

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

**FM Translator Station K246CF
0.001 kW ERP / 107.7MHz
Beaumont, Texas**

E-String Wireless, Ltd

January, 2015

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 construction of that facility authorized under FCC File No. BPFT-20140820ACW. K246CF has been assigned a facility ID of 156318.

K246CF is authorized to operate with a maximum effective radiated power of 1 Watt at a center of radiation of 95 meters above mean sea level, 93 meters above ground, utilizing a directional antenna. The antenna proposed and utilized by the facility is a vertically polarized Kathrein-Scala CL-FM log-periodic. 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 is in compliance with each of these special conditions.

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.

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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 specified transmitter power, subject to rounding, achieves the authorized effective radiated power. The transmitter power output specified on the form pages is 0.001 kW, or 1 Watt. This value is rounded up from the actual value of 0.0003 kW, or 0.3 Watts due to the number of digits allowed by CDBS for that field.

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 0.2 Watts.

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 0.3 Watts. This value, as

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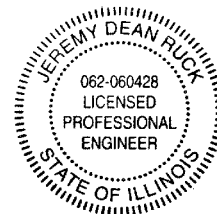
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previously discussed, is rounded to 1 Watt for the purposes of the submission of the license application, but the transmitter is set to operate at the proper value.

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
January 9, 2015

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