

**TECHNICAL STATEMENT
IN SUPPORT OF THE CERTIFICATIONS
CONCERNING THE BROADCAST FACILITY
MODIFICATION AND ENVIRONMENTAL EFFECT
WIVN-LD CH. 5 NEWCOMERSTOWN, OHIO**

INTRODUCTION

Image Video Teleproductions, Inc. (the “Applicant”), licensee of digital low power television broadcast station WIVN-LD, Facility ID No. 131008, seeks to update the station’s authorized antenna specifications to reflect its new primary transmitting antenna system for permanent operation on Channel 5 at maximum power.¹ Because no change in the authorized antenna location is specified, this application is eligible for processing under the normal procedures governing minor modifications to digital low power television and TV translator stations.²

All calculations, elevations 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.

BROADCAST FACILITY MODIFICATION

As stated above, this application proposes a replacement antenna for WIVN-LD, which is necessary to facilitate the station’s permanent transition to Channel 5. The type of antenna to be employed is an elliptically polarized directional PSI Model PSILV5CLOG-2 Custom. The station intends to operate the new antenna at the same power and height originally authorized by the grant of its displacement application. Therefore, this application specifies an antenna

¹ WIVN-LD was previously operating on Channel 29 until the station became displaced as a result of the TV Repack. The station was granted a construction permit (CP) for relocating to Channel 5 through the Special Displacement Window. See File No. 0000054240. Because at the time just prior to the CP expiration date the development of WIVN-LD’s technical parameters for permanent operation on Channel 5 was still ongoing, the station was compelled to construct and license a reduced power interim facility.

² See 47 CFR § 74.787 – Digital licensing of low power television and TV translator stations.



radiation center height of 82.9 meters above ground level (AGL), or 451.1 meters above mean sea level (AMSL), and a horizontal effective radiated power (ERP) of 3.0 kW and a vertical ERP of 0.873 kW.

A detailed *TVStudy* analysis was performed to evaluate the effect of WIVN-LD's new directional antenna pattern using the following analysis settings: 0.5 km cell size and 0.1 km terrain profile point spacing.³ The analysis summary provided in [Figure 1](#) indicates no interference check failures were found. More specifically, the proposal is not predicted to cause new interference beyond the normal tolerance to any other stations in accordance with the requirements in 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g) and 74.793(h).

ENVIRONMENTAL EFFECT

This application specifies an existing FCC registered tower that was constructed after March 16, 2001. Given that the collocation of the proposed antenna will not result in a substantial increase in the size of the existing antenna-supporting structure, the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply. 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 low power television broadcast antenna in full compliance with those guidelines. As described in more detail below, this determination was made based on the following technical parameters:

Frequency:	76 - 82 MHz (VHF Ch. 5)
Effective Radiated Power:	3.0 kW H-Pol; 0.873 kW V-Pol
Antenna Type:	PSI PSILV5CLOG-2 Custom
Antenna Polarization:	Elliptical
Antenna Height:	82.9 meters AGL
Site coordinates (NAD83):	40-21-31.8 NL, 081-30-01.5 WL
Site elevation:	368.2 meters AMSL
Overall tower height:	462.1 meters AGL
FCC ASRN:	1226927, Constructed 9/14/2001

Using the methodology for predicting power density levels for television broadcast antennas outlined in OET-65,⁴ the technical parameters specified for WIVN-LD are calculated to

³ *TVStudy* Program - Version 2.2.5 was utilized to evaluate this proposal based on the default Interference Check template normally used for application processing. The following analysis settings were used: cell size = 0.5 km; terrain profile resolution = 10 points per km.

⁴ FCC Office of Engineering and Technology, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01 (1997) (OET-65).



produce at points 2 meters above ground (approximate human head height) a maximum power density of 4.94 $\mu\text{W}/\text{cm}^2$. This power density calculation was derived from OET-65 Equation 10 as shown below.

$$S = \frac{33.4 (F^2) ERP}{R^2}$$

Where: S = power density in $\mu\text{W}/\text{cm}^2$
F = relative field factor
ERP = total H & V power in watts
R = distance in meters

A relative field factor of 0.5 was assumed for the above power density calculation, which is a conservative value for the proposed antenna at downward angles greater than 30 degrees. The maximum exposure limits applicable to Channel 5, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are 200 $\mu\text{W}/\text{cm}^2$ and 1,000 $\mu\text{W}/\text{cm}^2$ respectively. Because the worst-case exposure level determined for the proposed facility is not more than 5 percent of those guidelines and considering the requirements for signage and access controls will be implemented as appropriate for compliance with the new rules adopted in the *RF Report and Order*, no further showing of compliance with the RF exposure rules is necessary.⁵ For all the reasons stated above, this minor change application has been found to comply with the criteria in 47 CFR § 1.1307(a) and (b) and, therefore, it does not require further environmental processing in accordance with 47 CFR § 1.1306.

Respectfully submitted,

Scott Turpie
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Attachment:
Figure 1 – TVStudy Summary Results

⁵ *Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies*, ET Docket No. 19-226, Resolution of Notice of Inquiry, Second Report and Order, Notice of Proposed Rulemaking, and Memorandum Opinion and Order, 34 FCC Rcd 11687 (2019) (*RF Report and Order*).

FIGURE 1 Analysis Summary Results TVStudy Version 2.2.5.

Study created: 2022.03.17 14:45:44

Study build station data: LMS TV 2022-03-17

Proposal: W1VN-LD D5 LD APP NEWCOMERTOWN, OH

File number: W1VN-LD5 LIC-MOD 20220317

Facility ID: 131008

Station data: User record

Record ID: 779

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Search options:

Non-U.S. records included

Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc Status	City, State	File Number	Distance
No	WGVK	D5	DT LIC	KALAMAZOO, MI	BLEDT20060703AB0	408.8 km
Yes	WNYB	D5	DT LIC	Buffalo, NY	BLANK000080668	295.0
Yes	WLMB	D5	DT LIC	TOLEDO, OH	BLGDT20050201AAF	261.3
No	WCYB-TV	D5	DT LIC	BRISTOL, VA	BLGDT20100629AUD	437.7
No	W05AA-D	D5	LD LIC	ROANOKE, VA	BLDTV20120430ACX	369.6
Yes	WDTV	D5	DT APP	WESTON, WV	BLANK000036129	153.6
Yes	WDTV	D5	DT LIC	WESTON, WV	BLGDT20090612AJX	153.6
Yes	W0UC-TV	D6	DT LIC	CAMBRIDGE, OH	BLANK000068363	34.7
No	WKBS-TV	D6	DT LIC	ALTOONA, PA	BLANK000084211	259.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D5

Mask: Full Service

Latitude: 40 21 31.80 N (NAD83)

Longitude: 81 30 1.50 W

Height AMSL: 451.1 m

HAAT: 0.0 m

Peak ERP: 3.00 kW

Antenna: PSI PSILV5CL0G-2 0.0 deg

Elev Pattnr: Generic

43.0 dBu contour:

Azimuth ERP HAAT Distance

0.0 deg	2.79 kW	149.5 m	54.9 km
45.0	1.28	153.5	49.6
90.0	0.018	166.5	22.2
135.0	0.058	118.8	24.9
180.0	0.080	143.9	28.4
225.0	1.79	171.0	54.0
270.0	2.39	148.1	53.6
315.0	0.959	122.4	43.1

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 147 m

**Proposal 13.00 dBu contour crosses Canadian border, coordination required
Distance to Canadian border: 164.7 km

Distance to Mexican border: 2141.7 km

Conditions at FCC monitoring station: Laurel MD
Bearing: 106.9 degrees Distance: 421.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 277.1 degrees Distance: 2006.6 km

Study cell size: 0.50 km

Profile point spacing: 0.10 km

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

Maximum new IX to LPTV: 2.00%

No IX check failures found