

# Exhibit 11 - Spectrum Emission Compliance

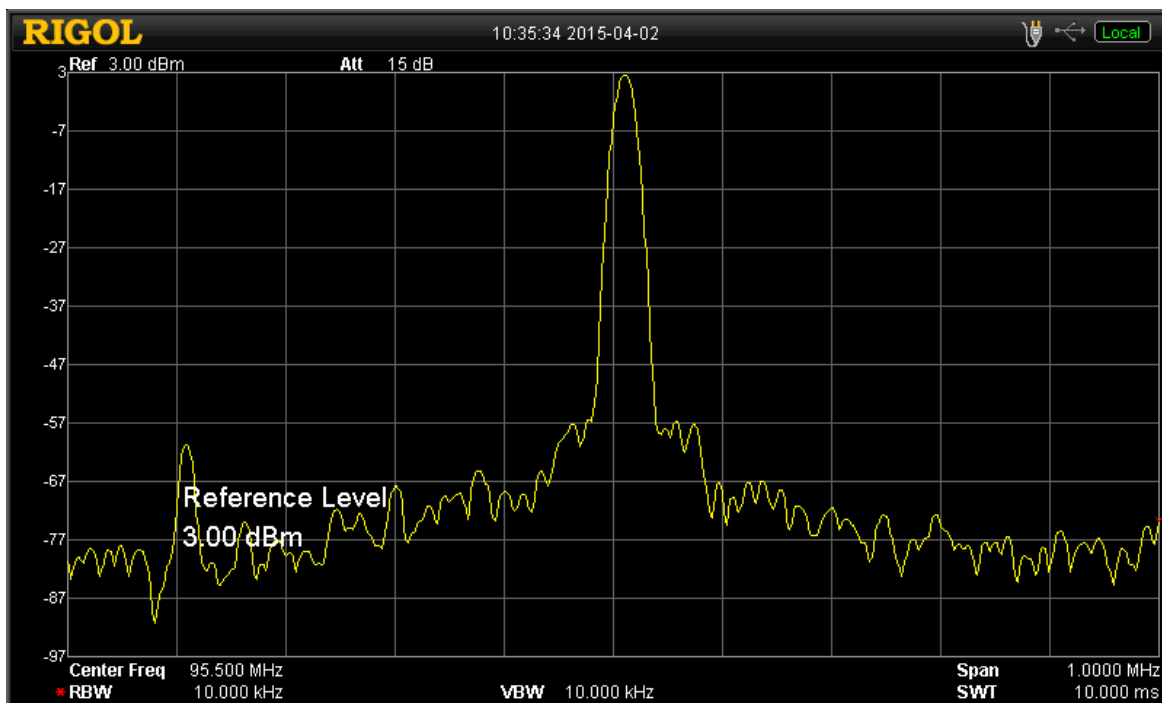
Tests were conducted to determine compliance with 47 C.F.R. 73.317(b) through (d) in fulfillment of Construction Permit requirements for W238BC and W264BE to share a common transmit antenna using a transmit combiner.

## Method used for gathering data

Signals were measured with the 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 108668 was connected directly between the antenna port of the combiner and the cable to the dummy load simulating the antenna system. A Bird 50 dB sample port element model 4274-025 was used in the wattmeter for obtaining a sample signal for the required measurements. The combiner is two Telewave model TWPC-1005-2 cavity pairs (4 total cavities).

The measurement data was gathered using a Rigol model DSA1031A spectrum analyzer serial number DSA1A152100046 with internal tracking generator option. All measurements, unless otherwise indicated, were made with both stations simultaneously utilizing the shared antenna as required by the CP Special Operating Conditions.

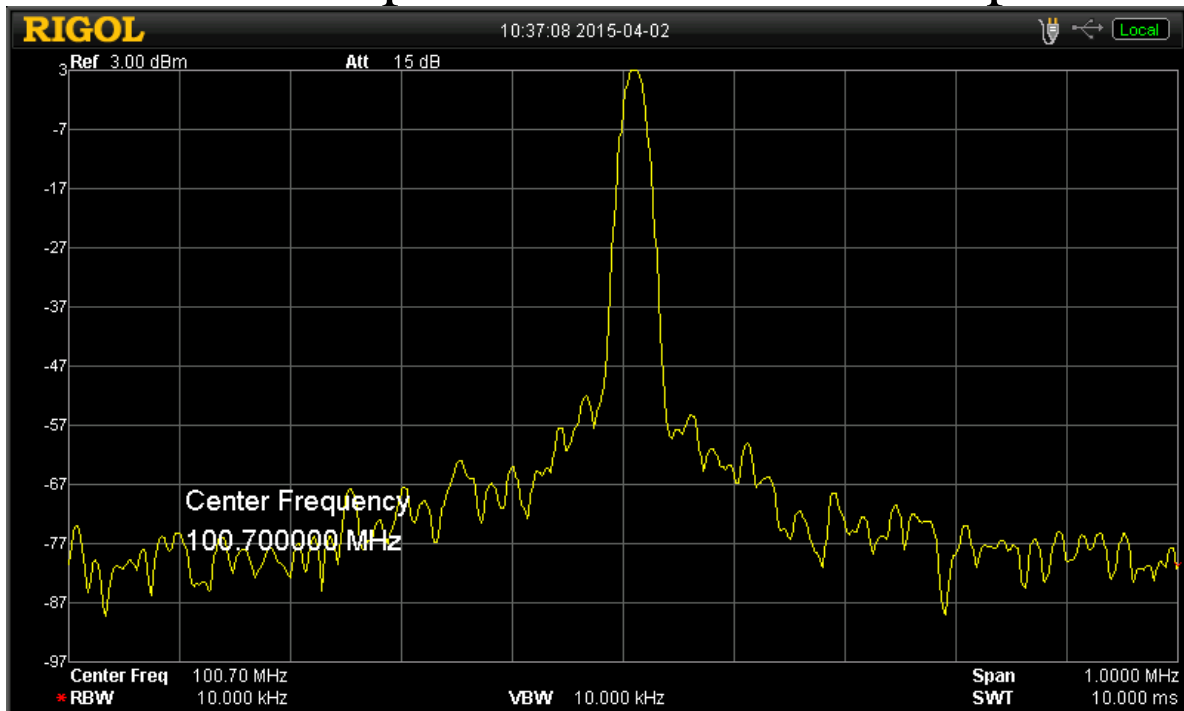
## Reference Levels



**Figure 1**

**Figure 1** shows W264BE transmitter level set to 0.146 KW for producing 0.080 KW ERP with no modulation as reference level at +3 dBm.

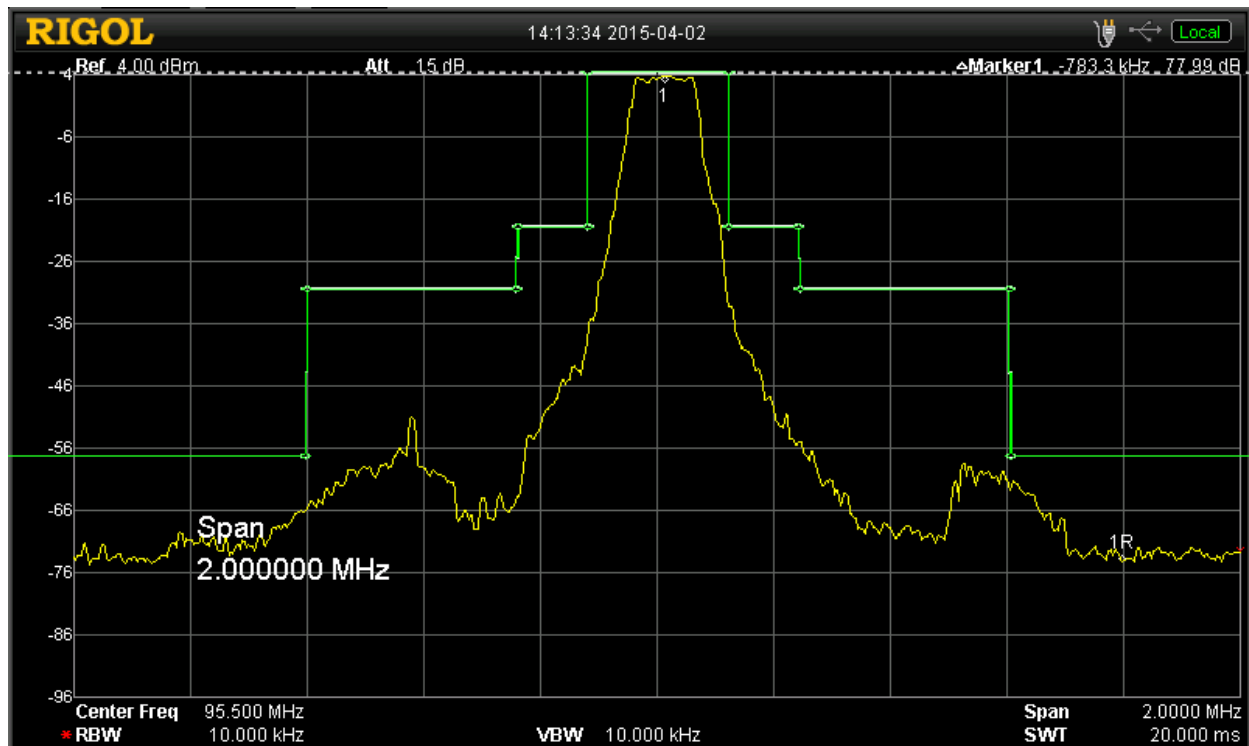
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**Figure 2**

**Figure 2** shows W238BC transmitter levels set to 0.150 KW for producing 0.080 KW ERP with no modulation as reference level at +4 dBm.

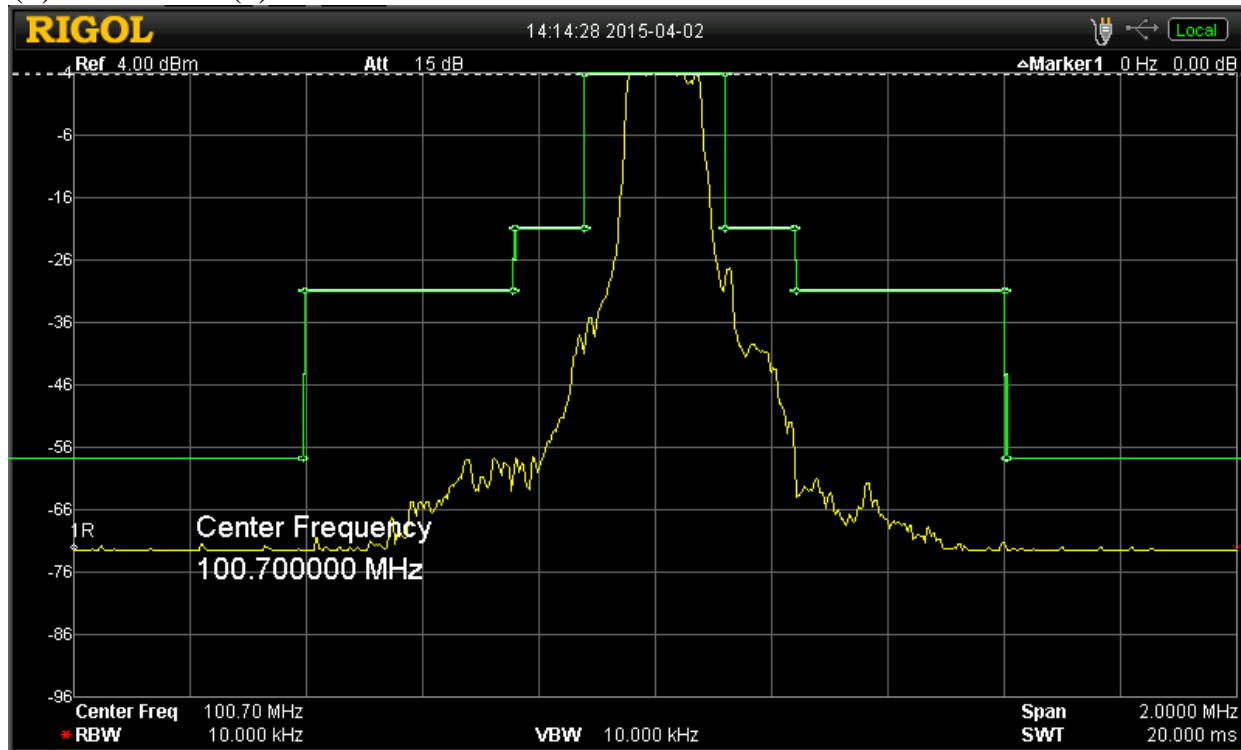
## RF-Mask Measurements



**Figure 3**

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The W264BE transmitter is displayed in **Figure 3** and the W238BC transmitter is displayed in **Figure 4** to show compliance with RF-Mask requirements. These measurements were each taken over a period of several minutes using the peak-hold feature to indicate all occurrences of spectrum occupation during that period of time. I added lines to show RF-Mask emission limits occupying the spectrum in accordance with FCC requirements of 47 C.F.R. 73.317(b) and 73.317(c).



**Figure 4**

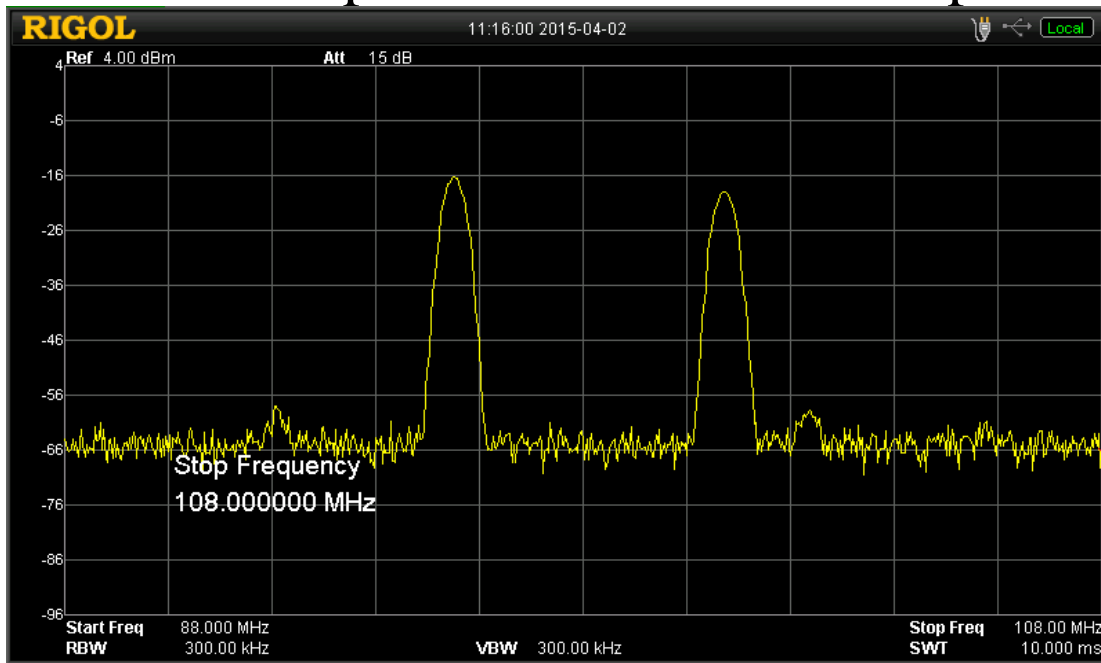
## Compliance with 47 C.F.R. 73.317(d)

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 “ $43 + 10 \text{ Log}_{10} (\text{Power, in watts})$  dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.”

The limit for both stations is  $43 + 10 \text{ Log}_{10}(80 \text{ Watts}) = 43 + 19 = 62$  dB below the unmodulated reference carrier. Since the station reference is +3 dBm, the limit 62 dB lower than the reference is -58 dBm.

To prevent spurious indications in the test equipment by RITOI for the following measurements, an MFC model 3468-FM filter was used to reduce the carriers under test. The measured insertion loss of the filters outside of the FM Broadcast Band was less than a dB.

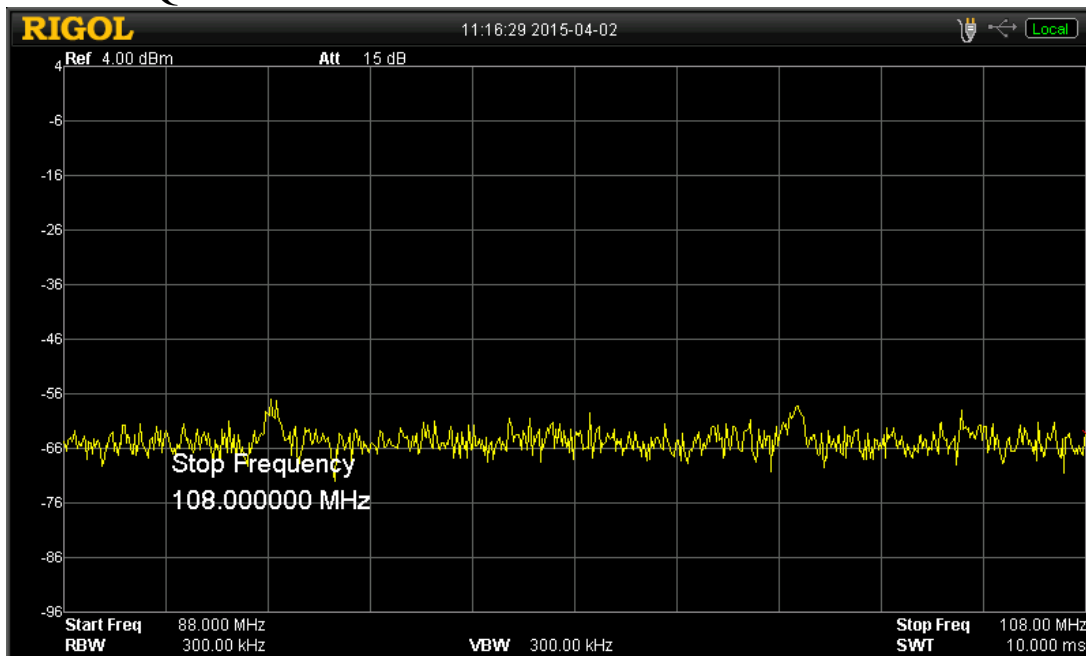
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**Figure 5**

**Figure 5** shows a view of the FM Broadcast spectrum. The RITOI notch filter attenuated the measured signal of W238BC and W264BE. All emissions outside 600 KHz of each station are below -58dBm. The identity of nearby FM stations being received by the transmit antenna, which are indicated in Figure 5 close to or stronger than -58dBm are confirmed as:

- 92.1 WLTU Manitowoc
- 95.5 W238BC Manitowoc (subject of this test)
- 100.7 W264BE Manitowoc (subject of this test)
- 102.3 WQTC Manitowoc

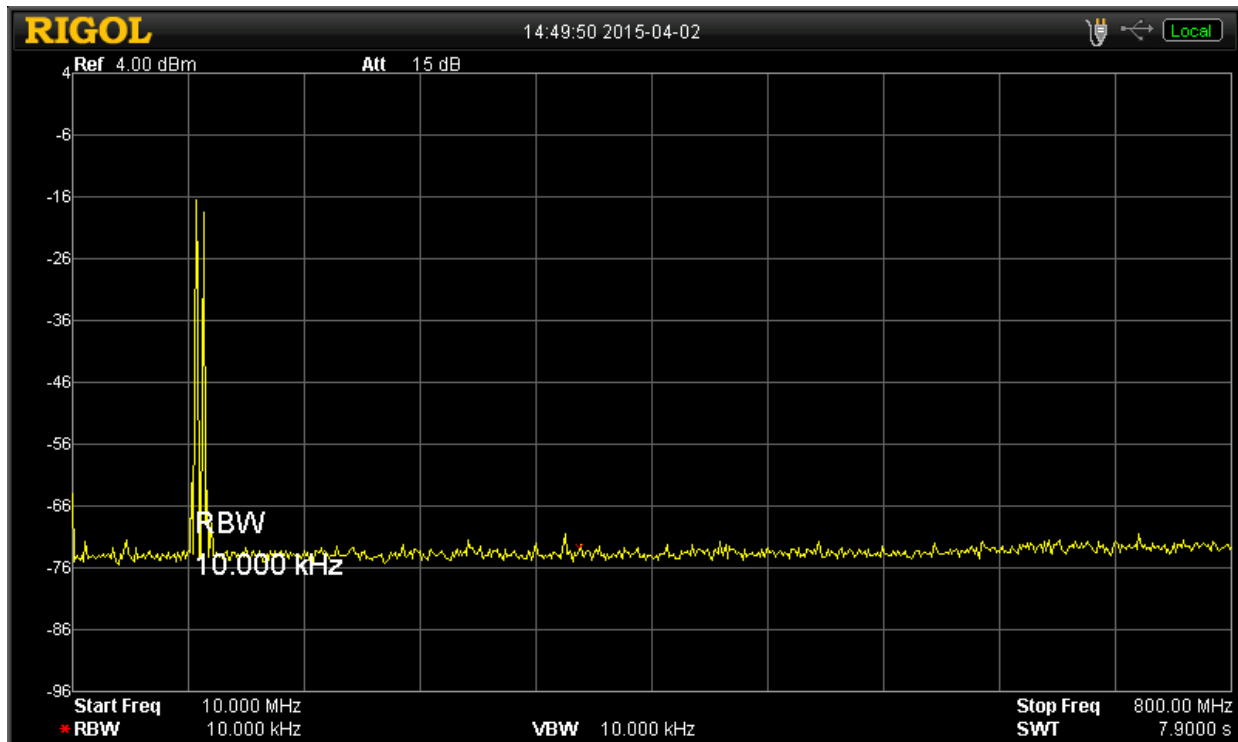


**Figure 6**

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To further demonstrate that the previously identified local FM signals and other signals below the limit threshold are not products from the combined transmitters, **Figure 6** displays the spectrum with both translator station transmitters under test disabled.

A wider view of the spectrum (50 to 500 MHz) is indicated in **Figure 7** to display absence of harmonic or other spurious signals. The FM stations identified in **Figure 5** appear at the left end of the screen in **Figure 7** and are the only signals displayed above the -68 dBm threshold.



**Figure 7**

It is clear that no emissions from the assigned carriers of both translators combined to radiate from this antenna are above the limit for emissions outside of 600 KHz from the assigned carriers.

## Summary

According to all measurements observed, including but not limited to that presented herein, W238BC and W264BE are in full compliance with all FCC requirements of 47 C.F.R. 73.317(b) through 73.317(d) in fulfillment of Construction Permit requirements to share a common transmit antenna using the transmit combiner installed for that purpose.

## Certification

I hereby certify that I hold FCC Lifetime General Radiotelephone license PG-6-18888 and as a member of the Society of Broadcast Engineers (SBE) am a Certified Professional Broadcast Engineer (CPBE). I have made numerous representations before the Federal Communications Commission with an unblemished reputation.

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I also certify that I personally conducted all measurements on April 2, 2015 and prepared all statements within this document as represented herein and that all such work was done using good engineering practice.

A handwritten signature in black ink, appearing to read 'Alan F. Kilgore', with a long horizontal flourish extending to the right.

Alan F. Kilgore, CPBE