CONDUCTED SPURIOUS AND HARMONICS

The following photographs indicate the spurious performance (> +/- 3 MHz) from the designated TV channel. As can be seen from the photos (one taken at 2.0 kW and the other taken at 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. These photos indicate the desired 10 dB visual to aural power ratio.

POWER OUTPUT = 2.0 kWatts

POWER OUTPUT = 500 Watts

CONDUCTED HARMONIC OUTPUTS

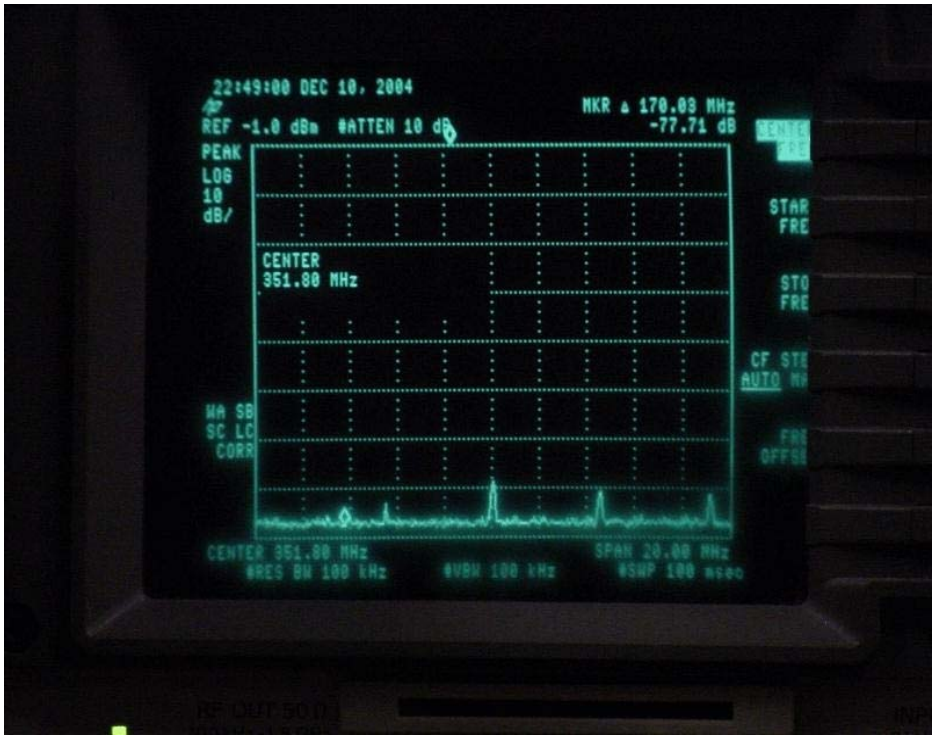
The following data indicates the harmonic performance of the VTX2KW. Only the 2nd harmonics were visible. The following table displays the actual value of the harmonic that takes into account the coupling factor of the directional coupler and loss of the cable used for the measurement. There was no value recorded when the instrument measured value was <-75dB 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 2.0 KW	
FREQUENCY OF HARMONIC (MHz)	AMPLITUDE (Relative to visual Peak Sync at fundamental frequency (dB))
350.5 (2nd harmonic)	-70 dB
525.75 (3rd harmonic)	<-75 dB
701 (4th harmonic)	<-75 dB
876.25 (5th harmonic)	<-75 dB
1051.5 (6th harmonic)	<-75 dB
1226.75 (7th harmonic)	<-75 dB
1402 (8th harmonic)	<-75 dB
1577.25 (9th harmonic)	<-75 dB
1752.5 (10th harmonic)	<-75 dB

HARMONIC LEVELS VERSUS FREQUENCY AT 500 Watts	
FREQUENCY OF HARMONIC (MHz)	AMPLITUDE (Relative to visual Peak Sync at fundamental frequency (dB))
350.5 (2^{nd} harmonic)	-70 dB
525.75 (3^{rd} harmonic)	<-75 dB
701 (4^{th} harmonic)	<-75 dB
876.25 (5^{th} harmonic)	<-75 dB
1051.5 (6^{th} harmonic)	<-75 dB
1226.75 (7^{th} harmonic)	<-75 dB
1402 (8^{th} harmonic)	<-75 dB
1577.25 (9^{th} harmonic)	<-75 dB
1752.5 (10^{th} harmonic)	<-75 dB

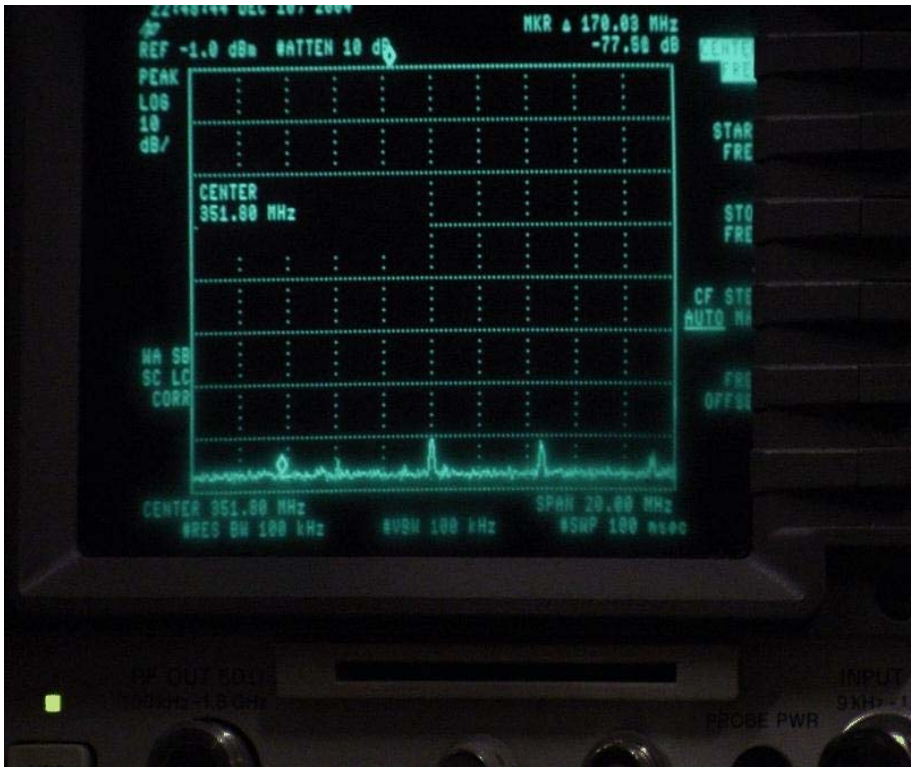
POWER OUTPUT = 2.0 kWatts

Photo of 2^{nd} Harmonic spectrum



POWER OUTPUT = 500 Watts

Photo of 2nd Harmonic spectrum



Both photographs are centered at the 2nd Harmonic because only those harmonics were possibly visible. The fundamental frequency visual peak of sync reference value is located at the top of the screen on these photographs. The values indicate a maximum harmonic level of -70 dB when corrected for coupling and cable loss.