

TECHNICAL QUALIFICATIONS

Be it here known:

That NORMAND R. LARAMEE has been contracted to perform the measurements and report contained herein.

That he is experienced in the field of Broadcast Engineering and has performed this type of work on a professional basis in the capacities of Chief Engineer, Contract Engineer, and Consultant.

That he has held an FCC First-Class Radiotelephone license since 1981.

That he currently holds an FCC General Radiotelephone Operator License PG-10-14519 issued January 2, 1985.

That he is currently an active member of the Society Of Broadcast Engineers.

That his work is a matter of record with the Federal Communications Commission.

Be it further attested that the information contained within this report is true and factual to the best of my knowledge.

Signed this 14th day of November, 2019.



Normand R. Laramee

ANALYSIS

EXHIBIT KPRV-1:

Shows the spectrum 25 kHz above and below the carrier frequency. (*“Emissions 10.2 kHz to 20 kHz removed from the carrier must be attenuated at least 25 dB below the unmodulated carrier level. Emissions 20 kHz to 30 kHz removed from the carrier must be attenuated at least 35 dB below the unmodulated carrier level.”*)

Narrow band performance is within acceptable limits.

EXHIBIT KPRV-2:

Shows the spectrum 50 kHz above and below the carrier frequency. (In addition to the above: *“Emissions 30 kHz to 60 kHz removed from the carrier must be attenuated at least [5 + 1 dB/kHz] below the unmodulated carrier level.”*)

Mid band performance is within acceptable limits.

EXHIBIT KPRV-3:

Shows the spectrum 100 kHz above and below the carrier frequency and indicates the full NRSC mask which additionally requires that emissions 60 kHz to 75 kHz removed from the carrier be at least 65 dB below the carrier. (In addition to all of the above: *“Emissions between 60 kHz and 75 kHz of the carrier frequency must be attenuated at least 65 dB below the unmodulated carrier level. Emissions removed by more than 75 kHz must be attenuated at least 43 + 10 Log (Power in watts) or 80 dB below the unmodulated carrier level, whichever is the lesser attenuation, except for transmitters having power less than 158 watts, where the attenuation must be at least 65 dB below carrier level..”*)

In this case, at 1000w, emissions removed by more than 75 kHz must be attenuated at least -73db below the carrier level. All excursions above the mask were verified as emanating from sources other than KPRV.

Wide band performance is within acceptable limits.

CONCLUSION:

The measurement results confirm that KPRV emissions are within NRSC limits and there appear to be no transient problems.

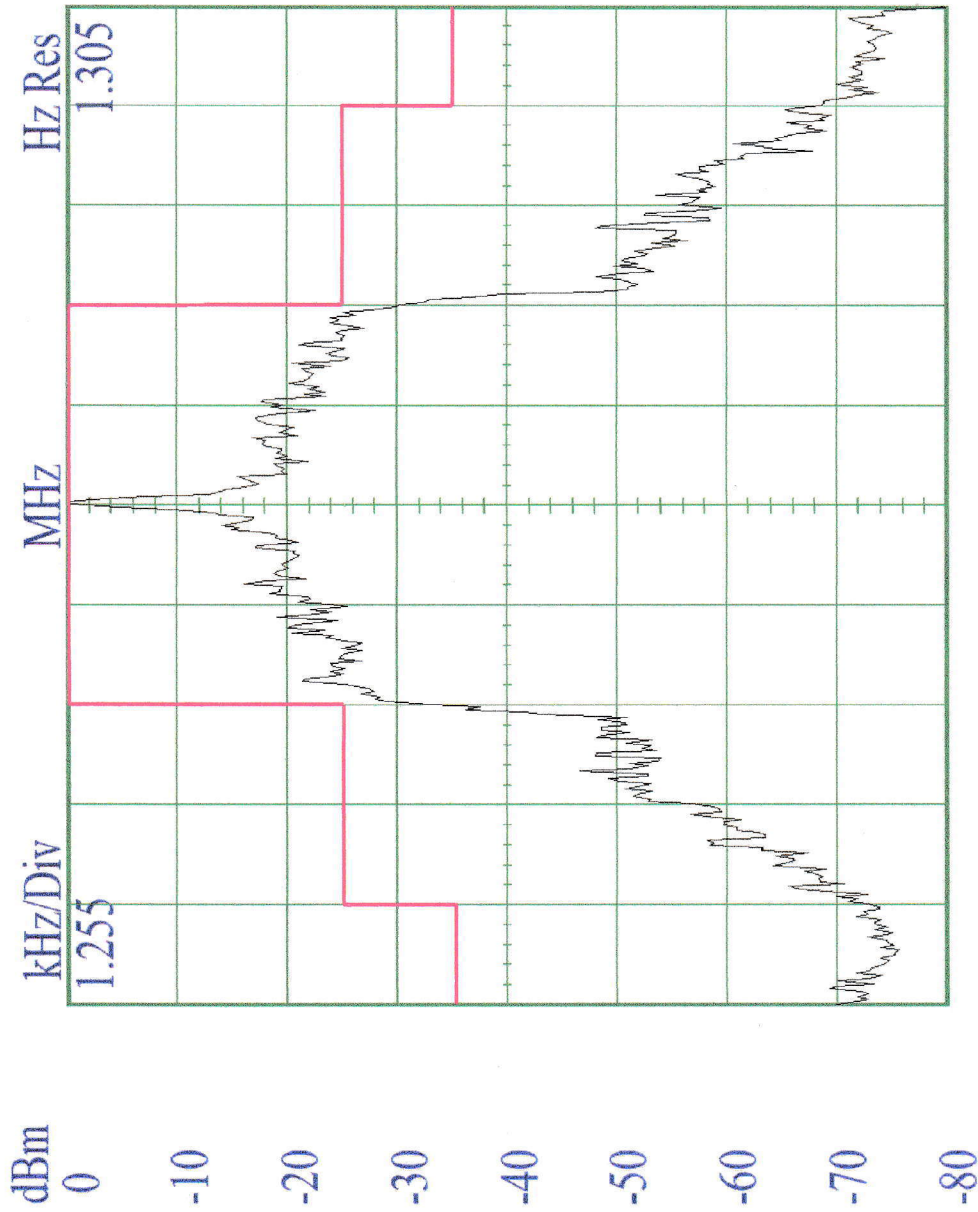
Harmonic measurements confirmed that the emissions at the second and third harmonic is less than the required -73db below the carrier and therefore in compliance.

It is believed that KPRV is in full compliance with FCC 73.44.

DIPRO Engineering Services

A-7550

KPRV-1
09/11/2019 09:12:04



Excerpt, FCC Rules Sec 73.44
AM transmission system
emission limitations.
(NRSC Mask)

“Emissions 10.2 kHz to 20 kHz removed from the carrier must be attenuated at least 25 dB below the unmodulated carrier level. Emissions 20 kHz to 30 kHz removed from the carrier must be attenuated at least 35 dB below the unmodulated carrier level.”

10 dB Attn Gen --- dBm 200 mSecs
10 dB IF Gain Video Filter: 0 kHz
Peak Freq: 1.2802 Peak Level: -26.83

A-7550

10.0

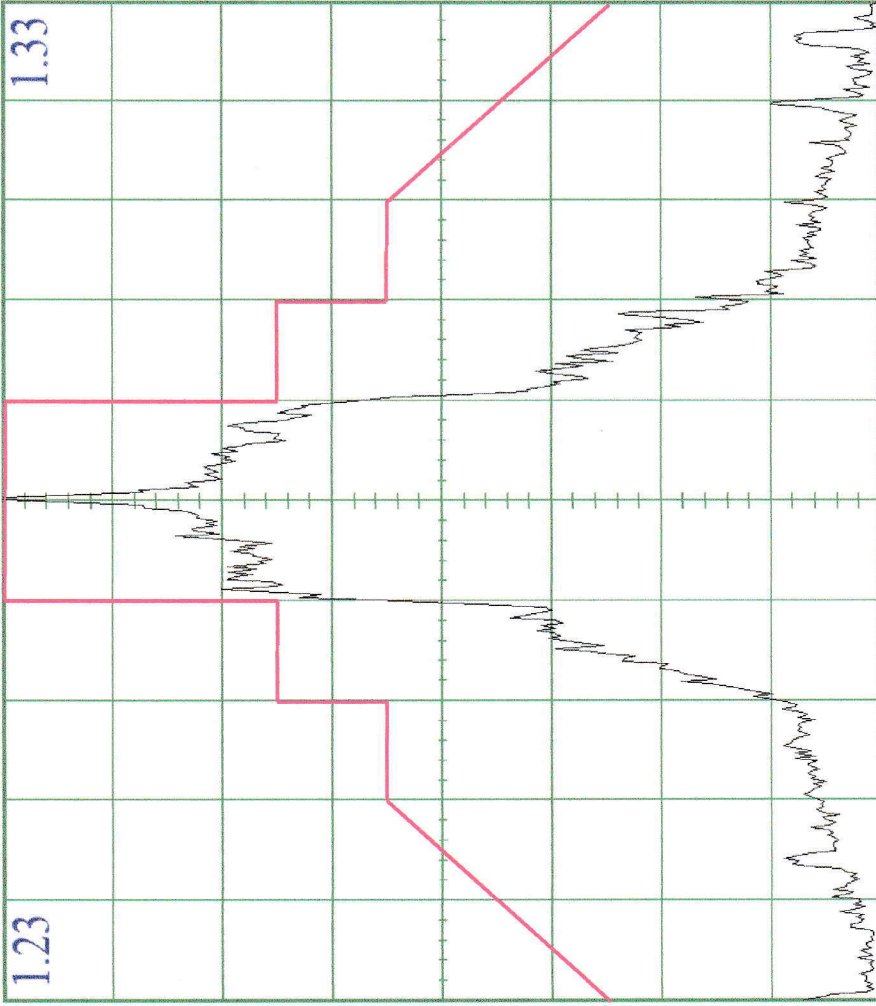
kHz/Div

1.28

MHz

300

Hz Res



KPRV-2

09/11/2019 09:02:09

dBm
0
-10
-20
-30
-40
-50
-60
-70
-80

10 dB Attn

10 dB IF Gain

Peak Freq: 1.2801

Gen --- dBm

Video Filter: 0 kHz

Peak Level: -27.5

500 mSecs

Excerpt, FCC Rules Sec 73.44
AM transmission system
emission limitations.
(NRSC Mask)

“Emissions 10.2 kHz to 20 kHz removed from the carrier must be attenuated at least 25 dB below the unmodulated carrier level. Emissions 20 kHz to 30 kHz removed from the carrier must be attenuated at least 35 dB below the unmodulated carrier level. Emissions 30 kHz to 60 kHz removed from the carrier must be attenuated at least [5 + 1 dB/kHz] below the unmodulated carrier level.”

10/28/19

A-7550

20.0

kHz/Div

1.18

1.28

MHz

300

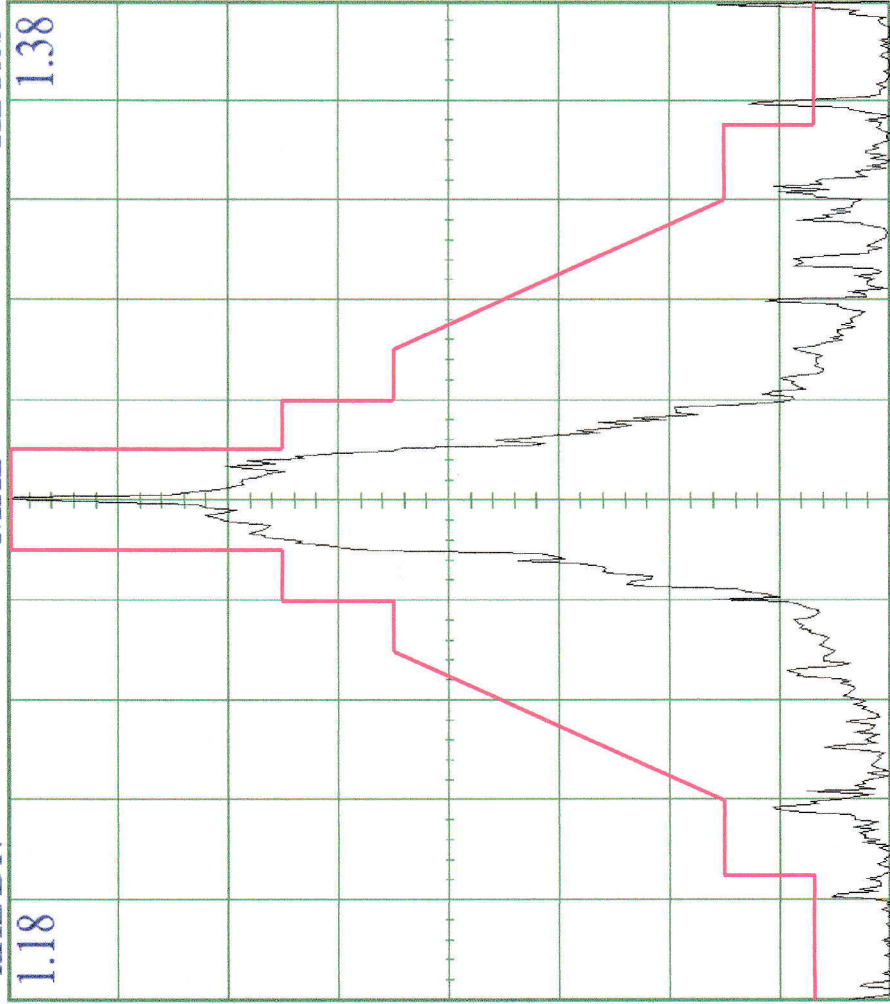
Hz Res

1.38

KPRV-3

09/11/2019 08:52:01

dBm
0
-10
-20
-30
-40
-50
-60
-70
-80



10 dB Attn

10 dB IF Gain

Peak Freq: 1.2803

Gen --- dBm

Video Filter: 0 kHz

Peak Level: -28.

Excerpt, FCC Rules Sec 73.44
 AM transmission system
 emission limitations.
 (NRSC Mask)

"Emissions 10.2 kHz to 20 kHz removed from the carrier must be attenuated at least 25 dB below the unmodulated carrier level. Emissions 20 kHz to 30 kHz removed from the carrier must be attenuated at least 35 dB below the unmodulated carrier level. Emissions 30 kHz to 60 kHz removed from the carrier must be attenuated at least [5 + 1 dB/kHz] below the unmodulated carrier level. Emissions between 60 kHz and 75 kHz of the carrier frequency must be attenuated at least 65 dB below the unmodulated carrier level. Emissions removed by more than 75 kHz must be attenuated at least 43 + 10 Log (Power in watts) or 80 dB below the unmodulated carrier level, whichever is the lesser attenuation, except for transmitters having power less than 158 watts, where the attenuation must be at least 65 dB below carrier level."