Exhibit 6: Test Report

TEST REPORT FROM:

COMMUNICATION CERTIFICATION LABORATORY
1940 W. Alexander Street
Salt Lake City, Utah
84119-2039

Type of Report: Certification

TEST OF: Venture-Express

FCC ID: FBIVE402061

To FCC PART 95, Subparts E and G

Test Report Serial No: 73-6687

Applicant:

Gentner Communications Corporation
1825 Research Way
Salt Lake City, UT 84119

Date(s) of Test: November 5 – 23, 1998

Issue Date: December 15, 1998

Equipment Receipt Date: November 5, 1998

CERTIFICATION OF ENGINEERING REPORT

This report has been prepared by Communication Certification Laboratory to determine compliance of the device described below with the notification requirements of FCC Part 95, Subparts E and G. 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: Gentner Communications Corporation
- Manufacturer: Gentner Communications Corporation
- Brand Name: GENTNER
- Model Number: Venture-Express
- FCC ID: FBIVE402061

On this 15th day of December 1998, 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.

Although NVLAP has recognized that the Communication Certification Laboratory EMC testing facilities are in good standing, NVLAP does not endorse the product described in this report.

COMMUNICATION CERTIFICATION LABORATORY

_____
Checked by: Roger J. Midgley
EMC Engineering Manager

_____
Tested by: Kirk P. Thomas
EMC Technician

SECTION 1.0 CLIENT INFORMATION

1.1 Client Information:

Company Name: Gentner Communications Corporation
1825 Research Way
Salt Lake City, UT 84119

Contact Name: Steve Townsend
Title: Manufacturing Engineering Manager

SECTION 2.0 EQUIPMENT UNDER TEST (EUT)

2.1 Identification of EUT:

Trade Name:	GENTNER
Model Name or Number:	Venture-Express
Serial Number:	N/A
Options Fitted:	N/A
Country of Manufacture:	Taiwan, R.O.C.

2.2 Description of EUT:

The Venture-Express is a nineteen channel; FM transmitter used as a Low Power Radio Service (LPRS) for auditory assistance, language translation or education. It operates in the frequency range of 216 MHz to 217 MHz. The Venture-base allows the user to select nineteen different channels with an external selector buttons. It is a small portable transmitter, which is powered by two 1.5-volt (AA) rechargeable batteries.

The Venture-Express is equipped with two audio inputs for connection to a microphone (MIC) or external audio source (AUX) or both at the same time (MIX) via the input selector switch.

2.3 Modification Incorporated/Special Accessories on EUT:

There were no modifications or special accessories required to comply with the specification.

SECTION 3.0 TEST SPECIFICATION, METHODS & PROCEDURES

3.1 Test Specification:

Title: FCC PART 95, Subparts E and G (47 CFR 95).

Low Power Radio Service (LPRS).

Purpose of Test: The tests were performed to demonstrate Initial compliance.

3.2 Methods & Procedures (Applicable to the Venture-Express):

3.2.1 § 95.605 Certification Procedures

Any entity may request certification for its transmitter when the transmitter is used in the GMRS, R/C, CB, IVDS, FRS or LPRS following the procedures in Part 2 of this chapter.

3.2.2 § 95.629 LPRS Transmitter Frequencies

(a) LPRS transmitters may operate on any frequency listed in paragraphs (b), (c), and (d) of this section. Channels 19, 20, 50 and 151-160 are available exclusively for law enforcement tracking purposes. AMTS transmissions are limited to the 216.750-217.000 MHz band for low power point-to-point network control communications by AMTS coast stations. Other AMTS transmissions in the 216-217 MHz band are prohibited.

(c) Extra band channels.

(i) The following table indicates extra band frequencies. The channel bandwidth is 50 kHz.

Channel No.	Center frequency (MHz)
41	216.025
42	216.075
43	216.125
44	216.175
45	216.225
46	216.275
47	216.325
48	216.375
49	216.425
50	216.475

51	216.525
52	216.575
53	216.625
54	216.675
55	216.725
56	216.775
57	216.825
58	216.875
59	216.925
60	216.975

(ii) LPRS transmitters operating on extra band channels must be maintained within a frequency stability of 50 parts per million.

3.2.3 § 95.631 Emission Types

(g) An LPRS station may transmit any emission type appropriate for communication in this service. Two-way communication, however, are prohibited.

3.2.4 § 95.633 Emission Bandwidth

(d) For transmitters in the LPRS:

(3) The channel bandwidth for extra band frequencies is 50 kHz.

3.2.5 § 95.635 Unwanted Radiation

(c) For transmitters designed to operate in the LPRS, emissions shall be attenuated in accordance with the following.

(2) Emissions for LPRS transmitters operating on extra band channels (50 kHz) shall be attenuated below the unmodulated carrier in accordance with the following:

(i) Emissions 25 kHz to 35 kHz from the channel center frequency: at least 30 dB.
(ii) Emission more than 35 kHz away from the channel center frequency: at least 43 + 10log(carrier power in watts) dB.

3.2.6 § 95.639 Maximum Transmitter Power

(e) The maximum transmitter output power authorized for LPRS stations is 100 mW.

3.2.7 § 95.649 Power Capability

No CB, R/C, LPRS transmitter, or FRS unit shall incorporate provisions for increasing its transmitter power to any level in excess of the limits specified in § 95.639.

3.2.8 § 95.1001 Eligibility

An entity is authorized by rule to operate a LPRS transmitter and is not required to be individually licensed by the FCC if it is not a representative of a foreign government and if it uses the transmitter only in accordance with Section 95.1009 of this Part. Each entity operating a LPRS transmitter for AMTS purposes must hold an AMTS license under Part 80 of this chapter.

3.2.9 § 95.1003 Authorized Locations

LPRS operation is authorized:

(a) Anywhere CB station operation is permitted under 95.405(a); and,
(b) Aboard any vessel or aircraft of the United States, with the permission of the captain, while the vessel or aircraft is either travelling domestically or in international waters or airspace.

3.2.10 § 95.1005 Station Identification

An LPRS station is not required to transmit a station identification announcement.

3.2.11 § 95.1007 Station Inspection

All LPRS system apparatus must be made available for inspection upon request by an authorized FCC representative.

3.2.12 § 95.1009 Permissible Communications

LPRS station may transmit voice, data, or tracking signals as permitted below. Two-way voice communications are prohibited.

(a) Auditory assistance communications (including but not limited to application such as assistive listening devices, audio description for the blind, and simultaneous language translation) for
(i) Persons with disabilities, In the context of the LPRS, the term "disability" has the meaning given to it by section 3(2)(A) of the Americans with Disabilities Act of 1990 (42 U.S.C. § 12102(2)(A)), i.e., persons with a physical or mental impairment that substantially limits one or more of the major life activities of such individuals;
(ii) Persons who require language translation; or
(iii) Persons who may otherwise benefit from auditory assistance communication in educational setting.

3.2.13 § 95.1011 Channel Use Policy

(a) The channels authorized to LPRS systems by this part of the FCC Rules are available on a shared basis only and will not be assigned for the exclusive use of any entity.
(b) Those using LPRS transmitters must cooperate in the selection and use of channels in order to reduce interference and make the most effective use of the authorized facilities. Channels must be selected in an effort to avoid interference to other LPRS transmissions.
(c) Operation is subject to the conditions that no harmful interference is caused to the United States Navy's SPASUR radar system (216.88-217.08 MHz) or to TV reception within the Grade B contour of any TV channel 13 station or within the 68 dB_{μ} predicted contour of any low power TV or TV translator station operating on channel 13.

3.2.14 § 95.1013 Antennas

(a) The maximum allowable ERP for a station in the LPRS is 100 mW.
(b) AMTS stations must employ directional antennas.
(c) Antennas used with LPRS units must comply with the following:

(i) For LPRS units operating entirely within an enclosed structure, e.g., a building, there is no limit on

antenna height.

(ii) For LPRS units not operation entirely within an enclosed structure, the tip of ht antenna shall not exceed 30.5 meters (100 feet) above ground. In cases where harmful interference occurs the FCC may require that the antenna height be reduced.

(iii) The height limitation in (ii) does not apply to LPRS units in which the antenna is an integral part of the unit.

3.2.15 Test Procedure

The line conducted and radiated emissions testing was performed according to the procedures in ANSI C63.4 (1992). Line conducted and radiated emissions testing was performed at CCL's anechoic chamber located in Salt Lake City, Utah. This site has been fully described in a report submitted to the FCC, and was accepted in a letter dated March 6, 1996 (31040/SIT).

CCL participates in the National Voluntary Laboratory Accreditation Program (NVLAP) and has been accepted under NVLAP Lab Code:100272-0, which is effective until September 30,1999.

For radiated emissions testing that is performed at distances closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

SECTION 4.0 OPERATION OF EUT DURING TESTING

4.1 Operating Environment:

Power Supply: 1.5 VDC (Supplied via rechargeable batteries)
AC Mains Frequency: N/A
Current Rating: N/A

4.2 Operating Modes:

Each mode of operation was exercised to produce worst case emissions. The worst case emissions were with the Venture-Express powered up in the transmit mode.

4.3 EUT Exercise Software:

The Venture-Express used internal firmware to produce the worst case emissions.

SECTION 5.0 SUMMARY OF TEST RESULTS

5.1 FCC PART 95, Subpart E

5.1.1 Summary of Tests:

Section	Test Performed	Frequency Range (MHz)	Result
95.629	Frequency of Operation	216.025 – 216-975	Complied
95.629 / 2.1055	Frequency Stability	216.025 – 216-975	Complied
95.631	Emission Type	216.025 – 216-975	Complied
95.629 / 2.1049	Emission Bandwidth	216.025 – 216-975	Complied
95.635 / 2.1051	Unwanted Radiation (Antenna Conducted Spurious)	30 – 2169.75	Complied
95.635 / 2.1053	Unwanted Radiation (Radiated Spurious)	30 – 2169.75	Complied
95.639 / 2.1046	Maximum Transmitter Power	216.025 – 216-975	Complied
2.1047	Modulation Characteristics	216.025 – 216-975	Complied
	Line Conducted Emissions (Hot Lead to Ground)	0.45 to 30	Complied
	Line Conducted Emissions (Neutral Lead to Ground)	0.45 to 30	Complied

5.2 Result

In the configuration tested, the EUT complied with the requirements of the specification.

SECTION 6.0 MEASUREMENTS, EXAMINATIONS AND DERIVED RESUTLS

6.1 General Comments:

This section contains the test results only. Details of the test methods used and a list of the test equipment used during the measurements can be found in Appendix 1 of this report.

6.2 Test Results:

6.2.1 § 95.629 / 2.1049 (c) Frequency of Operation / Emission Bandwidth

The Venture-Express antenna is 2/3 internal to the device and 1/3 contained in the microphone cable; therefore, the direct connect tests were performed with the microphone/antenna cable connected directly to the spectrum analyzer.

Demonstration of Compliance:

The Venture-Express operates on channels 41 – 60 as specified in § 95.629 (c)(i). The bandwidth measurements are shown below:

Channel / Frequency (MHz)	Bandwidth (kHz)
1 / 216.025	24.6
19 / 216.975	24.1

RESULT

In the configuration tested, the EUT complied with the requirements of this section.

6.2.2 § 95.629 / 2.1055 Frequency Stability

Demonstration of Compliance:

Channel # 19 (216.975 MHz)

Ambient Temperature (^{0} C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (PPM)	Criteria (PPM)
-30	216.975	216.98025	24.20	50
-20	216.975	216.98025	24.20	50
-10	216.975	216.97986	22.40	50
0	216.975	216.97942	20.37	50
10	216.975	216.97806	14.10	50
20	216.975	216.97590	4.15	50
30	216.975	216.97582	3.78	50
40	216.975	216.97368	-6.08	50
50	216.975	216.97278	-10.23	50

Voltage (AC)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Deviation (PPM)	Criteria (PPM)
120.0	216.975	216.97595	4.38	50
120.0	216.975	216.97590	4.15	50
138.0	216.975	216.97586	3.96	50

Sample Calculation

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

FM = Frequency Measured
TF = Intended Transmit Frequency

RESULT

In the configuration tested, the EUT complied with the requirements of this section.

Exhibit 6

6.2.3 § 95.631 Emission Type

Demonstration of Compliance:

The Venture-Express transmits voice data only, it is not used for two-way communications; therefore, it complies with this section.

6.2.4 § 95.635 / 2.1051 Spurious Emissions at Antenna Terminals

Demonstration of Compliance:

The emissions that are more than 35 kHz away from the center frequency 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 39.8 mW (16.0 dBm), therefore, the emissions must be attenuated 43 + 10 log (0.0398) = 29.0 dB. The criteria is 16.0 dBm – 29.0 dB = -13.0 dBm.

See Plots below for conducted spurious emissions 25 kHz to 35 kHz from the center frequency.

Transmitting on Channel 1 (216.025 MHz)			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
30 - 200	110.5	-48.5	-13.0
200 – 215.99	210.6	-46.5	-13.0
216.06 - 400	227.6	-54.0	-13.0
400 - 600	432.0	-36.5	-13.0
600 - 800	648.0	-43.5	-13.0
800 - 900	864.1	-42.3	-13.0
900 - 1200	1080.0	-65.4	-13.0
1200 - 1400	1296.0	-50.6	-13.0
1400 - 1600	1512.0	-64.4 *	-13.0
1600 - 1800	1728.0	-64.3 *	-13.0
1800 - 2000	1944.0	-65.4 *	-13.0
2000 - 2200	2160.0	-60.6 *	-13.0
* Noise Floor			

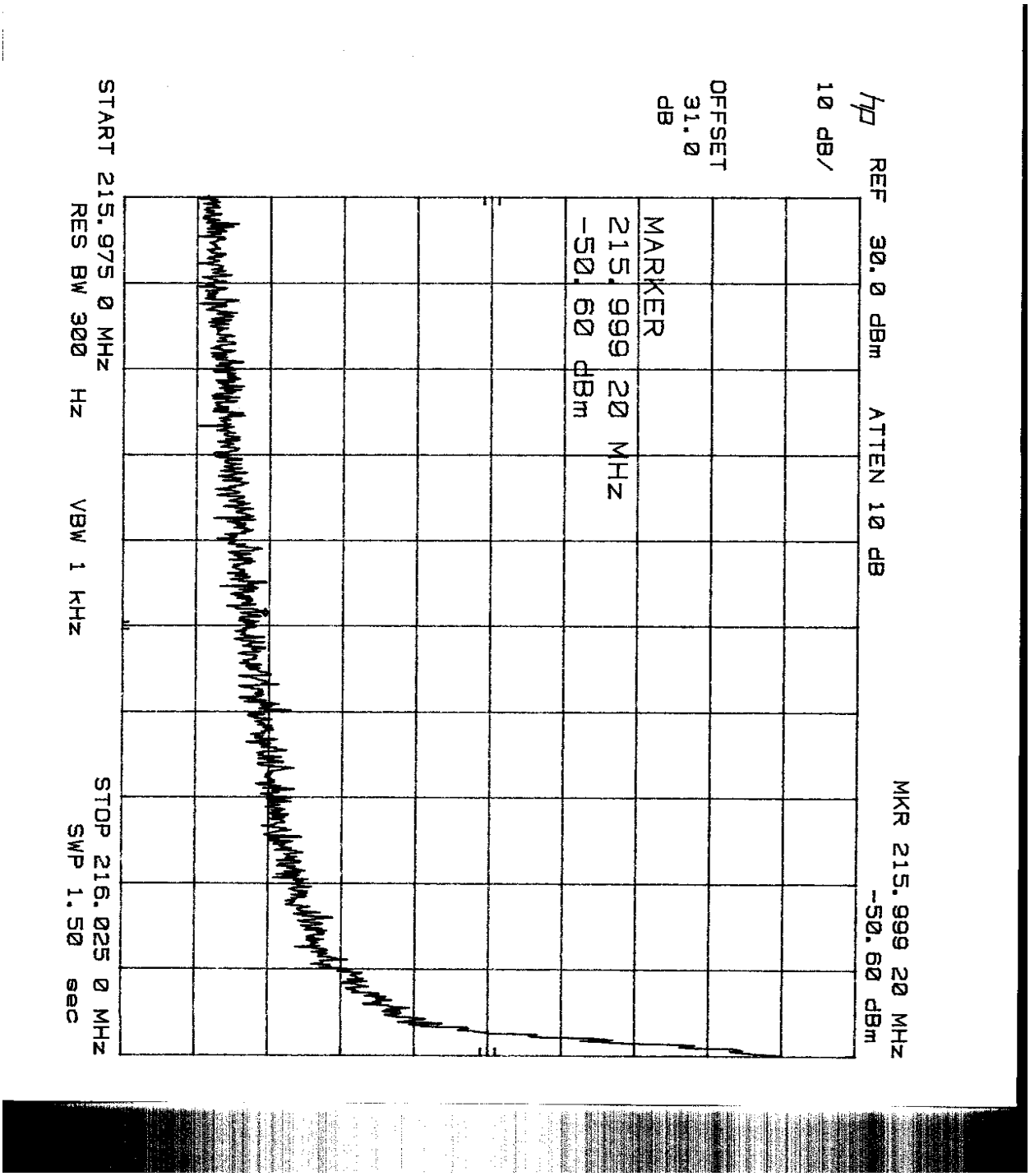
RBW = 10 kHz VBW = 30 kHz

Transmitting on Channel 19 (216.975 MHz)			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
30 - 200	109.5	-41.5	-13.0
200 – 215.94	206.7	-50.6	-13.0
217.01 - 400	228.9	-56.2	-13.0
400 - 600	434.0	-39.8	-13.0
600 - 800	650.9	-44.8	-13.0
800 - 900	868.1	-46.5	-13.0
900 - 1200	1084.0	-61.5	-13.0
1200 - 1400	1302.0	-48.6	-13.0
1400 - 1600	1518.0	-64.4 *	-13.0
1600 - 1800	1736.0	-64.3 *	-13.0
1800 - 2000	1952.0	-65.4 *	-13.0
2000 - 2200	2169.0	-60.6 *	-13.0
* Noise Floor			

RBW = 10 kHz VBW = 30 kHz

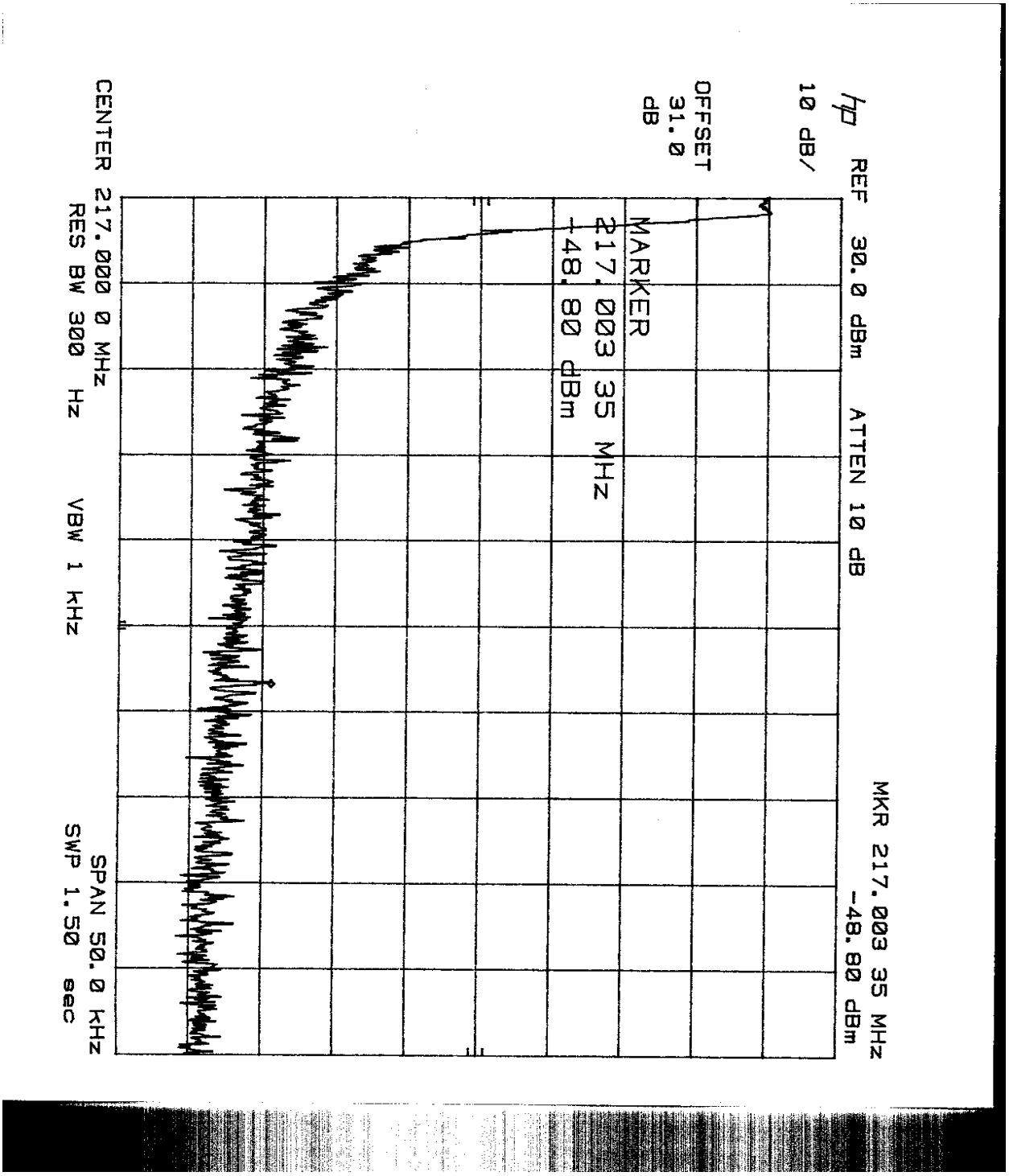
RESULT

In the configuration tested, the EUT complied with the requirements of this section.



Conducted Spurious Emission Plot (Channel 1)

Exhibit 6



Conducted Spurious Emission Plot (Channel 19)

Exhibit 6

6.2.5 § 95.635 / 2.1053 Radiated Spurious Emissions

Demonstration of Compliance:

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

At a maximum power of 0.0933 Watts

$$E = \frac{\sqrt{(49.2)(0.0398)}}{3} = 0.47\ Volts/Meter = 113.4\ dB\mu V/m$$

Paragraph 95.635 requires that spurious radiated emission be attenuated at least 43 + 10 log (mean output power in watts) below the unmodulated carrier. In this case, the rated power of 0.0398 watts requires a minimum attenuation of 43 + 10 log 0.0398 = 29.0 dB below the reference level of 113.4 $dB\mu V/m$ calculated above; therefore, the criteria is 84.4 $db\mu V/m$ (113.4 – 29.0).

Radiated spurious emissions were performed with a the microphone/antenna cable connected to the antenna port, the results are shown below:

Transmitting on Channel 1 (216.025 MHz)					
Antenna Polarity	Frequency (MHz)	Uncorr. Level ($dB\mu V$)	Correction Factor (dB)	Field Strength ($dB\mu V/m$)	Criteria ($dB\mu V/m$)
V	432.0	39.6	20.6	60.2	84.4
V	648.0	41.7	25.1	66.8	84.4
V	864.1	38.9	28.7	67.6	84.4
V	1080.1	27.6	27.8	55.4	84.4
V	1296.2	27.9	29.3	57.2	84.4
V	1512.2	35.0	30.8	65.8	84.4
V	1728.2	33.5	31.7	65.2	84.4
V	1944.2	28.8	32.9	61.7	84.4
V	2160.2	22.4 *	33.4	55.8	84.4
H	432.8	47.9	20.6	68.5	84.4
H	648.0	41.3	25.1	66.4	84.4
H	864.0	39.8	28.7	68.5	84.4
H	1080.1	26.1	27.8	53.9	84.4
H	1296.2	29.0	29.3	58.3	84.4
H	1512.2	34.0	30.8	64.8	84.4
H	1728.2	30.1	31.7	61.8	84.4
H	1944.2	27.8 *	32.9	60.7	84.4
H	2160.2	21.8 *	33.4	55.2	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 on Channel 19 (216.975 MHz)					
Antenna Polarity	Frequency (MHz)	Uncorr. Level ($dB\mu V$)	Correction Factor (dB)	Field Strength ($dB\mu V/m$)	Criteria ($dB\mu V/m$)
V	433.9	40.6	20.6	61.2	84.4
V	650.9	40.5	25.1	65.6	84.4
V	867.9	37.9	28.7	66.6	84.4
V	1084.9	29.5	27.8	57.3	84.4
V	1301.8	29.8	29.3	59.1	84.4
V	1518.8	33.4	30.8	64.2	84.4
V	1735.8	35.1	31.7	66.8	84.4
V	1952.7	28.0	32.9	60.9	84.4
V	2169.7	22.4 *	33.4	55.8	84.4
H	433.9	46.9	20.6	67.5	84.4
H	650.9	40.2	25.1	65.3	84.4
H	867.9	39.2	28.7	67.9	84.4
H	1084.9	26.5	27.8	54.3	84.4
H	1301.8	29.6	29.3	58.9	84.4
H	1518.8	32.7	30.8	63.5	84.4
H	1735.8	30.8	31.7	62.5	84.4
H	1952.7	27.8 *	32.9	60.7	84.4
H	2169.7	21.8 *	33.4	55.2	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.

RESULT

In the configuration tested, the EUT complied with the requirements of this section.

Exhibit 6

6.2.6 § 95.639 / 2.1046 RF Output Power

Demonstration of Compliance:

Shown below are the results with the Venture-Express tuned to three different channels.

Channel # 1 (216.025 MHz)			
Nominal ERP (mW)	Nominal ERP (dBm)	Measured ERP (dBm)	Difference (dB)
50.0	17.0	16.0	-1.0

Channel # 19 (216.975 MHz)			
Nominal ERP (mW)	Nominal ERP (dBm)	Measured ERP (dBm)	Difference (dB)
50.0	17.0	16.0	-1.0

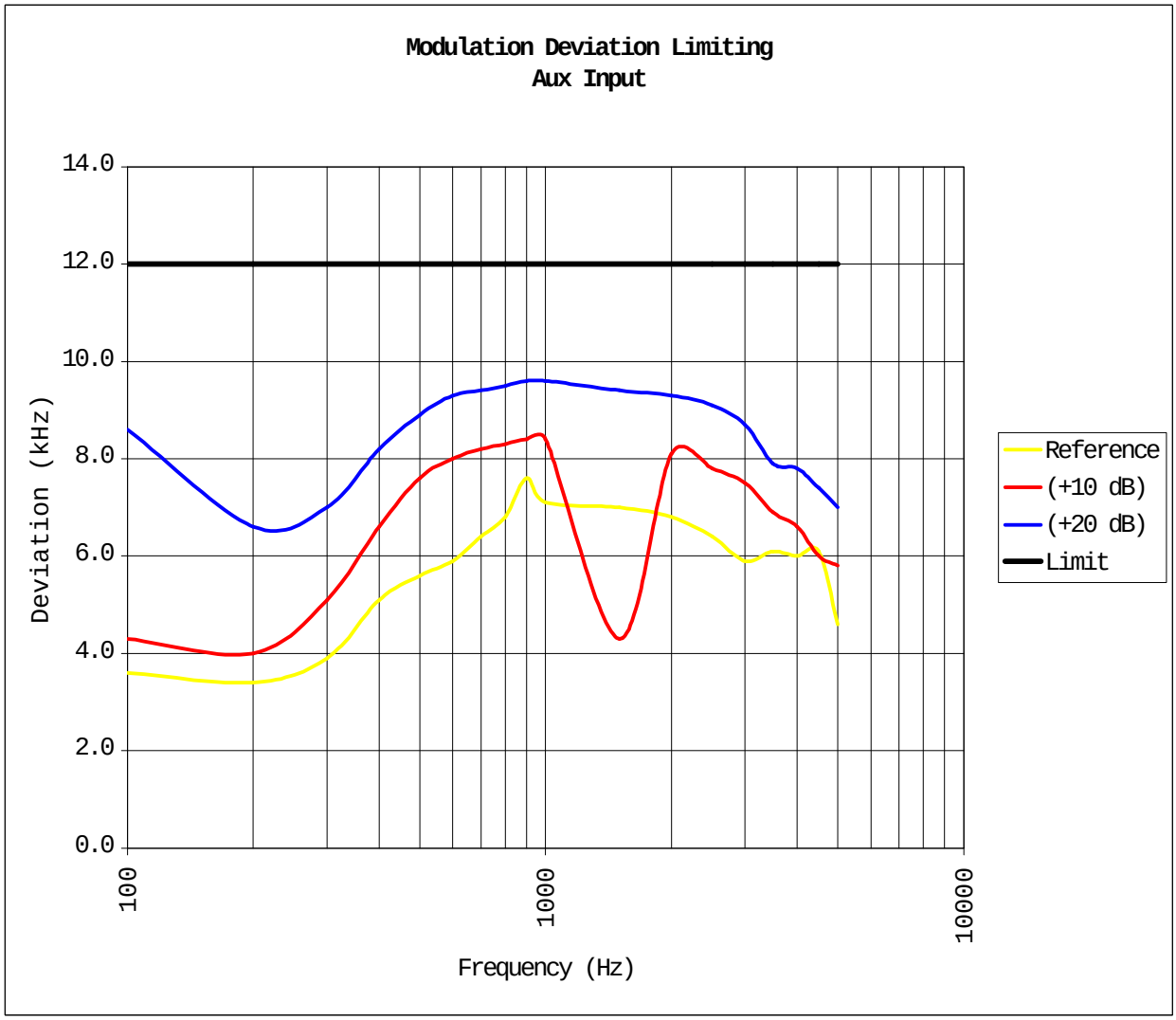
RESULT

In the configuration tested, the EUT complied with the requirements of this section.

6.2.7 § 2.1047 Modulation Characteristics

Demonstration of Compliance:

The modulation characteristics of the Venture-Express were measured as described in the test procedures (Appendix 1). The graphs enclosed below show these results. Since the microphone cable is also the transmitter cable, testing was performed with the modulation connected to the Auxiliary input port and the microphone/antenna cable connected to the test equipment.



RESULT

In the configuration tested, the EUT complied with the requirements of this section.

6.2.8 AC Line Conducted Emissions

Demonstration of Compliance:

Since the Venture-Express operates via rechargeable batteries, the conducted emissions testing was performed with the battery charger plugged into the LISN.

Exhibit 6

Line Conducted Data - (Hot Lead)

Frequency MHz	Detector	Measured Level dBμV	Limit dBμV
0.52	Peak	42.3	48.0
0.65	Peak	40.7	48.0
0.89	Peak	39.4	48.0
1.12	Peak	35.7	48.0
1.24	Peak	33.4	48.0
1.91	Peak	27.1	48.0
27.09	Peak	21.9	48.0
28.62	Peak	21.5	48.0
29.58	Peak	19.8	48.0

Line Conducted Data - (Neutral Lead)

Frequency MHz	Detector	Measured Level dBμV	Limit dBμV
0.51	Peak	39.7	48.0
0.62	Peak	39.1	48.0
0.80	Peak	36.0	48.0
0.92	Peak	33.5	48.0
1.57	Peak	27.6	48.0
1.96	Peak	24.6	48.0
25.65	Peak	27.2	48.0
27.08	Peak	24.3	48.0

RESULT

In the configuration tested, the EUT complied with the requirements of this section.

Exhibit 6

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 range. 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.

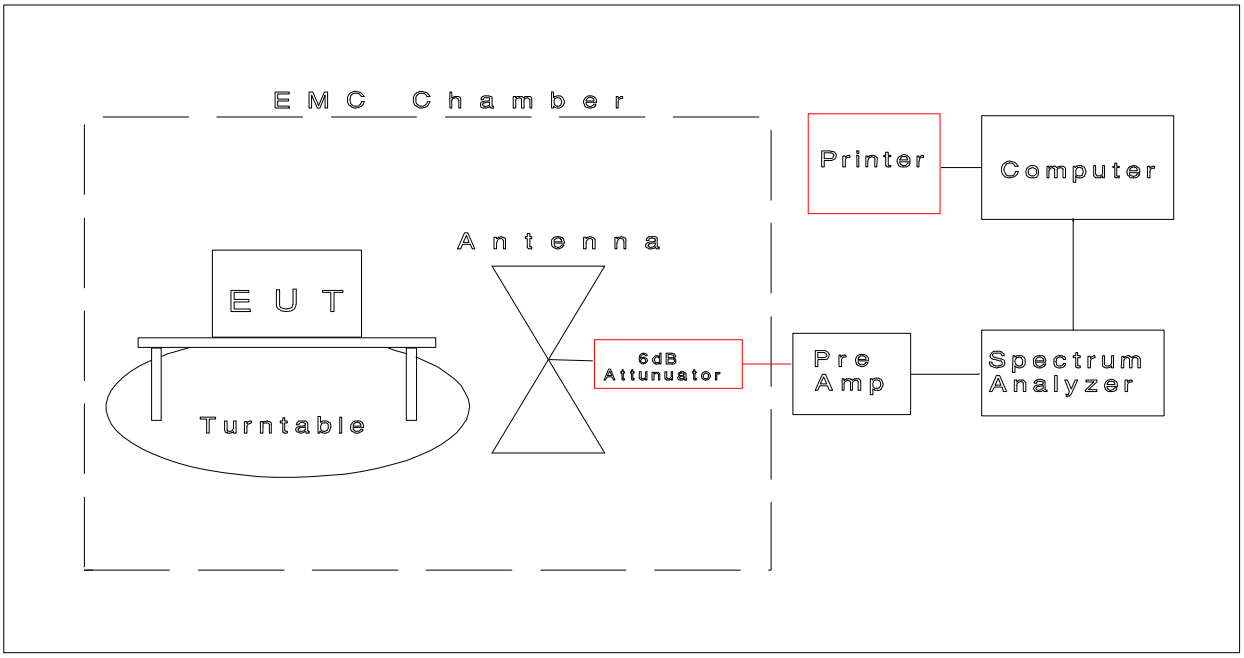
The configuration of the intentional radiator was varied to find the maximum radiated emission. The EUT was connected to the peripherals listed in Section 2.4 via the interconnecting cables listed in Section 2.5. These interconnecting cable were manipulated manually by a technician to obtain worst case 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



Line Conducted Emissions:

The line-conducted emission from the digital apparatus was measured using a spectrum analyzer with a quasi-peak adapter for peak, quasi-peak and average readings. The quasi-peak adapter uses a bandwidth of 9 kHz, with the spectrum analyzer's resolution bandwidth set at 100 kHz, for readings in the 450 kHz to 30 MHz frequency range.

The line conducted emissions measurements are performed in a screen room using a (50 Ω/50 μH) Line Impedance Stabilization Network (LISN).

Where mains flexible power cords are longer than 1 m, the excess cable is folded back and forth as far as possible so as to form a bundle not exceeding 0.4 m in length.

Where the EUT is a collection of digital apparatus with each digital apparatus having its own power cord, the point of connection for the LISN is determined from the following rules:

a) Each power cord, which is terminated in a mains supply plug,

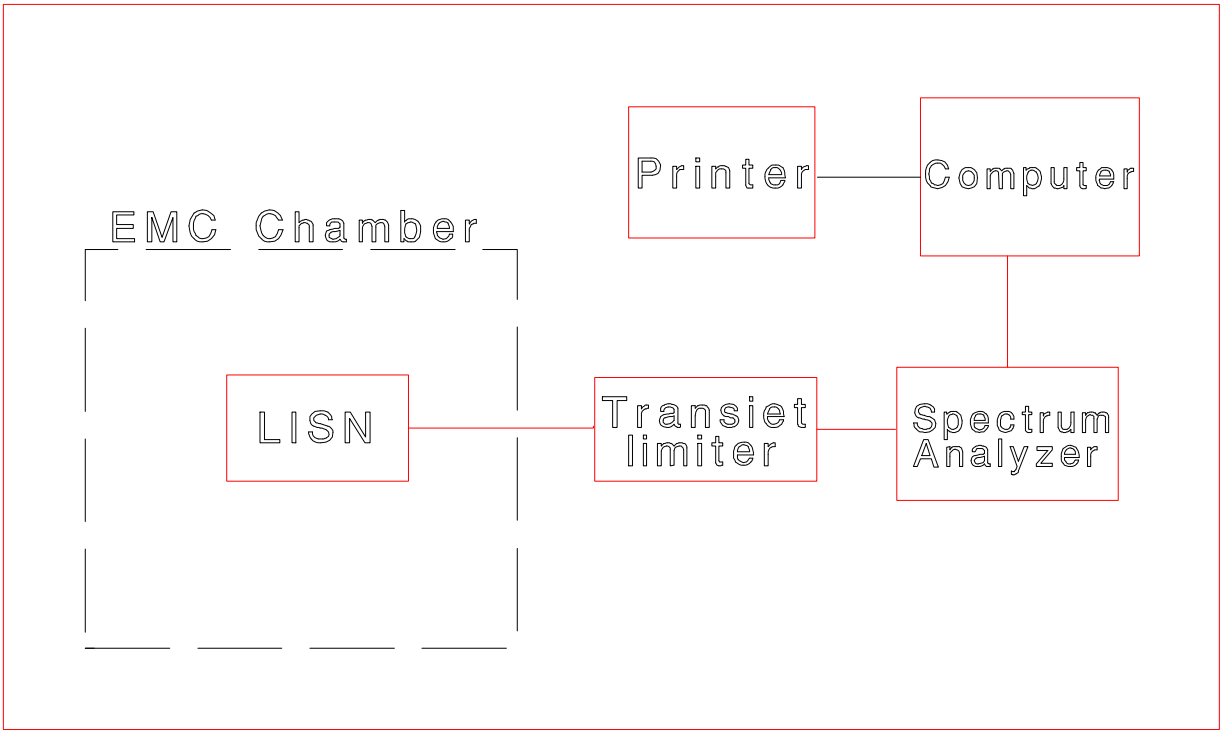
shall be tested separately.
b) Power cords, which are not specified by the manufacturer to be connected via a host unit, shall be tested separately.
c) Power cords which are specified by the manufacturer to be connected via a host unit or other power supplying equipment shall be connected to that host unit and the power cords of that host unit connected to the LISN and tested.

Desktop digital apparatus are placed on a non-conducting table at least 80 cm from the metallic floor. The equipment is placed a minimum of 40 cm from all walls. Floor standing equipment is placed directly on the earth grounded floor.

Type of Equipment	Manufacturer	Model Number	Serial Number
Anechoic Chamber	CCL	N/A	N/A
Test Software	CCL	Conducted Emissions	Revision 1.2
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
LISN	EMCO	3825/2	9507-1893
Conductance Cable Anechoic Chamber	CCL	Cable A	N/A
Transient Limiter	Hewlett Packard	11947A	3107A00895

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

Line Conducted 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 two different channels, as per 47 CFR 15.31(m), 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 = 100 kHz
VBW = 300 kHz

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

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 wideband data; this produced the worst case emissions. The measurements were performed with the phone at three different power levels and tuned to two channels, as per 47 CFR 15.31(m), 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

25 kHz to 35 kHz above and below the carrier

RBW = 300 Hz
VBW = 1 kHz

Greater than 35 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
Low Loss Cable (1 dB)	N/A	N/A	N/A
Plotter	Hewlett Packard	7470A	2210A01469

Modulation Deviation Limiting

Turn on the phone to a channel near the center of the band and adjust for full rated system deviation, as per manufacturer's procedure and instructions. Adjust the audio input for ± 8 kHz peak frequency deviation at 1000 Hz, this is the reference level. Vary the frequency of the audio signal from 100 Hz to 5000 Hz and measure and record the peak ± frequency deviation.

Repeat the measurements with the audio input level increased by 10 dB and 20 dB.

Repeat the measurements with the audio input level decreased by 10 dB and 20 dB.

Repeat all of the above measurements with the compressor disabled.

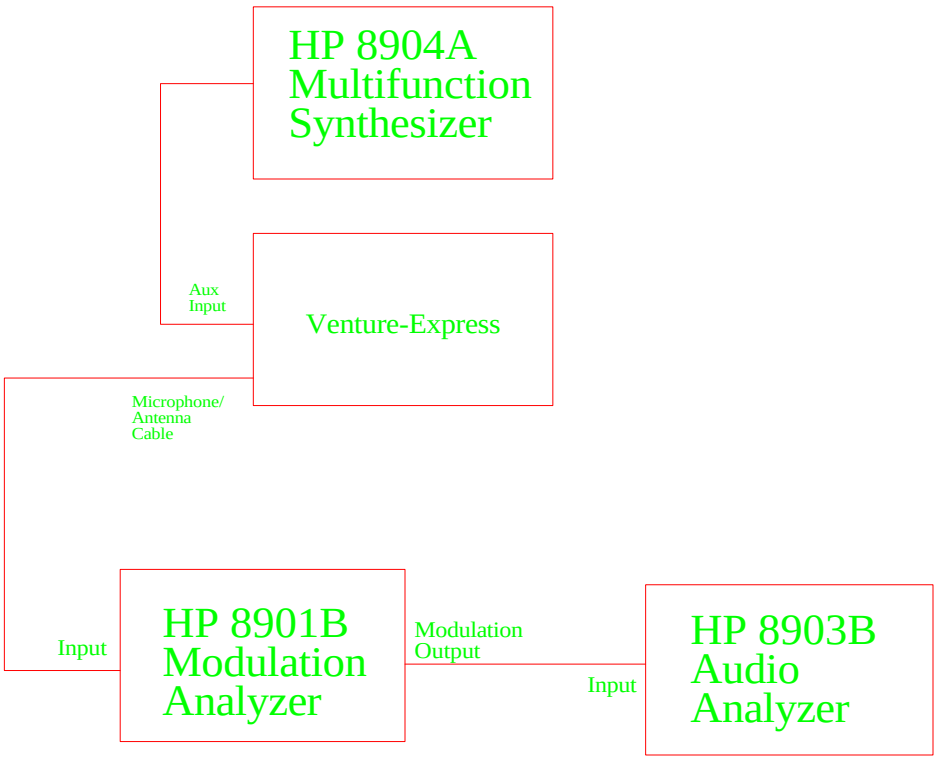
Minimum Performance Standard

Over the frequency range 100 to 5000 Hz; the maximum system deviation shall not exceed ± 12 kHz.

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 -30^0 C to $+60^0$ 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

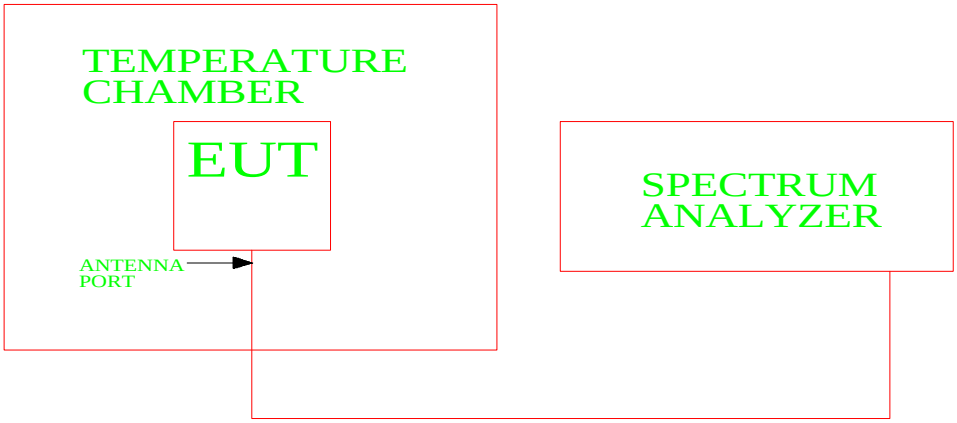


Exhibit 6