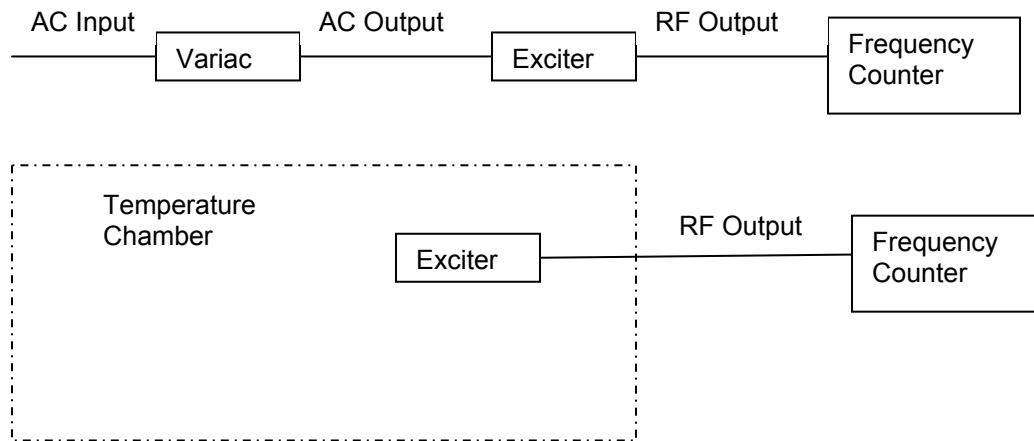


FREQUENCY STABILITY MEASUREMENTS (NTSC)

The exciter used for this transmitter is the same model of exciter used in the type certified UTX-2K Ultra transmitter with FCC ID PW2UTX2KULTRA. Therefore, the frequency stability measurements from that transmitter exciter are repeated here for inclusion and completeness.

Frequency stability versus temperature and line voltage were measured in a controlled environment. For these tests the exciter RF output was fed to a frequency counter that has better than 1ppm accuracy. The test equipment configuration is shown below.



The variac was adjusted for nominal voltage and the frequency was recorded. Then the variac was adjusted to 85% and 115% of the nominal voltage and the frequency was recorded at each voltage level. For this test, the -10 kHz offset was used. The results are tabulated below.

LINE VOLTAGE (Volts)	Visual Frequency (MHz)	Aural Frequency (MHz)
100 (85%)	507.239979	511.739882
121 (nominal)	507.239979	511.739882
140 (115%)	507.239979	511.739882

For the temperature stability measurements the exciter was placed inside a Tenney temperature chamber equipped with a MicroTenn II temperature controller. The exciter frequency was measured on the frequency counter. The temperature in the chamber was changed to each of the points identified in the table below. The chamber followed a prescribed rate to change the temperature and then the temperature was allowed to stabilize at the temperature for 10-15 minutes. When the temperature had stabilized, the exciter visual and aural frequencies were recorded, and then the temperature was advanced to the next measurement point. The temperature was measured first at room temperature and then raised to +50 °C, allowed to stabilize for 15 minutes and then cycled to each colder temperature measurement point.

Temperature °C	Time	Visual Frequency (MHz)	Aural Frequency (MHz)
25	1:30	507.250,000	511.749,913
50	2:50	507.249,793	511.750,038
40	3:10	507.249,781	511.749,818
30	3:20	507.249,955	511.749,877
20	3:30	507.249,885	511.749,770
10	3:45	507.249,577	511.749,407
0	4:00	507.249,434	511.749,343
-10	4:10	507.249,523	511.749,397
-20	4:20	507.249,567	511.749,816
-30	4:30	507.249,613	511.750,255

From the measurements above, it is apparent that the FCC rules in Part 2.1055 and in Part 74 are met.