IPWIRELESS, INC. TEST REPORT

FOR THE

BROADBAND MODEM, MODEL AP

FCC PART 21 SUBPART K &
FCC PART 15 SUBPART B SECTIONS 15.107 & 15.109 CLASS B

COMPLIANCE

DATE OF ISSUE: JANUARY 11, 2002

PREPARED FOR:

IPWireless, Inc.
1001 Bayhill Drive, Second Floor
San Bruno, CA 94066

P.O. No.: UK1175/2001
W.O. No.: 78019

PREPARED BY:

Joyce Walker
CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

Date of test: November 19 - December 9, 2001

Report No.: FC01-086

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	November 19 - December 9, 2001
DATE OF RECEIPT:	November 19, 2001
PURPOSE OF TEST:	To demonstrate the compliance of the Broadband Modem, Model AP with the requirements for FCC Part 21 Subpart K and FCC Part 15 Subpart B Sections 15.107 and 15.109 Class B devices.
TEST METHOD:	ANSI C63.4 (1992) and FCC Part 21
MANUFACTURER:	IPWireless, Inc. 1001 Bayhill Drive, Second Floor San Bruno, CA 94066
REPRESENTATIVE:	Peter Warburg
TEST LOCATION:	CKC Laboratories, Inc. 480 Los Viboras Road Hollister, CA 95023 5473A Clouds Rest Mariposa, CA 95338

SUMMARY OF RESULTS

As received, the IPWireless, Inc. Broadband Modem, Model AP was found to be fully compliant with the following standards and specifications:

United States (2500 – 2686 MHz)

- FCC Part 15 Subpart B Section 15.107 and 15.109 Class B
- FCC Part 21 Subpart K

FCC Part 74 Subpart I, using

- FCC Part 21 Subpart K
- ANSI C63.4 (1992) and FCC Part 21 methods

Canada (2500 – 2596 MHz)

RSS-193 using:

- FCC Part 15 Subpart B Section 15.107 and 15.109 Class B
- FCC Part 21 Subpart K
- ANSI C63.4 (1992) and FCC Part 21 methods

The results in this report apply only to the items tested, as identified herein.

MODIFICATIONS REQUIRED FOR COMPLIANCE

Added with one turn TDK Ferrite P/N ZCAT1518-0730 on 15.109 testing. The ferrite is on the AC adapter cable next to the connector that plugs into the chassis of the EUT (see photo at the right).

APPROVALS

QUALITY ASSURANCE:

Dennis Ward, Quality Manager

Chuck Kendall, EMC/Lab Manager

Christine Nicklas, EMC/Lab Manager

TEST PERSONNEL:

Randy Clark, EMC Engineer

Conan T. Boyle, EMC Engineer

Matthew Pettersen, Test Engineer

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The Broadband Modem tested by CKC Laboratories was a production unit. The following was the name of the product and model during testing: Wireless Modem, Model UEP1b.

The above name was the engineering tracking name used by IP Wireless, Inc. The device will be marketed as: Broadband Modem, Model AP.

EQUIPMENT UNDER TEST

Broadband Modem
Manuf: IP Wireless, Inc.
Model: AP
Serial: AE4K1A-0000066
FCC ID: PKTP1BAP1 (pending)

AC Adapter
Manuf: Friwo
Model: SPA15U-05
Serial: None
FCC ID: DoC

PERIPHERAL DEVICES

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

AC Adapter (2)
Manuf: Dell
Model: AA20031
Serial: CN-09364U-16291-14O-070J and CN-09364U-12671-0BH-4902
FCC ID: DoC

Monitor
Manuf: Micron
Model: RMD5L11CM
Serial: 8205C1127500
FCC ID: DoC

Keyboard
Manuf: Compaq
Model: RT101
Serial: 1114X877X
FCC ID: AQ6-MTN4X215

Mouse
Manuf: Microsoft
Model: X04-72167
Serial: None
FCC ID: DoC

Printer
Manuf: HP
Model: C2184A
Serial: MY63J1T1KZ
FCC ID: 894C2184X

AC Adapter
Manuf: HP
Model: C2175A
Serial: 220995 (Date)
FCC ID: DoC

Notebook PC (2)
Manuf: Dell
Model: PPX (Inspiron 3800)
Serial: 329-634-58 and 329-634-27
FCC ID: DoC

TEMPERATURE AND HUMIDITY DURING TESTING

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

2.1033(c)(3) USER'S MANUAL

The necessary information is contained in a separate document.

2.1033(c)(4) TYPE OF EMISSIONS

The emission is QPSK using a 12 MHz radio channel. Consequently the emission designator is 12M0G7D.

2.1033(c)(5) FREQUENCY RANGE

The device operates in the frequency range of 2.500 GHz to 2.686 GHz.

2.1033(c)(6) OPERATING POWER

The unit is capable of operating with either a single orthogonal spreading code at +24 dBm of PA output power or with 2 simultaneous codes at +21 dBm of PA output powers each, for a composite output power of +24 dBm. The single code case is the more severe case for testing the emission mask and thus is used for the emissions measurements.

The transmit power may be decreased from the above values in 2 dB steps under software control from the controlling base station. The range of output power decrease available by software control is 80 dB.

2.1033(c)(7) MAXIMUM POWER RATING

This unit is being qualified under the low power response station rules contained in both 47CFR21.908 (d) and 47CFR74.936 (f), which define the maximum power limit of –6 dBW EIRP in a 6 MHz channel.

This device operates in a 12 MHz channel and as such, the maximum EIRP allowed is –6 dBW + 3 dB = -3 dBW EIRP. The design EIRP using the integral antenna is as follows:

EIRP = +24 dBm + 3 dBi (ant. gain)
= +27 dBm
= -3 dBW

Therefore the EIRP is below the –3 dBW limit allowed for a 12 MHz bandwidth emission.

This device operates below the EIRP limit for a low power response station and is thus qualified using the emission mask defined for the lower power response station in both 47CFR74.936 (f) and 47CFR21.908 (d).

2.1033(c)(8) DC VOLTAGES

The necessary information is contained in a separate confidential document.

2.1033(c)(9) TUNE-UP PROCEDURE

This device does not have any tune up procedure, as it is a subscriber modem device that is configured at the factory to operate within the stated frequency and power limits.

2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION

The necessary information is contained in a separate and confidential document.

2.1033(c)(11) LABEL AND PLACEMENT

The necessary information is contained in a separate document.

2.1033(c)(12) SUBMITTAL PHOTOS

The necessary information is contained in a separate document.

2.1033(c)(13) MODULATION INFORMATION

The necessary information is contained in a separate and confidential document.

2.1033(c)(14)/2.1046/21.904(e) - RF POWER OUTPUT & 2.1033(c)(14)/2.1049(i)//21.908(d) OCCUPIED BANDWIDTH

Test Conditions:

The HP-8564E Spectrum Analyzer was connected directly to the transmitter antenna terminal with an Andrews Heliax shielded cable. The HP-8564E was placed into Channel Power Measurement mode, the measurement bandwidth function was set to 7.68MHz, which is the chip rate of the device. The power measurement was also performed using the occupied bandwidth of 8.33MHz and there was less than 0.2dB difference between using the chip rate versus the occupied bandwidth; therefore the chip rate was used. An automated measurement was taken and the channel power value for each channel tested was recorded.

RF Output and Occupied Bandwidth Test Setup

FCC CHANNEL REQUIREMENTS – FCC 21.908(d) & Occupied Bandwidth
2500 – 2686 MHZ

Model: **UEP1b** **S/N: AE4K1A-000066**

Test Equipment:

Asset No.	Description	Model	Cal Date	Cal Due
1401	Spectrum Analyzer	HP-8564E	12/12/00	12/12/01

Channel **2506** MHz TX IF DAC = 148

Power measured in 12MHz				**Power normalized to 6MHz band**			
Ch Pwr	**23.60** dBm		**-6.4** dBW		**-9.4** dBw		
Pwr (100k)	**-12.00** dBm			Occupied BW	**8.58 MHz**		
	(-3MHz)	**(-250kHz)**	**Band edge**	**Center Ch**	**Band Edge**	**(+250kHz)**	**(+3MHz)**
	2497.00	**2499.75**	**2500.00**	**2506.00**	**2512.00**	**2512.25**	**2515.00**
Measured Value in 100kHz (dBm)	**-55.83**	**-49.33**	**-51.17**		**-51.50**	**-48.33**	**-54.50**
Calculated dBc limit from Channel Power	**-33.60**	**-23.60**	**(-25dB)**		**(-25dB)**	**-23.60**	**-33.60**
LIMIT [Pwr - Calculated dBc] (dBm)	**-45.6**	**-35.6**	**-37**		**-37**	**-35.6**	**-45.6**
MARGIN	**-10.23**	**-13.73**	**-14.17**		**-14.50**	**-12.73**	**-8.90**
Pass/Fail	**Pass**	**Pass**	**Pass**		**Pass**	**Pass**	**Pass**
						Spec Limit	61.4

Channel **2596** MHz TX IF DAC = 140

Power measured in 12MHz				**Power normalized to 6MHz band**			
Ch Pwr	**23.60** dBm		**-6.4** dBW		**-9.4** dBw		
Pwr (100k)	**-11.17** dBm			Occupied BW	**8.13 MHz**		
	(-3MHz)	**(-250kHz)**	**Band edge**	**Center Ch**	**Band Edge**	**(+250kHz)**	**(+3MHz)**
	2587.00	**2589.75**	**2590.00**	**2596.00**	**2602.00**	**2602.25**	**2605.00**
Measured Value in 100kHz (dBm)	**-51.33**	**-46.33**	**-49.33**		**-49.00**	**-46.83**	**-51.17**
Calculated dBc point from Channel Power	**-33.60**	**-23.60**	**(-25dB)**		**(-25dB)**	**-23.60**	**-33.60**
LIMIT [Pwr - Calculated dBc] (dBm)	**-44.77**	**-34.77**	**-36.17**		**-36.17**	**-34.77**	**-44.77**
MARGIN	**-6.56**	**-11.56**	**-13.16**		**-12.83**	**-12.06**	**-6.40**
Pass/Fail	**Pass**	**Pass**	**Pass**		**Pass**	**Pass**	**Pass**
						Spec Limit	62.23

Channel **2680** MHz TX IF DAC = 147

Power measured in 12MHz				**Power normalized to 6MHz band**			
Ch Pwr	**23.80** dBm		**-6.2** dBW		**-9.2** dBw		
Pwr (100k)	**-12.17** dBm			Occupied BW	**8.60 MHz**		
	(-3MHz)	**(-250kHz)**	**Band edge**	**Center Ch**	**Band Edge**	**(+250kHz)**	**(+3MHz)**
	2671	**2673.75**	**2674**	**2680**	**2686**	**2686.25**	**2689**
Measured Value in 100kHz (dBm)	**-57.83**	**-52.67**	**-55.33**		**-55.33**	**-52.83**	**-57.83**
Calculated dBc point from Channel Power	**-33.80**	**-23.80**	**(-25dB)**		**(-25dB)**	**-23.80**	**-33.80**
LIMIT [Pwr - Calculated dBc] (dBm)	**-45.97**	**-35.97**	**-37.17**		**-37.17**	**-35.97**	**-45.97**
MARGIN	**-11.86**	**-16.70**	**-18.16**		**-18.16**	**-16.86**	**-11.86**
Pass/Fail	**Pass**	**Pass**	**Pass**		**Pass**	**Pass**	**Pass**
						Spec Limit	61.03

The emissions mask for low power response stations was used to show compliance to 21.908(d) and 74.936(f). The output power of this device is less than the -6dBW requirement and therefore can be used. All measurements were made with a RBW=100kHz and using the relative method as specified in section 21.908(e).

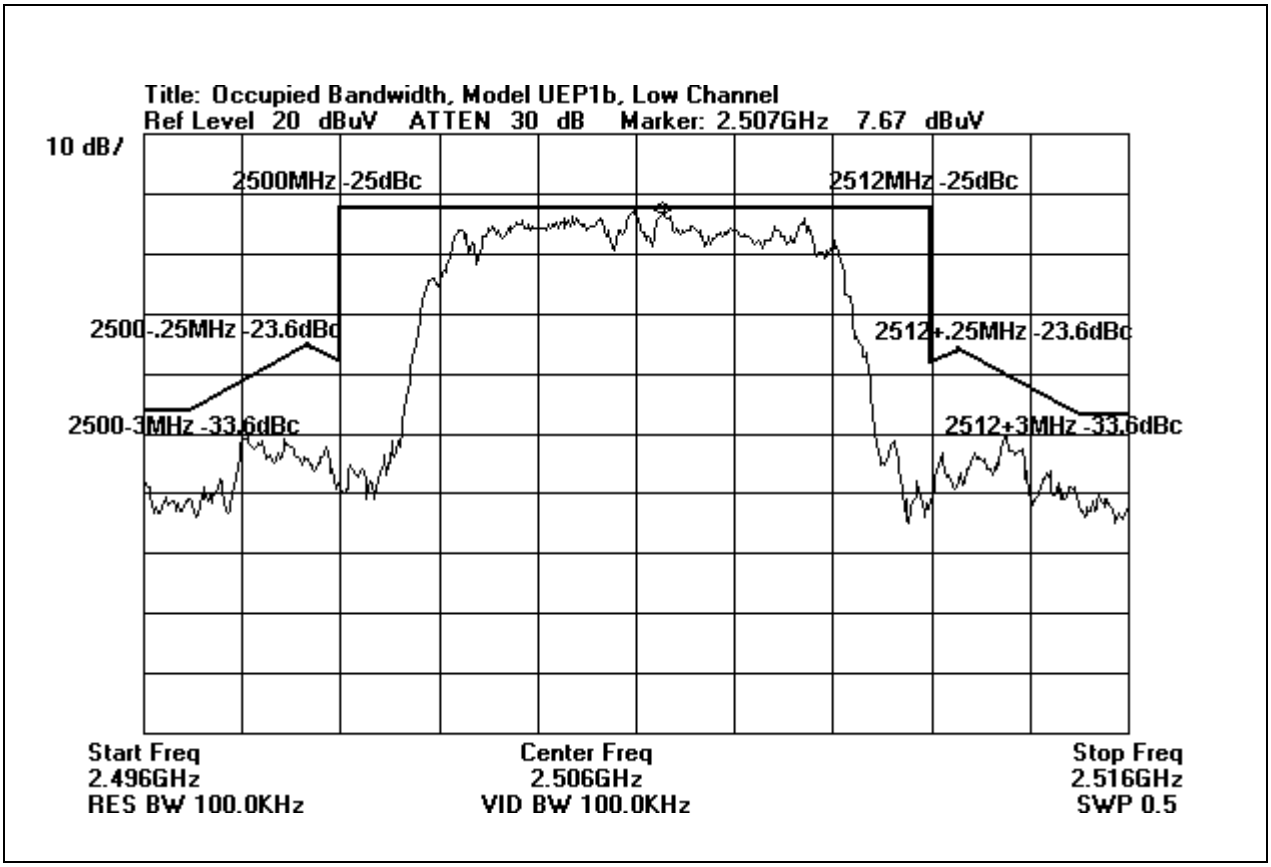
CANADA CHANNEL REQUIREMENTS
USING FCC 21.908(D) & OCCUPIED BANDWIDTH
2500 – 2596 MHZ

Channel **2590** MHz TX IF DAC = 141

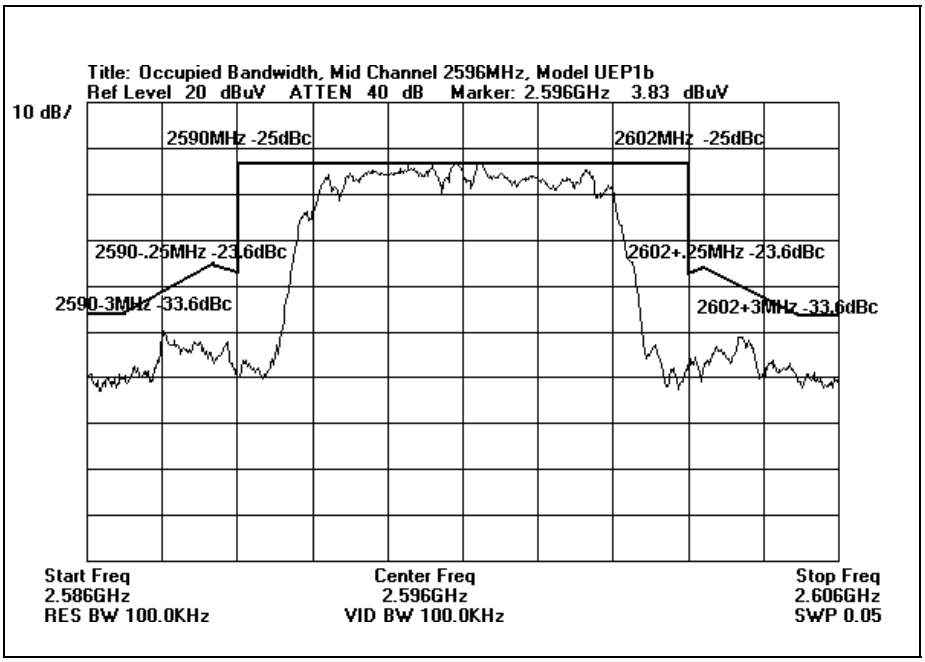
Power measured in 12MHz				**Power normalized to 6MHz band**			
Ch Pwr	**23.50** dBm		**-6.5** dBW		**-9.5** dBw		
Pwr (100k)	**-12.33** dBm			Occupied BW	**8.53 MHz**		
	(-3MHz)	**(-250kHz)**	**Band edge**	**Center Ch**	**Band Edge**	**(+250kHz)**	**(+3MHz)**
	2581.00	**2583.75**	**2584.00**	**2590.00**	**2596.00**	**2596.25**	**2599.00**
Measured Value in	**-53.83**	**-49.00**	**-52.00**		**-52.33**	**-48.83**	**-54.83**
Calculated dBc point from	**-33.50**	**-23.50**	**(-25dB)**		**(-25dB)**	**-23.50**	**-33.50**
LIMIT [Pwr - Calculated	**-45.83**	**-35.83**	**-37.33**		**-37.33**	**-35.83**	**-45.83**
MARGIN	**-8.00**	**-13.17**	**-14.67**		**-15.00**	**-13.00**	**-9.00**
Pass/Fail	**Pass**	**Pass**	**Pass**		**Pass**	**Pass**	**Pass**
						Spec Limit	61.17

The emissions mask for low power response stations was used to show compliance to 21.908(d) and 74.936(f). The output power of this device is less than the -6dBW requirement and therefore can be used. All measurements were made with a RBW=100kHz and using the relative method as specified in section 21.908(e).

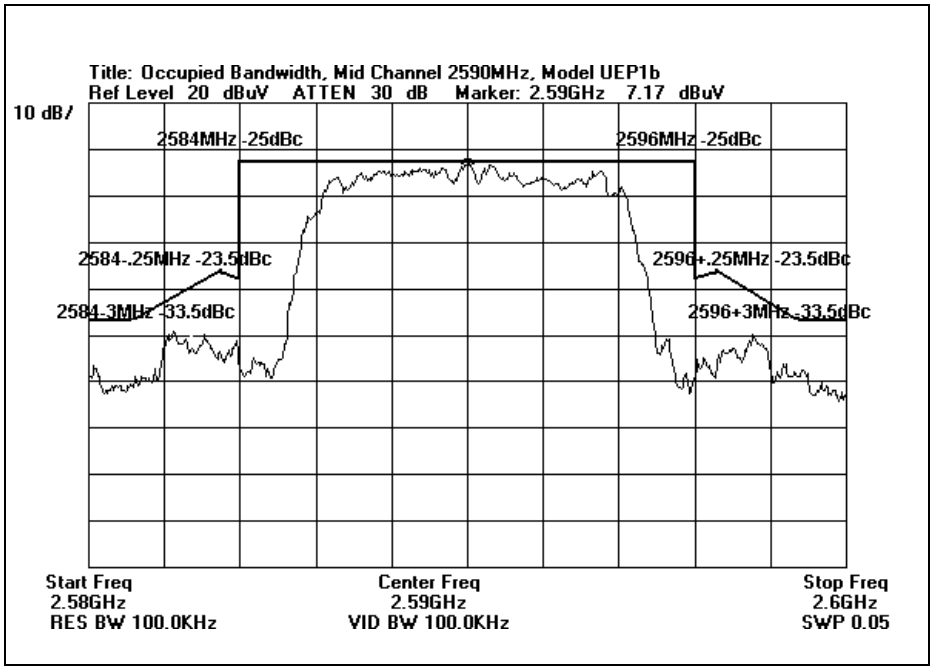
OCCUPIED BANDWIDTH - LOW



OCCUPIED BANDWIDTH - MIDDLE

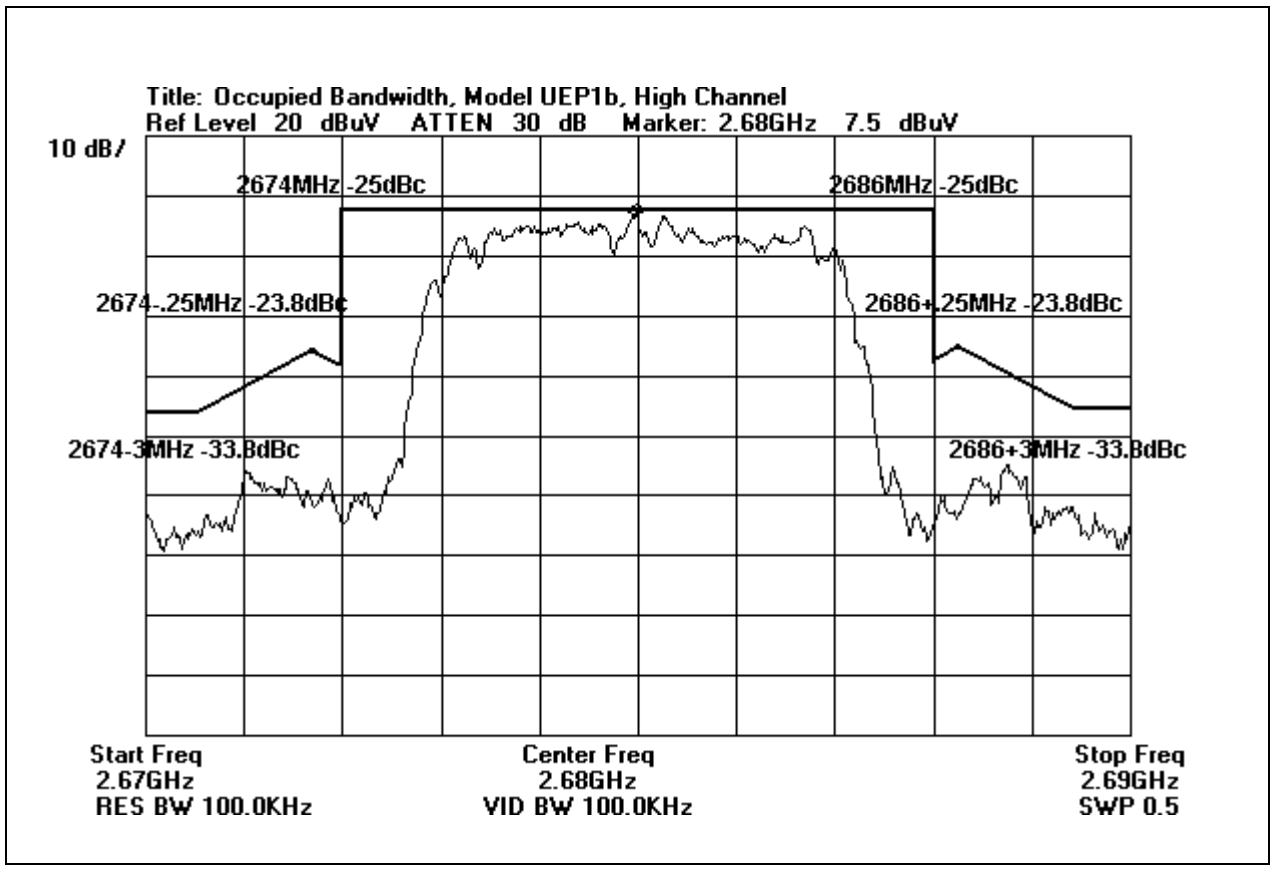


FCC

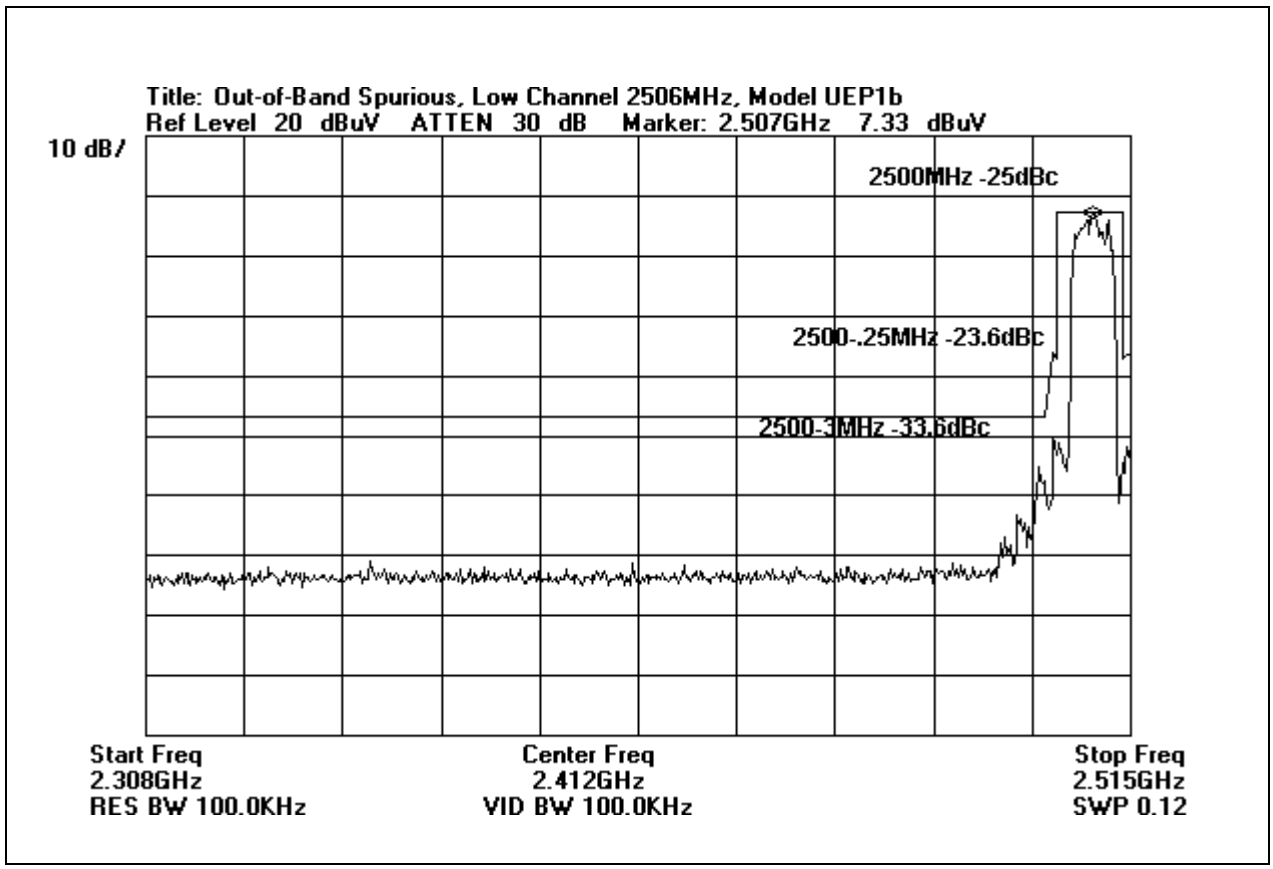


Canada

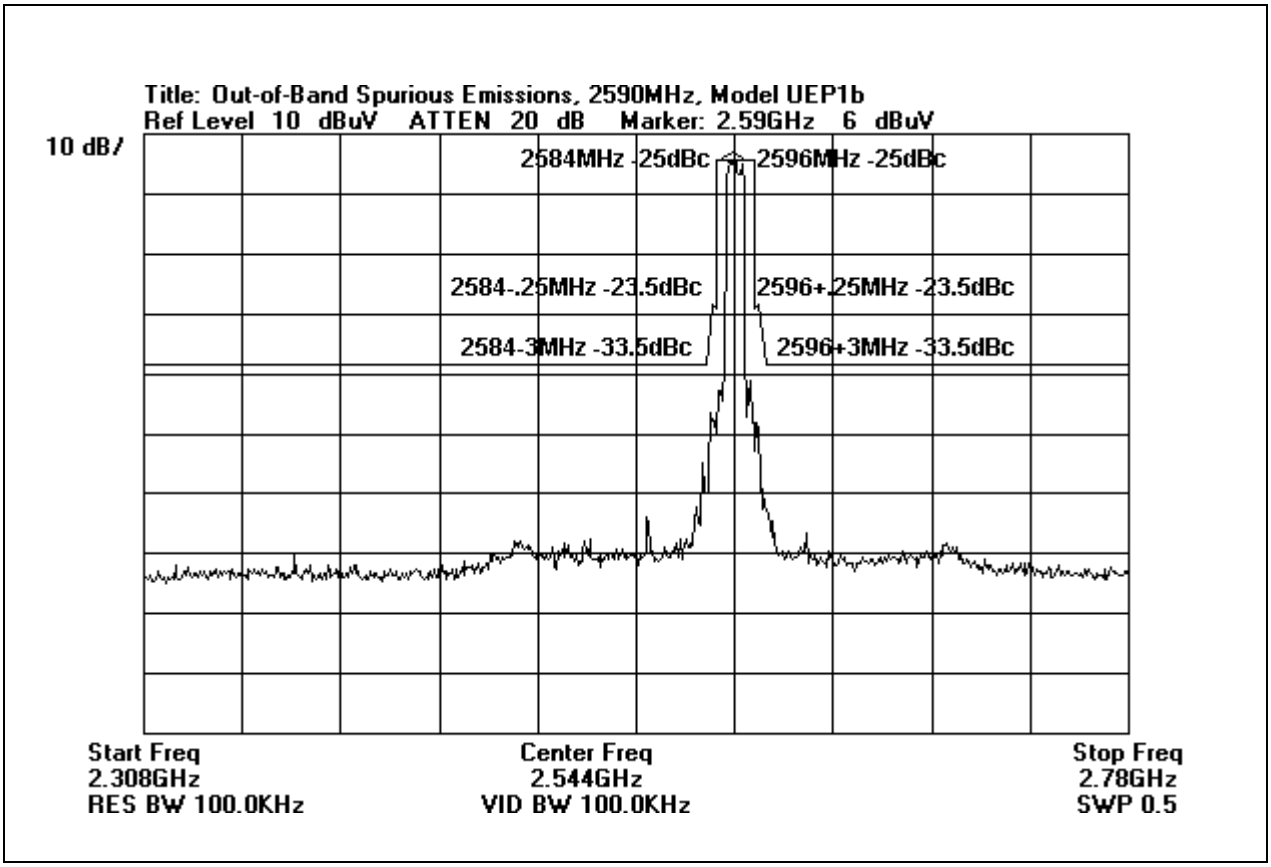
OCCUPIED BANDWIDTH - HIGH



OUT OF BAND SPURIOUS - LOW

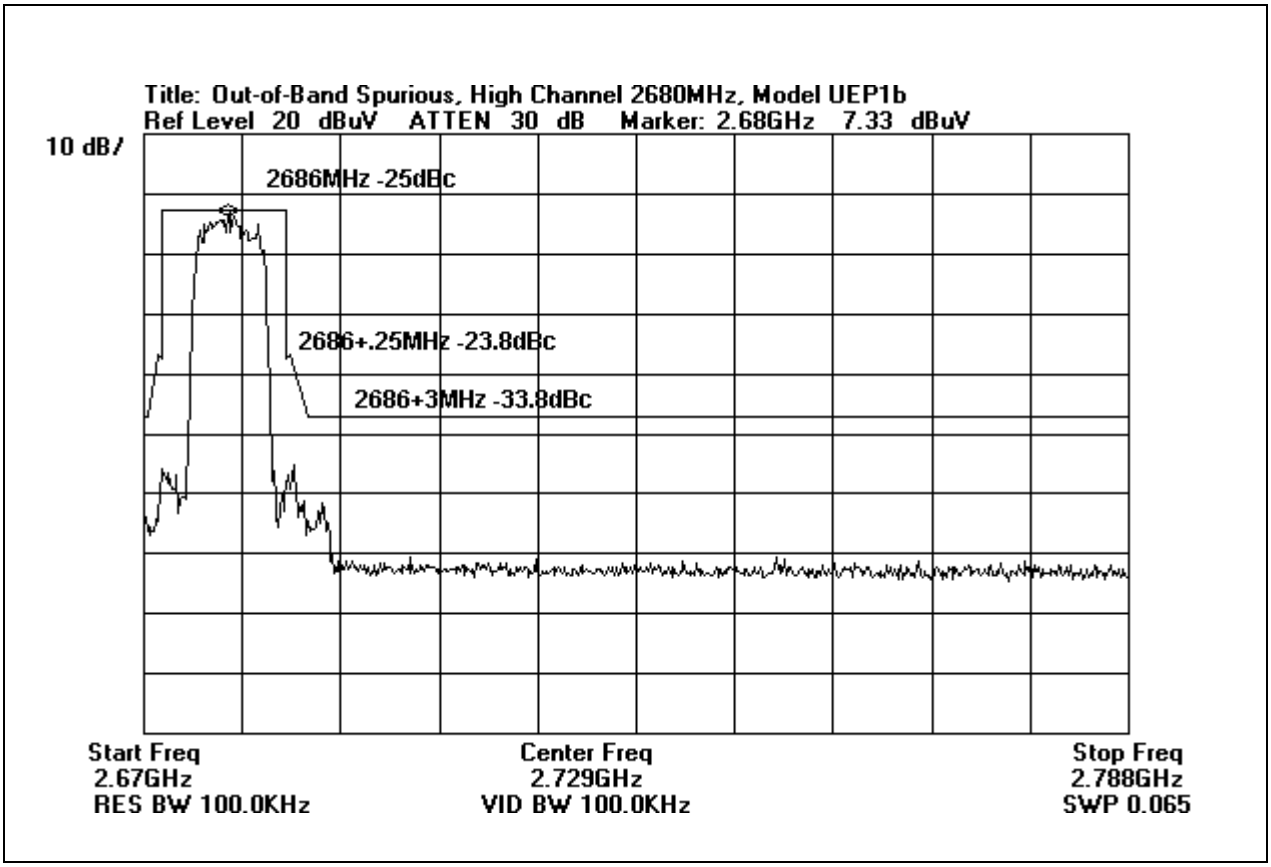


OUT OF BAND SPURIOUS - MIDDLE



RSS-193 (Canada) Specific Frequency Compliance

OUT OF BAND SPURIOUS - HIGH



2.1033(c)(14)/2.1047(a) - MODULATION CHARACTERISTICS - AUDIO FREQUENCY RESPONSE

Not applicable to this unit.

2.1033(c)(14)/2.1047(b) MODULATION CHARACTERISTICS – MODULATION LIMITING RESPONSE

Not applicable to this unit.

2.1033(c)(14)/2.1051/21.908(d) - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

FCC 21.908(d) Sample Calculations for Specification Limits Using the Relative Method in 21.908(e).

Definitions:
P = channel power in dBW normalized to 6MHz (for value, refer to Emissions Mask Data Sheet, Page NN, "Power normalized to 6MHz band" for each channel).

Pa = average power @ 100kHz (for value, refer to Emissions Mask Data Sheet, Page NN, "Pwr (100k)" for each channel). This average power value is used with the average value readings at the band/channel edges for calculating the specification limits.

Puce = upper channel edge power limit

Plce = lower channel edge power limit

Formulas:
Puce = Pa – 25 dB
Plce = Pa – 25 dB

Puce + 250 kHz = Pa – 33+10log(P) dB
Plce – 250 kHz = Pa – 33+10log(P) dB

Puce + 3 MHz = Pa – 43+10log(P) dB
Plce – 3 MHz = Pa – 43+10log(P) dB

Since the all measurements were performed using RBW = 100 kHz, no bandwidth correction was necessary.

Sample calculations:
(shown for the upper channel side only— the lower side limits will be identical)

Channel = 2506 MHz
P = -9.40 dBW
Pa = -12.00 dBm
Puce = -12.00 – 25 dBc = -37.00 dBm
Puce + 250 kHz = -12.00 – 23.60 dBc = -35.60 dBm
Puce + 3 MHz = -12.00 – 33.60 dBc = -45.60 dBm

Channel = 2596 MHz
P = -9.40 dBW
Pa = -11.17 dBm
Puce = -11.17 – 25 dBc = -36.17 dBm
Puce + 250 kHz = -11.17 – 23.60 dBc = -34.77 dBm
Puce + 3 MHz = -11.17 – 33.60 dBc = -44.77 dBm

Channel = 2680 MHz
P = -9.20 dBW
Pa = -12.17 dBm
Puce = -12.17 – 25 dBc = -37.17 dBm
Puce + 250 kHz = -12.17 – 23.80 dBc = -35.97 dBm
Puce + 3 MHz = -12.17 – 33.80 dBc = -45.97 dBm

Test Location: CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-8176

Customer: **IPWireless, Inc.**
Specification: **FCC 2.1051 Model UEP1b Ant SE**
Work Order #: **78019** Date: 12/08/2001
Test Type: **Spurious Emissions Ant Term** Time: 13:16:32
Equipment: **Wireless Modem** Sequence#: 1
Manufacturer: IP Wireless, Inc. Tested By: Conan T. Boyle
Model: UEP1b
S/N: AE4K1A-0000066

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
High Pass Filter, 3.5GHz	3643A00026	02/19/2001	02/19/2002	1417

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via a serial cable and a customer-supplied debug PCB and is powered by an AC adapter. The EUT RF output is directly connected to the spectrum analyzer RF input port. The EUT is fully operating in transmit-receive mode at 2506MHz (low channel) with five transmit and ten receive channels active. Specification limit derived according to the Relative Method in 21.908(e). See "Calculations Worksheet" (file name "calculations-uep1b.xls"). Test is spurious emissions at antenna terminals from 10kHz - 25060MHz (FCC 2.1051).

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	3.5 G dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	12845.940 M	53.8	+0.0				+0.0	53.8	61.0	-7.2	None
2	2464.073M	50.0	+0.0				+0.0	50.0	61.0	-11.0	None
3	2517.176M Ave	49.3	+0.0				+0.0	49.3	61.0	-11.7	None
^	2517.176M	70.5	+0.0				+0.0	70.5	61.0	+9.5	None
5	2617.513M	46.7	+0.0				+0.0	46.7	61.0	-14.3	None

6	6.268M	46.3	+0.0	+0.0	46.3	61.0	-14.7	None
7	12541.070 M	45.8	+0.0	+0.0	45.8	61.0	-15.2	None
8	198.667M	45.0	+0.0	+0.0	45.0	61.0	-16.0	None
9	6378.025M	33.0	+0.0	+0.0	33.0	61.0	-28.0	None

Test Location: CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-8176

Customer: **IPWireless, Inc.**
Specification: **FCC 2.1051 Model UEP1b Ant SE**
Work Order #: **78019** Date: 12/08/2001
Test Type: **Spurious Emissions Ant Term** Time: 13:14:45
Equipment: **Wireless Modem** Sequence#: 2
Manufacturer: IP Wireless, Inc. Tested By: Conan T. Boyle
Model: UEP1b
S/N: AE4K1A-0000066

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
High Pass Filter, 3.5GHz	3643A00026	02/19/2001	02/19/2002	1417

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via a serial cable and a customer-supplied debug PCB and is powered by an AC adapter. The EUT RF output is directly connected to the spectrum analyzer RF input port. The EUT is fully operating in transmit-receive mode at 2596MHz (mid channel) with five transmit and ten receive channels active. Specification limit derived according to the Relative Method in 21.908(e). See "Calculations Worksheet" (file name "calculations-uep1b.xls"). Test is spurious emissions at antenna terminals from 10kHz - 25960MHz (FCC 2.1051).

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	3.5 G dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2553.919M	55.8	+0.0				+0.0	55.8	61.0	-5.2	None
2	852.000M	54.8	+0.0				+0.0	54.8	61.0	-6.2	None
3	12844.960 M	53.8	+0.0				+0.0	53.8	61.0	-7.2	None
4	642.572M	52.5	+0.0				+0.0	52.5	61.0	-8.5	None
5	2523.187M	51.0	+0.0				+0.0	51.0	61.0	-10.0	None

6	311.167M	49.7	+0.0		+0.0	49.7	61.0	-11.3	None
7	2676.787M	48.5	+0.0		+0.0	48.5	61.0	-12.5	None
8	6.241M	46.3	+0.0		+0.0	46.3	61.0	-14.7	None
9	2607.124M Ave	39.0	+0.0		+0.0	39.0	61.0	-22.0	None
^	2607.124M	70.8	+0.0		+0.0	70.8	61.0	+9.8	None
11	8863.998M	37.7	+0.0		+0.0	37.7	61.0	-23.3	None
12	11080.020 M	33.0	+0.0		+0.0	33.0	61.0	-28.0	None

Test Location: CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-8176

Customer: **IPWireless, Inc.**
Specification: **FCC 2.1051 Model UEP1b Ant SE**
Work Order #: **78019** Date: 12/08/2001
Test Type: **Spurious Emissions Ant Term** Time: 11:40:07
Equipment: **Wireless Modem** Sequence#: 3
Manufacturer: IP Wireless, Inc. Tested By: Matthew Pettersen
Model: UEP1b
S/N: AE4K1A-0000066

***Test Ewuipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
High Pass Filter, 3.5GHz	3643A00026	02/19/2001	02/19/2002	1417

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via a serial cable and a customer-supplied debug PCB and is powered by an AC adapter. The EUT RF output is directly connected to the spectrum analyzer RF input port. The EUT is fully operating in transmit-receive mode at 2680MHz (high channel) with five transmit and ten receive channels active. Specification limit derived according to the Relative Method in 21.908(e). See "Calculations Worksheet" (file name "calculations-uep1b.xls"). Test is spurious emissions at antenna terminals from 10kHz - 26800MHz (FCC 2.1051).

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	3.5 G dB	dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	7.765M	53.3	+0.0				+0.0	53.3	61.0	-7.7	None
2	2637.920M	53.0	+0.0				+0.0	53.0	61.0	-8.0	None
3	6.244M	52.1	+0.0				+0.0	52.1	61.0	-8.9	None
4	2481.127M	51.0	+0.0				+0.0	51.0	61.0	-10.0	None
5	12847.180 M	50.8	+0.0				+0.0	50.8	61.0	-10.2	None

6	2607.202M	49.7	+0.0	+0.0	49.7	61.0	-11.3	None
7	2653.261M	46.3	+0.0	+0.0	46.3	61.0	-14.7	None
8	2299.998M	44.3	+0.0	+0.0	44.3	61.0	-16.7	None
9	2691.159M Ave	43.5	+0.0	+0.0	43.5	61.0	-17.5	None
^	2691.159M	62.5	+0.0	+0.0	62.5	61.0	+1.5	None
11	2668.624M Ave	40.4	+0.0	+0.0	40.4	61.0	-20.7	None
^	2668.624M	59.2	+0.0	+0.0	59.2	61.0	-1.8	None
13	38.400M	35.8	+0.0	+0.0	35.8	61.0	-25.2	None
14	1.444M	35.0	+0.0	+0.0	35.0	61.0	-26.0	None
15	11500.020 M	30.8	+0.0	+0.0	30.8	61.0	-30.2	None

VIDEO BANDWIDTH AND RESOLUTION BANDWIDTH SETTINGS

BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
10 kHz	150 kHz	200 Hz
150 kHz	30 MHz	9 kHz
30 MHz	1000 MHz	120 kHz
1000 MHz	26800 MHz	1 MHz

Spurious Emissions Test Setup

2.1033(c)(14)/2.1053/21.908(d) - FIELD STRENGTH OF SPURIOUS RADIATION

Test Location:	CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-0485		
Customer:	**IPWireless, Inc.**		
Specification:	**FCC 2.1053 Model UEP1b Field Strength SE**		
Work Order #:	**78019**	Date:	12/9/2001
Test Type:	**Radiated Scan**	Time:	19:44:33
Equipment:	**Wireless Modem**	Sequence#:	15
Manufacturer:	IP Wireless, Inc.	Tested By:	Conan Boyle
Model:	UEP1b		
S/N:	AE4K1A-0000066		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A0464	05/14/2001	05/14/2002	1271
Horn Ant., Emco 3115	9307-5655	07/09/2001	07/09/2002	2157
Ant, Horn 18-26.5GHz	942126-003	07/09/2001	07/09/2002	1413
Filter, 3.5GHz High Pass	3643A00026	02/19/2001	02/19/2002	1417
Log Periodic, AH Systems SAS 200/510	288	05/16/2001	05/16/2002	566
Bilog Antenna CBL6111C	2630	10/10/2001	10/10/2002	0
Preamp, HP 8447F opt H64	2944A03850	04/09/2001	04/09/2002	501
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
H-B 3meter Rad. cable .01-1MHz	Hol-B 3-m rad cable-01-.01-1MHz	10/03/2001	10/03/2002	0
H-B 3meter Rad. cable 1-13.5GHz	Hol-B 3-m rad cable-01-1GHz-13.5GHz	10/03/2001	10/03/2002	0
Ant, Mag Loop	2078	08/17/2001	08/17/2002	432

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The PC has external keyboard, mouse and monitor. The EUT is operating in transmit-receive mode at 2506MHz with five transmit channels and ten receive channels active. Specification limit derived according to the Relative Method in 21.908(e). See "Calculations Worksheet" (file name "calculations-uep1b.xls"). Test is field strength of spurious emissions at antenna terminals from 10kHz - 25060MHz (FCC 2.1053).

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

#	Freq MHz	Rdng dBµV	Horn Chase dB	HP-83 Hol-B dB	H-B 3 LOG28 dB	8447F dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2126.001M	49.0	+27.8 +0.0	-34.2 +0.0	+9.4 +0.0	+0.0	+0.0	52.0	61.0	-9.0	Vert
2	2126.004M	46.2	+27.8 +0.0	-34.2 +0.0	+9.4 +0.0	+0.0	+0.0	49.2	61.0	-11.8	Horiz
3	245.805M	55.7	+0.0 +12.3	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	44.2	61.0	-16.8	Horiz
4	368.684M	50.6	+0.0 +0.0	+0.0 +2.5	+0.0 +16.6	-26.6	+0.0	43.1	61.0	-17.9	Horiz
5	307.276M	51.5	+0.0 +0.0	+0.0 +2.3	+0.0 +15.0	-26.2	+0.0	42.6	61.0	-18.4	Vert
6	276.547M	52.2	+0.0 +13.0	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	41.4	61.0	-19.6	Horiz
7	245.831M	52.9	+0.0 +12.3	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	41.4	61.0	-19.6	Vert
8	230.469M	53.2	+0.0 +11.3	+0.0 +2.0	+0.0 +0.0	-26.1	+0.0	40.4	61.0	-20.6	Horiz
9	261.141M	50.9	+0.0 +12.8	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	39.9	61.0	-21.1	Horiz
10	122.949M	53.6	+0.0 +11.4	+0.0 +1.4	+0.0 +0.0	-26.6	+0.0	39.8	61.0	-21.2	Horiz
11	291.905M	49.6	+0.0 +13.2	+0.0 +2.2	+0.0 +0.0	-26.1	+0.0	38.9	61.0	-22.1	Horiz
12	368.719M	45.8	+0.0 +0.0	+0.0 +2.5	+0.0 +16.6	-26.6	+0.0	38.3	61.0	-22.7	Vert
13	675.868M	40.8	+0.0 +0.0	+0.0 +3.5	+0.0 +21.6	-27.7	+0.0	38.2	61.0	-22.8	Vert
14	675.872M	40.8	+0.0 +0.0	+0.0 +3.5	+0.0 +21.6	-27.7	+0.0	38.2	61.0	-22.8	Horiz
15	353.308M	46.4	+0.0 +0.0	+0.0 +2.4	+0.0 +15.6	-26.4	+0.0	38.0	61.0	-23.0	Horiz
16	384.075M	44.4	+0.0 +0.0	+0.0 +2.6	+0.0 +17.6	-26.8	+0.0	37.8	61.0	-23.2	Horiz
17	307.269M	46.2	+0.0 +0.0	+0.0 +2.3	+0.0 +15.0	-26.2	+0.0	37.3	61.0	-23.7	Horiz
18	384.070M	43.2	+0.0 +0.0	+0.0 +2.6	+0.0 +17.6	-26.8	+0.0	36.6	61.0	-24.4	Vert
19	122.949M	50.4	+0.0 +11.4	+0.0 +1.4	+0.0 +0.0	-26.6	+0.0	36.6	61.0	-24.4	Vert
20	614.479M	40.3	+0.0 +0.0	+0.0 +3.3	+0.0 +20.8	-27.9	+0.0	36.5	61.0	-24.5	Horiz
21	353.352M	44.7	+0.0 +0.0	+0.0 +2.4	+0.0 +15.6	-26.4	+0.0	36.3	61.0	-24.7	Vert
22	276.552M	46.9	+0.0 +13.0	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	36.1	61.0	-24.9	Vert
23	261.189M	46.6	+0.0 +12.8	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	35.6	61.0	-25.4	Vert
24	614.470M	39.0	+0.0 +0.0	+0.0 +3.3	+0.0 +20.8	-27.9	+0.0	35.2	61.0	-25.8	Vert

25	230.464M	47.8	+0.0 +11.3	+0.0 +2.0	+0.0 +0.0	-26.1	+0.0	35.0	61.0	-26.0	Vert
26	337.997M	43.6	+0.0 +0.0	+0.0 +2.4	+0.0 +15.3	-26.4	+0.0	34.9	61.0	-26.1	Horiz
27	291.908M	45.4	+0.0 +13.2	+0.0 +2.2	+0.0 +0.0	-26.1	+0.0	34.7	61.0	-26.3	Vert
28	737.322M	36.5	+0.0 +0.0	+0.0 +3.5	+0.0 +21.5	-27.7	+0.0	33.8	61.0	-27.2	Horiz
29	337.994M	42.1	+0.0 +0.0	+0.0 +2.4	+0.0 +15.3	-26.4	+0.0	33.4	61.0	-27.6	Vert
30	217.630M	45.7	+0.0 +10.3	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	31.8	61.0	-29.2	Vert
31	138.309M	44.4	+0.0 +11.3	+0.0 +1.6	+0.0 +0.0	-26.5	+0.0	30.8	61.0	-30.2	Horiz
32	215.106M	44.6	+0.0 +10.1	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	30.5	61.0	-30.5	Horiz
33	491.599M	37.3	+0.0 +0.0	+0.0 +2.8	+0.0 +17.8	-27.6	+0.0	30.3	61.0	-30.7	Vert
34	215.108M	42.7	+0.0 +10.1	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	28.6	61.0	-32.4	Vert
35	217.617M	41.8	+0.0 +10.3	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	27.9	61.0	-33.1	Horiz

Test Location:	CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-0485		
Customer:	**IPWireless, Inc.**		
Specification:	**FCC 2.1053 Model UEP1b Field Strength SE**		
Work Order #:	**78019**	Date:	12/9/2001
Test Type:	**Radiated Scan**	Time:	19:34:12
Equipment:	**Wireless Modem**	Sequence#:	16
Manufacturer:	IP Wireless, Inc.	Tested By:	Conan Boyle
Model:	UEP1b		
S/N:	AE4K1A-0000066		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A0464	05/14/2001	05/14/2002	1271
Horn Ant., Emco 3115	9307-5655	07/09/2001	07/09/2002	2157
Ant, Horn 18-26.5GHz	942126-003	07/09/2001	07/09/2002	1413
Filter, 3.5GHz High Pass	3643A00026	02/19/2001	02/19/2002	1417
Log Periodic, AH Systems SAS 200/510	288	05/16/2001	05/16/2002	566
Bilog Antenna CBL6111C	2630	10/10/2001	10/10/2002	0
Preamp, HP 8447F opt H64	2944A03850	04/09/2001	04/09/2002	501
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
H-B 3meter Rad. cable .01-1MHz	Hol-B 3-m rad cable-01-.01-1MHz	10/03/2001	10/03/2002	0
H-B 3meter Rad. cable 1-13.5GHz	Hol-B 3-m rad cable-01-1GHz-13.5GHz	10/03/2001	10/03/2002	0
Ant, Mag Loop	2078	08/17/2001	08/17/2002	432

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The PC has external keyboard, mouse and monitor. The EUT is operating in transmit-receive mode at 2596MHz with five transmit channels and ten receive channels active. Specification limit derived according to the Relative Method in 21.908(e). See "Calculations Worksheet" (file name "calculations-uep1b.xls"). Test is field strength of spurious emissions at antenna terminals from 10kHz - 25960MHz (FCC 2.1053).

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

#	Freq MHz	Rdng dBµV	Horn 8447F dB	HP-83 Chase dB	H-B 3 LOG28 dB	Hol-B dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2216.002M	48.5	+27.8 +0.0	-34.2 +0.0	+9.0 +0.0	+0.0	+0.0	51.1	61.0	-9.9	Vert
2	368.716M	57.5	+0.0 -26.6	+0.0 +15.1	+0.0 +0.0	+2.5	+0.0	48.5	61.0	-12.5	Vert
3	2216.007M	44.3	+27.8 +0.0	-34.2 +0.0	+9.0 +0.0	+0.0	+0.0	46.9	61.0	-14.1	Horiz
4	245.829M	56.8	+0.0 -26.0	+0.0 +12.3	+0.0 +0.0	+2.2	+0.0	45.3	61.0	-15.7	Horiz
5	368.721M	49.5	+0.0 -26.6	+0.0 +0.0	+0.0 +16.6	+2.5	+0.0	42.0	61.0	-19.0	Horiz
6	307.278M	50.9	+0.0 -26.2	+0.0 +13.5	+0.0 +0.0	+2.3	+0.0	40.5	61.0	-20.5	Vert
7	276.554M	51.1	+0.0 -26.0	+0.0 +13.0	+0.0 +0.0	+2.2	+0.0	40.3	61.0	-20.7	Horiz
8	353.358M	49.4	+0.0 -26.4	+0.0 +14.7	+0.0 +0.0	+2.4	+0.0	40.1	61.0	-20.9	Vert
9	122.957M	53.8	+0.0 -26.6	+0.0 +11.4	+0.0 +0.0	+1.4	+0.0	40.0	61.0	-21.0	Horiz
10	230.449M	52.8	+0.0 -26.1	+0.0 +11.2	+0.0 +0.0	+2.0	+0.0	39.9	61.0	-21.1	Horiz
11	245.832M	51.1	+0.0 -26.0	+0.0 +12.3	+0.0 +0.0	+2.2	+0.0	39.6	61.0	-21.4	Vert
12	675.926M	42.7	+0.0 -27.7	+0.0 +20.9	+0.0 +0.0	+3.5	+0.0	39.4	61.0	-21.6	Vert
13	261.185M	49.9	+0.0 -26.0	+0.0 +12.8	+0.0 +0.0	+2.2	+0.0	38.9	61.0	-22.1	Horiz
14	337.997M	48.5	+0.0 -26.4	+0.0 +14.3	+0.0 +0.0	+2.4	+0.0	38.8	61.0	-22.2	Vert
15	307.278M	49.0	+0.0 -26.2	+0.0 +13.5	+0.0 +0.0	+2.3	+0.0	38.6	61.0	-22.4	Horiz
16	291.904M	48.8	+0.0 -26.1	+0.0 +13.2	+0.0 +0.0	+2.2	+0.0	38.1	61.0	-22.9	Horiz
17	122.945M	51.0	+0.0 -26.6	+0.0 +11.4	+0.0 +0.0	+1.4	+0.0	37.2	61.0	-23.8	Vert
18	675.909M	40.3	+0.0 -27.7	+0.0 +20.9	+0.0 +0.0	+3.5	+0.0	37.0	61.0	-24.0	Horiz
19	384.070M	44.9	+0.0 -26.8	+0.0 +15.6	+0.0 +0.0	+2.6	+0.0	36.3	61.0	-24.7	Vert
20	353.352M	45.5	+0.0 -26.4	+0.0 +14.7	+0.0 +0.0	+2.4	+0.0	36.2	61.0	-24.8	Horiz
21	614.453M	40.1	+0.0 -27.9	+0.0 +20.2	+0.0 +0.0	+3.3	+0.0	35.7	61.0	-25.3	Vert
22	384.083M	44.1	+0.0 -26.8	+0.0 +15.6	+0.0 +0.0	+2.6	+0.0	35.5	61.0	-25.5	Horiz
23	276.547M	46.3	+0.0 -26.0	+0.0 +13.0	+0.0 +0.0	+2.2	+0.0	35.5	61.0	-25.5	Vert
24	737.352M	37.4	+0.0 -27.7	+0.0 +22.1	+0.0 +0.0	+3.5	+0.0	35.3	61.0	-25.7	Vert

25	614.423M	39.3	+0.0 -27.9	+0.0 +20.2	+0.0 +0.0	+3.3	+0.0	34.9	61.0	-26.1	Horiz
26	230.462M	47.7	+0.0 -26.1	+0.0 +11.3	+0.0 +0.0	+2.0	+0.0	34.9	61.0	-26.1	Vert
27	337.972M	44.2	+0.0 -26.4	+0.0 +14.3	+0.0 +0.0	+2.4	+0.0	34.5	61.0	-26.5	Horiz
28	737.343M	36.0	+0.0 -27.7	+0.0 +22.1	+0.0 +0.0	+3.5	+0.0	33.9	61.0	-27.1	Horiz
29	291.915M	44.4	+0.0 -26.1	+0.0 +13.2	+0.0 +0.0	+2.2	+0.0	33.7	61.0	-27.3	Vert
30	261.189M	44.5	+0.0 -26.0	+0.0 +12.8	+0.0 +0.0	+2.2	+0.0	33.5	61.0	-27.5	Vert
31	215.111M	45.7	+0.0 -26.2	+0.0 +10.1	+0.0 +0.0	+2.0	+0.0	31.6	61.0	-29.4	Vert
32	217.630M	45.0	+0.0 -26.2	+0.0 +10.3	+0.0 +0.0	+2.0	+0.0	31.1	61.0	-29.9	Vert
33	491.611M	36.6	+0.0 -27.6	+0.0 +18.0	+0.0 +0.0	+2.8	+0.0	29.8	61.0	-31.2	Vert
34	399.450M	37.2	+0.0 -27.0	+0.0 +16.0	+0.0 +0.0	+2.7	+0.0	28.9	61.0	-32.1	Horiz
35	138.305M	42.4	+0.0 -26.5	+0.0 +11.3	+0.0 +0.0	+1.6	+0.0	28.8	61.0	-32.2	Horiz
36	215.111M	42.7	+0.0 -26.2	+0.0 +10.1	+0.0 +0.0	+2.0	+0.0	28.6	61.0	-32.4	Horiz
37	217.635M	42.0	+0.0 -26.2	+0.0 +10.3	+0.0 +0.0	+2.0	+0.0	28.1	61.0	-32.9	Horiz
38	399.419M	35.5	+0.0 -27.0	+0.0 +16.0	+0.0 +0.0	+2.7	+0.0	27.2	61.0	-33.8	Vert

Test Location:	CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-0485		
Customer:	**IPWireless, Inc.**		
Specification:	**FCC 2.1053 Model UEP1b Field Strength SE**		
Work Order #:	**78019**	Date:	12/9/2001
Test Type:	**Radiated Scan**	Time:	19:57:18
Equipment:	**Wireless Modem**	Sequence#:	17
Manufacturer:	IP Wireless, Inc.	Tested By:	Conan Boyle
Model:	UEP1b		
S/N:	AE4K1A-0000066		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A0464	05/14/2001	05/14/2002	1271
Horn Ant., Emco 3115	9307-5655	07/09/2001	07/09/2002	2157
Ant, Horn 18-26.5GHz	942126-003	07/09/2001	07/09/2002	1413
Ant, Horn 26.5-40GHz	951559-008	05/22/2001	05/22/2002	1414
Filter, 3.5GHz High Pass	3643A00026	02/19/2001	02/19/2002	1417
Log Periodic, AH Systems SAS 200/510	288	05/16/2001	05/16/2002	566
Bilog Antenna CBL6111C	2630	10/10/2001	10/10/2002	0
Preamp, HP 8447F opt H64	2944A03850	04/09/2001	04/09/2002	501
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
Cable, 2 ft Andrews FSJ1P-50A-4A	hol-hf-002-01	09/29/2000	09/29/2001	0
H-B 3meter Rad. cable .01-1MHz	Hol-B 3-m rad cable-01-.01-1MHz	10/03/2001	10/03/2002	0
H-B 3meter Rad. cable 1-13.5GHz	Hol-B 3-m rad cable-01-1GHz-13.5GHz	10/03/2001	10/03/2002	0
Cable,100 ft Andrews FSJ1P-50A-4A	hol-hf-100-09	09/29/2001	09/29/2002	0
Ant, Mag Loop	2078	08/17/2001	08/17/2002	432

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The PC has external keyboard, mouse and monitor. The EUT is operating in transmit-receive mode at 2680MHz with five transmit channels and ten receive channels active. Specification limit derived according to the Relative Method in 21.908(e). See "Calculations Worksheet" (file name "calculations-uep1b.xls"). Test is field strength of spurious emissions at antenna terminals from 10kHz - 26800MHz (FCC 2.1053).

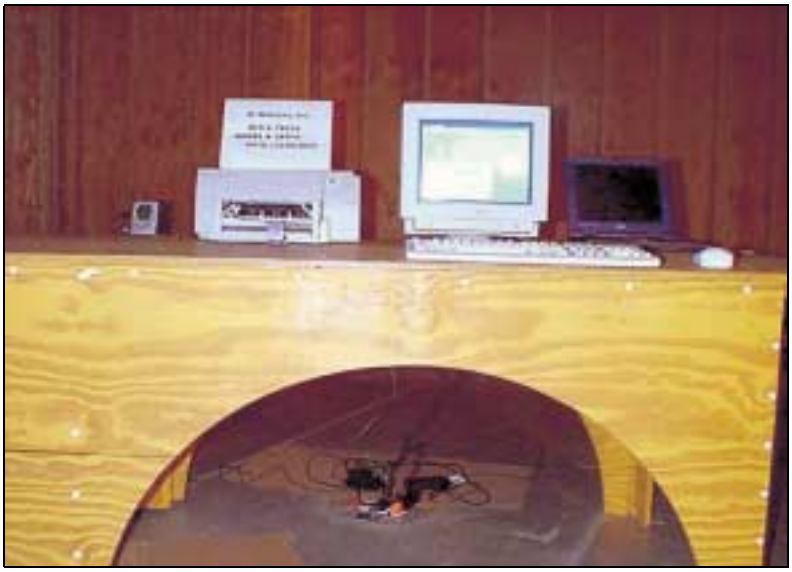
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Horn Hol-B dB	HP-83 Chase dB	H-B 3 LOG28 dB	8447F dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2300.004M	50.2	+27.8 +0.0	-34.2 +0.0	+8.6 +0.0	+0.0	+0.0	52.4	61.0	-8.6	Vert
2	2300.004M	48.5	+27.8 +0.0	-34.2 +0.0	+8.6 +0.0	+0.0	+0.0	50.7	61.0	-10.3	Horiz
3	368.719M	52.1	+0.0 +2.5	+0.0 +0.0	+0.0 +16.6	-26.6	+0.0	44.6	61.0	-16.4	Vert
4	245.834M	56.0	+0.0 +2.2	+0.0 +12.3	+0.0 +0.0	-26.0	+0.0	44.5	61.0	-16.5	Horiz
5	368.719M	51.7	+0.0 +2.5	+0.0 +0.0	+0.0 +16.6	-26.6	+0.0	44.2	61.0	-16.8	Horiz
6	307.280M	51.3	+0.0 +2.3	+0.0 +0.0	+0.0 +15.0	-26.2	+0.0	42.4	61.0	-18.6	Vert
7	353.358M	48.5	+0.0 +2.4	+0.0 +0.0	+0.0 +15.6	-26.4	+0.0	40.1	61.0	-20.9	Horiz
8	245.838M	51.5	+0.0 +2.2	+0.0 +12.3	+0.0 +0.0	-26.0	+0.0	40.0	61.0	-21.0	Vert
9	122.958M	53.7	+0.0 +1.4	+0.0 +11.4	+0.0 +0.0	-26.6	+0.0	39.9	61.0	-21.1	Horiz
10	276.551M	50.5	+0.0 +2.2	+0.0 +13.0	+0.0 +0.0	-26.0	+0.0	39.7	61.0	-21.3	Horiz
11	353.356M	47.9	+0.0 +2.4	+0.0 +0.0	+0.0 +15.6	-26.4	+0.0	39.5	61.0	-21.5	Vert
12	384.077M	45.9	+0.0 +2.6	+0.0 +0.0	+0.0 +17.6	-26.8	+0.0	39.3	61.0	-21.7	Vert
13	675.906M	41.7	+0.0 +3.5	+0.0 +0.0	+0.0 +21.6	-27.7	+0.0	39.1	61.0	-21.9	Vert
14	261.193M	49.9	+0.0 +2.2	+0.0 +12.8	+0.0 +0.0	-26.0	+0.0	38.9	61.0	-22.1	Horiz
15	291.914M	49.4	+0.0 +2.2	+0.0 +13.2	+0.0 +0.0	-26.1	+0.0	38.7	61.0	-22.3	Horiz
16	337.988M	47.1	+0.0 +2.4	+0.0 +0.0	+0.0 +15.3	-26.4	+0.0	38.4	61.0	-22.6	Vert
17	384.078M	44.9	+0.0 +2.6	+0.0 +0.0	+0.0 +17.6	-26.8	+0.0	38.3	61.0	-22.7	Horiz
18	614.462M	41.2	+0.0 +3.3	+0.0 +0.0	+0.0 +20.8	-27.9	+0.0	37.4	61.0	-23.6	Horiz
19	122.950M	50.7	+0.0 +1.4	+0.0 +11.4	+0.0 +0.0	-26.6	+0.0	36.9	61.0	-24.1	Vert
20	614.478M	39.8	+0.0 +3.3	+0.0 +0.0	+0.0 +20.8	-27.9	+0.0	36.0	61.0	-25.0	Vert
21	307.271M	44.6	+0.0 +2.3	+0.0 +0.0	+0.0 +15.0	-26.2	+0.0	35.7	61.0	-25.3	Horiz
22	675.823M	38.2	+0.0 +3.5	+0.0 +0.0	+0.0 +21.6	-27.7	+0.0	35.6	61.0	-25.4	Horiz
23	737.322M	37.7	+0.0 +3.5	+0.0 +0.0	+0.0 +21.5	-27.7	+0.0	35.0	61.0	-26.0	Horiz
24	337.996M	43.3	+0.0 +2.4	+0.0 +0.0	+0.0 +15.3	-26.4	+0.0	34.6	61.0	-26.4	Horiz

25	291.916M	45.0	+0.0 +2.2	+0.0 +13.2	+0.0 +0.0	-26.1	+0.0	34.3	61.0	-26.7	Vert
26	276.559M	45.0	+0.0 +2.2	+0.0 +13.0	+0.0 +0.0	-26.0	+0.0	34.2	61.0	-26.8	Vert
27	491.578M	40.7	+0.0 +2.8	+0.0 +0.0	+0.0 +17.8	-27.6	+0.0	33.7	61.0	-27.3	Vert
28	261.189M	44.7	+0.0 +2.2	+0.0 +12.8	+0.0 +0.0	-26.0	+0.0	33.7	61.0	-27.3	Vert
29	230.474M	46.5	+0.0 +2.0	+0.0 +11.3	+0.0 +0.0	-26.1	+0.0	33.7	61.0	-27.3	Vert
30	215.116M	46.2	+0.0 +2.0	+0.0 +10.1	+0.0 +0.0	-26.2	+0.0	32.1	61.0	-28.9	Vert
31	430.154M	37.0	+0.0 +2.7	+0.0 +0.0	+0.0 +18.3	-27.1	+0.0	30.9	61.0	-30.1	Vert
32	217.635M	44.8	+0.0 +2.0	+0.0 +10.3	+0.0 +0.0	-26.2	+0.0	30.9	61.0	-30.1	Vert
33	430.138M	36.4	+0.0 +2.7	+0.0 +0.0	+0.0 +18.3	-27.1	+0.0	30.3	61.0	-30.7	Horiz
34	215.064M	44.3	+0.0 +2.0	+0.0 +10.1	+0.0 +0.0	-26.2	+0.0	30.2	61.0	-30.8	Horiz
35	217.621M	43.5	+0.0 +2.0	+0.0 +10.3	+0.0 +0.0	-26.2	+0.0	29.6	61.0	-31.4	Horiz
36	491.548M	36.1	+0.0 +2.8	+0.0 +0.0	+0.0 +17.8	-27.6	+0.0	29.1	61.0	-31.9	Horiz
37	138.317M	42.2	+0.0 +1.6	+0.0 +11.3	+0.0 +0.0	-26.5	+0.0	28.6	61.0	-32.4	Horiz
38	138.307M	42.0	+0.0 +1.6	+0.0 +11.3	+0.0 +0.0	-26.5	+0.0	28.4	61.0	-32.6	Vert

VIDEO BANDWIDTH AND RESOLUTION BANDWIDTH SETTINGS:

BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
10 kHz	150 kHz	200 Hz
150 kHz	30 MHz	9 kHz
30 MHz	1000 MHz	120 kHz
1000 MHz	26800 MHz	1 MHz



Field Strength Test Setup – Front View

Field Strength Test Setup – Back View

2.1033(c)(14)/2.1055/21.101 - FREQUENCY STABILITY

Test Equipment Used:

Equipment	*Manufacturer*	*Model #*	*Serial #*	*Asset #*	*Cal Date*	*Cal Due*
Digital Multimeter	Radio Shack	22-183	NA	01241	8/30/01	8/30/02
QP Adapter	HP	85650A	2811A01267	00478	11/9/01	11/9/02
S/A Display	HP	8566B	2403A08241	00489	11/9/01	11/9/02
Spectrum Analyzer	HP	8566B	2209A01404	00490	11/9/01	11/9/02
Temp Chamber	Thermotron	S-1.2 MiniMax	11899	01879	3/29/01	3/29/02
Power Supply, DC	Sorensen	DCR-60-30B	176	00765	7/17/01	7/17/02
Thermometer	Omega	HH-26K	T-202884	02242	7/26/01	7/26/02

Test Conditions:

The device was placed in continuos transmit mode and an Andrews Heliax shielded RF cable was connected directly to the transmit port connector of the device and the other end to the HP8566B spectrum analyzer RF input port. The device power supply was plugged into 120V AC. The temperature was varied in 10-degree steps from –30°C to +50°C. The fundamental frequency was monitored on the spectrum analyzer.

Frequency Stability

Customer:	IP Wireless	
WO:	78019	
Model:	AP UEP1b	
FCC Part:	2.1055 / 21.101	
Test Engineer:	Randal Clark	
Ambient Temperature:	68	20.0 ºC
Relative Humidity:	40	%
Authorized Band:	2506 - 2680	MHz
CH1 Operating Frequency in MHz:	2506.00	
CH2 Operating Frequency in MHz:	2596.00	
CH3 Operating Frequency in MHz:	2680.00	
CH1 Frequency Limit in Hz:	12530000	**0.005%**
CH2 Frequency Limit in Hz:	12980000	**0.005%**
CH3 Frequency Limit in Hz:	13400000	**0.005%**
Nominal Operating Voltage:	5.00	VAC/VDC
85% of Nominal (V-)	4.25	VAC/VDC
115% of Nominal (V+)	5.75	VAC/VDC
Maximum Positive Deviation:	4000.00	Hz
Maximum Negative Deviation:	-400.00	Hz

Temperature Stability

Channel 1			
	Frequency MHz	Frequency Error Hz	Pass/Fail
-30º	2506.001400	1400	PASS
-20ºC	2506.000800	800	PASS
-10ºC	2505.999600	-400	PASS
0ºC	2506.001800	1800	PASS
+10ºC	2506.001800	1800	PASS
+20ºC	2506.001800	1800	PASS
+30ºC	2505.999800	-200	PASS
+40ºC	2506.002000	2000	PASS
+50ºC	2506.002600	2600	PASS

Channel 2			
	Frequency MHz	Frequency Error Hz	Pass/Fail
-30º	2596.000400	400	PASS
-20ºC	2596.000800	800	PASS
-10ºC	2596.000200	200	PASS
0ºC	2596.002600	2600	PASS
+10ºC	2596.002000	2000	PASS
+20ºC	2596.001600	1600	PASS
+30ºC	2596.001300	1300	PASS
+40ºC	2596.001200	1200	PASS
+50ºC	2596.002200	2200	PASS

Channel 3			
	Frequency MHz	Frequency Error Hz	Pass/Fail
-30º	2680.000000	0	PASS
-20ºC	2680.002400	2400	PASS
-10ºC	2680.001000	1000	PASS
0ºC	2680.001600	1600	PASS
+10ºC	2680.001800	1800	PASS
+20ºC	2680.001600	1600	PASS
+30ºC	2679.999800	-200	PASS
+40ºC	2680.001800	1800	PASS
+50ºC	2680.004000	4000	PASS

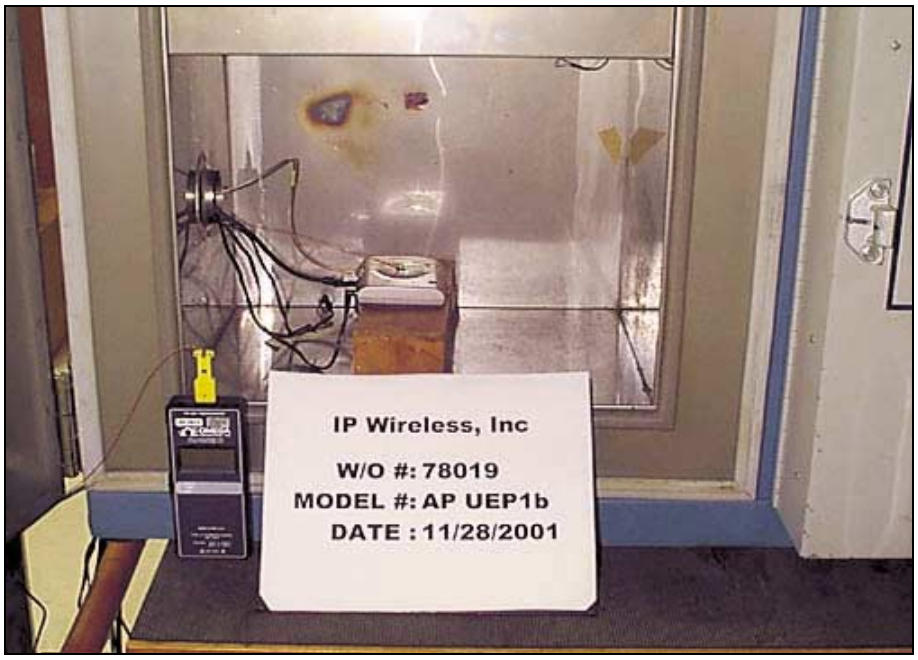
Voltage Variations

Ambient Temperature is 20.0 ºC

Channel 1			
Voltage	Frequency MHz	Frequency Error Hz	Pass/Fail
4.3	2506.000400	400	PASS
5.0	2506.001200	1200	PASS
5.8	2506.000800	800	PASS

Channel 2			
Voltage	Frequency MHz	Frequency Error Hz	Pass/Fail
4.3	2596.001000	1000	PASS
5.0	2596.001200	1200	PASS
5.8	2596.001600	1600	PASS

Channel 3			
Voltage	Frequency MHz	Frequency Error Hz	Pass/Fail
4.3	2680.000800	800	PASS
5.0	2680.002800	2800	PASS
5.8	2680.003200	3200	PASS



Frequency Stability Test Setup

15.107 – AC CONDUCTED EMISSIONS - RECEIVER

Test Location:	CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-8176		
Customer:	**IPWireless, Inc.**		
Specification:	**FCC B COND**		
Work Order #:	**78019**	Date:	12/9/2001
Test Type:	**Conducted Emissions**	Time:	9:20:15 PM
Equipment:	**Wireless Modem**	Sequence#:	10
Manufacturer:	IP Wireless, Inc.	Tested By:	Conan T. Boyle
Model:	UEP1b		
S/N:	AE4K1A-0000066		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
Cond cable, HB	cond_cab_01_hol_b	09/13/2001	09/13/2002	0
LISN, Solar 9252-50-R-24-BNC	927108	03/07/2001	03/07/2002	611

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-27
AC Adapter	Dell	AA20031	CN-09364U-12671-0BH-4902
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)

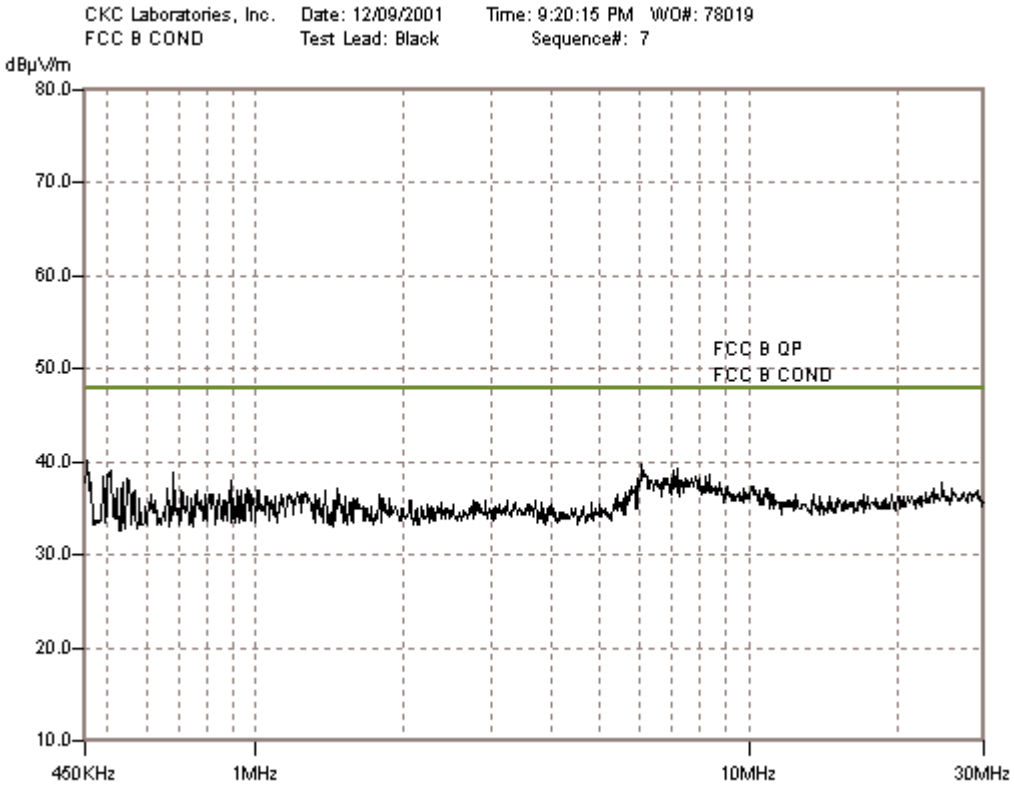
Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The EUT is set to receive mode on a frequency of 2596MHz. The notebook PC is connected to a 15-in video monitor, keyboard, mouse, and inkjet printer. Power is 120v, 60Hz. Frequency range tested is .45- 30MHz.

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

#	Freq MHz	Rdng dBµV	Condu dB	LISN dB	dB	LISN dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	455.015k	40.0	+0.2	+0.1		-0.2	+0.0	40.1	48.0	-7.9	Black
2	6.090M	39.1	+0.3	+0.2		+0.1	+0.0	39.7	48.0	-8.3	Black
3	7.155M	38.6	+0.4	+0.1		+0.1	+0.0	39.2	48.0	-8.8	Black
4	510.178k	38.8	+0.2	+0.2		-0.2	+0.0	39.0	48.0	-9.0	Black
5	7.073M	38.4	+0.4	+0.1		+0.1	+0.0	39.0	48.0	-9.0	Black

6	682.352k	38.8	+0.1	+0.2	-0.2	+0.0	38.9	48.0	-9.1	Black
7	8.342M	37.8	+0.5	+0.2	+0.1	+0.0	38.6	48.0	-9.4	Black
8	8.179M	37.7	+0.5	+0.2	+0.1	+0.0	38.5	48.0	-9.5	Black
9	491.790k	38.2	+0.2	+0.2	-0.2	+0.0	38.4	48.0	-9.6	Black
10	7.796M	37.6	+0.5	+0.2	+0.1	+0.0	38.4	48.0	-9.6	Black
11	5.981M	37.7	+0.3	+0.2	+0.1	+0.0	38.3	48.0	-9.7	Black
12	7.441M	37.7	+0.4	+0.1	+0.1	+0.0	38.3	48.0	-9.7	Black
13	7.987M	37.4	+0.5	+0.2	+0.1	+0.0	38.2	48.0	-9.8	Black
14	7.687M	37.4	+0.5	+0.2	+0.1	+0.0	38.2	48.0	-9.8	Black
15	550.296k	38.4	+0.1	+0.0	-0.3	+0.0	38.2	48.0	-9.8	Black
16	7.018M	37.6	+0.4	+0.1	+0.1	+0.0	38.2	48.0	-9.8	Black
17	6.882M	37.6	+0.4	+0.1	+0.1	+0.0	38.2	48.0	-9.8	Black
18	6.766M	37.6	+0.4	+0.1	+0.1	+0.0	38.2	48.0	-9.8	Black
19	6.295M	37.5	+0.3	+0.2	+0.1	+0.0	38.1	48.0	-9.9	Black
20	7.564M	37.3	+0.5	+0.2	+0.1	+0.0	38.1	48.0	-9.9	Black
21	887.959k	38.1	+0.1	+0.1	-0.2	+0.0	38.1	48.0	-9.9	Black
22	7.298M	37.5	+0.4	+0.1	+0.1	+0.0	38.1	48.0	-9.9	Black
23	6.500M	37.5	+0.4	+0.1	+0.1	+0.0	38.1	48.0	-9.9	Black
24	6.349M	37.4	+0.3	+0.2	+0.1	+0.0	38.0	48.0	-10.0	Black
25	6.554M	37.4	+0.4	+0.1	+0.1	+0.0	38.0	48.0	-10.0	Black
26	6.663M	37.3	+0.4	+0.1	+0.1	+0.0	37.9	48.0	-10.1	Black
27	24.774M	35.3	+0.8	+0.5	+1.2	+0.0	37.8	48.0	-10.2	Black
28	465.044k	37.7	+0.2	+0.1	-0.2	+0.0	37.8	48.0	-10.2	Black
29	8.738M	36.8	+0.4	+0.3	+0.2	+0.0	37.7	48.0	-10.3	Black
30	536.923k	37.6	+0.2	+0.1	-0.2	+0.0	37.7	48.0	-10.3	Black


CKC Laboratories, Inc.
Date: 12/09/2001
Time: 9:20:15 PM
WO#: 78019
FCC B COND
Test Lead: Black
Sequence#: 7
dBµV/m
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC B QP
FCC B COND
450KHz
1MHz
10MHz
30MHz

Test Location:	CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-8176		
Customer:	**IPWireless, Inc.**		
Specification:	**FCC B COND**		
Work Order #:	**77097**	Date:	12/9/2001
Test Type:	**Conducted Emissions**	Time:	9:25:31 PM
Equipment:	**Wireless Modem**	Sequence#:	11
Manufacturer:	IP Wireless, Inc.	Tested By:	Conan T. Boyle
Model:	UEP1b		
S/N:	AE4K1A-0000066		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A.	2049A01408	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
Cond cable, HB	cond_cab_01_hol_b	09/13/2001	09/13/2002	0
LISN, Solar 9252-50-R-24-BNC	927108	03/07/2001	03/07/2002	611

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-27
AC Adapter	Dell	AA20031	CN-09364U-12671-0BH-4902
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)

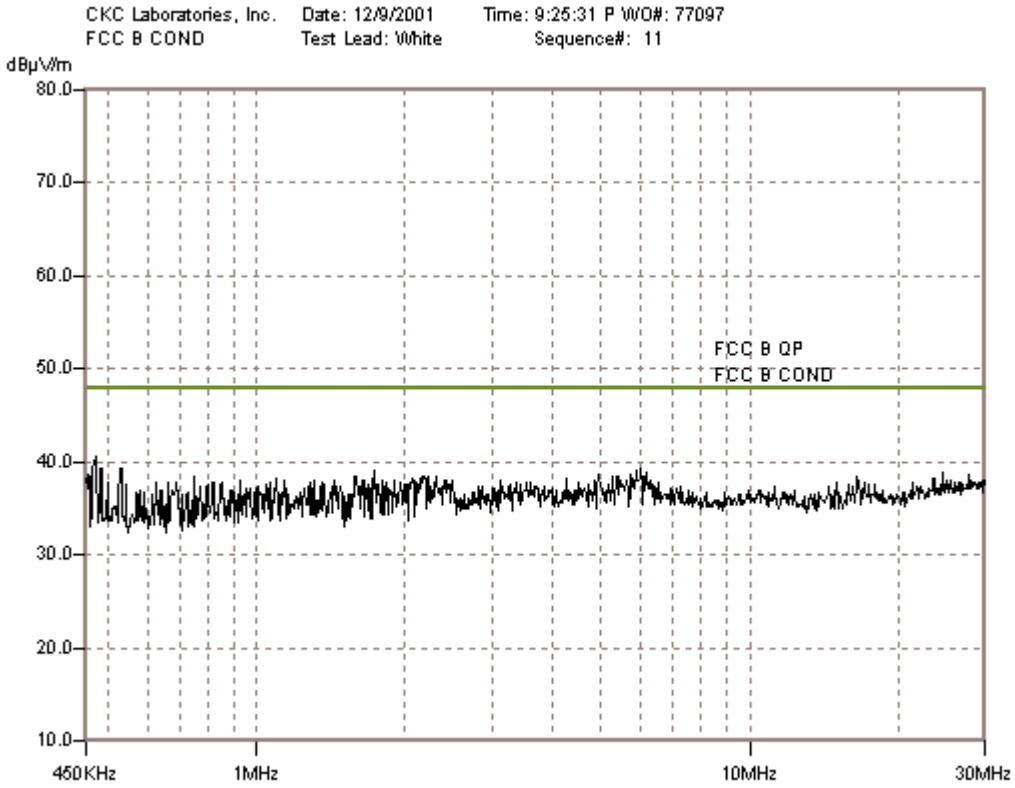
Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The EUT is set to receive mode on a frequency of 2596MHz. The notebook PC is connected to a 15-in video monitor, keyboard, mouse, and inkjet printer. Power is 120v, 60Hz. Frequency range tested is .45 - 30MHz.

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

#	Freq MHz	Rdng dBµV	Condu LISN dB	LISN dB	LISN LISN dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	471.731k	40.5	+0.2		+0.1		+0.0	40.5	48.0	-7.5	White
			-0.3	+0.0	+0.0						
2	531.073k	39.3	+0.2		+0.1		+0.0	39.3	48.0	-8.7	White
			-0.3	+0.0	+0.0						
3	6.035M	38.5	+0.3		+0.1		+0.0	39.2	48.0	-8.8	White
			+0.3	+0.0	+0.0						
4	484.268k	39.2	+0.2		+0.1		+0.0	39.2	48.0	-8.8	White
			-0.3	+0.0	+0.0						
5	5.899M	38.4	+0.3		+0.1		+0.0	39.0	48.0	-9.0	White
			+0.2	+0.0	+0.0						
6	1.735M	38.8	+0.1		+0.1		+0.0	39.0	48.0	-9.0	White
			+0.0	+0.0	+0.0						

7	24.618M	36.0	+0.8 +1.3	+0.0	+0.8 +0.0	+0.0	38.9	48.0	-9.1	White
8	6.172M	38.1	+0.3 +0.3	+0.0	+0.1 +0.0	+0.0	38.8	48.0	-9.2	White
9	5.762M	38.1	+0.3 +0.2	+0.0	+0.1 +0.0	+0.0	38.7	48.0	-9.3	White
10	4.930M	37.9	+0.4 +0.2	+0.0	+0.2 +0.0	+0.0	38.7	48.0	-9.3	White
11	453.343k	38.7	+0.2 -0.3	+0.0	+0.1 +0.0	+0.0	38.7	48.0	-9.3	White
12	27.933M	35.2	+0.8 +1.6	+0.0	+1.0 +0.0	+0.0	38.6	48.0	-9.4	White
13	5.298M	37.7	+0.4 +0.2	+0.0	+0.2 +0.0	+0.0	38.5	48.0	-9.5	White
14	2.236M	38.1	+0.2 +0.1	+0.0	+0.1 +0.0	+0.0	38.5	48.0	-9.5	White
15	749.216k	38.5	+0.1 -0.2	+0.0	+0.1 +0.0	+0.0	38.5	48.0	-9.5	White
16	16.545M	36.6	+0.6 +0.7	+0.0	+0.5 +0.0	+0.0	38.4	48.0	-9.6	White
17	5.414M	37.6	+0.4 +0.2	+0.0	+0.2 +0.0	+0.0	38.4	48.0	-9.6	White
18	5.367M	37.6	+0.4 +0.2	+0.0	+0.2 +0.0	+0.0	38.4	48.0	-9.6	White
19	2.318M	38.0	+0.2 +0.1	+0.0	+0.1 +0.0	+0.0	38.4	48.0	-9.6	White
20	2.177M	38.2	+0.1 +0.0	+0.0	+0.1 +0.0	+0.0	38.4	48.0	-9.6	White
21	1.601M	38.2	+0.1 +0.0	+0.0	+0.1 +0.0	+0.0	38.4	48.0	-9.6	White
22	1.587M	38.2	+0.1 +0.0	+0.0	+0.1 +0.0	+0.0	38.4	48.0	-9.6	White
23	458.358k	38.4	+0.2 -0.3	+0.0	+0.1 +0.0	+0.0	38.4	48.0	-9.6	White
24	30.000M	34.7	+0.7 +1.8	+0.0	+1.1 +0.0	+0.0	38.3	48.0	-9.7	White
25	4.275M	37.6	+0.3 +0.2	+0.0	+0.2 +0.0	+0.0	38.3	48.0	-9.7	White
26	23.663M	35.4	+0.8 +1.2	+0.0	+0.8 +0.0	+0.0	38.2	48.0	-9.8	White
27	2.146M	38.0	+0.1 +0.0	+0.0	+0.1 +0.0	+0.0	38.2	48.0	-9.8	White
28	2.069M	38.0	+0.1 +0.0	+0.0	+0.1 +0.0	+0.0	38.2	48.0	-9.8	White
29	1.090M	38.1	+0.1 -0.1	+0.0	+0.1 +0.0	+0.0	38.2	48.0	-9.8	White
30	929.749k	37.9	+0.1 -0.1	+0.0	+0.2 +0.0	+0.0	38.1	48.0	-9.9	White


CKC Laboratories, Inc.
Date: 12/9/2001
Time: 9:25:31 P \WO#: 77097
FCC B COND
Test Lead: \White
Sequence#: 11
dBµV/m
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
FCC B QP
FCC B COND
450KHz
1MHz
10MHz
30MHz

VIDEO BANDWIDTH AND RESOLUTION BANDWIDTH SETTINGS

BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
450 kHz	30 MHz	9 kHz

Mains Conducted Emissions Test Setup - Front View

Mains Conducted Emissions Test Setup - Side View

15.109 – RADIATED EMISSIONS - RECEIVER

Test Location: CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-0485

Customer: **IPWireless, Inc.**
Specification: **FCC B RADIATED**
Work Order #: **78019** Date: 12/9/2001
Test Type: **Radiated Scan** Time: 17:08:25
Equipment: **Wireless Modem** Sequence#: 7
Manufacturer: IP Wireless, Inc. Tested By: Conan Boyle
Model: UEP1b
S/N: AE4K1A-0000066

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A0464	05/14/2001	05/14/2002	1271
Horn Ant., Emco 3115	9307-5655	07/09/2001	07/09/2002	2157
Ant, Horn 18-26.5GHz	942126-003	07/09/2001	07/09/2002	1413
Ant, Horn 26.5-40GHz	951559-008	05/22/2001	05/22/2002	1414
Filter, 3.5GHz High Pass	3643A00026	02/19/2001	02/19/2002	1417
Log Periodic, AH Systems SAS 200/510	288	05/16/2001	05/16/2002	566
Bilog Antenna CBL6111C	2630	10/10/2001	10/10/2002	0
Preamp, HP 8447F opt H64	2944A03850	04/09/2001	04/09/2002	501
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
H-B 3meter Rad. cable .01-1MHz	Hol-B 3-m rad cable-01-.01-1MHz	10/03/2001	10/03/2002	0
H-B 3meter Rad. cable 1-13.5GHz	Hol-B 3-m rad cable-01-1GHz-13.5GHz	10/03/2001	10/03/2002	0
Ant, Mag Loop	2078	08/17/2001	08/17/2002	432

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The PC has external keyboard, mouse and monitor. The EUT is operating in receive mode at 2506 MHz. Frequency range is 30 - 12530MHz.

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

#	Freq	Rdng	Horn Chase	HP-83 Hol-B	H-B 3 LOG28	8447F	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	245.829M	55.6	+0.0	+0.0	+0.0	-26.0	+0.0	44.1	46.0	-1.9	Horiz
	QP		+12.3	+2.2	+0.0				No ferrite		
^	245.829M	55.7	+0.0	+0.0	+0.0	-26.0	+0.0	44.2	46.0	-1.8	Horiz
			+12.3	+2.2	+0.0				No ferrite		
3	2126.001M	48.1	+27.8	-34.2	+9.4	+0.0	+0.0	51.1	54.0	-2.9	Vert
	Ave		+0.0	+0.0	+0.0						
^	2126.001M	49.0	+27.8	-34.2	+9.4	+0.0	+0.0	52.0	54.0	-2.0	Vert
			+0.0	+0.0	+0.0						
5	122.953M	53.2	+0.0	+0.0	+0.0	-26.6	+0.0	39.4	43.5	-4.1	Horiz
	QP		+11.4	+1.4	+0.0						
^	122.949M	53.6	+0.0	+0.0	+0.0	-26.6	+0.0	39.8	43.5	-3.7	Horiz
			+11.4	+1.4	+0.0						
7	307.278M	50.7	+0.0	+0.0	+0.0	-26.2	+0.0	41.8	46.0	-4.2	Vert
	QP		+0.0	+2.3	+15.0						
^	307.278M	50.9	+0.0	+0.0	+0.0	-26.2	+0.0	42.0	46.0	-4.0	Vert
			+0.0	+2.3	+15.0						
9	276.553M	52.2	+0.0	+0.0	+0.0	-26.0	+0.0	41.4	46.0	-4.6	Horiz
	QP		+13.0	+2.2	+0.0						
^	276.553M	52.2	+0.0	+0.0	+0.0	-26.0	+0.0	41.4	46.0	-4.6	Horiz
			+13.0	+2.2	+0.0						
11	245.832M	52.5	+0.0	+0.0	+0.0	-26.0	+0.0	41.0	46.0	-5.0	Vert
	QP		+12.3	+2.2	+0.0						
^	245.832M	52.9	+0.0	+0.0	+0.0	-26.0	+0.0	41.4	46.0	-4.6	Vert
			+12.3	+2.2	+0.0						
13	2126.004M	45.0	+27.8	-34.2	+9.4	+0.0	+0.0	48.0	54.0	-6.0	Horiz
	Ave		+0.0	+0.0	+0.0						
^	2126.004M	46.2	+27.8	-34.2	+9.4	+0.0	+0.0	49.2	54.0	-4.8	Horiz
			+0.0	+0.0	+0.0						
15	261.141M	50.9	+0.0	+0.0	+0.0	-26.0	+0.0	39.9	46.0	-6.1	Horiz
			+12.8	+2.2	+0.0						
16	230.469M	52.7	+0.0	+0.0	+0.0	-26.1	+0.0	39.9	46.0	-6.1	Horiz
	QP		+11.3	+2.0	+0.0						
^	230.469M	53.2	+0.0	+0.0	+0.0	-26.1	+0.0	40.4	46.0	-5.6	Horiz
			+11.3	+2.0	+0.0						
18	122.949M	50.4	+0.0	+0.0	+0.0	-26.6	+0.0	36.6	43.5	-6.9	Vert
			+11.4	+1.4	+0.0						
19	291.905M	49.6	+0.0	+0.0	+0.0	-26.1	+0.0	38.9	46.0	-7.1	Horiz
			+13.2	+2.2	+0.0						
20	368.714M	45.9	+0.0	+0.0	+0.0	-26.6	+0.0	38.4	46.0	-7.6	Horiz
			+0.0	+2.5	+16.6						
21	675.868M	40.8	+0.0	+0.0	+0.0	-27.7	+0.0	38.2	46.0	-7.8	Vert
			+0.0	+3.5	+21.6						
22	675.872M	40.8	+0.0	+0.0	+0.0	-27.7	+0.0	38.2	46.0	-7.8	Horiz
			+0.0	+3.5	+21.6						
23	353.308M	46.4	+0.0	+0.0	+0.0	-26.4	+0.0	38.0	46.0	-8.0	Horiz
			+0.0	+2.4	+15.6						
24	384.075M	44.4	+0.0	+0.0	+0.0	-26.8	+0.0	37.8	46.0	-8.2	Horiz
			+0.0	+2.6	+17.6						

25	307.273M	45.6	+0.0 +0.0	+0.0 +2.3	+0.0 +15.0	-26.2	+0.0	36.7	46.0	-9.3	Horiz
26	384.070M	43.2	+0.0 +0.0	+0.0 +2.6	+0.0 +17.6	-26.8	+0.0	36.6	46.0	-9.4	Vert
27	614.479M	40.3	+0.0 +0.0	+0.0 +3.3	+0.0 +20.8	-27.9	+0.0	36.5	46.0	-9.5	Horiz
28	353.352M	44.7	+0.0 +0.0	+0.0 +2.4	+0.0 +15.6	-26.4	+0.0	36.3	46.0	-9.7	Vert
29	368.707M	43.7	+0.0 +0.0	+0.0 +2.5	+0.0 +16.6	-26.6	+0.0	36.2	46.0	-9.8	Vert
30	276.552M	46.9	+0.0 +13.0	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	36.1	46.0	-9.9	Vert
31	261.189M	46.6	+0.0 +12.8	+0.0 +2.2	+0.0 +0.0	-26.0	+0.0	35.6	46.0	-10.4	Vert
32	614.470M	39.0	+0.0 +0.0	+0.0 +3.3	+0.0 +20.8	-27.9	+0.0	35.2	46.0	-10.8	Vert
33	230.464M	47.8	+0.0 +11.3	+0.0 +2.0	+0.0 +0.0	-26.1	+0.0	35.0	46.0	-11.0	Vert
34	337.997M	43.6	+0.0 +0.0	+0.0 +2.4	+0.0 +15.3	-26.4	+0.0	34.9	46.0	-11.1	Horiz
35	291.908M	45.4	+0.0 +13.2	+0.0 +2.2	+0.0 +0.0	-26.1	+0.0	34.7	46.0	-11.3	Vert
36	737.322M	36.5	+0.0 +0.0	+0.0 +3.5	+0.0 +21.5	-27.7	+0.0	33.8	46.0	-12.2	Horiz
37	138.309M	44.4	+0.0 +11.3	+0.0 +1.6	+0.0 +0.0	-26.5	+0.0	30.8	43.5	-12.7	Horiz
38	215.106M	44.6	+0.0 +10.1	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	30.5	43.5	-13.0	Horiz
39	217.630M	45.7	+0.0 +10.3	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	31.8	46.0	-14.2	Vert
40	215.108M	42.7	+0.0 +10.1	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	28.6	43.5	-14.9	Vert
41	217.617M	41.8	+0.0 +10.3	+0.0 +2.0	+0.0 +0.0	-26.2	+0.0	27.9	46.0	-18.1	Horiz

Test Location: CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-0485

Customer: **IPWireless, Inc.**
Specification: **FCC B RADIATED**
Work Order #: **78019** Date: 12/9/2001
Test Type: **Radiated Scan** Time: 18:47:54
Equipment: **Wireless Modem** Sequence#: 8
Manufacturer: IP Wireless, Inc. Tested By: Conan Boyle
Model: UEP1b
S/N: AE4K1A-0000066

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A0464	05/14/2001	05/14/2002	1271
Horn Ant., Emco 3115	9307-5655	07/09/2001	07/09/2002	2157
Ant, Horn 18-26.5GHz	942126-003	07/09/2001	07/09/2002	1413
Ant, Horn 26.5-40GHz	951559-008	05/22/2001	05/22/2002	1414
Filter, 3.5GHz High Pass	3643A00026	02/19/2001	02/19/2002	1417
Log Periodic, AH Systems SAS 200/510	288	05/16/2001	05/16/2002	566
Bilog Antenna CBL6111C	2630	10/10/2001	10/10/2002	0
Preamp, HP 8447F opt H64	2944A03850	04/09/2001	04/09/2002	501
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
H-B 3meter Rad. cable .01-1MHz	Hol-B 3-m rad cable-01-.01-1MHz	10/03/2001	10/03/2002	0
H-B 3meter Rad. cable 1-13.5GHz	Hol-B 3-m rad cable-01-1GHz-13.5GHz	10/03/2001	10/03/2002	0
Ant, Mag Loop	2078	08/17/2001	08/17/2002	432

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The PC has external keyboard, mouse and monitor. The EUT is operating in receive mode at 2596MHz. Frequency range tested 30 - 12980MHz.

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

#	Freq	Rdng	Horn 8447F	HP-83 Chase	H-B 3 LOG28	Hol-B	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	245.830M	55.1	+0.0	+0.0	+0.0	+2.2	+0.0	43.6	46.0	-2.4	Horiz
	QP		-26.0	+12.3	+0.0				No ferrite		
^	245.830M	55.6	+0.0	+0.0	+0.0	+2.2	+0.0	44.1	46.0	-1.9	Horiz
			-26.0	+12.3	+0.0				No ferrite		
3	2216.002M	47.5	+27.8	-34.2	+9.0	+0.0	+0.0	50.1	54.0	-3.9	Vert
	Ave		+0.0	+0.0	+0.0						
^	2216.002M	48.5	+27.8	-34.2	+9.0	+0.0	+0.0	51.1	54.0	-2.9	Vert
			+0.0	+0.0	+0.0						
5	368.718M	50.6	+0.0	+0.0	+0.0	+2.5	+0.0	41.6	46.0	-4.4	Vert
	QP		-26.6	+15.1	+0.0	Added with one turn TDK Ferrite P/N ZCAT1518-0730					
^	368.718M	51.0	+0.0	+0.0	+0.0	+2.5	+0.0	42.0	46.0	-4.0	Vert
			-26.6	+15.1	+0.0	Added with one turn TDK Ferrite P/N ZCAT1518-0730					
7	122.957M	52.9	+0.0	+0.0	+0.0	+1.4	+0.0	39.1	43.5	-4.4	Horiz
	QP		-26.6	+11.4	+0.0						
^	122.957M	53.8	+0.0	+0.0	+0.0	+1.4	+0.0	40.0	43.5	-3.5	Horiz
			-26.6	+11.4	+0.0						
9	368.716M	48.2	+0.0	+0.0	+0.0	+2.5	+0.0	40.7	46.0	-5.3	Horiz
			-26.6	+0.0	+16.6						
10	276.554M	51.1	+0.0	+0.0	+0.0	+2.2	+0.0	40.3	46.0	-5.7	Horiz
			-26.0	+13.0	+0.0						
11	353.358M	49.4	+0.0	+0.0	+0.0	+2.4	+0.0	40.1	46.0	-5.9	Vert
			-26.4	+14.7	+0.0						
12	307.278M	50.4	+0.0	+0.0	+0.0	+2.3	+0.0	40.0	46.0	-6.0	Vert
	QP		-26.2	+13.5	+0.0						
^	307.278M	50.9	+0.0	+0.0	+0.0	+2.3	+0.0	40.5	46.0	-5.5	Vert
			-26.2	+13.5	+0.0						
14	230.449M	52.8	+0.0	+0.0	+0.0	+2.0	+0.0	39.9	46.0	-6.1	Horiz
			-26.1	+11.2	+0.0						
15	122.945M	51.0	+0.0	+0.0	+0.0	+1.4	+0.0	37.2	43.5	-6.3	Vert
			-26.6	+11.4	+0.0						
16	245.832M	51.1	+0.0	+0.0	+0.0	+2.2	+0.0	39.6	46.0	-6.4	Vert
			-26.0	+12.3	+0.0						
17	675.926M	42.7	+0.0	+0.0	+0.0	+3.5	+0.0	39.4	46.0	-6.6	Vert
			-27.7	+20.9	+0.0						
18	261.185M	49.9	+0.0	+0.0	+0.0	+2.2	+0.0	38.9	46.0	-7.1	Horiz
			-26.0	+12.8	+0.0						
19	2216.007M	44.3	+27.8	-34.2	+9.0	+0.0	+0.0	46.9	54.0	-7.1	Horiz
			+0.0	+0.0	+0.0						
20	337.997M	48.5	+0.0	+0.0	+0.0	+2.4	+0.0	38.8	46.0	-7.2	Vert
			-26.4	+14.3	+0.0						
21	307.278M	49.0	+0.0	+0.0	+0.0	+2.3	+0.0	38.6	46.0	-7.4	Horiz
			-26.2	+13.5	+0.0						
22	291.904M	48.8	+0.0	+0.0	+0.0	+2.2	+0.0	38.1	46.0	-7.9	Horiz
			-26.1	+13.2	+0.0						
23	675.909M	40.3	+0.0	+0.0	+0.0	+3.5	+0.0	37.0	46.0	-9.0	Horiz
			-27.7	+20.9	+0.0						
24	384.070M	44.9	+0.0	+0.0	+0.0	+2.6	+0.0	36.3	46.0	-9.7	Vert
			-26.8	+15.6	+0.0						

25	353.352M	45.5	+0.0 -26.4	+0.0 +14.7	+0.0 +0.0	+2.4	+0.0	36.2	46.0	-9.8	Horiz
26	614.453M	40.1	+0.0 -27.9	+0.0 +20.2	+0.0 +0.0	+3.3	+0.0	35.7	46.0	-10.3	Vert
27	384.083M	44.1	+0.0 -26.8	+0.0 +15.6	+0.0 +0.0	+2.6	+0.0	35.5	46.0	-10.5	Horiz
28	276.547M	46.3	+0.0 -26.0	+0.0 +13.0	+0.0 +0.0	+2.2	+0.0	35.5	46.0	-10.5	Vert
29	737.352M	37.4	+0.0 -27.7	+0.0 +22.1	+0.0 +0.0	+3.5	+0.0	35.3	46.0	-10.7	Vert
30	614.423M	39.3	+0.0 -27.9	+0.0 +20.2	+0.0 +0.0	+3.3	+0.0	34.9	46.0	-11.1	Horiz
31	230.462M	47.7	+0.0 -26.1	+0.0 +11.3	+0.0 +0.0	+2.0	+0.0	34.9	46.0	-11.1	Vert
32	337.972M	44.2	+0.0 -26.4	+0.0 +14.3	+0.0 +0.0	+2.4	+0.0	34.5	46.0	-11.5	Horiz
33	215.111M	45.7	+0.0 -26.2	+0.0 +10.1	+0.0 +0.0	+2.0	+0.0	31.6	43.5	-11.9	Vert
34	737.343M	36.0	+0.0 -27.7	+0.0 +22.1	+0.0 +0.0	+3.5	+0.0	33.9	46.0	-12.1	Horiz
35	291.915M	44.4	+0.0 -26.1	+0.0 +13.2	+0.0 +0.0	+2.2	+0.0	33.7	46.0	-12.3	Vert
36	261.189M	44.5	+0.0 -26.0	+0.0 +12.8	+0.0 +0.0	+2.2	+0.0	33.5	46.0	-12.5	Vert
37	138.305M	42.4	+0.0 -26.5	+0.0 +11.3	+0.0 +0.0	+1.6	+0.0	28.8	43.5	-14.7	Horiz
38	217.630M	45.0	+0.0 -26.2	+0.0 +10.3	+0.0 +0.0	+2.0	+0.0	31.1	46.0	-14.9	Vert
39	215.111M	42.7	+0.0 -26.2	+0.0 +10.1	+0.0 +0.0	+2.0	+0.0	28.6	43.5	-14.9	Horiz
40	491.611M	36.6	+0.0 -27.6	+0.0 +18.0	+0.0 +0.0	+2.8	+0.0	29.8	46.0	-16.2	Vert
41	399.450M	37.2	+0.0 -27.0	+0.0 +16.0	+0.0 +0.0	+2.7	+0.0	28.9	46.0	-17.1	Horiz
42	217.635M	42.0	+0.0 -26.2	+0.0 +10.3	+0.0 +0.0	+2.0	+0.0	28.1	46.0	-17.9	Horiz
43	399.419M	35.5	+0.0 -27.0	+0.0 +16.0	+0.0 +0.0	+2.7	+0.0	27.2	46.0	-18.8	Vert

Test Location: CKC Laboratories, Inc. • 480 Los Viboras Rd., Site B • Hollister, Ca 95023 • (831) 637-0485

Customer: **IPWireless, Inc.**
Specification: **FCC B RADIATED**
Work Order #: **78019** Date: 12/11/2001
Test Type: **Radiated Scan** Time: 12:50:55
Equipment: **Wireless Modem** Sequence#: 9
Manufacturer: IP Wireless, Inc. Tested By: Conan Boyle
Model: UEP1b
S/N: AE4K1A-0000066

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8564E Spec. An.	01984	12/12/2000	12/12/2001	1406
Preamp, HP83017A	3123A0464	05/14/2001	05/14/2002	1271
Horn Ant., Emco 3115	9307-5655	07/09/2001	07/09/2002	2157
Ant, Horn 18-26.5GHz	942126-003	07/09/2001	07/09/2002	1413
Ant, Horn 26.5-40GHz	951559-008	05/22/2001	05/22/2002	1414
Filter, 3.5GHz High Pass	3643A00026	02/19/2001	02/19/2002	1417
Log Periodic, AH Systems SAS 200/510	288	05/16/2001	05/16/2002	566
Bilog Antenna CBL6111C	2630	10/10/2001	10/10/2002	0
Preamp, HP 8447F opt H64	2944A03850	04/09/2001	04/09/2002	501
QP Adapter	2430A00541	06/14/2001	06/14/2002	313
S.A. Display	2112A02174	06/14/2001	06/14/2002	313
S.A.	2049A01408	06/14/2001	06/14/2002	313
H-B 3meter Rad. cable .01-1MHz	Hol-B 3-m rad cable-01-.01-1MHz	10/03/2001	10/03/2002	0
H-B 3meter Rad. cable 1-13.5GHz	Hol-B 3-m rad cable-01-1GHz-13.5GHz	10/03/2001	10/03/2002	0
Ant, Mag Loop	2078	08/17/2001	08/17/2002	432

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

Function	Manufacturer	Model #	S/N
Wireless Modem*	IP Wireless, Inc.	UEP1b	AE4K1A-0000066
AC Adapter	Friwo	SPA15U-05	None

Support Devices:

Function	Manufacturer	Model #	S/N
Notebook PC	Dell	PPX (Inspiron 3800)	329-634-58
AC Adapter	Dell	AA20031	CN-09364U-16291-14O-070J
Printer	HP	C2184A	MY63J1T1KZ
AC Adapter	HP	C2175A	220995 (Date)
Monitor	Micron	RMD5L11CM	8205C1127500
Keyboard	Compaq	RT101	1114X877X
Mouse	Microsoft	X04-72167	None

Test Conditions / Notes:

The EUT is a Wireless Modem referred to as a subscriber terminal. The EUT is connected to a notebook PC via an RS-232 serial cable and is powered by an AC adapter. The PC has external keyboard, mouse and monitor. The EUT is operating in receive mode at 2680MHz. Frequency range tested 30 – 13400MHz.

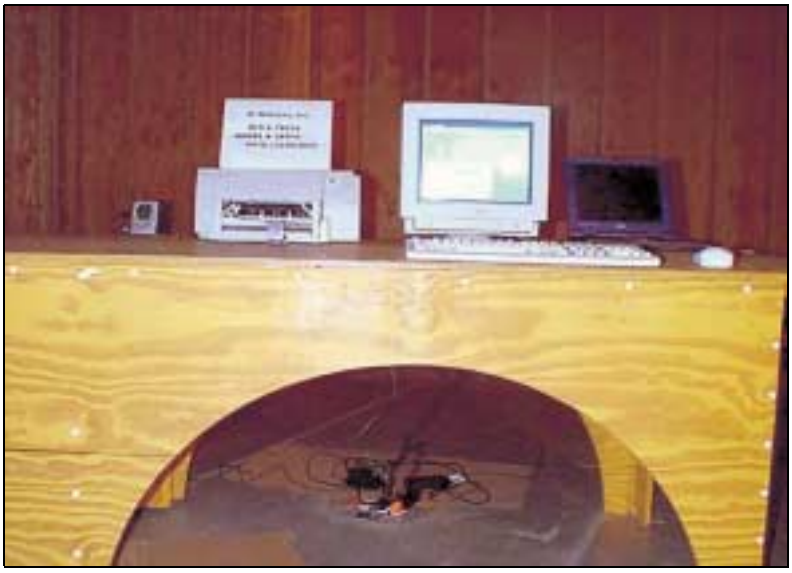
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	Horn Hol-B dB	HP-83 Chase dB	H-B 3 LOG28 dB	8447F dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	368.719M	51.9	+0.0	+0.0	+0.0	-26.6	+0.0	44.4	46.0	-1.6	Vert
	QP		+2.5	+0.0	+16.6						
^	368.719M	52.1	+0.0	+0.0	+0.0	-26.6	+0.0	44.6	46.0	-1.4	Vert
			+2.5	+0.0	+16.6						
3	245.834M	55.8	+0.0	+0.0	+0.0	-26.0	+0.0	44.3	46.0	-1.7	Horiz
	QP		+2.2	+12.3	+0.0						
^	245.834M	56.0	+0.0	+0.0	+0.0	-26.0	+0.0	44.5	46.0	-1.5	Horiz
			+2.2	+12.3	+0.0						
5	2300.004M	49.7	+27.8	-34.2	+8.6	+0.0	+0.0	51.9	54.0	-2.1	Vert
	Ave		+0.0	+0.0	+0.0						
^	2300.004M	50.2	+27.8	-34.2	+8.6	+0.0	+0.0	52.4	54.0	-1.6	Vert
			+0.0	+0.0	+0.0						
7	122.958M	53.7	+0.0	+0.0	+0.0	-26.6	+0.0	39.9	43.5	-3.6	Horiz
	QP		+1.4	+11.4	+0.0						
^	122.958M	53.7	+0.0	+0.0	+0.0	-26.6	+0.0	39.9	43.5	-3.6	Horiz
			+1.4	+11.4	+0.0						
9	307.280M	51.0	+0.0	+0.0	+0.0	-26.2	+0.0	42.1	46.0	-3.9	Vert
	QP		+2.3	+0.0	+15.0						
^	307.280M	51.3	+0.0	+0.0	+0.0	-26.2	+0.0	42.4	46.0	-3.6	Vert
			+2.3	+0.0	+15.0						
11	2300.004M	47.9	+27.8	-34.2	+8.6	+0.0	+0.0	50.1	54.0	-3.9	Horiz
	Ave		+0.0	+0.0	+0.0						
^	2300.004M	48.5	+27.8	-34.2	+8.6	+0.0	+0.0	50.7	54.0	-3.3	Horiz
			+0.0	+0.0	+0.0						
13	368.719M	47.8	+0.0	+0.0	+0.0	-26.6	+0.0	40.3	46.0	-5.7	Horiz
	QP		+2.5	+0.0	+16.6						
^	368.719M	48.5	+0.0	+0.0	+0.0	-26.6	+0.0	41.0	46.0	-5.0	Horiz
			+2.5	+0.0	+16.6						
15	353.358M	48.4	+0.0	+0.0	+0.0	-26.4	+0.0	40.0	46.0	-6.0	Horiz
	QP		+2.4	+0.0	+15.6						
^	353.358M	48.5	+0.0	+0.0	+0.0	-26.4	+0.0	40.1	46.0	-5.9	Horiz
			+2.4	+0.0	+15.6						
17	276.551M	50.5	+0.0	+0.0	+0.0	-26.0	+0.0	39.7	46.0	-6.3	Horiz
			+2.2	+13.0	+0.0						
18	245.838M	51.1	+0.0	+0.0	+0.0	-26.0	+0.0	39.6	46.0	-6.4	Vert
	QP		+2.2	+12.3	+0.0						
^	245.838M	51.5	+0.0	+0.0	+0.0	-26.0	+0.0	40.0	46.0	-6.0	Vert
			+2.2	+12.3	+0.0						
20	353.356M	47.9	+0.0	+0.0	+0.0	-26.4	+0.0	39.5	46.0	-6.5	Vert
			+2.4	+0.0	+15.6						
21	122.950M	50.7	+0.0	+0.0	+0.0	-26.6	+0.0	36.9	43.5	-6.6	Vert
			+1.4	+11.4	+0.0						
22	384.077M	45.9	+0.0	+0.0	+0.0	-26.8	+0.0	39.3	46.0	-6.7	Vert
			+2.6	+0.0	+17.6						
23	675.906M	41.7	+0.0	+0.0	+0.0	-27.7	+0.0	39.1	46.0	-6.9	Vert
			+3.5	+0.0	+21.6						
24	261.193M	49.9	+0.0	+0.0	+0.0	-26.0	+0.0	38.9	46.0	-7.1	Horiz
			+2.2	+12.8	+0.0						

25	291.914M	49.4	+0.0 +2.2	+0.0 +13.2	+0.0 +0.0	-26.1	+0.0	38.7	46.0	-7.3	Horiz
26	337.988M	47.1	+0.0 +2.4	+0.0 +0.0	+0.0 +15.3	-26.4	+0.0	38.4	46.0	-7.6	Vert
27	384.078M	44.9	+0.0 +2.6	+0.0 +0.0	+0.0 +17.6	-26.8	+0.0	38.3	46.0	-7.7	Horiz
28	614.462M	41.2	+0.0 +3.3	+0.0 +0.0	+0.0 +20.8	-27.9	+0.0	37.4	46.0	-8.6	Horiz
29	614.478M	39.8	+0.0 +3.3	+0.0 +0.0	+0.0 +20.8	-27.9	+0.0	36.0	46.0	-10.0	Vert
30	675.823M	38.2	+0.0 +3.5	+0.0 +0.0	+0.0 +21.6	-27.7	+0.0	35.6	46.0	-10.4	Horiz
31	737.322M	37.7	+0.0 +3.5	+0.0 +0.0	+0.0 +21.5	-27.7	+0.0	35.0	46.0	-11.0	Horiz
32	337.996M	43.3	+0.0 +2.4	+0.0 +0.0	+0.0 +15.3	-26.4	+0.0	34.6	46.0	-11.4	Horiz
33	215.116M	46.2	+0.0 +2.0	+0.0 +10.1	+0.0 +0.0	-26.2	+0.0	32.1	43.5	-11.4	Vert
34	291.916M	45.0	+0.0 +2.2	+0.0 +13.2	+0.0 +0.0	-26.1	+0.0	34.3	46.0	-11.7	Vert
35	276.559M	45.0	+0.0 +2.2	+0.0 +13.0	+0.0 +0.0	-26.0	+0.0	34.2	46.0	-11.8	Vert
36	491.578M	40.7	+0.0 +2.8	+0.0 +0.0	+0.0 +17.8	-27.6	+0.0	33.7	46.0	-12.3	Vert
37	261.189M	44.7	+0.0 +2.2	+0.0 +12.8	+0.0 +0.0	-26.0	+0.0	33.7	46.0	-12.3	Vert
38	230.474M	46.5	+0.0 +2.0	+0.0 +11.3	+0.0 +0.0	-26.1	+0.0	33.7	46.0	-12.3	Vert
39	215.064M	44.3	+0.0 +2.0	+0.0 +10.1	+0.0 +0.0	-26.2	+0.0	30.2	43.5	-13.3	Horiz
40	138.317M	42.2	+0.0 +1.6	+0.0 +11.3	+0.0 +0.0	-26.5	+0.0	28.6	43.5	-14.9	Horiz
41	430.154M	37.0	+0.0 +2.7	+0.0 +0.0	+0.0 +18.3	-27.1	+0.0	30.9	46.0	-15.1	Vert
42	217.635M	44.8	+0.0 +2.0	+0.0 +10.3	+0.0 +0.0	-26.2	+0.0	30.9	46.0	-15.1	Vert
43	138.307M	42.0	+0.0 +1.6	+0.0 +11.3	+0.0 +0.0	-26.5	+0.0	28.4	43.5	-15.1	Vert
44	430.138M	36.4	+0.0 +2.7	+0.0 +0.0	+0.0 +18.3	-27.1	+0.0	30.3	46.0	-15.7	Horiz
45	217.621M	43.5	+0.0 +2.0	+0.0 +10.3	+0.0 +0.0	-26.2	+0.0	29.6	46.0	-16.4	Horiz
46	491.548M	36.1	+0.0 +2.8	+0.0 +0.0	+0.0 +17.8	-27.6	+0.0	29.1	46.0	-16.9	Horiz

VIDEO BANDWIDTH AND RESOLUTION BANDWIDTH SETTINGS

BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
30 MHz	1000 MHz	120 kHz
1000 MHz	13400 MHz	1 MHz



Field Strength Test Setup – Front view

Field Strength Test Setup – Back View