

**TECHNICAL STATEMENT  
IN SUPPORT OF THE CERTIFICATIONS  
CONCERNING THE BROADCAST AUXILIARY  
FACILITY AND ENVIRONMENTAL EFFECT  
WISE-TV 328 kW ERP 206.4 M HAAT CH. 34  
FORT WAYNE, INDIANA**

**INTRODUCTION**

WPTA License, LLC (the, "Applicant"), licensee of digital television station WISE-TV, Facility ID No. 13960, request authority to operate an auxiliary antenna on Channel 34 as a back-up for WISE-TV's main antenna, which is a broadband panel array that is shared with co-owned station WPTA.<sup>1</sup> The specified auxiliary antenna is also broadband and during the post-incentive auction process it was used to transmit the combined signals of WISE-TV and WPTA under special temporary authorization.<sup>2</sup> The Applicant now seeks authority to repurpose the existing antenna as a permanent back-up for both stations, but at a higher elevation on the tower than was previously authorized for the combined interim facility. However, authority to use the auxiliary antenna for transmitting WPTA's signal will be pursued through a separate application. The operating parameters proposed specifically for WISE-TV are described in detail below.

This application for construction permit is eligible for processing under the normal procedures for seeking authority to utilize a new auxiliary antenna.<sup>3</sup> All calculations, elevations, contours and other technical data provided herein have been determined in accordance with the technical standards of the Federal Communications Commission (FCC), unless specifically stated otherwise.

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<sup>1</sup> WISE-TV's licensed main facility is currently authorized in FCC File No. 0000064330 to operate a directional antenna system with a maximum ERP of 456 kW at a radiation center height above mean sea level (AMSL) of 476.6 meters. The antenna location coordinates are 41-06-07.6 N, 85-11-03.6 W (Antenna Structure Registration Number 1306723).

<sup>2</sup> See Engineering STA FCC File No. 0000059137 (WISE-TV) and File No. 0000060033 (WPTA).

<sup>3</sup> 47 CFR § 73.1675(b) states that an application for a construction permit to install a new auxiliary antenna must be filed on FCC Form 301.



## BROADCAST AUXILIARY FACILITY

As stated above, this application proposes a new auxiliary antenna for WISE-TV, which is authorized to transmit on Channel 34. The type of antenna to be employed is a horizontally polarized directional Dielectric Model TFU-16WB-1-R S230 with 0.55 degrees electrical beam tilt. This auxiliary antenna will operate with a maximum effective radiated power (ERP) of 328 kW. The height of the antenna radiation center will be 205.7 meters above ground level (AGL) or 454.4 meters above mean sea level (AMSL). The resulting height above average terrain (HAAT) will be 206.4 meters.<sup>4</sup> Because the technical parameters for the proposed auxiliary antenna are less than the associated main facility authorization, the noise-limited service contour of the main facility will not be exceeded in any direction by the corresponding service contour of the auxiliary antenna as depicted in Figure 1.<sup>5</sup> Accordingly, this application complies with the coverage limits in 47 C.F.R. Section 73.1675(a).

A copy of the *TVStudy* analysis summary is provided in Figure 2. This summary indicates that no interference check failures were found and therefore the proposal is not predicted to cause new interference beyond the normal tolerance to any other post-auction full-service or Class A TV stations. This analysis was performed using the following permissible OET-69 settings:

Study cell size: 2.0 kilometer  
Profile point spacing: 1.0 kilometer

## ENVIRONMENTAL EFFECT

The proposed auxiliary antenna for WISE-TV does not exceed the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment. More specifically, the collocation of WISE-TV's auxiliary antenna on a newly registered replacement tower (i.e. the original structure was constructed before March 16, 2001) is not

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<sup>4</sup> The antenna HAAT was calculated using the TVStudy software, v2.2.5.

<sup>5</sup> The Commission treats a digital station's noise-limited service contour as the functional equivalent of an analog station's Grade B contour. See *Report To Congress: The Satellite Home Viewer Extension and Reauthorization Act of 2004; Study of Digital Television Field Strength Standards and Testing Procedures*, 20 FCC Rcd 19504, 19507 ¶ 3 (2005).



expected to exceed the conditions outlined in 47 CFR Part 1, App. B, § III.A.<sup>6</sup> With regard to the rules for limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), this application seeks authority to operate a television broadcast antenna in full compliance with those guidelines. The technical parameters for the new auxiliary facility are listed below.

Frequency:	590 - 596 MHz (UHF Channel 34)
Antenna Type:	TFU-16WB-1-R S230
Antenna Polarization:	Horizontal
Antenna Rotation:	285 degrees
Effective Radiated Power:	328 kW (H)
Location coordinates:	41-06-07.6 N, 85-11-03.6 W (NAD83)
Site elevation:	248.7 meters AMSL
Antenna Height:	205.7 meters AGL
Overall tower height:	235.0 meters AGL
FCC ASRN:	1306723 (replacement tower for 1029441)

Using the methodology for predicting power density levels for television broadcast antennas outlined in FCC OET Bulletin No. 65, Edition 97-01, (OET-65), the proposed auxiliary antenna is calculated to produce a maximum power density of 1.77  $\mu\text{W}/\text{cm}^2$  at points 2 meters above ground (approximate human head height).<sup>7</sup> As shown in [Figure 3](#), this maximum ground-level exposure value was calculated at a horizontal distance of 214.66 meters from the base of the tower. This determination was made using the antenna relative field data listed in [Figure 4](#). The maximum exposure limits applicable to Channel 34, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are 393  $\mu\text{W}/\text{cm}^2$  and 1,967  $\mu\text{W}/\text{cm}^2$  respectively. Because the maximum exposure prediction for WISE-TV is not more than 5% of those guidelines, the station is not expected to be a significant contributor

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<sup>6</sup> 47 CFR Part 1, App. B, § III.A. This section applies to the collocation of antennas on towers constructed on or before March 16, 2001. It also applies to eligible replacement towers for such structures. "An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless: 1. The mounting of the antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E, above; or, 2. The tower has been determined by the FCC to have an adverse effect on one or more historic properties, where such effect has not been avoided or mitigated through a conditional no adverse effect determination, a Memorandum of Agreement, a programmatic agreement, or a finding of compliance with Section 106 and the NPA; or, 3. The tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106 of the National Historic Preservation Act; or, 4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties."

<sup>7</sup> See OET-65, Equation 10.



at any ground-level locations. Therefore, this application complies with the RF exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

The tower location is fenced and the Applicant will ensure that suitable warning signs to establish awareness of the potential for exposure are posted. Steps to limit exposure to persons authorized to access the transmitter site will be consistent with the appropriate recommendations in OET-65. All maintenance and other related work to be performed at elevations higher than 2 meters above ground will be coordinated to prevent exposure to RF fields in excess of the controlled limit. Such preventative steps shall include reducing power or shutting down the facility.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Scott Turpie', written over a horizontal line.

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January 28, 2021

Attachments:

- Figure 1 – Main & Auxiliary Service Contours
- Figure 2 – Summary of TV Study Results
- Figure 3 – Ground-level Exposure Analysis
- Figure 4 – Antenna Relative Field Values

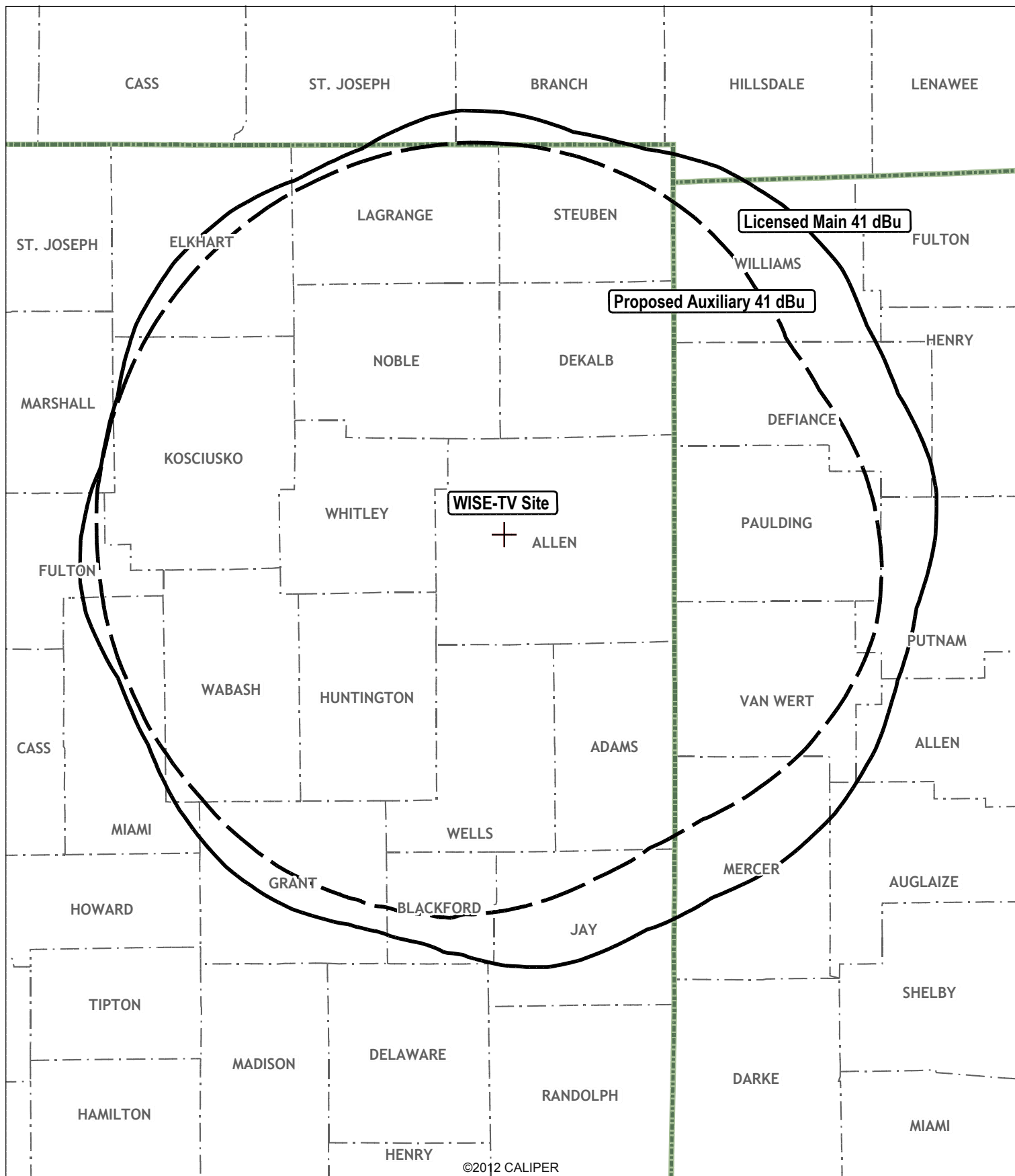


FIGURE 2  
Analysis Summary  
TVSTUDY, VERSION 2.2.5.

Study created: 2021.01.27 21:42:46

Study build station data: LMS TV 2021-01-27

Proposal: WISE-TV D34 DX APP FORT WAYNE, IN  
File number: WISE-TV NEW-AUX  
Facility ID: 13960  
Station data: User record  
Record ID: 668  
Country: U.S.  
Zone: 1

Search options:

Non-U.S. records included  
Baseline record excluded if station has QP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WMAQ-TV	D33	DT	QP	CHICAGO, IL	BLANK0000080396	221.6 Km
No	WTIU	D33	DT	LIC	BLOOMINGTON, IN	BLANK0000087599	244.7
No	WKAR-TV	D33	DT	LIC	EAST LANSING, MI	BLANK0000054990	188.9
No	WKZQ-D	D33	DC	LIC	KALAMAZOO, MI	BLANK0000084116	138.1
No	WHIO-TV	D33	DT	LIC	DAYTON, OH	BLANK0000087475	171.5
No	KQIN	D34	DT	LIC	DAVENPORT, IA	BLEDT20120921ADS	435.0
Yes	WCIA	D34	DT	LIC	CHAMPAIGN, IL	BLANK0000112599	297.0
Yes	WCPX-TV	D34	DT	LIC	CHICAGO, IL	BLANK0000087607	221.6
Yes	WKMJ-TV	D34	DT	LIC	LOUISVILLE, KY	BLANK0000087448	309.0
No	WCMV	D34	DT	LIC	CADILLAC, MI	BLANK0000087365	405.4
Yes	WKBD-TV	D34	DT	LIC	DETROIT, MI	BLANK0000074932	218.3
Yes	WKEF	D34	DT	LIC	DAYTON, OH	BLANK0000113880	172.1
No	WRS-TV	D34	DT	LIC	MAYVILLE, WI	BLANK0000087342	377.9
No	WGBD-DT	D35	DT	LIC	JOLIET, IL	BLANK000124507	221.5
No	WOLP-D	D35	DC	LIC	GRAND RAPIDS, MI	BLANK0000086899	178.3
No	WPTD	D35	DT	LIC	DAYTON, OH	BLANK0000087301	172.7
Yes	WLMB	D35	DT	APP	TOLEDO, OH	BLANK000127485	120.6
No	C111-DT-22D33		DT	LIC	STEVENSON, ON	BLANKCANADA222	248.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34  
Latitude: 41 6 7.60 N (NAD83)  
Longitude: 85 11 3.60 W  
Height AMSL: 454.4 m

HAAT: 206.4 m  
Peak ERP: 328 kW  
Antenna: D1E T1U-16WB S230 285.0 deg  
Elec Pattern: Generic  
Elec Tilt: 0.55

40.7 dBu contour:	ERP	HAAT	Distance
Azimuth	180 kW	195.7 m	73.6 km
0.0 deg	35.1	207.8	66.3
45.0	72.9	217.6	70.7
90.0	43.0	213.0	67.7
135.0	75.9	216.8	70.8
180.0	222	209.5	75.8
225.0	316	195.8	76.6
270.0	294	195.2	76.2
315.0			

\*\*Proposal is within coordination distance of Canadian border  
Distance to Canadian border: 195.4 km

Distance to Mexican border: 1928.8 km

Conditions at FCC monitoring station: Allegan MI  
Bearing: 339.3 degrees Distance: 178.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 273.0 degrees Distance: 1690.2 km

Study cell size: 2.00 km  
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

----- Below is IX received by proposal WISE-TV NEW-AUX -----

Proposal receives 2.50% interference from scenario 1  
No IX check failures found.

**FIGURE 3**

ERP (H-Pol):	328.0 kW	Channel:	34
ERP (V-Pol):		Bottom Frequency:	590
Antenna ht. AGL:	205.7 m		
Exposure ht. AGL:	2.0 m	General MPE Limit:	393
Ground reflection factor:	2.56	Occupational MPE Limit:	1967
Isotropic factor:	1.64		

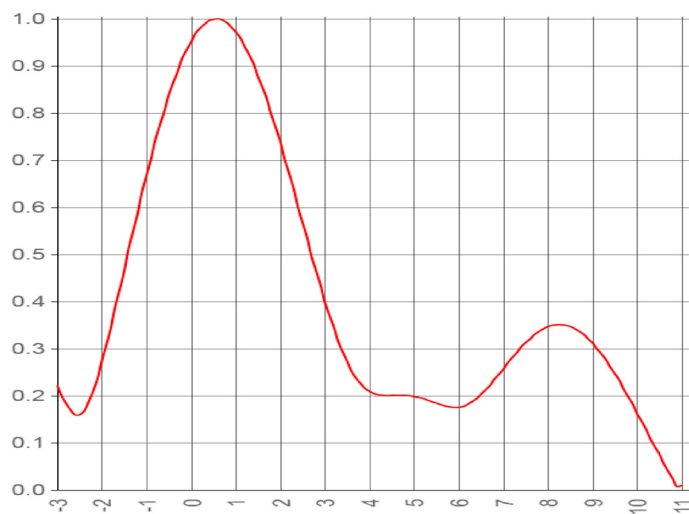
Depression Angle	Distance (meters)	Slope (meters)	Relative Field	Power Density ( $\mu\text{W}/\text{cm}^2$ )	General MPE Limit	Occupational MPE Limit
90	0.00	203.70	0.000	0.00	0.00%	0.00%
85	17.82	204.48	0.007	0.01	0.00%	0.00%
80	35.92	206.84	0.022	0.12	0.03%	0.01%
75	54.58	210.89	0.019	0.09	0.02%	0.00%
70	74.14	216.77	0.036	0.30	0.08%	0.02%
65	94.99	224.76	0.062	0.83	0.21%	0.04%
60	117.61	235.21	0.080	1.27	0.32%	0.06%
55	142.63	248.67	0.050	0.44	0.11%	0.02%
50	170.92	265.91	0.053	0.44	0.11%	0.02%
45	203.70	288.08	0.090	1.07	0.27%	0.05%
43.5	214.66	295.92	0.119	1.77	0.45%	0.09%
40	242.76	316.90	0.014	0.02	0.01%	0.00%
35	290.91	355.14	0.088	0.67	0.17%	0.03%
30	352.82	407.40	0.000	0.00	0.00%	0.00%
25	436.84	482.00	0.084	0.33	0.08%	0.02%
20	559.66	595.58	0.171	0.90	0.23%	0.05%
15	760.22	787.04	0.034	0.02	0.01%	0.00%
10	1155.24	1173.06	0.163	0.21	0.05%	0.01%

## ELEVATION PATTERN

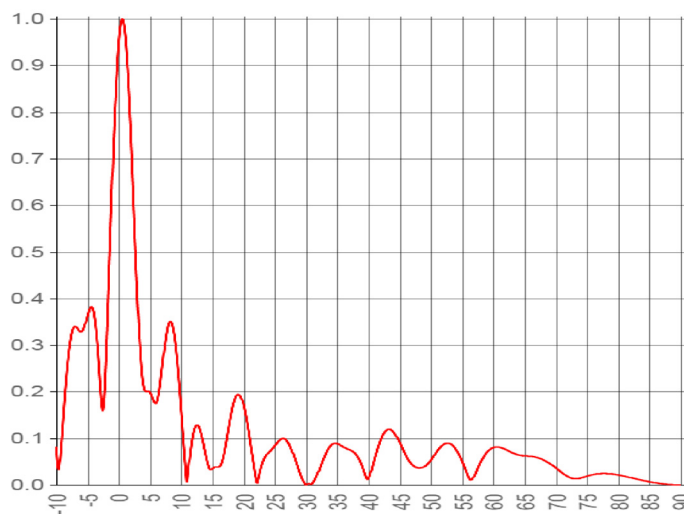
Exhibit No. **FIGURE 4**  
Date **25 Jan 2021**  
Call Letters **WISE-TV**  
Channel **34**  
Antenna Type **TFU-NaNB**  
Location **Fort Wayne, IN**  
Customer **WPTA License, LLC**

RMS Gain at Main Lobe **14.5 (11.61 dB)**  
RMS Gain at Horizontal **13.1 (11.18 dB)**  
**Calculated**

Beam Tilt **0.55 Degrees**  
Drawing # **TFU-WB-16**



Degrees below horizontal



Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.082	10	0.163	30	0.000	50	0.053	70	0.036
-9	0.126	11	0.010	31	0.003	51	0.072	71	0.026
-8	0.286	12	0.115	32	0.029	52	0.086	72	0.018
-7	0.340	13	0.118	33	0.062	53	0.088	73	0.014
-6	0.328	14	0.060	34	0.085	54	0.075	74	0.015
-5	0.363	15	0.034	35	0.088	55	0.050	75	0.019
-4	0.370	16	0.038	36	0.081	56	0.018	76	0.022
-3	0.222	17	0.076	37	0.075	57	0.022	77	0.024
-2	0.269	18	0.151	38	0.065	58	0.050	78	0.025
-1	0.666	19	0.193	39	0.040	59	0.070	79	0.024
0	0.952	20	0.171	40	0.014	60	0.080	80	0.022
1	0.973	21	0.097	41	0.058	61	0.081	81	0.019
2	0.738	22	0.013	42	0.098	62	0.075	82	0.016
3	0.401	23	0.045	43	0.118	63	0.069	83	0.013
4	0.209	24	0.069	44	0.113	64	0.064	84	0.010
5	0.198	25	0.084	45	0.090	65	0.062	85	0.007
6	0.175	26	0.098	46	0.062	66	0.061	86	0.005
7	0.257	27	0.093	47	0.043	67	0.058	87	0.003
8	0.346	28	0.064	48	0.036	68	0.053	88	0.001
9	0.312	29	0.025	49	0.040	69	0.046	89	0.000

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