

Compliance with Special Operating Conditions

Translator K279CR

Channel 279D – 103.7 MHz

0.250 kW ERP (DA) – 492.9 m COR AMSL

Oklahoma City, Oklahoma

August 2022

This application to cover Construction Permit 0000157505 for Translator K279CR is in compliance with all special operating conditions. AM impedance measurements have been conducted for co-located station KTLR (AM) Oklahoma City, OK operating on 890 kHz. Since the impedance change is greater than 2 percent, KTLR (AM) is filing a Form 302-AM Direct Measurement of Power application simultaneous with this license to cover application. A copy of the KTLR (AM) antenna impedance measurements is attached.

Bromo Communications, Inc.

Antenna Resistance and Reactance Measurements

EXHIBIT 1

KTLR, Oklahoma City, OK

890 KHZ

August 15, 2022

Reason for Measurement

Translator station K279CR relocated their FM antenna system to the KTLR tower. The antenna system consists of two, Kathrein CA5-FM-CP antennas located at 146.3 meters AGL. One antenna is pointed at 170 degrees and one antenna is pointed at 350 degrees. The antennas are fed using 7/8 inch Cablewave transmission line. The line and antennas are isolated from the AM tower with a Phasetek PHA-P600408 isocoupler located near the tower base.

The installation of the antennas and transmission line required the re-measurement of the base impedance and adjustment of the antenna tuning unit (ATU).

Description of Procedures

Antenna Resistance and Reactance Measurements

All measurements were made on August 15, 2022 with a Power Aim 120 vector impedance analyzer. The analyzer was connected to the measurement point indicated in the following diagram. Prior to measurement, the connecting sample cable was calibrated out using the standard open, short and precision load method.

The base impedance at 890 KHZ was measured at 254 ohms $-j356$.

The input to the antenna matching unit was adjusted to 49.8 ohms - j1.0 which provided a satisfactory match to the transmitter.

All measurements were made by Randall Mullinax and were believed to be accurate at the time of measurement.



Randall Mullinax

8-20-2022

Date

KTLR Oklahoma City

August 15, 2022

