

# **TEST REPORT**

## **PINEAPPLE TECHNOLOGY INC. UTX1KW TV TRANSMITTER TECHNICAL REPORT**

### **INTRODUCTION**

The following information is provided to support the technical performance of the Pineapple Technology UTX1KW TV Transmitter. The information is supplied for broadcast TV service according to applicable portions of Part 73 and 74.

1. Power Output Measurements as indicated by FCC Rule Part 2.1046.
2. Frequency Measurements as identified by FCC Rule Part 2.1055.
3. Visual Frequency response measurements of the transmitter to be within the window specified by FCC Rule Part 74.750.
4. Occupied BW of aural signal specified by FCC Rule Part 2.1079.
5. Aural frequency response as identified by FCC Rule Part 73.687
6. Measurement of conducted harmonics and spurs +/- 3 MHz outside of channel as specified by FCC Rule Part 74.750 and Part 2 Rule 2.1051.
7. Measurement of cabinet radiation of spurs and harmonics as specified in FCC Rule 2.1053 and 2.1057.
8. Measurements of voltage and current to final amp stage as outlined in FCC Rule 2.1033.

Measurements were conducted at transmitter visual power output levels of 1000 watts peak of sync and 100 watts peak of sync and constitute the range of power for which type certification is sought. The corresponding aural power levels are 100 watts and 10 watts. Measurements were taken on a unit with visual carrier frequency of 549.25 MHz and an aural carrier frequency of 553.75 MHz.

The test equipment used for the measurements on the next few pages is listed at the back of this exhibit. All test equipment was calibrated prior to the use of the equipment by the supplier of the test equipment.

## RF POWER OUTPUT

The equipment was configured as below shown in Figure 1. The loss through the RF output cable, directional coupler and attenuator was calibrated at the frequency of 549 MHz. The TSG-90 video generator was configured to produce a signal with 0 IRE video and sync. The audio generator and aural carrier were not energized. The visual portion of the transmitter was energized and the power was increased to the desired output power. The power was read on the Bird wattmeter and a reference level was established on the HP8595E Spectrum Analyzer. The TV demodulator and VM-700 were used to verify that sync compression was not causing distortion of the measurement. The aural carrier was energized and its output level was then raised to meet the precise 10 dB Visual/aural power ratio as observed on the spectrum analyzer. Pictures were also taken of demodulated video of the horizontal sync, and 2 fields of video to verify no signal distortions were present over the 1.0 kwatt to 100 watt power level range where certification is being sought.

## POWER OUTPUT

Bird Thruline reading  
at high power= 600 watts

Peak of sync power = 1.68 times  
average power reading with a black  
picture and "0" setup

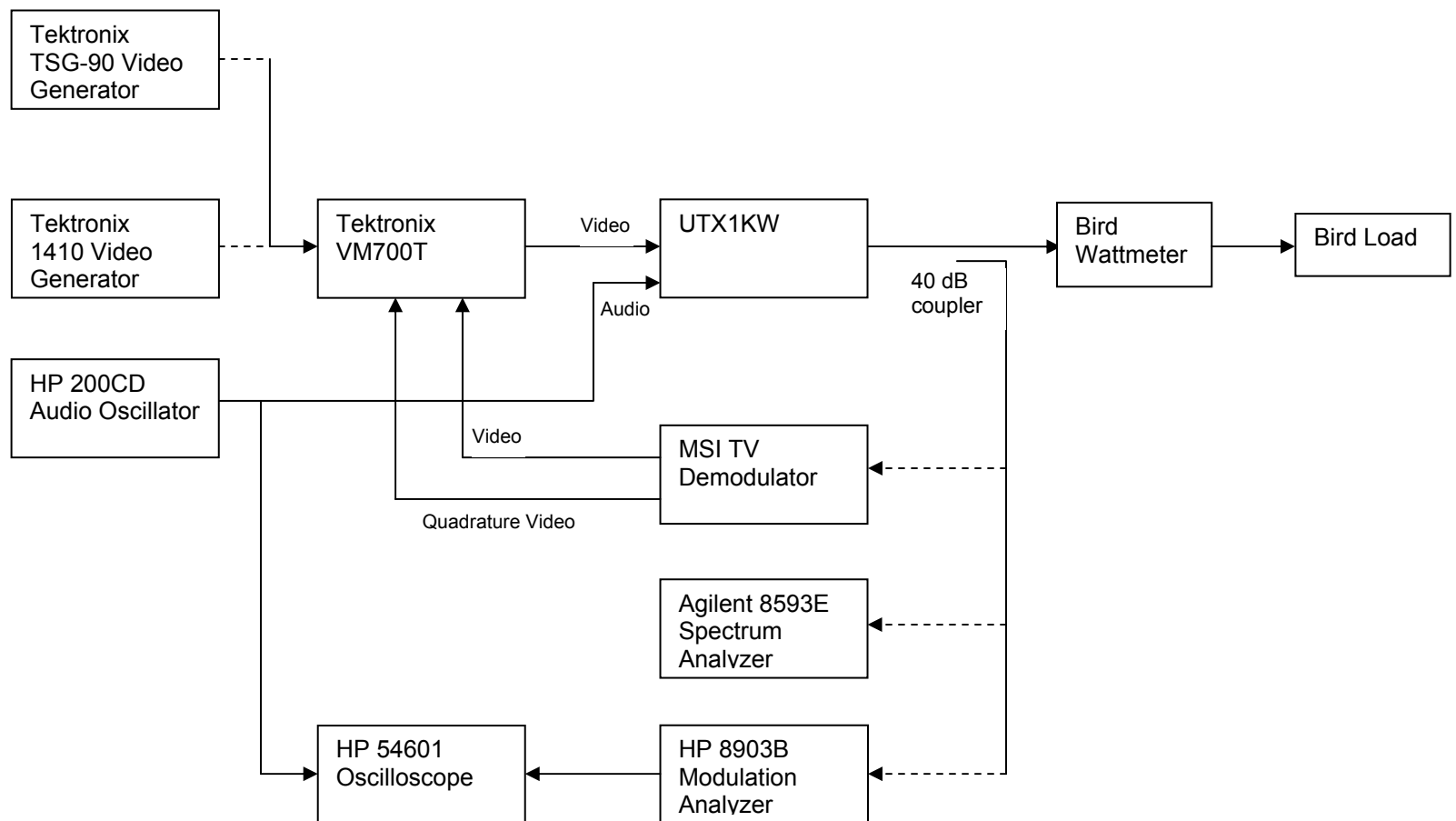
Peak of sync power =  $600 \times 1.68$   
= 1008 watts

Bird Thruline reading  
at low power= 60 watts

Peak of sync power = 1.68 times  
average power reading with a black  
picture and "0" setup

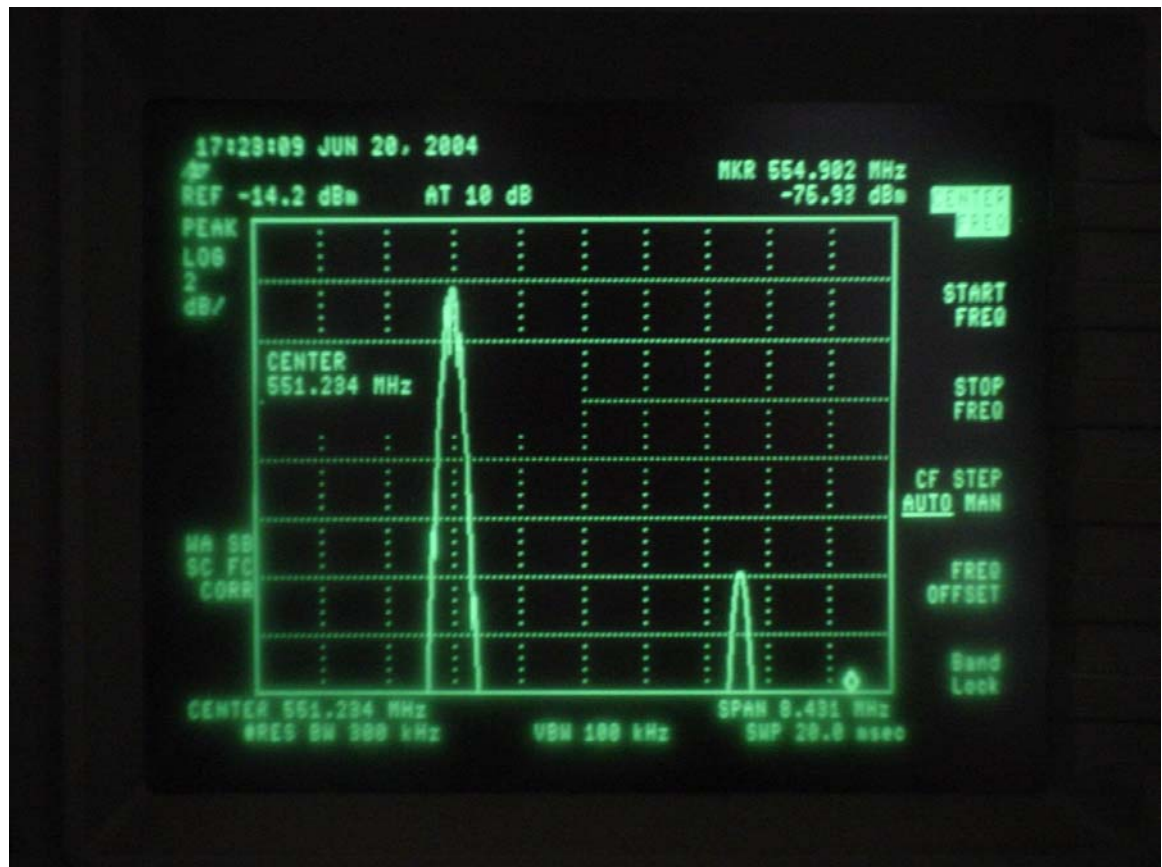
Peak of sync power =  $60 \times 1.68$   
= 101 watts

## TEST EQUIPMENT CONFIGURATION



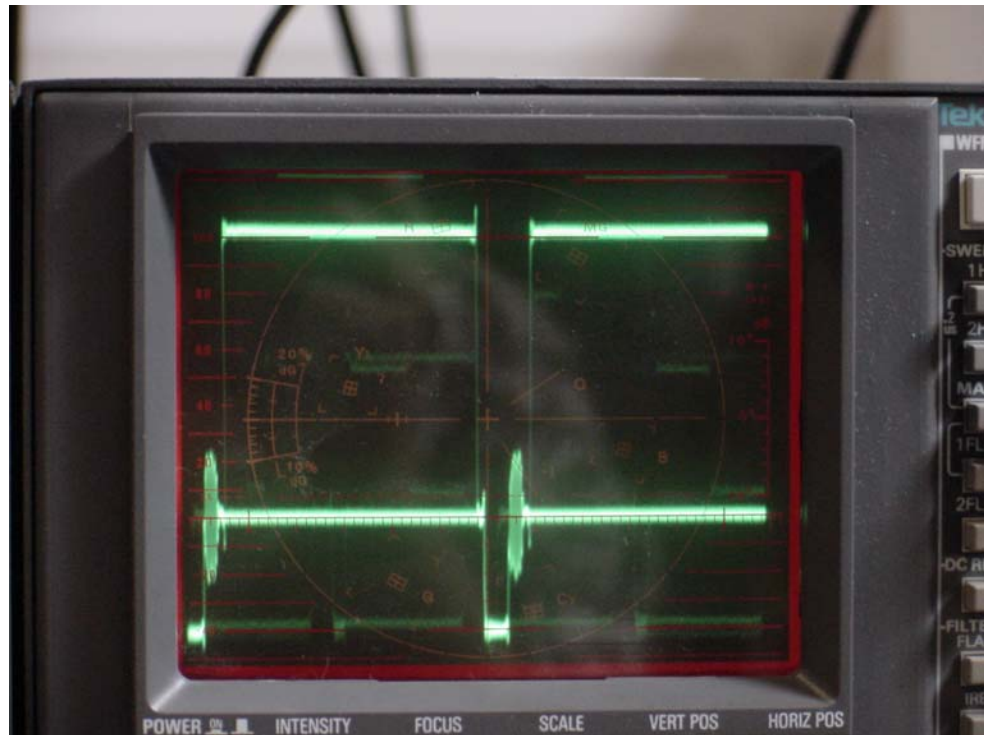
Dashed line indicates only one instrument connected at a time.

POWER OUTPUT ON SPECTRUM ANALYZER (showing 10 dB V/A Ratio)



**TWO HORIZONTAL LINES AND TWO FIELDS SHOWING  
CORRECT MODULATION DEPTH FOR REFERENCE WHITE  
AND SYNC LEVELS AT 1.0 KW**

Power Output = 1.00 kwatt



Power Output = 1.0 kwatt

