

Application for Modification
Post – Repack Construction Permit
Engineering Exhibit

WZRB(TV) – Columbia,

SC Facility ID: 136750

Licensee "ION MEDIA LICENSE COMPANY, LLC" is currently authorized to operate on Post-Repack DTV channel 25. The Antenna Structure Registration Number is 1044529 with a Latitude of 34° 32' 39" N+ and a Longitude of 080° 59' 50" W-.

The purpose of this application is to request authority to modify the application (0000034888) to operate from the same guyed tower utilizing an ERP of 595 kW. The HAAT is 192 m (AGL 158 m) with an AMSL of 273.8 m.

Antenna System

A directional top mounted antenna will be utilized. It will be affixed to an existing guyed tower structure and will not increase the overall height of the structure. Any vertical component will not exceed the horizontal pattern in any direction. Elevation and Azimuth patterns are attached.

RF Hazard (Environmental)

Human Exposure measurements were calculated using the OET- 65 equation and the outcome is compliant with FCC 1.1310. Furthermore, the calculation is under 5% of the limit categorically excluding the application from further environmental evaluations.

Calculated Maximum	Calculated Exposure	Percent of Limit
mW/cm ²	mW/cm ²	
0.359	0.008060	2.24%

The station will coordinate with other(s) to comply with access, antenna and/or tower issues related to RF Exposure

Broadcast Facility

\$73.616 Interference Caused

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-05-23 indicates that there is no excessive new interference created. This study used cell spacing of 2 km and a profile spacing of .5 km.

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MX Interference Received Cases

Please see attached “Supplemental Engineering Statement Regarding Received Interference”.

§73.622 Maximum ERP and Antenna Height

The application does not exceed the maximum ERP for the specified HAAT.

§73.623 DTV Allotments

The application does not change the DTV Table of Allotments.

§73.625 Coverage of Principal Community

The application’s ERP will sufficiently cover Columbia, South Carolina. RF coverage analysis attached.

§73.1030 Radio, Research and Receiving Locations

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-05-23 indicates that no excessive interference to any “protected” locations. As such, no coordination or notification is required.

§73.1650 International Agreements

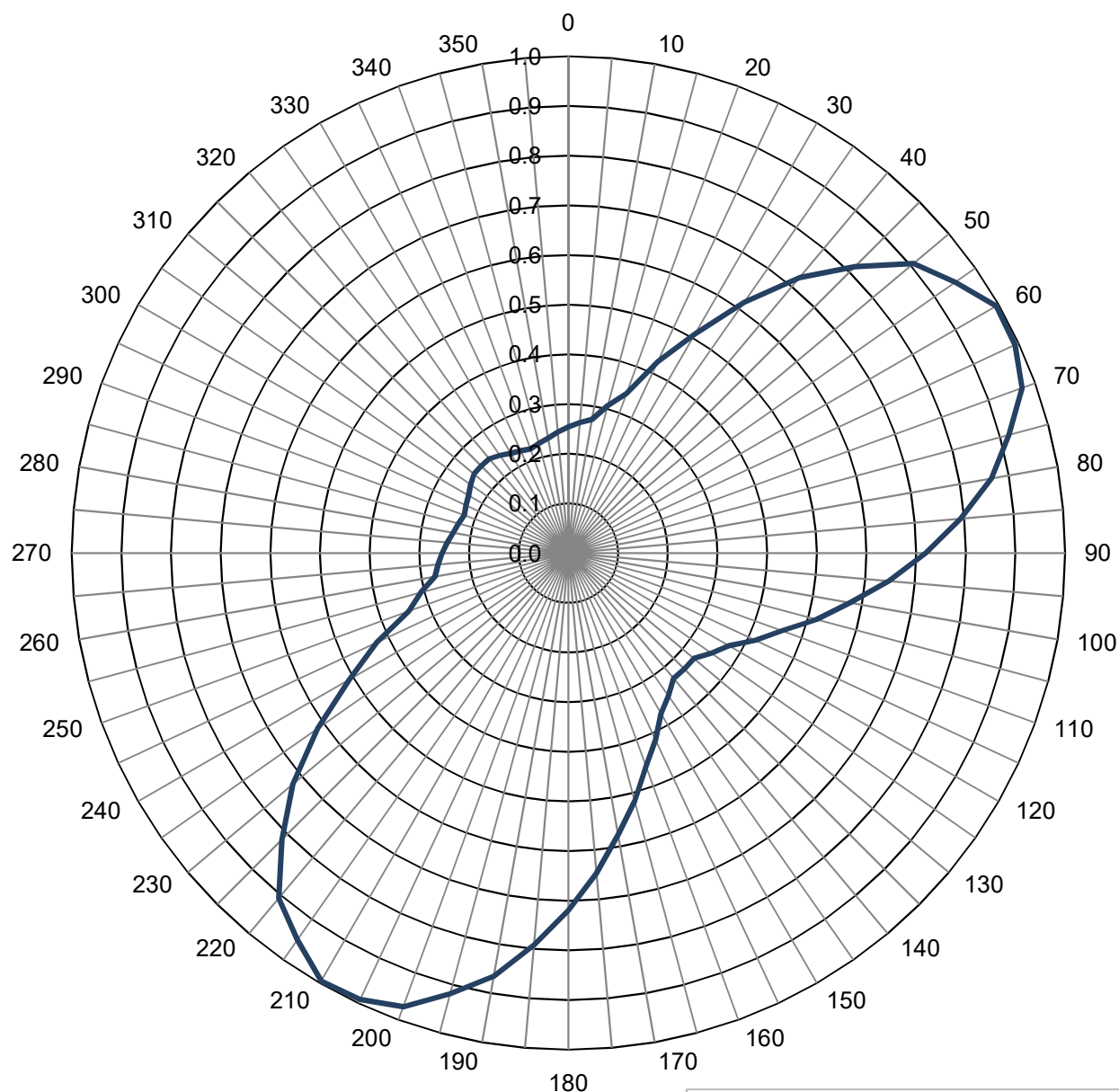
The application’s transmit location is 857.2 km from Canada. As such, no coordination or notification is required.

The application’s transmit location is 1772.8 km from Mexico. As such, no coordination or notification is required.

Azimuth Pattern

Type:	ATW-PX	Polarization:	Horizontal
Directivity:	3.00 numeric (4.77 dB)	Frequency:	25 (ATSC)
Peak(s) at:		Location:	Columbia, SC
		NOTE: Pattern shape and directivity may vary with channel and mounting configuration.	

Relative Field



NOTE: the shown Horizontal and Vertical Azimuth Pattern is preliminary and ERI will emulate as close as possible, but the pattern cannot be verified until order is placed and tested in the chamber.

Elevation Pattern

Type: ATW16H3H

Polarization:

Horizontal

Directivity:

Frequency:

25 (ATSC)

Main Lobe: 16.00 numeric (12.04 dB)

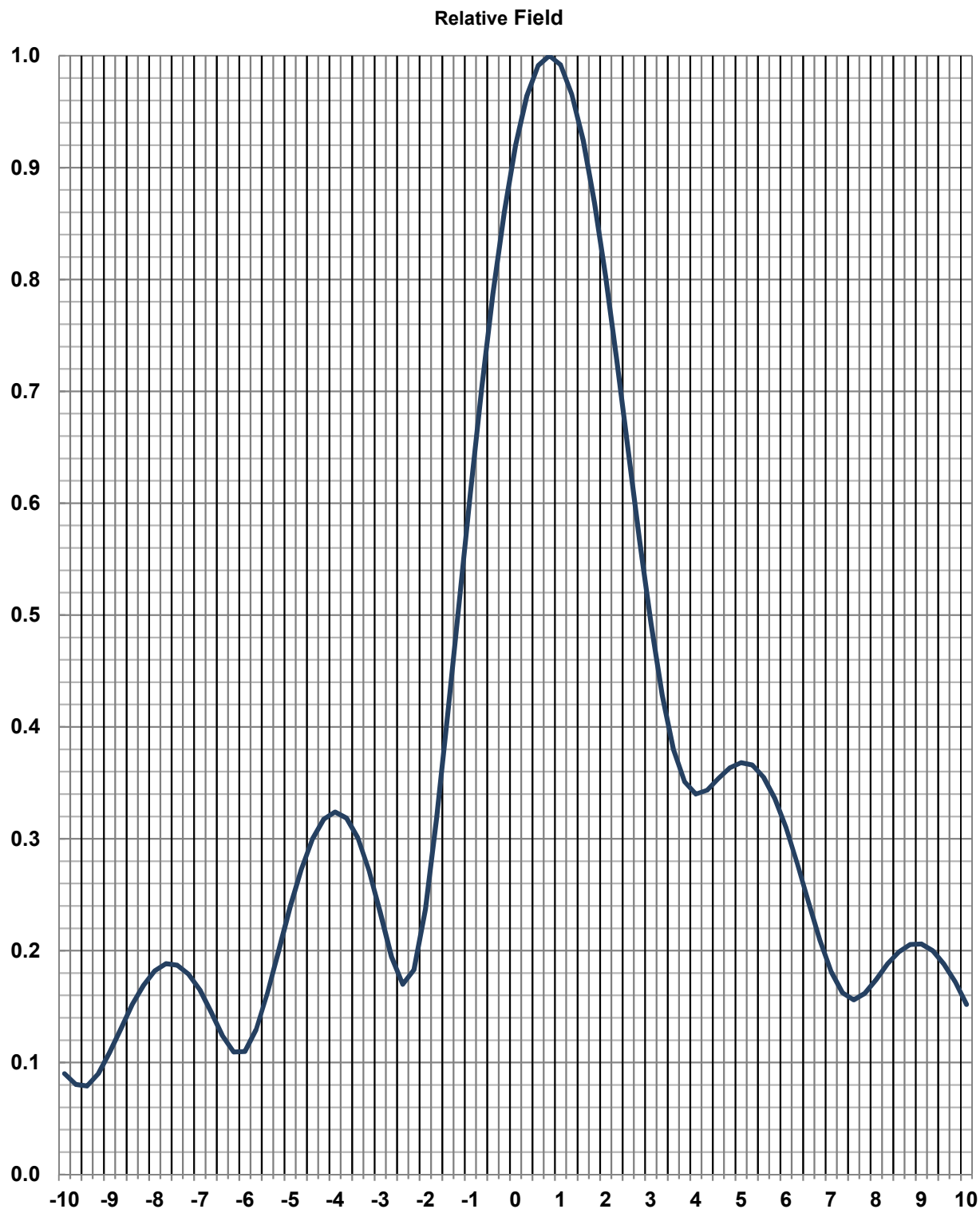
Location:

Columbia, SC

Horizontal: 13.54 numeric (11.32 dB)

Beam Tilt:

0.75 degrees



WZRB-APP

0000034888

Latitude: 34-02-39 N

Longitude: 080-59-50 W

ERP: 595.00 kW

Channel: 25

Frequency: 539.0 MHz

AMSL Height: 273.8 m

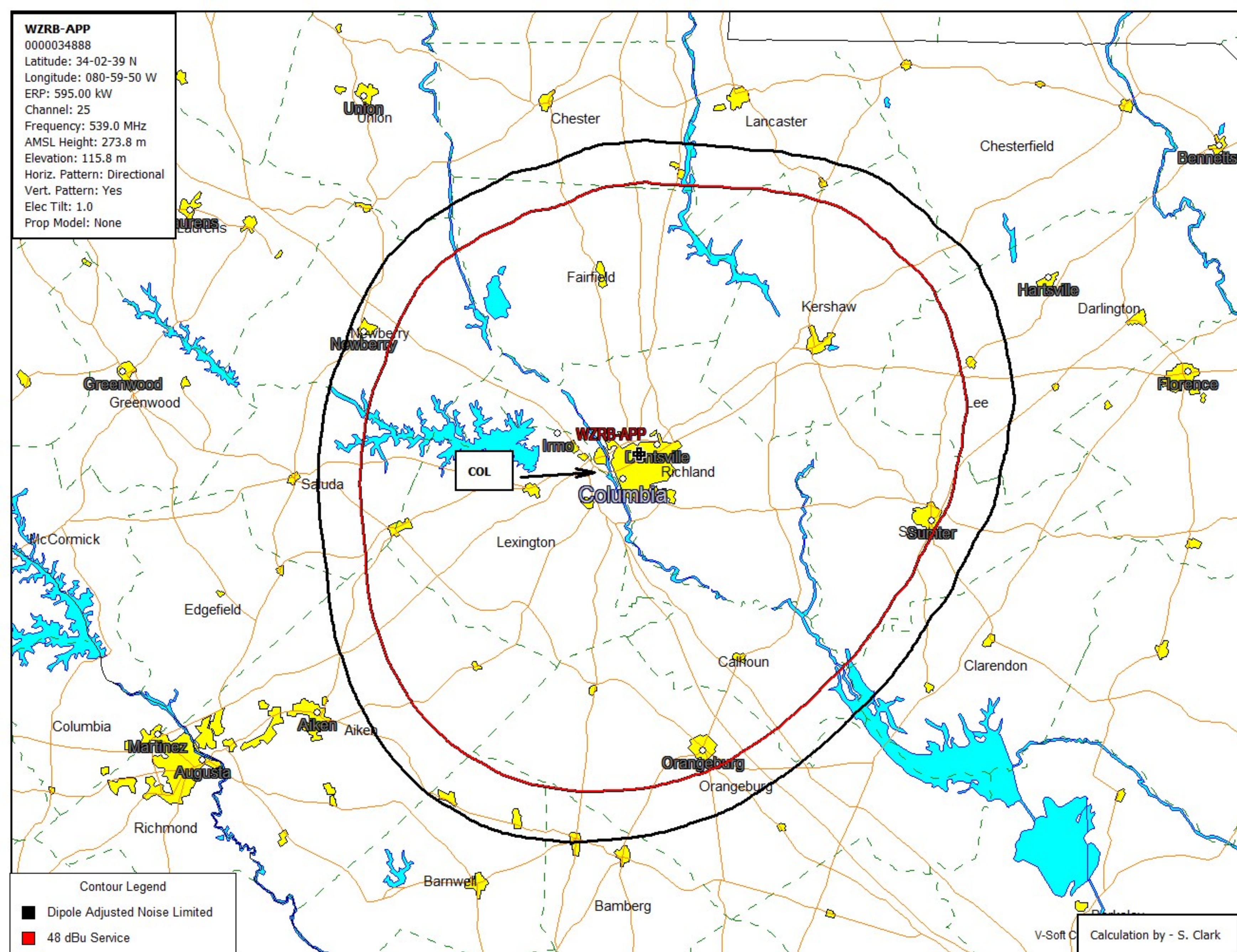
Elevation: 115.8 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 1.0

Prop Model: None

**Contour Legend**

■ Dipole Adjusted Noise Limited

■ 48 dBu Service

V-Soft C Calculation by - S. Clark