Tested By Ed Wood Date: 8/23/06

CONDUCTED SPURIOUS AND HARMONICS

The following photographs indicate the spurious performance (> +/- 3 MHz) from the designated TV channel. As can be seen from the photo taken at 2,500 W, the spurious levels are below 60 dB relative to the peak of sync of the visual carrier. The diamond in the top center of the screen indicates the true peak of sync value when the vertical interval portion of the picture is present. The photo in Fig. 8 shows the desired 13 dB visual to aural power ratio.

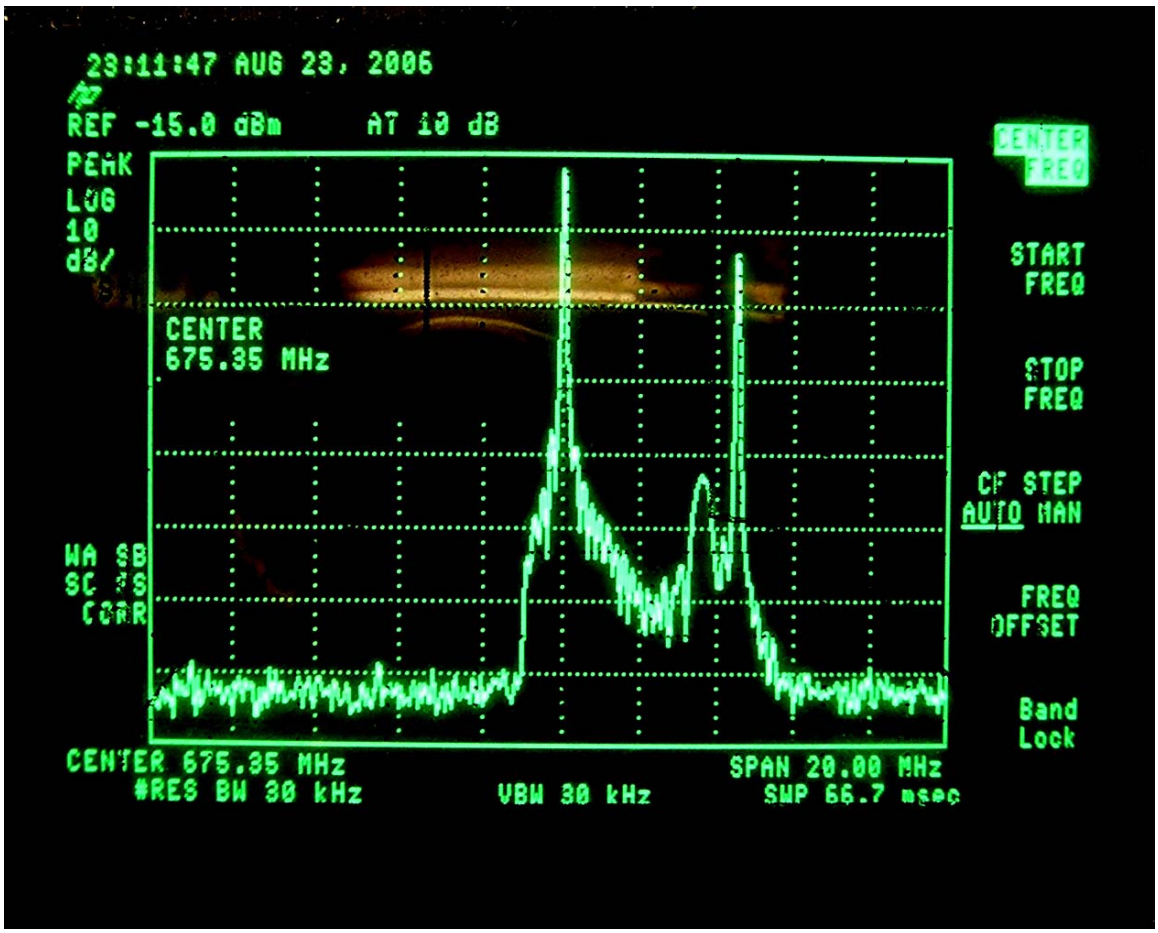

Fig. 8

CONDUCTED HARMONIC OUTPUTS

The following data indicates the harmonic performance of the UTX2.5K ULTRA. Only the 2nd harmonic was visible. The following table displays the actual value of the harmonic that takes into account the coupling factor of the directional coupler and loss of the cable used for the measurement. There was no value recorded when the instrument measured value was <-72dB relative to the visual peak of sync value as this was below the noise floor of the spectrum analyzer with the bandwidth used. Photographs of the spectrum containing the second harmonic are shown below. The pictures

indicate that the harmonic levels are well below 60 dB compared to the diamond at the top of the screen which represents visual sync peak power.

HARMONIC LEVELS VERSUS FREQUENCY AT 2,500 W	
FREQUENCY OF HARMONIC (MHz)	AMPLITUDE (Relative to visual Peak Sync at fundamental frequency (dB))
1350.5 (2^{nd} harmonic)	-66 dB
2025.75 (3^{rd} harmonic)	** dB
2701.0 (4^{th} harmonic)	** dB
3376.25 (5^{th} harmonic)	** dB
4051.5 (6^{th} harmonic)	** dB
4726.75 (7^{th} harmonic)	** dB
5402.00 (8^{th} harmonic)	** dB
6077.25 (9^{th} harmonic)	** dB
6752.5 * (10^{th} harmonic)	** dB

* Note: Spectrum Analyzer not rated for this frequency

** Note: Amplitude at or below the noise floor of -75dBc

Photo of 2^{nd} Harmonic Spectrum

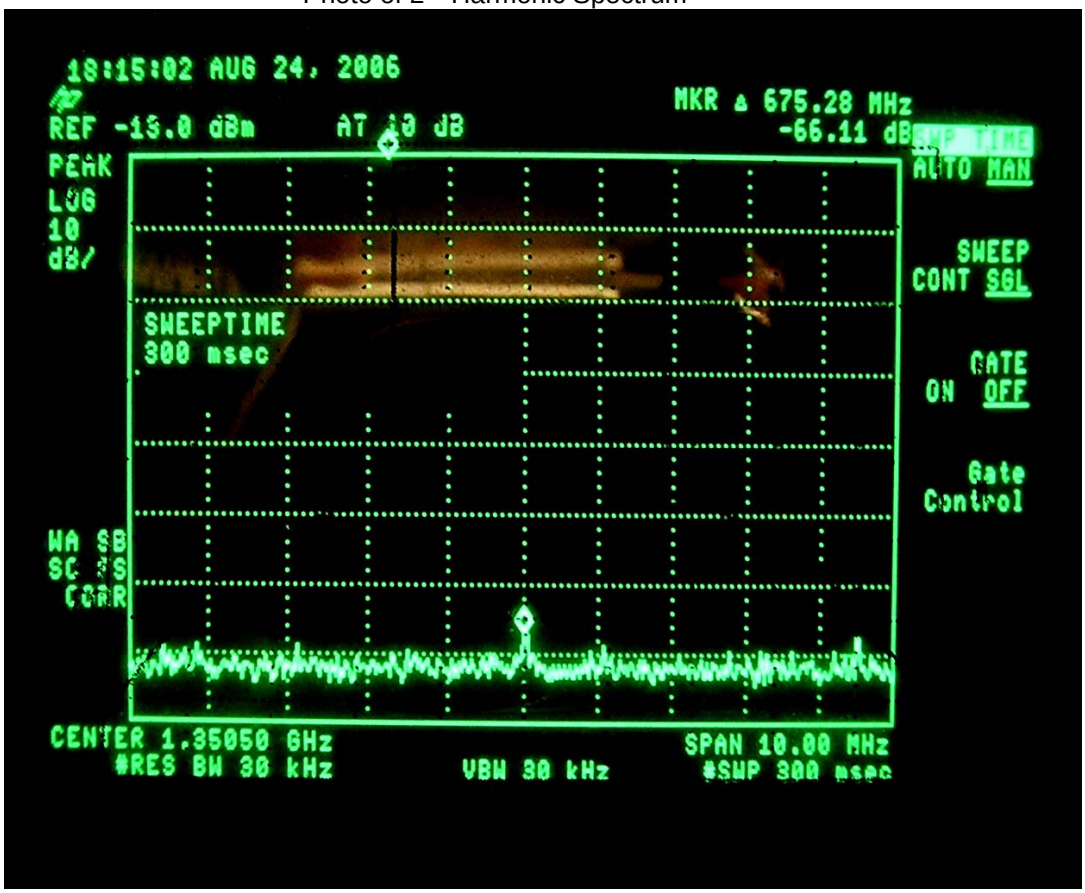

Fig. 9

The photograph in Fig. 9 is centered at the 2^{nd} Harmonic because only that harmonic was possibly visible. The fundamental frequency visual peak of sync reference value is located at the top of the screen on this photograph. The values indicate a maximum harmonic level of -66 dB when corrected for coupling and cable loss.

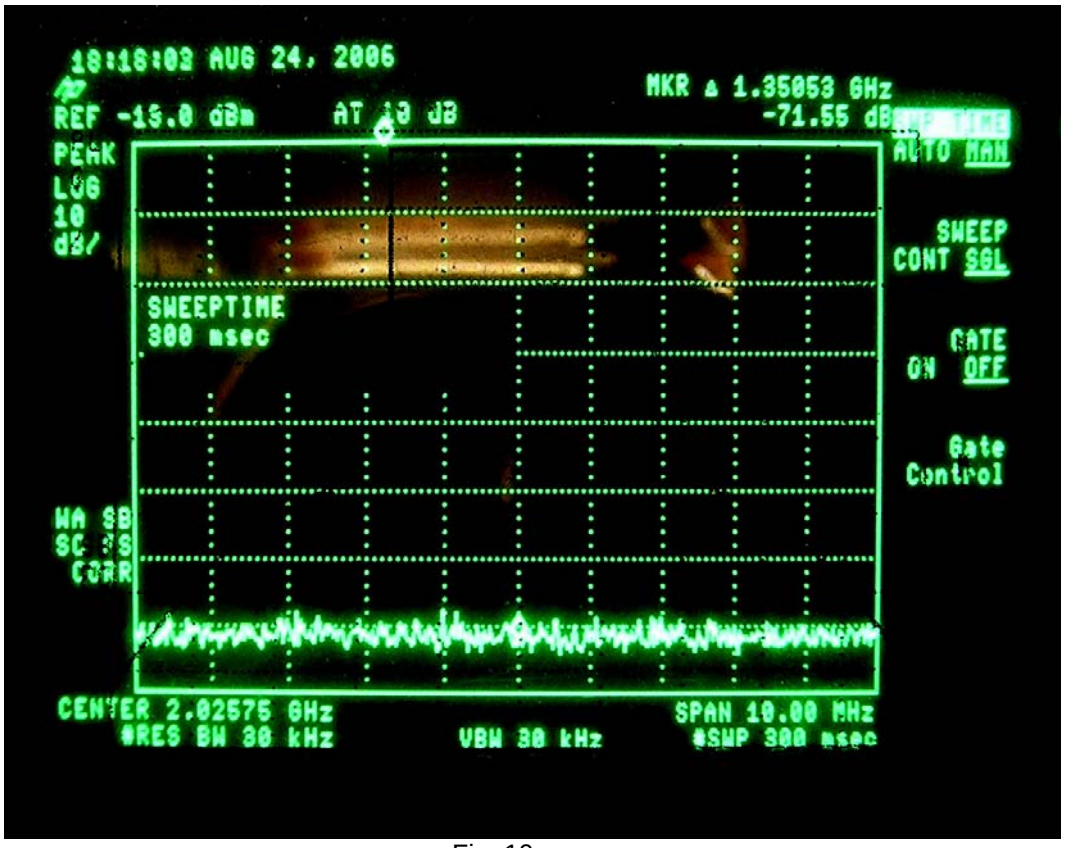

Fig. 10

The photograph in Fig. 10 is centered at the 3rd Harmonic showing the noise floor at around -75 dB when corrected for coupling and cable loss. The fundamental frequency visual peak of sync reference value is located at the top of the screen on this photograph.