

Calvary Chapel of the Finger Lakes, Inc.
W278BH / W286BQ Batavia, NY Combined Facility
Exhibit 11 -- Measurements of RF Emissions
November 14, 2008

Introduction

These measurements are provided to the FCC in response to Condition 3 of Construction Permit BMPFT-20080908ABD, which reads:

BEFORE PROGRAM TESTS COMMENCE, sufficient measurements shall be made to establish that the operation authorized in this construction permit is in compliance with the spurious emissions requirements of 47 C.F.R. Sections 73.317(b) through 73.317(d). All measurements must be made with all stations simultaneously utilizing the shared antenna. These measurements shall be submitted to the Commission along with the FCC Form 350-FM application for license.

Translator Specifications

W278BH, Facility ID 150833
Construction Permit BMPFT-20080908ABD (CP callsign W275BL)
Output 102.9 MHz, transmitter power 30.9 W, effective radiated power 29 W
Required attenuation of emissions greater than 600 kHz removed: 57.6 dBc

W286BQ Facility ID 151763
Construction Permit BPFT-20080806ACC (CP callsign W288BZ)
Output 105.5 MHz, transmitter power 177.5 W, effective radiated power 180 W
Required attenuation of emissions greater than 600 kHz removed: 65.6 dBc

Test Equipment and Procedure

With both translators operating at specified power output with typical program audio modulation, RF energy was sampled at a point between the output of the transmit combiner and input to the 50 ohm transmission line with a Coaxial Dynamics model 87024H directional sample element fitted in a Bird 4304A "ThruLine" wattmeter. The measured coupling ratio across the range 50 to 550 MHz with a 50 ohm termination is plotted in [Figure 1](#).

To establish carrier reference levels, the sampled RF energy was fed directly to the input of a Rohde & Schwarz FSH-23 spectrum analyzer, set for 100 kHz resolution bandwidth. The range 50 to 550 MHz was closely examined for spurious emissions and harmonics. Due to nonlinearity *within the analyzer*, the initial plot *falsely* indicated two third-order intermodulation products at 100.3 and 108.1 MHz, as shown in the expanded view plotted in [Figure 2](#). These products

appeared to exceed the limits of 47 CFR Section 73.317(d). However, Figure 2 does show compliance with Paragraphs (b) and (c) of this rule.

A 105.5 MHz notch filter was inserted between the sample element and the input of the spectrum analyzer to attenuate the W286BQ fundamental signal by approximately 18 dB. This caused the analyzer's internally-generated intermodulation readings to drop below the noise floor, making it possible to verify compliance with Section 73.317(d). The resulting plot is shown below in Figure 3.

To obtain better accuracy and noise rejection, the analyzer was set to "receiver mode" and the following measurements were obtained at discrete frequencies of particular interest:

| Frequency | Relationship | Reading (dBm) | Relative Level (dB) * |
|-----------|---------------|---------------|-----------------------|
| 102.9 | Fundamental A | + 7.8 | 0 |
| 100.3 | Lower IM 2A-B | - 66.6 | - 74.4 |
| 108.1 | Upper IM 2B-A | - 67.6 | - 75.4 |
| 205.8 | Harmonic 2A | - 64.0 | - 71.8 |
| 308.7 | Harmonic 3A | - 67.3 | - 75.1 |
| 411.6 | Harmonic 4A | - 66.5 | - 74.3 |
| 514.5 | Harmonic 5A | - 66.2 | - 74.0 |
| 105.5 | Fundamental B | + 14.7 ** | 0 |
| 100.3 | Lower IM 2A-B | - 66.6 | - 81.3 |
| 108.1 | Upper IM 2B-A | - 67.6 | - 82.3 |
| 211.0 | Harmonic 2B | - 69.3 | - 84.0 |
| 316.5 | Harmonic 3B | - 90.8 | -105.5 |
| 422.0 | Harmonic 4B | - 90.1 | -104.8 |
| 527.5 | Harmonic 5B | - 88.9 | -103.6 |

* No adjustments were made for the rising frequency response of the sample element (as shown in Figure 1) therefore the measured harmonic levels are slightly exaggerated

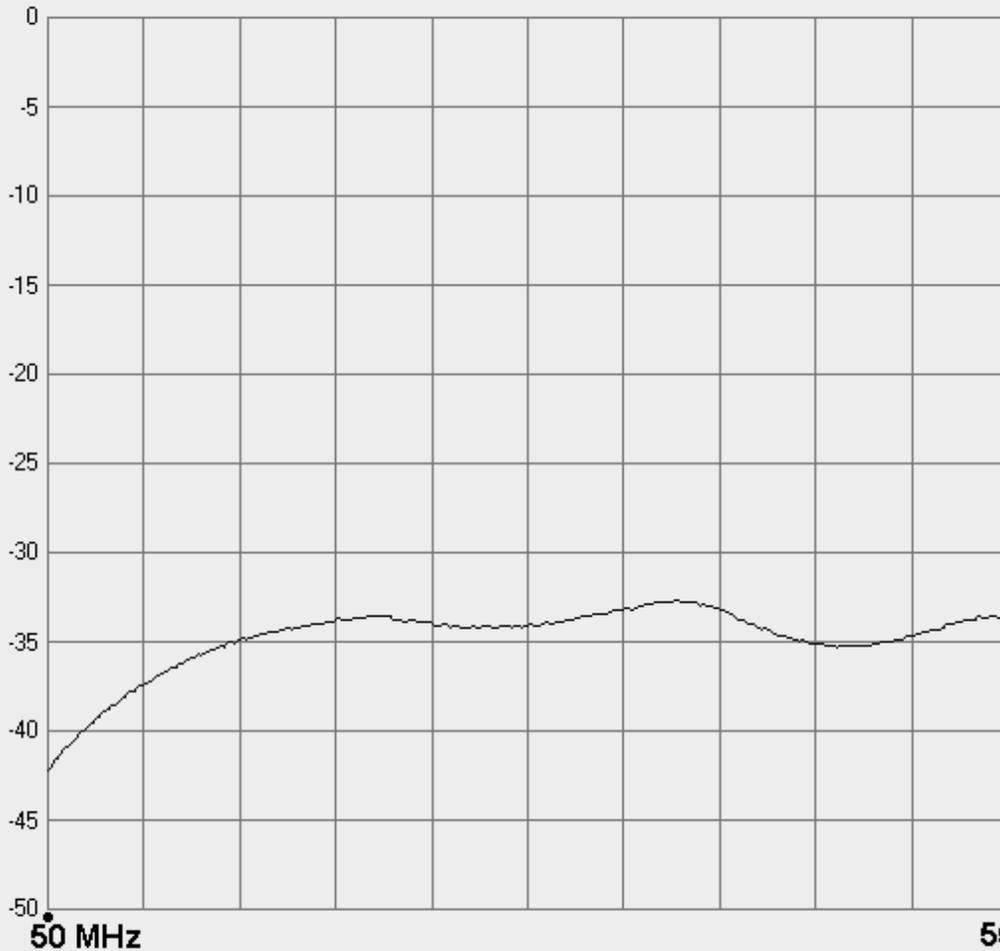
** Fundamental measured with 105.5 MHz notch filter removed from sample line.

dB Ref Level : 0 dB
Ref Offset : 0.0 dB

Detector : Sample
Trigger Mode : Free Run
Trace : Clear / Write

RBW : 1 kHz
VBW : 3 MHz
SWT : 1 s

Figure 1 -- Sample Element Coupling Ratio



50 MHz

550 MHz

Magnitude (Transmission)

Start Frequency : 50 MHz
Center Frequency : 300 MHz

Stop Frequency : 550 MHz
Span : 500 MHz

| Trace | |
|------------|----------------------------|
| Name | : Magnitude (Transmission) |
| Ref Level | : 0 dB |
| Range | : 5 dB/div |
| El. Length | : --- |
| Result | : --- |
| Averaging | : --- |

| Status | |
|--------------------|------------------|
| Center Frequency | : 300 MHz |
| Span | : 500 MHz |
| Ref Offset | : 0.0 dB |
| Trace Offset | : 0.0 dB |
| RF Attenuator | : 20 dB |
| Preamplifier | : Off |
| Dynamic Range | : Low Distortion |
| RF Input | : 50 Ohm |
| RBW | : 1 kHz |
| VBW | : 3 MHz |
| SWT | : 1 s |
| Trace Mode | : Clear / Write |
| Detector | : Sample |
| Trigger Mode | : Free Run |
| Trigger Level | : --- |
| Trigger Delay | : --- |
| Upper Limit | : --- |
| Lower Limit | : --- |
| External Reference | : Out Of Range |
| Date | : 11/14/2008 |
| Time | : 9:22:05 AM |
| Instrument | : FSH23 - 102167 |

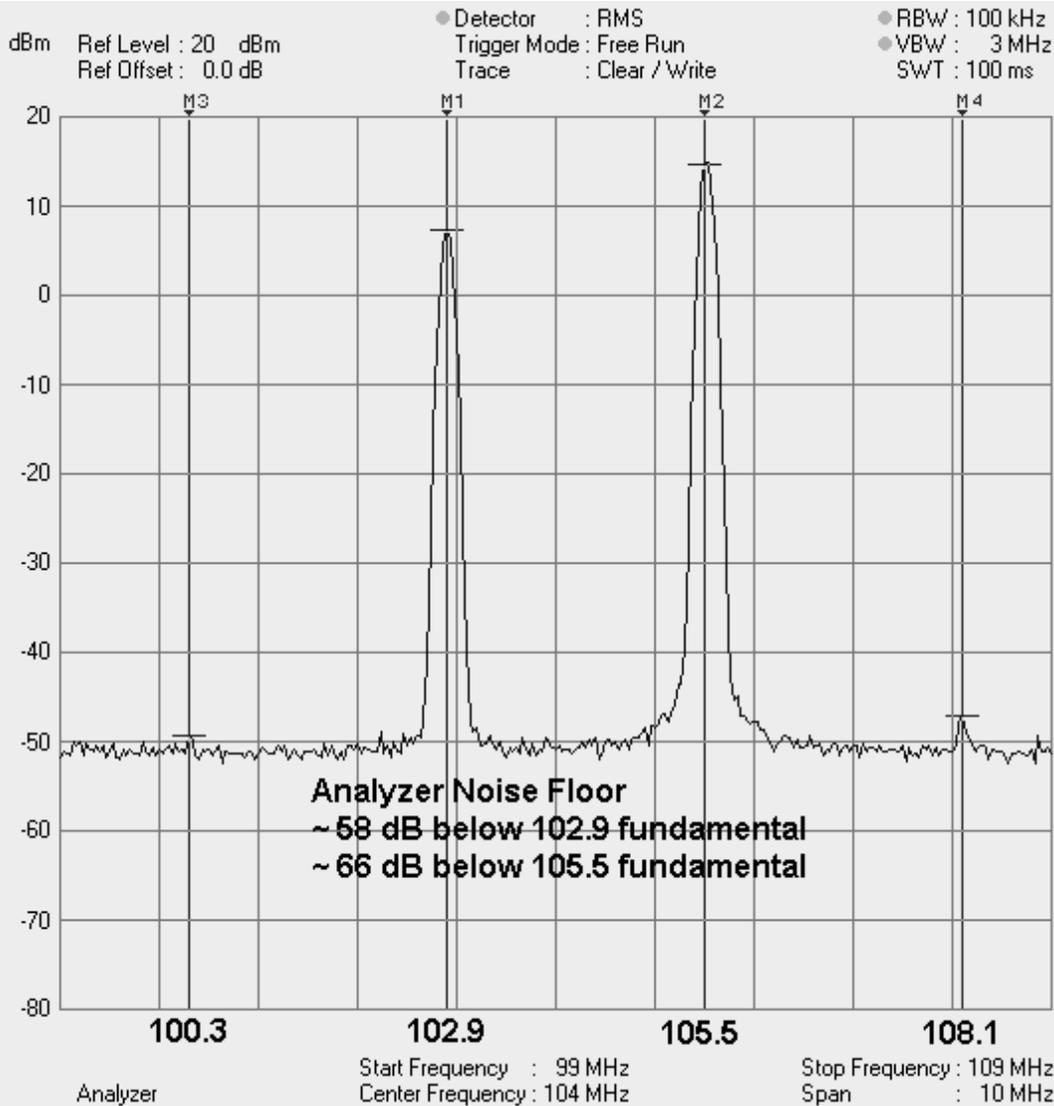


Figure 2 -- Sample Element directly connected to Spectrum Analyzer

| | Status |
|--------------------|------------------|
| Channel Table | : --- |
| Channel | : --- |
| Center Frequency | : 104 MHz |
| Frequency Offset | : 0 Hz |
| Span | : 10 MHz |
| Ref Offset | : 0.0 dB |
| RF Attenuator | : 30 dB |
| Preamplifier | : Off |
| Dynamic Range | : Low Distortion |
| RF Input | : 50 Ohm |
| Preselector | : Not connected |
| RBW | : 100 kHz |
| VBW | : 3 MHz |
| SWT | : 100 ms |
| Trace Mode | : Clear / Write |
| Trace Math | : Off |
| Detector | : RMS |
| Trigger Mode | : Free Run |
| Trigger Level | : --- |
| Trigger Delay | : --- |
| Upper Limit | : --- |
| Lower Limit | : --- |
| External Reference | : Out Of Range |
| Transducer | : --- |
| Transducer (dB) | : --- |
| Date | : 11/14/2008 |
| Time | : 9:44:22 AM |
| Instrument | : FSH23 - 102167 |

| Markers | | |
|---------|-------------|-----------|
| M1 : | 102.9 MHz : | 7.4 dBm |
| M2 : | 105.5 MHz : | 14.7 dBm |
| M3 : | 100.3 MHz : | -49.4 dBm |
| M4 : | 108.1 MHz : | -47.3 dBm |

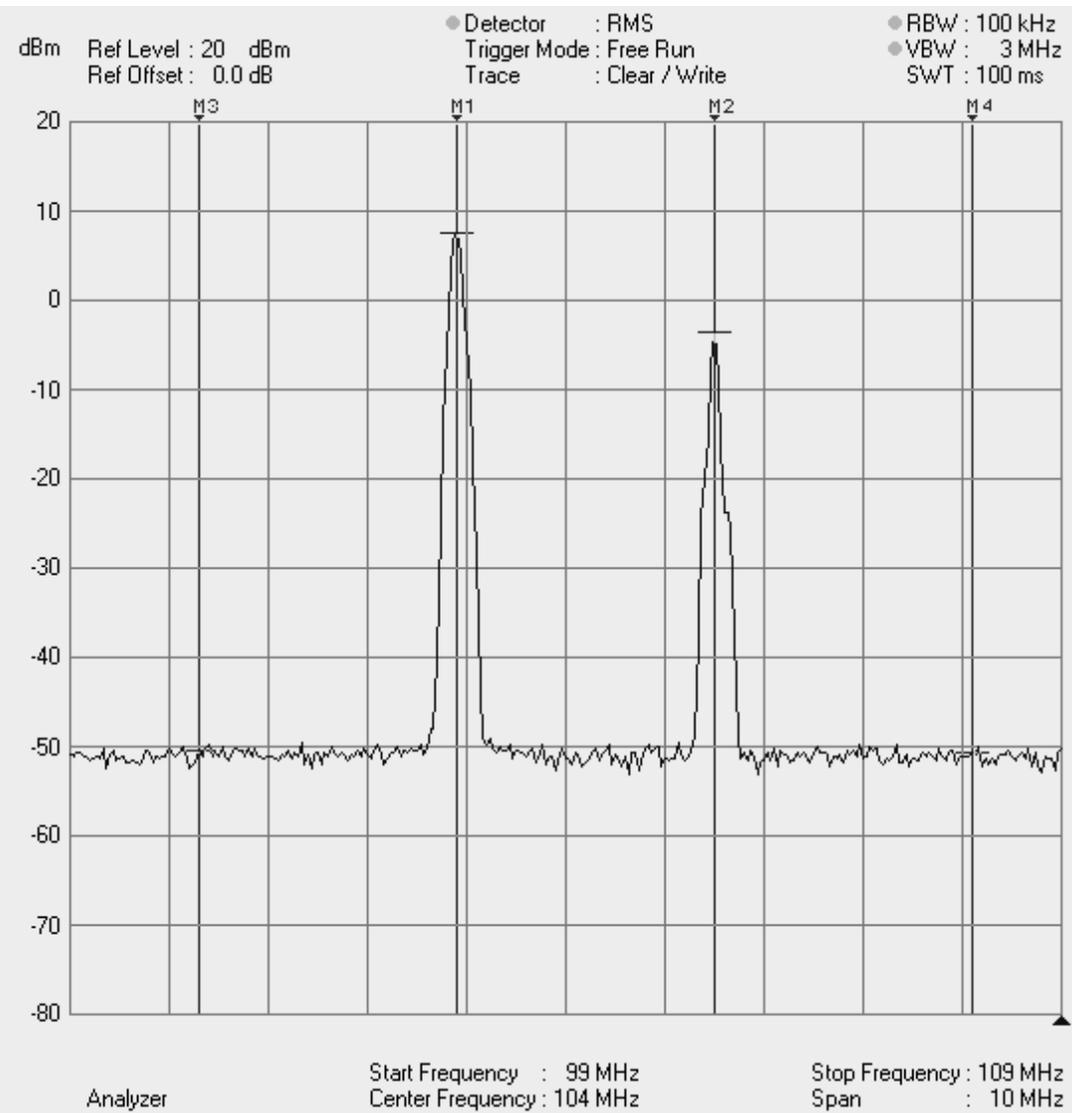


Figure 3 -- 105.5 MHz Notch Filter between sample element and analyzer

| Status | |
|--------------------|------------------|
| Channel Table | : --- |
| Channel | : --- |
| Center Frequency | : 104 MHz |
| Frequency Offset | : 0 Hz |
| Span | : 10 MHz |
| Ref Offset | : 0.0 dB |
| RF Attenuator | : 30 dB |
| Preamplifier | : Off |
| Dynamic Range | : Low Distortion |
| RF Input | : 50 Ohm |
| Preselector | : Not connected |
| RBW | : 100 kHz |
| VBW | : 3 MHz |
| SWT | : 100 ms |
| Trace Mode | : Clear / Write |
| Trace Math | : Off |
| Detector | : RMS |
| Trigger Mode | : Free Run |
| Trigger Level | : --- |
| Trigger Delay | : --- |
| Upper Limit | : --- |
| Lower Limit | : --- |
| External Reference | : Out Of Range |
| Transducer | : --- |
| Transducer (dB) | : --- |
| Date | : 11/14/2008 |
| Time | : 9:51:45 AM |
| Instrument | : FSH23 - 102167 |

| Markers | | |
|---------|-------------|-----------|
| M1 : | 102.9 MHz : | 7.8 dBm |
| M2 : | 105.5 MHz : | -3.5 dBm |
| M3 : | 100.3 MHz : | -50.6 dBm |
| M4 : | 108.1 MHz : | -50.8 dBm |

Conclusion

According to these measurements made by me on November 14, 2008, the combined Batavia, NY translator facility complies fully with applicable FCC requirements for occupied bandwidth and spurious emissions.

/s/
Mark D. Humphrey, CPBE
Technical Consultant
November 17, 2008