

Spectrum Emission Compliance
W209CD-FAC#152214 / W257DF-FAC#152237
Wednesday, December 12, 2018

Tests were conducted to determine compliance with 47 C.F.R. 73.317(b) through 73.317(d) for W209CD, Atlanta, GA FAC# 152214 89.7 MHz and W257DF, Atlanta, GA . FAC# 152237 99.3 MHz. to share a common transmit Antenna located ASRN 1206253 using a Shively Labs model: 2930-2/4 Transmit Combiner.

Method Used For Gathering Data

Signals were measured with a transmitter for each station connected to the proper port of a Telewave combiner designated for each proper operating frequency. A Bird Wattmeter model 43 serial number 219174 was connected directly between the antenna port of the combiner and the antenna feed line for the antenna system. A Bird 50 dB sample port element 50db 25 MHz to 1000 MHz was used for obtaining a test signal for making measurements. The measurement data was gathered using a Rohde & Swartz model FSH3 Spectrum Analyzer serial number 105325. I used software Program FSH View Utility to transfer the spectrum screen shots from the Rohde & Schwarz Spectrum analyzer via optical USB port to a HP DV6000 notebook computer.

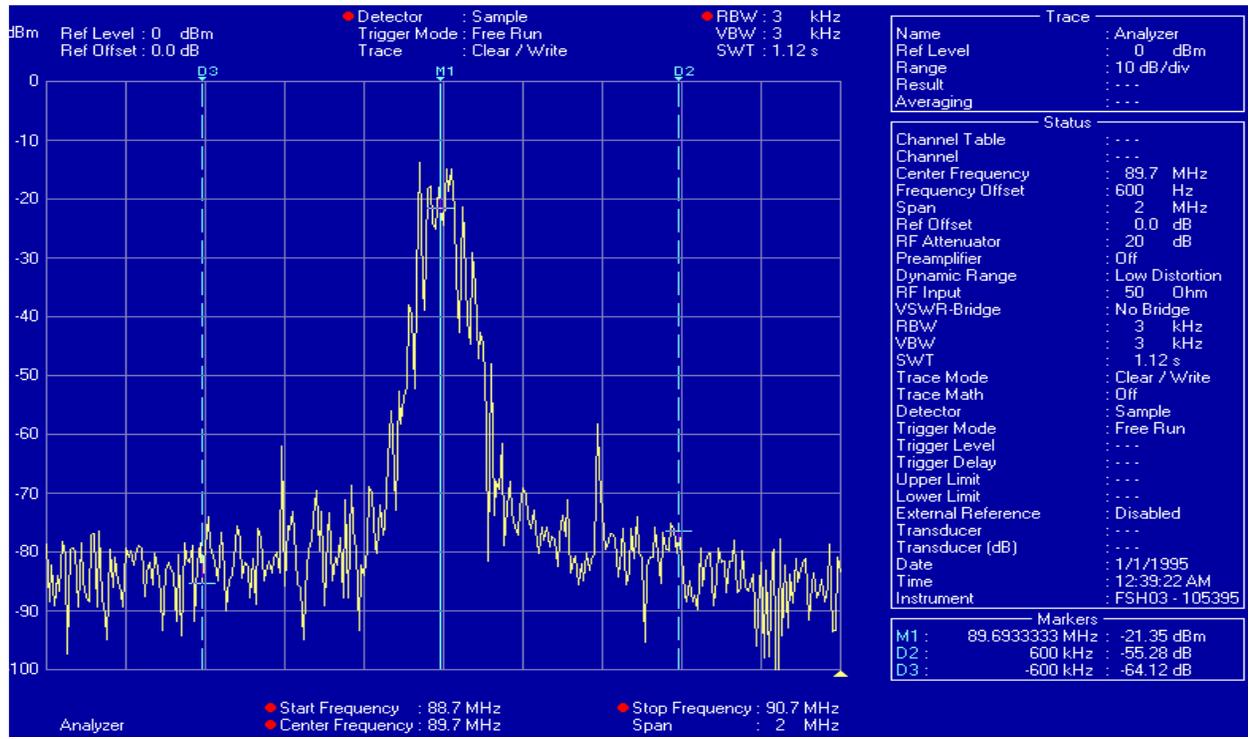


Figure 1. W209CD, 89.7MHz, Atlanta, GA FAC# 152214

Note:

According to 47 C.F.R. 73.31(d) the limits for emissions more than 600 KHz from the assigned carrier frequency is equal to “43 + 10 Log₁₀ (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.” Therefore the limit is 43 + 10 Log₁₀ (79 Watts) = 43 + 18.9 = 61.9 dB below the unmodulated reference carrier.

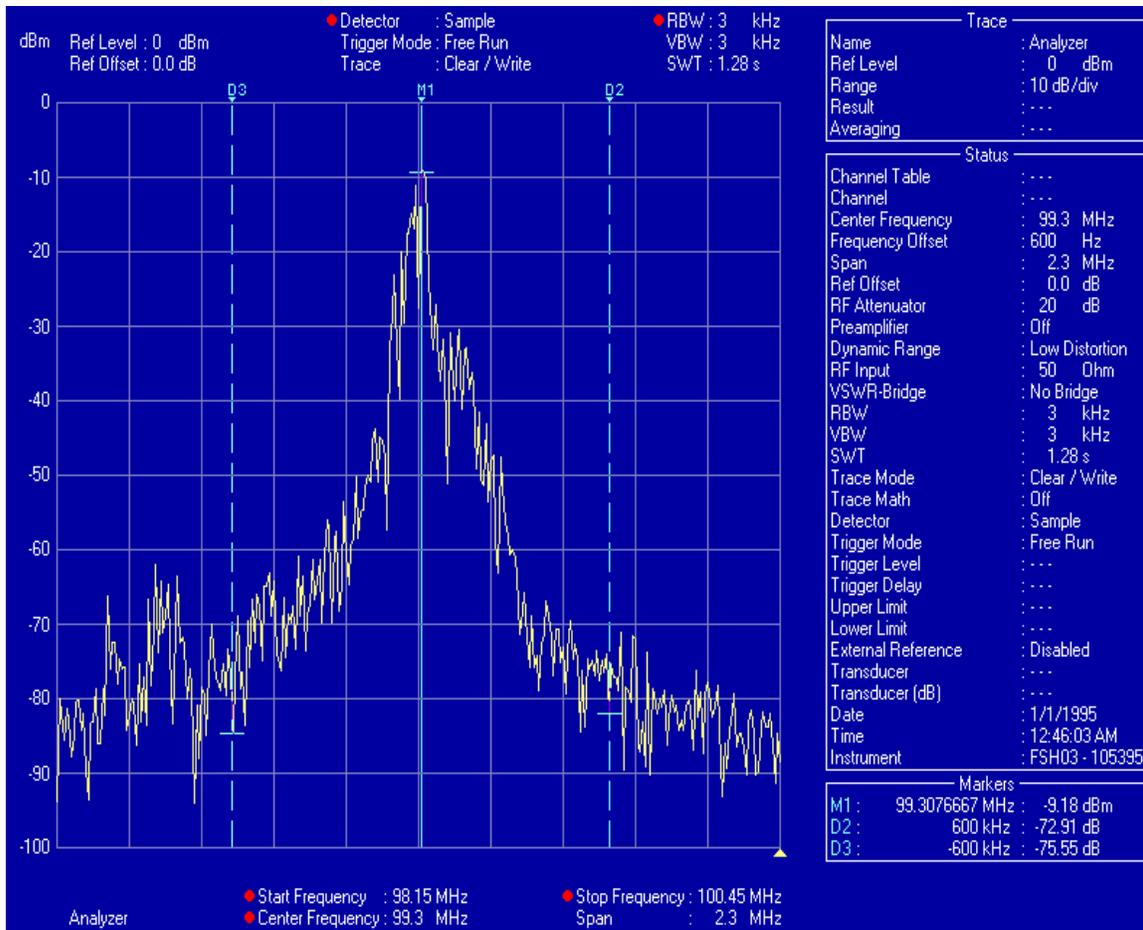


Figure 2. W257DF, 99.3 MHz, Atlanta, GA FAC# 152237

Note:

According to 47 C.F.R. 73.317(d) the limits for emissions more than 600 KHz from the assigned carrier frequency is equal to “43 + 10 Log₁₀ (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.” Therefore the limit is 43 + 10 Log₁₀ (91Watts) = 43 + 19.6 = 62.6 dB below the unmodulated reference carrier.

Per rule 73.317, measurements were made for any spurious emissions at between 120 kHz and 240 kHz either side of the stations operating frequency.

Further measurements were made at between 240 kHz and 600 kHz either side of the carrier frequency. These measurements were conducted with no modulation present; and no spurious emissions were noted. Measurements were then made at the second and third harmonic frequencies of the described stations operating frequency. Again, no spurious signals were present. A close scan of Aviation spectrum between 108 MHz & 136 MHz also showed no signs of spurious emissions. A scan of the spectrum, up to and including 500 MHz, was made to look for any other spurious emissions from the W209CD / W257DF combined transmission system; and none could be found.

According to all measurements observed, including but not limited to that presented herein, W209CD / W257DF is in full compliance with all FCC Requirements of 47 C.F.R. 73.317(b) through 73.317(d)

Certification

I certify that I personally conducted all measurements and Prepared all statements within this document as represented herein and that all such work was done using good engineering practice.

Broadcast Engineer

A handwritten signature in black ink, appearing to read "Victor M. Vickers", written in a cursive style.

Victor M. Vickers