

Compliance with Special Operating Condition or Restriction Number 1

Special Operating Condition or Restriction 2 on the construction permit for W276CT, file number BMPFT-20151207AAD, requires measurement of spurious emissions with all stations using the shared antenna operating simultaneously. This Exhibit provides details of compliance with 47 C.F.R. Sections 73.317(b) through (d).

There is one (1) other station authorized using the shared antenna, W257DH, file number BLH-20150506AAS. In addition, translator station W299BZ uses a separate antenna on the same tower. All three translators were in operation throughout the measurements.

Measurements were made on a Tektronix 2710 Spectrum analyzer, connected to a sample adapter in a Bird 43 Wattmeter, inserted between the output of the combiner and the transmission line to the antenna. The coupling factor is listed as 50 dB with no directivity.

Modulation was observed and verified to be within the limits of §73.317(b) and §73.317(c). There are no likely intermodulation products within 600 kHz of the carrier frequencies, and non were observed.

Section 73.317(d) requires that the emissions more than 600 kHz from the carrier be attenuated by at least $43 + 10 \text{ Log}_{10}(\text{Power, in Watts})$ below the unmodulated carrier. W276CT is authorized with an Effective Radiated Power of 28 Watts. The requirement for emissions more than 600 kHz from the carrier is therefore 57.5 dB below the unmodulated carrier. The system was calibrated through the coupler, and produced a level of -23.6 dBm at carrier frequency. The maximum permissible level beyond 600 kHz is therefore -81.1 dBm.

Notch filters were then inserted between the coupler and the spectrum analyzer at each frequency operating on the shared antenna. Each filter has an attenuation of 20 dB at the

center frequency and a 3 dB bandwidth of 3 MHz. Levels are adjusted for the filter attenuation.

Measurements were made at the third order and fifth order predicted intermodulation frequencies, as tabulated here:

Frequency MHz	Order	Observed Level dBm	Relative Level	Notes
91.7	5	-110	86.4	noise floor
95.5	3	-92	68.4	not IM
106.9	3	-100	76.4	Not IM
110.7	5	-108	84.4	noise floor

When measuring each frequency, the W276CT transmitter was turned off and on to see if it was contributing to the observed level. At no frequency was the signal related to operation of W276CT. At all other frequencies, the measurement reflects the noise floor, or signals incident on the antenna as noted.

In addition to measuring the predicted intermod products for the two translators in the common antenna, intermod calculations were made for the third translator at the site. All measurements were found to be below the noise floor, as indicated in the following tables:

103.1	107.9			
Frequency MHz	Order	Observed Level dBm	Relative Level	Notes
93.9	5	-110	86.4	noise floor
98.5	3	-99	75.4	noise floor
112.3	3	-110	86.4	noise floor
116.9	5	-112	88.4	noise floor

99.3	107.9			
Frequency MHz	Order	Observed Level dBm	Relative Level	Notes
82.5	5	-114	90.4	noise floor
90.9	3	-109	85.4	noise floor
116.1	3	-112	88.4	noise floor
124.5	5	-98	74.4	noise floor

99.3	103.1	107.9		
Frequency MHz	Order	Observed Level dBm	Relative Level	Notes
91.7	5	-110	86.4	noise floor
95.5	4	-92	68.4	noise floor
110.7	5	-108	84.4	noise floor
111.5	3	-111	87.4	noise floor
114.5	7	-111	87.4	noise floor
115.3	5	-111	87.4	noise floor

Measurements were then taken at and around harmonic frequencies up to 1,000 MHz. No harmonics were observed. All harmonics through the 9th harmonic were below the noise floor, typically -104 dBm, or a relative level of -80 dB. The sample port in the Wattmeter is not frequency compensated, resulting in a 6 dB per octave increase in sensitivity with increasing frequency. The results and adjustments are provided on the next page.

The facilities, as constructed, are in compliance with 47 C.F.R. Sections 73.317(b) through (d).

Harmonic Radiation Field Notes

Station: W276CT
 Location: Hendersonville, NC
 Measurement Point: Morris Broadband tower
 Frequency: 103.1
 Date: 15-June-2016
 Tektronix
 Receiver: 2710
 Antenna/Sampling Point: Wattmeter element

Harmonic Number	Frequency MHz	Level dBm		Wavelength cm	Adjustment dB	Rel. Level dB
1	103.1	-23.6		291.0	0	0
2	206.2	-105.6	*	145.5	6.0	88.0
3	309.3	-104	*	97.0	9.5	89.9
4	412.4	-104	*	72.7	12.0	92.4
5	515.5	-104	*	58.2	14.0	94.4
6	618.6	-104	*	48.5	15.6	96.0
7	721.7	-104	*	41.6	16.9	97.3
8	824.8	-104	*	36.4	18.1	98.5
9	927.9	-103	*	32.3	19.1	98.5
10	1,031.0	NR		29.1	20.0	

*No signal above noise floor

Notes:

FCC Rules 73.317 for lower powers
 beyond 600 kHz $43 + 10 \log$ power
 Equals 80 dB at 5012 Watts
 ERP = 28 Watts
 Attenuation calculation:

28
 -57.5