

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

FM Translator Station K298CB
0.099 kW ERP / 107.5 MHz
Beaumont, Texas

E-String Wireless, Ltd.

May, 2015

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **E-String Wireless, Ltd.** ("E-String"), licensee of FM translator station K299BN at Beaumont, Texas, and is in support of their application for license to cover authorized changes to that facility.¹ This application seeks to cover changes to the facility authorized under FCC File No. BPFT-20150113ABY. That construction permit authorized a change in the channel of operation for the facility, thus the new callsign is K298CB, which will be utilized once program test operation commences for the facility.

K298CB is authorized to operate with a maximum effective radiated power of 99 Watts at a center of radiation of 95 meters above mean seal level, 93 meters above ground, utilizing a non-directional antenna. The antenna proposed and utilized by the facility is a Nicom BKG77/1 single-bay antenna. Construction of the facility pursuant to the terms of the underlying construction permit has been completed.

The construction permit as issued by the Commission listed two special conditions. E-String complies with each of these special conditions.

The first special condition pertains to human exposure to radiofrequency radiation in the vicinity of the structure. Under this condition, E-String is required to coordinate with all other users of the site to ensure that workers and other personnel are not exposed to radiofrequency radiation in excess of the applicable safety standards. E-String certifies that it will undertake the coordination activities required under this special condition. Such coordination activities may

¹ The Facility ID for K298CB (K299BN) at Beaumont, Texas is 156318.

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include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

The second special condition requires that this license application be on file with the Commission prior to the commencement of program tests. Only limited equipment tests have been performed in advance of the submission of this application for license.

The specified transmitter power output achieves the authorized effective radiated power. The antenna utilized by the facility is a Nicom BKG77/1 single bay. This antenna has a power gain of 0.50 as specified by the manufacturer.² The input power to the antenna to achieve the authorized effective radiated power is 197.5 Watts.

Ahead of the antenna is the main run of transmission line. This run consists of 305 feet of Andrew/Commscope LDF4-50A, which is semi-flexible foam-dielectric coaxial cable with a nominal diameter of one-half inch. Data from the manufacturer indicates that the efficiency of this run of transmission line is 61.30 percent. The input power to the transmission line to achieve the authorized effective radiated power is 322.2 Watts.

Preceding the main run of transmission line is an isocoupler due to the installation of the antenna on an AM radiator. The insertion loss of this isocoupler is stated at 0.1 dB, which corresponds to an efficiency of 97.72 percent. The input power to the isocoupler to achieve the authorized effective radiated power is 329.7 Watts.

² Data sheets from the manufacturer indicate a power gain of -3 dBd. This value has been converted to the listed decimal value.

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Between the transmitter and the isocoupler is the horizontal run of transmission line. This run consists of 30 feet of Andrew/Commscope LDF4-50A. The data from the manufacturer at the frequency of operation indicates that the efficiency of this run of line is 94.65 percent. The input power to this section of transmission line to achieve the authorized effective radiated power is 348 Watts. The input to this line is the output of the transmitter, thus the specified transmitter power output achieves the authorized effective radiated power.

As previously stated, the facility utilizes a non-directional antenna. The antenna utilized was installed in accordance with the instructions of the manufacturer.

The construction permit, as retrieved from the CDBS, lists KQQK(FM) at Beaumont, Texas as the primary station.³ It should be noted that under the application for construction permit, FCC File No. BPFT-20150113ABY, the primary facility was changed to AM station KZZB at Beaumont, Texas.⁴ The application for construction permit demonstrated that the use of that facility for the primary station would comply with the applicable sections of the Commission's Rules.

³ The Facility ID for KQQK(FM) at Beaumont, Texas is 19087.

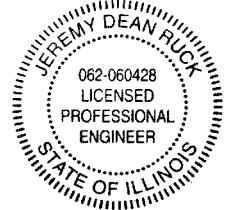
⁴ The Facility ID for KZZB at Beaumont, Texas is 48045.

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The preceding statement has been prepared by me, or under my direction, and is true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2015

Jeremy D. Ruck, PE
May 18, 2015

JEREMY RUCK & ASSOCIATES, INC.

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