

COMPREHENSIVE TECHNICAL EXHIBIT

APPLICATION FOR LICENSE

FM Translator Station K300DY 0.250 kW ERP / 107.9 MHz

San Antonio, Texas

San Antonio Radioworks, LLC

June 3, 2021

APPLICATION FOR LICENSE

The following engineering statement has been prepared for San Antonio Radioworks, LLC ("Radioworks"), licensee of FM translator station K279AB at San Antonio, Texas, and is in support of their application for license to cover changes to that facility authorized under File No. 0000108458.

K300DY is authorized under the referenced construction permit to operate with a maximum effective radiated power of 250 Watts at a center of radiation of 384 meters above mean sea level, which is equivalent to 186 meters above ground level. The particular antenna specified, and utilized is an Electronics Research ("ERI") model LP-2E-HW, which is a two-bay antenna with half-wave spacing between the bays. Construction of the facility pursuant to the terms of the underlying construction permit has been completed.

The construction permit as issued listed three special conditions or restrictions. Each of these special conditions will be specifically discussed.

The first condition requires that this license application be filed prior to commencing program test operations. This application is being filed prior to the commencement on program test operations.

The second special condition or restriction pertains to spurious emissions, and was likely included by the Staff due to the existence of other facilities utilizing the same height and location. It should be noted that the antenna used by K300DY is an antenna unique to that facility, and is not utilized by any other station. The facility utilizes the Tower of the Americas community site. The location of the K300DY antenna is on the roof of the structure in the tower, on which other are located. Since K300DY does not utilize a combined antenna system, it is respectfully requested that this condition be deleted as not applicable.

The third condition specifies that K300DY will not commence operation on Channel 300D with the facilities authorized in the subject construction permit (File No. 0000108458) until KXAI(FM) (Facility ID No.7084) commences operation on Channel 279A with the facilities authorized in BPED-20190206AAJ. San Antonio RadioWorks, LLC (the applicant herein) and Educational Media Foundation (the licensee of KXAI) have agreed that at noon Central time on Saturday, June 5, 2021, KXAI will commence operation on Channel 279 and immediately thereafter K300DY will commence operation on Channel 300.

The specified transmitter power output achieves the authorized effective radiated power. The power gain of the antenna, as specified by the manufacturer, is .7020. The input power to the antenna to achieve the authorized effective radiated power is 356.1 Watts.

Preceding the antenna is one section of the transmission line system, which consists of 65 feet of RFS/Cablewave HCA-78. This transmission line is a semi-flexible foam-dielectric coaxial cable with a 7/8-inch nominal diameter. The insertion loss of this transmission line, based on interpolation of manufacturer specified data, is 0.2379 dB. This corresponds to an efficiency of 94.67 percent, and requires an input power of 375.1 Watts to the transmission line to achieve the authorized effective radiated power.

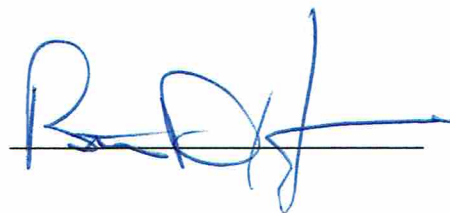
Preceding the main run of transmission line is a Bext FFTC3 bandpass filter. This component has an insertion loss of 0.35 dB at the frequency of operation. This insertion loss corresponds to an efficiency of 92.26 percent. The input power to the bandpass filter to achieve the authorized effective radiated power is 404.1 Watts.

Between the bandpass filter and the transmitter is the second run of transmission line consisting of 12 feet of Times Microwave LMR-400. The online

calculation utility from Times Microwave indicates an insertion loss of this run of transmission line of 0.2 dB, which is equivalent to an efficiency of 95.5 percent. The input power to this line to achieve the authorized effective radiated power is 422.3 Watts.

The last adjustment to the system is to compensate for the loss in the coaxial cable connectors. These losses amount to 0.01 dB per connector. With six in the system, an additional loss of 0.06 dB, or efficiency of 98.63 percent, arises. After compensating for this loss, the resulting transmitter power output is 428.1 Watts, which rounds to 428 Watts. antenna.

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.

A handwritten signature in blue ink, appearing to read 'Bret D. Huggins', is written over a horizontal line.

Bret D. Huggins, CBRE



Certification No. 5008