```
┌─────────────────┐
│ HP 652A         │
│ TEST            │
│ OSCILLATOR      │
└────────┬────────┘
         │
┌────────┴────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
│ SIGNAL GEN.     │   │ IFI          │   │ LOW PASS     │   │              │
│ HP 8662A        ├───┤ AMPLIFIER    ├───┤ FILTER       ├───┤     EUT      │
└─────────────────┘   └──────────────┘   └──────────────┘   └──────┬───────┘
                                                                    │
                                                            ┌───────┴──────┐
                                                            │ DIRECTIONAL  │
                                                            │ COUPLER      │
                                                            └───────┬──────┘
                                                                    │
                                                            ┌───────┴──────┐
                                                            │ RF POWER     │
                                                            │ WATTMETER    │
                                                            └───────┬──────┘
                                                                    │
                                                            ┌───────┴──────┐
                                                            │ 50 OHM       │
                                                            │ LOAD         │
                                                            └──────────────┘
```

FIGURE 4. BLOCK DIAGRAM.
(SPURIOUS EMISSIONS TEST)

2.983(e)(5)   **Measurement of Radiated Spurious Emissions Per 2.993**

Definition: Emissions from the equipment when connected into a non-radiating load on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired. The reduction in the level of these spurious emissions will not effect the quality of the information being transmitted.

Test Method: Per EIA RS 152-B.

Connect the equipment and follow the procedure described in paragraph 2.2.1.1 and paragraph 5.0. Measure the amplitude of each spurious radiated signal through the 10th harmonic. The level in dBuV/m is calculated on the following page. The spurious signals are then measured on the 3 meter range.

$$\text{Spurious attenuation dB} = 10 \log \frac{\text{Po Watts}}{\text{Calc spurious pwr}}$$

Test Results: See TABLE I.

All Radiated spuirious emissions are below the FCC specifications.

SPURIOUS RADIATED SIGNAL MEASUREMENTS

(Ref: Part 2, Subpart J, 2.991 & 2.993)

Date _12-3-98_ Pass _X_ Fail ___ (at Freq. ___)

EUT _TPL Amplifier_ Operating Power _Saturated 25 watts_

Part No. _PA8-1AA-m_ Operating Mode _____

Serial No. _____ Test Engineer _Bryan Broaddus_

FREQUENCY TUNED TO _836_ MHz

ANT POL	FREQ MHz	SPECTRUM ANALYZER (dBμV)	ANT. FACTOR (dB)	CABLE LOSS (dB)	AMP GAIN (dB)	dBμV/m	FUND FIELD STRENGTH dBμV/m	SPUR BELOW CARR-IER (dBc)
—	836	—	—	—	—	—	141.4	—
H	1672	67.9	25.9	17	30	80.8		60.6
H	2508	79.6	29.5	12	42	79.1		62.3
V	3344	76.3	32.1	13.3	42	79.7		61.7
V	4180	69.5	33.2	15	42	75.7		65.7
V	5016	67.6	34.0	15.8	42	75.4		66.0
H	5852	68.7	35.1	17.1	42	78.9		62.5
V	6688	60.6	36.3	17.7	42	72.6		68.8
V	7524	61.2	37.2	19.3	42	75.7		65.7
H	8360	57.5	38.0	21.6	42	75.1		66.3

Fundamental Field Strength (V/m) = 1/3 (Ro x Po)^{½} 11.77 V/m

Ro = Amplifier Output Impedance (Ohms) 50 Ω

Po = Amplifier Output Power (Watts) 25 W

Conversion from μV/m to dBμV/m = (μV/m) ^{log} x 20 141.4 dBμV/m

Conducted Spurious Limit = 43+10·(PO)$_{log}$ = 57 dBc

2.983(e)(6)   **Measurement of Frequency Stability Per 2.995**

The EUT is a power amplifier and contains no circuitry for generating or stabilizing the RF signal. The driver will be responsible for this task.

2.983(e)(7)   **Frequency Spectrum to be Investigated per 2.997**

The frequency was searched from the lowest radio frequency generated in the equipment through the 10th harmonic of the carrier frequency.