



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

FCC Rules and Regulations / Intentional Radiators

Operational in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz, Bands

Part 15, Subpart C, Section 15.247

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

Formal Name: Fountain Head Bath

Kind of Equipment: Electronic controller for a bath tub w/ programmed control of water, music and chroma lighting.

Frequency Range of Operation: 2412 MHz - 2462 MHz

Test Configuration: Limited Modular Approval - Mounted in typical bathroom installation configuration. (Tested at 120 vac, 60 Hz)

Model Number(s): 1070734

Model(s) Tested: 1070734

Serial Number(s): NA

Date of Tests: April 2, May 28, July 17, & 18, 2008

Test Conducted For: Kohler Company
444 Highland Drive
Kohler, Wisconsin 53044

NOTICE: "This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government". Please see the "Additional Description of Equipment Under Test" page listed inside of this report.

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SIGNATURE PAGE

Report By:

Arnom C. Rowe
Test Engineer
EMC-001375-NE

Reviewed By:

William Stumpf
OATS Manager

Approved By:

Brian Mattson
General Manager



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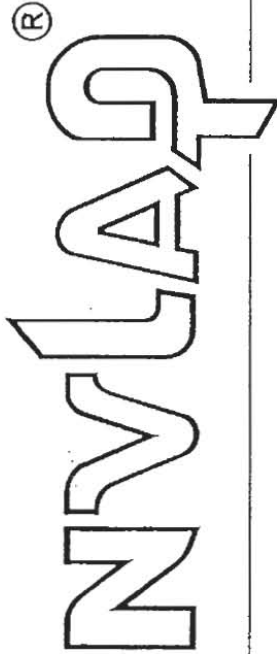
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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

D.L.S. Electronic Systems, Inc.
Wheeling, IL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated 18 June 2005).



2007-10-01 through 2008-09-30

Effective dates

Dolly S. Buce
For the National Institute of Standards and Technology

NVI AP-01C (REV. 2006-09-13)



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Report Number: 14148

1.0 SUMMARY OF TEST REPORT

It was found that the Fountain Head Bath, Model Number 1070734, **meets** the radio interference conducted and radiated emission requirements of the FCC "Rules and Regulations", Part 15, Subpart C, Section 15.247 for operational in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz, Bands.

2.0 INTRODUCTION

On April 2, May 28, July 17, & 18, 2008, a series of radio frequency interference measurements was performed on Fountain Head Bath, Model Number 1070734, Serial Number: NA. The tests were performed according to the procedures of the FCC as stated in the "Methods of Measurement of Radio-Noise Emissions for Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz" found in the American National Standards Institute, ANSI C63.4-2003 & the FCC guidance document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005". Tests were performed by personnel of D.L.S. Electronic Systems, Inc. who are responsible to Donald L. Sweeney, Senior EMC Engineer.

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO 17025. NVLAP Certificate and Scope can be viewed at <http://www.dlsemc.com/certificate>. Our facilities are registered with the FCC, Industry Canada, and VCCI.

Main Test Facility:

D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, Illinois 60090

O.A.T.S. Test Facility:

D.L.S. Electronic Systems, Inc.
166 S. Carter Street
Genoa City, Wisconsin 53128

3.0 OBJECT

The purpose of this series of tests was to determine if the test sample could meet the radio frequency interference emission requirements of the FCC "Rules and Regulations", Part 15, Subpart C, Sections 15.205, 15.209 & 15.247 for Intentional Radiators operating in the Bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.



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4.0 TEST SET-UP

All emission tests were performed at D.L.S. Electronic Systems, Inc. and set up according to the ANSI C63.4-2003, Annex H, or following the guidelines in the FCC's "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005", as indicated in the test data section of this test report. The conducted tests were performed with the test item placed on a non-conductive table (table top equipment), located in the test room. Equipment normally operated on the floor was tested by placing it on the metal ground plane. The ground plane has an electrical isolation layer over its surface approximately 7mm thick. The power line supplied was connected to a dual line impedance stabilization network electrically bonded to the ground plane, located on the floor. The networks were constructed per the requirements of the ANSI C63.4-2003, Annex H.

All radiated emissions tests were performed with the test item placed on a 80 cm high rotating non-conductive table, located in the test room. Equipment normally operated on the floor was placed on a metal covered turntable which is flush with the surrounding conducting ground plane. The ground plane has an electrical isolation layer over its surface approximately 7 mm thick. The EUT is separated from the turntable ground plane by a non-conductive layer. The equipment under test was set up according to ANSI C63.4-2003, Sections 6 and 8, or following the guidelines in the FCC's "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005", as indicated in the test data section of this test report.



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5.0 TEST EQUIPMENT (Bandwidths and Detector Function)

All preliminary data below 1000 MHz was automatically plotted using the ESI 26/40 Fixed Tuned Receiver. The data was taken using Peak, Quasi-Peak or the Average Detector Functions as required. This information was then used to determine the frequencies of maximum emissions. Above 1000 MHz, final data was taken using the Average Detector.

Below 1000 MHz, final data was taken using the ESI 26/40 Fixed Tuned Receiver. These plots were made using the Peak or Quasi-Peak Detector functions, with manual measurements performed on the questionable frequencies using the Quasi-Peak or the Average Detector Function of the ESI 26/40 Fixed Tuned Receiver as required. Above 1000 MHz, final data was taken using the Average Detector on the Spectrum Analyzer.

The bandwidths shown below are specified by ANSI C63.4-2003, Section 4.2.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

A list of the equipment used can be found in Table 1. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.



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6.0 AMBIENT MEASUREMENTS

For emissions measurements, broadband antennas and an EMI Test Receiver with a panoramic spectrum display are used. First the frequency range is scanned and displayed on the test receiver display. Next the scanned frequency range is divided into smaller ranges, and then it is manually tuned through to determine the emissions from the EUT. A headset or loudspeaker is connected to the test receiver's AM/FM demodulated output as an aid in detecting ambient signals and finding frequencies of significant emission from the EUT. If there is any doubt as to the source of the emission, it is further investigated by rotating the EUT, or by disconnecting the power from the EUT.

The EUT is set up in its typical configuration and operated in its various modes. For tabletop systems, cables are manipulated within the range of likely configurations. For floor-standing equipment, the cables are located in the same manner as the user would install them and no further manipulation is made. If the manner of cable installation is not known, or if it changes with each installation, cables or wires for floor-standing equipment shall be manipulated to the extent possible to produce the maximum level of emissions. For each mode of operation, the frequency spectrum is monitored. Variations in antenna height, antenna polarization, EUT azimuth, and cable or wire placement (each variable within bounds specified elsewhere) are explored to produce the emissions that have the highest amplitude relative to the limit. These methods are performed to the specifications in ANSI C63.4-2003.



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7.0 DESCRIPTION OF TEST SAMPLE: (See also Paragraph 8.0)

7.1 Description:

The device under test (DUT) is a high-end custom bath system. The system allows the user to bath while vibra-acoustic transducers generate a relaxing/invigorating vibration/experience. The tub may have a level sensor for auto-fill capability. A lighting system called chroma adds to the user's experience. Some or all of the vibra-acoustic transducers may be used to play music from a home network/PC or from internet radio sources.

7.2 PHYSICAL DIMENSIONS OF EQUIPMENT UNDER TEST

Length: 18.5" x Width: 10" x Height: 2.25"

7.3 LINE FILTER USED:

NA

7.4 INTERNAL CLOCK FREQUENCIES:

Switching Power Supply Frequencies:

50-200 kHz, 500 kHz, 250 kHz, & 120 kHz

Clock Frequencies:

110.592 MHz, 24.576 MHz, 20.00 MHz, 16 MHz, 13.5 MHz, 8 MHz, 7.3728 MHz,
3.6864 MHz, & 32.768 kHz

7.5 DESCRIPTION OF ALL CIRCUIT BOARDS:

- | | |
|------------------------------------|-------------------|
| 1. K-175-NA, FHB Media Module | PN: 1084542 Rev A |
| | PN: 1070734 Rev C |
| 2. K-682-K, Digital Mixing Valve | PN: 1042817 Rev C |
| 3. K-694, Landscape User Interface | PN: 1074676 Rev - |
| | PN: 1045420 Rev - |
| | PN: 1045367 Rev - |
| | PN: 1075776 rev - |
| 4. Remote | PN: 1085562 Rev A |



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8.0 ADDITIONAL DESCRIPTION OF TEST SAMPLE:
(See also Paragraph 7.0)

- 1: Fair-Rite # 0444173551. Two passes, Transducer Output for Elbow and Knee (two cables through one ferrite) at VAB control.
2. Fair-Rite # 0461176451. Two passes, Transducer Output for Back and Foot (two cables through one ferrite) at VAB control.
3. Fair-Rite # 0461176451. Two passes, Transducer Output for Audio Out Left and Right (two cables through one ferrite) at VAB control.
4. Fair-Rite # 0461167281. Two passes, DTV cable at VAB control.
5. Fair-Rite # 0461164181. Two passes each, LED Light outputs Elbow and Knee (two cables, one ferrite on each cable) at VAB control.
6. Fair-Rite # 0461164181. Two passes, Water Level Sensor cable at VAB control.

NOTE:

Continuous Transmit, Low Mid, and High Channels.

Continuous Receive, Low Mid, and High Channels.



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9.0 PHOTO INFORMATION AND TEST SET-UP

Item 0 Fountain Head Bath

Model Number: 1070734, Serial Number: NA

Item 1 Two non-shielded Transducer Output for Elbow and Knee cables with Plastic Shells. 16'

Item 2 Two non-shielded Transducer Output for Back and Foot cables with Plastic Shells. 16'

Item 3 Two non-shielded Transducer Output for Audio Left and Right cables with Plastic Shells. 10'

Item 4 Non-shielded User Interface cable with ferrite with Plastic Shells. 30'

Item 5 Non-shielded DTV cable to valve with Plastic Shells. 30'

Item 6 Two non-shielded LED Light outputs Elbow and Knee cables with Plastic Shells. 16'

Item 7 Non-shielded Water Level Sensor cable with Plastic Shells. 10'

Item 8 Non-shielded AC power cord. 1m

Item 9 User Interface

Item 10 DTV Power Supply, Kohler PN: 1043870

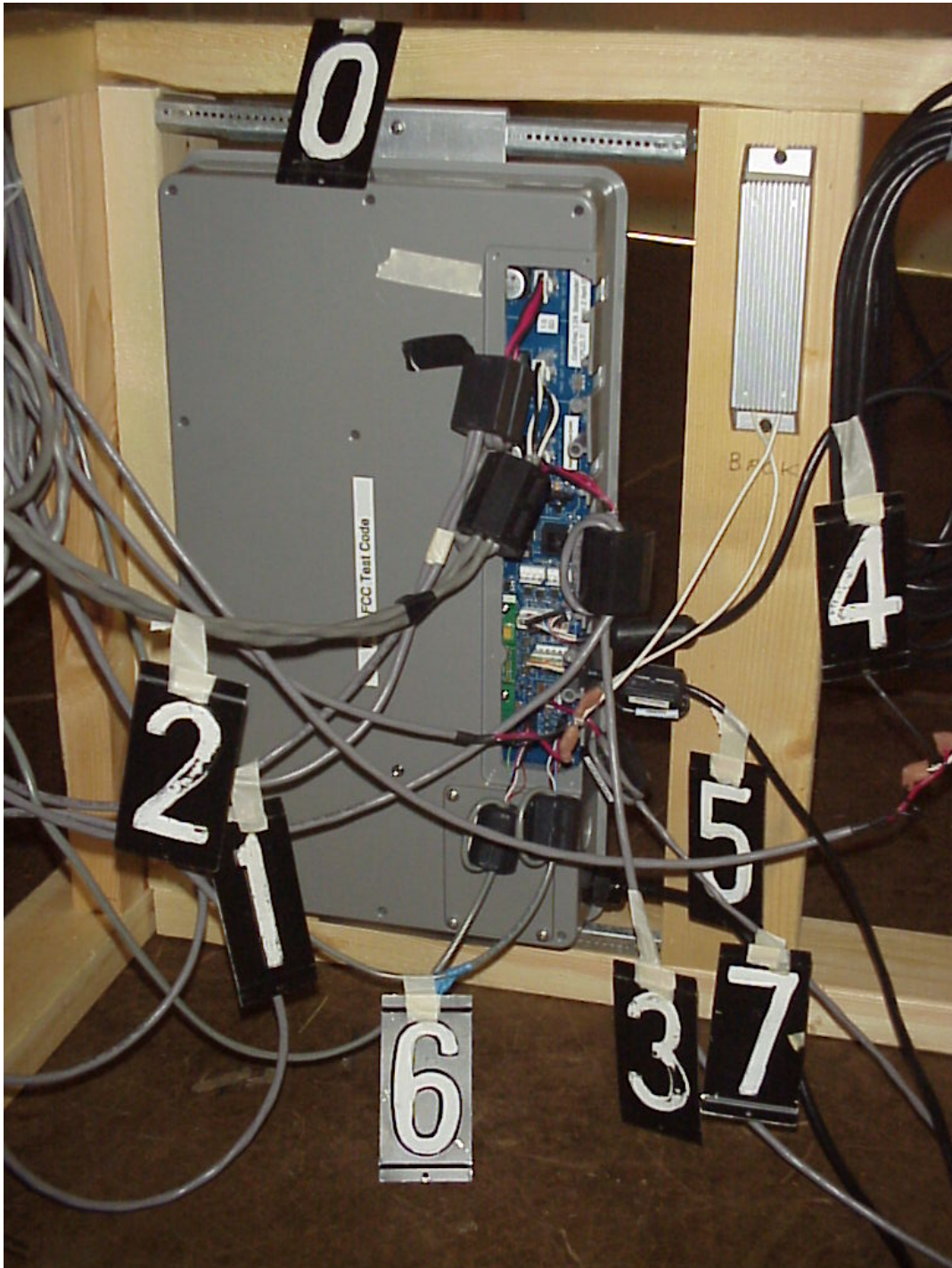
Item 11 Valve, Kohler PN: K-682-K



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10.0 RADIATED PHOTOS TAKEN DURING TESTING

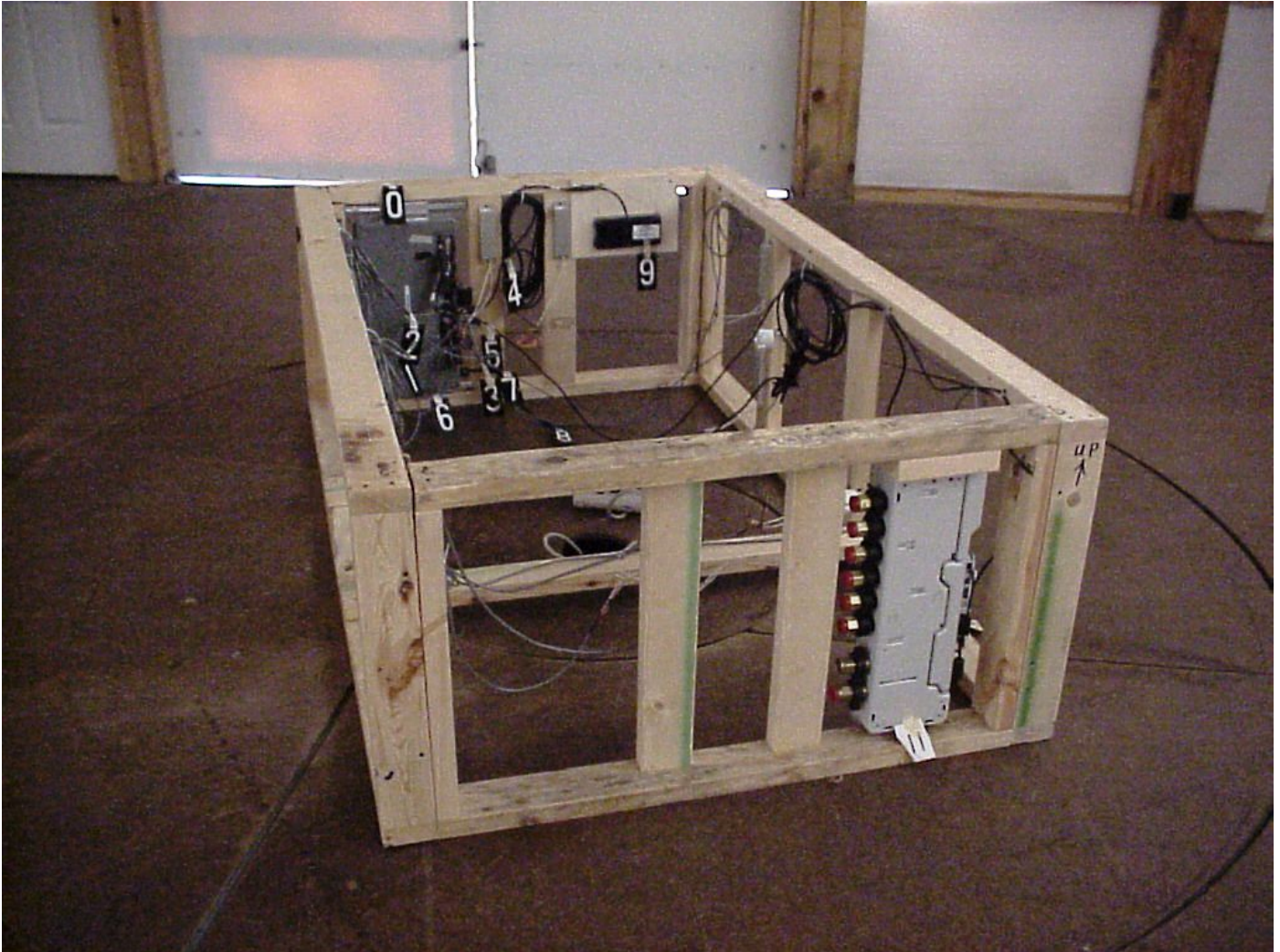




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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



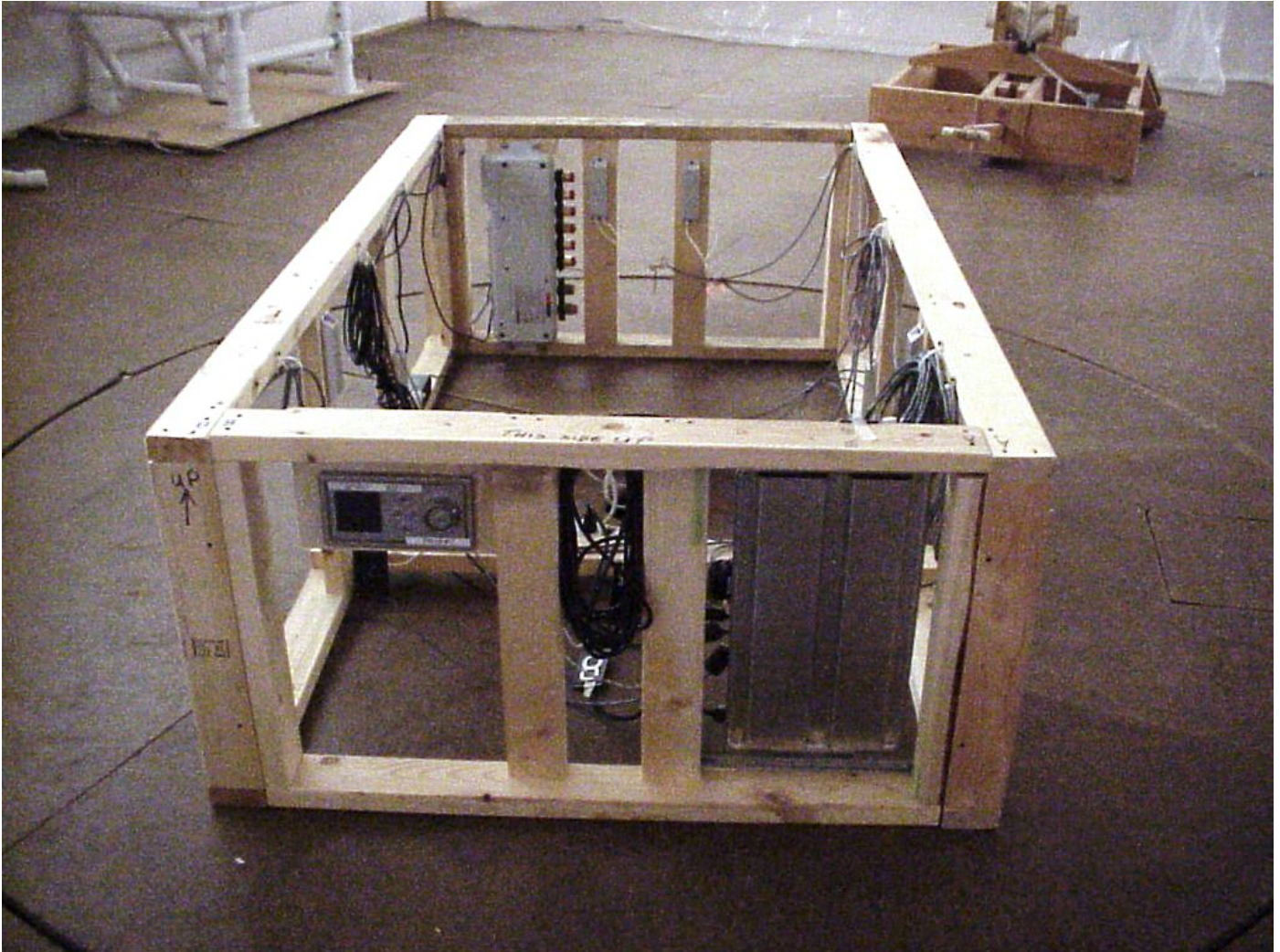
RADIATED 1



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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



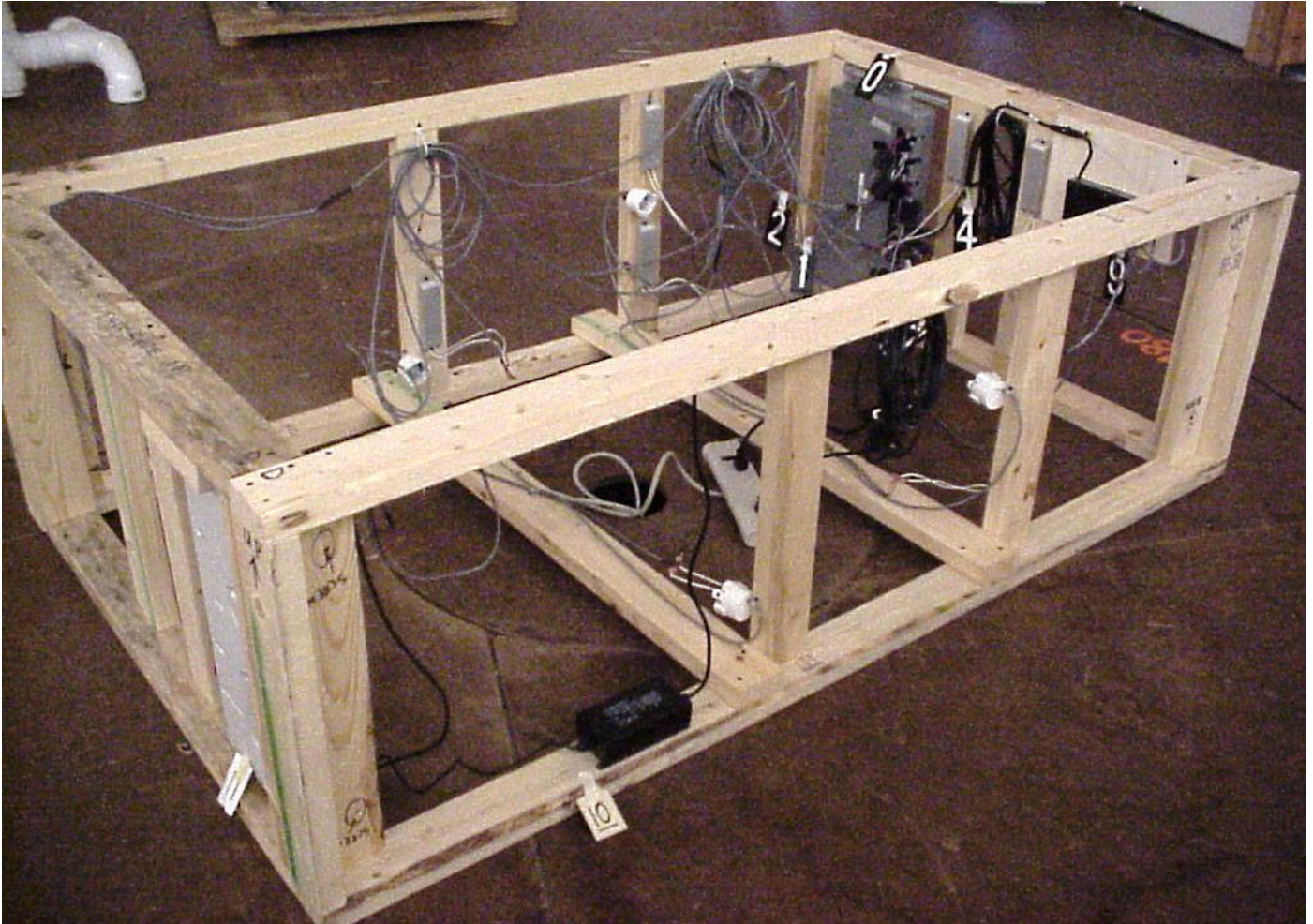
RADIATED 2



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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



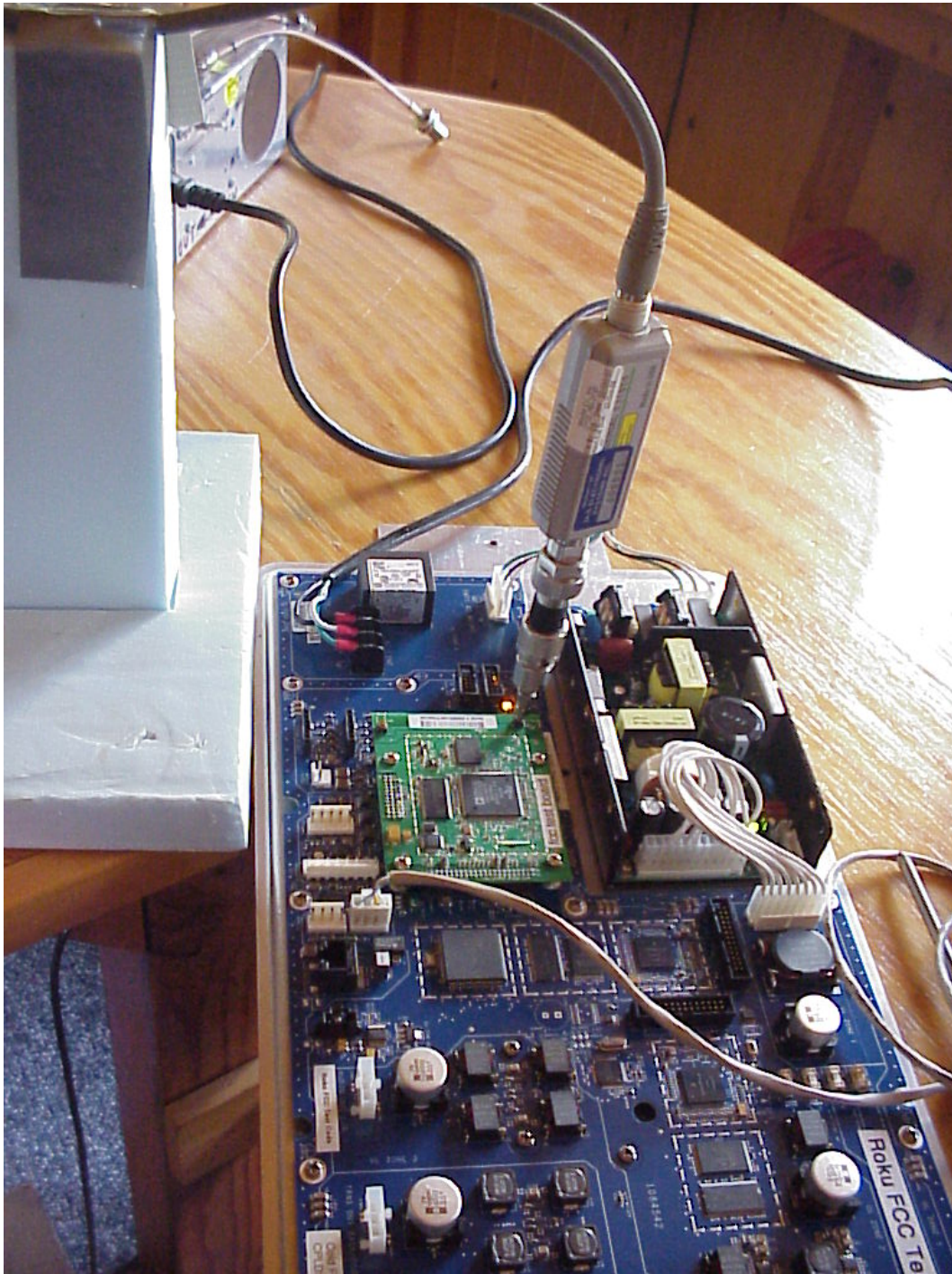
RADIATED 3



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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



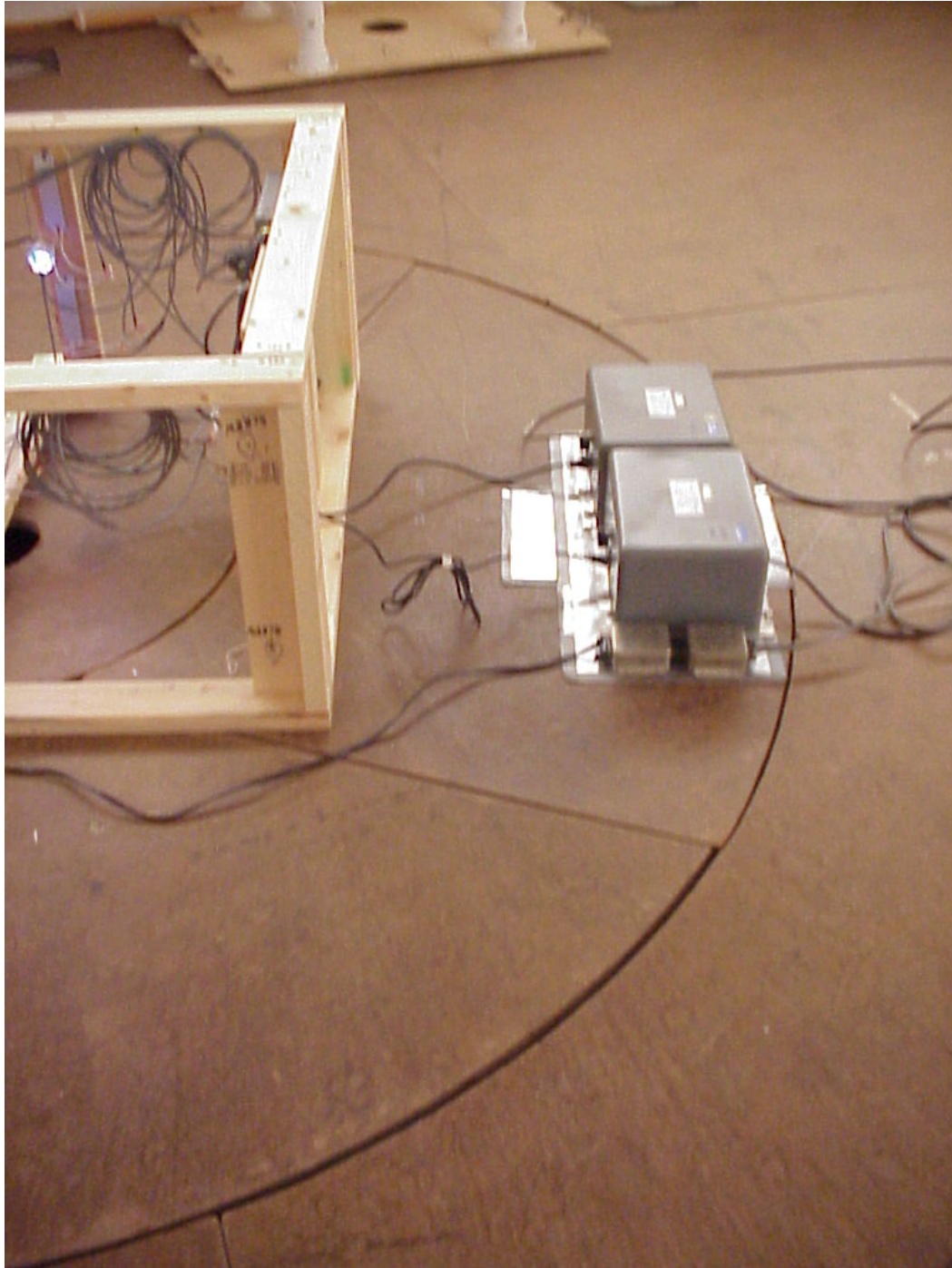
CONDUCTED OUTPUT POWER



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10.0 CONDUCTED PHOTOS TAKEN DURING TESTING





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11.0 RESULTS OF TESTS

The radio interference emission charts can be seen on the pages at the end of this report. Data sheets indicating the test measurements taken during testing can also be found at the end of this report.

12.0 CONCLUSION

It was found that the Fountain Head Bath, Model Number 1070734 **meets** the radio interference conducted and radiated emission requirements of the FCC "Rules and Regulations", Part 15, Subpart C, Section 15.247 for operational in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz, Bands.



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TABLE 1 – EQUIPMENT LIST

Test Equipment	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Due Dates
Receiver, RF, Tuned	Rohde & Schwarz	ESI 40	837808/006		3/24/2009
Preamp, RF	Miteq	AMF-6D-100200-50	313936	1-10 GHz	5/8/2009
Preamp, RF	Miteq	AMF-6D-010100-50	213976	10-18 GHz	5/8/2009
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	NA	18-26 GHz	9/18/2008
Preamp, RF	Rohde & Schwarz	TS-PR10	032001/005		3/10/2009
RF 20dB Fixed Attenuator	Aeroflex/Weinschel	75A-20-12	1071		7/18/2008
Signal Generator, RF	Rohde & Schwarz	SMR40	100092	1-40 GHz	9/27/2008
Power Meter	Anritsu	ML2487A	6K00002069		10/21/2008
Biconical Antenna	EMCO	3104C	9701-4785	20-220 MHz	4/21/2009
Log Periodic Antenna	EMCO	3146	9702-4895	200 MHz-1 GHz	4/21/2009
Horn Antenna	EMCO	3115	9903-5731	1-18 GHz	6/12/2009
Horn Antenna	EMCO	3116	2549	18-40 GHz	6/12/2009

All primary equipment is calibrated against known reference standards with a verified traceable path to NIST.



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TABLE 1 – EQUIPMENT LIST

Test Equipment	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Due Dates
High Pass Filter	Solar Electronics Co.	7930-10	921541		1/9/2009
High Pass Filter	Q Microwave, Inc.	100462	1		5/8/2009
Power Sensor	Anritsu	MA2491A	031650		10/21/2008
LISN	Solar Electronics Co.	9252-50-R-24-BNC	961019		7/18/2008
Limiter, Transient, RF	Electro-Metrics	EM7600	706		1/9/2009

All primary equipment is calibrated against known reference standards with a verified traceable path to NIST.



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APPENDIX A

TEST PROCEDURE

Part 15, Subpart C, Section 15.207

AC POWER LINE CONDUCTED EMISSIONS



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1.0 AC POWER LINE CONDUCTED EMISSION MEASUREMENTS

If applicable, the conducted emissions were measured over the frequency range from 150 kHz to 30 MHz in accordance with the power line measurements as specified in the American National Standards Institute, ANSI C63.4-2003, Section 12. Since the device is operated from the public utility lines, the 115 Vac 60 Hz power leads, high and low sides, were to be measured by connecting the measuring equipment to the appropriate meter terminal of the LISN. All signals were then recorded. The allowed levels for Intentional Radiators cannot exceed the following:

Frequency of Emissions (MHz)	Conducted Limits (dBuV)	
	Quasi Peak	Average
.15 to .5	66 to 56	56 to 46
.5 to 5	56	46
5 to 30	60	50

All conducted emissions measurements were made at a test room temperature of **72°F** at **34%** relative humidity.



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AC POWER LINE DATA AND GRAPH(S)

TAKEN DURING TESTING

PART 15.207

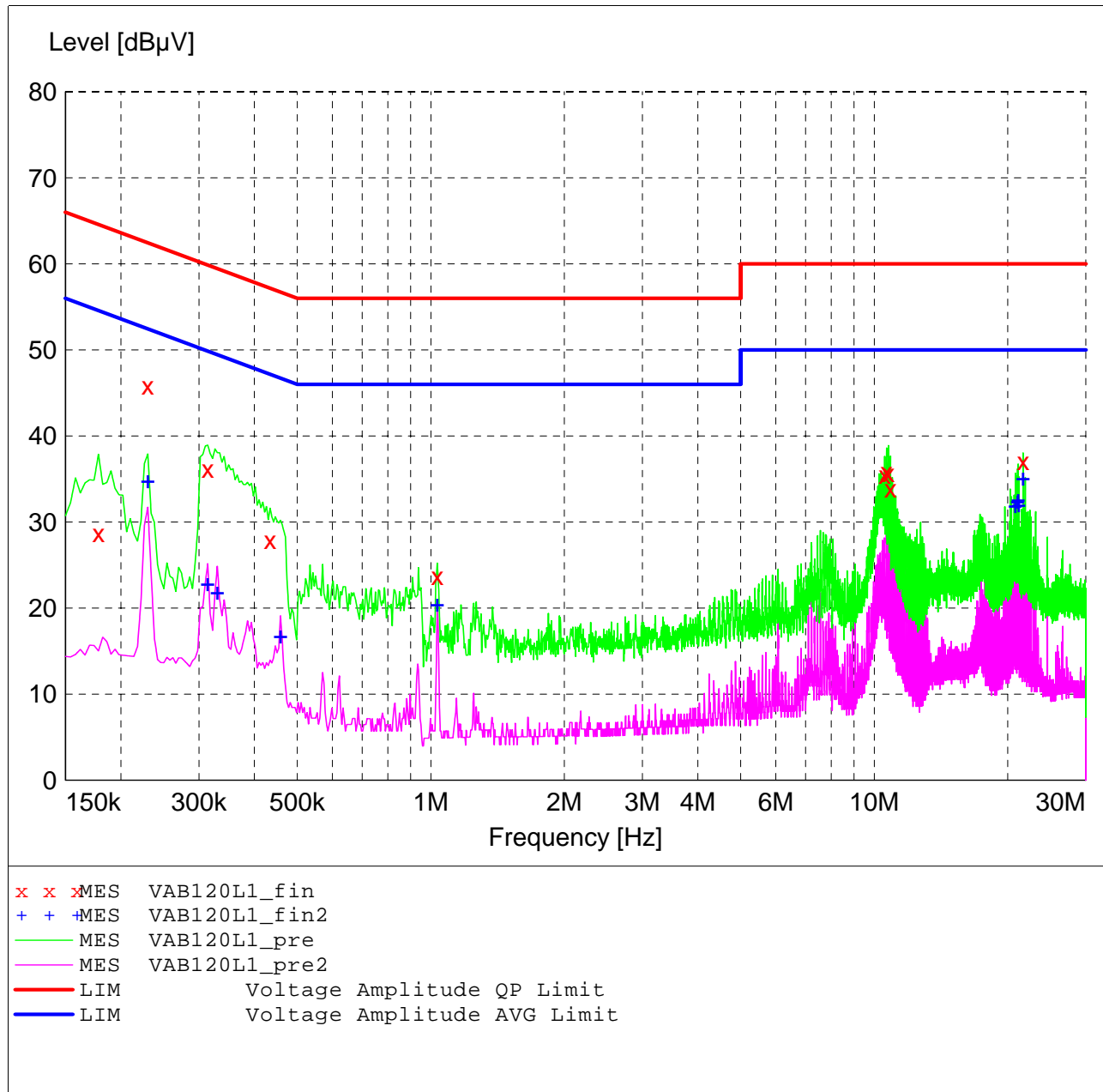
FCC Class B and RSS-210/RSS-GEN

Voltage Mains Test

EUT: Fountain Head Bath (FHB)
 Manufacturer: Kohler
 Operating Condition: 72 deg F, 34% R.H.
 Test Site: D.L.S. O.F. Site 1(Screenroom)
 Operator: Tim O
 Test Specification: 120Vac @ 60 Hz
 Comment: Line 1
 DATE: 4--2-2008

SCAN TABLE: "Line Cond Scrn RmFin"

Short Description:		Line Conducted Emissions					Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
150.0 kHz	30.0 MHz	4.0 kHz	QuasiPeak	2.0 s	9 kHz	LISN DLS#128	
CISPR AV							



MEASUREMENT RESULT: "VAB120L1_fin"

4/2/2008 10:05AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.178000	28.70	11.3	65	35.9	QP	---	---
0.230000	45.80	11.0	62	16.6	QP	---	---
0.314000	36.20	10.7	60	23.7	QP	---	---
0.434000	27.90	10.6	57	29.3	QP	---	---
1.034000	23.70	10.5	56	32.3	QP	---	---
10.558000	35.50	11.7	60	24.5	QP	---	---
10.662000	35.90	11.7	60	24.1	QP	---	---
10.766000	35.70	11.7	60	24.3	QP	---	---
10.878000	33.90	11.7	60	26.1	QP	---	---
21.662000	37.10	12.9	60	22.9	QP	---	---

MEASUREMENT RESULT: "VAB120L1_fin2"

4/2/2008 10:05AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.230000	34.90	11.0	52	17.5	CAV	---	---
0.314000	22.90	10.7	50	27.0	CAV	---	---
0.330000	21.90	10.7	50	27.6	CAV	---	---
0.458000	16.80	10.5	47	29.9	CAV	---	---
1.034000	20.50	10.5	46	25.5	CAV	---	---
20.810000	32.00	12.9	50	18.0	CAV	---	---
21.054000	32.50	12.9	50	17.5	CAV	---	---
21.114000	32.70	12.9	50	17.3	CAV	---	---
21.174000	32.10	12.9	50	17.9	CAV	---	---
21.662000	35.20	12.9	50	14.8	CAV	---	---

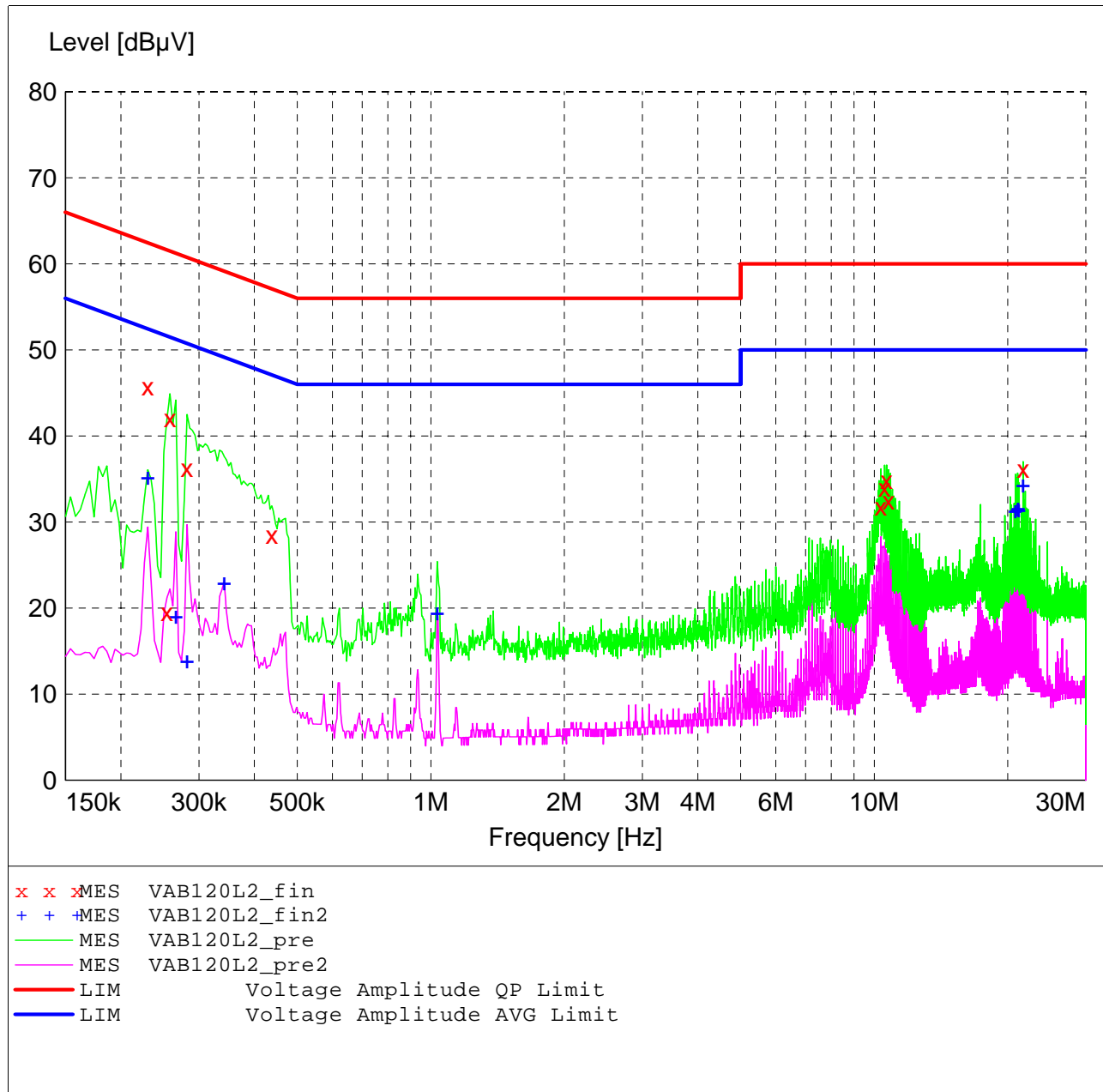
FCC Class B and RSS-210/RSS-GEN

Voltage Mains Test

EUT: Fountain Head Bath (FHB)
 Manufacturer: Kohler
 Operating Condition: 72 deg F, 34% R.H.
 Test Site: D.L.S. O.F. Site 1(Screenroom)
 Operator: Tim O
 Test Specification: 120Vac @ 60 Hz
 Comment: Line 2
 DATE: 4--2-2008

SCAN TABLE: "Line Cond Scrn RmFin"

Short Description:		Line Conducted Emissions					Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
150.0 kHz	30.0 MHz	4.0 kHz	QuasiPeak	2.0 s	9 kHz	LISN DLS#128	
CISPR AV							



MEASUREMENT RESULT: "VAB120L2_fin"

4/2/2008 10:11AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.230000	45.70	11.0	62	16.7	QP	---	---
0.254000	19.50	10.9	62	42.1	QP	---	---
0.258000	42.00	10.9	62	19.5	QP	---	---
0.282000	36.30	10.8	61	24.5	QP	---	---
0.438000	28.50	10.6	57	28.6	QP	---	---
10.350000	31.80	11.6	60	28.2	QP	---	---
10.554000	34.00	11.7	60	26.0	QP	---	---
10.662000	34.90	11.7	60	25.1	QP	---	---
10.774000	32.50	11.7	60	27.5	QP	---	---
21.662000	36.20	12.9	60	23.8	QP	---	---

MEASUREMENT RESULT: "VAB120L2_fin2"

4/2/2008 10:11AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.230000	35.30	11.0	52	17.1	CAV	---	---
0.266000	19.10	10.8	51	32.1	CAV	---	---
0.282000	13.90	10.8	51	36.9	CAV	---	---
0.342000	23.00	10.7	49	26.2	CAV	---	---
1.034000	19.50	10.5	46	26.5	CAV	---	---
20.810000	31.40	12.9	50	18.6	CAV	---	---
21.054000	31.60	12.9	50	18.4	CAV	---	---
21.114000	31.70	12.9	50	18.3	CAV	---	---
21.174000	31.50	12.9	50	18.5	CAV	---	---
21.662000	34.40	12.9	50	15.6	CAV	---	---



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APPENDIX B

TEST PROCEDURE

Part 15, Subpart C, Section 15.247 (a-h)

OPERATION WITHIN THE BAND 902-928 MHz,

2400-2483.5 MHz AND 5725-5857 MHz

NOTE:

Per the FCC's guidance document "**Measurement of Digital Transmission Systems Operating under Section 15.247** - March 23, 2005", as indicated in the test data section of this test report.



Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

1.0 SPURIOUS EMISSIONS AT ANTENNA TERMINALS – PART 15.247(c) & FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005".

Spurious conducted emissions were measured at the antenna terminals. Plots were made showing the amplitude of each harmonic emission with the equipment operated. As shown by the radiated charts there was no reason to believe that there were any spurious emissions other than the harmonics that were than individually investigated when doing the conducted test at the antenna terminals. Measurements were made up to the 10th harmonic of the fundamental.

The allowed emissions for transmitters operating in the 2412 MHz - 2462 MHz bands for Fountain Head Bath equipment are found under Part 15, Section 15.247(c). This paragraph states that in any 100 kHz bandwidth outside the frequency band which the spread spectrum intentional radiator is operating, the radio frequency power produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

NOTE: See the following pages for the data and graphs of the actual measurements made:



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

RF CONDUCTED EMISSION DATA AND GRAPH(S)

TAKEN FOR

SPURIOUS EMISSION MEASUREMENTS MADE

AT THE ANTENNA TERMINALS

PART 15.247(c)



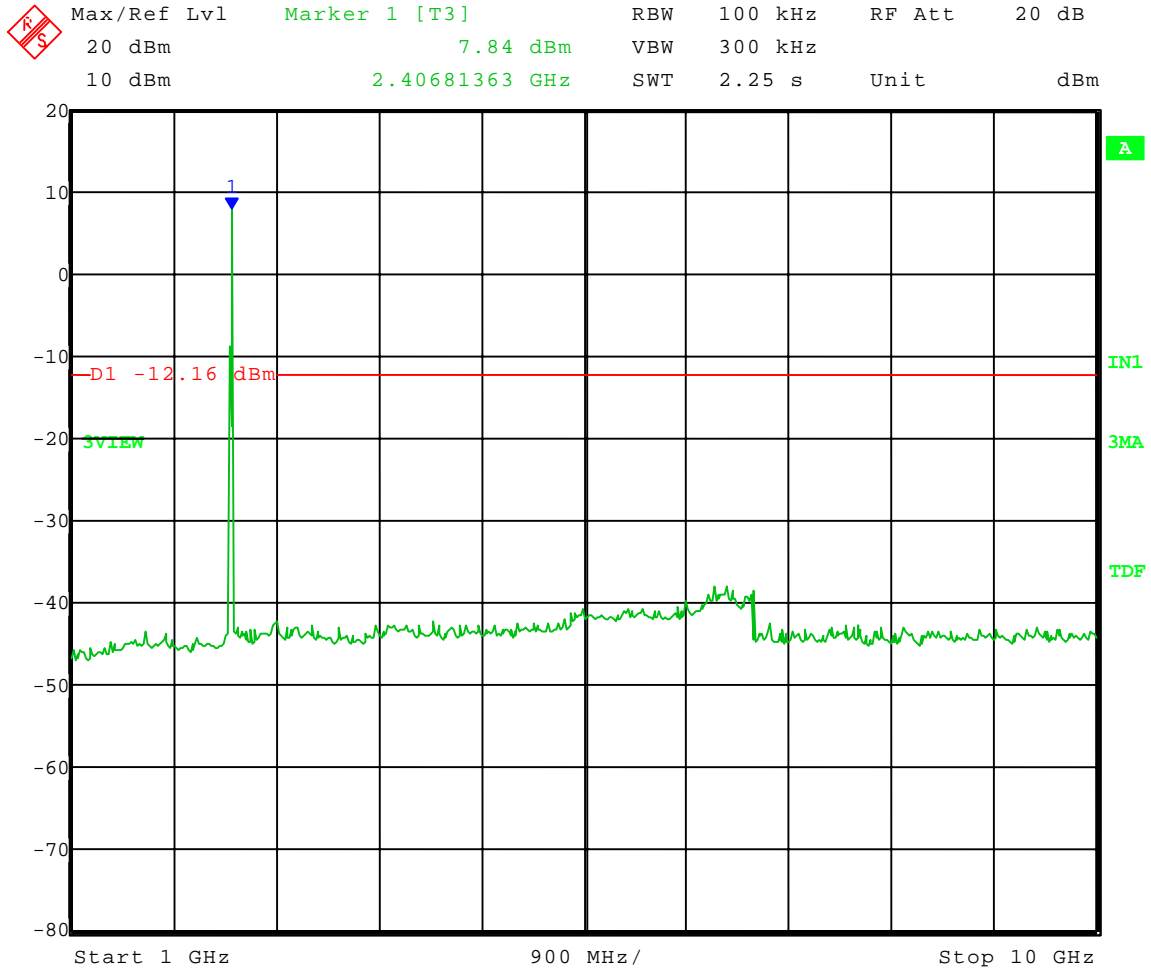
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Co.
 EUT: Fountain Head Bath (FHB)
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Comment: Low Channel Transmit = 2.412 GHz
 Frequency Range: 1 to 10 GHz
 Limit = -12.16 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 15:39:11



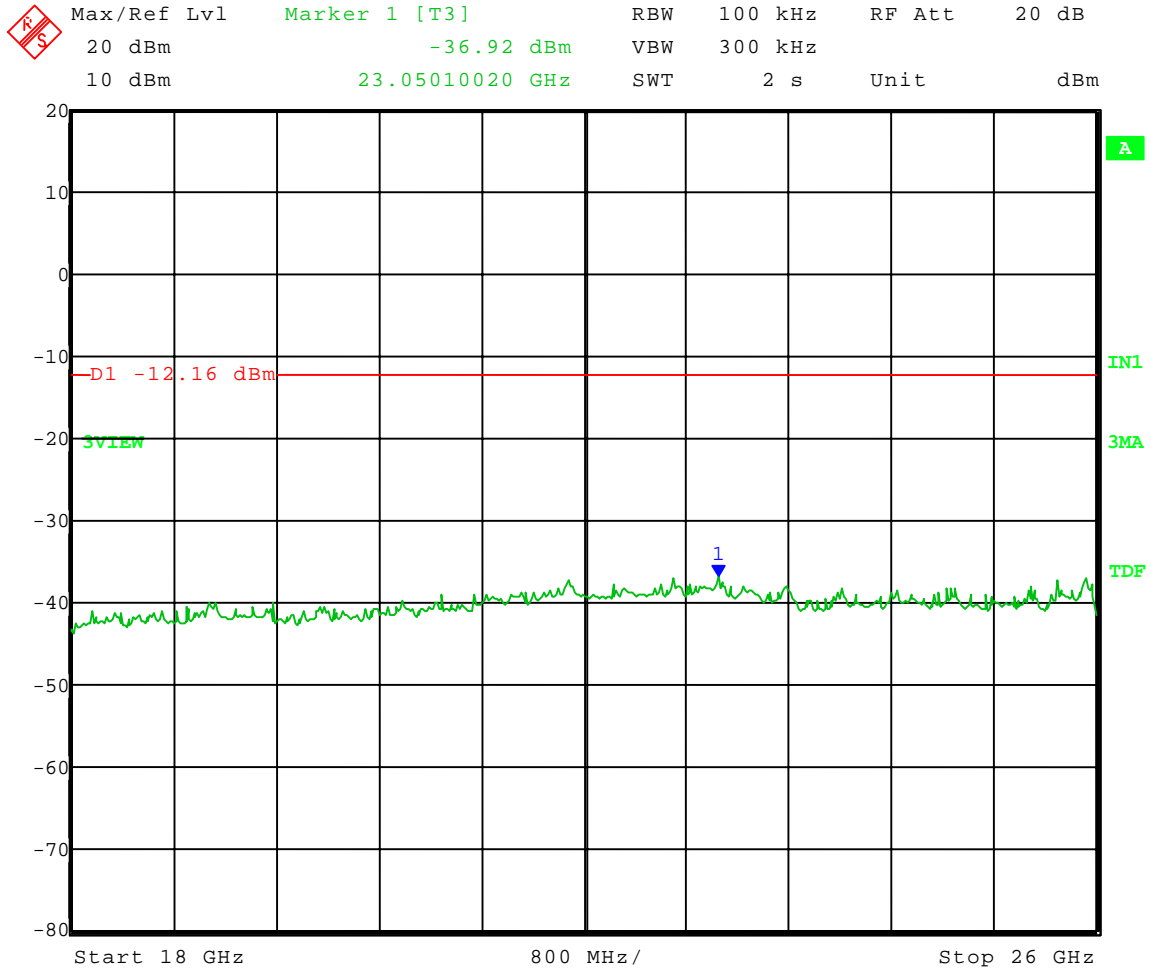
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Low Channel Transmit = 2.412 GHz
Frequency Range: 18 to 26 GHz
Limit = -12.16 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 15:43:42



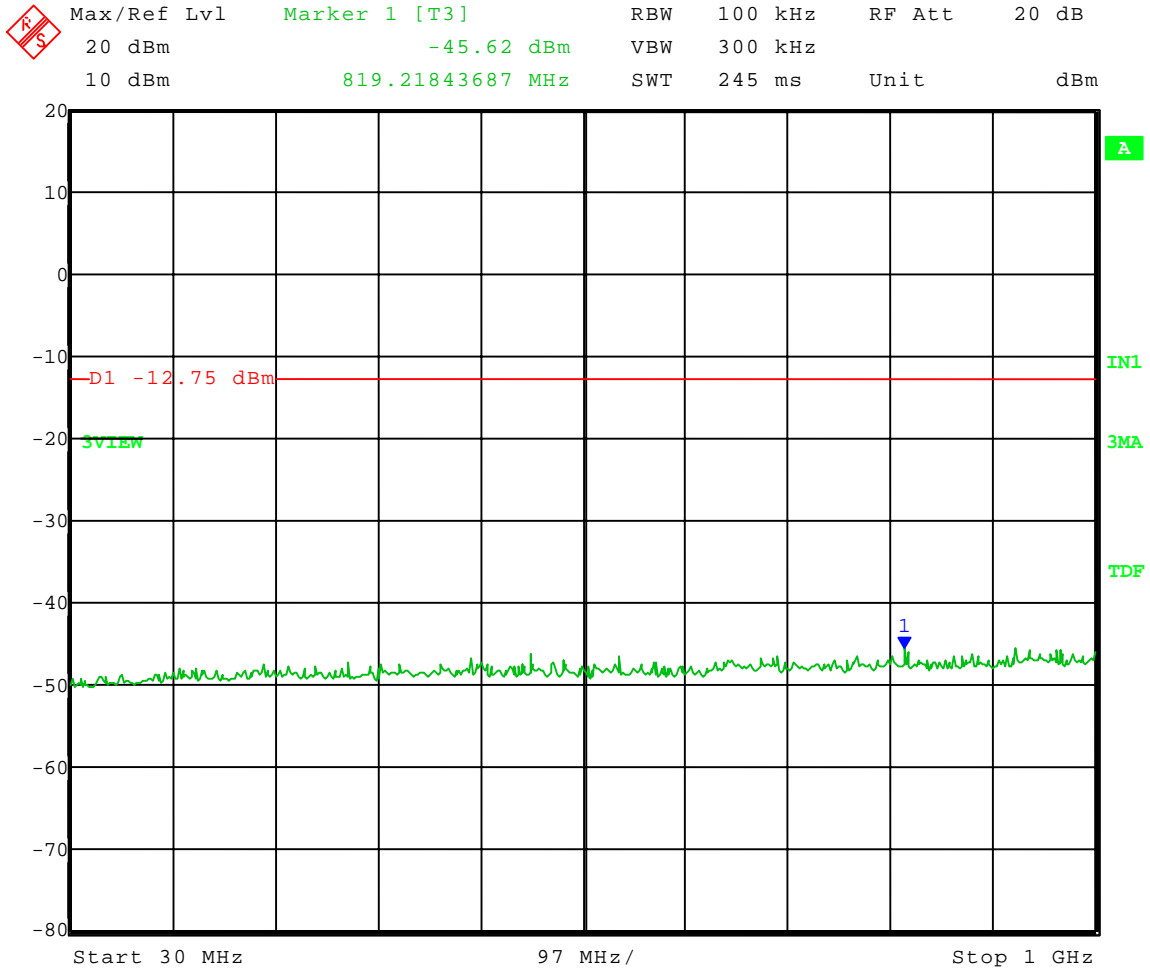
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Co.
 EUT: Fountain Head Bath (FHB)
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Comment: Mid Channel Transmit = 2.437 GHz
 Frequency Range: 30 to 1000 MHz
 Limit = -12.75 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 16:07:25



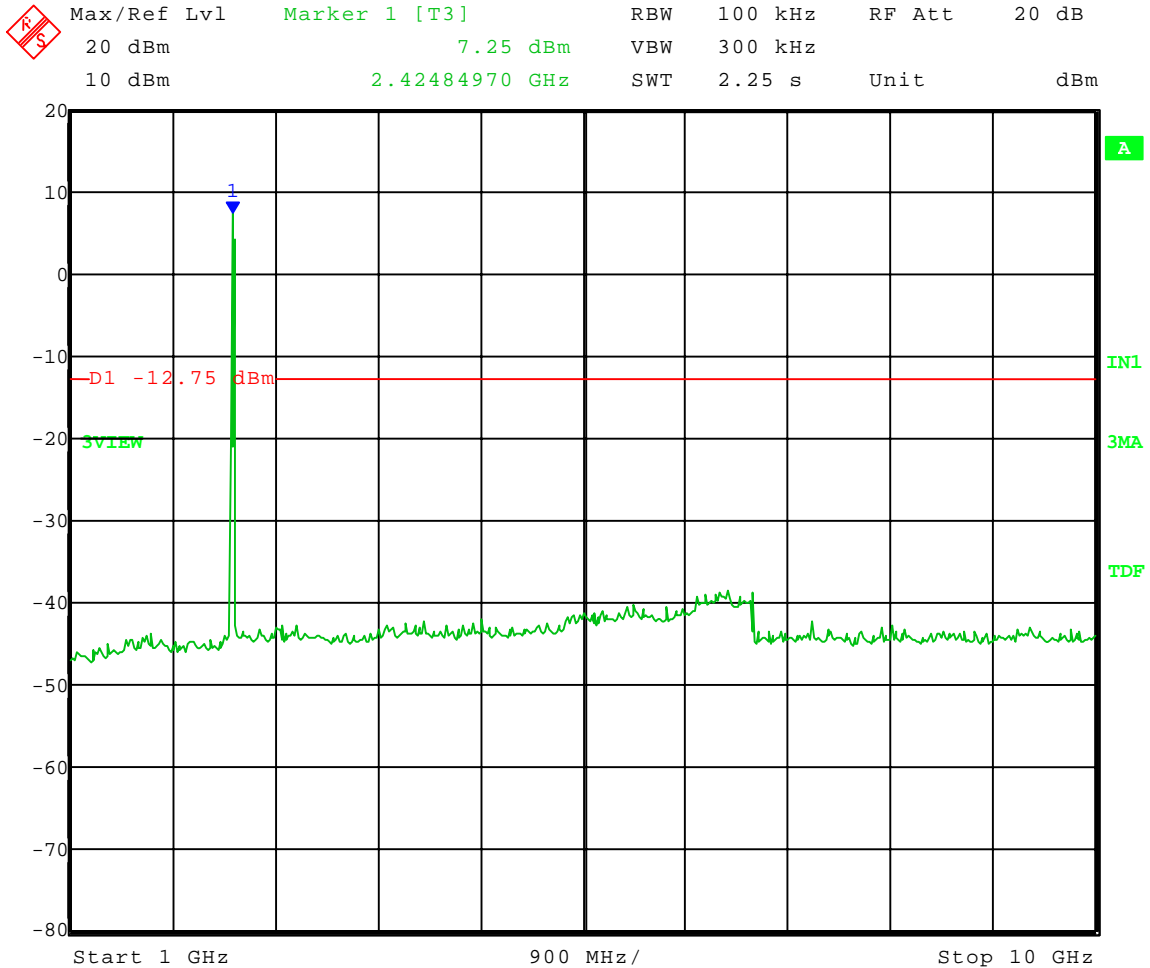
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: **Mid Channel** Transmit = 2.437 GHz
Frequency Range: **1 to 10 GHz**
Limit = -12.75 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency





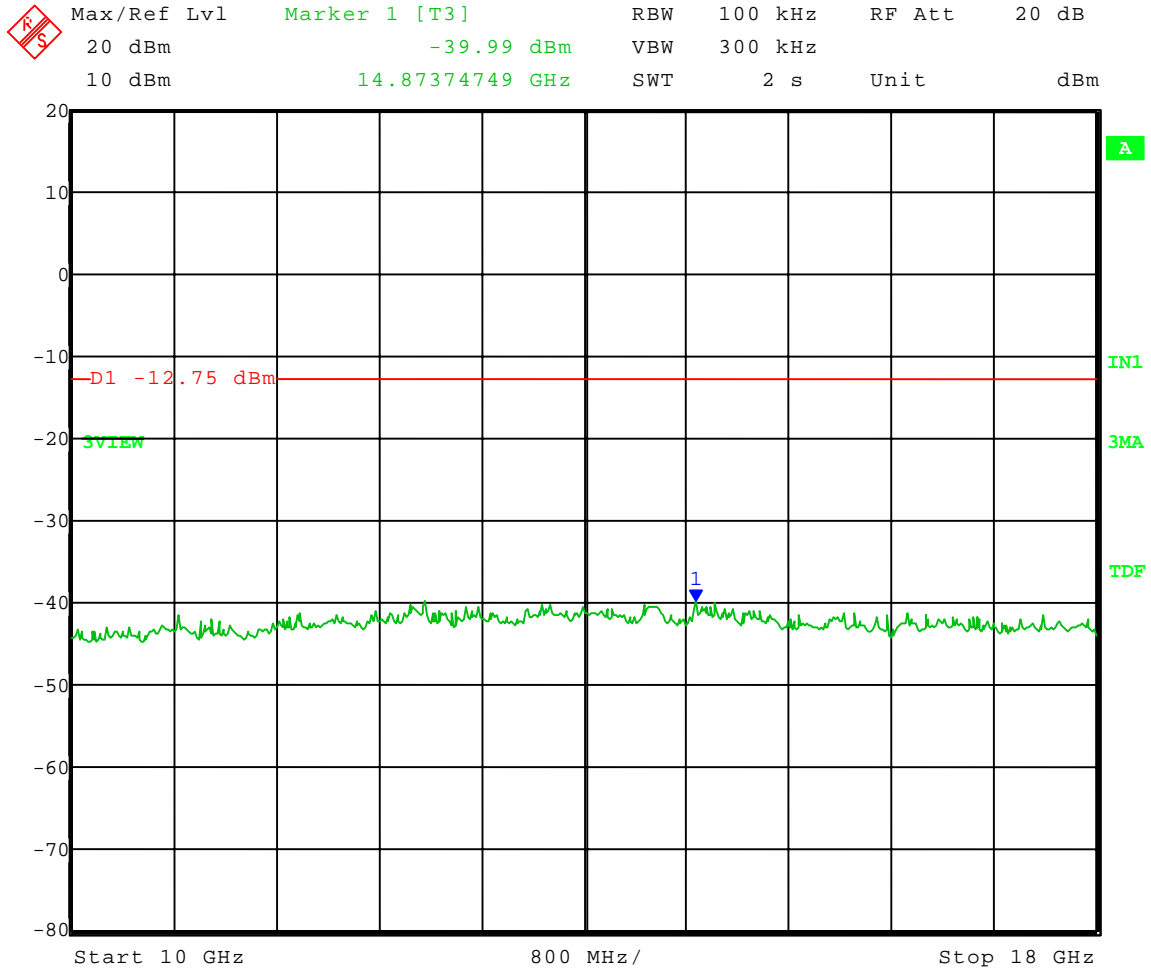
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Co.
 EUT: Fountain Head Bath (FHB)
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Comment: Mid Channel Transmit = 2.437 GHz
 Frequency Range: 10 to 18 GHz
 Limit = -12.75 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 16:04:35



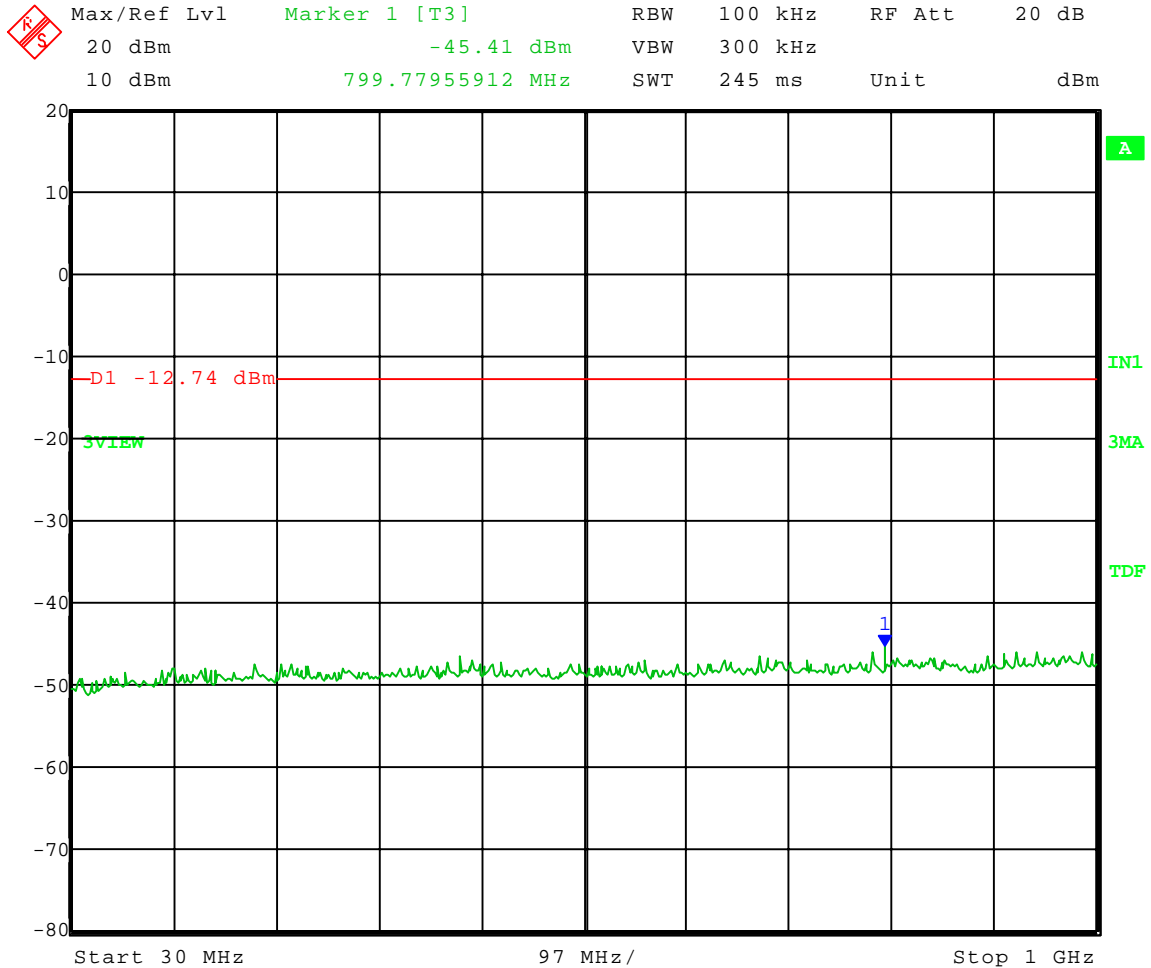
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: **High Channel** Transmit = 2.462 GHz
Frequency Range: **30 to 1000 MHz**
Limit = -12.74 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 16:30:05



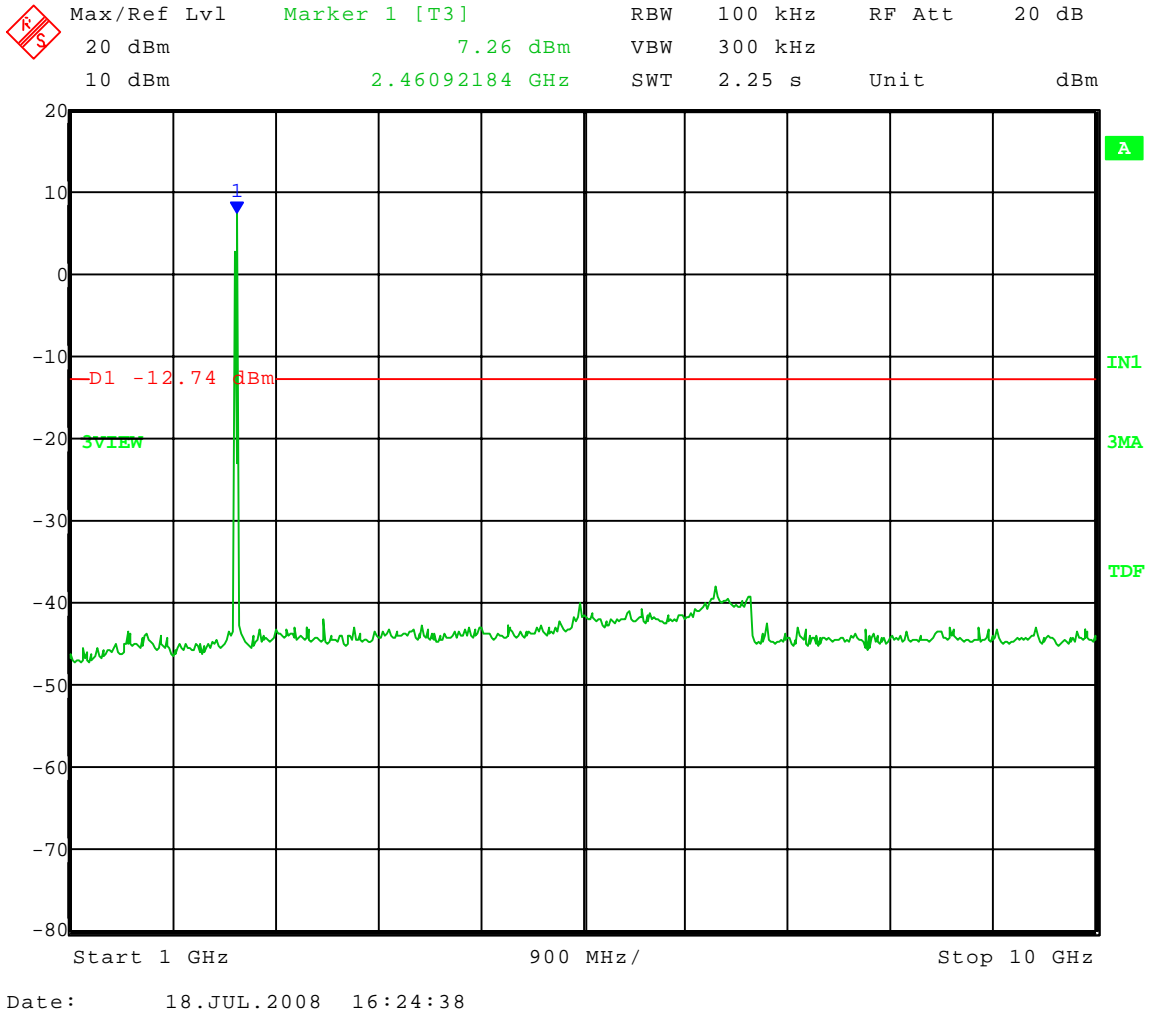
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Co.
 EUT: Fountain Head Bath (FHB)
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Comment: High Channel Transmit = 2.462 GHz
 Frequency Range: 1 to 10 GHz
 Limit = -12.74 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency





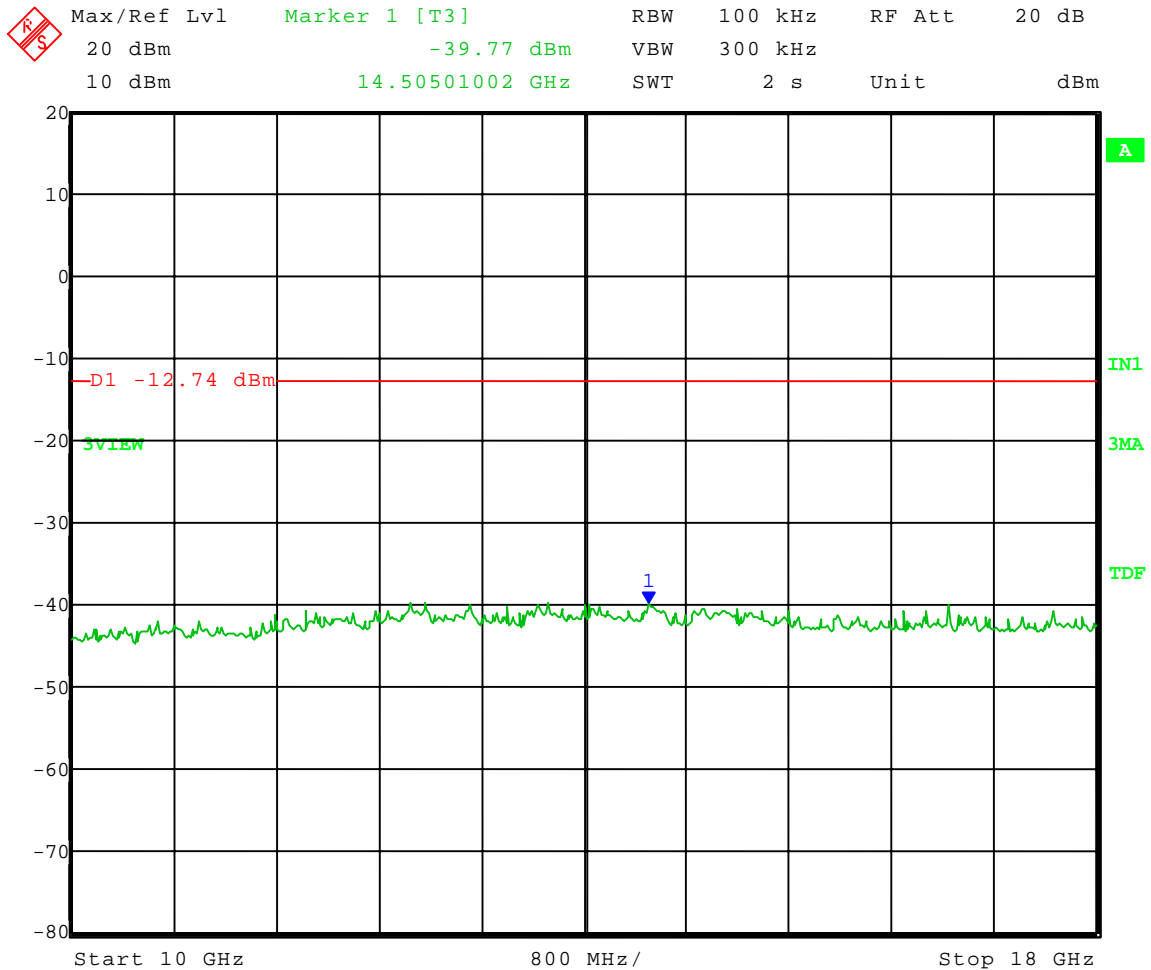
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Co.
 EUT: Fountain Head Bath (FHB)
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Comment: **High Channel** Transmit = 2.462 GHz
 Frequency Range: **10 to 18 GHz**
 Limit = -12.74 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 16:27:04



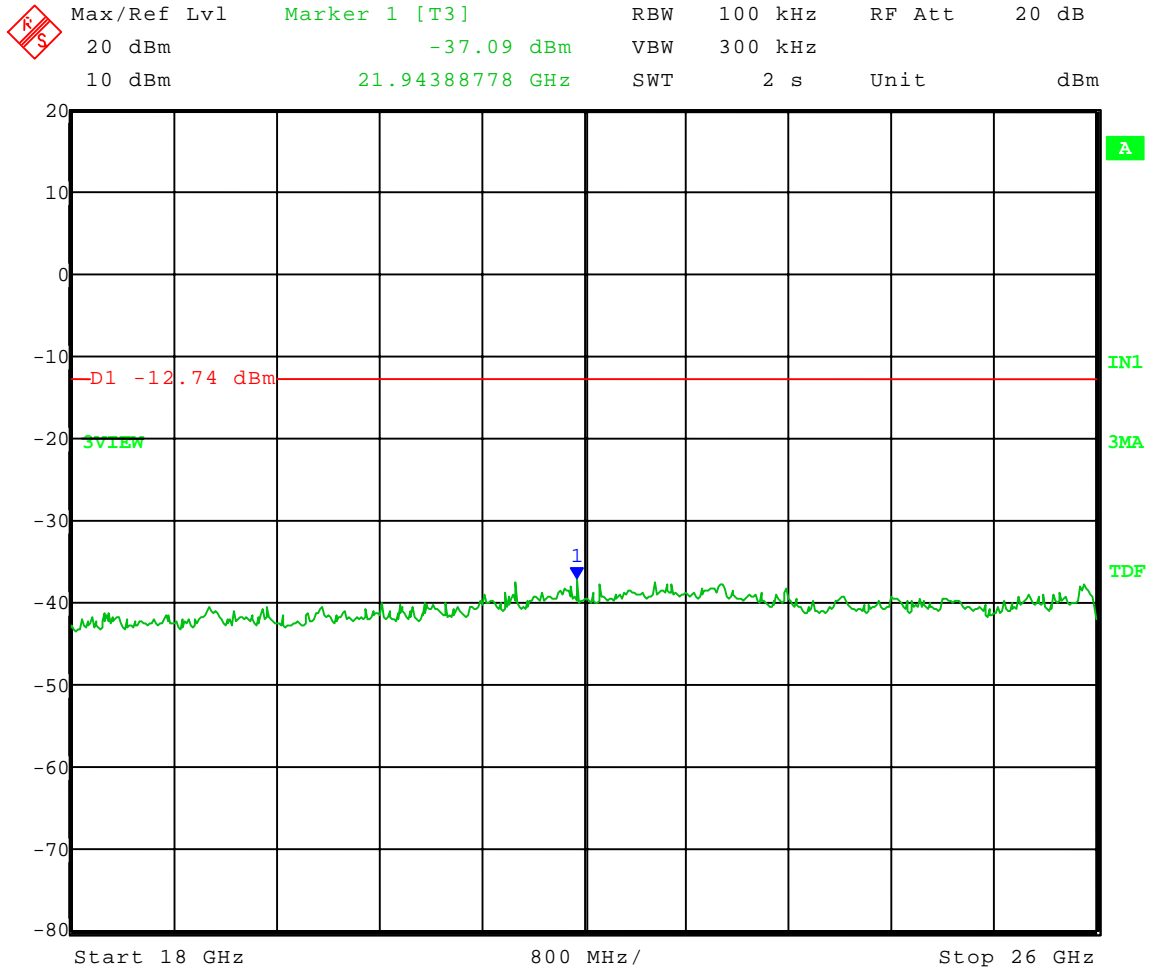
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: **High Channel** Transmit = 2.462 GHz
Frequency Range: **18 to 26 GHz**
Limit = -12.74 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 18.JUL.2008 16:28:33

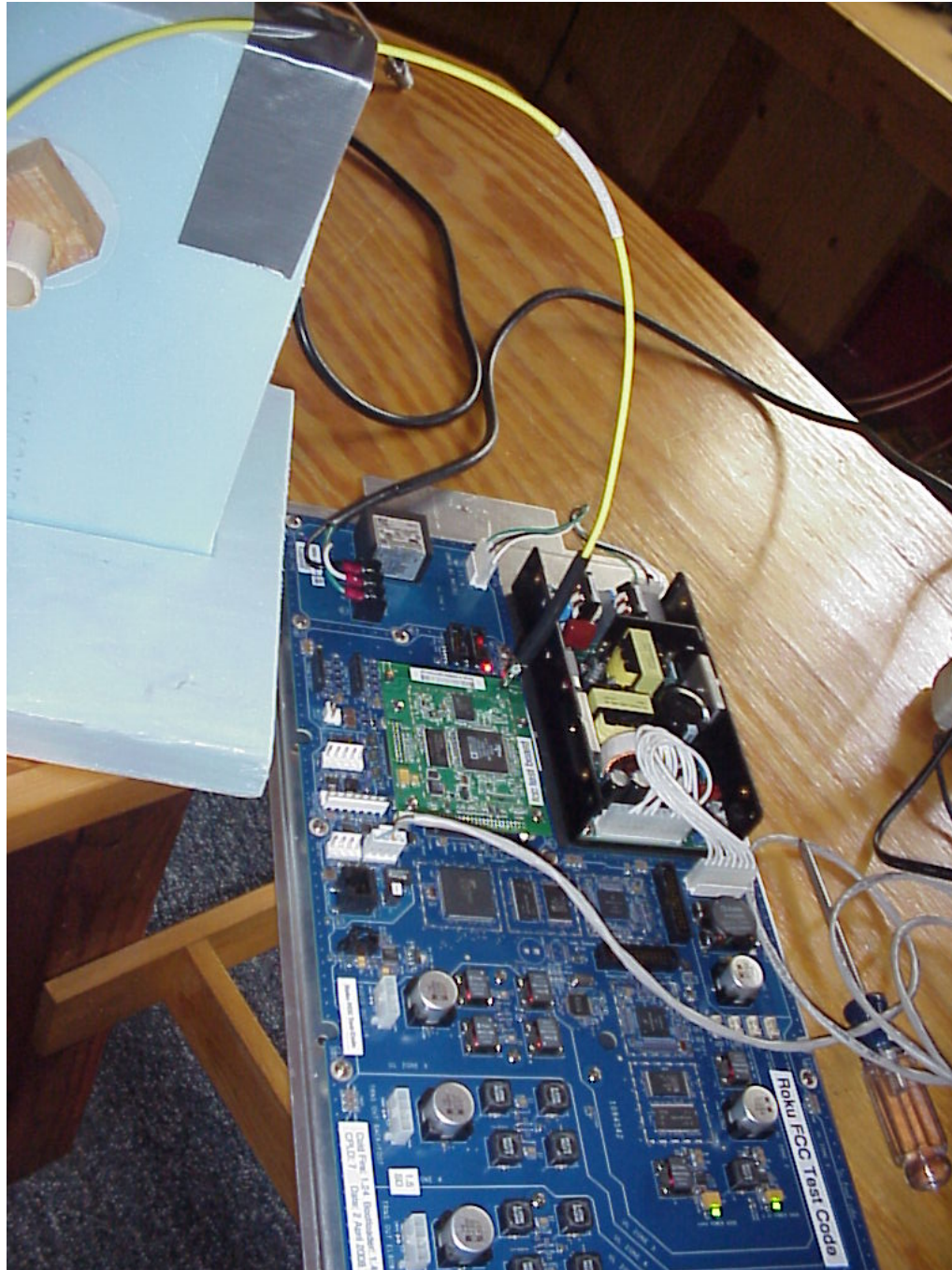


Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

2.0 RF CONDUCTED EMISSIONS (ANTENNA TERMINAL) PHOTOS TAKEN DURING TESTING





Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

3.0 RESTRICTED BANDS

As stated in Section 15.205a, the fundamental emission from the Fountain Head Bath shall not fall within any of the bands listed below:

Frequency in MHz	Frequency in MHz	Frequency in MHz	Frequency in GHz
.0900 to .1100	162.0125 to 167.17	2310.0 to 2390	9.30 to 9.50
.4900 to .5100	167.7200 to 173.20	2483.5 to 2500	10.60 to 12.70
2.1735 to 2.1905	240.000 to 285.00	2655.0 to 2900	13.25 to 13.40
8.362 to 8.3660	322.200 to 335.40	3260.0 to 3267	14.47 to 14.50
13.36 to 13.410	399.900 to 410.00	3332.0 to 3339	15.35 to 16.20
25.50 to 25.670	608.000 to 614.00	3345.8 to 3358	17.70 to 21.40
37.50 to 38.250	960.000 to 1240.00	3600.0 to 4400	22.01 to 23.13
73.00 to 75.500	1300.000 to 1427.00	4500.0 to 5250	23.60 to 24.00
108.00 to 121.94	1435.000 to 1626.50	5350.0 to 5450	31.20 to 31.80
123.00 to 138.00	1660.000 to 1710.00	7250.0 to 7750	36.43 to 36.50
149.90 to 150.00	1718.800 to 1722.20	8025.0 to 8500	ABOVE 38.60
156.70 to 156.90	2200.000 to 2300.00	9000.0 to 9200	

NOTE:

The noise floor within the Restricted Bands for the EMC Receiver will typically lay 20 dB below the limit.

4.0 RESTRICTED BAND AND BAND EDGE COMPLIANCE

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the attenuation below the general limits specified in 15.209 is not required.

The field strength of any **radiated emissions** which fall within the restricted bands shall not exceed the general radiated emissions limits as stated Section 15.209.

NOTE: See the following page(s) for the graph(s) made showing compliance for Restricted Band and Band Edge Compliance:



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING

THE RESTRICTED BAND COMPLIANCE

PART 15.247(c)



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands
1 – 10 GHz Tested at a 3 Meter Distance
10 – 26 GHz Tested at a 1 Meter Distance

EUT: Fountain Head Bath (FHB)
Manufacturer: Kohler Company
Operating Condition: 70 deg F; 36% R.H.
Test Site: Site 3
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205, & RSS-210 Annex 8
Comment: Continuous Transmit.
Date: 05/28/2008

- Notes:** (1) Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz
 (2) Average measurements were taken with RBW = 1 MHz, VBW = 10 Hz
 (3) All other restricted band emissions at least 20 dB under the limit.

Channel 1:

Frequency (GHz)	Measurement Type	Ant. Pol.	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction (dB)	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
4.824	Average	Vert	54.28	32.85	-32.3	54.8	-32.2	22.6	54	31.4	Res. Band
4.824	Max Peak	Vert	67.80	32.85	-32.3	68.4	---	68.4	74	5.7	Res. Band
4.824	Average	Horz	52.91	32.85	-32.3	53.5	-32.2	21.3	54	32.7	Res. Band
4.824	Max Peak	Horz	66.81	32.85	-32.3	67.4	---	67.4	74	6.6	Res. Band



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands
1 – 10 GHz Tested at a 3 Meter Distance
10 – 26 GHz Tested at a 1 Meter Distance

EUT: Fountain Head Bath (FHB)
Manufacturer: Kohler Company
Operating Condition: 70 deg F; 36% R.H.
Test Site: Site 3
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205, & RSS-210 Annex 8
Comment: Continuous Transmit.
Date: 05/28/2008

- Notes:** (1) Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz
 (2) Average measurements were taken with RBW = 1 MHz, VBW = 10 Hz
 (3) All other restricted band emissions at least 20 dB under the limit.

Channel 6:

Frequency (GHz)	Measurement Type	Ant. Pol.	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction (dB)	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
4.874	Average	Vert	54.62	32.95	-32.3	55.3	-32.2	23.1	54	30.9	Res. Band
4.874	Max Peak	Vert	68.03	32.95	-32.3	68.7	---	68.7	74	5.3	Res. Band
4.874	Average	Horz	53.61	32.95	-32.3	54.3	-32.2	22.1	54	31.9	Res. Band
4.874	Max Peak	Horz	66.67	32.95	-32.3	67.3	---	67.3	74	6.7	Res. Band
7.311	Average	Vert	38.94	35.95	-30.6	44.3	-32.2	12.1	54	41.9	Res. Band
7.311	Max Peak	Vert	51.57	35.95	-30.6	56.9	---	56.9	74	17.1	Res. Band
7.311	Average	Horz	40.02	35.95	-30.6	45.4	-32.2	13.2	54	40.8	Res. Band
7.311	Max Peak	Horz	52.93	35.95	-30.6	58.3	---	58.3	74	15.7	Res. Band



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands
1 – 10 GHz Tested at a 3 Meter Distance
10 – 26 GHz Tested at a 1 Meter Distance

EUT: Fountain Head Bath (FHB)
Manufacturer: Kohler Company
Operating Condition: 70 deg F; 36% R.H.
Test Site: Site 3
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205, & RSS-210 Annex 8
Comment: Continuous Transmit.
Date: 05/28/2008

- Notes:** (1) Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz
 (2) Average measurements were taken with RBW = 1 MHz, VBW = 10 Hz
 (3) All other restricted band emissions at least 20 dB under the limit.

Channel 11:

Frequency (GHz)	Measurement Type	Ant. Pol.	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction (dB)	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
4.924	Average	Vert	56.37	33.05	-32.4	57.0	-32.2	24.8	54	29.2	Res. Band
4.924	Max Peak	Vert	70.32	33.05	-32.4	71.0	---	71.0	74	3.0	Res. Band
4.924	Average	Horz	54.57	33.05	-32.4	55.2	-32.2	23.0	54	31.0	Res. Band
4.924	Max Peak	Horz	67.87	33.05	-32.4	68.5	---	68.5	74	5.5	Res. Band
7.386	Average	Vert	39.76	36.13	-30.4	45.5	-32.2	13.3	54	40.7	Res. Band
7.386	Max Peak	Vert	53.26	36.13	-30.4	59.0	---	59.0	74	15.0	Res. Band
7.386	Average	Horz	41.35	36.13	-30.4	47.1	-32.2	14.9	54	39.1	Res. Band
7.386	Max Peak	Horz	53.89	36.13	-30.4	59.6	---	59.6	74	14.4	Res. Band



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING THE BAND EDGE CONDUCTED COMPLIANCE

PART 15.247(c)

NOTE:

Using FCC Guidance Document "**Measurement of Digital Transmission Systems Operating under Section 15.247** - March 23, 2005".



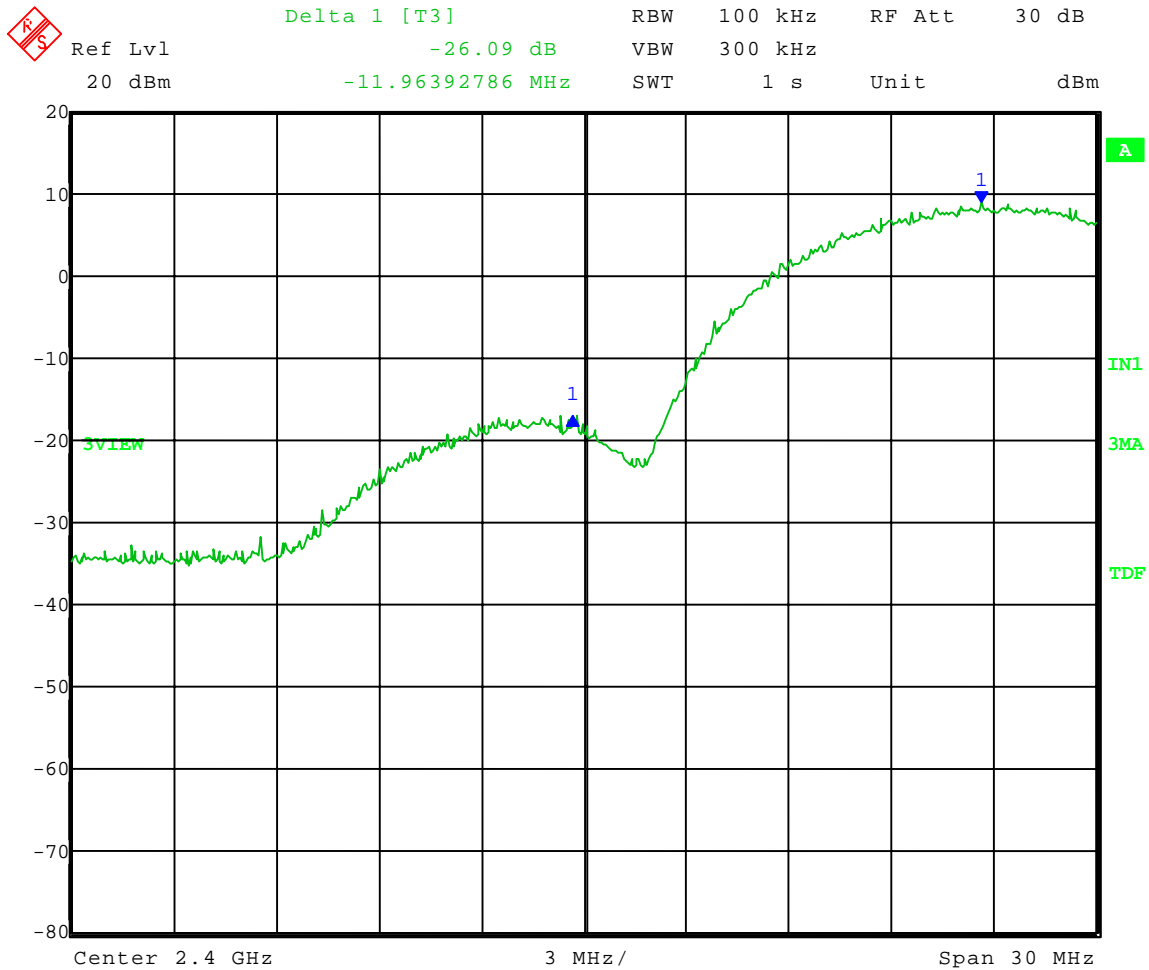
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: **Low Band**-Edge Compliance - Conducted
Operator: Craig B
Comment: Low Channel: Frequency – 2.412 GHz

Band-Edge Frequency = 2.4 GHz
Band-Edge > 20 dB Below Peak In-Band Emission



Date: 18.JUL.2008 15:36:02



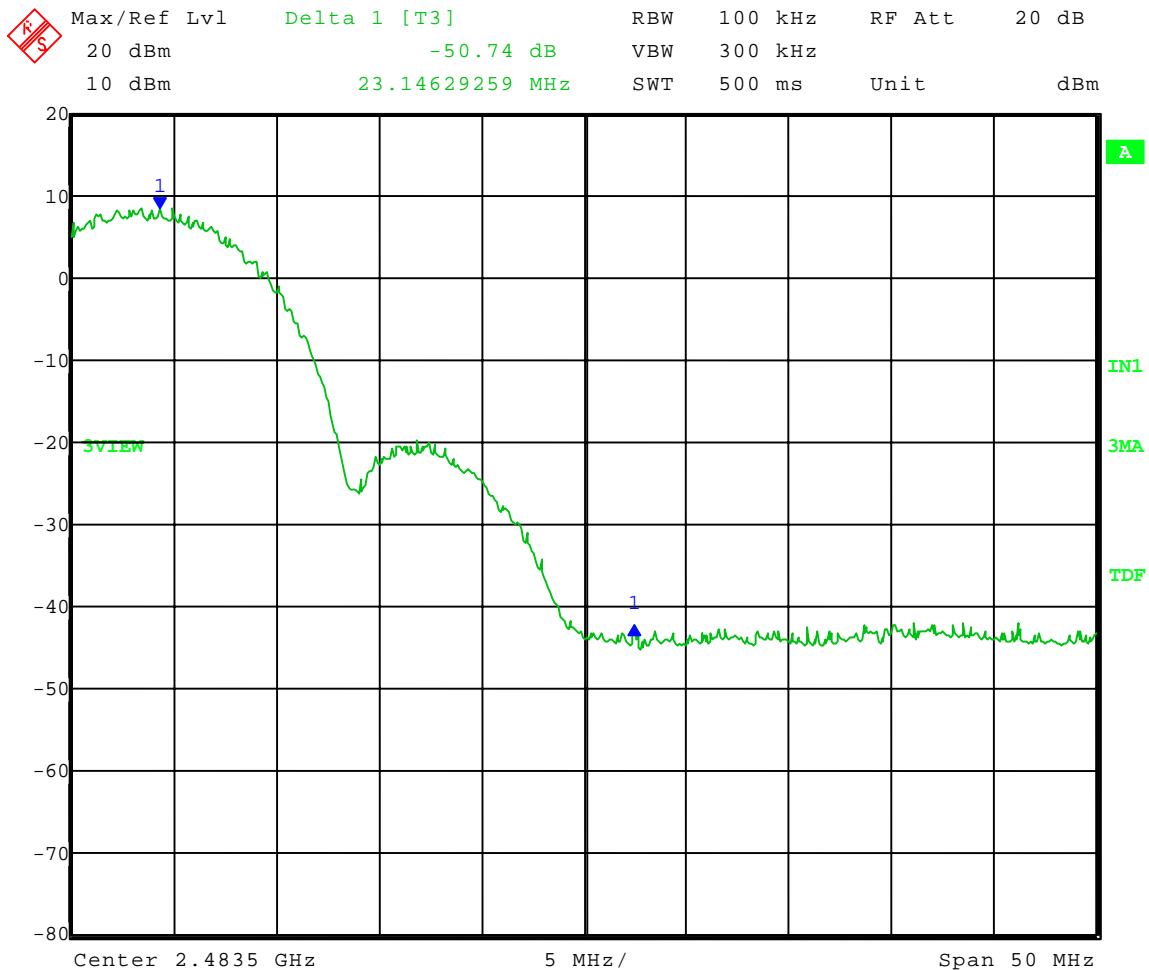
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: High Band-Edge Compliance - Conducted
Operator: Craig B
Comment: **High Channel:** Frequency – 2.462 GHz

Band-Edge Frequency = 2.4835 GHz
Band-Edge > 20 dB Below Peak In-Band Emission



Date: 18.JUL.2008 16:22:49



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING
UPPER BAND EDGE
COMPLIANCE WITH RESTRICTED BAND

PART 15.247(c)

NOTE:

Using Compliance With Restricted Band FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005".



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Upper Band-Edge measurement

Test Procedure: “Measurement of Digital Transmission Systems Operating under Section 15.247 (March 23, 2005) for the FCC, and RSS-210 Annex 8 for Industry Canada.

The EUT was investigated at the low and high channels of operation to determine band-edge compliance. Because the upper band-edge coincides with a restricted band, band-edge compliance for the upper band-edge was determined using the radiated mark-delta method. The radiated field strength of the fundamental emission was first determined and then the mark-delta method was used to determine the field strength of the band-edge emissions. The lower band-edge compliance was determined using the marker-delta method in which the radio frequency power that is produced by the EUT is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

Upper Band-Edge Marker Delta Method

Frequency (MHz)	Antenna Polarity (H/V)	Fundamental Field Strength (dBμV/m)	Duty Cycle Correction (dB)	Delta-Marker (dB)	Band-Edge Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2462 (Peak)	H	111.70	N/A	-50.92	60.78	74	13.22
2462 (Avg)	H	103.22	-32.2	-50.92	20.10	54	33.90

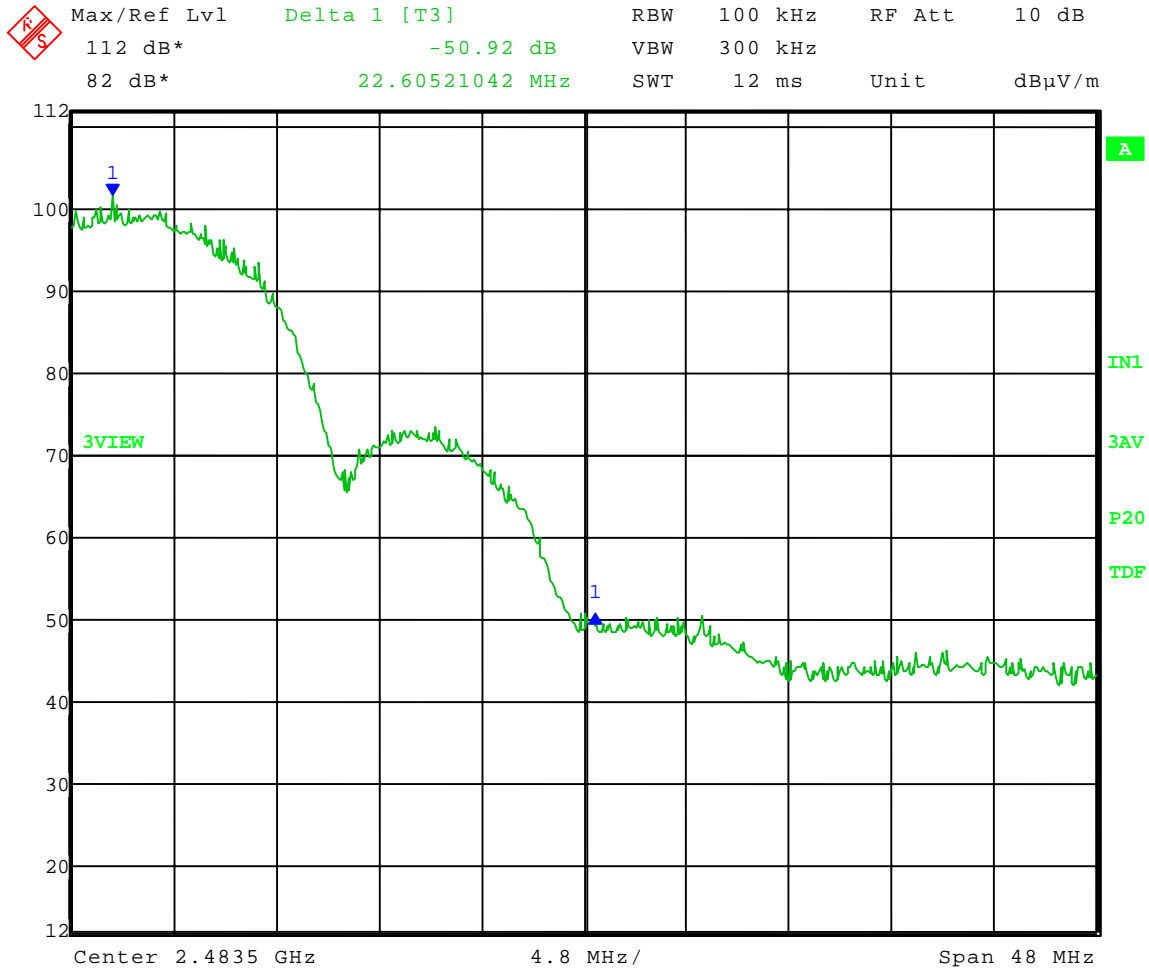


Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2008
 Company: Kohler Company
 EUT: Fountain Head Bath (FHB)
 Test: Upper Band-Edge Radiated – Marker Delta Method
 Operator: Craig B
 Comment: **High Channel** Frequency – 2.462 GHz



Date: 28.MAY.2008 12:30:06



Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

5.0 FIELD STRENGTH OF FUNDAMENTAL AND SPURIOUS EMISSION MEASUREMENTS

The radiated measurements made at D.L.S. Electronic Systems, Inc., for the Fountain Head Bath, are shown in tabulated and graph form. Preliminary radiation measurements were performed at a 3 meter test distance with the limits adjusted linearly when required. The frequency range from 30 MHz to over 960 MHz, depending upon the fundamental frequency as stated in Part 15.33a, was automatically scanned and plotted at various angles.

Measurements for the Fountain Head Bath were made up to 26000 MHz, in accordance with Section 15.33a for Intentional Radiators with a fundamental frequency of 2412 MHz - 2462 MHz. For intentional radiators, the frequency range to be investigated is determined by the lowest radio frequency generated by the device without going below 30 MHz, up to at least the tenth harmonic of the highest fundamental frequency or 10 GHz, whichever is lower. At those frequencies where significant signals were detected, measurements were made over the entire frequency range specified in FCC Part 15, Subpart C, Section 15.247 at the open field test site, located at Genoa City, Wisconsin, FCC file number **31040/SIT**. When required, limits were extrapolated using a linear extrapolation.

All signals in the frequency range of 30 MHz to 2000 MHz were measured with a Biconical Antenna or tuned dipoles and from 200 MHz to 1000 MHz, a Log Periodic or Tuned Dipoles were used. From 1000 MHz to 25 GHz Horn Antennas were used. During the test the equipment was rotated and the antenna was raised and lowered from 1 meter to 4 meters to find the maximum level of emissions. In order to find maximum emissions, the cables were moved through all the positions the equipment would be expected to experience in the field. The EUT, peripheral equipment and cables were configured to meet the conditions in ANSI C63.4-2003, Clauses 6 & 8, Test procedures for the radiated field strength of spurious emissions is per FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005". Tests were made with the receive antenna(s) in both the horizontal and vertical planes of polarization. In each case, the table was rotated to find the maximum emissions.



Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

5.0 FIELD STRENGTH OF FUNDAMENTAL AND SPURIOUS EMISSION MEASUREMENTS (CON'T)

As stated in Section 15.247(b) the allowed maximum peak output power of the transmitter shall not exceed 1 Watt. In any 100 kHz bandwidth outside these frequency bands (the power that is produced by the modulation products of the spreading sequence), the information sequence and the carrier frequency shall be either at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Attenuation below the general limits specified in 15.209 is not required.

Field strength limits are at a distance of 3 meters. The emission limits shown are based on measurement instrumentation employing an average detector.

Emissions radiated outside of the specified frequency bands, except for harmonics are attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Preliminary radiated emission measurements were performed at a 3 meter test distance. The frequency range from 30 MHz to 26000 MHz was automatically scanned and plotted at various angles.

NOTE:

All radiated emissions measurements were made at a test room temperature of 70°F at 36% relative humidity.



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

RADIATED DATA AND GRAPH(S) TAKEN FOR
FIELD STRENGTH OF
SPURIOUS EMISSION MEASUREMENTS

PART 15.247

30 MHz – 1000 MHz

NOTE:

Per FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005".

FCC Part 15 Class B and RSS-210/RSS-GEN Section 7.2.3

Electric Field Strength

EUT: Fountain Head Bath (FHB)
Manufacturer: Kohler Company
Operating Condition: 73 deg. F; 69% R.H.
Test Site: DLS O.F. Site 3
Operator: Craig B
Test Specification:
Comment: Tx & Rx; Low, Mid, and High channels
Date: 07-17-2008

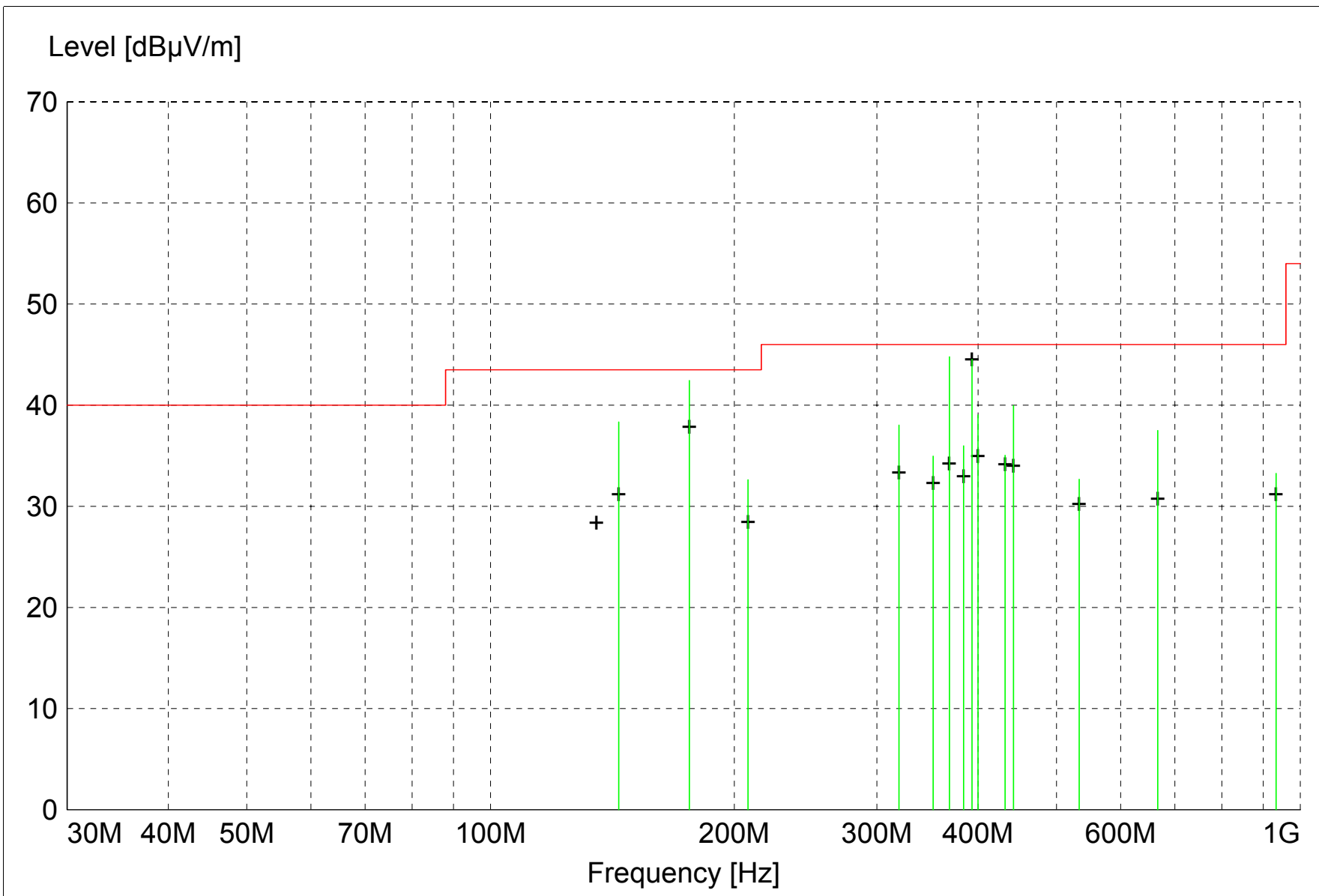
TEXT: "Site 3 MidV 3M"

Short Description: Test Set-up Vert30-1000MHz
TEST EQUIPMENT: Receiver --- Rohde&Schwarz ESI 40 SN: 837808/005

Antennas ---
Biconical -- EMCO 3104C SN: 9701-4785
Log Periodic -- EMCO 3146 SN: 9702-4895

Pre-Amp --- Rohde&Schwarz TS-PR10 SN: 032001/005

TEST SET-UP: EUT Measured at 3 Meters with VERTICAL Antenna Polarization



||||| MES A7171_F1V_Quasi-Peak
 + + +MES A7171_F1V_Peak_List
 — LIM

MEASUREMENT RESULT: "A7171_F1V_Final"

7/17/2008 1:27PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBµV	Factor	Loss	Level	dBµV/m	dB	Ant.	Angle	Detector	
		dBµV/m	dB	dBµV/m	dBµV/m		m	deg		
175.980000	45.80	19.47	-22.8	42.5	43.5	1.0	1.00	350	QUASI-PEAK	None
368.630000	48.37	18.20	-21.8	44.8	46.0	1.2	1.00	135	QUASI-PEAK	None
393.200000	47.18	18.97	-21.6	44.5	46.0	1.5	1.00	60	QUASI-PEAK	None
143.985000	45.35	16.21	-23.2	38.3	43.5	5.2	1.00	100	QUASI-PEAK	None
442.360000	41.48	19.93	-21.4	40.0	46.0	6.0	1.00	150	QUASI-PEAK	None
399.970000	41.39	19.26	-21.6	39.0	46.0	7.0	1.00	290	QUASI-PEAK	None
319.480000	42.17	17.87	-22.0	38.0	46.0	8.0	1.00	270	QUASI-PEAK	None
666.660000	34.85	23.19	-20.5	37.5	46.0	8.5	1.30	150	QUASI-PEAK	None
383.960000	38.93	18.75	-21.7	36.0	46.0	10.0	1.00	30	QUASI-PEAK	None
207.970000	39.53	15.78	-22.7	32.6	43.5	10.9	1.00	75	QUASI-PEAK	
431.960000	36.92	19.62	-21.5	35.0	46.0	11.0	1.00	270	QUASI-PEAK	None
351.970000	39.00	17.85	-21.9	35.0	46.0	11.0	1.00	0	QUASI-PEAK	None
933.320000	27.54	24.16	-18.4	33.3	46.0	12.7	1.00	200	QUASI-PEAK	None
533.320000	32.59	21.25	-21.2	32.7	46.0	13.3	1.00	210	QUASI-PEAK	None

FCC Part 15 Class B and RSS-210/RSS-GEN Section 7.2.3

Electric Field Strength

EUT: Fountain Head Bath (FHB)
Manufacturer: Kohler Company
Operating Condition: 73 deg. F; 69% R.H.
Test Site: DLS O.F. Site 3
Operator: Craig B
Test Specification:
Comment: Tx & Rx; Low, Mid, and High channels
Date: 07-17-2008

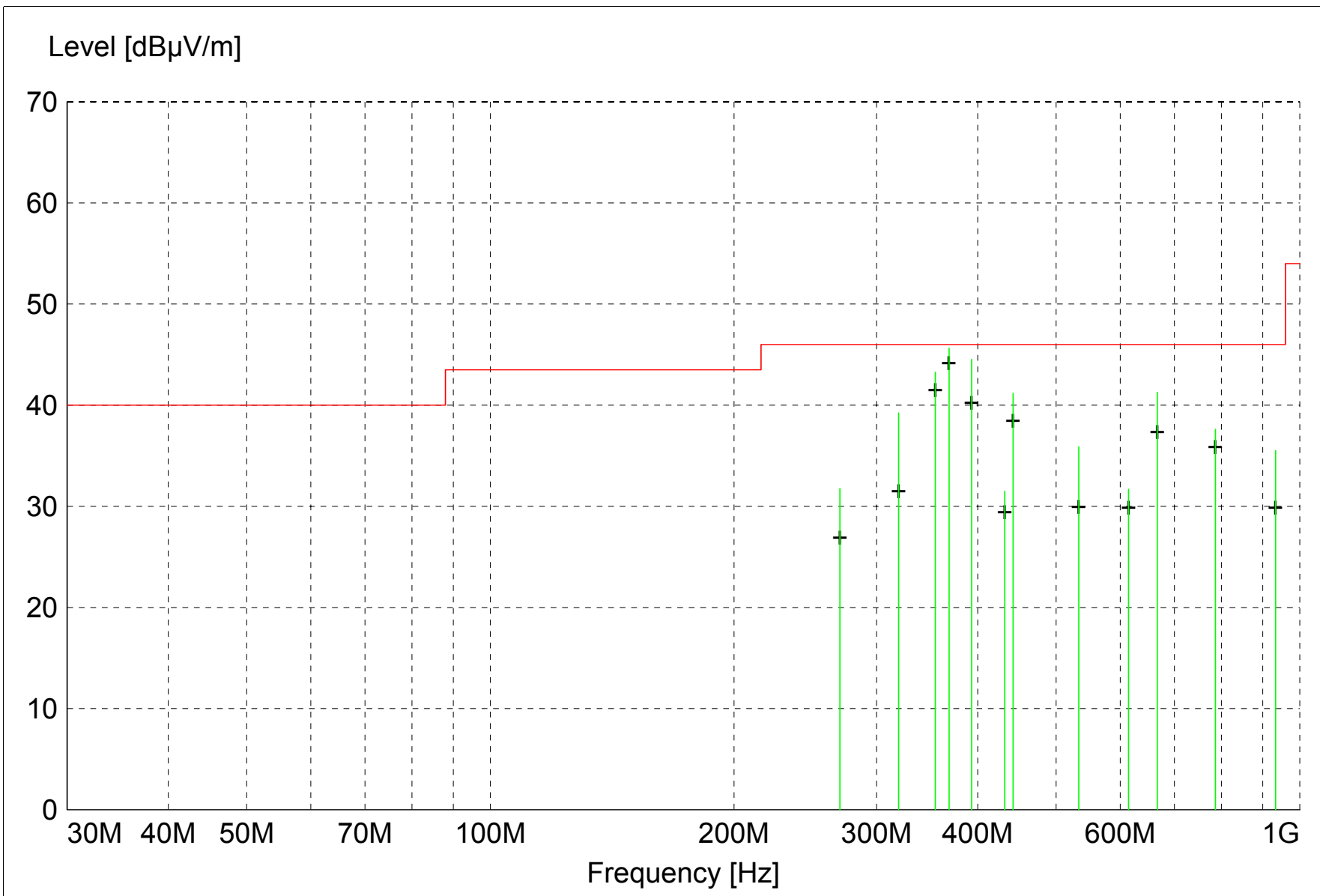
TEXT: "Site 3 MidH 3M"

Short Description: Test Set-up Horz30-1000MHz
TEST EQUIPMENT: Receiver --- Rohde&Schwarz ESI 40 SN: 837808/005

Antennas ---
Biconical -- EMCO 3104C SN: 9701-4785
Log Periodic -- EMCO 3146 SN: 9702-4895

Pre-Amp --- Rohde&Schwarz TS-PR10 SN: 032001/005

TEST SET-UP: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization



||| MES A7171_F1H_Quasi-Peak
 + + +MES A7171_F1H_Peak_List
 — LIM

MEASUREMENT RESULT: "A7171_F1H_Final"

7/17/2008 1:37PM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dBµV	Factor	Loss	Level	dBµV/m	dB	Ant.	Angle	Detector	
		dBµV/m	dB	dBµV/m			m	deg		
368.620000	49.24	18.20	-21.8	45.7	46.0	0.3	1.10	180	QUASI-PEAK	None
393.200000	47.20	18.97	-21.6	44.5	46.0	1.5	1.00	225	QUASI-PEAK	None
354.640000	47.29	17.85	-21.9	43.3	46.0	2.7	1.00	180	QUASI-PEAK	None
666.650000	38.63	23.19	-20.5	41.3	46.0	4.7	1.00	135	QUASI-PEAK	None
442.360000	42.70	19.93	-21.4	41.2	46.0	4.8	1.00	200	QUASI-PEAK	None
319.480000	43.37	17.87	-22.0	39.2	46.0	6.8	1.20	180	QUASI-PEAK	None
786.430000	33.66	23.35	-19.4	37.6	46.0	8.4	1.00	225	QUASI-PEAK	None
533.300000	35.81	21.25	-21.2	35.9	46.0	10.1	1.00	190	QUASI-PEAK	None
933.320000	29.81	24.16	-18.4	35.5	46.0	10.5	1.00	200	QUASI-PEAK	None
270.330000	36.64	17.36	-22.2	31.8	46.0	14.2	1.10	160	QUASI-PEAK	None
614.400000	30.40	22.10	-20.8	31.7	46.0	14.3	1.00	180	QUASI-PEAK	None
431.960000	33.38	19.62	-21.5	31.5	46.0	14.5	1.30	315	QUASI-PEAK	None



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

RADIATED DATA AND GRAPH(S) TAKEN FOR
E.I.R.P. OF FUNDAMENTAL EMISSION
MEASUREMENTS

PART 15.247



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Kohler Company
 Operator: Craig B
 Date of test: 05-28-2008
 Temperature: 68 deg. F
 Humidity: 37% R.H.

EIRP - Substitution Method

Model: Fountain Head Bath (FHB)								
Channel: 1								
Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [EIRP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [EIRP] (mW)
2412 vertical	114.32	6.22	1.85	9.59	13.96	30.00	16.04	24.89
2412 horizontal	116.95	8.02	1.85	9.59	15.76	30.00	14.24	37.67

$EIRP = \text{Signal generator output} - \text{cable loss} + \text{antenna gain}$

$ERP_{(ref. to \frac{1}{2}\lambda \text{ dipole})} = \text{Signal generator output} - \text{cable loss} + \text{antenna gain} - 2.15$



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Kohler Company
 Operator: Craig B
 Date of test: 05-28-2008
 Temperature: 70 deg. F
 Humidity: 36% R.H.

EIRP - Substitution Method

Model: Fountain Head Bath (FHB)								
Channel: 6								
Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [EIRP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [EIRP] (mW)
2437 vertical	115.20	7.15	1.86	9.62	14.91	30.00	15.09	30.97
2437 horizontal	116.29	7.57	1.86	9.62	15.33	30.00	14.67	34.12

$EIRP = \text{Signal generator output} - \text{cable loss} + \text{antenna gain}$

$ERP_{(\text{ref. to } \frac{1}{2}\lambda \text{ dipole})} = \text{Signal generator output} - \text{cable loss} + \text{antenna gain} - 2.15$



Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: Kohler Company
 Operator: Craig B
 Date of test: 05-28-2008
 Temperature: 70 deg. F
 Humidity: 36% R.H.

EIRP - Substitution Method

Model: Fountain Head Bath (FHB)								
Channel: 11								
Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [EIRP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [EIRP] (mW)
2462 vertical	115.01	7.52	1.86	9.65	15.31	30.00	14.69	33.96
2462 horizontal	116.36	7.64	1.86	9.65	15.43	30.00	14.57	34.91

$EIRP = \text{Signal generator output} - \text{cable loss} + \text{antenna gain}$

$ERP_{(\text{ref. to } \frac{1}{2}\lambda \text{ dipole})} = \text{Signal generator output} - \text{cable loss} + \text{antenna gain} - 2.15$



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

TRANSMITTER DUTY CYCLE GRAPHS

PART 15.35(c)



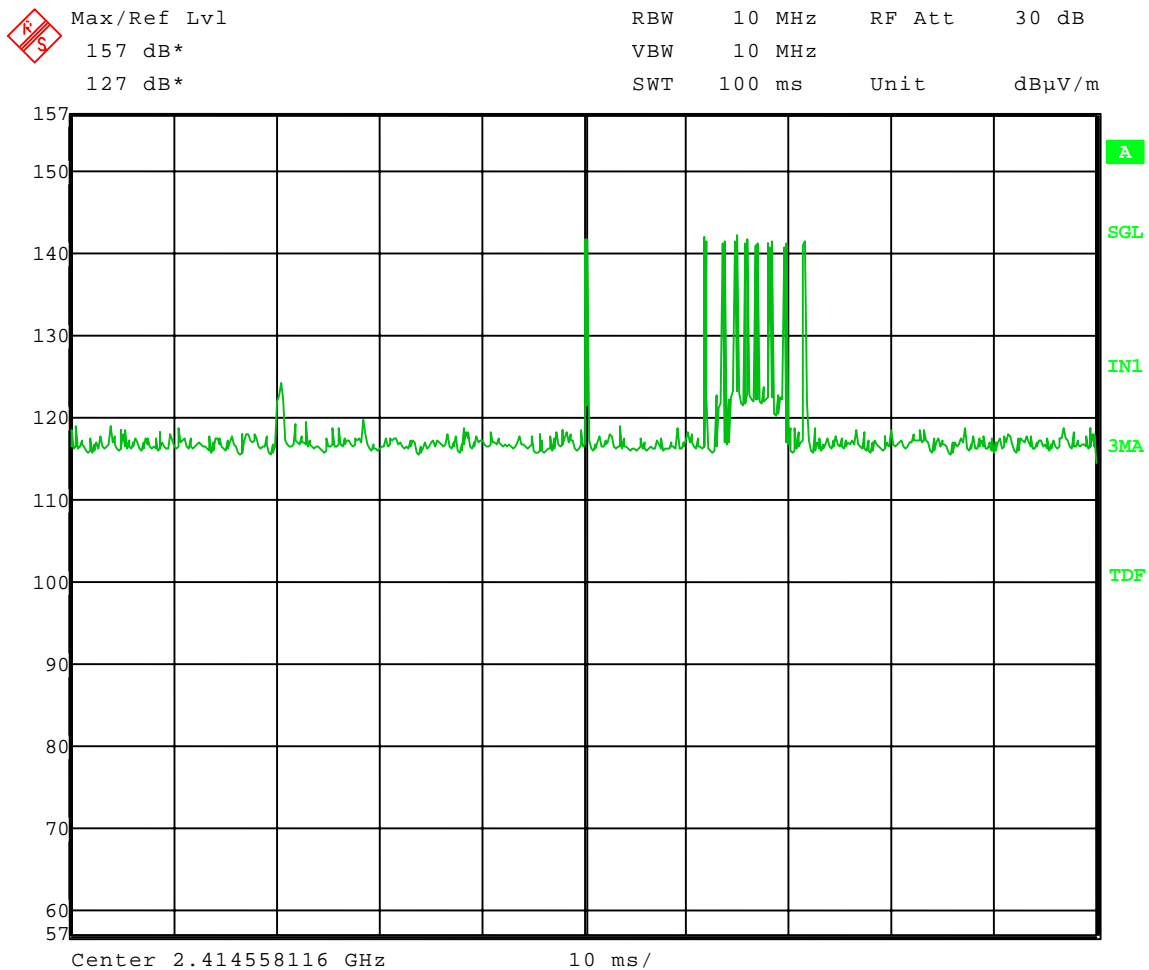
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2008
Company: Kohler Company
EUT: Fountain Head Bath (FHB)
Test: Duty Cycle – worst-case duty cycle during normal operation
Operator: Craig B

Comment: Total on Time = $9 \times 0.27054 \text{ ms} = 2.43486 \text{ ms}$ during 100 ms Sweep
Duty cycle correction factor = $20 \text{ Log} (2.43486/100) = -32.27 \text{ dB}$



Date: 28.MAY.2008 14:25:56



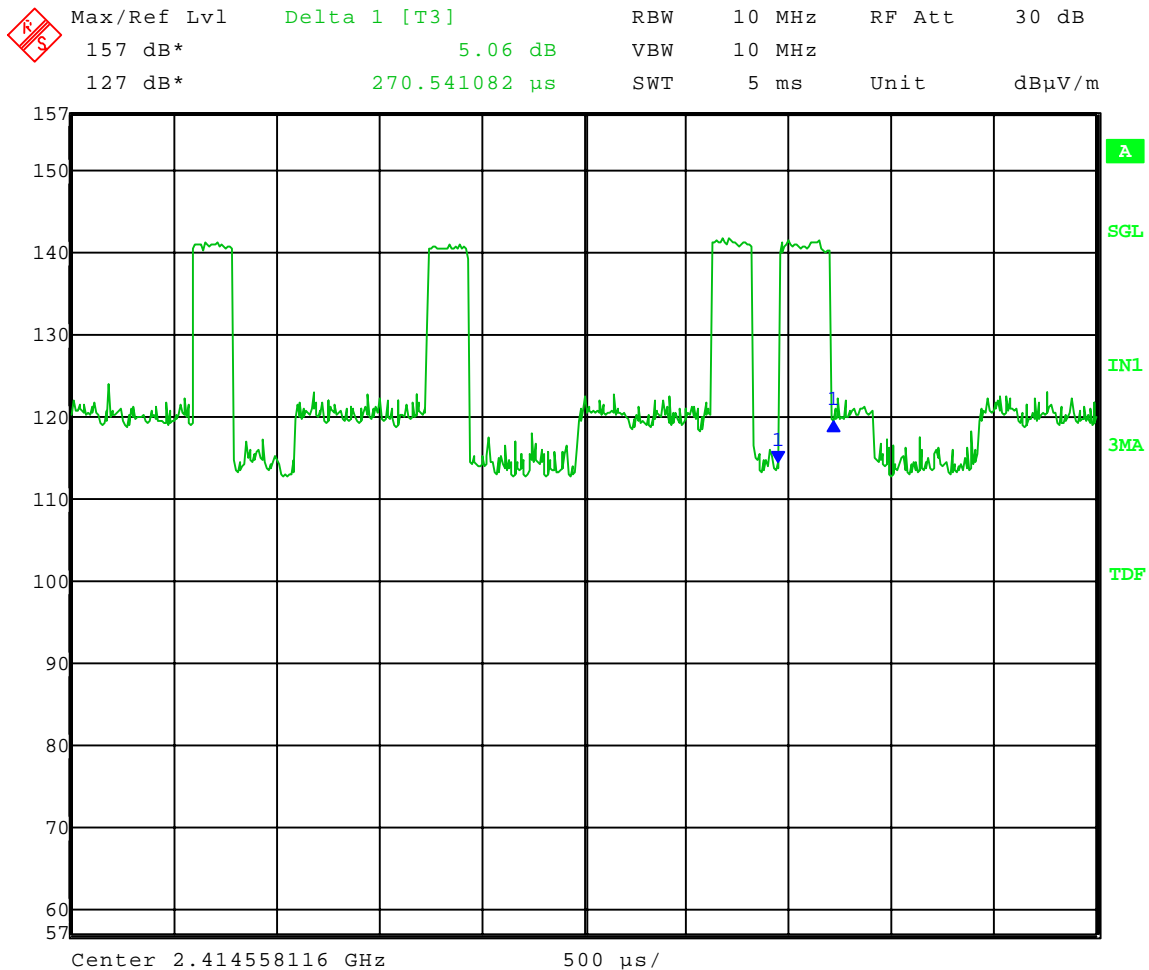
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2008
Company: Kohler Company
EUT: Fountain Head Bath (FHB)
Test: Duty Cycle – worst-case duty cycle during normal operation
Operator: Craig B

Comment: One pulse = 0.27054 ms



Date: 28.MAY.2008 14:27:18



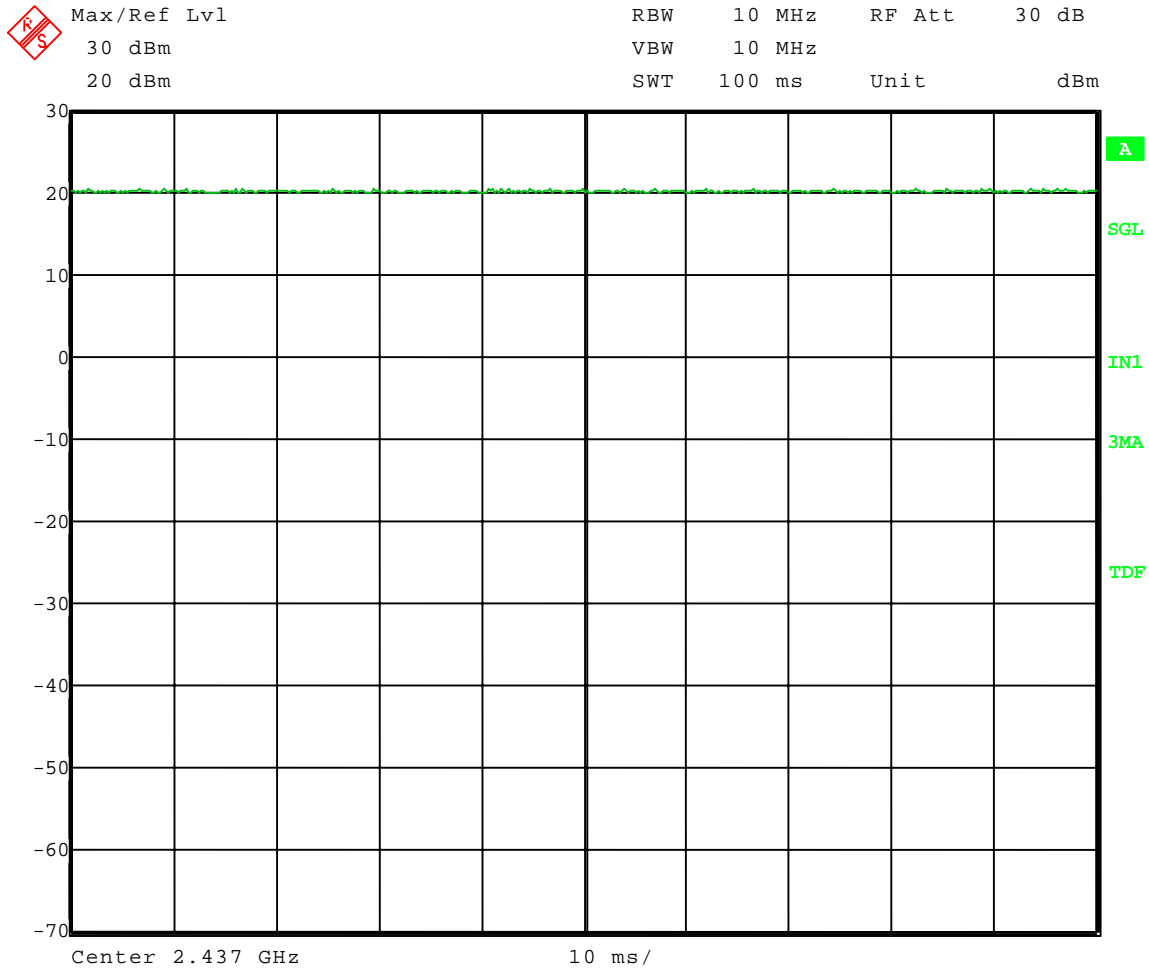
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Company
 EUT: Fountain Head Bath (FHB)
 Test: Duty Cycle – duty cycle used during testing
 Operator: Craig B

Comment: Continuous Transmit mode
 Total on Time = 100 ms during 100 ms Sweep
 Duty cycle = 100%



Date: 18.JUL.2008 17:06:20



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

6 dB BANDWIDTH GRAPHS

PART 15.247



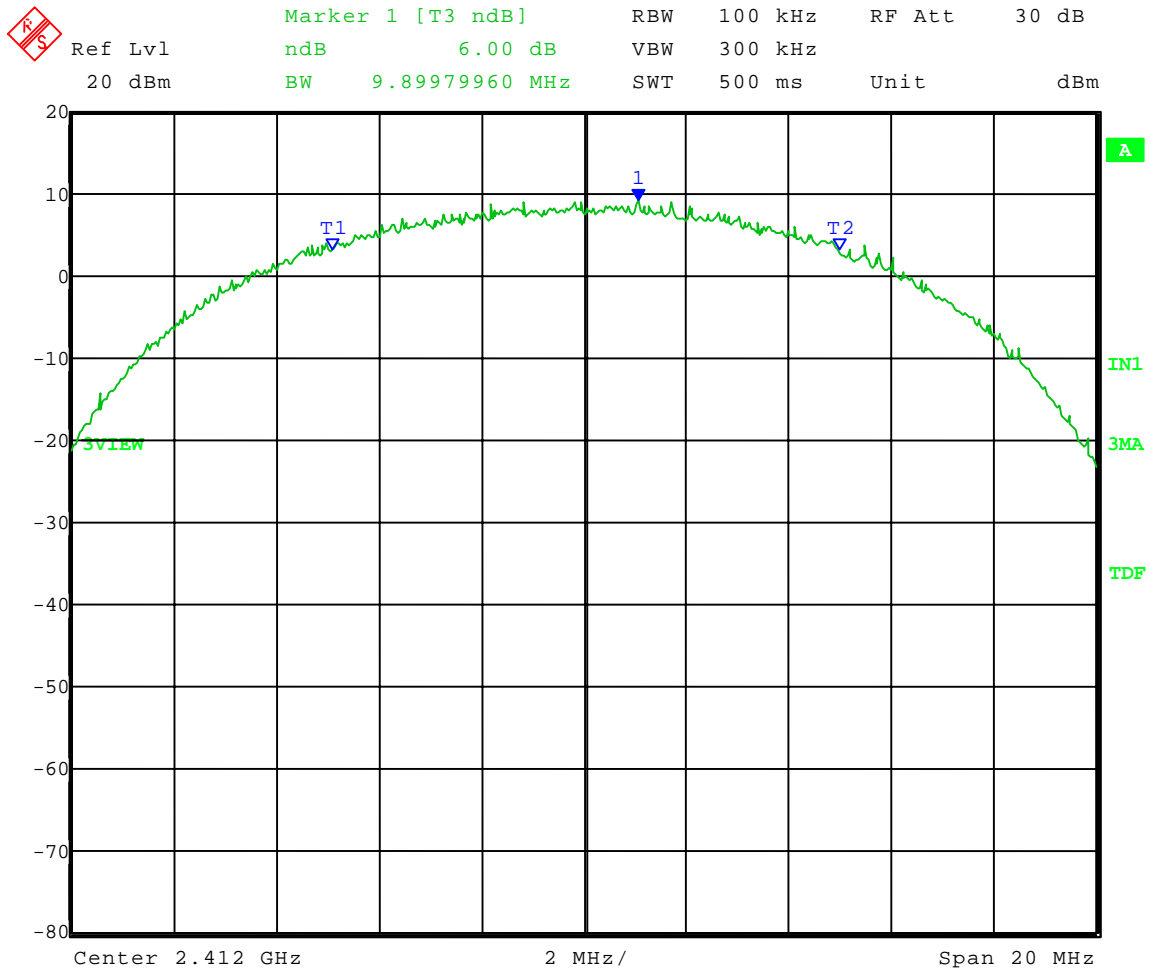
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: 6 dB Bandwidth - Conducted
Operator: Craig B
Comment: **Low Channel:** Frequency – 2.412 GHz

6 dB Bandwidth = 9.90 MHz



Date: 18.JUL.2008 15:32:37



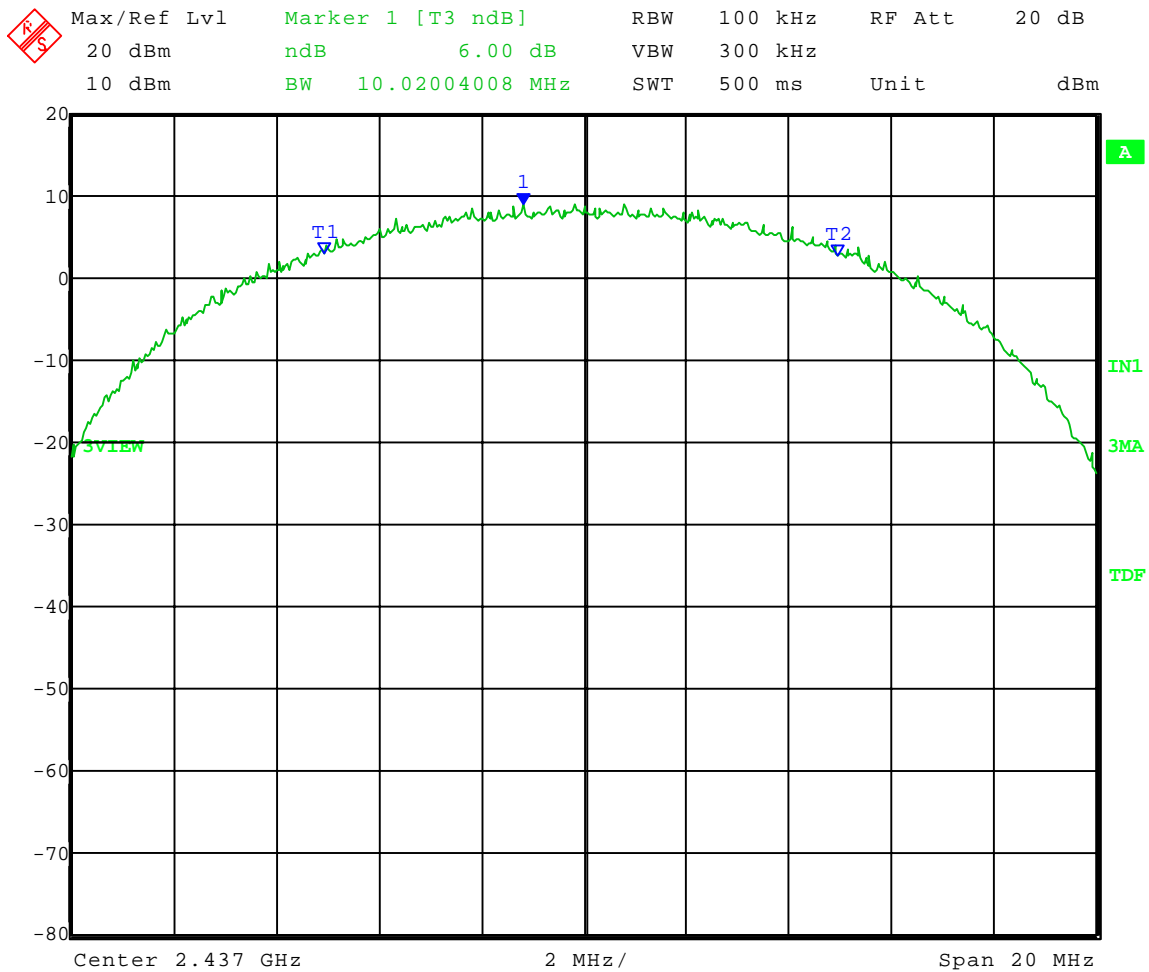
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: 6 dB Bandwidth - Conducted
Operator: Craig B
Comment: **Mid Channel:** Frequency – 2.437 GHz

6 dB Bandwidth = 10.02 MHz



Date: 18.JUL.2008 16:00:02



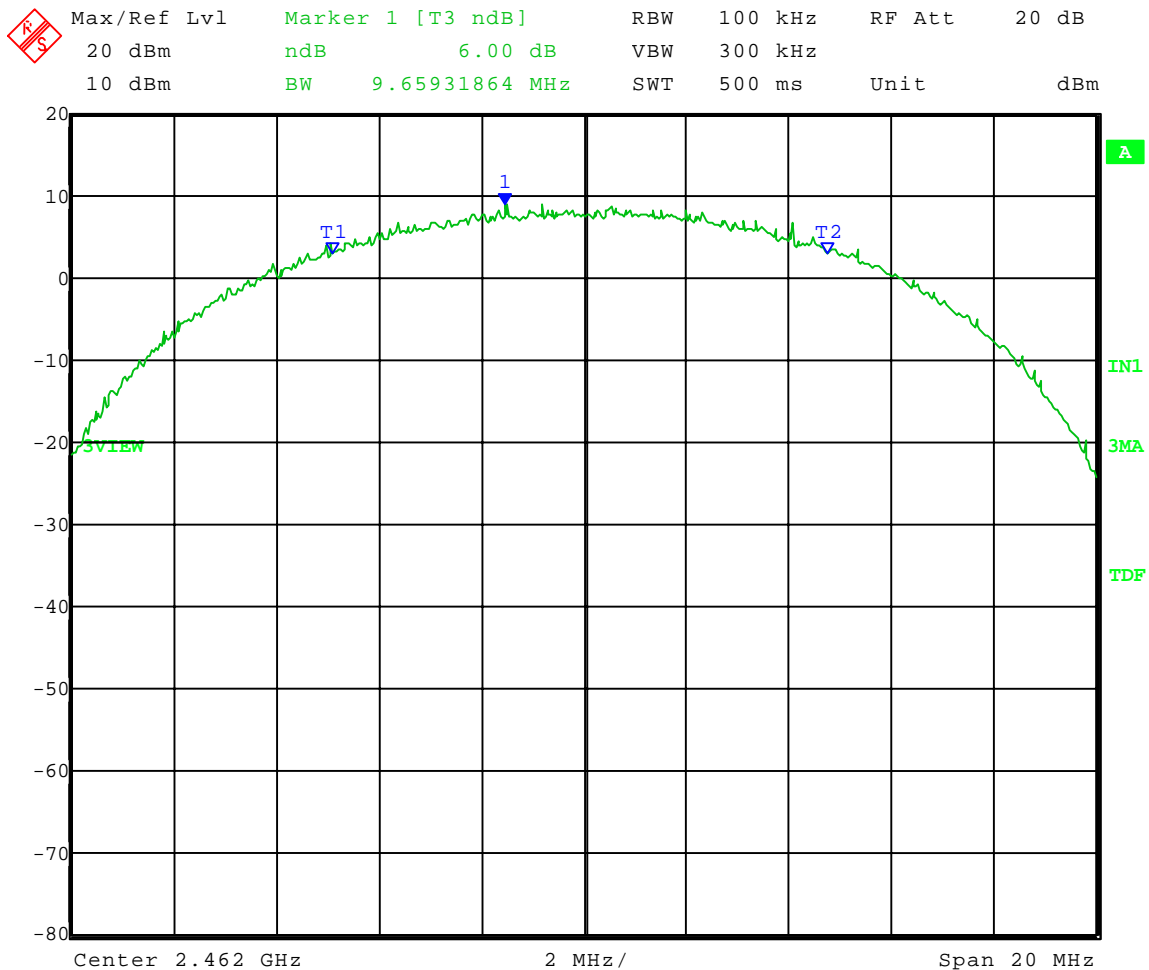
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: 6 dB Bandwidth - Conducted
Operator: Craig B
Comment: **High Channel:** Frequency – 2.462 GHz

6 dB Bandwidth = 9.66 MHz



Date: 18.JUL.2008 16:21:06



1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

CONDUCTED PEAK OUTPUT POWER GRAPHS

PART 15.247



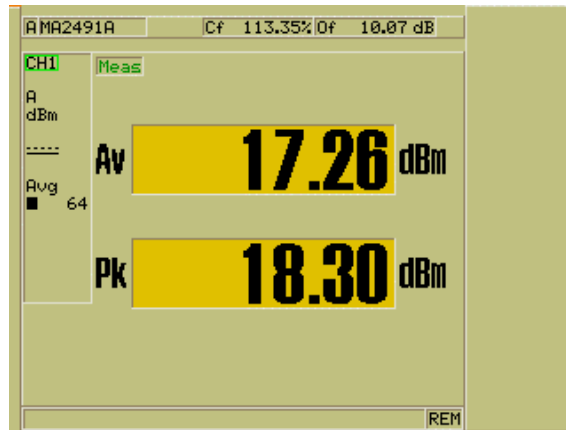
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Peak Power Output - Conducted
Operator: Craig B
Comment: **Low Channel:** Frequency – 2.412 GHz

Peak Output Power = 18.30 dBm = **67.61 mW**





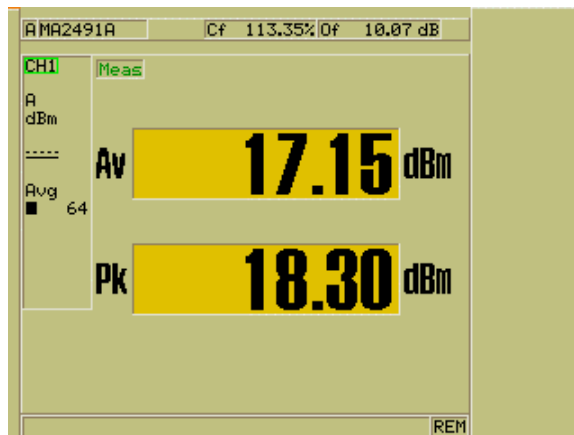
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Peak Power Output - Conducted
Operator: Craig B
Comment: **Mid Channel:** Frequency – 2.437 GHz

Peak Output Power = 18.30 dBm = **67.61 mW**





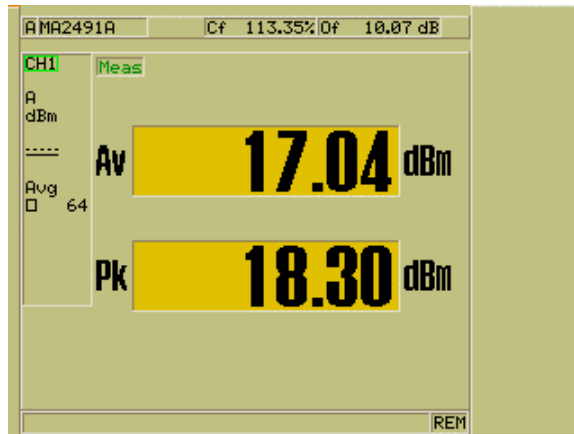
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Peak Power Output - Conducted
Operator: Craig B
Comment: **High Channel:** Frequency – 2.462 GHz

Peak Output Power = 18.30 dBm = **67.61 mW**





1250 Peterson Dr., Wheeling, IL 60090

Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

APPENDIX A

PEAK POWER SPECTRAL DENSITY GRAPHS

PART 15.247



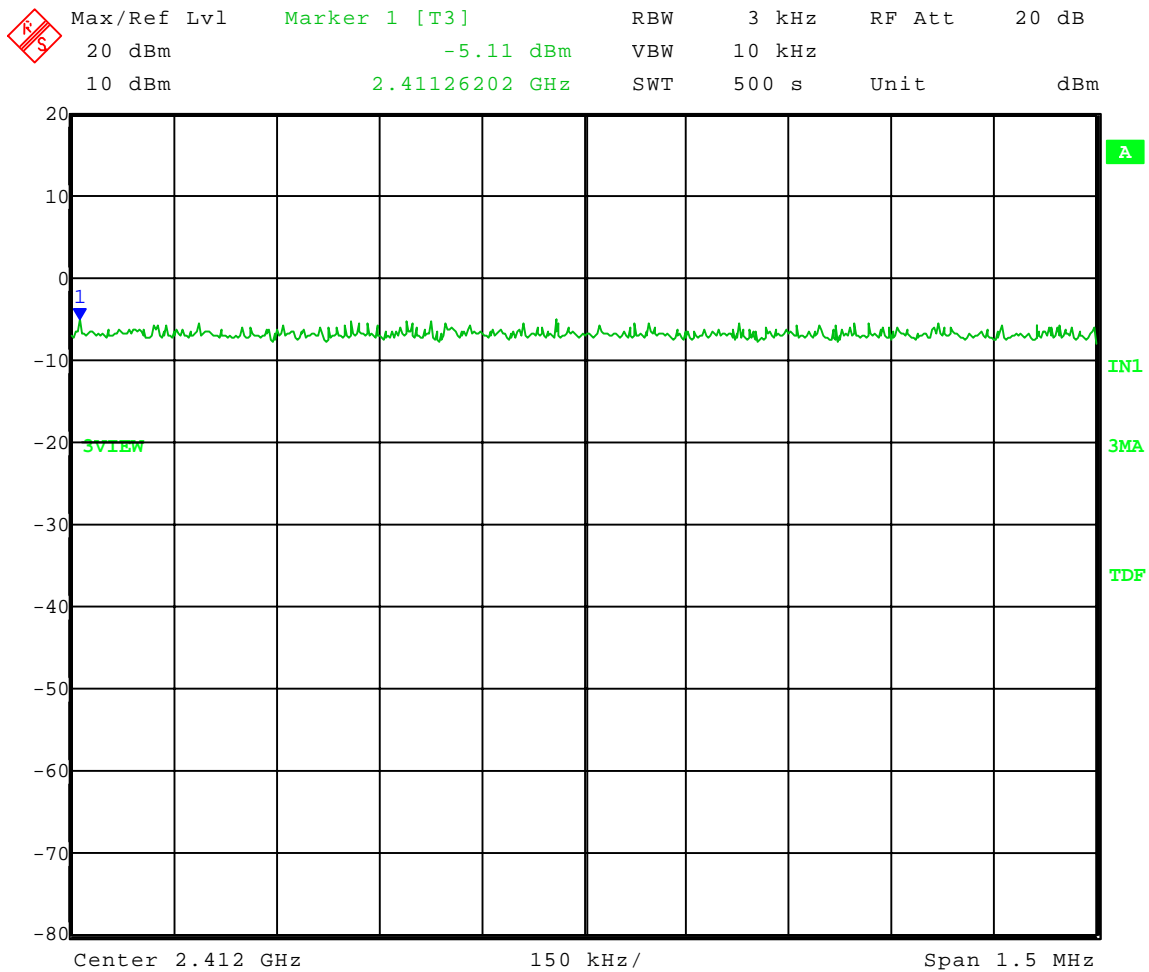
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Comment: **Low Channel:** Frequency – 2.412GHz
Limit: 8 dBm

3 kHz Bandwidth = -5.11 dBm



Date: 18.JUL.2008 15:56:22



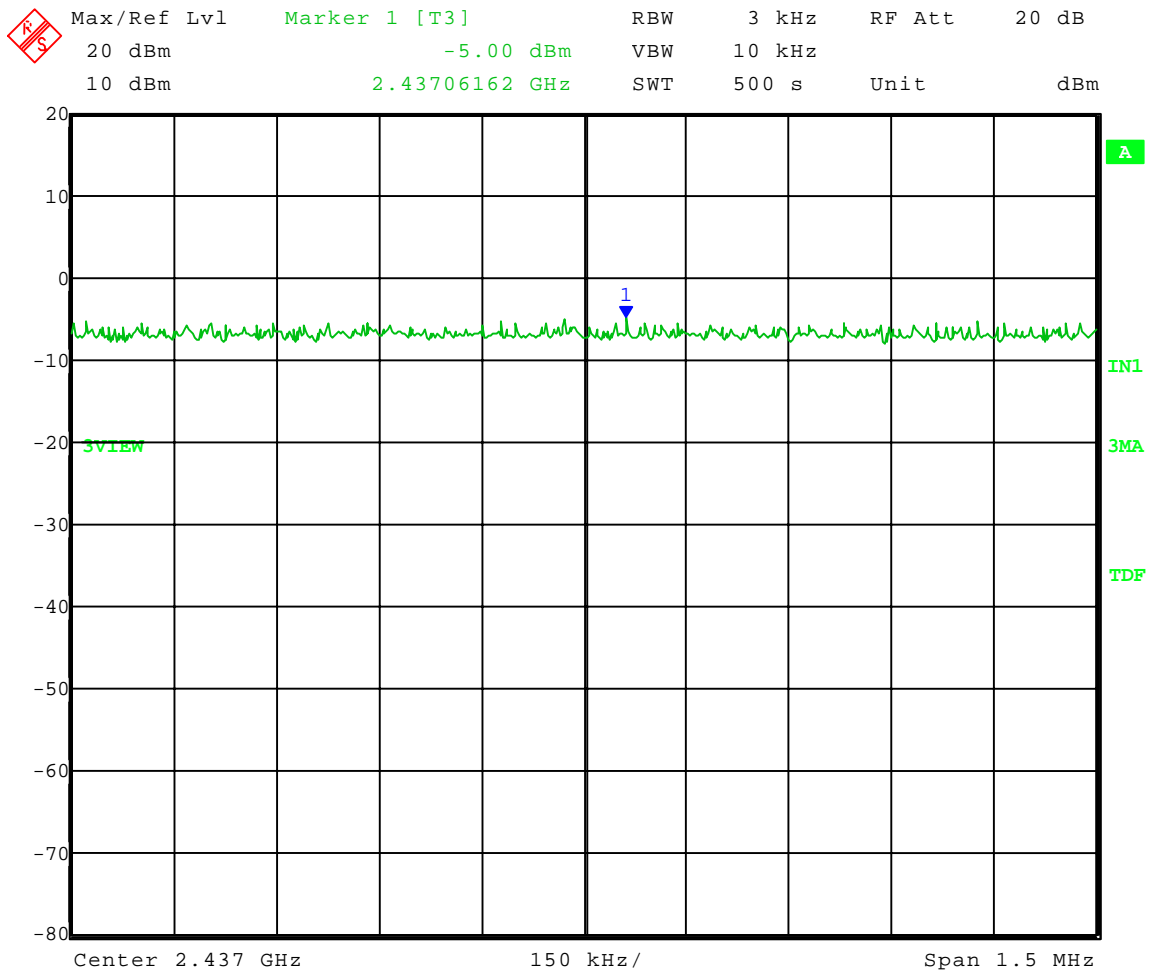
Company: Kohler Company
 Model Tested: 1070734
 Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
 Company: Kohler Co.
 EUT: Fountain Head Bath (FHB)
 Test: Peak Power Spectral Density - Conducted
 Operator: Craig B
 Comment: **Mid Channel:** Frequency – 2.437 GHz
 Limit: 8 dBm

3 kHz Bandwidth = -5.00 dBm



Date: 18.JUL.2008 16:17:22



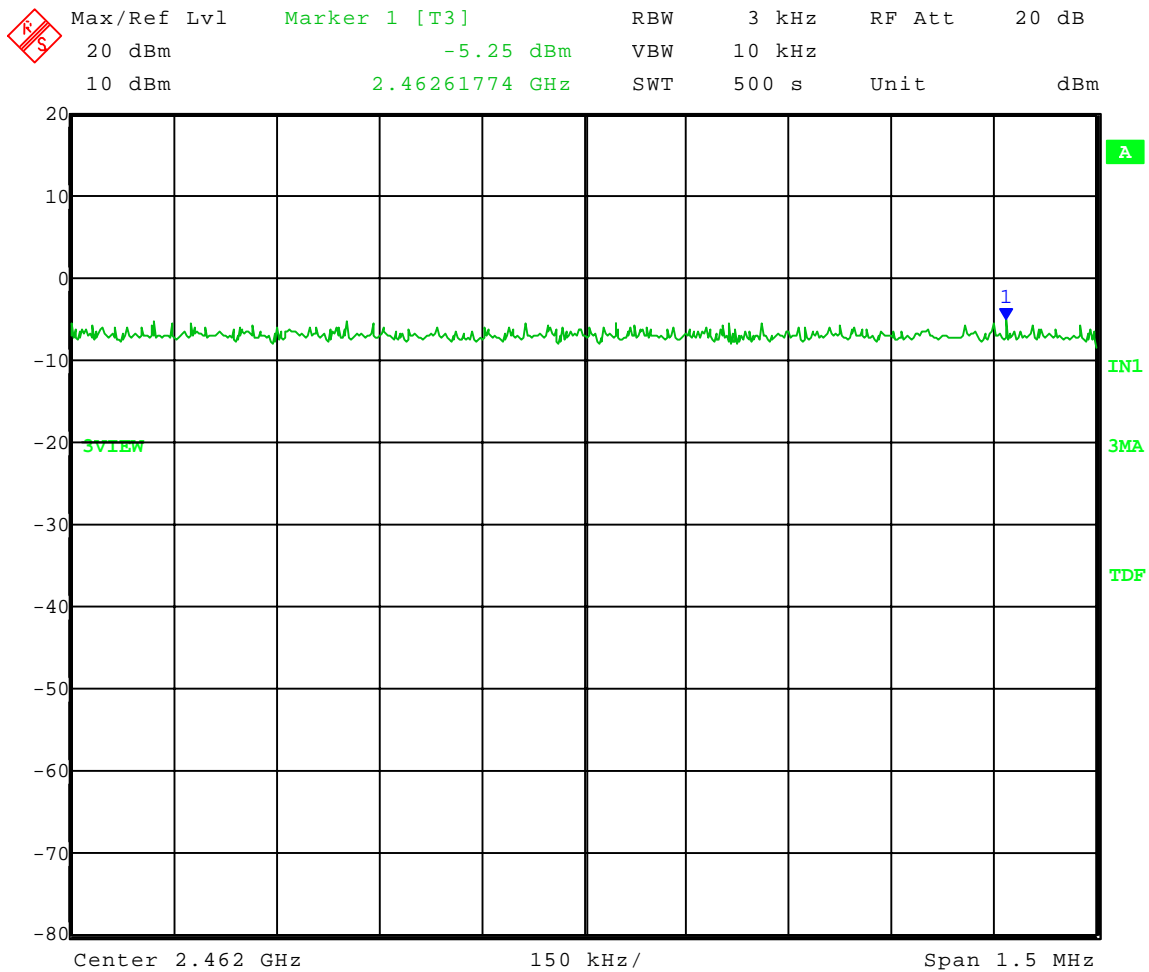
Company: Kohler Company
Model Tested: 1070734
Report Number: 14148

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-18-2008
Company: Kohler Co.
EUT: Fountain Head Bath (FHB)
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Comment: **High Channel:** Frequency – 2.462 GHz
Limit: 8 dBm

3 kHz Bandwidth = -5.25 dBm



Date: 18.JUL.2008 16:39:57