TEST REPORT

PINEAPPLE TECHNOLOGY INC. 106A RETROFIT KIT TECHNICAL REPORT

INTRODUCTION

The following information is provided to support the technical performance of the UST106 Pro Retrofit Kit for the Television Technology TV translator designated as the UST-106A (modulator input version). The information is supplied for broadcast TV service according to applicable portions of Part 74 and the attached letter from the FCC OET office.

The following information is provided in support of acceptance of the retrofitted transmitter for Part 74 service. Where possible, measurements were recorded of spectrum or other appropriate data of the signal in the RF path before and after the retrofit amplifier.

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

Measurements of frequency response, harmonics, and spurs have been executed and compared to the same measurements before the amplifier. The purpose of providing both sets of measurements is to indicate that the substitution of the PTI solid state amplifier did not degrade the performance of the translator and allows the translator to comply with the applicable rules and regulations of Part 74. Measurements were conducted at power output levels of 30 watts peak of sync and 110 watts peak of sync and constitute the range of power for which type certification is sought. As indicated in the attached documentation from the FCC in another exhibit, the other parameters normally associated with Part 74 service such as frequency stability and receiver dynamic range do not apply to this application for certification.

The complete test report is divided into 5 subsections including this one labeled Test Report #1 thru #5 to put the data into manageable file sizes.

The test equipment used for the measurements on the next few pages is listed at the end of the last report (Test Report #5 file). All test equipment had been 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 and directional coupler and attenuator was calibrated at the Visual carrier frequency of 537.25 MHz. The NTSC generator was configured to produce a signal with 0 IRE video and sync. The audio generator was not energized. Visual peak power was read on the HP8900C Peak Power Meter and a reference level was established on the HP8595E Spectrum Analyzer. The TV demodulator was used to verify that sync compression was not causing any distortion of the measurement. The aural output level was then raised to meet the precise 10 dB Visual/aural power ratio as observed on the spectrum analyzer photograph. 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 30 watt to 110 watt power level range that certification is being sought. Please see Figure 1 and remaining photographs in this test report and Test Report #2 file.

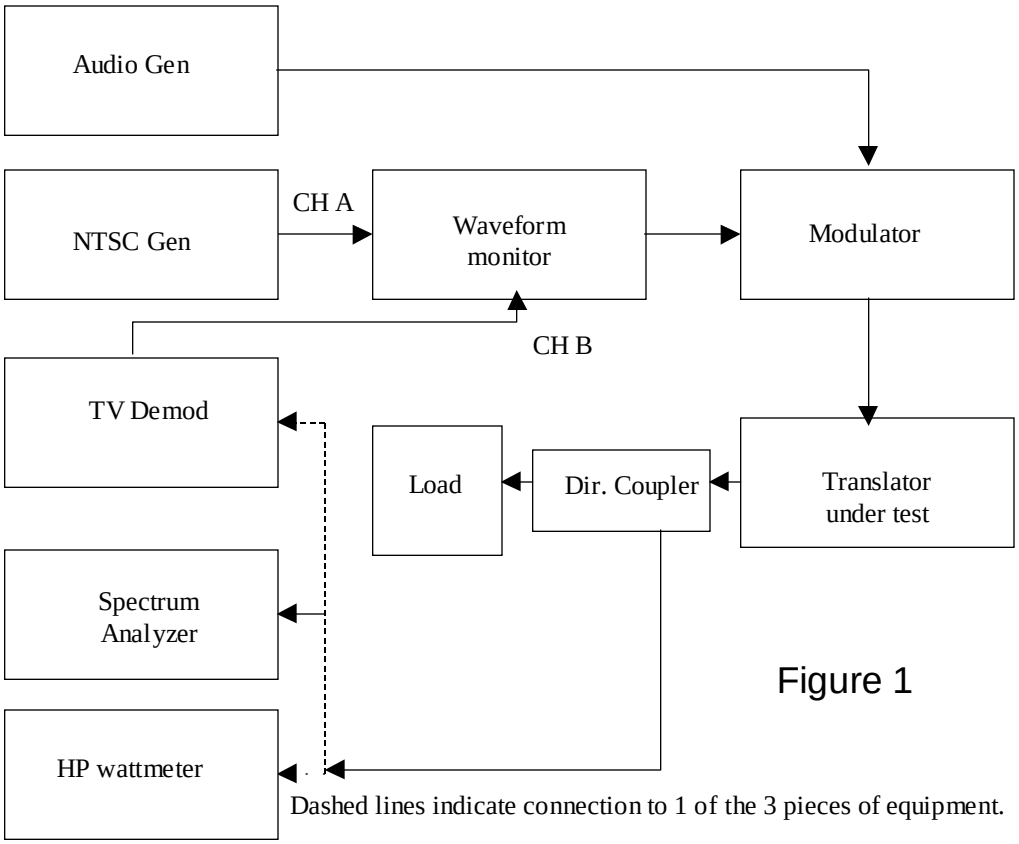
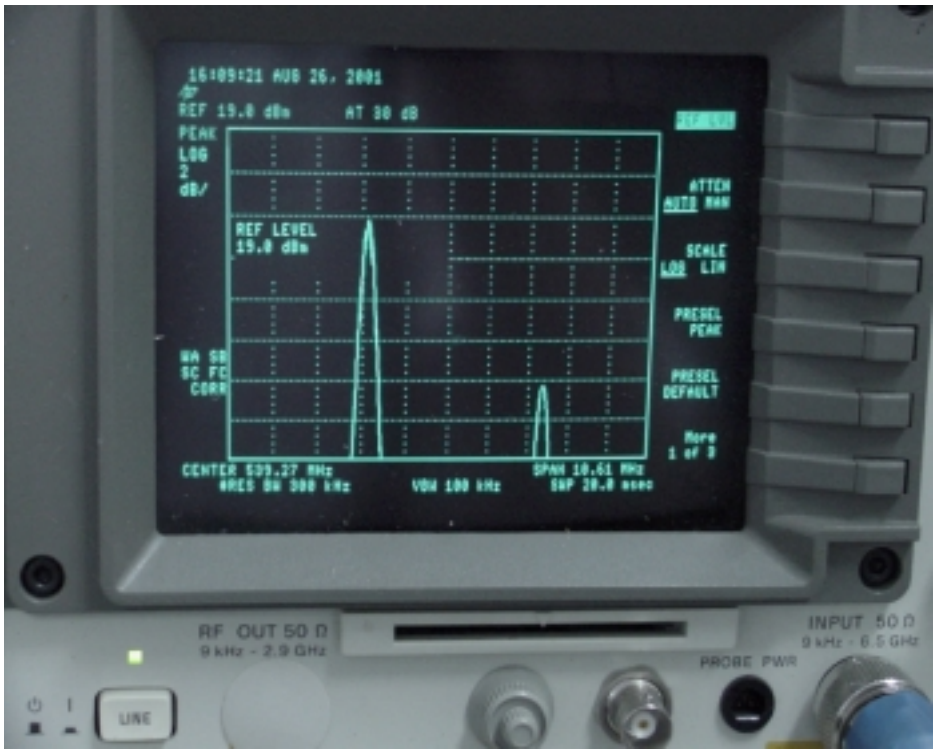


Figure 1

Power Output

36 mWatts peak indicated +34.8 dB (loss due to directional coupler, attenuator and cable) = 110 watts peak of sync power



POWER OUTPUT ON SPECTRUM ANALYZER

Horiz. Sync (OUTPUT @110 watts)

Horiz. Sync (OUTPUT @30 watts)