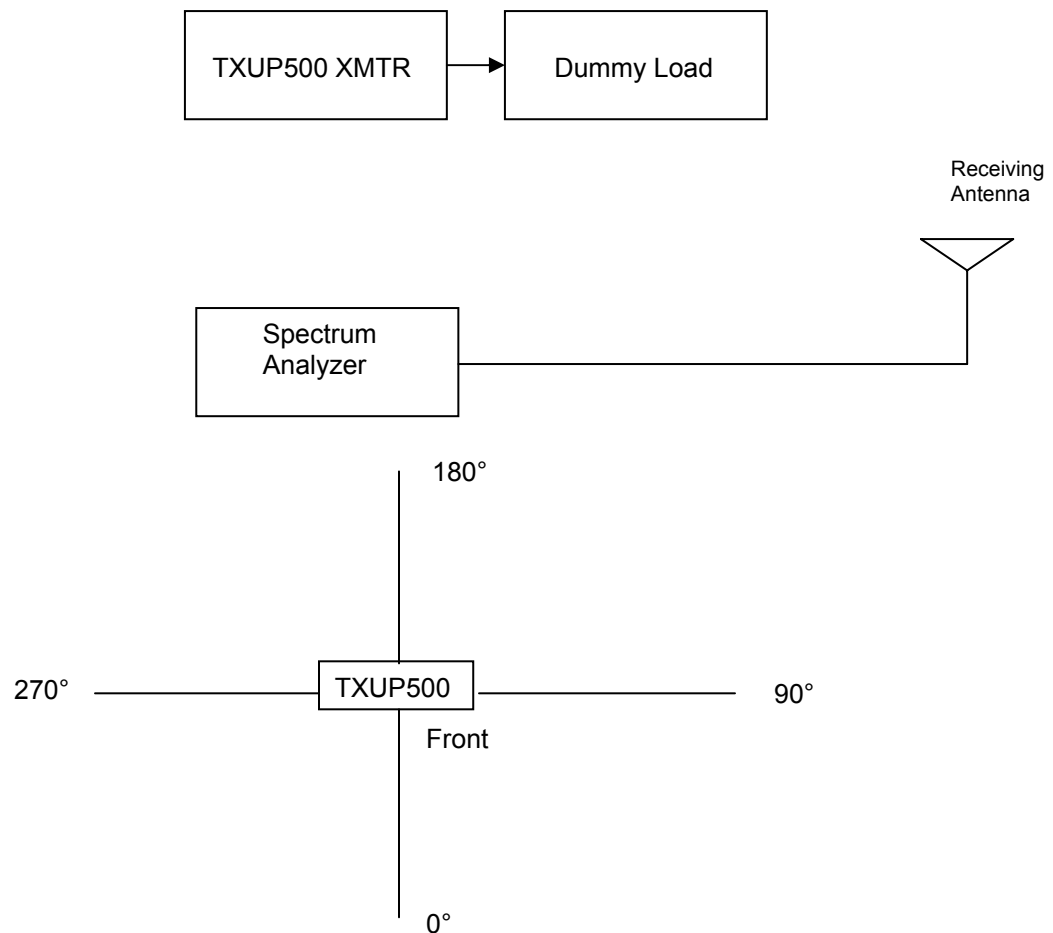


CABINET RADIATION

The transmitter and test equipment were configured as shown below including the angles of measurement with respect to the transmitter cabinet. The photo on the subsequent page also shows one view of the physical set-up of the test equipment and equipment under test. The transmitter was operated at 500 watts peak sync power with a 10 dB visual/aural ratio with the video input signal being a Modulated Stairstep signal. In this case the fundamental frequency was set to 603 MHz because there was interference on 567 MHz. The free space path loss and antenna gain characteristics were obtained at the fundamental frequency and at each of the harmonics of the visual carrier frequency in order to accurately assess the level of the signal radiated from the cabinet. Radiation from the cabinet was measured with 4 different physical rotation angles: 0, 90, 180, and 270 degrees (0 degrees being the front of the cabinet). All spectral components above -80 dB referenced to peak sync power radiated from the cabinet were recorded. The values are tabulated in the table on the next page following the photos.

TEST EQUIPMENT CONFIGURATION



PHYSICAL CABINET RADIATION TEST CONFIGURATION

This photograph shows the actual laboratory environment in which the cabinet radiation tests were conducted. The antenna and Unit Under Test is shown in the photograph. The transmitter was rotated 90 degrees for each of the measurement orientations.



As indicated in the spreadsheet data on the following page, the worst case measurement was 69.6 dB at the second harmonic. The measurement tables for the all views of the transmitter at each frequency are shown below. The results indicate that all radiated harmonics meet the FCC requirement of 60 dB as outlined in FCC rule 2.1053 and 2.1057.

CABINET RADIATION DATA

CABINET RADIATION SPREADSHEET

500 W Front View

500 W = 57 dBm

Corrected level must be less than -3 dBm

Distance is 30 feet

Harmonic	Frequency MHz	Measured Level	Cable Loss	Antenna Gain	Path Loss	Corrected Level	Required Level	Comparison to transmit level dB
Xmit freq.	603.26	-51	0.7	6.2	47.3	-9.2	-3 dBm	66.2
2nd	1206.52	-60	1.2	7.1	53.3	-12.6	-3 dBm	69.6
3rd	1809.78	-86	1.4	7.3	56.8	-35.1	-3 dBm	92.1
4th	2413.04	-88	1.7	7.3	59.3	-34.3	-3 dBm	91.3
5th	3016.3	-88	2.1	5.9	61.3	-30.5	-3 dBm	87.5
6th	3619.56	-88	2.4	6.7	62.9	-29.4	-3 dBm	86.4
7th	4222.82	-88	2.7	6.6	64.2	-27.7	-3 dBm	84.7
8th	4826.08	-88	3	6.8	65.4	-26.4	-3 dBm	83.4
9th	5429.34	-88	3.5	7.5	66.4	-25.6	-3 dBm	82.6
10th	6032.6	-88	3.9	6.2	67.3	-23	-3 dBm	80

CABINET RADIATION SPREADSHEET

500 W Left side View

500 W = 57 dBm

Corrected level must be less than -3 dBm

Distance is 30 feet

Harmonic	Frequency MHz	Measured Level	Cable Loss	Antenna Gain	Path Loss	Corrected Level	Required Level	Comparison to transmit level dB
Xmit freq.	603.26	-50	0.7	6.2	47.3	-8.2	-3 dBm	65.2
2nd	1206.52	-69	1.2	7.1	53.3	-21.6	-3 dBm	78.6
3rd	1809.78	-86	1.4	7.3	56.8	-35.1	-3 dBm	92.1
4th	2413.04	-88	1.7	7.3	59.3	-34.3	-3 dBm	91.3
5th	3016.3	-88	2.1	5.9	61.3	-30.5	-3 dBm	87.5
6th	3619.56	-88	2.4	6.7	62.9	-29.4	-3 dBm	86.4
7th	4222.82	-88	2.7	6.6	64.2	-27.7	-3 dBm	84.7
8th	4826.08	-88	3	6.8	65.4	-26.4	-3 dBm	83.4
9th	5429.34	-88	3.5	7.5	66.4	-25.6	-3 dBm	82.6
10th	6032.6	-88	3.9	6.2	67.3	-23	-3 dBm	80

CABINET RADIATION SPREADSHEET

500 W Rightside View

500 W = 57 dBm

Corrected level must be less than -3 dBm

Distance is 30 feet

Harmonic	Frequency MHz	Measured Level	Cable Loss	Antenna Gain	Path Loss	Corrected Level	Required Level	Comparison to transmit level dB
Xmit freq.	603.26	-50	0.7	6.2	47.3	-8.2	-3 dBm	65.2
2nd	1206.52	-65	1.2	7.1	53.3	-17.6	-3 dBm	74.6
3rd	1809.78	-86	1.4	7.3	56.8	-35.1	-3 dBm	92.1
4th	2413.04	-88	1.7	7.3	59.3	-34.3	-3 dBm	91.3
5th	3016.3	-86	2.1	5.9	61.3	-28.5	-3 dBm	85.5
6th	3619.56	-87	2.4	6.7	62.9	-28.4	-3 dBm	85.4
7th	4222.82	-88	2.7	6.6	64.2	-27.7	-3 dBm	84.7
8th	4826.08	-88	3	6.8	65.4	-26.4	-3 dBm	83.4
9th	5429.34	-88	3.5	7.5	66.4	-25.6	-3 dBm	82.6
10th	6032.6	-88	3.9	6.2	67.3	-23	-3 dBm	80

CABINET RADIATION SPREADSHEET

500 W Back side View

500 W = 57 dBm

Corrected level must be less than -3 dBm

Distance is 30 feet

Harmonic	Frequency MHz	Measured Level	Cable Loss	Antenna Gain	Path Loss	Corrected Level	Required Level	Comparison to transmit level dB
Xmit freq.	603.26	-50	0.7	6.2	47.3	-8.2	-3 dBm	65.2
2nd	1206.52	-60	1.2	7.1	53.3	-12.6	-3 dBm	69.6
3rd	1809.78	-85	1.4	7.3	56.8	-34.1	-3 dBm	91.1
4th	2413.04	-86	1.7	7.3	59.3	-32.3	-3 dBm	89.3
5th	3016.3	-86	2.1	5.9	61.3	-28.5	-3 dBm	85.5
6th	3619.56	-86	2.4	6.7	62.9	-27.4	-3 dBm	84.4
7th	4222.82	-88	2.7	6.6	64.2	-27.7	-3 dBm	84.7
8th	4826.08	-88	3	6.8	65.4	-26.4	-3 dBm	83.4
9th	5429.34	-88	3.5	7.5	66.4	-25.6	-3 dBm	82.6
10th	6032.6	-88	3.9	6.2	67.3	-23	-3 dBm	80

VOLTAGES AND CURRENTS TO FINAL AMPLIFIERS

Final amplifier DC voltage and current measurements were made with the transmitter operating at 500 Watts power output and at 125 watts power output. A video input signal of sync and 0 IRE "setup" level was used. The aural carrier was energized and adjusted for the proper 10 dB Visual to Aural power ratio. Voltage and current measurements were made at the transmitter.

Peak Output Power = 500 Watts
Voltage = 32 volts
Total DC Current = $3 \times 10 = 30$ amps
Final amplifier DC power input = $32 \times 30 = 960$ watts

Peak Output Power = 125 Watts
Voltage = 32 volts
Total DC Current = 10.5 amps
Final amplifier DC power input = $32 \times 10.5 = 336$ watts

EQUIPMENT LIST

The following test equipment was used in the various test equipment configurations or to create calibration of equipment at various frequencies. All equipment was known to be in good working order and the equipment was within the calibration period.

Type	Manufacturer	Model	Date of Calibration	Calibration Expired
Spectrum Analyzer	Advantest	R3132	11/11/05	11/11/06
Signal Generator Platform	Tektronix	TG2000	15/05/05	15/05/06
Video Measurement Set	Tektronix	VM700A	09/01/06	09/01/07
TV Test Receiver	Rohde&Schwarz	EFA	15/05/05	15/05/06
Selective Modulation Analyzer	Rohde&Schwarz	FMAS	02/04/05	02/04/06
Wattmeter	BIRD	4391	02/04/05	02/04/06
Attenuator	Elettronika	N/A		
Dummy Load 100W	Elettronika	N/A		