

## **ENGINEERING EXHIBIT**

### **Special Temporary Authority for Digital Low Power Television Station**

prepared for

#### **Gray Television Licensee, LLC**

W22CY-D Clarksburg, WV

Facility ID 125359

Ch. 22 (digital) 3.5 kW

*Gray Television Licensee, LLC* (“Gray”) is the licensee of analog Low Power Television station W22CY, Channel 22, Clarksburg WV, Facility ID 125359 (BLTTTL-20060120ADM). W22CY is presently silent. A Construction Permit (“CP” file# 0000068832) authorizes W22CY to flashcut to digital operation on Channel 22 as W22CY-D at a different location from the licensed site. The tower specified in the flashcut CP is shared with *Gray*’s full service television stations WVFX (Fac ID 10976, Clarksburg WV) and WDTV (Fac ID 70592, Weston WV). The tower requires replacement or significant strengthening in order to accommodate the reassignment of WVFX to Channel 13, as described in LMS file number 0000120287. The STA sought herein by *Gray* seeks to operate W22CY-D as digital with a reduced facility in advance of constructing the flashcut facility as authorized.

The proposed STA facility will operate with 3.5 kW effective radiated power at the same site authorized in the CP. A directional transmitting antenna will be utilized, and Figure 1 supplies a plot of the antenna’s azimuthal pattern. As shown in Figure 2, the proposed STA facility’s contour does not exceed that of the W22CY-D flashcut CP.

#### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC’s OET Bulletin Number 65. Based on OET-65 equation (10), and considering 20 percent antenna relative field in downward elevations (pattern data shows less than 20 percent relative field at angles 30 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is

10.7  $\mu\text{W}/\text{cm}^2$ , which is 3.1 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No change in structure height is proposed.

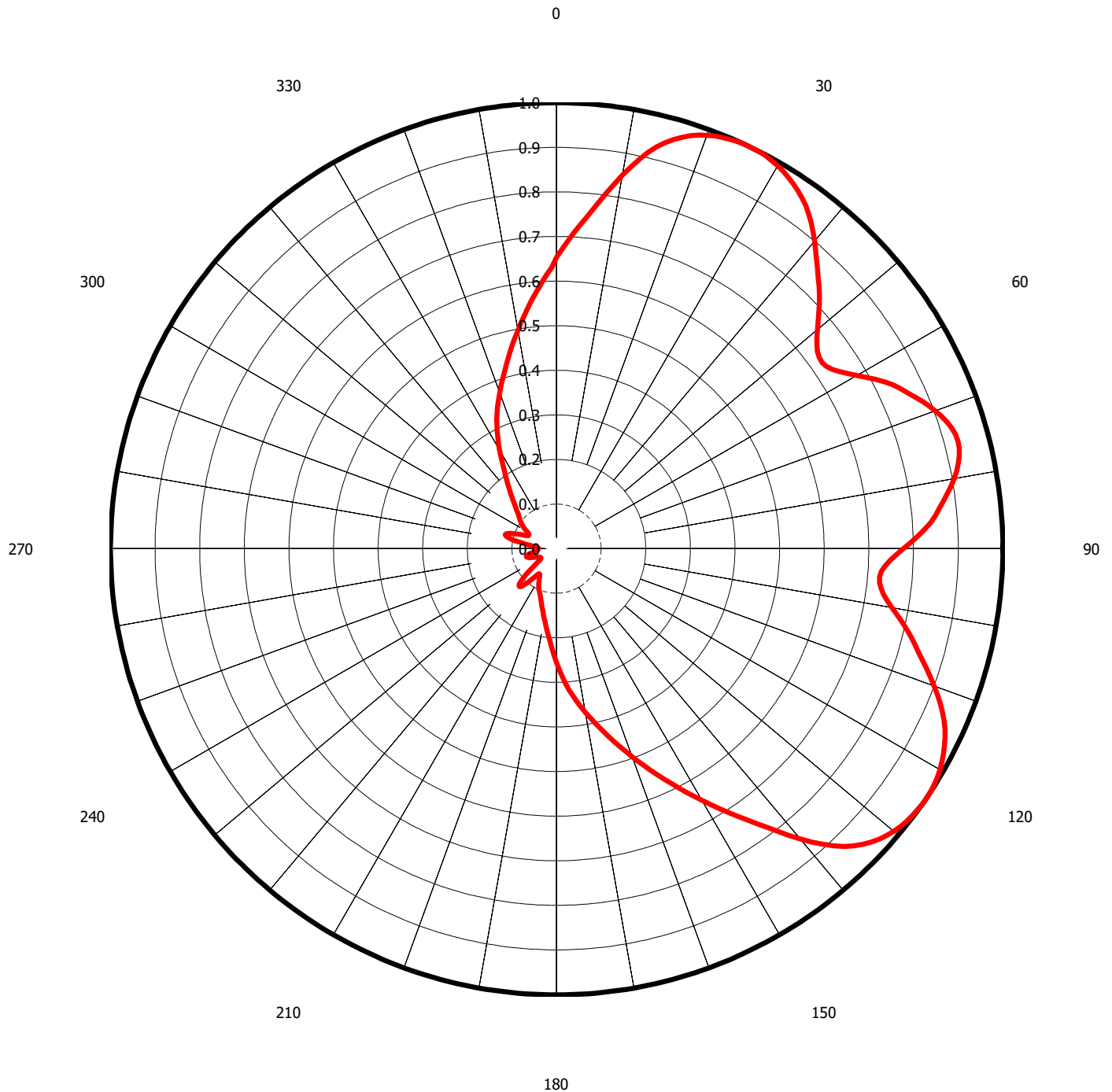
List of Attachments

Figure 1      Antenna Azimuthal Pattern  
Figure 2      Coverage Contour Comparison

**Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E.      October 26, 2020  
207 Old Dominion Road      Yorktown, VA 23692      703-650-9600

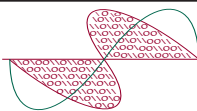
**Azimuth Pattern - Relative Field  
(True North)**



**Figure 1**  
**STA Antenna Azimuthal Pattern**  
**W22CY-D Clarksburg, WV**  
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October, 2020



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 2**  
**Coverage Contour Comparison**  
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