

KOCW
Channel 14
Land Mobile Report
December 23, 2011
By
Thomas E. Long Jr.

KOCW's FCC permit required that a study was to be done to reduce objectionable interference to Land Mobile.

"3) During equipment tests, authorized by Section 73.1610 of the Commission's Rules, the permittee shall take adequate measures to identify and substantially eliminate objectionable interference which may be caused to existing land mobile radio facilities in the 460 to 470 MHz band. Documentation that objectionable interference will not be caused to existing land mobile radio facilities"

At the onset of the project we had a lot of experience with high power analog transmitters running on channel 14. The requested "ERI" filter for the "Axcera" transmitter was to be cut much tighter than normal on the low frequency side of the signal.

The filter was cut to give us approximately 65db of cut to the lower side band.

The KOCW site had operated for many years before DTV conversion on channel 14 with a 2KW analog transmitter. No noted problems were found with that operation.

A search for land mobile was done at the site for 20 miles from 460-470MHz. Attached is a list of all current licenses for the KOCW site. Very few systems are authorized for this area being a rural area in Western Kansas.

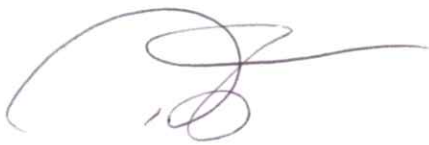
The area of interest for this study was 463.5MHz or -6.5MHz below the carrier for KOCW to 470MHz.

A look at the channels being used found that nothing is within 1 mile of the site. Also the highest used channel being used was 468.625.

Attached are plots for the input and output of the mask filter. With the transmitter producing a lower sideband of -42db and the -65db attenuation of the mask filter the output of the filter will be -107db. (Note this is below the noise floor on the test equipment) Experience with the older Jampro antennas also tells us to expect -15db loss on the lower side band at 1MHz below the carrier, and -25db by 2MHz below the carrier.

Based on the configuration of the transmission system the output of the antenna at -1Mhz below carrier would be -122db. Also when you take in account a 90db free space loss at 1 mile and -10db loss for vertical to horizontal coupling this facility should produce no problems to land mobile.

No complaints from land mobile operators have been received by KOCW since the commencement of operation pursuant to program test authority.

A handwritten signature in dark ink, appearing to be 'T. Long', with a large, sweeping initial 'T' and a long horizontal flourish extending to the right.

Thomas E. Long
President
Tesla RF LLC
Hickory, NC 28603

KOCW

Land Mobile Frequencies Barton County, KS

WQND469	461.325	HAYS COMMUNICATIONS SERVICE INC
WQND838	461.4	HAYS COMMUNICATIONS SERVICE INC
WQNL357	461.5	ROYAL DRILLING INC.
WQND469	461.55	HAYS COMMUNICATIONS SERVICE INC
WQND838	461.625	HAYS COMMUNICATIONS SERVICE INC
WQAJ446	461.7125	Central Kansas Medical Center
WQND838	461.8	HAYS COMMUNICATIONS SERVICE INC
WQT417	462.15	Westar Communications, Inc.
WQAR984	462.475	POST ROCK RURAL WATER DISTRICT
WQAS377	462.475	POST ROCK RURAL WATER DISTRICT
WZZ975	463.025	Clara Barton Hospital
WQCG670	463.575	Holopirek Cattle Company
WQCH232	463.625	Krier, Roger
WQFI727	464.125	CONCRETE SERVICE INC.
WQND469	464.2	HAYS COMMUNICATIONS SERVICE INC
WQEW967	464.775	Barton County Community College
WQNL357	466.5	ROYAL DRILLING INC.
WQAJ446	466.7125	Central Kansas Medical Center
WQAR984	467.475	POST ROCK RURAL WATER DISTRICT
WQAS377	467.475	POST ROCK RURAL WATER DISTRICT
WZZ975	468.025	Clara Barton Hospital
WQCG670	468.575	Holopirek Cattle Company
WQCH232	468.625	Krier, Roger

Rev Date 12/09/2011

Measured: Thursday, June 18, 2009 3:44:09PM
Printed: Thursday, June 18, 2009 3:44:12PM

Measurement: Out of Channel Emissions
Smoothing: High
Frequency: 470.31 MHz

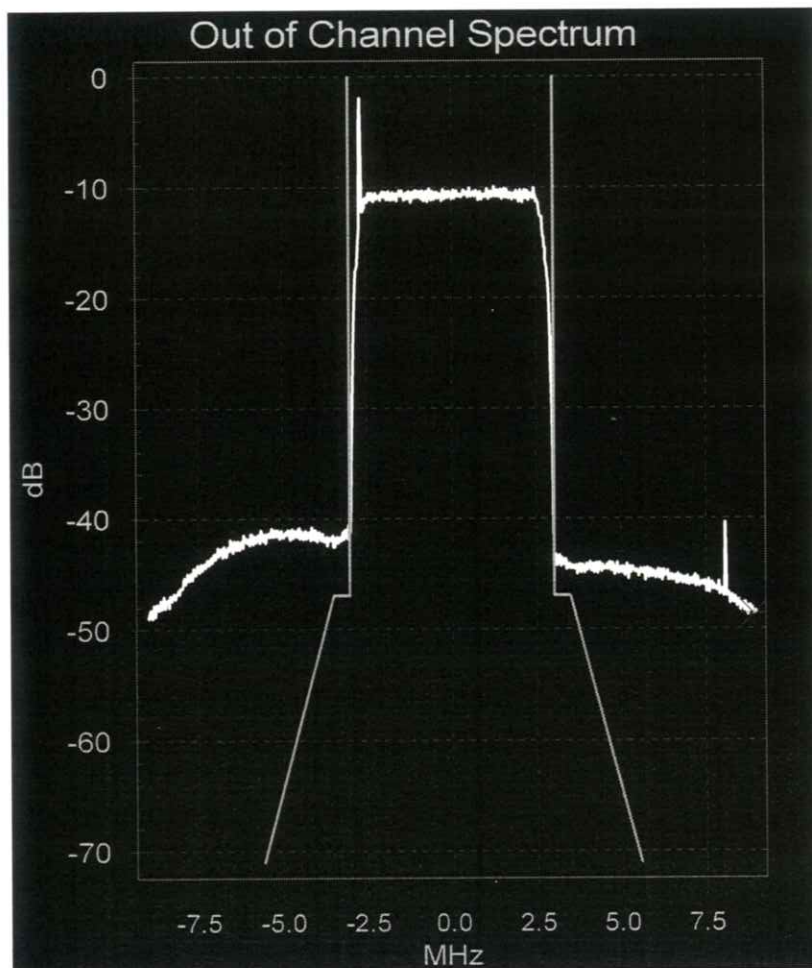
Pre Filter

Out of Channel Power to Average Power
Lower Channel -32.4 dB
Upper Channel -34.8 dB

Adjacent Channel Mask Test:

3 Channels
Fast Update

	Amplitude (dB)	Freq (MHz)
+	-48.62	8.90
/	-48.62	8.90
△	0.00	0.00



Measured: Thursday, June 18, 2009 3:38:18PM
Printed: Thursday, June 18, 2009 3:38:21PM

Measurement: Out of Channel Emissions
Smoothing: High
Frequency: 470.31 MHz

Post Filter

Out of Channel Power to Average Power

Lower Channel -48.8 dB
Upper Channel -50.0 dB

Adjacent Channel Mask Test:

3 Channels
Fast Update

	Amplitude (dB)	Freq (MHz)
+	-83.70	8.90
\	-83.70	8.90
△	0.00	0.00

