ELECTRONICS TEST CENTRE
MPB TECHNOLOGIES INC.

TEST REPORT PREPARED BY:

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MPBT Report No.: u02e2123 rev.: 2 Date: 27 September 2002

Test Report for Emissions Testing of the Waiter Pad System In accordance with FCC Part 15, Subpart C, Intentional Radiators

Test Personnel: D. Raynes

Prepared for:

Uniwell Systems Inc.
217 - 8th Avenue N.W.
Calgary, Alberta
Canada T2M 0A7

Uniwell Systems Inc.
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Australia

_____
Client Acceptance
Authorized Signatory

Digitally signed by David G. Raynes
cn=David G. Raynes, ou=Electronics Test Centre, o=MPB Technologies Inc., c=CA
Date: 2002.10.07 15:59:02 -07'00'
Reason: I am the author of this document
Airdrie, Alberta

_____
David Raynes
Laboratory Supervisor
Electronics Test Centre (Airdrie)
Authorized Signatory

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1.0 INTRODUCTION

1.1 SCOPE

The purpose of this report is to present the results of compliance testing performed in accordance with CFR 47 FCC Part 15, Subpart C, Intentional Radiators.

1.2 APPLICANT

This test report has been prepared for Uniwell Systems, located in Calgary, Alberta, Canada.

1.3 APPLICABILITY

All test procedures, limits, and results defined in this document apply to the Uniwell Systems Waiter Pad System unit, referred to as the Equipment Under Test (EUT).
The results contained in this report relate only to the items tested.
This report does not imply product endorsement by NVLAP, or the Canadian or US governments.

1.4 TEST SAMPLE DESCRIPTION

The test sample, provided for testing was a Waiter Pad System.

Product Type:	Wireless IT (low-power FM)
Power Requirements:	120VAC, 50/60 Hz
Peripheral Equipment:	Network Controller, Receiver, WaiterPad, Printers
Cables:	Cat 5

More detailed information is supplied by Uniwell Systems in Appendix A.

1.5 GENERAL TEST CONDITIONS AND ASSUMPTIONS

The EUT was set up and exercised using the configurations, modes of operation and arrangements defined in this report only. All inputs and outputs to and from other equipment associated with the EUT were adequately simulated.

Where relevant, the EUT was only tested using the monitoring methods and test criteria defined in this report.

All testing, unless otherwise noted, was performed under the following environmental conditions:

Temperature:	17 to 23 °C
Humidity:	45 to 75 %
Barometric Pressure:	68 to 106 kPa

1.6 SCOPE OF TESTING

Tests were performed in accordance with FCC Part 15 Subpart C (1999), and ANSI C63.4 (1992).

1.6.1 VARIATIONS IN TEST METHODS

There were no variations from the test procedures outlined above.

1.6.2 TEST SAMPLE MODIFICATIONS

There were no equipment modifications during test performance.

1.6.3 MARGINAL MEASUREMENTS

There were no emissions measured to be within -6 dB of the specified limits.

2.0 ABBREVIATIONS

CE -Conducted Emissions

E -Field - Electric Field

H -Field - Magnetic Field

N/T -Not Tested

N/A -Not Applicable

RE -Radiated Emissions

3.0 MEASUREMENT UNCERTAINTY

For Radiated E-Field Emissions and Conducted Emissions, the uncertainties in the measurements were calculated using the methods outlined in the NAMAS document, NIS81: May 1984.

Frequency = ± 1 kHz
Amplitude (RE) = ± 4.01 dB
Amplitude (CE) = ± 3.25 dB

4.0 TEST CONCLUSION

The EUT was subjected to the following tests. Compliance status is indicated as **PASS, Marginal Pass,** or **FAIL**.

The following table summarizes the test results in terms of the specification and class or level applied, the unique test sample identification, and the EUT modification state, the mode of operation, configuration and cable arrangement as applicable.

TEST CASE	TEST TYPE	SPECIFICA-TION	TEST SAMPLE	MOD. STATE	CONFIGURATION	RESULT
4.1	Conducted Emissions	FCC Part 15.207	Waiter Pad System	nil	Simulated Installation	**PASS**
4.2	Radiated Emissions	FCC Part 15.209, 15.247	Waiter Pad System	nil	Simulated Installation	**PASS**
4.3	Restricted Bands Of Operation	FCC Part 15.205	Waiter Pad System	nil	Simulated Installation	**PASS**

STATEMENT OF COMPLIANCE

The client equipment referred to in this report was found to comply with the requirements as stated above.

4.1 CONDUCTED EMISSIONS ON AC POWER LINES

Test Lab: MPB Technologies Inc. Airdrie Test Personnel: D. Raynes Test Date: 19 November 2000	Product: Waiter Pad System
Test Result: Waiter Pad System: **PASS**	
Objectives/Criteria	Specifications
The Conducted E-Field emissions proliferated by a system or sub-system shall not exceed the limits for the specifications as stated.	**FCC Part 15.207** 0.450 - 30 MHz: 48.0 dBµV (QP) **Emission levels should meet the requirements with a margin of 6dB**.
Comments: There were no emissions measured to be within -10 dB of the specified limit. Refer to the test data plots for more details.	

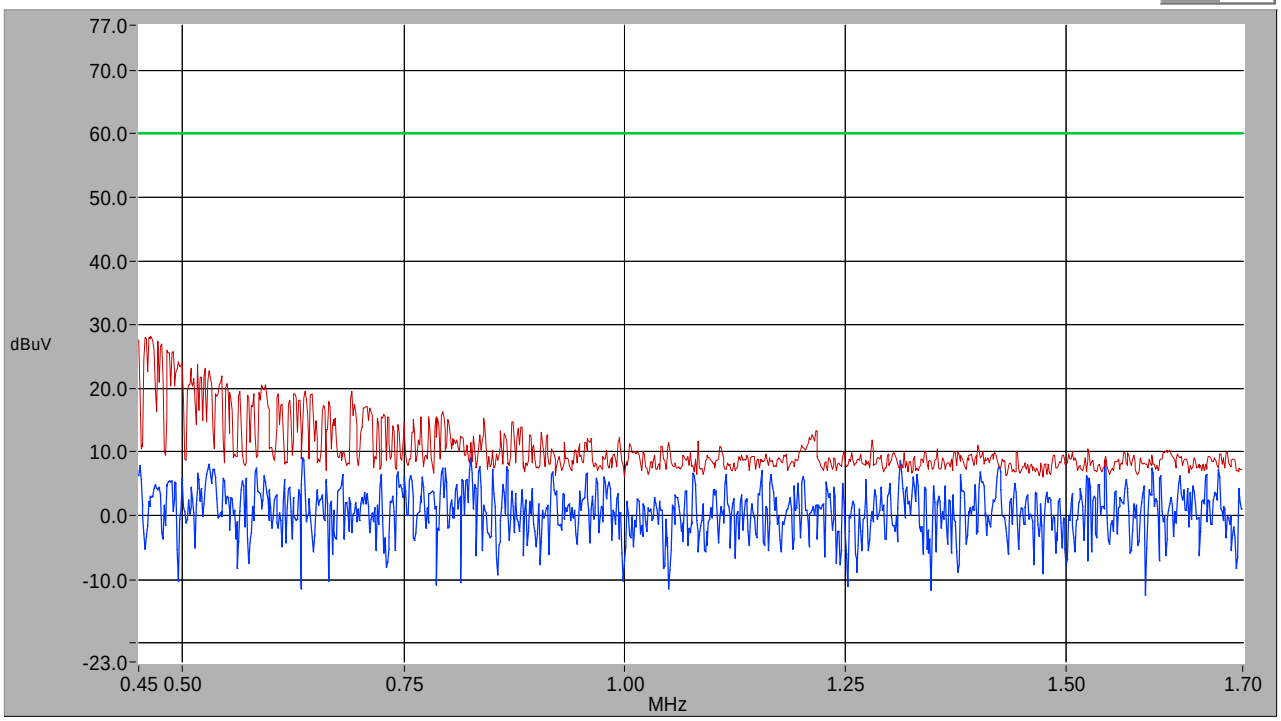
Conducted Emissions
Neutral to Ground
FCC Part 15 Class B 3m

Title: Conducted Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 3:19 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 1



VBW: 100.000 kHz
RBW: 10.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 10.00 dB
An Atten: 10.00 dB

Comments:

Associated Files

ZERO.DAT	23/4/1997
lisn.dat	19/7/2000
FCC15A3.DAT	23/4/1997

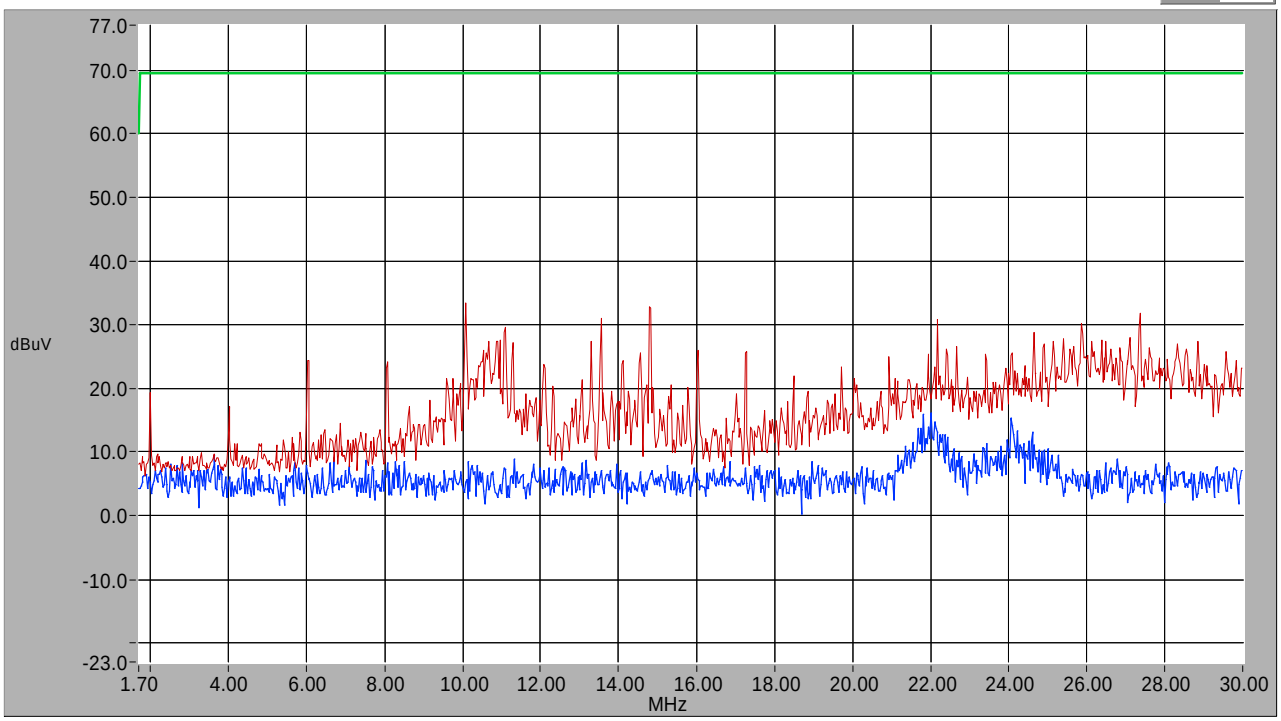
Conducted Emissions
Neutral to Ground
FCC Part 15 Class B 3m

Title: Conducted Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 3:40 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 2



VBW: 30.000 kHz
RBW: 10.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 10.00 dB
An Atten: 10.00 dB

Comments:

Associated Files

ZERO.DAT	23/4/1997
lisn.dat	19/7/2000
FCC15A3.DAT	23/4/1997

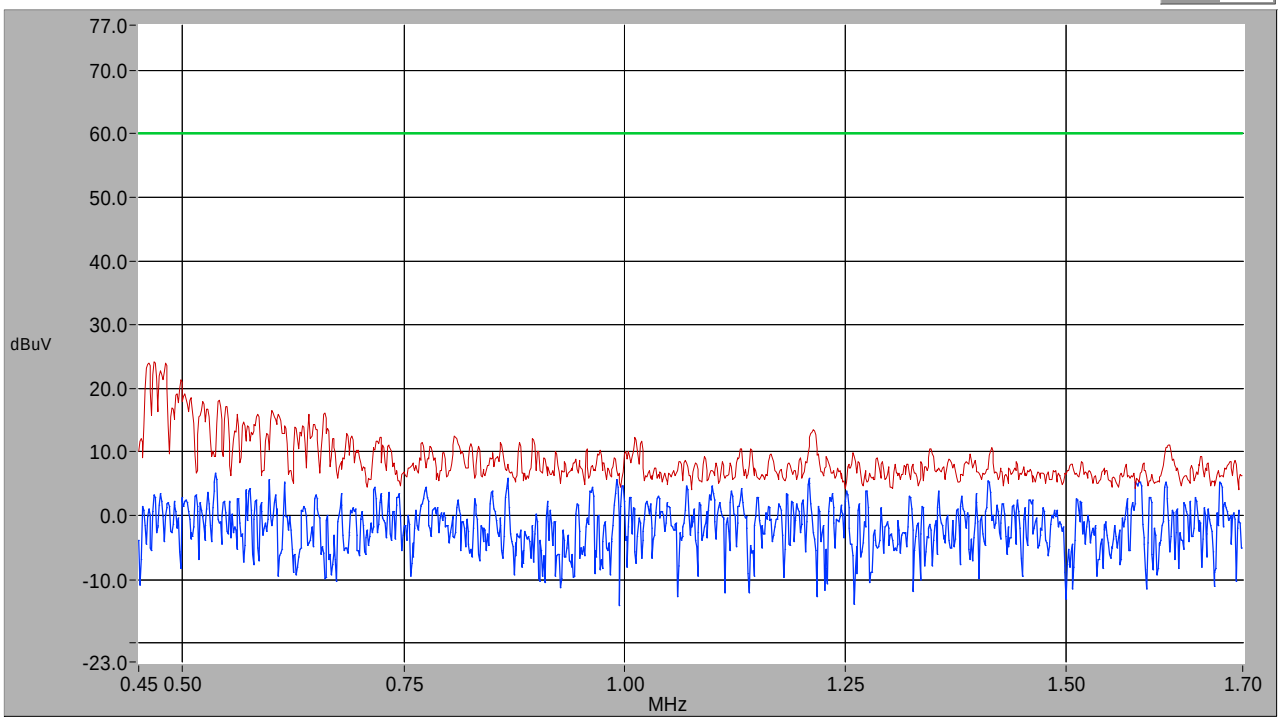
Conducted Emissions
Hot to Ground
FCC Part 15 Class B 3m

Title: Conducted Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 3:32 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 3



VBW: 100.000 kHz
RBW: 10.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 10.00 dB
An Atten: 10.00 dB

Comments:

Associated Files

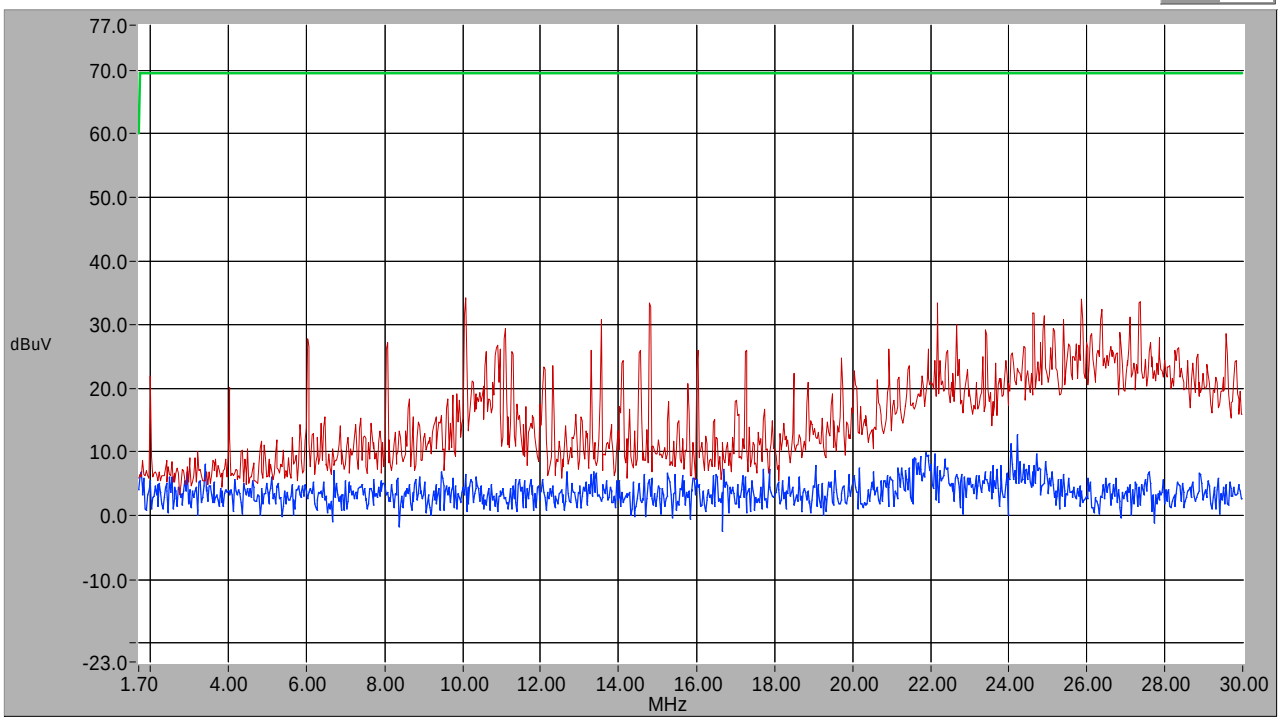
ZERO.DAT	23/4/1997
lisn.dat	19/7/2000
FCC15A3.DAT	23/4/1997

Conducted Emissions
Hot to Ground
FCC Part 15 Class B 3m

Title: Conducted Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: November 19, 2000 3:35 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

Plot Number: 4



VBW: 30.000 kHz
RBW: 10.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 10.00 dB
An Atten: 10.00 dB

Comments:

Associated Files

ZERO.DAT	23/4/1997
lisn.dat	19/7/2000
FCC15A3.DAT	23/4/1997

4.2 RADIATED EMISSIONS

Test Lab: MPB Technologies Inc. Airdrie Test Personnel: D. Raynes Test Date: 19 November 2000	Product: Waiter Pad System
Test Result, Waiter Pad System: **PASS**	
Objectives/Criteria	Specifications
The Radiated E-Field emissions proliferated by a system or sub-system, measured at a distance of 3m from the EUT, shall not exceed the limits for the specifications as stated. **Emission levels should meet the requirements with a margin of 6dB.**	**FCC Part 15.209, FCC Part 15.249** **Frequency** **Field Strength @3m** 30-80 MHz 40.0 dBµV/m 80-216 MHz 43.5 dBµV/m 216-960 MHz 46.0 dBµV/m 960 MHz & above 54.0 dBµV/m
Comments: There were no emissions measured to be within -10 dB of the specified limit per Section 15.209. Refer to the test data plots for more details.	

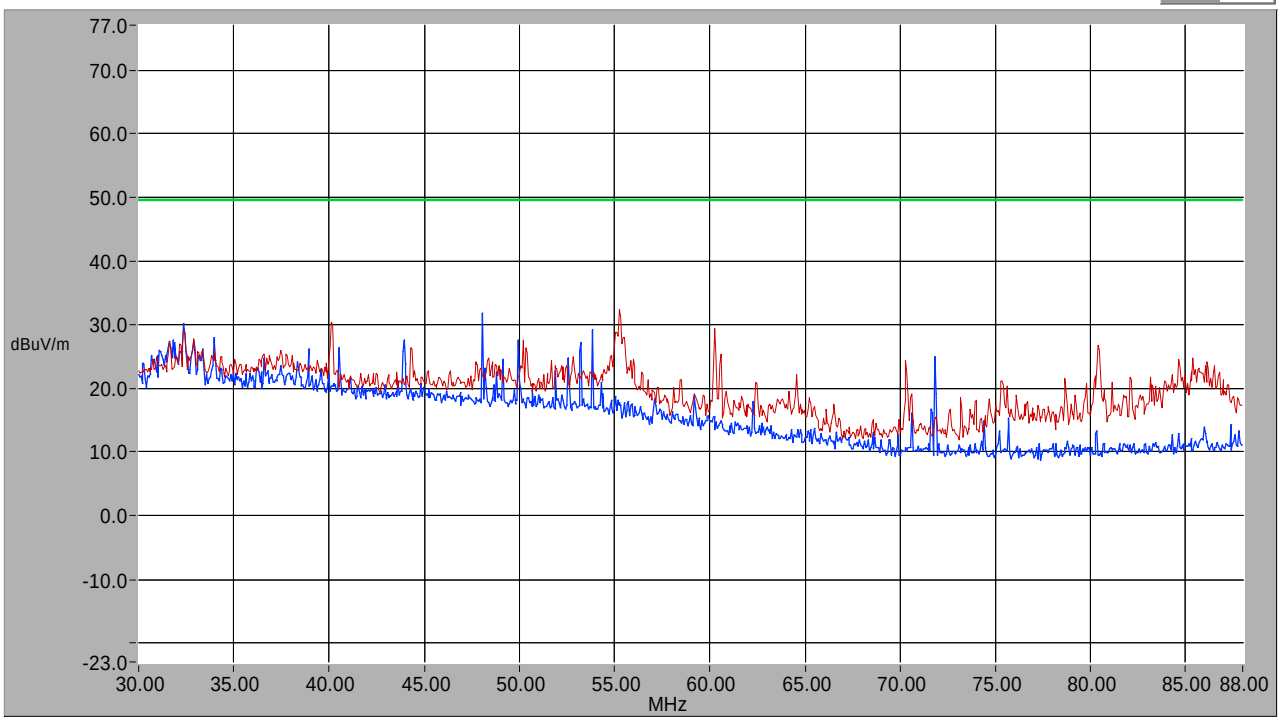
Radiated Emissions
Horizontal Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 1:36 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 1



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 0.00 dB

Comments:

Associated Files

rfac1_3m.txt	4/7/2000
04318h3.dat	14/3/2000
FCC15A3.DAT	23/4/1997

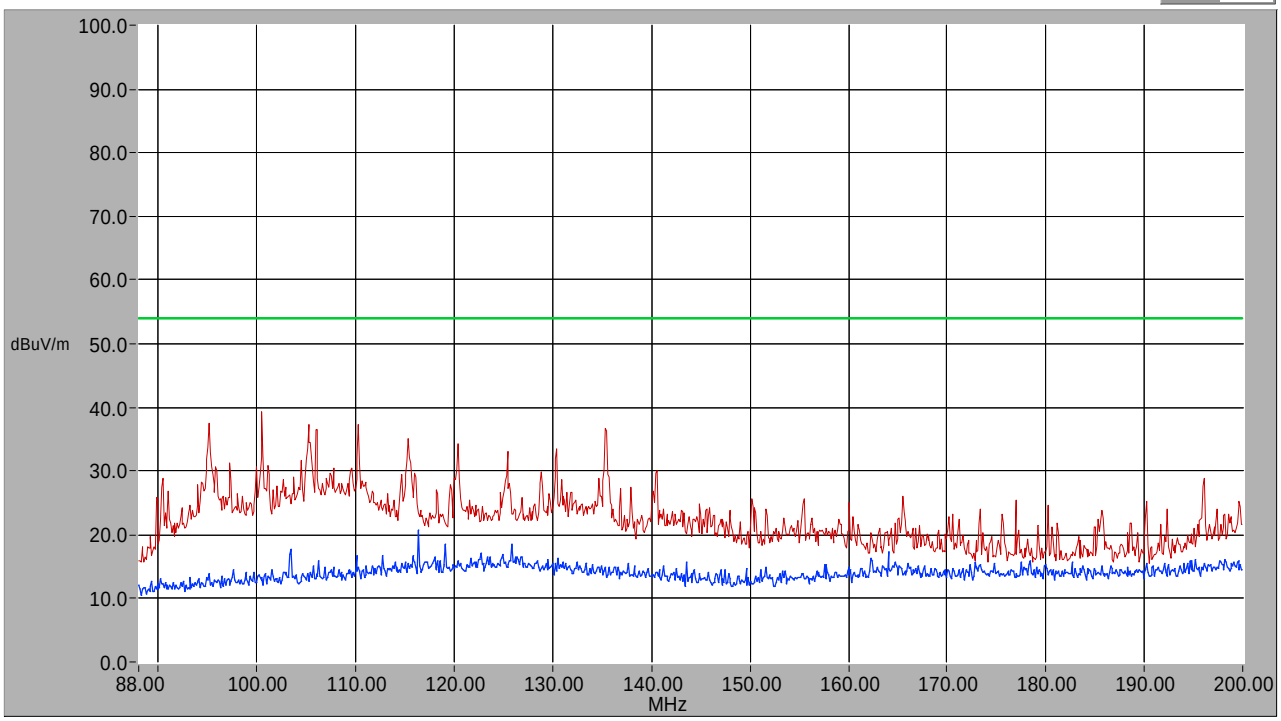
Radiated Emissions
Horizontal Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 1:20 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 2



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 0.00 dB

Comments:

Associated Files

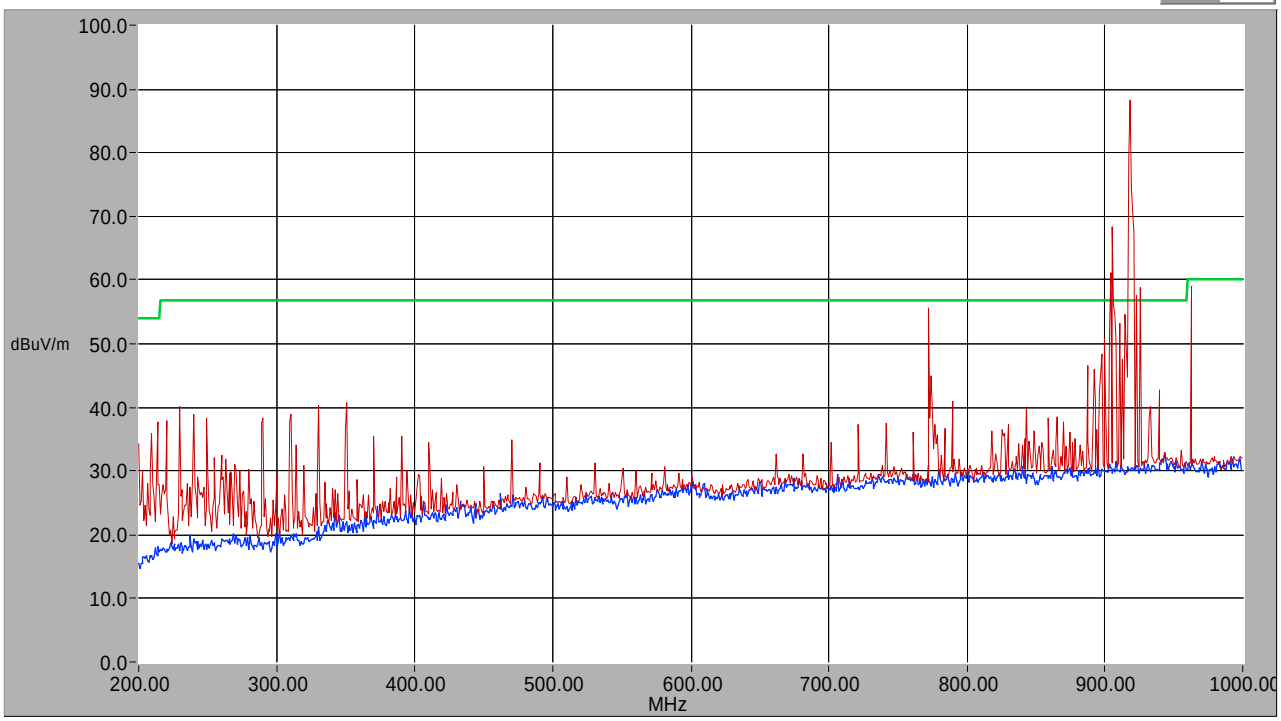
rfac1_3m.txt	4/7/2000
04318h3.dat	14/3/2000
FCC15A3.DAT	23/4/1997

Radiated Emissions
Horizontal Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: November 19, 2000 12:19 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

Plot Number: 3



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 0.00 dB

Associated Files

rfac1_3m.txt	4/7/2000
04318h3.dat	14/3/2000
FCC15A3.DAT	23/4/1997

Comments:

QUASI-PEAK DATA

Freq (MHz)	Azimuth (deg)	Height (cm)	SA Lvl (dBuV)	AF (dB)	CF (dB)	Other (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
229.875	248	113	23.90	12.90	1.80	0.00	38.60	56.86	18.26	Pass
771.040	278	120	12.30	21.22	3.40	0.00	36.92	56.86	19.94	Pass
902.190	122	117	10.20	22.94	3.81	0.00	36.95	56.86	19.91	Pass
902.200	119	117	10.20	22.94	3.81	0.00	36.95	56.86	19.91	Pass
923.335	6	154	-3.40	22.90	3.89	0.00	23.39	56.86	33.47	Pass
930.845	170	136	6.60	23.00	3.90	0.00	33.50	56.86	23.36	Pass
960.555	124	247	6.60	23.02	3.86	0.00	33.48	60.00	26.52	Pass

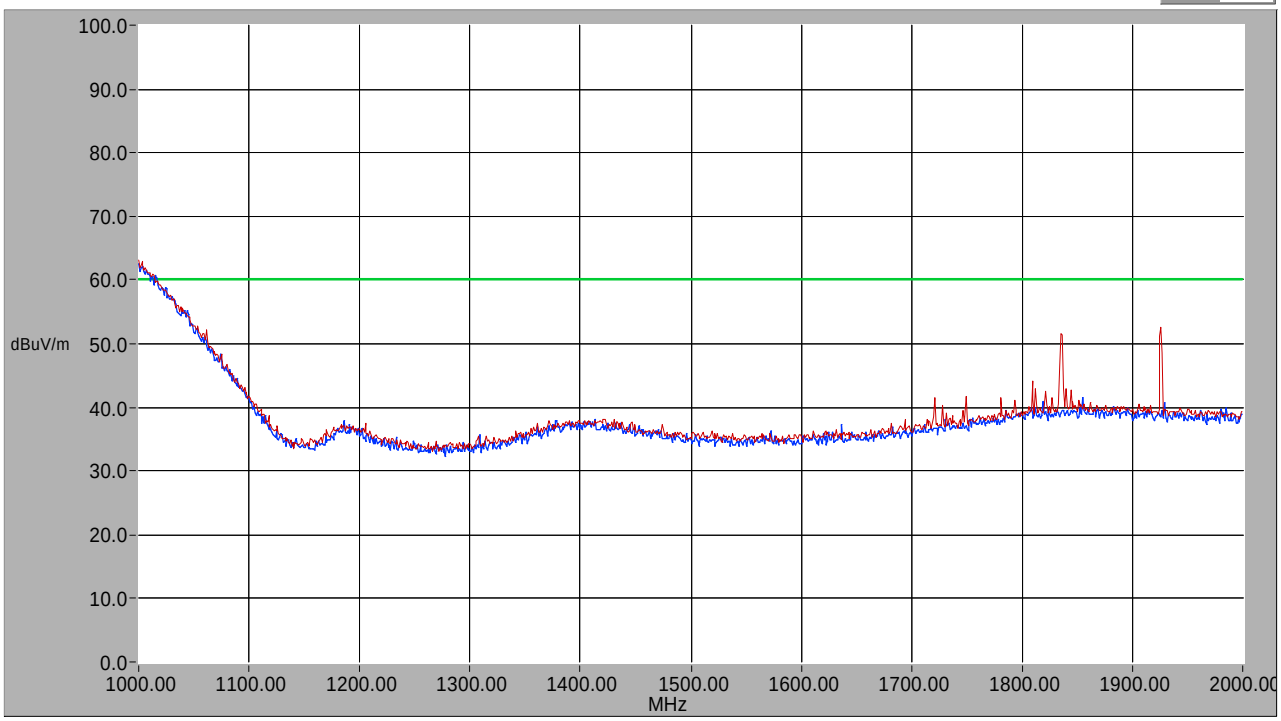
Radiated Emissions
Horizontal Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 5:30 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 21, 2000

Plot Number: 4



VBW: 3.000 MHz
RBW: 1.000 MHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 20.00 dB
An Atten: 20.00 dB

Associated Files

rfac1_3m.txt	4/7/2000
09588h3.dat	8/8/2000
FCC15A3.DAT	23/4/1997
lnafilt.dat	6/3/2000

Comments:

QUASI-PEAK DATA

Freq (MHz)	Azimuth (deg)	Height (cm)	SA Lvl (dBuV)	AF (dB)	CF (dB)	Other (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
1833.100	334	137	81.50	28.43	5.50	-62.40	53.03	60.00	6.97	Pass
1922.100	53	257	78.10	28.89	5.71	-62.60	50.11	60.00	9.89	Pass

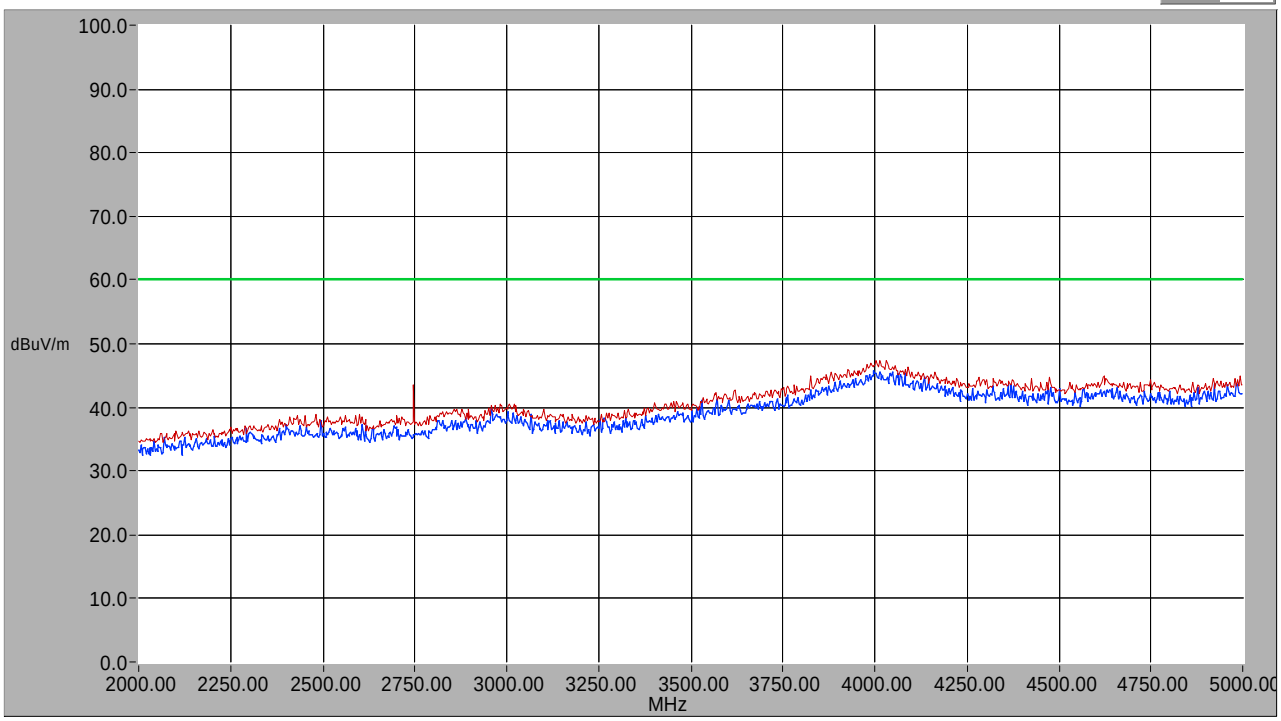
Radiated Emissions
Horizontal Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 6:20 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 21, 2000

Plot Number: 5



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 40.00 dB

Comments:

Associated Files

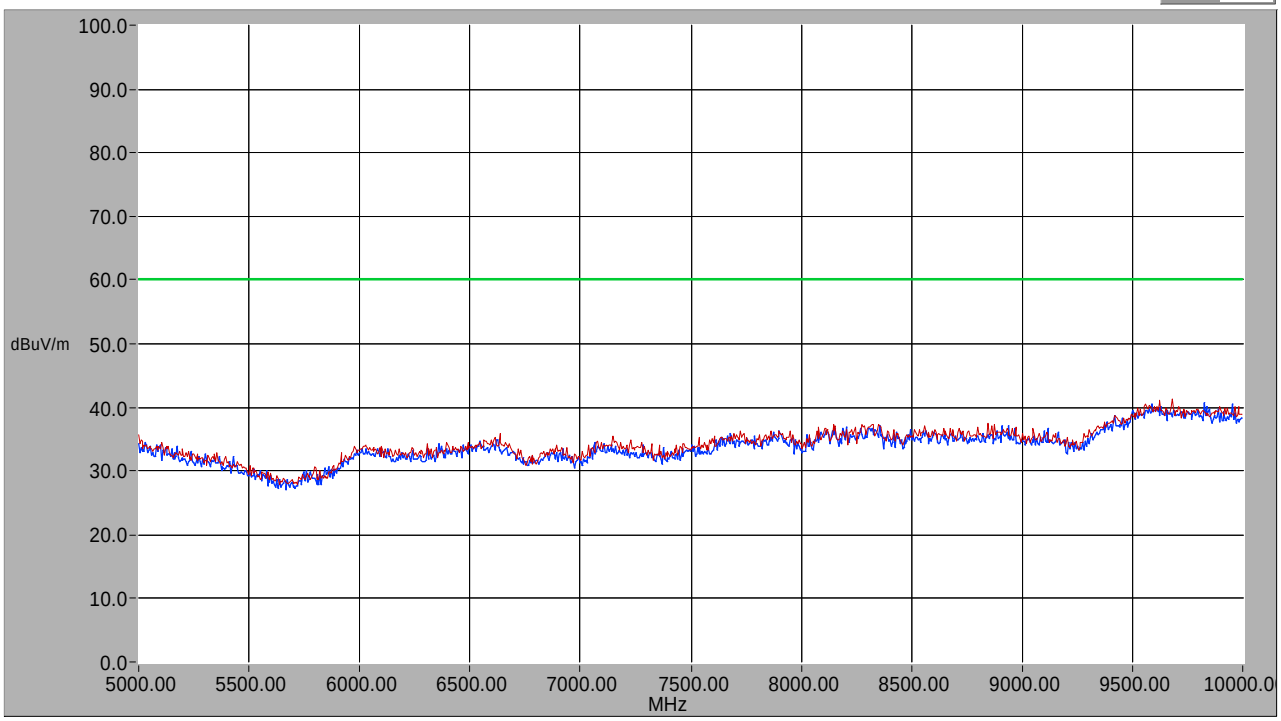
rfac1_3m.txt	4/7/2000
09588h3.dat	8/8/2000
FCC15A3.DAT	23/4/1997
lnafilt.dat	6/3/2000

Radiated Emissions
Horizontal Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: November 21, 2000 6:43 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

Plot Number: 6



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 20.00 dB
An Atten: 0.00 dB

Comments:

Associated Files

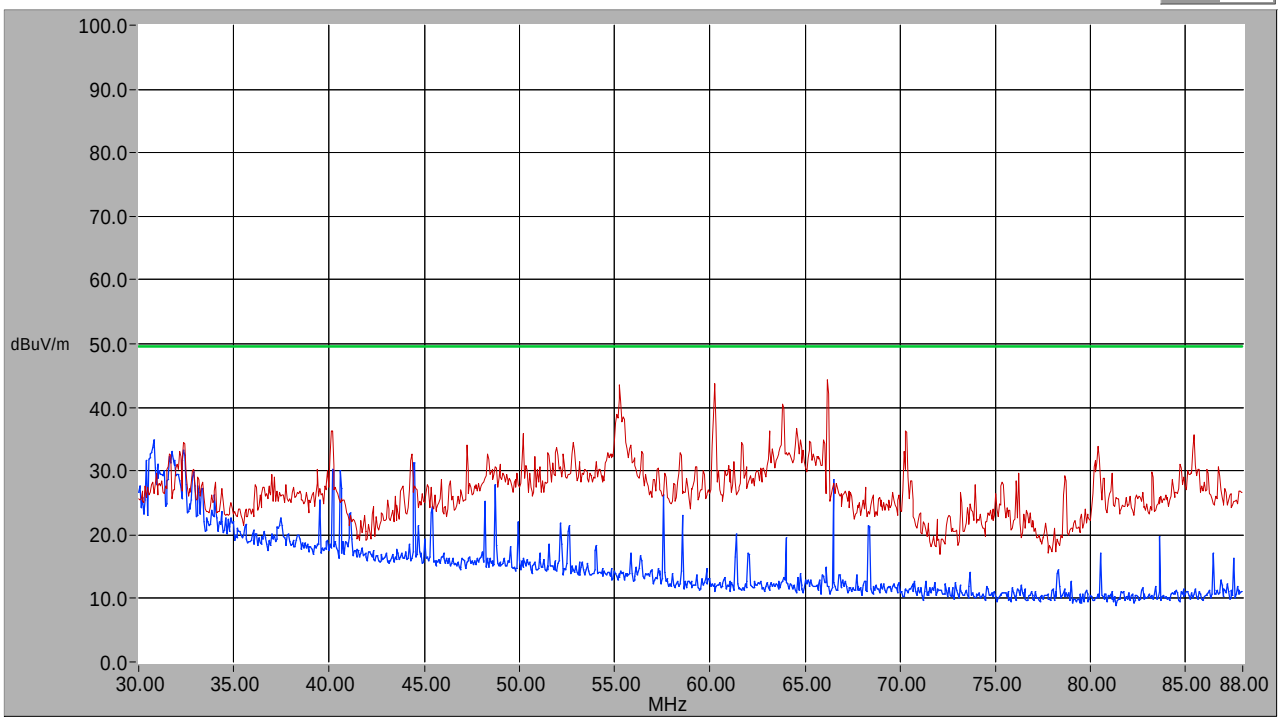
rfac1_3m.txt	4/7/2000
09588h1.dat	9/5/1997
FCC15A3.DAT	23/4/1997
lnafilt.dat	6/3/2000

Radiated Emissions
Vertical Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: November 19, 2000 2:08 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

Plot Number: 7



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 0.00 dB

Associated Files

rfac1_3m.txt	4/7/2000
04318v3.dat	14/3/2000
FCC15A3.DAT	23/4/1997

Comments:

QUASI-PEAK DATA

Freq (MHz)	Azimuth (deg)	Height (cm)	SA Lvl (dBuV)	AF (dB)	CF (dB)	Other (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
55.116	86	117	21.60	10.66	0.95	0.00	33.21	49.54	16.33	Pass
60.122	171	113	29.50	9.10	1.00	0.00	39.60	49.54	9.94	Pass
65.234	186	117	12.90	8.97	1.05	0.00	22.92	49.54	26.62	Pass

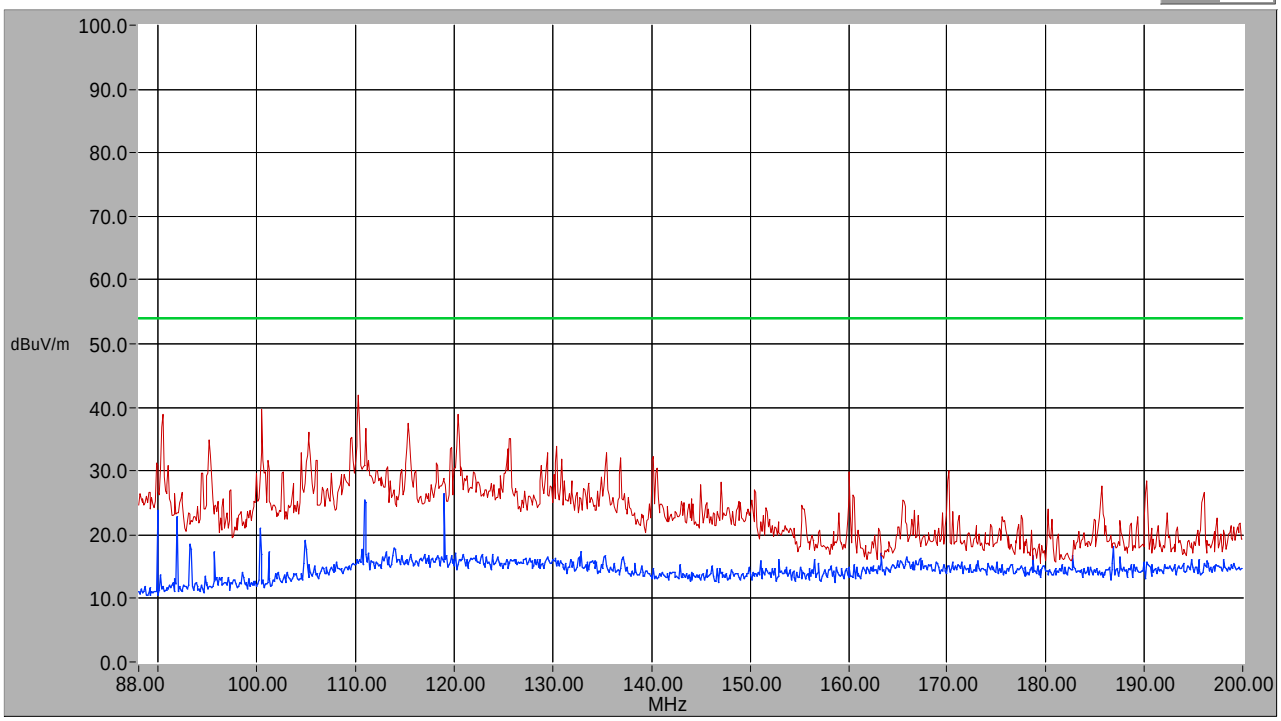
Radiated Emissions
Vertical Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 2:30 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 8



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 0.00 dB

Associated Files

rfac1_3m.txt	4/7/2000
04318v3.dat	14/3/2000
FCC15A3.DAT	23/4/1997

Comments:

QUASI-PEAK DATA

Freq (MHz)	Azimuth (deg)	Height (cm)	SA Lvl (dBuV)	AF (dB)	CF (dB)	Other (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
110.208	240	113	25.90	11.82	1.30	0.00	39.02	53.96	14.94	Pass
120.256	32	113	19.60	12.49	1.30	0.00	33.39	53.96	20.57	Pass

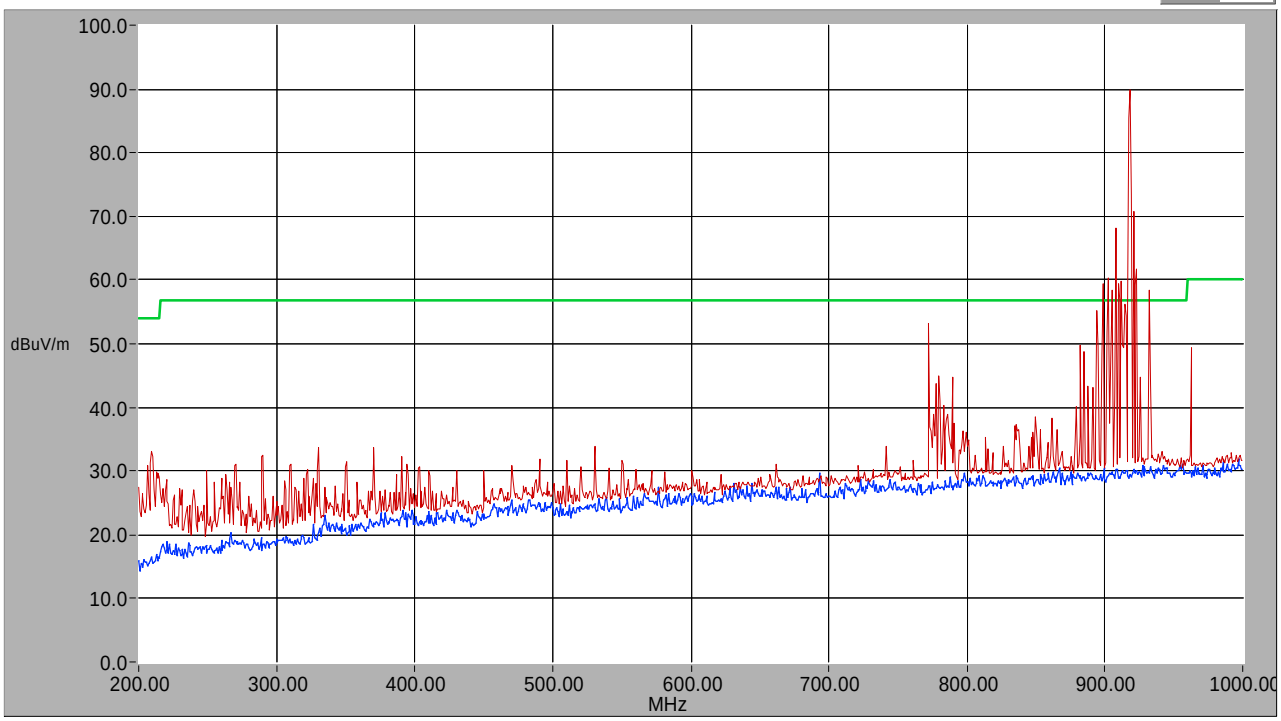
Radiated Emissions
Vertical Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 10:37 AM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 19, 2000

Plot Number: 9



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 0.00 dB

Associated Files

rfac1_3m.txt	4/7/2000
04318v3.dat	14/3/2000
FCC15A3.DAT	23/4/1997

Comments:

QUASI-PEAK DATA

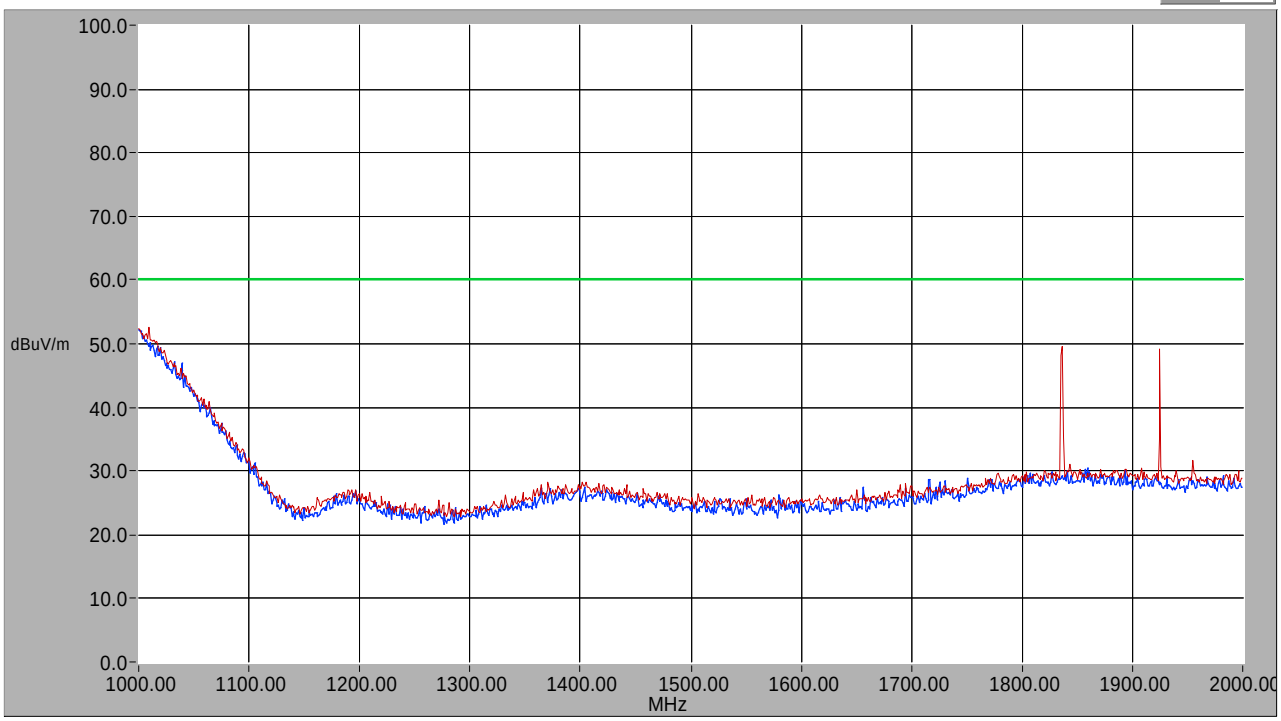
Freq (MHz)	Azimuth (deg)	Height (cm)	SA Lvl (dBuV)	AF (dB)	CF (dB)	Other (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
207.125	58	113	17.70	11.15	1.80	0.00	30.66	53.96	23.30	Pass
771.185	334	131	14.90	20.48	3.40	0.00	38.78	56.86	18.08	Pass
788.345	108	113	-1.30	20.70	3.45	0.00	22.85	56.86	34.01	Pass
884.020	53	117	-3.80	21.70	3.74	0.00	21.64	56.86	35.22	Pass
902.185	39	117	14.10	22.04	3.81	0.00	39.95	56.86	16.91	Pass
904.705	320	113	-3.80	22.09	3.82	0.00	22.11	56.86	34.75	Pass
908.370	225	120	-3.70	22.17	3.83	0.00	22.30	56.86	34.56	Pass
916.168	46	117	12.70	22.30	3.86	0.00	38.86	56.86	18.00	Pass
930.860	63	113	8.70	22.32	3.90	0.00	34.92	56.86	21.94	Pass
960.660	48	171	13.20	22.20	3.86	0.00	39.26	60.00	20.74	Pass

Radiated Emissions
Vertical Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: November 21, 2000 7:05 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

Plot Number: 10



VBW: 3.000 MHz
RBW: 1.000 MHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 20.00 dB
An Atten: 20.00 dB

Associated Files

rfac1_3m.txt	4/7/2000
09588v3.dat	8/8/2000
FCC15A3.DAT	23/4/1997
lnafilt.dat	6/3/2000

Comments:

QUASI-PEAK DATA

Freq (MHz)	Azimuth (deg)	Height (cm)	SA Lvl (dBuV)	AF (dB)	CF (dB)	Other (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/Fail
1833.080	194	137	81.50	28.43	5.50	-62.40	53.03	60.00	6.97	Pass
1921.820	11	168	76.60	28.89	5.71	-62.60	48.61	60.00	11.39	Pass

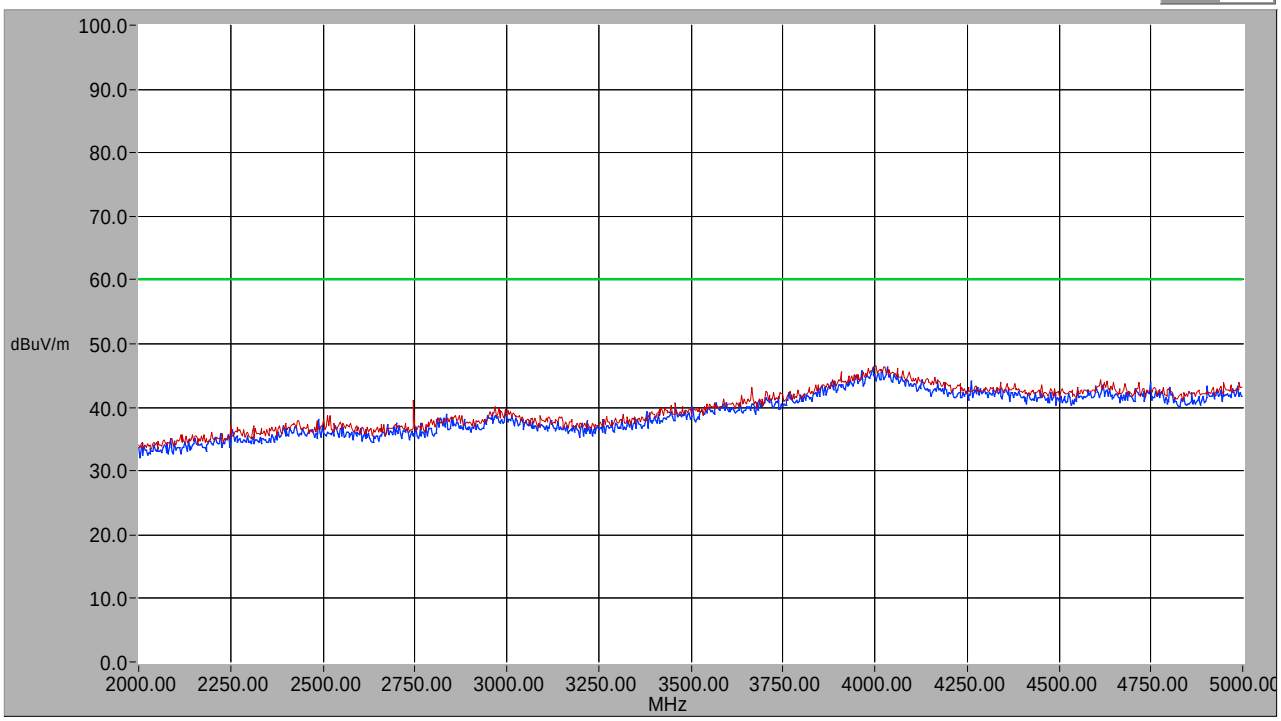
Radiated Emissions
Vertical Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: 7:21 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

November 21, 2000

Plot Number: 11



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 0.00 dB
An Atten: 40.00 dB

Comments:

Associated Files

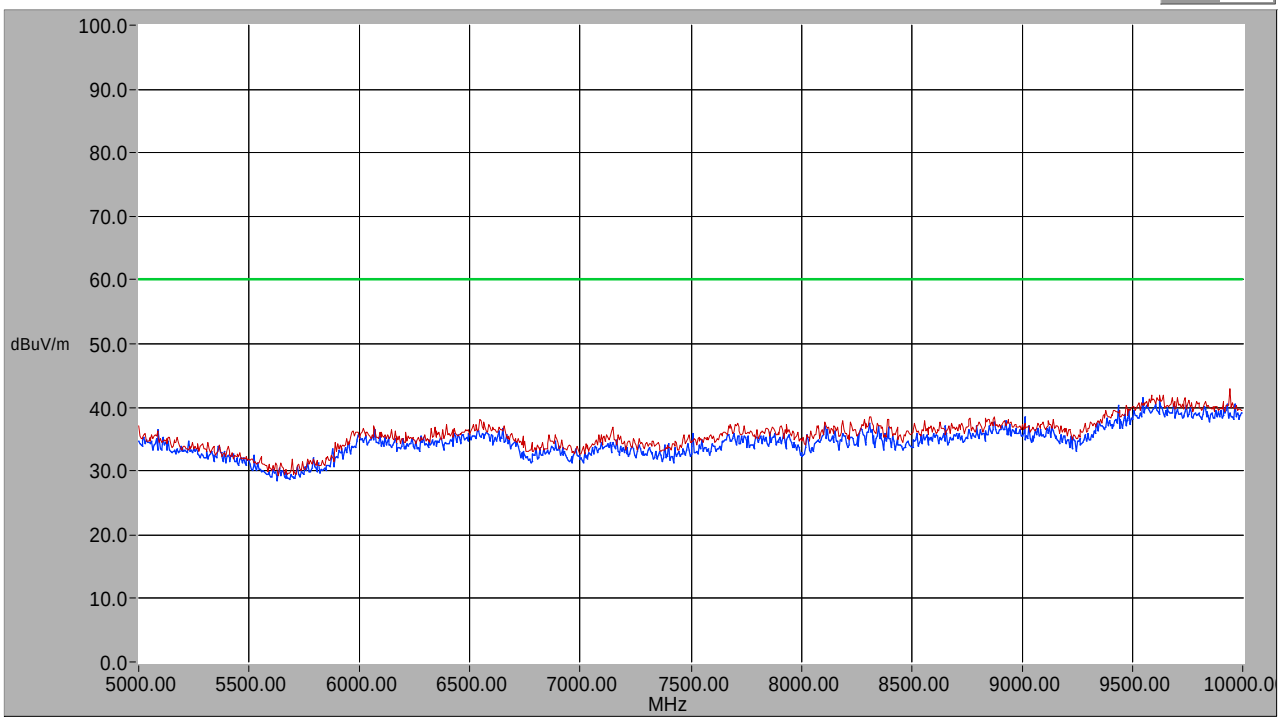
rfac1_3m.txt	4/7/2000
09588v3.dat	8/8/2000
FCC15A3.DAT	23/4/1997
lnafilt.dat	6/3/2000

Radiated Emissions
Vertical Polarity
FCC Part 15 Class B 3m

Title: Radiated Emissions
Mode of Operation: Simulated Installation
Distance: 3 meters
Technologist: C. Hrycoy

Date & Time: November 21, 2000 7:34 PM
Project #: u02e2123
Company: Uniwell Systems
Product: Waiter Pad
Serial #: NA

Plot Number: 12



VBW: 300.000 kHz
RBW: 100.000 kHz
Sweep Time: Auto
QPA BW: 200 Hz
PR Atten: 20.00 dB
An Atten: 0.00 dB

Comments:

Associated Files

rfac1_3m.txt	4/7/2000
09588v3.dat	8/8/2000
FCC15A3.DAT	23/4/1997
lnafilt.dat	6/3/2000

4.3 RESTRICTED BANDS OF OPERATION

Test Lab: MPB Technologies Inc. Airdrie Test Personnel: D. Raynes Test Date: 19 November 2000	Product: Waiter Pad System
Test Result, Waiter Pad System: **PASS**	
Objectives/Criteria	Specifications
Only spurous emissions are permitted in any of the frequency bands listed below (in MHz). Emissions proliferated by a system or sub-system, measured at a distance of 3m from the EUT, shall not exceed the limits for the specification as stated. Measruements are taken up to the 10th harmonic of the highest fundamental generated by the EUT. **Emission levels should meet the requirements with a margin of 6dB.**	**FCC Part 15.205** **Frequency** **Field Strength @3m** 30-80 MHz 40.0 dBµV/m 80-216 MHz 43.5 dBµV/m 216-960 MHz 46.0 dBµV/m 960 MHz & above 54.0 dBµV/m

37.50 - 38.25	73.0 - 74.6	108.00 - 121.94	123 - 138	149.90 - 150.05
156.52475 - 156.52525	156.7 - 156.9	162.0125 - 167.1700	167.72 - 173.20	240 - 285
322.0 - 335.4	399.9 - 410.0	608 - 614	960 - 1240	1300 - 1427
1435.0 - 1626.5	1645.5 - 1646.5	1660 - 1710	1718.8 - 1722.2	2200 - 2300
2310 - 2390	2483.5 - 2500.0	2655 - 2900	3260 - 3267	3332 - 3339
3345.8 - 3358.0	3600 - 4400	4500 - 5250	5350 - 5460	7250 - 7750
8025 - 8500	9000 - 9200	9300 - 9500	10600 - 12700	13250 - 13400
14470 - 14500	15350 - 16200	17700 - 21400	22010 - 23120	23600 - 24000
31200 - 31800	364300 - 36500	above 38600		

Comments: The fundamental frequency of the transmitter is 916 MHz. Measurements were taken up to 10000 MHz. There were no emissions measured to be within -10 dB of the specified limit per Section 15.209. Refer to the test data plots for more details.

5.0 TEST FACILITY

5.1 LOCATION

The EUT was tested for Electromagnetic Compatibility at the Electronics Test Centre, located in Airdrie, Alberta, Canada.

The RF Anechoic Chamber (RFAC) is identified as Chamber 1, located in the main building complex at the Electronics Test Centre. Its usable working space measures 10.6 m long x 7.3 m wide x 6.5 m high.

This test site is listed with the FCC under Registration Number 99541. Measurements taken at this site are accepted by Industry Canada per file number IC 2046-1.

The floor, walls and ceiling consist of annealed steel panels. The walls and ceiling are covered with ferrite tile, augmented by RF absorbant foam material on the end wall nearest the turntable, and on the adjacent walls and the ceiling. The chamber floor supports a 15 cm high internal floor, constructed of annealed steel panels, that forms the ground plane, and is bonded to the chamber walls.

The 3 m diameter turntable is flush-mounted with the floor. A sub-floor cable-way is provided to route cables between the turntable pit and EUT support equipment. EUT access is gained through an opening in the centre of the turntable.

Test instrumentation and EUT support equipment is located in two shielded vestibules located at the side of the main room. Cables are routed through bulkhead panels between the rooms as required. Power feeds are routed into the main room and vestibules through line filters providing at least 100 dB of attenuation between 10 kHz and 10 GHz.

5.2 GROUNDING PLAN

The EUT was located on a wooden table 80 cm above the ground plane. The EUT was not grounded, per Uniwell Systems specifications.

5.3 POWER

AC power was supplied to the test chamber via an Underwriter's Laboratories ULW100-69, 100 dB, 100 Ampere wall mounted filter. Bonding to ground is implemented at the chamber wall.

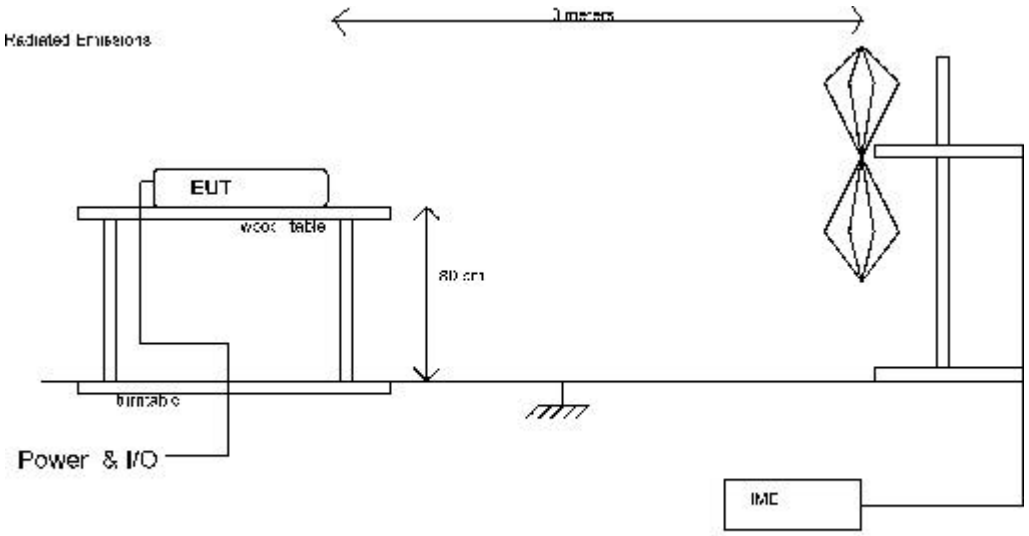
5.4 EMISSIONS PROFILE

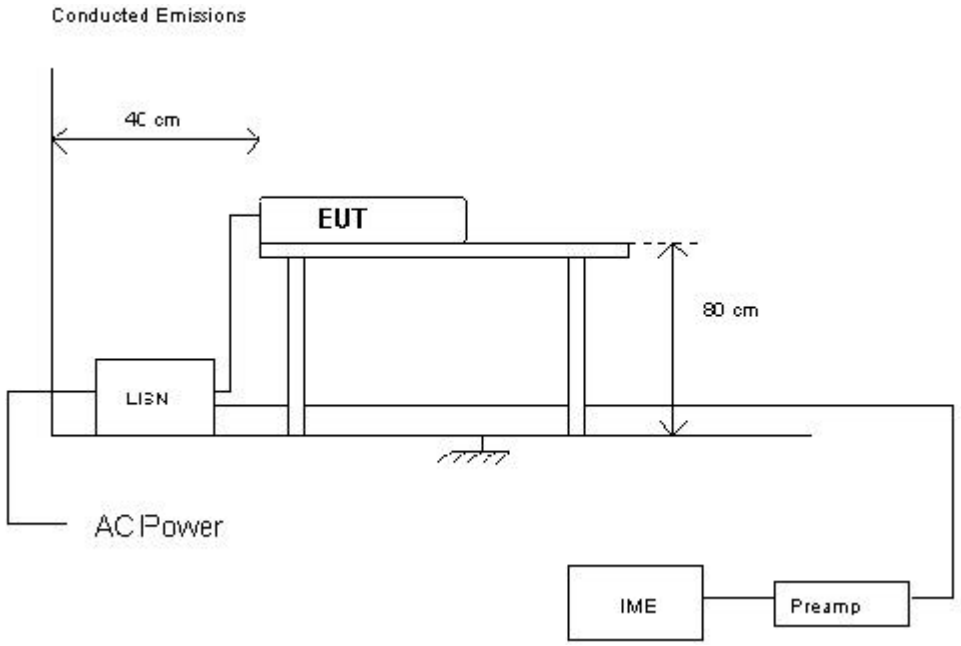
Ambient conducted and radiated electromagnetic emission profiles were generated throughout the tests and are included in the test report data.

5.5 TEST CONFIGURATION

5.5.1 Table Top Equipment

The following diagrams illustrate the configuration of the EUT test and measurement equipment used for FCC Part 15 Radiated and Conducted Emissions Testing.





6.0 TEST EQUIPMENT

The following equipment was used for this procedure. All measurement devices are calibrated annually, traceable to NIST.

6.1 RADIATED EMISSIONS

a) Spectrum Analyzer with RF preselector
b) CISPR Quasi-peak Adapter
c) Power Isolation Transformers
d) Biconilog antenna (20 MHz to 2 GHz)
e) Antenna mast positioner, and controller
f) Flush-mounted turntable, and controller
g) Personal Computer and EMC software

6.2 CONDUCTED EMISSIONS

a) Spectrum Analyzer with RF preselector
b) Line Impedance Stabilization Network, 50 µH
c) CISPR Quasi-peak Adapter
d) Power Isolation Transformer
d) Personal Computer and EMC software
e) Oscilloscope

6.3 CALIBRATION

All measurement instrumentation conforms to ANSI C63.2. Calibration is maintained in accordance with manufacturer recommendations, and ISO Guide 25. Each measurement device is labeled with its ETC asset number and calibration due date.

6.3.1 Calibration Accuracy

Test equipment used to provide quantitative measurements are calibrated with standards traceable to the National Research Council, National Institute of Standards and Technology, or other national standards. Instrumentation systems for emissions measurements have the following accuracies:
Frequency: ± 1 kHz
Amplitude: ± 2 %

6.3.2 Test Equipment Description

Instrument	Manufacturer	Model No.	Asset No.	Calibration Status
Spectrum Analyzer	Hewlett Packard	8566B	9565	Annual Calibration
Spectrum Analyzer	Hewlett Packard	8566B	9168	Annual Calibration

Measurement Range: 100 Hz To 22 GHz

Resolution Bandwidth: 3 MHz bandwidths of 10 Hz to 3 MHz in a 1, 3, 10 sequence.
Amplitude Measurement Range: -134 dBm to + 30 dBm

Dynamic Range Spurious Response:

For signals < -40 dBm, all harmonic and intermodulation distortion > 70 dBm below input.

RF Input: 100 Hz to 22 GHz precision female type N connector.

Input SWR: 1.2, 100 Hz to 2.5 GHz; 1.5, 2.5 GHz to 5.8 GHz; 1.9, 5.8 GHz to 22 GHz with 10 dB input attenuation.

Instrument	Manufacturer	Model No.	Asset No.	Calibration Status
RF Preselector	Hewlett Packard	85685A	9563	Annual Calibration
RF Preselector	Hewlett Packard	85685A	9728	Annual Calibration

Measurement Range: 20 Hz to 2 GHz

Displayed Average Noise Level: -115 dBm, 9 KHZ to 50 KHZ; -132 dBm, 50 KHZ to 1 MHz; -150 dBm, 1 MHz to 1500 MHz; -147 dBm, 1500 MHz to 2000 MHz.
Residual Response: -90 dBm, 2 KHZ to 1 MHz; -112 dBm, 1 MHz to 2000 MHz.
RF Input: 20 Hz to 2 GHz precision female type N connector.
Input SWR: < 1.5

Instrument	Manufacturer	Model No.	Asset No.	Calibration Status
Quasi-Peak Adapter	Hewlett Packard	85650A	9243	Annual Calibration

Amplitude Accuracy: Bypass mode, ± 0.3 dB; normal mode, ± 1.0 dB

Frequency Accuracy in Normal Mode: 200 Hz BW, ± 10 Hz; 9 kHz BW, ± 4.5 kHz; 120 kHz BW, ± 60 kHz.

Instrument	Manufacturer	Model No.	Asset No.	Calibration Status
Line Impedance Stabilization Network	EMCO	3825/2r	9331	Annual Inspection
Line Impedance Stabilization Network	EMCO	3825/2r	9259	Annual Inspection

Isolation Frequency Range: 10 kHz to 100 MHz
Power Source Frequencies: 0 Hz to 400 Hz
Current Rating: 25 amps
The 3825/2r LISN is designed to stabilize test units which operate with two line, single phase power.

Instrument	Manufacturer	Model No.	Asset No.	Calibration Status
Biconilog Antenna	ARA	Lpb-2520/A	4318	Annual Calibration

Measurement Range: 25 MHz to 2000 MHz
Power Handling Capability: 1000 W

Average VSWR: 2:1

Instrument	Manufacturer	Model No.	Asset No.	Calibration Status
Oscilloscope	Tektronix	2236	9011- 9013	Annual Calibration

Measurement Range: DC to 100 MHz

Appendix A

Waiter Pad System

Test Sample Description
(from data supplied by Uniwell Systems)

Product Application	Product Category
Commercial ✓ Military o	Telecommunication o Information Technology ✓ Surface Transportation o Aerospace o Test & Measurement o Other o _____
Product Name	WaiterPad Hospitality System
Part/Model No.	n/a
Serial Number	n/a
Power Requirements:	120VAC, 50/60 Hz
Ground Connection (in addition to power cord)	none
Internally Generated Frequencies	916 MHz
Peripheral Support Equipment	Network Controller, Receiver(s), handheld WaiterPads,
	Point Of Sale System(s), Electronic Cash Register(s), Printer(s)
Description and number of interconnecting Leads & Cables	Cat 5 cable between subsystems
Brief Functional Description	The WaiterPads provide wireless data transfer to the Network Controller,
	which then passes the information to the rest of the system, and provides
	feedback from these subsystems to the WaiterPads.