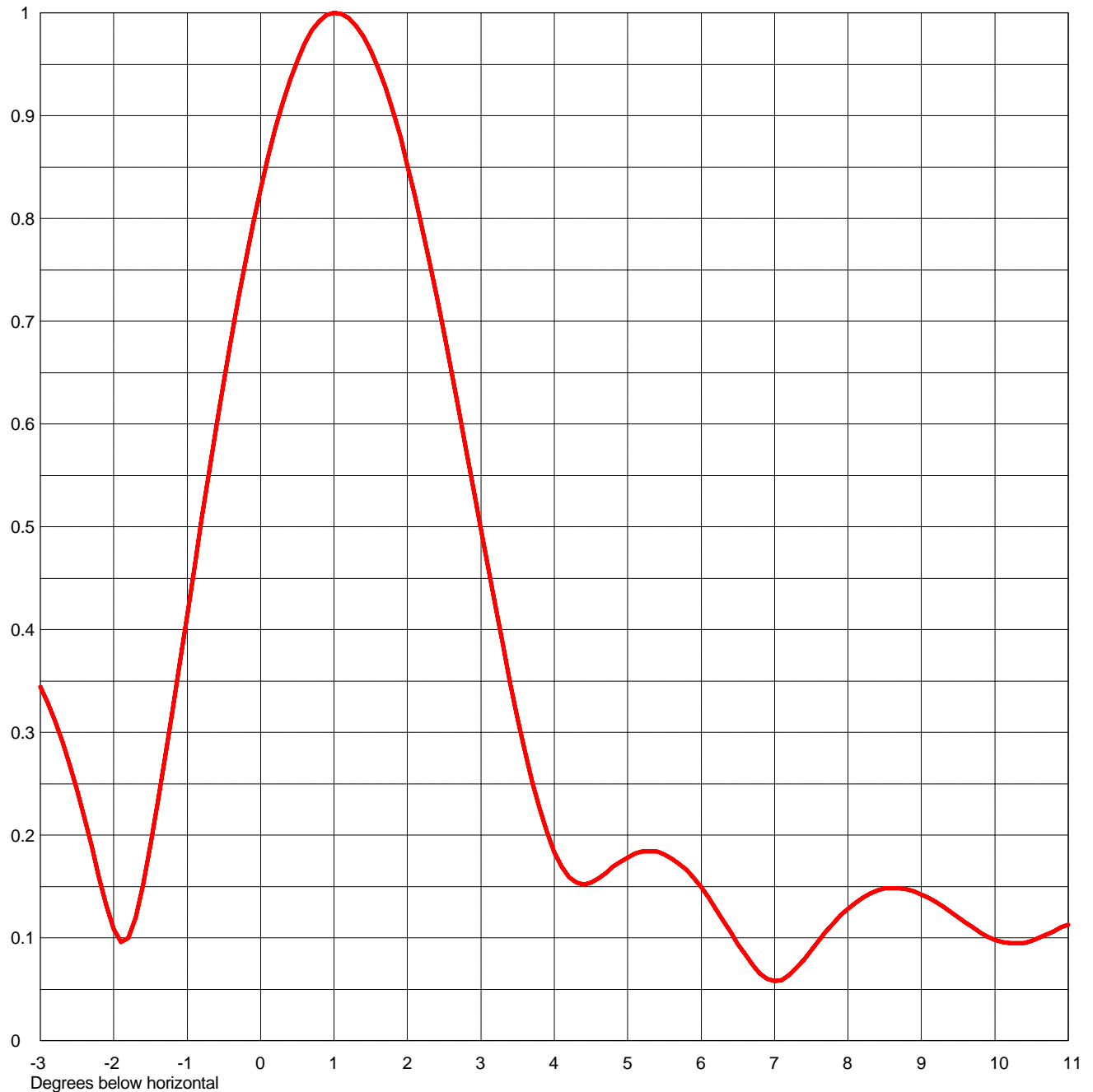
473.00 MHz

Calculated / Measured

Calculated

Drawing #

16B155100



Remarks:



Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

28 Jun 2004**WUTV****Buffalo, NY****TFU-16DSB-E (C)**

Revision

Channel **14****ELEVATION PATTERN**

RMS Gain at Main Lobe

15.5 (11.90 dB)

Beam Tilt

1.00 Degrees

RMS Gain at Horizontal

10.7 (10.29 dB)

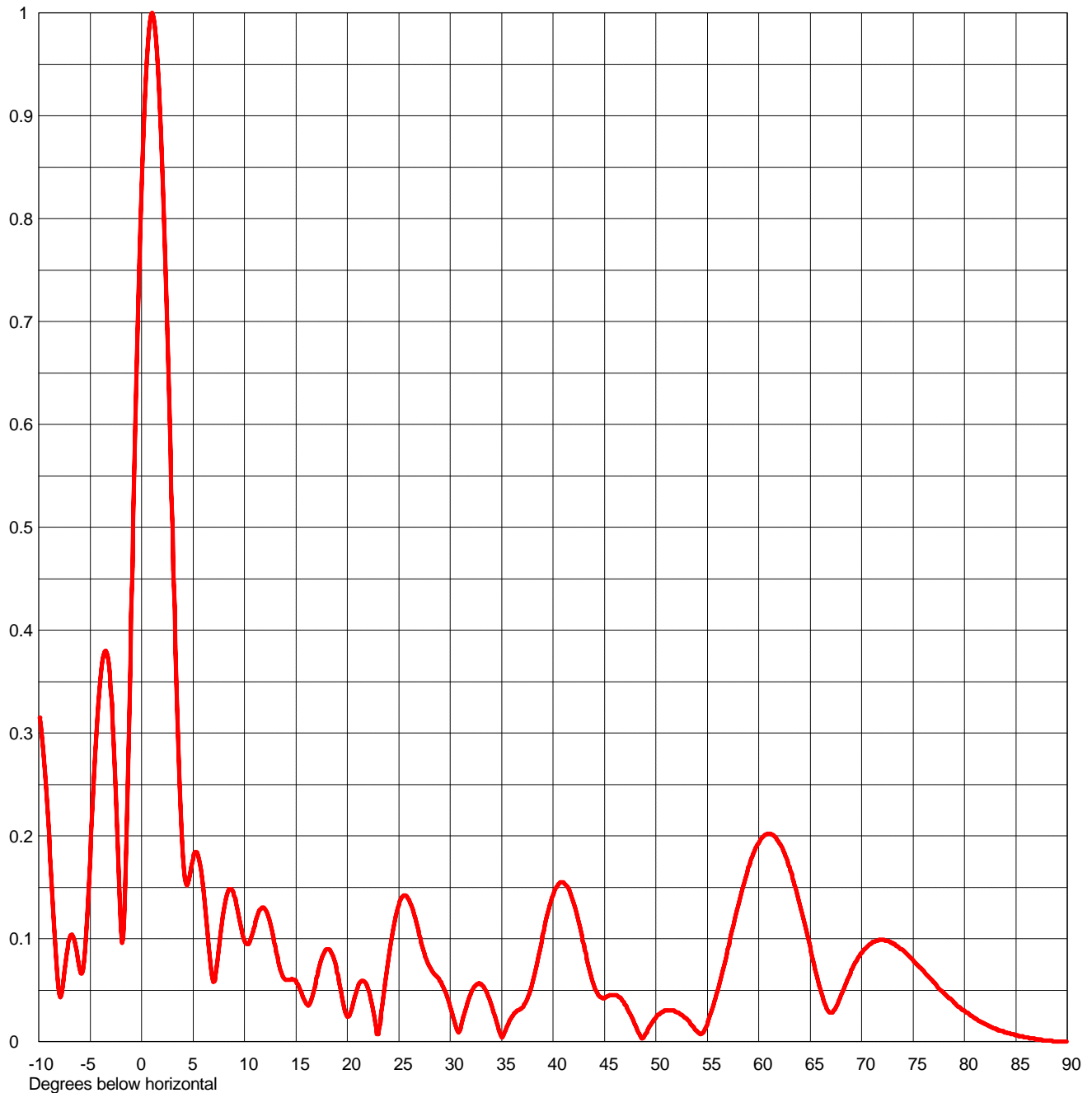
Frequency

473.00 MHz

Calculated / Measured

Calculated

Drawing #

16B155100-90

Remarks:



Proposal Number
 Date **28 Jun 2004**
 Call Letters **WUTV**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TFU-16DSB-E (C)**

Revision
 Channel **14**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **16B155100-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.322	2.4	0.724	10.6	0.100	30.5	0.016	51.0	0.030	71.5	0.098
-9.5	0.274	2.6	0.651	10.8	0.106	31.0	0.013	51.5	0.030	72.0	0.099
-9.0	0.200	2.8	0.574	11.0	0.113	31.5	0.031	52.0	0.029	72.5	0.098
-8.5	0.113	3.0	0.497	11.5	0.128	32.0	0.046	52.5	0.026	73.0	0.096
-8.0	0.046	3.2	0.421	12.0	0.129	32.5	0.055	53.0	0.022	73.5	0.093
-7.5	0.069	3.4	0.348	12.5	0.115	33.0	0.056	53.5	0.016	74.0	0.089
-7.0	0.101	3.6	0.282	13.0	0.092	33.5	0.049	54.0	0.010	74.5	0.084
-6.5	0.098	3.8	0.226	13.5	0.070	34.0	0.036	54.5	0.008	75.0	0.079
-6.0	0.070	4.0	0.183	14.0	0.060	34.5	0.019	55.0	0.017	75.5	0.074
-5.5	0.090	4.2	0.159	14.5	0.060	35.0	0.004	55.5	0.032	76.0	0.069
-5.0	0.180	4.4	0.152	15.0	0.059	35.5	0.014	56.0	0.049	76.5	0.063
-4.5	0.279	4.6	0.158	15.5	0.049	36.0	0.024	56.5	0.069	77.0	0.058
-4.0	0.353	4.8	0.169	16.0	0.037	36.5	0.030	57.0	0.090	77.5	0.052
-3.5	0.380	5.0	0.178	16.5	0.041	37.0	0.033	57.5	0.111	78.0	0.047
-3.0	0.344	5.2	0.184	17.0	0.061	37.5	0.041	58.0	0.132	78.5	0.042
-2.8	0.311	5.4	0.184	17.5	0.080	38.0	0.057	58.5	0.152	79.0	0.038
-2.6	0.268	5.6	0.177	18.0	0.090	38.5	0.079	59.0	0.169	79.5	0.034
-2.4	0.216	5.8	0.166	18.5	0.085	39.0	0.103	59.5	0.183	80.0	0.030
-2.2	0.159	6.0	0.149	19.0	0.068	39.5	0.125	60.0	0.193	80.5	0.026
-2.0	0.109	6.2	0.128	19.5	0.043	40.0	0.142	60.5	0.200	81.0	0.023
-1.8	0.100	6.4	0.106	20.0	0.024	40.5	0.153	61.0	0.202	81.5	0.020
-1.6	0.152	6.6	0.084	20.5	0.035	41.0	0.155	61.5	0.200	82.0	0.017
-1.4	0.233	6.8	0.065	21.0	0.053	41.5	0.149	62.0	0.193	82.5	0.015
-1.2	0.322	7.0	0.058	21.5	0.059	42.0	0.135	62.5	0.183	83.0	0.013
-1.0	0.415	7.2	0.064	22.0	0.052	42.5	0.116	63.0	0.169	83.5	0.011
-0.8	0.508	7.4	0.079	22.5	0.030	43.0	0.094	63.5	0.152	84.0	0.009
-0.6	0.598	7.6	0.097	23.0	0.007	43.5	0.072	64.0	0.133	84.5	0.007
-0.4	0.683	7.8	0.114	23.5	0.042	44.0	0.054	64.5	0.113	85.0	0.006
-0.2	0.760	8.0	0.128	24.0	0.080	44.5	0.044	65.0	0.092	85.5	0.005
0.0	0.829	8.2	0.139	24.5	0.112	45.0	0.042	65.5	0.070	86.0	0.004
0.2	0.888	8.4	0.146	25.0	0.133	45.5	0.045	66.0	0.051	86.5	0.003
0.4	0.935	8.6	0.148	25.5	0.142	46.0	0.045	66.5	0.035	87.0	0.002
0.6	0.970	8.8	0.147	26.0	0.138	46.5	0.043	67.0	0.028	87.5	0.002
0.8	0.992	9.0	0.142	26.5	0.123	47.0	0.036	67.5	0.033	88.0	0.001
1.0	1.000	9.2	0.135	27.0	0.104	47.5	0.027	68.0	0.045	88.5	0.001
1.2	0.995	9.4	0.125	27.5	0.086	48.0	0.016	68.5	0.057	89.0	0.000
1.4	0.977	9.6	0.115	28.0	0.073	48.5	0.005	69.0	0.069	89.5	0.000
1.6	0.946	9.8	0.105	28.5	0.065	49.0	0.007	69.5	0.078	90.0	0.000
1.8	0.904	10.0	0.098	29.0	0.059	49.5	0.016	70.0	0.086		
2.0	0.852	10.2	0.095	29.5	0.049	50.0	0.023	70.5	0.092		
2.2	0.791	10.4	0.095	30.0	0.034	50.5	0.028	71.0	0.096		

Remarks:



Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

28 Jun 2004

WUTV

Buffalo, NY

TFU-16E (C)

Revision

Channel **14**

ELEVATION PATTERN

RMS Gain at Main Lobe

15.5 (11.90 dB)

Beam Tilt

2.00 Degrees

RMS Gain at Horizontal

2.7 (4.31 dB)

Frequency

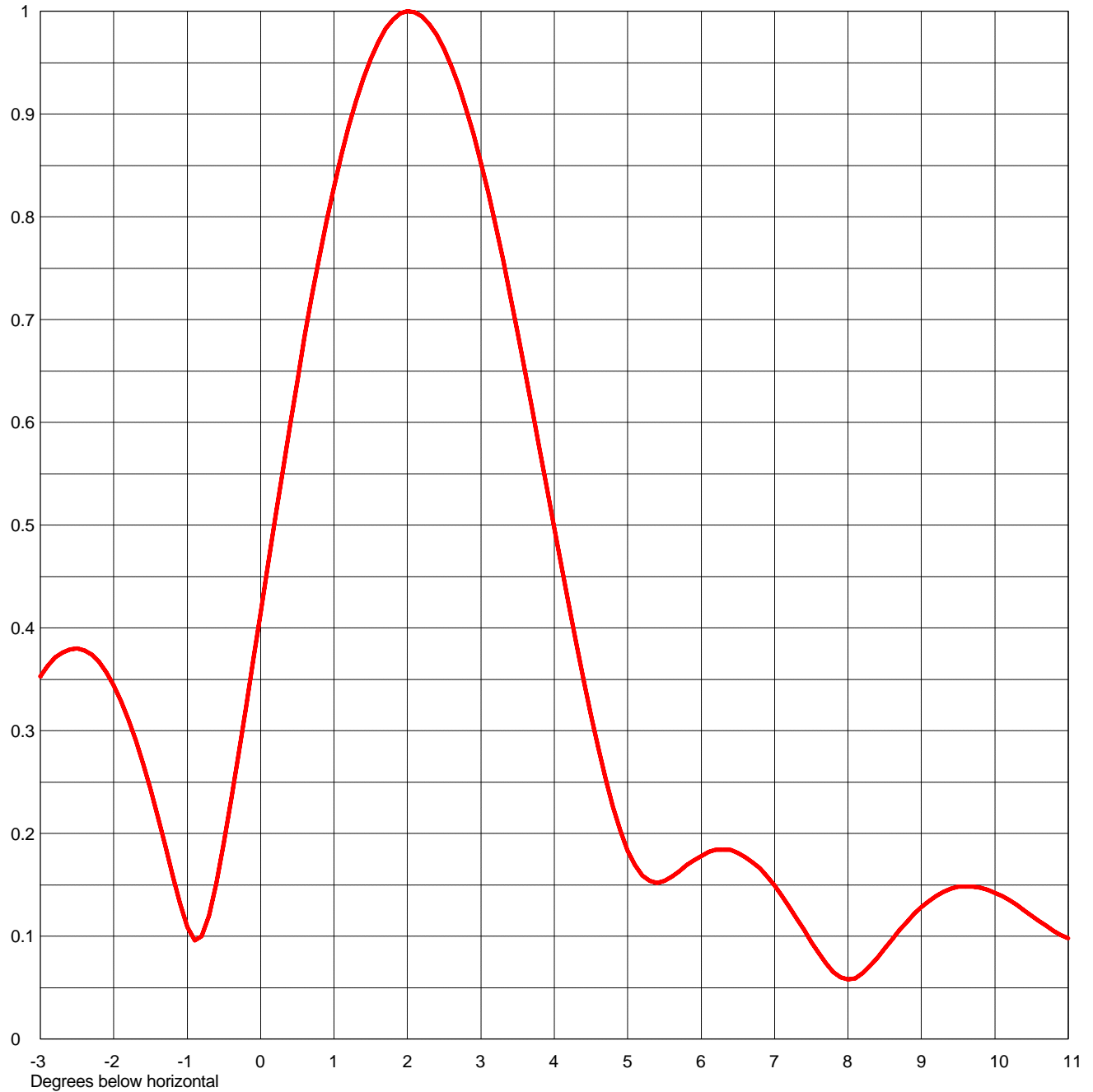
473.00 MHz

Calculated / Measured

Calculated

Drawing #

16B155200



Remarks:



Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

28 Jun 2004**WUTV****Buffalo, NY****TFU-16E (C)**

Revision

Channel **14****ELEVATION PATTERN**

RMS Gain at Main Lobe

15.5 (11.90 dB)

Beam Tilt

2.00 Degrees

RMS Gain at Horizontal

2.7 (4.31 dB)

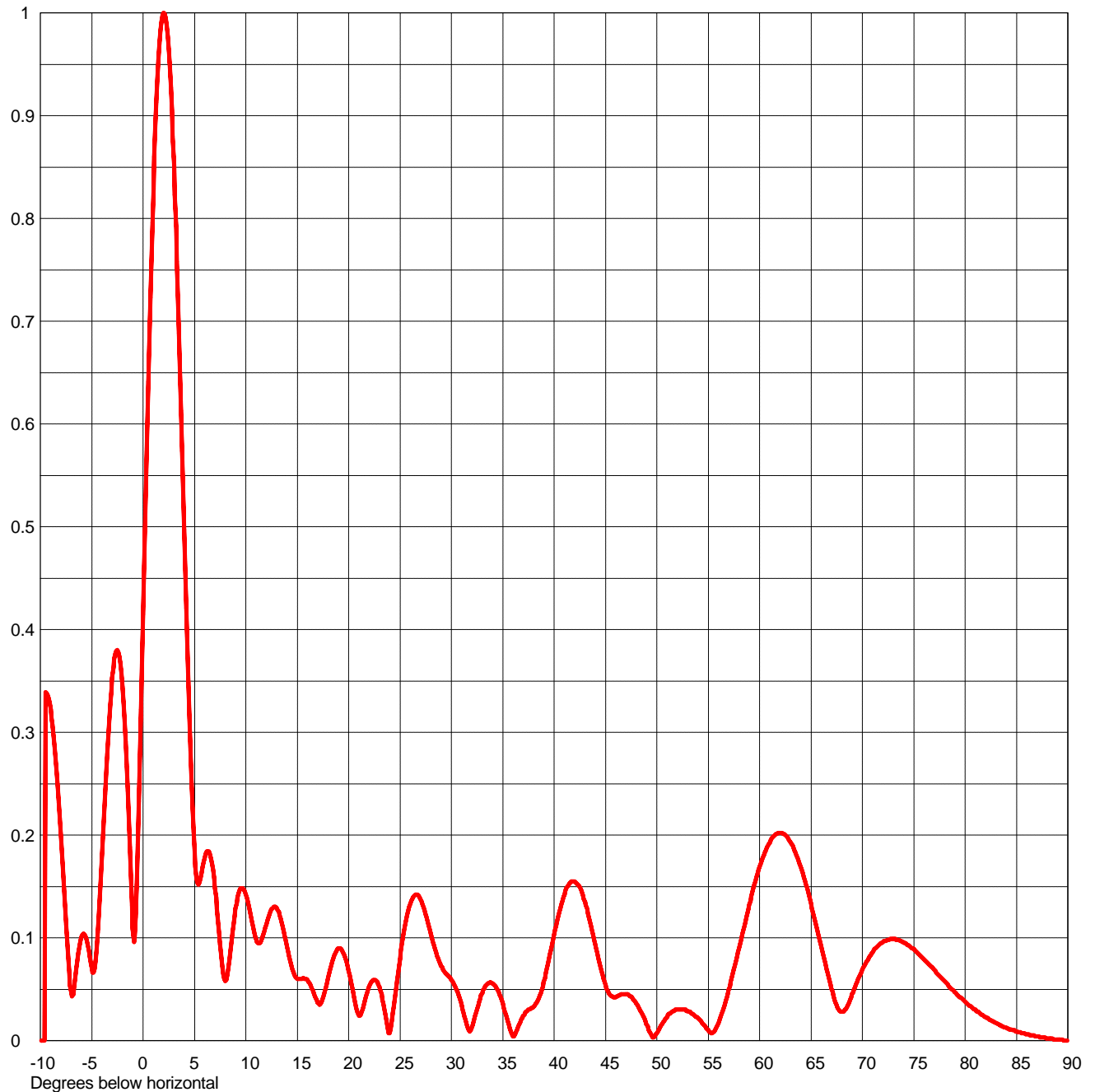
Frequency

473.00 MHz

Calculated / Measured

Calculated

Drawing #

16B155200-90

Remarks:



Proposal Number
 Date **28 Jun 2004**
 Call Letters **WUTV**
 Location **Buffalo, NY**
 Customer
 Antenna Type **TFU-16E (C)**

Revision
 Channel **14**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **16B155200**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.000	2.4	0.977	10.6	0.115	30.5	0.049	51.0	0.023	71.5	0.092
-9.5	0.339	2.6	0.946	10.8	0.105	31.0	0.034	51.5	0.028	72.0	0.096
-9.0	0.322	2.8	0.904	11.0	0.098	31.5	0.016	52.0	0.030	72.5	0.098
-8.5	0.274	3.0	0.852	11.5	0.097	32.0	0.013	52.5	0.030	73.0	0.099
-8.0	0.200	3.2	0.791	12.0	0.113	32.5	0.031	53.0	0.029	73.5	0.098
-7.5	0.113	3.4	0.724	12.5	0.128	33.0	0.046	53.5	0.026	74.0	0.096
-7.0	0.046	3.6	0.651	13.0	0.129	33.5	0.055	54.0	0.022	74.5	0.093
-6.5	0.069	3.8	0.574	13.5	0.115	34.0	0.056	54.5	0.016	75.0	0.089
-6.0	0.101	4.0	0.497	14.0	0.092	34.5	0.049	55.0	0.010	75.5	0.084
-5.5	0.098	4.2	0.421	14.5	0.070	35.0	0.036	55.5	0.008	76.0	0.079
-5.0	0.070	4.4	0.348	15.0	0.060	35.5	0.019	56.0	0.017	76.5	0.074
-4.5	0.090	4.6	0.282	15.5	0.060	36.0	0.004	56.5	0.032	77.0	0.069
-4.0	0.180	4.8	0.226	16.0	0.059	36.5	0.014	57.0	0.049	77.5	0.063
-3.5	0.279	5.0	0.183	16.5	0.049	37.0	0.024	57.5	0.069	78.0	0.058
-3.0	0.353	5.2	0.159	17.0	0.037	37.5	0.030	58.0	0.090	78.5	0.052
-2.8	0.371	5.4	0.152	17.5	0.041	38.0	0.033	58.5	0.111	79.0	0.047
-2.6	0.379	5.6	0.158	18.0	0.061	38.5	0.041	59.0	0.132	79.5	0.042
-2.4	0.378	5.8	0.169	18.5	0.080	39.0	0.057	59.5	0.152	80.0	0.038
-2.2	0.367	6.0	0.178	19.0	0.090	39.5	0.079	60.0	0.169	80.5	0.034
-2.0	0.344	6.2	0.184	19.5	0.085	40.0	0.103	60.5	0.183	81.0	0.030
-1.8	0.311	6.4	0.184	20.0	0.068	40.5	0.125	61.0	0.193	81.5	0.026
-1.6	0.268	6.6	0.177	20.5	0.043	41.0	0.142	61.5	0.200	82.0	0.023
-1.4	0.216	6.8	0.166	21.0	0.024	41.5	0.153	62.0	0.202	82.5	0.020
-1.2	0.159	7.0	0.149	21.5	0.035	42.0	0.155	62.5	0.200	83.0	0.017
-1.0	0.109	7.2	0.128	22.0	0.053	42.5	0.149	63.0	0.193	83.5	0.015
-0.8	0.100	7.4	0.106	22.5	0.059	43.0	0.135	63.5	0.183	84.0	0.013
-0.6	0.152	7.6	0.084	23.0	0.052	43.5	0.116	64.0	0.169	84.5	0.011
-0.4	0.233	7.8	0.065	23.5	0.030	44.0	0.094	64.5	0.152	85.0	0.009
-0.2	0.322	8.0	0.058	24.0	0.007	44.5	0.072	65.0	0.133	85.5	0.007
0.0	0.415	8.2	0.064	24.5	0.042	45.0	0.054	65.5	0.113	86.0	0.006
0.2	0.508	8.4	0.079	25.0	0.080	45.5	0.044	66.0	0.092	86.5	0.005
0.4	0.598	8.6	0.097	25.5	0.112	46.0	0.042	66.5	0.070	87.0	0.004
0.6	0.683	8.8	0.114	26.0	0.133	46.5	0.045	67.0	0.051	87.5	0.003
0.8	0.760	9.0	0.128	26.5	0.142	47.0	0.045	67.5	0.035	88.0	0.002
1.0	0.829	9.2	0.139	27.0	0.138	47.5	0.043	68.0	0.028	88.5	0.002
1.2	0.888	9.4	0.146	27.5	0.123	48.0	0.036	68.5	0.033	89.0	0.001
1.4	0.935	9.6	0.148	28.0	0.104	48.5	0.027	69.0	0.045	89.5	0.001
1.6	0.970	9.8	0.147	28.5	0.086	49.0	0.016	69.5	0.057	90.0	0.000
1.8	0.992	10.0	0.142	29.0	0.073	49.5	0.005	70.0	0.069		
2.0	1.000	10.2	0.135	29.5	0.065	50.0	0.007	70.5	0.078		
2.2	0.995	10.4	0.125	30.0	0.059	50.5	0.016	71.0	0.086		

Remarks: