

WEDW (DT) DIGITAL TELEVISION SERVICE CALCULATIONS

CALCULATION OF PRESENT SERVICE AREA  
AND PREDICTED SERVICE LOSS AREA

Engineering Statement - Narrative

The service areas shown on the included Figure 1 and prepared by this office are derived from the technical parameters contain in the FCC's LMS database as of July 28, 2018 for the following applications or authorizations:

CALL SIGN	FACILITY ID	FCC APP ID	CHANNEL	STATUS
WEDW (DT)	13594	0000029810	49	LICENSE
WEDW (DT)	13594	0000034869	21	CP

The geographical coordinates of the facilities have been adjusted to the computed NAD 27 datum values to match the underlying map "database of features" on Figure 1 as shown in the table below:

Facility Geographic Coordinates Computed Conversion Values						
CALL SIGN	FCC APP ID	CHANNEL	NAD 83 DATUM - FCC LMS		NAD 27 DATUM - MAP FIG 1	
WEDW (DT)	0000029810	49	41-16-44.3 N. Lat.	073-11-06.4 W. Lon.	41-16-43.95 N Lat.	073-11-07.99 W. Lon.
WEDW (DT)	0000034869	21	41-03-10.2 N. Lat	073-33-47.0 W. Lon.	41-03-09.85 N. Lat.	073-33-48.55 W. Lon.

Contour Calculations and Loss Area Values

The digital service contours were computed using the NGDC 3-second digital database of terrain elevations to determine the height above average terrain of the antenna radiation center for 360 evenly spaced (1-degree of azimuth) radials. The appropriate transmit ERP (Effective Radiated Power) was then applied for each radial and the distance to the contour calculated using the FCC's F(50,90) propagation curves for the appropriate TV channel/frequency. The UHF dipole factor (determined by Frequency/Channel) was applied to determine the contour value to use for the Noise Limit Service Contour (NLSC) for each application/authorization.

Loss of service area calculations were done using the existing service area of the WEDW facility and the WEDW construction permit facility for comparison. Population values and housing units (households) data were extracted from the US Census 2010 data at the census block level for those census centroid that lie within the predicted service contours.

The census centroid values for the loss areas were then tabulated and a percentage of the total service area calculated.

Certification of Engineering Statement

The statements presented herein were prepared by the undersigned, and are believe to be true and correct and are based upon information and fact provided from various online databases and other electronic research resources; and to those resources I believe them to be correct. The map results provided herein relies on certain computations produced by various computer software tools (programs), and I believe those computations and the results to be correct. I am the senior RF spectrum engineer at Mullaney Engineering, Inc and a principle in the technical consulting firm of T Z Sawyer Technical Consultants.

July 31, 2018

Mullaney Engineering, Inc.  
T Z Sawyer Technical Consultants

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