



**CLEAR CHANNEL
RADIO**

**Occupied Bandwidth and
Spurious Emissions Measurements**

**To Demonstrate Compliance with
Section 73.317(b) through 73.317(d) of the FCC Rules and Regulations and
hybrid FM specifications.**

WXLY- 102.5 Mhz, 273C1

34163

North Charleston SC

CITICASTERS LICENSES, L.P.

WEZL- 103.5 Mhz, 278C1

2441

Charleston SC

CITICASTERS LICENSES, L.P.

WRFQ- 104.5 Mhz, 283C1

38901

Mount Pleasant SC

CITICASTERS LICENSES, L.P.

Monday May 22, 2006

Benjamin Brinitzer

Regional Vice President Engineering

Friday, May 16, 2008

Measurements were conducted to demonstrate that WXLY, WEZL and WRFQ operating into a combined antenna system comply with section 73.317(b) through 73.317(d) of the FCC Rules and Regulations. Measurements were conducted on Friday 4/17/2008 by Benjamin H Brinitzer, CPBE, a Broadcast engineer with more than 25 years experience in the profession. Mr. Brinitzer holds a certification as a Professional Broadcast Engineer issued by the Society of Broadcast Engineers and is qualified to make the following certification.

Analog carriers of all stations simultaneously utilizing the shared antenna were measured to verify compliance with section 73.317(b) through 73.317(d) of the FCC Rules and Regulations. The spectrum analyzer used for the measurements was an Agilent model 4402B, S/N my44211565 calibrated 8/04. A sample of all three Analog signals was derived from the main transmission line at the output of the constant Impedance combiner, utilizing a directional coupler with at least 50 db of coupling and 30 db of directivity. RF was coupled to the analyzer using a short length of RG-142 50Ω double-shielded coaxial cable. Three Notch filters were placed in front of the analyzer input to allow measurement sensitivity to be increased. One variable 30 db pad (Bird model 5-A-MFN-06) was inserted ahead of the analyzer and after the filters to avoid overload and to provide isolation.

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. All transmitters were observed to be in full compliance with section 73.317(b) of the FCC Rules with emissions appearing on frequencies removed from the carrier frequencies by between 120 kHz and 240 kHz attenuated by at least 25 dB below the modulated carrier level indicating the occupied bandwidth of each transmitter to be 240 kHz or less. All transmitters were also observed to be in full compliance with section 73.317(c) of the FCC Rules with emissions appearing on frequencies removed from the carrier frequencies between 240 kHz and 600 kHz attenuated by at least 35 dB.

Frequencies removed from the carrier frequencies by more than 600 kHz were attenuated by at least 80 dB as required by section 73.317(d) of the FCC Rules. To facilitate these measurements, notch filters were placed before the switchable 30 dB pad so that the spectrum analyzer gain could be increased by 27 dB. The filters were necessary to avoid the possible generation of false spurious or inter-modulation products in the analyzer. The attenuation of the notch filters was -23.2 dB at 102.5 Mhz, 273C1 and -22.25 dB at 103.5 Mhz and -22.9 db at 104.5 Mhz .

The modulated carrier level of WXLY was measured to be -4.19 dBm and the modulated carrier level of WRFQ was -3.8 dBm and the modulated carrier level of WEZL was -4.10 dBm . Since the WXLY measured reference level was lower, it was used as the reference for all harmonic, spurious and inter-modulation measurements. All measurements were conducted with the transmitters and associated equipment adjusted as used in normal program operation.

All harmonic and inter-modulation frequencies in the range of frequencies between 3 MHz and 900 MHz through the 3rd order that could be produced by the combined operation of WXLV, WEZL and WRFQ were predicted with a computer program, the results of which are shown in Table 1.

Table 1

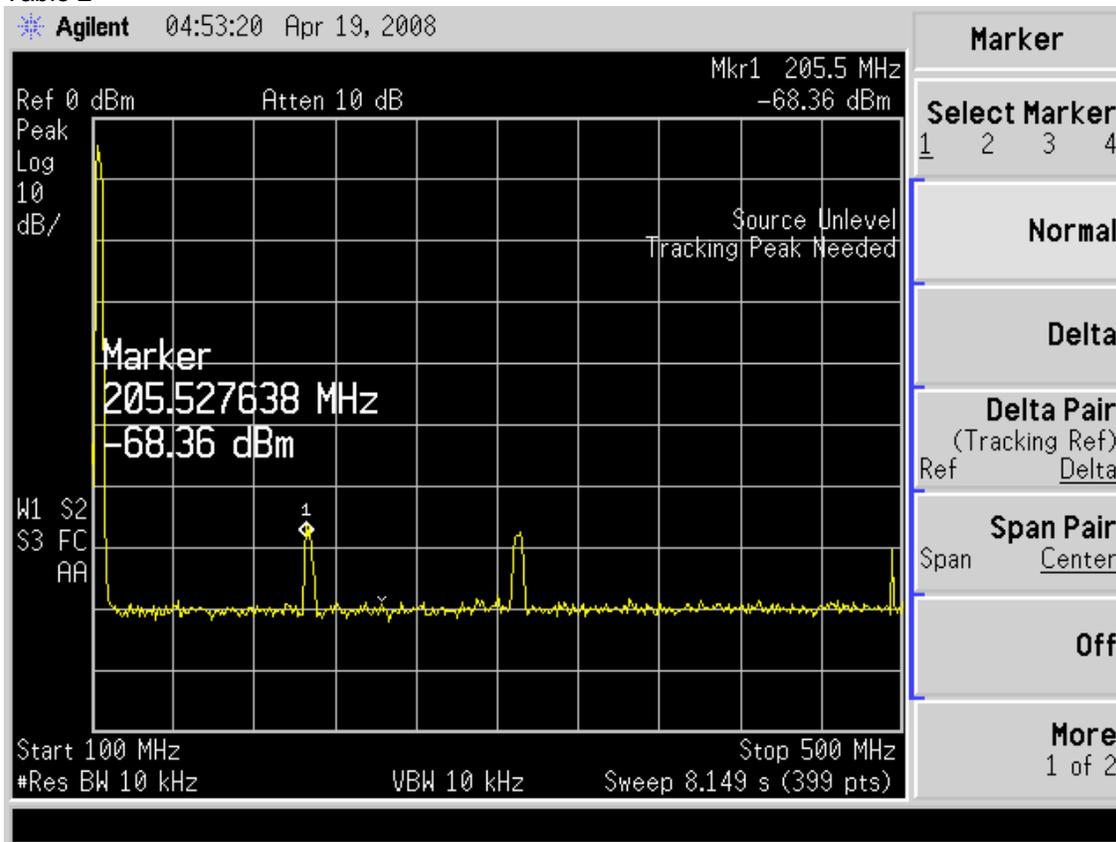
Frequency A	102.5
Frequency B	103.5
Frequency C	104.5

DESCRIPTION	FREQ. MHZ	ATTENUATION DB	DESCRIPTION	FREQ. MHZ	ATTENUATION DB
A + B	206	>100	(2 X A) - (2 X C)	N/A	N/A
A - B	N/A	N/A	(2 X A) + (3 X C)	518.5	>100
A + (2 X B)	309.5	>100	(2 X C) + (3 X A)	516.5	>100
B + (2 X A)	308.5	>100	(3 X A) - C	203	>100
A + (3 X B)	413	>100	3 X C	313.5	>100
B + (3 X A)	411	>100	(3 X C) - A	211	>100
2 X A	205	>90	(3 X A) - (2 X C)	98.5	>100
(2 X A) - B	101.5	>100	(3 X C) - (2 X A)	108.5	>100
2 X B	207	>100	(3 X A) - (3 X C)	N/A	N/A
(2 X B) - A	104.5	>100	B + C	208	>100
(2 X A) + (2 X B)	412	>100	B - C	N/A	N/A
(2 X A) - (2 X B)	N/A	N/A	B + (2 X C)	312.5	>100
(2 X A) + (3 X B)	515.5	>100	C + (2 X B)	311.5	>100
(2 X B) + (3 X A)	514.5	>100	B + (3 X C)	417	>100
3 X A	307.5	>100	C + (3 X B)	415	>100
(3 X A) - B	204	>100	(2 X B) - C	102.5	>100
3 X B	310.5	>87	(2 X C) - B	105.5	>100
(3 X B) - A	208	>100	(2 X B) + (2 X C)	416	>100
(3 X A) - (2 X B)	100.5	>100	(2 X B) - (2 X C)	N/A	N/A
(3 X B) - (2 X A)	105.5	>100	(2 X B) + (3 X C)	520.5	>100
(3 X A) - (3 X B)	N/A	N/A	(2 X C) + (3 X B)	519.5	>100
A + C	207	>100	(3 X B) - C	206	>100
A - C	N/A	N/A	(3 X C) - B	210	>100
A + (2 X C)	311.5	>100	(3 X B) - (2 X C)	101.5	>100
C + (2 X A)	309.5	>100	(3 X C) - (2 X B)	106.5	>100
A + (3 X C)	416	>100	(3 X B) - (3 X C)	N/A	N/A
C + (3 X A)	412	>100	4 X A	410	>100
(2 X A) - C	100.5	>100	4 X B	414	>100
2 X C	209	>100	4 X C	418	>100
(2 X C) - A	106.5	>100	5 X A	512.5	>88
(2 X A) + (2 X C)	414	>100	5 X B	517.5	>100
			5 X C	522.5	>100

Table 1 continued

While special attention was given to the “product” frequencies listed in Table 1, measurements were conducted covering the entire range of frequencies between 3 MHz and 500 MHz. The only signals detected at levels attenuated by less than 80 dB below the modulated carrier levels and appearing on frequencies removed from the WXLY, WRFQ and WXLY carrier frequencies by more than 600 kHz were the carriers of nearby FM and Television stations. In each case where these signals were observed to be at a level greater than 80 dB below the modulated carrier level of all transmitters, each transmitter was turned off while the amplitude of the signal was observed to be unchanged, indicating that the signal was not the result of the combined operation of WXLY, and .

Table 2



Results of the measurements at the specific frequencies where harmonic or inter-modulation products were predicted to possibly occur resulted in levels 80 DB under the fundamental frequency of each station measured. Note that table 2 indicates the fundamental reference levels after notch filters attenuation is applied. Therefore, a -68.36 dbm measurement indicated is actually 87.37 DB down from the lowest measured fundamental of +19.01 db. (-4.19db measured reference +23.2 db notch filter attenuation = 19.01 db corrected reference carrier)

The results of these measurements confirm that the combined operations of WXLY, WRFQ and WEZL and into a shared antenna are in full compliance with section 73.317(b) through 73.317(d) of the FCC Rules and Regulations.



A handwritten signature in black ink, appearing to read "Benjamin Brinitzer", is written over a light blue grid background. The signature is stylized and cursive.

Benjamin Brinitzer CPBE #8750