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: M64

FCC ID: OEW-M64-25

To Part 24 Subpart E and Part 2 Subpart J
of the FCC Rules and Regulations

Test Report Serial No: 73-7341

Applicant:

interWAVE Communications, Inc.
312 Constitution Drive
Menlo Park, CA, 94025

Date(s) of Test: November 1 - 3, 2000

Issue Date: December 18, 2000

Equipment Receipt Date: November 1, 2000

Exhibit 6

CERTIFICATION OF ENGINEERING REPORT

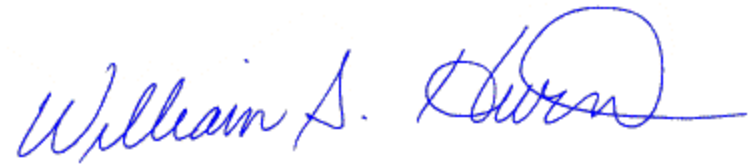
This report has been prepared by Communication Certification Laboratory to determine compliance of the device described below with the notification requirements of FCC Part 24, Subpart E. This report may be reproduced in full, partial reproduction may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

- Applicant: interWAVE Communications, Inc.
- Manufacturer: interWAVE Communications, Inc.
- Brand Name: TurboMax
- Model Number: M64
- FCC ID: OEW-M64-25

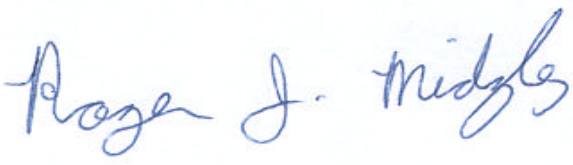
On this 18th day of December 2000, I, individually, and for Communication Certification Laboratory, certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge, and are made in good faith.

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



Tested by: Roger J. Midgley
EMC Engineering Manager

SECTION 1.0 CLIENT INFORMATION

1.1 Client Information:

Company Name: interWAVE Communications, Inc.
312 Constitution Drive
Menlo Park, CA, 94025

Contact Name: Roderick E. Thorne
Title: Vice President, Quality and Compliance

SECTION 2.0 EQUIPMENT UNDER TEST (EUT)

2.1 Identification of EUT:

Trade Name: TurboMax
Model Name or Number: M64
Serial Number: N/A
Options Fitted: N/A
Country of Manufacture: U.S.A.

2.2 Description of EUT:

The TurboMax Series M64 product family consists of a system of cards performing various functions which plug into the M64 chassis backplane and cabinet to create a number of specific product configurations, each designated by a particular model number. This document describes the configurations for the PCS1900 MHz Base Transceiver System (BTS) used for wireless mobile telephony employing the GSM radio interface protocol.

M64 Series 1900MHz Base Transceiver Station (BTS)

The functions of the BTS are defined in the system of ETSI specifications for the GSM wireless telephone system. Its basic role is to communicate with wireless mobile telephone hand sets over the radio interface and to establish a terrestial land-line link to the BSC for system control functions and for eventual connection of the mobile traffic to the public telephone network.

There are four model numbers for the M64 Series 1900MHz BTS as follows:

M640323	3-TRX’s into a 3-way combiner driving one antenna, 8-Watt.
M640341	2-TRX’s into a 2-way combiner driving one antenna, 12-Watt
M640326	3-TRX’s without a combiner, each driving a separate antenna, 25-Watt
M640329	2-TRX’s without a combiner, each driving a separate antenna, 25-Watt

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 24, Subpart E (47 CFR 24).

Broadband Personal Communications Services (PCS)

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

3.2 Methods & Procedures (Applicable to the M64):

§ 24.51 (d) RF Hazard - (SAR)

Applicants for type acceptance of transmitters that operate in these service must determine that the equipment complies with IEEE C95.1-1991 (ANSI/IEEE C95.1-1992), "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 200 GHz." (SAR) Measurement methods are specified in IEEE C95.3-1991, "Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave."

§ 2.1046 RF Power Output - § 24.232

§ 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).

§ 24.232

(a) Base Stations are limited to 1640 watts peak equivalent isotropically radiated power (e.i.r.p.) with an antenna height up to 300 meters HAAT. In no case may the peak output power of a base station transmitter exceed 100 watts.
(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit

the power to the minimum necessary for successful communications.

§ 2.1047 Modulation Characteristics

The M64 uses digital modulation; therefore, this section does not apply.

§ 2.1049 Occupied Bandwidth

§ 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.

§ 2.1051 Spurious Emissions at Antenna Terminals - § 24.238

§ 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.

§ 24.238 (a)

(a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log (P) dB.

Criteria (25 Watt)

The reference level for spurious emissions at the antenna terminals was taken from the measured output power (30.2 Watts or 44.8 dBm); therefore, the spurious must be attenuated at least 43 + 10 $\log_{10}$ (30.2) = 57.8 dB. The measured output power was 44.8 dBm therefore, the criteria is 44.8 – 57.8 = -13.0 dBm.

Criteria (8 Watt)

The reference level for spurious emissions at the antenna terminals was taken from the measured output power (8.13 Watts or 39.1 dBm); therefore, the spurious must be attenuated at least 43 + 10 $\log_{10}$ (8.13) = 52.1 dB. The measured output power was 39.1 dBm therefore, the criteria is 39.1 – 52.1 = -13.0 dBm.

§ 2.1053 Field Strength of Spurious Radiation - § 24.238

§ 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.

§ 24.238 (a)

(a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log (P) dB.

Criteria (25 Watts)

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).

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 (30.2 Watts or 44.8 dBm)

$$E = \frac{\sqrt{(49.2)(30.2)}}{3} = 12.8\,Volts/Meter = 142.2\,dBuV/m$$

In this case, the rated power of 30.2 watts requires a minimum attenuation of 43 + 10 log 30.2 = 57.8 dB below the reference level of 142.2 dBµV/m calculated above; therefore, the criteria is 84.4 dBµV/m (142.2 – 57.8).

Criteria (8 Watts)

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).

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 (8.13 Watts or 39.1 dBm)

$$E = \frac{\sqrt{(49.2)(8.13)}}{3} = 6.66\ Volts/Meter = 136.5\ dBuV/m$$

In this case, the rated power of 8.13 watts requires a minimum attenuation of 43 + 10 log 8.13 = 52.1 dB below the reference level of 142.2 dBµV/m calculated above; therefore, the criteria is 84.4 dBµV/m (136.5 – 52.1).

§ 2.1055 Frequency Stability - § 24.235

§ 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.

§ 24.235

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§ 2.1033 (c)(4) Type of emissions

Emission designator: W7E

First symbol = W Digital modulation
Second symbol = 7 Two or more channels congaing digital information
Third symbol = E Telephony

3.2.3 Test Procedure

The 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, 1999 (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, 2001.

For radiated emissions testing that are 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: 120 VAC or 220 VAC
AC Mains Frequency: 50/60 Hz
Current Rating: 8 A, 4 A

4.2 Operating Modes:

Each mode of operation was exercised to produce worst-case emissions. Both the 25-watt (model M640326) and the 8-watt (model M640323) versions were tested; the results for both units are enclosed with this report. Both units were prescanned at 120 VAC and 220 VAC for radiated emissions. The worst-case radiated emissions were with the EUT running at 240 VAC; therefore, this data was used to show compliance for radiated disturbance. Conducted disturbance at AC mains testing was performed at both 120 VAC and 240 VAC and with both the system power supply and HPA power supply. The worst-case emissions were with the M64 powered up in the transmit mode.

4.3 EUT Exercise Software:

The M64 used internal firmware to produce the worst-case emissions.

SECTION 5.0 SUMMARY OF TEST RESULTS

5.1 FCC PART 24, Subpart E

5.1.1 Summary of Tests:

Section	Test Performed	Frequency Range (MHz)	Result
24.232 / 2.1046	Maximum Transmitter Power	1930 - 1990	Complied
2.1047	Modulation Characteristics	1930 - 1990	Complied
2.1049	Emission Bandwidth	1930 - 1990	Complied
24.238 / 2.1051	Unwanted Radiation (Antenna Conducted Spurious)	30 – 20,000	Complied
24.238 / 2.1053	Unwanted Radiation (Radiated Spurious)	30 – 20,000	Complied
24.235 / 2.1055	Frequency Stability	1930 - 1990	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:

The M64 operates in Blocks A through F from 1930 MHz to 1990 MHz; therefore, testing was performed with the M64 tuned to 1934.2 MHz, 1960.0 MHz and 1985.2 MHz.

6.3 RF Power Output (25 Watt Configuration)

The M64 is equipped with three different antenna ports; therefore, RF output power testing was performed on all three ports.

Transmitting at 1934.2 MHz Antenna Port 1			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	43.3	-0.7
1	42.0	41.8	-0.2
2	40.0	40.1	0.1
3	38.0	38.4	0.4
4	36.0	36.6	0.6
5	34.0	34.9	0.9
6	32.0	32.9	0.9

Transmitting at 1960.0 MHz Antenna Port 1			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.3	0.3
1	42.0	42.6	0.6
2	40.0	41.2	1.2
3	38.0	38.9	0.9
4	36.0	37.1	1.1
5	34.0	35.2	1.2
6	32.0	33.5	1.5

Transmitting at 1985.2 MHz Antenna Port 1			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	43.0	-1.0
1	42.0	41.8	-0.2
2	40.0	40.2	0.2
3	38.0	38.6	0.6
4	36.0	36.7	0.7
5	34.0	34.9	0.9
6	32.0	32.9	0.9

Transmitting at 1934.2 MHz Antenna Port 2			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.0	0.0
1	42.0	42.7	0.7
2	40.0	40.9	0.9
3	38.0	39.2	1.2
4	36.0	37.5	1.5
5	34.0	35.7	1.7
6	32.0	34.0	2.0

Transmitting at 1960.0 MHz Antenna Port 2			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.3	0.3
1	42.0	42.8	0.8
2	40.0	41.4	1.4
3	38.0	39.2	1.2
4	36.0	37.4	1.4
5	34.0	35.6	1.6
6	32.0	33.7	1.7

Transmitting at 1985.2 MHz Antenna Port 2			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.2	0.2
1	42.0	42.9	0.9
2	40.0	41.3	1.3
3	38.0	39.5	1.5
4	36.0	37.7	1.7
5	34.0	35.8	1.8
6	32.0	33.9	1.9

Transmitting at 1934.2 MHz Antenna Port 3			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.4	0.4
1	42.0	42.6	0.6
2	40.0	40.8	0.8
3	38.0	38.9	0.9
4	36.0	37.1	1.1
5	34.0	35.1	1.1
6	32.0	33.1	1.1

Transmitting at 1960.0 MHz Antenna Port 3			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.8	0.8
1	42.0	43.5	1.5
2	40.0	41.6	1.6
3	38.0	39.6	1.6
4	36.0	37.7	1.7
5	34.0	35.7	1.7
6	32.0	33.6	1.6

Transmitting at 1985.2 MHz Antenna Port 3			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	44.0	44.5	0.5
1	42.0	43.1	1.1
2	40.0	41.3	1.3
3	38.0	39.3	1.3
4	36.0	37.5	1.5
5	34.0	35.5	1.5
6	32.0	33.2	1.2

6.4 RF Power Output (8 Watt Configuration)

The M64 is equipped with one antenna port feed by single duplexer and three separate transmitters; therefore, RF output power testing was performed on all three transmitters.

Transmitting at 1934.2 MHz TRX 1			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.7	-0.3
1	37.0	37.1	0.1
2	35.0	35.4	0.4
3	33.0	33.7	0.7
4	31.0	31.8	0.8
5	29.0	29.9	0.9
6	27.0	28.0	1.0

Transmitting at 1960.0 MHz TRX 1			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	39.1	0.1
1	37.0	37.8	0.8
2	35.0	36.1	1.1
3	33.0	34.4	1.4
4	31.0	32.5	1.5
5	29.0	30.6	1.6
6	27.0	28.6	1.6

Transmitting at 1985.2 MHz TRX 1			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	39.0	0.0
1	37.0	37.8	0.8
2	35.0	36.2	1.2
3	33.0	34.5	1.5
4	31.0	32.6	1.6
5	29.0	30.6	1.6
6	27.0	28.6	1.6

Transmitting at 1934.2 MHz TRX 2			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.3	-0.7
1	37.0	36.9	-0.1
2	35.0	35.3	0.3
3	33.0	33.5	0.5
4	31.0	31.6	0.6
5	29.0	29.8	0.8
6	27.0	28.0	1.0

Transmitting at 1960.0 MHz TRX 2			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.7	-0.3
1	37.0	37.4	0.4
2	35.0	35.8	0.8
3	33.0	34.1	1.1
4	31.0	32.1	1.1
5	29.0	30.2	1.2
6	27.0	28.4	1.4

Transmitting at 1985.2 MHz TRX 2			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.5	-0.5
1	37.0	37.4	0.4
2	35.0	35.9	0.9
3	33.0	33.9	0.9
4	31.0	31.9	0.9
5	29.0	30.1	1.1
6	27.0	28.2	1.2

Transmitting at 1934.2 MHz TRX 3			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.3	-0.7
1	37.0	36.7	-0.3
2	35.0	35.1	0.1
3	33.0	33.1	0.1
4	31.0	31.1	0.1
5	29.0	29.1	0.1
6	27.0	27.1	0.1

Transmitting at 1960.0 MHz TRX 3			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.8	-0.2
1	37.0	37.1	0.1
2	35.0	35.4	0.4
3	33.0	33.3	0.3
4	31.0	31.3	0.3
5	29.0	29.3	0.3
6	27.0	27.3	0.3

Transmitting at 1985.2 MHz TRX 3			
Power Level	Nominal (dBm)	Measured (dBm)	Difference (dB)
0	39.0	38.7	-0.3
1	37.0	37.4	0.4
2	35.0	35.8	0.8
3	33.0	33.7	0.7
4	31.0	31.6	0.6
5	29.0	29.5	0.5
6	27.0	27.3	0.3

6.5 Modulation Characteristics

The M64 uses digital modulation; therefore, this section does not apply.

6.6 Occupied Bandwidth (25 Watt Configuration)

The M64 is equipped with three different antenna ports; therefore, occupied bandwidth testing was performed on all three ports.

Antenna Port 1	
Frequency (MHz)	Bandwidth (kHz)
1934.2	311.5
1960.0	317.5
1985.2	307.5

Antenna Port 2	
Frequency (MHz)	Bandwidth (kHz)
1934.2	316.0
1960.0	314.5
1985.2	315.5

Antenna Port 3	
Frequency (MHz)	Bandwidth (kHz)
1934.2	312.0
1960.0	306.5
1985.2	309.5

6.7 Occupied Bandwidth (8 Watt Configuration)

The M64 is equipped with three different antenna ports; therefore, occupied bandwidth testing was performed on all three ports.

TRX 1	
Frequency (MHz)	Bandwidth (kHz)
1934.2	312.0
1960.0	309.0
1985.2	308.0

TRX 2	
Frequency (MHz)	Bandwidth (kHz)
1934.2	307.0
1960.0	311.0
1985.2	305.0

TRX 3	
Frequency (MHz)	Bandwidth (kHz)
1934.2	308.5
1960.0	307.0
1985.2	308.5

6.8 Conducted Spurious Emissions (25 Watt Configuration)

Conducted spurious emissions' testing was performed with the device tuned to the channel closest to the lower and upper band edge.

Exhibit 6

Measurements within the 1 MHz band immediately outside and adjacent to the frequency block were performed using a 10 kHz RBW and 30 kHz VBW. The conducted spurious emissions were tested at all three-antenna ports.

Transmitting at 1934.2 MHz (Antenna Port 1)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	124.2	-30.2	-13.0
200 - 500	248.0	-26.1	-13.0
500 - 1000	682.0	-27.1	-13.0
1000 - 1929	1929.0	-15.2	-13.0
1929 – 1930 **	1930.0	-49.5	-13.0
1990 – 1991 **	1990.9	-59.6	-13.0
1991 - 2000	1994.2	-35.4	-13.0
2000 - 4000	3868.4	-34.6	-13.0
4000 - 6000	5802.6	-23.4	-13.0
6000 - 8000	7736.8	-28.5 *	-13.0
8000 - 20,000	9671.0	-27.2 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1985.2 MHz (Antenna Port 1)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	175.5	-20.4	-13.0
200 - 500	311.0	-27.3	-13.0
500 - 1000	900.0	-26.5	-13.0
1000 - 1929	1628.0	-25.9	-13.0
1929 – 1930 **	1929.2	-61.1	-13.0
1990 – 1991 **	1990.0	-50.4	-13.0
1991 - 2000	1991.0	-14.2	-13.0
2000 - 4000	3970.4	-31.7	-13.0
4000 - 6000	5955.6	-22.2	-13.0
6000 - 8000	7940.8	-28.8 *	-13.0
8000 - 20,000	9926.0	-28.0 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1934.2 MHz (Antenna Port 2)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	124.2	-21.2	-13.0
200 - 500	315.8	-26.1	-13.0
500 - 1000	880.0	-26.1	-13.0
1000 - 1929	1929.0	-14.6	-13.0
1929 – 1930 **	1930.0	-48.8	-13.0
1990 – 1991 **	1990.4	-61.0	-13.0
1991 - 2000	1992.9	-35.4	-13.0
2000 - 4000	3868.4	-36.9	-13.0
4000 - 6000	5802.6	-24.7	-13.0
6000 - 8000	7736.8	-28.8 *	-13.0
8000 - 20,000	9671.0	-28.4 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1985.2 MHz (Antenna Port 2)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	175.5	-20.3	-13.0
200 - 500	315.8	-26.0	-13.0
500 - 1000	933.0	-26.1	-13.0
1000 - 1929	1672.6	-27.6	-13.0
1929 – 1930 **	1929.3	-61.3	-13.0
1990 – 1991 **	1990.0	-49.5	-13.0
1991 - 2000	1991.0	-13.5	-13.0
2000 - 4000	3970.4	-35.7	-13.0
4000 - 6000	5955.6	-25.4	-13.0
6000 - 8000	7940.8	-29.0 *	-13.0
8000 - 20,000	9926.0	-28.2 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1934.2 MHz (Antenna Port 3)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	123.8	-21.2	-13.0
200 - 500	268.4	-26.5	-13.0
500 - 1000	518.0	-26.5	-13.0
1000 - 1929	1929.0	-14.4	-13.0
1929 – 1930 **	1930.0	-49.4	-13.0
1990 – 1991 **	1990.4	-62.1	-13.0
1991 - 2000	1991.9	-35.3	-13.0
2000 - 4000	3868.4	-34.9	-13.0
4000 - 6000	5802.6	-25.0	-13.0
6000 - 8000	7736.8	-28.3 *	-13.0
8000 - 20,000	9671.0	-28.1 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1985.2 MHz (Antenna Port 3)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	175.5	-20.3	-13.0
200 - 500	358.4	-26.7	-13.0
500 - 1000	769.0	-25.5	-13.0
1000 - 1929	1635.4	-27.9	-13.0
1929 – 1930 **	1929.3	-60.6	-13.0
1990 – 1991 **	1990.0	-48.5	-13.0
1991 - 2000	1991.0	-13.5	-13.0
2000 - 4000	3970.4	-34.7	-13.0
4000 - 6000	5955.6	-24.5	-13.0
6000 - 8000	7940.8	-28.6 *	-13.0
8000 - 20,000	9926.0	-28.0 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

6.9 Conducted Spurious Emissions (8 Watt Configuration)

Conducted spurious emissions' testing was performed with the device tuned to the channel closest to the lower and upper band edge.

Measurements within the 1 MHz band immediately outside and adjacent to the frequency block were performed using a 10 kHz RBW and 30 kHz VBW. The conducted spurious emissions were tested at all three-antenna ports.

Transmitting at 1934.2 MHz (TRX 1)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	124.2	-27.0	-13.0
200 - 500	495.8	-32.3	-13.0
500 - 1000	607.0	-26.6	-13.0
1000 - 1929	1929.0	-19.1	-13.0
1929 – 1930 **	1930.0	-55.5	-13.0
1990 – 1991 **	1990.2	-60.9	-13.0
1991 - 2000	1993.2	-35.2	-13.0
2000 - 4000	3868.4	-35.1	-13.0
4000 - 6000	5802.6	-28.8	-13.0
6000 - 8000	7736.8	-28.5 *	-13.0
8000 - 20,000	9671.0	-27.2 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1985.2 MHz (TRX 1)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	175.4	-26.1	-13.0
200 - 500	232.4	-32.5	-13.0
500 - 1000	677.0	-26.8	-13.0
1000 - 1929	1167.2	-24.3	-13.0
1929 – 1930 **	1929.4	-61.5	-13.0
1990 – 1991 **	1990.0	-55.1	-13.0
1991 - 2000	1991.0	-17.6	-13.0
2000 - 4000	3970.4	-34.5	-13.0
4000 - 6000	5955.6	-29.1	-13.0
6000 - 8000	7940.8	-28.8 *	-13.0
8000 - 20,000	9926.0	-28.0 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1934.2 MHz (TRX 2)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	124.0	-27.8	-13.0
200 - 500	496.4	-33.4	-13.0
500 - 1000	549.0	-25.8	-13.0
1000 - 1929	1929.0	-18.6	-13.0
1929 – 1930 **	1930.0	-57.3	-13.0
1990 – 1991 **	1990.1	-61.8	-13.0
1991 - 2000	1992.2	-35.6	-13.0
2000 - 4000	3868.4	-35.5	-13.0
4000 - 6000	5802.6	-29.7	-13.0
6000 - 8000	7736.8	-28.8 *	-13.0
8000 - 20,000	9671.0	-28.4 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1985.2 MHz (TRX 2)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	175.5	-26.5	-13.0
200 - 500	232.4	-33.7	-13.0
500 - 1000	531.0	-27.0	-13.0
1000 - 1929	1167.2	-24.5	-13.0
1929 – 1930 **	1929.1	-61.8	-13.0
1990 – 1991 **	1990.0	-55.7	-13.0
1991 - 2000	1991.0	-18.2	-13.0
2000 - 4000	3970.4	-36.0	-13.0
4000 - 6000	5955.6	-29.3	-13.0
6000 - 8000	7940.8	-29.0 *	-13.0
8000 - 20,000	9926.0	-28.2 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1934.2 MHz (TRX 3)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	124.0	-28.8	-13.0
200 - 500	494.0	-33.6	-13.0
500 - 1000	544.0	-26.2	-13.0
1000 - 1929	1929.0	-18.8	-13.0
1929 – 1930 **	1930.0	-56.9	-13.0
1990 – 1991 **	1990.3	-60.8	-13.0
1991 - 2000	1993.6	-35.3	-13.0
2000 - 4000	3868.4	-35.4	-13.0
4000 - 6000	5802.6	-29.4	-13.0
6000 - 8000	7736.8	-28.3 *	-13.0
8000 - 20,000	9671.0	-28.1 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

Transmitting at 1985.2 MHz (TRX 3)			
Frequency Range (MHz)	Frequency (MHz)	Corrected Level (dBm)	Criteria (dBm)
30 - 200	175.4	-25.2	-13.0
200 - 500	232.4	-34.1	-13.0
500 - 1000	893.0	-26.0	-13.0
1000 - 1929	1167.2	-24.5	-13.0
1929 – 1930 **	1929.1	-61.2	-13.0
1990 – 1991 **	1990.0	-57.3	-13.0
1991 - 2000	1991.0	-18.1	-13.0
2000 - 4000	3970.4	-35.0	-13.0
4000 - 6000	5955.6	-29.4	-13.0
6000 - 8000	7940.8	-28.6 *	-13.0
8000 - 20,000	9926.0	-28.0 *	-13.0
* Noise Floor ** RBW 10 kHz, VBW 30 kHz			

6.10 Radiated Spurious Emissions (25 Watt Configuration)

The radiated spurious emissions were tested with all three-antenna ports terminated with 50 Ω loads. The worst-case emissions were with the M64 transmitting from antenna port 1. The data below represents worst-case emissions.

Transmitting at 1934.2 MHz						
Frequency MHz	Polarity H/V	Uncorr Level dBμV	Correction Factor dB	Corrected Level dBμV/m	Criteria dBμV/m	Margin dB
1019.5	V	18.5	28.5	47.0	84.4	-37.4
1059.5	V	14.2	28.7	42.9	84.4	-41.5
1718.0	V	15.1	32.3	47.4	84.4	-37.0
1742.1	V	15.6	32.5	48.1	84.4	-36.3
3868.4	V	15.1	41.9	57.0	84.4	-27.4
5802.6	V	9.7	48.4	58.1	84.4	-26.3
7736.8	V	3.2	58.0	61.2	84.4	-23.2
9671.0 *	V	10.8	43.5	54.3	84.4	-30.1
1019.5	H	16.9	28.5	45.4	84.4	-39.0
1059.5	H	16.3	28.7	45.0	84.4	-39.4
1718.0	H	18.2	32.3	50.5	84.4	-33.9
1742.1	H	17.1	32.5	49.6	84.4	-34.8
3868.4	H	19.7	41.9	61.6	84.4	-22.8
5802.6	H	10.3	48.4	58.7	84.4	-25.7
7736.8	H	4.4	58.0	62.4	84.4	-22.0
9671.0 *	H	10.8	43.5	54.3	84.4	-30.1

* No Emissions were detected, noise floor reading of Spectrum Analyzer.

Note 1: There were no emissions detected above 10,000 MHz, with the receive antenna 1 Meter from EUT.

Note 2: All the radiated emissions detected between 30 MHz and 1000 MHz were greater than 20 dB below the criteria.

Transmitting at 1960.0 MHz						
Frequency MHz	Polarity H/V	Uncorr Level dBµV	Correction Factor dB	Corrected Level dBµV/m	Criteria dBµV/m	Margin dB
1019.5	V	18.7	28.5	47.2	84.4	-37.2
1059.5	V	15.5	28.7	44.2	84.4	-40.2
1718.0	V	14.7	32.3	47.0	84.4	-37.4
1742.1	V	15.2	32.5	47.7	84.4	-36.7
3920.0	V	10.7	42.1	52.8	84.4	-31.6
5880.0	V	4.7	48.7	53.4	84.4	-31.0
7840.0	V	3.6	58.3	61.9	84.4	-22.5
9800.0 *	V	10.8	43.5	54.3	84.4	-30.1
1019.5	H	17.7	28.5	46.2	84.4	-38.2
1059.5	H	15.7	28.7	44.4	84.4	-40.0
1718.0	H	19.5	32.3	51.8	84.4	-32.6
1742.1	H	19.8	32.5	52.3	84.4	-32.1
3920.0	H	13.1	42.1	55.2	84.4	-29.2
5880.0	H	6.1	48.7	54.8	84.4	-29.6
7840.0	H	8.3	58.3	66.6	84.4	-17.8
9800.0 *	H	10.8	43.5	54.3	84.4	-30.1

* No Emissions were detected, noise floor reading of Spectrum Analyzer.

Note 1: There were no emissions detected above 10,000 MHz, with the receive antenna 1 Meter from EUT.

Note 2: All the radiated emissions detected between 30 MHz and 1000 MHz were greater than 20 dB below the criteria.

Transmitting at 1985.2 MHz						
Frequency MHz	Polarity H/V	Uncorr Level dBµV	Correction Factor dB	Corrected Level dBµV/m	Criteria dBµV/m	Margin dB
1019.5	V	18.7	28.5	47.2	84.4	-37.2
1059.5	V	15.5	28.7	44.2	84.4	-40.2
1718.0	V	14.7	32.3	47.0	84.4	-37.4
1742.1	V	15.2	32.5	47.7	84.4	-36.7
3970.4	V	15.2	42.3	57.5	84.4	-26.9
5955.6	V	9.6	49.1	58.7	84.4	-25.7
7940.8	V	2.6	58.5	61.1	84.4	-23.3
9926.0 *	V	10.8	43.5	54.3	84.4	-30.1
1019.5	H	17.7	28.5	46.2	84.4	-38.2
1059.5	H	15.7	28.7	44.4	84.4	-40.0
1718.0	H	19.5	32.3	51.8	84.4	-32.6
1742.1	H	19.8	32.5	52.3	84.4	-32.1
3970.4	H	18.0	42.3	60.3	84.4	-24.1
5955.6	H	12.2	49.1	61.3	84.4	-23.1
7940.8	H	12.2	58.5	70.7	84.4	-13.7
9926.0 *	H	10.8	43.5	54.3	84.4	-30.1

* No Emissions were detected, noise floor reading of Spectrum Analyzer.

Note 1: There were no emissions detected above 10,000 MHz, with the receive antenna 1 Meter from EUT.

Note 2: All the radiated emissions detected between 30 MHz and 1000 MHz were greater than 20 dB below the criteria.

6.11 Radiated Spurious Emissions (8 Watt Configuration)

The radiated spurious emissions were tested with all three-antenna ports terminated with 50 Ω loads. The worst-case emissions were with the M64 transmitting from antenna port 1. The data below represents worst-case emissions.

Transmitting at 1934.2 MHz						
Frequency MHz	Polarity H/V	Uncorr Level dBμV	Correction Factor dB	Corrected Level dBμV/m	Criteria dBμV/m	Margin dB
1019.5	V	18.5	28.5	47.0	84.4	-37.4
1059.5	V	14.2	28.7	42.9	84.4	-41.5
1718.0	V	15.1	32.3	47.4	84.4	-37.0
1742.1	V	15.6	32.5	48.1	84.4	-36.3
3868.4	V	16.8	41.9	58.7	84.4	-25.7
5802.6	V	12.8	48.4	61.2	84.4	-23.2
7736.8	V	4.8	58.0	62.8	84.4	-21.6
9671.0 *	V	10.8	43.5	54.3	84.4	-30.1
1019.5	H	16.9	28.5	45.4	84.4	-39.0
1059.5	H	16.3	28.7	45.0	84.4	-39.4
1718.0	H	18.2	32.3	50.5	84.4	-33.9
1742.1	H	17.1	32.5	49.6	84.4	-34.8
3868.4	H	21.0	41.9	62.9	84.4	-21.5
5802.6	H	10.2	48.4	58.6	84.4	-25.8
7736.8	H	4.8	58.0	62.8	84.4	-21.6
9671.0 *	H	10.8	43.5	54.3	84.4	-30.1

* No Emissions were detected, noise floor reading of Spectrum Analyzer.

Note 1: There were no emissions detected above 10,000 MHz, with the receive antenna 1 Meter from EUT.

Note 2: All the radiated emissions detected between 30 MHz and 1000 MHz were greater than 20 dB below the criteria.

Transmitting at 1960.0 MHz						
Frequency MHz	Polarity H/V	Uncorr Level dBµV	Correction Factor dB	Corrected Level dBµV/m	Criteria dBµV/m	Margin dB
1019.5	V	18.7	28.5	47.2	84.4	-37.2
1059.5	V	15.5	28.7	44.2	84.4	-40.2
1718.0	V	14.7	32.3	47.0	84.4	-37.4
1742.1	V	15.2	32.5	47.7	84.4	-36.7
3920.0	V	13.4	42.1	55.5	84.4	-28.9
5880.0	V	11.7	48.7	60.4	84.4	-24.0
7840.0	V	2.9	58.3	61.2	84.4	-23.2
9800.0 *	V	10.8	43.5	54.3	84.4	-30.1
1019.5	H	17.7	28.5	46.2	84.4	-38.2
1059.5	H	15.7	28.7	44.4	84.4	-40.0
1718.0	H	19.5	32.3	51.8	84.4	-32.6
1742.1	H	19.8	32.5	52.3	84.4	-32.1
3920.0	H	15.6	42.1	57.7	84.4	-26.7
5880.0	H	11.1	48.7	59.8	84.4	-24.6
7840.0	H	4.7	58.3	63.0	84.4	-21.4
9800.0 *	H	10.8	43.5	54.3	84.4	-30.1

* No Emissions were detected, noise floor reading of Spectrum Analyzer.

Note 1: There were no emissions detected above 10,000 MHz, with the receive antenna 1 Meter from EUT.

Note 2: All the radiated emissions detected between 30 MHz and 1000 MHz were greater than 20 dB below the criteria.

Transmitting at 1985.2 MHz						
Frequency MHz	Polarity H/V	Uncorr Level dBµV	Correction Factor dB	Corrected Level dBµV/m	Criteria dBµV/m	Margin dB
1019.5	V	18.7	28.5	47.2	84.4	-37.2
1059.5	V	15.5	28.7	44.2	84.4	-40.2
1718.0	V	14.7	32.3	47.0	84.4	-37.4
1742.1	V	15.2	32.5	47.7	84.4	-36.7
3970.4	V	23.6	42.3	65.9	84.4	-18.5
5955.6	V	11.3	49.1	60.4	84.4	-24.0
7940.8	V	5.0	58.5	63.5	84.4	-20.9
9926.0 *	V	10.8	43.5	54.3	84.4	-30.1
1019.5	H	17.7	28.5	46.2	84.4	-38.2
1059.5	H	15.7	28.7	44.4	84.4	-40.0
1718.0	H	19.5	32.3	51.8	84.4	-32.6
1742.1	H	19.8	32.5	52.3	84.4	-32.1
3970.4	H	16.6	42.3	58.9	84.4	-25.5
5955.6	H	13.1	49.1	62.2	84.4	-22.2
7940.8	H	11.0	58.5	69.5	84.4	-14.9
9926.0 *	H	10.8	43.5	54.3	84.4	-30.1

* No Emissions were detected, noise floor reading of Spectrum Analyzer.

Note 1: There were no emissions detected above 10,000 MHz, with the receive antenna 1 Meter from EUT.

Note 2: All the radiated emissions detected between 30 MHz and 1000 MHz were greater than 20 dB below the criteria.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor from the measured reading. The basic equation with a sample calculation is as follows:

Calculation: Corr. Level (dBìV) = Uncorr Level (dBìV) + Correction Factor (dB)
Correction Factor = Antenna Factor (dB) + Cable Factor (dB)

Exhibit 6

Assume a receiver reading of 32.5 dBìV is obtained. The Antenna Factor of 14.4 and a Cable Factor of 1.1 is added, giving field strength of 48.0 dBìV.

6.12 Frequency Stability

The M64 operates in Blocks A through F from 1930 MHz to 1990 MHz; therefore, testing was performed with the M64 tuned to 1934.2 MHz. The frequency stabilizing circuitry is the same for both the 25 Watt and 8 Watt configurations; therefore, testing for frequency stability was only performed on the 8 Watt configuration as representative of both units.

The manufacturer specifies the lowest temperature the device will operate is 0 C^0; therefore, the frequency stability testing was only performed to 0 C^0.

Transmitting at 1934.2 MHz				
Temp (C^0)	Transmit Frequency (MHz)	Measured Frequency Mean (MHz)	Deviation (ppm)	Criteria (ppm)
0.0	1934.2	1934.2068628	-0.02	N/A
10.0	1934.2	1934.2056210	0.62	N/A
20.0 (85% Nominal Voltage)	1934.2	1934.2062072	0.32	N/A
20.0 (Nominal Voltage)	1934.2	1934.2068292	Reference	N/A
20.0 (115% Nominal Voltage)	1934.2	1934.2073411	0.26	N/A
30.0	1934.2	1934.2064724	-0.18	N/A
40.0	1934.2	1934.206472	-0.18	N/A
50.0	1934.2	1934.2065912	-0.12	N/A

Sample Calculation

Exhibit 6

Deviation (percent) = $\frac{FM - TF}{TF} \times 10^6$

FM = Frequency Measured
TF = Intended Transmit Frequency

6.13 Line Conducted Emissions

6.13.1 Line Conducted Data - (Hot Lead) 120 VAC System P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
0.45	Peak	40.2	60.0
0.73	Peak	39.7	60.0
1.56	Peak	37.4	60.0
1.82	Peak	35.9	69.5
9.60	Peak	37.3	69.5
13.30	Peak	27.3	69.5
24.69	Peak	27.2	69.5
29.00	Peak	25.9	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 19.8 dB.

6.13.2 Line Conducted Data - (Neutral Lead) 120 VAC System P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
0.46	Peak	45.2	60.0
0.87	Peak	40.0	60.0
1.26	Peak	39.8	60.0
1.54	Peak	38.9	60.0
1.82	Peak	37.1	69.5
9.76	Peak	26.4	69.5
12.89	Peak	27.4	69.5
22.95	Peak	27.6	69.5
24.29	Peak	28.0	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 14.8 dB.

6.13.3 Line Conducted Data - (Hot Lead) 120 VAC HPA P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
1.22	Peak	46.2	60.0
1.53	Peak	43.3	60.0
1.92	Peak	41.1	69.5
7.42	Peak	37.2	69.5
9.46	Peak	38.6	69.5
10.05	Peak	39.2	69.5
11.39	Peak	37.8	69.5
15.45	Peak	32.1	69.5
17.40	Peak	29.2	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 13.8 dB.

6.13.4 Line Conducted Data - (Neutral Lead) 120 VAC HPA P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
1.21	Peak	44.7	60.0
1.53	Peak	44.5	60.0
1.93	Peak	41.1	69.5
2.73	Peak	38.3	69.5
6.21	Peak	35.0	69.5
9.75	Peak	38.5	69.5
10.58	Peak	38.2	69.5
11.36	Peak	36.7	69.5
15.66	Peak	32.0	69.5
18.21	Peak	27.5	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 15.3 dB.

6.13.5 Line Conducted Data - (Hot Lead) 220 VAC System P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
0.45	Peak	44.7	60.0
0.87	Peak	41.7	60.0
1.15	Peak	41.3	60.0
1.41	Peak	39.5	60.0
1.67	Peak	37.9	60.0
2.62	Peak	30.9	69.5
11.97	Peak	30.9	69.5
24.09	Peak	27.1	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 15.3 dB.

6.13.6 Line Conducted Data - (Neutral Lead) 220 VAC System P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
0.45	Peak	42.8	60.0
1.41	Peak	39.0	60.0
1.69	Peak	36.7	60.0
2.49	Peak	30.1	69.5
11.99	Peak	30.6	69.5
14.33	Peak	25.7	69.5
22.41	Peak	27.8	69.5
23.36	Peak	28.2	69.5
24.57	Peak	27.3	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 17.2 dB.

6.13.7 Line Conducted Data - (Hot Lead) 220 VAC HPA P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
1.32	Peak	42.2	60.0
4.07	Peak	34.5	69.5
8.16	Peak	34.1	69.5
10.30	Peak	35.1	69.5
11.62	Peak	34.7	69.5
13.97	Peak	32.0	69.5
15.44	Peak	32.1	69.5
15.86	Peak	32.0	69.5
16.79	Peak	30.3	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 17.8 dB.

6.13.8 Line Conducted Data - (Neutral Lead) 220 VAC HPA P/S

Frequency MHz	Detector	Measured Level dBμV	Class A Limit dBμV
1.22	Peak	45.2	60.0
1.56	Peak	42.9	60.0
2.57	Peak	35.2	69.5
5.64	Peak	33.1	69.5
10.34	Peak	37.7	69.5
11.68	Peak	36.5	69.5
13.01	Peak	32.0	69.5
15.06	Peak	30.2	69.5
16.22	Peak	28.8	69.5
18.56	Peak	26.6	69.5

Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for this test was: ± 3.3 dB.

Comments

A detailed description of the test method and test equipment used to perform this measurement can be found in Appendix 1 of this report.

RESULT

The EUT complied with the specification limit by a margin of 14.8 dB.

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.

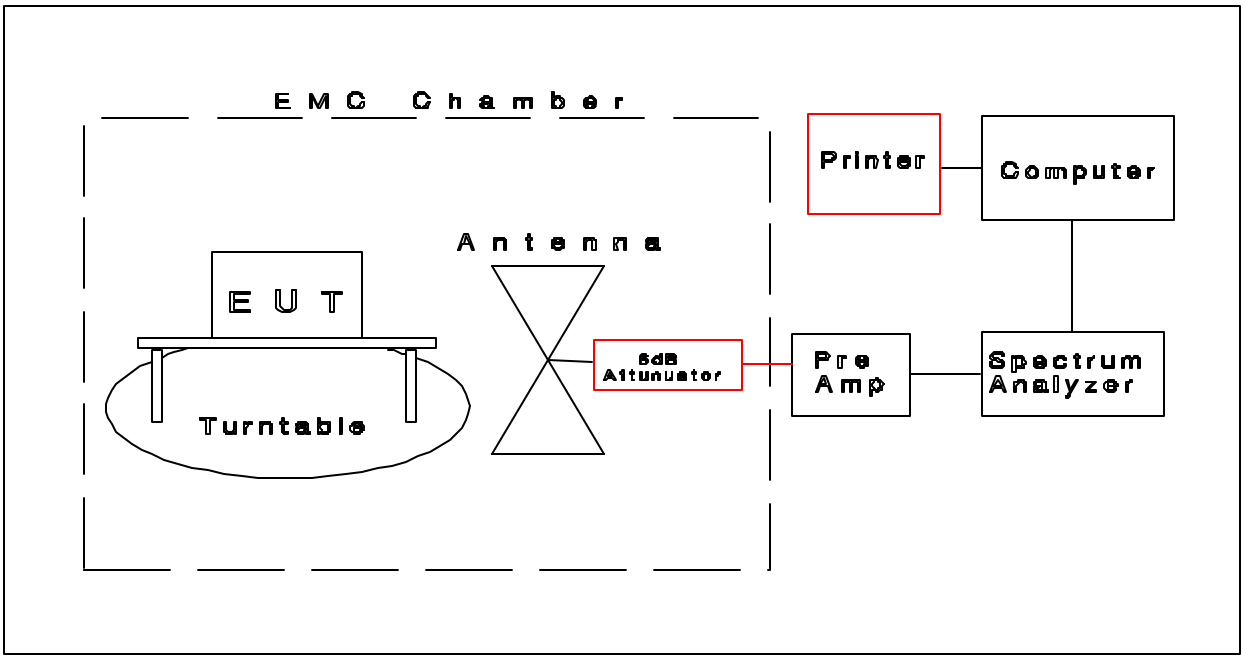
The configuration of the intentional radiator was varied to find the maximum radiated emission. The EUT was connected to the peripherals listed in Section 2.4 via the interconnecting cables listed in Section 2.5. These interconnecting cable were manipulated manually by a technician to obtain worst case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

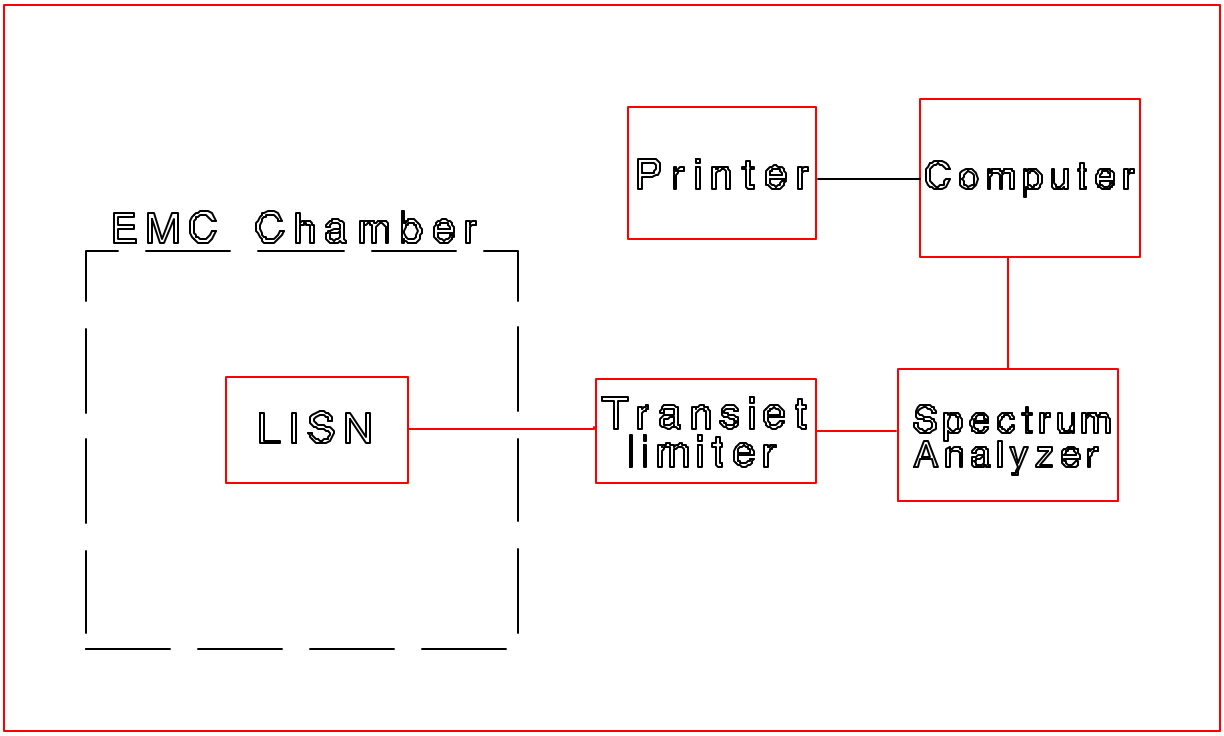
a) Each power cord, which is terminated in a mains supply plug, shall be tested separately.
b) Power cords, which are not specified by the manufacturer to be connected via a host unit, shall be tested separately.
c) Power cords which are specified by the manufacturer to be connected via a host unit or 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



FCC Sections 24.232 and 24.238 Peak Transmit Power, Bandwidth and Antenna Conducted Spurious Emissions

The EUT was directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below. The peak transmit power, emission bandwidth and antenna conducted spurious emissions were measured as per sections 2.985, 2.989 and 2.991. The measurements were performed on three channels, as per 47 CFR 15.31(m), one near the bottom of the spectrum, one near the middle of the spectrum and one near the top of the spectrum. The M64 was tested with one time slot active, this represents a typical configuration.

Testing for these sections were 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

Emission Bandwidth

RBW = 3 kHz
VBW = 10 kHz

Antenna Conducted Spurious Emissions

> 1 MHz from Bandedge	From Bandedge to First 1 MHz
RBW = 1 MHz	RBW = 10 kHz
VBW = 3 MHz	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

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

FCC Section 24.235 Carrier Frequency Stability

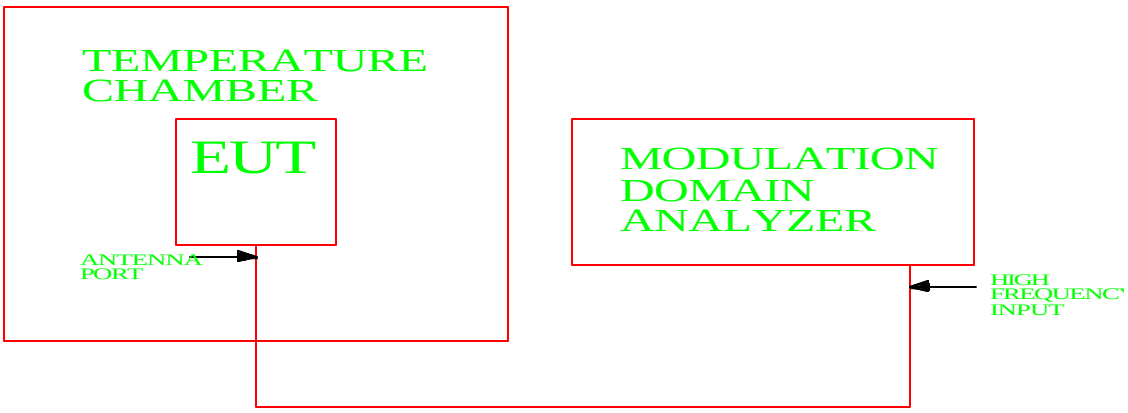
The EUT was placed inside of a temperature chamber and directly connected to the modulation domain analyzer via the antenna output port as shown in the block diagram below. The handset was connected to a computer that was used to control the handset to permit it to transmit on predetermined channels. The carrier frequency stability was measured as per section 6.2.2 of ANSI C63.17-1997 Editor's Draft 2.A (January 24, 1997).

The EUT was placed inside of the temperature chamber at 20^0C for one hour in order to stabilize the temperature of the chamber and the EUT. This measurement was recorded as a reference for the measurements at the other temperatures and the battery voltage extremes using the modulation domain analyzer.

The modulation domain analyzer's settings were set as follows:

Carrier Frequency Stability

Mode:	Frequency Measurement
Y Axis:	Frequency
Center Frequency:	nominal carrier center frequency
X Axis:	Time
Time Setting:	625 μs
Measurement Interval:	10 μs
No. of Measurements:	1000
Trigger:	RF Envelope



Type of Equipment	Manufacturer	Model Number	Serial Number
Modulation Domain Analyzer	Hewlett Packard	53310A	3121A00765
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.