
2019

SURVEY OF

AM EMISSION

PERFORMANCE

FOR

KCRO 660-AM RADIO

BY
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8 / 29 / 2019

AM EMISSION MEASUREMENT DATA SHEET

EMISSION PERFORMANCE MEASUREMENTS AS REQUIRED BY THE FCC RULES 73.44 AND 73.1590 WERE TAKEN ON STATION KCRO, FREQUENCY 660 KHz, KW 1. OMNI / DA ON 8-29-2019 BETWEEN 5:30pm AND 5:45pm LOCAL TIME. MONITOR POINT LOCATION Apix. .25 mile SW of tower.

METHODOLOGY

MEASURING VAN WAS DRIVEN TO A LOCATION APPROXIMATELY ONE KILOMETER FROM THE TOWER SITE, OR AS INDICATED ABOVE. A MODEL LP-3 SHIELDED LOOP ANTENNA, MANUFACTURED BY CHRIS SCOTT AND ASSOCIATES WAS USED FOR THESE MEASUREMENTS. THE ANTENNA WAS ROTATED TO GIVE MAXIMUM SIGNAL FROM THE STATION UNDER TEST, WHILE OTHER SIGNALS WERE WATCHED TO SEE IF THEIR LEVELS INCREASED OR DECREASED FROM THE STATION UNDER TEST. A ANRITSU MS2711D SPECTRUM ANALYZER WAS USED. DURING BANDWIDTH MEASUREMENTS A RESOLUTION BANDWIDTH OF 300 Hz WAS USED AND A CHRIS SCOTT LOW LOSS AM NOTCH FILTER MAY HAVE BEEN USED TO IMPROVE THE +/- 75 KHz PLUS, NOISE FLOOR READINGS. FOR HARMONIC MEASUREMENTS, TO MINIMIZE INTERMODULATION CREATED IN THE "FRONT END" OF THE ANALYZER, A MEDIUM FREQUENCY NOTCH FILTER WAS USED. BEFORE EACH HARMONIC MEASUREMENT WAS TAKEN THE FILTER WAS APPLIED AND TUNED FOR THE BEST NULL AT THE CARRIER FREQUENCY. THE FILTER HAS BEEN TESTED AND HAS LITTLE OR NO ATTENUATION OR INSERTION LOSS AT THE HARMONIC FREQUENCIES.

BANDWIDTH MEASUREMENTS

	ABSOLUTE	NORMALIZED	FCC LIMIT	
CARRIER	<u>-42.26</u>	<u>0</u>	<u>0</u>	
10.2 KHz			<u>-25 dBc</u>	
20 KHz			<u>-35 dBc</u>	
30 KHz	<u>Pass all ok -</u>		<u>-35 dBc</u>	
40 KHz	<u>SEE KCRO-1</u>		<u>-45 dBc</u>	
50 KHz			<u>-55 dBc</u>	
60 KHz			<u>-65 dBc</u>	<input type="checkbox"/> WITH MEDIUM NOTCH FILTER
>75 kHz			<u>-73 dBc</u>	<input checked="" type="checkbox"/> WITH MEDIUM NOTCH FILTER

HARMONIC MEASUREMENTS

	FREQ.	ABSOLUTE	NORMALIZED	FCC LIMIT
CARRIER	<u>660 KHz</u>	<u>-42.46</u>	<u>0</u>	<u>0</u>
SECOND	<u>1320</u>	<u>-115.42</u>	<u>-72.96 (-73)</u>	<u>-73</u>
THIRD	<u>1980</u>	<u>-116.15</u>	<u>-73.69</u>	
FOURTH	<u>2460</u>	<u>-126.35</u>	<u>-83.89</u>	
FIFTH	<u>3300</u>	<u>-125.20</u>	<u>-82.74</u>	

FCC LIMITS 5KW PLUS -80DB, 2.5KW -77DB, 1KW -73DB, 500 WATT -70DB, 250 WATT -67DB, 158 LESS -65DB.

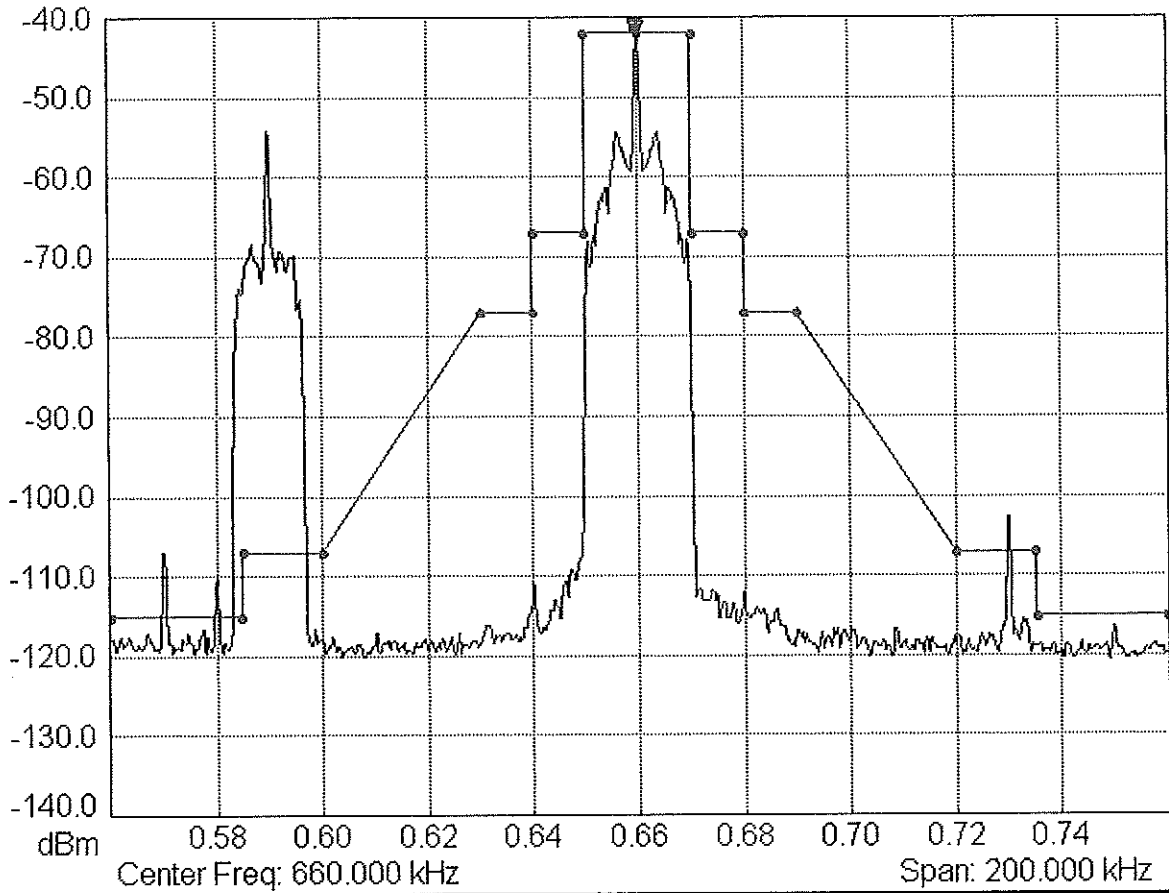
FREQUENCY MEASUREMENT -2 Hz SIGNATURE Val Lome DATE 8/29/2019

PASS TEST OK / DID NOT PASS

Spectrum Analyzer Data

KCRO-1 (8/29/2019 5:40:32 PM)

Spectrum Analyzer



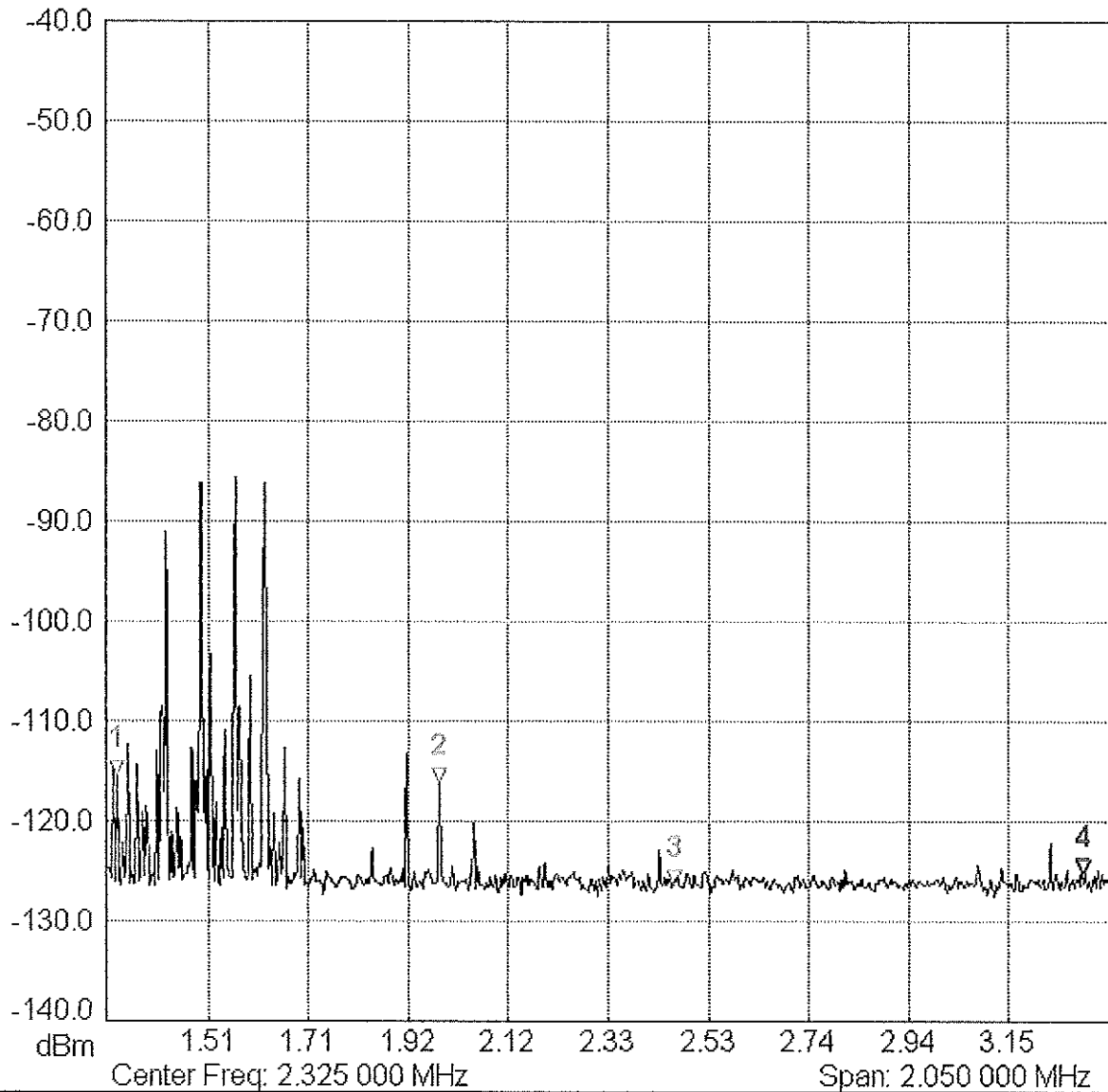
Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	■	□	660.000 0 kHz	-42.26 dBm	--	--
2	□	□	--	--	--	--
3	□	□	--	--	--	--
4	□	□	--	--	--	--
5	□	□	--	--	--	--
6	□	□	--	--	--	--

<p>Trace A data: Trace Mode = Max Hold Preamp = OFF Min Sweep Time = 0.001 S Reference Level Offset = 0 dB Input Attenuation = 0.0 dB RBW = 300.0 Hz VBW = 100.0 Hz</p>	<p>Detection = Peak Center Frequency = 660.000 000 kHz Start Frequency = 560.000 000 kHz Stop Frequency = 760.000 000 kHz Frequency Span = 200.000 000 kHz Reference Level = -40.000 dBm Scale = 10.0 dB/div</p>
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Spectrum Analyzer Data

KCRO-2 (8/29/2019 5:44:45 PM)

Spectrum Analyzer



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	■	□	1.320 0 MHz	-115.42 dBm	--	--
2	■	□	1.980 0 MHz	-116.15 dBm	--	--
3	■	□	2.460 0 MHz	-126.35 dBm	--	--
4	■	□	3.300 0 MHz	-125.20 dBm	--	--
5	□	□	--	--	--	--
6	□	□	--	--	--	--