

WLAY(AM) and WVNA(AM) Spurious Emissions Measurements:

On July 6 2023 from 10:00 to 14:30 CDT, WVNA-AM and WLAY-AM were operated from there combined tower site. Both stations were operated at 1KW as specified by the construction permit.

A spectrum analyzer and a FIM-41 field strength meter were used to make spurious emission measurements to show compliance with section 73.44 of FCC rules.

Special attention was paid to the frequencies of $2A + B$ and $2A - B$ and also the second and third harmonic of each station.

No spurious emissions were noted on any frequency over 75 kHz from the carriers and up to 5Mhz that exceeded -80 db from the carrier level.

Some of the possible intermod frequencies were not readable due to other signals.

1310 kHz interference from station WAFN in Somerville Alabama.

4630 kHz extreme noise level about 8 kHz above and below this frequency.

4490 kHz what seemed to be some form of digital signaling.

Both 4630 and 4490 were determined not to be spurious emissions of WLAY and WVNA.

Both transmitters were turned off and the signals were still present.

NRSC Bandwidth measurements were also made on WLAY AM and WVNA AM

These measurements were taken at a distance of about 2.0 Km from the transmitter site and both stations were running normal programming and 1Kw power output.

WLAY 1450.

Carrier level reference set at 0 db.

Peak readings 10.2 to 20Khz were noted at -26.7 db below the carrier.

Peak readings 20 to 30Khz were -36.4 db below the carrier

Peak readings 30 to 40Khz were -45 db below the carrier

Peak readings 40 to 60Khz were - 45 to - 67 db below the carrier

Peak readings 60 to 75Khz were -67db below the carrier

Peak readings 75Khz and above were 80db or more below the carrier

Second and Third harmonic was not detected.

WVNA 1590

Carrier level reference set at 0 db

Peak readings 10.2 to 20Khz were noted at -27.2 db below the carrier.

Peak readings 20 to 30Khz were -37.0 db below the carrier

Peak readings 30 to 40Khz were -46 db below the carrier

Peak readings 40 to 60Khz were - 46 to - 67.5 db below the carrier

Peak readings 60 to 75Khz were -68db below the carrier

Peak readings 75Khz and above were 80db or more below the carrier

The second harmonic or 3180 Khz was not detected.

The third harmonic or 4770 was noted to be at least 80 db or better below the carrier. It did not exceed the noise floor of the equipment being used.

Frequency measurements were made and both transmitters were set to + or - 1Hz

WLAY was found to be 1450.004 Khz

WVNA was found to be 1590.002 Khz

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