COMPREHENSIVE TECHNICAL EXHIBIT
APPLICATION FOR LICENSE

FM Translator Station K246CF
0.03 kW ERP / 97.1 MHz
Beaumont, Texas

E-String Wireless, Ltd

July, 2014

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APPLICATION FOR LICENSE

The following engineering statement has been prepared for **E-String Wireless, Ltd** ("E-String"), permittee of new FM translator station K246CF at Beaumont, Texas, and is in support of their application for license to cover initial construction of that facility authorized under FCC File No. BMPFT-20140313ADN. K246CF has been assigned a facility ID of 156318.

K246CF is authorized to operate with a maximum effective radiated power of 30 Watts at a center of radiation of 95 meters above mean sea level, 93 meters above ground, utilizing a directional antenna. The antenna proposed and to be utilized by the facility is a vertically polarized Kathrein-Scala CL-FM. Construction of the facility pursuant to the terms of the underlying construction permit has been completed.

The construction permit as issued by the Commission contained three special conditions or restrictions. E-String is in compliance with these three special conditions. Each of the conditions will be specifically discussed.

The first of the special conditions pertains to human exposure to radiofrequency radiation. Under this condition, E-String is required to coordinate with other users of the site to ensure workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power output or cessation of operation.

The second special condition requires E-String to have an application for license on file with the Commission prior to the commencement of program tests. E-String has completed minimal equipment tests on K246CF.

The third and final special condition pertains to the tower on which the K246CF transmitting antenna is located. This tower is a constituent element in the KZZB directional array.[1] Under this special condition, E-String was required to conduct impedance measurements on the tower utilized in the array. The impedance measurements requested have been performed, with the results contained in the engineering portion of FCC Form 302-AM attached to this technical exhibit.

It should be noted that KZZB is currently operating pursuant to the provisions of a special temporary authority.[2] This special temporary authority permits KZZB to operate non-directionally with a power level of 250 Watts. The STA was requested due to the inability of the licensee of KZZB to operate with its directional pattern because of array damage. This attachment, prepared by another firm, also contains the required tower sketch.

The specified transmitter power output achieves the authorized effective radiated power. The antenna utilized by the facility has a power gain of 7 dBd, which corresponds to a numerical gain of 5.01. The input power to the antenna to achieve the authorized effective radiated power is 5.99 Watts.

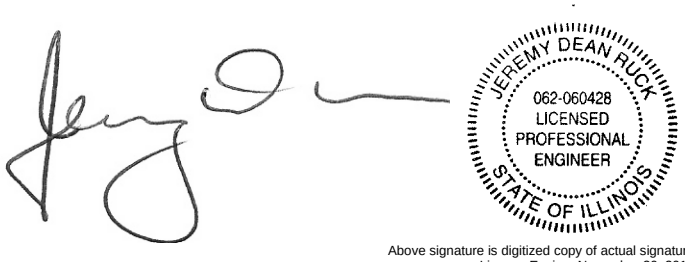
[1] KZZB is licensed to Beaumont, Texas, and is assigned a Facility ID of 40485.
[2] See BSTA-20120725AAD as most recently extended by BESTA-20140520AJR.

Ahead of the antenna is the transmission line, which is comprised of two sections. One section of line exists between the translator antenna and the isocoupler near the tower base, while the other runs from the transmitter to the isocoupler. The total length of line is 335 feet, and both sections are comprised of Andrew/Commscope LDF4-50 coaxial cable. The total efficiency of both sections of transmission line based on manufacturer's data is 60.09 percent.

Additionally, an isocoupler is present in the transmission line, which introduces an insertion loss of 0.2 dB, which is equivalent to an efficiency of 95.50 percent. The combined efficiency of both transmission line sections and the isocoupler is therefore 57.39 percent. When applied to the antenna input power, the input power to the transmission line becomes 10.4 Watts. This value rounds to 10 Watts, and is the power at the output of the transmitter. The specified transmitter power output therefore achieves the authorized effective radiated power.

The facility utilizes a directional antenna. This antenna was installed in accordance with the instructions provided by the manufacturer. The orientation of the antenna is consistent with the value specified in the construction permit.

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
July 3, 2014

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