



# Occupied Bandwidth Study

And Spurious Emissions Measurements

KSOK (AM) – 1280 kHz  
Arkansas City, KS – Facility ID No. 14238

*Prepared for:*

**Cowley County Broadcasting, Inc.**

To Demonstrate Compliance with §73.44(b) of the  
FCC Rules and Regulations

June 12, 2014

## *Table of Contents*

· Engineering Statement of Purpose	Exhibit 1-A
· Engineer's Certification	Exhibit 1-B
· KSOK (AM) Occupied Bandwidth – 200 kHz Span	Exhibit 1-C
· KSOK (AM) Occupied Bandwidth – 100 kHz Span	Exhibit 1-D



## Exhibit 1-A

### *Engineering Statement of Purpose*

This firm has been retained by Cowley County Broadcasting, Inc. (Cowley), to prepare this Occupied Bandwidth Study for their licensed facility KSOK (AM), Arkansas City, KS.

Measurements were conducted to demonstrate that KSOK (AM), Arkansas City, KS, complies with §73.44(b) of the FCC Rules and Regulations. William H. Nolan conducted the measurements on June 12, 2014. The spectrum analyzer used for the measurements was an Anritsu model MS 2721B, S/N 1117086. A sample of the KSOK (AM) signal was derived using a 10-foot length of RG-58 coax, and a calibrated AM loop antenna (Potomac FIM-4100, Serial No. 220). The internal attenuator of the analyzer was employed as necessary to ensure the front-end of the analyzer was not overloaded. The loop antenna was oriented towards the array, and peaked for maximum signal and minimum off-axis interference.

All measurements were conducted with the transmitters and associated equipment adjusted as used in normal program operation. **These measurements were made at a distance of at least 1 kilometer from the center of the antenna array, per FCC requirements. (See Exhibits 1-C and 1-D for precise location data.)**

For all occupied bandwidth measurements, the spectrum analyzer was placed in the peak hold mode for at least 10 minutes per measurement before the waveforms were observed. As shown in Exhibit 1-C and Exhibit 1-D, station KSOK was observed to be in full compliance with §73.44(b) of the FCC Rules with emissions appearing on frequencies removed from the carrier frequencies by between 10.2 kHz and 75 kHz. Exhibit 1-C displays numerous carriers visible to the receiving antenna. The energy displayed above §73.44(b) limitations is a direct result of the presence of these carriers within the span of these measurements.

The results of these measurements confirm that the operation of KSOK (AM) is in full compliance with §73.44(b) of the FCC Rules and Regulations.



## Exhibit 1-B

### *Engineer's Certification*

I, William H. Nolan, with offices at 201 N. Grand, Suite 700, Enid, OK, have been retained for the purpose of preparing the technical data forming this report.

My work is a matter of record before the Federal Communications Commission. I have filed numerous applications that have been subsequently granted by the Commission. I have spent 34 years in the broadcast industry, and have designed and constructed numerous radio stations in that time, including AM and FM facilities.

I declare under penalty of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

Signed:

Date: 06-12-2014

William H. Nolan  
Senior Broadcast Engineer  
RF Results, LLC



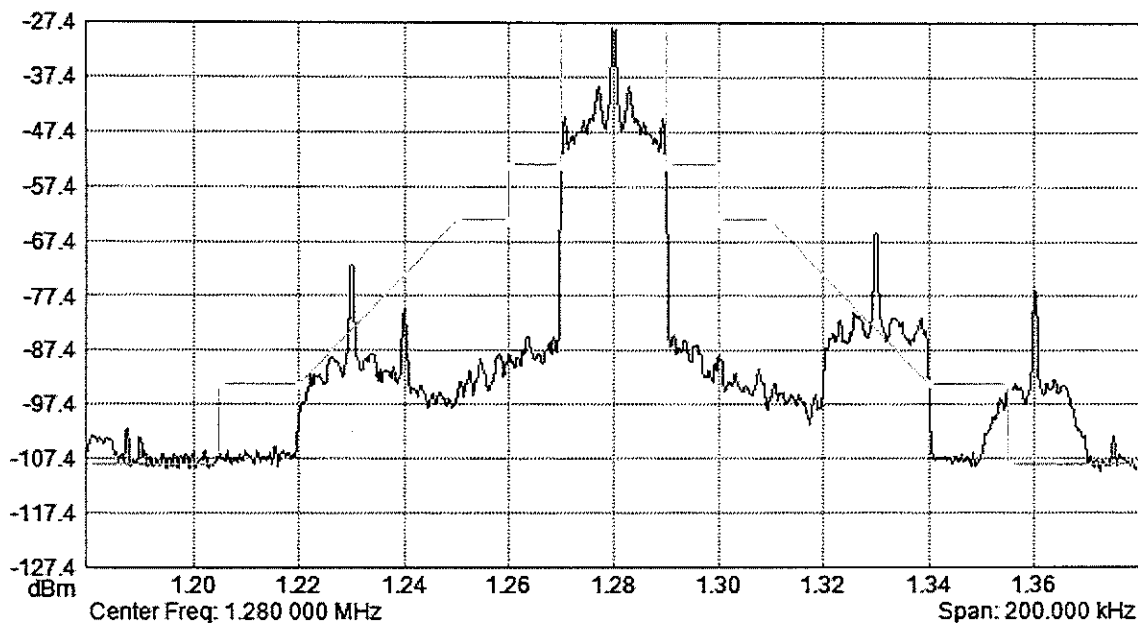
### Exhibit 1-C

KSOK (AM) Occupied Bandwidth – 200 kHz Span

RF Results, LLC

KSOK 200 kHz (6/12/2014 12:06:57 PM)

Spectrum Analyzer



#### Measurement Parameters

Trace Mode	Max Hold	Reference Level	-27.401 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	GPS Longitude	W 97 2 7
Reference Level Offset	0 dB	GPS Latitude	N 37 4 37
Input Attenuation	0.0 dB	GPS Fix Time	06 12 2014 17 06 36
RBW	300.0 Hz	Serial Number	1117086
VBW	3.0 MHz	Base Ver.	V4.32
Detection	Peak	App Ver.	V5.73
Center Frequency	1.280 000 MHz	Model	MS2721B
Start Frequency	1.180 000 MHz	Options	9, 20, 31
Stop Frequency	1.380 000 MHz	Date	6/12/2014 12:06:57 PM
Frequency Span	200.000 000 kHz	Device Name	Bill Nolan



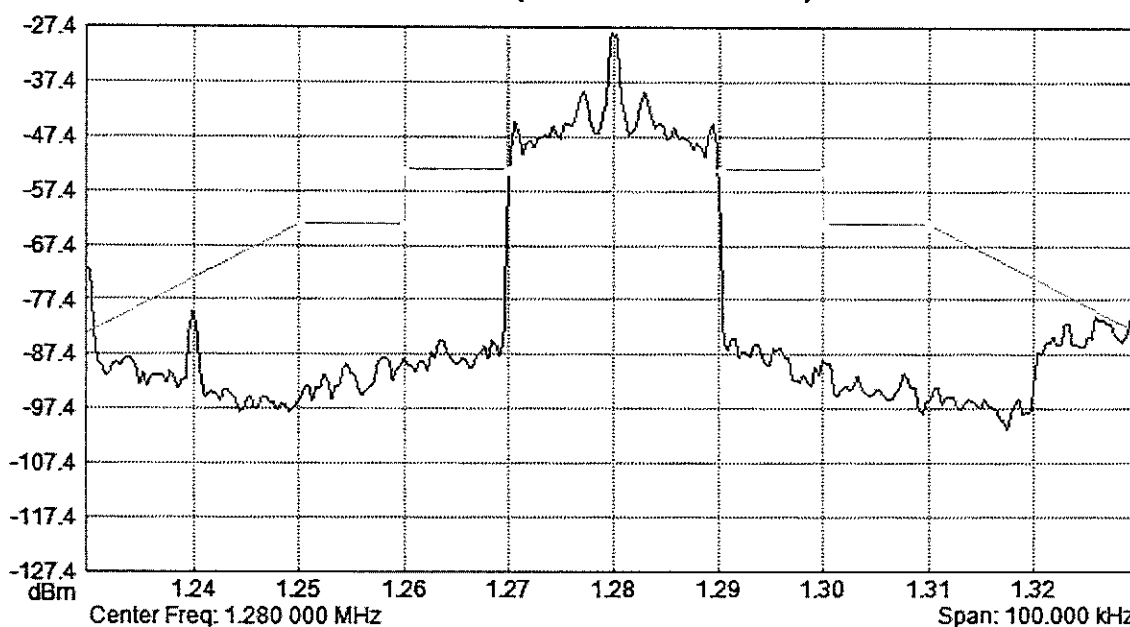
### Exhibit 1-D

KSOK (AM) Occupied Bandwidth – 100 kHz Span

RF Results, LLC

KSOK 100 kHz (6/12/2014 12:06:57 PM)

Spectrum Analyzer



#### Measurement Parameters

		Reference Level	-27.401 dBm
Trace Mode	Max Hold	Scale	10.0 dB/div
Preamplifier	OFF	GPS Longitude	W 97 2 7
Min Sweep Time	0.001 S	GPS Latitude	N 37 4 37
Reference Level Offset	0 dB	GPS Fix Time	06 12 2014 17 06 36
Input Attenuation	0.0 dB	Serial Number	1117086
RBW	300.0 Hz	Base Ver.	V4.32
VBW	3.0 MHz	App Ver.	V5.73
Detection	Peak	Model	MS2721B
Center Frequency	1.280 000 MHz	Options	9, 20, 31
Start Frequency	1.180 000 MHz	Date	6/12/2014 12:06:57 PM
Stop Frequency	1.380 000 MHz	Device Name	Bill_Nolan
Frequency Span	200.000 000 kHz		