



RF Performance Report

for

FM Translator K240BL, Albuquerque

September 18, 2014

On September 18, 2014 between the hours of 10:00 am and 12:00pm, maintenance & tests were conducted on translator station K240BL.

The maintenance included increasing the power of K240BL to 250 watts per the existing Construction Permit (FCC File No.: BLFT-20040206AAX), as well as conducting measurements for emissions, harmonics and frequency as required in CFR47 73.317 and CFR47 73.1545 of the FCC's rules.

Transmitter Power Output Calculation

The TPO of the transmitter was calculated by taking the Effective Radiated Power (250.0 watts), dividing it by the gain of the antenna (5.01) yielding an antenna input power of 49.9 watts required at the input of the antenna to achieve 250 watts output.

The transmission line used is Andrew LDF4-50 ½" foam cable and has an efficiency at 95.9 MHz for the 8 meter section used of 96% so dividing the antenna input by .96 gives a transmitter power output (TPO) of 52 watts.

Measurement Test Setup

The measurement were observed using an IFR 2399B Spectrum Analyzer S/N 105062080 which was last calibrated in September of 2013 by Instrument Service Laboratories in Albuquerque, NM.

The input to the analyzer was provided by a short whip antenna connected thru a 10 dB attenuator to the analyzer's input. The analyzer also had 10 dB of internal attenuation applied.

Harmonic levels listed include standard 3dB per octave adjustment.

Frequency Measurement

The frequency of K240BL's output signal were measured using the analyzer's counter function and shown to be within the specifications of CFR47 73.1545 and had a measured output frequency of 95.899721 MHz.

The emissions of K240BL were observed to be compliant with the emissions requirements of CFR 47 73.317 main channel emissions were observed with the analyzer in the 'Max Hold' mode for a 3 minute sample. The resultant analyzer image is shown in Image 1 below.



Harmonic Measurements

The harmonic emissions were observed and the results are listed below, along with the analyzer images.

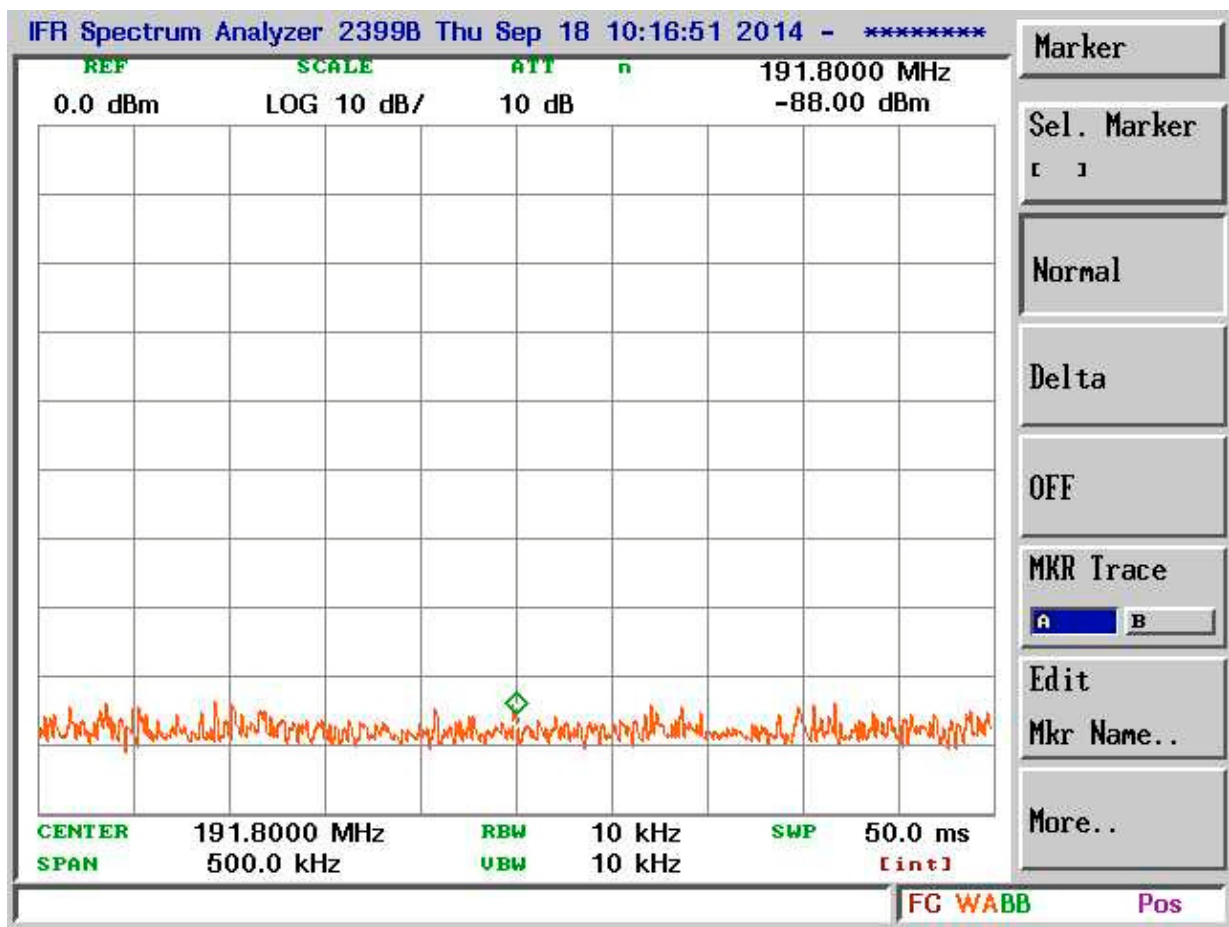


Image 2

K240 BL 2nd Harmonic 191.8 MHz, -111 dBc

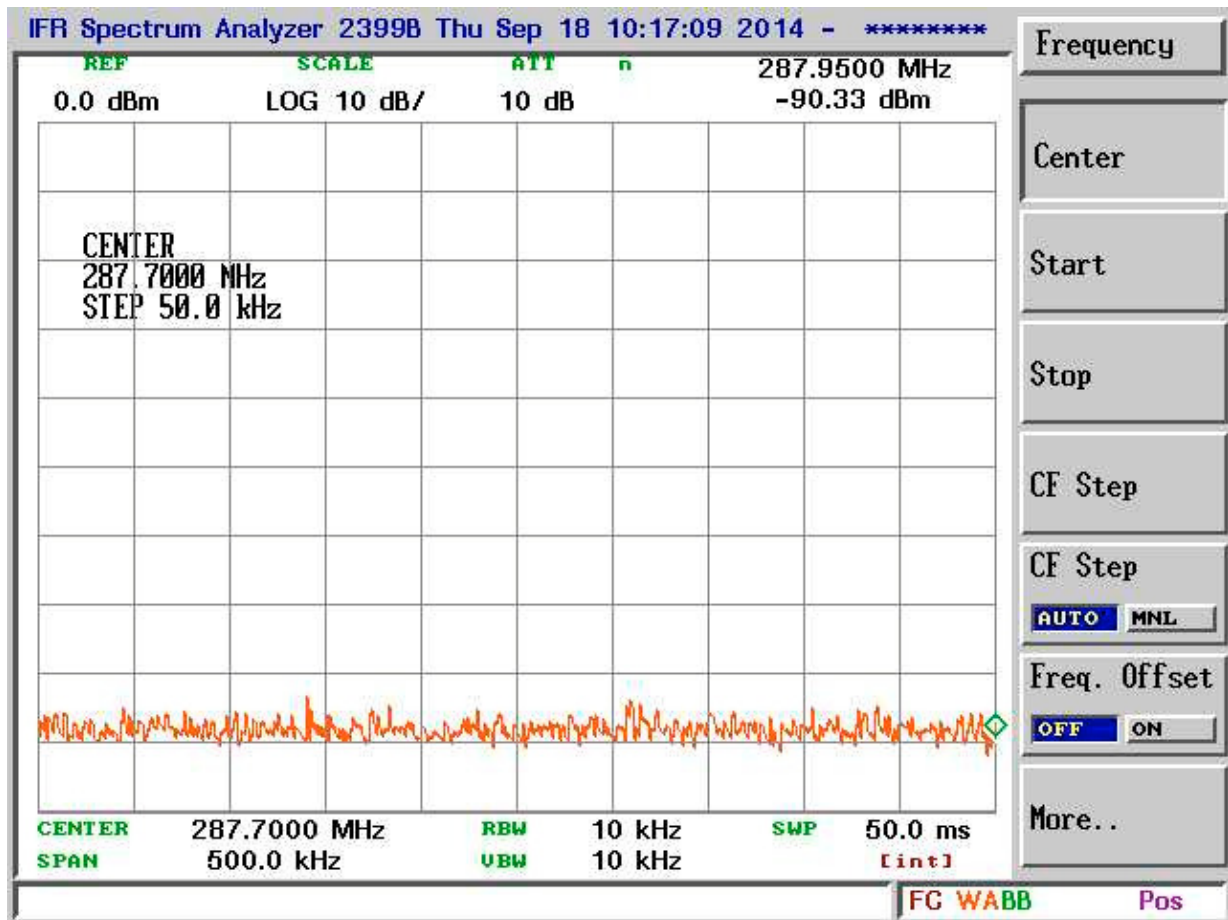


Image 3

K240BL 3rd harmonic, 287.7 MHz, -116.33 dBc

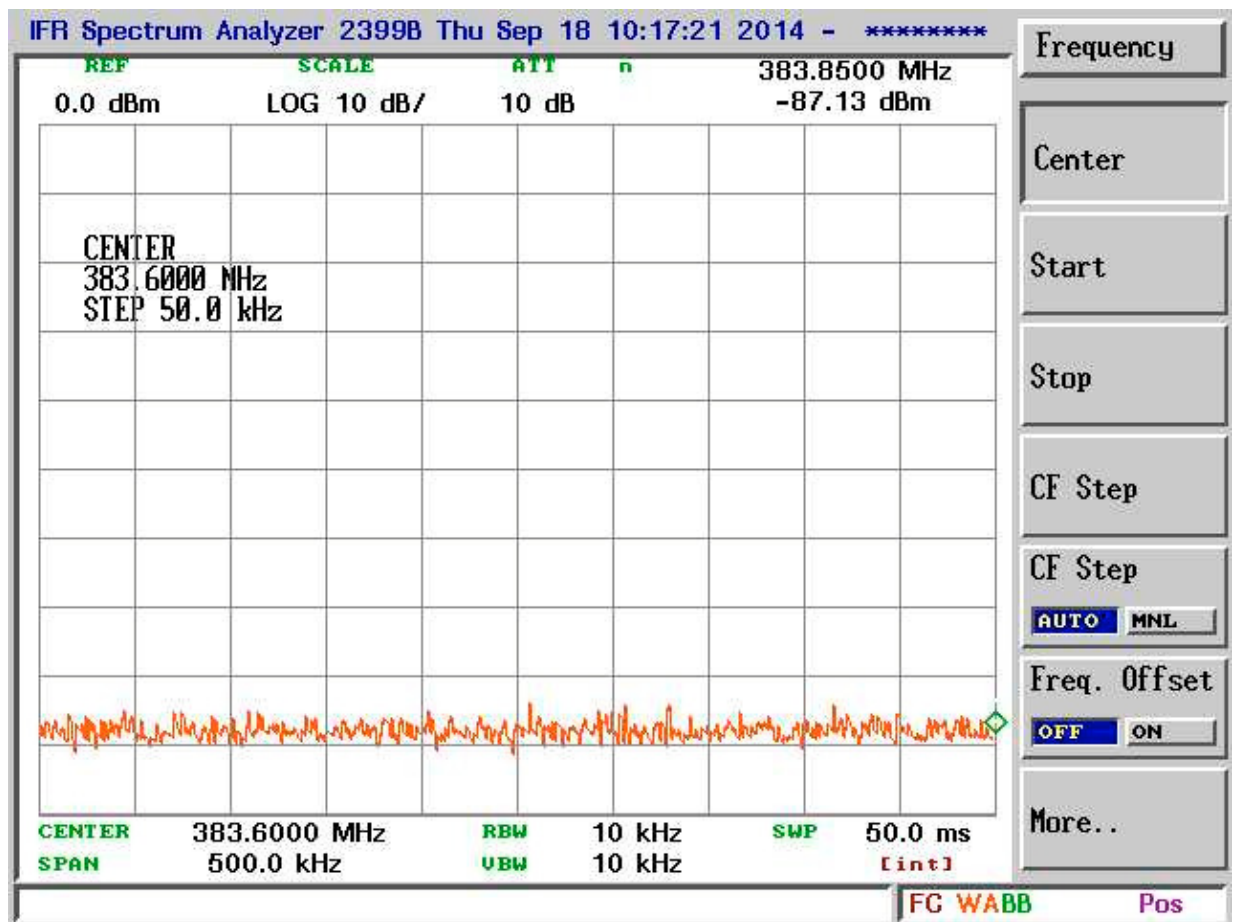


Image 4

K240BL 4th harmonic, 383.6 MHz, -116.13 dBc

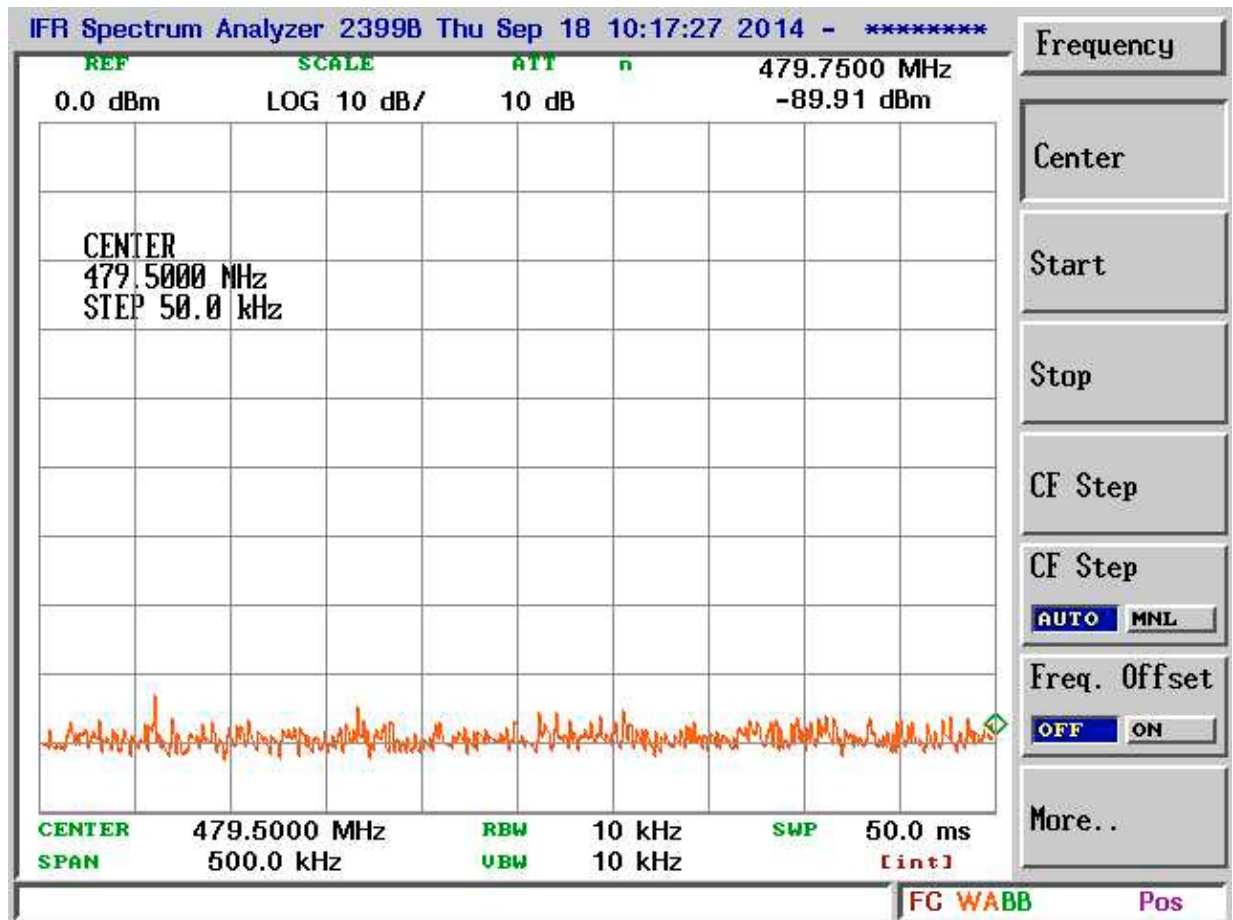


Image 5

K240BL 5th Harmonic, 479.5 MHz, - 121.91 dBc

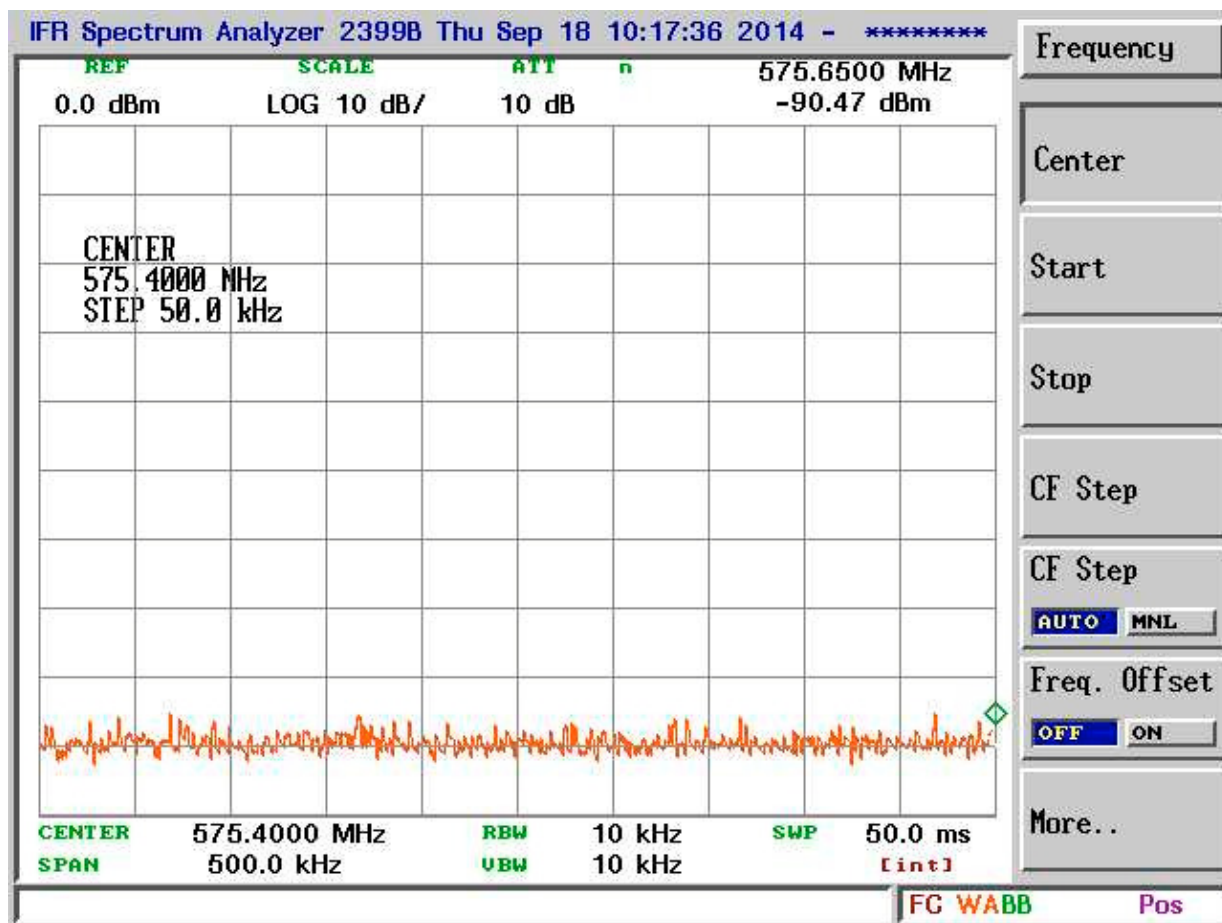


Image 6
K240BL 6th Harmonic, 575.4 MHz, -125.47 dBc

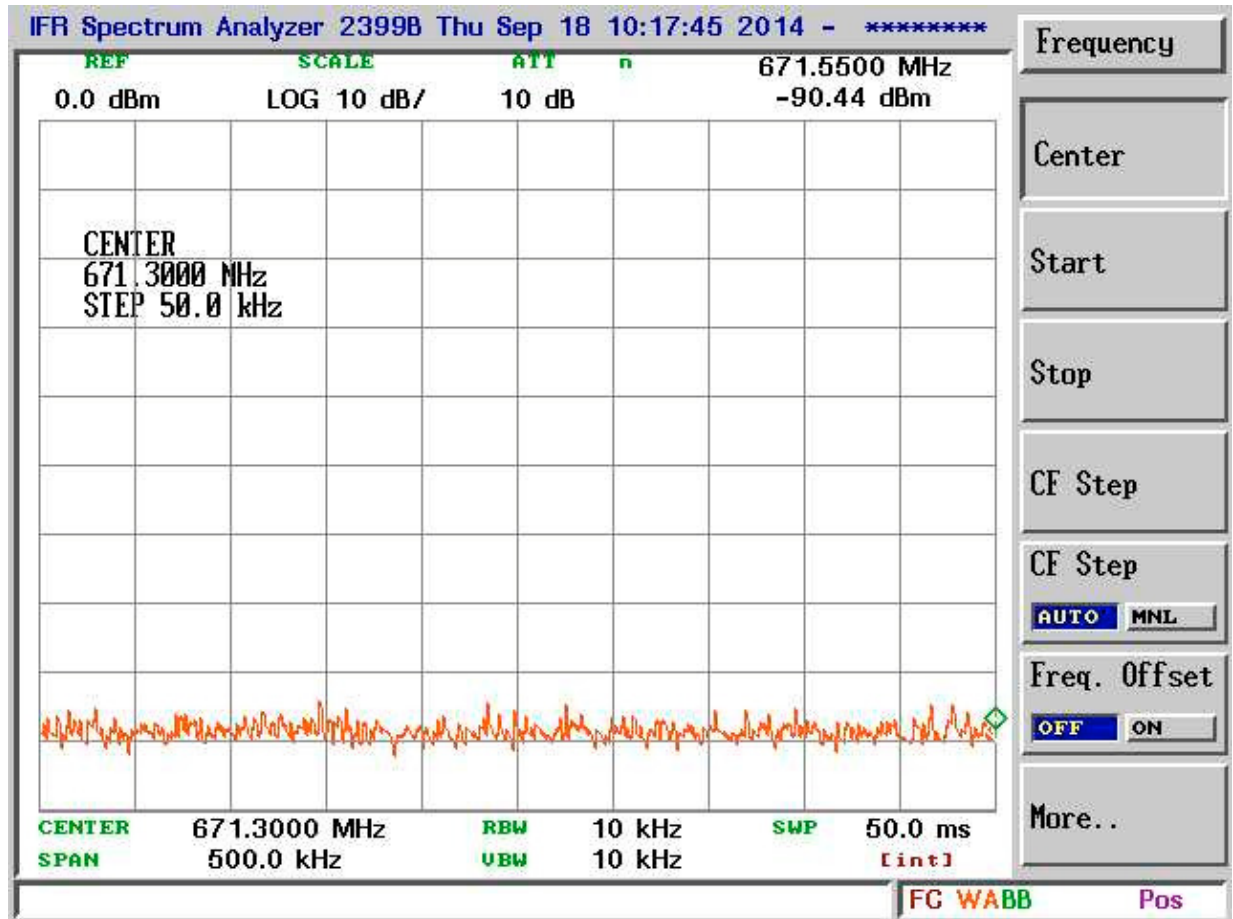


Image 7

K240BL 7th Harmonic, 671.3 MHz, -128.44 dBc

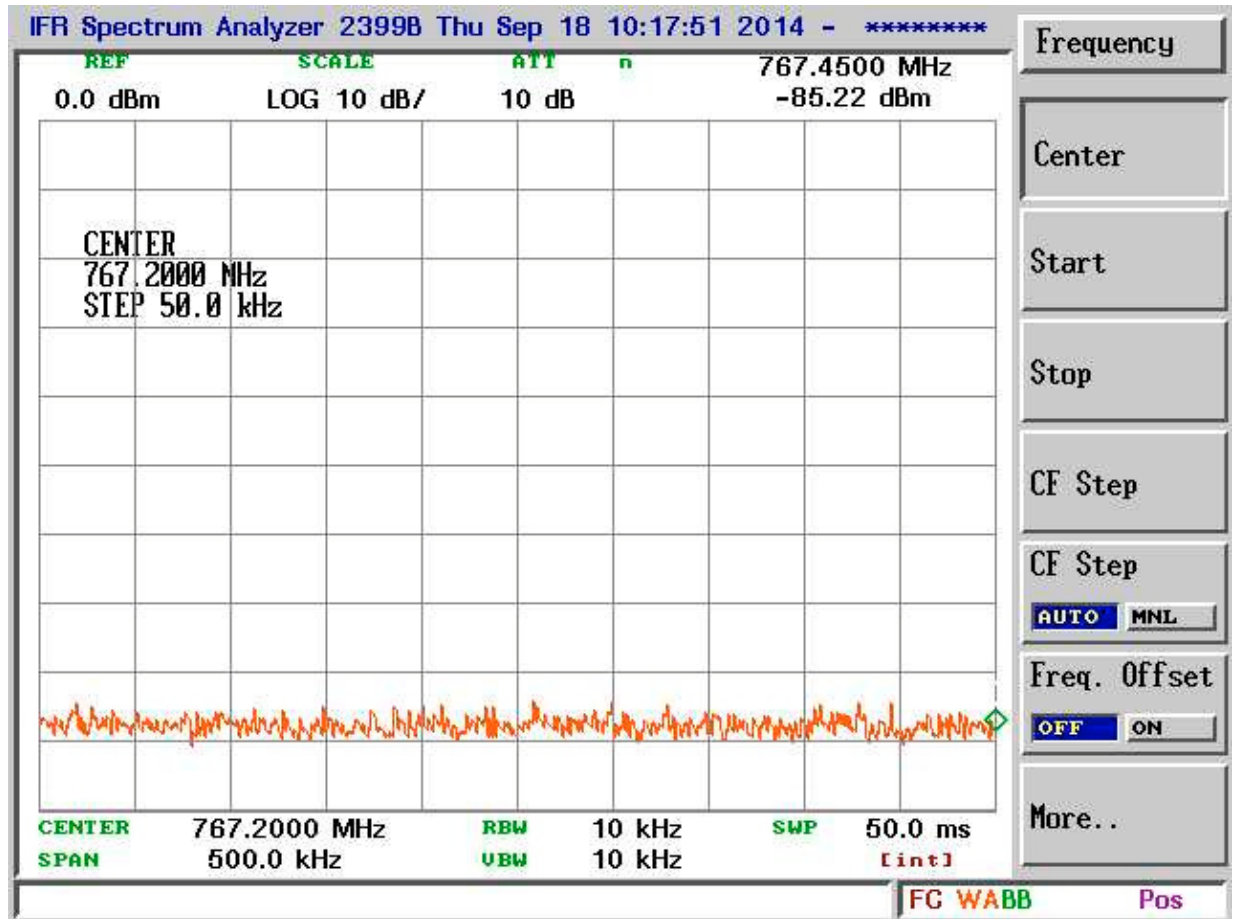


Image 8

K240BL 8th Harmonic, 767.2 MHz, -126.22 dBc

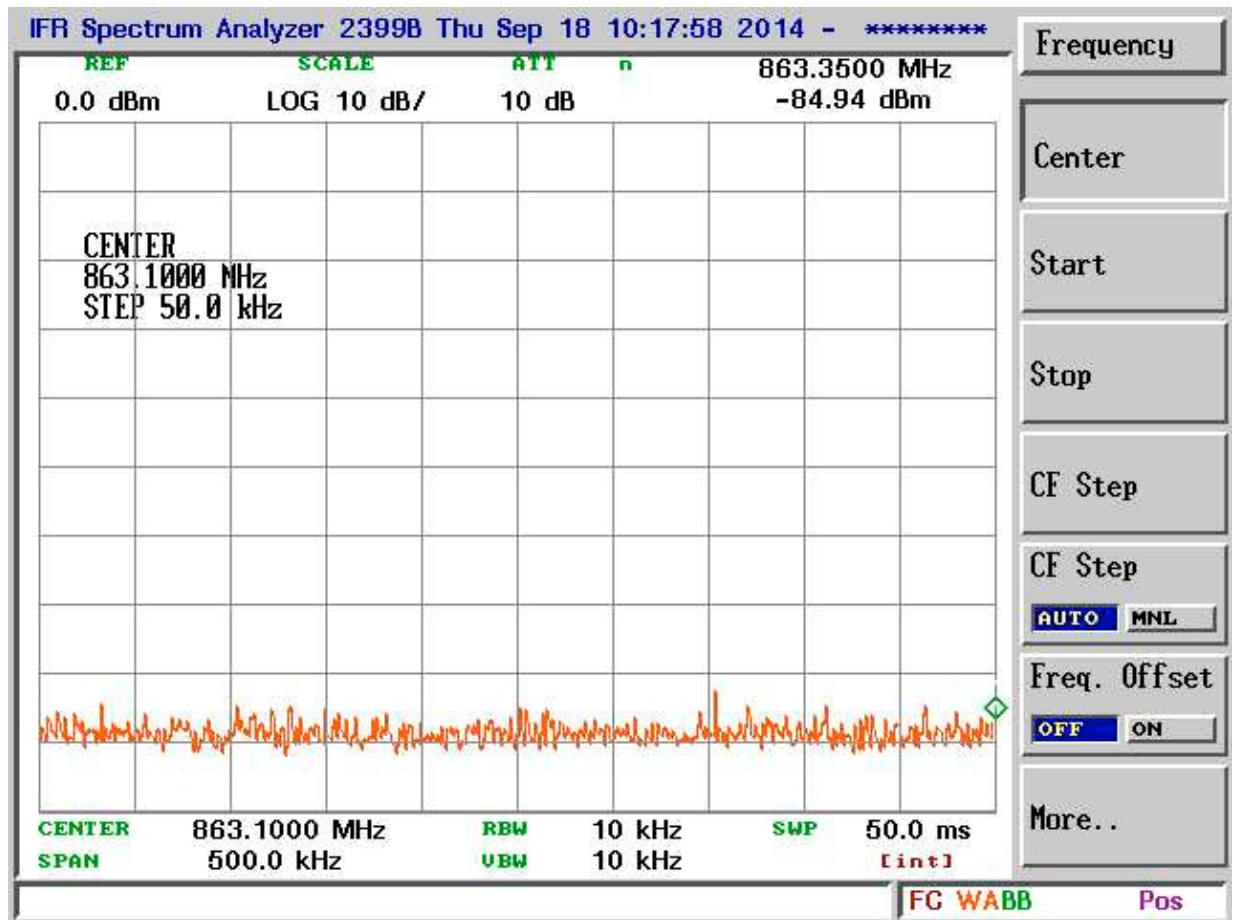


Image 9
K240BL 9th Harmonic, 863.1 MHz, - 128.94 dBc

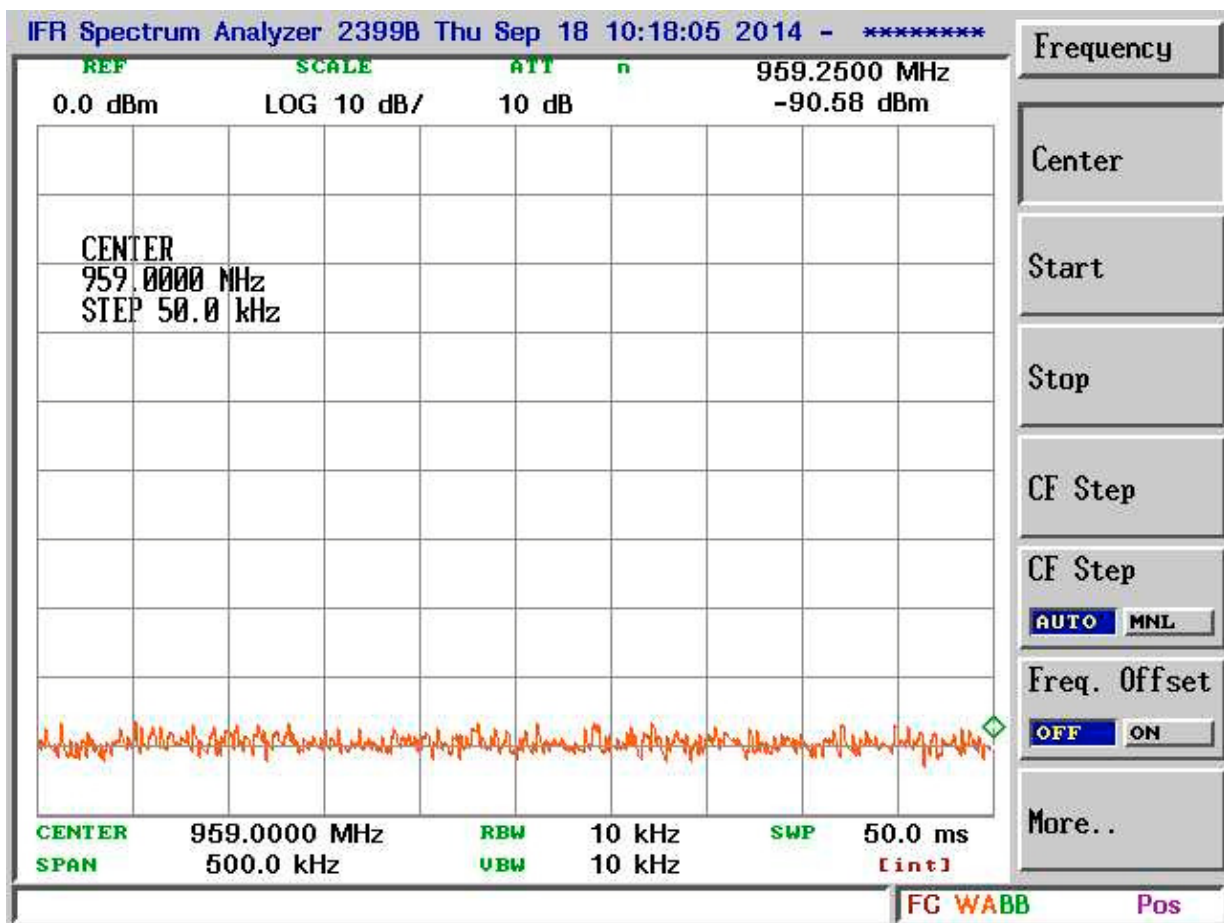
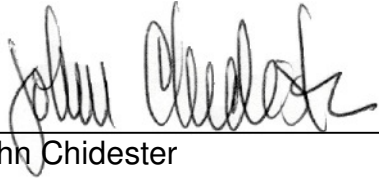


Image 10
K240BL 10th Harmonic, 959 MHz, -137.58 dBc

Certification

I, John Chidester, affirm that I conducted the measurements described in this document and that the information contained herein is accurate of the date of the measurements.

A handwritten signature in black ink, appearing to read "John Chidester", is written over a horizontal line.

John Chidester