Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Section 73.622,	)	MB Docket No. _____
Digital Television Table of Allotments	)	
For WIWN(DT), Fond du Lac, WI	)	Rulemaking No. _____
(Facility ID 60571)	)	

To: Office of the Secretary, Federal Communications Commission
Attn: Chief, Media Bureau

PETITION FOR RULEMAKING

Milwaukee Media LLC ("Milwaukee Media"), licensee of full power commercial television station WIWN(DT), Fond du Lac, Wisconsin (Facility ID 60571) (the "Station"), hereby submits this Petition for Rulemaking requesting that the Commission institute a rulemaking proceeding for the purpose of amending the DTV Table of Allotments (the "DTV Table") contained in Section 73.622(i) of the Commission's rules to substitute VHF Channel 7 for VHF Channel 5 with the technical parameters as set forth in the attached Engineering Statement.[1] As set forth herein, grant of this Petition will create a preferential arrangement of allotments by expanding the availability of free over-the-air television service in this market.

The FCC has described the goal of the DTV Table as ensuring the provision of digital television service "to the American people in an expeditious and efficient manner."[2] In considering channel substitution requests, the Commission considers the

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1 *See* 47 C.F.R. §§ 1.401, 1.420, and 73.622(i).

2 *See, e.g.*, *Amendment of Section 73.622(b), Table of Allotments, Digital Television Broadcast Stations. (Nampa, Idaho)*, Report and Order, 19 FCC Rcd. 4491, ¶ 6 (2004); *Amendment of Section 73.622(b), Table of Allotments, Digital Television Broadcast Stations. (Albany, New York)*, 19 FCC Rcd. 4329, ¶ 7 (2004); *see also Advanced Television Systems & Their Impact Upon the Existing Television Broadcast Service*, 12 FCC Rcd. 14588, ¶ 76 (1997).

petitioner's public interest justification and whether the proposal would comply with the principal community coverage requirements of Section 73.625(a).[3]

This channel substitution serves the public interest because it will resolve significant over-the-air ("OTA") reception problems in the Station's existing service area.[4] The Station originally began operating in 2000 as an analog station on channel 68.[5] After the FCC initially assigned the Station to digital channel 44, the prior licensee submitted a petition for rulemaking to move to digital channel 5 due to constraints associated with operating on digital channel 44.[6] Since commencing operations on digital channel 5, however, the Station has struggled to provide a strong enough signal to create reliable reception. In 2019, the Commission granted special temporary authority for the Station to increase its power to 34 kW ERP.[7] Milwaukee Media's application included complaints from several viewers about their difficulty receiving the Station's over-the-air signal. Although the additional power has provided marginal improvement, it has not been enough to overcome the combination of environmental noise in the low VHF band and the "cliff effect" of digital signals (which describes the phenomenon that either the

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[3] *See, e.g.*, *Amendment of Section 73.622(i), Post-Transition Table of DTV Allotments, Television Broadcast Stations (Portland, Oregon)*, Notice of Proposed Rulemaking, DA-21-843, ¶ 3 (rel. July 16, 2021); *Amendment of Section 73.622(i), Post-Transition Table of DTV Allotments, Television Broadcast Stations (Mesa, Arizona)*, Notice of Proposed Rulemaking, 35 FCC Rcd. 11400, ¶ 7 (2020) ("*Mesa NPRM*"); *Amendment of Section 73.622(b), Table of Allotments, Digital Television Broadcast Stations. (Ontario, California)*, Notice of Proposed Rulemaking, 16 FCC Rcd. 2276, ¶ 3 (2001); *Amendment of Section 73.606(b), Table of Allotments, Television Broadcast Stations; and Section 73.622(b), Table of Allotments, Digital Broadcast Stations. (Moscow, Idaho)*, Notice of Proposed Rulemaking, 17 FCC Rcd. 19447, ¶ 3 (2002).

[4] *See Mesa NPRM* at ¶ 6 (recognizing effect of "VHF propagation challenges"); *Amendment of Section 73.622(b), Table of Allotments, Digital Television Broadcast Stations. (Missoula, Montana)*, Notice of Proposed Rulemaking, 16 FCC Rcd. 2232, ¶¶ 2-3 (2001) (finding that proposal to substitute channels to improve signal coverage and eliminate interference "warrants consideration.").

[5] *See* BLCT-20001211AEA.

[6] *See, e.g.*, *Amendment of Section 73.622(i), Final DTV Table of Allotments, Television Broadcast Stations (Fond du Lac, Wisconsin)*, Report and Order, DA-09-1794 (rel. Aug. 12, 2009).

[7] *See* LMS File No. 0000068656.

digital signal is strong enough to create a viewable picture or it is not, unlike an analog signal that could be weak but viewable).

With viewers increasingly reliant on OTA signals to receive the most valued video content,[8] providing a strong broadcast signal is more important than it has been in decades. Yet, the challenges with digital reception of VHF signals are well-documented. Ten years ago, the Commission recognized the deleterious effects manmade noise has on the reception of VHF signals, finding that "the propagation characteristics of these channels allow undesired signals and noise to be receivable at relatively farther distances, nearby electrical devices tend[] to emit noise in this band that can cause interference, and reception of VHF signals requires physically larger antennas … relative to UHF channels."[9] The Commission also observed the "large variability in the performance (especially intrinsic gain) of indoor antennas available to consumers, with most antennas receiving fairly well at UHF and the substantial majority not so well to very poor at high-VHF."[10]

Attached is an Engineering Statement of Greg Best Consulting,[11] which sets forth in detail the proposed WIWN channel 7 DTV Table specifications. This proposal is in

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[8] *See, e.g.*, Parks Associates, *TV Antenna Usage in US Broadband Households Jumped to 25% in 2019 and Is Expected to Grow More as COVID-19 Keeps Consumers at Home* (Mar. 26, 2020), *available at* http://www.parksassociates.com/blog/article/pr-02762020 (finding that OTA viewing increased from 15% in 2018 to 25% in 2019); Phil Kurz, TVTechnology, *New Research Reveals Resurgence in OTA Antenna Viewing* (Apr. 29, 2019), *available at* https://www.tvtechnology.com/news/new-research-reveals-resurgence-in-ota-antenna-viewing (finding that viewers consume 19% of viewing time over the air); Nielsen Local Watch Report, *The Evolving Over-the-Air Home* (Jan. 14, 2019), *available at* https://www.nielsen.com/wp-content/uploads/sites/3/2019/04/q2-2018-local-watch-report.pdf (finding that more than 14% of TV households lack cable or satellite service).

[9] *See Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, Notice of Proposed Rulemaking, 25 FCC Rcd. 16498, ¶ 42 (2010) (recognizing that "VHF channels have certain characteristics that have posed challenges for their use in providing digital television service.")

[10] *Id.* at ¶ 44.

[11] *See* Exhibit 1.

compliance with all relevant technical requirements for amendment of the post-transition DTV Table, including the interference protection requirements of 47 C.F.R. § 73.616 and the 0.5% *de minimis* interference standard with respect to all allotments and assignments, existing and proposed. The proposed channel 7 facilities utilize a distributed transmission system ("DTS") to provide full principal community coverage to Fond du Lac, Wisconsin.

Although the 36 dBu noise limited service contour ("NLSC") of the proposed channel 7 facilities will fall slightly short of the 28 dBu NLSC of the *currently* licensed channel 5 facilities in two areas, this is due solely to the different measurement standard for low VHF and high VHF signals. Indeed, as the attached Engineering Statement demonstrates, the proposed channel 7 facilities will produce a stronger signal in each of the theoretical loss areas than the existing channel 5 facilities. Moreover, both loss areas are located within the predicted service contours of at least five other television stations. Under similar circumstances, the Commission has disregarded such loss areas because they are considered adequately served.[12] To the extent necessary, Milwaukee Media is requesting that the Commission waive Section 73.626(f)(2)(iii) of the FCC Rules to allow a de minimis extension of the F(50,10) node-interfering contour. This de minimis extension is necessary to reduce the size of the loss area due to differences in the channel 5 and channel 7 facilities.

For the foregoing reasons, Milwaukee Media respectfully requests that the Commission grant this Petition and immediately commence a rulemaking proceeding to change the digital allotment for WIWN from Channel 5 to Channel 7 as proposed herein.

[12] *See Amendment of Section 73.622(i), Post-Transition Table of DTV Allotments, Television Broadcast Stations (Fredericksburg, Texas)*, Notice of Proposed Rulemaking, DA 21-705 (rel. June 16, 2021).

Respectfully submitted,

MILWAUKEE MEDIA LLC

By: /s/ Ari Meltzer

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Dated: March 10, 2022

Exhibit 1

GREG BEST
CONSULTING, INC.
16100 Outlook Avenue
Stilwell, KS 66085
816-792-2913

March 10, 2022

ENGINEERING STATEMENT AND EXHIBITS

INTRODUCTION
This engineering statement will summarize the proposed DTS transmission facility for WIWN which would allow conversion to operation on VHF channel 7. The following exhibits are provided to demonstrate that the proposed facility will replicate or improve the service provided by the current channel 5, WIWN, facility.

BACKGROUND

The licensee of WIWN has documented significant reception issues with the station's current licensed facility operating with licensed ERP of 9 kW on channel 5. To improve WIWN's signal, the licensee has requested and obtained an increase in power using an STA to operate at 34 kW. While that has resulted in limited improvement, the licensee has continued to receive and document reception problems associated with channel 5.

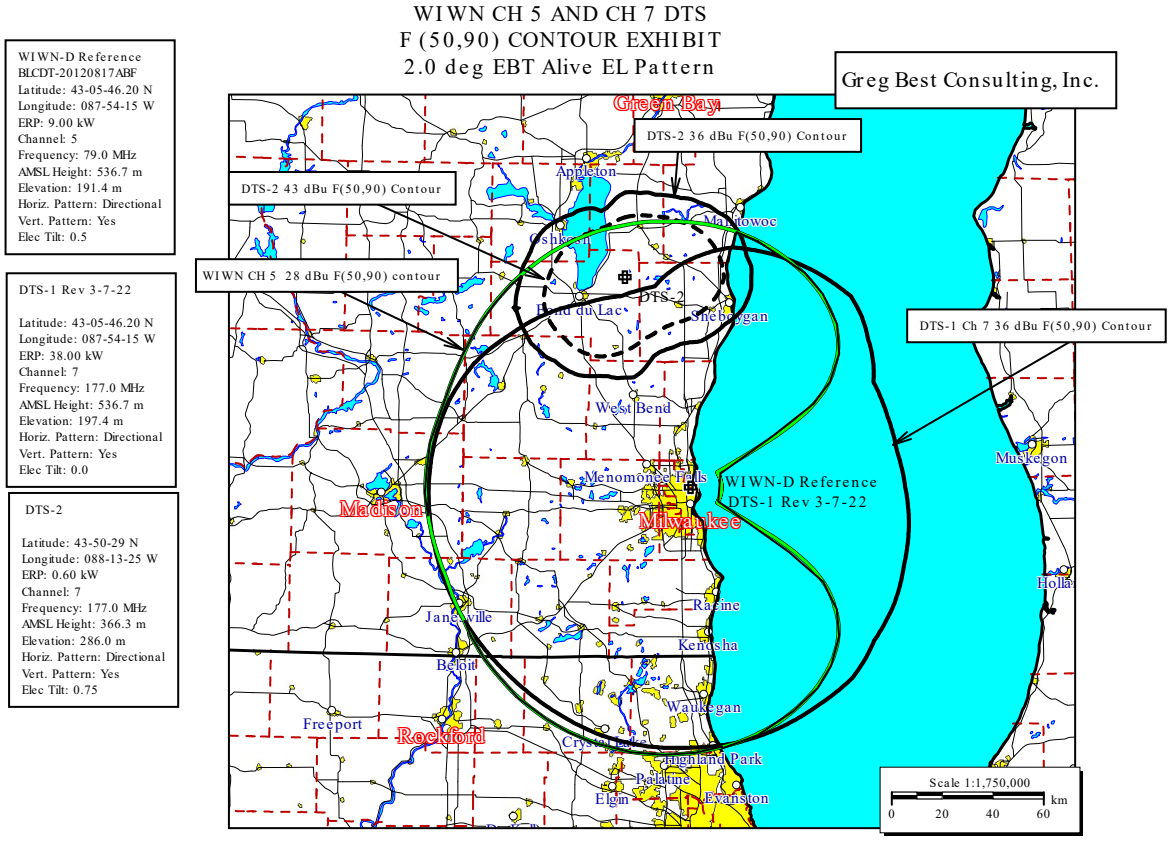
The exhibits shown in this engineering statement will provide evidence that the proposed conversion to channel 7 will better serve the principal community and the entire coverage area associated with the licensed channel 5 facility. It has been common knowledge Low band VHF channels have reception problems. Man-made noise from in-home electronic devices, garage door openers, and cable system leakage has created significant difficulties for low band reception.

Even stations on high band VHF channels from 7 to 13 have requested higher ERPs than those figures identified as the maximum allowable as set in Part 73. The FCC has accommodated some of these situations in Zone 1, the region with the lowest maximum ERP, with much higher ERP levels than the maximum allowable limit mentioned above. Examples of this are WABC in New York with an ERP and HAAT of 34 kW and 405 meters, WISC in Madison, WI with an ERP and HAAT of 49 kW and 469 meters, and WTHR in Indianapolis with an ERP and HAAT of 42 kW and 299 meters.

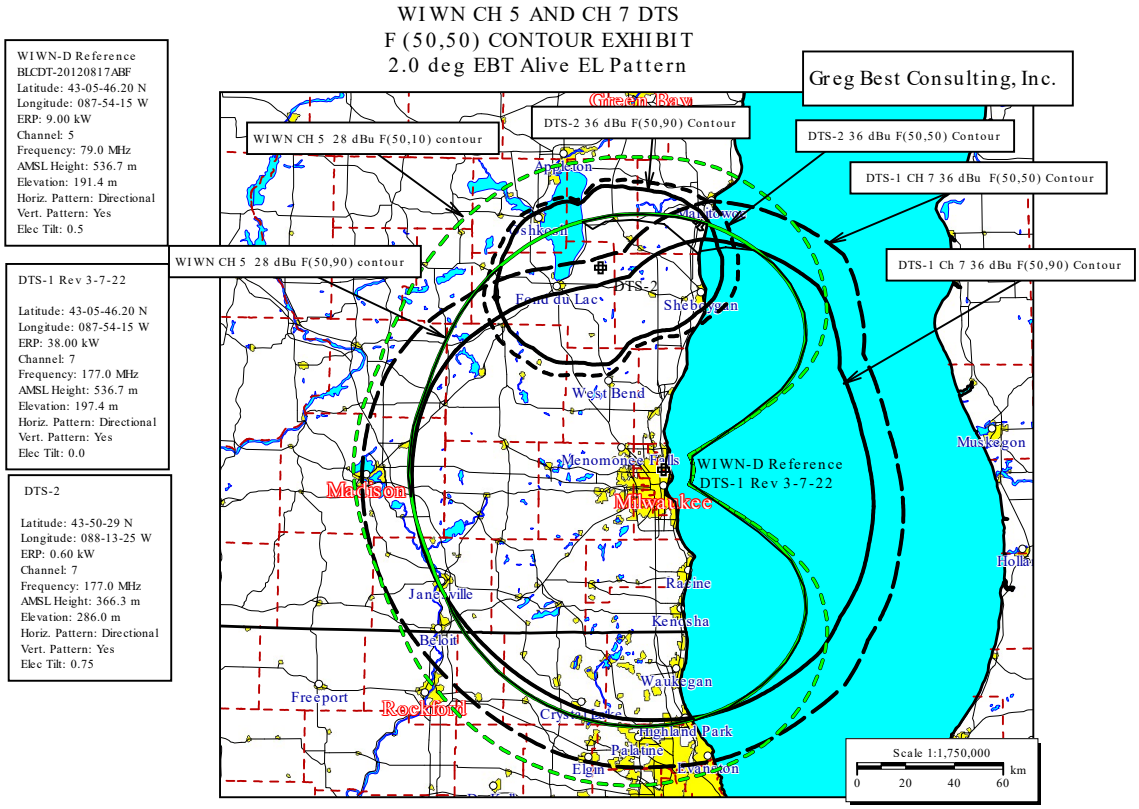
PROPOSED FACILITY

The proposed facility consists of a distributed transmission system (DTS) with two transmission sites operating on VHF channel 7. The reference point for the DTS is the same location as the channel 5 transmitter site which is also the channel 7 DTS-1 site. Site #1 is the current licensed site for WIWN in Milwaukee, WI. The second site is located near the principal community. The site in Milwaukee will have an antenna pattern that enables coverage over most of the authorized reference facility service area with a shaped antenna pattern to avoid creating interference to WSAW (Wausau, WI) and WOOD (Grand Rapids, MI) which are both co-channel with the proposed DTS facility. The nulls to avoid the interference also reduce the signal near the principal community. The second site near Fond du Lac fills in the rest of the area to the north of the authorized service area and fulfills the requirement for the city grade signal for the principal community. The following map shows the technical parameters for each channel 7 site, the protected contours of the proposed DTS sites, the principal community 43 dBu contour, and the protected contour of the authorized reference channel 5 contour.

Coverage Map showing channel 5 reference facility and proposed channel 7 DTS facility.



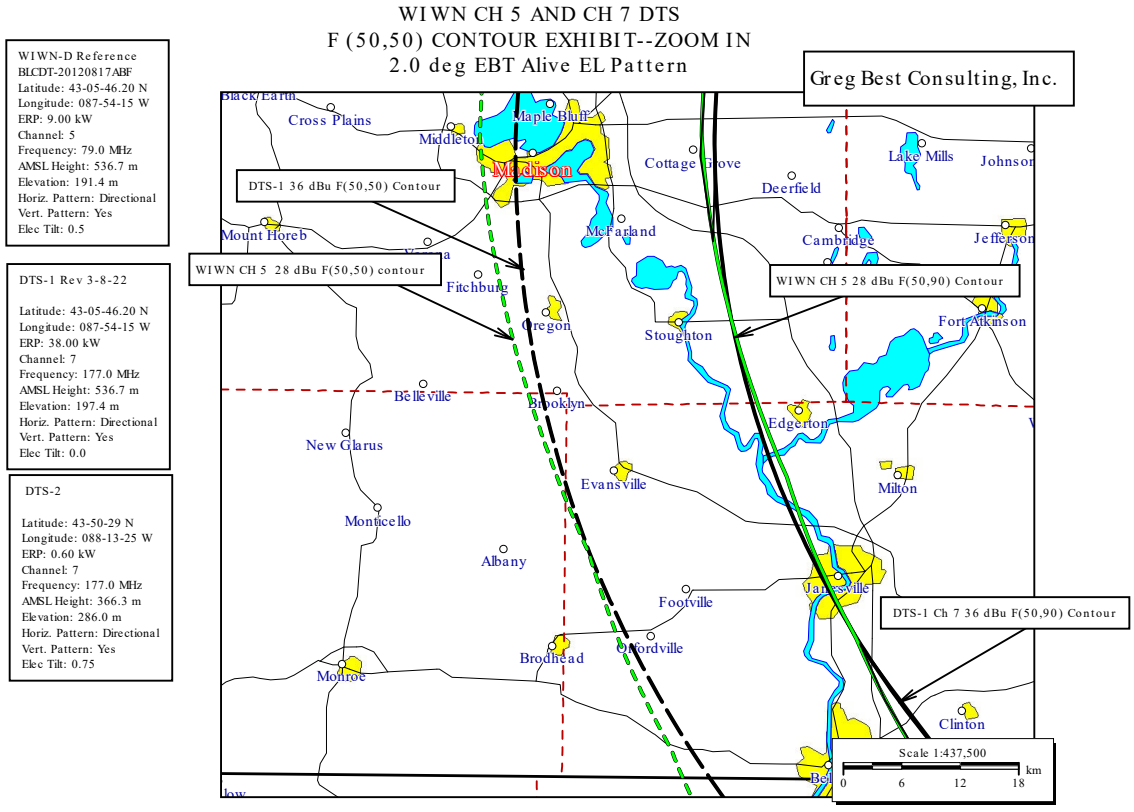
The following maps have been created showing the respective contours referenced in FCC Rule 73.626 (f)(2). WIWN is the largest station in the market based upon area included in the protected contour excluding area over water. To fully cover the authorized service area for the channel 5 facility the distance to the channel 7 (DTS-2 facility) protected contour of the DTS system from the reference point is 118 km.



Specifically, 73.626 indicates that the proposed DTS must cover the authorized service area of the reference facility. The ERP chosen for the proposed DTS (DTS-1 specifically) will allow the F (50,90) contour of the DTS to match the F (50,90) contour of the reference facility at an azimuth of roughly 250 degrees. If the ERP for the DTS facility is increased further to cover more of the authorized service area, the F(50,50) contour of the DTS-1 facility would extend beyond the F(50,50) contour of the channel 5 reference facility, so it appears these two requirements are mutually exclusive. The applicant has chosen the proposed value of ERP to meet the F(50,50) requirement and evaluate the loss areas for coverage or whether they are well served. The above mentioned mutual exclusivity appears to be a result of the antenna pattern used for the reference facility. The antenna pattern used for the channel 5 facility has a deep null towards the east in order to prevent potential interference occurring to channel 5 in Kalamazoo, Michigan (WGVK).

A “best efforts” approach has been used to identify a channel 7 facility ERP that allows for minimal loss areas and meet the F(50,50) limits established for signal spillover. In addition, areas over water have been ignored with regard to the limits established.

The following map shows a zoomed in version of the above map with additional clarity for the F(50,50) contours for the proposed DTS and the channel 5 authorized facility.



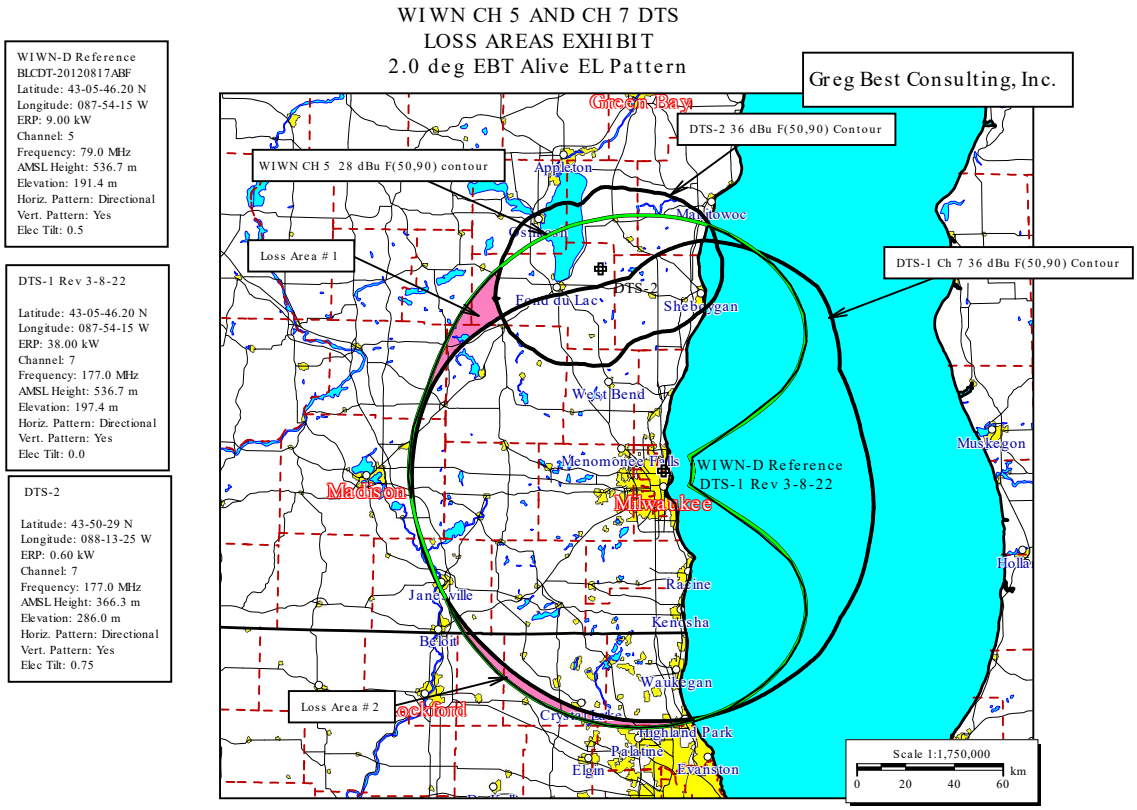
DTS coverage of authorized service area.

The proposed facility improves the station’s signal strength in all areas and replicates the practical coverage of the licensed reference facility of WIWN. Due to the antenna pattern characteristics between low band VHF channel 5 and high band channel 7 as well as the different signal strength criteria for low band VHF and high band VHF, there is not an exact match between the authorized service area of the channel 5 reference facility and the coverage contours

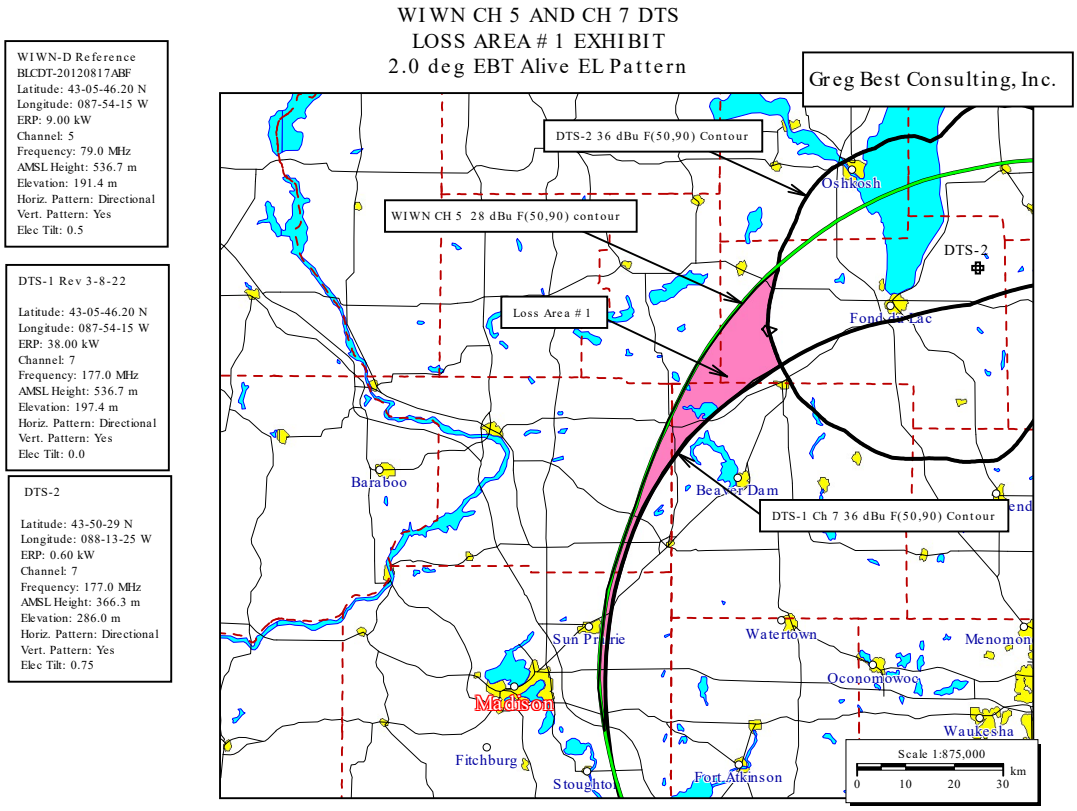
for the channel 7 DTS. The antennas used for channel 7 are slot type antennas and the antenna for the channel 5 reference facility is a panel type antenna. The panel antenna has more ability to make more dramatic field strength changes than the slot antenna. As a result of this, the best match that has been able to be obtained results in two small areas within the channel 5 reference facility contour that are not fully covered by the channel 7 contour. These areas are shaded and indicated as Area #1 and Area #2 on the following map and, as discussed below, are well served.

Discussion of loss area shown on map

Both area #1 and #2 could be classified as a loss area using the contour approach. Each area will be analyzed separately to determine the extent and impact of the loss area. The analysis will confirm that the two small loss areas are well served and will not negatively impact the coverage area.

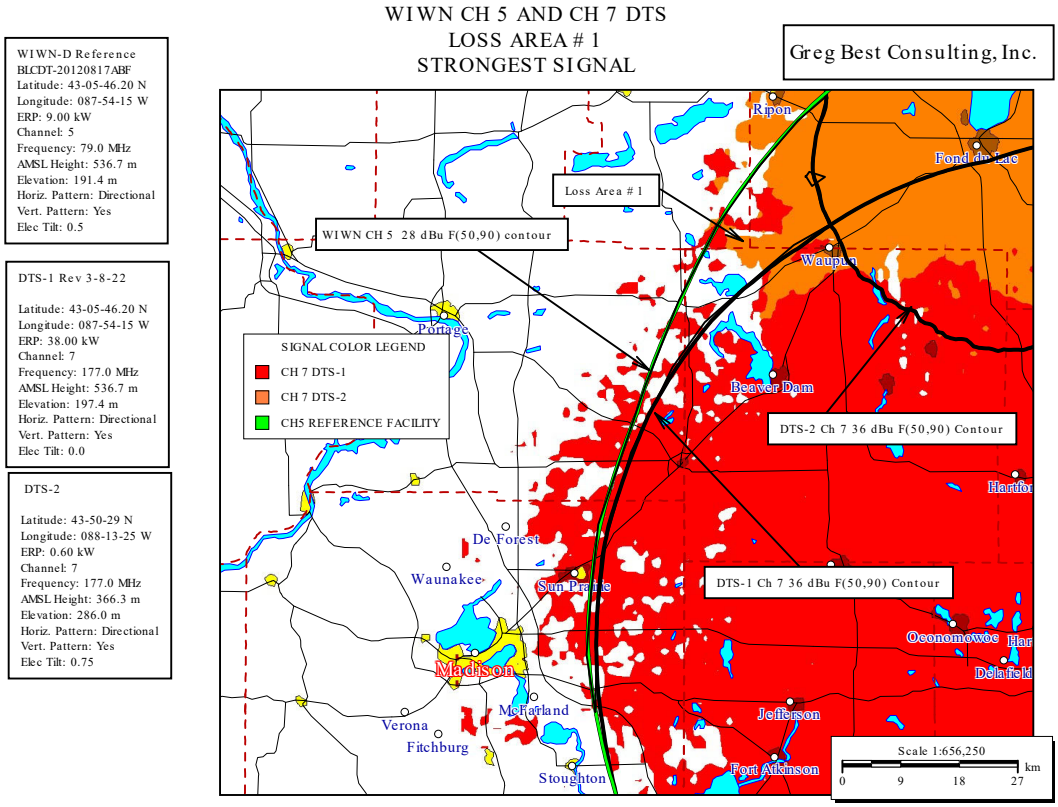


Area #1


WIWN CH 5 AND CH 7 DTS
LOSS AREA # 1 EXHIBIT
2.0 deg EBT Alive EL Pattern
Greg Best Consulting, Inc.
WIWN-D Reference
BLCDT-20120817ABF
Latitude: 43-05-46.20 N
Longitude: 087-54-15 W
ERP: 9.00 kW
Channel: 5
Frequency: 79.0 MHz
AMSL Height: 536.7 m
Elevation: 191.4 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.5
DTS-1 Rev 3-8-22
Latitude: 43-05-46.20 N
Longitude: 087-54-15 W
ERP: 38.00 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 536.7 m
Elevation: 197.4 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.0
DTS-2
Latitude: 43-50-29 N
Longitude: 088-13-25 W
ERP: 0.60 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 366.3 m
Elevation: 286.0 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.75
DTS-2 36 dBu F(50,90) Contour
WIWN CH 5 28 dBu F(50,90) contour
Loss Area # 1
DTS-1 Ch 7 36 dBu F(50,90) Contour
DTS-2
Oshkosh
Fond du Lac
Baraboo
Beaver Dam
Sun Prairie
Watertown
Menomon
Oconomowoc
Madison
Waukesha
Fitchburg
Stoughto
Fort Atkinson
Scale 1:875,000
km
0 10 20 30

The following map shows which facility provides the strongest signal in the loss area #1. The strongest signal using a minimum of 36 dBu reception is plotted. Using the color legend on the map, examining the signals within the loss areas confirms that the signals from DTS-1 and DTS-2 (red and orange) are stronger than the channel 5 WIWN reference facility (green) and thus provide an improvement in reception in the contour-based loss area.

LOSS AREA #1 MAP



Area #1 includes 9,653 people, all of whom are well served.

The minimum number of services being received in Loss Area #1 is 7 stations and thus the population within the area is well served. In a similar situation where a station was petitioning to move from low VHF to high VHF, the Commission overlooked a loss area thatwas already well served. *See Amendment of Section 73.622(i), Post-Transition Table of DTV Allotments, Television Broadcast Stations (Fredericksburg, Texas)*, Notice of Proposed Rulemaking, DA 21-705 (rel. June 16, 2021).

WIWN CH 5 AND CH 7 DTS
LOSS AREA # 1
SERVICE COUNT EXHIBIT

Greg Best Consulting, Inc.

WIWN-D Reference
BLCDT-20120817ABF
Latitude: 43-05-46.20 N
Longitude: 087-54-15 W
ERP: 9.00 kW
Channel: 5
Frequency: 79.0 MHz
AMSL Height: 536.7 m
Elevation: 191.4 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.5

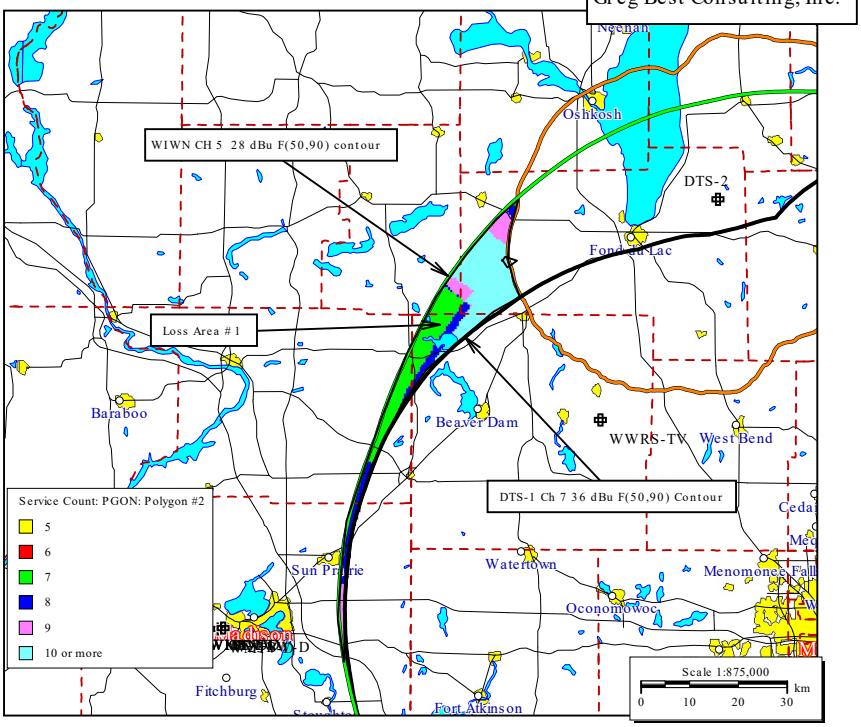
DTS-1 Rev 3-8-22

Latitude: 43-05-46.20 N
Longitude: 087-54-15 W
ERP: 38.00 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 536.7 m
Elevation: 197.4 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.0

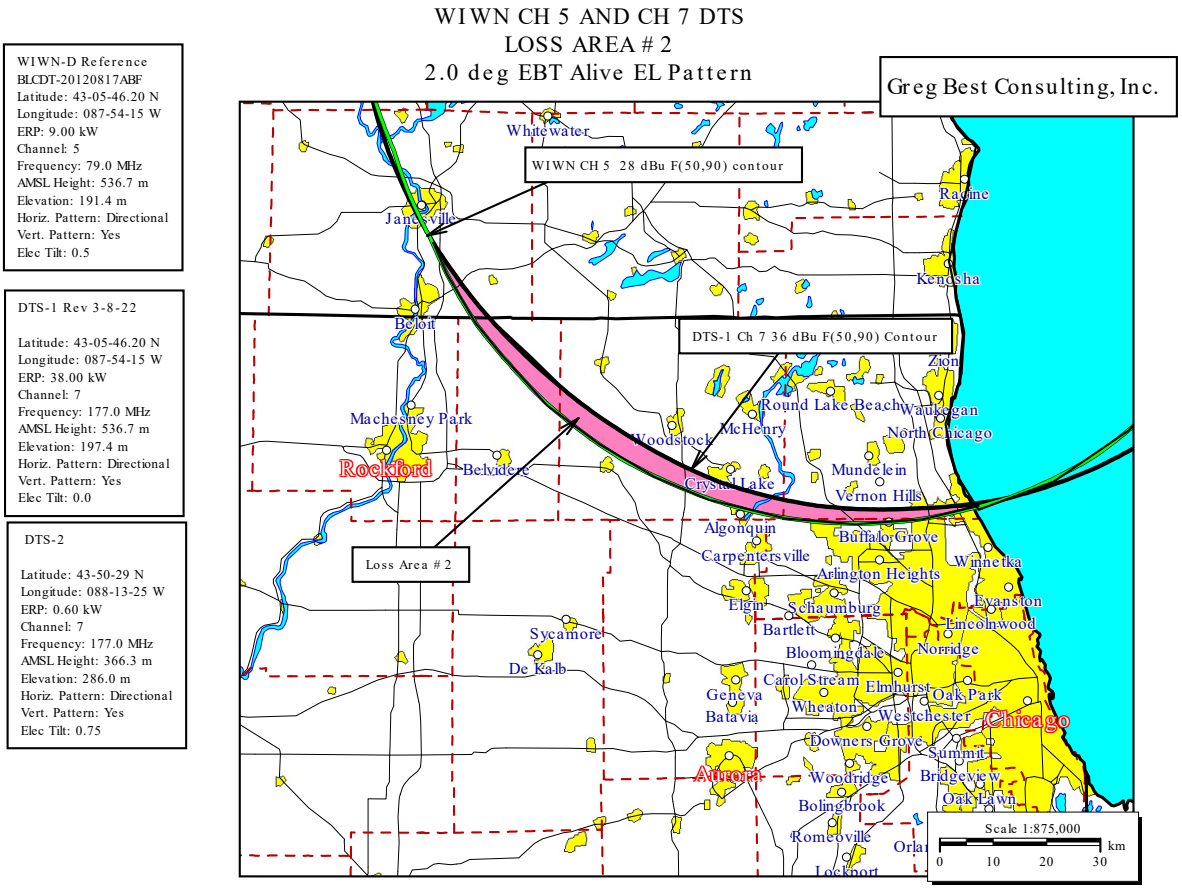
DTS-2

Latitude: 43-50-29 N
Longitude: 088-13-25 W
ERP: 0.60 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 366.3 m
Elevation: 286.0 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.75

Loss Area # 2 Pop Count = 9653

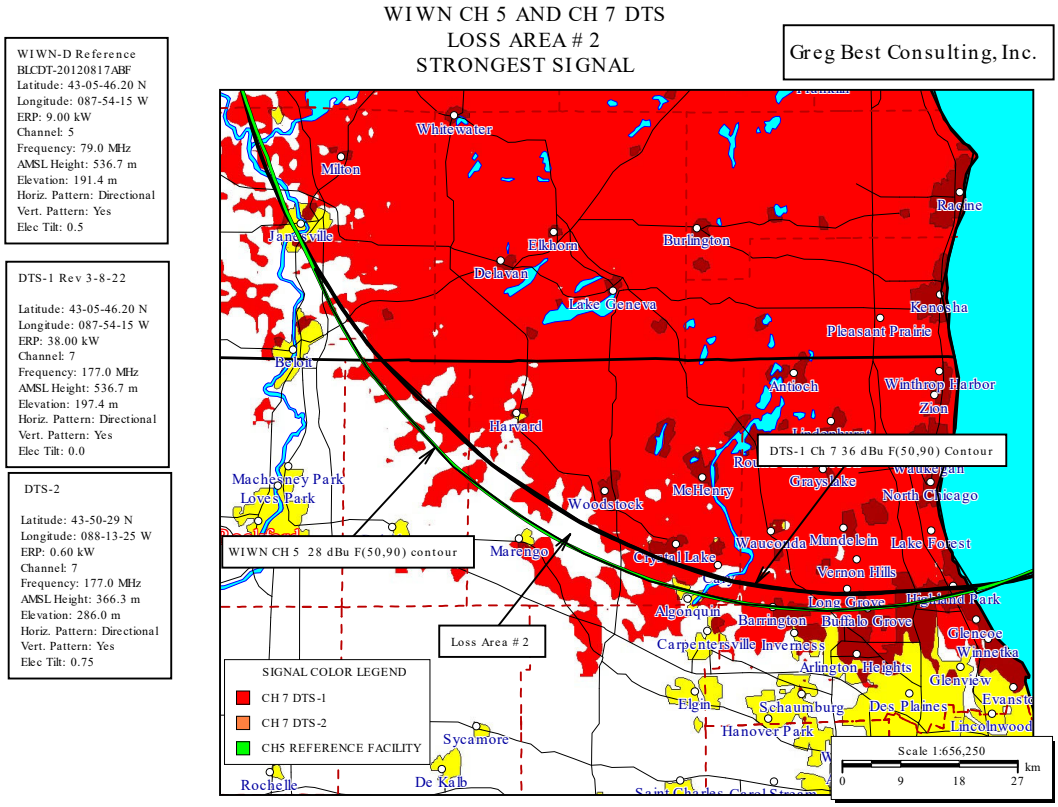


AREA #2


WIWN CH 5 AND CH 7 DTS
LOSS AREA # 2
2.0 deg EBT Alive EL Pattern
Greg Best Consulting, Inc.
WIWN-D Reference
BLCDT-20120817ABF
Latitude: 43-05-46.20 N
Longitude: 087-54-15 W
ERP: 9.00 kW
Channel: 5
Frequency: 79.0 MHz
AMSL Height: 536.7 m
Elevation: 191.4 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.5
DTS-1 Rev 3-8-22
Latitude: 43-05-46.20 N
Longitude: 087-54-15 W
ERP: 38.00 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 536.7 m
Elevation: 197.4 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.0
DTS-2
Latitude: 43-50-29 N
Longitude: 088-13-25 W
ERP: 0.60 kW
Channel: 7
Frequency: 177.0 MHz
AMSL Height: 366.3 m
Elevation: 286.0 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.75
WIWN CH 5 28 dBu F(50,90) contour
DTS-1 Ch 7 36 dBu F(50,90) Contour
Loss Area # 2
Whitewater
Janesville
Beloit
Machesney Park
Rockford
Belvidere
Woodstock
McHenry
Crystal Lake
Round Lake Beach
Waukegan
North Chicago
Zion
Kenosha
Racine
Mundelein
Vernon Hills
Algonquin
Carpentersville
Buffalo Grove
Winnetka
Arlington Heights
Elgin
Schaumburg
Evanston
Lincolnwood
Bartlett
Norridge
Bloomingdale
Sycamore
De Kalb
Carol Stream
Elmhurst
Oak Park
Geneva
Batavia
Wheaton
Westchester
Chicago
Downers Grove
Summit
Aurora
Woodridge
Bridgeview
Oak Lawn
Bolingbrook
Romeoville
Lockport
Scale 1:875,000
0 10 20 30 km

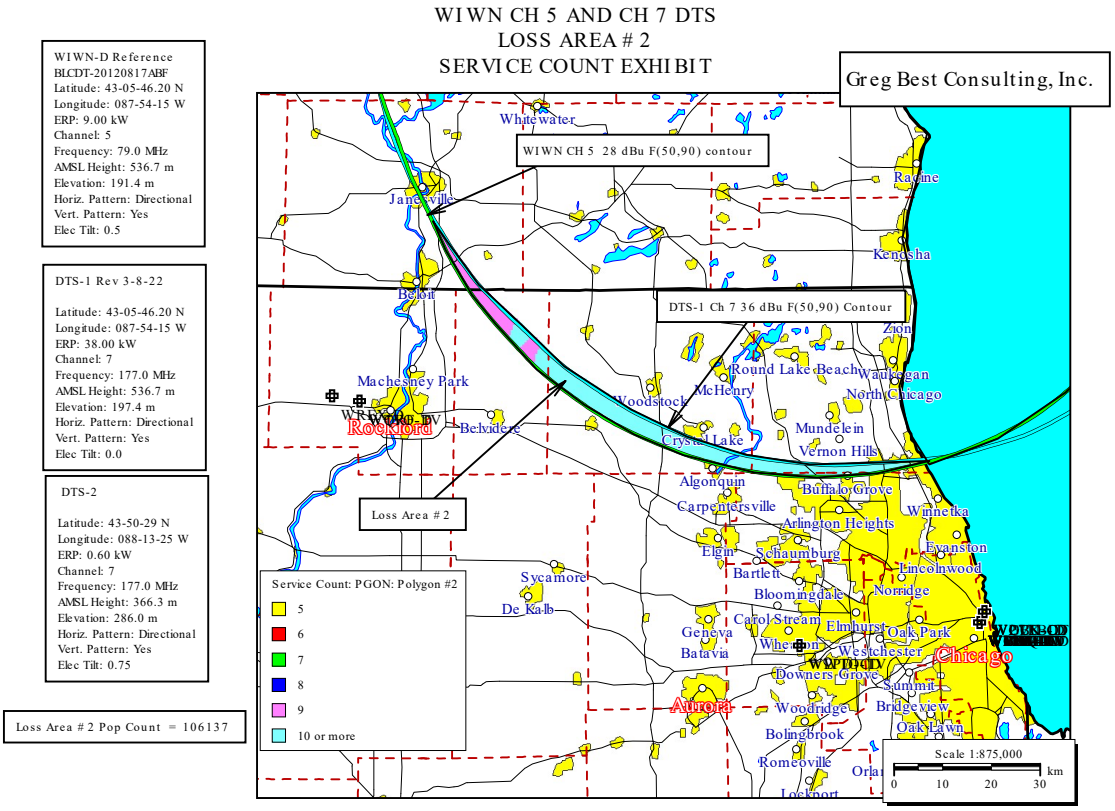
The following map shows which facility provides the strongest signal in the loss area #2. The strongest signal using a minimum of 36 dBu reception is plotted. Using the color legend on the map, examining the signals within the loss areas confirms that the signals from DTS-1 and DTS-2 (red and orange) are stronger than the channel 5 WIWN reference facility (green) and thus provide an improvement in reception in the contour-based loss area.

LOSS AREA #2 MAP



Area #2, shown on the next map, includes 106,137 people, all of whom are well served.

The minimum number of services being received in Loss Area #2 is 9 stations and thus the population within the area is well served. In a similar situation where a station was petitioning to move from low VHF to high VHF, the Commission overlooked a loss area thatwas already well served. *See Amendment of Section 73.622(i), Post-Transition Table of DTV Allotments, Television Broadcast Stations (Fredericksburg, Texas)*, Notice of Proposed Rulemaking, DA 21-705 (rel. June 16, 2021).



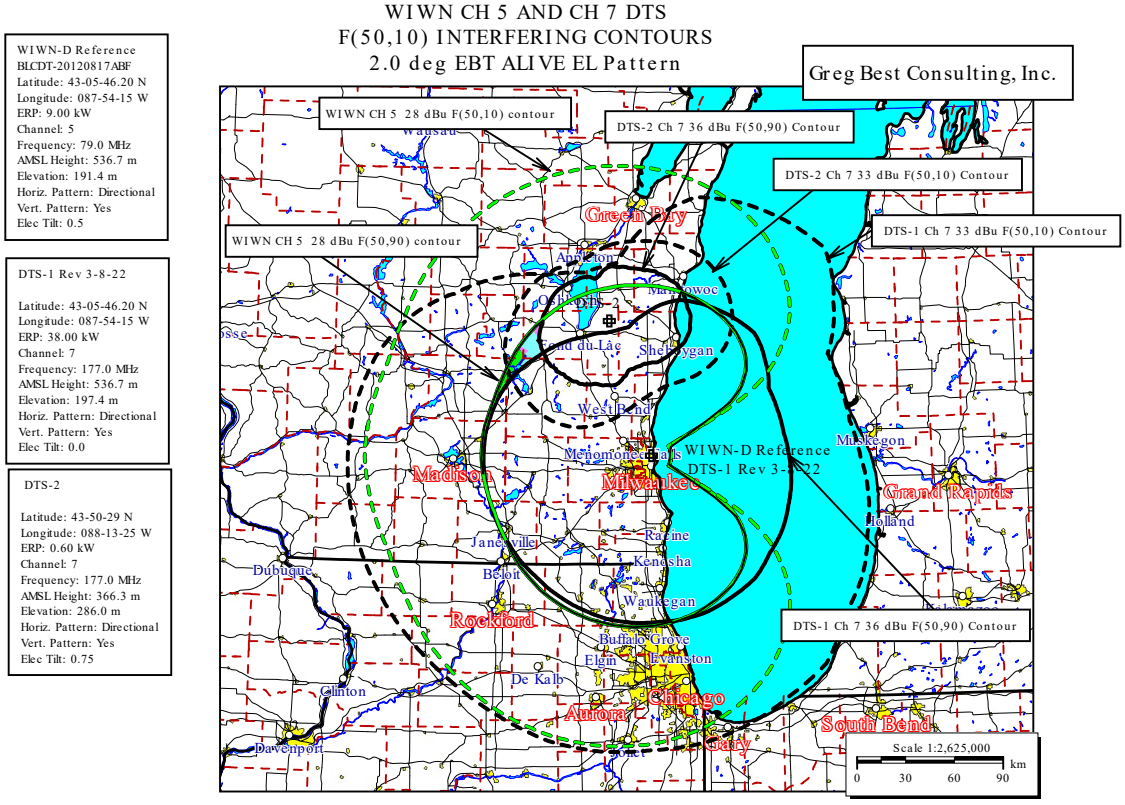
On the basis of being well served in areas 1 and 2, there is no negative impact upon viewers considered within the WIWN authorized reference area and the proposed facility improves service for WIWN viewers.

DTS F(50,10) INTERFERENCE CONTOURS

The following map depicts the node and reference point facility interference contours. In this case because of the difference in the antenna patterns and different contour levels (28 dBu, F(50,10) for channel 5, and 33 dBu, F(50,10) for channel 7), there is de minimis protrusion of the interfering contour from the channel 7 facility located at the reference point extending minimally past the 28 dBu F(50,10) channel 5 facility. The de minimis area of protrusion in the south of the coverage area is due again to the channel 5 antenna pattern having such a null back at 90 degrees. When viewing the channel 7 rotated antenna pattern, radiation in that area has been cutback but further cuts will increase the loss area #2.

This approach was chosen as the best compromise of the DTS rule intentions while serving the public.

The F(50,10) node interfering contour of the DTS-2 facility is well inside the reference facility so this is of no concern.



Other DTS Requirements

As can be seen from the map on Page 2, both DTS transmitter coverage contours overlap and thus they are contiguous. Likewise, all transmitter sites are located with the authorized reference facility will operate using the ATSC 1.0 standard.

Proposed Facility DTS site technical parameters

REFERENCE POINT
Coordinates 43-05-46.2N, 87-54-15 W

DTS-1
Channel 7
43-05-46.2N, 87-54-15 W
ERP = 38.0 kW
Elevation = 191.4 meters
RCAGL = 339.3 meters
HAAT = 338 meters
Antenna = Alive ATC-BCE86CPS-V1-9
Antenna rotation = 210 degrees

Alive ATC-BCE86CPS-V1-9 Antenna Data sheet is shown on the following page.

ANTENNA SPECIFICATIONS

ALIVETELE.COM SPEC GENERATOR

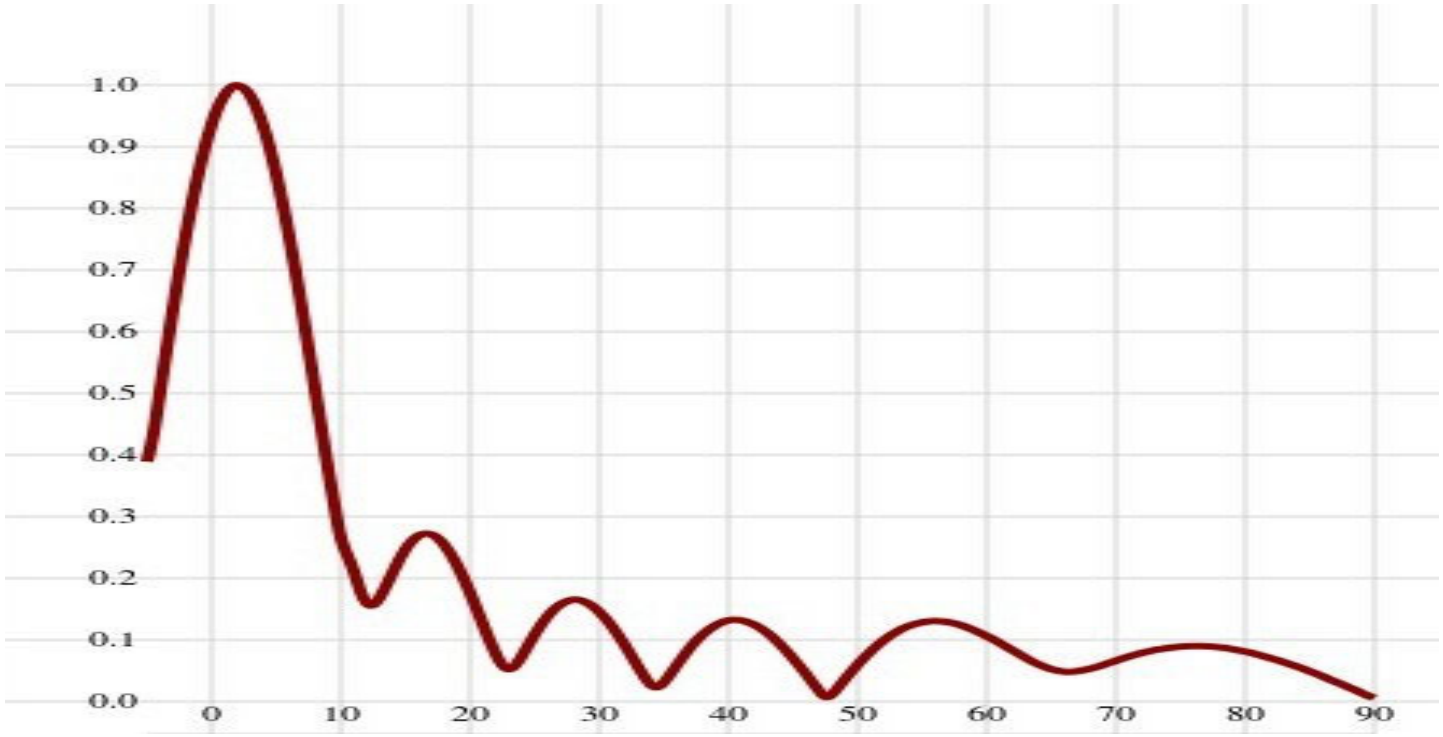
model no.: ATC-BCE86CPS-V1-9 call sign: WIWN city of license: Milwaukee state: WI

Summary

Antenna Specifications	
Antenna Type	Coaxial Slot
Antenna Model	ATC-BCE86CPS-V1-9
Electrical Specifications	
Channel(s)	9
Frequency Range (MHz)	186 - 192
Polarization	Elliptical
Horizontal Azimuth Pattern	CPS
Directivity	1.79
dB	2.53
Vertical Azimuth Pattern	V1-Wide Cardioid
Directivity	2.16
dB	3.34
Vertical Component	80 %
Azimuth Peak of Beam	0 °
Elevation Pattern	BC6
Directivity	6.10
dB	7.85
Electrical Beam Tilt	2.00 °
Antenna Peak Power Gain	
Horizontal Gain Power	6.07
Horizontal Gain Ratio	7.83 dBd
Vertical Gain Power	4.85
Vertical Gain Ratio	6.86 dBd
Line Type	3-1/8" 50 Ohm Rigid Line
Line Length	1,200 ft
Total Line Loss	1.52 dB
Effective Radiated Power (ERP)	34 kW
ERP Vertical Power	27.20 kW
Transmitter Power Output (TPO)	
TPO Power	7.96 kW
TPO Ratio	9.01 dBk
Input Type	EIA 3-1/8"
Mechanical Specifications	
Mount Type	Side Mount
Length of Antenna	37.00 ft
Center of Radiation	18.50 ft
Radome Diameter	10" Slot Cover
Color	White
Calculated Weight	532 lbs
Windload (Eff Area)	41.8 FT SQ

Elevation pattern -5 to 90

DTS-1 ANTENNA ELEVATION PATTERN



ANTENNA SPECIFICATIONS

ALIVETELE.COM SPEC GENERATOR

model no.: ATC-BCE86CPS-V1-9 call sign: WIWN city of license: Milwaukee state: WI

Elevation Pattern Tabulation

-5 to 10 in 0.25 increments, 10 to 90 in 0.50 increments

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5.00	0.389	-8.20	8.75	0.410	-7.74	35.00	0.030	-30.46	62.50	0.077	-22.27
-4.75	0.410	-7.74	9.00	0.379	-8.43	35.50	0.044	-27.13	63.00	0.071	-22.97
-4.50	0.433	-7.27	9.25	0.348	-9.17	36.00	0.059	-24.58	63.50	0.065	-23.74
-4.25	0.467	-6.61	9.50	0.318	-9.95	36.50	0.073	-22.73	64.00	0.060	-24.44
-4.00	0.502	-5.99	9.75	0.289	-10.78	37.00	0.087	-21.21	64.50	0.056	-25.04
-3.75	0.536	-5.42	10.00	0.262	-11.63	37.50	0.099	-20.09	65.00	0.052	-25.68
-3.50	0.570	-4.88	10.50	0.237	-12.51	38.00	0.109	-19.25	65.50	0.050	-26.02
-3.25	0.603	-4.39	11.00	0.214	-13.39	38.50	0.117	-18.64	66.00	0.048	-26.38
-3.00	0.636	-3.93	11.50	0.177	-15.04	39.00	0.124	-18.13	66.50	0.048	-26.38
-2.75	0.667	-3.52	12.00	0.156	-16.14	39.50	0.129	-17.79	67.00	0.049	-26.20
-2.50	0.698	-3.12	12.50	0.154	-16.25	40.00	0.132	-17.59	67.50	0.051	-25.85
-2.25	0.728	-2.76	13.00	0.167	-15.55	40.50	0.133	-17.52	68.00	0.053	-25.51
-2.00	0.757	-2.42	13.50	0.187	-14.56	41.00	0.132	-17.59	68.50	0.056	-25.04
-1.75	0.784	-2.11	14.00	0.209	-13.60	41.50	0.129	-17.79	69.00	0.059	-24.58
-1.50	0.811	-1.82	14.50	0.230	-12.77	42.00	0.125	-18.06	69.50	0.063	-24.01
-1.25	0.836	-1.56	15.00	0.248	-12.11	42.50	0.119	-18.49	70.00	0.066	-23.61
-1.00	0.859	-1.32	15.50	0.261	-11.67	43.00	0.112	-19.02	70.50	0.070	-23.10
-0.75	0.881	-1.10	16.00	0.270	-11.37	43.50	0.103	-19.74	71.00	0.073	-22.73
-0.50	0.902	-0.90	16.50	0.273	-11.28	44.00	0.093	-20.63	71.50	0.076	-22.38
-0.25	0.920	-0.72	17.00	0.272	-11.31	44.50	0.082	-21.72	72.00	0.079	-22.05
0.00	0.937	-0.57	17.50	0.266	-11.50	45.00	0.070	-23.10	72.50	0.081	-21.83
0.25	0.952	-0.43	18.00	0.255	-11.87	45.50	0.058	-24.73	73.00	0.084	-21.51
0.50	0.965	-0.31	18.50	0.240	-12.40	46.00	0.045	-26.94	73.50	0.085	-21.41
0.75	0.975	-0.22	19.00	0.222	-13.07	46.50	0.031	-30.17	74.00	0.087	-21.21
1.00	0.984	-0.14	19.50	0.200	-13.98	47.00	0.018	-34.89	74.50	0.088	-21.11
1.25	0.992	-0.07	20.00	0.177	-15.04	47.50	0.004	-47.96	75.00	0.089	-21.01
1.50	0.996	-0.03	20.50	0.151	-16.42	48.00	0.010	-40.00	75.50	0.090	-20.92
1.75	1.000	0.00	21.00	0.125	-18.06	48.50	0.023	-32.77	76.00	0.090	-20.92
2.00	1.000	0.00	21.50	0.099	-20.09	49.00	0.036	-28.87	76.50	0.090	-20.92
2.25	0.998	-0.02	22.00	0.076	-22.38	49.50	0.048	-26.38	77.00	0.090	-20.92
2.50	0.995	-0.04	22.50	0.057	-24.88	50.00	0.060	-24.44	77.50	0.089	-21.01
2.75	0.990	-0.09	23.00	0.050	-26.02	50.50	0.071	-22.97	78.00	0.088	-21.11
3.00	0.983	-0.15	23.50	0.057	-24.88	51.00	0.081	-21.83	78.50	0.087	-21.21
3.25	0.973	-0.24	24.00	0.073	-22.73	51.50	0.091	-20.82	79.00	0.085	-21.41
3.50	0.962	-0.34	24.50	0.091	-20.82	52.00	0.099	-20.09	79.50	0.083	-21.62
3.75	0.948	-0.46	25.00	0.109	-19.25	52.50	0.107	-19.41	80.00	0.081	-21.83
4.00	0.933	-0.60	25.50	0.125	-18.06	53.00	0.113	-18.94	80.50	0.079	-22.05
4.25	0.917	-0.75	26.00	0.139	-17.14	53.50	0.119	-18.49	81.00	0.076	-22.38
4.50	0.898	-0.93	26.50	0.150	-16.48	54.00	0.123	-18.20	81.50	0.073	-22.73
4.75	0.877	-1.14	27.00	0.158	-16.03	54.50	0.126	-17.99	82.00	0.070	-23.10
5.00	0.856	-1.35	27.50	0.163	-15.76	55.00	0.129	-17.79	82.50	0.067	-23.48
5.25	0.832	-1.60	28.00	0.166	-15.60	55.50	0.130	-17.72	83.00	0.064	-23.88
5.50	0.807	-1.86	28.50	0.165	-15.65	56.00	0.131	-17.65	83.50	0.060	-24.44
5.75	0.782	-2.14	29.00	0.161	-15.86	56.50	0.130	-17.72	84.00	0.057	-24.88
6.00	0.754	-2.45	29.50	0.155	-16.19	57.00	0.129	-17.79	84.50	0.053	-25.51
6.25	0.726	-2.78	30.00	0.146	-16.71	57.50	0.127	-17.92	85.00	0.049	-26.20
6.50	0.697	-3.14	30.50	0.135	-17.39	58.00	0.124	-18.13	85.50	0.045	-26.94
6.75	0.667	-3.52	31.00	0.122	-18.27	58.50	0.120	-18.42	86.00	0.041	-27.74
7.00	0.636	-3.93	31.50	0.107	-19.41	59.00	0.116	-18.71	86.50	0.036	-28.87
7.25	0.604	-4.38	32.00	0.091	-20.82	59.50	0.111	-19.09	87.00	0.032	-29.90
7.50	0.572	-4.85	32.50	0.074	-22.62	60.00	0.106	-19.49	87.50	0.028	-31.06
7.75	0.540	-5.35	33.00	0.056	-25.04	60.50	0.101	-19.91	88.00	0.023	-32.77
8.00	0.507	-5.90	33.50	0.040	-27.96	61.00	0.095	-20.45	88.50	0.019	-34.42
8.25	0.475	-6.47	34.00	0.025	-32.04	61.50	0.089	-21.01	89.00	0.014	-37.08
8.50	0.443	-7.07	34.50	0.021	-33.56	62.00	0.083	-21.62	89.50	0.009	-40.92
8.75	0.410	-7.74	35.00	0.030	-30.46	62.50	0.077	-22.27	90.00	0.006	-44.44

DTS-2
Channel 7
43-50-29 N, 88-13-25 W
ERP = 0.6 kW
Elevation = 286 meters
RCAGL = 80.3 meters
HAAT = 73.4 meters
Antenna = Alive ATC-BCE82PV-V4-7
Antenna rotation = 210 degrees

ANTENNA SPECIFICATIONS

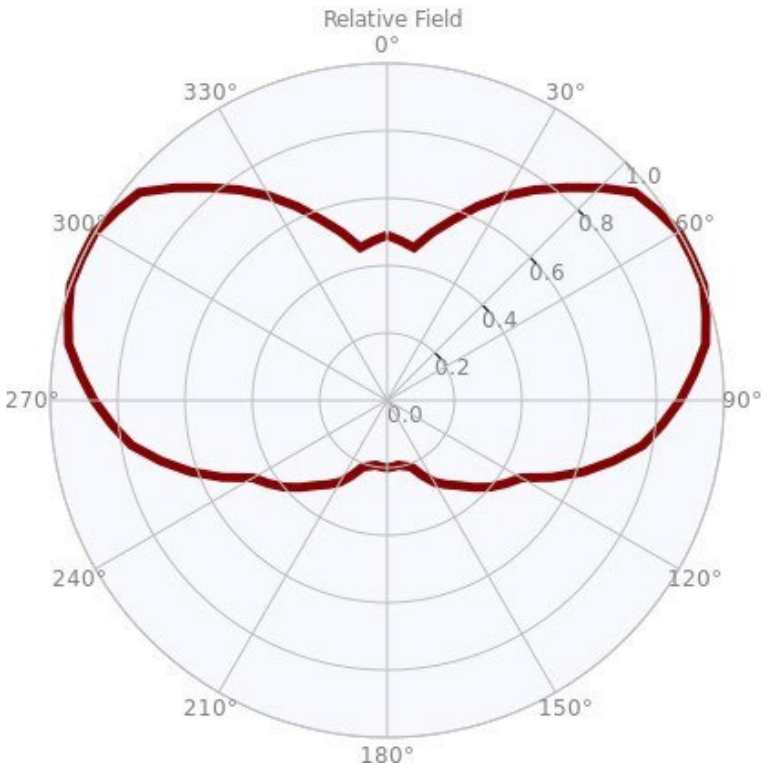
ALIVETELE.COM SPEC GENERATOR

model no.: ATC-BCE82PV-V4-7 call sign: WIWN DTS 2 city of license: Milwaukee state: WI

Summary

Antenna Specifications	
Antenna Type	Coaxial Slot
Antenna Model	ATC-BCE82PV-V4-7
Electrical Specifications	
Channel(s)	7
Frequency Range (MHz)	174 - 180
Polarization	Elliptical
Horizontal Azimuth Pattern	PV
Directivity	1.97
dB	2.94
Vertical Azimuth Pattern	V4- Wide Cardioid
Directivity	2.00
dB	0.00
Vertical Component	70 %
Azimuth Peak of Beam	0 °
Elevation Pattern	2 Bay
Directivity	2.00
dB	3.01
Electrical Beam Tilt	2.00 °
Antenna Peak Power Gain	
Horizontal Gain Power	2.32
Horizontal Gain Ratio	3.65 dBd
Vertical Gain Power	1.62
Vertical Gain Ratio	2.10 dBd
Line Type	1-5/8" 50 Ohm Foam Flex Line
Line Length	425 ft
Total Line Loss	1.20 dB
Effective Radiated Power (ERP)	.600 kW
ERP Vertical Power	0.42 kW
Transmitter Power Output (TPO)	
TPO Power	0.34 kW
TPO Ratio	-4.67 dBk
Input Type	EIA 1-5/8"
Mechanical Specifications	
Mount Type	Side Mount
Length of Antenna	20.84 ft
Center of Radiation	10.42 ft
Radome Diameter	TBD
Color	White
Calculated Weight	Contact Alive Telecom 1 2
Windload (Shear)	Contact Alive Telecom 1 2

Horizontal Azimuth Pattern



ANTENNA SPECIFICATIONS

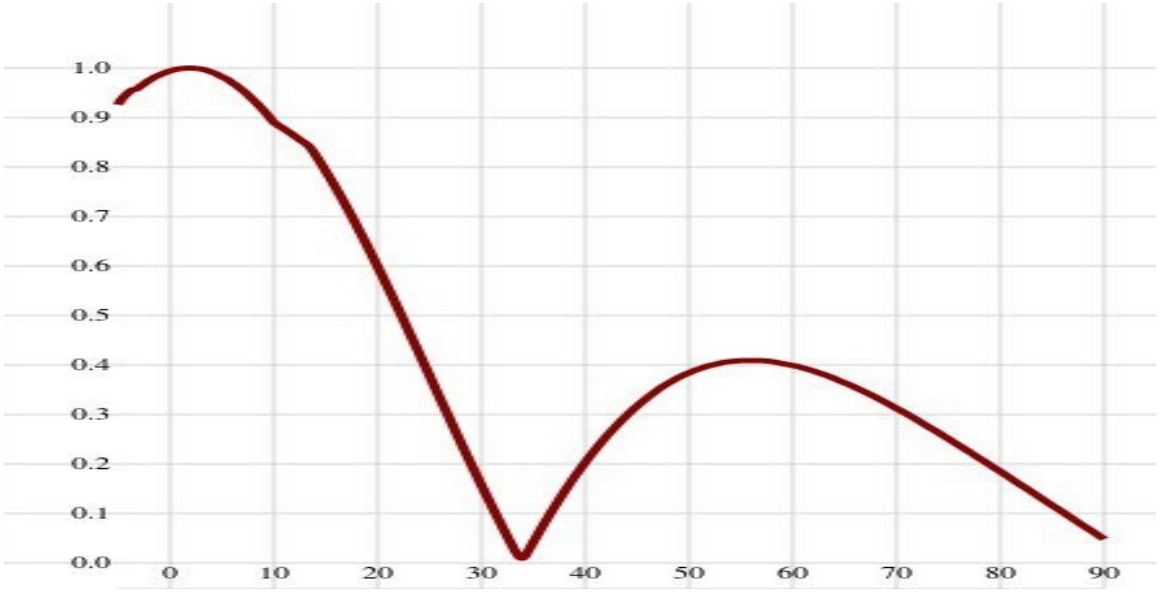
ALIVETELE.COM SPEC GENERATOR

model no.: ATC-BCE82PV-V4-7 call sign: WIWN DTS 2 city of license: Milwaukee state: WI

Azimuth Horizontal Pattern Tabulation

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
0°	0.490	-6.20	90°	0.870	-1.21	180°	0.200	-13.98	270°	0.870	-1.21
2°	0.490	-6.20	92°	0.858	-1.33	182°	0.199	-14.02	272°	0.881	-1.10
4°	0.479	-6.39	94°	0.832	-1.60	184°	0.198	-14.07	274°	0.904	-0.88
6°	0.471	-6.54	96°	0.808	-1.85	186°	0.197	-14.11	276°	0.926	-0.67
8°	0.468	-6.60	98°	0.782	-2.14	188°	0.196	-14.15	278°	0.949	-0.45
10°	0.460	-6.74	100°	0.770	-2.27	190°	0.195	-14.20	280°	0.960	-0.35
12°	0.460	-6.74	102°	0.751	-2.49	192°	0.197	-14.11	282°	0.965	-0.31
14°	0.501	-6.00	104°	0.714	-2.93	194°	0.201	-13.94	284°	0.975	-0.22
16°	0.529	-5.53	106°	0.676	-3.40	196°	0.204	-13.81	286°	0.985	-0.13
18°	0.556	-5.10	108°	0.639	-3.89	198°	0.208	-13.64	288°	0.995	-0.04
20°	0.570	-4.88	110°	0.620	-4.15	200°	0.210	-13.56	290°	1.000	0.00
22°	0.586	-4.64	112°	0.600	-4.44	202°	0.219	-13.19	292°	1.000	0.00
24°	0.619	-4.17	114°	0.560	-5.04	204°	0.236	-12.54	294°	1.000	0.00
26°	0.651	-3.73	116°	0.520	-5.68	206°	0.254	-11.90	296°	1.000	0.00
28°	0.684	-3.30	118°	0.480	-6.38	208°	0.271	-11.34	298°	1.000	0.00
30°	0.700	-3.10	120°	0.460	-6.74	210°	0.280	-11.06	300°	1.000	0.00
32°	0.716	-2.90	122°	0.452	-6.90	212°	0.286	-10.87	302°	0.995	-0.04
34°	0.746	-2.55	124°	0.438	-7.17	214°	0.299	-10.49	304°	0.985	-0.13
36°	0.778	-2.18	126°	0.422	-7.49	216°	0.311	-10.14	306°	0.975	-0.22
38°	0.808	-1.85	128°	0.408	-7.79	218°	0.324	-9.79	308°	0.965	-0.31
40°	0.824	-1.68	130°	0.400	-7.96	220°	0.330	-9.63	310°	0.960	-0.35
42°	0.841	-1.50	132°	0.391	-8.16	222°	0.339	-9.40	312°	1.000	0.00
44°	0.875	-1.16	134°	0.379	-8.43	224°	0.356	-8.97	314°	0.909	-0.83
46°	0.909	-0.83	136°	0.362	-8.83	226°	0.374	-8.54	316°	0.875	-1.16
48°	0.943	-0.51	138°	0.346	-9.22	228°	0.391	-8.16	318°	0.841	-1.50
50°	0.960	-0.35	140°	0.330	-9.63	230°	0.400	-7.96	320°	0.824	-1.68
52°	0.965	-0.31	142°	0.324	-9.79	232°	0.408	-7.79	322°	0.808	-1.85
54°	0.975	-0.22	144°	0.311	-10.14	234°	0.422	-7.49	324°	0.778	-2.18
56°	0.985	-0.13	146°	0.299	-10.49	236°	0.438	-7.17	326°	0.746	-2.55
58°	0.995	-0.04	148°	0.286	-10.87	238°	0.452	-6.90	328°	0.716	-2.90
60°	1.000	0.00	150°	0.280	-11.06	240°	0.460	-6.74	330°	0.700	-3.10
62°	1.000	0.00	152°	0.271	-11.34	242°	0.480	-6.38	332°	0.684	-3.30
64°	1.000	0.00	154°	0.254	-11.90	244°	0.520	-5.68	334°	0.651	-3.73
66°	1.000	0.00	156°	0.236	-12.54	246°	0.560	-5.04	336°	0.619	-4.17
68°	1.000	0.00	158°	0.219	-13.19	248°	0.600	-4.44	338°	0.586	-4.64
70°	1.000	0.00	160°	0.210	-13.56	250°	0.620	-4.15	340°	0.570	-4.88
72°	0.995	-0.04	162°	0.208	-13.64	252°	0.639	-3.89	342°	0.556	-5.10
74°	0.985	-0.13	164°	0.204	-13.81	254°	0.676	-3.40	344°	0.529	-5.53
76°	0.975	-0.22	166°	0.201	-13.94	256°	0.714	-2.93	346°	0.501	-6.00
78°	0.965	-0.31	168°	0.197	-14.11	258°	0.751	-2.49	348°	0.474	-6.48
80°	0.960	-0.35	170°	0.195	-14.20	260°	0.770	-2.27	350°	0.460	-6.74
82°	0.949	-0.45	172°	0.196	-14.15	262°	0.782	-2.14	352°	0.464	-6.67
84°	0.926	-0.67	174°	0.197	-14.11	264°	0.808	-1.85	354°	0.471	-6.54
86°	0.904	-0.88	176°	0.198	-14.07	266°	0.832	-1.60	356°	0.479	-6.39
88°	0.881	-1.10	178°	0.199	-14.02	268°	0.858	-1.33	358°	0.486	-6.27

Elevation pattern -5 to 90



ANTENNA SPECIFICATIONS

ALIVETELE.COM SPEC GENERATOR

model no.: ATC-BCE82PV-V4-7 call sign: WIWN DTS 2 city of license: Milwaukee state: WI

Elevation Pattern Tabulation

-5 to 10 in 0.25 increments, 10 to 90 in 0.50 increments

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5.00	0.926	-0.67	8.75	0.920	-0.72	35.00	0.042	-27.54	62.50	0.384	-8.31
-4.75	0.936	-0.57	9.00	0.915	-0.77	35.50	0.060	-24.44	63.00	0.381	-8.38
-4.50	0.941	-0.53	9.25	0.909	-0.83	36.00	0.078	-22.16	63.50	0.377	-8.47
-4.25	0.946	-0.48	9.50	0.903	-0.89	36.50	0.095	-20.45	64.00	0.373	-8.57
-4.00	0.951	-0.44	9.75	0.896	-0.95	37.00	0.112	-19.02	64.50	0.368	-8.68
-3.75	0.955	-0.40	10.00	0.890	-1.01	37.50	0.128	-17.86	65.00	0.364	-8.78
-3.50	0.957	-0.38	10.50	0.883	-1.08	38.00	0.144	-16.83	65.50	0.360	-8.87
-3.25	0.957	-0.38	11.00	0.877	-1.14	38.50	0.160	-15.92	66.00	0.355	-9.00
-3.00	0.961	-0.35	11.50	0.870	-1.21	39.00	0.175	-15.14	66.50	0.350	-9.12
-2.75	0.965	-0.31	12.00	0.863	-1.28	39.50	0.189	-14.47	67.00	0.345	-9.24
-2.50	0.968	-0.28	12.50	0.855	-1.36	40.00	0.203	-13.85	67.50	0.340	-9.37
-2.25	0.972	-0.25	13.00	0.849	-1.42	40.50	0.217	-13.27	68.00	0.335	-9.50
-2.00	0.976	-0.21	13.50	0.841	-1.50	41.00	0.230	-12.77	68.50	0.329	-9.66
-1.75	0.978	-0.19	14.00	0.825	-1.67	41.50	0.242	-12.32	69.00	0.324	-9.79
-1.50	0.982	-0.16	14.50	0.809	-1.84	42.00	0.255	-11.87	69.50	0.318	-9.95
-1.25	0.984	-0.14	15.00	0.792	-2.03	42.50	0.266	-11.50	70.00	0.312	-10.12
-1.00	0.986	-0.12	15.50	0.775	-2.21	43.00	0.277	-11.15	70.50	0.307	-10.26
-0.75	0.989	-0.10	16.00	0.757	-2.42	43.50	0.288	-10.81	71.00	0.301	-10.43
-0.50	0.990	-0.09	16.50	0.739	-2.63	44.00	0.298	-10.52	71.50	0.295	-10.60
-0.25	0.993	-0.06	17.00	0.720	-2.85	44.50	0.308	-10.23	72.00	0.289	-10.78
0.00	0.994	-0.05	17.50	0.701	-3.09	45.00	0.317	-9.98	72.50	0.282	-11.00
0.25	0.996	-0.03	18.00	0.681	-3.34	45.50	0.326	-9.74	73.00	0.276	-11.18
0.50	0.997	-0.03	18.50	0.661	-3.60	46.00	0.334	-9.53	73.50	0.270	-11.37
0.75	0.998	-0.02	19.00	0.641	-3.86	46.50	0.342	-9.32	74.00	0.264	-11.57
1.00	0.999	-0.01	19.50	0.620	-4.15	47.00	0.350	-9.12	74.50	0.257	-11.80
1.25	0.999	-0.01	20.00	0.599	-4.45	47.50	0.357	-8.95	75.00	0.251	-12.01
1.50	1.000	0.00	20.50	0.578	-4.76	48.00	0.363	-8.80	75.50	0.244	-12.25
1.75	1.000	0.00	21.00	0.556	-5.10	48.50	0.369	-8.66	76.00	0.238	-12.47
2.00	1.000	0.00	21.50	0.535	-5.43	49.00	0.375	-8.52	76.50	0.231	-12.73
2.25	1.000	0.00	22.00	0.513	-5.80	49.50	0.380	-8.40	77.00	0.225	-12.96
2.50	0.999	-0.01	22.50	0.491	-6.18	50.00	0.384	-8.31	77.50	0.218	-13.23
2.75	0.999	-0.01	23.00	0.468	-6.60	50.50	0.389	-8.20	78.00	0.211	-13.51
3.00	0.998	-0.02	23.50	0.446	-7.01	51.00	0.392	-8.13	78.50	0.205	-13.76
3.25	0.997	-0.03	24.00	0.424	-7.45	51.50	0.396	-8.05	79.00	0.198	-14.07
3.50	0.996	-0.03	24.50	0.401	-7.94	52.00	0.399	-7.98	79.50	0.191	-14.38
3.75	0.994	-0.05	25.00	0.379	-8.43	52.50	0.401	-7.94	80.00	0.185	-14.66
4.00	0.992	-0.07	25.50	0.356	-8.97	53.00	0.404	-7.87	80.50	0.178	-14.99
4.25	0.990	-0.09	26.00	0.333	-9.55	53.50	0.406	-7.83	81.00	0.171	-15.34
4.50	0.988	-0.10	26.50	0.311	-10.14	54.00	0.407	-7.81	81.50	0.164	-15.70
4.75	0.985	-0.13	27.00	0.289	-10.78	54.50	0.408	-7.79	82.00	0.157	-16.08
5.00	0.982	-0.16	27.50	0.266	-11.50	55.00	0.409	-7.77	82.50	0.151	-16.42
5.25	0.980	-0.18	28.00	0.244	-12.25	55.50	0.409	-7.77	83.00	0.144	-16.83
5.50	0.978	-0.19	28.50	0.222	-13.07	56.00	0.409	-7.77	83.50	0.137	-17.27
5.75	0.974	-0.23	29.00	0.200	-13.98	56.50	0.409	-7.77	84.00	0.130	-17.72
6.00	0.970	-0.26	29.50	0.179	-14.94	57.00	0.409	-7.77	84.50	0.123	-18.20
6.25	0.967	-0.29	30.00	0.157	-16.08	57.50	0.408	-7.79	85.00	0.116	-18.71
6.50	0.963	-0.33	30.50	0.136	-17.33	58.00	0.407	-7.81	85.50	0.110	-19.17
6.75	0.959	-0.36	31.00	0.115	-18.79	58.50	0.405	-7.85	86.00	0.103	-19.74
7.00	0.955	-0.40	31.50	0.094	-20.54	59.00	0.403	-7.89	86.50	0.096	-20.35
7.25	0.951	-0.44	32.00	0.074	-22.62	59.50	0.401	-7.94	87.00	0.089	-21.01
7.50	0.946	-0.48	32.50	0.053	-25.51	60.00	0.399	-7.98	87.50	0.082	-21.72
7.75	0.941	-0.53	33.00	0.034	-29.37	60.50	0.397	-8.02	88.00	0.075	-22.50
8.00	0.936	-0.57	33.50	0.014	-37.08	61.00	0.394	-8.09	88.50	0.069	-23.22
8.25	0.931	-0.62	34.00	0.005	-46.02	61.50	0.391	-8.16	89.00	0.062	-24.15
8.50	0.926	-0.67	34.50	0.024	-32.40	62.00	0.388	-8.22	89.50	0.055	-25.19
8.75	0.920	-0.72	35.00	0.042	-27.54	62.50	0.384	-8.31	90.00	0.048	-26.38

INTERFERENCE ANALYSIS

The following interference analysis confirms the proposed DTS system causes no interference to any authorized service. The proposed DTS system does receive 3.6 % interference but this is acceptable to the applicant.

```
tvstudy v2.2.5 (4uoc83)
Database: localhost,  Study: WIWN CH 7 #111,  Model: Longley-Rice
Start: 2022.03.08 14:54:44

Study last edited: 2022.03.08 14:54:39

    Proposal: WIWN D7 DD APP FOND DU LAC, WI
 File number: WIWN CH 7
 Facility ID: 60571
Station data: User record
   Record ID: 82
     Country: U.S.
        Zone: I
  Ref. lat.:  43 05 46.20 N
  Ref. long.:  87 54 15.00 W
 # DTS sites: 2

Proposal "before": (none)

Study has been edited.  Stations studied for impact of proposal:

Call      Chan  Svc Status  City, State              File Number             Distance
KWWL      D7          DT  LIC     WATERLOO, IA             BLCDT20100707AXT        330.7 km
WHMB-TV   D7          DT  LIC     INDIANAPOLIS, IN         BLANK0000087035         382.9
WOOD-TV   D7          DT  LIC     GRAND RAPIDS, MI         BLANK0000141784         200.2
WSAW-TV   D7          DT  LIC     WAUSAU, WI               BLCDT20120404ABC        248.0
WMVS      D8          DT  APP     MILWAUKEE, WI            BLANK0000035791           0.0
WMVS      D8          DT  LIC     MILWAUKEE, WI            BLANK0000040294           0.0

Record parameters as studied, DTS site # 1:

    Channel: D7
   Latitude:  43  5 46.20 N (NAD83)
  Longitude:  87 54 15.00 W
Height AMSL: 536.7 m
       HAAT: 338.6 m
   Peak ERP: 38.0 kW
    Antenna: Alive Initial Pattern 210.0 deg
Elev Pattrn: ALIVE DTS-1 EL PATTERN

36.0 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg   5.49 kW   332.6 m   90.1 km
 45.0       13.6      359.7     99.3
 90.0       2.77      359.7     86.9
135.0       30.6      357.3    105.7
180.0       36.6      342.4    106.0
225.0       34.9      318.4    103.6
270.0       36.4      318.3    104.0
315.0       7.87      320.0     91.9

ERP exceeds maximum
ERP: 38.0 kW   ERP maximum: 21.2 kW

Record parameters as studied, DTS site # 2:

    Channel: D7
   Latitude:  43 50 29.00 N (NAD83)
  Longitude:  88 13 24.80 W
Height AMSL: 366.3 m
       HAAT: 75.6 m
   Peak ERP: 0.600 kW
    Antenna: Alive Bent Peanut 155.0 deg
Elev Pattrn: Generic
  Elec Tilt: 1.50

36.0 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg  0.036 kW    85.2 m   32.0 km
 45.0      0.231       72.4     41.8
 90.0      0.600       82.1     50.2
135.0      0.195       57.4     37.5
180.0      0.242       56.7     38.7
225.0      0.600       58.7     45.1
270.0      0.175       87.4     43.0
315.0      0.026      105.1     33.0

**DTS proposal has coverage outside reference facility and distance limit

Distance to Canadian border: 401.8 km

Distance to Mexican border: 1905.4 km

Conditions at FCC monitoring station: Allegan MI
DTS site # 1   Bearing: 108.3 degrees   Distance: 167.9 km
DTS site # 2   Bearing: 126.0 degrees   Distance: 229.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
DTS site # 1   Bearing: 263.1 degrees   Distance: 1473.0 km
DTS site # 2   Bearing: 259.6 degrees   Distance: 1460.0 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%

Interference to BLCDT20100707AXT LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	330.7 km
	KQTV	D7	DT	LIC	ST. JOSEPH, MO	BLCDT20091124AFJ	383.0
	WSAW-TV	D7	DT	LIC	WAUSAU, WI	BLCDT20120404ABC	329.2
	KCCI	D8	DT	LIC	DES MOINES, IA	BLANK0000144552	160.6
	WMWC-TV	D8	DT	APP	GALESBURG, IL	BLANK0000127477	171.2
	WKBT-DT	D8	DT	CP	LA CROSSE, WI	BLANK0000035780	192.3

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX
51691.1	1,171,751	50353.4	1,146,800	48714.8	1,109,070	48558.8	1,105,084	0.32	0.36

Undesired	Total IX	Unique IX, before		Unique IX, after	
WIWN D7 DD APP	283.9	7,595		156.0	3,986
KQTV D7 DT LIC	36.3	76	24.3	41	24.3	41
WSAW-TV D7 DT LIC	445.5	5,525	437.6	5,509	321.8	2,217
KCCI D8 DT LIC	971.2	25,417	959.2	25,382	959.2	25,382
WMWC-TV D8 DT APP	197.5	6,747	197.5	6,747	185.5	6,430
WKBT-DT D8 DT CP	7.9	16	0.0	0	0.0	0

Interference to BLCDT20100707AXT LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	330.7 km
	KQTV	D7	DT	LIC	ST. JOSEPH, MO	BLCDT20091124AFJ	383.0
	WSAW-TV	D7	DT	LIC	WAUSAU, WI	BLCDT20120404ABC	329.2
	KCCI	D8	DT	LIC	DES MOINES, IA	BLANK0000144552	160.6
	WMWC-TV	D8	DT	LIC	GALESBURG, IL	BLCDT20120820AAQ	171.2
	WKBT-DT	D8	DT	CP	LA CROSSE, WI	BLANK0000035780	192.3

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX
51691.1	1,171,751	50353.4	1,146,800	48799.4	1,113,381	48639.3	1,109,384	0.33	0.36

Undesired	Total IX	Unique IX, before		Unique IX, after	
WIWN D7 DD APP	283.9	7,595		160.1	3,997
KQTV D7 DT LIC	36.3	76	24.3	41	24.3	41
WSAW-TV D7 DT LIC	445.5	5,525	437.6	5,509	321.8	2,217
KCCI D8 DT LIC	971.2	25,417	959.2	25,382	959.2	25,382
WMWC-TV D8 DT LIC	112.9	2,436	112.9	2,436	104.9	2,130
WKBT-DT D8 DT CP	7.9	16	0.0	0	0.0	0

Interference to BLCDT20100707AXT LIC scenario 3

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	330.7 km
	KQTV	D7	DT	LIC	ST. JOSEPH, MO	BLCDT20091124AFJ	383.0
	WSAW-TV	D7	DT	LIC	WAUSAU, WI	BLCDT20120404ABC	329.2
	KCCI	D8	DT	LIC	DES MOINES, IA	BLANK0000144552	160.6
	WMWC-TV	D8	DT	APP	GALESBURG, IL	BLANK0000127477	171.2
	WKBT-DT	D8	DT	LIC	LA CROSSE, WI	BLCDT20090507ACT	192.3

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX
51691.1	1,171,751	50353.4	1,146,800	48714.8	1,109,070	48558.8	1,105,084	0.32	0.36

Undesired	Total IX	Unique IX, before		Unique IX, after	
WIWN D7 DD APP	283.9	7,595		156.0	3,986
KQTV D7 DT LIC	36.3	76	24.3	41	24.3	41
WSAW-TV D7 DT LIC	445.5	5,525	437.6	5,509	321.8	2,217
KCCI D8 DT LIC	971.2	25,417	959.2	25,382	959.2	25,382
WMWC-TV D8 DT APP	197.5	6,747	197.5	6,747	185.5	6,430
WKBT-DT D8 DT LIC	7.9	16	0.0	0	0.0	0

Interference to BLCDT20100707AXT LIC scenario 4

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	330.7 km
	KQTV	D7	DT	LIC	ST. JOSEPH, MO	BLCDT20091124AFJ	383.0
	WSAW-TV	D7	DT	LIC	WAUSAU, WI	BLCDT20120404ABC	329.2
	KCCI	D8	DT	LIC	DES MOINES, IA	BLANK0000144552	160.6
	WMWC-TV	D8	DT	LIC	GALESBURG, IL	BLCDT20120820AAQ	171.2
	WKBT-DT	D8	DT	LIC	LA CROSSE, WI	BLCDT20090507ACT	192.3

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX
51691.1	1,171,751	50353.4	1,146,800	48799.4	1,113,381	48639.3	1,109,384	0.33	0.36

Undesired	Total IX	Unique IX, before		Unique IX, after	
WIWN D7 DD APP	283.9	7,595		160.1	3,997
KQTV D7 DT LIC	36.3	76	24.3	41	24.3	41
WSAW-TV D7 DT LIC	445.5	5,525	437.6	5,509	321.8	2,217
KCCI D8 DT LIC	971.2	25,417	959.2	25,382	959.2	25,382

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WMWC-TV D8 DT LIC        112.9       2,436     112.9       2,436     104.9       2,130
WKBT-DT D8 DT LIC          7.9          16       0.0           0       0.0           0

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Interference to BLANK0000087035 LIC scenario 1

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WHMB-TV   D7    DT  LIC     INDIANAPOLIS, IN         BLANK0000087035

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI          WIWN CH 7               382.9 km
             WLJC-TV   D7    DT  LIC     BEATTYVILLE, KY          BLCDT20120217AAO        335.4
             WOOD-TV   D7    DT  LIC     GRAND RAPIDS, MI         BLANK0000141784         315.9

       Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 32027.0   2,959,585   31053.0   2,889,145   30370.9   2,870,070   30370.9   2,870,070     0.00     0.00

Undesired                       Total IX     Unique IX, before      Unique IX, after
WIWN D7 DD APP             8.0          350                           0.0           0
WLJC-TV D7 DT LIC        590.2       15,908     590.2       15,908     590.2       15,908
WOOD-TV D7 DT LIC         91.8        3,167      91.8        3,167      83.9        2,817

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Interference to BLANK0000141784 LIC scenario 1

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WOOD-TV   D7    DT  LIC     GRAND RAPIDS, MI         BLANK0000141784

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI          WIWN CH 7               200.2 km
             WHMB-TV   D7    DT  LIC     INDIANAPOLIS, IN         BLANK0000087035         315.9
             WJBK      D7    DT  LIC     DETROIT, MI              BLANK0000126157         189.6
             WWMT      D8    DT  LIC     KALAMAZOO, MI            BLANK0000159066           6.5
             WMVS      D8    DT  APP     MILWAUKEE, WI            BLANK0000035791         200.2

       Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 31571.6   2,507,053   31384.1   2,501,084   30002.8   2,408,635   28758.7   2,402,216     4.15     0.27

Undesired                       Total IX     Unique IX, before      Unique IX, after
WIWN D7 DD APP           1524.8       29,897                        1244.1        6,419
WHMB-TV D7 DT LIC         224.8       23,582      164.6       10,533      48.2        2,382
WJBK D7 DT LIC           1204.7       81,916     1112.4       68,763    1024.3       66,119
WWMT D8 DT LIC             44.1          104       12.0           0       4.0           0

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Interference to BLCDT20120404ABC LIC scenario 1

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WSAW-TV   D7    DT  LIC     WAUSAU, WI               BLCDT20120404ABC

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI          WIWN CH 7               248.0 km
             KWWL      D7    DT  LIC     WATERLOO, IA             BLCDT20100707AXT        329.2
             WKBT-DT   D8    DT  CP      LA CROSSE, WI            BLANK0000035780         159.8

       Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 41315.5     652,442   40580.1     646,386   40168.5     641,358   39944.1     638,857     0.56     0.39

Undesired                       Total IX     Unique IX, before      Unique IX, after
WIWN D7 DD APP             284.6        4,421                         224.4        2,501
KWWL D7 DT LIC             291.8        4,238      211.9        2,705     155.8          826
WKBT-DT D8 DT CP           199.6        2,323      119.8          790     119.8          790

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Interference to BLCDT20120404ABC LIC scenario 2

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WSAW-TV   D7    DT  LIC     WAUSAU, WI               BLCDT20120404ABC

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI          WIWN CH 7               248.0 km
             KWWL      D7    DT  LIC     WATERLOO, IA             BLCDT20100707AXT        329.2
             WKBT-DT   D8    DT  LIC     LA CROSSE, WI            BLCDT20090507ACT        159.8

       Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 41315.5     652,442   40580.1     646,386   40228.4     642,063   40003.9     639,562     0.56     0.39

Undesired                       Total IX     Unique IX, before      Unique IX, after
WIWN D7 DD APP             284.6        4,421                         224.4        2,501
KWWL D7 DT LIC             291.8        4,238      219.9        3,917     163.8        2,038
WKBT-DT D8 DT LIC          131.8          406       59.9           85      59.9           85

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Interference to BLANK0000035791 APP scenario 1

             Call      Chan  Svc Status  City, State              File Number             Distance
Desired:     WMVS      D8    DT  APP     MILWAUKEE, WI            BLANK0000035791

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI          WIWN CH 7                 0.0 km
             WMWC-TV   D8    DT  APP     GALESBURG, IL            BLANK0000127477         284.3
             WWMT      D8    DT  LIC     KALAMAZOO, MI            BLANK0000159066         199.6
             WNMU      D8    DT  LIC     MARQUETTE, MI            BLANK0000117434         362.0
             WKBT-DT   D8    DT  CP      LA CROSSE, WI            BLANK0000035780         297.7
             DWIFR     D9    DT  BL      FREEPORT, IL             DTVBL4689               120.9

       Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 35465.1   3,904,376   34688.6   3,860,108   31439.0   3,609,905   31350.5   3,608,094     0.28     0.05

Undesired                       Total IX     Unique IX, before      Unique IX, after
WIWN D7 DD APP             104.6        2,055                          88.5        1,811
WMWC-TV D8 DT APP          528.1       77,415      16.0          384     16.0          384
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WWMT D8 DT LIC	1996.2	94,859	1371.8	48,078	1371.8	48,078	
WNMU D8 DT LIC	28.1	293	4.0	98	0.0	0	
WKBT-DT D8 DT CP	819.8	54,844	247.5	28,688	239.5	28,660	
DWIFR D9 DT BL	1106.4	155,394	693.8	87,618	693.8	87,618	

Interference to BLANK0000035791 APP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMVS	D8	DT	APP	MILWAUKEE, WI	BLANK0000035791	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	0.0 km
	WMWC-TV	D8	DT	LIC	GALESBURG, IL	BLCDT20120820AAQ	284.3
	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLANK0000159066	199.6
	WNMU	D8	DT	LIC	MARQUETTE, MI	BLANK0000117434	362.0
	WKBT-DT	D8	DT	CP	LA CROSSE, WI	BLANK0000035780	297.7
	DWIFR	D9	DT	BL	FREEPORT, IL	DTVBL4689	120.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
35465.1	3,904,376	34688.6	3,860,108	31450.9	3,610,248	31362.4	3,608,437	0.28	0.05

Undesired	Total IX		Unique IX, before		Unique IX, after	
WIWN D7 DD APP	104.6	2,055			88.5	1,811
WMWC-TV D8 DT LIC	320.2	54,956	4.0	41	4.0	41
WWMT D8 DT LIC	1996.2	94,859	1379.8	52,480	1379.8	52,480
WNMU D8 DT LIC	28.1	293	4.0	98	0.0	0
WKBT-DT D8 DT CP	819.8	54,844	255.5	28,789	247.5	28,761
DWIFR D9 DT BL	1106.4	155,394	825.9	104,712	825.9	104,712

Interference to BLANK0000035791 APP scenario 3

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMVS	D8	DT	APP	MILWAUKEE, WI	BLANK0000035791	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	0.0 km
	WMWC-TV	D8	DT	APP	GALESBURG, IL	BLANK0000127477	284.3
	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLANK0000159066	199.6
	WNMU	D8	DT	LIC	MARQUETTE, MI	BLANK0000117434	362.0
	WKBT-DT	D8	DT	LIC	LA CROSSE, WI	BLCDT20090507ACT	297.7
	DWIFR	D9	DT	BL	FREEPORT, IL	DTVBL4689	120.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
35465.1	3,904,376	34688.6	3,860,108	31546.7	3,622,858	31454.2	3,621,020	0.29	0.05

Undesired	Total IX		Unique IX, before		Unique IX, after	
WIWN D7 DD APP	104.6	2,055			92.5	1,838
WMWC-TV D8 DT APP	528.1	77,415	20.0	454	20.0	454
WWMT D8 DT LIC	1996.2	94,859	1463.9	50,764	1463.9	50,764
WNMU D8 DT LIC	28.1	293	4.0	98	0.0	0
WKBT-DT D8 DT LIC	567.9	30,792	139.8	15,735	135.8	15,734
DWIFR D9 DT BL	1106.4	155,394	693.8	87,618	693.8	87,618

Interference to BLANK0000035791 APP scenario 4

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMVS	D8	DT	APP	MILWAUKEE, WI	BLANK0000035791	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	0.0 km
	WMWC-TV	D8	DT	LIC	GALESBURG, IL	BLCDT20120820AAQ	284.3
	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLANK0000159066	199.6
	WNMU	D8	DT	LIC	MARQUETTE, MI	BLANK0000117434	362.0
	WKBT-DT	D8	DT	LIC	LA CROSSE, WI	BLCDT20090507ACT	297.7
	DWIFR	D9	DT	BL	FREEPORT, IL	DTVBL4689	120.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
35465.1	3,904,376	34688.6	3,860,108	31562.7	3,623,271	31470.2	3,621,433	0.29	0.05

Undesired	Total IX		Unique IX, before		Unique IX, after	
WIWN D7 DD APP	104.6	2,055			92.5	1,838
WMWC-TV D8 DT LIC	320.2	54,956	4.0	41	4.0	41
WWMT D8 DT LIC	1996.2	94,859	1479.9	55,273	1479.9	55,273
WNMU D8 DT LIC	28.1	293	4.0	98	0.0	0
WKBT-DT D8 DT LIC	567.9	30,792	143.8	15,766	139.7	15,765
DWIFR D9 DT BL	1106.4	155,394	833.9	104,845	833.9	104,845

Interference to BLANK0000040294 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WMVS	D8	DT	LIC	MILWAUKEE, WI	BLANK0000040294	
Undesireds:	WIWN	D7	DD	APP	FOND DU LAC, WI	WIWN CH 7	0.0 km
	WMWC-TV	D8	DT	APP	GALESBURG, IL	BLANK0000127477	284.3
	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLANK0000159066	199.6
	WNMU	D8	DT	LIC	MARQUETTE, MI	BLANK0000117434	362.0
	WKBT-DT	D8	DT	CP	LA CROSSE, WI	BLANK0000035780	297.7
	DWIFR	D9	DT	BL	FREEPORT, IL	DTVBL4689	120.9

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
31266.6	3,444,835	30597.6	3,380,983	28100.3	3,219,197	27999.8	3,216,815	0.36	0.07

Undesired	Total IX		Unique IX, before		Unique IX, after	
WIWN D7 DD APP	164.9	3,385			100.6	2,382
WMWC-TV D8 DT APP	392.1	52,784	4.0	685	4.0	685
WWMT D8 DT LIC	1751.5	117,236	1111.4	56,659	1099.3	56,457

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WNMU D8 DT LIC           20.1         919       4.0          59       4.0          59
WKBT-DT D8 DT CP        720.3      51,342     124.1       6,896      96.0       6,381
DWIFR D9 DT BL          721.8      67,996     469.2      25,162     469.2      25,162

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Interference to BLANK0000040294 LIC scenario 2

             Call      Chan  Svc Status  City, State               File Number            Distance
Desired:     WMVS      D8    DT  LIC     MILWAUKEE, WI             BLANK0000040294

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI           WIWN CH 7                0.0 km
             WMWC-TV   D8    DT  LIC     GALESBURG, IL             BLCDT20120820AAQ       284.3
             WWMT      D8    DT  LIC     KALAMAZOO, MI             BLANK0000159066        199.6
             WNMU      D8    DT  LIC     MARQUETTE, MI             BLANK0000117434        362.0
             WKBT-DT   D8    DT  CP      LA CROSSE, WI             BLANK0000035780        297.7
             DWIFR     D9    DT  BL      FREEPORT, IL              DTVBL4689              120.9

        Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 31266.6   3,444,835   30597.6   3,380,983   28104.3   3,219,882   28003.8   3,217,500     0.36     0.07

Undesired                        Total IX     Unique IX, before     Unique IX, after
WIWN D7 DD APP           164.9       3,385                          100.6       2,382
WMWC-TV D8 DT LIC        240.1      34,769       0.0           0       0.0           0
WWMT D8 DT LIC          1751.5     117,236    1131.4      59,269    1119.3      59,067
WNMU D8 DT LIC            20.1         919       4.0          59       4.0          59
WKBT-DT D8 DT CP         720.3      51,342     124.1       6,896      96.0       6,381
DWIFR D9 DT BL           721.8      67,996     525.4      27,880     525.4      27,880

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Interference to BLANK0000040294 LIC scenario 3

             Call      Chan  Svc Status  City, State               File Number            Distance
Desired:     WMVS      D8    DT  LIC     MILWAUKEE, WI             BLANK0000040294

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI           WIWN CH 7                0.0 km
             WMWC-TV   D8    DT  APP     GALESBURG, IL             BLANK0000127477        284.3
             WWMT      D8    DT  LIC     KALAMAZOO, MI             BLANK0000159066        199.6
             WNMU      D8    DT  LIC     MARQUETTE, MI             BLANK0000117434        362.0
             WKBT-DT   D8    DT  LIC     LA CROSSE, WI             BLCDT20090507ACT       297.7
             DWIFR     D9    DT  BL      FREEPORT, IL              DTVBL4689              120.9

        Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 31266.6   3,444,835   30597.6   3,380,983   28156.3   3,223,946   28043.7   3,221,281     0.40     0.08

Undesired                        Total IX     Unique IX, before     Unique IX, after
WIWN D7 DD APP           164.9       3,385                          112.6       2,665
WMWC-TV D8 DT APP        392.1      52,784       4.0         685       4.0         685
WWMT D8 DT LIC          1751.5     117,236    1199.4      58,468    1179.3      58,243
WNMU D8 DT LIC            20.1         919       4.0          59       4.0          59
WKBT-DT D8 DT LIC        536.2      39,866      68.2       2,147      52.1       1,915
DWIFR D9 DT BL           721.8      67,996     469.2      25,162     469.2      25,162

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Interference to BLANK0000040294 LIC scenario 4

             Call      Chan  Svc Status  City, State               File Number            Distance
Desired:     WMVS      D8    DT  LIC     MILWAUKEE, WI             BLANK0000040294

Undesireds:  WIWN      D7    DD  APP     FOND DU LAC, WI           WIWN CH 7                0.0 km
             WMWC-TV   D8    DT  LIC     GALESBURG, IL             BLCDT20120820AAQ       284.3
             WWMT      D8    DT  LIC     KALAMAZOO, MI             BLANK0000159066        199.6
             WNMU      D8    DT  LIC     MARQUETTE, MI             BLANK0000117434        362.0
             WKBT-DT   D8    DT  LIC     LA CROSSE, WI             BLCDT20090507ACT       297.7
             DWIFR     D9    DT  BL      FREEPORT, IL              DTVBL4689              120.9

        Service area       Terrain-limited       IX-free, before       IX-free, after    Percent New IX
 31266.6   3,444,835   30597.6   3,380,983   28160.3   3,224,631   28047.7   3,221,966     0.40     0.08

Undesired                        Total IX     Unique IX, before     Unique IX, after
WIWN D7 DD APP           164.9       3,385                          112.6       2,665
WMWC-TV D8 DT LIC        240.1      34,769       0.0           0       0.0           0
WWMT D8 DT LIC          1751.5     117,236    1219.4      61,078    1199.3      60,853
WNMU D8 DT LIC            20.1         919       4.0          59       4.0          59
WKBT-DT D8 DT LIC        536.2      39,866      68.2       2,147      52.1       1,915
DWIFR D9 DT BL           721.8      67,996     533.4      29,490     533.4      29,490

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Interference to proposal scenario 1
3.26% interference received

             Call      Chan  Svc Status  City, State               File Number            Distance
Desired:     WIWN      D7    DD  APP     FOND DU LAC, WI           WIWN CH 7

Undesireds:  KWWL      D7    DT  LIC     WATERLOO, IA              BLCDT20100707AXT       330.7 km
             WOOD-TV   D7    DT  LIC     GRAND RAPIDS, MI          BLANK0000141784        200.2
             WSAW-TV   D7    DT  LIC     WAUSAU, WI                BLCDT20120404ABC       248.0
             WMVS      D8    DT  APP     MILWAUKEE, WI             BLANK0000035791          0.0

        Service area       Terrain-limited              IX-free        Percent IX
 31264.9   3,379,124   30878.3   3,352,867   28803.5   3,243,489    6.72     3.26

Undesired                        Total IX            Unique IX   Prcnt Unique IX
KWWL D7 DT LIC           635.1      56,641     128.4       6,665    0.42     0.20
WOOD-TV D7 DT LIC       1269.1      69,037     727.1      25,320    2.35     0.76
WSAW-TV D7 DT LIC       1143.4      71,125     517.5      23,154    1.68     0.69
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RF Exposure Analysis

This will serve as the exhibit to confirm that no significant Environmental Impact Assessment as defined in FCC Rule 1.1307 for the proposed facility is necessary. The site is not an Native American religious site, nor located in a flood plain area, nor officially designated wilderness area, nor officially designated wildlife preserve. Likewise, the proposed change of the facility does not include any lighting changes, nor creates any land disturbance or surface features to the existing facility.

To ensure the proposed facility does not create an RF Radiation Hazard, the calculation for this proposed facility is shown below. The RF radiation near the ground (2 meters above ground) can be calculated using the OET-65 formula for broadcast television stations taking into account the following factors

S= power density in watts per square meter

P= total Effective Radiated Power from the antenna

F= field radiated on the axis to the ground level

R= distance to the ground level (actually 2 meters above ground)

Therefore, given the following data for the proposed facility:

P= 76 kWatts (38 kW HPol and 38 kW VPol)

R=Radiation center above ground level – 2 meters)
= 337 meters

F= 0.2 for VHF antennas

The RF radiation near the ground level can be calculated with the following result:

0.89 μwatts/cm^2

which is 0.45 % of the general population exposure limit of 200 μw/cm^2 for this channel 7 facility

Since the contribution from this RF source is less than 5% of the MPE limit for Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, proposed facility is not considered a “significant contributor” to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. The licensee, in coordination with the other users of the antenna facility, will reduce power or cease operation as necessary to protect persons having access to the tower or antenna from RF energy in excess of the FCC guidelines.