

Technical Report

WCOG(AM)

Facility ID 74203

1320kHz Greensboro, NC

5kW DA2 U

Systems Emissions Measurement

**Prepared for
Mandel Owens, Chief Engineer
Winston-Salem Broadcasting
28 Dec 2022**



This measurement satisfies 47 CFR §73.1590, which requires AM broadcast stations to perform annual emissions measurements as defined by 47 CFR §73.44. This rule sets emission limitations to prevent spurious emissions capable of producing harmful or unwanted interference to other broadcast facilities close to the measured station's carrier frequency, and radio services existing on the station's harmonics.

WCOG(AM) operates 5kW DA2 U, from a tower site in Greensboro, NC. Measurements were made in accordance with the procedures outlined in 73.44(a) between 12:00 to 13:00 EST on 28 Dec 2022. The transmitter was inspected before this measurement to ensure it was operating at full facility.

The quiet monitoring site, free overhead power lines and other spectral pollution sources, was approximately 0.6 km from the transmitter site (N36-08-47.7/W079-54-33.8). A Tektronix RSA306 Spectrum Analyzer, connected to the receive loop of a Potomac Instruments PI4100 Field Intensity Meter, SN253 was used to measure the station. This arrangement was powered by an external battery and AC inverter. The spectrum analyzer's resolution bandwidth was 30Hz. Peak-hold mode was engaged and allowed to collect spectrum waveform for at least 10 minutes. This instrument was used subsequently to spot-check frequencies of interest and harmonics.

Emissions Observed

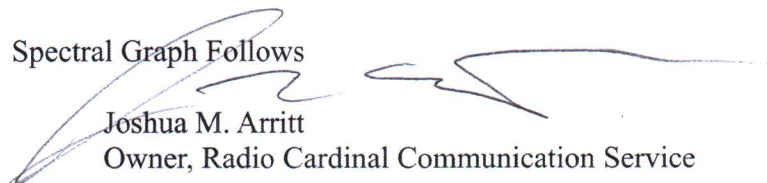
10.2kHz to 20kHz – Better than -54dBc (must exceed -25dBc)
20kHz to 30kHz – Better than -71dBc (must exceed -35dBc)
30kHz to 40kHz – Better than -82dBc (must exceed -35dBc to -45dBc)
40kHz to 50kHz – Better than -87dBc (must exceed -45dBc to -55dBc)
50kHz to 60kHz – Better than -88dBc (must exceed -55dBc to -65dBc)
60kHz to 75kHz – Better than -88dBc (must exceed -65dBc)

2nd, 3rd, 4th, and 5th harmonics not detected above -90dBc (must exceed -80dBc)

By these measurements, WCOG exceeds the requirements set forth in 47 CFR §73.44(b).

The preceding statements are correct and accurate to the best of my knowledge and belief. All observations described herein were performed by me or under my direct supervision. I am a qualified broadcast technician of some 20 years' experience, retained by Winston Salem Broadcasting to conduct these measurements as prepare this statement.

Spectral Graph Follows



Joshua M. Arritt
Owner, Radio Cardinal Communication Service

