Comprehensive Engineering Exhibit
Fred R and Evelyn K Morton
FM Translator K257GA, FCC ID 142044
FCC File Number BMPFT-20160129ADW
Channel 257 (99.3 Mhz), 250 watts ERP

The CP referenced in the above facility required that an exhibit be submitted to show that the operation of K257GA would not cause spurious emissions. The entire paragraph is shown below:

2 BEFORE PROGRAM TESTS COMMENCE, sufficient measurements shall be made to establish that the operation authorized in this construction permit is in compliance with the spurious emissions requirements of 47 C.F.R. Sections 73.317(b) through 73.317(d). All measurements must be made with all stations simultaneously utilizing the shared antenna. These measurements shall be submitted to the Commission along with the FCC Form 350-FM application for license.

K257GA's antenna is mounted on the AM radiator for station KREF(AM), Norman, Oklahoma. The FM antenna utilized for K257GA also carries the operation of FM translator K253AY on 98.5 mHz.

On October 18th, 2016 measurements were taken with a spectrum analyzer with both stations operating-K257GA and K253AY. The spectrum analyzer is set at 10/db per division on the vertical scale, and 100 kHz per division on the horizontal scale.

The specific rule is shown below:

§ 73.317 FM transmission system requirements.

(a) FM broadcast stations employing transmitters authorized after January 1, 1960, must maintain the bandwidth occupied by their emissions in accordance with the specification detailed below. FM broadcast stations employing transmitters installed or type accepted before January 1, 1960, must achieve the highest degree of compliance with these specifications practicable with their existing equipment. In either case, should harmful interference to other authorized stations occur, the licensee shall correct the problem promptly or cease operation.

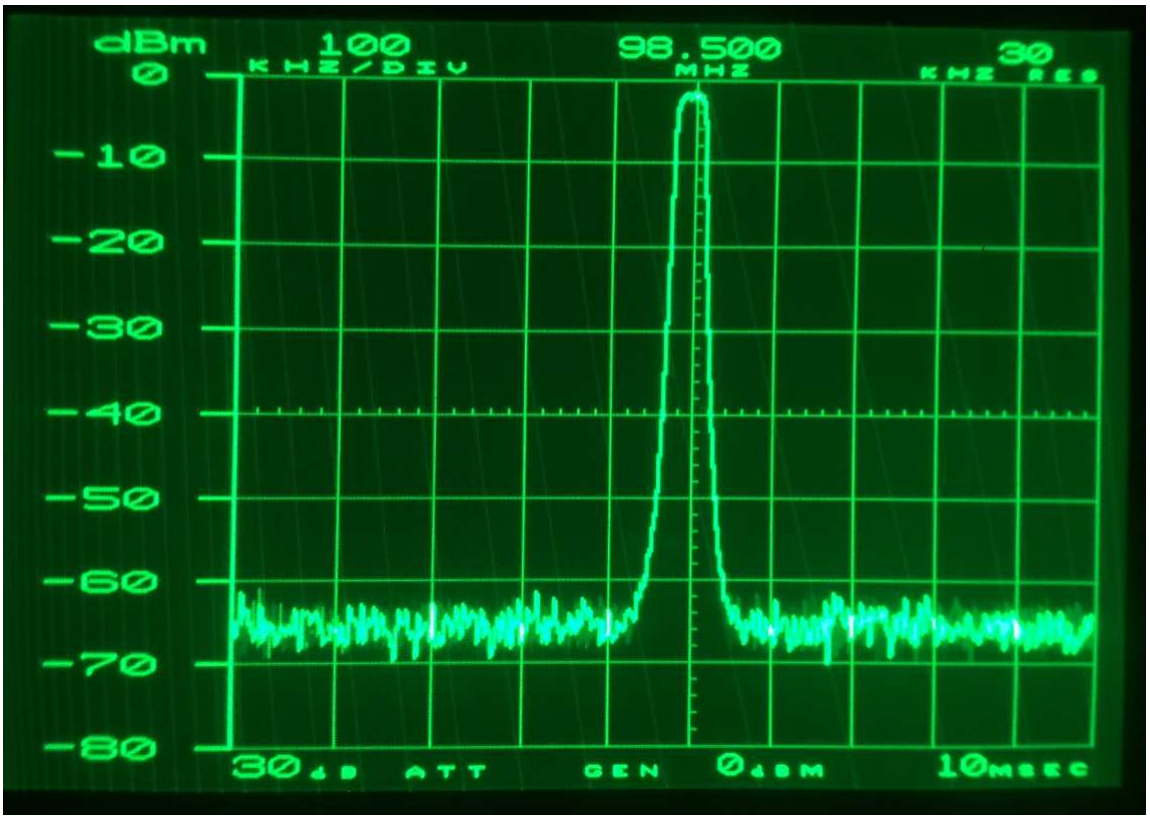
(b) Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the unmodulated carrier. Compliance with this requirement will be deemed to show the occupied bandwidth to be 240 kHz or less.

(c) Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the level of the unmodulated carrier.

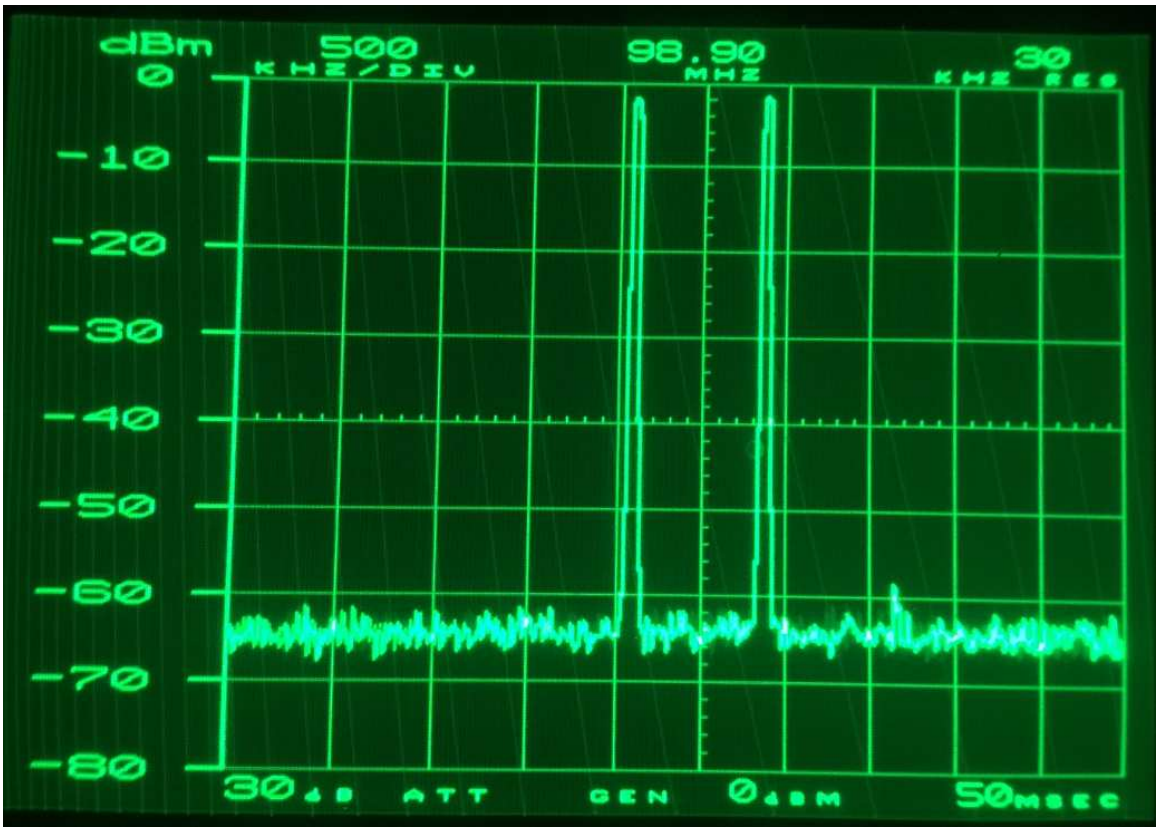
(d) Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least 43 10 Log10 (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.

(e) Preemphasis shall not be greater than the impedance-frequency characteristics of a series inductance resistance network having a time constant of 75 microseconds. (See upper curve of Figure 2 of § 73.333.)

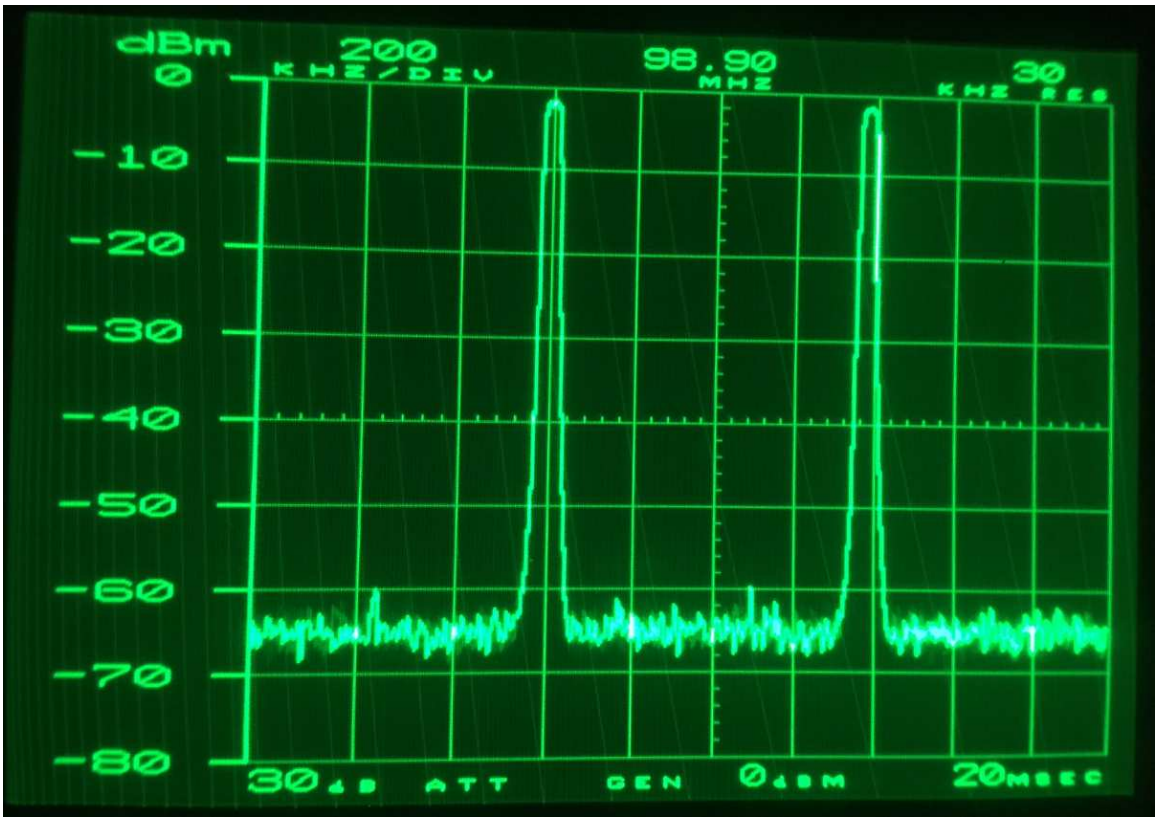
[51 FR 17028, May 8, 1986]



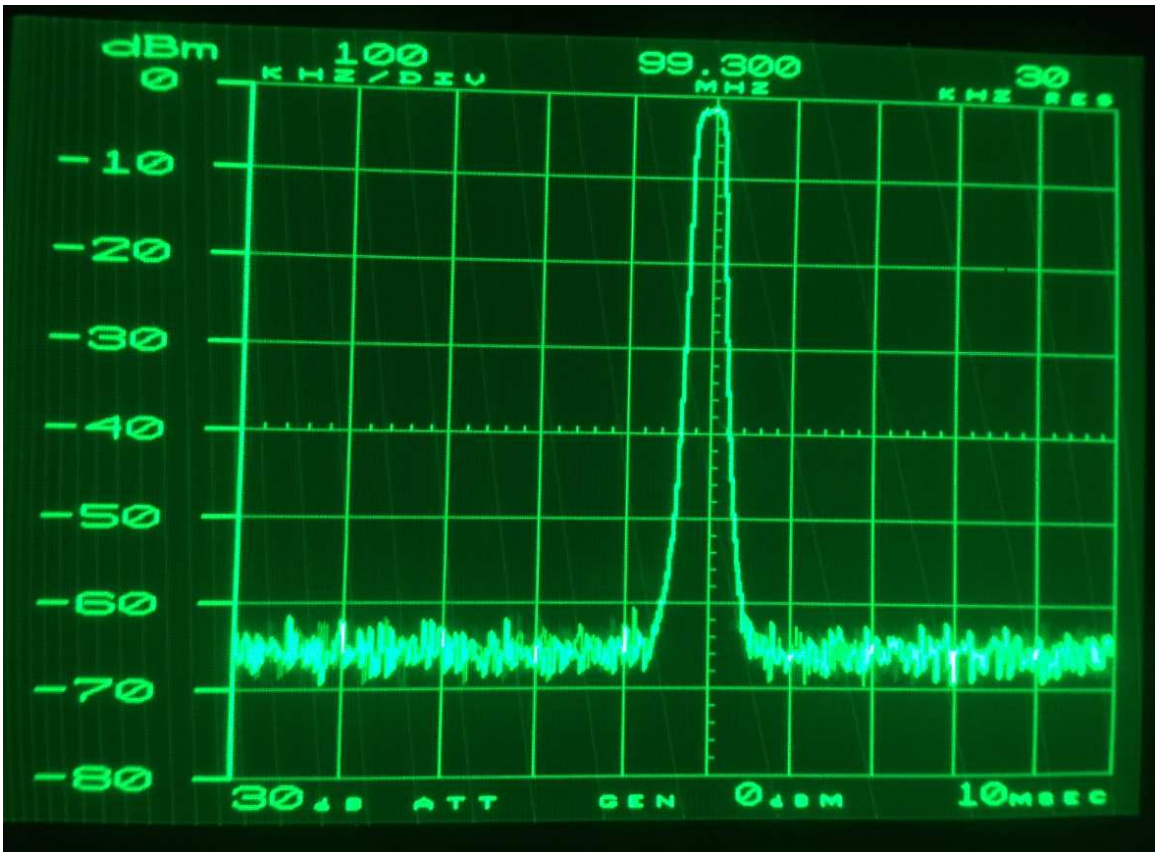
This is the spectrum analyzer showing emissions on 98.5 mHz (the translator K253AY. The marker shows a signal of -60 db from the K253AY reference signal.



This is the spectrum analyzer showing emissions on 98.9 mHz (400 kHz removed from 98.5 mHz).



This is the spectrum analyzer showing emissions 400 kHz either side of 98.9 mHz).



This is the spectrum analyzer showing the primary K257GA operation on 99.3 mHz. It should be noted that any spurious emissions are well below the FCC's maximums as specified in 73.317.

Based on the showing herein, the permittee believes that the proposed operation of K257GA complies with the special provision of its construction permit.

Respectfully submitted,

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