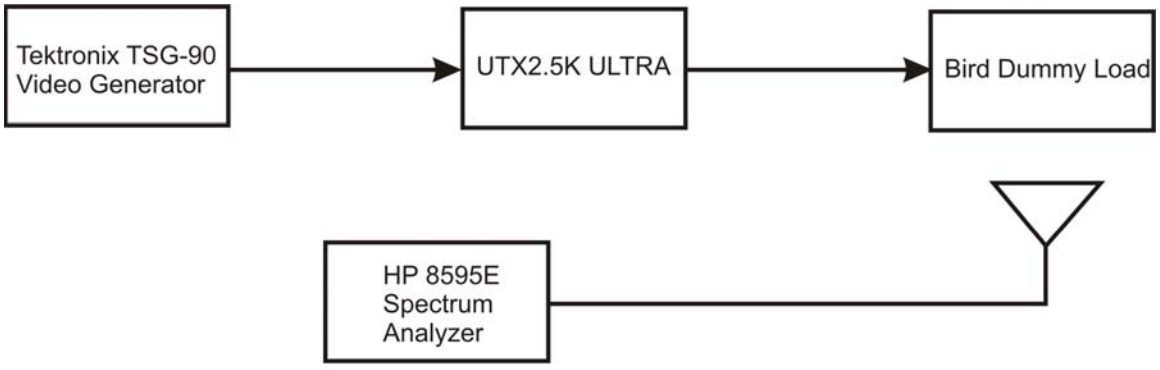
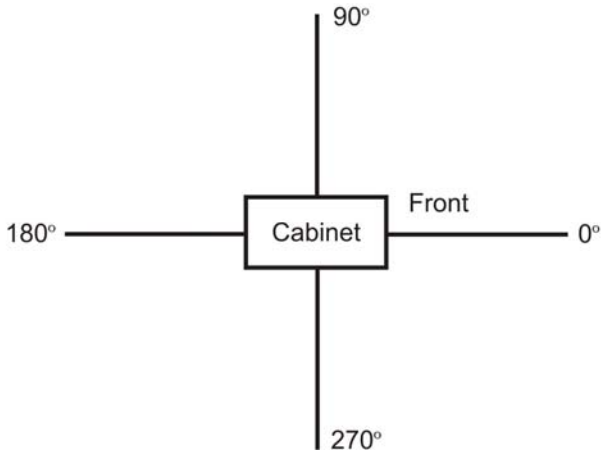
CABINET RADIATION

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 the physical set-up of the test equipment and equipment under test. The transmitter was operating at 2.5kW peak sync power with a 13dB visual/aural ration with the video input signal being a sync signal and .50 IRE “set-up” level. The free space path loss, cable 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 at a distance of 30 feet in 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 photo.





PHYSICAL CABINET RADIATION TEST CONFIGURATION

This photograph shows the actual laboratory environment in which the cabinet radiation tests were conducted. The log periodic antenna, cable and spectrum analyzer are shown in the foreground and the UTX2.5K ULTRA is shown in the background. The transmitter was rotated 90 degrees for each of the measurement orientations.

As calculated from the spreadsheet data on the following page, the worst case measurement was 65.1 dB at the second harmonic (The photo above shows this particular measurement). The measurement tables for the remaining views of the transmitter are shown on the following pages.

Pineapple Technology Inc.

CABINET RADIATION TEST

TEST INPUTS			***CONDITIONS & PARAMETERS***					
TEST DATE:				**>**	**9/13/2006**			
TEST ENGINEER:				**>**	**Jim Collier**			
TRASMITTER MODEL NO:				**>**	**UTX2.5K ULTRA**			
OPERATING POWER OUTPUT LEVEL				**>**	**64.0**	**dBm**	**2500**	**Power in Watts**
OPERATING FREQUENCY IN GHz				**>**	**0.675**	**gHz**	**48**	**Channel**
ANTENNA MODEL NUMBER				**>**	**ETS 3147 S/N 9112-1053**			
SPECTRUM ANALYZER MODEL				**>**	**8595E**			
DISTANTS TO TRASMITTER IN METERS				**>**	**10**	**METERS**		

FRONT VIEW

Harmonic	Frequency	SIGNAL LEVEL	CABLE LOSS dB	ANTENNA GAIN dB	PATH LOSS dB	ADJ LEVEL	MAXIMUM LEVEL	STATUS P=PASS
	GHz	dBm	dB	dB	dB	dBm	dBm	
Fc	0.675	-21.9	0.4	6.6	49.09	21.01533	4.0	N/A
Fc*2	1.35	-50	0.8	7.0	55.11	-1.11982	4.0	P
Fc*3	2.025	-62	1.1	4.3	58.63	-6.55375	4.0	P
Fc*4	2.7	-72	1.5	3.0	61.13	-12.4107	4.0	P
Fc*5	3.375	-88	1.8	4.4	63.07	-27.5283	4.0	P
Fc*6	4.05	-88	2.2	1.1	64.65	-22.3004	4.0	P
Fc*7	4.725	-88	2.5	-1.3	65.99	-18.2172	4.0	P
Fc*8	5.4	-88	2.8	1.9	67.15	-19.9131	4.0	P
Fc*9	6.075	-88	3.2	2.1	68.17	-18.7458	4.0	P
Fc*10	6.75	-88	3.5	2.1	69.09	-17.4864	4.0	P

			RIGHT	**VIEW**				
Harmonic	Frequency	SIGNAL	CABLE	ANTENNA	PATH	ADJ	MAXIMUM	STATUS
		LEVEL	LOSS dB	GAIN dB	LOSS dB	LEVEL	LEVEL	
	GHz	dBm	dB	dB	dB	dBm	dBm	
Fc	0.675	N/A	0.4	6.6	49.09	N/A	4.0	N/A
Fc*2	1.35	-51	0.8	7.0	55.11	-2.11982	4.0	P
Fc*3	2.025	-64	1.1	4.3	58.63	-8.55375	4.0	P
Fc*4	2.7	-75	1.5	3.0	61.13	-15.4107	4.0	P
Fc*5	3.375	-88	1.8	4.4	63.07	-27.5283	4.0	P
Fc*6	4.05	-88	2.2	1.1	64.65	-22.3004	4.0	P
Fc*7	4.725	-88	2.5	-1.3	65.99	-18.2172	4.0	P
Fc*8	5.4	-88	2.8	1.9	67.15	-19.9131	4.0	P
Fc*9	6.075	-88	3.2	2.1	68.17	-18.7458	4.0	P
Fc*10	6.75	-88	3.5	2.1	69.09	-17.4864	4.0	P

			REAR	**VIEW**				
Harmonic	Frequency	SIGNAL	CABLE	ANTENNA	PATH	ADJ	MAXIMUM	STATUS
		LEVEL	LOSS dB	GAIN dB	LOSS dB	LEVEL	LEVEL	
	GHz	dBm	dB	dB	dB	dBm	dBm	
Fc	0.675	N/A	0.4	6.6	49.09	N/A	4.0	N/A
Fc*2	1.35	-62	0.8	7.0	55.11	-13.1198	4.0	P
Fc*3	2.025	-60	1.1	4.3	58.63	-4.55375	4.0	P
Fc*4	2.7	-88	1.5	3.0	61.13	-28.4107	4.0	P
Fc*5	3.375	-88	1.8	4.4	63.07	-27.5283	4.0	P
Fc*6	4.05	-88	2.2	1.1	64.65	-22.3004	4.0	P
Fc*7	4.725	-88	2.5	-1.3	65.99	-18.2172	4.0	P
Fc*8	5.4	-88	2.8	1.9	67.15	-19.9131	4.0	P
Fc*9	6.075	-88	3.2	2.1	68.17	-18.7458	4.0	P
Fc*10	6.75	-88	3.5	2.1	69.09	-17.4864	4.0	P

			LEFT	**VIEW**				
Harmonic	Frequency	SIGNAL	CABLE	ANTENNA	PATH	ADJ	MAXIMUM	STATUS
		LEVEL	LOSS dB	GAIN dB	LOSS dB	LEVEL	LEVEL	
	GHz	dBm	dB	dB	dB	dBm	dBm	
Fc	0.675	N/A	0.4	6.6	49.09	N/A	4.0	N/A
Fc*2	1.35	-52	0.8	7.0	55.11	-3.11982	4.0	P
Fc*3	2.025	-58	1.1	4.3	58.63	-2.55375	4.0	P
Fc*4	2.7	-85	1.5	3.0	61.13	-25.4107	4.0	P
Fc*5	3.375	-88	1.8	4.4	63.07	-27.5283	4.0	P
Fc*6	4.05	-88	2.2	1.1	64.65	-22.3004	4.0	P
Fc*7	4.725	-88	2.5	-1.3	65.99	-18.2172	4.0	P
Fc*8	5.4	-88	2.8	1.9	67.15	-19.9131	4.0	P
Fc*9	6.075	-88	3.2	2.1	68.17	-18.7458	4.0	P
Fc*10	6.75	-88	3.5	2.1	69.09	-17.4864	4.0	P