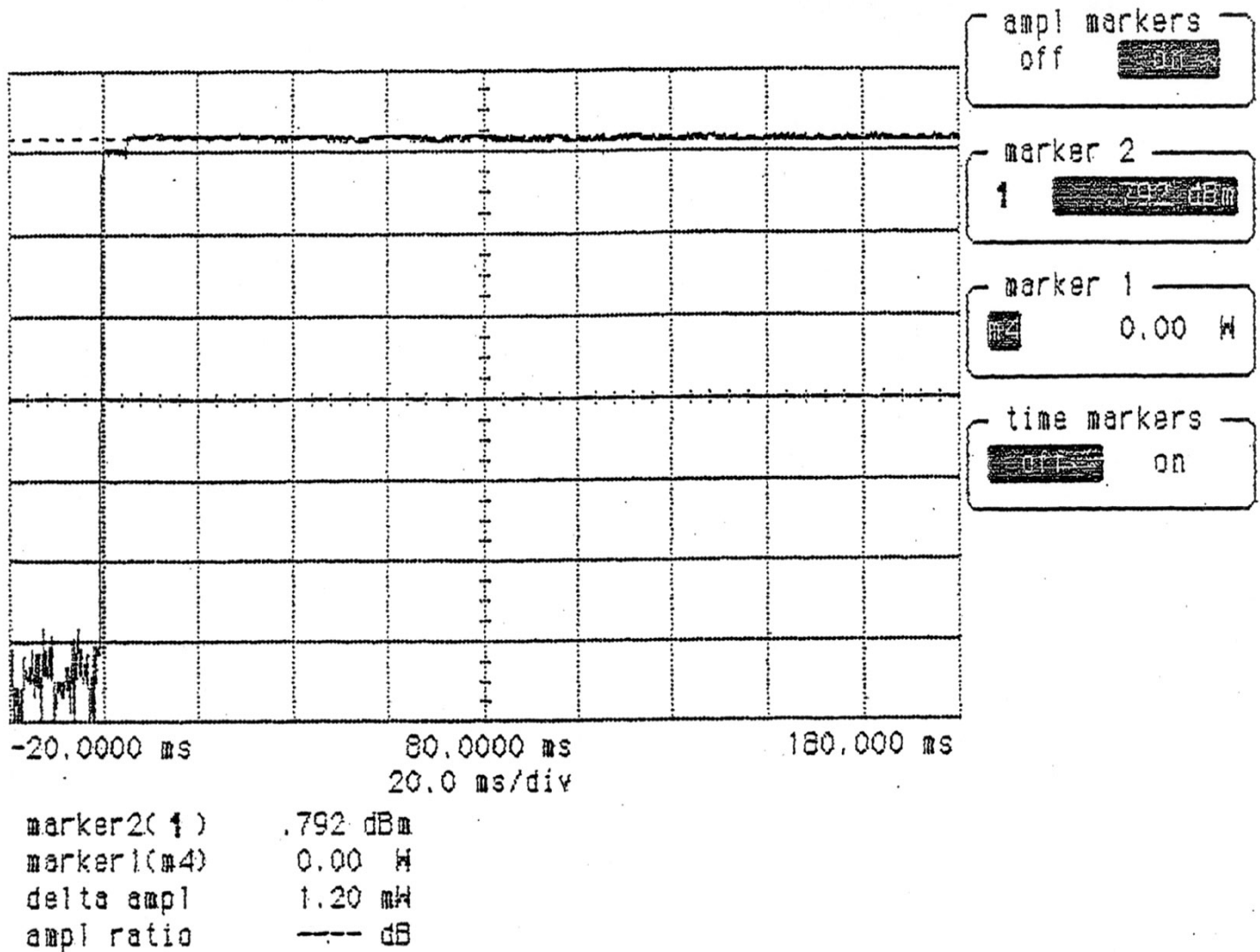


SUBMITTED MEASURED DATA

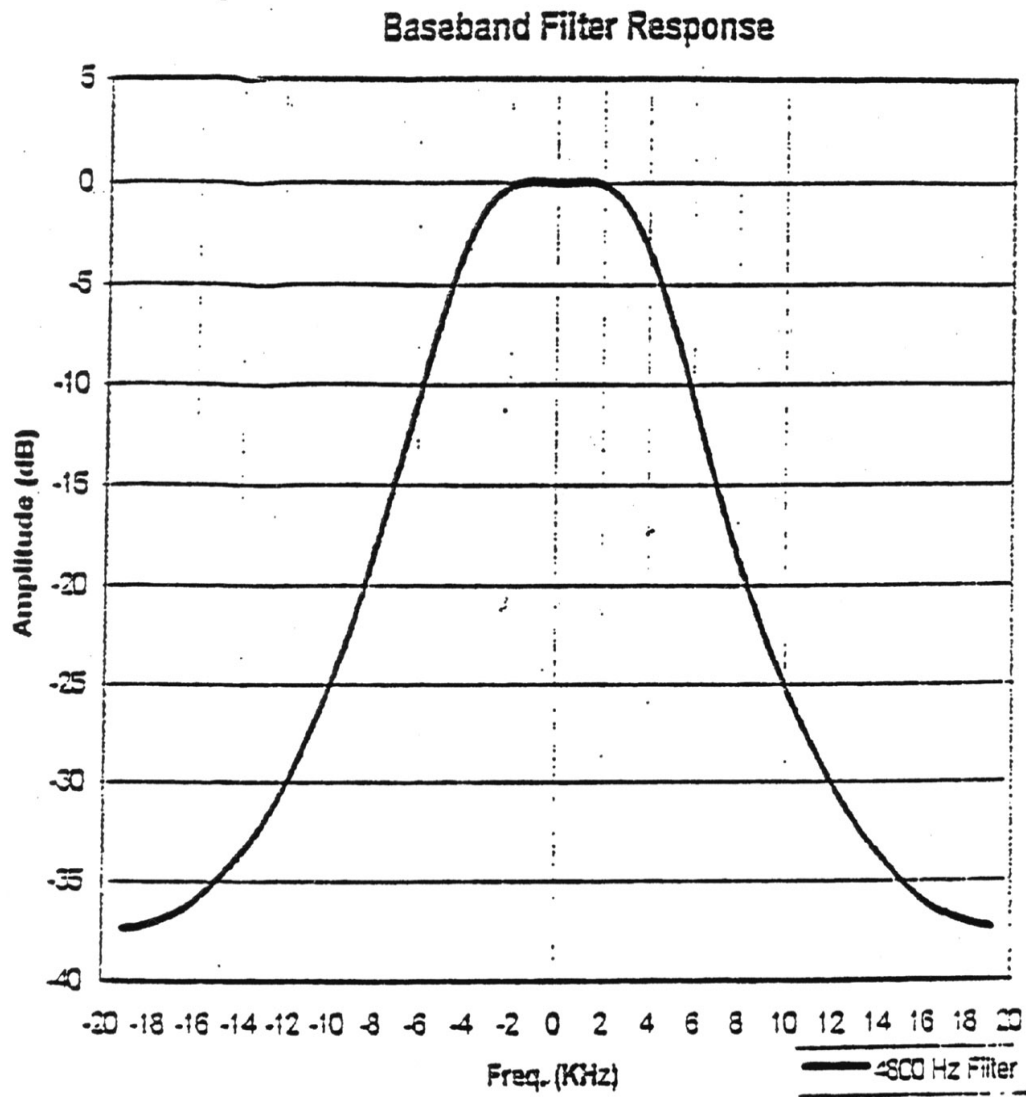
Measurement	Exhibit
1. Index	9
2. RF Power Out	9A
3. Modulation Characteristics	
a. 9600 Splatter Filter Response	9B
b. Baseband Filtered Data	9C
c. Demodulated RF Data (Deviation)	9D
4. Occupied Bandwidth	9E
5. Transmitter Radiated Spurious	9F
6. Frequency Stability	
a. Tuning Range	9G
b. Temperature	9H

RF POWER OUT (Conducted into Antenna)

Typical RF Output Power conducted into antenna is 30.1dBm

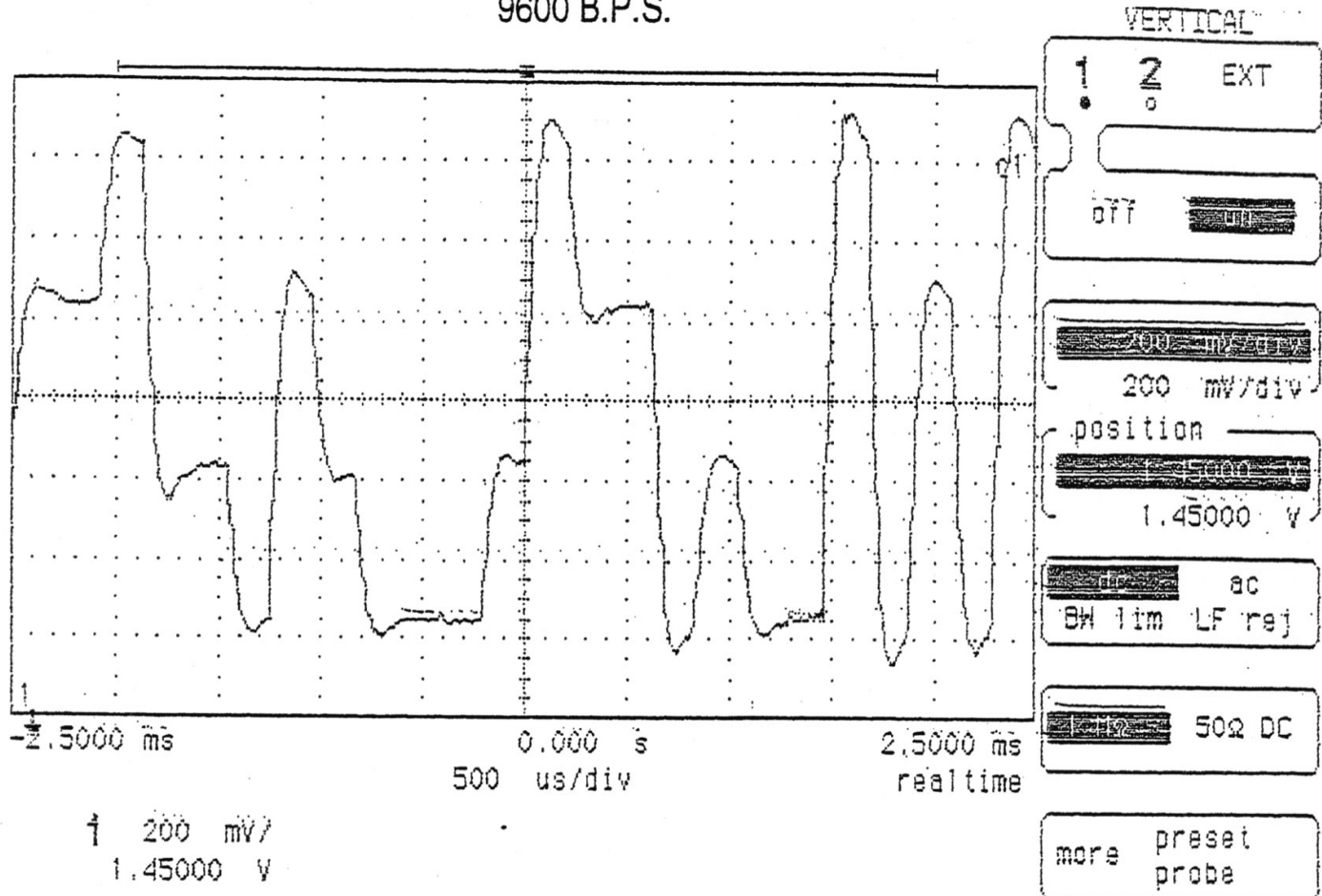


Above data measured into HP8991A Peak Power Meter with Narda 30 dB pad.

MODULATION CHARACTERISTICS**Splatter Filter Response**
4.8KHz Cutoff Frequency

MODULATION CHARACTERISTICS

Baseband Filtered Data
9600 B.P.S.



	Sensitivity	Offset	Probe	Coupling	Impedance
Channel 1	200 mV/div	1.45000 V	10:1	dc	1M ohm

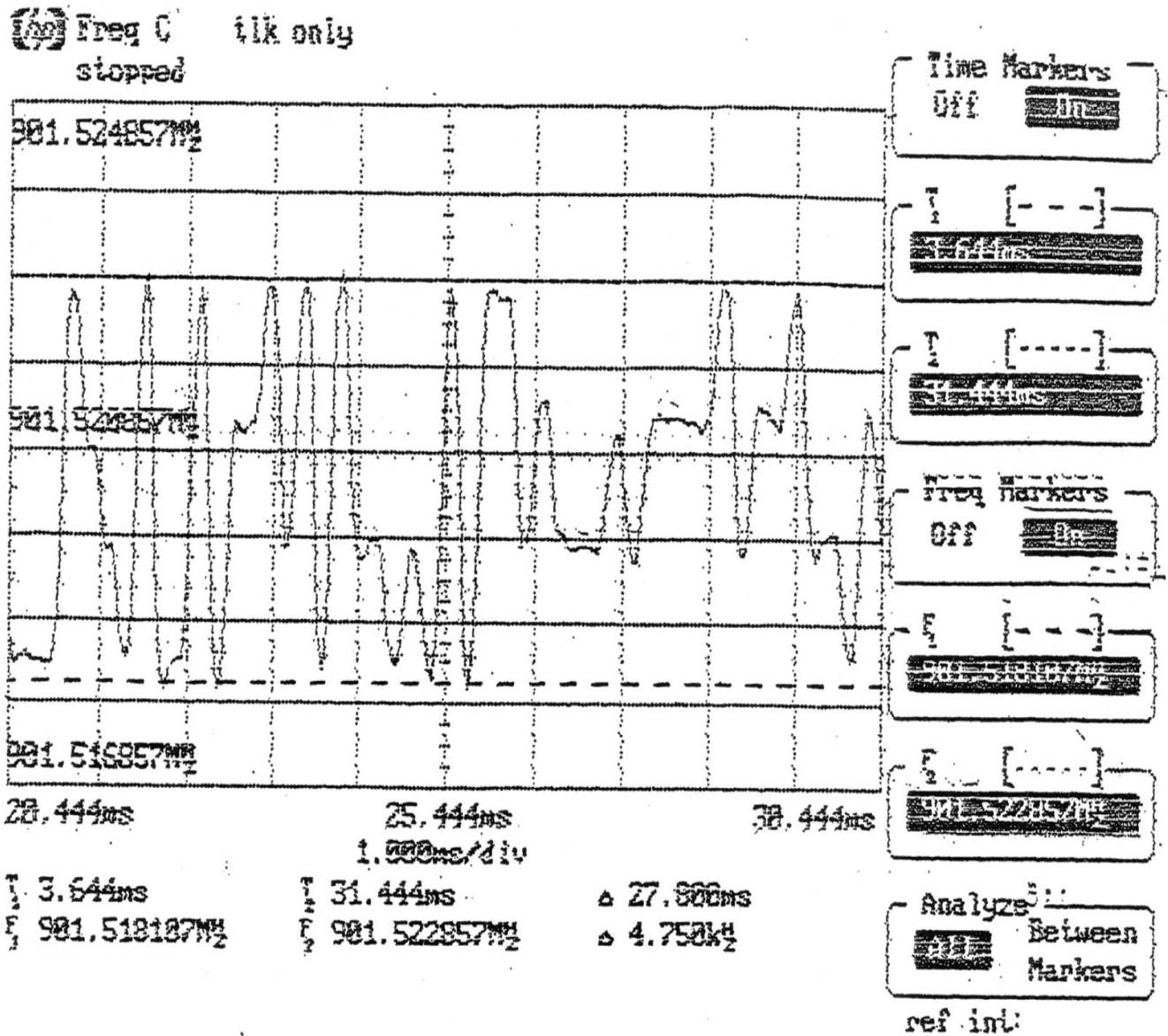
Trigger Mode: Edge
On the Positive Edge of Channel1
Trigger Level(s)

Channel1 = 1.48200 V (noise reject OFF, coupling DC)
Holdoff = 40.000 ns

Above pseudo random data stream generated by AT&T 1615 DSP.

MODULATION CHARACTERISTICS

Demodulated RF Data Deviation
9600 B.P.S.



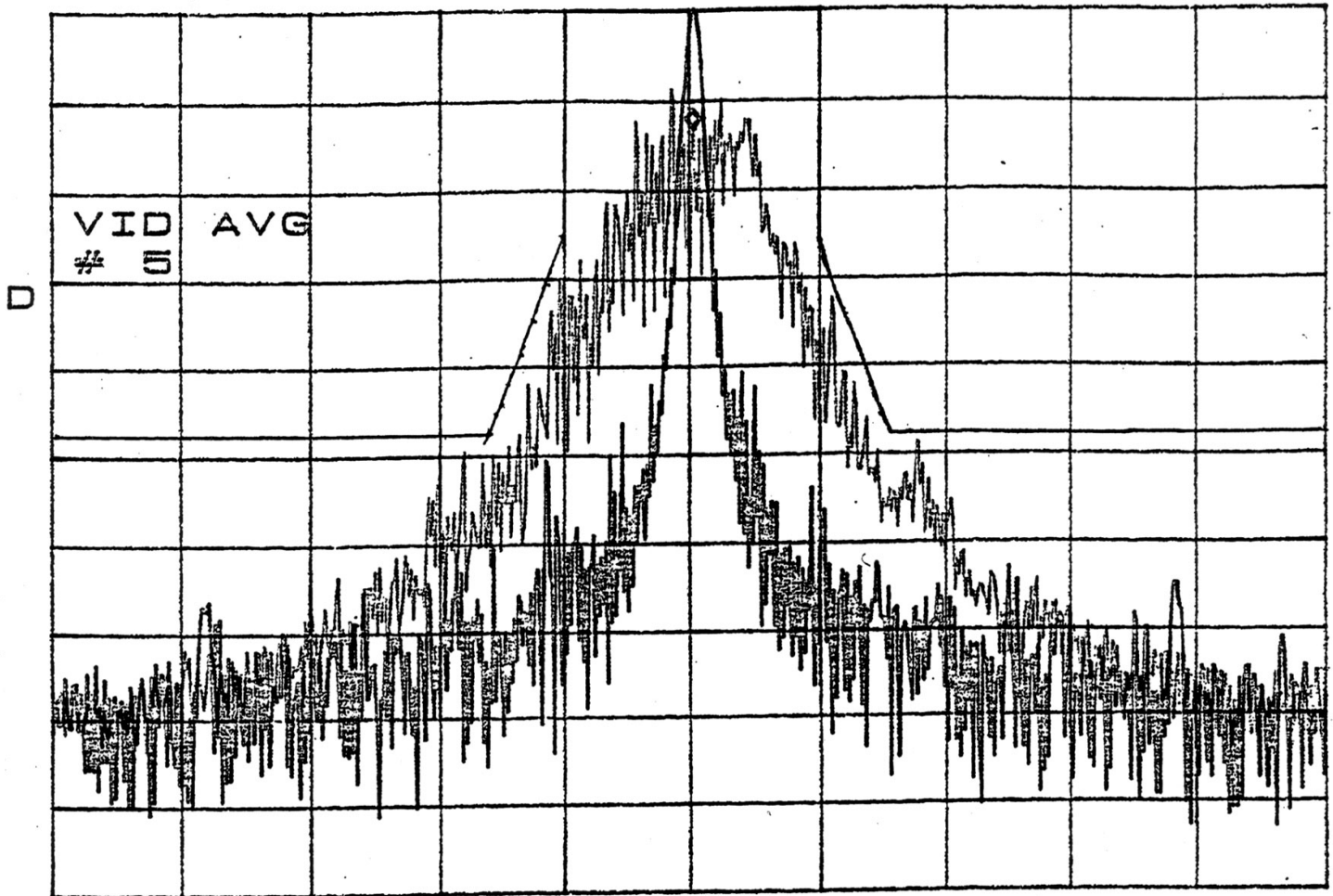
Above pseudo random data stream generated by AT&T 1615 DSP.

EXHIBIT 9D

OCCUPIED BANDWIDTH

(Pseudo-Random Data)

ATTEN 10dB VAVG 5 MKR -13.30dBm
RL -.3dBm 10dB/ 901.51958MHz



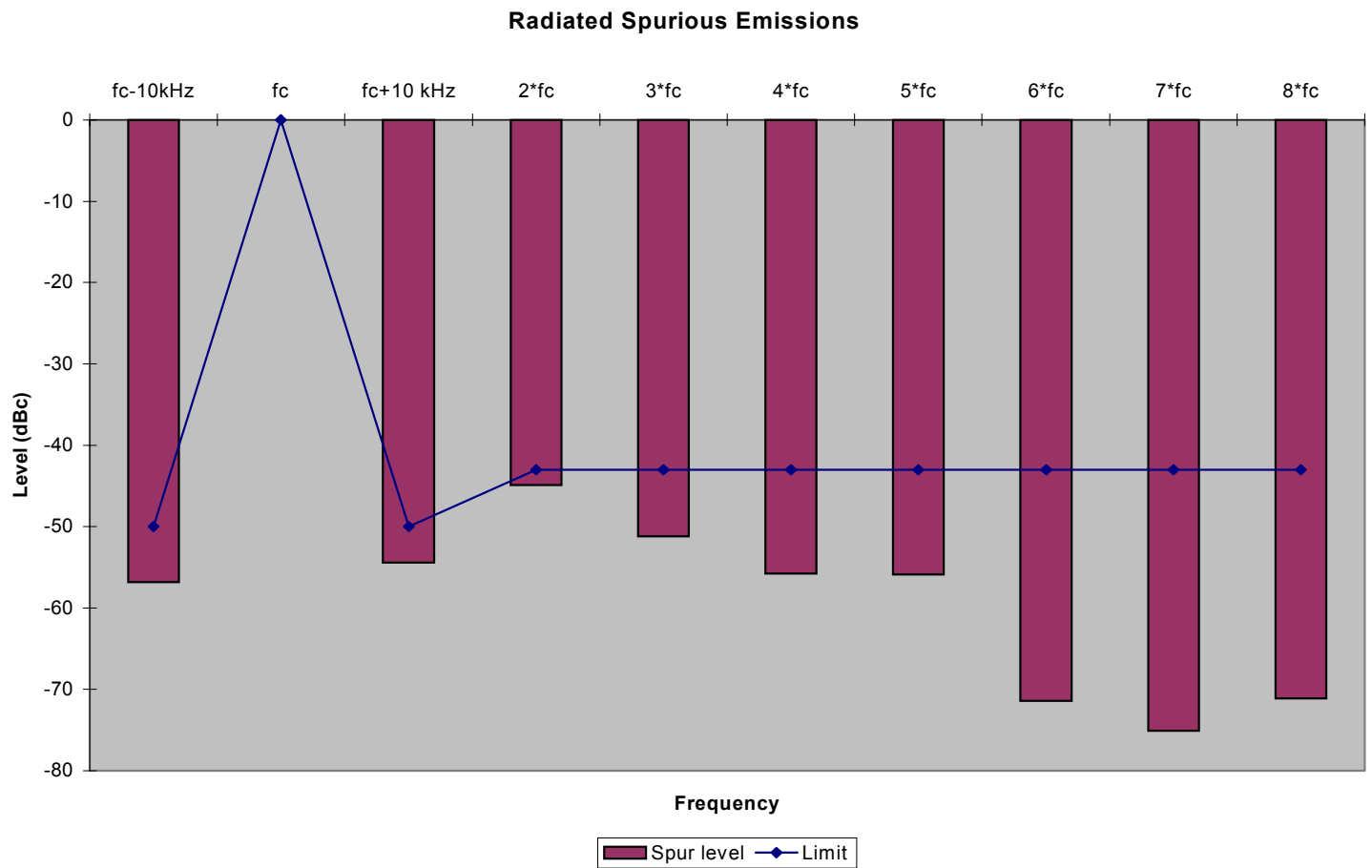
CENTER 901.51942MHz
RBW 300Hz VBW 300Hz

SPAN 50.00kHz
*SWP 25sec

Above pseudo random data stream generated by AT&T 1615 DSP.

Data was taken with a video average of 5 sweeps.

EXHIBIT 9E

RADIATED SPURIOUS EMISSIONS

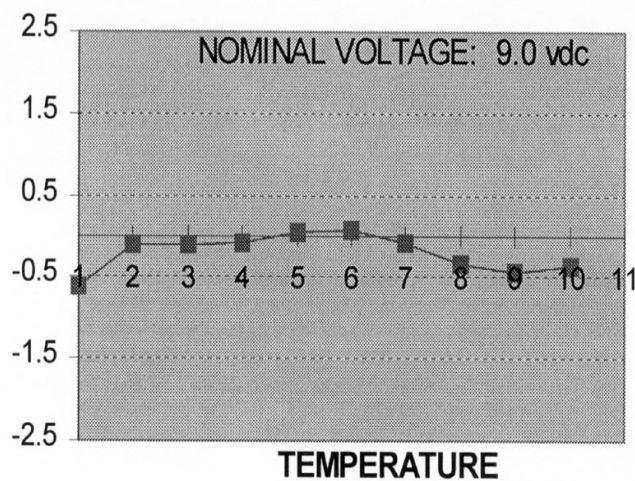
Fc = 901.0000 MHz

<u>Frequency</u>	<u>Level (dBc)</u>	<u>Worst Case Polarization</u>
Fc – 10 KHz	-56.8	HPol
Fc	0	
Fc + 10 kHz	-54.4	HPol
2*Fc	-44.9	HPol
3*Fc	-51.2	HPol
4*Fc	-55.8	HPol
5*Fc	-55.9	HPol
6*Fc	-71.4	HPol
7*Fc	-75.4	HPol
8*Fc	-71.1	Hpol
9*Fc	Undetectable	
10*Fc	Undetectable	

EXHIBIT 9F

FREQUENCY STABILITY

Tuning Range

FREQUENCY STABILITY
BOOMERANG TRANSMITTER

NOMINAL 9.0

TEMP PPM

-30 -0.61

-20 -0.11

-10 -0.11

0 -0.07

10 0.06

20 0.08

30 -0.09

40 -0.34

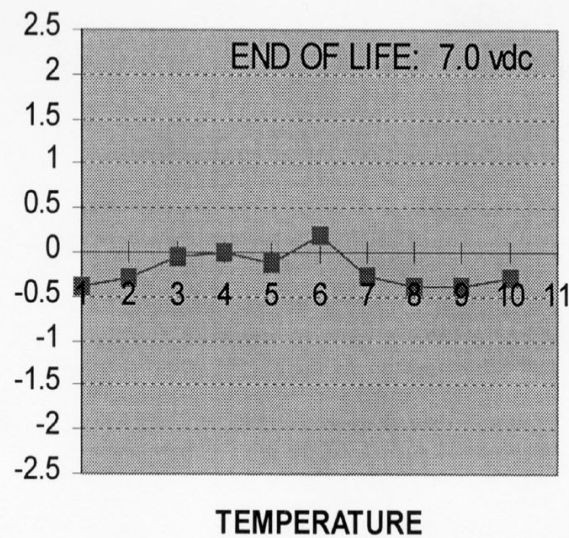
50 -0.45

60 -0.36

EXHIBIT 9G

FREQUENCY STABILITY

Temperature

FREQUENCY STABILITY
BOOMERANG TRANSMITTER

END OF LIFE

7

TEMP	PPM
-30	-0.38
-20	-0.29
-10	-0.04
0	0.00
10	-0.13
20	0.19
30	-0.27
40	-0.38
50	-0.39
60	-0.29

MEASUREMENT PROCEDURE AND TEST EQUIPMENT USED

Except where otherwise stated, all measurements are made following the Telecommunications Industry Standard (TIA) / Electronic Industries Association (EIA) Minimum Standard for Land Mobile FM or PM Communications Equipment Measurement and Performance Standards (TIA/EIA-603).

This exhibit presents a brief summary of how the measurements were made, the required limits, and the test equipment used.

The following procedures are presented with this application.

☐ 1. RF Power Output	☒ X
☐ 2. Occupied Bandwidth	☒ X
☐ 3. Transmitter Radiated Spurious Emissions	☒ X
☐ 4. Frequency Stability	☒ X
☐ 5. Test Equipment List	☒ X

MEASUREMENT PROCEDURE AND TEST EQUIPMENT

RF Power Out

Pursuant to FCC Rules 2.989

Method of Measurement

The RF power output is measured with the transmitter adjusted in accordance with the tune-up procedure to give the value of voltage and current specified in Exhibit 3 as required by 2.983(d) (5). A 50 ohm RF attenuator of proper power rating was used as a load for making these measurements.

The power measurements are made using a Hewlett Packard HP8991A Peak Power Meter and a 20 db attenuator.

Occupied Bandwidth
Pursuant to FCC Rules 2.989

Method of Measurement

Data on occupied bandwidth is presented in the form of a spectrum analyzer photograph which illustrates the transmitter sidebands. The transmitter is on for a period of two minutes to allow for power stabilization, so that power varies less than .25db. The measurement is made after the two minute period. A photograph is taken of the unmodulated carrier, for reference, to which is superimposed the sideband display generated by modulating the carrier with a psuedo-random 4 level signal. This is a video average of 5 sweeps. The power is then checked once more to insure no further power drop has occurred. The AT&T 1615 DSP is used to generate the psuedo-random signal. This signal is digitally filtered internally to the DSP. The output of the splatter filter is then fed into the modulation in port of the VCO.

FCC Limits - Per Applicable Rule Parts

Measured Data: On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency (f_d in kHz) of up to and including 20 kHz: at least $116 \log((f_d + 5)/3.05)$ decibels or 50 plus $10 \log_{10}(P)$ decibels or 70 decibels, whichever is the lesser attenuation. For any frequency outside the authorized bandied and removed from the edge of the authorized bandied by a displacement frequency (f_t in kHz) of more then 20 kHz: at least 43 plus $10 \log_{10}(P)$ decibels or 80 decibels whichever is the lesser attenuation.

MEASUREMENT PROCEDURE AND TEST EQUIPMENT**Radiated Spurious Emissions***Pursuant to FCC Rules 2.993***Test Site**

The measurements were made on the open area test site at Boynton Beach, which is FCC listed (Ref. 31040/SIT 1300 F2) and NVLAP accredited (Lab Code 200318-0). The site is free of any obstructions that would cause unwanted reflections and meets the requirements of Section 2.948 of the FCC rules.

The equipment is placed on the turntable. An AH Systems horn antenna, model SAS-271, located 3 meters away from the transmitter picks up any signal radiated from the transmitter. A spectrum analyzer covering the necessary frequency range is used to detect and measure any radiation picked up by the antenna.

Method of Measurement

The equipment is manipulated to obtain peak reading of received signals wherever they occur in the spectrum by:

1. Rotating the transmitter under test.
2. Adjusting the antenna height.

Relative signal strength is indicated on the spectrum analyzer connected to this antenna and recorded for each frequency. To obtain the radiated signal strength for each spurious and harmonic frequency observed, the cable loss, amplifier gain, and antenna gain values are normalized to those at the transmitter frequency and added to the measured value.

The testing procedure is repeated for both horizontal and vertical polarization of the receiving antenna. The relative radiated emission measurements are recorded on the attached graphs.

FCC Limits-Per Applicable Rule Part 24.133 (a) 2.

Radiated spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula: Spurious attenuation in dB = $43 + 10 \log_{10}(\text{power output in watts})$.

MEASUREMENT PROCEDURE AND TEST EQUIPMENT

Frequency Stability

Pursuant to FCC Rules 2.995

Method of Measurement

A. Temperature (Non-heated type crystals oscillators)

Frequency measurements are made at the extremes of the temperature range -10 to +50 degrees centigrade and at intervals of not more than 10 degrees centigrade through out the range. Sufficient time is allowed prior to each measurement for the circuits to stabilize.

B. Power Supply Voltage

For battery powered equipment the primary supply voltage has been reduced to end of life.

FCC Limits--Pursuant 2.995 (1) & (2) and Applicable Rule Parts

Temperature - Frequency stability of 1 ppm from -10 to +50 degrees centigrade.

Power Supply Voltage-Frequency Stability of 1 ppm at End of Life voltage for battery powered equipment.

MEASUREMENT PROCEDURE AND TEST EQUIPMENT

Test Equipment List

1. Marconi generator capable of I & Q modulation
2. HPS561E Spectrum Analyzer
3. HP53310A Modulation Domain Analyzer
4. HPS901B Modulation Analyzer
5. HP560C Deskjet Printer
6. Narda 768-30 30 dB, 50 Ohm Attenuator
7. HP34401A Multimeter
8. HP E3610A Power Supply
9. Log Periodic Antenna
10. Quadridge Horn Antenna
11. HPS566B Spectrum Analyzer
12. HPS5685A RF Preselector
13. HP5650A Quasi Peak Adapter
14. Thermotron Temperature Chamber Model S-1.2C.