



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

# MINOR MODIFICATION TO A LICENSED TELEVISION BROADCAST STATION

**CALL SIGN: WIIQ**  
**FACILITY ID: 720**  
**FCC FILE NO.: BLEDT-20090511AHE**  
**LOCATION: DEMOPOLIS, AL**

## **Prepared For:**

Alabama Educational Television  
Commission  
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## **Prepared By:**

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## **1.0 EXECUTIVE SUMMARY**

Alabama Educational Television Commission is the licensee of a television broadcast station having call sign WIIQ facility ID 720. It is herein proposed to modify the licensed facility as follows:

- Replace the top mount Dielectric TUF-P4-12/48H-1 antenna with a Dielectric TFU-22JTH/VP-R P270 having a similar antenna pattern.
- Increase the antenna height by 0.3m.
- Change the polarity from Horizontal to Elliptical.

Pursuant to 47 CFR § 73.3572 the instant application is considered a minor modification since no change in community of licensed or channel change is proposed.

## **2.0 ALLOCATION ANALYSIS**

Appendix A are the summarized results from TVStudy V2.2.5. The study illustrates that the proposed facility causes no interference failures.

## **3.0 SECTION § 73.625 PREDICTED CONTOUR COMPLIANCE**

Appendix B illustrates the § 73.625 predicted F(50,90) 39.25 dBµV/m noise limited protected contour and the F(50,90) 48.0 dBµV/m principal community coverage contour. As illustrated the proposed 48 dBµV/m contour completely subsumes the principal community of license as required.

The Appendix B predicted coverage contours were generated using V-Soft Probe-5<sup>1</sup> software in accordance with § 73.625(b) methodology using F(50,90) propagation curves. The average terrain was extracted from three arc second

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<sup>1</sup> Version 5.42

terrain along eight equally spaced cardinal radials from 3 kilometers to 16 kilometers from the site and beginning from true north.

#### **4.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

##### **4.1 General Environmental Requirements**

The proposed antenna is to be top mounted to an existing tower which is registered with the FAA and FCC and will not require modification since there is no change in overall height. Since the existing structure has been previously accepted by the FAA and the FCC, it is thus presumed that the following screening criteria has already been mitigated:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation, or water diversion).

##### **4.2 Radio Frequency Radiation (RFR) Compliance.**

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described

in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using radial lengths of 0.25 miles in 0.001-mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360-degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix C demonstrates that the peak exposure is 1.25% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus,

contributions to exposure from other RF sources in the vicinity of the proposed facility were not considered. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

## **5.0 CERTIFICATION**

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on January 9, 2024

Ryan Wilhour



Consulting Engineer

## WIIQ – Minor Modification to a Licensed Television Broadcast Station

Demopolis, AL

### APPENDIX A – WIIQ Proposed TVStudy V2.2.5 Allocation Analysis

Study created: 2024.01.09 08:38:05

Study build station data: LMS TV 2024-01-08

Proposal: WIIQ D19 DT LIC DEMOPOLIS, AL  
File number: WIIQ Proposed  
Facility ID: 720  
Station data: User record  
Record ID: 1657  
Country: U.S.  
Zone: III

Search options:  
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WMPV-TV	D18	DT	LIC	MOBILE, AL	BLANK0000116724	196.3 km
No	WBMM	D18	DT	LIC	TUSKEGEE, AL	BLANK0000081490	184.5
Yes	WHNT-TV	D19	DT	CP	HUNTSVILLE, AL	BLANK0000127591	291.9
Yes	WHNT-TV	D19	DT	LIC	HUNTSVILLE, AL	BLCDT20111118COZ	291.9
Yes	WIYC	D19	DT	LIC	TROY, AL	BLANK0000120197	184.1
Yes	WANF	D19	DT	LIC	ATLANTA, GA	BLANK0000205000	366.3
No	WTLH	D19	DT	LIC	BAINBRIDGE, GA	BLANK0000119592	414.3
No	WDSU	D19	DT	LIC	NEW ORLEANS, LA	BLANK0000204867	333.4
No	KARD	D19	DT	LIC	WEST MONROE, LA	BLANK0000063972	405.5
Yes	WABM	D20	DT	LIC	BIRMINGHAM, AL	BLANK0000192391	159.6
Yes	WKRQ-TV	D20	DT	LIC	MOBILE, AL	BLANK0000120975	186.1
No	WMPN-TV	D20	DT	LIC	JACKSON, MS	BLEDT20080807AAP	238.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D19  
Latitude: 32 21 45.50 N (NAD83)  
Longitude: 87 52 30.50 W  
Height AMSL: 367.6 m  
HAAT: 328.2 m  
Peak ERP: 1000 kW  
Antenna: TFU-22JTH/VP-R P270 0.0 deg  
Elev Pattern: Generic  
Elec Tilt: 0.75

39.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1000 kW	316.9 m	102.3 km
45.0	169	303.3	85.0
90.0	163	324.7	87.3
135.0	169	331.6	88.4
180.0	1000	331.0	103.7
225.0	169	346.0	89.9
270.0	163	340.0	89.0
315.0	169	332.5	88.5

Distance to Canadian border: 1132.7 km

Distance to Mexican border: 1128.5 km

Conditions at FCC monitoring station: Powder Springs GA  
Bearing: 59.5 degrees Distance: 337.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 304.0 degrees Distance: 1773.7 km

No land mobile station failures found

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

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

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Demopolis, AL

Maximum new IX to LPTV: 2.00%

Proposal causes no interference to BLANK0000127591 CP  
Proposal causes no interference to BLCDT20111118COZ LIC  
Proposal causes no interference to BLANK0000120197 LIC  
Proposal causes no interference to BLANK0000205000 LIC  
Proposal causes no interference to BLANK0000192391 LIC  
Proposal causes no interference to BLANK0000120975 LIC

---- Below is IX received by proposal WIIQ Proposed ----

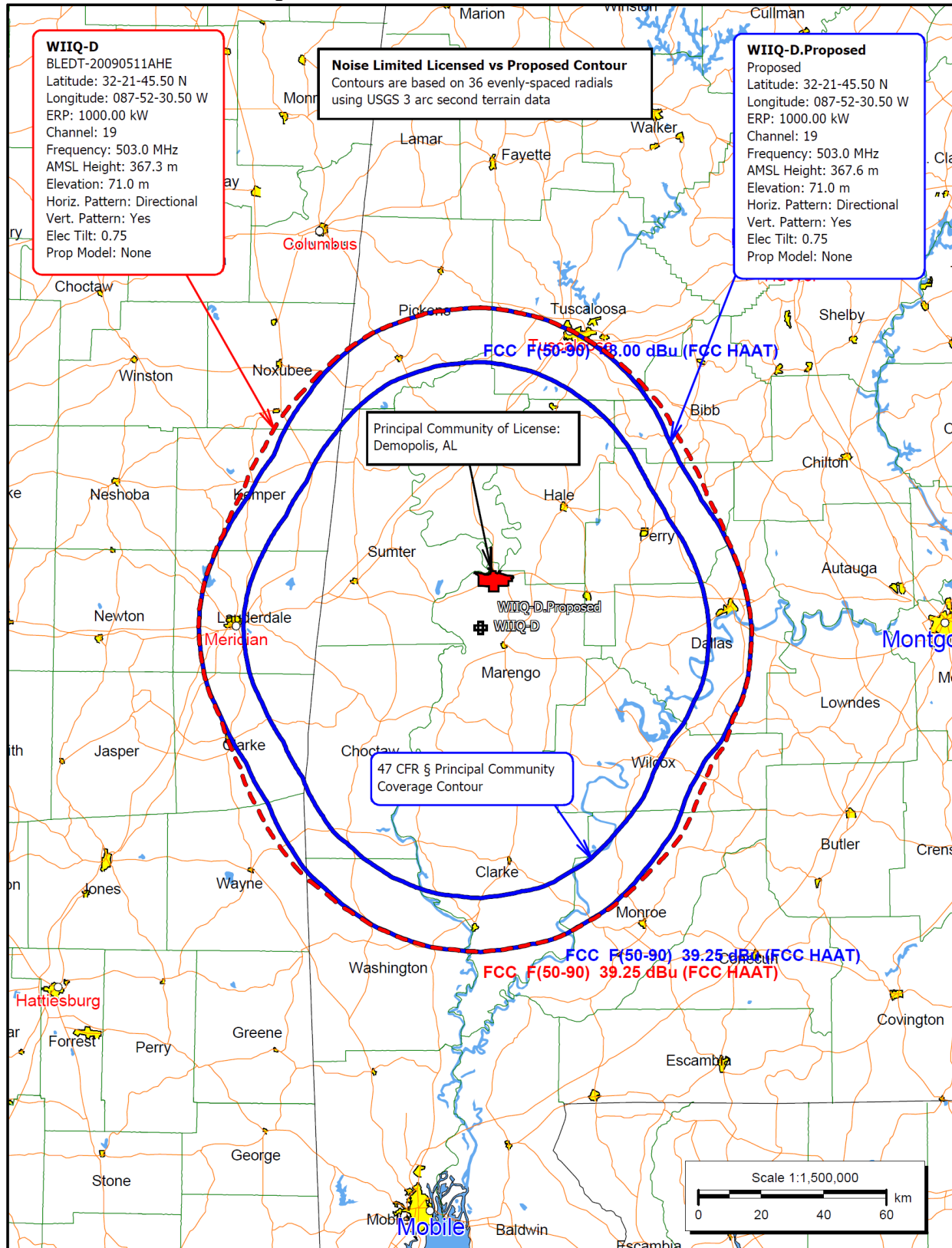
Proposal receives 3.53% interference from scenario 1  
Proposal receives 3.00% interference from scenario 2  
No IX check failures found.



# WIIQ – Minor Modification to a Licensed Television Broadcast Station

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## APPENDIX B – 47 CFR § 73.625 Predicted Contours



## APPENDIX C – Far Field Exposure to RF Emissions

