

**MINOR CHANGE APPLICATION**  
**MODIFICATION OF BMPFT-20170707AAV**  
**CLEARCAST, INC.**  
**W291DD FM TRANSLATOR STATION**  
**CH 291D - 106.1 MHZ - 0.25 KW**  
**LEXINGTON, NORTH CAROLINA**  
**June 2018**

**EXHIBIT C**

**Radio Frequency Radiation Study**

This radio frequency radiation study is being conducted to determine whether this proposal is in compliance with OET Bulletin #65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study utilizes the appropriate formulas contained in the OET Bulletin. Unless otherwise stated this analysis will use a single bay dipole antenna as reference.

The proposed translator antenna will be mounted with its center of radiation 86.9 meters (285 feet) above the ground at the tower location and will operate with an effective radiated power of 0.25 kilowatt in the vertical and horizontal planes (circularly polarized). W291DD will utilize an FCC Type 1 six (6) bay half wavelength antenna. At 2.0 meters above the ground at the base on the tower, the proposed W291DD translator's antenna will contribute 0.0000372 mw/cm<sup>2</sup>.<sup>1</sup> Based on exposure limitations for a controlled environment, less than 0.1% of the allowable limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, less than 0.1% of the ANSI limit is reached at 2.0 meters above the ground at the tower base.

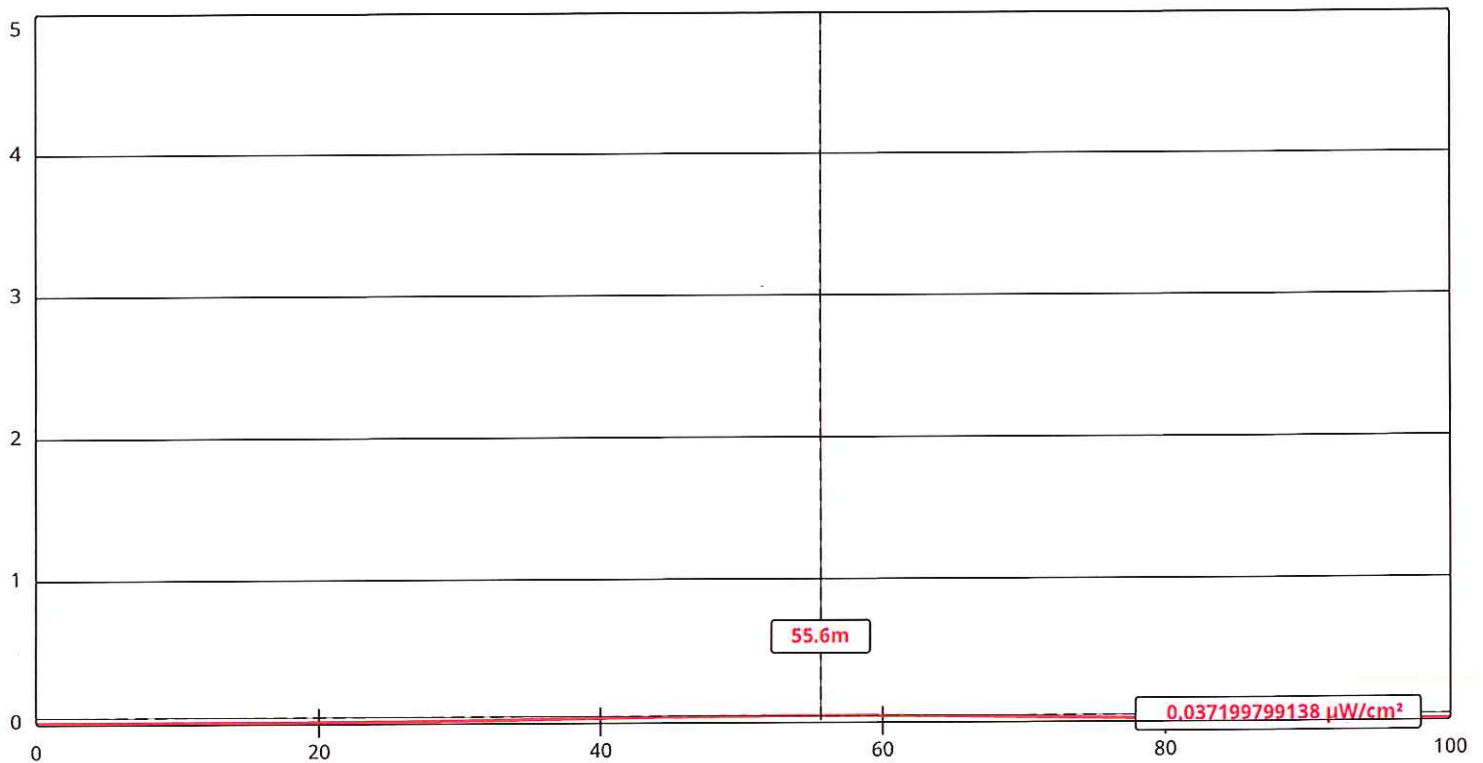
---

1) This level of signal is delivered 55.6 meters from the base of the tower and is considered a worst case scenario.

Since this level for uncontrolled environments is below the 5.0% limit defined by the Commission in §1.1307(b)(3)(i) of the rules, the proposed W291DD translator facility is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, Clearcast will ensure warning signs are posted in the vicinity of the tower and at the gated access point warning of potential radio frequency radiation hazards at the site. In addition, Clearcast will reduce the power of the proposed facility or cease operation, in cooperation and coordination with other tower users, as necessary, to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines.

# FM Model

The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data [published in 1985 by the EPA](#)



[View Tabular Results +](#)

Channel Selection

[Antenna Type +](#)

Height (m)

ERP-H (W)

Num of Elements

Num of Points

Channel 291 (106.1 MHz) ▼

EPA Type 1: Ring-and-Stub or "Other" ▼

86.9

250

6

500

Distance (m)

ERP-V (W)

Element Spacing ( $\lambda$ )

100

250

.5

Apply

EXHIBIT #C1  
MINOR CHANGE APPLICATION  
MODIFICATION OF BMPFT-20170707AAV  
CLEARCAST, INC.  
W291DD FM TRANSLATOR STATION  
CH 291D - 106.1 MHZ - 0.25 KW  
LEXINGTON, NORTH CAROLINA  
June 2018