

***COMPREHENSIVE TECHNICAL EXHIBIT  
APPLICATION FOR LICENSE***

---

**FM TRANSLATOR STATION  
K268CF (FORMERLY K209EC) – KANSAS CITY, MO  
101.5 MHz / 0.25 kW ERP ND**

**COMMUNITY BROADCASTING, INC.**

**DECEMBER, 2012**

© 2012 JEREMY RUCK & ASSOCIATES, INC.

**JEREMY RUCK & ASSOCIATES, INC.**

P.O. Box 415  
221 S. 1st Avenue  
Canton, IL 61520

Tel: 309.647.1200  
Fax: 855.332.9537  
jeremyruck.com

**12.11.2012**

## **APPLICATION FOR LICENSE**

The following engineering statement and attached exhibits have been prepared for **Community Broadcasting, Inc.** ("CBI"), licensee of FM translator station K268CF (formerly K209EC) at Kansas City, Missouri, and are in support of their application for license to cover changes authorized under construction permit BPFT-20120905AAU. That construction permit authorized a change in the channel of operation, as well as an increase in the center of radiation AMSL and maximum effective radiated power. Upon submission of this application, operation of the facility pursuant to automatic program test authority will commence.

The construction permit as issued by the Commission listed two special conditions or restrictions. CBI is in compliance with both of these conditions. Each condition will be discussed individually.

The first of the special conditions pertains to human exposure to radiofrequency radiation. Under this condition, CBI is required to coordinate with other users of the site to prevent persons from having access to the site from being exposed to levels of non-ionizing radiation in excess of the applicable safety standards. CBI certifies that it will coordinate with all present users as well as any future user to comply with this condition. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power or cessation of operation as necessary.

The second condition listed on the construction permit requires that CBI have on file FCC Form 350 prior to the commencement of operations under program test authority. The submission

JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415  
221 S. 1st Avenue  
Canton, IL 61520

Tel: 309.647.1200  
Fax: 855.332.9537  
jeremyruck.com

12.11.2012

2

of this application will result in compliance with this special condition. As previously stated, CBI will commence program test operations following the submission of this license application.

The specified transmitter power achieves the authorized effective radiated power. The authorized effective radiated power is 250 Watts, and the antenna in use is an Electronics Research, Inc. (ERI) model LPX-2E. The manufacturer of this antenna specifies the gain of the antenna as 0.997. The necessary input power to the antenna to achieve the authorized effective radiated power is 250.8 Watts.

Ahead of the antenna is 1130 feet of Andrew/Commscope LDF5-50A semi-flexible coaxial cable with a nominal diameter of 7/8 inches. This length of line at the frequency of operation has an efficiency of 38.26 percent based on data from the manufacturer. The input power to the transmission line run necessary to achieve the authorized effective radiated power is 655.4 Watts.

Moving towards the transmitter the next component in the system is a Polyphaser lightning protection/suppression device. The manufacturer of this device specifies that it has an insertion loss of 0.1 dB, which corresponds to an efficiency of 97.72 percent. The input power to the Polyphaser to achieve the authorized effective radiated power is therefore 670.7 Watts.

The final component in the transmission system, which is the initial component in the system as viewed by the transmitter, is a 3-foot jumper cable comprised of "super-flexible" ½ inch nominal diameter coaxial cable. The efficiency of this line at the frequency of operation is 98.55 percent. Thus the input power to this jumper to achieve the authorized effective radiated power is 680.6 Watts.

JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415  
221 S. 1st Avenue  
Canton, IL 61520

Tel: 309.647.1200  
Fax: 855.332.9537  
jeremyruck.com

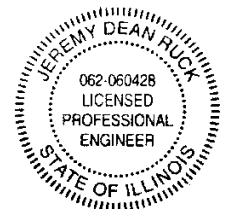
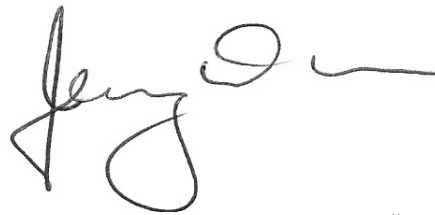
**12.11.2012**

**3**

The input to this jumper is connected to the output of the transmitter. The value of 680.6 Watts should be rounded to 681 Watts. Thus the transmitter output power specified on the form pages achieves the authorized effective radiated power.

The antenna utilized by the facility is a non-directional antenna. This antenna was installed in accordance with the instructions provided by the manufacturer.

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature  
License Expires November 30, 2013

Jeremy D. Ruck, PE  
December 11, 2012

**JEREMY RUCK & ASSOCIATES, INC.**

P.O. Box 415  
221 S. 1st Avenue  
Canton, IL 61520

Tel: 309.647.1200  
Fax: 855.332.9537  
jeremyruck.com

**12.11.2012**