ENGINEERING REPORT

Equipment Performance Measurements

Testing was conducted January 26, 2020 to verify compliance with FCC Rule 73.44 at Radio Station KLMS, 1480 kHz, Lincoln, NE. Measurements were collected at a location in the major lobe of the Daytime radiation pattern approximately 1 kM from the antenna using equipment described below. The transmitter was operating at the prescribed 1.0 kW power level, and was being modulated with normal program material at the time of measurement. Field Intensity at the point of observation: 660 mv/m.

Emission close to the carrier was observed on an RF Spectrum Analyzer of the proper characteristics in the peak hold mode, using a loop antenna to receive the signal. The levels of the fundamental, second, and third harmonics were measured with a Field Intensity Meter. Spurious emission beyond 75 kHz from the carrier was also checked by observing the analyzer and scanning through the 13th harmonic of the fundamental using a communications receiver and loop antenna. The images observed on the Spectrum Analyzer were captured using the internal memory of the instrument and appear on pages 2 and 3 of this report.

The loop antenna was oriented to reduce the level of signal from a local carrier at 1400 kHz as much as possible. The measurement location was chosen to provide the least interaction from power line interference.

A tabulation of harmonic measurements and plots of spectrum analyzer displays follow.

Engineer _____ Date 1/27/2020

LIST OF EQUIPMENT

ANRITSU Model 2712E Spectrum Analyzer, serial no. 0950163. Calibrated April 5, 2013.

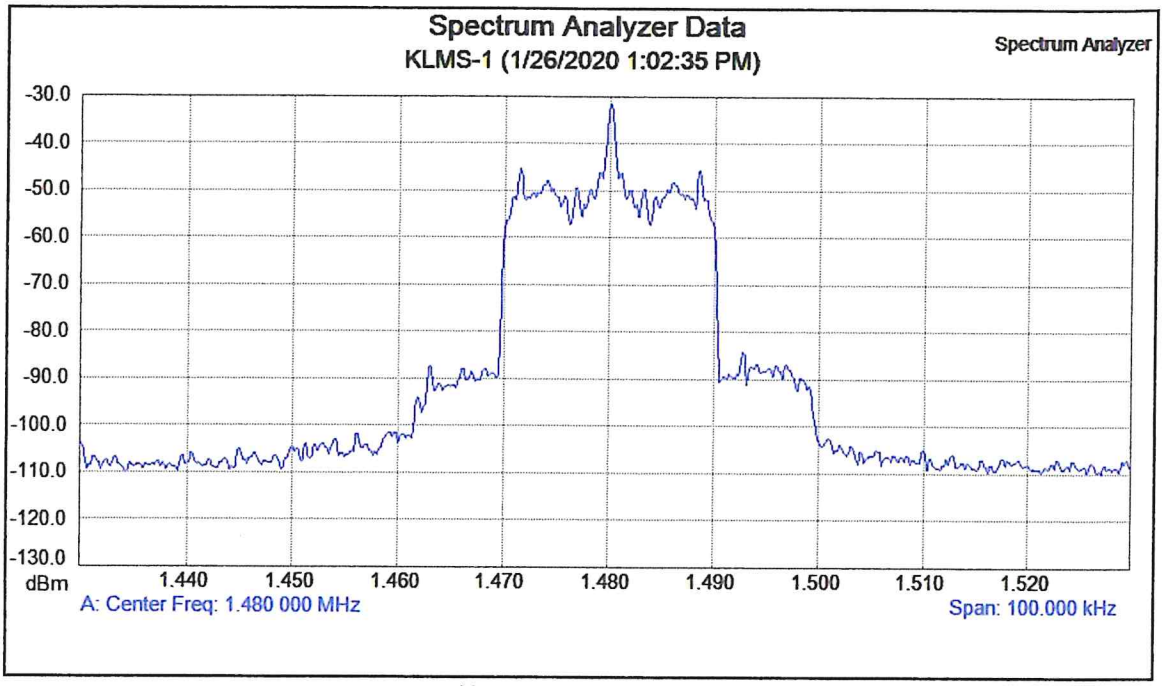
POTOMAC INSTRUMENTS Model PI 4100 Field Intensity Meter, serial no. 161. Last calibration: February 12, 2009. Field checked December 8, 2014.

YAESU Model FRG-100 Communications Receiver, serial no. 3L120305. Last calibration: June, 1993.

SPURIOUS EMISSION

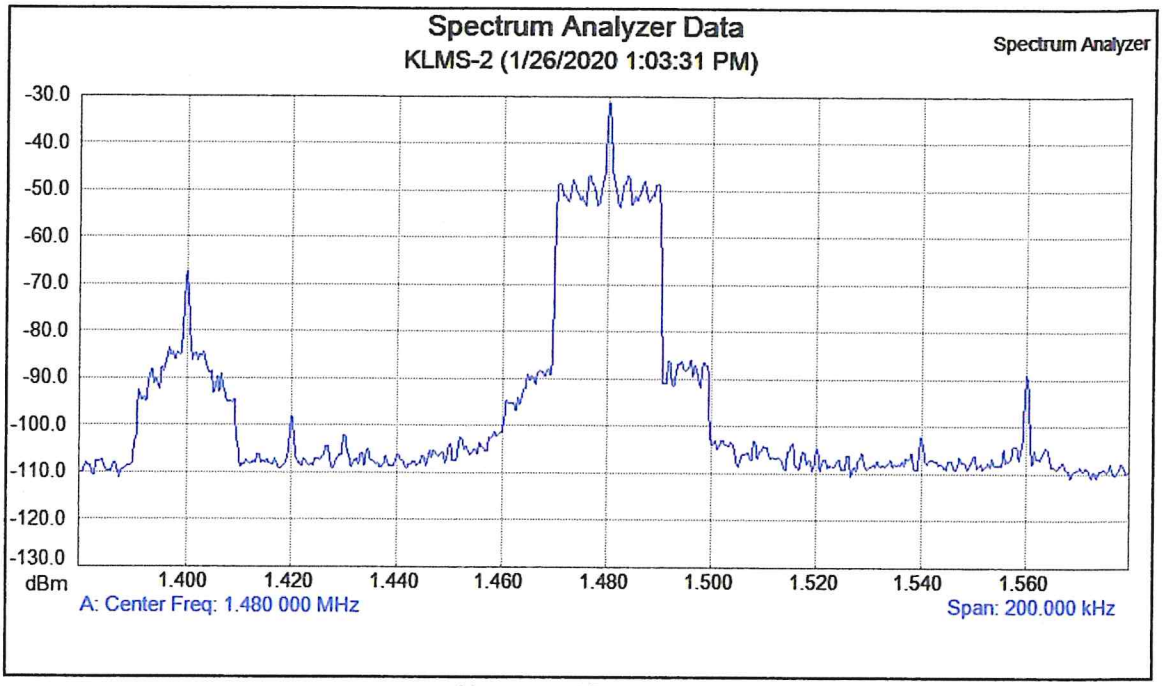
Frequency	Signal	Time
1480 kHz	660 mv/m	13:30
2960 kHz	>-80.0 dbc	13:31
4440 kHz	>-80.0 dbc	13:31
5920 kHz	>-80.0 dbc	13:32

5th -13th harmonics were not detectable.



Measurement Parameters

		Stop Frequency	1.530 000 MHz
Trace Mode	Max Hold	Frequency Span	100.000 000 kHz
Preamp	OFF	Reference Level	-30.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	950163
Input Attenuation	0.0 dB	Base Ver.	V4.47
RBW	300.0 Hz	App Ver.	V5.93
VBW	300.0 Hz	Model	MS2712E
Detection	Peak	Options	10, 31
Center Frequency	1.480 000 MHz	Date	1/26/2020 1:02:35 PM
Start Frequency	1.430 000 MHz	Device Name	



Measurement Parameters

		Stop Frequency	1.580 000 MHz
Trace Mode	Max Hold	Frequency Span	200.000 000 kHz
Preamp	OFF	Reference Level	-30.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	950163
Input Attenuation	0.0 dB	Base Ver.	V4.47
RBW	300.0 Hz	App Ver.	V5.93
VBW	300.0 Hz	Model	MS2712E
Detection	Peak	Options	10, 31
Center Frequency	1.480 000 MHz	Date	1/26/2020 1:03:31 PM
Start Frequency	1.380 000 MHz	Device Name	