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EMC/SAFETY

HEWLETT PACKARD COMPANY TEST REPORT

FOR THE

HP BT1300 BLUETOOTH WIRELESS PRINT ADAPTER, J6072A

FCC PART 15 SUBPART B SECTIONS 15.107 AND 15.109 CLASS B AND SUBPART C SECTIONS 15.207, 15.209 AND 15.247

COMPLIANCE

DATE OF ISSUE: DECEMBER 11, 2003

PREPARED FOR:

Hewlett Packard Company
3000 Hanover Street
Palo Alto, CA 94304

PREPARED BY:

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5473A Clouds Rest
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W.O. No.: 81119

Date of test: August 27 - September 15, 2003

Report No.: FC03-079

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	August 27 - September 15, 2003
DATE OF RECEIPT:	August 27, 2003
PURPOSE OF TEST:	To demonstrate the compliance of the hp bt1300 Bluetooth Wireless Print Adapter, J6072A, with the requirements for FCC Part 15 Subpart B Sections 15.107 and 15.109 and Subpart C Sections 15.207, 15.209 and 15.247 devices.
TEST METHOD:	ANSI C63.4 (1992)
MANUFACTURER:	Hewlett Packard Company 3000 Hanover Street Palo Alto, CA 94304
REPRESENTATIVE:	Corporate Product Regulations Manager
TEST LOCATION:	CKC Laboratories, Inc. 110 Olinda Place Brea, CA 92621

SUMMARY OF RESULTS

As received, the Hewlett Packard Company hp bt1300 Bluetooth Wireless Print Adapter, J6072A was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 15 Subpart B Sections 15.107 and 15.109 Class B
- FCC Part 15 Subpart C Sections 15.207, 15.209 and 15.247
- ANSI C63.4 (1992) method

FCC Site No. 100638

Canada

RSS-210 using:

- FCC Part 15 Subpart B Sections 15.107 and 15.109 Class B
- FCC Part 15 Subpart C Sections 15.207, 15.209 and 15.247
- ANSI C63.4 (1992) method

Industry of Canada File No. IC 3172-D

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:

Monika Brandle, EMC Test Engineer

Eddie Wong, EMC Engineer

Stuart Yamamoto, EMC Engineer

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was representative of a production unit.

FCC 15.31(e) Voltage Variations
For intentional radiators, measurements of radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. No significant variation in the signal level was observed.

FCC 15.31(m) Number Of Channels
This device was tested on three channels.

FCC 15.33(a) Frequency Ranges Tested
15.107 Conducted Emissions: 150 kHz – 30 MHz
15.109 Radiated Emissions: 9 kHz – 1000 MHz
15.207 Conducted: 150 kHz – 30 MHz
15.247/15.209 Radiated: 9 kHz – 26 GHz

FCC 15.203 Antenna Requirements
The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

FCC 15.205 Restricted Bands
The fundamental operating frequency lies outside the restricted bands and therefore complies with the requirements of Section 15.205 of the FCC rules. Any spurious emission coming from the EUT was investigated to determine if any portion lies inside the restricted band. If any portion of a spurious emissions signal was found to be within a restricted band, investigation was performed to ensure compliance with Section 15.209.

Eut Operating Frequency
The EUT was operating at 2402MHz-2480MHz.

The EUT is a frequency hopping device operating in the 2400 – 2483.5 MHz.

The following model was tested by CKC Laboratories: **HP bt1300**

Since the time of testing the manufacturer has clarified that **hp bt1300 Bluetooth Wireless Print Server** is the model name and the model number is **J6072A**. Any differences between the name and number does not affect their EMC characteristics and therefore complies to the level of testing equivalent to the tested model name shown on the data sheets.

EQUIPMENT UNDER TEST

Power Supply

Manuf:	Potrans
Model:	WR410500500
Serial:	0212
FCC ID:	NA

hp bt1300 Bluetooth Wireless Print Server

Manuf:	Hewlett Packard Company
Model:	J6072A
Serial:	US38T000D5 (Unit #1)
FCC ID:	B94J6072

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

HP 5550 Printer

Manuf:	HP
Model:	C6487C
Serial:	MY2BE1N3B3
FCC ID:	DoC

MEASUREMENT UNCERTAINTY

TEST	HIGHEST UNCERTAINTY
Radiated Emissions	+/- 2.94 dB
Conducted Emissions	+/- 1.56 dB

Note: Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Statements of compliance are based on the nominal values only.

REPORT OF MEASUREMENTS

The following tables report the six highest worst case levels recorded during the tests performed on the EUT. All readings taken are peak readings unless otherwise noted. The data sheets from which these tables were compiled are contained in Appendix C.

Table 1: FCC 15.107 Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB		Cable dB		CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.510280	41.1	0.0		0.1		41.2	48.0	-6.8	BA
0.533777	40.7	0.0		0.1		40.8	48.0	-7.2	WA
0.711060	40.8	0.0		0.1		40.9	48.0	-7.1	W
0.726174	39.4	0.0		0.1		39.5	48.0	-8.5	W
0.733044	39.7	0.0		0.1		39.8	48.0	-8.2	B
0.738540	39.3	0.0		0.1		39.4	48.0	-8.6	W

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart B Section 15.107 Class B

NOTES: A = Average Reading
B = Black Lead
W = White Lead

COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 150kHz-30MHz.

Table 2: FCC 15.109 Six Highest Radiated Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
264.050	47.2	12.9	-26.8	4.0		37.3	46.0	-8.7	H
288.086	46.6	13.2	-26.7	4.2		37.3	46.0	-8.7	V
312.145	46.9	13.8	-26.7	4.2		38.2	46.0	-7.8	H
330.000	45.5	14.4	-26.8	4.3		37.4	46.0	-8.6	H
384.043	45.1	15.9	-26.9	4.5		38.6	46.0	-7.4	V
480.077	41.5	17.9	-27.0	5.5		37.9	46.0	-8.1	V

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 30-1000MHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Table 3: FCC 15.109 Six Highest Radiated Emission Levels: > 1 GHz									
FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
2404.600	48.1	27.9	-39.4	9.3		45.9	54.0	-8.1	V
2406.260	46.5	27.9	-39.4	9.3		44.3	54.0	-9.7	H
2435.320	47.0	27.9	-39.4	9.5		45.0	54.0	-9.0	H
2439.794	49.5	28.0	-39.4	9.5		47.6	54.0	-6.4	V
2479.979	46.9	28.1	-39.4	9.6		45.2	54.0	-8.8	V
4802.620	42.1	33.0	-39.1	12.7		48.7	54.0	-5.3	H

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 1-26GHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Table 4: FCC 15.207 Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB	dB	Cable dB	dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.509980	40.3	0.0		0.1		40.4	48.0	-7.6	BA
0.511006	39.1	0.0		0.1		39.2	48.0	-8.8	WA
0.540340	42.1	0.0		0.1		42.2	48.0	-5.8	WA
0.680832	38.9	0.0		0.1		39.0	48.0	-9.0	W
0.719304	38.7	0.0		0.1		38.8	48.0	-9.2	W
0.737166	39.2	0.0		0.1		39.3	48.0	-8.7	W

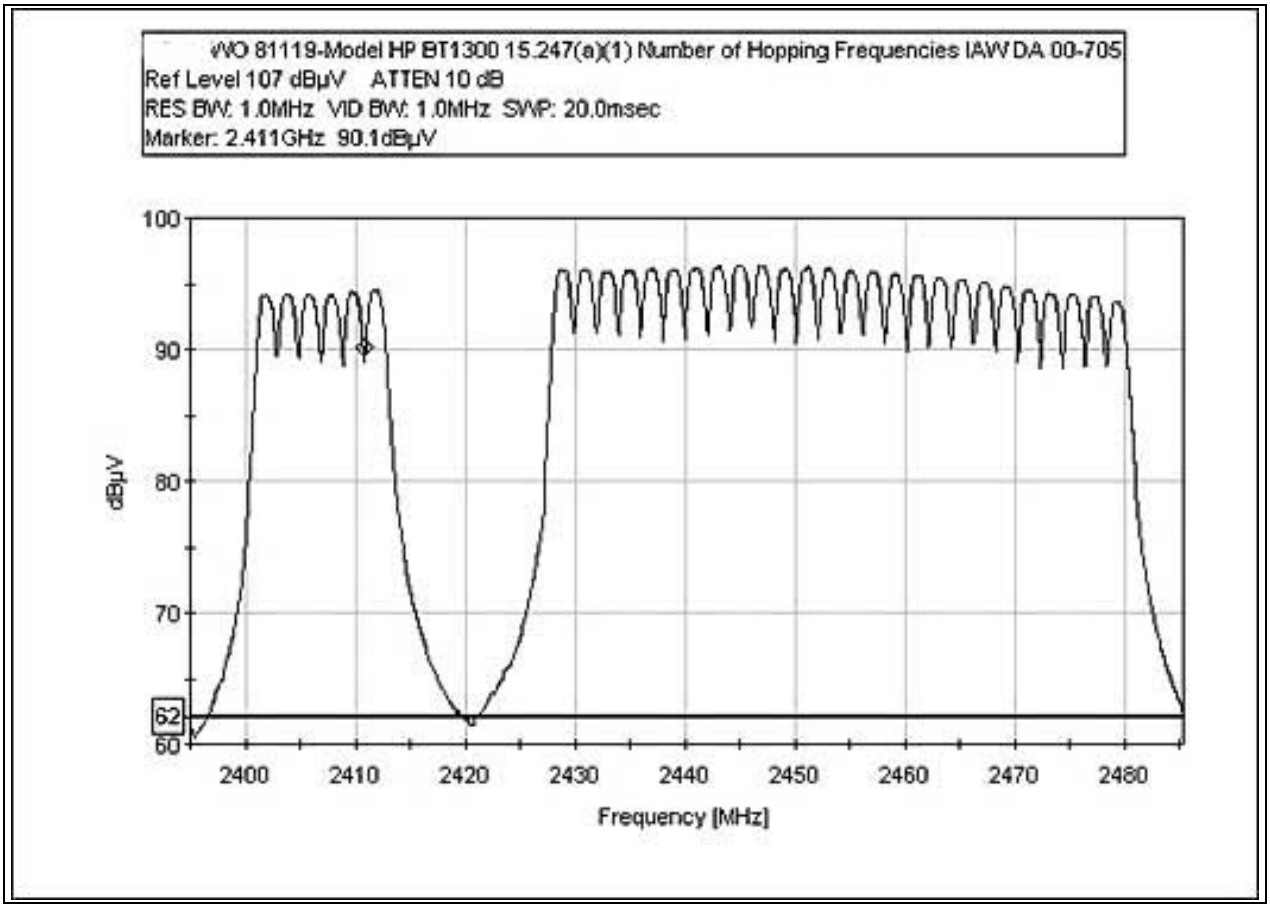
Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.207

NOTES: A = Average Reading
B = Black Lead
W = White Lead

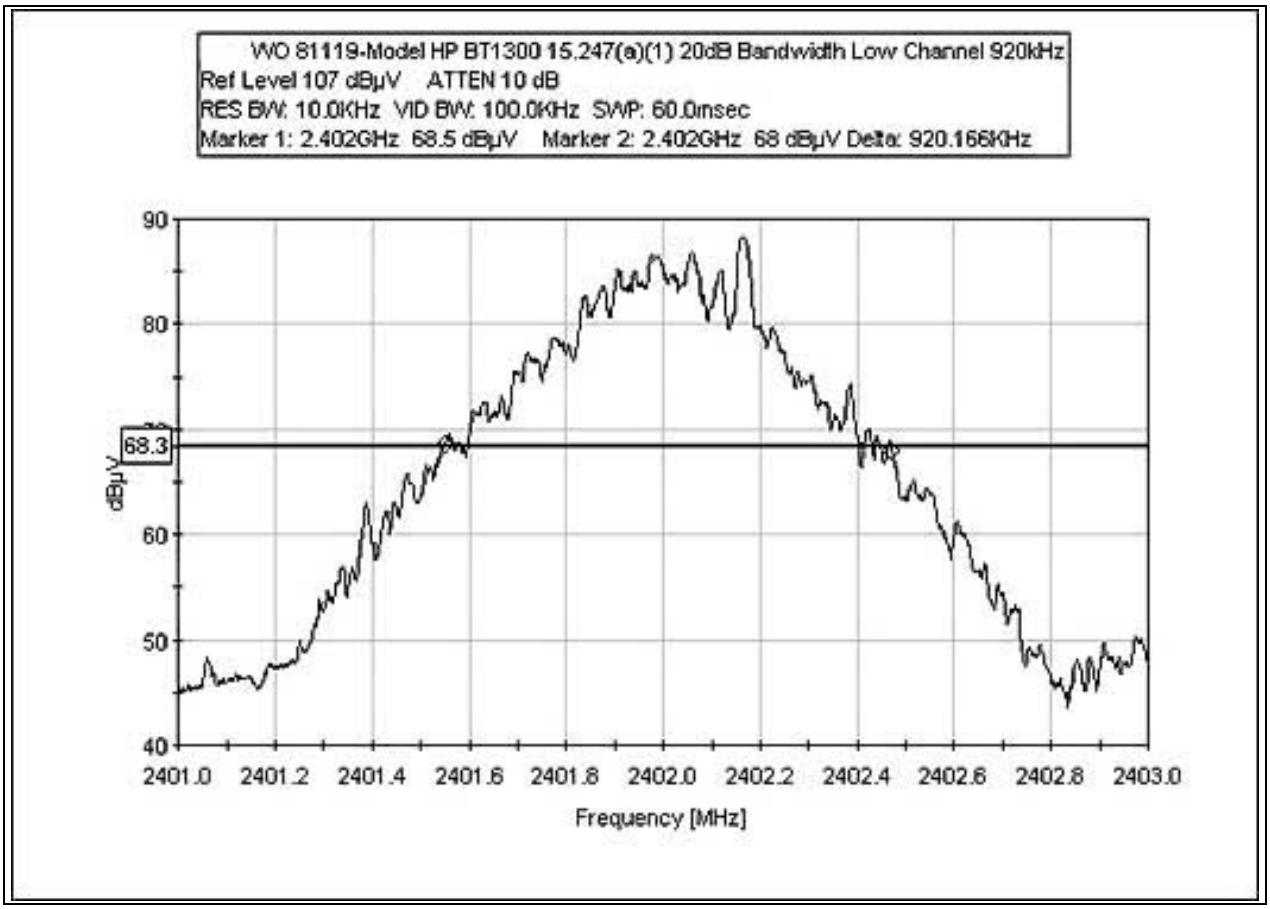
COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 150kHz-30MHz.

FCC 15.247(a)(1) NUMBER OF HOPPING FREQUENCIES

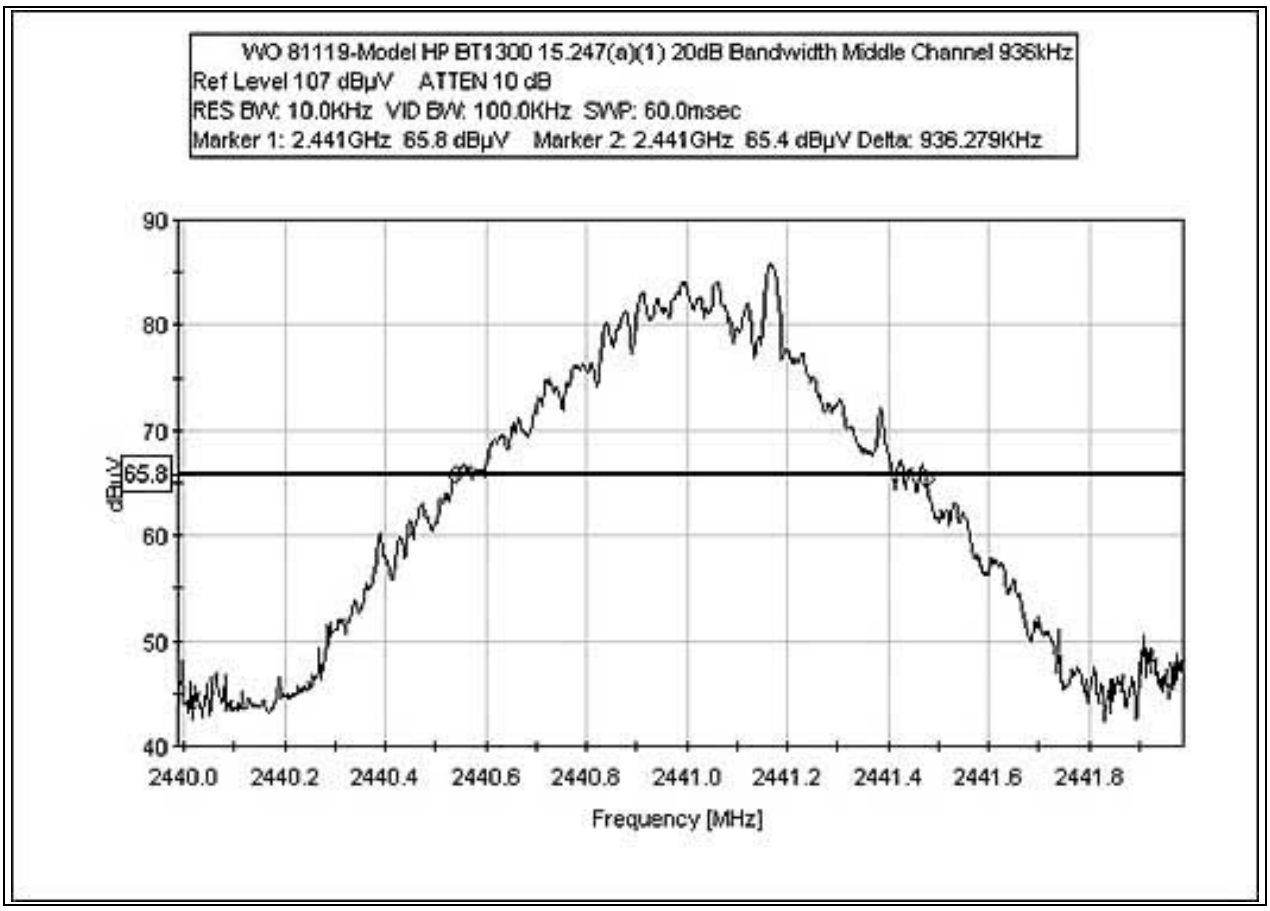
Test Conditions: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, with hopping function enabled, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping.



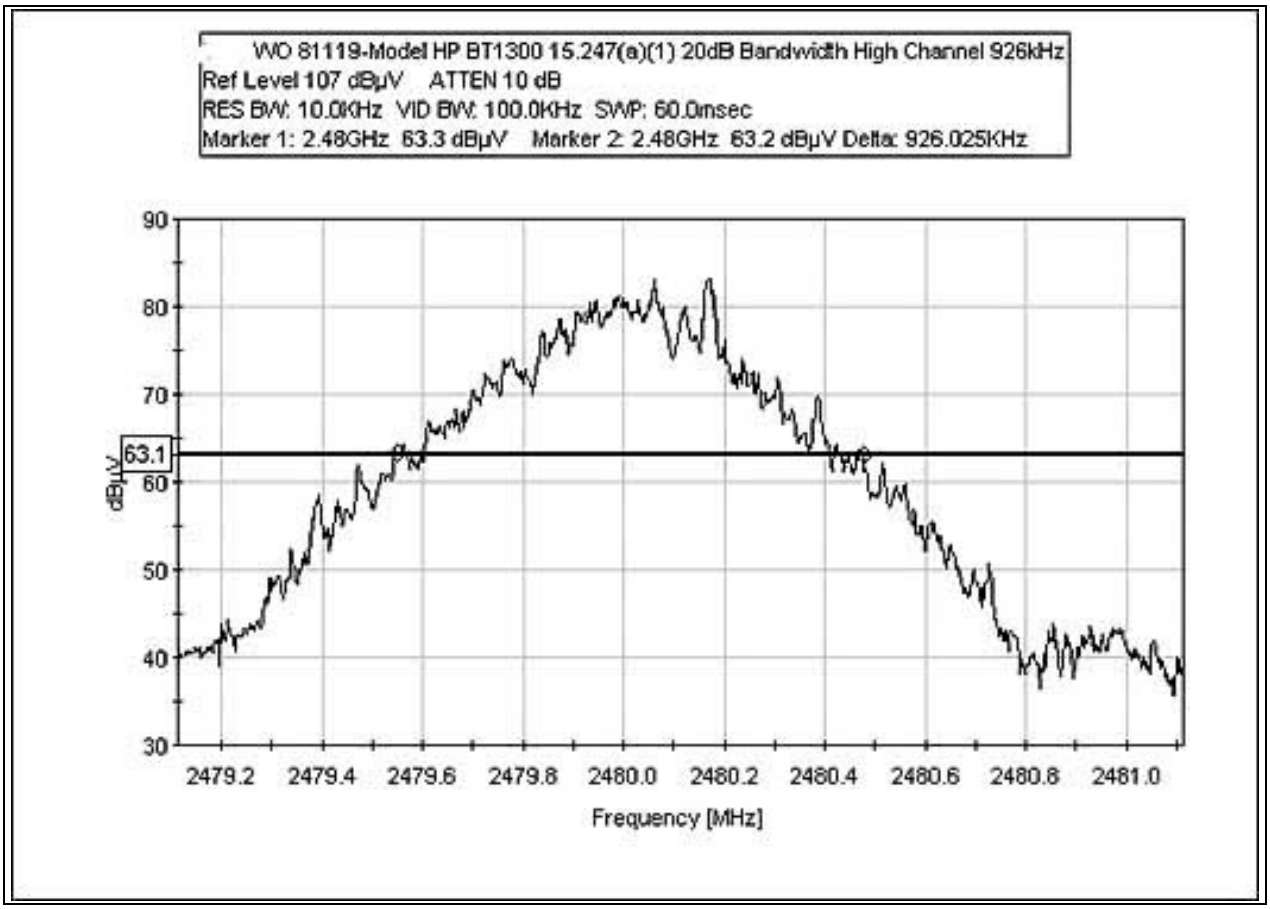
FCC 15.247(a)(1) 20 dB BANDWIDTH PLOT LOW



FCC 15.247(a)(1) 20 dB BANDWIDTH PLOT MIDDLE

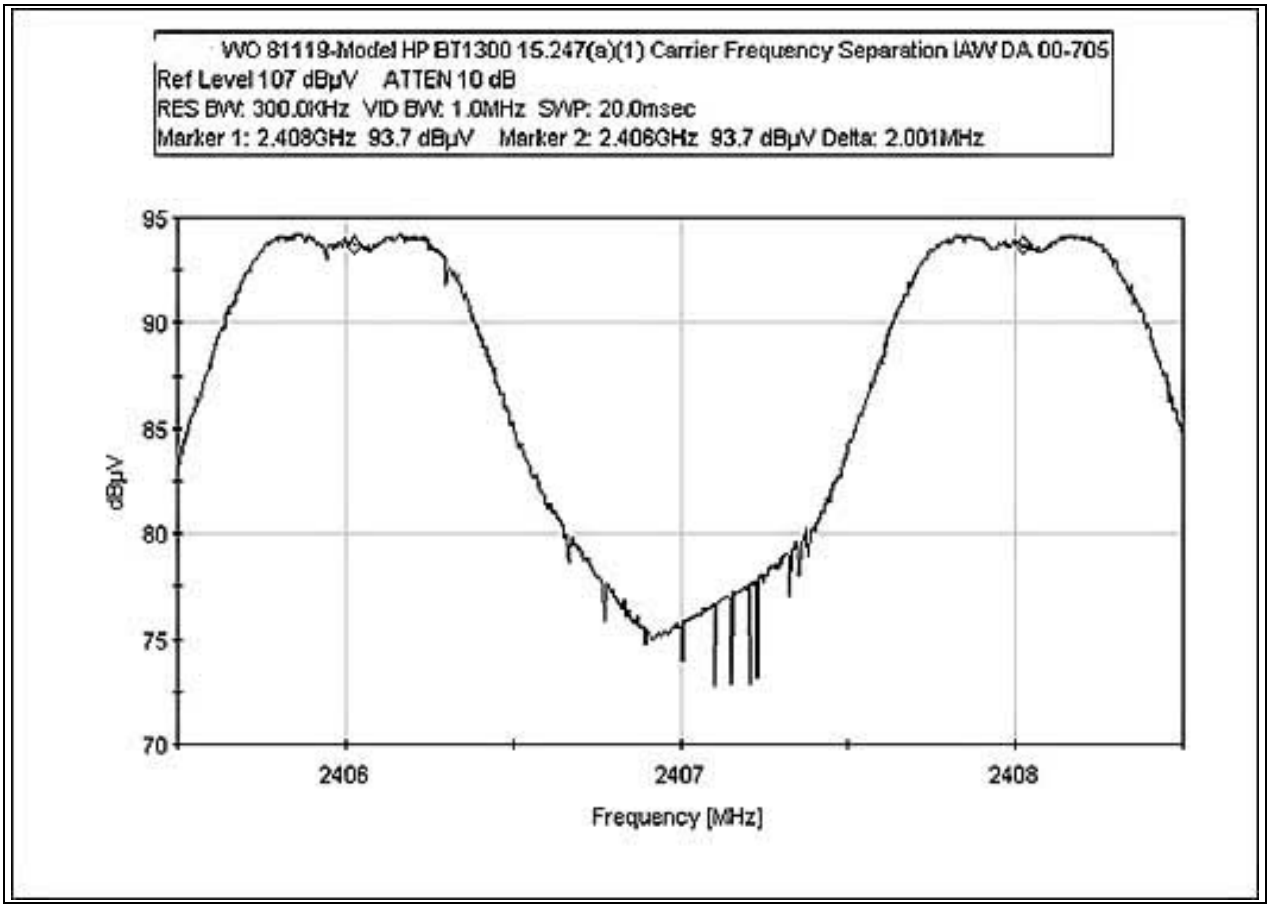


FCC 15.247(a)(1) 20 dB BANDWIDTH PLOT HIGH



FCC 15.247(a)(1) CARRIER FREQUENCY SEPARATION

Test Conditions: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, with hopping function enabled, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping.



FCC 15.247(a)(1)(iii) DWELL TIME PLOT 1

Test Conditions: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, with hopping function enabled, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping.

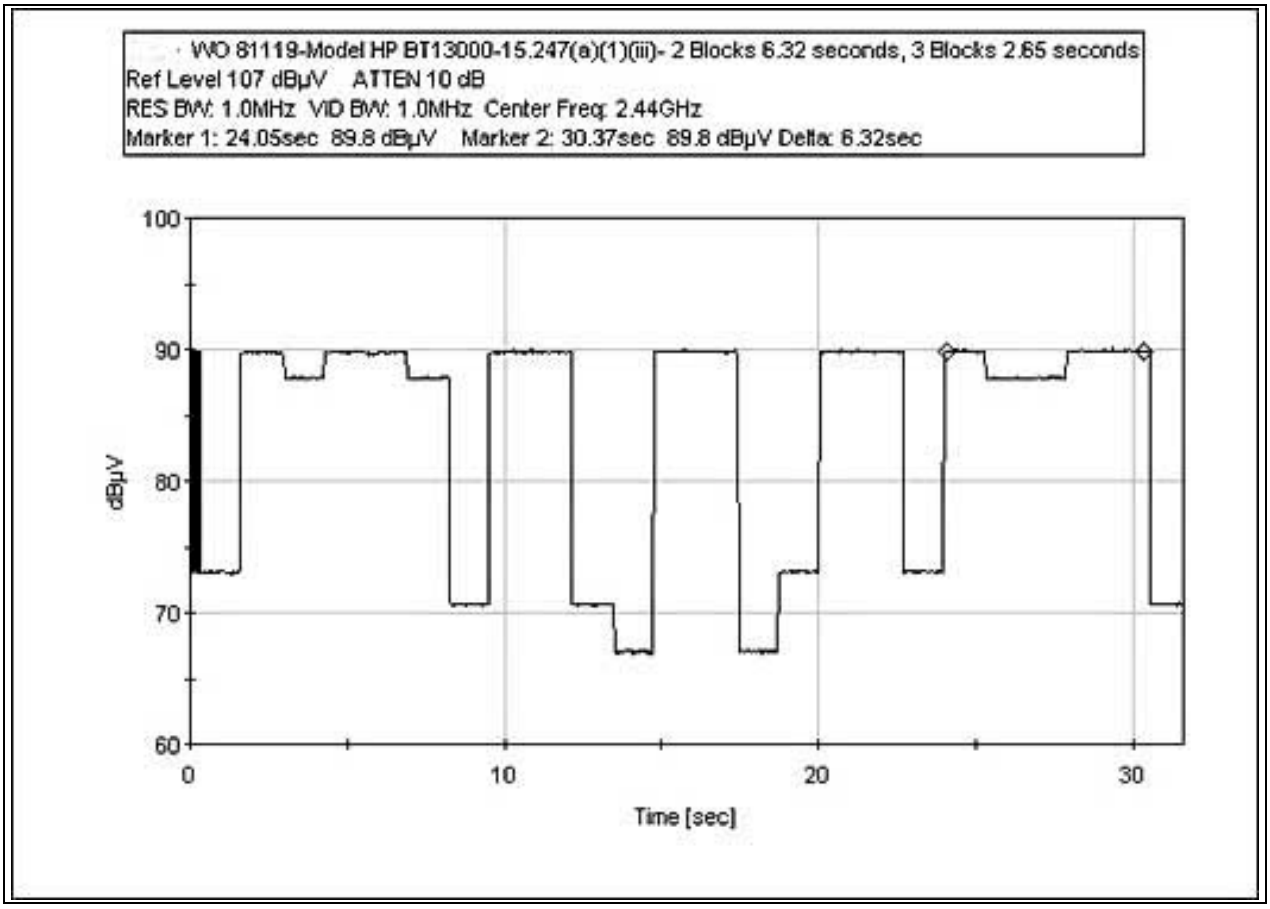
Averaging Time of Channel Occupancy:

Pulse timing calculations are as follows:

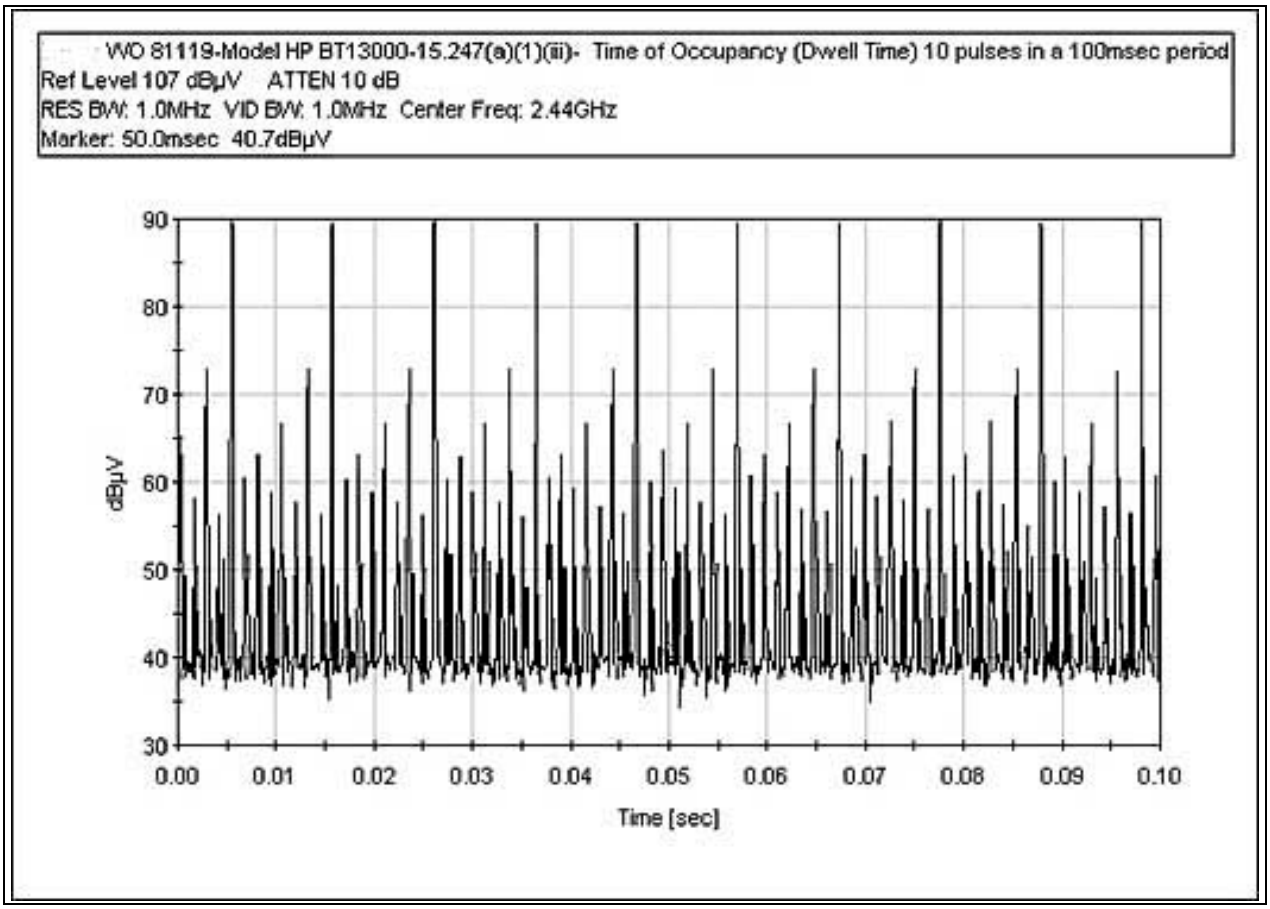
The pulse timing requirements of FCC 15.247(a)(1)(iii) require no more than 0.4 seconds of transmission time on a channel in a period defined by the number of hopping channels (in this case, 79) multiplied by 0.4; 79*0.4 = 31.6 seconds.

In 31.6 seconds, there are 2, 6.32 second transmit blocks and 3, 2.465 second transmit blocks. Within the transmit block, the EUT is transmitting approximately 100uSec per 20mSec period. There are 10 100uSec pulses in any 100mSec period. Therefore, there are 878.5 pulses per any 31.6 second period such that;
10/0.1=X/20.035 (20.035 = (2*6.32)=(3*2.465))

X= 2003.5µS;
2003.5*100uSec = 2003.5 µSec in any 31.6 second period or rather; .20035 seconds per any 31.6 second period which passes the criteria set forth in 15.247(a)(1)(iii)


WO 81119-Model HP BT13000-15.247(a)(1)(iii)- 2 Blocks 6.32 seconds, 3 Blocks 2.65 seconds
Ref Level 107 dBµV ATTEN 10 dB
RES BW: 1.0MHz VID BW: 1.0MHz Center Freq: 2.44GHz
Marker 1: 24.05sec 89.8 dBµV Marker 2: 30.37sec 89.8 dBµV Delta: 6.32sec
100
90
80
70
60
dBµV
0
10
20
30
Time [sec]

FCC 15.247(a)(1)(iii) DWELL TIME PLOT 2



FCC 15.247(a)(1)(iii) DWELL TIME PLOT 3

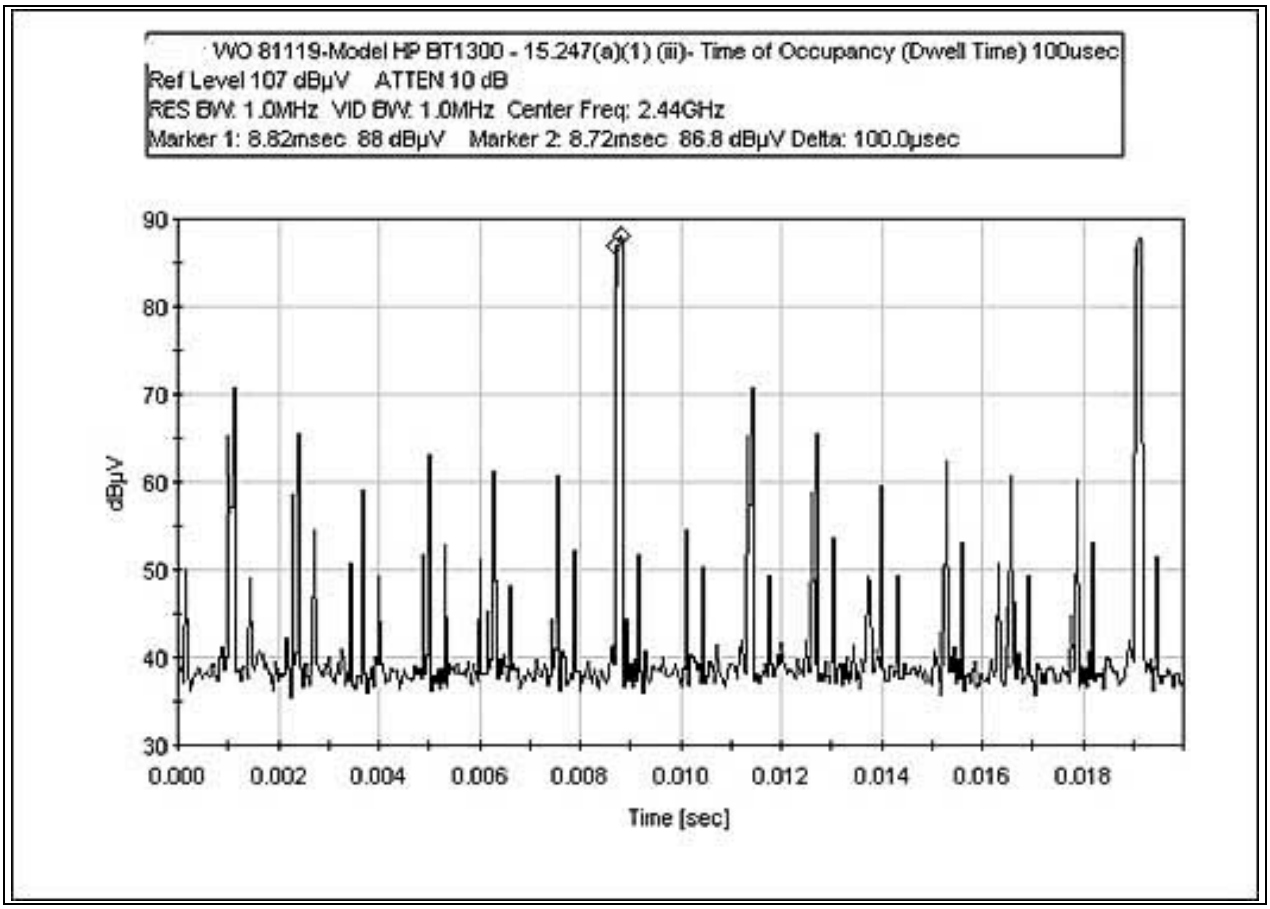


Table 5: FCC 15.247(b)(1) Peak Output Power

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
2401.770	95.0	28.2	-37.7	9.3		94.8	137.0	-42.2	V
2402.020	91.4	28.2	-37.7	9.3		91.2	137.0	-45.8	V
2402.200	99.3	28.2	-37.7	9.3		99.1	137.0	-37.9	H
2440.890	99.0	28.3	-37.7	9.5		99.1	137.0	-37.9	H
2479.940	89.5	28.3	-37.8	9.6		89.6	137.0	-47.4	V
2480.050	91.3	28.3	-37.8	9.6		91.4	137.0	-45.6	H

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.247(b)(1)
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. RBW/VBW = 3MHz. Highest reading obtained from low channel = 99.1dBuV. Antenna Gain from manufacturer is 2dBi or 1.58 numerical. ERP= (Ed)^2/30G = [(0.090157114)(3)]^2/[(30)(1.58)] = 1.5mW Limit = .125W in accordance with 15.247(b)(1) in accordance with 15.31(e). For intentional radiators, measurements of radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. No significant variation in the signal level was observed.

FCC 15.247(b)(5)

Maximum Permissible Exposure Calculations

Date of Report: September 16, 2003

Calculations prepared for:

Hewlett Packard Company
3000 Hanover Street
Palo Alto, CA 94304

Calculations prepared by:

Monika Brandle
CKC Laboratories, Inc.
5473A Clouds Rest Road
Mariposa, CA 95338

Model Number: HP BT 1300

Fundamental Operating Frequency: 2402MHz-2480MHz

Typical Rated Output Power: .0011W (ERP)
Measured Output Power: .0015W (ERP)
Antenna Gain: EUT has an integral antenna – Antenna Gain from manufacturer is 2dBi = 1.5 numerical

MPE Limit in accordance with 1.1310(b): Limits for general population/uncontrolled exposure

MPE Limit = 1

EIRP (mW)	Distance (Centi-Meters)	Power Density (mW/cm^2)	Result
1.5	0.345	1	Pass

Note: Worse case power reported.

$$PowerDensity(mW/cm^2) = \frac{EIRP}{4\pi d^2}$$ Given: **EIRP** in *mW* and **d** in *cm*

Under normal operating conditions, the antenna is designed to maintain a separation distance of at least 20cm from all persons. As can be seen from the MPE results, this device passes the limits specified in 1.1310 at a distance of less than 20cm and at a output power of .0015W(ERP).

Table 6: FCC 15.247(c)/15.209 Highest Radiated Emission Levels: 9 kHz - 30 MHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY	READING	Ant	Amp	Cable	Dist	READING	LIMIT	MARGIN	NOTES
MHz	dBµV	dB	dB	dB	dB	dBµV/m	dBµV/m	dB	
*									

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.247(c)/15.209
Test Distance: 3 Meters

NOTES:

COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 9kHz-30MHz. Test performed on low, mid, and high channel. Worst case emissions reported.

***All spurious emissions were found to be 20dB or more below the specification.**

Table 7: 15.247(c)/15.209 Six Highest Radiated Emission Levels: 30 Hz - 1 GHz

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
273.950	47.5	13.1	-26.8	4.0		37.8	46.0	-8.2	H
302.000	47.6	13.5	-26.7	4.2		38.6	46.0	-7.4	H
321.685	48.2	14.1	-26.7	4.2		39.8	46.0	-6.2	V
336.078	47.8	14.5	-26.8	4.3		39.8	46.0	-6.2	H
384.070	46.2	15.9	-26.9	4.5		39.7	46.0	-6.3	V
528.094	41.1	18.7	-27.1	5.7		38.4	46.0	-7.6	H

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.247(c)/15.209
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization

COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 30-1000MHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Table 8: FCC 15.247(c)/15.209 Six Highest Radiated Emission Levels: 1-18 GHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
2483.570	50.2	28.3	-37.8	9.7		50.4	54.0	-3.6	HA
7206.000	35.1	35.4	-39.1	16.3		47.7	54.0	-6.3	HA
7206.000	35.0	35.4	-39.1	16.3		47.6	54.0	-6.4	VA
7321.744	34.6	35.7	-39.0	16.1		47.4	54.0	-6.6	VA
7440.000	36.2	36.0	-39.0	16.0		49.2	54.0	-4.8	HA
7440.000	36.0	36.0	-39.0	16.0		49.0	54.0	-5.0	VA

Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.247(c)/15.209
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization
A = Average Reading

COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 1000MHz-18GHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Table 9: FCC 15.247(c)/15.209 Highest Radiated Emission Levels: 18-26 GHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	Dist dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
*									

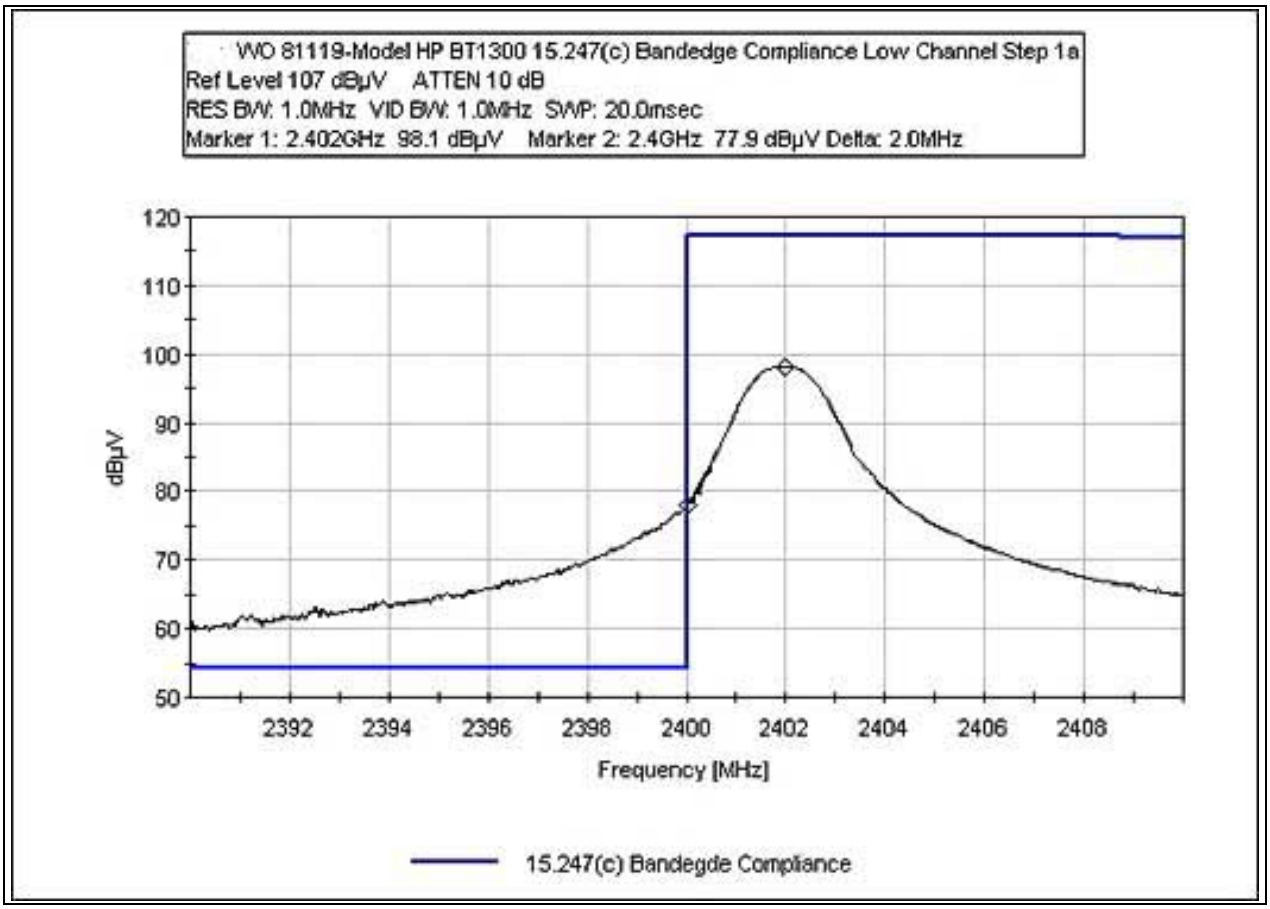
Test Method: ANSI C63.4 (1992)
Spec Limit: FCC Part 15 Subpart C Section 15.247(c)/15.209
Test Distance: 3 Meters

NOTES:

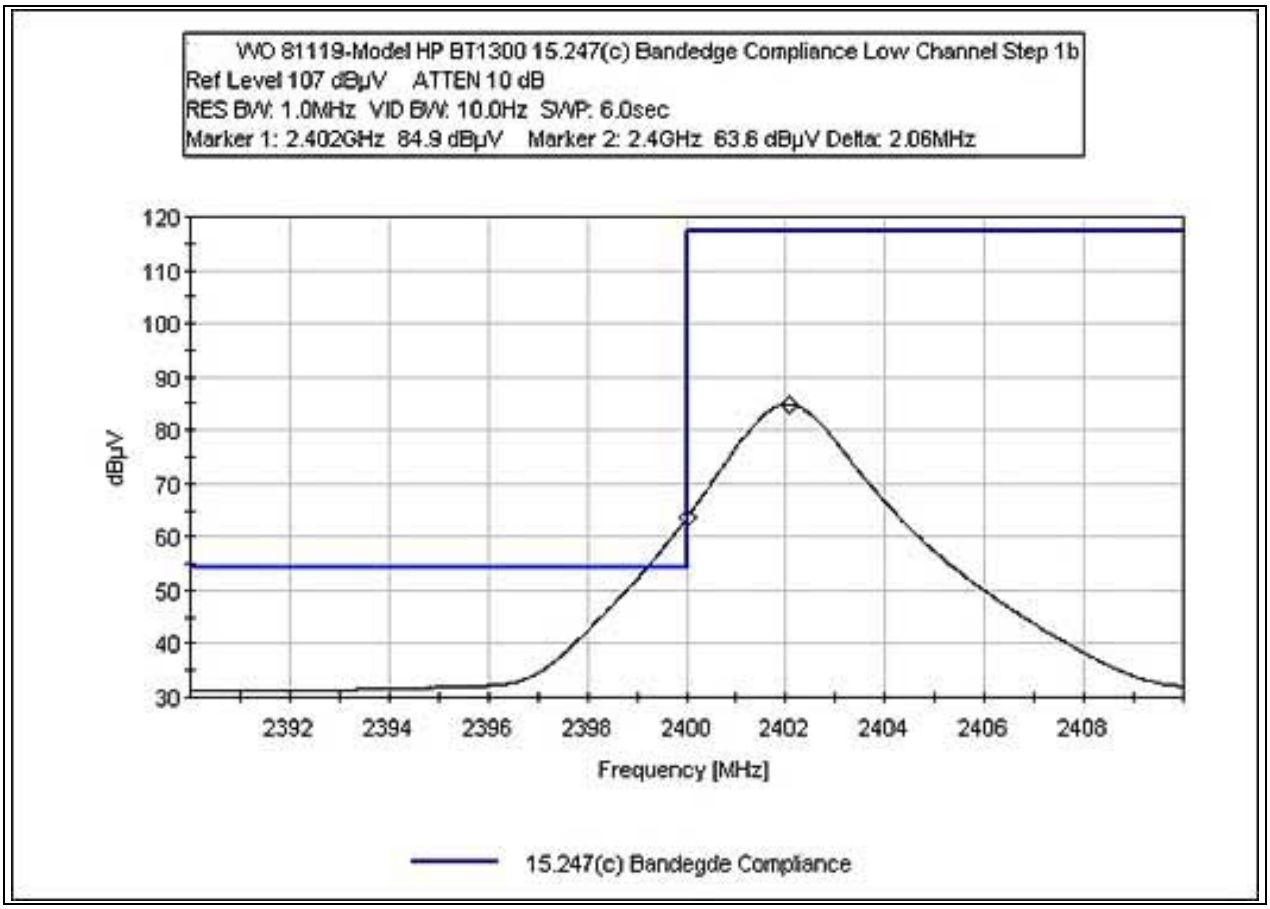
COMMENTS: EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 18-26GHz. Test performed on low, mid, and high channel. Worst case emissions reported.

***No emissions found within 20dB of limit.**

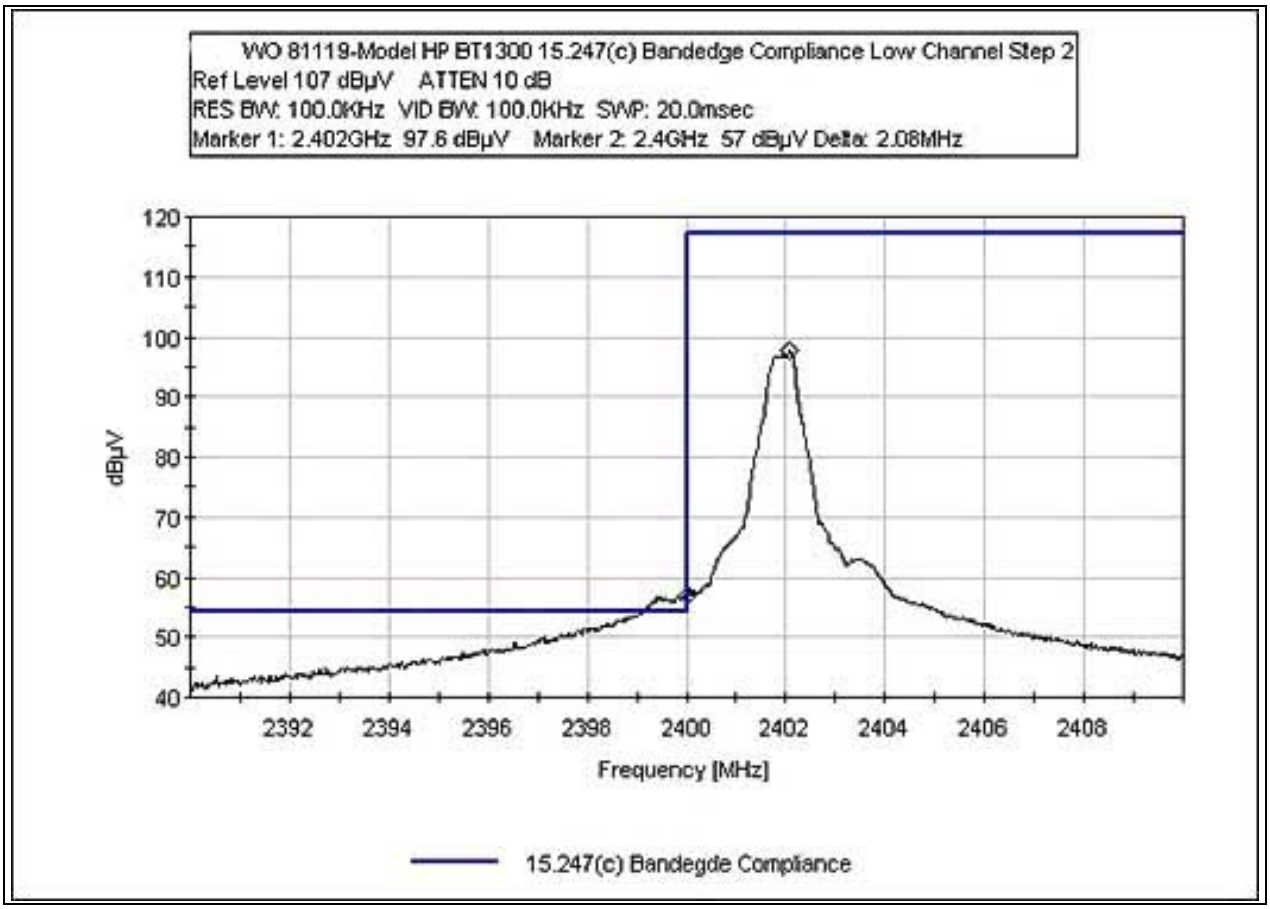
FCC 15.247(c) BANDEDGE LOW STEP 1A



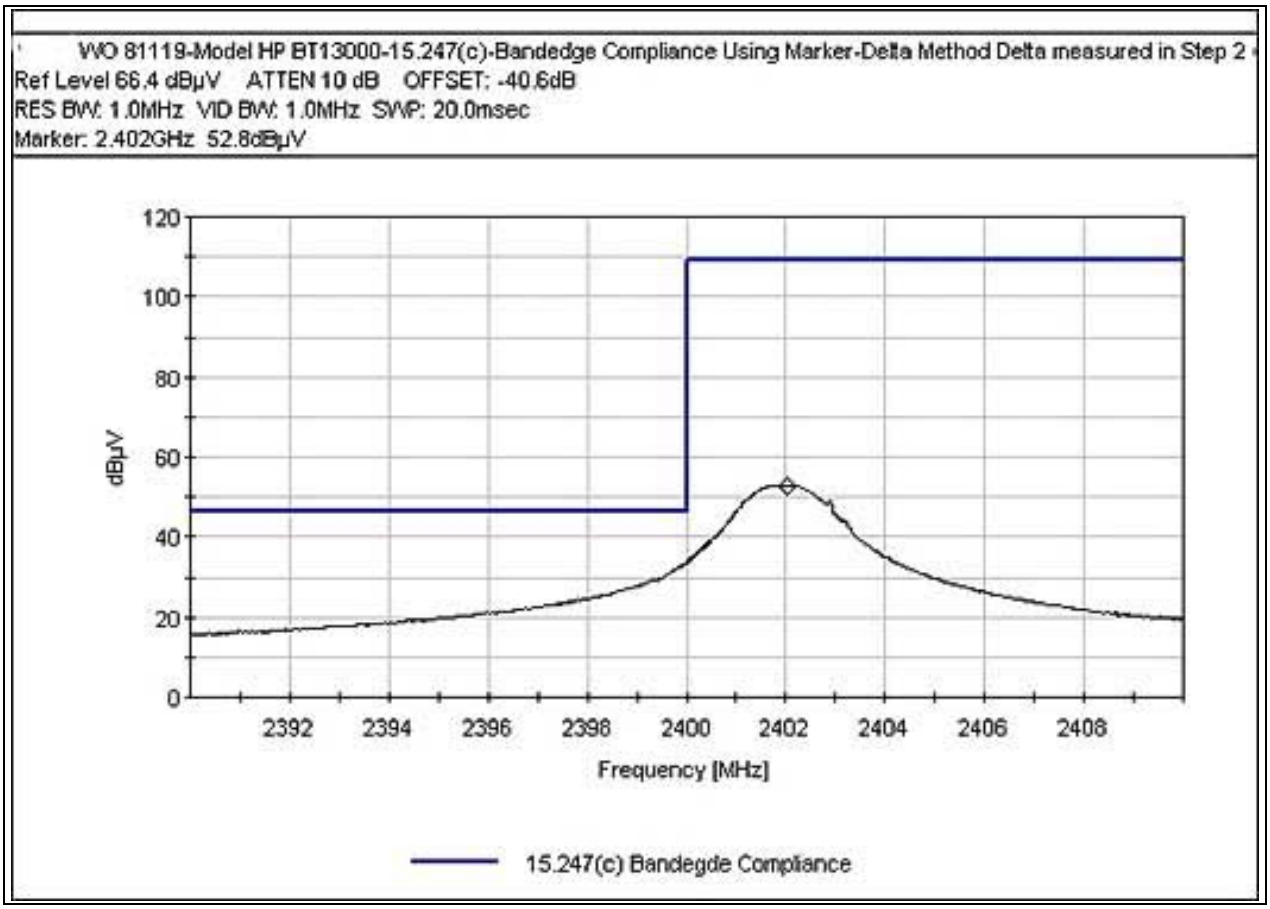
FCC 15.247(c) BANDEDGE LOW STEP 1B



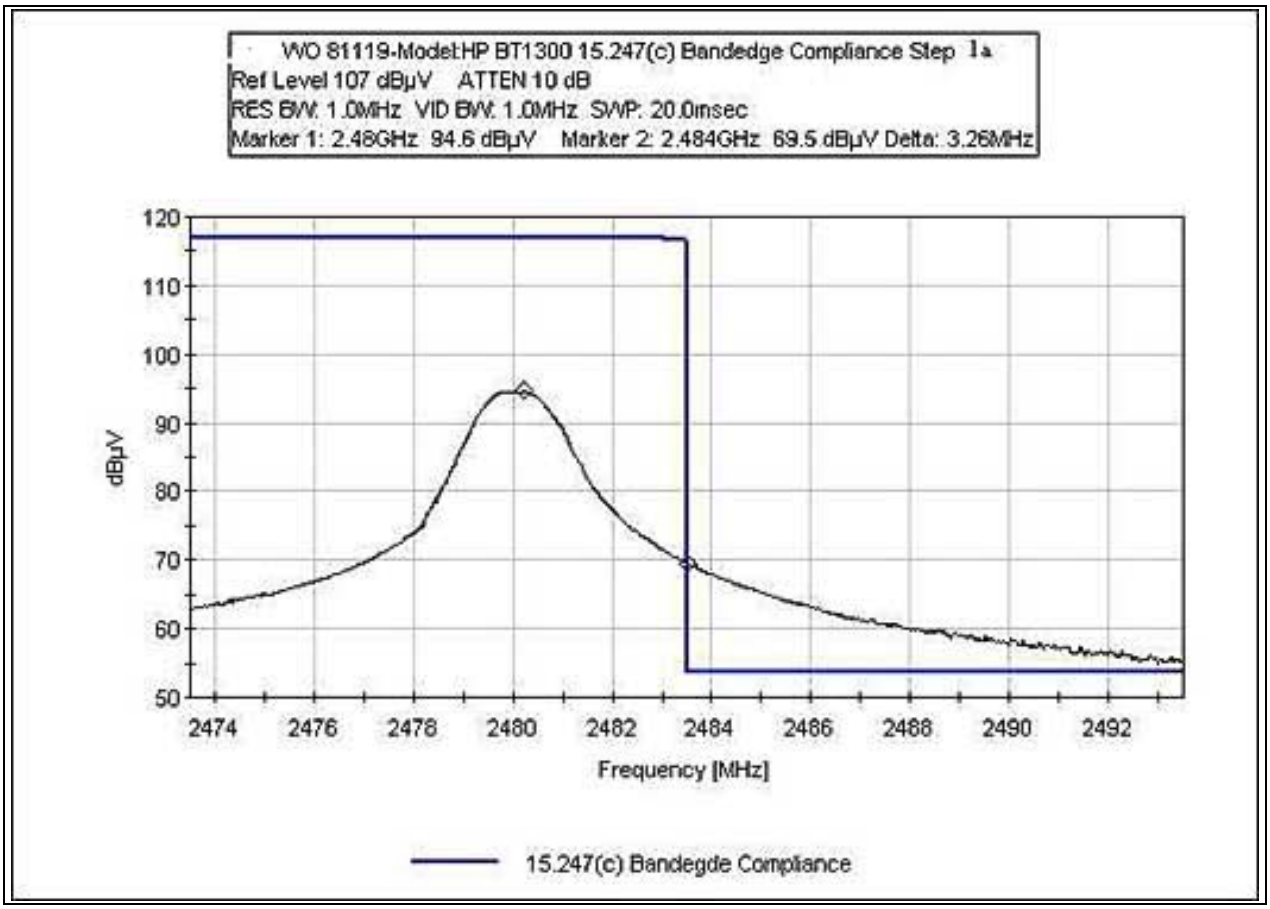
FCC 15.247(c) BANDEDGE LOW STEP 2



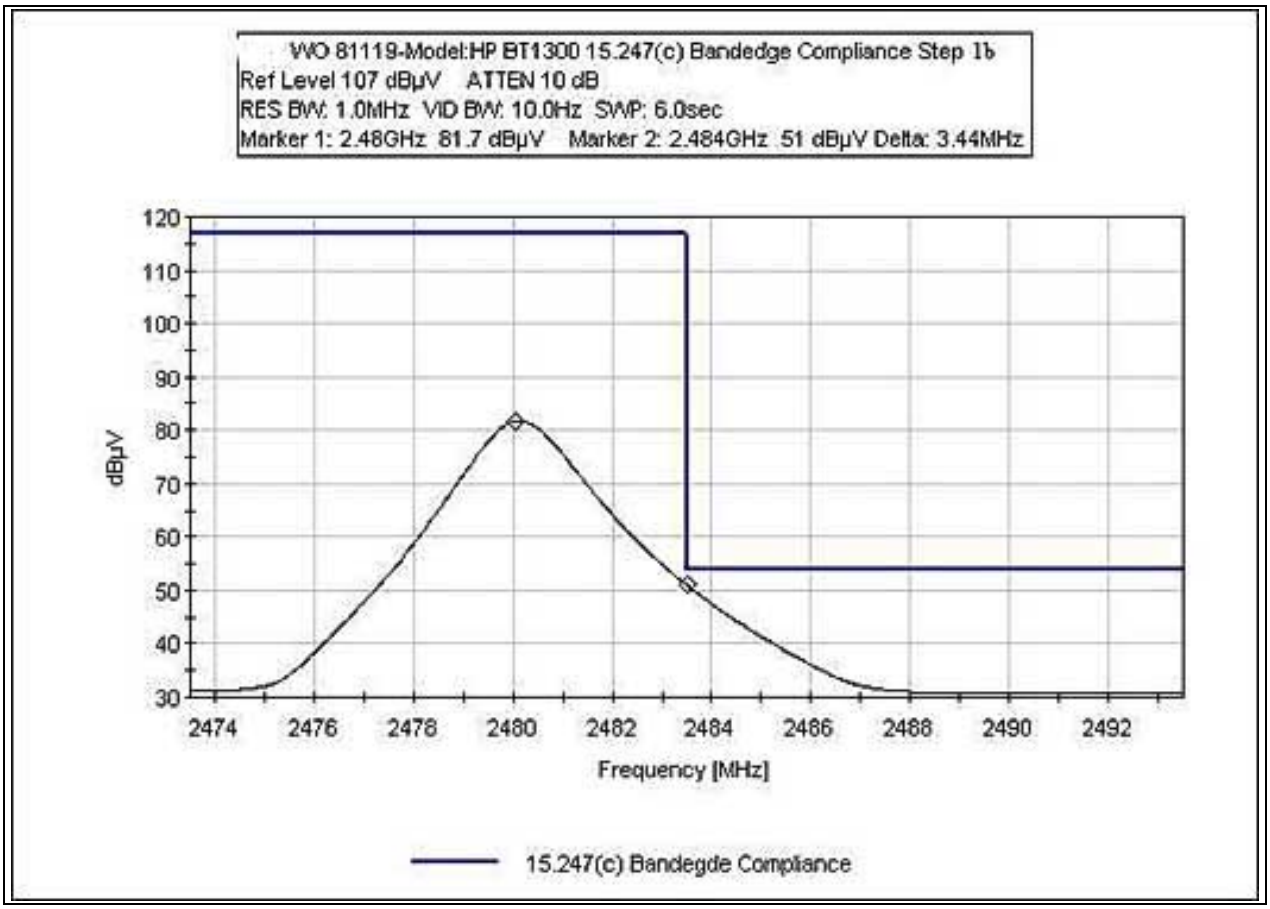
FCC 15.247(c) BANDEDGE LOW STEP 3



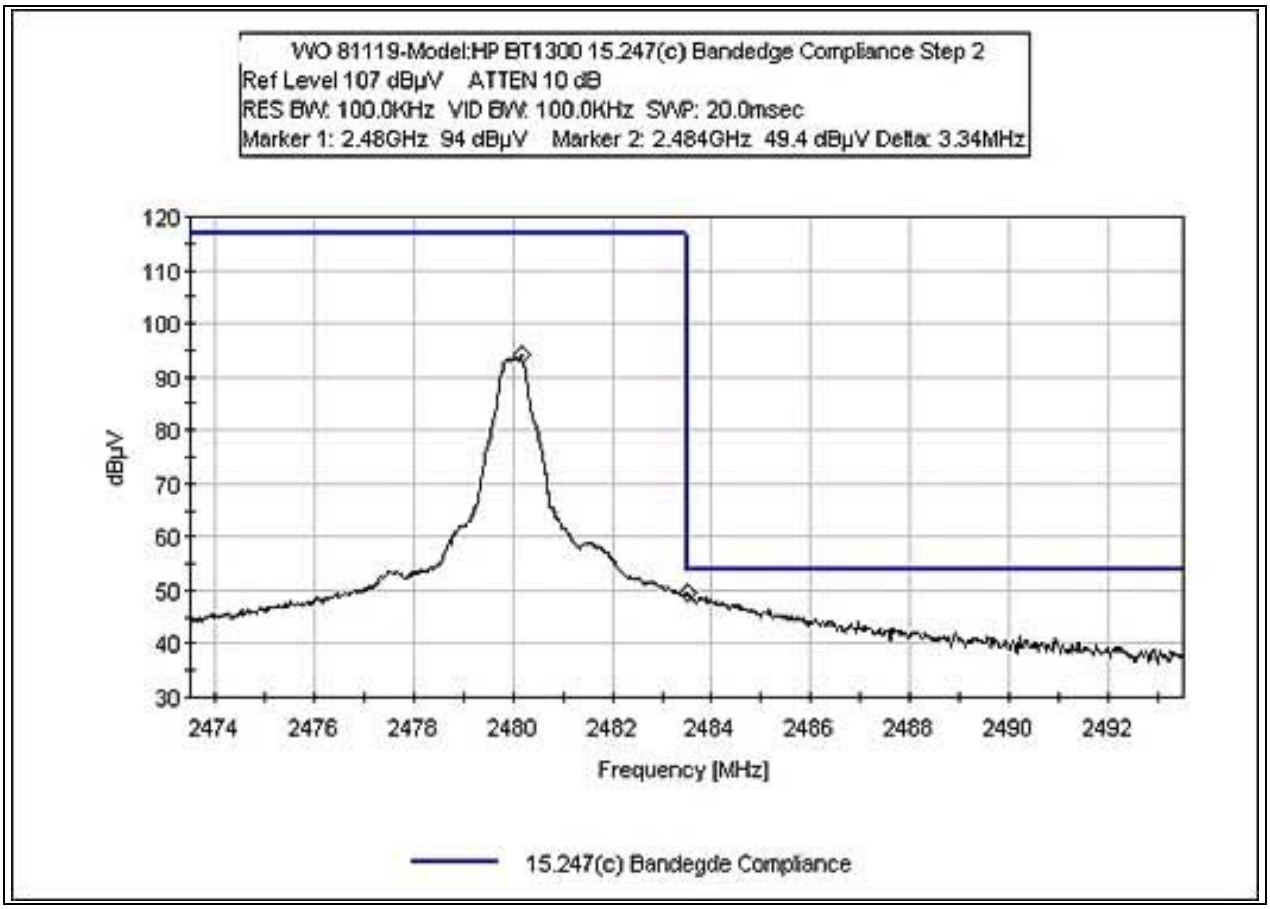
FCC 15.247(c) BANDEDGE HIGH STEP 1A



FCC 15.247(c) BANDEDGE HIGH STEP 1B



FCC 15.247(c) BANDEDGE HIGH STEP 2



TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables. The corrected data was then compared to the applicable emission limits to determine compliance.

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. I/O cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The radiated and conducted emissions data of the EUT was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS

	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Table A were used to collect both the radiated and conducted emissions data for the EUT. For radiated measurements from 9 kHz to 30 MHz, the magnetic loop antenna was used. For frequencies from 30 to 1000 MHz, the biconilog antenna was used. The horn antenna was used for frequencies above 1000 MHz. All antennas were located at a distance of 3 meters from the edge of the EUT. Conducted emissions tests required the use of the FCC type LISNs.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. For conducted emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. A 10 dB external attenuator was also used during conducted tests, with internal offset correction in the analyzer. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dBµV, and a vertical scale of 10 dB per division.

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the Tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

EUT TESTING

Mains Conducted Emissions

During conducted emissions testing, the EUT was located on a wooden table measuring approximately 80 cm high, 1 meter deep, and 1.5 meters in length. One wall of the room where the EUT was located has a minimum 2 meter by 2 meter conductive plane. The EUT was mounted on the wooden table 40 cm away from the conductive plane, and 80 cm from any other conductive surface.

The vertical metal plane used for conducted emissions was grounded to the earth. Power to the EUT was provided through a LISN. The LISN was grounded to the ground plane. All other objects were kept a minimum of 80 cm away from the EUT during the conducted test.

The LISNs used were 50 µH-/+50 ohms. Above 150 kHz, a 0.15 µF series capacitor was added in-line prior to connecting the analyzer to restore the proper impedance for the range. A 30 to 50 second sweep time was used for automated measurements in the frequency bands of 150 kHz to 500 kHz, and 500 kHz to 30 MHz. All readings within 20 dB of the limit were recorded, and those within 6 dB of the limit were examined with additional measurements using a slower sweep time.

Radiated Emissions

The EUT was mounted on a nonconductive, rotating table 80 cm above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters.

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. For radiated measurements from 9 kHz to 30 MHz, the magnetic loop antenna was used. The frequency range of 30 MHz to 1000 MHz was scanned with the biconilog antenna located about 1.5 meter above the ground plane in the vertical polarity. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. A scan of the FM band from 88 to 110 MHz was then made using a reduced resolution bandwidth and frequency span. The biconilog antenna was changed to the horizontal polarity and the above steps were repeated. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands. An analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable as needed. The test engineer maximized the readings with respect to the table rotation and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor.

APPENDIX A

TEST SETUP PHOTOGRAPHS

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS

Mains Conducted Emissions - Front View

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS

Mains Conducted Emissions - Side View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Back View

APPENDIX B

TEST EQUIPMENT LIST

– 15.247(a)(1), 15.247(a)(1)(iii), 15.247(b)(1), 15.247(c)

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer Display	00489	HP	8566BA	2403A08241	022603	022604
Spectrum Analyzer	00490	HP	8566B	2209A01404	022603	022604
QP Adapter	00478	HP	85650A	2811A01267	022603	022604
Pre-amp (30-1000MHz)	02320	HP	8447D	2443A03665	010403	010404
Bilog Antenna 30-1000MHz	00851	Schaffner-Chase EMC	CBL6111C	2629	062603	062604
Magnetic Loop Antenna 9kHz-30MHz	00314	Emco	6502	2014	072302	072304
Horn Antenna (1-18GHz)	01646	EMCO	3115	9603-4683	042503	042505
Spectrum Analyzer (18-26GHz)	02467	Agilent	E7405A	US40240225	033103	033104
Microwave Pre-amp (1-26GHz)	00787	HP	83017A	3123A00282	042303	042305
Horn Antenna (18-26.5 GHz)	02112	HP	RA42-K-F-4B-C	961178-006	070103	070105

-15.207

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer Display	00489	HP	8566BA	2403A08241	022603	022604
Spectrum Analyzer	00490	HP	8566B	2209A01404	022603	022604
QP Adapter	00478	HP	85650A	2811A01267	022603	022604
LISN	00848	EMCO	3816/2	1102	010403	010404

APPENDIX C
MEASUREMENT DATA SHEETS

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.107 Class B**
Work Order #: **81119** Date: 09/15/2003
Test Type: **Conducted Emissions** Time: 08:40:59
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 11
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300 120V 60Hz
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 150kHz-30MHz.

Transducer Legend:

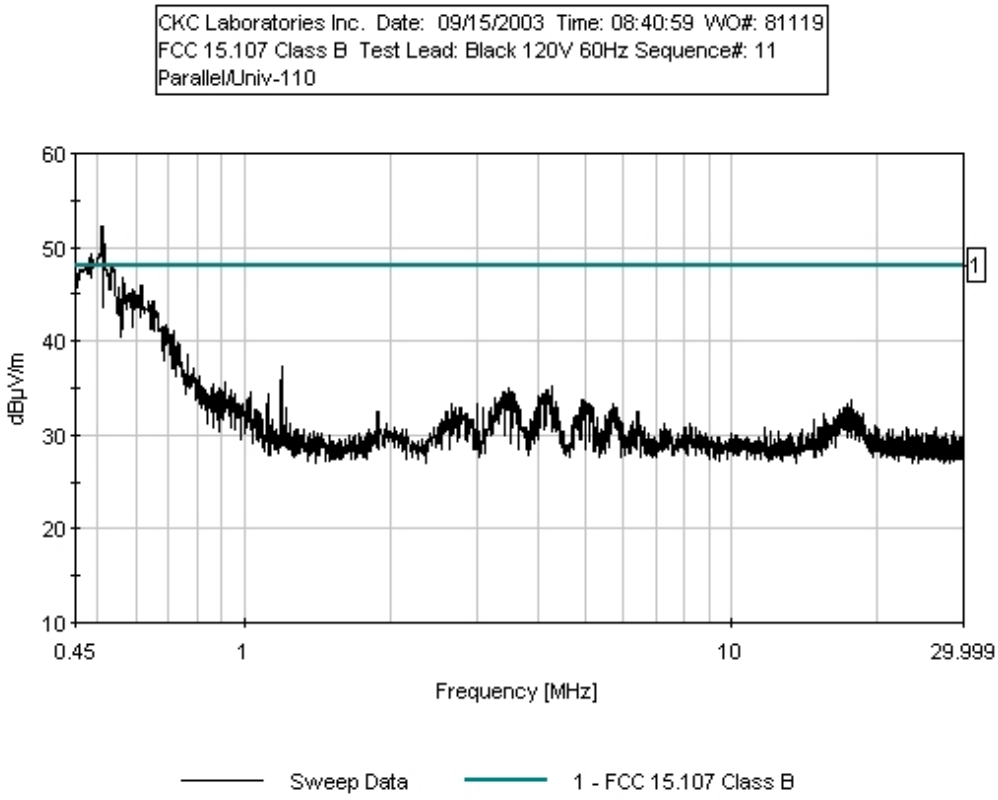
T1=Cable #8 072804

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	510.280k Ave	41.1	+0.1				+0.0	41.2	48.0	-6.8	Black
^	509.082k	52.1	+0.1				+0.0	52.2	48.0	+4.2	Black
3	733.044k	39.7	+0.1				+0.0	39.8	48.0	-8.2	Black
4	1.193M	37.3	+0.1				+0.0	37.4	48.0	-10.6	Black
5	4.288M	35.1	+0.1				+0.0	35.2	48.0	-12.8	Black
6	3.485M	35.0	+0.1				+0.0	35.1	48.0	-12.9	Black
7	1.028M	34.4	+0.1				+0.0	34.5	48.0	-13.5	Black
8	3.558M	34.4	+0.1				+0.0	34.5	48.0	-13.5	Black
9	1.116M	34.2	+0.1				+0.0	34.3	48.0	-13.7	Black
10	4.015M	34.0	+0.1				+0.0	34.1	48.0	-13.9	Black

11	4.934M	33.7	+0.1		+0.0	33.8	48.0	-14.2	Black
12	17.578M	33.3	+0.4		+0.0	33.7	48.0	-14.3	Black
13	3.011M	33.3	+0.1		+0.0	33.4	48.0	-14.6	Black
14	5.090M	33.3	+0.1		+0.0	33.4	48.0	-14.6	Black
15	2.660M	33.2	+0.1		+0.0	33.3	48.0	-14.7	Black
16	5.720M	33.2	+0.1		+0.0	33.3	48.0	-14.7	Black
17	3.652M	33.0	+0.1		+0.0	33.1	48.0	-14.9	Black
18	4.912M	33.0	+0.1		+0.0	33.1	48.0	-14.9	Black
19	5.141M	33.0	+0.1		+0.0	33.1	48.0	-14.9	Black
20	4.867M	32.9	+0.1		+0.0	33.0	48.0	-15.0	Black
21	1.217M	32.7	+0.1		+0.0	32.8	48.0	-15.2	Black
22	3.089M	32.7	+0.1		+0.0	32.8	48.0	-15.2	Black
23	1.046M	32.5	+0.1		+0.0	32.6	48.0	-15.4	Black
24	1.874M	32.4	+0.1		+0.0	32.5	48.0	-15.5	Black
25	6.423M	32.3	+0.1		+0.0	32.4	48.0	-15.6	Black
26	15.452M	31.9	+0.3		+0.0	32.2	48.0	-15.8	Black
27	5.520M	32.0	+0.1		+0.0	32.1	48.0	-15.9	Black
28	5.297M	31.7	+0.1		+0.0	31.8	48.0	-16.2	Black
29	2.532M	31.5	+0.1		+0.0	31.6	48.0	-16.4	Black
30	5.921M	31.3	+0.1		+0.0	31.4	48.0	-16.6	Black
31	7.303M	31.1	+0.2		+0.0	31.3	48.0	-16.7	Black
32	19.641M	30.7	+0.4		+0.0	31.1	48.0	-16.9	Black
33	567.209k Ave	30.8	+0.1		+0.0	30.9	48.0	-17.1	Black
^	567.000k	44.4	+0.1		+0.0	44.5	48.0	-3.5	Black

35	6.657M	30.8	+0.1	+0.0	30.9	48.0	-17.1	Black
36	22.993M	30.5	+0.4	+0.0	30.9	48.0	-17.1	Black
37	26.453M	30.4	+0.4	+0.0	30.8	48.0	-17.2	Black



Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.107 Class B**
Work Order #: **81119** Date: 09/15/2003
Test Type: **Conducted Emissions** Time: 08:45:18
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 12
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300 120V 60Hz
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 150kHz-30MHz.

Transducer Legend:

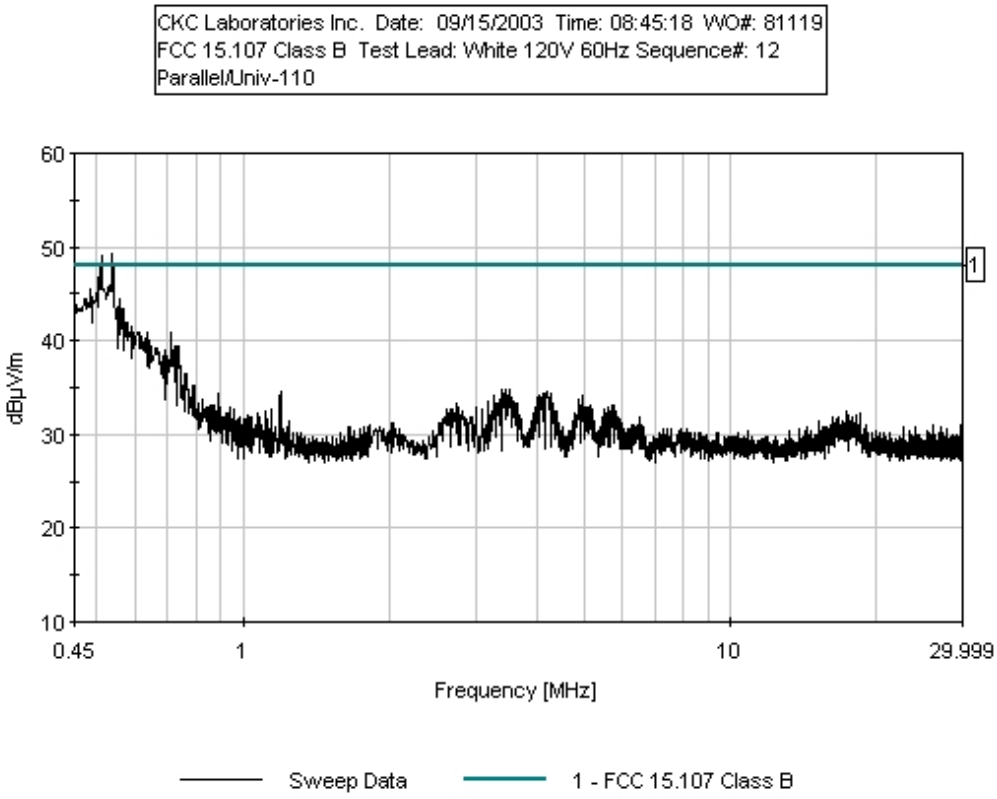
T1=Cable #8 072804

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	711.060k	40.8	+0.1				+0.0	40.9	48.0	-7.1	White
2	533.777k Ave	40.7	+0.1				+0.0	40.8	48.0	-7.2	White
^	537.936k	49.2	+0.1				+0.0	49.3	48.0	+1.3	White
4	726.174k	39.4	+0.1				+0.0	39.5	48.0	-8.5	White
5	738.540k	39.3	+0.1				+0.0	39.4	48.0	-8.6	White
6	690.450k	38.8	+0.1				+0.0	38.9	48.0	-9.1	White
7	761.898k	36.4	+0.1				+0.0	36.5	48.0	-11.5	White
8	3.452M	34.7	+0.1				+0.0	34.8	48.0	-13.2	White
9	1.192M	34.4	+0.1				+0.0	34.5	48.0	-13.5	White
10	4.204M	34.4	+0.1				+0.0	34.5	48.0	-13.5	White

11	4.154M	34.3	+0.1	+0.0	34.4	48.0	-13.6	White
12	884.184k	34.2	+0.1	+0.0	34.3	48.0	-13.7	White
13	4.115M	34.2	+0.1	+0.0	34.3	48.0	-13.7	White
14	4.293M	34.2	+0.1	+0.0	34.3	48.0	-13.7	White
15	3.279M	34.1	+0.1	+0.0	34.2	48.0	-13.8	White
16	4.990M	34.1	+0.1	+0.0	34.2	48.0	-13.8	White
17	4.037M	34.0	+0.1	+0.0	34.1	48.0	-13.9	White
18	3.552M	33.8	+0.1	+0.0	33.9	48.0	-14.1	White
19	4.895M	33.6	+0.1	+0.0	33.7	48.0	-14.3	White
20	3.184M	33.5	+0.1	+0.0	33.6	48.0	-14.4	White
21	2.749M	33.2	+0.1	+0.0	33.3	48.0	-14.7	White
22	5.141M	33.1	+0.1	+0.0	33.2	48.0	-14.8	White
23	5.743M	33.1	+0.1	+0.0	33.2	48.0	-14.8	White
24	940.518k	32.9	+0.1	+0.0	33.0	48.0	-15.0	White
25	3.006M	32.9	+0.1	+0.0	33.0	48.0	-15.0	White
26	5.614M	32.7	+0.1	+0.0	32.8	48.0	-15.2	White
27	952.884k	32.6	+0.1	+0.0	32.7	48.0	-15.3	White
28	1.142M	32.6	+0.1	+0.0	32.7	48.0	-15.3	White
29	3.089M	32.6	+0.1	+0.0	32.7	48.0	-15.3	White
30	2.627M	32.5	+0.1	+0.0	32.6	48.0	-15.4	White
31	1.112M	32.4	+0.1	+0.0	32.5	48.0	-15.5	White
32	5.648M	32.4	+0.1	+0.0	32.5	48.0	-15.5	White
33	5.770M	32.4	+0.1	+0.0	32.5	48.0	-15.5	White
34	2.827M	32.3	+0.1	+0.0	32.4	48.0	-15.6	White
35	17.299M	32.1	+0.3	+0.0	32.4	48.0	-15.6	White

36	922.656k	32.2	+0.1	+0.0	32.3	48.0	-15.7	White
37	2.772M	32.1	+0.1	+0.0	32.2	48.0	-15.8	White
38	2.917M	31.7	+0.1	+0.0	31.8	48.0	-16.2	White
39	16.155M	31.5	+0.3	+0.0	31.8	48.0	-16.2	White
40	26.104M	30.6	+0.4	+0.0	31.0	48.0	-17.0	White
41	559.000k Ave	27.5	+0.1	+0.0	27.6	48.0	-20.4	White
^	559.920k	44.3	+0.1	+0.0	44.4	48.0	-3.6	White



Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.109 Class B**
Work Order #: **81119** Date: 09/12/2003
Test Type: **Maximized Emissions** Time: 16:47:04
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 8
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 30-1000MHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Transducer Legend:

T1=Cable Heliax #17 84ft(10 meter)	T2=Cable#22 BNC (preamp to SA)
T3=Cable #6 (Ant to Bulkhead) 051204	T4=Bilog SN2629 062604
T5=Preamp 8447D 02320 (site D) 010404	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	384.043M	45.1	+1.9 -26.9	+0.5	+2.1	+15.9	+0.0	38.6	46.0	-7.4	Vert
2	312.145M	46.9	+1.9 -26.7	+0.4	+1.9	+13.8	+0.0	38.2	46.0	-7.8	Horiz
3	480.077M	41.5	+2.5 -27.0	+0.6	+2.4	+17.9	+0.0	37.9	46.0	-8.1	Vert
4	330.000M	45.5	+1.9 -26.8	+0.4	+2.0	+14.4	+0.0	37.4	46.0	-8.6	Horiz
5	288.086M	46.6	+1.9 -26.7	+0.4	+1.9	+13.2	+0.0	37.3	46.0	-8.7	Vert
6	264.050M	47.2	+1.8 -26.8	+0.4	+1.8	+12.9	+0.0	37.3	46.0	-8.7	Horiz
7	324.139M QP	45.2	+1.9 -26.8	+0.4	+2.0	+14.2	+0.0	36.9	46.0	-9.1	Horiz
^	324.145M	49.0	+1.9 -26.8	+0.4	+2.0	+14.2	+0.0	40.7	46.0	-5.3	Horiz

9	288.080M QP	46.0	+1.9 -26.7	+0.4	+1.9	+13.2	+0.0	36.7	46.0	-9.3	Horiz
^	288.015M	50.5	+1.9 -26.7	+0.4	+1.9	+13.2	+0.0	41.2	46.0	-4.8	Horiz
^	288.029M	48.1	+1.9 -26.7	+0.4	+1.9	+13.2	+0.0	38.8	46.0	-7.2	Horiz
12	299.968M	45.3	+1.9 -26.7	+0.4	+1.9	+13.4	+0.0	36.2	46.0	-9.8	Horiz
13	726.000M	33.9	+3.0 -26.1	+0.8	+3.1	+21.2	+0.0	35.9	46.0	-10.1	Horiz
14	276.133M	45.5	+1.8 -26.8	+0.4	+1.8	+13.1	+0.0	35.8	46.0	-10.2	Horiz
15	132.000M	45.6	+1.2 -27.0	+0.2	+1.3	+11.7	+0.0	33.0	43.5	-10.5	Horiz
16	396.000M	41.2	+1.9 -27.0	+0.5	+2.2	+16.2	+0.0	35.0	46.0	-11.0	Horiz
17	192.071M	47.2	+1.5 -27.0	+0.3	+1.4	+9.0	+0.0	32.4	43.5	-11.1	Vert
18	288.028M	44.0	+1.9 -26.7	+0.4	+1.9	+13.2	+0.0	34.7	46.0	-11.3	Vert
19	420.042M	40.4	+1.9 -27.0	+0.5	+2.2	+16.7	+0.0	34.7	46.0	-11.3	Horiz
20	66.055M	47.0	+0.9 -27.0	+0.1	+1.0	+6.4	+0.0	28.4	40.0	-11.6	Vert
21	299.920M	43.3	+1.9 -26.7	+0.4	+1.9	+13.4	+0.0	34.2	46.0	-11.8	Vert
22	195.299M	46.3	+1.6 -26.9	+0.3	+1.4	+9.0	+0.0	31.7	43.5	-11.8	Vert
23	594.000M	35.2	+2.6 -26.8	+0.6	+2.8	+19.8	+0.0	34.2	46.0	-11.8	Horiz
24	396.042M	40.3	+1.9 -27.0	+0.5	+2.2	+16.2	+0.0	34.1	46.0	-11.9	Horiz
25	528.067M	36.0	+2.6 -27.1	+0.6	+2.5	+18.7	+0.0	33.3	46.0	-12.7	Vert
26	240.057M	44.3	+1.7 -26.9	+0.4	+1.7	+12.0	+0.0	33.2	46.0	-12.8	Horiz
27	264.000M	42.7	+1.8 -26.8	+0.4	+1.8	+12.9	+0.0	32.8	46.0	-13.2	Horiz
28	169.600M	44.4	+1.4 -27.1	+0.3	+1.3	+9.9	+0.0	30.2	43.5	-13.3	Vert
29	144.066M	42.5	+1.3 -27.1	+0.3	+1.4	+11.6	+0.0	30.0	43.5	-13.5	Vert
30	132.066M	42.5	+1.2 -27.0	+0.2	+1.3	+11.7	+0.0	29.9	43.5	-13.6	Vert
31	228.009M	44.6	+1.6 -27.0	+0.3	+1.6	+11.2	+0.0	32.3	46.0	-13.7	Vert
32	144.028M	41.7	+1.3 -27.1	+0.3	+1.4	+11.6	+0.0	29.2	43.5	-14.3	Horiz
33	126.071M	41.8	+1.2 -27.0	+0.2	+1.2	+11.7	+0.0	29.1	43.5	-14.4	Vert

34	132.028M	41.7	+1.2 -27.0	+0.2	+1.3	+11.7	+0.0	29.1	43.5	-14.4	Horiz
35	168.066M	42.5	+1.4 -27.1	+0.3	+1.3	+10.0	+0.0	28.4	43.5	-15.1	Vert
36	450.238M	35.7	+2.1 -27.1	+0.5	+2.3	+17.3	+0.0	30.8	46.0	-15.2	Vert
37	528.000M	33.5	+2.6 -27.1	+0.6	+2.5	+18.7	+0.0	30.8	46.0	-15.2	Horiz
38	462.000M	35.2	+2.3 -27.1	+0.5	+2.3	+17.5	+0.0	30.7	46.0	-15.3	Horiz
39	448.028M	34.6	+2.1 -27.1	+0.5	+2.3	+17.3	+0.0	29.7	46.0	-16.3	Vert
40	432.085M	34.2	+2.0 -27.1	+0.5	+2.3	+17.0	+0.0	28.9	46.0	-17.1	Vert
41	198.000M	40.9	+1.6 -26.9	+0.3	+1.4	+9.0	+0.0	26.3	43.5	-17.2	Horiz
42	239.919M	39.7	+1.7 -26.9	+0.4	+1.7	+12.0	+0.0	28.6	46.0	-17.4	Horiz
43	443.042M	33.5	+2.0 -27.1	+0.5	+2.3	+17.2	+0.0	28.4	46.0	-17.6	Vert

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.109 Class B**
Work Order #: **81119** Date: 09/15/2003
Test Type: **Maximized Emissions** Time: 09:40:12
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 9
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured in receive mode. Frequency Range Investigated: 1-26GHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Transducer Legend:

T1=Cable Heliax #17 84ft(10 meter)	T2=Cable #19 54ft Heliax 091103
T3=Horn AN 01646 1-18 GHz (Brea)	T4=HF Preamp Cal. HP-83017A,S/N- 3123A00282

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	4802.620M	42.1	+8.0	+4.7	+33.0	-39.1	+0.0	48.7	54.0	-5.3	Horiz
2	2439.794M	49.5	+5.8	+3.7	+28.0	-39.4	+0.0	47.6	54.0	-6.4	Vert
3	2404.600M	48.1	+5.7	+3.6	+27.9	-39.4	+0.0	45.9	54.0	-8.1	Vert
4	2479.979M	46.9	+5.9	+3.7	+28.1	-39.4	+0.0	45.2	54.0	-8.8	Vert
5	2435.320M	47.0	+5.8	+3.7	+27.9	-39.4	+0.0	45.0	54.0	-9.0	Horiz
6	2406.260M	46.5	+5.7	+3.6	+27.9	-39.4	+0.0	44.3	54.0	-9.7	Horiz
7	1826.140M	47.3	+4.8	+3.2	+26.2	-39.4	+0.0	42.1	54.0	-11.9	Vert
8	1826.080M	44.1	+4.8	+3.2	+26.2	-39.4	+0.0	38.9	54.0	-15.1	Horiz

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.207**
Work Order #: **81119** Date: 09/15/2003
Test Type: **Conducted Emissions** Time: 08:33:47
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 10
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300 120V 60Hz
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 150kHz-30MHz.

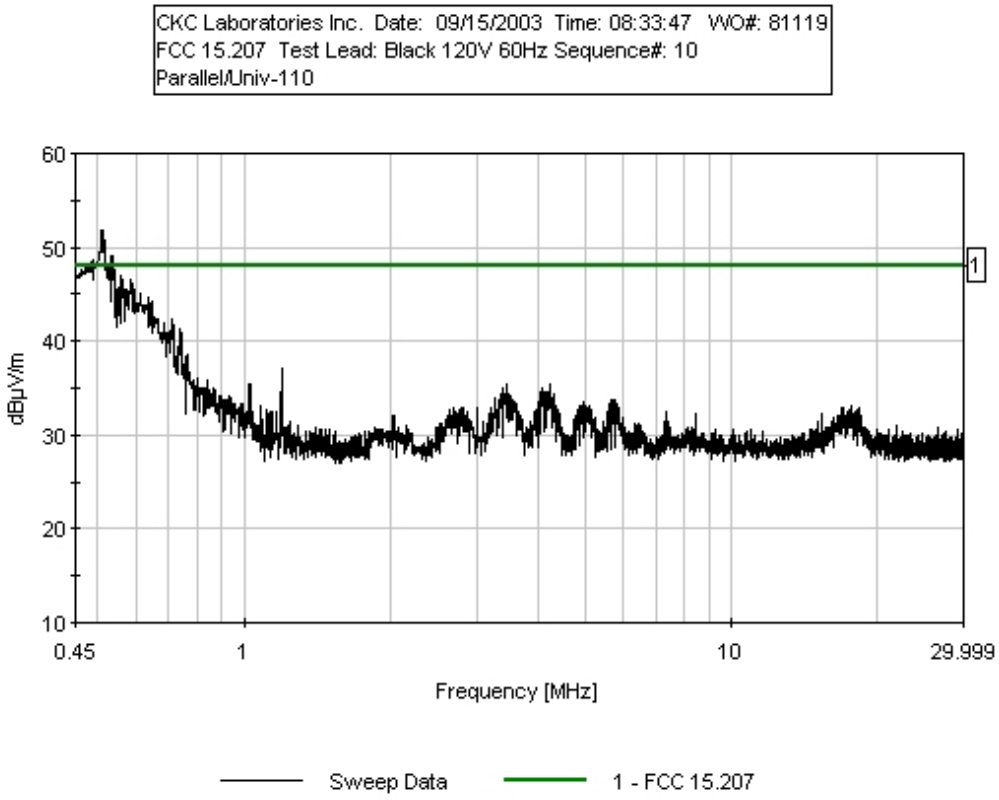
Transducer Legend:

T1=Cable #8 072804

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1 Ave	509.980k	40.3	+0.1				+0.0	40.4	48.0	-7.6	Black
^	509.082k	51.7	+0.1				+0.0	51.8	48.0	+3.8	Black
3	761.898k	38.5	+0.1				+0.0	38.6	48.0	-9.4	Black
4	1.195M	37.1	+0.1				+0.0	37.2	48.0	-10.8	Black
5	3.446M	35.4	+0.1				+0.0	35.5	48.0	-12.5	Black
6	1.026M	35.3	+0.1				+0.0	35.4	48.0	-12.6	Black
7	4.232M	35.3	+0.1				+0.0	35.4	48.0	-12.6	Black
8	3.379M	34.8	+0.1				+0.0	34.9	48.0	-13.1	Black
9	4.310M	34.3	+0.1				+0.0	34.4	48.0	-13.6	Black
10	5.648M	33.6	+0.1				+0.0	33.7	48.0	-14.3	Black

11	5.743M	33.6	+0.1		+0.0	33.7	48.0	-14.3	Black
12	4.990M	33.4	+0.1		+0.0	33.5	48.0	-14.5	Black
13	5.809M	33.3	+0.1		+0.0	33.4	48.0	-14.6	Black
14	17.596M	32.8	+0.4		+0.0	33.2	48.0	-14.8	Black
15	1.114M	32.6	+0.1		+0.0	32.7	48.0	-15.3	Black
16	3.981M	32.6	+0.1		+0.0	32.7	48.0	-15.3	Black
17	4.382M	32.5	+0.1		+0.0	32.6	48.0	-15.4	Black
18	1.163M	32.4	+0.1		+0.0	32.5	48.0	-15.5	Black
19	7.381M	32.3	+0.2		+0.0	32.5	48.0	-15.5	Black
20	1.136M	32.3	+0.1		+0.0	32.4	48.0	-15.6	Black
21	15.362M	32.0	+0.3		+0.0	32.3	48.0	-15.7	Black
22	2.019M	32.0	+0.1		+0.0	32.1	48.0	-15.9	Black
23	16.290M	31.6	+0.3		+0.0	31.9	48.0	-16.1	Black
24	5.536M	31.5	+0.1		+0.0	31.6	48.0	-16.4	Black
25	2.147M	31.0	+0.1		+0.0	31.1	48.0	-16.9	Black
26	21.912M	30.7	+0.4		+0.0	31.1	48.0	-16.9	Black
27	26.558M	30.4	+0.4		+0.0	30.8	48.0	-17.2	Black
28	715.842k Ave	29.8	+0.1		+0.0	29.9	48.0	-18.1	Black
^	715.000k	42.3	+0.1		+0.0	42.4	48.0	-5.6	Black
30	554.500k Ave	28.9	+0.1		+0.0	29.0	48.0	-19.0	Black
^	550.302k	45.7	+0.1		+0.0	45.8	48.0	-2.2	Black
32	578.660k Ave	25.2	+0.1		+0.0	25.3	48.0	-22.7	Black
^	581.904k	46.4	+0.1		+0.0	46.5	48.0	-1.5	Black


CKC Laboratories Inc. Date: 09/15/2003 Time: 08:33:47 WO#: 81119
FCC 15.207 Test Lead: Black 120V 60Hz Sequence#: 10
Parallel/Univ-110
60
50
40
30
20
10
dBµV/m
0.45
1
10
29.999
Frequency [MHz]
1
Sweep Data
1 - FCC 15.207

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.207**
Work Order #: **81119** Date: 09/15/2003
Test Type: **Conducted Emissions** Time: 08:28:24
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 10
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300 120V 60Hz
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 150kHz-30MHz.

Transducer Legend:

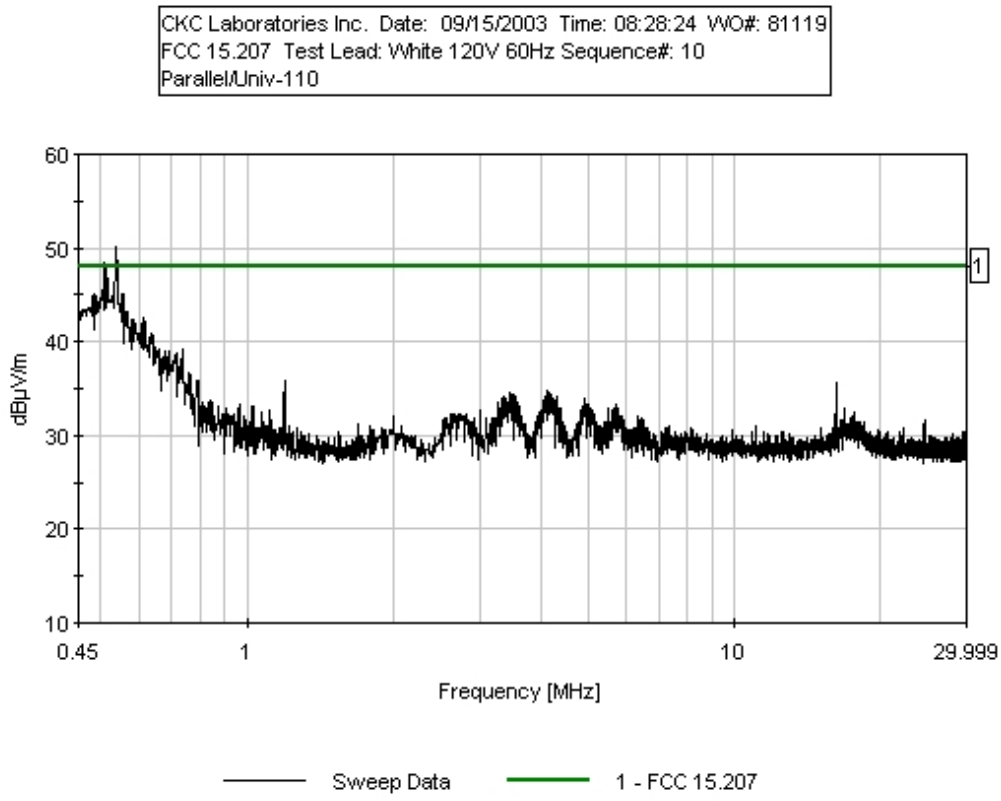
T1=Cable #8 072804

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1 Ave	540.340k	42.1	+0.1				+0.0	42.2	48.0	-5.8	White
^	536.562k	50.0	+0.1				+0.0	50.1	48.0	+2.1	White
3	737.166k	39.2	+0.1				+0.0	39.3	48.0	-8.7	White
4 Ave	511.006k	39.1	+0.1				+0.0	39.2	48.0	-8.8	White
^	507.708k	48.3	+0.1				+0.0	48.4	48.0	+0.4	White
6	680.832k	38.9	+0.1				+0.0	39.0	48.0	-9.0	White
7	719.304k	38.7	+0.1				+0.0	38.8	48.0	-9.2	White
8	786.630k	35.8	+0.1				+0.0	35.9	48.0	-12.1	White
9	1.193M	35.8	+0.1				+0.0	35.9	48.0	-12.1	White
10	16.155M	35.3	+0.3				+0.0	35.6	48.0	-12.4	White

11	4.132M	34.6	+0.1	+0.0	34.7	48.0	-13.3	White
12	3.474M	34.4	+0.1	+0.0	34.5	48.0	-13.5	White
13	4.304M	34.1	+0.1	+0.0	34.2	48.0	-13.8	White
14	3.563M	34.0	+0.1	+0.0	34.1	48.0	-13.9	White
15	4.934M	33.8	+0.1	+0.0	33.9	48.0	-14.1	White
16	4.282M	33.7	+0.1	+0.0	33.8	48.0	-14.2	White
17	836.094k	33.6	+0.1	+0.0	33.7	48.0	-14.3	White
18	962.502k	33.2	+0.1	+0.0	33.3	48.0	-14.7	White
19	5.698M	33.2	+0.1	+0.0	33.3	48.0	-14.7	White
20	1.022M	33.1	+0.1	+0.0	33.2	48.0	-14.8	White
21	873.192k	33.0	+0.1	+0.0	33.1	48.0	-14.9	White
22	907.542k	32.9	+0.1	+0.0	33.0	48.0	-15.0	White
23	16.848M	32.6	+0.3	+0.0	32.9	48.0	-15.1	White
24	4.382M	32.7	+0.1	+0.0	32.8	48.0	-15.2	White
25	4.416M	32.7	+0.1	+0.0	32.8	48.0	-15.2	White
26	5.525M	32.7	+0.1	+0.0	32.8	48.0	-15.2	White
27	3.000M	32.6	+0.1	+0.0	32.7	48.0	-15.3	White
28	1.114M	32.5	+0.1	+0.0	32.6	48.0	-15.4	White
29	1.074M	32.3	+0.1	+0.0	32.4	48.0	-15.6	White
30	2.627M	32.2	+0.1	+0.0	32.3	48.0	-15.7	White
31	5.163M	32.1	+0.1	+0.0	32.2	48.0	-15.8	White
32	985.860k	32.0	+0.1	+0.0	32.1	48.0	-15.9	White
33	1.997M	32.0	+0.1	+0.0	32.1	48.0	-15.9	White
34	6.333M	32.0	+0.1	+0.0	32.1	48.0	-15.9	White
35	2.928M	31.8	+0.1	+0.0	31.9	48.0	-16.1	White

36	6.445M	31.8	+0.1		+0.0	31.9	48.0	-16.1	White
37	3.095M	31.7	+0.1		+0.0	31.8	48.0	-16.2	White
38	6.489M	31.5	+0.1		+0.0	31.6	48.0	-16.4	White
39	7.376M	30.9	+0.2		+0.0	31.1	48.0	-16.9	White
40	6.601M	30.8	+0.1		+0.0	30.9	48.0	-17.1	White
41	29.545M	30.0	+0.4		+0.0	30.4	48.0	-17.6	White
42 Ave	608.793k	28.4	+0.1		+0.0	28.5	48.0	-19.5	White
^	612.132k	42.5	+0.1		+0.0	42.6	48.0	-5.4	White
44 Ave	522.663k	25.5	+0.1		+0.0	25.6	48.0	-22.4	White
^	522.000k	46.7	+0.1		+0.0	46.8	48.0	-1.2	White



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Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **15.247(b)(1)**
Work Order #: **81119** Date: 09/12/2003
Test Type: **Maximized Emissions** Time: 09:12:18
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 1
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. RBW/VBW = 3MHz. Highest reading obtained from low channel = 99.1dBuV Antenna Gain from manufacturer is 2dBi or 1.58 numerical ERP= (Ed)^2/30G = [(0.090157114)(3)]^2/[(30)(1.58)] = 1.5mW Limit = .125W in accordance with 15.247(b)(1) in accordance with 15.31(e). For intentional radiators, measurements of radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. No significant variation in the signal level was observed.

Transducer Legend:

T1=Cable #19 54ft Heliax 091103	T2=Cable Heliax #17 84ft(10 meter)
T3=HP83017A Preamp 091103	T4=Horn 6246_091003

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2402.200M	99.3	+3.6	+5.7	-37.7	+28.2	+0.0	99.1	137.0	-37.9	Horiz
2	2440.890M	99.0	+3.7	+5.8	-37.7	+28.3	+0.0	99.1	137.0	-37.9	Horiz
3	2401.770M	95.0	+3.6	+5.7	-37.7	+28.2	+0.0	94.8	137.0	-42.2	Vert
4	2480.050M	91.3	+3.7	+5.9	-37.8	+28.3	+0.0	91.4	137.0	-45.6	Horiz
5	2402.020M	91.4	+3.6	+5.7	-37.7	+28.2	+0.0	91.2	137.0	-45.8	Vert
6	2479.940M	89.5	+3.7	+5.9	-37.8	+28.3	+0.0	89.6	137.0	-47.4	Vert
7	2440.780M	89.3	+3.7	+5.8	-37.7	+28.3	+0.0	89.4	137.0	-47.6	Vert

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.247 (FCC 15.209)**
Work Order #: **81119** Date: 09/12/2003
Test Type: **Maximized Emissions** Time: 15:10:23
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 7
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 9kHz-30MHz. Test performed on low, mid, and high channel. Worst case emissions reported. **All spurious emissions were found to be 20dB or more below the specification.**

Transducer Legend:

Measurement Data: Reading listed by margin. Test Distance: 10 Meters

#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.247 (c) (FCC 15.209) 30 - 1000 MHz**
Work Order #: **81119** Date: 09/12/2003
Test Type: **Maximized Emissions** Time: 14:10:05
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 5
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 30-1000MHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Transducer Legend:

T1=Cable Heliax #17 84ft(10 meter)	T2=Bilog SN2629 062604
T3=Cable#22 BNC (preamp to SA)	T4=Cable #6 (Ant to Bulkhead) 051204
T5=Preamp 8447D 02320 (site D) 010404	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	321.685M	48.2	+1.9 -26.7	+14.1	+0.4	+1.9	+0.0	39.8	46.0	-6.2	Vert
2	336.078M	47.8	+1.9 -26.8	+14.5	+0.4	+2.0	+0.0	39.8	46.0	-6.2	Horiz
3	384.070M	46.2	+1.9 -26.9	+15.9	+0.5	+2.1	+0.0	39.7	46.0	-6.3	Vert
4	302.000M	47.6	+1.9 -26.7	+13.5	+0.4	+1.9	+0.0	38.6	46.0	-7.4	Horiz
5	528.094M	41.1	+2.6 -27.1	+18.7	+0.6	+2.5	+0.0	38.4	46.0	-7.6	Horiz
6	273.950M	47.5	+1.8 -26.8	+13.1	+0.4	+1.8	+0.0	37.8	46.0	-8.2	Horiz
7	528.036M	40.4	+2.6 -27.1	+18.7	+0.6	+2.5	+0.0	37.7	46.0	-8.3	Vert
8	419.997M	43.1	+1.9 -27.0	+16.7	+0.5	+2.2	+0.0	37.4	46.0	-8.6	Horiz

9	272.720M	46.8	+1.8 -26.8	+13.0	+0.4	+1.8	+0.0	37.0	46.0	-9.0	Horiz
10	192.093M	49.1	+1.5 -27.0	+9.0	+0.3	+1.4	+0.0	34.3	43.5	-9.2	Horiz
11	219.945M	49.6	+1.6 -27.0	+10.6	+0.3	+1.6	+0.0	36.7	46.0	-9.3	Horiz
12	264.044M	46.5	+1.8 -26.8	+12.9	+0.4	+1.8	+0.0	36.6	46.0	-9.4	Horiz
13	594.066M	37.4	+2.6 -26.8	+19.8	+0.6	+2.8	+0.0	36.4	46.0	-9.6	Vert
14	288.076M QP	45.1	+1.9 -26.7	+13.2	+0.4	+1.9	+0.0	35.8	46.0	-10.2	Horiz
^	288.029M	51.6	+1.9 -26.7	+13.2	+0.4	+1.9	+0.0	42.3	46.0	-3.7	Horiz
^	288.000M	49.0	+1.9 -26.7	+13.2	+0.4	+1.9	+0.0	39.7	46.0	-6.3	Horiz
17	280.486M	45.4	+1.8 -26.8	+13.1	+0.4	+1.8	+0.0	35.7	46.0	-10.3	Vert
18	319.761M QP	44.0	+1.9 -26.7	+14.0	+0.4	+1.9	+0.0	35.5	46.0	-10.5	Horiz
^	319.850M	49.3	+1.9 -26.7	+14.0	+0.4	+1.9	+0.0	40.8	46.0	-5.2	Horiz
20	432.081M	40.7	+2.0 -27.1	+17.0	+0.5	+2.3	+0.0	35.4	46.0	-10.6	Horiz
21	445.944M QP	40.2	+2.1 -27.1	+17.2	+0.5	+2.3	+0.0	35.2	46.0	-10.8	Horiz
^	445.942M	44.9	+2.1 -27.1	+17.2	+0.5	+2.3	+0.0	39.9	46.0	-6.1	Horiz
23	384.074M QP	41.6	+1.9 -26.9	+15.9	+0.5	+2.1	+0.0	35.1	46.0	-10.9	Horiz
^	384.025M	45.0	+1.9 -26.9	+15.9	+0.5	+2.1	+0.0	38.5	46.0	-7.5	Horiz
25	210.033M	46.3	+1.6 -26.9	+9.8	+0.3	+1.5	+0.0	32.6	43.5	-10.9	Vert
26	396.069M	40.6	+1.9 -27.0	+16.2	+0.5	+2.2	+0.0	34.4	46.0	-11.6	Horiz
27	325.764M	42.7	+1.9 -26.8	+14.2	+0.4	+2.0	+0.0	34.4	46.0	-11.6	Vert
28	319.464M QP	42.8	+1.9 -26.7	+14.0	+0.4	+1.9	+0.0	34.3	46.0	-11.7	Horiz
^	319.450M	47.9	+1.9 -26.7	+14.0	+0.4	+1.9	+0.0	39.4	46.0	-6.6	Horiz
30	314.181M	42.7	+1.9 -26.7	+13.9	+0.4	+1.9	+0.0	34.1	46.0	-11.9	Vert
31	312.052M QP	42.7	+1.9 -26.7	+13.8	+0.4	+1.9	+0.0	34.0	46.0	-12.0	Horiz
^	312.087M	50.3	+1.9 -26.7	+13.8	+0.4	+1.9	+0.0	41.6	46.0	-4.4	Horiz

33	66.327M QP	46.4	+0.9 -27.0	+6.4	+0.1	+1.0	+0.0	27.8	40.0	-12.2	Vert
^	66.352M	50.9	+0.9 -27.0	+6.4	+0.1	+1.0	+0.0	32.3	40.0	-7.7	Vert
35	287.304M QP	42.8	+1.9 -26.7	+13.2	+0.4	+1.9	+0.0	33.5	46.0	-12.5	Horiz
^	287.260M	47.6	+1.9 -26.7	+13.2	+0.4	+1.9	+0.0	38.3	46.0	-7.7	Horiz
37	231.260M	45.5	+1.6 -27.0	+11.4	+0.3	+1.6	+0.0	33.4	46.0	-12.6	Horiz
38	321.785M QP	41.1	+1.9 -26.7	+14.1	+0.4	+1.9	+0.0	32.7	46.0	-13.3	Vert
39	60.042M	45.6	+0.9 -27.1	+6.0	+0.1	+0.9	+0.0	26.4	40.0	-13.6	Vert
40	144.011M	42.3	+1.3 -27.1	+11.6	+0.3	+1.4	+0.0	29.8	43.5	-13.7	Horiz
41	314.276M	40.8	+1.9 -26.7	+13.9	+0.4	+1.9	+0.0	32.2	46.0	-13.8	Vert
42	144.000M	41.9	+1.3 -27.1	+11.6	+0.3	+1.4	+0.0	29.4	43.5	-14.1	Vert
43	330.076M QP	39.8	+1.9 -26.8	+14.4	+0.4	+2.0	+0.0	31.7	46.0	-14.3	Horiz
^	330.081M	47.1	+1.9 -26.8	+14.4	+0.4	+2.0	+0.0	39.0	46.0	-7.0	Horiz
45	198.014M	43.7	+1.6 -26.9	+9.0	+0.3	+1.4	+0.0	29.1	43.5	-14.4	Vert
46	305.688M QP	40.2	+1.9 -26.7	+13.6	+0.4	+1.9	+0.0	31.3	46.0	-14.7	Horiz
^	305.650M	47.5	+1.9 -26.7	+13.6	+0.4	+1.9	+0.0	38.6	46.0	-7.4	Horiz
48	48.056M	40.6	+0.8 -27.2	+10.1	+0.1	+0.8	+0.0	25.2	40.0	-14.8	Vert
49	153.345M	40.6	+1.3 -27.1	+11.2	+0.3	+1.4	+0.0	27.7	43.5	-15.8	Horiz
50	330.328M	38.3	+1.9 -26.8	+14.4	+0.4	+2.0	+0.0	30.2	46.0	-15.8	Vert
51	146.829M	39.8	+1.3 -27.1	+11.5	+0.3	+1.4	+0.0	27.2	43.5	-16.3	Horiz
52	66.074M	39.7	+0.9 -27.0	+6.4	+0.1	+1.0	+0.0	21.1	40.0	-18.9	Horiz
53	120.077M	37.4	+1.2 -27.0	+11.5	+0.2	+1.2	+0.0	24.5	43.5	-19.0	Vert
54	66.078M	37.7	+0.9 -27.0	+6.4	+0.1	+1.0	+0.0	19.1	40.0	-20.9	Horiz

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.247 (c) (FCC 15.209) 30 - 2500 MHz**
Work Order #: **81119** Date: 09/12/2003
Test Type: **Maximized Emissions** Time: 09:43:25
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 4
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 1000MHz-18GHz. Test performed on low, mid, and high channel. Worst case emissions reported.

Transducer Legend:

T1=Cable #19 54ft Heliax 091103	T2=Cable Heliax #17 84ft(10 meter)
T3=HP83017A Preamp 091103	T4=Horn 6246_091003

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2483.570M Ave	50.2	+3.7	+6.0	-37.8	+28.3	+0.0	50.4	54.0	-3.6	Horiz
^	2483.570M	66.6	+3.7	+6.0	-37.8	+28.3	+0.0	66.8	54.0	+12.8	Horiz
3	7440.000M Ave	36.2	+5.7	+10.3	-39.0	+36.0	+0.0	49.2	54.0	-4.8	Horiz
^	7440.000M	47.6	+5.7	+10.3	-39.0	+36.0	+0.0	60.6	54.0	+6.6	Horiz
5	7440.000M Ave	36.0	+5.7	+10.3	-39.0	+36.0	+0.0	49.0	54.0	-5.0	Vert
^	7440.000M	47.5	+5.7	+10.3	-39.0	+36.0	+0.0	60.5	54.0	+6.5	Vert
7	7206.000M Ave	35.1	+5.8	+10.5	-39.1	+35.4	+0.0	47.7	54.0	-6.3	Horiz
^	7206.000M	45.9	+5.8	+10.5	-39.1	+35.4	+0.0	58.5	54.0	+4.5	Horiz

9	7206.000M Ave	35.0	+5.8	+10.5	-39.1	+35.4	+0.0	47.6	54.0	-6.4	Vert
^	7206.000M	44.4	+5.8	+10.5	-39.1	+35.4	+0.0	57.0	54.0	+3.0	Vert
11	7321.744M Ave	34.6	+5.7	+10.4	-39.0	+35.7	+0.0	47.4	54.0	-6.6	Vert
^	7321.744M	44.9	+5.7	+10.4	-39.0	+35.7	+0.0	57.7	54.0	+3.7	Vert
13	7320.000M Ave	34.5	+5.7	+10.4	-39.0	+35.7	+0.0	47.3	54.0	-6.7	Vert
^	7320.000M	44.5	+5.7	+10.4	-39.0	+35.7	+0.0	57.3	54.0	+3.3	Vert
15	4880.000M	38.8	+4.8	+8.1	-38.5	+33.4	+0.0	46.6	54.0	-7.4	Vert
16	1470.800M	51.8	+2.9	+4.3	-38.5	+25.1	+0.0	45.6	54.0	-8.4	Horiz
17	4960.000M Ave	34.6	+4.9	+8.2	-38.2	+33.4	+0.0	42.9	54.0	-11.1	Horiz
^	4960.000M	44.6	+4.9	+8.2	-38.2	+33.4	+0.0	52.9	54.0	-1.1	Horiz
19	1230.400M	49.2	+2.6	+3.9	-39.5	+25.3	+0.0	41.5	54.0	-12.5	Vert
20	1214.400M	48.6	+2.6	+3.9	-39.5	+25.4	+0.0	41.0	54.0	-13.0	Horiz
21	4960.000M Ave	30.3	+4.9	+8.2	-38.2	+33.4	+0.0	38.6	54.0	-15.4	Vert
^	4960.000M	41.9	+4.9	+8.2	-38.2	+33.4	+0.0	50.2	54.0	-3.8	Vert
23	2483.860M Ave	38.0	+3.7	+6.0	-37.8	+28.3	+0.0	38.2	54.0	-15.8	Vert
^	2483.860M	57.7	+3.7	+6.0	-37.8	+28.3	+0.0	57.9	54.0	+3.9	Vert
25	4881.750M Ave	30.0	+4.8	+8.1	-38.5	+33.4	+0.0	37.8	54.0	-16.2	Vert
^	4881.750M	41.6	+4.8	+8.1	-38.5	+33.4	+0.0	49.4	54.0	-4.6	Vert
27	4804.000M Ave	30.3	+4.7	+8.0	-38.7	+33.3	+0.0	37.6	54.0	-16.4	Horiz
^	4804.000M	41.9	+4.7	+8.0	-38.7	+33.3	+0.0	49.2	54.0	-4.8	Horiz
29	4804.052M Ave	30.2	+4.7	+8.0	-38.7	+33.3	+0.0	37.5	54.0	-16.5	Vert
^	4804.052M	41.2	+4.7	+8.0	-38.7	+33.3	+0.0	48.5	54.0	-5.5	Vert
31	2485.680M Ave	34.5	+3.7	+6.0	-37.8	+28.3	+0.0	34.7	54.0	-19.3	Horiz
^	2485.680M	60.8	+3.7	+6.0	-37.8	+28.3	+0.0	61.0	54.0	+7.0	Horiz

33	2490.065M Ave	30.3	+3.7	+6.0	-37.8	+28.3	+0.0	30.5	54.0	-23.5	Vert
^	2490.065M	49.5	+3.7	+6.0	-37.8	+28.3	+0.0	49.7	54.0	-4.3	Vert
35	2359.360M Ave	30.7	+3.6	+5.6	-37.8	+28.2	+0.0	30.3	54.0	-23.7	Horiz
^	2359.360M	53.2	+3.6	+5.6	-37.8	+28.2	+0.0	52.8	54.0	-1.2	Horiz
37	2485.880M Ave	29.7	+3.7	+6.0	-37.8	+28.3	+0.0	29.9	54.0	-24.1	Vert
^	2485.880M	52.9	+3.7	+6.0	-37.8	+28.3	+0.0	53.1	54.0	-0.9	Vert
39	2496.110M Ave	29.4	+3.7	+6.0	-37.8	+28.3	+0.0	29.6	54.0	-24.4	Horiz
^	2496.110M	50.9	+3.7	+6.0	-37.8	+28.3	+0.0	51.1	54.0	-2.9	Horiz
41	2493.860M Ave	28.8	+3.7	+6.0	-37.8	+28.3	+0.0	29.0	54.0	-25.0	Horiz
^	2493.860M	52.7	+3.7	+6.0	-37.8	+28.3	+0.0	52.9	54.0	-1.1	Horiz
43	2381.520M Ave	28.3	+3.6	+5.6	-37.8	+28.2	+0.0	27.9	54.0	-26.1	Horiz
^	2381.520M	52.3	+3.6	+5.6	-37.8	+28.2	+0.0	51.9	54.0	-2.1	Horiz
45	2488.500M Ave	24.4	+3.7	+6.0	-37.8	+28.3	+0.0	24.6	54.0	-29.4	Horiz
^	2488.500M	57.4	+3.7	+6.0	-37.8	+28.3	+0.0	57.6	54.0	+3.6	Horiz
47	2389.840M Ave	22.5	+3.6	+5.7	-37.7	+28.2	+0.0	22.3	54.0	-31.7	Horiz
^	2389.840M	57.4	+3.6	+5.7	-37.7	+28.2	+0.0	57.2	54.0	+3.2	Horiz

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **Hewlett Packard Company**
Specification: **FCC 15.247 (c) (FCC 15.209) 30 - 2500 MHz**
Work Order #: **81119** Date: 09/16/2003
Test Type: **Maximized Emissions** Time: 08:49:30
Equipment: **Blue Tooth Wireless Print Server** Sequence#: 5
Manufacturer: Hewlett Packard Company Tested By: Monika Brandle
Model: HP BT1300
S/N: US38T000D5 (Unit #1)

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Power Supply	Potrans	WR410500500	0212
Blue Tooth Wireless Print Server*	Hewlett Packard Company	HP BT1300	US38T000D5 (Unit #1)

Support Devices:

Function	Manufacturer	Model #	S/N
Printer	HP	C6487C	MY2BE1N3B3

Test Conditions / Notes:

EUT is placed on the edge of the table. All ports are filled, the USB port is terminated via a USB cable to the printer and the parallel port is terminated via a cable to the printer. The EUT is configured to transmit at full power, no hopping, maximum duty cycle, typical modulation. This equipment does not employ digital modulation techniques. It is strictly frequency hopping. Frequency Range Investigated: 18-26GHz. Test performed on low, mid, and high channel. Worst case emissions reported. **No emissions found within 20dB of limit.**

Transducer Legend:

Measurement Data: Reading listed by margin. Test Distance: .2

#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant