

On January 16, 2002 measurements were taken of the WQHT, WRKS and WQCD auxiliary transmitters operating into a combined antenna system as specified in Construction Permits BXPB-20001011AAM, BXPB-20001011AAX and BXPB-20001011AAN in West Orange, NJ using a Tektronix model 2712 spectrum analyzer to demonstrate compliance with section 73.317(b) through 73.317(d) of the FCC Rules and Regulations.

A sample of the WQHT, WRKS and WQCD signals was obtained from the main transmission line at the output of the combiner and was coupled to the spectrum analyzer using a short length of LMR-400 50 ohm double shielded coaxial cable. 6db of attenuation was inserted electronically to avoid overload and provide isolation.

The unmodulated carrier level of WQCD was +9.0 dBm, the unmodulated carrier of WRKS was +9.25 dBm and the unmodulated carrier of WQHT was +9.3 dBm. WQCD was used as the reference for all measurements as it was the lowest.

All three transmitters were run at their nominal power levels and normal program operation. The three transmitters were found to be in compliance with section 73.317(b) of the FCC Rules with occupied bandwidth to be 240 kHz or less with all emissions on frequencies removed from the carrier frequencies from 120 kHz to 240 kHz attenuated by at least 25 dB below the unmodulated carriers.

The three transmitters were also found to be in compliance with section 73.317(c) of the FCC Rules with all emissions on frequencies removed from the carrier frequencies from 240 kHz to 600 kHz attenuated by at least 35 dB.

Additionally, the three transmitters were found to be in compliance with section 73.317(d) of the FCC rules with all emissions on frequencies removed from the carrier frequencies by more the 600 kHz attenuated by at least 80 dB. To aid in this measurement and avoid false spurious or intermodulation products in the analyzer, notch filters of 50.5 dB attenuation for WQCD (101.9 MHz), 48.3 dB attenuation for WRKS (98.7 MHz) and 46.4 dB attenuation for WQHT (97.1 MHz) were installed in line allowing the spectrum analyzer gain to be increased by 20 dB.

In addition a search for intermodulation and harmonic frequencies based on all possible mathematic products of the combined operation through third order was done with no products found.

Paul Sanchez
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