

The Watt Stopper, Inc.

MRD6/MRD8

June 16, 2003

Report No. WATT0014.1

Report Prepared By:



1-888-EMI-CERT

Test Report

Certificate of Test

Issue Date: June 16, 2003

**The Wattstopper, Inc.
Model : MRD6/MRD8
Report No: WATT0014.1**

Emissions

Description	Pass	Fail
FCC 15.247, Spurious Radiated Emissions	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Output Power	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Band Edge Compliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Spurious Conducted Emissions	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Power Spectral Density	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Occupied Bandwidth	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Dwell Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Number of Hopping Frequencies	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.247, Channel Spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC 15.207, Powerline Conducted Emissions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The equipment was tested in the configuration and mode(s) of operation provided by the client. The specific tests and test levels were specified by the client. Any additional tests, or product configurations that should be tested are the responsibility of the client. Product compliance is the responsibility of the client.

List of Modifications to equipment under test required to meet the requirements:

- See the modifications page of the report.

Deviations to the test standard

- No deviations were made to the test standard

Test Facility

- The measurement facility used to collect the data is located at:
Northwest EMC, Inc.; 22975 NW Evergreen Parkway, Suite 400; Hillsboro, OR 97124
Phone: (503) 844-4066 Fax: 844-3826
This site has been fully described in a report filed with the FCC (Federal Communications Commission), and accepted by the FCC in a letter maintained in our files.

Approved By:



Greg Kiemel, Director of Engineering

This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested, the specific description is noted in each of the individual sections of the test report supporting this certificate of test.

Revision Number	Description	Date	Page Number
00	None		

FCC: The Open Area Test Sites, and conducted measurement facilities, have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files.

TCB: Northwest EMC has been accredited by ANSI to ISO/IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



NVLAP: Accreditation has been granted to Northwest EMC, Inc. to perform the Electromagnetic Compatibility (EMC) tests described in the Scope of Accreditation. Assessment performed to ISO/IEC 17025. Certificate Number: 200629-0, Certificate Number: 200630-0.



Australia/New Zealand: The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body. (A2LA)



TÜV Product Service: Included in TÜV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TÜV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TÜV's current Listing of CARAT Laboratories available from TÜV. A certificate was issued to represent that this laboratory continues to meet TÜV's CARAT Program requirements. Certificate No. USA0302C



TÜV Rheinland: Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.



NEMKO: Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



Technology International: Assessed in accordance with ISO Guide 25 defining the general international requirements for the competence of calibration and testing laboratories and with ITI assessment criteria LACO196. Based upon that assessment Interference Technology International, Ltd., has granted approval for specifications implementing the EU Directive on EMC (89/336/EEC and amendments). The scope of the approval was provided on a Schedule of Assessment supplied with the certificate and is available upon request.



Industry Canada: Accredited by Industry Canada for performance of radiated measurements. Our open area test sites comply with RSP 100, Issue 7, section 3.3.



VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (Registration Nos. - Evergreen: C-1071 and R-1025, Trails End: C-694 and R-677, Sultan: C-905, R-871 and R-1172, North Sioux City C-1246, R-1185 and R-1217)



BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement. License No. SL2-IN-E-1017.



CAB: Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement



GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



	NVLAP	FCC	NIST	TUV PS	TUV Rheinland	Nemko	Technology International	Industry Canada	BSMI	VCCI	GOST	NATA
IEC 1000-4-2	✓			✓	✓	✓	✓					
IEC 1000-4-3	✓			✓	✓	✓	✓					
IEC 1000-4-4	✓			✓	✓	✓	✓					
IEC 1000-4-5	✓			✓	✓	✓	✓					
IEC 1000-4-6	✓			✓	✓	✓	✓					
IEC 1000-4-8	✓			✓	✓	✓	✓					
IEC 1000-4-11	✓			✓	✓	✓	✓					
IEC 1000-3-2	✓			✓	✓	✓	✓					
IEC 1000-3-3	✓			✓	✓	✓	✓					
AS/NZS 3548	✓											✓
CNS 13438	✓								✓			
ISO/IEC17025	✓			✓	✓	✓	✓		✓			
Radiated Emissions	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Conducted Emissions	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
OATS Sites	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Hillsboro 5-Meter Chamber (EV01)	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
TCB for Licensed Transmitters		✓										
TCB for un-Licensed Transmitters		✓										
Cab for R&TTE			✓									
CAB for EMC			✓									

This chart represents only a partial NVLAP Scope, please reference <http://ts.nist.gov/ts/htdocs/210/214/214.htm> for the full NVLAP Scope of Accreditation

What is measurement uncertainty?

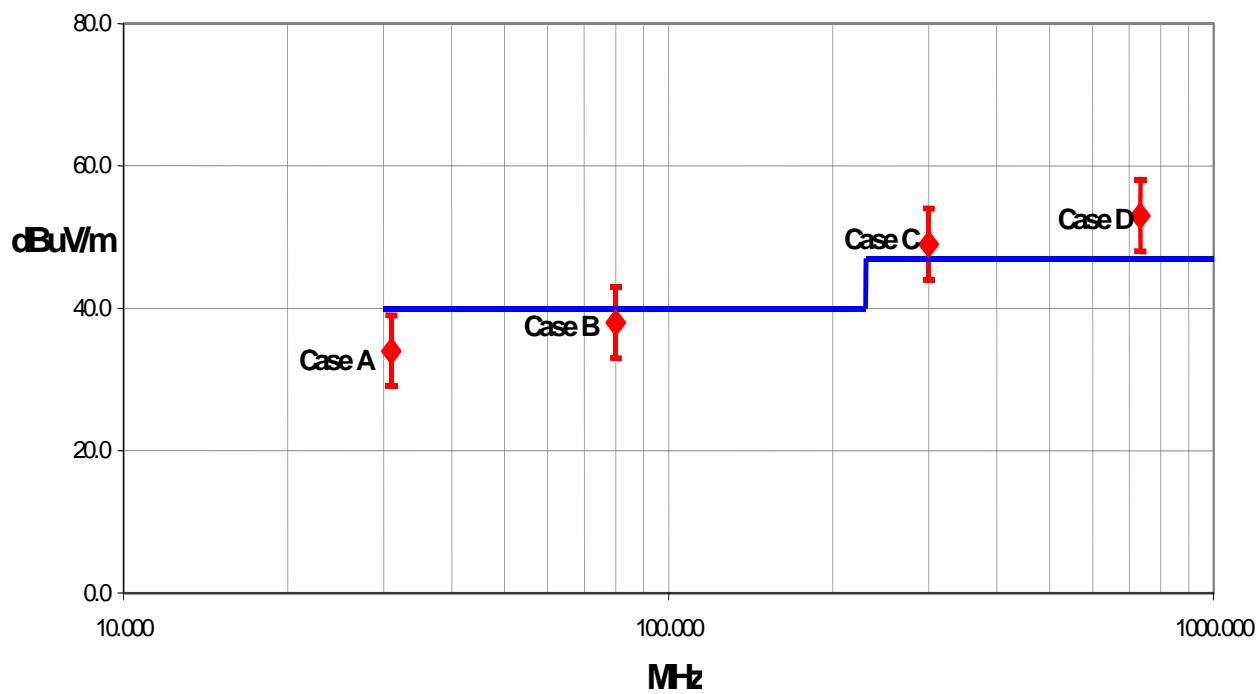
When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. The following statement of measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" value. In the case of transient tests (ESD, EFT, Surge, Voltage Dips and Interruptions), the test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements.

The following documents were the basis for determining the uncertainty levels of our measurements:

- "ISO Guide to the Expression of Uncertainty in Measurements", October 1993
- "NIS81: The Treatment of Uncertainty in EMC Measurements", May 1994
- "IEC CISPR 16-3 A1 f1 Ed.1: Radio-interference measurements and statistical techniques", December 2000

How might measurement uncertainty be applied to test results?

If the diamond marks the measured value for the test and the vertical bars bracket the range of + and – measurement uncertainty, then test results can be interpreted from the diagram below.



Test Result Scenarios:

Case A: Product complies.

Case B: Product conditionally complies. It is not possible to say with 95% confidence that the product complies.

Case C: Product conditionally does not comply. It is not possible to say with 95% confidence that the product does not comply.

Case D: Product does not comply.

Radiated Emissions ≤ 1 GHz		Value (dB)							
Test Distance	Probability Distribution	Biconical Antenna		Log Periodic Antenna		Dipole Antenna		3m	10m
		3m	10m	3m	10m	3m	10m		
Combined standard uncertainty $u_c(y)$	normal	+ 1.86 - 1.88	+ 1.82 - 1.87	+ 2.23 - 1.41	+ 1.29 - 1.26	+ 1.31 - 1.27	+ 1.25 - 1.25		
Expanded uncertainty U (level of confidence $\approx 95\%$)	normal (k=2)	+ 3.72 - 3.77	+ 3.64 - 3.73	+ 4.46 - 2.81	+ 2.59 - 2.52	+ 2.61 - 2.55	+ 2.49 - 2.49		

Radiated Emissions > 1 GHz		Value (dB)			
	Probability Distribution	Without High Pass Filter		With High Pass Filter	
		3m	10m	3m	10m
Combined standard uncertainty $u_c(y)$	normal	+ 1.29 - 1.25		+ 1.38 - 1.35	
Expanded uncertainty U (level of confidence $\approx 95\%$)	normal (k=2)		+ 2.57 - 2.51	+ 2.76 - 2.70	

Conducted Emissions		
	Probability Distribution	Value (+/- dB)
Combined standard uncertainty $uc(y)$	normal	1.48
Expanded uncertainty U (level of confidence $\approx 95\%$)	normal (k = 2)	2.97

Radiated Immunity		
	Probability Distribution	Value (+/- dB)
Combined standard uncertainty $uc(y)$	normal	1.05
Expanded uncertainty U (level of confidence $\approx 95\%$)	normal (k = 2)	2.11

Conducted Immunity		
	Probability Distribution	Value (+/- dB)
Combined standard uncertainty $uc(y)$	normal	1.05
Expanded uncertainty U (level of confidence $\approx 95\%$)	normal (k = 2)	2.10

Legend		
$u_c(y)$ = square root of the sum of squares of the individual standard uncertainties		
U = combined standard uncertainty multiplied by the coverage factor: k . This defines an interval about the measured result that will encompass the true value with a confidence level of approximately 95%. If a higher level of confidence is required, then $k=3$ (CL of 99.7%) can be used. Please note that with a coverage factor of one, $uc(y)$ yields a confidence level of only 68%.		

**California****Orange County Facility**

41 Tesla Ave.
Irvine, CA 92618
(888) 364-2378
FAX (503) 844-3826

**Oregon****Evergreen Facility**

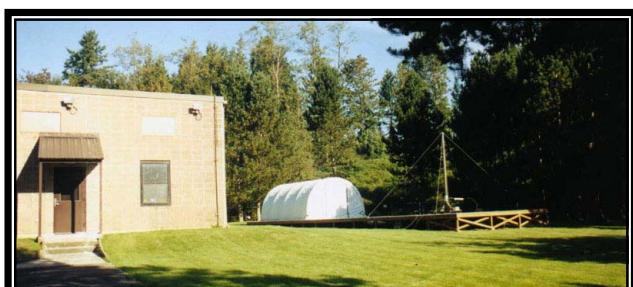
22975 NW Evergreen Pkwy.,
Suite 400
Hillsboro, OR 97124
(503) 844-4066
FAX (503) 844-3826

**Oregon****Trails End Facility**

30475 NE Trails End Lane
Newberg, OR 97132
(503) 844-4066
FAX (503) 537-0735

**South Dakota****North Sioux City Facility**

745 N. Derby Lane
P.O. Box 217
North Sioux City, SD 57049
(605) 232-5267
FAX (605) 232-3873

**Washington****Sultan Facility**

14128 339th Ave. SE
Sultan, WA 98294
(888) 364-2378
FAX (360) 793-2536

Party Requesting the Test

Company Name:	The Watt Stopper Inc.
Address:	6120 Paseo Del Norte, Suite 1-2
City, State, Zip:	Carlsbad, CA 92009
Test Requested By:	Bertrand Debever
Model:	MRD8/MRD6
First Date of Test:	5-30-03
Last Date of Test:	6-16-03
Receipt Date of Samples:	5-30-03
Equipment Design Stage:	Pre-Production
Equipment Condition:	No visual damage.

Information Provided by the Party Requesting the Test

Clocks/Oscillators:	Not provided at time of test.
I/O Ports:	DC and Control

Functional Description of the EUT (Equipment Under Test):

Wall mount unit operating in the 902-928MHz band as a 15.247(f) hybrid system.

Client Justification for EUT Selection:

The product is an engineering sample, representative of the final product.

Client Justification for Test Selection

These tests satisfy the requirements for FCC Certification of the radio transmitter.

Equipment modifications				
Item #	Test	Date	Modification	Note
1	Spurious Radiated Emissions	05-30-2003	No EMI suppression devices were added or modified during this test.	Same configuration as delivered.
2	AC Powerline Conducted Emissions	06-02-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
3	Output Power	06-06-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
4	Occupied Bandwidth	06-09-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
5	Band Edge Compliance	06-09-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
6	Spurious Conducted Emissions	06-12-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
7	Channel Spacing	06-12-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
8	Number of Hopping Frequencies	06-12-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
9	Dwell Time	06-13-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.
10	Power Spectral Density	06-13-2003	No EMI suppression devices were added or modified during this test.	Same configuration as in previous test.

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

All

Operating Modes Investigated:

Typical

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at all channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(a)(1), the hopping channel carrier frequencies must be separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel. The measurement is made with the spectrum analyzer's resolution bandwidth set to greater than or equal to 1% of the span, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The carrier frequency separation was measured between each of 5 hopping channels in the middle of the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

Completed by:

A handwritten signature in blue ink that reads "Rocky L. Reling". The signature is fluid and cursive, with "Rocky" on the top line and "L. Reling" on the bottom line.

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	23 degrees C
Attendees:	N/A	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	120VAC/60Hz

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247(a)(1) Year: 2003 Method: DA 00-705, ANSI C63.4 Year: 1992

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The hopping channel carrier frequencies shall be separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

RESULTS	CHANNEL SPACING
Pass	2.39MHz

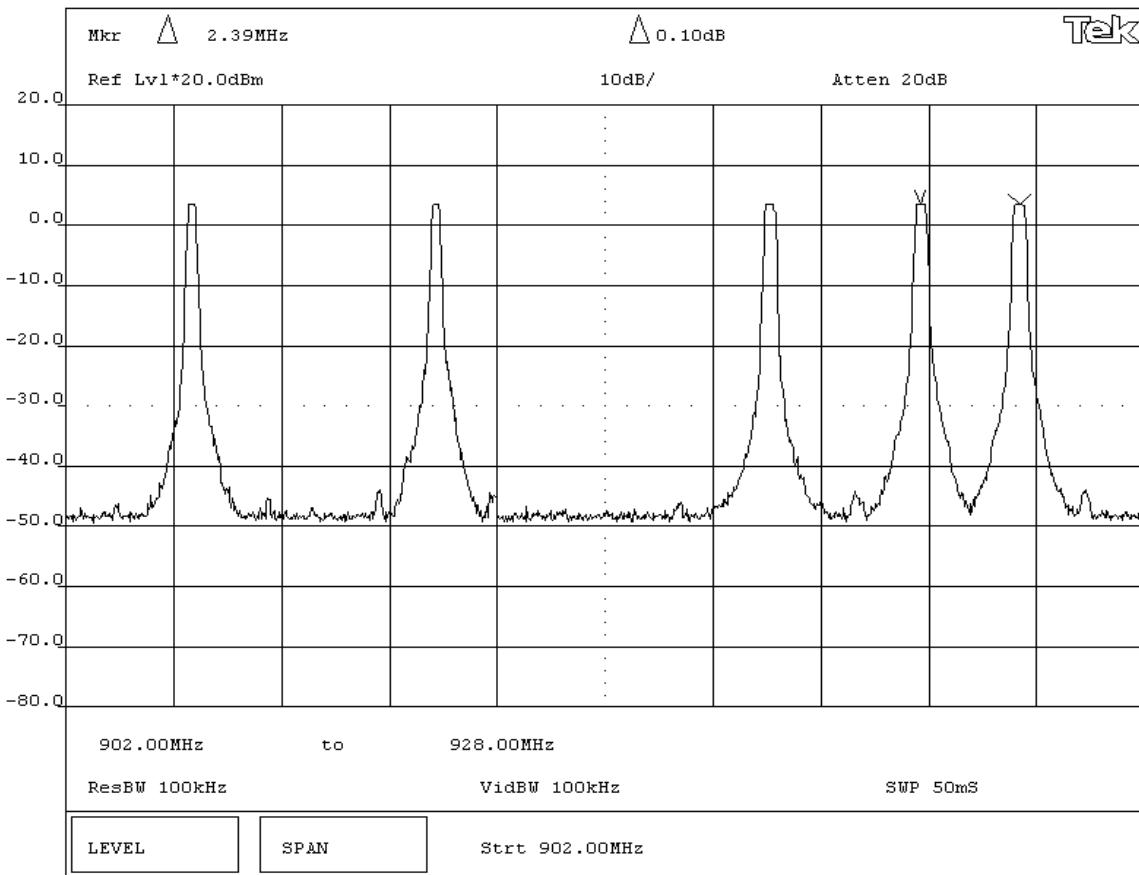
SIGNATURE

Rod Peloquin

Tested By: _____

DESCRIPTION OF TEST

Carrier Frequency Separation



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

Mid

Operating Modes Investigated:

Typical

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits all channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(f), The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a period in seconds equal to the number of hopping channels employed multiplied by 0.4. The measurement is made with the spectrum analyzer's span set to zero, the resolution bandwidth set to 1 MHz, and the video bandwidth set to 7 MHz. The measurement is made in two steps. First, the sweep speed is adjusted to capture the pulse width or dwell time of a single transmission. Then, the sweep speed is set to 2 seconds to count the number of transmissions during that period. The dwell time of a single transmission multiplied by the number of transmissions during a 2 second period equals the average time of occupancy during a 2 second period.

Configuration: The average dwell time per hopping channel was measured at one hopping channel in the middle of the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

Completed by:



NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/16/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.247(f)	Method:	DA 00-705, ANSI C63.4
	Year: 2003		Year: 1992

SAMPLE CALCULATIONS

Total Dwell time = (Dwell Time during a single transmission) X (Number of transmissions during a 2 second period)

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a period in seconds equal to the number of hopping channels employed multiplied by 0.4.

RESULTS	TOTAL DWELL TIME IN 2 SECOND PERIOD	DWELL TIME DURING A SINGLE TRANSMISSION
Pass	168mS	16.8mS

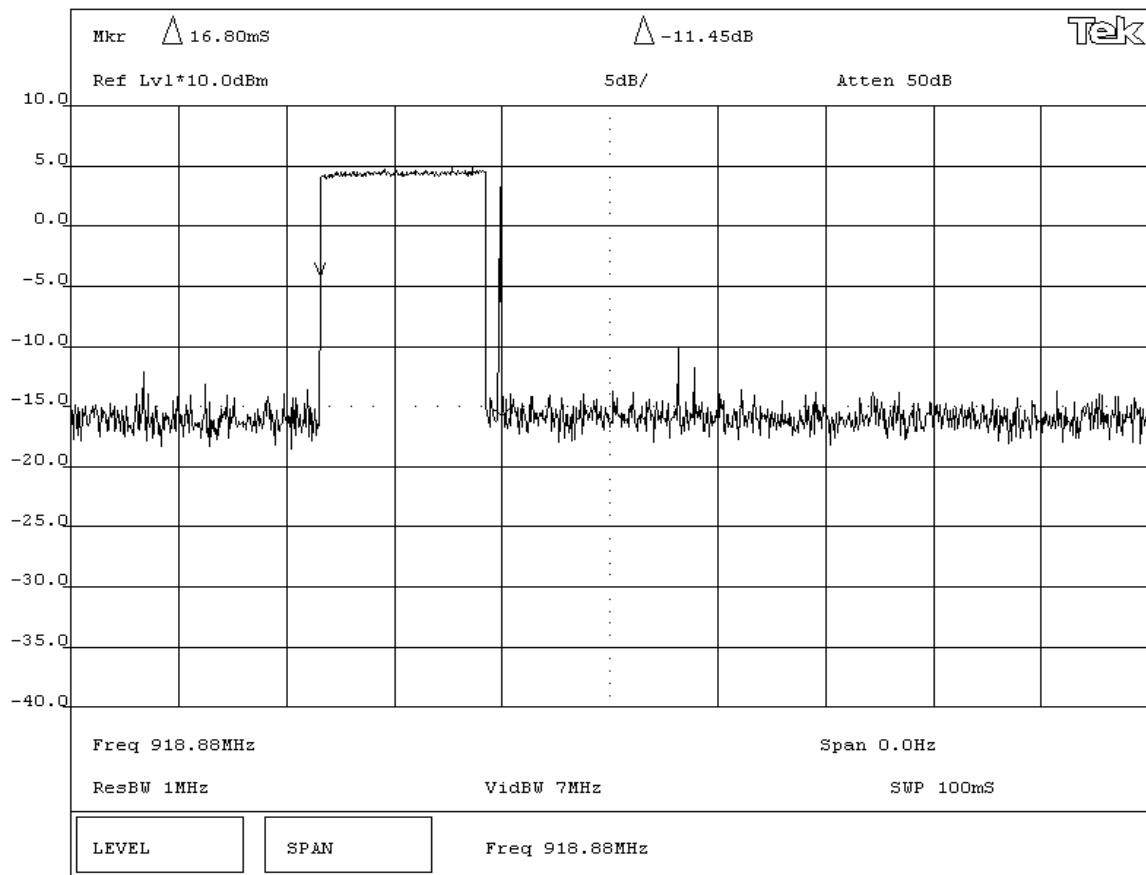
SIGNATURE



Tested By: _____

DESCRIPTION OF TEST

Time of Occupancy (Dwell Time) - Single Transmission



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

....
BETA
01/30/0

EUT: MRD6 / MRD8	Work Order: WATT0014
Serial Number: N/A	Date: 06/16/03
Customer: The Watt Stopper, Inc.	Temperature: 25 °C
Attendees: None	Humidity: 34%
Customer Ref. No.: N/A	Bar. Pressure: 30.15
Tested by: Rod Peloquin	Job Site: EV06
Specification: 47 CFR 15.247(f)	Method: DA 00-705, ANSI C63.4
Year: 2003	Year: 1992

SAMPLE CALCULATIONS

Total Dwell time = (Dwell Time during a single transmission) X (Number of transmissions during a 2 second period)

COMMENTS

5 hopping channels

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a period in seconds equal to the number of hopping channels employed multiplied by 0.4.

RESULTS	TOTAL DWELL TIME IN 2 SECOND PERIOD	NUMBER OF TRANSMISSIONS DURING A 2 SECOND PERIOD
Pass	168mS	10

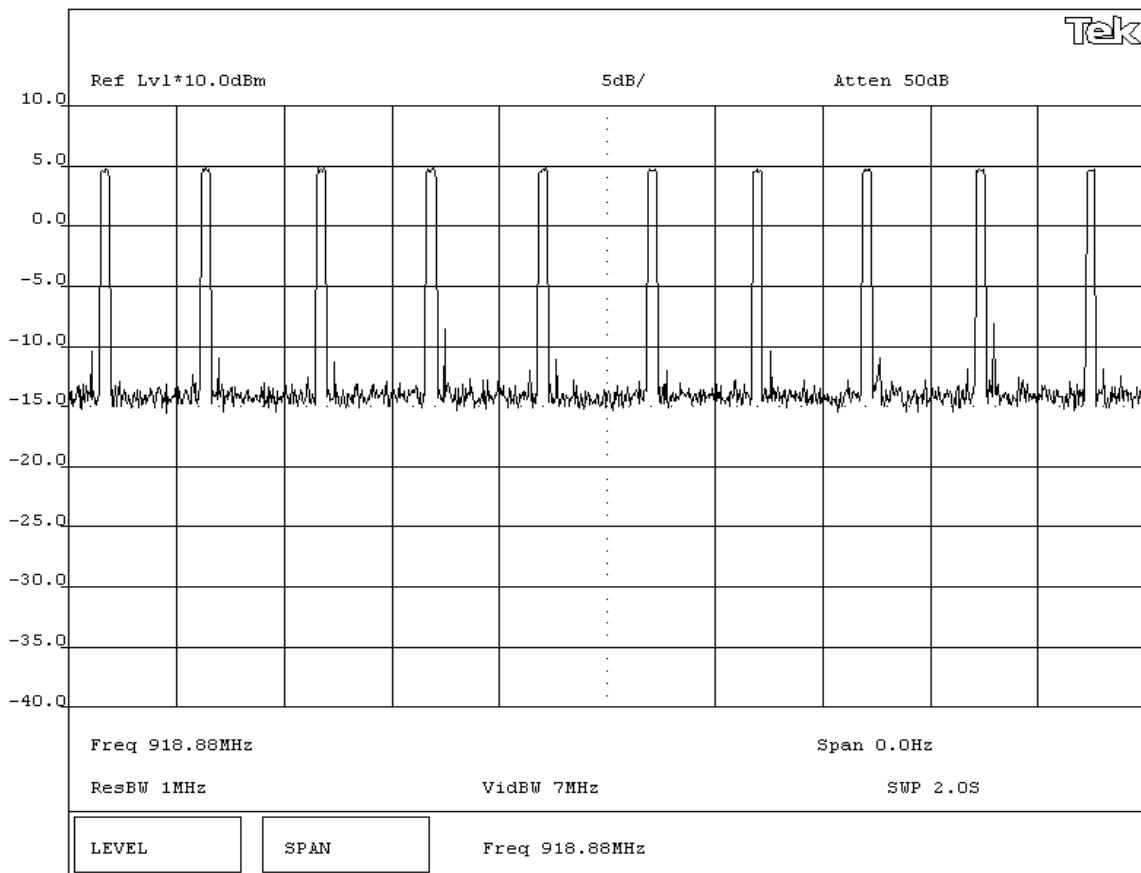
SIGNATURE



Tested By: _____

DESCRIPTION OF TEST

Time of Occupancy (Dwell Time) - Number of transmissions during a 2 second period



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

All

Operating Modes Investigated:

Typical

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at all channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: The number of hopping channels is required to be measured to allow calculation of total dwell time per 47 CFR 15.247(f). The measurement is made with the spectrum analyzer's resolution bandwidth set to 100 kHz, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The number of hopping frequencies was measured across the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer.

Completed by:

A handwritten signature in blue ink that reads "Rocky L. Prelong".

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	23 degrees C
Attendees:	N/A	Humidity:	38% RH
Customer Ref. No.:	N/A	Power:	120VAC/60Hz
TEST SPECIFICATIONS		Job Site: EV06	

Specification: CFR 47 Part 15.247(f)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

To determine dwell time per 15.247(f) the total number of hopping frequencies must be determined

RESULTS	NUMBER OF HOPPING FREQUENCIES
Pass	5

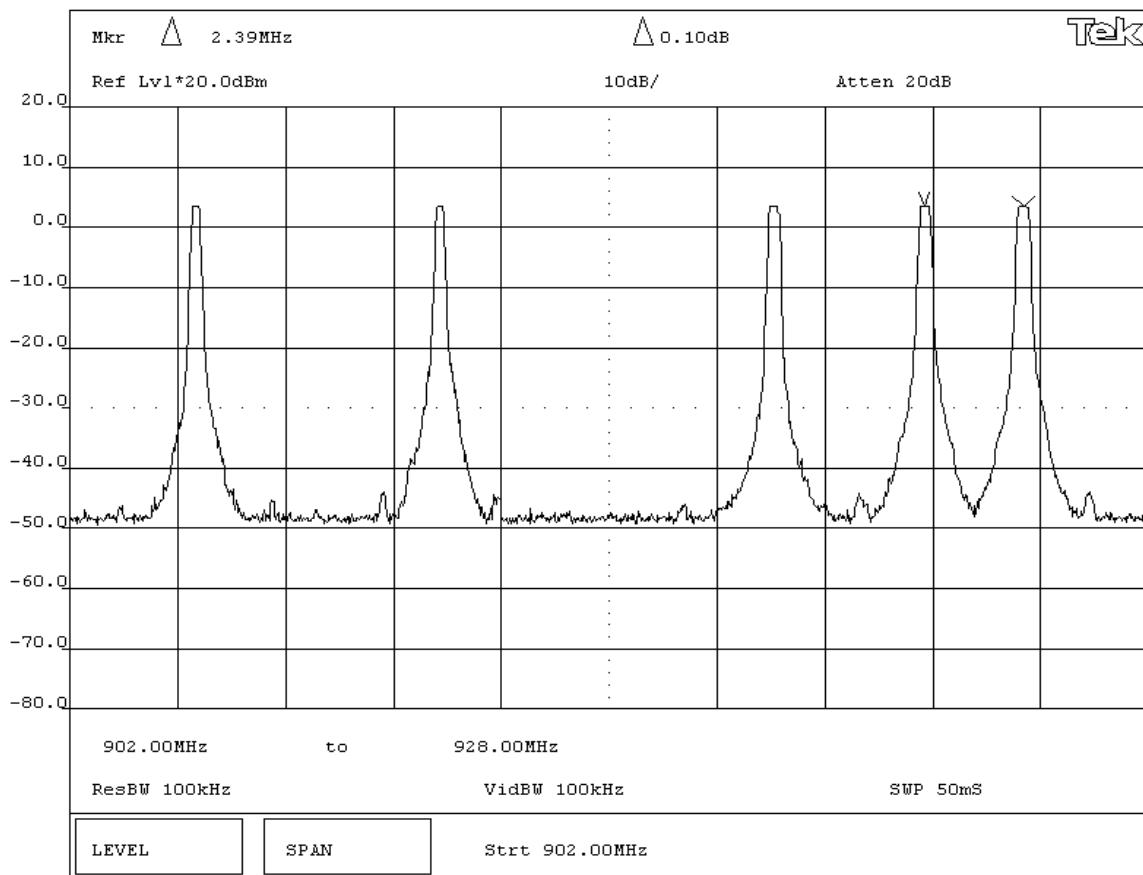
SIGNATURE

Rod Peloquin

Tested By: _____

DESCRIPTION OF TEST

HOPPING CHANNELS



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120VAC/60Hz

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(a)(1)(i), the 20 dB bandwidth of a hopping channel must be less than 500 kHz. The measurement is made with the spectrum analyzer's resolution bandwidth set to $\geq 1\%$ of the 20dB bandwidth, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The occupied bandwidth was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode.

Completed by:

A handwritten signature in blue ink that reads "Rocky L. Reling". The signature is fluid and cursive, with "Rocky" on the top line and "L. Reling" on the bottom line.

NORTHWEST
EMC

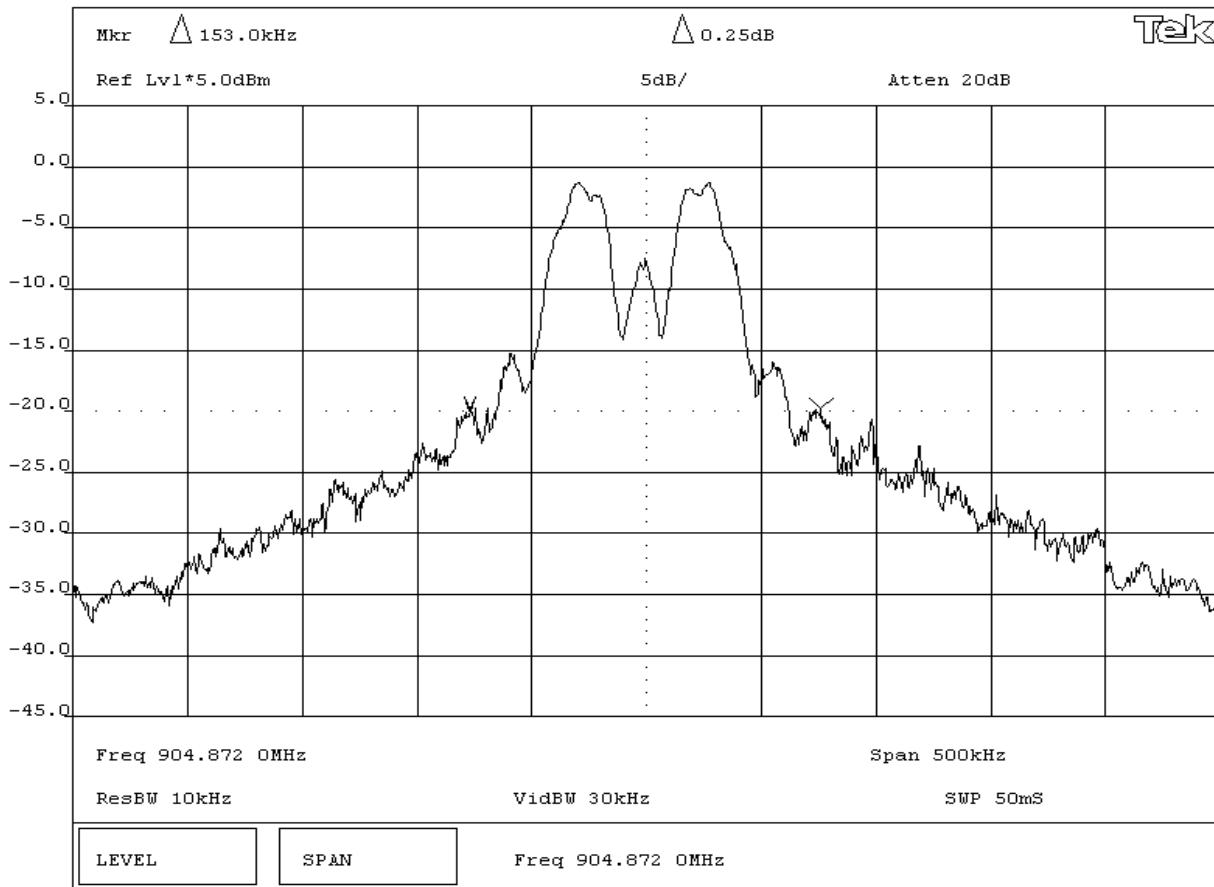
EMISSIONS DATA SHEET

Occupied Bandwidth

Transmitters

Rev d11/15/02

EUT:	MRD6 / MRD8			Work Order:	WATT0014		
Serial Number:	N/A			Date:	06/09/03		
Customer:	The Watt Stopper, Inc.			Temperature:	25 °C		
Attendees:	None			Humidity:	34%		
Customer Ref. No.:	N/A			Bar. Pressure:	29.89		
Tested by:	Rod Peloquin		Power:	120VAC/60Hz		Job Site:	EV06
TEST SPECIFICATIONS							
Specification:		CFR 47 Part 15.247(a)(1)		Year:	2003		
Method:		DA 00-705, ANSI C63.4		Year:	1992		
SAMPLE CALCULATIONS							
COMMENTS							
None							
EUT OPERATING MODES							
No hop mode							
DEVIATIONS FROM TEST STANDARD							
REQUIREMENTS							
RESULTS		BANDWIDTH					
Pass		153KHz					
SIGNATURE							
<i>Rod Peloquin</i>							
Tested By: _____							
DESCRIPTION OF TEST							
Low Channel							



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Occupied Bandwidth

Transmitters

Rev df11/15/02

EUT: MRD6 / MRD8

Work Order: WATT0014

Serial Number: N/A

Date: 06/09/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 29.89

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247(a)(1)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

REQUIREMENTS

RESULTS

BANDWIDTH

Pass

159KHz

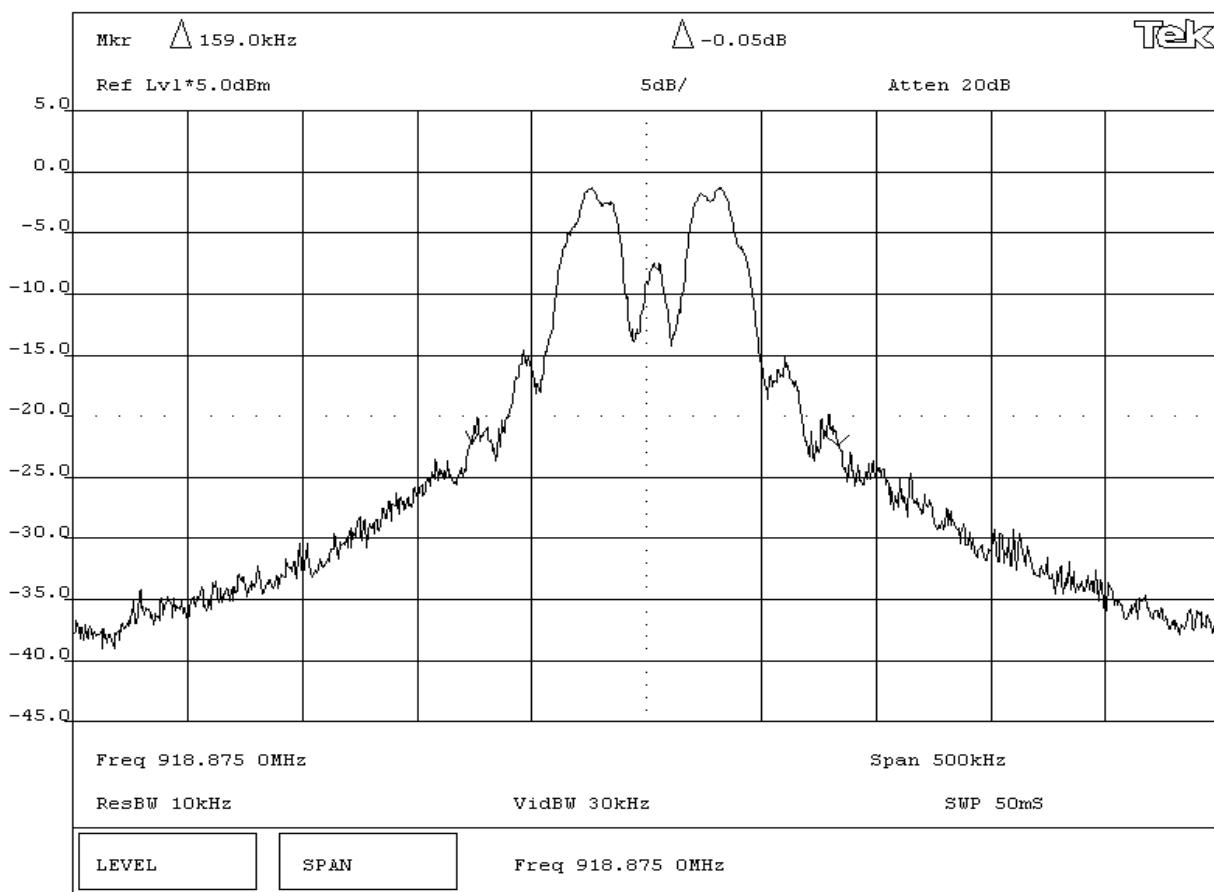
SIGNATURE



Tested By: _____

DESCRIPTION OF TEST

Mid Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Occupied Bandwidth

Transmitters

Rev d11/15/02

EUT: MRD6 / MRD8

Work Order: WATT0014

Serial Number: N/A

Date: 06/09/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 29.89

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247(a)(1)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

REQUIREMENTS

RESULTS

BANDWIDTH

Pass

165.5KHz

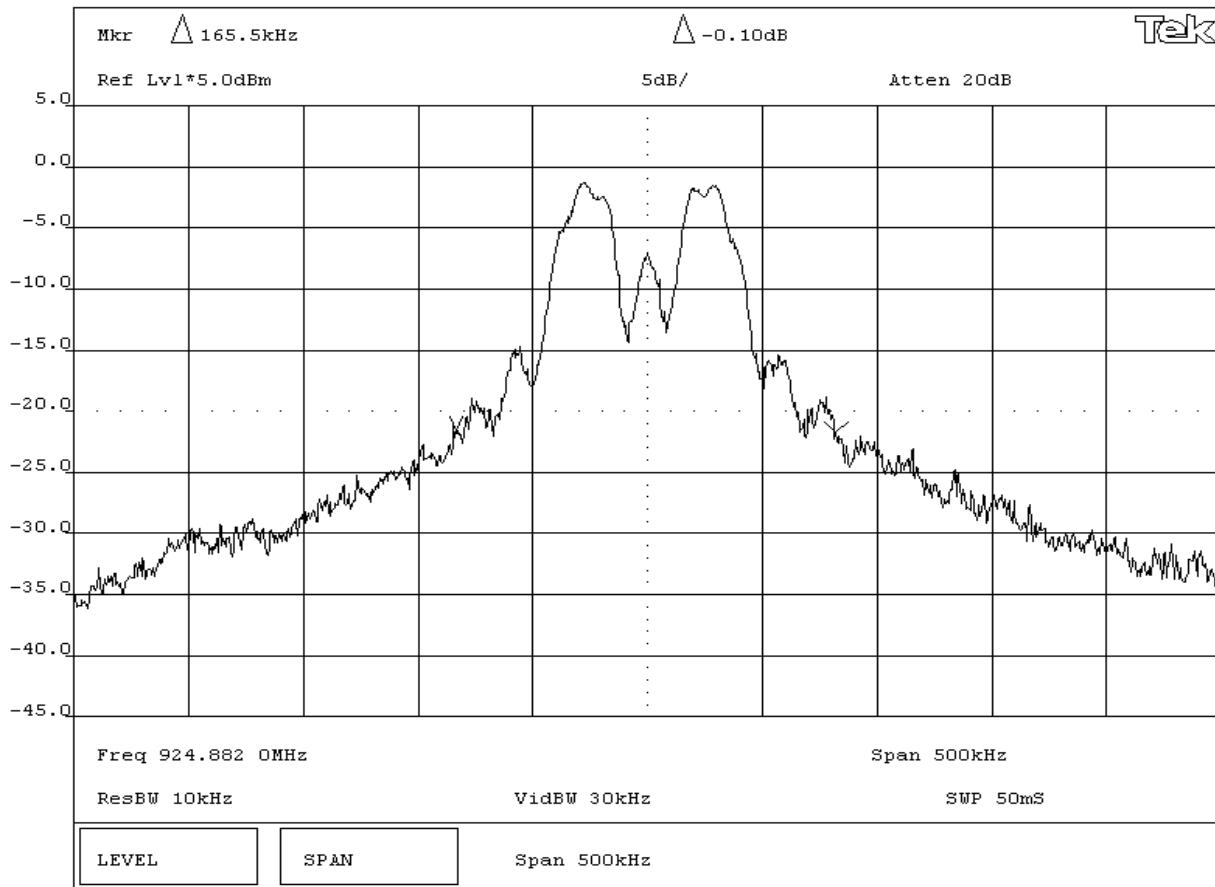
SIGNATURE



Tested By: _____

DESCRIPTION OF TEST

High Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(b)(3), the maximum peak output power must not exceed 1 Watt. The measurement is made using either a peak power meter, or a spectrum analyzer using the following settings:

- Resolution bandwidth set to greater than the 6 dB bandwidth of the modulated carrier, and
- The video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The peak output power was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode.

De Facto EIRP Limit: Per 47 CFR 15.247 (b)(4), the EUT meets the de facto EIRP limit of +36dBm.

Completed by:

A handwritten signature in blue ink that reads "Rocky L. Prelungs".

NORTHWEST
EMC

EMISSIONS DATA SHEET

Output Power

Transmitters

Rev df11/15/02

EUT: MRD8 / MRD6

Work Order: WATT0014

Serial Number: N/A

Date: 06/06/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 29.89

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247(b)(3)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Peak Output Power cannot exceed .25 Watt

RESULTS

AMPLITUDE

Pass

2.69mW

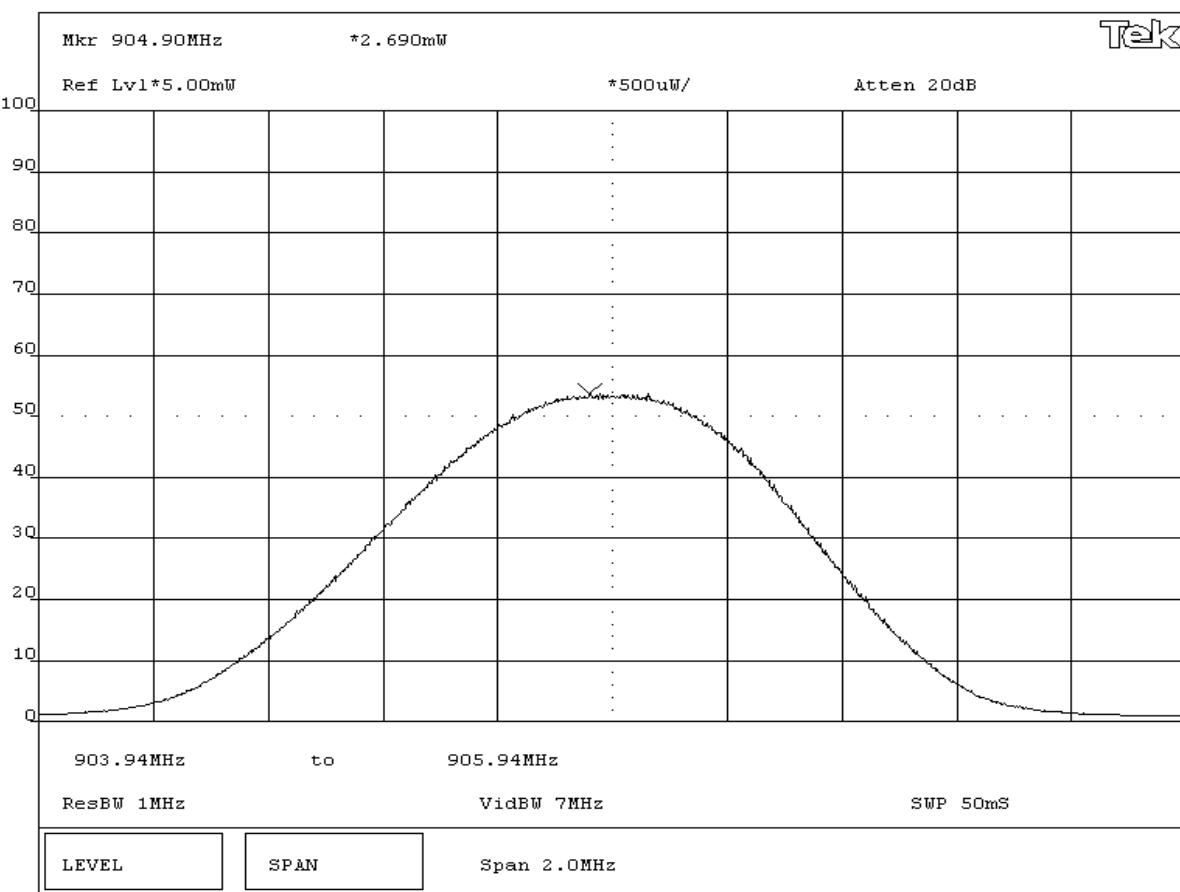
SIGNATURE

Roddy L. Peloquin

Tested By: _____

DESCRIPTION OF TEST

Low Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Output Power

Transmitters

Rev df11/15/02

EUT: MRD8 / MRD6

Work Order: WATT0014

Serial Number: N/A

Date: 06/06/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 29.89

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247(b)(3)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Peak Output Power cannot exceed .25 Watt

RESULTS

AMPLITUDE

Pass

2.565mW

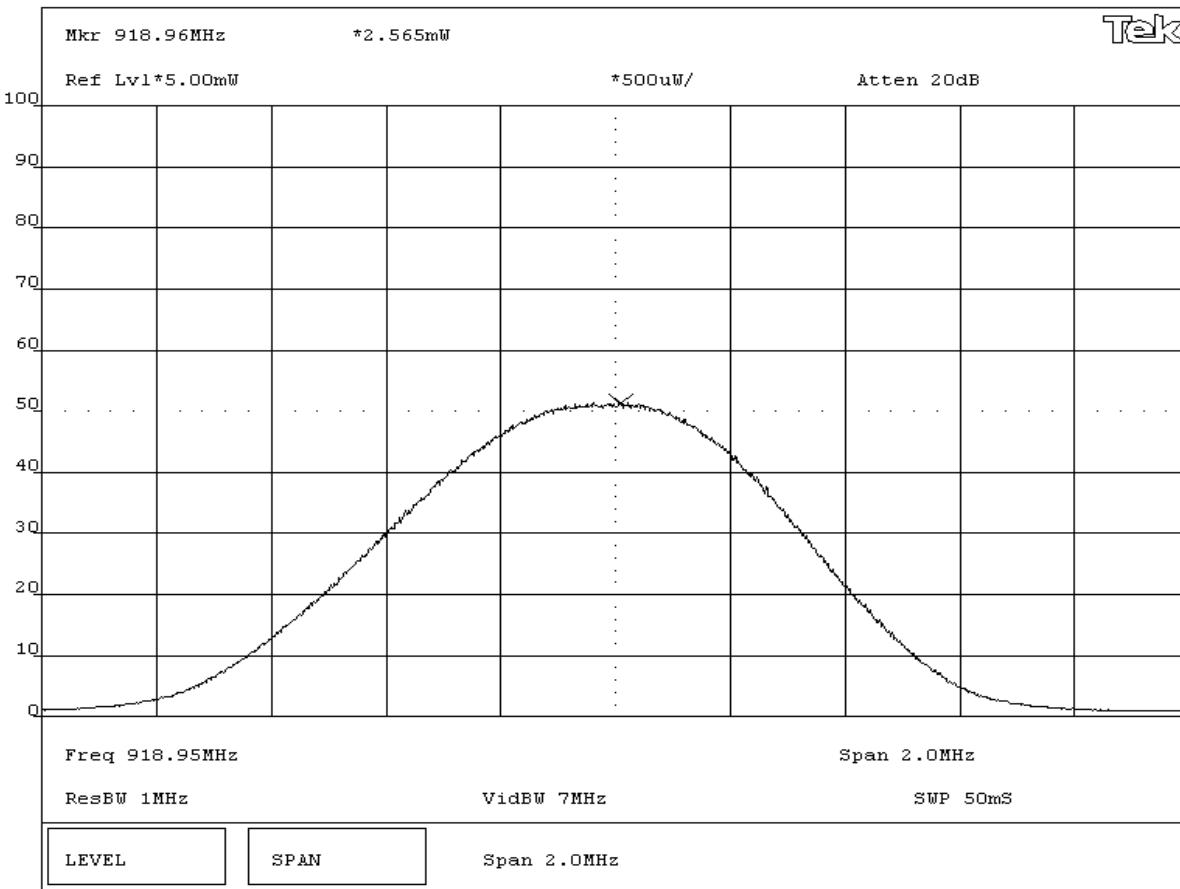
SIGNATURE

Roddy L. Peloquin

Tested By: _____

DESCRIPTION OF TEST

Mid Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Output Power

Transmitters

Rev df11/15/02

EUT: MRD8 / MRD6

Work Order: WATT0014

Serial Number: N/A

Date: 06/06/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 29.89

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247(b)(3)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Peak Output Power cannot exceed .25 Watt

RESULTS

AMPLITUDE

Pass

2.61mW

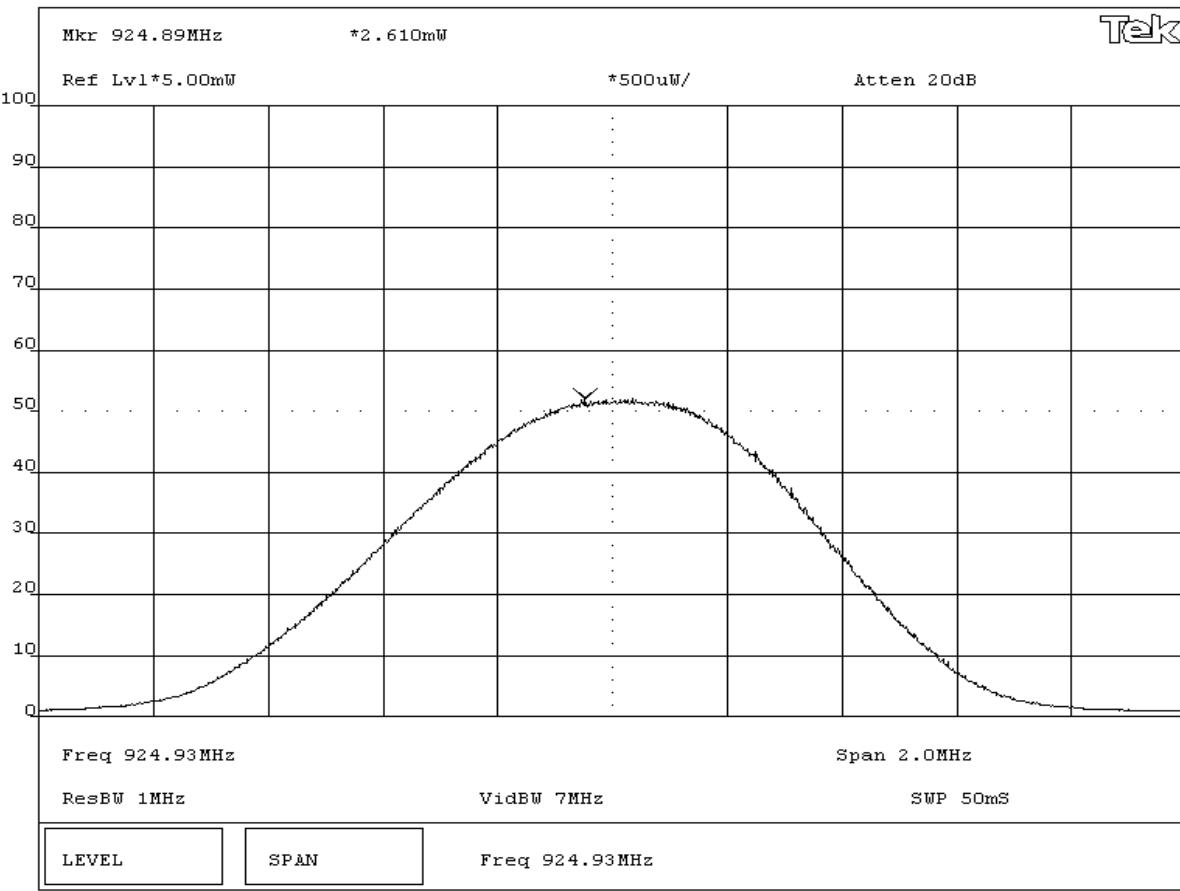
SIGNATURE

Roddy L. Peloquin

Tested By: _____

DESCRIPTION OF TEST

High Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(c), in any 100 kHz bandwidth outside the authorized band, the maximum level of radio frequency power must be at least 20dB down from the highest emission level within the authorized band. The measurement is made with the spectrum analyzer's resolution bandwidth set to 100 kHz, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode. The channels closest to the band edges were selected. The spectrum was scanned across each band edge from 5 MHz below the band edge to 5 MHz above the band edge.

Completed by:

A handwritten signature in blue ink that reads "Rocky L. Reling". The signature is fluid and cursive, with "Rocky" on the top line and "L. Reling" on the bottom line.

NORTHWEST
EMC

EMISSIONS DATA SHEET

Band Edge Compliance

Transmitters

Rev d11/15/02

EUT: MRD6 / MRD8

Work Order: WATT0014

Serial Number: N/A

Date: 06/09/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 30.15

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247 (c)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

REQUIREMENTS

RESULTS

AMPLITUDE

Pass

-56.8db

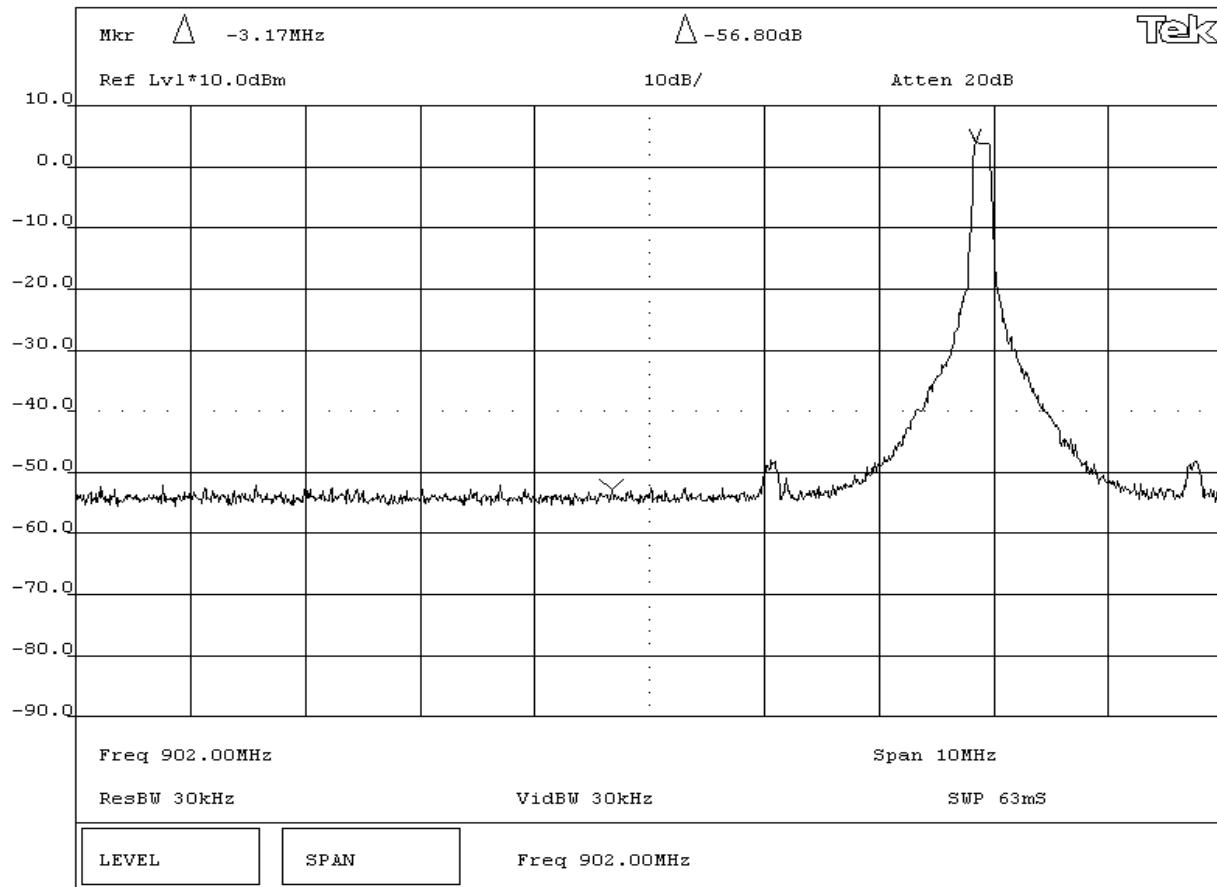
SIGNATURE

Rod Peloquin

Tested By: _____

DESCRIPTION OF TEST

Low Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Band Edge Compliance

Transmitters

Rev df11/15/02

EUT: MRD6 / MRD8

Work Order: WATT0014

Serial Number: N/A

Date: 06/09/03

Customer: The Watt Stopper, Inc.

Temperature: 25 °C

Attendees: None

Humidity: 34%

Customer Ref. No.: N/A

Bar. Pressure: 30.15

Tested by: Rod Peloquin

Power: 120VAC/60Hz

Job Site: EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247 (c)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

REQUIREMENTS

RESULTS

AMPLITUDE

Pass

-56.5dB

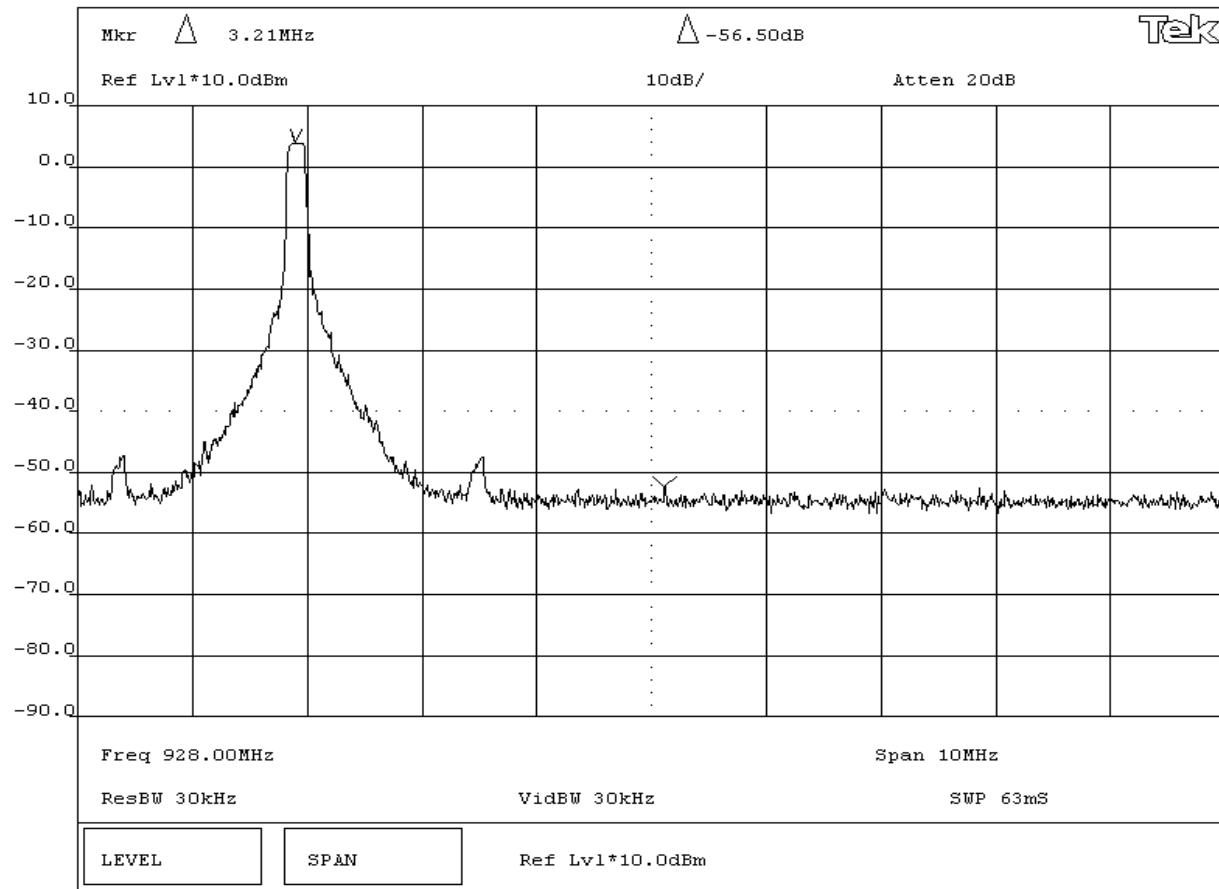
SIGNATURE

Rod Peloquin

Tested By: _____

DESCRIPTION OF TEST

High Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Maximum

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Frequency Range Investigated

Start Frequency	0 MHz	Stop Frequency	10 GHz
-----------------	-------	----------------	--------

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(c), in any 100 kHz bandwidth outside the authorized band, the maximum level of radio frequency power must be at least 20dB down from the highest emission level within the authorized band. The measurement is made with the spectrum analyzer's resolution bandwidth set to 100 kHz, and the video bandwidth set to greater than or equal to the resolution bandwidth.

Configuration: The spurious RF conducted emissions were measured with the EUT set to low, medium, and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode. For each transmit frequency, the spectrum was scanned throughout the specified frequency.

Completed by:

A handwritten signature in blue ink that reads "Rocky L. Relung". The signature is fluid and cursive, with "Rocky" and "L." on the first line and "Relung" on the second line.

NORTHWEST
EMC

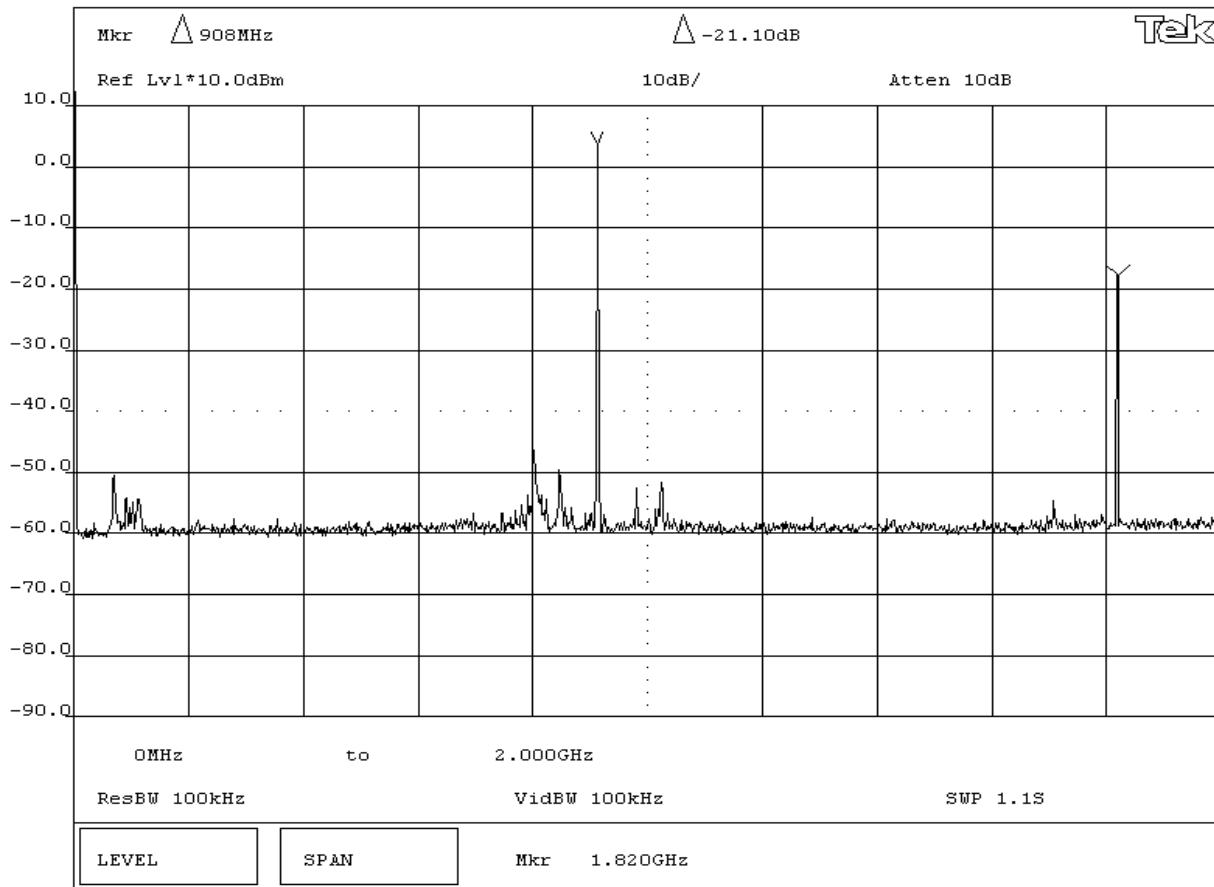
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8			Work Order:	WATT0014		
Serial Number:	N/A			Date:	06/12/03		
Customer:	The Watt Stopper, Inc.			Temperature:	25 °C		
Attendees:	None			Humidity:	34%		
Customer Ref. No.:	N/A			Bar. Pressure:	30.15		
Tested by:	Rod Peloquin		Power:	120VAC/60Hz		Job Site:	EV06
TEST SPECIFICATIONS							
Specification:		CFR 47 Part 15.247 (c)		Year:	2003		
Method:		DA 00-705, ANSI C63.4		Year:	1992		
SAMPLE CALCULATIONS							
COMMENTS							
None							
EUT OPERATING MODES							
No hop mode							
DEVIATIONS FROM TEST STANDARD							
REQUIREMENTS							
RESULTS							
Pass							
SIGNATURE							
 Tested By: _____							
DESCRIPTION OF TEST							
Low Channel 0MHz-2GHz							



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

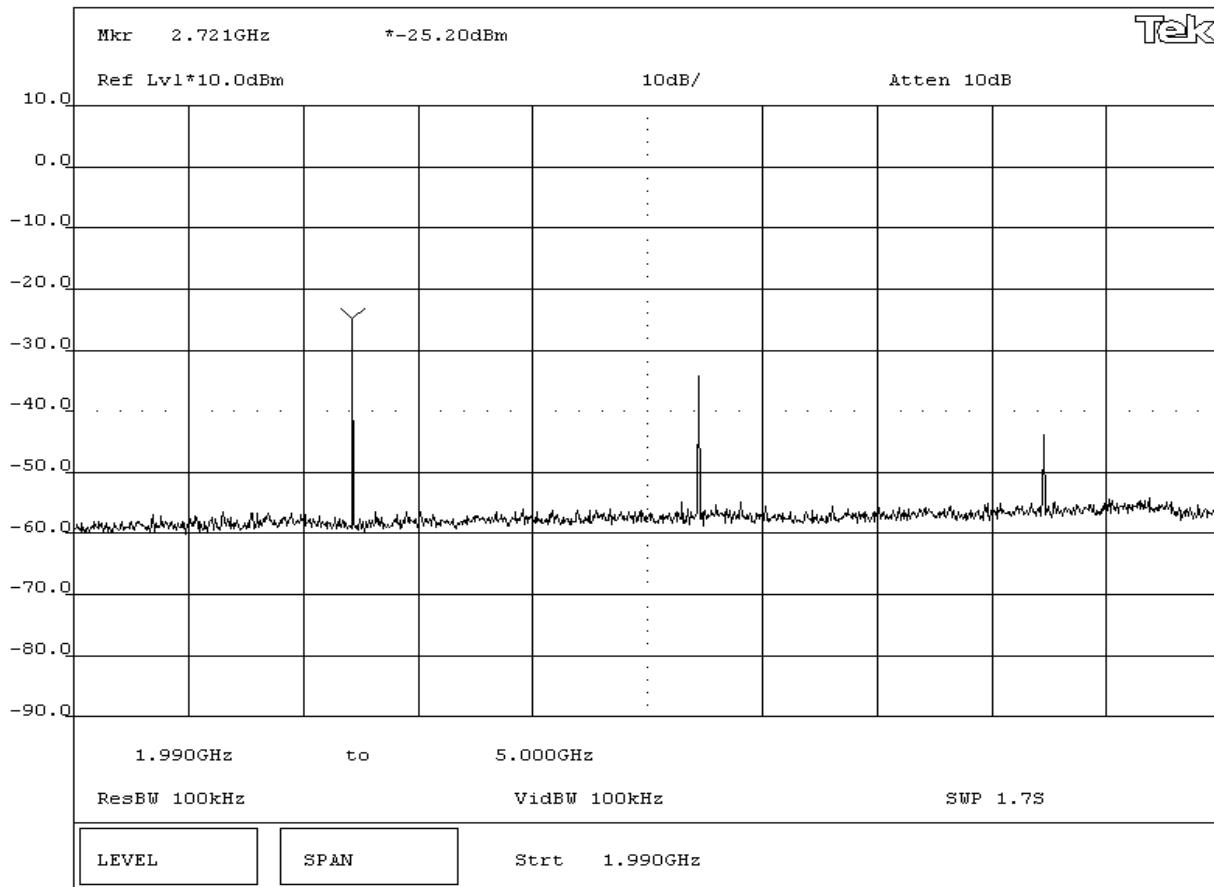
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8			Work Order:	WATT0014		
Serial Number:	N/A			Date:	06/12/03		
Customer:	The Watt Stopper, Inc.			Temperature:	25 °C		
Attendees:	None			Humidity:	34%		
Customer Ref. No.:	N/A			Bar. Pressure:	30.15		
Tested by:	Rod Peloquin		Power:	120VAC/60Hz		Job Site:	EV06
TEST SPECIFICATIONS							
Specification:		CFR 47 Part 15.247 (c)		Year:	2003		
Method:		DA 00-705, ANSI C63.4		Year:	1992		
SAMPLE CALCULATIONS							
COMMENTS							
None							
EUT OPERATING MODES							
No hop mode							
DEVIATIONS FROM TEST STANDARD							
REQUIREMENTS							
RESULTS							
Pass							
SIGNATURE							
 Tested By: _____							
DESCRIPTION OF TEST							
Low Channel 2GHz-5GHz							



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

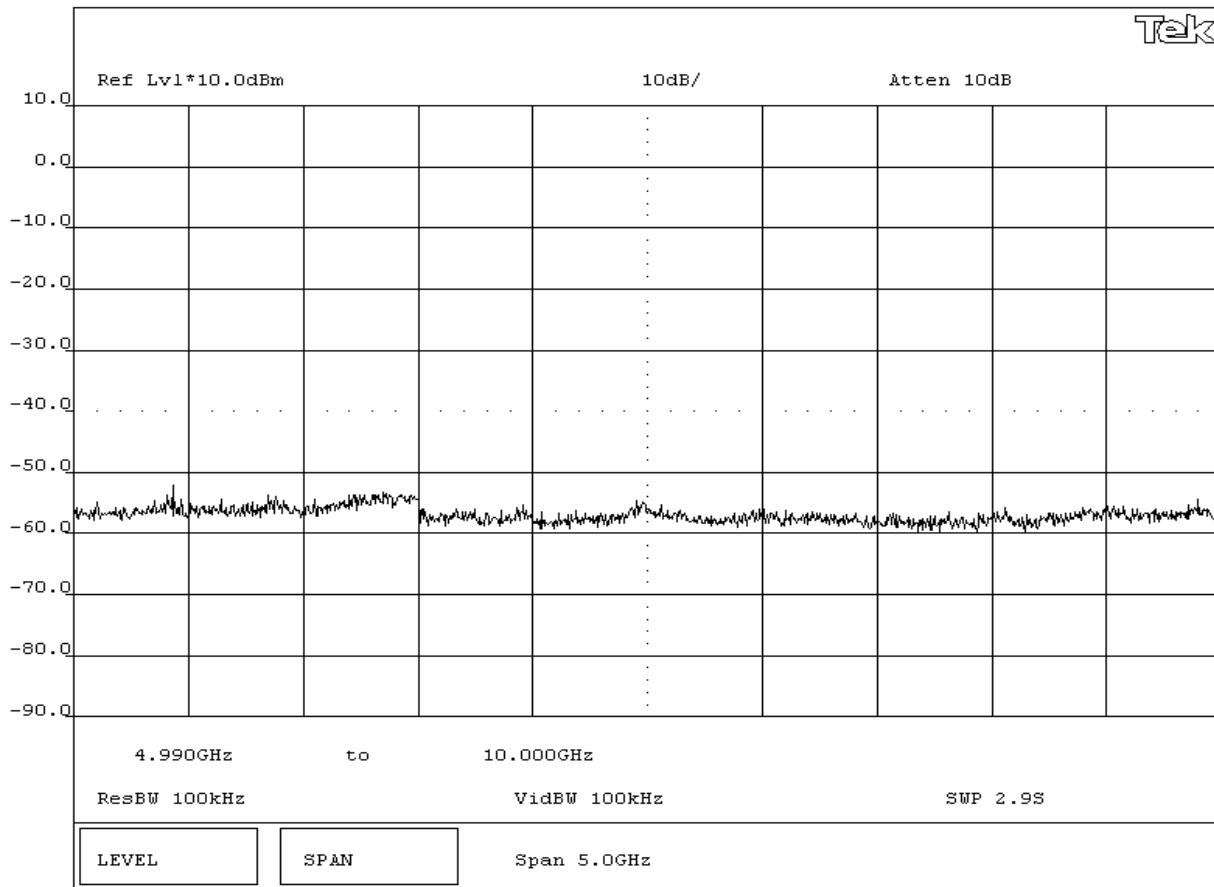
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Job Site:	EV06
TEST SPECIFICATIONS			
Specification:	CFR 47 Part 15.247 (c)	Year:	2003
Method:	DA 00-705, ANSI C63.4	Year:	1992
SAMPLE CALCULATIONS			
COMMENTS			
None			
EUT OPERATING MODES			
No hop mode			
DEVIATIONS FROM TEST STANDARD			
REQUIREMENTS			
RESULTS			
Pass			
SIGNATURE			
 Tested By: _____			
DESCRIPTION OF TEST			
Low Channel 5GHz-10GHz			



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

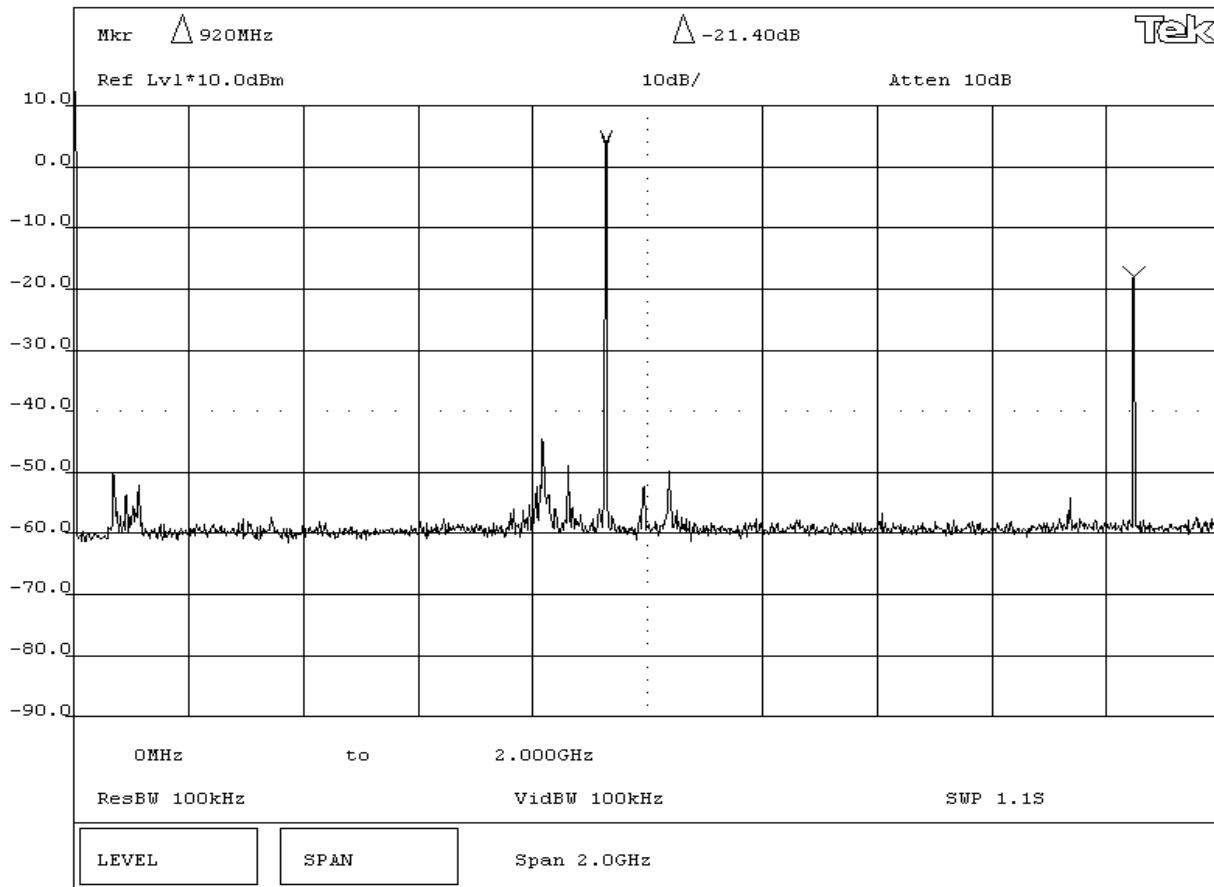
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Job Site:	EV06
TEST SPECIFICATIONS			
Specification:	CFR 47 Part 15.247 (c)	Year:	2003
Method:	DA 00-705, ANSI C63.4	Year:	1992
SAMPLE CALCULATIONS			
COMMENTS			
None			
EUT OPERATING MODES			
No hop mode			
DEVIATIONS FROM TEST STANDARD			
REQUIREMENTS			
RESULTS			
Pass			
SIGNATURE			
 Tested By: _____			
DESCRIPTION OF TEST			
Mid Channel 0MHz-2GHz			



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

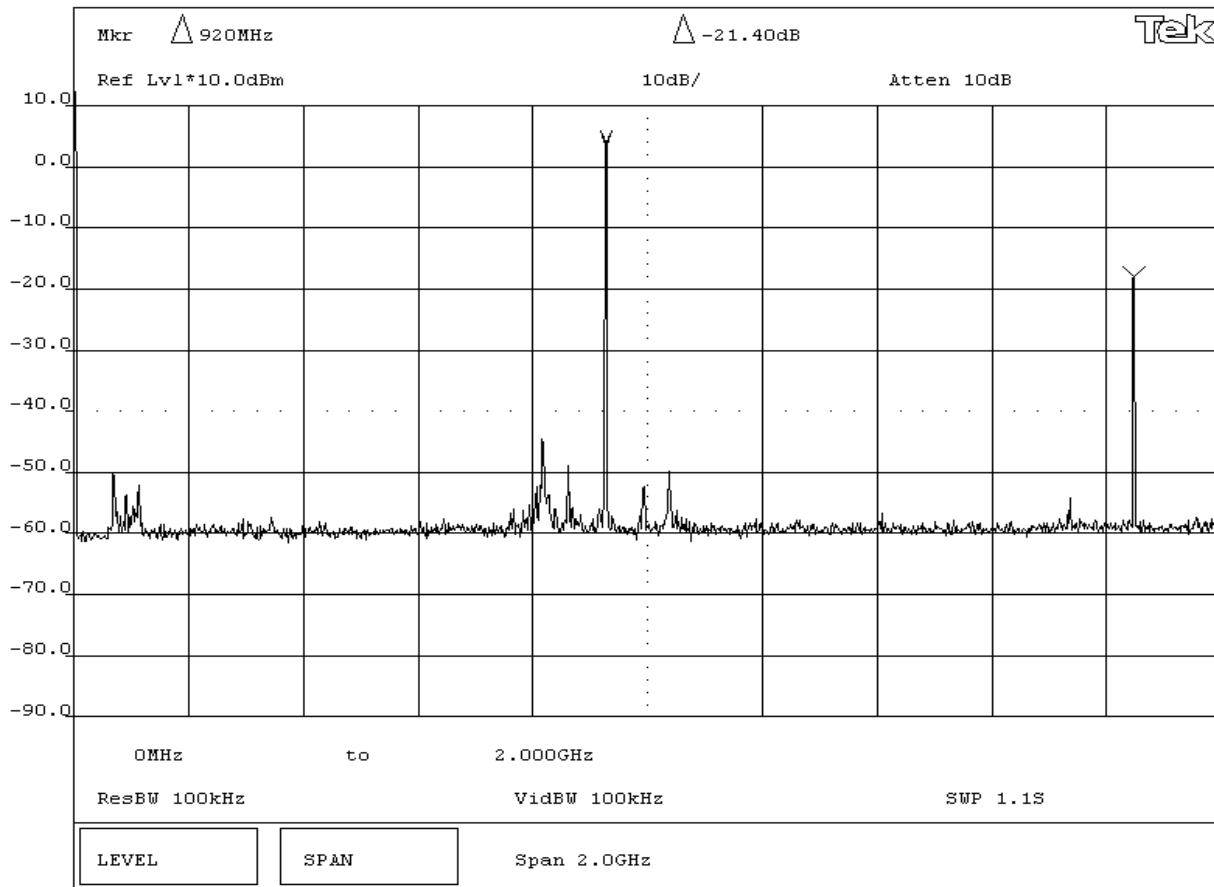
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8			Work Order:	WATT0014			
Serial Number:	N/A			Date:	06/12/03			
Customer:	The Watt Stopper, Inc.			Temperature:	25 °C			
Attendees:	None			Humidity:	34%			
Customer Ref. No.:	N/A			Bar. Pressure:	30.15			
Tested by:	Rod Peloquin		Power:	120VAC/60Hz		Job Site:	EV06	
TEST SPECIFICATIONS								
Specification:		CFR 47 Part 15.247 (c)	Year:	2003	Method:	DA 00-705, ANSI C63.4	Year:	1992
SAMPLE CALCULATIONS								
COMMENTS								
None								
EUT OPERATING MODES								
No hop mode								
DEVIATIONS FROM TEST STANDARD								
REQUIREMENTS								
RESULTS								
Pass								
SIGNATURE								
								
Tested By: _____								
DESCRIPTION OF TEST								
Mid Channel 2GHz-5GHz								



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

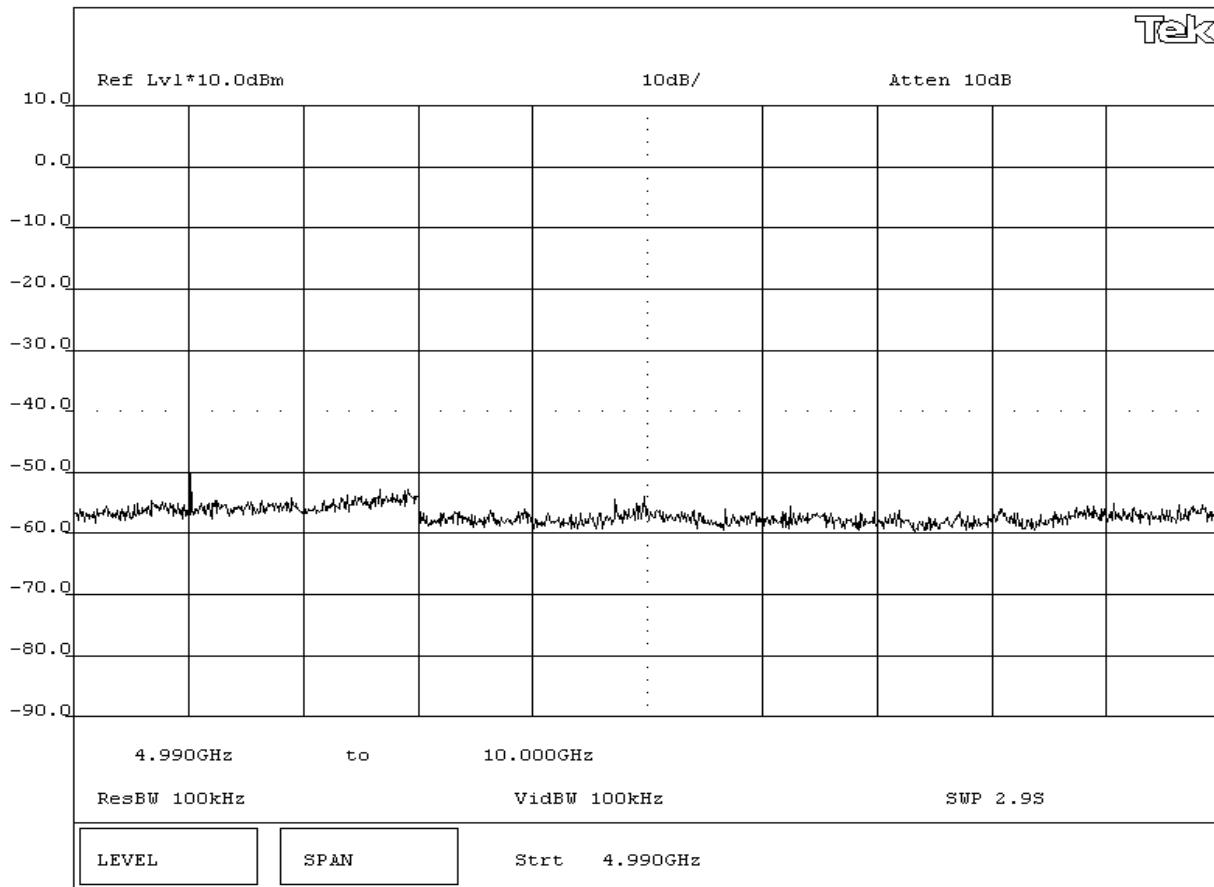
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8			Work Order:	WATT0014			
Serial Number:	N/A			Date:	06/12/03			
Customer:	The Watt Stopper, Inc.			Temperature:	25 °C			
Attendees:	None			Humidity:	34%			
Customer Ref. No.:	N/A			Bar. Pressure:	30.15			
Tested by:	Rod Peloquin		Power:	120VAC/60Hz		Job Site:	EV06	
TEST SPECIFICATIONS								
Specification:		CFR 47 Part 15.247 (c)	Year:	2003	Method:	DA 00-705, ANSI C63.4	Year:	1992
SAMPLE CALCULATIONS								
COMMENTS								
None								
EUT OPERATING MODES								
No hop mode								
DEVIATIONS FROM TEST STANDARD								
REQUIREMENTS								
RESULTS								
Pass								
SIGNATURE								
 Tested By: _____								
DESCRIPTION OF TEST								
Mid Channel 5GHz-10GHz								



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

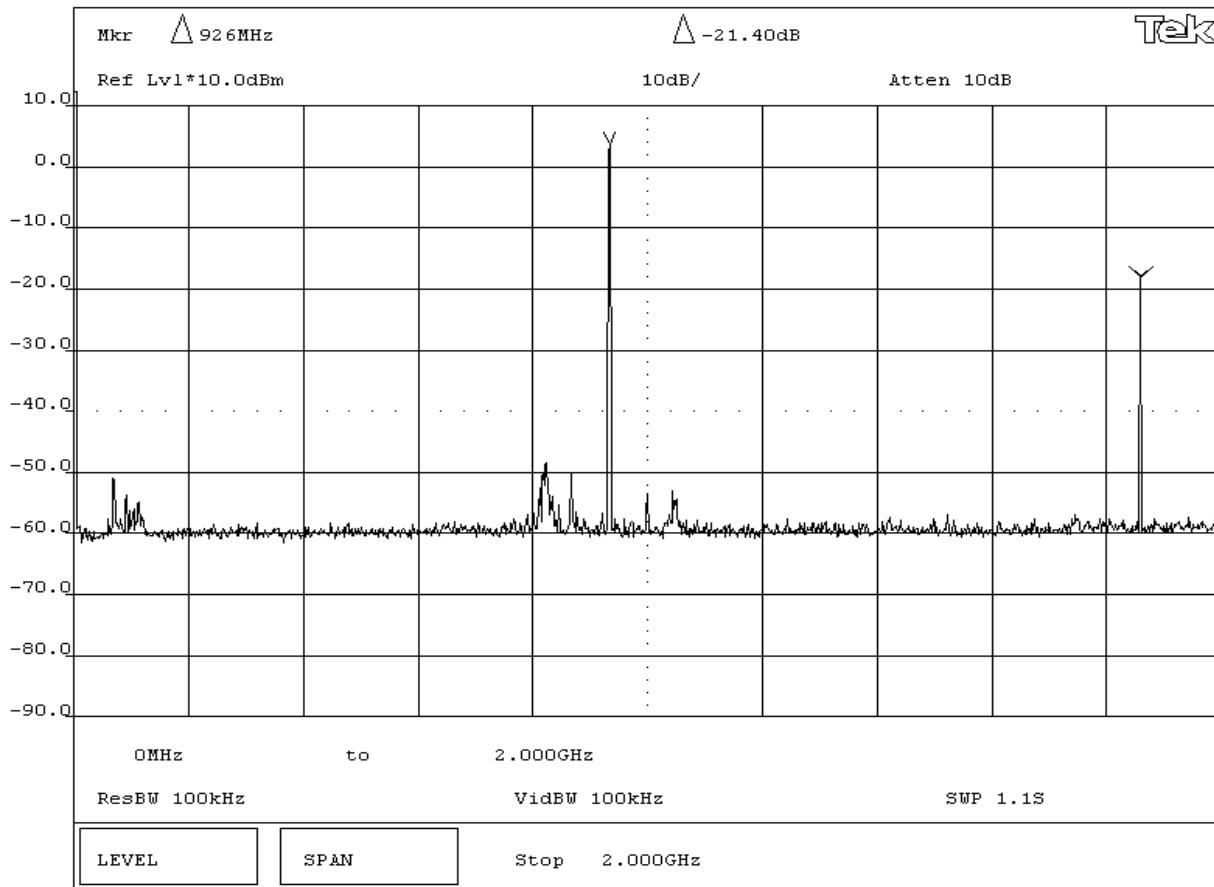
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8		Work Order:	WATT0014		
Serial Number:	N/A		Date:	06/12/03		
Customer:	The Watt Stopper, Inc.		Temperature:	25 °C		
Attendees:	None		Humidity:	34%		
Customer Ref. No.:	N/A		Bar. Pressure:	30.15		
Tested by:	Rod Peloquin	Power:	120VAC/60Hz		Job Site:	EV06
TEST SPECIFICATIONS						
Specification: CFR 47 Part 15.247 (c)		Year: 2003	Method: DA 00-705, ANSI C63.4		Year: 1992	
SAMPLE CALCULATIONS						
COMMENTS						
None						
EUT OPERATING MODES						
No hop mode						
DEVIATIONS FROM TEST STANDARD						
REQUIREMENTS						
RESULTS						
Pass						
SIGNATURE						
						
Tested By:	<u>Rod Peloquin</u>					
DESCRIPTION OF TEST						
High Channel 0MHz-2GHz						



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

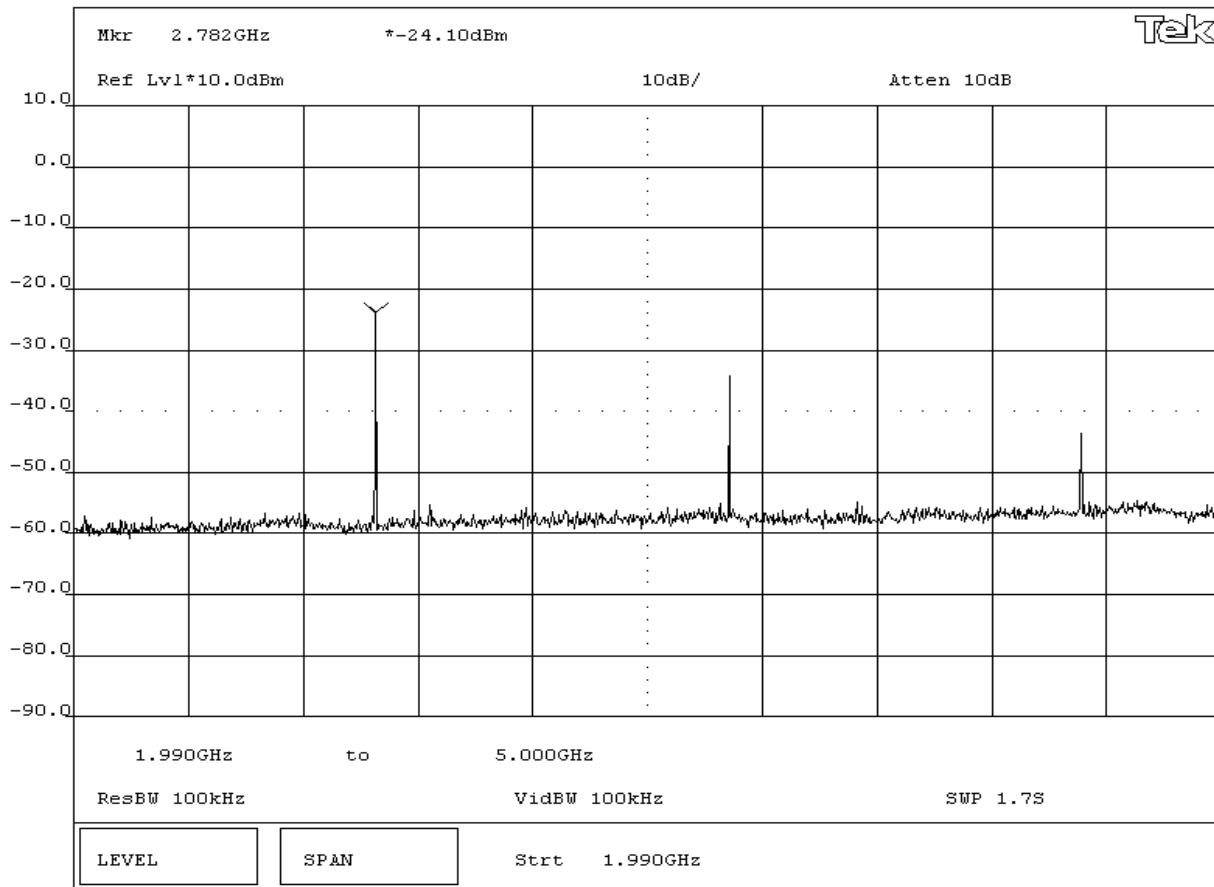
EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Job Site:	EV06
TEST SPECIFICATIONS			
Specification:	CFR 47 Part 15.247 (c)	Year:	2003
Method:	DA 00-705, ANSI C63.4	Year:	1992
SAMPLE CALCULATIONS			
COMMENTS			
None			
EUT OPERATING MODES			
No hop mode			
DEVIATIONS FROM TEST STANDARD			
REQUIREMENTS			
RESULTS			
Pass			
SIGNATURE			
 Tested By: _____			
DESCRIPTION OF TEST			
High Channel 2GHz-5GHz			



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Antenna Conducted Spurious

Transmitters

Rev df11/15/02

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Job Site:	EV06

TEST SPECIFICATIONS

Specification: CFR 47 Part 15.247 (c)

Year: 2003

Method: DA 00-705, ANSI C63.4

Year: 1992

SAMPLE CALCULATIONS

COMMENTS

None

EUT OPERATING MODES

No hop mode

DEVIATIONS FROM TEST STANDARD

REQUIREMENTS

RESULTS

Pass

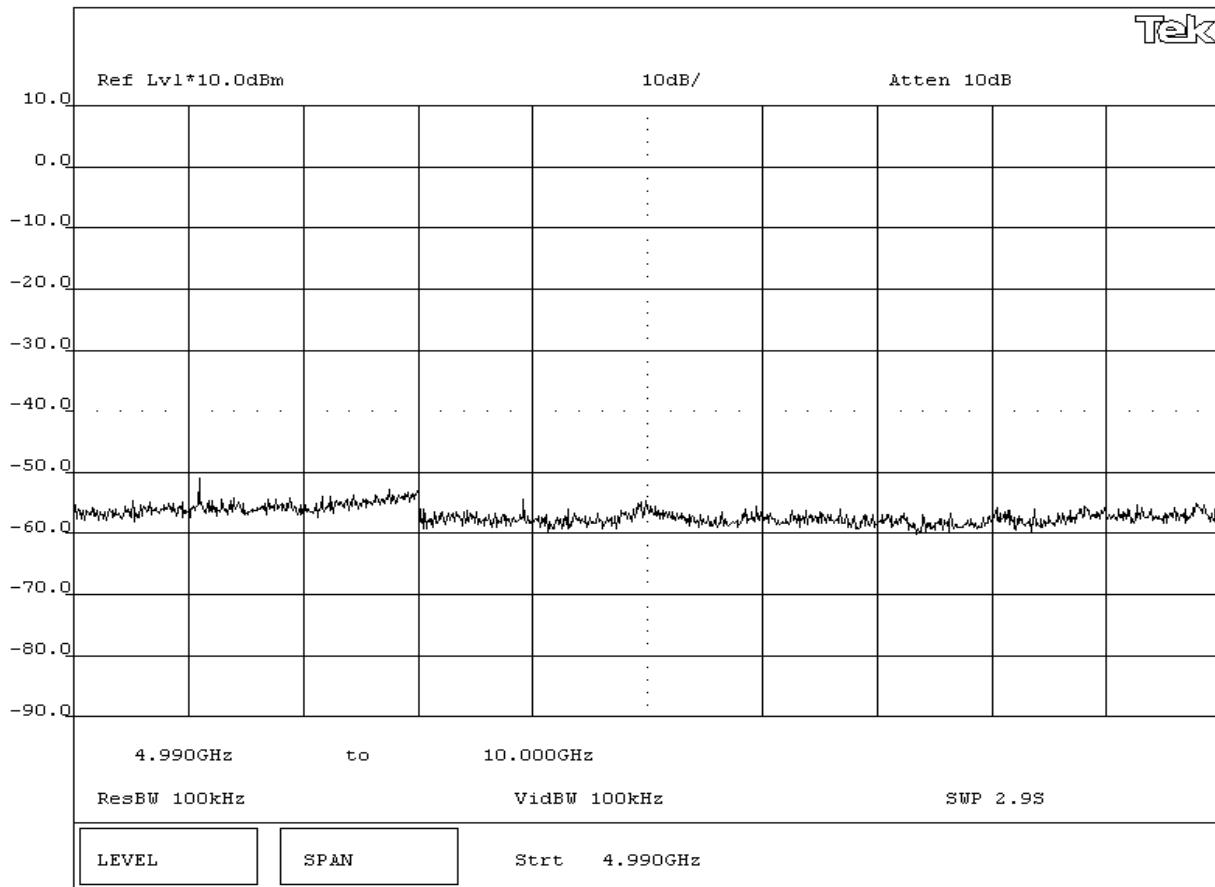
SIGNATURE

Roddy L. Peloquin

Tested By: _____

DESCRIPTION OF TEST

High Channel 5GHz-10GHz



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

Battery

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
EUT	The Watt Stopper, Inc.	MRD8	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A
AC Adapter	N/A	A35-U0900	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	1.2	PA	EUT	AC Mains

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Tektronix	2784	AAO	02/26/2003	24 mo

Test Description

Requirement: Per 47 CFR 15.247(d), the peak power spectral density conducted from the antenna port of a direct sequence transmitter must not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission.

Configuration: The peak power spectral density measurements were measured with the EUT set to low, mid, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate using direct sequence modulation. Per the procedure outlined in FCC 97-114, the spectrum analyzer was used as follows:

The emission peak(s) were located and zoom in on within the passband. The resolution bandwidth was set to 3 kHz, the video bandwidth was set to greater than or equal to the resolution bandwidth. The sweep speed was set equal to the span divided by 3 kHz (sweep = (SPAN/3 kHz)). For example, given a span of 1.5 MHz, the sweep should be $1.5 \times 10^6 \div 3 \times 10^3 = 500$ seconds. External attenuation was used and added to the reading. The following FCC procedure was used for modifying the power spectral density measurements:

"If the spectrum line spacing cannot be resolved on the available spectrum analyzer, the noise density function on most modern conventional spectrum analyzers will directly measure the noise power density normalized to a 1 Hz noise power bandwidth. Add 34.8 dB for correction to 3 kHz."

Completed by:

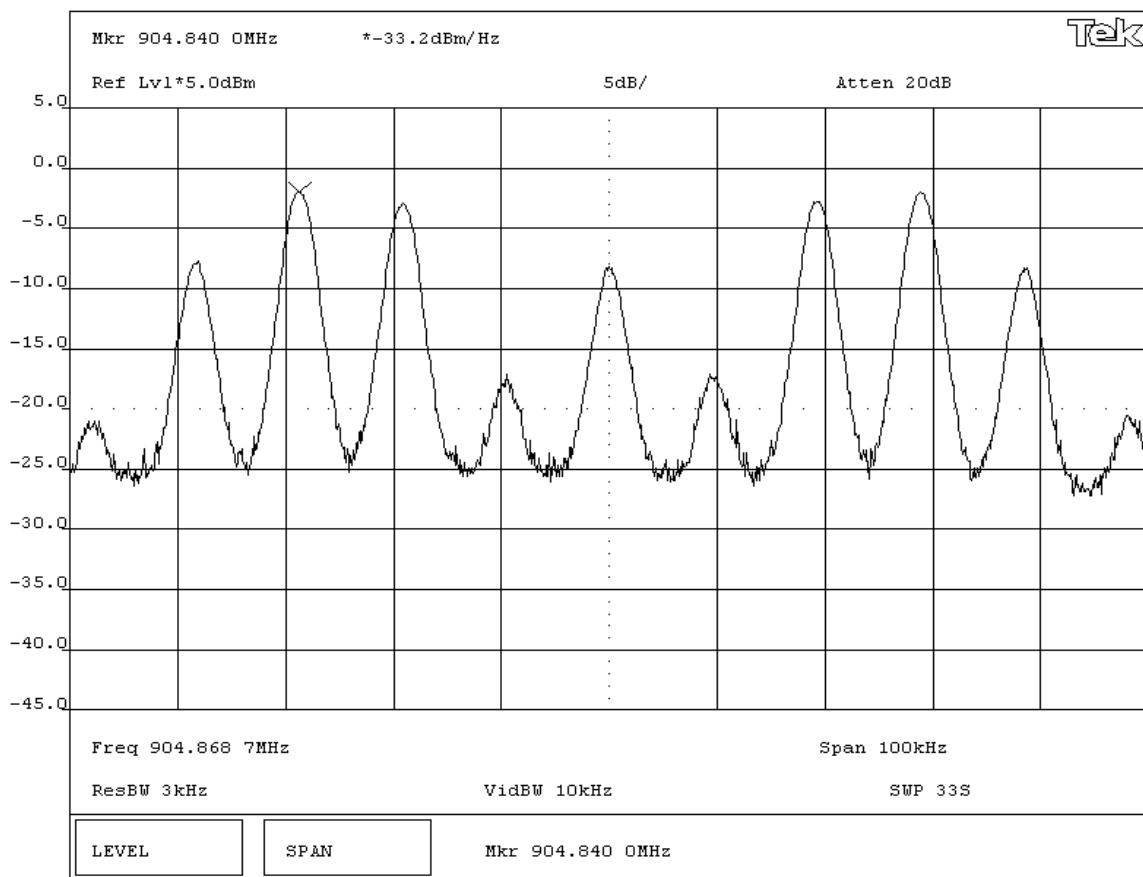


NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8			Work Order:	WATT0014		
Serial Number:	N/A			Date:	06/12/03		
Customer:	The Watt Stopper, Inc.			Temperature:	25 °C		
Attendees:	None			Humidity:	34%		
Customer Ref. No.:	N/A			Bar. Pressure:	29.89		
Tested by:	Rod Peloquin		Power:	120VAC/60Hz		Job Site:	EV06
Specification:	47 CFR 15.247(d)	Year:	Most Current	Method:	FCC 97-114, ANSI C63.4	Year:	1992
SAMPLE CALCULATIONS							
Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation.							
Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.							
Bandwidth Correction Factor = $10^{\log(3\text{kHz}/1\text{Hz})}$							
COMMENTS							
EUT OPERATING MODES							
Modulated by PRBS at maximum data rate							
DEVIATIONS FROM TEST STANDARD							
None							
REQUIREMENTS							
Maximum peak power spectral density conducted from a hybrid transmitter does not exceed 8 dBm in any 3 kHz band							
RESULTS		AMPLITUDE					
Pass	Power Spectral Density = 1.6 dBm / 3kHz						
SIGNATURE							
							
Tested By: _____							
DESCRIPTION OF TEST							
Power Spectral Density - Low Channel							



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	29.89
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.247(d)	Method:	FCC 97-114, ANSI C63.4
	Year: Most Current		Year: 1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = $10^4 \log(3\text{kHz}/1\text{Hz})$

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a hybrid transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS

Pass Power Spectral Density = 1.6 dBm / 3kHz

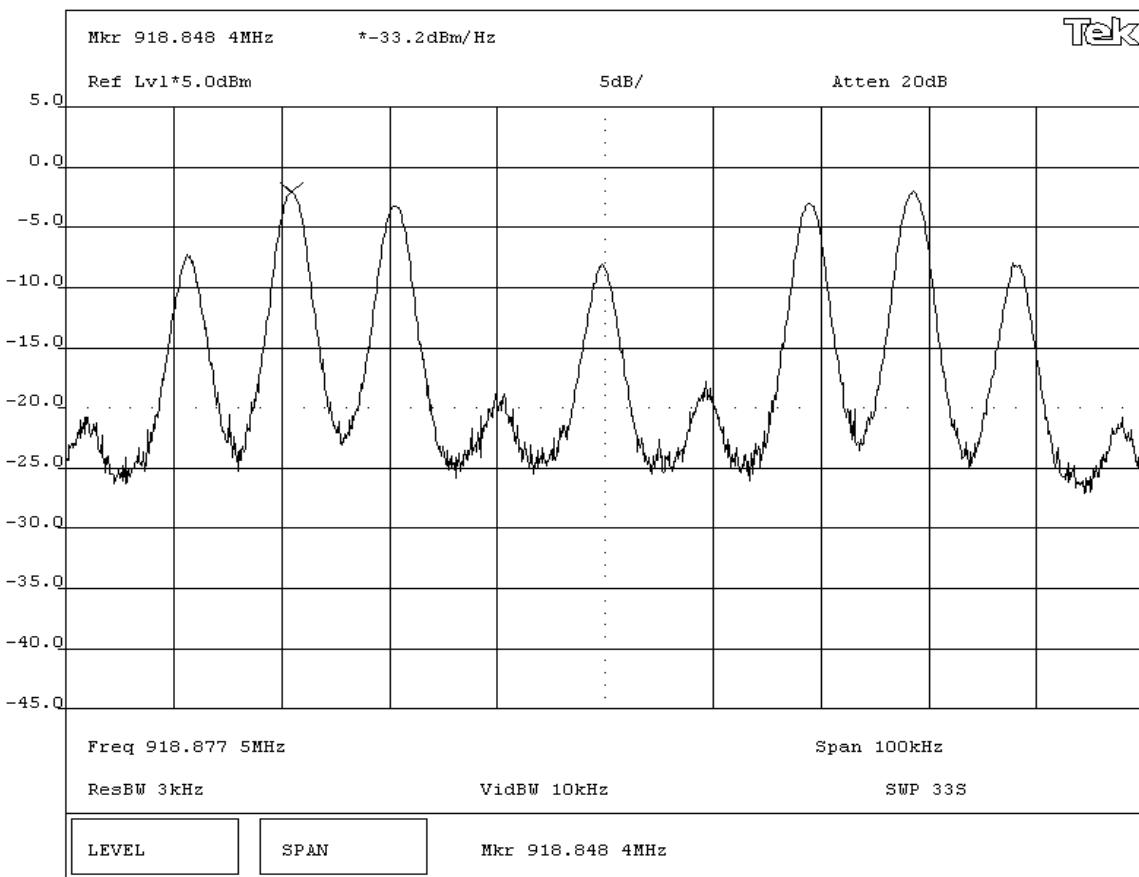
SIGNATURE

Rod Peloquin

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - Mid Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/12/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	29.89
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.247(d)	Method:	FCC 97-114, ANSI C63.4
	Year: Most Current		Year: 1992

SAMPLE CALCULATIONS

Meter reading on spectrum analyzer is internally compensated for cable loss and external attenuation

Power Spectral Density per 3kHz bandwidth = Power Spectral Density per 1 Hz bandwidth + Bandwidth Correction Factor.

Bandwidth Correction Factor = $10^4 \log(3\text{kHz}/1\text{Hz})$

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum peak power spectral density conducted from a hybrid transmitter does not exceed 8 dBm in any 3 kHz band

RESULTS

Pass Power Spectral Density = 1.7 dBm / 3kHz

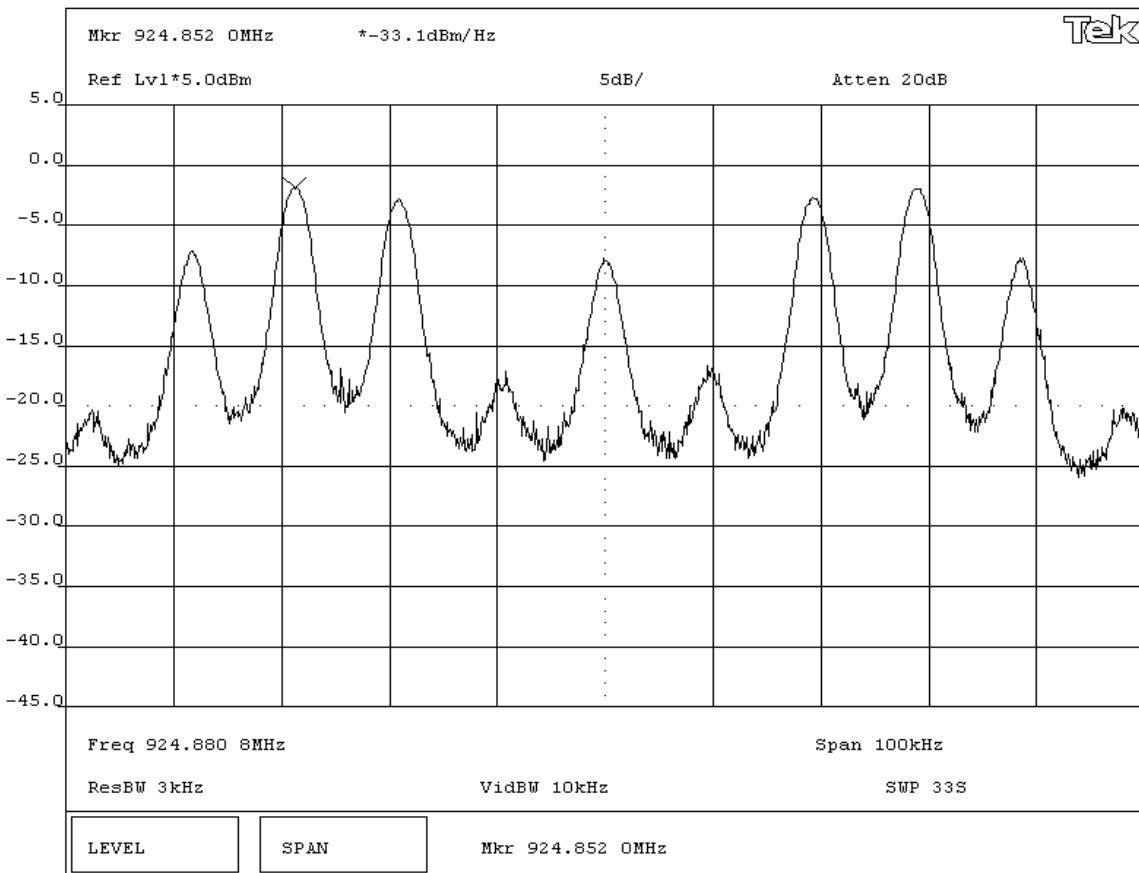
SIGNATURE

Rod Peloquin

Tested By: _____

DESCRIPTION OF TEST

Power Spectral Density - High Channel



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Frequency Range Investigated

Start Frequency	30 MHz	Stop Frequency	10 GHz
-----------------	--------	----------------	--------

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits low, mid, and high channels			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter
Control - 3 each	No	1.0	No	EUT	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	01/07/2003	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	01/07/2003	12 mo
Pre-Amplifier	Amplifier Research	LN1000A	APS	01/06/2003	12 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APJ	01/06/2003	12 mo
Antenna, Biconilog	EMCO	3141	AXE	12/31/2001	36 mo
Antenna, Horn	EMCO	3115	AHC	08/12/2002	12 mo
High Pass Filter	Hewlett Packard	84300-80037	HFE	05/01/2003	12 mo

Test Description

Requirement: The field strength of any spurious emissions or modulation products that fall in a restricted band, as defined in 47 CFR 15.205, is measured. The peak level must comply with the limits specified in 47 CFR 15.35(b). The average level (taken with a 10Hz VBW) must comply with the limits specified in 15.209.

Configuration: The only type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. The EUT was transmitting at its maximum data rate in a no hop mode. For each configuration, the spectrum was scanned from 30 MHz to 10 GHz. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:1992). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity. Since the dwell time per channel of the hopping signal was less than 100 ms, the readings obtained with the 10 Hz VBW were further reduced by a "duty cycle correction factor" of 15.5 dB, derived from $20\log(\text{dwell time}/100\text{ms})$, where the EUT's maximum dwell time in any 100mS period was measured to be 16.8 mS.

Bandwidths Used for Measurements

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 – 0.15	1.0	0.2	0.2
0.15 – 30.0	10.0	9.0	9.0
30.0 – 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

Completed by:

Holly Antognoli

OATS DATA SHEET

EUT:	MRD8	Work Order:	WATT0014
Serial Number:		Date:	05/30/03
Customer:	The Watt Stopper Inc.	Temperature:	73
Attendees:		Humidity:	47%
Cust. Ref. No.:		Barometric Pressure:	29.96
Tested by:	Holly Ashkannejhad	Power:	120VAC, 60Hz
			Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

COMMENTS

EUT OPERATING MODES

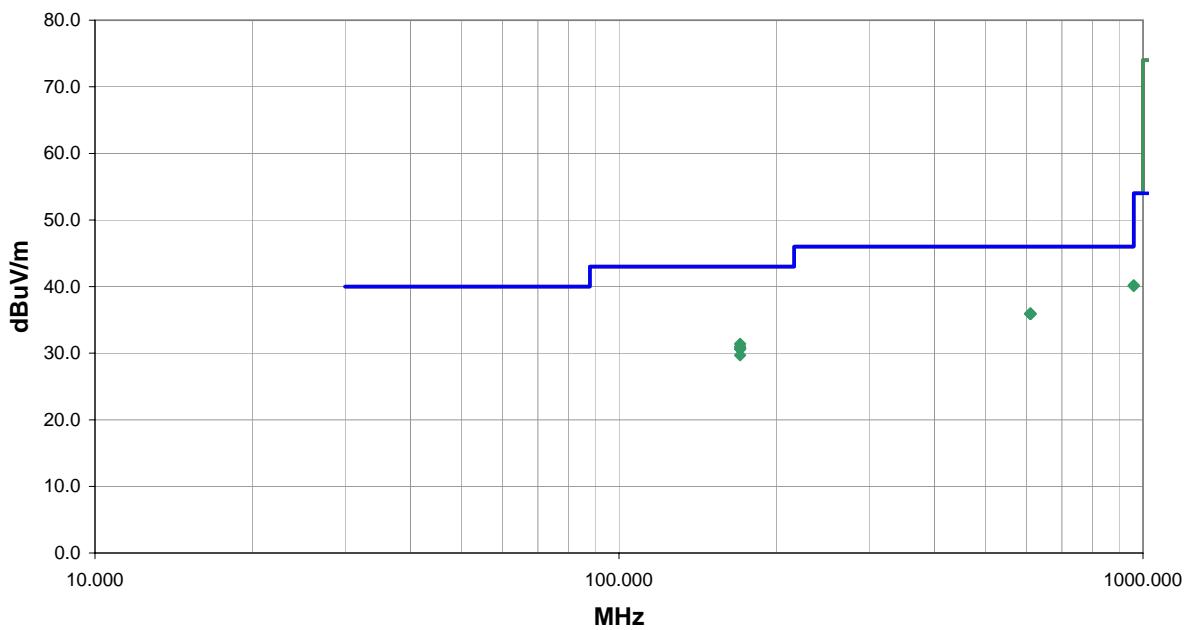
Transmitting low, mid, high channel

DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	2

Other	
Tested By:	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
609.380	23.1	-7.1	286.0	1.2	3.0	20.0	H-Bilog	QP	0.0	36.0	46.0	-10.0	Low channel
609.606	23.0	-7.1	204.0	1.7	3.0	20.0	V-Bilog	QP	0.0	35.9	46.0	-10.1	Mid channel
609.760	23.0	-7.1	269.0	1.7	3.0	20.0	V-Bilog	QP	0.0	35.9	46.0	-10.1	Mid channel
609.867	23.0	-7.1	350.0	1.2	3.0	20.0	H-Bilog	QP	0.0	35.9	46.0	-10.1	Low channel
170.296	29.5	-18.1	185.0	2.2	3.0	20.0	H-Bilog	QP	0.0	31.4	43.0	-11.6	High channel
170.297	29.1	-18.1	164.0	2.2	3.0	20.0	H-Bilog	QP	0.0	31.0	43.0	-12.0	Low channel
170.296	28.8	-18.1	327.0	1.0	3.0	20.0	V-Bilog	QP	0.0	30.7	43.0	-12.3	Mid channel
170.298	28.8	-18.1	348.0	1.0	3.0	20.0	V-Bilog	QP	0.0	30.7	43.0	-12.3	Low channel
170.294	28.7	-18.1	276.0	2.2	3.0	20.0	H-Bilog	QP	0.0	30.6	43.0	-12.4	High channel
170.298	27.8	-18.1	18.0	1.0	3.0	20.0	V-Bilog	QP	0.0	29.7	43.0	-13.3	Mid channel
960.001	23.4	-3.2	271.0	3.9	3.0	20.0	V-Bilog	QP	0.0	40.2	54.0	-13.8	High channel
960.001	23.3	-3.2	18.0	1.4	3.0	20.0	H-Bilog	QP	0.0	40.1	54.0	-13.9	High channel

OATS DATA SHEET												REV d13.10 03/10/2003	
NORTHWEST EMC						Work Order: WATT0014							
EUT: MRD8						Date: 05/30/03							
Serial Number:						Temperature: 73							
Customer: The Watt Stopper Inc.						Humidity: 47%							
Attendees:						Barometric Pressure 29.96							
Cust. Ref. No.:						Job Site: EV01							
Tested by: Holly Ashkannejhad			Power: 120VAC, 60Hz										
TEST SPECIFICATIONS													
Specification: FCC Part 15.247(c)						Year: 2001							
Method: ANSI C63.4						Year: 1992							
SAMPLE CALCULATIONS													
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation													
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator													
COMMENTS													
EUT OPERATING MODES													
Transmitting low, mid, high channel													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
RESULTS												Run #	
Pass												4	
Other												<i>Holly Ashkannejhad</i>	
												Tested By:	
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2714.518	56.9	1.8	295.0	1.3	15.5	0.0	H-Horn	AV	0.0	43.2	54.0	-10.8	Low channel
2756.694	53.5	1.9	97.0	1.7	15.5	0.0	H-Horn	AV	0.0	39.9	54.0	-14.1	Mid channel
2774.545	53.1	1.9	240.0	1.3	15.5	0.0	H-Horn	AV	0.0	39.5	54.0	-14.5	High channel
2714.518	52.8	1.8	269.0	1.2	15.5	0.0	V-Horn	AV	0.0	39.1	54.0	-14.9	Low channel
2756.694	52.0	1.9	109.0	1.2	15.5	0.0	V-Horn	AV	0.0	38.4	54.0	-15.6	Mid channel
2774.545	50.6	1.9	24.0	1.2	15.5	0.0	V-Horn	AV	0.0	37.0	54.0	-17.0	High channel
4594.210	40.9	5.3	174.0	1.6	15.5	0.0	V-Horn	AV	0.0	30.7	54.0	-23.3	Mid channel
3699.606	41.7	3.9	348.0	1.8	15.5	0.0	H-Horn	AV	0.0	30.1	54.0	-23.9	High channel
4524.456	39.2	5.1	302.0	1.2	15.5	0.0	V-Horn	AV	0.0	28.8	54.0	-25.2	Low channel
3675.382	39.8	3.8	203.0	1.9	15.5	0.0	H-Horn	AV	0.0	28.1	54.0	-25.9	Mid channel
4524.456	38.2	5.1	289.0	1.3	15.5	0.0	H-Horn	AV	0.0	27.8	54.0	-26.2	Low channel
4624.499	36.6	5.4	305.0	1.3	15.5	0.0	V-Horn	AV	0.0	26.5	54.0	-27.5	High channel
3699.606	36.9	3.9	50.0	1.2	15.5	0.0	V-Horn	AV	0.0	25.3	54.0	-28.7	High channel
4594.210	34.8	5.3	47.0	1.3	15.5	0.0	H-Horn	AV	0.0	24.6	54.0	-29.4	Mid channel
4624.499	33.8	5.4	38.0	1.3	15.5	0.0	H-Horn	AV	0.0	23.7	54.0	-30.3	High channel
3619.345	35.6	3.6	343.0	1.8	15.5	0.0	H-Horn	AV	0.0	23.7	54.0	-30.3	Low channel
3619.345	34.1	3.6	52.0	1.2	15.5	0.0	V-Horn	AV	0.0	22.2	54.0	-31.8	Low channel
3675.382	32.5	3.8	310.0	1.2	15.5	0.0	V-Horn	AV	0.0	20.8	54.0	-33.2	Mid channel
2714.518	57.8	1.8	295.0	1.3	0.0	0.0	H-Horn	PK	0.0	59.6	74.0	-14.4	Low channel
2756.694	55.3	1.9	97.0	1.7	0.0	0.0	H-Horn	PK	0.0	57.2	74.0	-16.8	Mid channel

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/16/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.235(c)	Method:	DA 00-705, ANSI C63.4
	Year: 2003		Year: 1992

SAMPLE CALCULATIONS

Duty cycle correction factor (dB) = $20 \log_{10} (\text{worst case high time} / \text{any 100mS period})$

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The average value of radiated emissions can be reduced by a duty cycle correction factor for comparison to the limit. The duty cycle correction factor is calculated as shown above:

RESULTS

Pass

DWELL TIME DURING A SINGLE TRANSMISSION

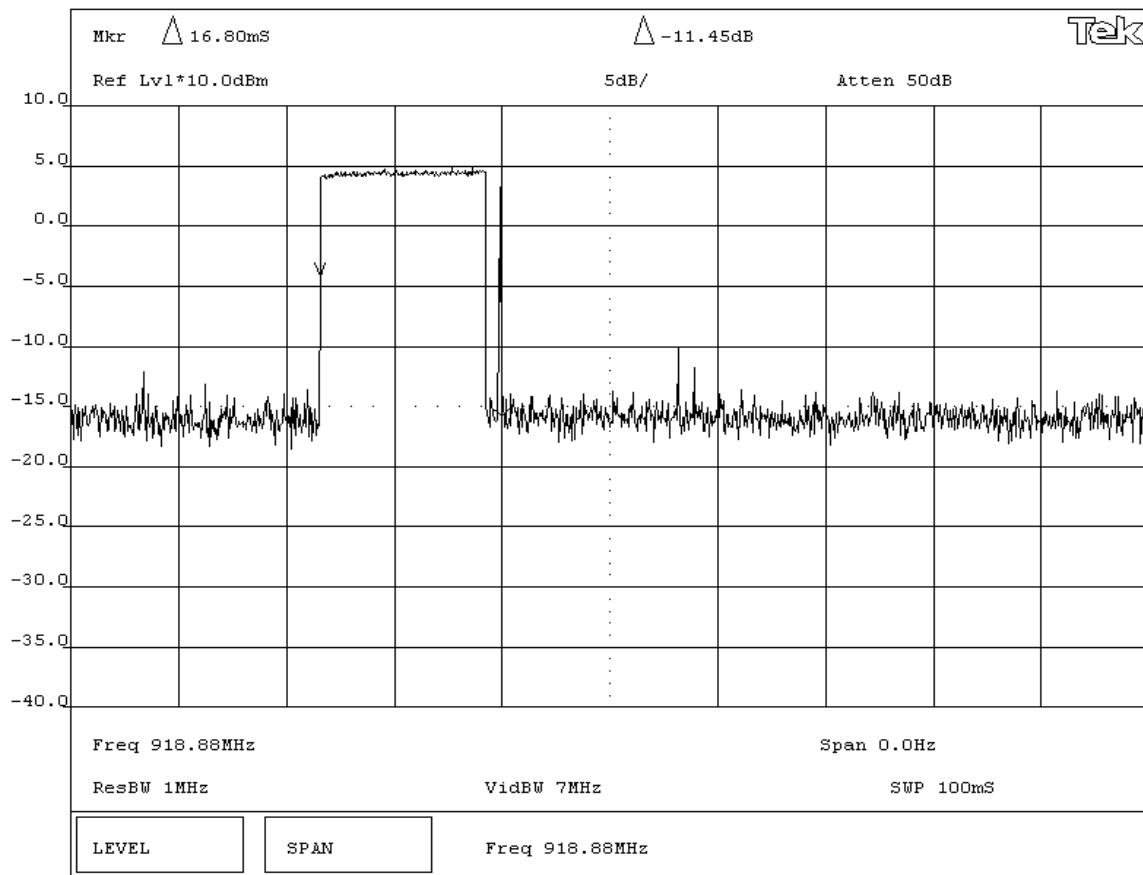
16.8mS

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Time of Occupancy (Dwell Time) - Single Transmission



KNOB 2

KNOB 1

KEYPAD

Tektronix

2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

....
BETA
01/30/0

EUT:	MRD6 / MRD8	Work Order:	WATT0014
Serial Number:	N/A	Date:	06/16/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.235(c)	Method:	DA 00-705, ANSI C63.4
	Year: 2003		Year: 1992

SAMPLE CALCULATIONS

Duty cycle correction factor (dB) = $20 \log_{10} (\text{worst case high time} / \text{any 100mS period})$

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The average value of radiated emissions can be reduced by a duty cycle correction factor for comparison to the limit. The duty cycle correction factor is calculated as shown above:

RESULTS

NUMBER OF TRANSMISSIONS DURING A 100mS PERIOD

Pass

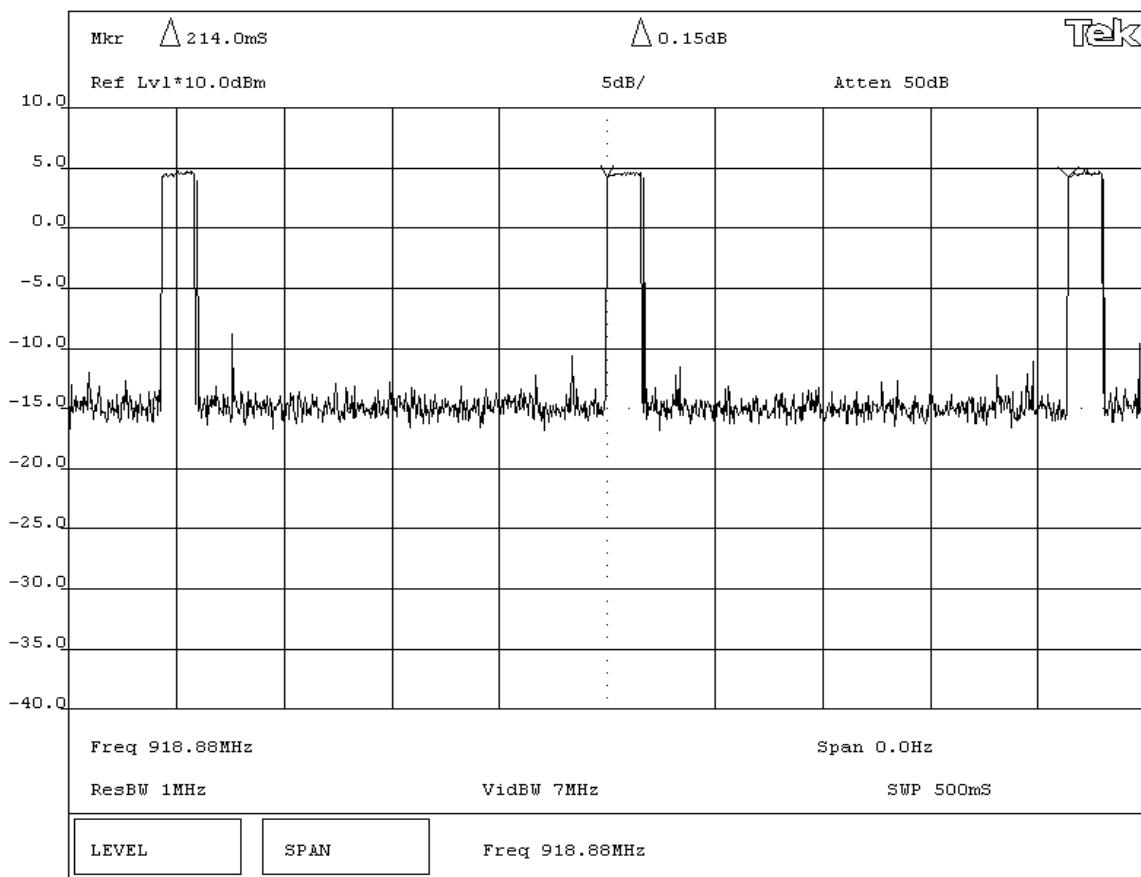
1

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Maximum high time during a 100mS period



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120 VAC, 60 Hz.

Frequency Range Investigated

Start Frequency	30 MHz	Stop Frequency	10 GHz
-----------------	--------	----------------	--------

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter
Control - 3 each	No	1.0	No	EUT	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	01/07/2003	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	01/07/2003	12 mo
Pre-Amplifier	Amplifier Research	LN1000A	APS	01/06/2003	12 mo
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APJ	01/06/2003	12 mo
Antenna, Biconilog	EMCO	3141	AXE	12/31/2001	36 mo
Antenna, Horn	EMCO	3115	AHC	08/12/2002	12 mo
High Pass Filter	Hewlett Packard	84300-80037	HFE	05/01/2003	12 mo

Test Description

Requirement: The field strength of any spurious emissions or modulation products that fall in a restricted band, as defined in 47 CFR 15.205, is measured. The peak level must comply with the limits specified in 47 CFR 15.35(b). The average level (taken with a 10Hz VBW) must comply with the limits specified in 15.209.

Configuration: The only type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. The EUT was transmitting at its maximum data rate in a no hop mode. For each configuration, the spectrum was scanned from 30 MHz to 10 GHz. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:1992). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity. Since the dwell time per channel of the hopping signal was less than 100 ms, the readings obtained with the 10 Hz VBW were further reduced by a "duty cycle correction factor" of 15.5 dB, derived from $20\log(\text{dwell time}/100\text{ms})$, where the EUT's maximum dwell time in any 100mS period was measured to be 16.8 mS.

Bandwidths Used for Measurements

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 – 0.15	1.0	0.2	0.2
0.15 – 30.0	10.0	9.0	9.0
30.0 – 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

Completed by:

Holly Antognoli

OATS DATA SHEET

EUT:	MRD6	Work Order:	WATT0010
Serial Number:		Date:	05/30/03
Customer:	The Watt Stopper Inc.	Temperature:	73
Attendees:		Humidity:	46%
Cust. Ref. No.:		Barometric Pressure:	30.01
Tested by:	Holly Ashkannejhad	Power:	120VAC, 60Hz
			Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

COMMENTS

EUT OPERATING MODES

Transmitting low, mid, high channel

DEVIATIONS FROM TEST STANDARD

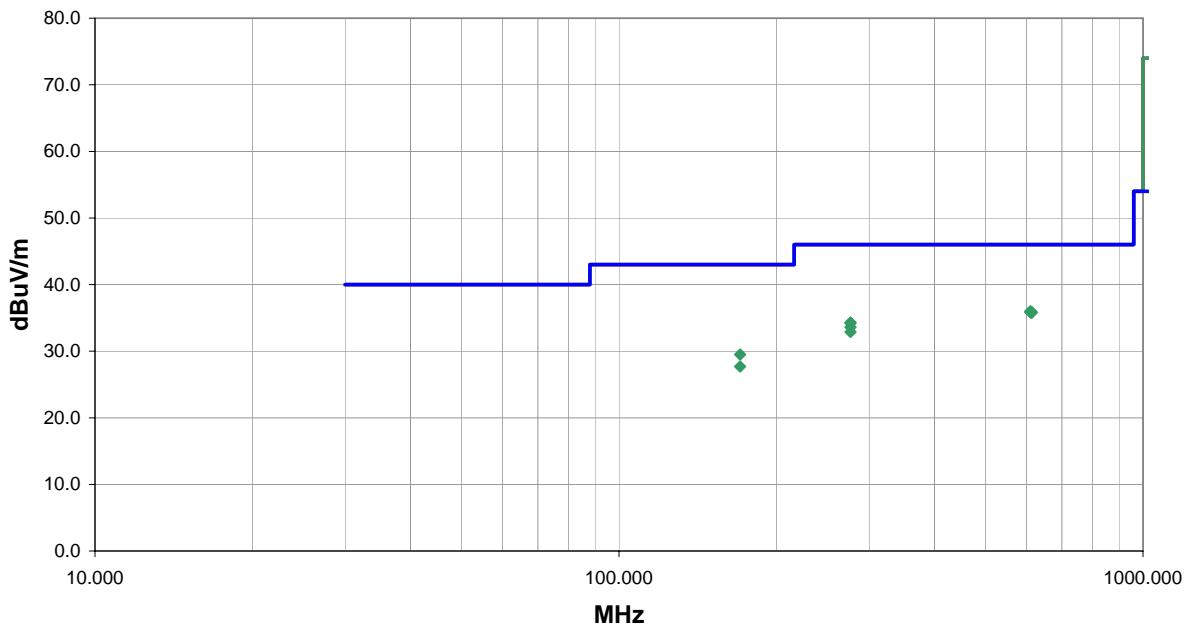
No deviations.

RESULTS	Run #
Pass	2

Other

Holly Ashkannejhad

Tested By:



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
609.440	23.1	-7.1	264.0	1.2	3.0	20.0	H-Bilog	QP	0.0	36.0	46.0	-10.0	Low channel
609.282	23.0	-7.1	243.0	1.7	3.0	20.0	V-Bilog	QP	0.0	35.9	46.0	-10.1	Low channel
612.742	22.9	-7.0	267.0	3.3	3.0	20.0	H-Bilog	QP	0.0	35.9	46.0	-10.1	High channel
611.913	22.9	-7.1	76.0	1.7	3.0	20.0	V-Bilog	QP	0.0	35.8	46.0	-10.2	Mid channel
612.365	22.9	-7.1	155.0	1.2	3.0	20.0	H-Bilog	QP	0.0	35.8	46.0	-10.2	Mid channel
613.652	22.8	-7.0	37.0	1.7	3.0	20.0	V-Bilog	QP	0.0	35.8	46.0	-10.2	High channel
276.509	29.1	-14.8	78.0	1.0	3.0	20.0	H-Bilog	QP	0.0	34.3	46.0	-11.7	Mid channel
276.511	29.0	-14.8	75.0	1.0	3.0	20.0	H-Bilog	QP	0.0	34.2	46.0	-11.8	Low channel
276.508	28.4	-14.8	337.0	1.3	3.0	20.0	V-Bilog	QP	0.0	33.6	46.0	-12.4	Low channel
276.510	27.7	-14.8	182.0	1.6	3.0	20.0	V-Bilog	QP	0.0	32.9	46.0	-13.1	Mid channel
170.233	27.6	-18.1	165.0	2.2	3.0	20.0	H-Bilog	QP	0.0	29.5	43.0	-13.5	High channel
170.233	25.8	-18.1	40.0	1.0	3.0	20.0	V-Bilog	QP	0.0	27.7	43.0	-15.3	High channel

OATS DATA SHEET

EUT:	MRD6	Work Order:	WATT0010
Serial Number:		Date:	05/30/03
Customer:	The Watt Stopper Inc.	Temperature:	73
Attendees:		Humidity:	46%
Cust. Ref. No.:		Barometric Pressure:	30.01
Tested by:	Holly Ashkannejhad	Power:	120VAC, 60Hz
			Job Site: EV01

TEST SPECIFICATIONS

Specification:	FCC Part 15.247(c)	Year:	2001
Method:	ANSI C63.4	Year:	1992

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

COMMENTS

EUT OPERATING MODES

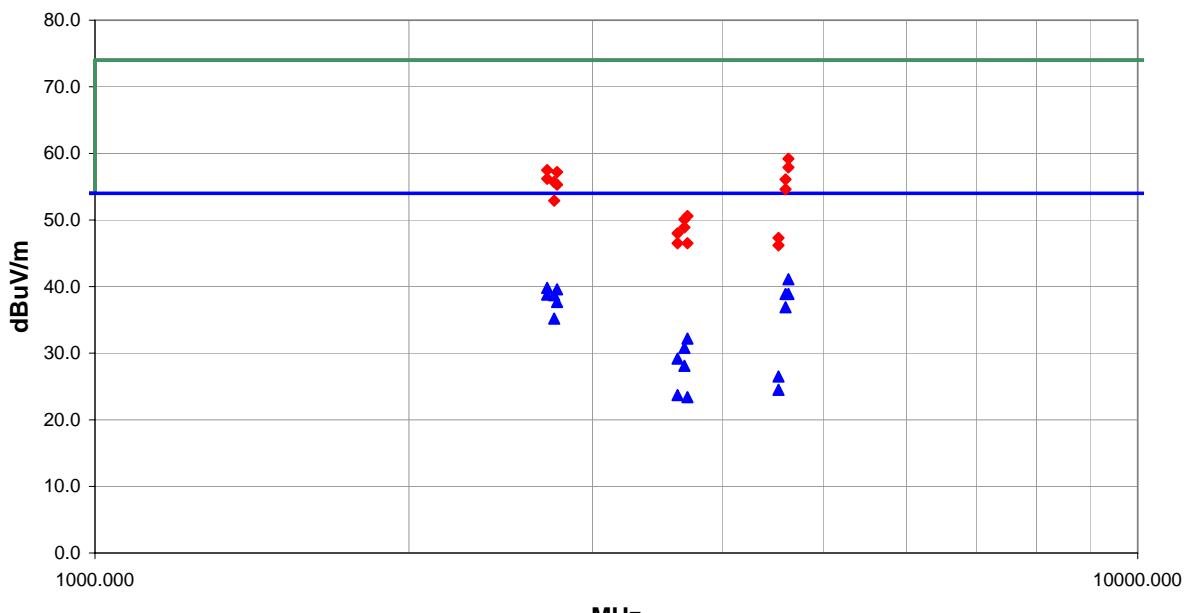
Transmitting low, mid, high channels

DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS	Run #
Pass	4

Other	<i>Holly Ashkannejhad</i>
Tested By:	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
4624.254	51.2	5.4	19.0	1.2	15.5	0.0	V-Horn	AV	0.0	41.1	54.0	-12.9	High channel
2714.526	53.5	1.8	308.0	1.2	15.5	0.0	V-Horn	AV	0.0	39.8	54.0	-14.2	Low channel
2774.701	53.2	1.9	328.0	2.1	15.5	0.0	H-Horn	AV	0.0	39.6	54.0	-14.4	High channel
4624.254	49.0	5.4	347.0	1.3	15.5	0.0	H-Horn	AV	0.0	38.9	54.0	-15.1	High channel
4594.506	49.1	5.3	19.0	1.2	15.5	0.0	V-Horn	AV	0.0	38.9	54.0	-15.1	Mid channel
2714.526	52.5	1.8	356.0	2.2	15.5	0.0	H-Horn	AV	0.0	38.8	54.0	-15.2	Low channel
2756.704	52.3	1.9	327.0	2.1	15.5	0.0	H-Horn	AV	0.0	38.7	54.0	-15.3	Mid channel
2774.701	51.3	1.9	17.0	1.2	15.5	0.0	V-Horn	AV	0.0	37.7	54.0	-16.3	High channel
4594.506	47.1	5.3	346.0	1.2	15.5	0.0	H-Horn	AV	0.0	36.9	54.0	-17.1	Mid channel
2756.704	48.8	1.9	70.0	1.2	15.5	0.0	V-Horn	AV	0.0	35.2	54.0	-18.8	Mid channel
3699.419	43.8	3.9	68.0	1.1	15.5	0.0	H-Horn	AV	0.0	32.2	54.0	-21.8	High channel
3675.396	42.5	3.8	54.0	1.3	15.5	0.0	V-Horn	AV	0.0	30.8	54.0	-23.2	Mid channel
3619.352	41.1	3.6	30.0	1.1	15.5	0.0	V-Horn	AV	0.0	29.2	54.0	-24.8	Low channel
3675.396	39.8	3.8	44.0	2.7	15.5	0.0	H-Horn	AV	0.0	28.1	54.0	-25.9	Mid channel
4524.460	36.9	5.1	23.0	1.2	15.5	0.0	V-Horn	AV	0.0	26.5	54.0	-27.5	Low channel
4524.460	34.9	5.1	353.0	1.3	15.5	0.0	H-Horn	AV	0.0	24.5	54.0	-29.5	Low channel
3619.352	35.6	3.6	322.0	2.2	15.5	0.0	H-Horn	AV	0.0	23.7	54.0	-30.3	Low channel
3699.419	35.0	3.9	245.0	1.2	15.5	0.0	V-Horn	AV	0.0	23.4	54.0	-30.6	High channel
4624.254	53.8	5.4	19.0	1.2	0.0	0.0	V-Horn	PK	0.0	59.2	74.0	-14.8	High channel
4624.254	52.5	5.4	347.0	1.3	0.0	0.0	H-Horn	PK	0.0	57.9	74.0	-16.1	High channel

NORTHWEST
EMC

EMISSIONS DATA SHEET

Rev BETA
01/30/01

EUT:	MRD6 / MRD8	Work Order:	WATT0010
Serial Number:	N/A	Date:	06/16/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.235(c)	Method:	DA 00-705, ANSI C63.4
	Year: 2003		Year: 1992

SAMPLE CALCULATIONS

Duty cycle correction factor (dB) = $20 \log_{10} (\text{worst case high time} / \text{any 100mS period})$

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The average value of radiated emissions can be reduced by a duty cycle correction factor for comparison to the limit. The duty cycle correction factor is calculated as shown above:

RESULTS

Pass

DWELL TIME DURING A SINGLE TRANSMISSION

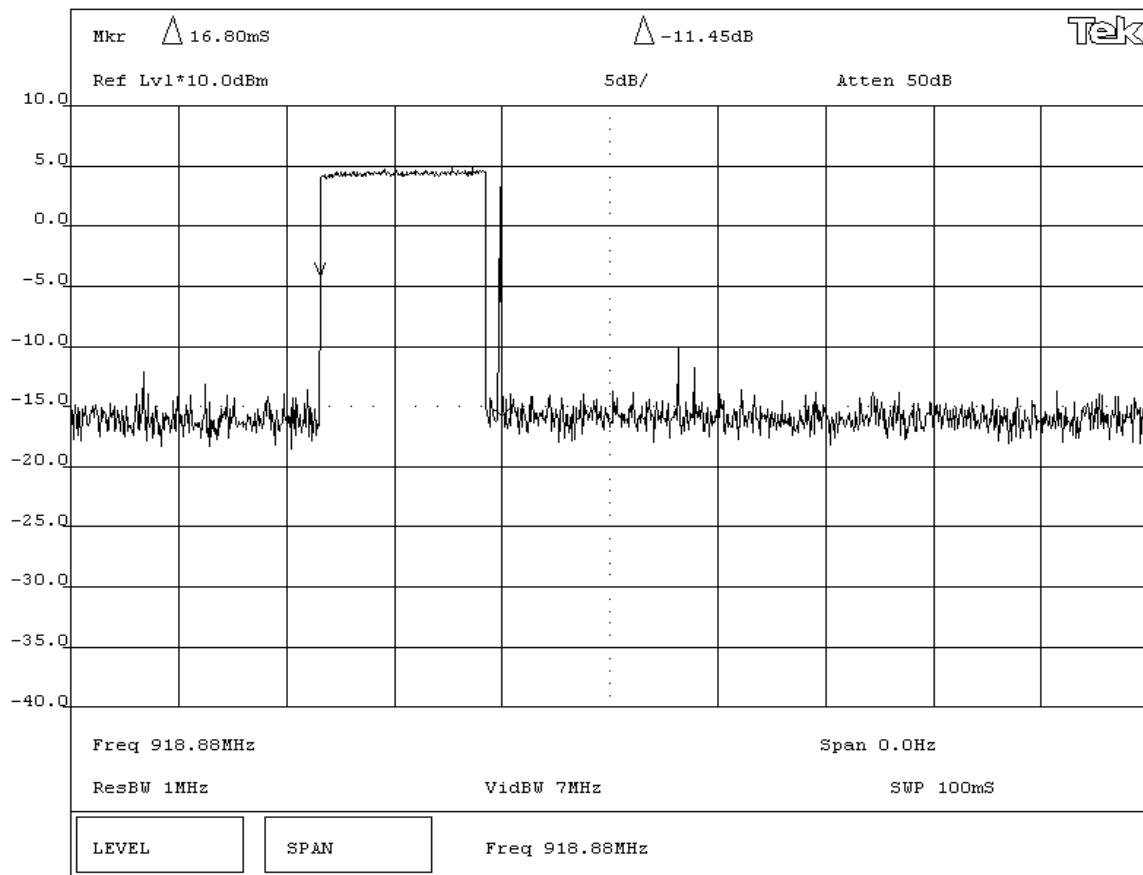
16.8mS

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Time of Occupancy (Dwell Time) - Single Transmission



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

NORTHWEST
EMC

EMISSIONS DATA SHEET

....
BETA
01/30/0

EUT:	MRD6 / MRD8	Work Order:	WATT0010
Serial Number:	N/A	Date:	06/16/03
Customer:	The Watt Stopper, Inc.	Temperature:	25 °C
Attendees:	None	Humidity:	34%
Customer Ref. No.:	N/A	Bar. Pressure:	30.15
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
Specification:	47 CFR 15.235(c)	Method:	DA 00-705, ANSI C63.4
	Year: 2003		Year: 1992

SAMPLE CALCULATIONS

Duty cycle correction factor (dB) = $20 \log_{10}(\text{worst case high time} / \text{any 100mS period})$

COMMENTS

EUT OPERATING MODES

Modulated by PRBS at maximum data rate. Hopping carrier.

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The average value of radiated emissions can be reduced by a duty cycle correction factor for comparison to the limit. The duty cycle correction factor is calculated as shown above:

RESULTS

NUMBER OF TRANSMISSIONS DURING A 100mS PERIOD

Pass

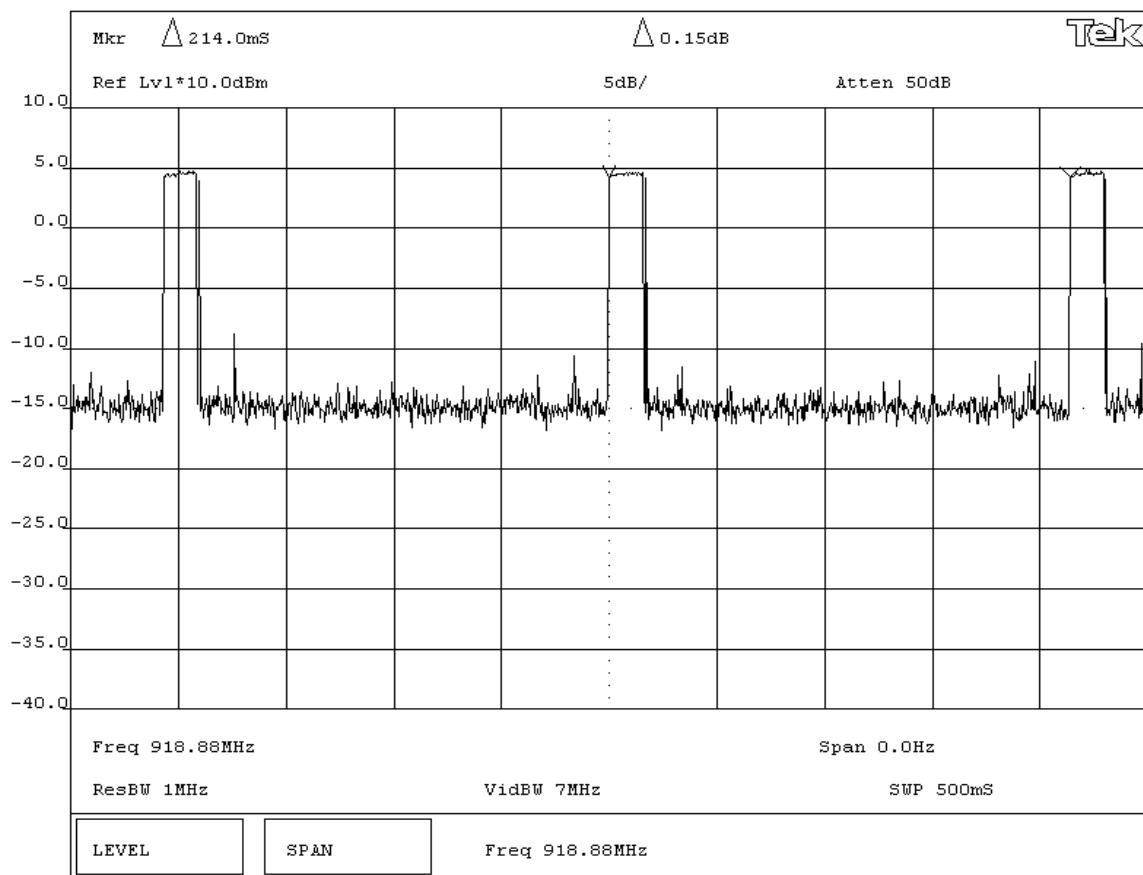
1

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Maximum high time during a 100mS period



KNOB 2

KNOB 1

KEYPAD

Tektronix 2784

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

120VAC, 60Hz

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits low, mid, and high channels			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD8	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter
Control - 3 each	No	1.0	No	EUT	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
High Pass Filter	TTE	H97-100k-50-720B	HFC	01/02/2003	12 mo
LISN	Solar	9252-50-R-24-BNC	LIN	12/12/2002	12 mo
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	01/07/2003	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	01/07/2003	12 mo

Test Description

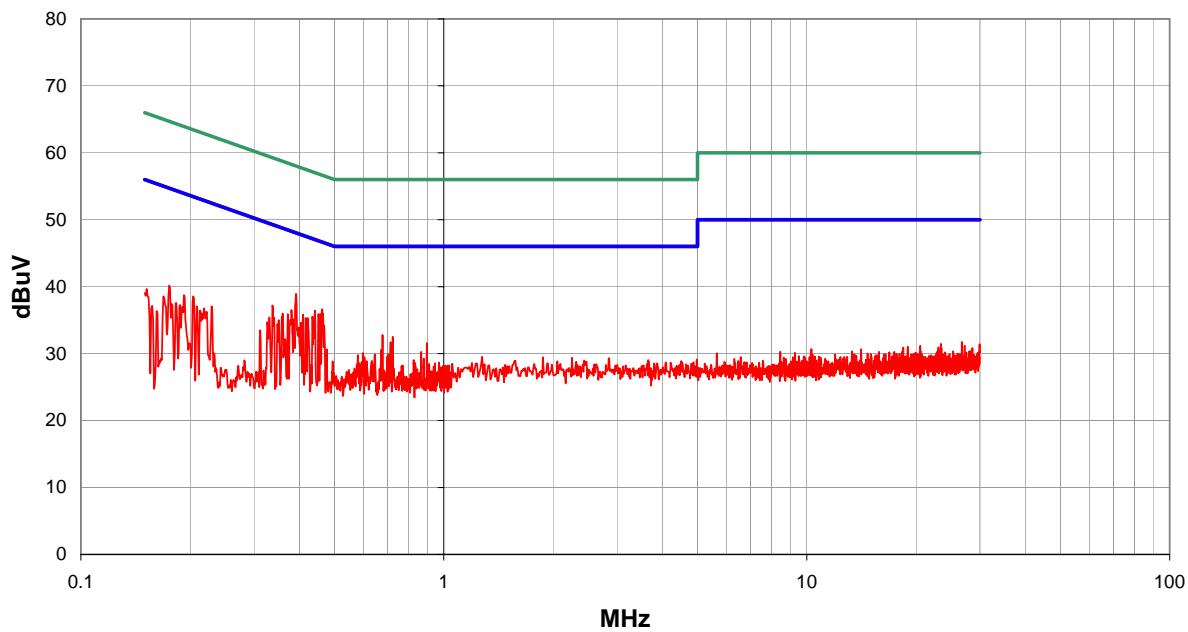
Requirement: Per 47 15.207(d), if the EUT is connected to the AC power line indirectly, obtaining its power from another device that is connected to the AC power line, then it should be tested to demonstrate compliance with the conducted limits of 15.207.

Configuration: The EUT will be powered from a host device that is connected to the AC power line. Therefore, the measurements were made using a wall-bug transformer to power the EUT. The transformer contained no EMC suppression devices. The AC power line conducted emissions were measured with the EUT operating at the lowest, the highest, and a middle channel in the operational band. The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.4-1992.

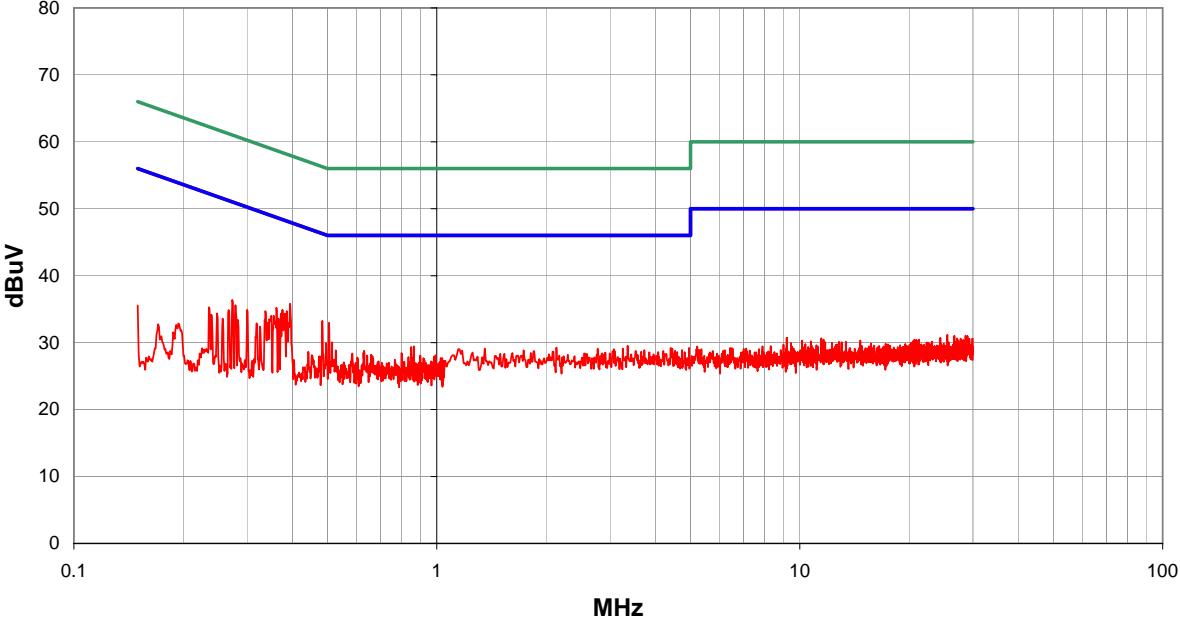
Completed by:

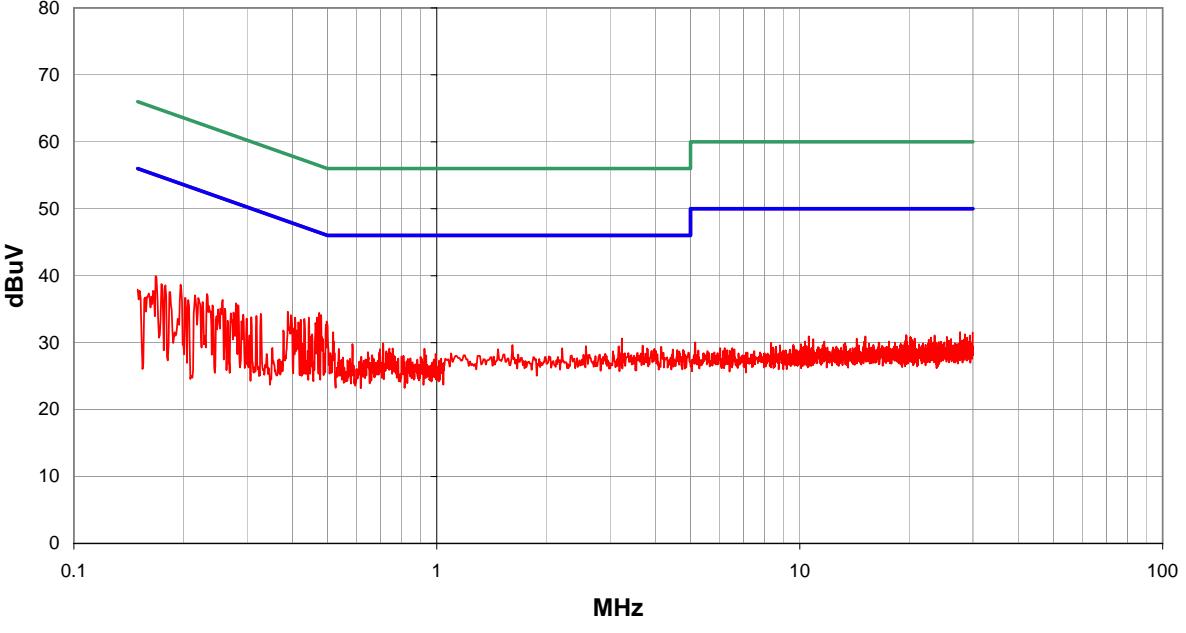


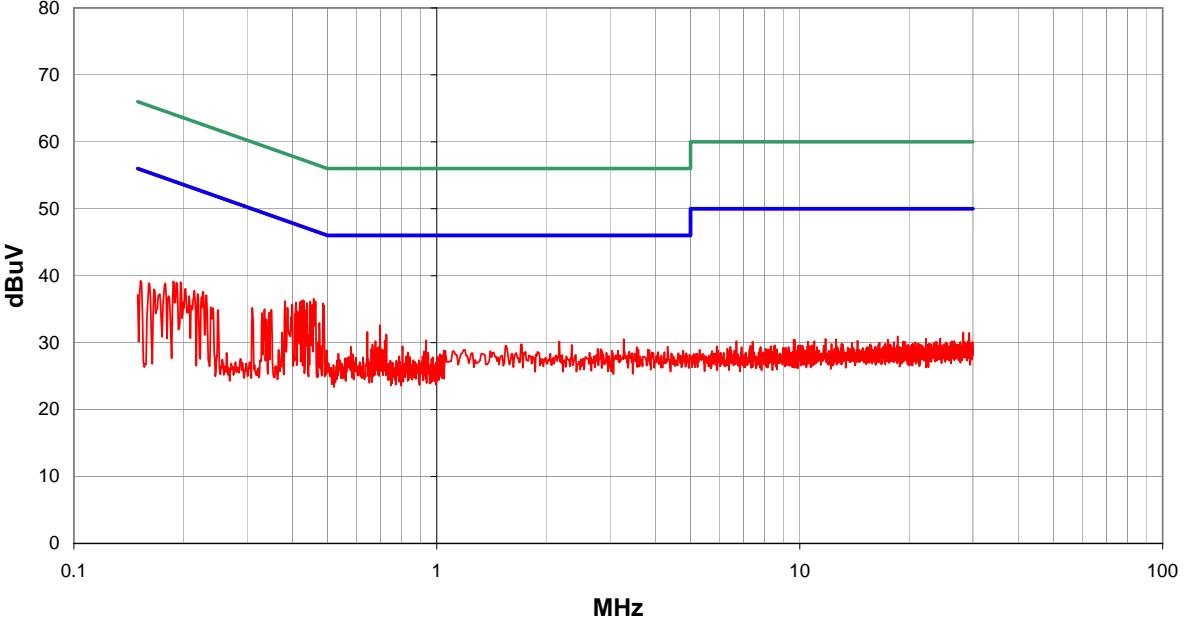
NORTHWEST EMC		CONDUCTED EMISSIONS DATA SHEET		REV df3.10 03/10/2003
EUT: MRD8		Work Order: WATT0014		
Serial Number:		Date: 06/02/03		
Customer: The Watt Stopper Inc.		Temperature: 73		
Attendees:		Humidity: 47%		
Cust. Ref. No.:		Barometric Pressure: 29.96		
Tested by: Holly Ashkannejhad		Job Site: EV01		
TEST SPECIFICATIONS				
Specification: FCC Part 15.207		Year: 2003		
Method: ANSI C63.4		Year: 1992		
SAMPLE CALCULATIONS				
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation				
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator				
COMMENTS				
EUT OPERATING MODES				
Transmitting low channel				
DEVIATIONS FROM TEST STANDARD				
No deviations.				
RESULTS				
Pass		Line	Run #	
Other		<i>Holly Ashkannejhad</i>		Tested By:

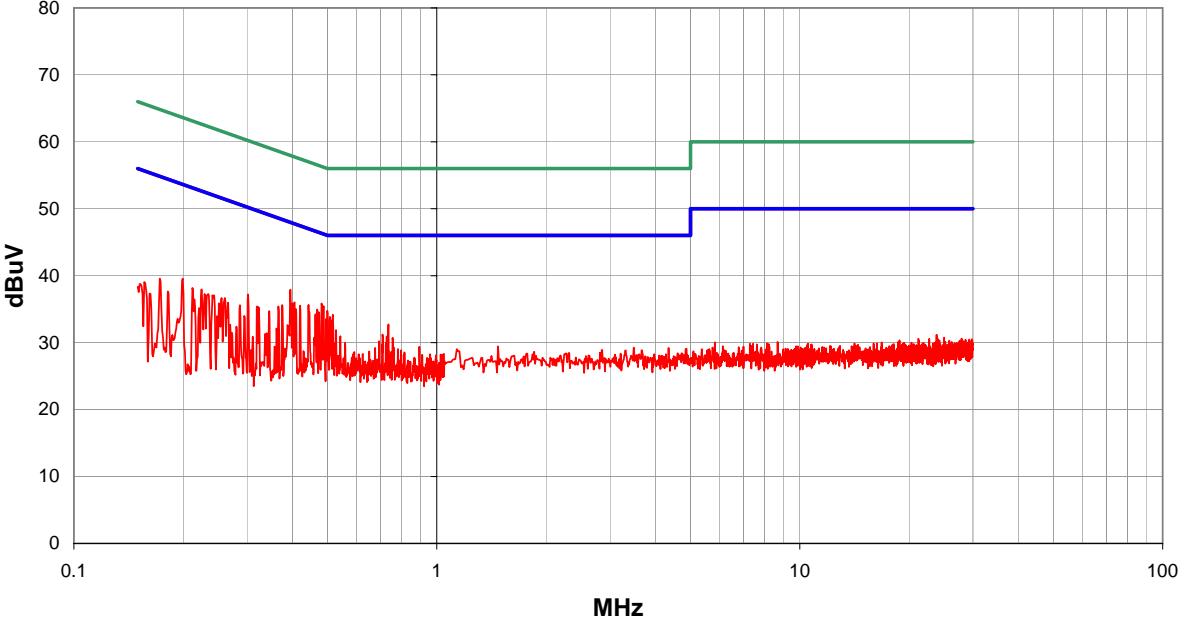


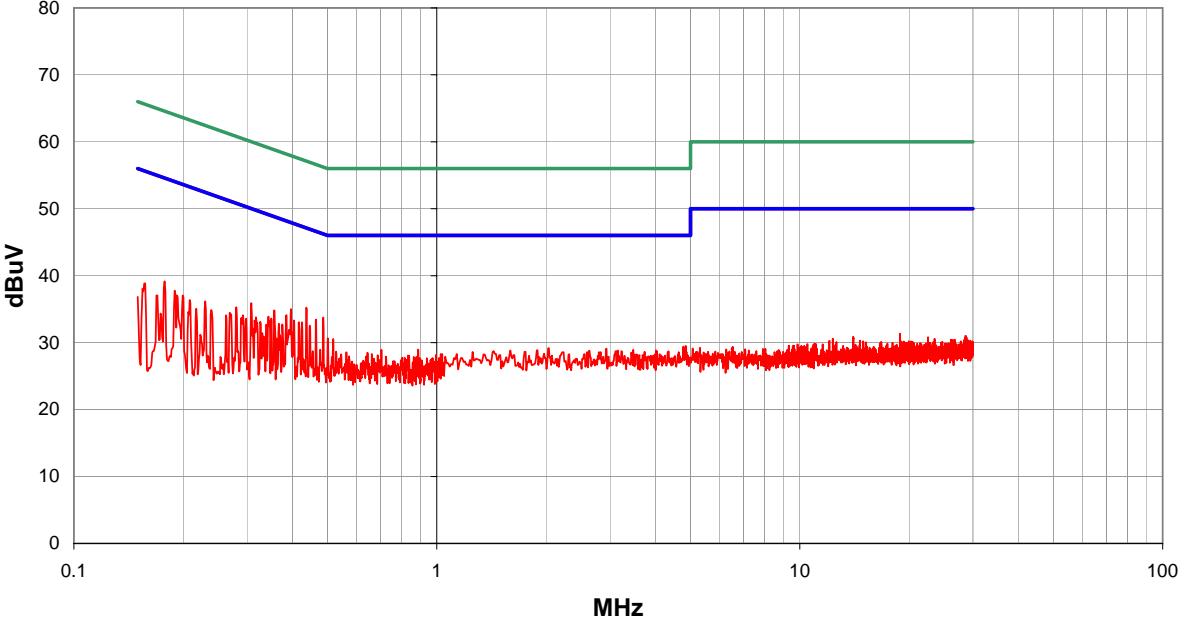
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [Pm] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.392	18.7			0.0	0.2	20.0				38.9	48.0	-9.1
0.462	16.4			0.0	0.2	20.0				36.6	46.7	-10.0
0.442	16.2			0.0	0.2	20.0				36.4	47.0	-10.6
0.457	15.7			0.0	0.2	20.0				35.9	46.7	-10.8
0.452	15.7			0.0	0.2	20.0				35.9	46.8	-10.9
0.434	15.3			0.0	0.2	20.0				35.5	47.2	-11.6
0.380	16.3			0.0	0.2	20.0				36.5	48.3	-11.8
0.409	15.6			0.0	0.2	20.0				35.8	47.7	-11.8
0.337	17.0			0.0	0.2	20.0				37.2	49.3	-12.1
0.422	15.1			0.0	0.2	20.0				35.3	47.4	-12.1
0.416	15.1			0.0	0.2	20.0				35.3	47.5	-12.2
0.468	14.0			0.0	0.2	20.0				34.2	46.6	-12.3
0.371	15.7			0.0	0.2	20.0				35.9	48.5	-12.6
0.360	15.8			0.0	0.2	20.0				36.0	48.7	-12.7
0.386	14.9			0.0	0.2	20.0				35.1	48.2	-13.0
0.404	14.4			0.0	0.2	20.0				34.6	47.8	-13.2
0.677	12.5			0.0	0.3	20.0				32.8	46.0	-13.2
0.723	12.2			0.0	0.3	20.0				32.5	46.0	-13.5
0.351	14.8			0.0	0.2	20.0				35.0	48.9	-13.9
0.331	15.2			0.0	0.2	20.0				35.4	49.4	-14.0

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003																																																																																																																																																																																																																																																																																
EUT: MRD8 Serial Number: Customer: The Watt Stopper Inc. Attendees: Cust. Ref. No.: Tested by: Holly Ashkannejhad					Work Order: WATT0014 Date: 06/02/03 Temperature: 73 Humidity: 47% Barometric Pressure: 29.96 Job Site: EV01																																																																																																																																																																																																																																																																																						
TEST SPECIFICATIONS																																																																																																																																																																																																																																																																																											
Specification: FCC Part 15.207 Method: ANSI C63.4					Year: 2003 Year: 1992																																																																																																																																																																																																																																																																																						
SAMPLE CALCULATIONS																																																																																																																																																																																																																																																																																											
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator																																																																																																																																																																																																																																																																																											
COMMENTS																																																																																																																																																																																																																																																																																											
EUT OPERATING MODES Transmitting low channel																																																																																																																																																																																																																																																																																											
DEVIATIONS FROM TEST STANDARD																																																																																																																																																																																																																																																																																											
No deviations.																																																																																																																																																																																																																																																																																											
RESULTS					Line	Run #																																																																																																																																																																																																																																																																																					
Pass					N	2																																																																																																																																																																																																																																																																																					
Other					 Tested By:																																																																																																																																																																																																																																																																																						
																																																																																																																																																																																																																																																																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Freq (MHz)</th> <th style="width: 10%;">Amplitude (dBuV)</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;">Transducer (dB)</th> <th style="width: 10%;">Cable (dB)</th> <th style="width: 10%;">External Attenuation (dB)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Detector (blank equal peaks [PK] from scan)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Adjusted dBuV</th> <th style="width: 10%;">Spec. Limit dBuV</th> <th style="width: 10%;">Compared to Spec. (dB)</th> </tr> </thead> <tbody> <tr> <td>0.394</td> <td>15.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.8</td> <td>48.0</td> <td>-12.2</td> </tr> <tr> <td>0.484</td> <td>13.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.2</td> <td>46.3</td> <td>-13.0</td> </tr> <tr> <td>0.505</td> <td>12.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.9</td> <td>46.0</td> <td>-13.1</td> </tr> <tr> <td>0.386</td> <td>14.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.7</td> <td>48.2</td> <td>-13.4</td> </tr> <tr> <td>0.376</td> <td>14.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.9</td> <td>48.4</td> <td>-13.5</td> </tr> <tr> <td>0.362</td> <td>15.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.2</td> <td>48.7</td> <td>-13.5</td> </tr> <tr> <td>0.381</td> <td>14.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.3</td> <td>48.3</td> <td>-13.9</td> </tr> <tr> <td>0.371</td> <td>14.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.3</td> <td>48.5</td> <td>-14.2</td> </tr> <tr> <td>0.337</td> <td>14.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.7</td> <td>49.3</td> <td>-14.6</td> </tr> <tr> <td>0.273</td> <td>16.2</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.4</td> <td>51.0</td> <td>-14.6</td> </tr> <tr> <td>0.350</td> <td>13.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.0</td> <td>49.0</td> <td>-15.0</td> </tr> <tr> <td>0.366</td> <td>13.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.6</td> <td>48.6</td> <td>-15.0</td> </tr> <tr> <td>0.279</td> <td>15.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.6</td> <td>50.9</td> <td>-15.3</td> </tr> <tr> <td>0.300</td> <td>14.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.9</td> <td>50.2</td> <td>-15.3</td> </tr> <tr> <td>0.514</td> <td>9.8</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>30.1</td> <td>46.0</td> <td>-15.9</td> </tr> <tr> <td>0.496</td> <td>9.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>29.9</td> <td>46.1</td> <td>-16.1</td> </tr> <tr> <td>0.342</td> <td>12.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.0</td> <td>49.2</td> <td>-16.2</td> </tr> <tr> <td>0.267</td> <td>14.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.9</td> <td>51.2</td> <td>-16.3</td> </tr> <tr> <td>3.356</td> <td>9.0</td> <td></td> <td></td> <td>0.0</td> <td>0.5</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>29.5</td> <td>46.0</td> <td>-16.5</td> </tr> <tr> <td>0.865</td> <td>9.1</td> <td></td> <td></td> <td>0.0</td> <td>0.4</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>29.5</td> <td>46.0</td> <td>-16.5</td> </tr> </tbody> </table>											Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)	0.394	15.6			0.0	0.2	20.0				35.8	48.0	-12.2	0.484	13.0			0.0	0.2	20.0				33.2	46.3	-13.0	0.505	12.7			0.0	0.2	20.0				32.9	46.0	-13.1	0.386	14.5			0.0	0.2	20.0				34.7	48.2	-13.4	0.376	14.7			0.0	0.2	20.0				34.9	48.4	-13.5	0.362	15.0			0.0	0.2	20.0				35.2	48.7	-13.5	0.381	14.1			0.0	0.2	20.0				34.3	48.3	-13.9	0.371	14.1			0.0	0.2	20.0				34.3	48.5	-14.2	0.337	14.5			0.0	0.2	20.0				34.7	49.3	-14.6	0.273	16.2			0.0	0.2	20.0				36.4	51.0	-14.6	0.350	13.8			0.0	0.2	20.0				34.0	49.0	-15.0	0.366	13.4			0.0	0.2	20.0				33.6	48.6	-15.0	0.279	15.4			0.0	0.2	20.0				35.6	50.9	-15.3	0.300	14.7			0.0	0.2	20.0				34.9	50.2	-15.3	0.514	9.8			0.0	0.3	20.0				30.1	46.0	-15.9	0.496	9.7			0.0	0.2	20.0				29.9	46.1	-16.1	0.342	12.8			0.0	0.2	20.0				33.0	49.2	-16.2	0.267	14.7			0.0	0.2	20.0				34.9	51.2	-16.3	3.356	9.0			0.0	0.5	20.0				29.5	46.0	-16.5	0.865	9.1			0.0	0.4	20.0				29.5	46.0	-16.5
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)																																																																																																																																																																																																																																																																															
0.394	15.6			0.0	0.2	20.0				35.8	48.0	-12.2																																																																																																																																																																																																																																																																															
0.484	13.0			0.0	0.2	20.0				33.2	46.3	-13.0																																																																																																																																																																																																																																																																															
0.505	12.7			0.0	0.2	20.0				32.9	46.0	-13.1																																																																																																																																																																																																																																																																															
0.386	14.5			0.0	0.2	20.0				34.7	48.2	-13.4																																																																																																																																																																																																																																																																															
0.376	14.7			0.0	0.2	20.0				34.9	48.4	-13.5																																																																																																																																																																																																																																																																															
0.362	15.0			0.0	0.2	20.0				35.2	48.7	-13.5																																																																																																																																																																																																																																																																															
0.381	14.1			0.0	0.2	20.0				34.3	48.3	-13.9																																																																																																																																																																																																																																																																															
0.371	14.1			0.0	0.2	20.0				34.3	48.5	-14.2																																																																																																																																																																																																																																																																															
0.337	14.5			0.0	0.2	20.0				34.7	49.3	-14.6																																																																																																																																																																																																																																																																															
0.273	16.2			0.0	0.2	20.0				36.4	51.0	-14.6																																																																																																																																																																																																																																																																															
0.350	13.8			0.0	0.2	20.0				34.0	49.0	-15.0																																																																																																																																																																																																																																																																															
0.366	13.4			0.0	0.2	20.0				33.6	48.6	-15.0																																																																																																																																																																																																																																																																															
0.279	15.4			0.0	0.2	20.0				35.6	50.9	-15.3																																																																																																																																																																																																																																																																															
0.300	14.7			0.0	0.2	20.0				34.9	50.2	-15.3																																																																																																																																																																																																																																																																															
0.514	9.8			0.0	0.3	20.0				30.1	46.0	-15.9																																																																																																																																																																																																																																																																															
0.496	9.7			0.0	0.2	20.0				29.9	46.1	-16.1																																																																																																																																																																																																																																																																															
0.342	12.8			0.0	0.2	20.0				33.0	49.2	-16.2																																																																																																																																																																																																																																																																															
0.267	14.7			0.0	0.2	20.0				34.9	51.2	-16.3																																																																																																																																																																																																																																																																															
3.356	9.0			0.0	0.5	20.0				29.5	46.0	-16.5																																																																																																																																																																																																																																																																															
0.865	9.1			0.0	0.4	20.0				29.5	46.0	-16.5																																																																																																																																																																																																																																																																															

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003	
EUT: MRD8 Serial Number: Customer: The Watt Stopper Inc. Attendees: Cust. Ref. No.: Tested by: Holly Ashkannejhad					Work Order: WATT0014 Date: 06/02/03 Temperature: 73 Humidity: 47% Barometric Pressure 29.96 Job Site: EV01							
TEST SPECIFICATIONS												
Specification: FCC Part 15.207 Method: ANSI C63.4					Year: 2003 Year: 1992							
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
EUT OPERATING MODES Transmitting mid channel												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS					Line	Run #						
Pass					N	3						
Other					 Tested By:							
												
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.474	14.2			0.0	0.2	20.0				34.4	46.4	-12.0
0.479	13.9			0.0	0.2	20.0				34.1	46.3	-12.2
0.468	13.5			0.0	0.2	20.0				33.7	46.6	-12.8
0.497	12.9			0.0	0.2	20.0				33.1	46.0	-12.9
0.444	13.5			0.0	0.2	20.0				33.7	47.0	-13.2
0.495	12.4			0.0	0.2	20.0				32.6	46.1	-13.4
0.389	14.4			0.0	0.2	20.0				34.6	48.1	-13.5
0.432	13.3			0.0	0.2	20.0				33.5	47.2	-13.7
0.463	12.7			0.0	0.2	20.0				32.9	46.6	-13.7
0.397	13.9			0.0	0.2	20.0				34.1	47.9	-13.8
0.422	13.2			0.0	0.2	20.0				33.4	47.4	-14.0
0.407	13.5			0.0	0.2	20.0				33.7	47.7	-14.0
0.518	11.3			0.0	0.3	20.0				31.6	46.0	-14.4
0.416	12.8			0.0	0.2	20.0				33.0	47.5	-14.5
0.280	15.7			0.0	0.2	20.0				35.9	50.8	-14.9
0.233	17.1			0.0	0.2	20.0				37.3	52.3	-15.1
0.197	18.5			0.0	0.2	20.0				38.7	53.7	-15.1
0.168	19.8			0.0	0.1	20.0				39.9	55.1	-15.1
0.283	15.4			0.0	0.2	20.0				35.6	50.7	-15.1
0.257	16.2			0.0	0.2	20.0				36.4	51.5	-15.1

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003																																																																																																																																																																																																																																																																																
EUT: MRD8 Serial Number: Customer: The Watt Stopper Inc. Attendees: Cust. Ref. No.: Tested by: Holly Ashkannejhad					Work Order: WATT0014 Date: 06/02/03 Temperature: 73 Humidity: 47% Barometric Pressure 29.96 Job Site: EV01																																																																																																																																																																																																																																																																																						
TEST SPECIFICATIONS																																																																																																																																																																																																																																																																																											
Specification: FCC Part 15.207 Method: ANSI C63.4					Year: 2003 Year: 1992																																																																																																																																																																																																																																																																																						
SAMPLE CALCULATIONS																																																																																																																																																																																																																																																																																											
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator																																																																																																																																																																																																																																																																																											
COMMENTS																																																																																																																																																																																																																																																																																											
EUT OPERATING MODES Transmitting mid channel																																																																																																																																																																																																																																																																																											
DEVIATIONS FROM TEST STANDARD																																																																																																																																																																																																																																																																																											
No deviations.																																																																																																																																																																																																																																																																																											
RESULTS					Line	Run #																																																																																																																																																																																																																																																																																					
Pass					L1	4																																																																																																																																																																																																																																																																																					
Other					 Tested By:																																																																																																																																																																																																																																																																																						
																																																																																																																																																																																																																																																																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Freq (MHz)</th> <th style="width: 10%;">Amplitude (dBuV)</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;">Transducer (dB)</th> <th style="width: 10%;">Cable (dB)</th> <th style="width: 10%;">External Attenuation (dB)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Detector (blank equal peaks [PK] from scan)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Adjusted dBuV</th> <th style="width: 10%;">Spec. Limit dBuV</th> <th style="width: 10%;">Compared to Spec. (dB)</th> </tr> </thead> <tbody> <tr> <td>0.458</td> <td>16.3</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.5</td> <td>46.7</td> <td>-10.2</td> </tr> <tr> <td>0.486</td> <td>15.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.8</td> <td>46.2</td> <td>-10.4</td> </tr> <tr> <td>0.463</td> <td>15.9</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.1</td> <td>46.6</td> <td>-10.5</td> </tr> <tr> <td>0.448</td> <td>15.9</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.1</td> <td>46.9</td> <td>-10.8</td> </tr> <tr> <td>0.429</td> <td>16.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.3</td> <td>47.3</td> <td>-10.9</td> </tr> <tr> <td>0.424</td> <td>16.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.2</td> <td>47.4</td> <td>-11.2</td> </tr> <tr> <td>0.439</td> <td>15.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.9</td> <td>47.1</td> <td>-11.2</td> </tr> <tr> <td>0.454</td> <td>15.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.6</td> <td>46.8</td> <td>-11.2</td> </tr> <tr> <td>0.419</td> <td>15.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.0</td> <td>47.5</td> <td>-11.4</td> </tr> <tr> <td>0.409</td> <td>15.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.0</td> <td>47.7</td> <td>-11.6</td> </tr> <tr> <td>0.381</td> <td>16.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.2</td> <td>48.3</td> <td>-12.0</td> </tr> <tr> <td>0.399</td> <td>15.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.7</td> <td>47.9</td> <td>-12.1</td> </tr> <tr> <td>0.435</td> <td>14.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.8</td> <td>47.2</td> <td>-12.3</td> </tr> <tr> <td>0.388</td> <td>15.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.2</td> <td>48.1</td> <td>-12.9</td> </tr> <tr> <td>0.414</td> <td>14.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.6</td> <td>47.6</td> <td>-13.0</td> </tr> <tr> <td>0.416</td> <td>14.2</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.4</td> <td>47.5</td> <td>-13.1</td> </tr> <tr> <td>0.697</td> <td>12.3</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.6</td> <td>46.0</td> <td>-13.4</td> </tr> <tr> <td>0.475</td> <td>12.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.9</td> <td>46.4</td> <td>-13.5</td> </tr> <tr> <td>0.350</td> <td>14.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.9</td> <td>49.0</td> <td>-14.1</td> </tr> <tr> <td>0.397</td> <td>13.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.8</td> <td>47.9</td> <td>-14.1</td> </tr> </tbody> </table>											Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)	0.458	16.3			0.0	0.2	20.0				36.5	46.7	-10.2	0.486	15.6			0.0	0.2	20.0				35.8	46.2	-10.4	0.463	15.9			0.0	0.2	20.0				36.1	46.6	-10.5	0.448	15.9			0.0	0.2	20.0				36.1	46.9	-10.8	0.429	16.1			0.0	0.2	20.0				36.3	47.3	-10.9	0.424	16.0			0.0	0.2	20.0				36.2	47.4	-11.2	0.439	15.7			0.0	0.2	20.0				35.9	47.1	-11.2	0.454	15.4			0.0	0.2	20.0				35.6	46.8	-11.2	0.419	15.8			0.0	0.2	20.0				36.0	47.5	-11.4	0.409	15.8			0.0	0.2	20.0				36.0	47.7	-11.6	0.381	16.0			0.0	0.2	20.0				36.2	48.3	-12.0	0.399	15.5			0.0	0.2	20.0				35.7	47.9	-12.1	0.435	14.6			0.0	0.2	20.0				34.8	47.2	-12.3	0.388	15.0			0.0	0.2	20.0				35.2	48.1	-12.9	0.414	14.4			0.0	0.2	20.0				34.6	47.6	-13.0	0.416	14.2			0.0	0.2	20.0				34.4	47.5	-13.1	0.697	12.3			0.0	0.3	20.0				32.6	46.0	-13.4	0.475	12.7			0.0	0.2	20.0				32.9	46.4	-13.5	0.350	14.7			0.0	0.2	20.0				34.9	49.0	-14.1	0.397	13.6			0.0	0.2	20.0				33.8	47.9	-14.1
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)																																																																																																																																																																																																																																																																															
0.458	16.3			0.0	0.2	20.0				36.5	46.7	-10.2																																																																																																																																																																																																																																																																															
0.486	15.6			0.0	0.2	20.0				35.8	46.2	-10.4																																																																																																																																																																																																																																																																															
0.463	15.9			0.0	0.2	20.0				36.1	46.6	-10.5																																																																																																																																																																																																																																																																															
0.448	15.9			0.0	0.2	20.0				36.1	46.9	-10.8																																																																																																																																																																																																																																																																															
0.429	16.1			0.0	0.2	20.0				36.3	47.3	-10.9																																																																																																																																																																																																																																																																															
0.424	16.0			0.0	0.2	20.0				36.2	47.4	-11.2																																																																																																																																																																																																																																																																															
0.439	15.7			0.0	0.2	20.0				35.9	47.1	-11.2																																																																																																																																																																																																																																																																															
0.454	15.4			0.0	0.2	20.0				35.6	46.8	-11.2																																																																																																																																																																																																																																																																															
0.419	15.8			0.0	0.2	20.0				36.0	47.5	-11.4																																																																																																																																																																																																																																																																															
0.409	15.8			0.0	0.2	20.0				36.0	47.7	-11.6																																																																																																																																																																																																																																																																															
0.381	16.0			0.0	0.2	20.0				36.2	48.3	-12.0																																																																																																																																																																																																																																																																															
0.399	15.5			0.0	0.2	20.0				35.7	47.9	-12.1																																																																																																																																																																																																																																																																															
0.435	14.6			0.0	0.2	20.0				34.8	47.2	-12.3																																																																																																																																																																																																																																																																															
0.388	15.0			0.0	0.2	20.0				35.2	48.1	-12.9																																																																																																																																																																																																																																																																															
0.414	14.4			0.0	0.2	20.0				34.6	47.6	-13.0																																																																																																																																																																																																																																																																															
0.416	14.2			0.0	0.2	20.0				34.4	47.5	-13.1																																																																																																																																																																																																																																																																															
0.697	12.3			0.0	0.3	20.0				32.6	46.0	-13.4																																																																																																																																																																																																																																																																															
0.475	12.7			0.0	0.2	20.0				32.9	46.4	-13.5																																																																																																																																																																																																																																																																															
0.350	14.7			0.0	0.2	20.0				34.9	49.0	-14.1																																																																																																																																																																																																																																																																															
0.397	13.6			0.0	0.2	20.0				33.8	47.9	-14.1																																																																																																																																																																																																																																																																															

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003																																																																																																																																																																																																																																																																																
EUT: MRD8 Serial Number: Customer: The Watt Stopper Inc. Attendees: Cust. Ref. No.: Tested by: Holly Ashkannejhad					Work Order: WATT0014 Date: 06/02/03 Temperature: 73 Humidity: 47% Barometric Pressure: 29.96 Job Site: EV01																																																																																																																																																																																																																																																																																						
TEST SPECIFICATIONS																																																																																																																																																																																																																																																																																											
Specification: FCC Part 15.207 Method: ANSI C63.4					Year: 2003 Year: 1992																																																																																																																																																																																																																																																																																						
SAMPLE CALCULATIONS																																																																																																																																																																																																																																																																																											
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator																																																																																																																																																																																																																																																																																											
COMMENTS																																																																																																																																																																																																																																																																																											
EUT OPERATING MODES Transmitting high channel																																																																																																																																																																																																																																																																																											
DEVIATIONS FROM TEST STANDARD																																																																																																																																																																																																																																																																																											
No deviations.																																																																																																																																																																																																																																																																																											
RESULTS					Line	Run #																																																																																																																																																																																																																																																																																					
Pass					L1	5																																																																																																																																																																																																																																																																																					
Other					 Tested By:																																																																																																																																																																																																																																																																																						
																																																																																																																																																																																																																																																																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Freq (MHz)</th> <th style="width: 10%;">Amplitude (dBuV)</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;">Transducer (dB)</th> <th style="width: 10%;">Cable (dB)</th> <th style="width: 10%;">External Attenuation (dB)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Detector (blank equal peaks [PK] from scan)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Adjusted dBuV</th> <th style="width: 10%;">Spec. Limit dBuV</th> <th style="width: 10%;">Compared to Spec. (dB)</th> </tr> </thead> <tbody> <tr> <td>0.395</td> <td>17.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>37.9</td> <td>48.0</td> <td>-10.0</td> </tr> <tr> <td>0.481</td> <td>15.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.8</td> <td>46.3</td> <td>-10.5</td> </tr> <tr> <td>0.488</td> <td>15.2</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.4</td> <td>46.2</td> <td>-10.8</td> </tr> <tr> <td>0.499</td> <td>14.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.7</td> <td>46.0</td> <td>-11.3</td> </tr> <tr> <td>0.443</td> <td>15.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.6</td> <td>47.0</td> <td>-11.4</td> </tr> <tr> <td>0.468</td> <td>14.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.9</td> <td>46.6</td> <td>-11.6</td> </tr> <tr> <td>0.406</td> <td>15.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.0</td> <td>47.7</td> <td>-11.7</td> </tr> <tr> <td>0.517</td> <td>13.9</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.2</td> <td>46.0</td> <td>-11.8</td> </tr> <tr> <td>0.473</td> <td>14.3</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.5</td> <td>46.5</td> <td>-11.9</td> </tr> <tr> <td>0.420</td> <td>15.3</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.5</td> <td>47.4</td> <td>-11.9</td> </tr> <tr> <td>0.400</td> <td>15.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.8</td> <td>47.8</td> <td>-12.0</td> </tr> <tr> <td>0.507</td> <td>13.6</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.9</td> <td>46.0</td> <td>-12.1</td> </tr> <tr> <td>0.463</td> <td>14.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.2</td> <td>46.6</td> <td>-12.4</td> </tr> <tr> <td>0.496</td> <td>13.3</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.5</td> <td>46.1</td> <td>-12.5</td> </tr> <tr> <td>0.409</td> <td>14.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.0</td> <td>47.7</td> <td>-12.6</td> </tr> <tr> <td>0.511</td> <td>13.1</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.4</td> <td>46.0</td> <td>-12.6</td> </tr> <tr> <td>0.375</td> <td>15.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.6</td> <td>48.4</td> <td>-12.8</td> </tr> <tr> <td>0.302</td> <td>17.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>37.2</td> <td>50.2</td> <td>-13.0</td> </tr> <tr> <td>0.366</td> <td>15.2</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.4</td> <td>48.6</td> <td>-13.2</td> </tr> <tr> <td>0.736</td> <td>12.4</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.7</td> <td>46.0</td> <td>-13.3</td> </tr> </tbody> </table>											Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)	0.395	17.7			0.0	0.2	20.0				37.9	48.0	-10.0	0.481	15.6			0.0	0.2	20.0				35.8	46.3	-10.5	0.488	15.2			0.0	0.2	20.0				35.4	46.2	-10.8	0.499	14.5			0.0	0.2	20.0				34.7	46.0	-11.3	0.443	15.4			0.0	0.2	20.0				35.6	47.0	-11.4	0.468	14.7			0.0	0.2	20.0				34.9	46.6	-11.6	0.406	15.8			0.0	0.2	20.0				36.0	47.7	-11.7	0.517	13.9			0.0	0.3	20.0				34.2	46.0	-11.8	0.473	14.3			0.0	0.2	20.0				34.5	46.5	-11.9	0.420	15.3			0.0	0.2	20.0				35.5	47.4	-11.9	0.400	15.6			0.0	0.2	20.0				35.8	47.8	-12.0	0.507	13.6			0.0	0.3	20.0				33.9	46.0	-12.1	0.463	14.0			0.0	0.2	20.0				34.2	46.6	-12.4	0.496	13.3			0.0	0.2	20.0				33.5	46.1	-12.5	0.409	14.8			0.0	0.2	20.0				35.0	47.7	-12.6	0.511	13.1			0.0	0.3	20.0				33.4	46.0	-12.6	0.375	15.4			0.0	0.2	20.0				35.6	48.4	-12.8	0.302	17.0			0.0	0.2	20.0				37.2	50.2	-13.0	0.366	15.2			0.0	0.2	20.0				35.4	48.6	-13.2	0.736	12.4			0.0	0.3	20.0				32.7	46.0	-13.3
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)																																																																																																																																																																																																																																																																															
0.395	17.7			0.0	0.2	20.0				37.9	48.0	-10.0																																																																																																																																																																																																																																																																															
0.481	15.6			0.0	0.2	20.0				35.8	46.3	-10.5																																																																																																																																																																																																																																																																															
0.488	15.2			0.0	0.2	20.0				35.4	46.2	-10.8																																																																																																																																																																																																																																																																															
0.499	14.5			0.0	0.2	20.0				34.7	46.0	-11.3																																																																																																																																																																																																																																																																															
0.443	15.4			0.0	0.2	20.0				35.6	47.0	-11.4																																																																																																																																																																																																																																																																															
0.468	14.7			0.0	0.2	20.0				34.9	46.6	-11.6																																																																																																																																																																																																																																																																															
0.406	15.8			0.0	0.2	20.0				36.0	47.7	-11.7																																																																																																																																																																																																																																																																															
0.517	13.9			0.0	0.3	20.0				34.2	46.0	-11.8																																																																																																																																																																																																																																																																															
0.473	14.3			0.0	0.2	20.0				34.5	46.5	-11.9																																																																																																																																																																																																																																																																															
0.420	15.3			0.0	0.2	20.0				35.5	47.4	-11.9																																																																																																																																																																																																																																																																															
0.400	15.6			0.0	0.2	20.0				35.8	47.8	-12.0																																																																																																																																																																																																																																																																															
0.507	13.6			0.0	0.3	20.0				33.9	46.0	-12.1																																																																																																																																																																																																																																																																															
0.463	14.0			0.0	0.2	20.0				34.2	46.6	-12.4																																																																																																																																																																																																																																																																															
0.496	13.3			0.0	0.2	20.0				33.5	46.1	-12.5																																																																																																																																																																																																																																																																															
0.409	14.8			0.0	0.2	20.0				35.0	47.7	-12.6																																																																																																																																																																																																																																																																															
0.511	13.1			0.0	0.3	20.0				33.4	46.0	-12.6																																																																																																																																																																																																																																																																															
0.375	15.4			0.0	0.2	20.0				35.6	48.4	-12.8																																																																																																																																																																																																																																																																															
0.302	17.0			0.0	0.2	20.0				37.2	50.2	-13.0																																																																																																																																																																																																																																																																															
0.366	15.2			0.0	0.2	20.0				35.4	48.6	-13.2																																																																																																																																																																																																																																																																															
0.736	12.4			0.0	0.3	20.0				32.7	46.0	-13.3																																																																																																																																																																																																																																																																															

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003																																																																																																																																																																																																																																																																																
EUT: MRD8 Serial Number: Customer: The Watt Stopper Inc. Attendees: Cust. Ref. No.: Tested by: Holly Ashkannejhad					Work Order: WATT0014 Date: 06/02/03 Temperature: 73 Humidity: 47% Barometric Pressure 29.96 Job Site: EV01																																																																																																																																																																																																																																																																																						
TEST SPECIFICATIONS																																																																																																																																																																																																																																																																																											
Specification: FCC Part 15.207 Method: ANSI C63.4					Year: 2003 Year: 1992																																																																																																																																																																																																																																																																																						
SAMPLE CALCULATIONS																																																																																																																																																																																																																																																																																											
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator																																																																																																																																																																																																																																																																																											
COMMENTS																																																																																																																																																																																																																																																																																											
EUT OPERATING MODES Transmitting high channel																																																																																																																																																																																																																																																																																											
DEVIATIONS FROM TEST STANDARD																																																																																																																																																																																																																																																																																											
No deviations.																																																																																																																																																																																																																																																																																											
RESULTS					Line	Run #																																																																																																																																																																																																																																																																																					
Pass					N	6																																																																																																																																																																																																																																																																																					
Other					 Tested By:																																																																																																																																																																																																																																																																																						
																																																																																																																																																																																																																																																																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Freq (MHz)</th> <th style="width: 10%;">Amplitude (dBuV)</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;">Transducer (dB)</th> <th style="width: 10%;">Cable (dB)</th> <th style="width: 10%;">External Attenuation (dB)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Detector (blank equal peaks [PK] from scan)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Adjusted dBuV</th> <th style="width: 10%;">Spec. Limit dBuV</th> <th style="width: 10%;">Compared to Spec. (dB)</th> </tr> </thead> <tbody> <tr> <td>0.437</td> <td>15.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.2</td> <td>47.1</td> <td>-11.9</td> </tr> <tr> <td>0.487</td> <td>13.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.7</td> <td>46.2</td> <td>-12.5</td> </tr> <tr> <td>0.397</td> <td>14.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.0</td> <td>47.9</td> <td>-12.9</td> </tr> <tr> <td>0.465</td> <td>13.2</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.4</td> <td>46.6</td> <td>-13.2</td> </tr> <tr> <td>0.357</td> <td>14.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.8</td> <td>48.8</td> <td>-14.0</td> </tr> <tr> <td>0.385</td> <td>13.9</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.1</td> <td>48.2</td> <td>-14.1</td> </tr> <tr> <td>0.308</td> <td>15.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.9</td> <td>50.0</td> <td>-14.1</td> </tr> <tr> <td>0.425</td> <td>12.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.0</td> <td>47.3</td> <td>-14.3</td> </tr> <tr> <td>0.447</td> <td>12.3</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.5</td> <td>46.9</td> <td>-14.4</td> </tr> <tr> <td>0.404</td> <td>13.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.3</td> <td>47.8</td> <td>-14.5</td> </tr> <tr> <td>0.417</td> <td>12.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.0</td> <td>47.5</td> <td>-14.5</td> </tr> <tr> <td>0.344</td> <td>13.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.9</td> <td>49.1</td> <td>-15.2</td> </tr> <tr> <td>0.501</td> <td>10.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>30.6</td> <td>46.0</td> <td>-15.4</td> </tr> <tr> <td>0.350</td> <td>13.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.6</td> <td>49.0</td> <td>-15.4</td> </tr> <tr> <td>0.178</td> <td>19.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>39.2</td> <td>54.6</td> <td>-15.4</td> </tr> <tr> <td>0.518</td> <td>10.3</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>30.6</td> <td>46.0</td> <td>-15.4</td> </tr> <tr> <td>0.281</td> <td>15.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.3</td> <td>50.8</td> <td>-15.5</td> </tr> <tr> <td>0.375</td> <td>12.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.7</td> <td>48.4</td> <td>-15.7</td> </tr> <tr> <td>0.367</td> <td>12.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.8</td> <td>48.6</td> <td>-15.8</td> </tr> <tr> <td>0.317</td> <td>13.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.8</td> <td>49.8</td> <td>-16.0</td> </tr> </tbody> </table>											Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)	0.437	15.0			0.0	0.2	20.0				35.2	47.1	-11.9	0.487	13.5			0.0	0.2	20.0				33.7	46.2	-12.5	0.397	14.8			0.0	0.2	20.0				35.0	47.9	-12.9	0.465	13.2			0.0	0.2	20.0				33.4	46.6	-13.2	0.357	14.6			0.0	0.2	20.0				34.8	48.8	-14.0	0.385	13.9			0.0	0.2	20.0				34.1	48.2	-14.1	0.308	15.7			0.0	0.2	20.0				35.9	50.0	-14.1	0.425	12.8			0.0	0.2	20.0				33.0	47.3	-14.3	0.447	12.3			0.0	0.2	20.0				32.5	46.9	-14.4	0.404	13.1			0.0	0.2	20.0				33.3	47.8	-14.5	0.417	12.8			0.0	0.2	20.0				33.0	47.5	-14.5	0.344	13.7			0.0	0.2	20.0				33.9	49.1	-15.2	0.501	10.4			0.0	0.2	20.0				30.6	46.0	-15.4	0.350	13.4			0.0	0.2	20.0				33.6	49.0	-15.4	0.178	19.0			0.0	0.2	20.0				39.2	54.6	-15.4	0.518	10.3			0.0	0.3	20.0				30.6	46.0	-15.4	0.281	15.1			0.0	0.2	20.0				35.3	50.8	-15.5	0.375	12.5			0.0	0.2	20.0				32.7	48.4	-15.7	0.367	12.6			0.0	0.2	20.0				32.8	48.6	-15.8	0.317	13.6			0.0	0.2	20.0				33.8	49.8	-16.0
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)																																																																																																																																																																																																																																																																															
0.437	15.0			0.0	0.2	20.0				35.2	47.1	-11.9																																																																																																																																																																																																																																																																															
0.487	13.5			0.0	0.2	20.0				33.7	46.2	-12.5																																																																																																																																																																																																																																																																															
0.397	14.8			0.0	0.2	20.0				35.0	47.9	-12.9																																																																																																																																																																																																																																																																															
0.465	13.2			0.0	0.2	20.0				33.4	46.6	-13.2																																																																																																																																																																																																																																																																															
0.357	14.6			0.0	0.2	20.0				34.8	48.8	-14.0																																																																																																																																																																																																																																																																															
0.385	13.9			0.0	0.2	20.0				34.1	48.2	-14.1																																																																																																																																																																																																																																																																															
0.308	15.7			0.0	0.2	20.0				35.9	50.0	-14.1																																																																																																																																																																																																																																																																															
0.425	12.8			0.0	0.2	20.0				33.0	47.3	-14.3																																																																																																																																																																																																																																																																															
0.447	12.3			0.0	0.2	20.0				32.5	46.9	-14.4																																																																																																																																																																																																																																																																															
0.404	13.1			0.0	0.2	20.0				33.3	47.8	-14.5																																																																																																																																																																																																																																																																															
0.417	12.8			0.0	0.2	20.0				33.0	47.5	-14.5																																																																																																																																																																																																																																																																															
0.344	13.7			0.0	0.2	20.0				33.9	49.1	-15.2																																																																																																																																																																																																																																																																															
0.501	10.4			0.0	0.2	20.0				30.6	46.0	-15.4																																																																																																																																																																																																																																																																															
0.350	13.4			0.0	0.2	20.0				33.6	49.0	-15.4																																																																																																																																																																																																																																																																															
0.178	19.0			0.0	0.2	20.0				39.2	54.6	-15.4																																																																																																																																																																																																																																																																															
0.518	10.3			0.0	0.3	20.0				30.6	46.0	-15.4																																																																																																																																																																																																																																																																															
0.281	15.1			0.0	0.2	20.0				35.3	50.8	-15.5																																																																																																																																																																																																																																																																															
0.375	12.5			0.0	0.2	20.0				32.7	48.4	-15.7																																																																																																																																																																																																																																																																															
0.367	12.6			0.0	0.2	20.0				32.8	48.6	-15.8																																																																																																																																																																																																																																																																															
0.317	13.6			0.0	0.2	20.0				33.8	49.8	-16.0																																																																																																																																																																																																																																																																															

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:

High

Mid

Low

Operating Modes Investigated:

Typical

Data Rates Investigated:

Typical

Output Power Setting(s) Investigated:

Maximum

Power Input Settings Investigated:

Battery

Software\Firmware Applied During Test

Exercise software	Standard Production Software	Version	Unknown
Description			
Transmits at low, mid, and high channels.			

EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	N/A	A35-U0900	N/A
EUT	The Watt Stopper, Inc.	MRD6	N/A

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	PA	2.2	PA	EUT	AC Adapter
Control - 3 each	No	1.0	No	EUT	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
High Pass Filter	TTE	H97-100k-50-720B	HFC	01/02/2003	12 mo
LISN	Solar	9252-50-R-24-BNC	LIN	12/12/2002	12 mo
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	01/07/2003	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	01/07/2003	12 mo

Test Description

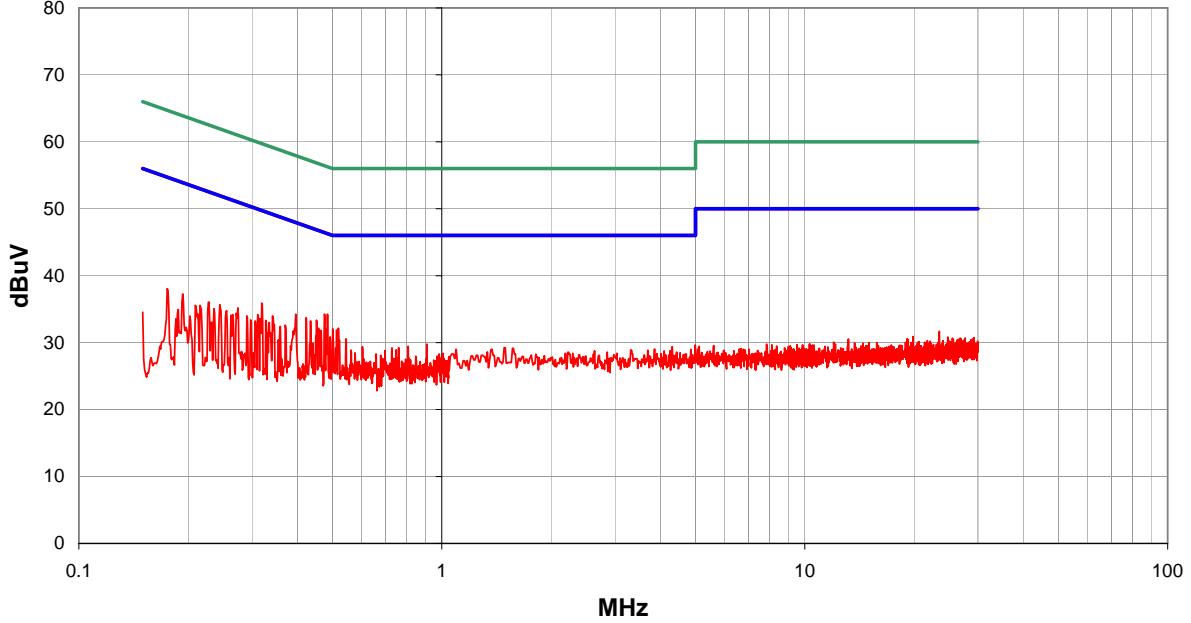
Requirement: Per 47 15.207(d), if the EUT is connected to the AC power line indirectly, obtaining its power from another device that is connected to the AC power line, then it should be tested to demonstrate compliance with the conducted limits of 15.207.

Configuration: The EUT will be powered from a host device that is connected to the AC power line. Therefore, the measurements were made using a wall-bug transformer to power the EUT. The transformer contained no EMC suppression devices. The AC power line conducted emissions were measured with the EUT operating at the lowest, the highest, and a middle channel in the operational band. The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.4-1992.

Completed by:



NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003	
EMC	EUT: MRD6					Work Order: WATT0010						
Serial Number:	N/A					Date: 06/02/03						
Customer:	The Watt Stopper Inc.					Temperature: 73						
Attendees:						Humidity: 46%						
Cust. Ref. No.:						Barometric Pressure: 30.01						
Tested by:	Holly Ashkannejhad		Power: 120VAC, 60Hz			Job Site: EV01						
TEST SPECIFICATIONS												
Specification: FCC Part 15.207						Year: 2003						
Method: ANSI C63.4						Year: 1992						
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation												
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
EUT OPERATING MODES												
Transmitting low channel												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS						Line	Run #					
Pass						L1	1					
Other						<i>Holly Ashkannejhad</i>						
						Tested By:						
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.457	15.5			0.0	0.2	20.0			35.7	46.7	-11.0	
0.480	15.0			0.0	0.2	20.0			35.2	46.3	-11.1	
0.486	14.3			0.0	0.2	20.0			34.5	46.2	-11.7	
0.397	15.9			0.0	0.2	20.0			36.1	47.9	-11.8	
0.501	13.9			0.0	0.2	20.0			34.1	46.0	-11.9	
0.384	15.9			0.0	0.2	20.0			36.1	48.2	-12.1	
0.412	15.0			0.0	0.2	20.0			35.2	47.6	-12.4	
0.430	14.6			0.0	0.2	20.0			34.8	47.3	-12.4	
0.509	13.0			0.0	0.3	20.0			33.3	46.0	-12.7	
0.434	14.2			0.0	0.2	20.0			34.4	47.2	-12.8	
0.468	13.5			0.0	0.2	20.0			33.7	46.6	-12.8	
0.349	15.6			0.0	0.2	20.0			35.8	49.0	-13.2	
0.335	15.7			0.0	0.2	20.0			35.9	49.3	-13.4	
0.355	15.1			0.0	0.2	20.0			35.3	48.8	-13.5	
0.372	14.6			0.0	0.2	20.0			34.8	48.4	-13.6	
0.402	13.9			0.0	0.2	20.0			34.1	47.8	-13.7	
0.317	15.7			0.0	0.2	20.0			35.9	49.8	-13.9	
0.295	15.8			0.0	0.2	20.0			36.0	50.4	-14.4	
0.361	14.1			0.0	0.2	20.0			34.3	48.7	-14.4	
0.314	15.2			0.0	0.2	20.0			35.4	49.9	-14.5	

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003	
EMC	EUT: MRD6					Work Order: WATT0010						
Serial Number:	N/A					Date: 06/02/03						
Customer:	The Watt Stopper Inc.					Temperature: 73						
Attendees:						Humidity: 46%						
Cust. Ref. No.:						Barometric Pressure: 30.01						
Tested by:	Holly Ashkannejhad		Power: 120VAC, 60Hz			Job Site: EV01						
TEST SPECIFICATIONS												
Specification: FCC Part 15.207						Year: 2003						
Method: ANSI C63.4						Year: 1992						
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation												
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
EUT OPERATING MODES												
Transmitting low channel												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS												
Pass						Line	Run #					
N						2						
Other						 Tested By:						
												
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.484	14.0			0.0	0.2	20.0				34.2	46.3	-12.0
0.475	14.0			0.0	0.2	20.0				34.2	46.4	-12.2
0.452	13.1			0.0	0.2	20.0				33.3	46.8	-13.5
0.423	13.5			0.0	0.2	20.0				33.7	47.4	-13.7
0.396	14.0			0.0	0.2	20.0				34.2	47.9	-13.7
0.319	15.7			0.0	0.2	20.0				35.9	49.7	-13.8
0.519	11.9			0.0	0.3	20.0				32.2	46.0	-13.8
0.435	13.0			0.0	0.2	20.0				33.2	47.2	-13.9
0.501	11.8			0.0	0.2	20.0				32.0	46.0	-14.0
0.514	11.6			0.0	0.3	20.0				31.9	46.0	-14.1
0.479	11.8			0.0	0.2	20.0				32.0	46.3	-14.3
0.458	11.9			0.0	0.2	20.0				32.1	46.7	-14.6
0.465	11.6			0.0	0.2	20.0				31.8	46.6	-14.8
0.342	13.8			0.0	0.2	20.0				34.0	49.2	-15.2
0.492	10.6			0.0	0.2	20.0				30.8	46.1	-15.3
0.544	10.3			0.0	0.3	20.0				30.6	46.0	-15.4
0.311	14.0			0.0	0.2	20.0				34.2	49.9	-15.7
0.274	15.0			0.0	0.2	20.0				35.2	51.0	-15.8
0.371	12.4			0.0	0.2	20.0				32.6	48.5	-15.9
0.327	13.1			0.0	0.2	20.0				33.3	49.5	-16.2

NORTHWEST
EMC

CONDUCTED EMISSIONS DATA SHEET

REV
df3.10
03/10/2003

EUT: MRD6	Work Order: WATT0010
Serial Number: N/A	Date: 06/02/03
Customer: The Watt Stopper Inc.	Temperature: 73
Attendees:	Humidity: 46%
Cust. Ref. No.:	Barometric Pressure: 30.01
Tested by: Holly Ashkannejhad	Job Site: EV01
TEST SPECIFICATIONS	
Specification: FCC Part 15.207	Year: 2003
Method: ANSI C63.4	Year: 1992
SAMPLE CALCULATIONS	
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation	
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator	
COMMENTS	

EUT OPERATING MODES

Transmitting mid channel

DEVIATIONS FROM TEST STANDARD

No deviations.

RESULTS

Pass

Line

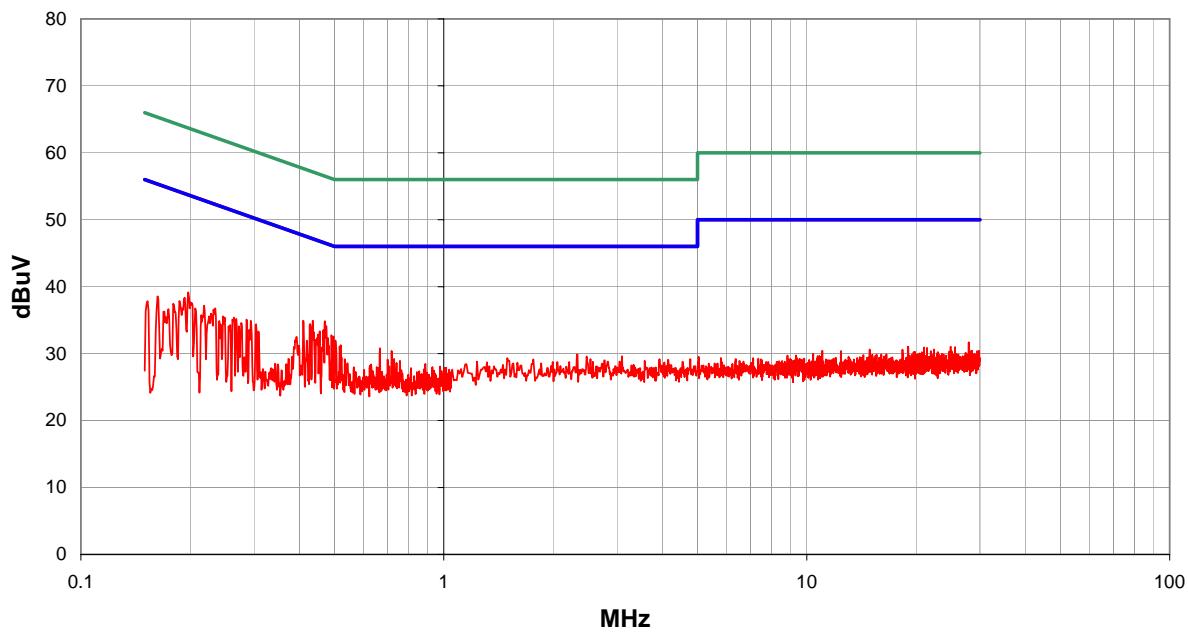
Run #

N 3

Other

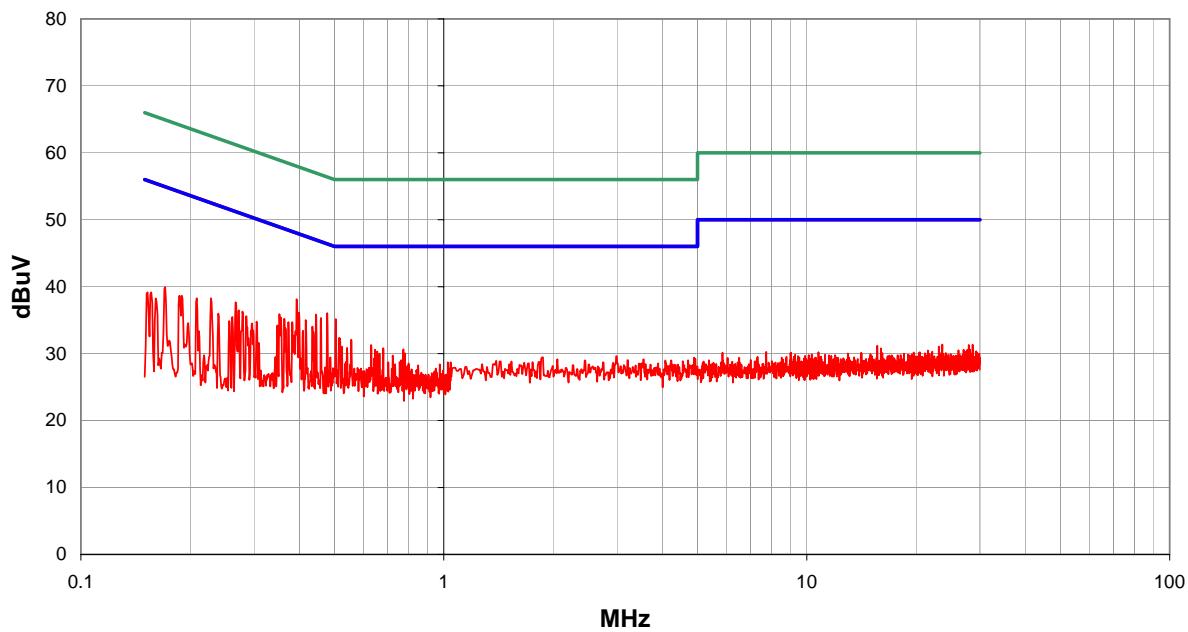
Holly Ashkannejhad

Tested By:



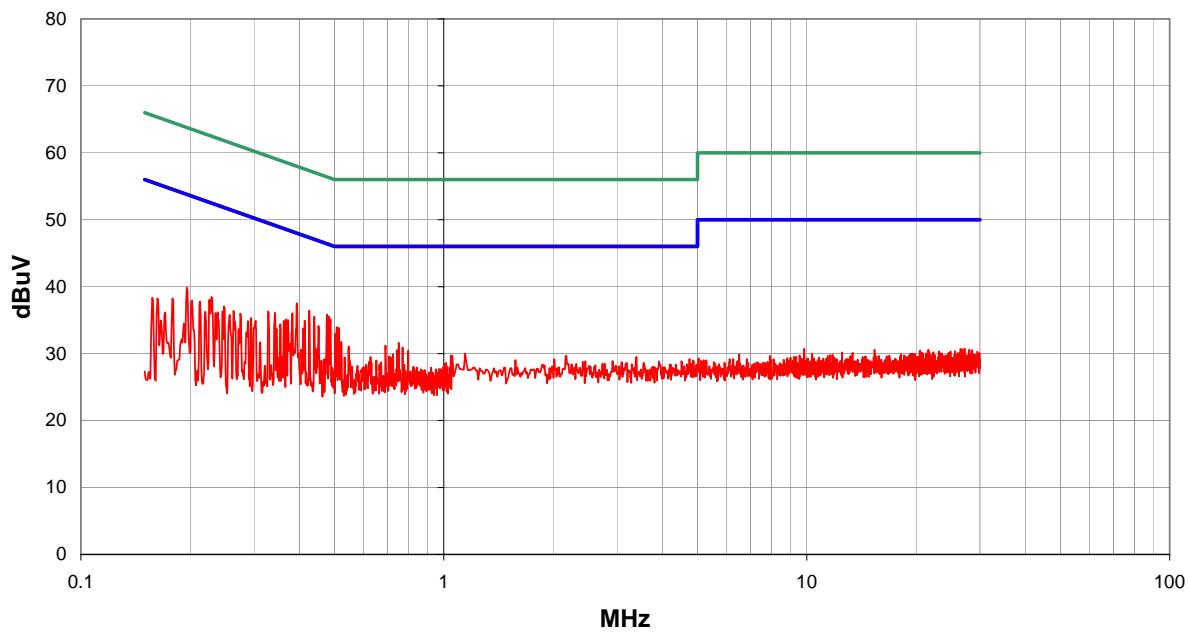
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.470	14.6			0.0	0.2	20.0				34.8	46.5	-11.7
0.435	14.7			0.0	0.2	20.0				34.9	47.2	-12.2
0.410	14.7			0.0	0.2	20.0				34.9	47.6	-12.7
0.428	14.2			0.0	0.2	20.0				34.4	47.3	-12.9
0.466	13.3			0.0	0.2	20.0				33.5	46.6	-13.0
0.490	12.5			0.0	0.2	20.0				32.7	46.2	-13.4
0.455	13.1			0.0	0.2	20.0				33.3	46.8	-13.4
0.497	12.3			0.0	0.2	20.0				32.5	46.1	-13.5
0.479	12.1			0.0	0.2	20.0				32.3	46.3	-14.0
0.450	12.6			0.0	0.2	20.0				32.8	46.9	-14.0
0.503	11.7			0.0	0.2	20.0				31.9	46.0	-14.1
0.198	19.0			0.0	0.2	20.0				39.2	53.7	-14.5
0.520	11.0			0.0	0.3	20.0				31.3	46.0	-14.7
0.516	10.8			0.0	0.3	20.0				31.1	46.0	-14.9
0.667	10.5			0.0	0.3	20.0				30.8	46.0	-15.2
0.393	12.3			0.0	0.2	20.0				32.5	48.0	-15.5
0.235	16.6			0.0	0.2	20.0				36.8	52.3	-15.5
0.294	14.7			0.0	0.2	20.0				34.9	50.4	-15.5
0.419	11.7			0.0	0.2	20.0				31.9	47.5	-15.5
0.193	18.2			0.0	0.2	20.0				38.4	53.9	-15.5

NORTHWEST EMC		CONDUCTED EMISSIONS DATA SHEET		REV df3.10 03/10/2003
EUT:	MRD6	Work Order:	WATT0010	
Serial Number:	N/A	Date:	06/02/03	
Customer:	The Watt Stopper Inc.	Temperature:	73	
Attendees:		Humidity:	46%	
Cust. Ref. No.:		Barometric Pressure:	30.01	
Tested by:	Holly Ashkannnejhad	Power:	120VAC, 60Hz	
TEST SPECIFICATIONS		Job Site:	EV01	
Specification: FCC Part 15.207		Year:	2003	
Method: ANSI C63.4		Year:	1992	
SAMPLE CALCULATIONS				
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation				
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator				
COMMENTS				
EUT OPERATING MODES				
Transmitting mid channel				
DEVIATIONS FROM TEST STANDARD				
No deviations.				
RESULTS		Line	Run #	
Pass		L1	4	
Other		 Tested By:		

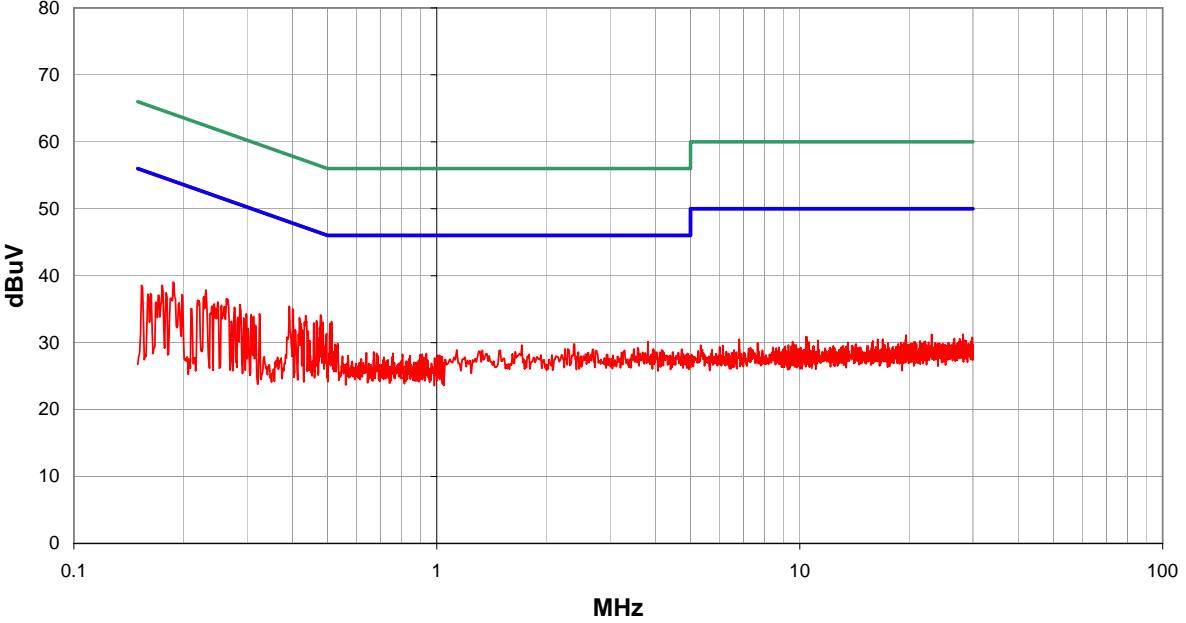


Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [Pm] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.393	17.9			0.0	0.2	20.0				38.1	48.0	-9.9
0.478	15.8			0.0	0.2	20.0				36.0	46.4	-10.3
0.504	14.9			0.0	0.2	20.0				35.1	46.0	-10.9
0.444	15.6			0.0	0.2	20.0				35.8	47.0	-11.1
0.459	15.1			0.0	0.2	20.0				35.3	46.7	-11.4
0.399	15.9			0.0	0.2	20.0				36.1	47.9	-11.7
0.416	14.8			0.0	0.2	20.0				35.0	47.5	-12.5
0.353	15.7			0.0	0.2	20.0				35.9	48.9	-13.0
0.434	13.8			0.0	0.2	20.0				34.0	47.2	-13.1
0.355	15.2			0.0	0.2	20.0				35.4	48.8	-13.4
0.363	15.0			0.0	0.2	20.0				35.2	48.7	-13.4
0.382	14.5			0.0	0.2	20.0				34.7	48.2	-13.5
0.267	17.5			0.0	0.2	20.0				37.7	51.2	-13.5
0.515	12.1			0.0	0.3	20.0				32.4	46.0	-13.6
0.373	14.5			0.0	0.2	20.0				34.7	48.4	-13.7
0.437	13.0			0.0	0.2	20.0				33.2	47.1	-13.9
0.556	11.8			0.0	0.3	20.0				32.1	46.0	-13.9
0.409	13.2			0.0	0.2	20.0				33.4	47.7	-14.2
0.228	18.1			0.0	0.2	20.0				38.3	52.5	-14.2
0.272	16.3			0.0	0.2	20.0				36.5	51.0	-14.6

NORTHWEST EMC		CONDUCTED EMISSIONS DATA SHEET			REV df3.10 03/10/2003
EUT:	MRD6	Work Order:	WATT0010		
Serial Number:	N/A	Date:	06/02/03		
Customer:	The Watt Stopper Inc.	Temperature:	73		
Attendees:		Humidity:	46%		
Cust. Ref. No.:		Barometric Pressure:	30.01		
Tested by:	Holly Ashkannejhad	Power:	120VAC, 60Hz		Job Site: EV01
TEST SPECIFICATIONS					
Specification: FCC Part 15.207			Year: 2003		
Method: ANSI C63.4			Year: 1992		
SAMPLE CALCULATIONS					
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation					
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator					
COMMENTS					
EUT OPERATING MODES Transmitting high channel					
DEVIATIONS FROM TEST STANDARD					
No deviations.					
RESULTS			Line	Run #	
Pass			L1	5	
Other			 Tested By:		



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.394	17.3			0.0	0.2	20.0				37.5	48.0	-10.5
0.477	15.6			0.0	0.2	20.0				35.8	46.4	-10.6
0.483	15.3			0.0	0.2	20.0				35.5	46.3	-10.7
0.426	16.2			0.0	0.2	20.0				36.4	47.3	-10.9
0.488	14.9			0.0	0.2	20.0				35.1	46.2	-11.1
0.440	15.3			0.0	0.2	20.0				35.5	47.1	-11.5
0.507	13.7			0.0	0.3	20.0				34.0	46.0	-12.0
0.514	13.6			0.0	0.3	20.0				33.9	46.0	-12.1
0.383	15.8			0.0	0.2	20.0				36.0	48.2	-12.2
0.414	14.7			0.0	0.2	20.0				34.9	47.6	-12.7
0.452	13.9			0.0	0.2	20.0				34.1	46.8	-12.7
0.343	15.9			0.0	0.2	20.0				36.1	49.1	-13.0
0.503	12.7			0.0	0.2	20.0				32.9	46.0	-13.1
0.328	16.1			0.0	0.2	20.0				36.3	49.5	-13.2
0.372	14.8			0.0	0.2	20.0				35.0	48.4	-13.4
0.368	14.9			0.0	0.2	20.0				35.1	48.6	-13.4
0.362	14.7			0.0	0.2	20.0				34.9	48.7	-13.8
0.196	19.7			0.0	0.2	20.0				39.9	53.8	-13.9
0.409	13.5			0.0	0.2	20.0				33.7	47.7	-13.9
0.229	18.3			0.0	0.2	20.0				38.5	52.5	-14.0

NORTHWEST	CONDUCTED EMISSIONS DATA SHEET										REV df3.10 03/10/2003																																																																																																																																																																																																																																																																																
EUT: MRD6 Serial Number: N/A Customer: The Watt Stopper Inc. Attendees: Cust. Ref. No.: Tested by: Holly Ashkannejhad					Work Order: WATT0010 Date: 06/02/03 Temperature: 73 Humidity: 46% Barometric Pressure: 30.01 Job Site: EV01																																																																																																																																																																																																																																																																																						
TEST SPECIFICATIONS																																																																																																																																																																																																																																																																																											
Specification: FCC Part 15.207 Method: ANSI C63.4					Year: 2003 Year: 1992																																																																																																																																																																																																																																																																																						
SAMPLE CALCULATIONS																																																																																																																																																																																																																																																																																											
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator																																																																																																																																																																																																																																																																																											
COMMENTS																																																																																																																																																																																																																																																																																											
EUT OPERATING MODES Transmitting high channel																																																																																																																																																																																																																																																																																											
DEVIATIONS FROM TEST STANDARD																																																																																																																																																																																																																																																																																											
No deviations.																																																																																																																																																																																																																																																																																											
RESULTS					Line	Run #																																																																																																																																																																																																																																																																																					
Pass					N	6																																																																																																																																																																																																																																																																																					
Other					 Tested By:																																																																																																																																																																																																																																																																																						
																																																																																																																																																																																																																																																																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Freq (MHz)</th> <th style="width: 10%;">Amplitude (dBuV)</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;">Transducer (dB)</th> <th style="width: 10%;">Cable (dB)</th> <th style="width: 10%;">External Attenuation (dB)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Detector (blank equal peaks [PK] from scan)</th> <th style="width: 10%;"></th> <th style="width: 10%;">Adjusted dBuV</th> <th style="width: 10%;">Spec. Limit dBuV</th> <th style="width: 10%;">Compared to Spec. (dB)</th> </tr> </thead> <tbody> <tr> <td>0.479</td> <td>13.9</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.1</td> <td>46.4</td> <td>-12.2</td> </tr> <tr> <td>0.392</td> <td>15.2</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.4</td> <td>48.0</td> <td>-12.6</td> </tr> <tr> <td>0.401</td> <td>14.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.0</td> <td>47.8</td> <td>-12.8</td> </tr> <tr> <td>0.513</td> <td>12.9</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.2</td> <td>46.0</td> <td>-12.8</td> </tr> <tr> <td>0.435</td> <td>13.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.0</td> <td>47.2</td> <td>-13.1</td> </tr> <tr> <td>0.507</td> <td>12.6</td> <td></td> <td></td> <td>0.0</td> <td>0.3</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.9</td> <td>46.0</td> <td>-13.1</td> </tr> <tr> <td>0.485</td> <td>12.8</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.0</td> <td>46.3</td> <td>-13.2</td> </tr> <tr> <td>0.467</td> <td>13.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.2</td> <td>46.6</td> <td>-13.3</td> </tr> <tr> <td>0.418</td> <td>13.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>33.7</td> <td>47.5</td> <td>-13.8</td> </tr> <tr> <td>0.459</td> <td>12.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.9</td> <td>46.7</td> <td>-13.8</td> </tr> <tr> <td>0.475</td> <td>12.0</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.2</td> <td>46.4</td> <td>-14.2</td> </tr> <tr> <td>0.231</td> <td>17.7</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>37.9</td> <td>52.4</td> <td>-14.5</td> </tr> <tr> <td>0.423</td> <td>12.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>32.8</td> <td>47.4</td> <td>-14.6</td> </tr> <tr> <td>0.497</td> <td>11.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>31.3</td> <td>46.1</td> <td>-14.7</td> </tr> <tr> <td>0.263</td> <td>16.4</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>36.6</td> <td>51.3</td> <td>-14.7</td> </tr> <tr> <td>0.287</td> <td>15.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>35.7</td> <td>50.6</td> <td>-14.9</td> </tr> <tr> <td>0.188</td> <td>18.9</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>39.1</td> <td>54.1</td> <td>-15.1</td> </tr> <tr> <td>0.325</td> <td>14.1</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>34.3</td> <td>49.6</td> <td>-15.3</td> </tr> <tr> <td>0.442</td> <td>11.5</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>31.7</td> <td>47.0</td> <td>-15.3</td> </tr> <tr> <td>0.427</td> <td>11.6</td> <td></td> <td></td> <td>0.0</td> <td>0.2</td> <td>20.0</td> <td></td> <td></td> <td></td> <td>31.8</td> <td>47.3</td> <td>-15.5</td> </tr> </tbody> </table>											Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)	0.479	13.9			0.0	0.2	20.0				34.1	46.4	-12.2	0.392	15.2			0.0	0.2	20.0				35.4	48.0	-12.6	0.401	14.8			0.0	0.2	20.0				35.0	47.8	-12.8	0.513	12.9			0.0	0.3	20.0				33.2	46.0	-12.8	0.435	13.8			0.0	0.2	20.0				34.0	47.2	-13.1	0.507	12.6			0.0	0.3	20.0				32.9	46.0	-13.1	0.485	12.8			0.0	0.2	20.0				33.0	46.3	-13.2	0.467	13.0			0.0	0.2	20.0				33.2	46.6	-13.3	0.418	13.5			0.0	0.2	20.0				33.7	47.5	-13.8	0.459	12.7			0.0	0.2	20.0				32.9	46.7	-13.8	0.475	12.0			0.0	0.2	20.0				32.2	46.4	-14.2	0.231	17.7			0.0	0.2	20.0				37.9	52.4	-14.5	0.423	12.6			0.0	0.2	20.0				32.8	47.4	-14.6	0.497	11.1			0.0	0.2	20.0				31.3	46.1	-14.7	0.263	16.4			0.0	0.2	20.0				36.6	51.3	-14.7	0.287	15.5			0.0	0.2	20.0				35.7	50.6	-14.9	0.188	18.9			0.0	0.2	20.0				39.1	54.1	-15.1	0.325	14.1			0.0	0.2	20.0				34.3	49.6	-15.3	0.442	11.5			0.0	0.2	20.0				31.7	47.0	-15.3	0.427	11.6			0.0	0.2	20.0				31.8	47.3	-15.5
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)																																																																																																																																																																																																																																																																															
0.479	13.9			0.0	0.2	20.0				34.1	46.4	-12.2																																																																																																																																																																																																																																																																															
0.392	15.2			0.0	0.2	20.0				35.4	48.0	-12.6																																																																																																																																																																																																																																																																															
0.401	14.8			0.0	0.2	20.0				35.0	47.8	-12.8																																																																																																																																																																																																																																																																															
0.513	12.9			0.0	0.3	20.0				33.2	46.0	-12.8																																																																																																																																																																																																																																																																															
0.435	13.8			0.0	0.2	20.0				34.0	47.2	-13.1																																																																																																																																																																																																																																																																															
0.507	12.6			0.0	0.3	20.0				32.9	46.0	-13.1																																																																																																																																																																																																																																																																															
0.485	12.8			0.0	0.2	20.0				33.0	46.3	-13.2																																																																																																																																																																																																																																																																															
0.467	13.0			0.0	0.2	20.0				33.2	46.6	-13.3																																																																																																																																																																																																																																																																															
0.418	13.5			0.0	0.2	20.0				33.7	47.5	-13.8																																																																																																																																																																																																																																																																															
0.459	12.7			0.0	0.2	20.0				32.9	46.7	-13.8																																																																																																																																																																																																																																																																															
0.475	12.0			0.0	0.2	20.0				32.2	46.4	-14.2																																																																																																																																																																																																																																																																															
0.231	17.7			0.0	0.2	20.0				37.9	52.4	-14.5																																																																																																																																																																																																																																																																															
0.423	12.6			0.0	0.2	20.0				32.8	47.4	-14.6																																																																																																																																																																																																																																																																															
0.497	11.1			0.0	0.2	20.0				31.3	46.1	-14.7																																																																																																																																																																																																																																																																															
0.263	16.4			0.0	0.2	20.0				36.6	51.3	-14.7																																																																																																																																																																																																																																																																															
0.287	15.5			0.0	0.2	20.0				35.7	50.6	-14.9																																																																																																																																																																																																																																																																															
0.188	18.9			0.0	0.2	20.0				39.1	54.1	-15.1																																																																																																																																																																																																																																																																															
0.325	14.1			0.0	0.2	20.0				34.3	49.6	-15.3																																																																																																																																																																																																																																																																															
0.442	11.5			0.0	0.2	20.0				31.7	47.0	-15.3																																																																																																																																																																																																																																																																															
0.427	11.6			0.0	0.2	20.0				31.8	47.3	-15.5																																																																																																																																																																																																																																																																															