Exhibit 6: Test Report

TEST REPORT FROM:

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TEST OF: T-2000A

To Part 90 Subparts I & S and Part 2 Subpart J
of the FCC Rules and Regulations

Test Report Serial No: 73-7194

APPLICATION FOR CERTIFICATION:

SMR Handheld Mobile

Applicant:

Tecom Co., LTD.
23, R&D Road 2
Science-Based Industrial Park
Hsin-Chu Taiwan R.O.C.

Dates of Test: May 8 – 11, 2000

Issue Date: December 13, 2000

Equipment Receipt Date: May 8, 2000

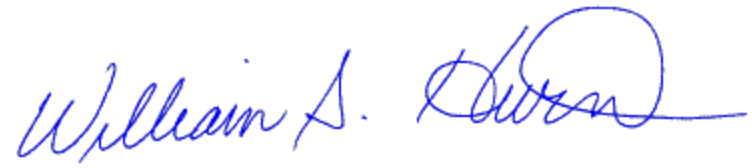
CERTIFICATION OF ENGINEERING REPORT

This report has been prepared by Communication Certification Laboratory to verify compliance of the device described below with the requirements to Part 2 Subpart J and Part 90 Subparts I and S of the FCC Rules and Regulations. This report may be reproduced in full, partial reproduction may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

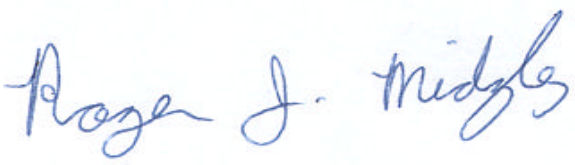
- Applicant: Tecom Co., LTD.
- Manufacturer: Tecom Co., LTD.
- Model Number: T-2000A
- FCC ID: D6X-T2001A
- Brand Name: TECOM

On this 13th day of December 2000, I, individually, and for Communication Certification Laboratory, certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge, and are made in good faith.

COMMUNICATION CERTIFICATION LABORATORY



Checked by: William S. Hurst, P.E.
Vice President



Tested by: Roger J. Midgley
EMC Engineering Manager

SECTION 1. Measurement Requirements

1.1 Introduction

The following data is submitted for Certification of a mobile handset for Tecom Co., LTD., in accordance with Part 2, Subpart J and Part 90, Subparts I and S of FCC Rules and Regulations.

The T-2000A is the mobile handset designed to TECOM's TCM-1, a wireless access communication system. The T-2000A can be deployed for dispatching (push to talk) and for full-duplex voice communication. The T-2000A communications for previously certified base stations. The base stations are hardwired together to provide a cell communication environment.

1.2 Measurements Required for Certification

§ 2.1033 (c)(14) Measurement Data

The measurement data that is required by § 2.1046 through § 2.1057 is included in Section 2 of this report. The data was measured in accordance with the procedures set out in § 2.1041.

§ 90.203 (e) and (q)

Enclosed in Exhibit 2 is an attestation statement from the manufacturer showing compliance to this section.

§ 2.1046 RF Power Output – § 90.205

§ 2.1046

(a) For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in § 2.983 (d)(5).

§ 90.205

Transmitter power shown on the radio station authorization is the maximum power the licensee is authorized to use.

§ 2.1047 Modulation Characteristics - § 90.211

The T-2000A uses analog emissions with an audio low-pass filter (analog modulation); therefore, the data required by section 2.1047 applies.

§ 2.1047

(a) Voice modulated communication equipment: A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter, or of all circuitry installed between the modulation limiter and the modulated stage shall be submitted.

§ 2.1049 Occupied Bandwidth - § 90.209

§ 2.1049

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions:

(h) Transmitters employing digital modulation techniques - when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through an filter networks, pseudo-random generators or other devices required in normal service. Additionally, the occupied bandwidth shall be shown for operation with any devices used for modifying the spectrum when such devices are optional at the discretion of the user.

(i) Transmitters designed for other types of modulation - when modulated by an appropriate signal of sufficient amplitude to be representative of the type of service in which used. A description of the input signal should be supplied.

§ 90.209

(a) each authorization licensed under this part will show an emission designator representing the class of emission authorized. The designator shall be prefixed by the specified necessary bandwidth. This figure does not necessarily

indicate the bandwidth occupied by the emission at any instant. In those cases where § 2.202 of this chapter does not provide a formula for the computation of necessary bandwidth, the occupied bandwidth as defined in part 2 may be used in lieu of the necessary bandwidth.

Criteria

The necessary bandwidth for the T-2000A was calculated using the following formula:

Voice Modulation

Bn = 2M + 2DK, M = B/2, K = 1.2

Bn = Necessary bandwidth in hertz
B = Modulation rate in bauds (14 kHz)
D = Peak frequency deviation in hertz (2.5 kHz)

M = 14,000/2 = 7000

Bn = 2(7000) + 2(2500)(1.2) = 20,000

Necessary bandwidth = 20.0 kHz

Data Modulation

Bn = 2M + 2DK, M = B/2, K = 1.2

Bn = Necessary bandwidth in hertz
B = Modulation rate in bauds (5 kHz)
D = Peak frequency deviation in hertz (2.5 kHz)

M = 5,000/2 = 2500

Bn = 2(2500) + 2(2500)(1.2) = 11,000

Necessary bandwidth = 11.0 kHz

**§ 2.1051 Spurious Emissions at Antenna Terminals – § 90.210 and
§ 90.691**

§ 2.1051

The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminal when properly loaded with a suitable artificial antenna.

§ 90.210

The T-2000A operates between 806 MHz to 821 MHz in an EA system; therefore, it must comply with the emission mask provisions of § 90.691.

§ 90.691 (a)

The emissions must be attenuated according to the following schedule.

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log_{10} (f/6.1) decibels or 50 + 10 Log_{10} (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 Log_{10} (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

§ 2.1053 Field Strength of Spurious Radiation - § 90.210

§ 2.1053

Measurements shall be made to detect spurious emission that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation.

§ 90.210

The T-2000A operates between 806 MHz to 821 MHz in an EA system; therefore, it must comply with the emission mask provisions of § 90.691.

§ 90.691 (a)

The emissions must be attenuated according to the following schedule.

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(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 Log_{10} (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

Criteria § 90.691 (a)(2)

Field strength measurements of radiated spurious emission that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements must not exceed 43 + 10 log_{10} (mean output power in watts) below the unmodulated carrier.

The reference level for spurious radiation was taken at an ideal dipole excited by the rated output power according to the following relationship:

$$E = \frac{\sqrt{(49.2)(Pt)}}{R}$$

Note: Reference Data for Radio Engineers, Pg. 676. International Telephone and Telephone Corporation, Fourth Edition.

Where E = electric Field Intensity in Volts/Meter

Pt = Transmitter Power in Watts
R = Measurements distance in Meters

Field Strength Limit (0.500 Watts)

$$E = \frac{\sqrt{(49.2)(0.500)}}{3} = 1.6\ Volts/Meter = 124.4\ dBuV/m$$

In this case, the rated power of 0.500 watt requires a minimum attenuation of 43 + 10 log 0.500 = 40.0 dB below the reference level of 124.4 dBµV/m calculated above; therefore, the criteria is 84.4 dbµV/m (124.4 - 40.0).

§ 2.1055 Frequency Stability - § 90.213

§ 2.1055

(a) The frequency stability shall be measured with variation of ambient temperature as follows:

(1) From -30^0 to $+50^0$ centigrade for all equipment except that specified in paragraphs (a)(2) and (3) of this section.

(b) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10^0 centigrade through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. Only the portion or portions of the transmitter containing the frequency determining and stabilizing circuitry need be subjected to the temperature variation test.

(d) The frequency stability shall be measured with variation of primary supply voltage as follows:

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operation end point which shall be specified by the manufacturer.

§ 90.213

(a) A licensee in the services governed by this part shall maintain the carrier frequency of each authorized transmitter within the following percentage of the assigned frequency (Mobile stations 2 Watts or less = 2.5 ppm).

SECTION 2. Measurement Data

2.1 RF Power Output

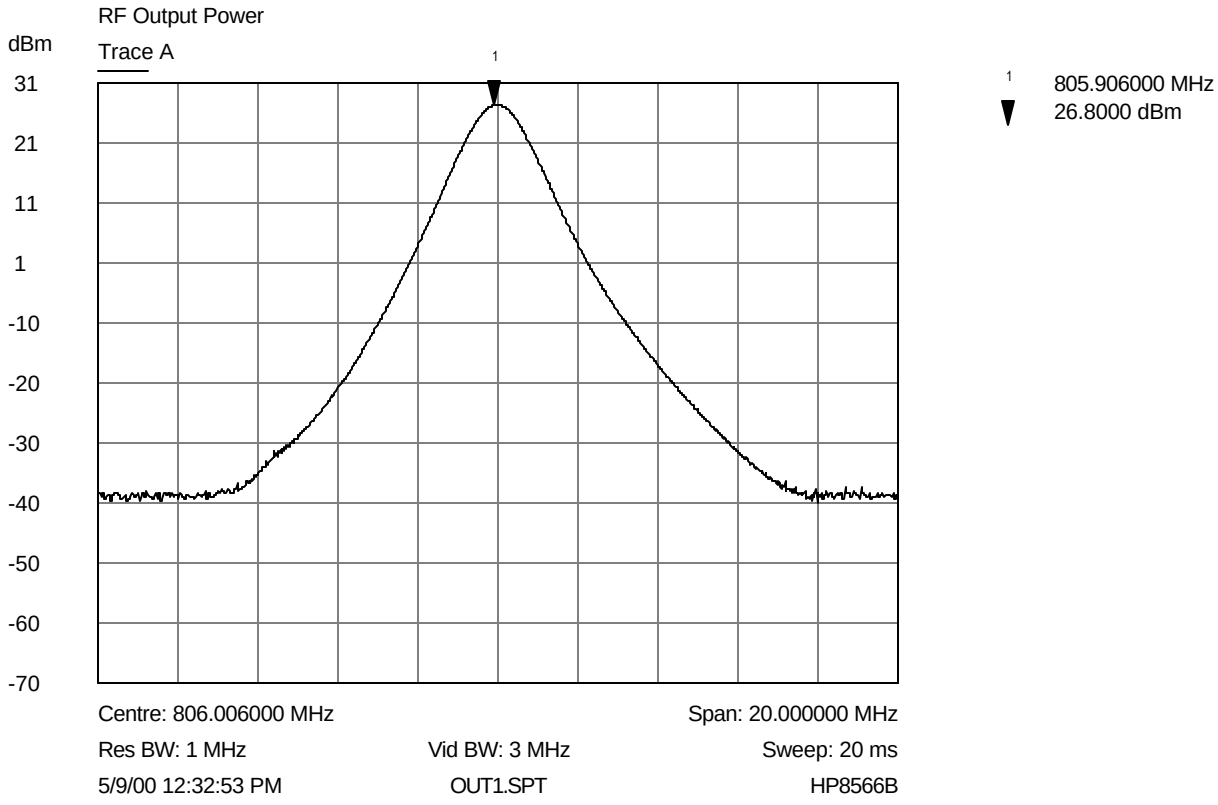
The T-2000A is designed to transmit a maximum of 500 milliwatts maximum; the output power is variable in 8 steps.

Shown below is the RF power output at each of the eight output levels, and transmitting at the low end of the band, middle of the band and the upper end of the frequency band.

Transmitting at 806.00625 MHz				
Output Level	Nominal ERP (W)	Nominal ERP (dBm)	Measured ERP (dBm)	Difference (dB)
0	0.500	27.0	26.8	-0.2
1	0.500	27.0	26.8	-0.2
2	0.500	27.0	26.8	-0.2
3	0.200	23.0	23.1	0.1
4	0.079	19.0	19.4	0.4
5	0.032	15.0	15.6	0.6
6	0.013	11.0	11.5	0.5
7	0.005	7.0	5.4	-1.6

Transmitting at 813.49375 MHz				
Output Level	Nominal ERP (W)	Nominal ERP (dBm)	Measured ERP (dBm)	Difference (dB)
0	0.500	27.0	26.9	-0.1
1	0.500	27.0	26.9	-0.1
2	0.500	27.0	26.9	-0.1
3	0.200	23.0	23.4	0.4
4	0.079	19.0	19.8	0.8
5	0.032	15.0	15.9	0.9
6	0.013	11.0	12.1	1.1
7	0.005	7.0	7.1	0.1

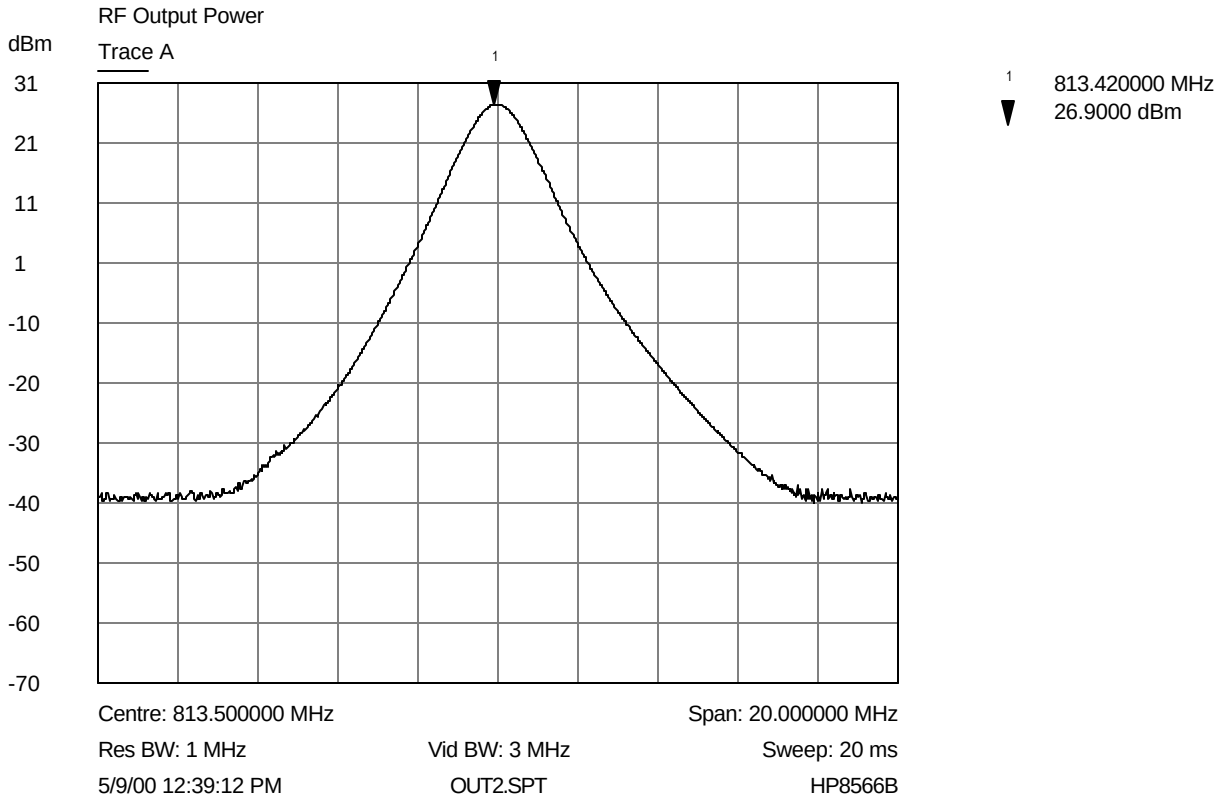
Transmitting at 820.99375 MHz				
Output Level	Nominal ERP (W)	Nominal ERP (dBm)	Measured ERP (dBm)	Difference (dB)
0	0.500	27.0	26.8	-0.2
1	0.500	27.0	26.8	-0.2
2	0.500	27.0	26.8	-0.2
3	0.200	23.0	23.4	0.4
4	0.079	19.0	19.5	0.5
5	0.032	15.0	15.8	0.8
6	0.013	11.0	11.4	0.4
7	0.005	7.0	6.4	-0.6



RF Output Power (Low End of Band)

Trace A Maximum Power

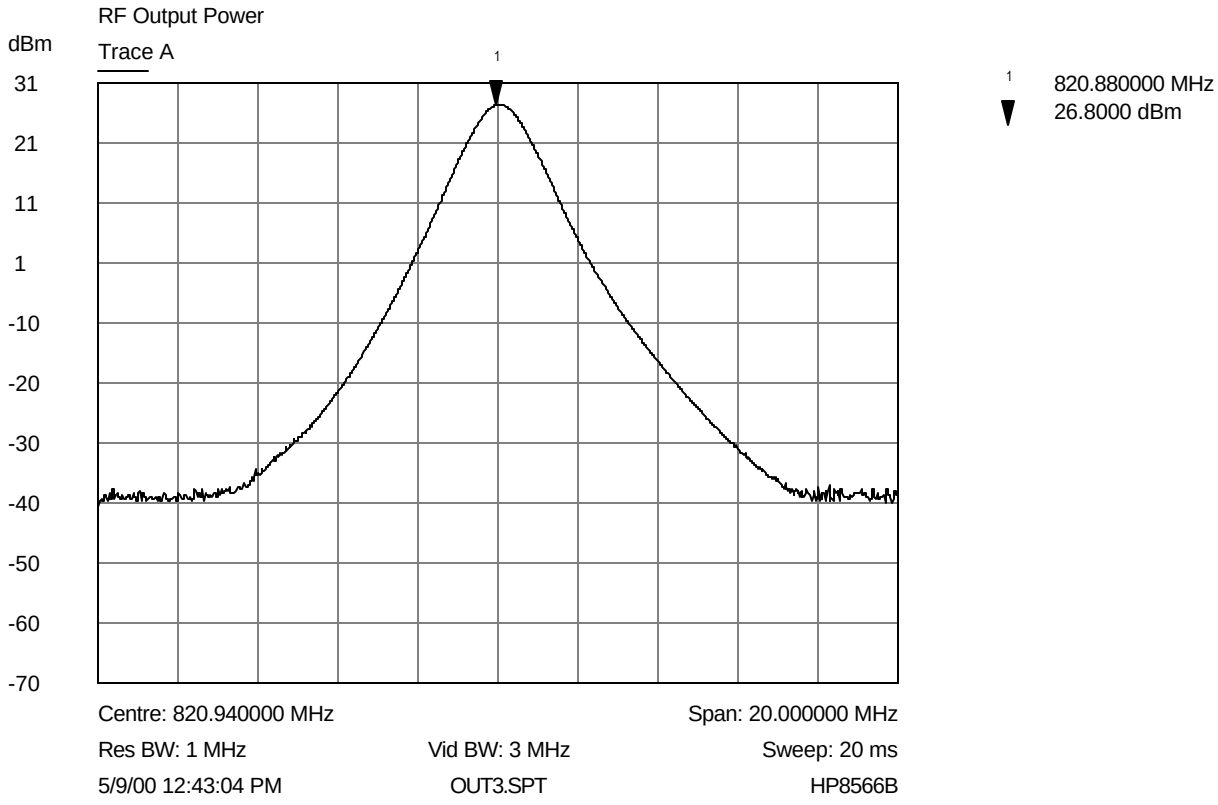
RF Output - Low End of Band (806.00625 MHz)



RF Output Power (Middle of Band)

Trace A Maximum Power

RF Output – Middle of Band (813.49375 MHz)



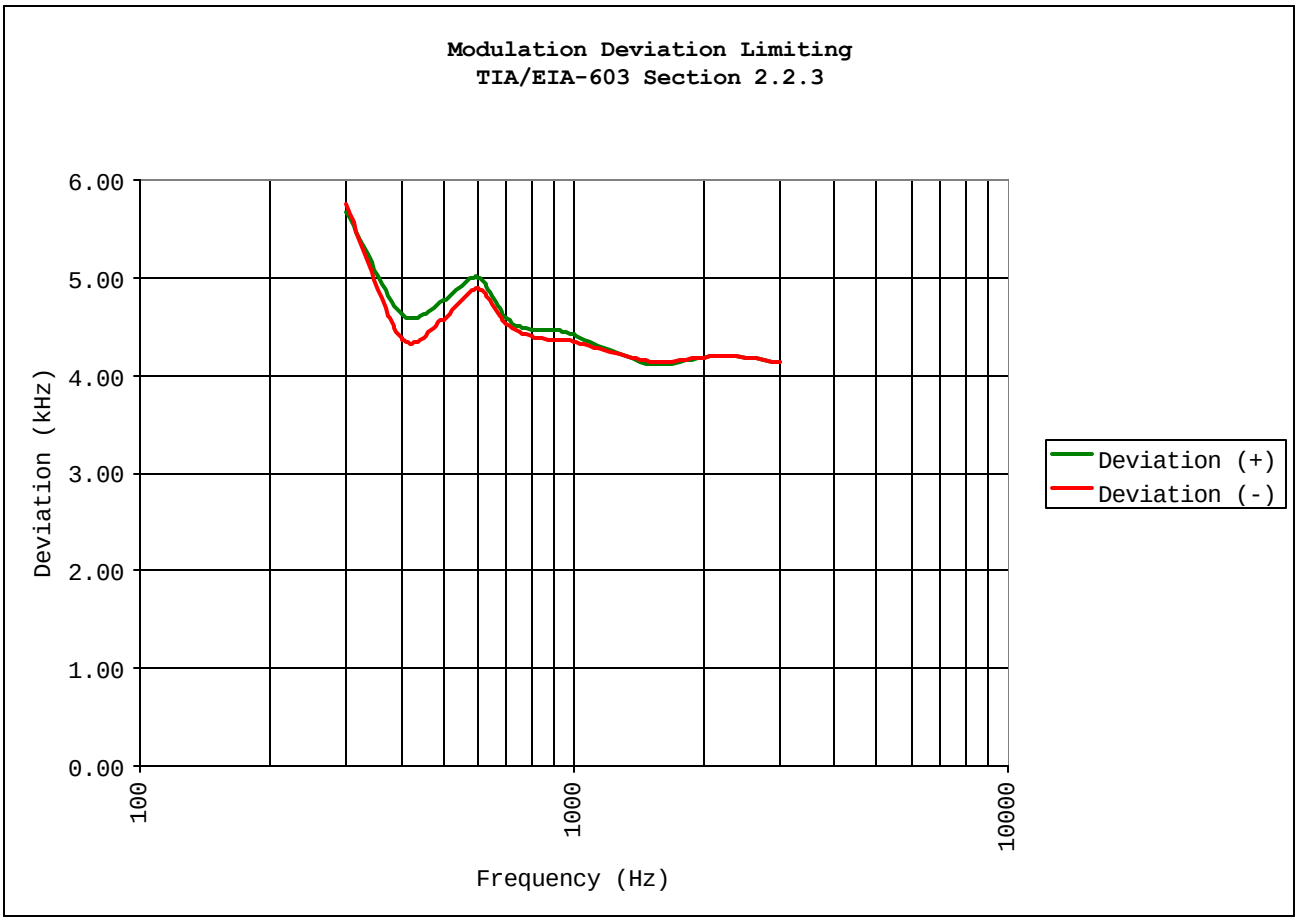
RF Output Power (High End of Band)

Trace A Maximum Power

RF Output – High End of Band (820.99375 MHz)

2.2 Modulation Characteristics

The T-2000A uses analog emissions with an audio low-pass filter (analog modulation); therefore, the data required by section 2.1047 applies. To demonstrate compliance to this section the T-2000A was tested to TIA/EIA-603 Sections 2.2.3, 2.2.6 and 2.2.15. Shown below are the modulation characteristics plots.



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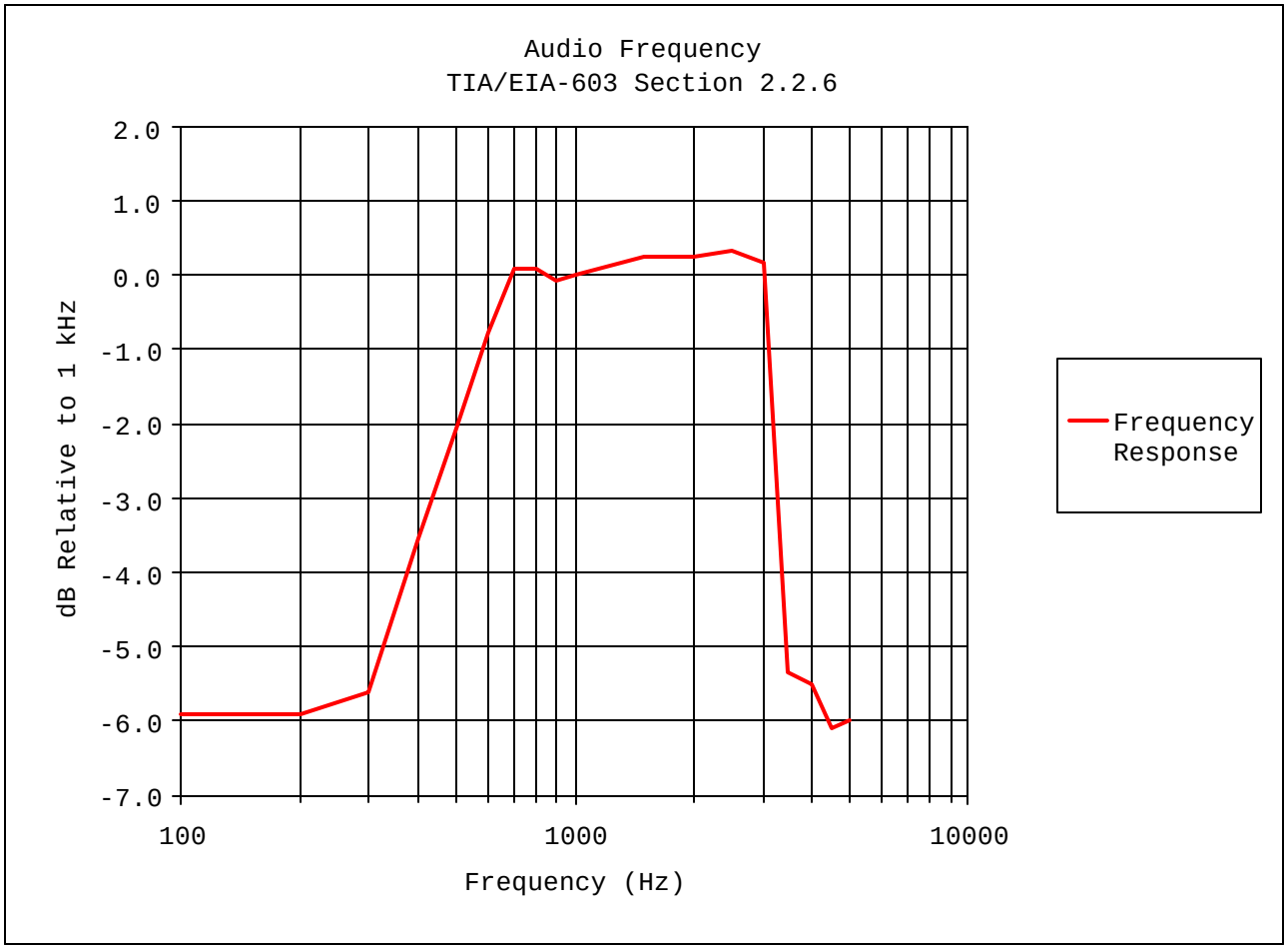

Audio Frequency
TIA/EIA-603 Section 2.2.6
dB Relative to 1 kHz
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
100
1000
10000
Frequency (Hz)
Frequency Response

Exhibit 6

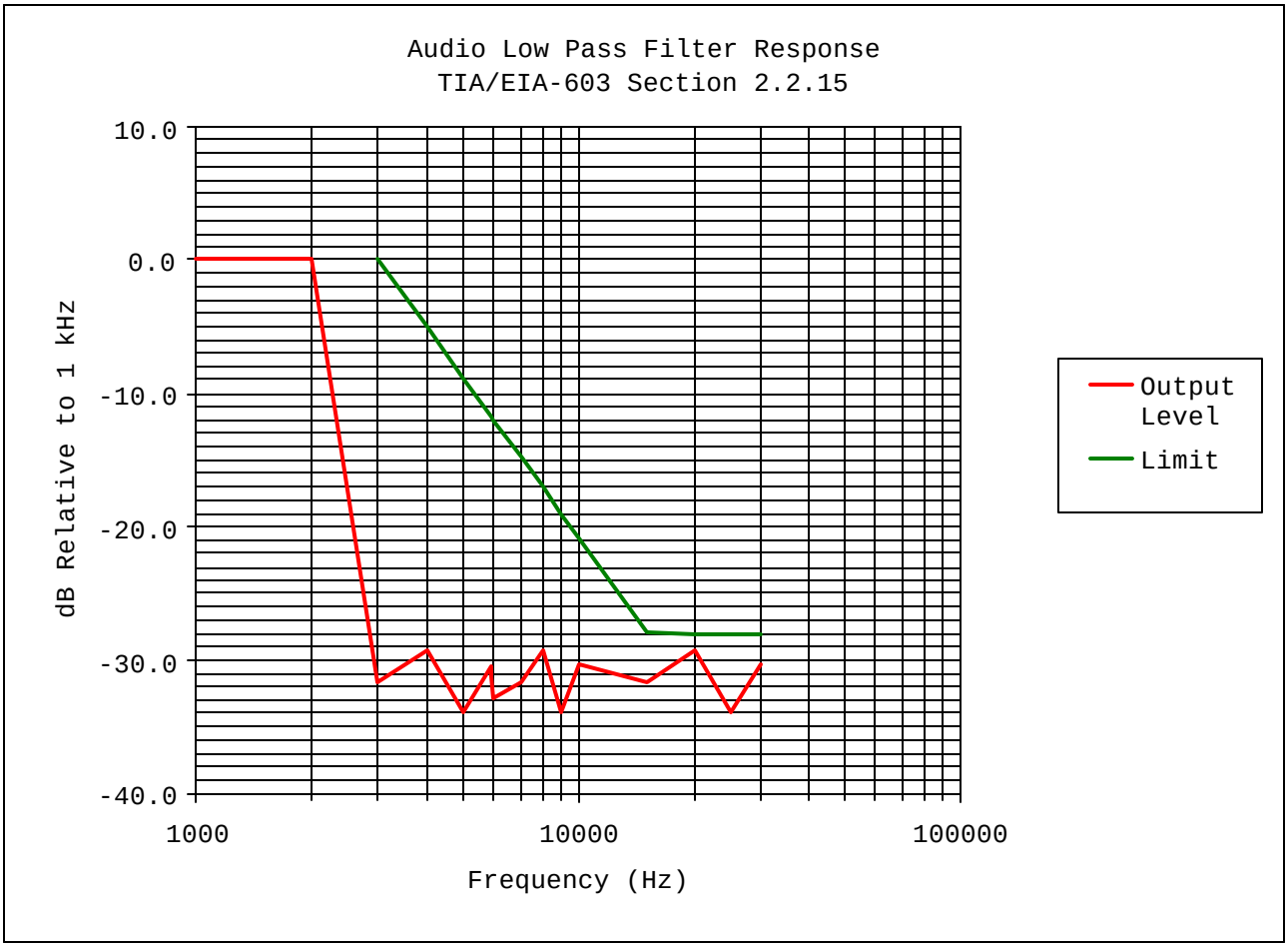
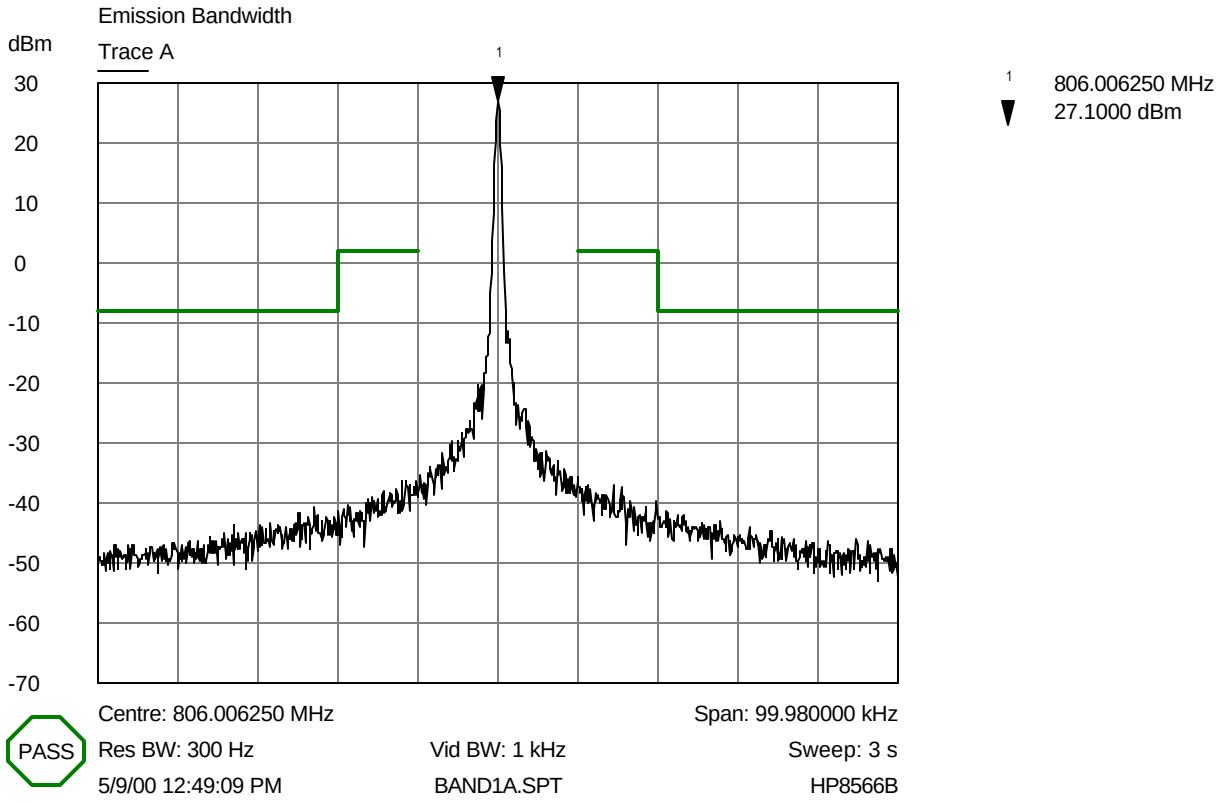

Audio Low Pass Filter Response
TIA/EIA-603 Section 2.2.15
10.0
0.0
-10.0
-20.0
-30.0
-40.0
dB Relative to 1 kHz
1000
10000
100000
Frequency (Hz)
Output Level
Limit

Exhibit 6

2.3 Occupied Bandwidth

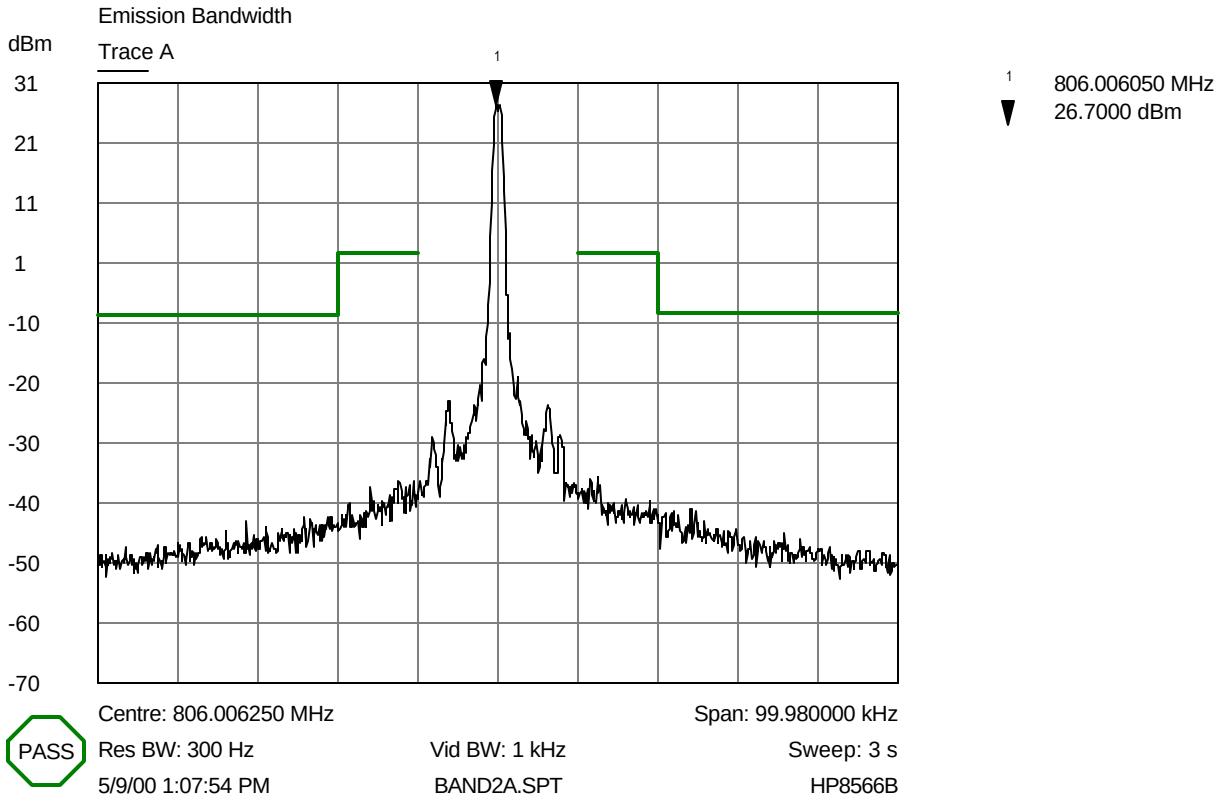
The occupied bandwidth test was performed with all the different modulation patterns (SAT tone, Voice, SAT and Voice, Data and DTMF). Show below is the occupied bandwidth plots on the low, middle and high channels with all the modulation patterns listed above.



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Unmodulated Carrier

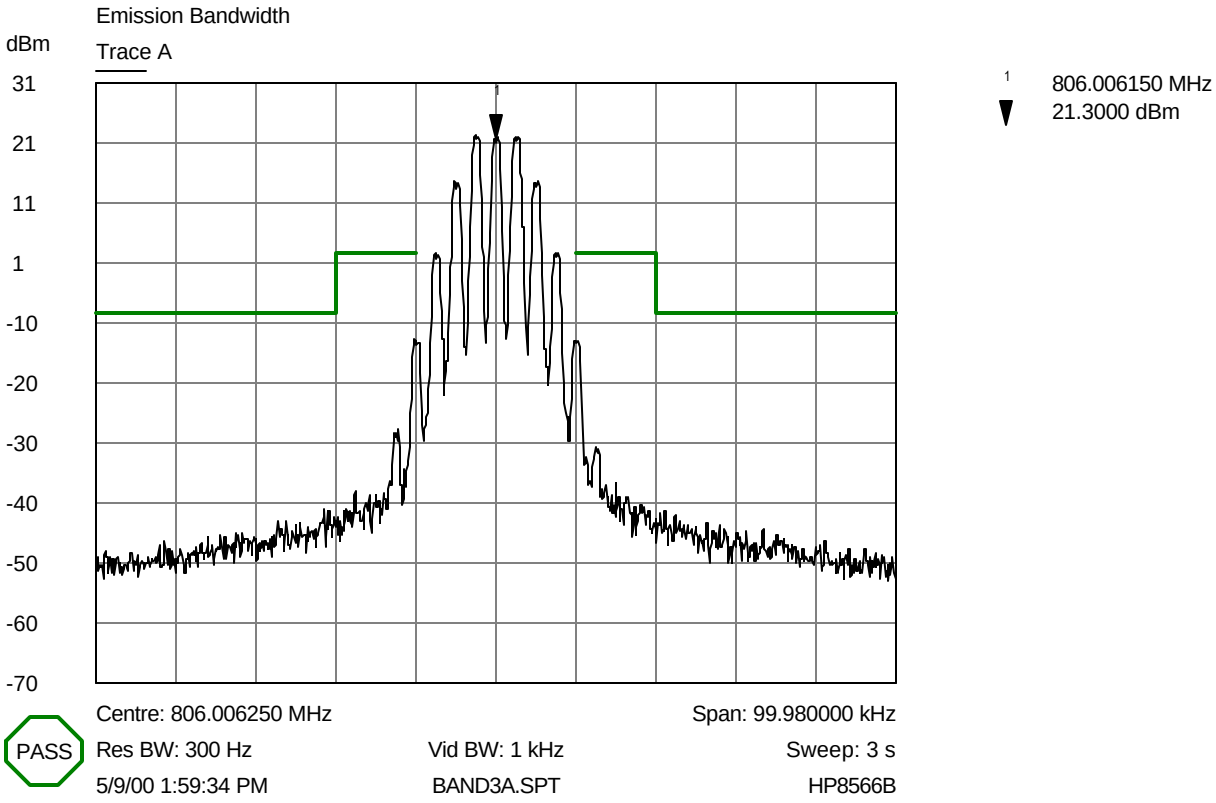
Occupied Bandwidth - Unmodulated Carrier (806.00625 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with SAT

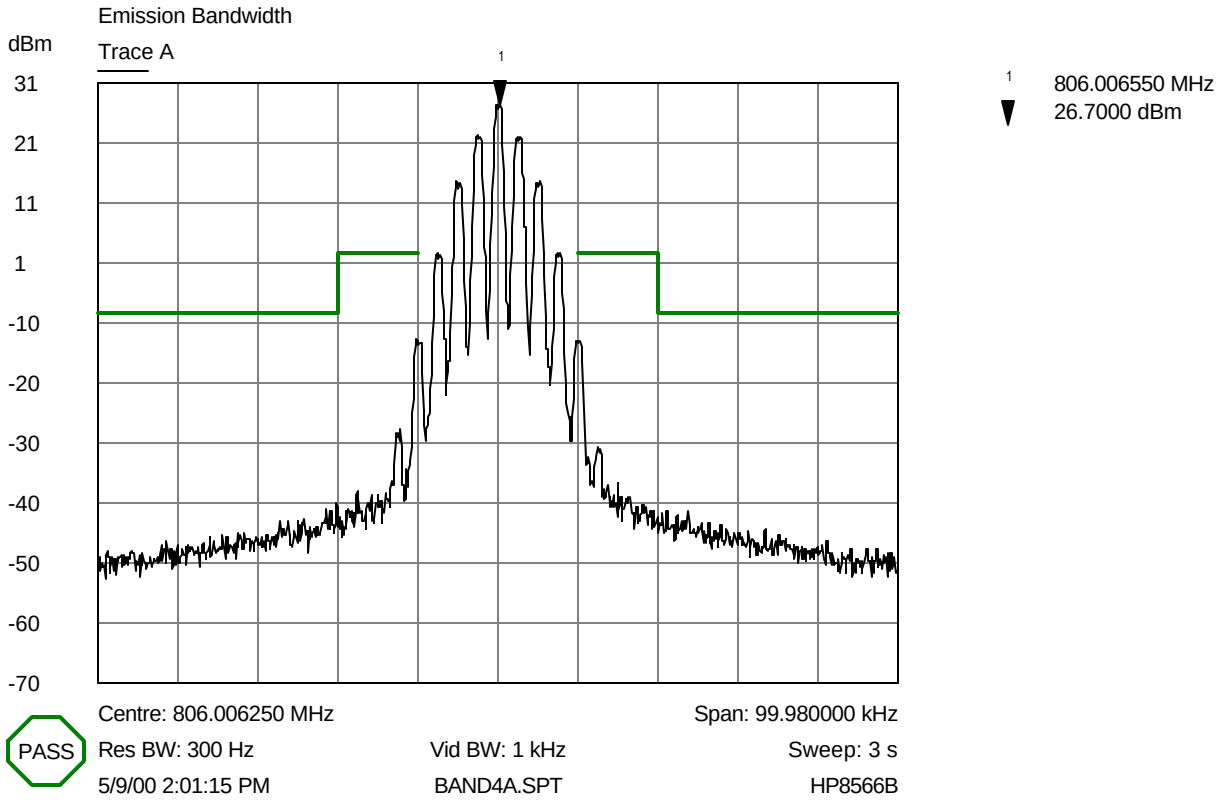
Occupied Bandwidth - Modulated with SAT (806.00625 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone)

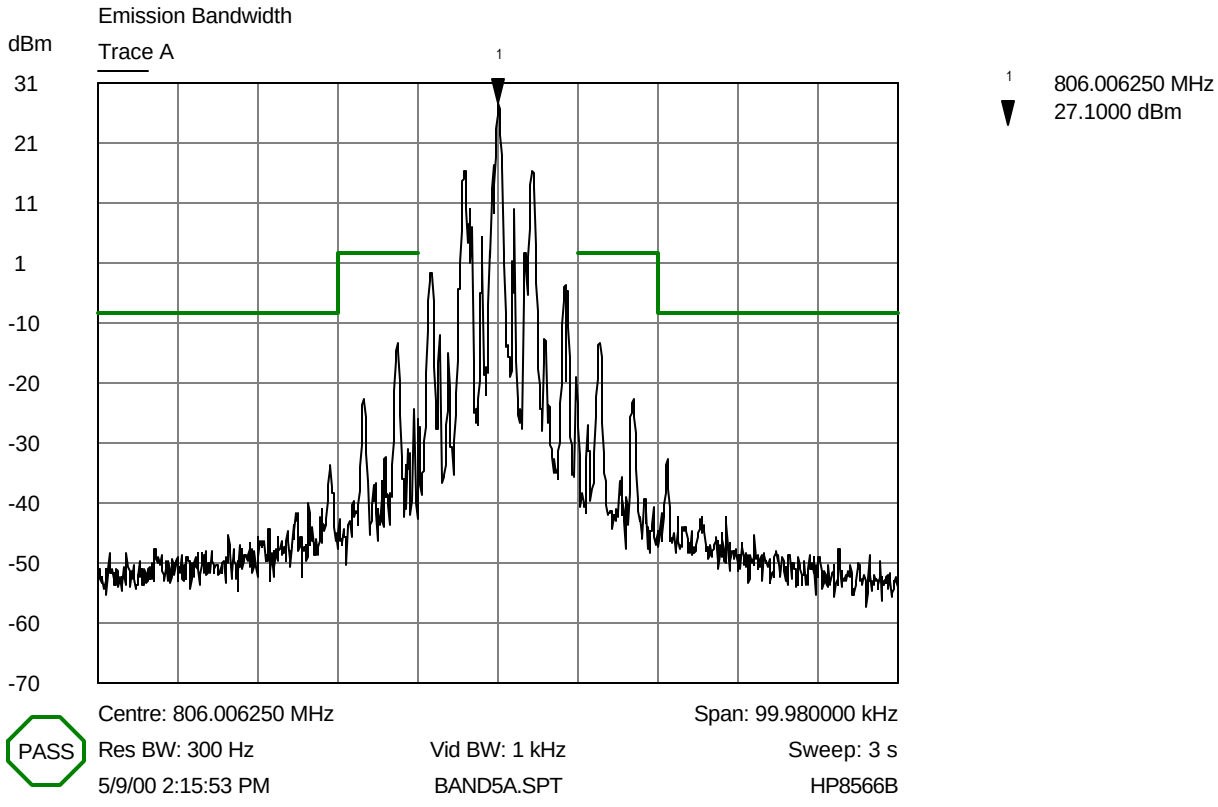
Occupied Bandwidth - Modulated with Voice (806.00625 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with SAT + Voice (2500 Hz Tone)

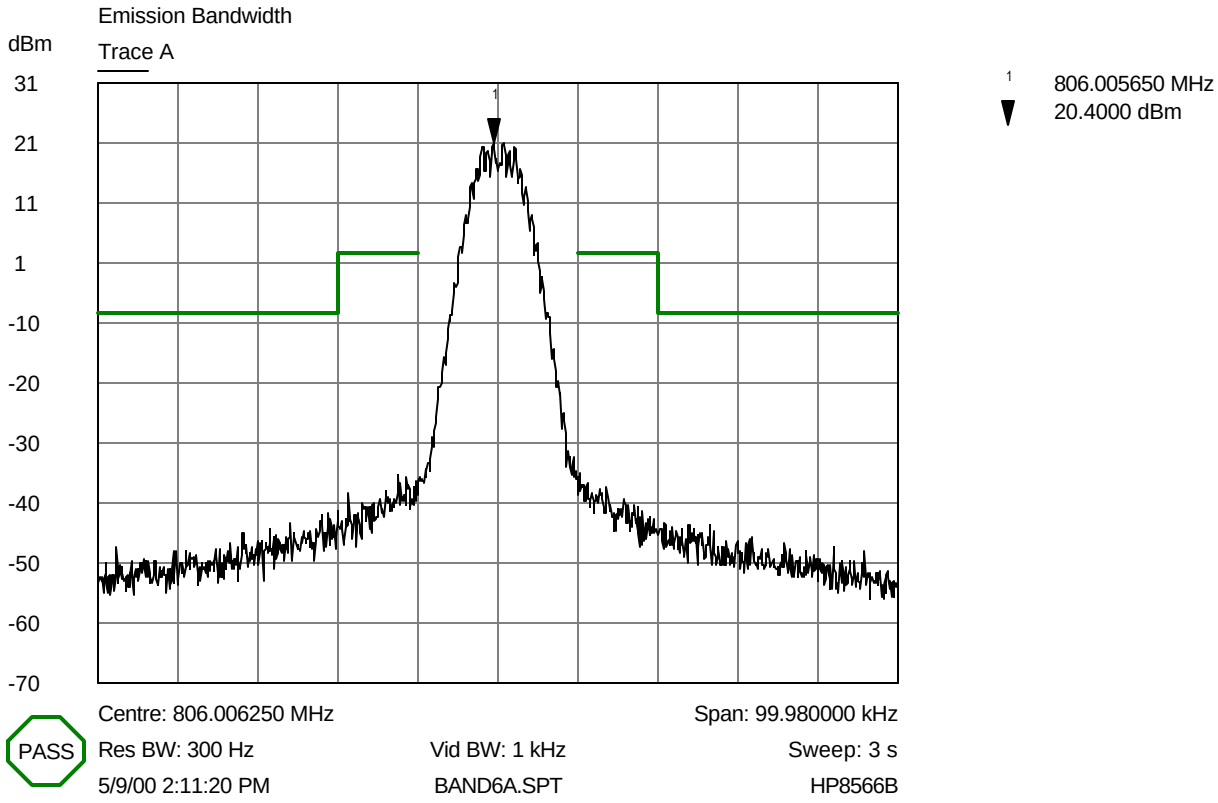
Occupied Bandwidth - Modulated with Voice and SAT (806.00625 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with Data

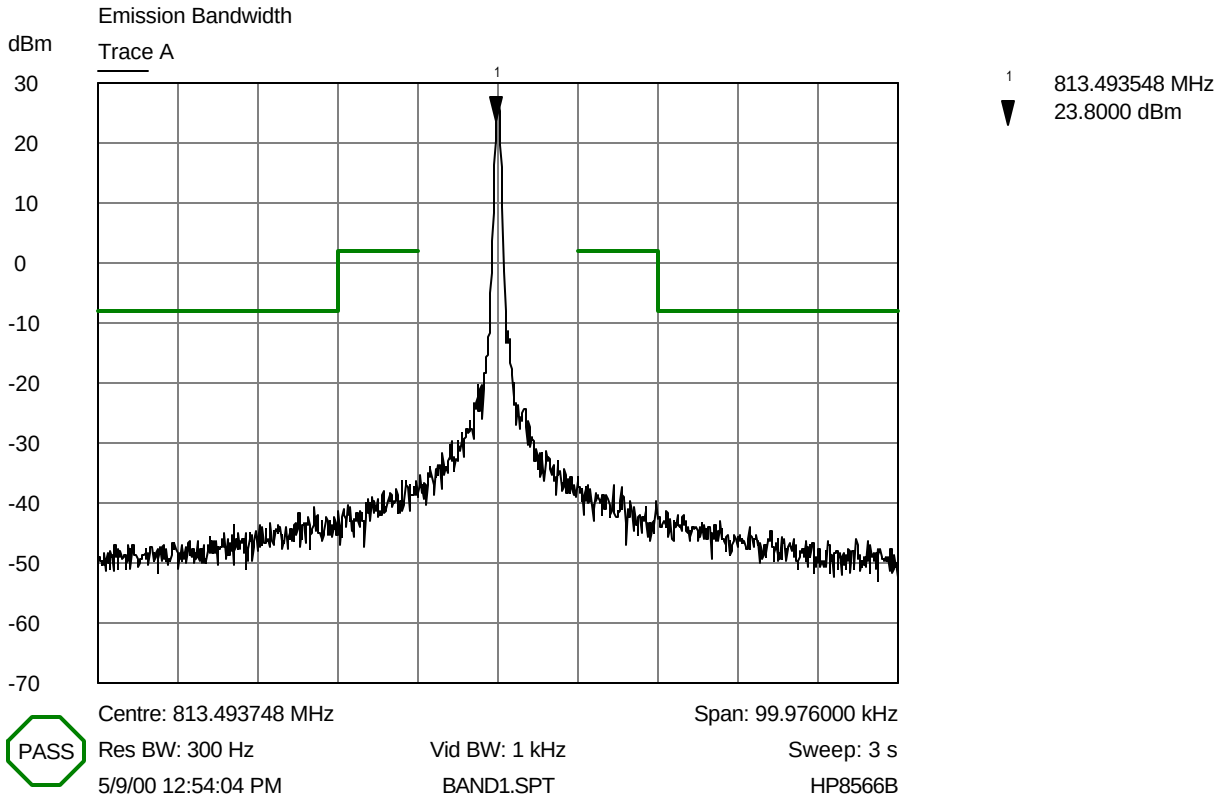
Occupied Bandwidth - Modulated with Data (806.00625 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

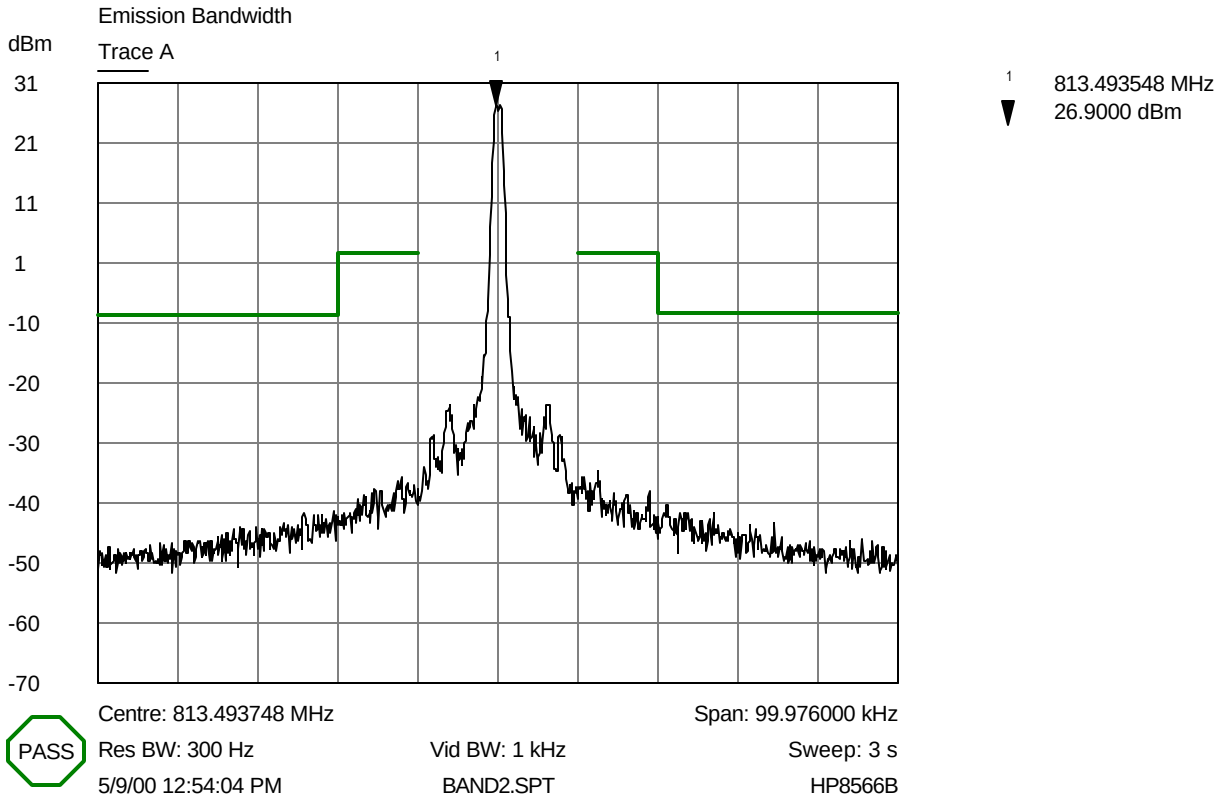
Occupied Bandwidth - Modulated with DTMF Tone (806.00625 MHz)



Emission Bandwidth/Emission Mask B (Middle of Band)

Trace A Maximum Power, Modulated with SAT

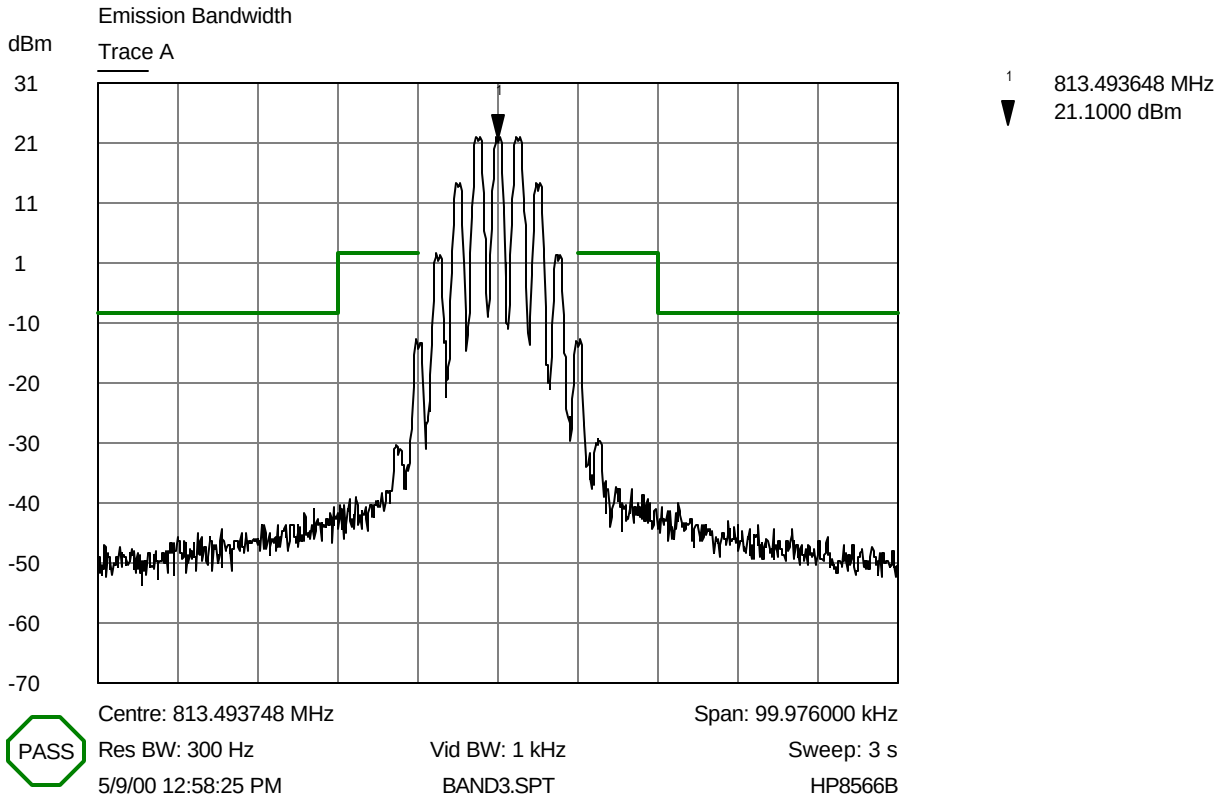
Occupied Bandwidth - Unmodulated Carrier (813.49375 MHz)



Emission Bandwidth/Emission Mask B (Middle of Band)

Trace A Maximum Power, Modulated with SAT

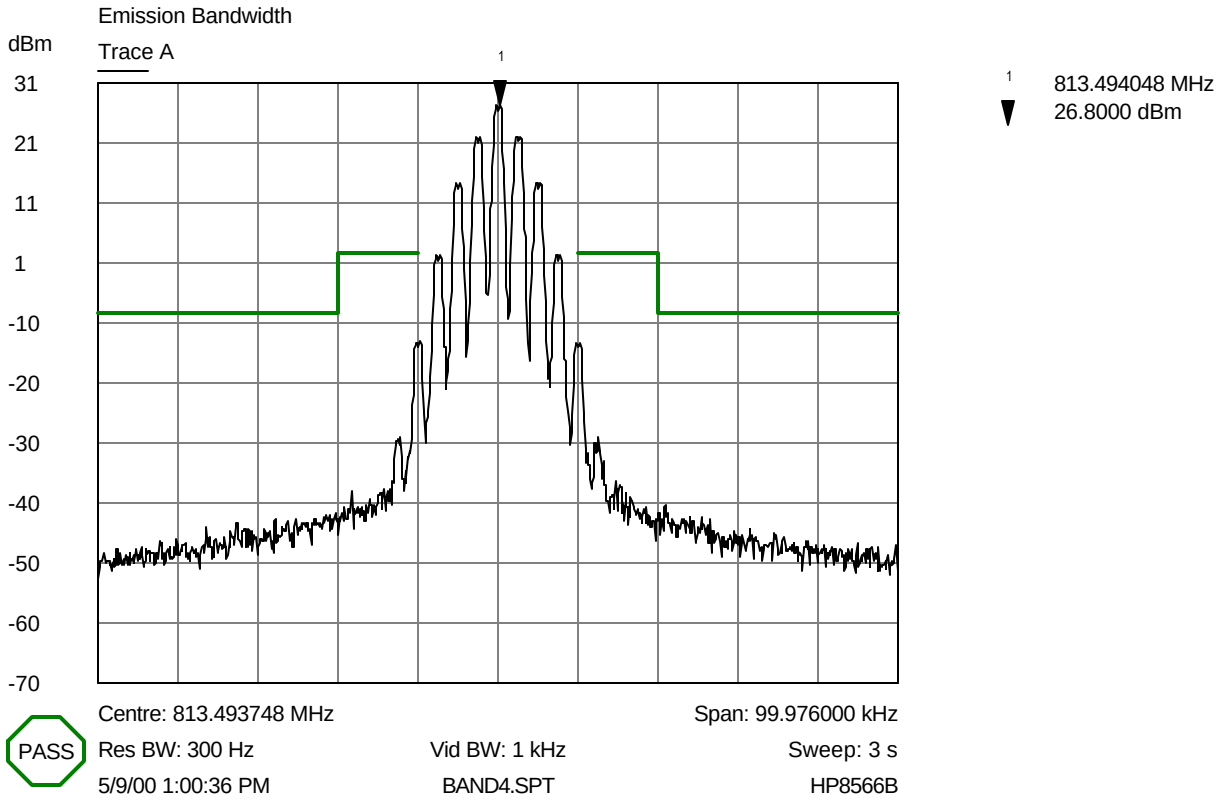
Occupied Bandwidth - Modulated with SAT (813.49375 MHz)



Emission Bandwidth/Emission Mask B (Middle of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone)

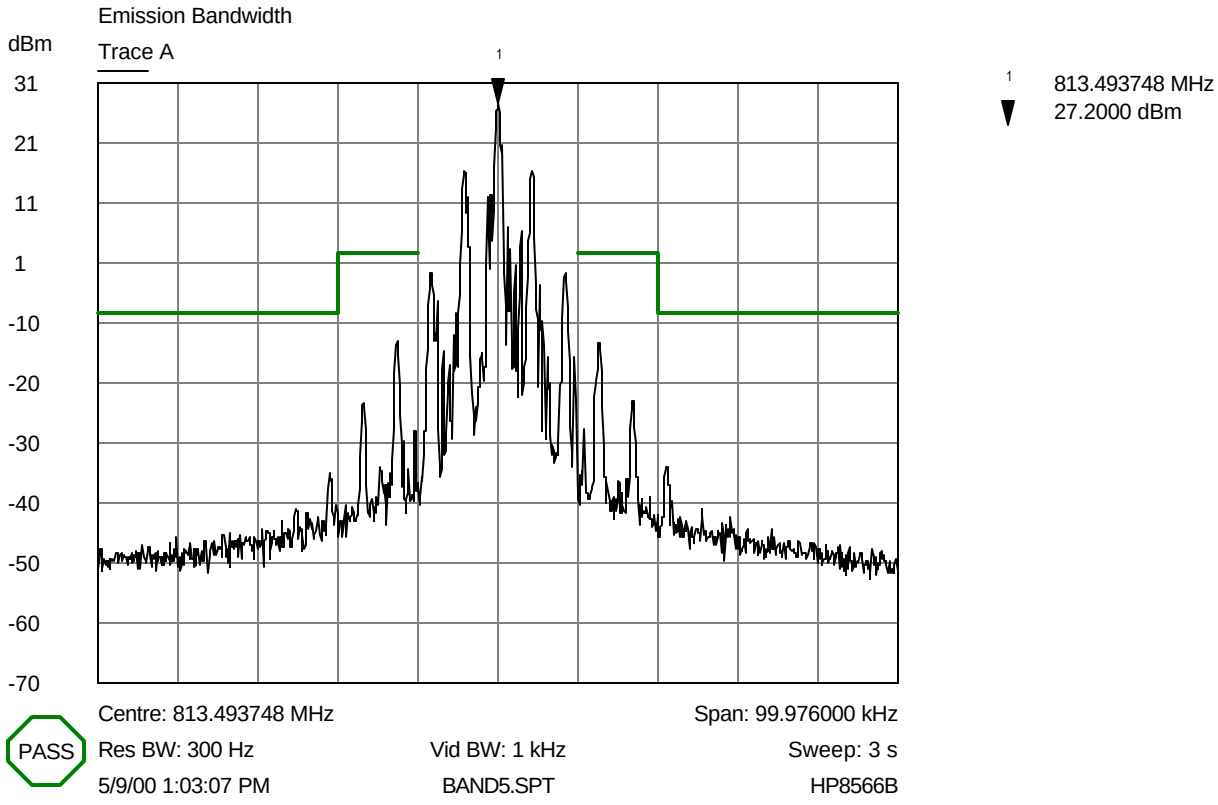
Occupied Bandwidth - Modulated with Voice (813.49375 MHz)



Emission Bandwidth/Emission Mask B (Middle of Band)

Trace A Maximum Power, Modulated with SAT + Voice (2500 Hz Tone)

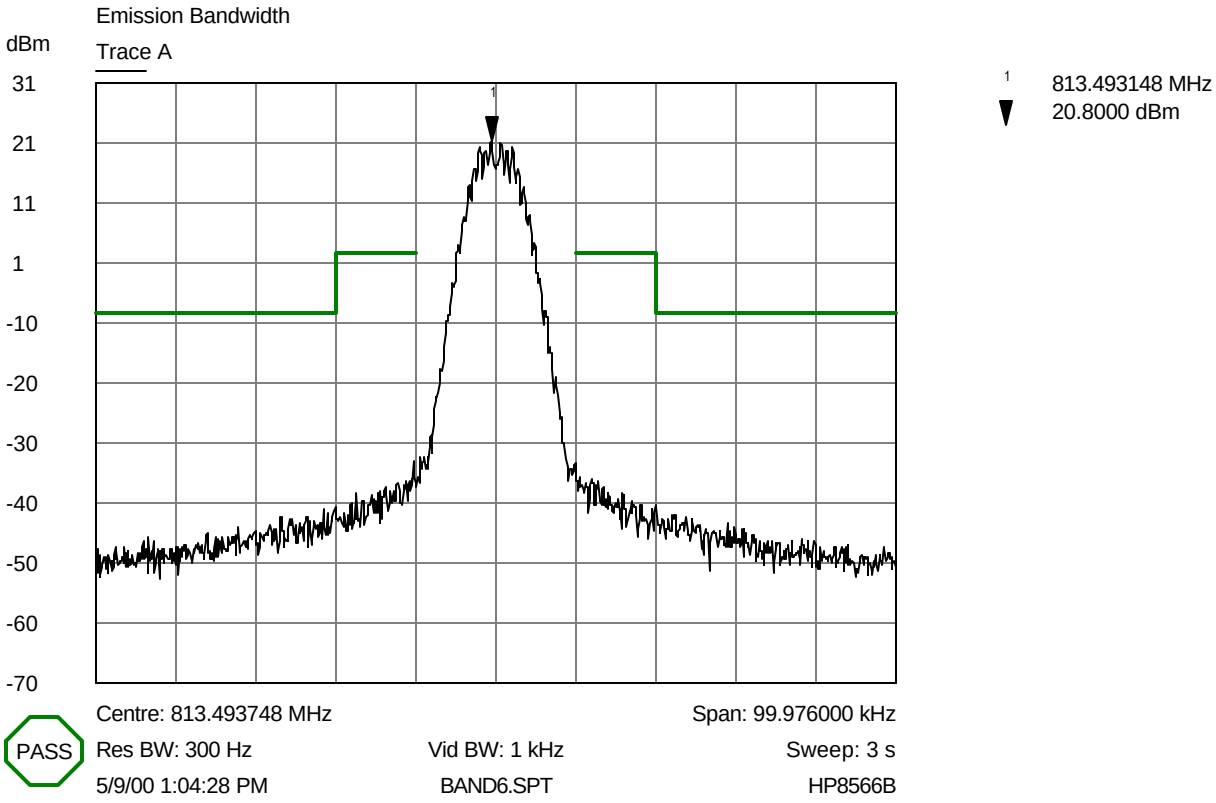
Occupied Bandwidth - Modulated with Voice and SAT (813.49375 MHz)



Emission Bandwidth/Emission Mask B (Middle of Band)

Trace A Maximum Power, Modulated with Data

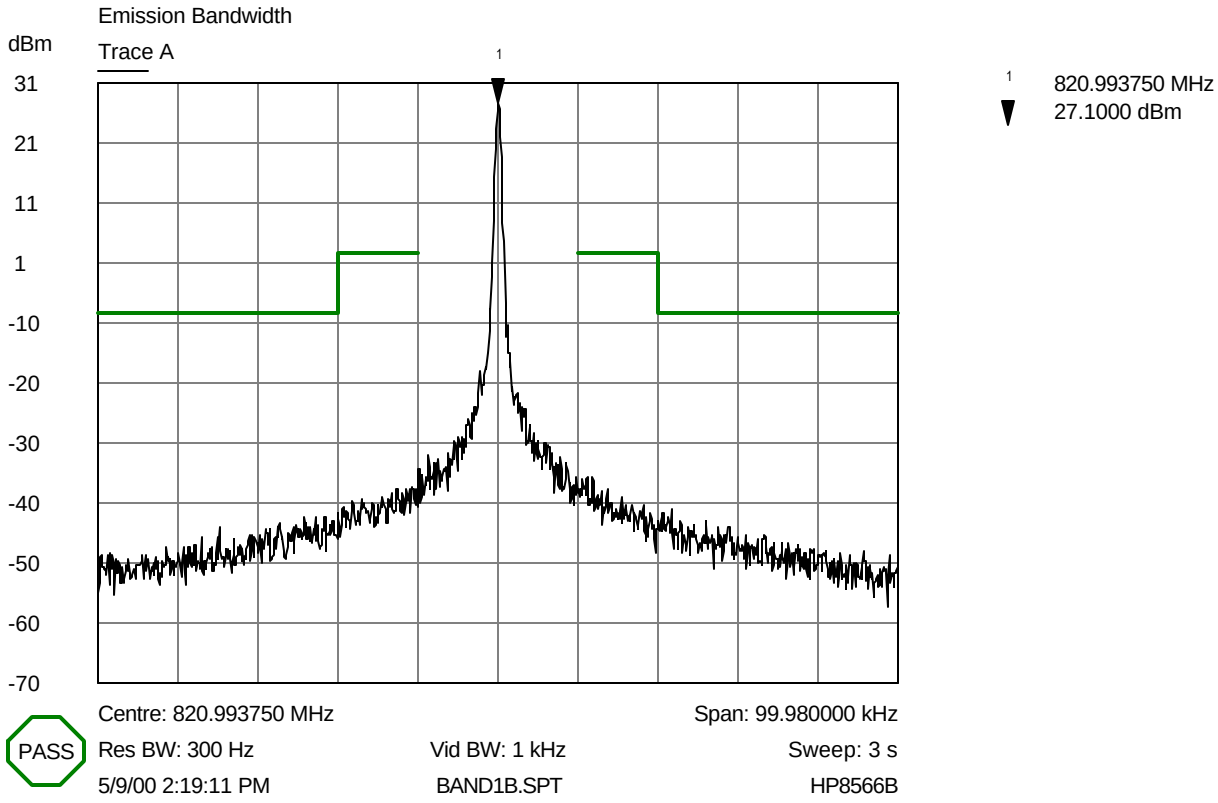
Occupied Bandwidth - Modulated with Data (813.49375 MHz)



Emission Bandwidth/Emission Mask B (Middle of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

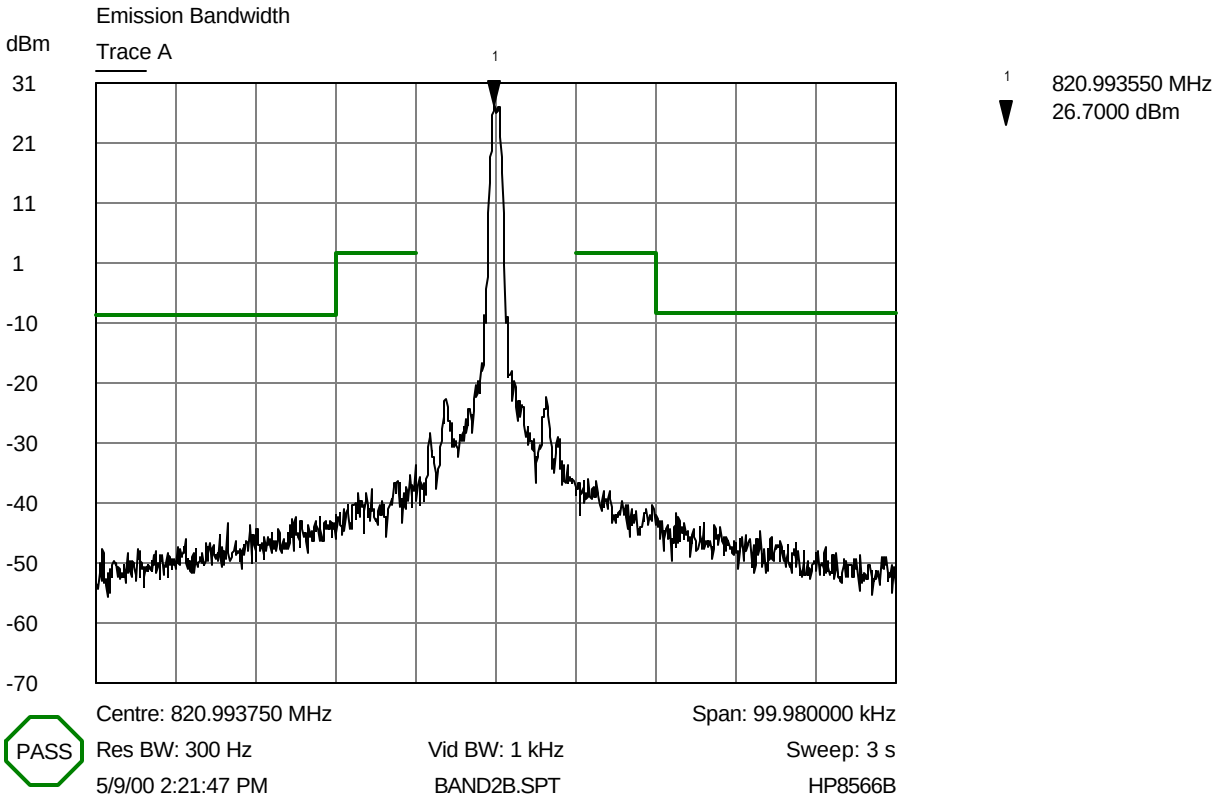
Occupied Bandwidth - Modulated with DTMF Tone (813.49375 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Unmodulated Carrier

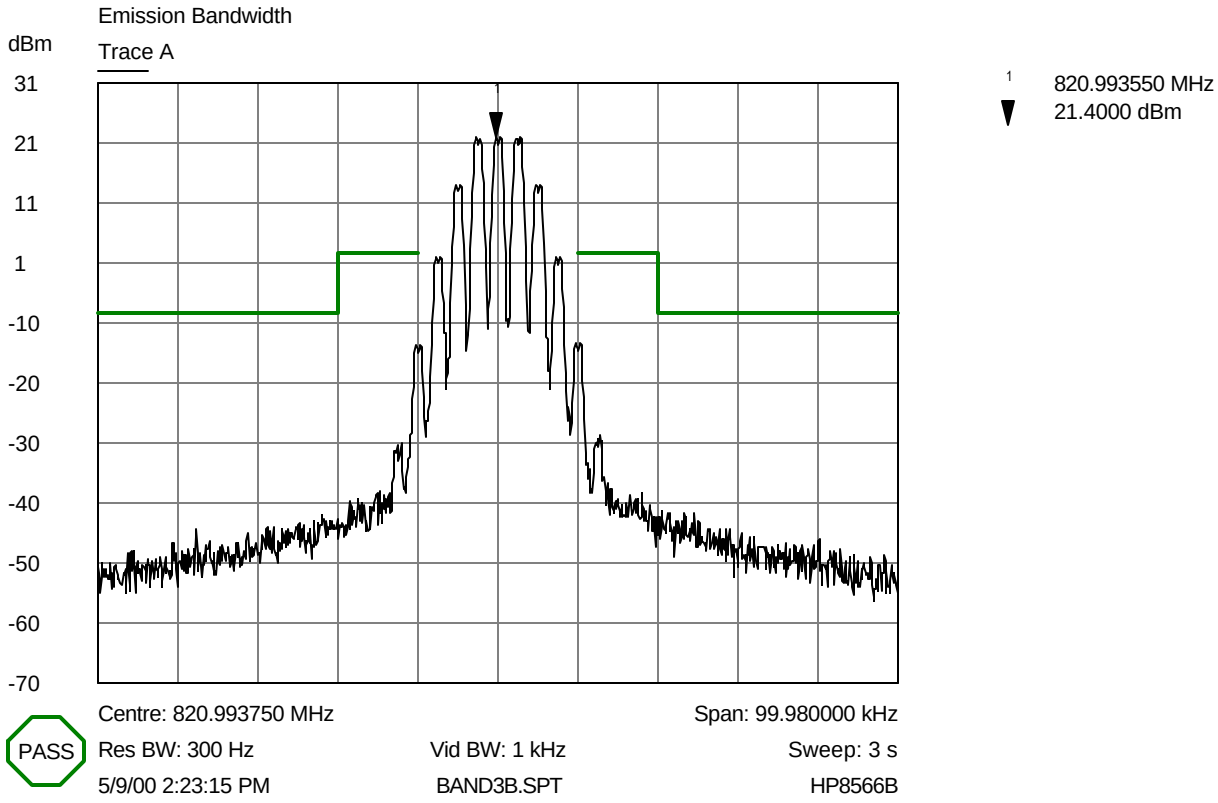
Occupied Bandwidth - Unmodulated Carrier (820.99375 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with SAT

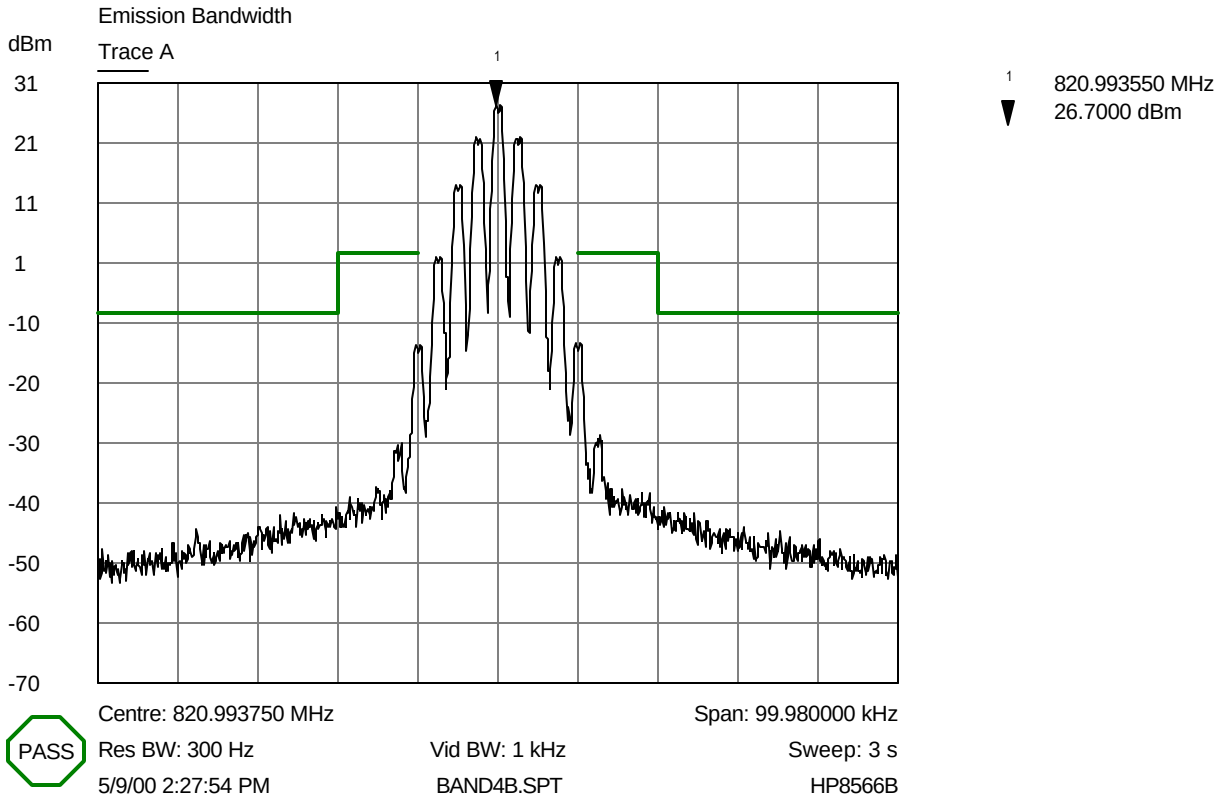
Occupied Bandwidth - Modulated with SAT (820.99375 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone)

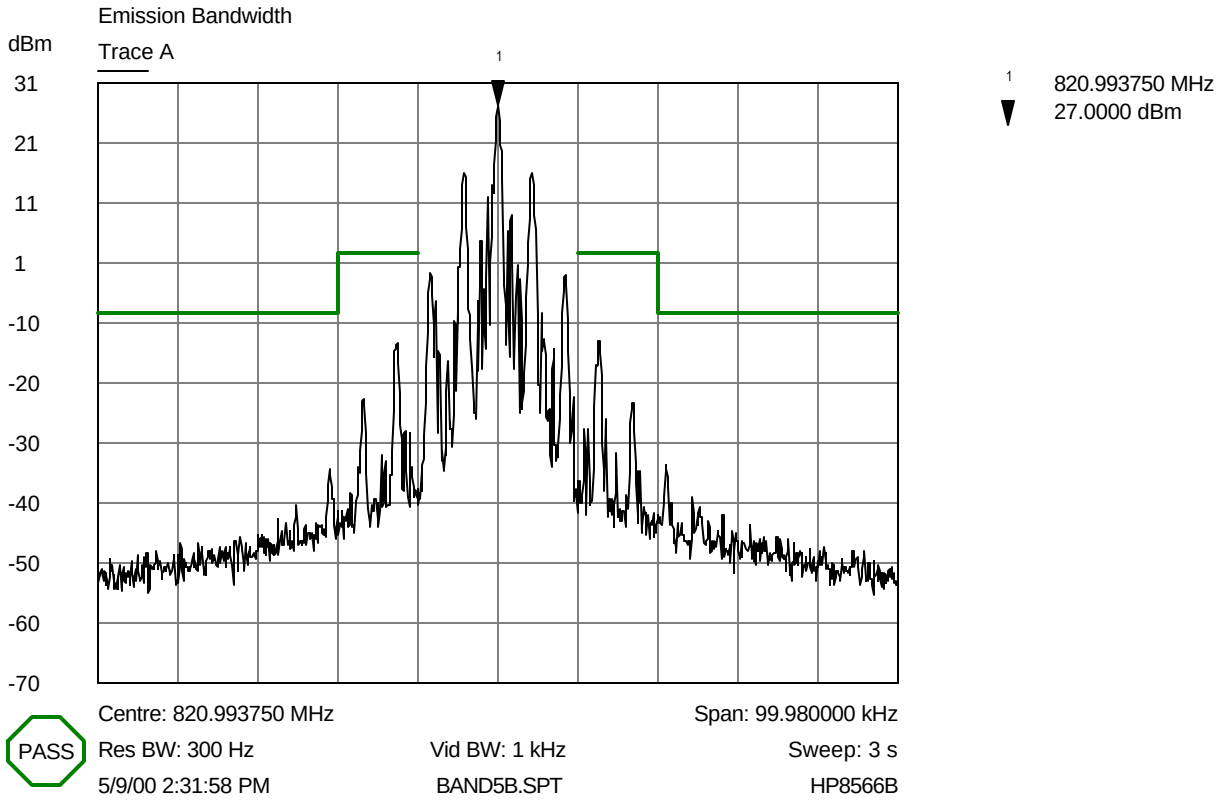
Occupied Bandwidth - Modulated with Voice (820.99375 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with SAT + Voice (2500 Hz Tone)

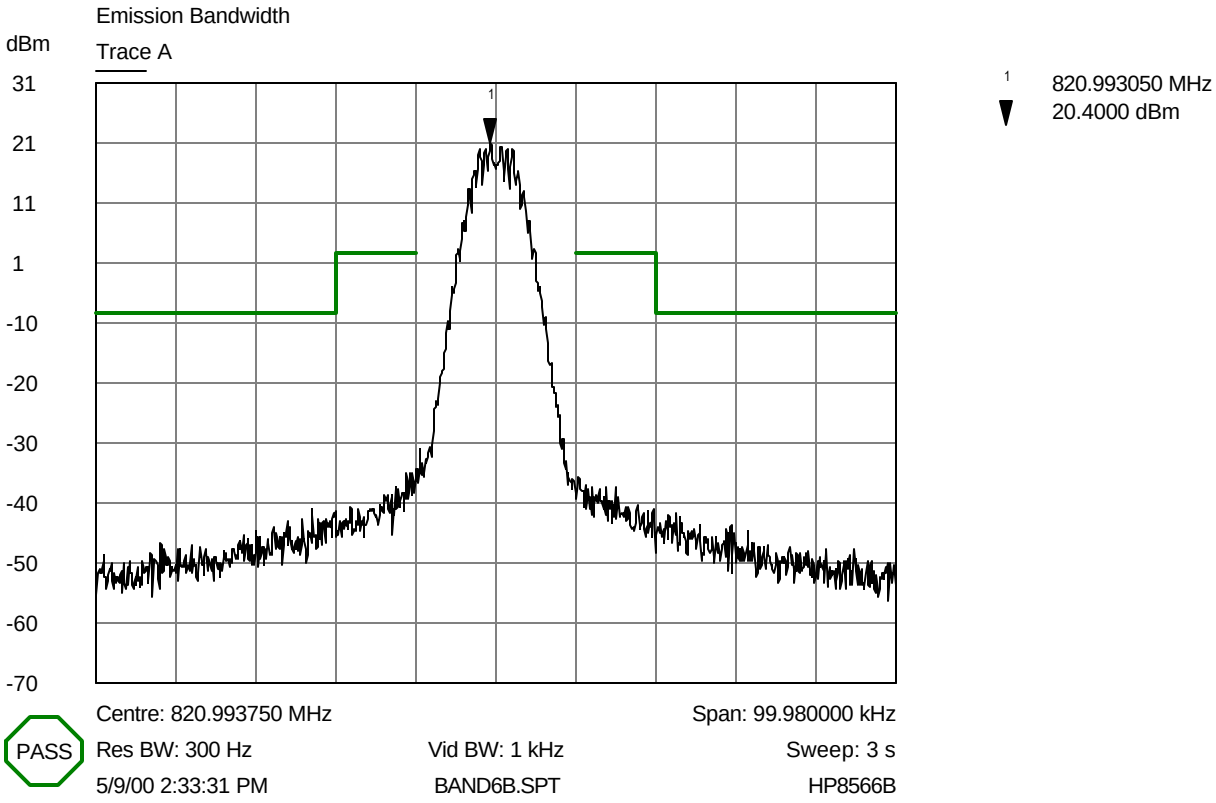
Occupied Bandwidth - Modulated with Voice and SAT (820.99375 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with Data

Occupied Bandwidth - Modulated with Data (820.99375 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

Occupied Bandwidth - Modulated with DTMF Tone (820.99375 MHz)

2.4 Conducted Spurious Emissions

The T-2000A was tested at all eight power levels and all modulation patterns. The worst case emissions were with the T-2000A transmitting at the highest power level and with the voice (2500 Hz tone) modulation pattern. The data below represents the worst case configuration.

Tables 1 - 3 below show compliance for the spurious emissions removed from the carrier frequency by more than 1 MHz.
See the spectrum analyzer plots below for compliance from 0 Hz to 50 kHz and from 50 kHz to 1 MHz.

Table 1

The emissions must be attenuated 43 + 10 log P dB where P = Mean power of the unmodulated carrier. The maximum power of the unmodulated carrier was measured to 0.479 W (26.8 dBm), therefore, the emissions must be attenuated 43 + 10 log (0.479) = 39.8 dB. The criteria is 26.8 dBm – 39.8 dB = -13.0 dBm.

Transmitting at 806.00625 MHz (channel 1)			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
30 - 200	105.5	-55.5	-13.0
200 – 800	716.0	-65.2	-13.0
800 – 805.0	804.7	-55.0	-13.0
807.0 - 1000	817.2	-46.6	-13.0
1000 - 2000	1612.0	-51.5	-13.0
2000 - 3000	2418.0	-76.6	-13.0
3000 - 3500	3224.0	-80.9	-13.0
3500 - 4500	4030.1	-65.6	-13.0
4500 - 5000	4836.1	-74.0	-13.0
5000 - 6000	5642.1	-80.1 *	-13.0
6000 - 7000	6448.1	-74.4 *	-13.0
7000 - 8000	7254.1	-74.9 *	-13.0
8000 - 9000	8060.1	-74.0 *	-13.0
* Noise Floor			

RBW = 30 kHz VBW = 100 kHz

Table 2

The emissions must be attenuated 43 + 10 log P dB where P = Mean power of the unmodulated carrier. The maximum power of the unmodulated carrier was measured to 0.490 W (26.9 dBm), therefore, the emissions must be attenuated 43 + 10 log (0.490) = 39.9 dB. The criteria is 26.9 dBm – 39.9 dB = -13.0 dBm.

Transmitting at 813.49375 MHz (channel 600)			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
30 - 200	90.4	-79.3	-13.0
200 – 800	723.5	-60.9	-13.0
800 – 812.5	802.8	-42.3	-13.0
814.5 - 1000	823.0	-49.4	-13.0
1000 - 2000	1626.9	-63.5	-13.0
2000 - 3000	2440.5	-75.5	-13.0
3000 - 3500	3253.9	-77.7	-13.0
3500 - 4500	4067.4	-70.3	-13.0
4500 - 5000	4880.9	-71.3	-13.0
5000 - 6000	5694.4	-80.9 *	-13.0
6000 - 7000	6507.9	-74.4 *	-13.0
7000 - 8000	7321.4	-74.5 *	-13.0
8000 - 9000	8134.9	-74.4 *	-13.0
* Noise Floor			

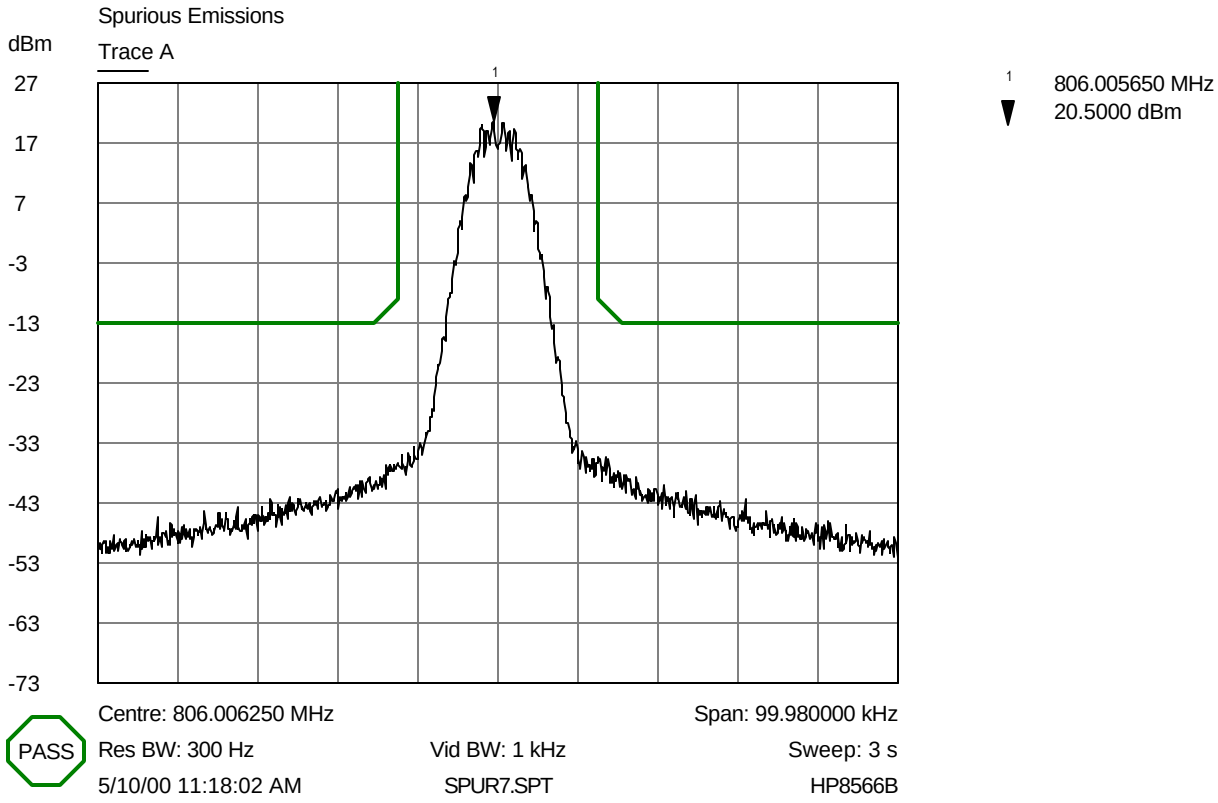
RBW = 30 kHz VBW = 100 kHz

Table 3

The emissions must be attenuated 43 + 10 log P dB where P = Mean power of the unmodulated carrier. The maximum power of the unmodulated carrier was measured to 0.479 W (26.8 dBm), therefore, the emissions must be attenuated 43 + 10 log (0.479) = 39.8 dB. The criteria is 26.8 dBm – 39.8 dB = -13.0 dBm.

Transmitting at 820.99375 MHz (channel 1200)			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
30 - 200	90.2	-79.8	-13.0
200 – 800	730.0	-60.7	-13.0
800 – 820.0	810.3	-42.4	-13.0
822.0 - 1000	830.5	-49.4	-13.0
1000 - 2000	1641.9	-54.1	-13.0
2000 - 3000	2462.9	-65.1	-13.0
3000 - 3500	3283.9	-78.5	-13.0
3500 - 4500	4104.9	-80.1 *	-13.0
4500 - 5000	4925.9	-78.6 *	-13.0
5000 - 6000	5746.9	-78.4 *	-13.0
6000 - 7000	6567.9	-74.0 *	-13.0
7000 - 8000	7388.8	-74.0 *	-13.0
8000 - 9000	8209.8	-74.4 *	-13.0
* Noise Floor			

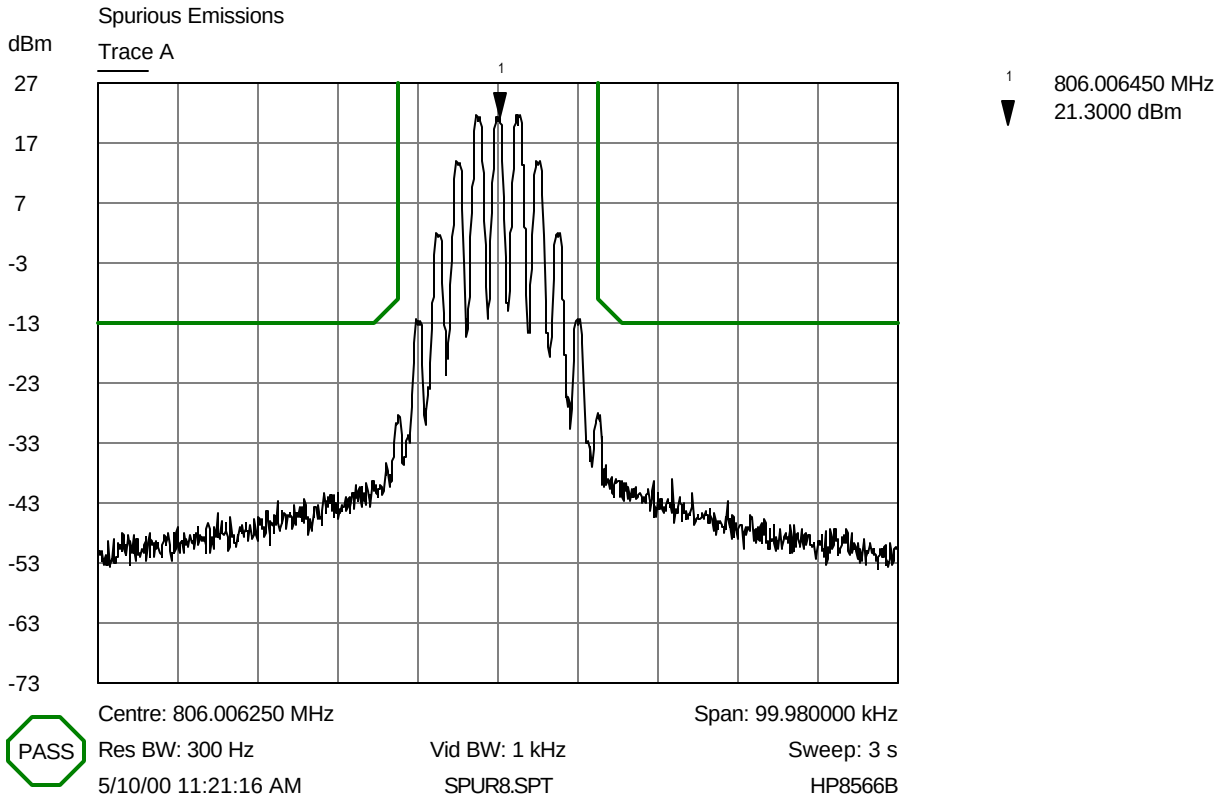
RBW = 30 kHz VBW = 100 kHz



Spurious Emissions/Emission Mask for Section 90.691 (Low End of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

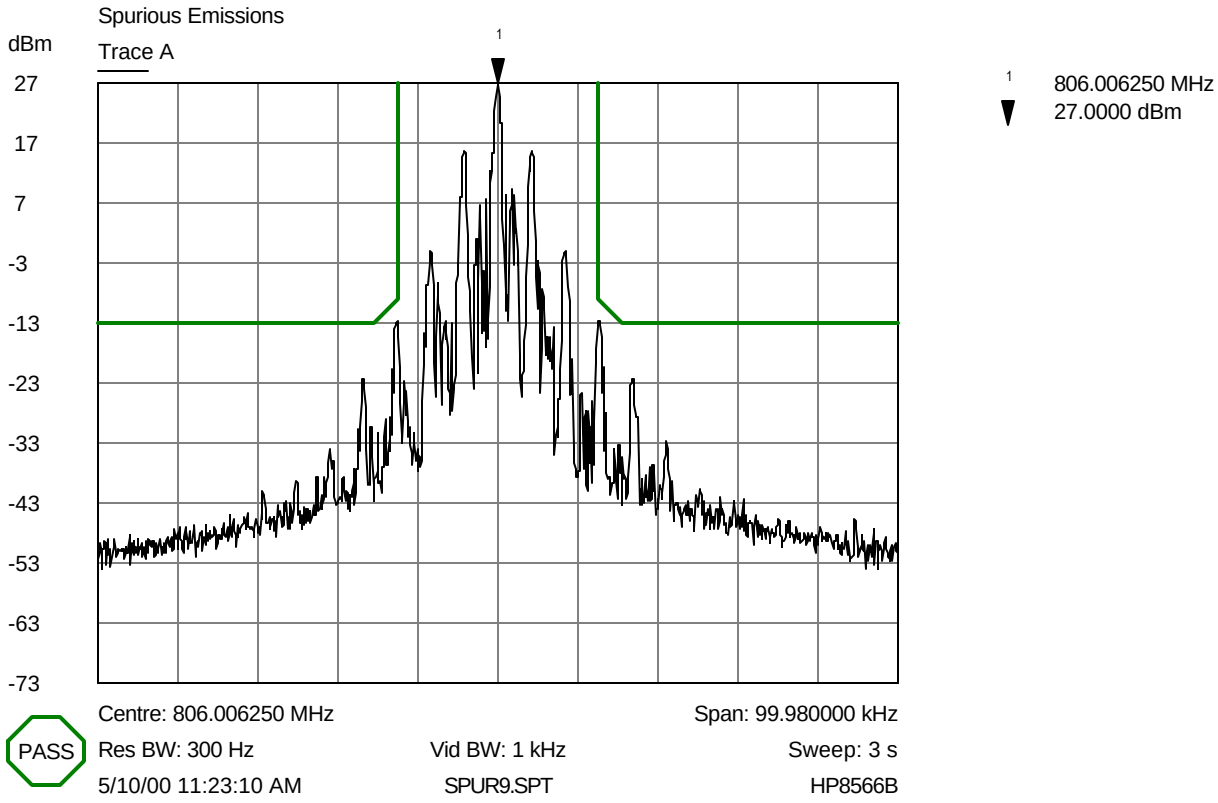
Conducted Spurious Emissions – Low End of Band (Modulated with DTMF) (806.00625 MHz 0 to 50 kHz)



Spurious Emissions/Emission Mask for Section 90.691 (Low End of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone) + SAT

Conducted Spurious Emissions – Low End of Band (Modulated with Voice and SAT) (806.00625 MHz 0 to 50 kHz)

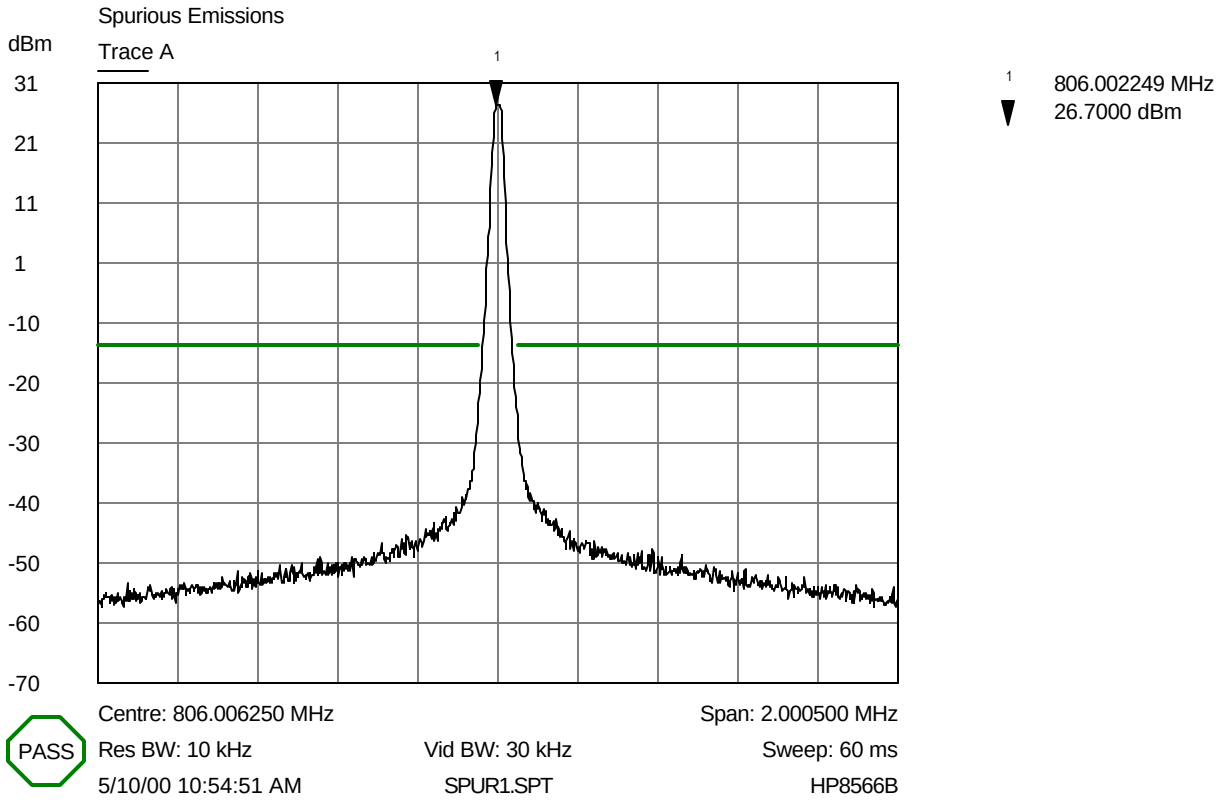


Spurious Emissions/Emission Mask for Section 90.691 (Low End of Band)

Trace A Maximum Power, Modulated with Data

Conducted Spurious Emissions – Low End of Band (Modulated with Data) (806.00625 MHz 0 to 50 kHz)

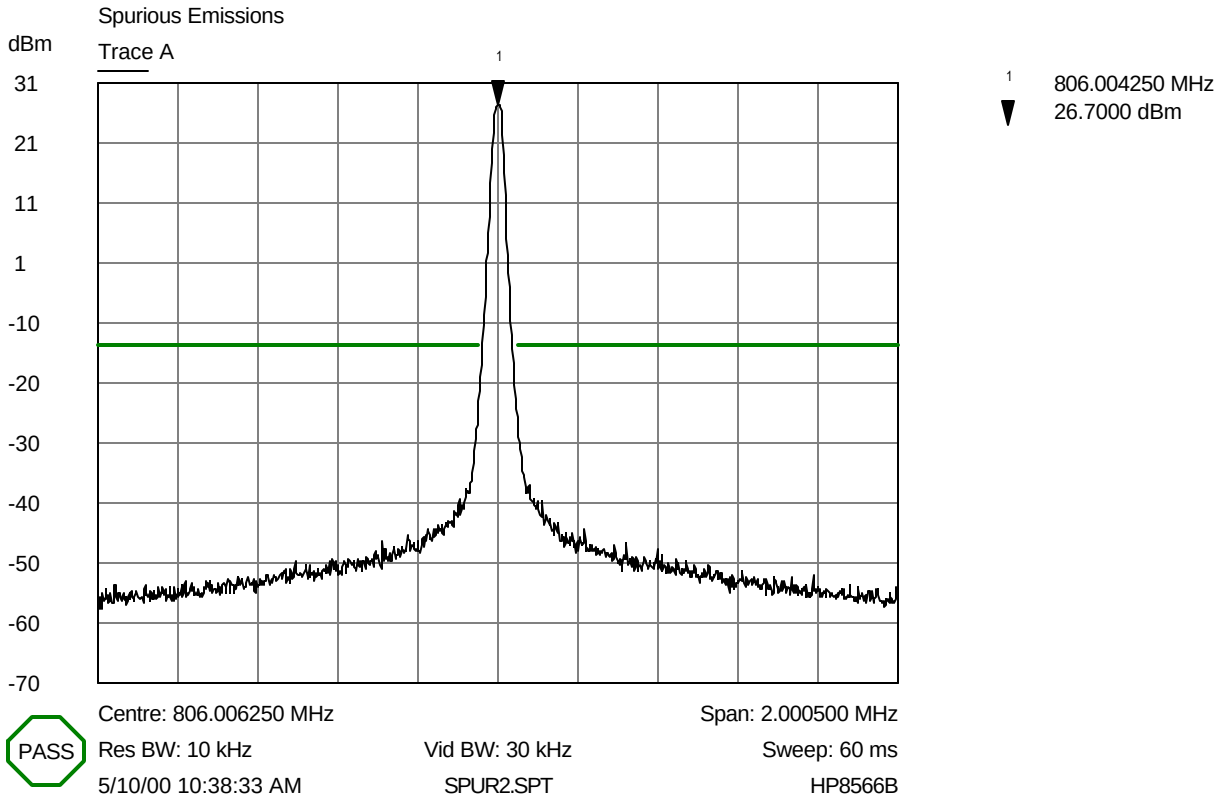
Exhibit 6



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

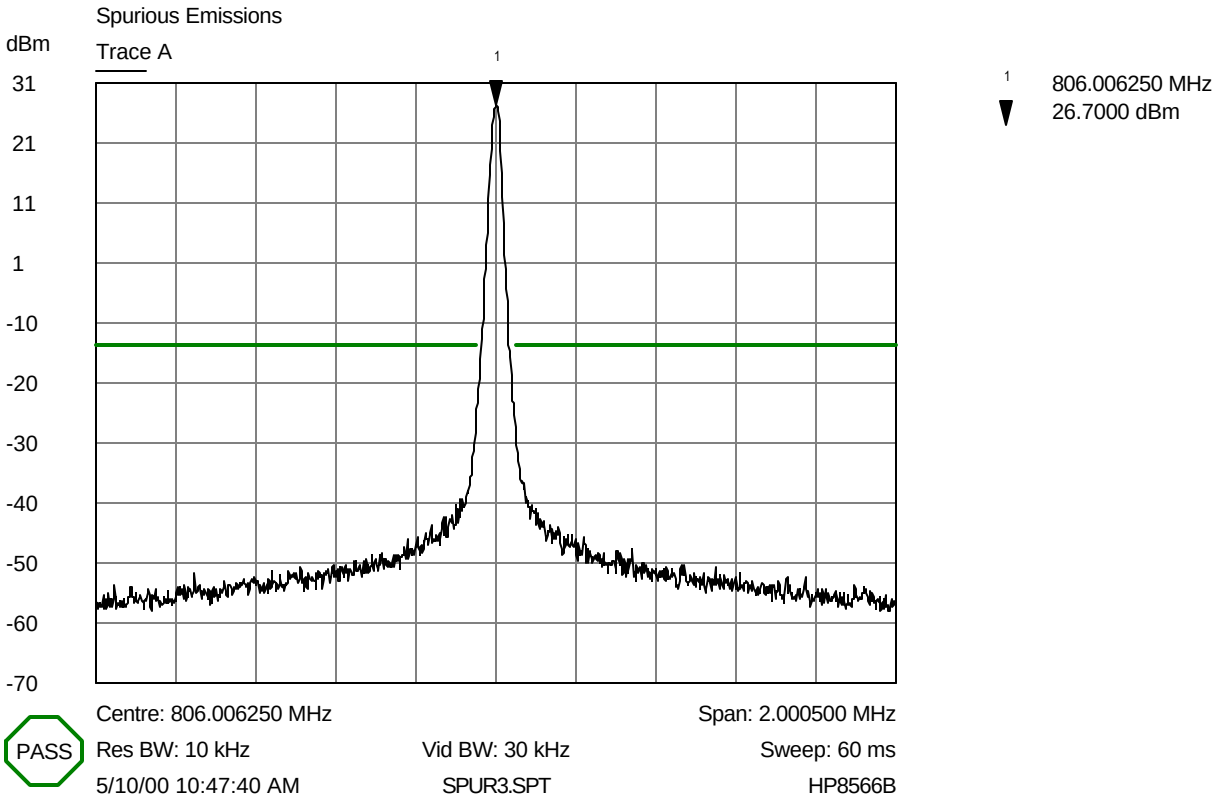
Conducted Spurious Emissions – Low End of Band (Modulated with DTMF) (806.00625 MHz 50 kHz to 1 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone) + SAT

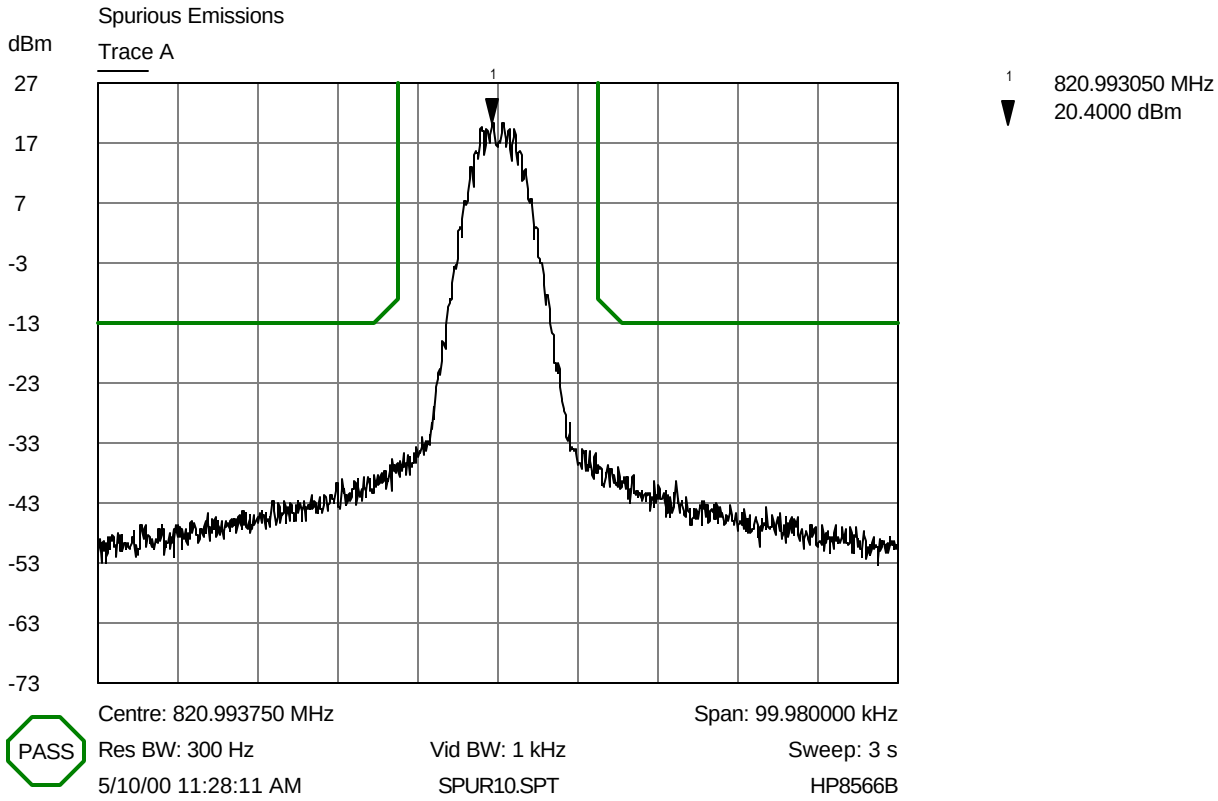
Conducted Spurious Emissions – Low End of Band (Modulated with Voice and SAT) (806.00625 MHz 50 kHz to 1 MHz)



Emission Bandwidth/Emission Mask B (Low End of Band)

Trace A Maximum Power, Modulated with Data

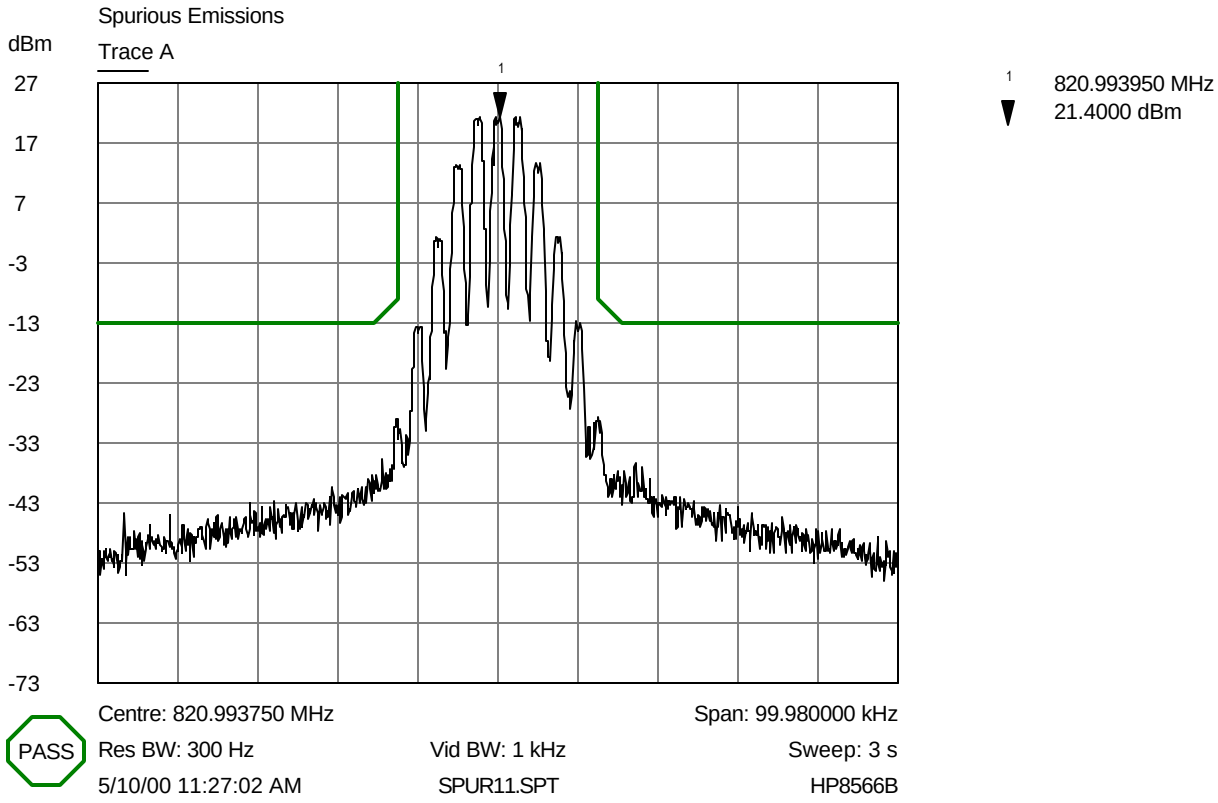
Conducted Spurious Emissions – Low End of Band (Modulated with Data) (806.00625 MHz 50 kHz to 1 MHz)



Spurious Emissions/Emission Mask for Section 90.691 (High End of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

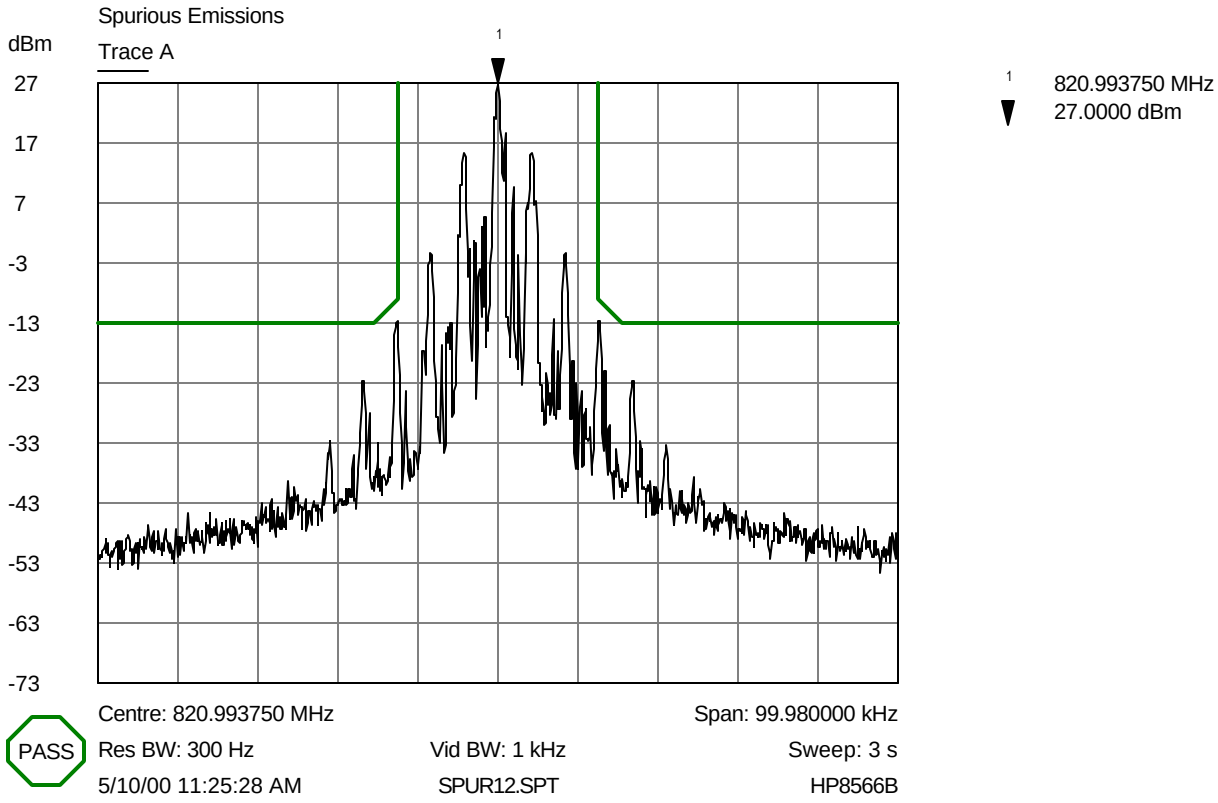
Conducted Spurious Emissions – High End of Band (Modulated with DTMF) (820.99375 MHz 0 to 50 kHz)



Spurious Emissions/Emission Mask for Section 90.691 (High End of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone) + SAT

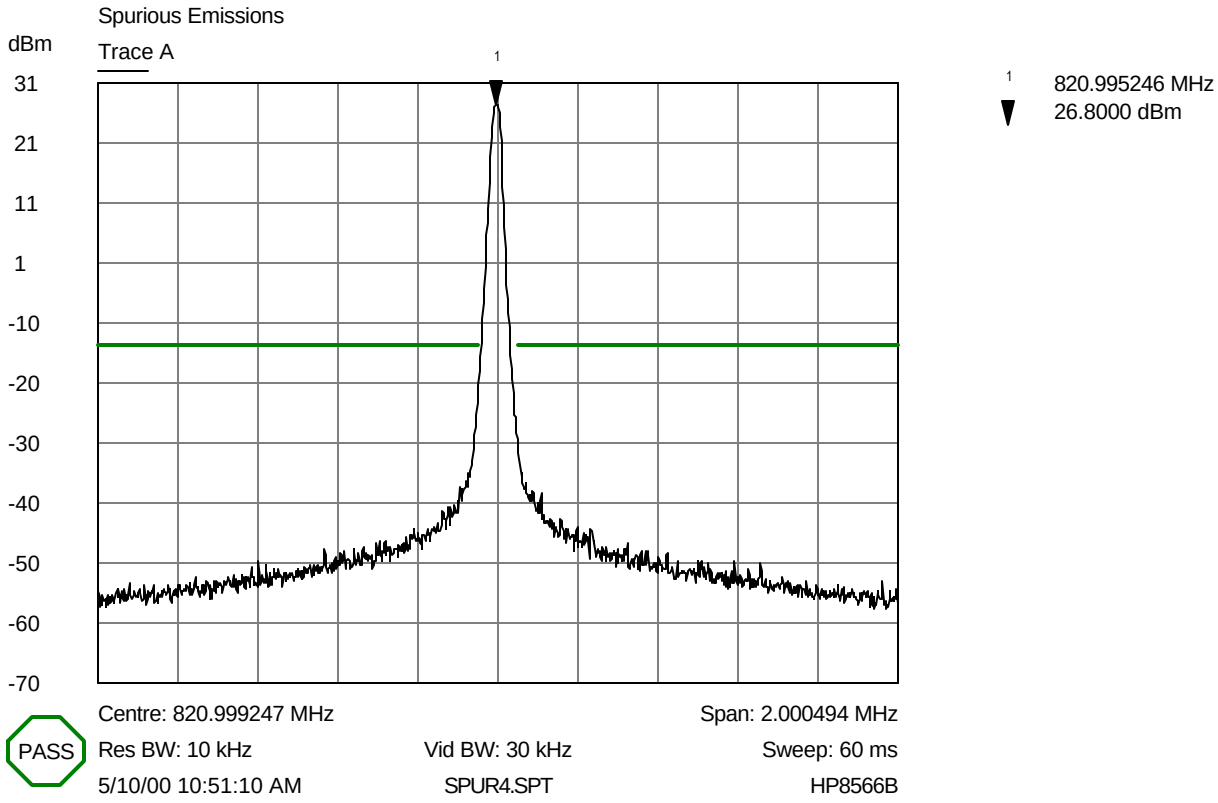
Conducted Spurious Emissions – High End of Band (Modulated with Voice and SAT) (820.99375 MHz 0 to 50 kHz)



Spurious Emissions/Emission Mask for Section 90.691 (High End of Band)

Trace A Maximum Power, Modulated with Data

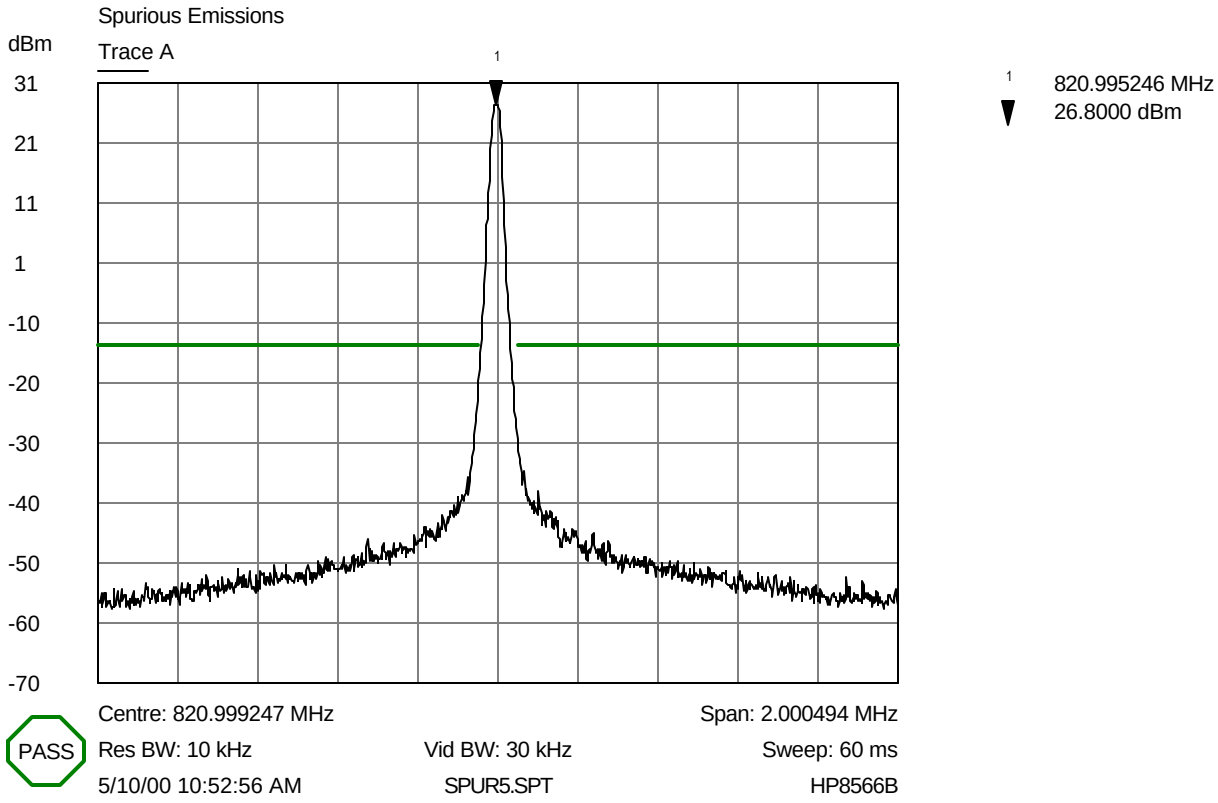
Conducted Spurious Emissions – High End of Band (Modulated with Data) (820.99375 MHz 0 to 50 kHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with DTMF (#5 key)

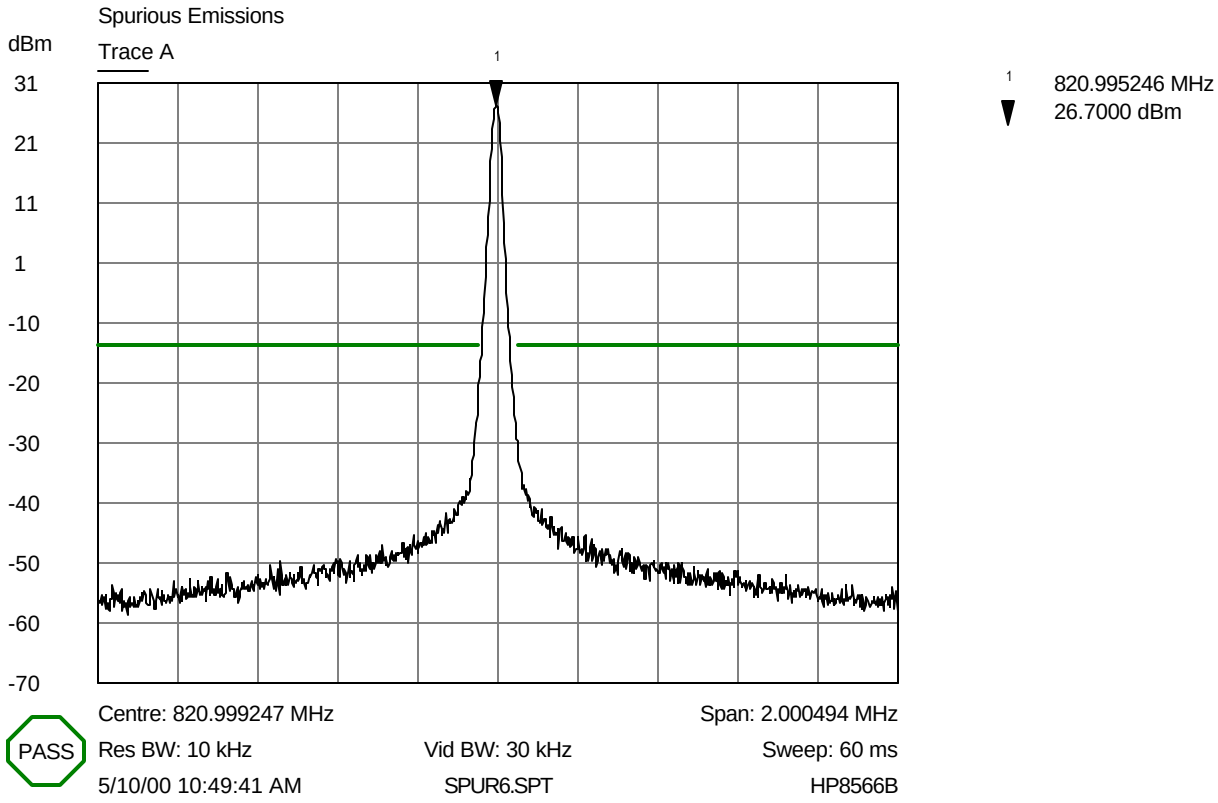
Conducted Spurious Emissions – High End of Band (Modulated with DTMF) (820.99375 MHz 50 kHz to 1 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with Voice (2500 Hz Tone) + SAT

Conducted Spurious Emissions – High End of Band (Modulated with Voice and SAT) (820.99375 MHz 50 kHz to 1 MHz)



Emission Bandwidth/Emission Mask B (High End of Band)

Trace A Maximum Power, Modulated with Data

Conducted Spurious Emissions – High End of Band (Modulated with Data) (820.99375 MHz 50 kHz to 1 MHz)

2.5 Radiated Spurious Emissions

The T-2000A was tested at all eight power levels and all modulation patterns. The worst case emissions were with the T-2000A transmitting at the highest power level and with the voice (2500 Hz tone) modulation pattern. The data below represents the worst case configuration.

Transmitting at 806.00625 MHz (Channel 1)					
Antenna Polarity	Frequency (MHz)	Uncorr. Level (dBμV)	Correction Factor (dB)	Field Strength (dBμV/m)	Criteria (dBμV/m)
V	1612.0	31.0	32.0	63.0	84.4
V	2418.0	22.6	36.7	59.3	84.4
V	3224.0	16.2	39.9	56.1	84.4
V	4030.1	19.9	41.6	61.5	84.4
V	4836.1	18.3	44.0	62.3	84.4
V	5642.1	15.7	47.8	63.5	84.4
V	6448.1	13.4	51.6	65.0	84.4
V	7254.1	13.5	55.5	69.0 *	84.4
V	8060.1	13.8	59.8	73.6 *	84.4
H	1612.0	28.3	32.0	60.3	84.4
H	2418.0	28.0	36.7	64.7	84.4
H	3224.0	18.2	39.9	58.1	84.4
H	4030.1	21.8	41.6	63.4	84.4
H	4836.1	21.7	44.0	65.7	84.4
H	5642.1	16.7	47.8	64.5	84.4
H	6448.1	14.7	51.6	66.3	84.4
H	7254.1	13.5	55.5	69.0 *	84.4
H	8060.1	13.8	59.8	73.6 *	84.4

Note 1: * Noise Floor Measurements

Note 2: All emissions from 30 MHz to the first harmonic were more than 20 dB below the limit.

Exhibit 6

Transmitting at 813.49375 MHz (Channel 600)					
Antenna Polarity	Frequency (MHz)	Uncorr. Level (dBμV)	Correction Factor (dB)	Field Strength (dBμV/m)	Criteria (dBμV/m)
V	1626.9	24.0	32.2	56.2	84.4
V	2440.5	25.3	36.9	62.2	84.4
V	3253.9	12.9	40.1	53.0	84.4
V	4067.4	22.1	41.7	63.8	84.4
V	4880.9	19.3	44.3	63.6	84.4
V	5694.4	17.9	48.5	66.4	84.4
V	6507.9	13.8	52.0	65.8	84.4
V	7321.4	13.4	56.3	69.7 *	84.4
V	8134.9	13.8	60.6	74.4 *	84.4
H	1626.9	24.8	32.2	57.0	84.4
H	2440.5	29.1	36.9	66.0	84.4
H	3253.9	17.2	40.1	57.3	84.4
H	4067.4	21.9	41.7	63.6	84.4
H	4880.9	24.0	44.3	68.3	84.4
H	5694.4	18.9	48.5	67.4	84.4
H	6507.9	15.8	52.0	67.8	84.4
H	7321.4	13.4	56.3	69.7 *	84.4
H	8134.9	13.8	60.6	74.4 *	84.4

Note 1: * Noise Floor Measurements

Note 2: All emissions from 30 MHz to the first harmonic were more than 20 dB below the limit.

Transmitting at 820.99375 MHz (Channel 1200)					
Antenna Polarity	Frequency (MHz)	Uncorr. Level (dBμV)	Correction Factor (dB)	Field Strength (dBμV/m)	Criteria (dBμV/m)
V	1641.9	23.2	32.1	55.3	84.4
V	2462.9	23.7	36.7	60.4	84.4
V	3283.9	15.9	40.0	55.9	84.4
V	4104.9	18.2	41.6	59.8	84.4
V	4925.9	16.5	44.1	60.6	84.4
V	5746.9	16.5	48.2	64.7	84.4
V	6567.9	13.9	51.8	65.7	84.4
V	7388.8	13.4	56.3	69.7 *	84.4
V	8209.8	13.5	60.5	74.0 *	84.4
H	1641.9	26.6	32.1	58.7	84.4
H	2462.9	28.5	36.7	65.2	84.4
H	3283.9	16.6	40.0	56.6	84.4
H	4104.9	22.4	41.6	64.0	84.4
H	4925.9	22.5	44.1	66.6	84.4
H	5746.9	19.1	48.2	67.3	84.4
H	6567.9	15.8	51.8	67.6	84.4
H	7388.8	13.4	56.3	69.7 *	84.4
H	8209.8	13.5	60.5	74.0 *	84.4

Note 1: * Noise Floor Measurements

Note 2: All emissions from 30 MHz to the first harmonic were more than 20 dB below the limit.

2.6 Frequency Stability

The T-2000A operates on 4.8 VDC supplied via batteries; therefore, the 4.8 VDC was varied 85% and 115% at +20^0 C.

The manufacturer has stated that the T-2000A does not operate below 0^0 C; therefore, testing below 0^0 C was not performed.

Transmitting at 813.49375 MHz (Channel 600)				
Ambient Temperature (^{0} C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (PPM)	Criteria (PPM)
0	813.49375	813.493425	-0.40	2.5
10	813.49375	813.493555	-0.24	2.5
20	813.49375	813.493710	-0.05	2.5
30	813.49375	813.493755	0.01	2.5
40	813.49375	813.493675	-0.09	2.5
50	813.49375	813.493670	-0.10	2.5

Voltage (DC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (PPM)	Criteria (PPM)
4.25	813.49375	813.493690	-0.07	2.5
5.0	813.49375	813.493710	-0.05	2.5
5.75	813.49375	813.493615	-0.17	2.5

Sample Calculation

$$\text{Deviation (PPM)} = \frac{\text{FM - TF}}{\text{TF}} * 10^6$$

FM = Frequency Measured
TF = Intended Transmit Frequency

APPENDIX 1 TEST PROCEDURES AND TEST EQUIPMENT

Radiated Interference Emissions:

The radiated emission from the intentional radiator was measured using a spectrum analyzer with a quasi-peak adapter for peak and quasi-peak readings. A preamplifier with a fixed gain of 26 dB and a power amplifier with a fixed gain of 22 dB were used to increase the sensitivity of the measuring instrumentation. The quasi-peak adapter uses a bandwidth of 120 kHz, with the spectrum analyzer's resolution bandwidth set at 1 MHz, for readings in the 30 to 1000 MHz frequency ranges. For peak emissions above 1000 MHz the spectrum analyzer's resolution bandwidth was set to 1 MHz and the video bandwidth was set to 3 MHz. For average emissions above 1000 MHz the spectrum analyzer's resolution bandwidth was set to 1 MHz and the video bandwidth was set to 1 Hz.

A biconilog antenna was used to measure the frequency range of 30 to 1000 MHz and a Double Ridge Guide Horn antenna was used to measure the frequency range 1 GHz to 10 GHz, at a distance of 3 meters from the EUT. The readings obtained by these antennas are correlated to the levels obtained with a tuned dipole antenna by adding antenna factors.

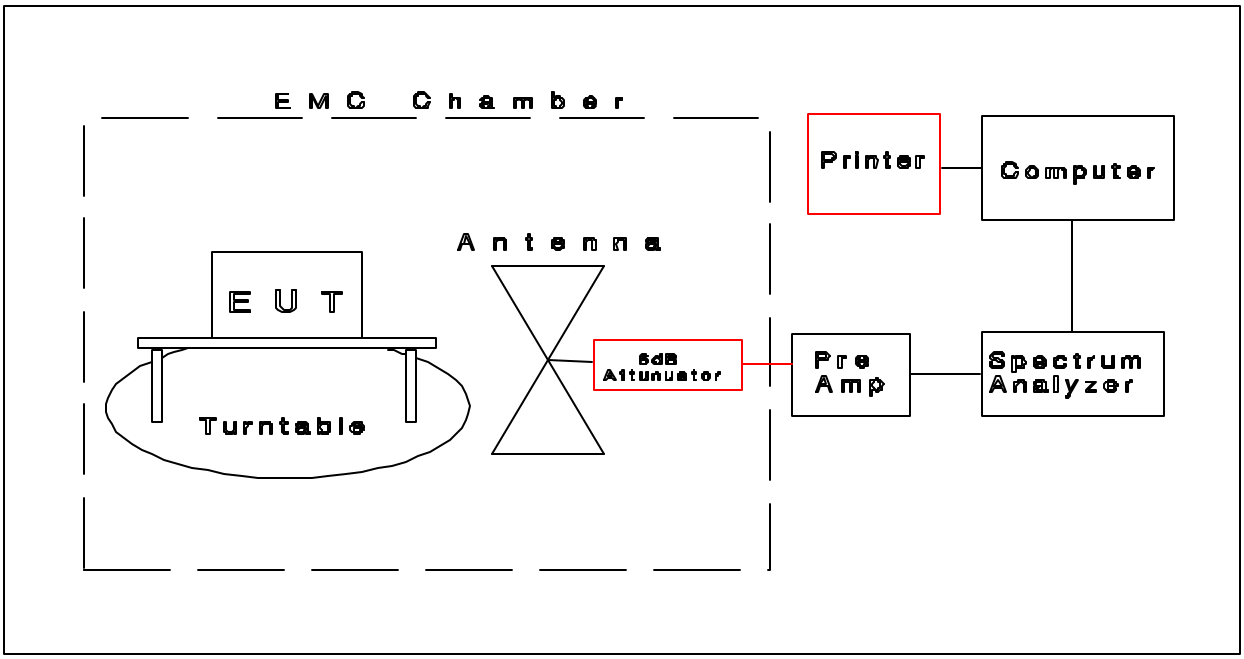
The configuration of the intentional radiator was varied to find the maximum radiated emission. The EUT was connected to the peripherals listed in Section 2.4 via the interconnecting cables listed in Section 2.5. These interconnecting cable were manipulated manually by a technician to obtain worst case radiated emissions. The intentional radiator was rotated 360 degrees, and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission. Where there were multiple interface ports all of the same type, cables are either placed on all of the ports or cables added to these ports until the emissions do not increase by more than 2 dB.

Desktop intentional radiator is measured on a non-conducting table one meter above the ground plane. The table is placed on a turntable which is level with the ground plane. The turntable has slip rings, which supply AC power to the intentional radiator. For equipment normally placed on floors, the equipment shall be placed directly on the turntable.

Type of Equipment	Manufacturer	Model Number	Serial Number
Anechoic Chamber	CCL	N/A	N/A
Test Software	CCL	Radiated Emissions	Revision 1.3
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
Biconilog Antenna	EMCO	3141	1045
Double Ridged Guide Antenna	EMCO	3115	9409-4355
Radiated Emissions Cable Anechoic Chamber	CCL	Cable B	N/A
Pre-Amplifier	Hewlett Packard	8447D	1937A03151
Power-Amplifier	Hewlett Packard	8447E	2434A01975
6 dB Attenuator	Hewlett Packard	8491A	32835

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal
following outlined calibration procedures.

Radiated Emissions Test



Peak Transmit Power

The EUT was directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below. The measurements were performed with the device tuned to three different channels, one near the bottom of the spectrum and one near the top of the spectrum.

Testing was performed as per ANSI-C63.4 1992, Methods of Measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

The spectrum analyzer's resolution bandwidth and video bandwidth were set as follows:

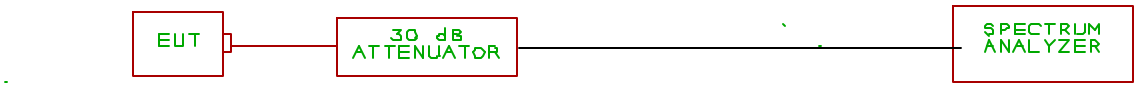
Peak Transmit Power

RBW = 1 MHz
VBW = 3 MHz

Type of Equipment	Manufacturer	Model Number	Serial Number
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
30 dB Attenuator	Hewlett Packard	8498A	1801A05362
Low Loss Cable (1 dB)	N/A	N/A	N/A
Plotter	Hewlett Packard	7470A	2210A01469

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal
following outlined calibration procedures.

Test Configuration Block Diagram



Conducted Spurious Emissions and Occupied Bandwidth

The EUT was directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below. The carrier was modulated with a 2500 Hz tone; this produced the worst case emissions. The measurements were performed with the phone at three different power levels and tuned to three channels, one near the bottom of the spectrum and one near the top of the spectrum.

Testing was performed as per ANSI-C63.4 1992, Methods of Measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

The spectrum analyzer’s resolution bandwidth and video bandwidth were set as follows:

Conducted Spurious Emissions

50 kHz above and below the carrier

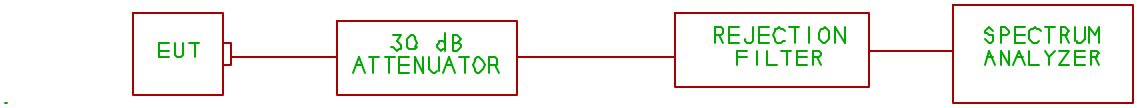
RBW = 300 Hz
VBW = 1 kHz

Greater than 50 kHz above and below the carrier

RBW = 10 kHz
VBW = 30 kHz

Type of Equipment	Manufacturer	Model Number	Serial Number
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
30 dB Attenuator	Hewlett Packard	8498A	1801A05362
Tunable Notch Filter	Microwave Filter Co., Inc.	6367-5	1190
Low Loss Cable (1 dB)	N/A	N/A	N/A
Plotter	Hewlett Packard	7470A	2210A01469

Test Configuration Block Diagram



Modulation Deviation Limiting TIA/EIA-603 Section 2.2.3

a) Connect the equipment as shown below.
b) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
c) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤0.25 Hz to ≥15,000 Hz. Turn

the de-emphasis function off.
d) Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation.
e) Increase the level from the audio frequency generator by 20 dB in one step (rise time between the 10% and 90% points shall be 0.1 second maximum).
f) Measure both the instantaneous and steady-state deviation at and after the time of increasing the audio input level.
g) With the level from the audio frequency generator held constant at the level obtained in step e), slowly vary the audio frequency from 300 Hz to 3000 Hz and observe the steady-state deviation. Record the maximum deviation.
h) Set the test receiver to measure peak negative deviation and repeat steps d) through g).

Audio Frequency Response TIA/EIA-603 Section 2.2.6
Constant Input Test Method (300 Hz to 3000 Hz)

a) Connect the equipment as shown below.
b) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤50 Hz to ≥15,000 Hz. Turn the de-emphasis function off.
c) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
d) Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of rated system deviation.
e) Set the test receiver to measure rms deviation and record the deviation reading as DEV_{REF}.
f) Set the audio frequency generator to the desired test frequency between 300 Hz and 3000 Hz.
g) Record the test receiver deviation reading as DEV_{FREQ}.
h) Calculate the audio frequency response at the present frequency as:

$$\text{Audio Frequency Response} = 20 \log_{10} (DEV_{FREQ}/DEV_{REF})$$

i) Repeat steps f) through h) for all desired test frequencies.

Audio Low Pass Filter Response TIA/EIA-603 Section 2.2.15

a) Connect the equipment as shown below.
b) Connect the audio frequency generator as close as possible to the input of the post limiter low pass filter within the transmitter under test.

c) Connect the audio spectrum analyzer to the output of the post limiter low pass filter within the transmitter under test.
d) Apply a 1000 Hz tone from the audio frequency generator and adjust the level per manufacturer's specifications.
e) Record the dB level of the 1000 Hz spectral line on the audio spectrum analyzer as LEV_{REF}.
f) Set the audio frequency generator to the desired test frequency between 3000 Hz and the upper low pass filter limit.
g) Record the audio spectrum analyzer levels, at the test frequency in step f).
h) Record the dB level on the audio spectrum analyzer as Lev_{FREQ}.
i) Calculate the audio frequency response at the test frequency as:

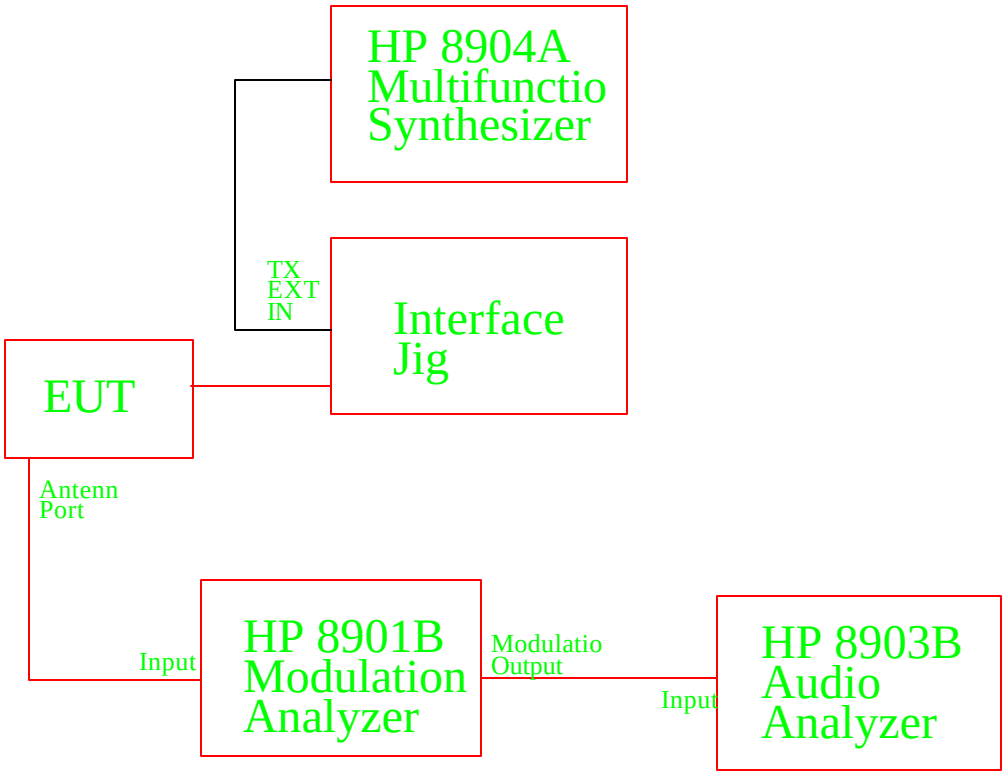
Low Pass Filter Response = LEV_{FREQ} - LEV_{REF}

j) Repeat steps f) through i) for all desired test frequencies.

Type of Equipment	Manufacturer	Model Number	Serial Number
Multifunction Synthesizer	Hewlett Packard	8904A	2948A04120
Modulation Analyzer	Hewlett Packard	8901B	3019A02755
Audio Analyzer	Hewlett Packard	8903B	3011A12156
Interface Jig	Uniden	UH-045Z	N/A
Power Supply #1	Lambda	LXTD-5152	A75750
Power Supply #2	Lambda	LM 262	079749

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal
following outlined calibration procedures.

Test Configuration Block Diagram



Carrier Frequency Stability

The EUT was placed inside of a temperature chamber and directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below. The measurements were performed from 0^0 C to $+50^0$ C in 10^0 increments.

The spectrum analyzer's was configured as follows:

RBW = 1 kHz
VBW = 3 kHz
Span = 20 kHz
Sweep = Auto

Exhibit 6

Type of Equipment	Manufacturer	Model Number	Serial Number
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
Low Loss Cable (1 dB)	N/A	N/A	N/A
Temperature Chamber	Tenney Engineering, Inc.	Tenney Jr.	11184-83

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal
following outlined calibration procedures.

Test Configuration Block Diagram

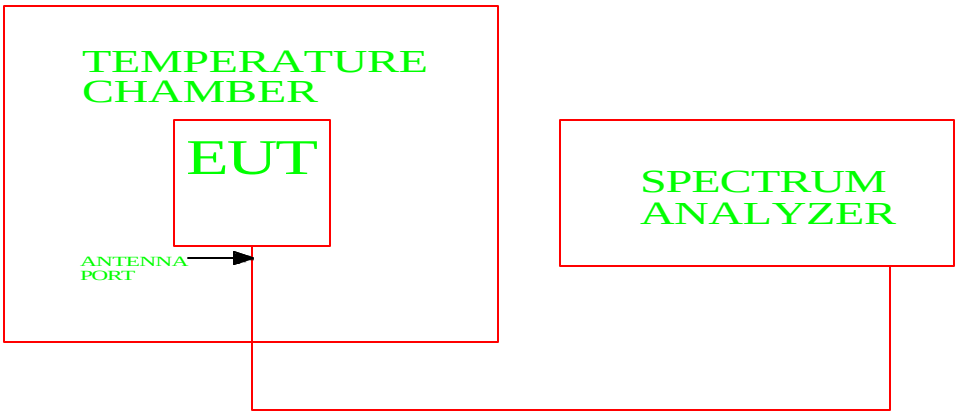


Exhibit 6