

Honeywell

XYR6000 802.15.4 2.4 GHz DSSS-FH Radio

Part Number: 50025034-001, REV. C1

April 3, 2008

Report No. HONE00027

Report Prepared By



www.nwemc.com
1-888-EMI-CERT

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EMC Test Report



22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Issue Date: April 3, 2008

Honeywell

Model: XYR6000 15.4 GHz Radio with LPF modified

Emissions				
Test Description	Specification	Test Method	Pass	Fail
Band Edge Compliance	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Channel Spacing	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Number of Hopping Frequencies	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Occupied Bandwidth	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Output Power	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Power Spectral Density	FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious Radiated Emissions	FCC 15.247(d) Spurious Radiated Emissions	ANSI C63.4:2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dwell Time	FCC 15.247 (DTS):2007	ANSI C63.4:2003 DA 00-705:2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious Conducted Emissions	FCC 15.247 (DTS):2007	ANSI C63.4:2003 DA 00-705:2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Modifications made to the product

See the Modifications section of this report

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
41 Tesla
Irvine, CA 92618

Phone: (949) 861-8918 Fax: (949) 861-8923

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada.

Approved By:

Ethan Schoonover, Sultan Lab Manager



NVLAP Lab Code: 200676-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. 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: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, 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. 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: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200629-0
NVLAP LAB CODE 200630-0
NVLAP LAB CODE 200676-0
NVLAP LAB CODE 200761-0

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS 212, Issue 1 (Provisional) and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements.



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.



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. USA0604C.



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).



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 (NVLAP).



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 Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294*).



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.



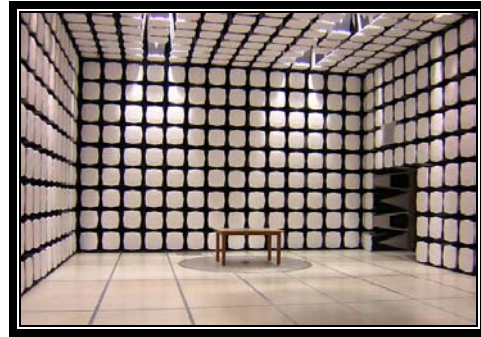
GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from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



SCOPE

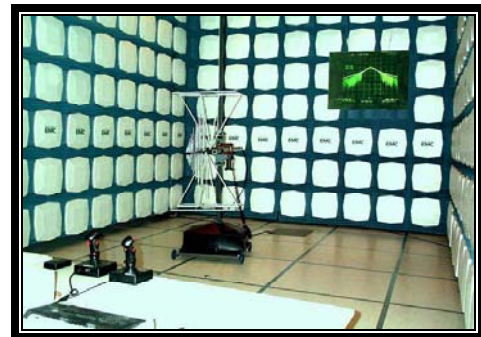
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/scope.asp>



**California – Orange County Facility
Labs OC01 – OC13**

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



**Oregon – Evergreen Facility
Labs EV01 – EV11**

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



**Washington – Sultan Facility
Labs SU01 – SU07**

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

Party Requesting the Test

Company Name:	Honeywell
Address:	2500 W. Union Hills Road
City, State, Zip:	Phoenix, AZ 85027
Test Requested By:	David Shipley
Model:	XYR6000 802.15.4 2.4 GHz DSSS-FH Radio. Part Number: 50025034-001, REV. C1
First Date of Test:	March 5, 2008
Last Date of Test:	March 11, 2008
Receipt Date of Samples:	March 5, 2008
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

XYR6000 802.15.4 2.4 GHz DSSS-FH Radio. Part Number: 50025034-001, REV. C1

Testing Objective:

To demonstrate compliance to FCC 15.247 requirements as a hybrid device.

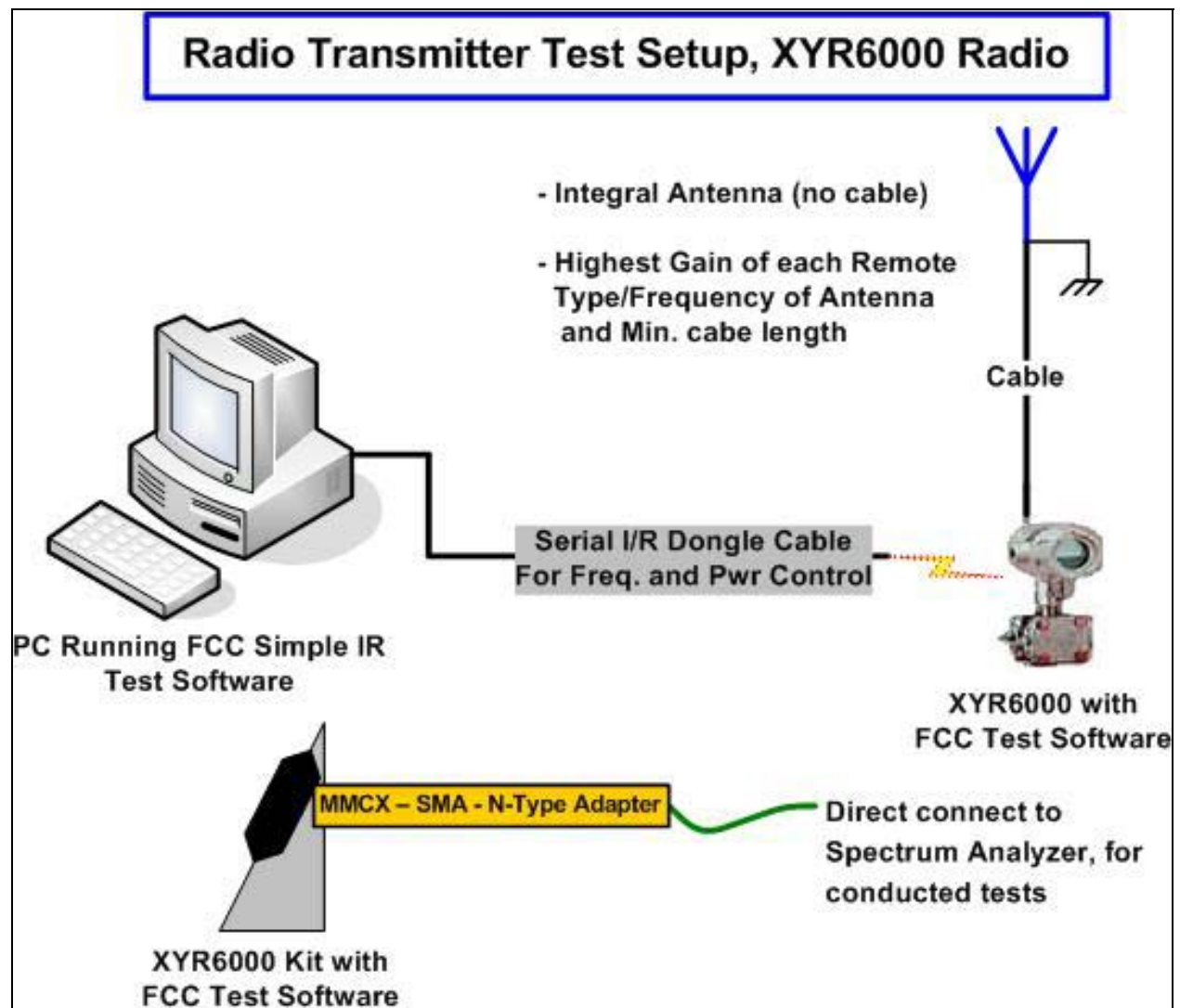
EUT Photo



CONFIGURATION 1 HONE0027**EUT**

Description

Refer to the configuration document provided by the client below.



Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	3/10/2008	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	3/10/2008	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	3/10/2008	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	3/10/2008	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	3/11/2008	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	3/11/2008	Channel Spacing	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	3/11/2008	Dwell Time	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
8	3/11/2008	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
9	3/11/2008	Number of Hopping Frequencies	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

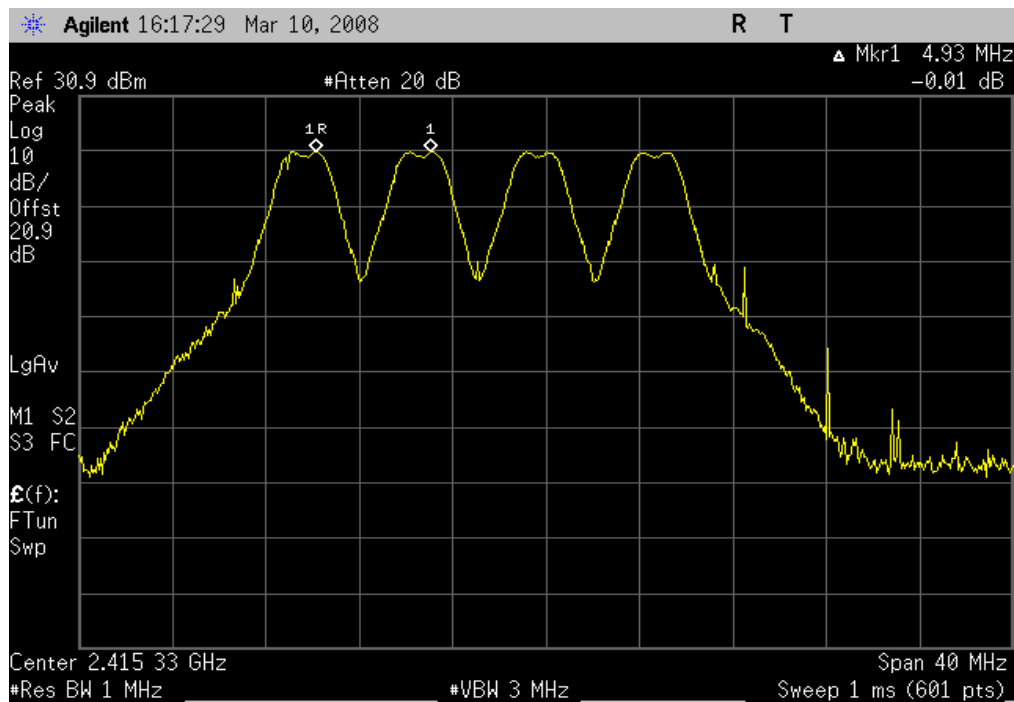
MEASUREMENT UNCERTAINTY

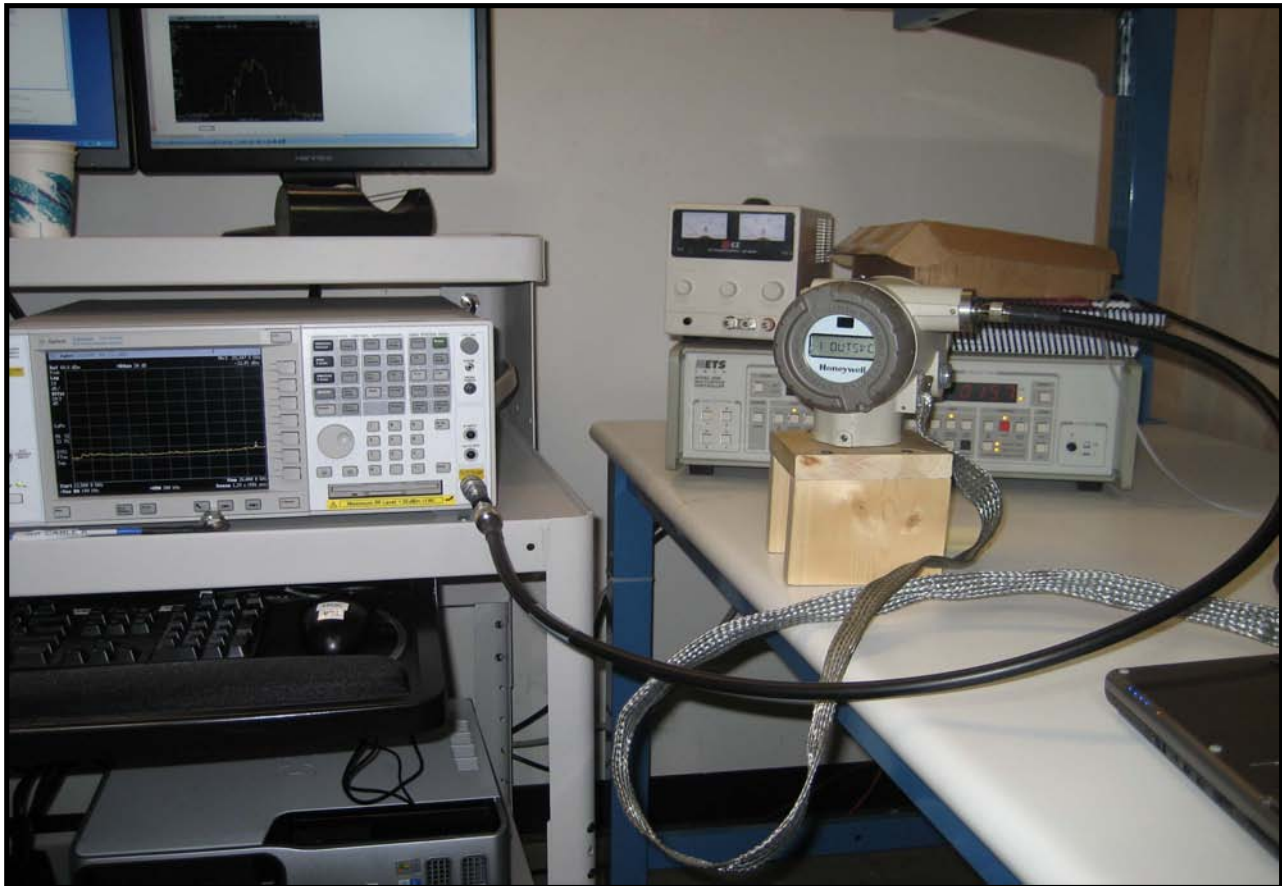
Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The channel carrier frequencies in the 2400-2483.5MHz band must be separated by 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Or, if the output power is less than 125 mW, the channel separation can be 25 kHz or 2/3 of the 20dB bandwidth. The EUT was operated in pseudorandom hopping mode. The spectrum was scanned across two adjacent peaks. The separation between the peaks of these channels was measured.

Highest Output Power, Channel Spacing

Result: Pass**Value:** 4.93 MHz**Limit:** ≥ 2.65 MHz



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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.

EMC

DWELL TIME - FHSS

EUT:	XYR6000 15.4 Radio with LPF modified	Work Order:	HONE0023
Serial Number:	None	Date:	03/11/08
Customer:	Honeywell	Temperature:	22°C
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC11

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

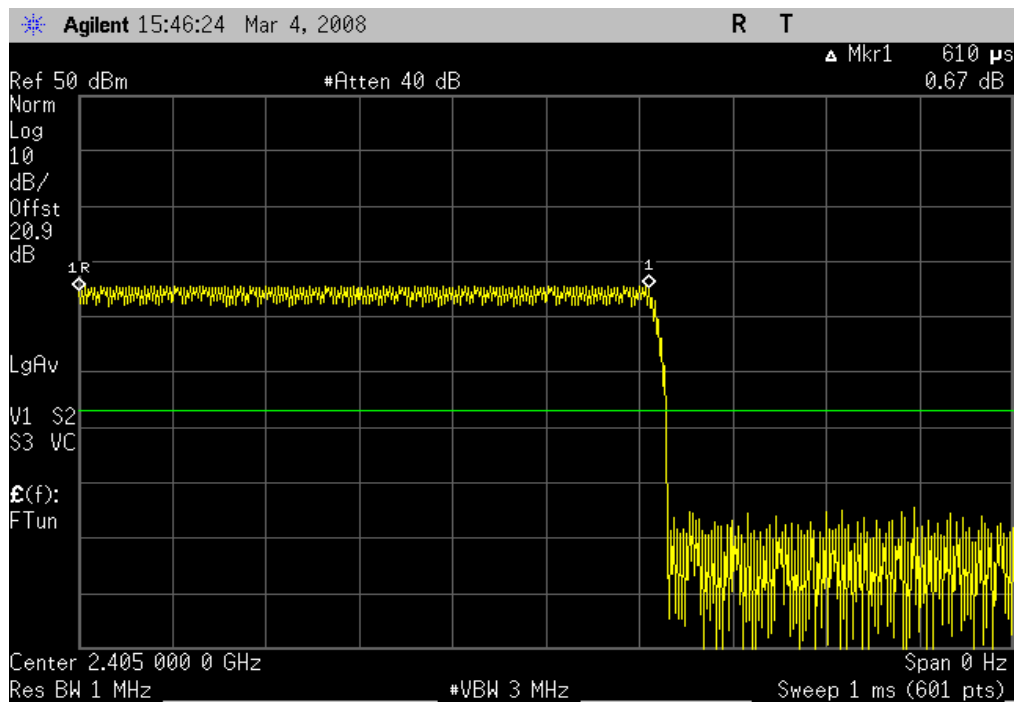
PC Power Level: 255. CHIP PA level = 0 dBm. Cable Loss = 0.9 dB. Dwell time = 0.61 msec * 3 = 1.83 msec. Limit = 0.4 sec. Dwell time is passing.

DEVIATIONS FROM TEST STANDARD

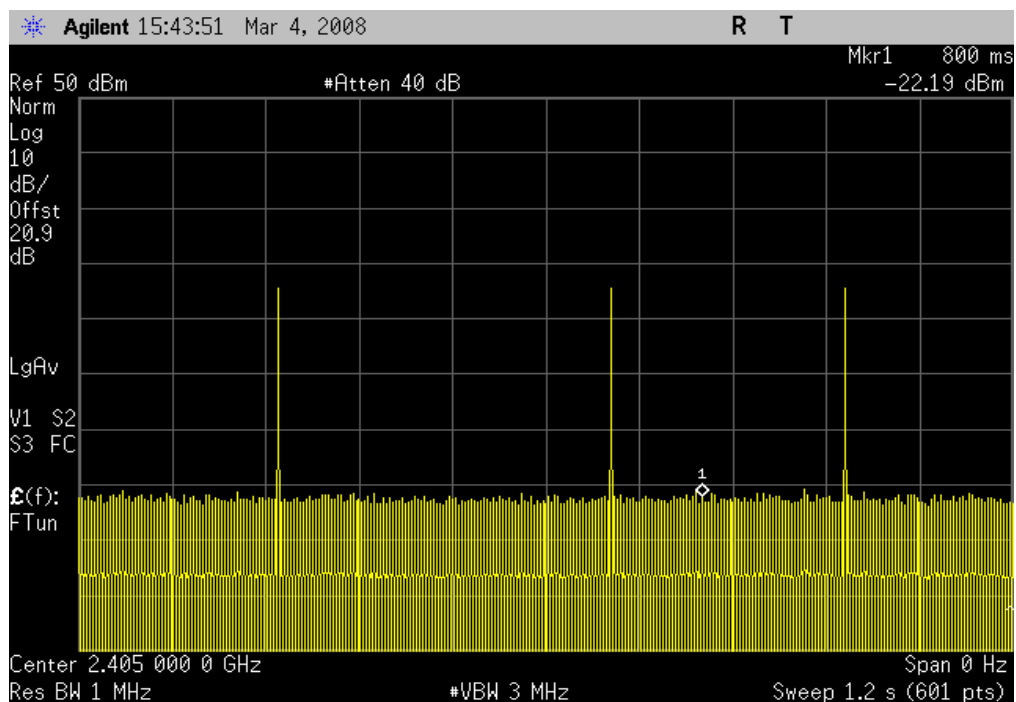
Configuration #	1	Signature 
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	Value	Limit	Results
Highest Output Power			
Dwell Time	0.61 mS	See comments	Pass
Dwell Time in 1.2 Seconds	3 Transmissions	See Comments	Pass

Highest Output Power, Dwell Time

Result: Pass**Value:** 0.61 mS**Limit:** See comments

Highest Output Power, Dwell Time in 1.2 Seconds

Result: Pass**Value:** 3 Transmissions**Limit:** See Comments

EMC

DWELL TIME - DSSS

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.	Work Order:	HONE0027
Serial Number:	None	Date:	03/11/08
Customer:	Honeywell	Temperature:	22c°C
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC11

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2006	ANSI C63.4:2003 KDB No. 558074

COMMENTS

PC Power Level: 255. CHIP PA level = 0 dBm. Cable Loss = 0.9 dB. 41% Duty Cycle. Dwell time = 41 msec out of 100msec.

DEVIATIONS FROM TEST STANDARD

Configuration #	1	Signature 
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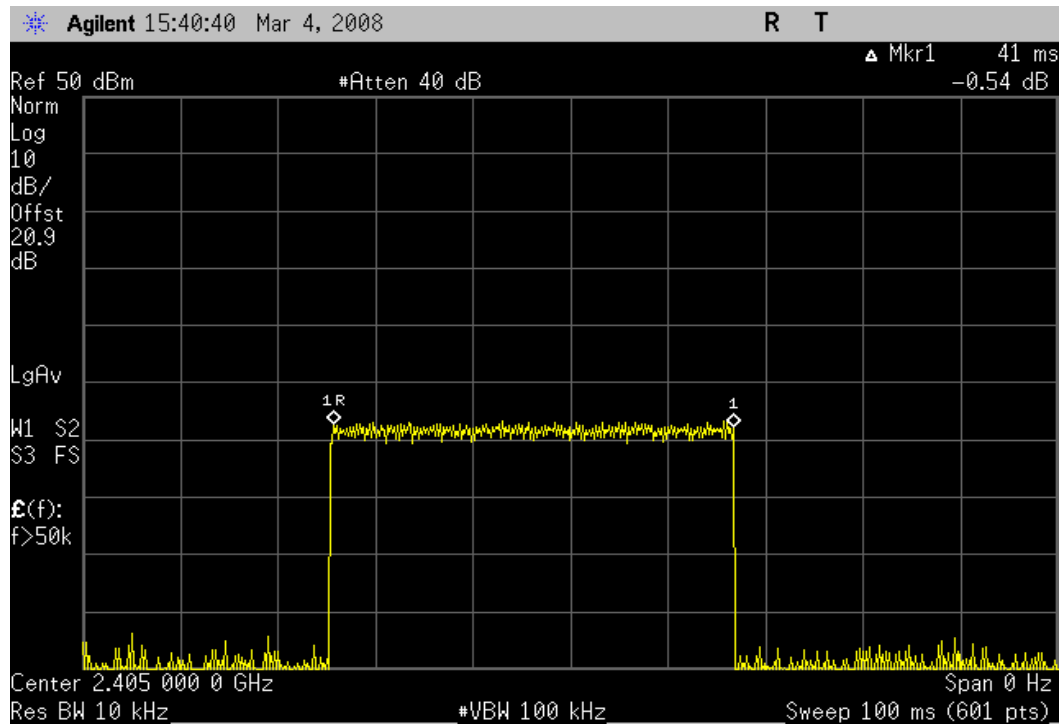
	Value	Limit	Results
Highest Output Power			
Dwell Time	41 ms	100 ms	Pass

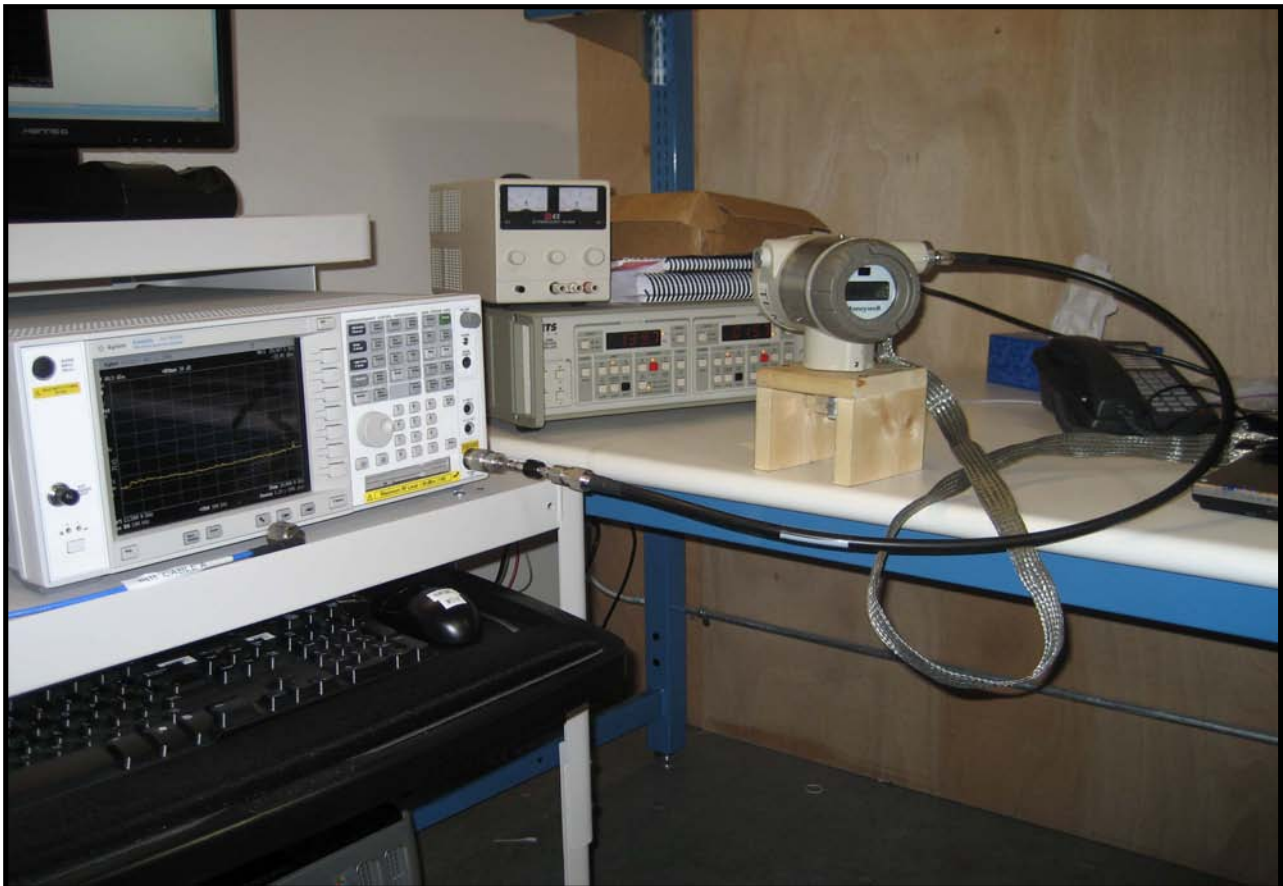
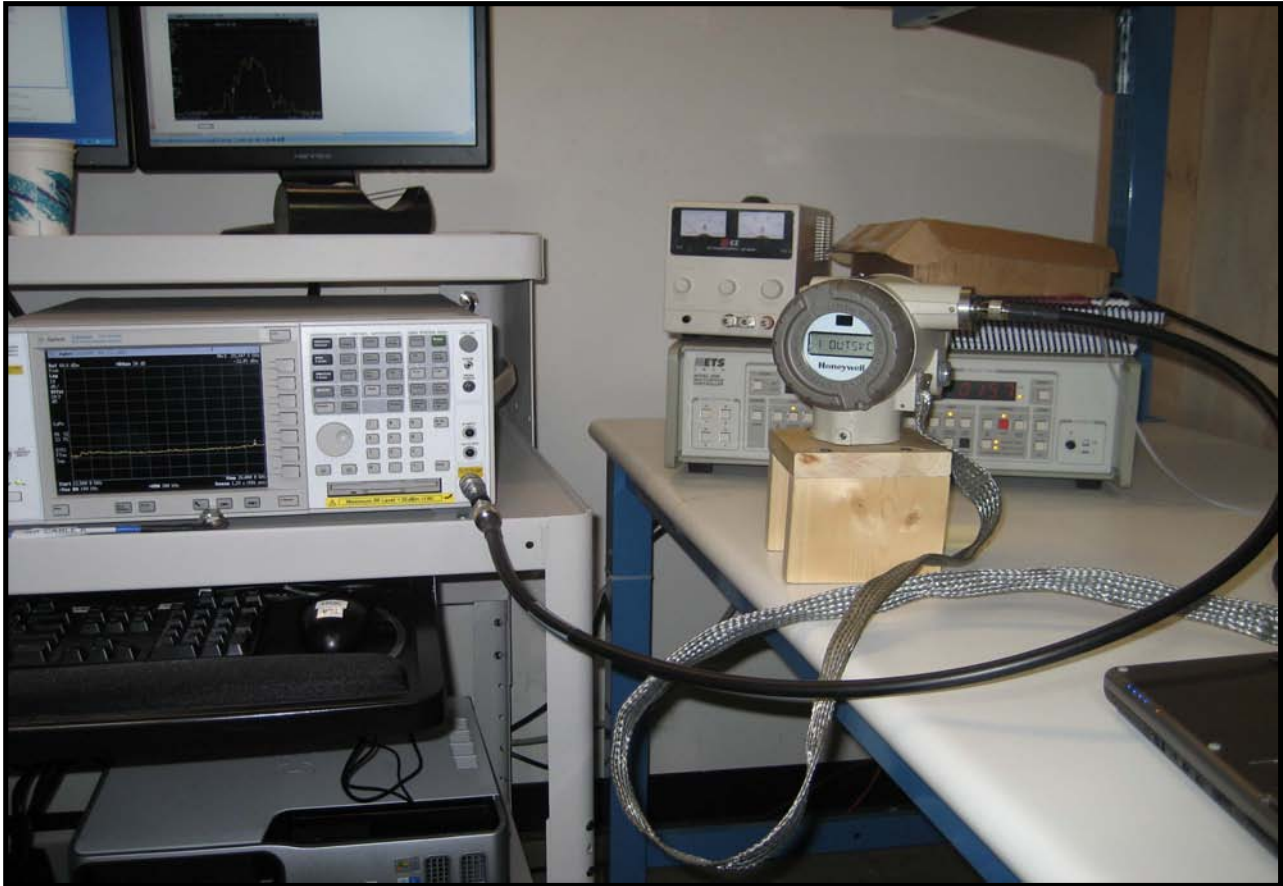
Highest Output Power, Dwell Time

Result: Pass

Value: 41 ms

Limit: 100 ms





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY


Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

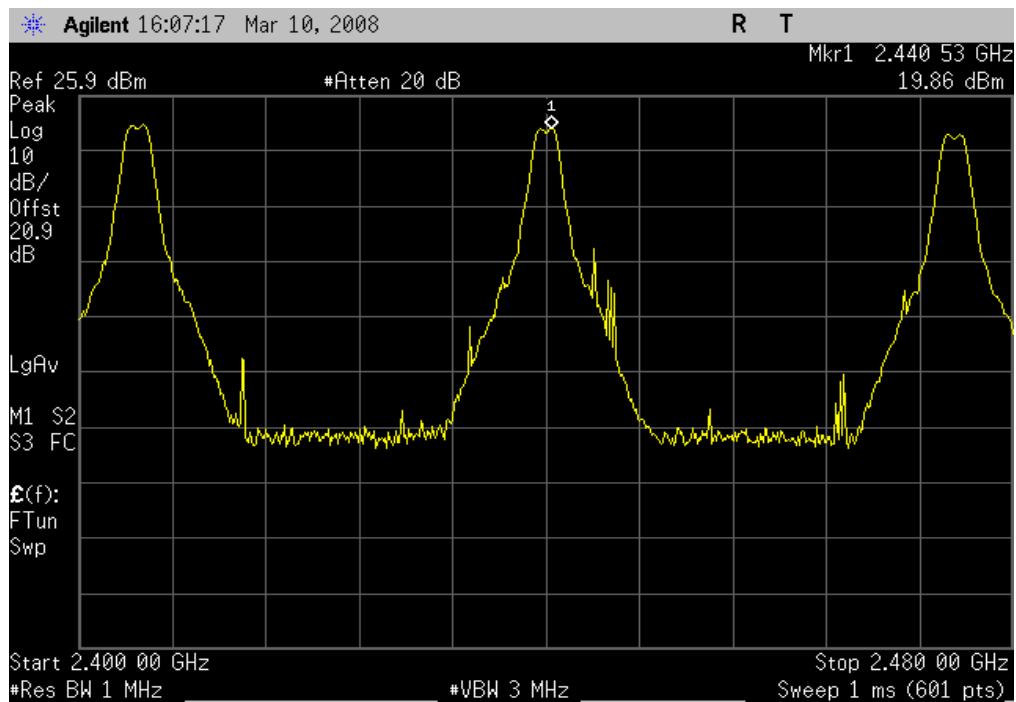
The number of hopping frequencies was measured across the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

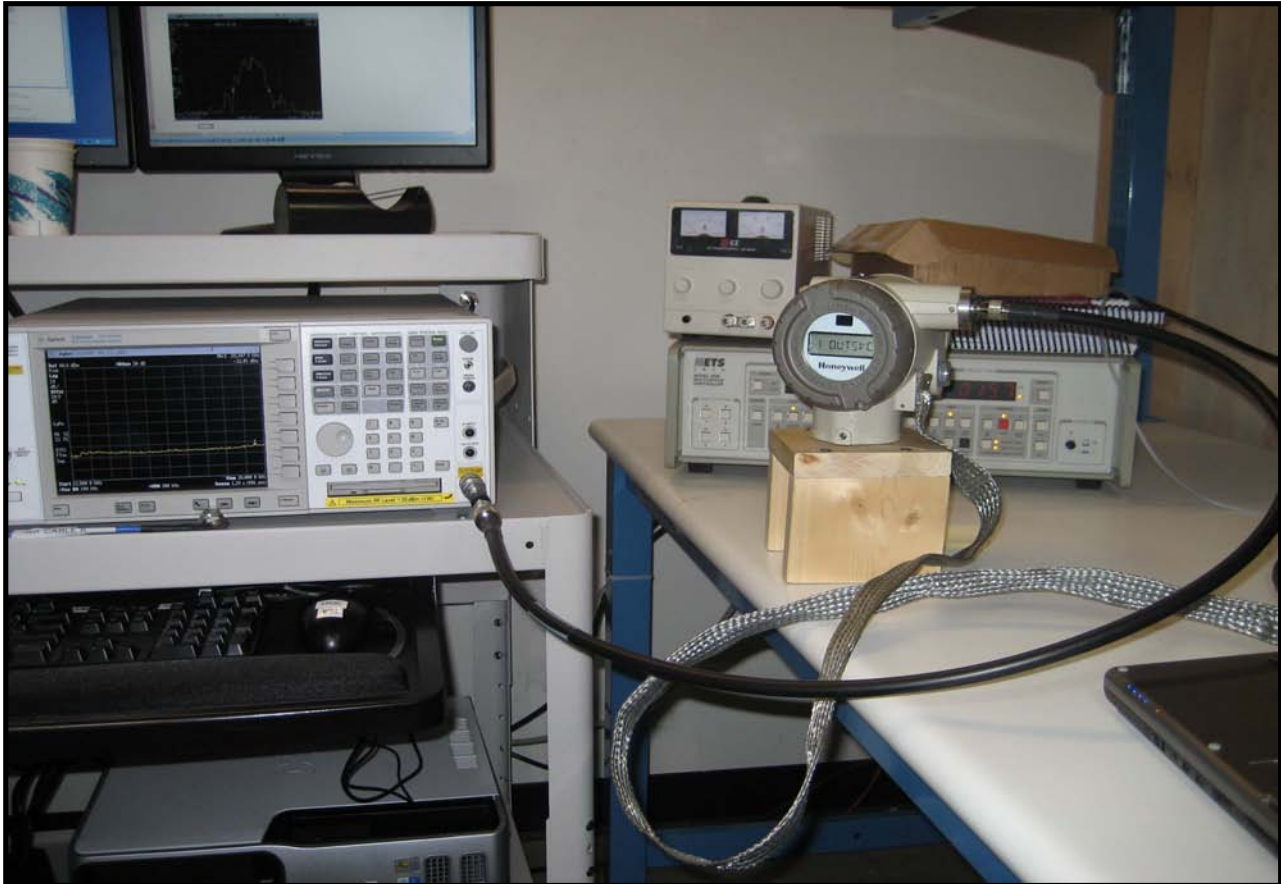
EMC

NUMBER OF HOPPING FREQUENCIES

EUT: XYR6000 15.4 Radio with LPF modified.		Work Order: HONE0027	
Serial Number:	None	Date: 03/11/08	
Customer:	Honeywell	Temperature: 22c°C	
Attendees:	David Shipley	Humidity: 40%	
Project:	None	Barometric Pres.: 1019 mb	
Tested by:	Jaemi Suh	Power:	Battery
		Job Site: OC11	
TEST SPECIFICATIONS		Test Method	
FCC 15.247 (DTS):2007		ANSI C63.4:2003 KDB No. 558074	
COMMENTS			
PC Power Level: 255. CHIP PA level = 0 dBm			
DEVIATIONS FROM TEST STANDARD			
Configuration #	1	Signature 	
		Value	Limit
Highest Output Power			Results
Number of Hopping Frequencies		3	No Limit
			Pass

Highest Output Power, # of Hopping Frequencies

Result: Pass**Value:** 3 Hopping Frequency**Limit:** No Limit



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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.

EMC

20 dB OCCUPIED BANDWIDTH - FHSS

EUT:	XYR6000 15.4 Radio with LPF modified.	Work Order:	HONE0027
Serial Number:	None	Date:	03/10/08
Customer:	Honeywell	Temperature:	22c°C
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS	Test Method
FCC 15.247 (FHSS):2006	ANSI C63.4:2003 KDB No. 558074

COMMENTS

The 20dB occupied bandwidth must be less than or equal to the channel spacing.

DEVIATIONS FROM TEST STANDARD

No Deviations

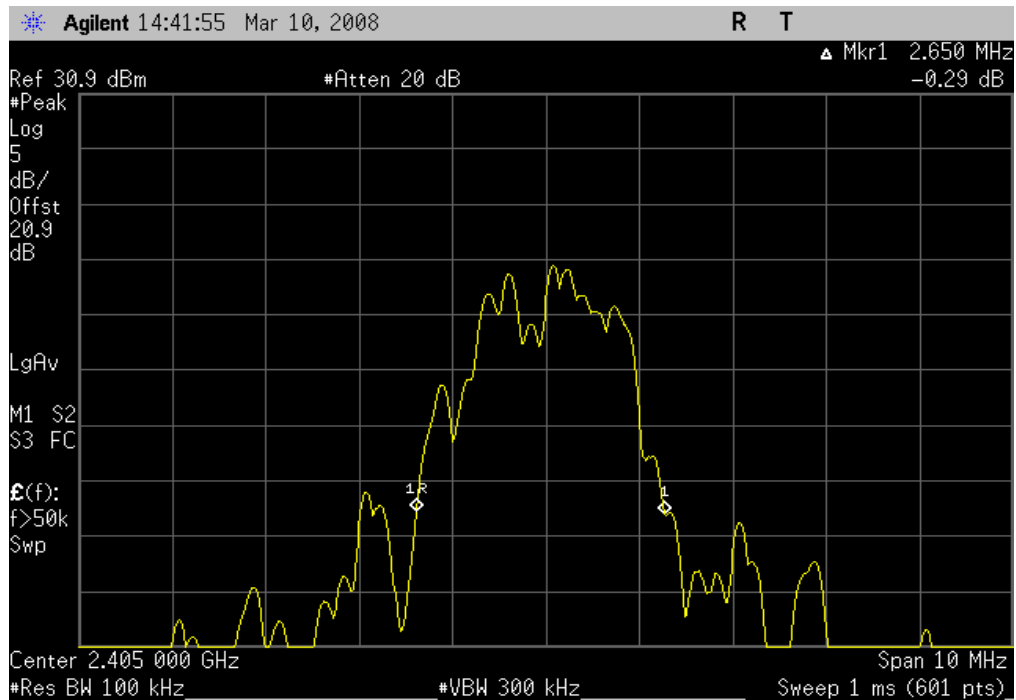
Configuration #	1	Signature 
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	Value	Limit	Results
Occupied Bandwidth			
Low Channel	2.65 MHz	≥ 4.93 MHz	Pass
Mid Channel	2.6 MHz	≥ 4.93 MHz	Pass
High Channel	2.6 MHz	≥ 4.93 MHz	Pass

Occupied Bandwidth, Low Channel

Result: Pass

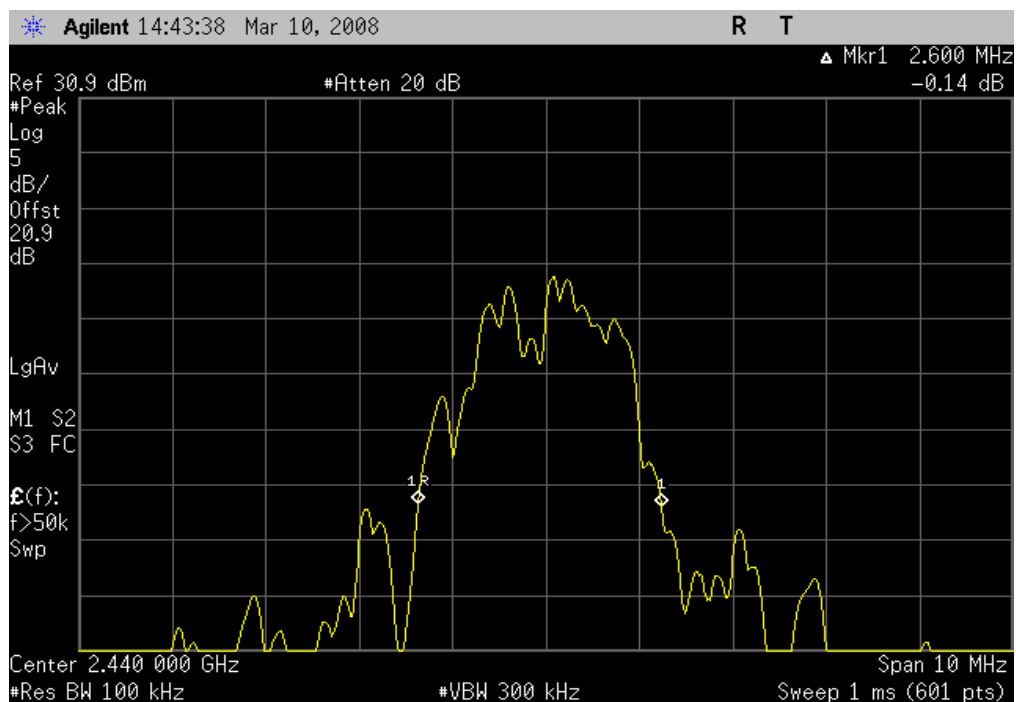
Value: 2.65 MHz

Limit: ≤ 4.93 MHz

Occupied Bandwidth, Mid Channel

Result: Pass

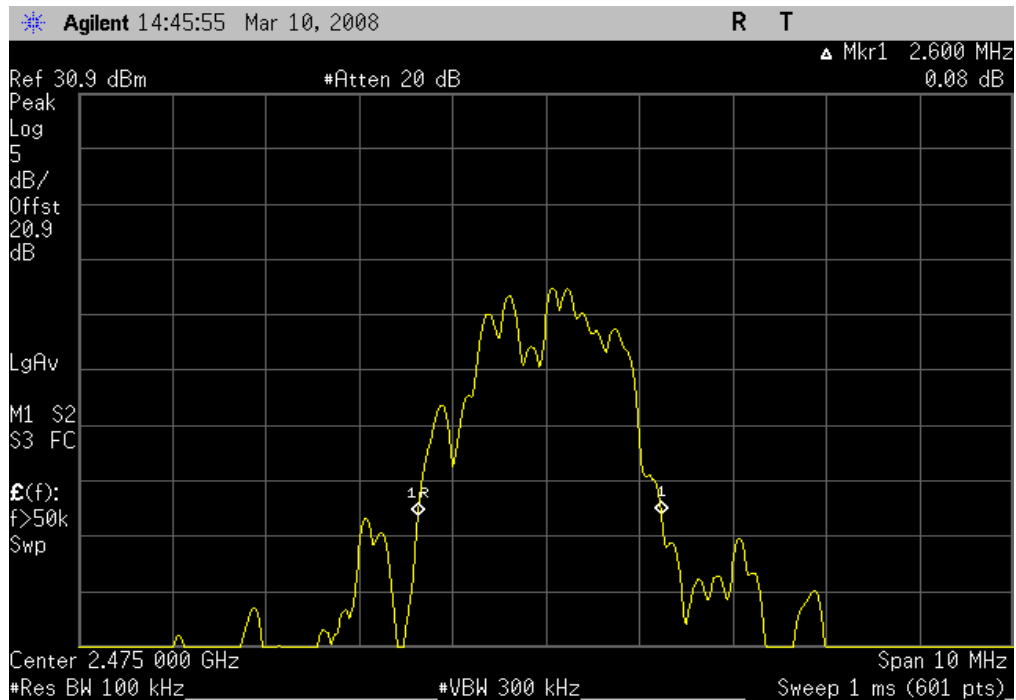
Value: 2.6 MHz

Limit: ≤ 4.93 MHz

Occupied Bandwidth, High Channel

Result: Pass

Value: 2.6 MHz

Limit: ≤ 4.93 MHz

EMC

6 dB OCCUPIED BANDWIDTH - DSSS

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.		Work Order: HONE0023
Serial Number: None		Date: 03/11/08
Customer: Honeywell		Temperature: 22°C
Attendees: David Shipley		Humidity: 40%
Project: None		Barometric Pres.: 1019 mb
Tested by: Jaemi Suh	Power: Battery	Job Site: OC11

TEST SPECIFICATIONS		Test Method
FCC 15.247 (DTS):2006		ANSI C63.4:2003 KDB No. 558074

COMMENTS	
Highest Output Power. PC Power Level: 255. CHIP PA level = 0 dBm Cable Loss = 0.9 dBm	

DEVIATIONS FROM TEST STANDARD	
No Deviations	

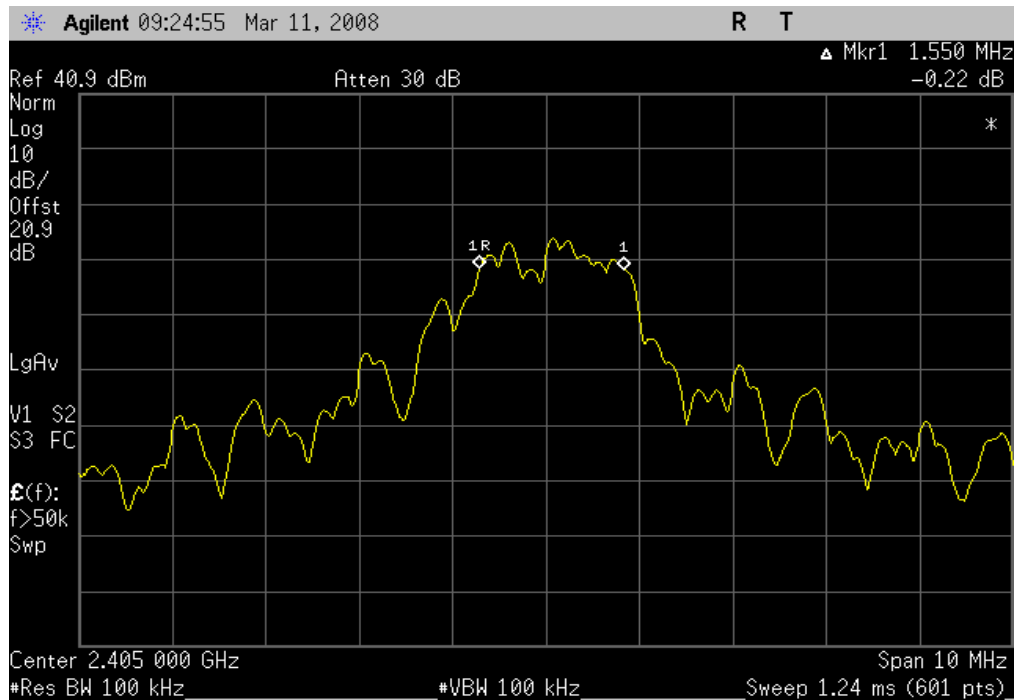
Configuration #	1	Signature 
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	Value	Limit	Results
Highest Output Power			
Low Channel	1.55 MHz	≥ 500 kHz	Pass
Mid Channel	1.65 MHz	≥ 500 kHz	Pass
High Channel	1.56 MHz	≥ 500 kHz	Pass

Highest Output Power, Low Channel

Result: Pass

Value: 1.55 MHz

Limit: ≥ 500 kHz

Highest Output Power, Mid Channel

Result: Pass

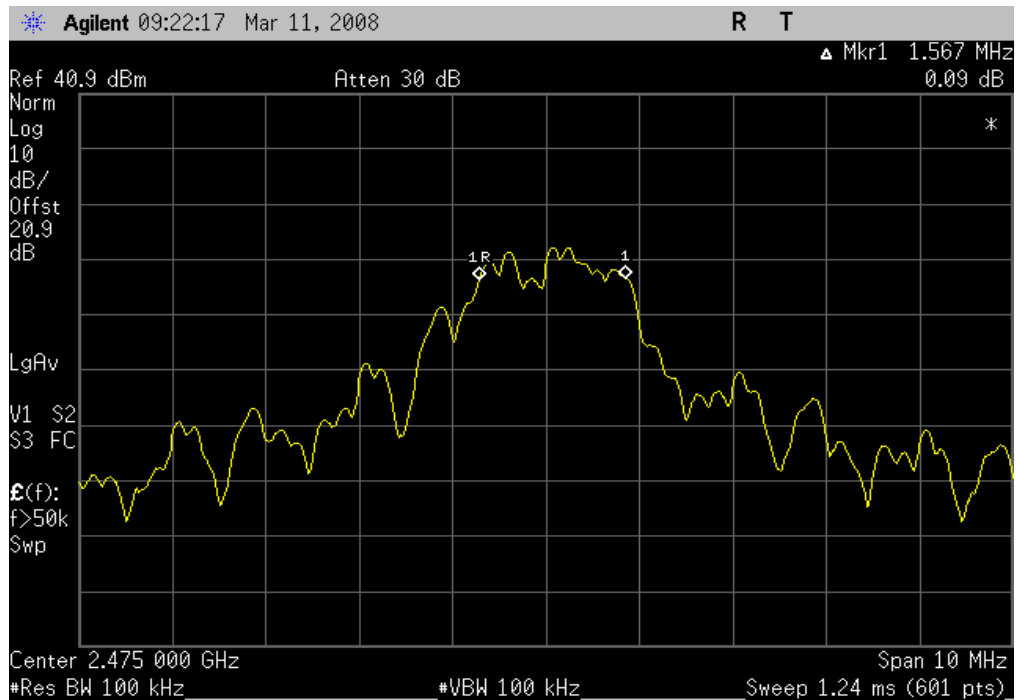
Value: 1.65 MHz

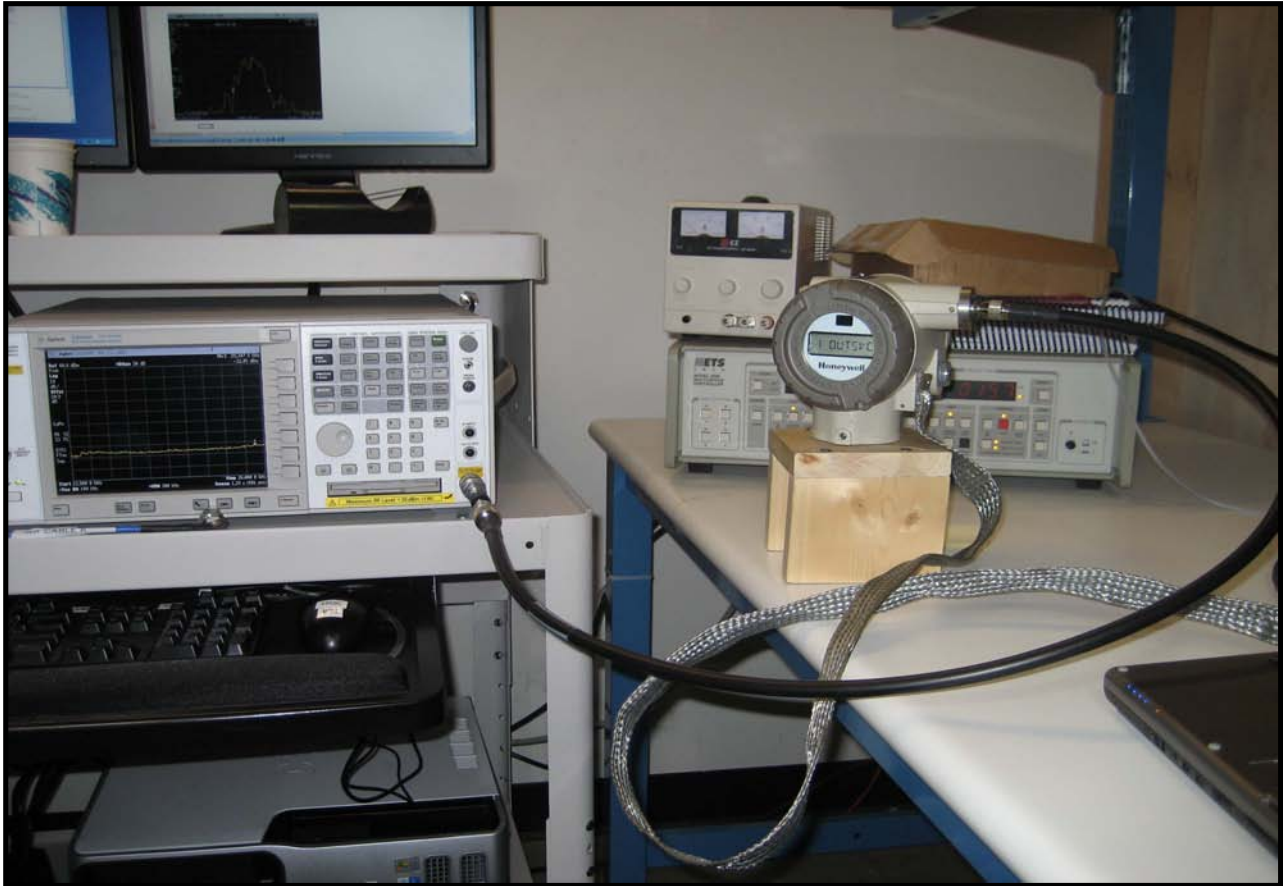
Limit: ≥ 500 kHz

Highest Output Power, High Channel

Result: Pass

Value: 1.56 MHz

Limit: ≥ 500 kHz



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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)(1-3), the EUT meets the de facto EIRP limit of +36dBm.

EMC

OUTPUT POWER - FHSS

EUT: XYR6000 15.4 Radio with LPF modified.		Work Order: HONE0023
Serial Number: None		Date: 03/10/08
Customer: Honeywell		Temperature: 22c°C
Attendees: David Shipley		Humidity: 40%
Project: None		Barometric Pres.: 1019 mb
Tested by: Jaemi Suh	Power: Battery	Job Site: OC11

TEST SPECIFICATIONS		Test Method
FCC 15.247 (DTS):2006		ANSI C63.4:2003 KDB No. 558074

COMMENTS

PC Power Level: 255. CHIP PA level = 0 dBm. Cable Loss = 0.9

DEVIATIONS FROM TEST STANDARD

Configuration #	1	Signature 
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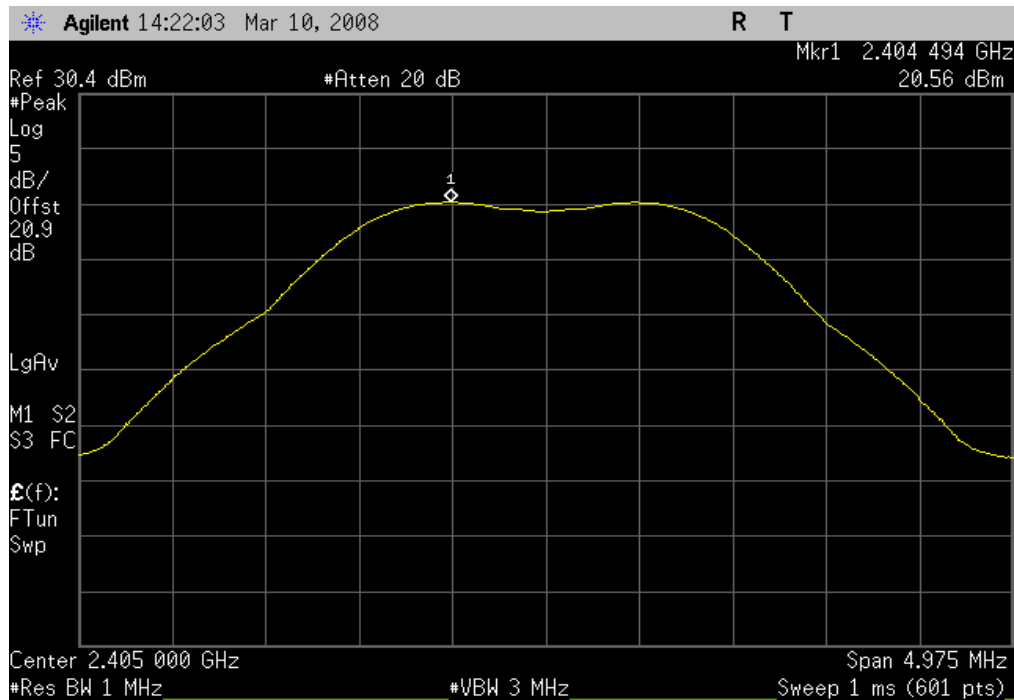
		Value	Limit	Results
Output Power	Low Channel	20.56 dBm	30 dBm	Pass
	Mid Channel	19.65 dBm	30 dBm	Pass
	High Channel	18.47 dBm	30 dBm	Pass

Output Power, Low Channel

Result: Pass

Value: 20.56 dBm

Limit: 30 dBm

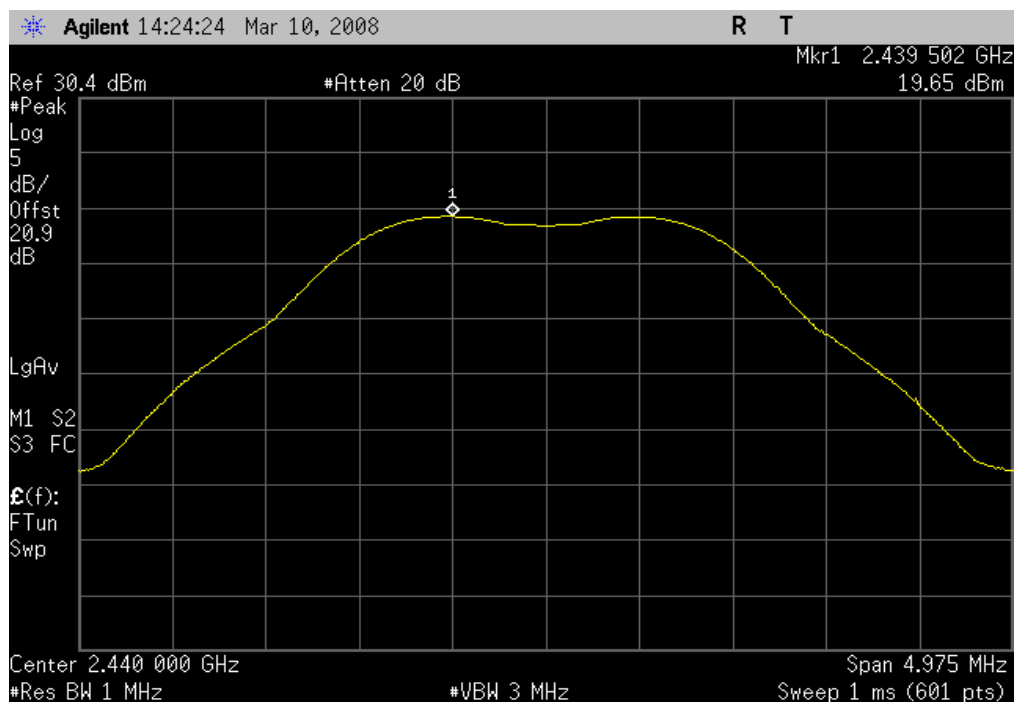


Output Power, Mid Channel

Result: Pass

Value: 19.65 dBm

Limit: 30 dBm

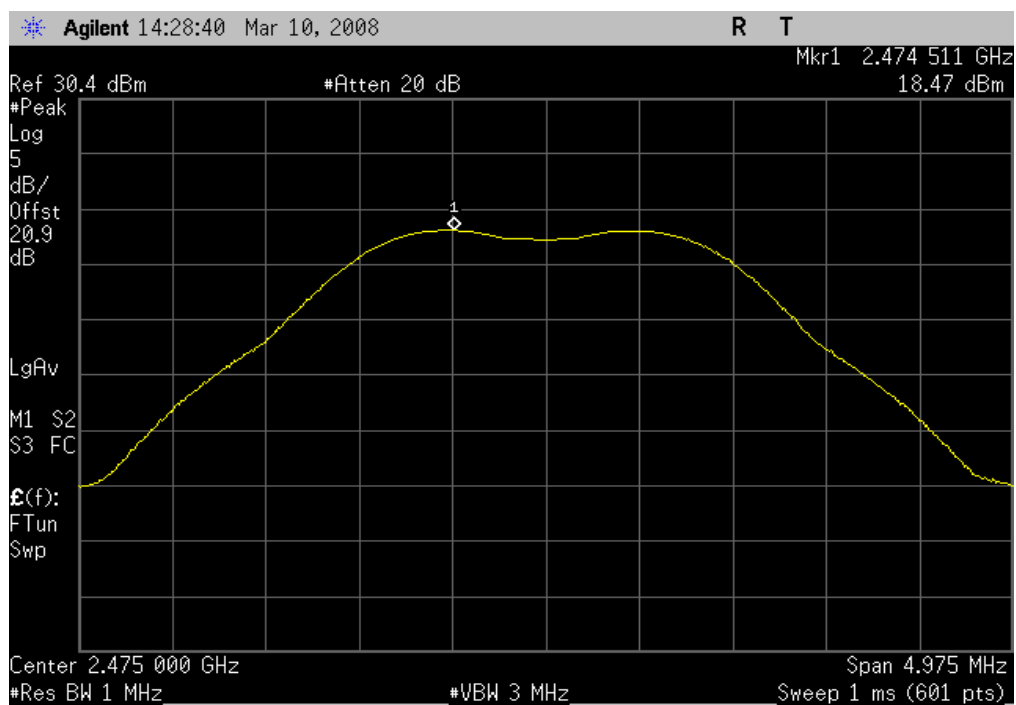


Output Power, High Channel

Result: Pass

Value: 18.47 dBm

Limit: 30 dBm



EMC

OUTPUT POWER - DSSS

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.	Work Order:	HONE0023
Serial Number:	None	Date:	03/11/08
Customer:	Honeywell	Temperature:	22°C
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC11

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2006	ANSI C63.4:2003 KDB No. 558074

COMMENTS
Highest Gain Antenna 14dBi. PC Power Level: 168. CHIP PA level = 0 dBm
Mid Gain Antenna 8 dBi. PC Power Level: 195 CHIP PA level = 0 dBm
Lowest Gain Antenna -2 dBi. PC Power Level: 255. CHIP PA level = 0 dBm
DEVIATIONS FROM TEST STANDARD

Configuration #	1	Signature 
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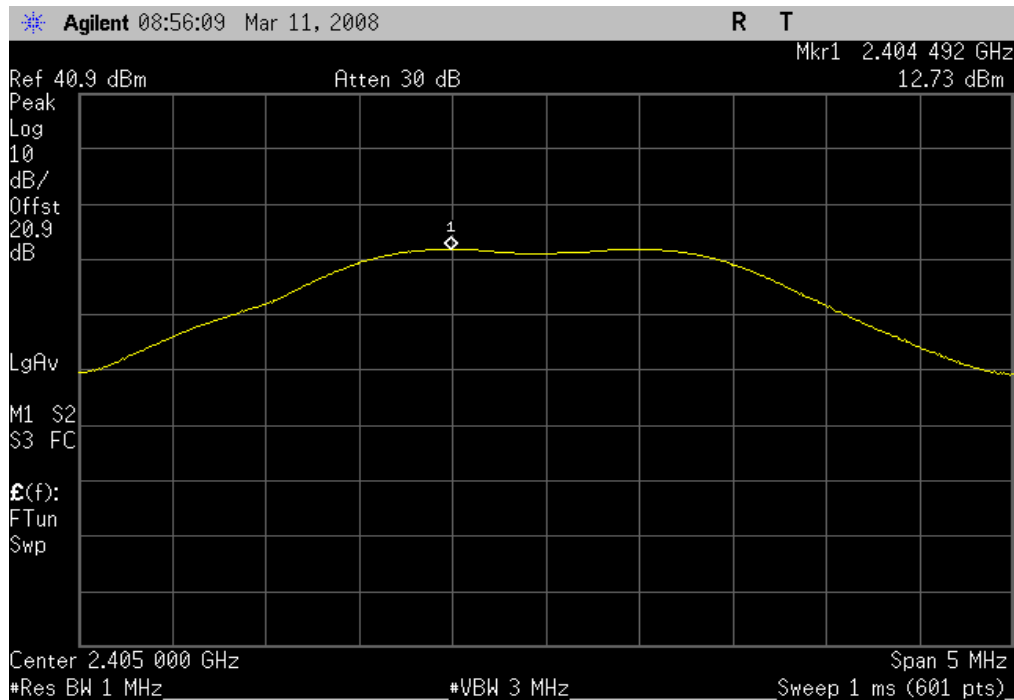
	Value	Limit	Results
DSSS Output Power			
Power Level 168			
Low Channel	12.73 dBm	27 dBm	Pass
Mid Channel	12.32 dBm	27 dBm	Pass
High Channel	12.10 dBm	27 dBm	Pass
Power Level 195			
Low Channel	16.67 dBm	29 dBm	Pass
Mid Channel	16.13 dBm	29 dBm	Pass
High Channel	15.66 dBm	29 dBm	Pass
Power Level 255			
Low Channel	20.56 dBm	30 dBm	Pass
Mid Channel	19.56 dBm	30 dBm	Pass
High Channel	18.47 dBm	30 dBm	Pass

DSSS Output Power, Power Level 168, Low Channel

Result: Pass

Value: 12.73 dBm

Limit: 27 dBm

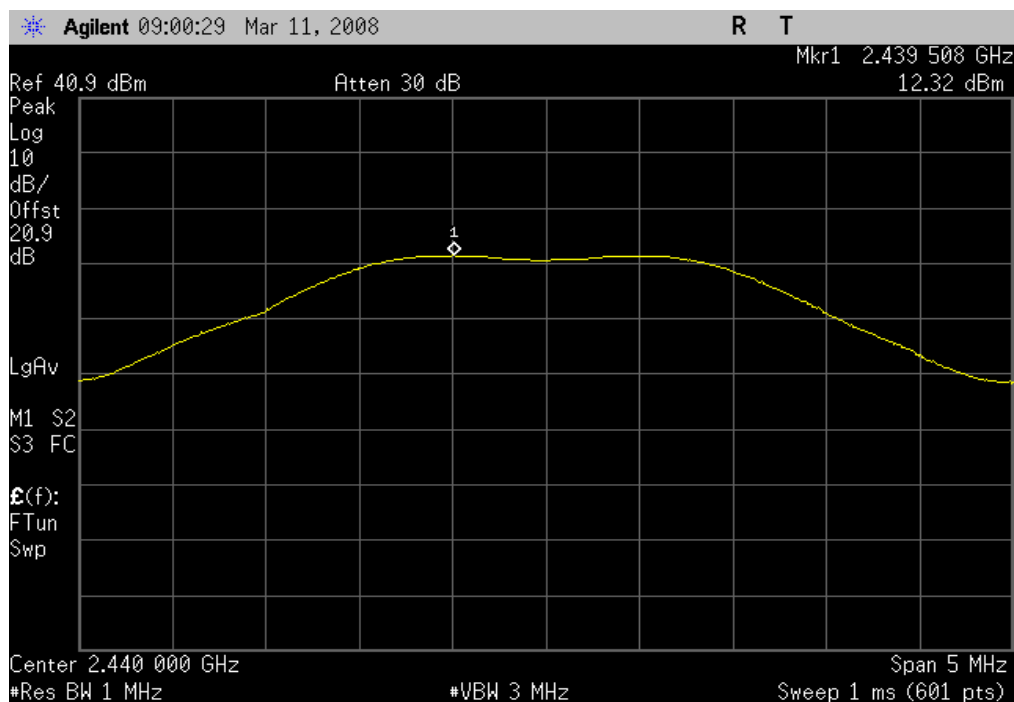


DSSS Output Power, Power Level 168, Mid Channel

Result: Pass

Value: 12.32 dBm

Limit: 27 dBm

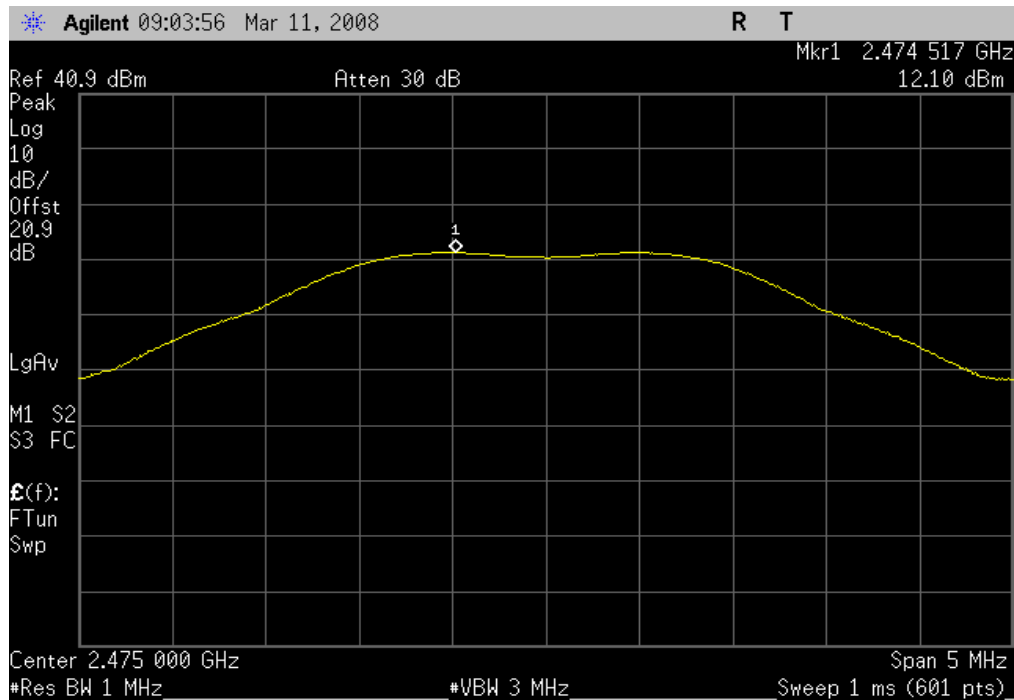


DSSS Output Power, Power Level 168, High Channel

Result: Pass

Value: 12.10 dBm

Limit: 27 dBm

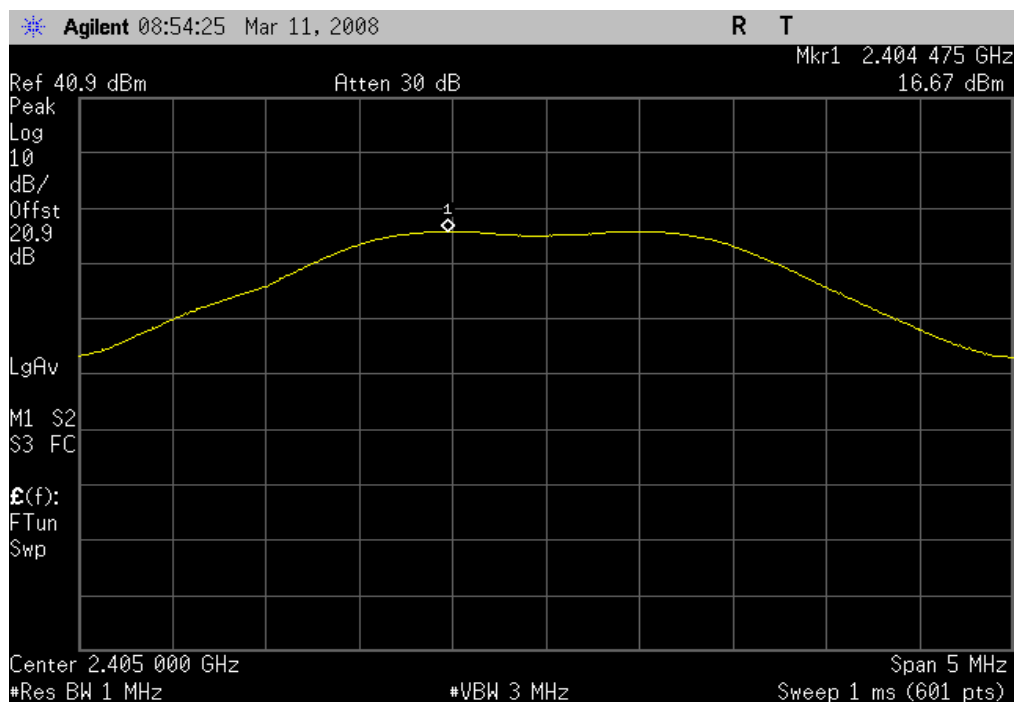


DSSS Output Power, Power Level 195, Low Channel

Result: Pass

Value: 16.67 dBm

Limit: 29 dBm

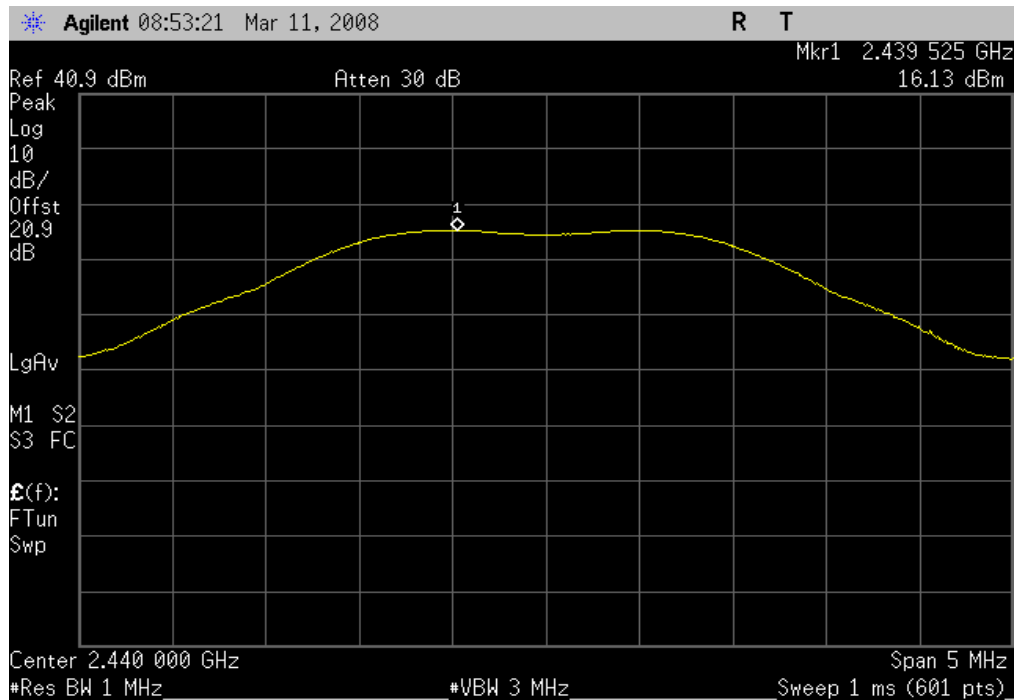


DSSS Output Power, Power Level 195, Mid Channel

Result: Pass

Value: 16.13 dBm

Limit: 29 dBm

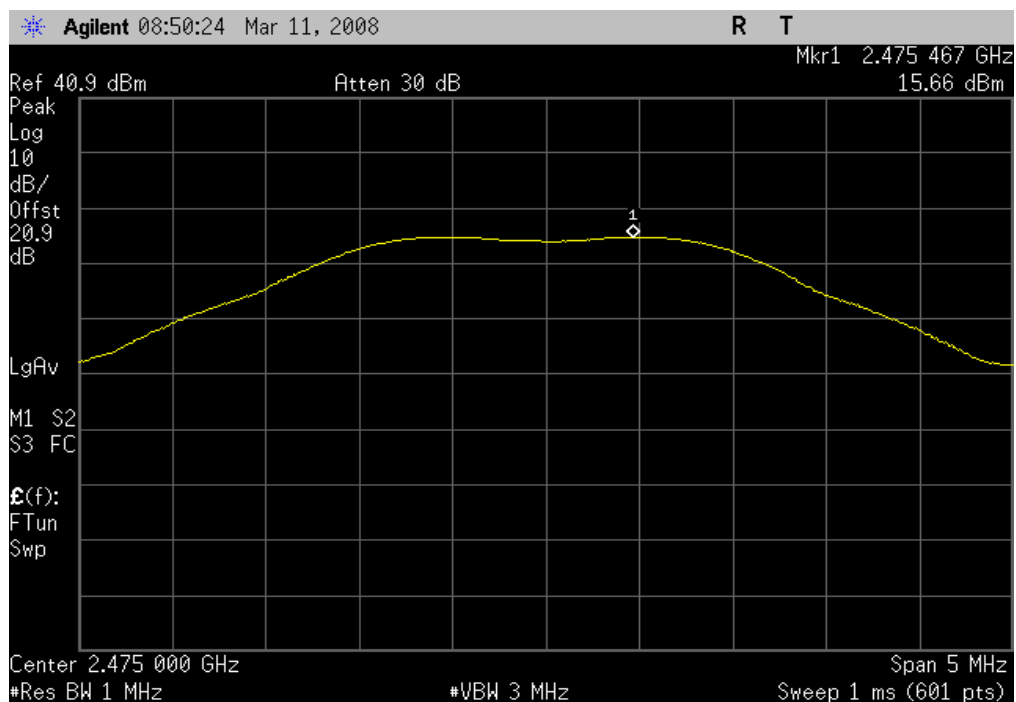


DSSS Output Power, Power Level 195, High Channel

Result: Pass

Value: 15.66 dBm

Limit: 29 dBm

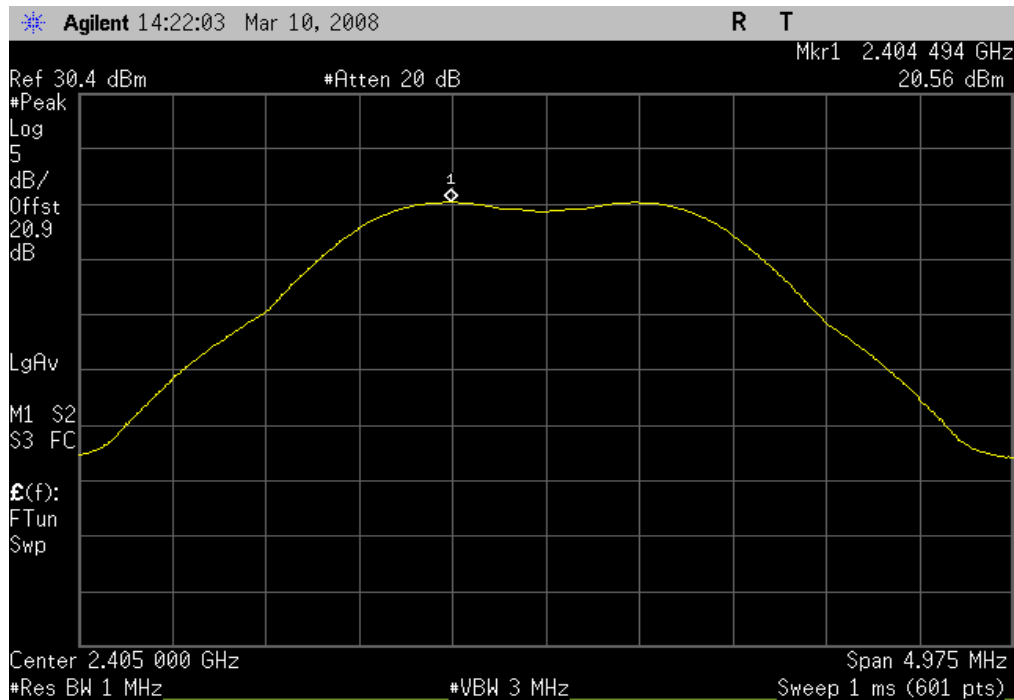


DSSS Output Power, Power Level 255, Low Channel

Result: Pass

Value: 20.56 dBm

Limit: 30 dBm

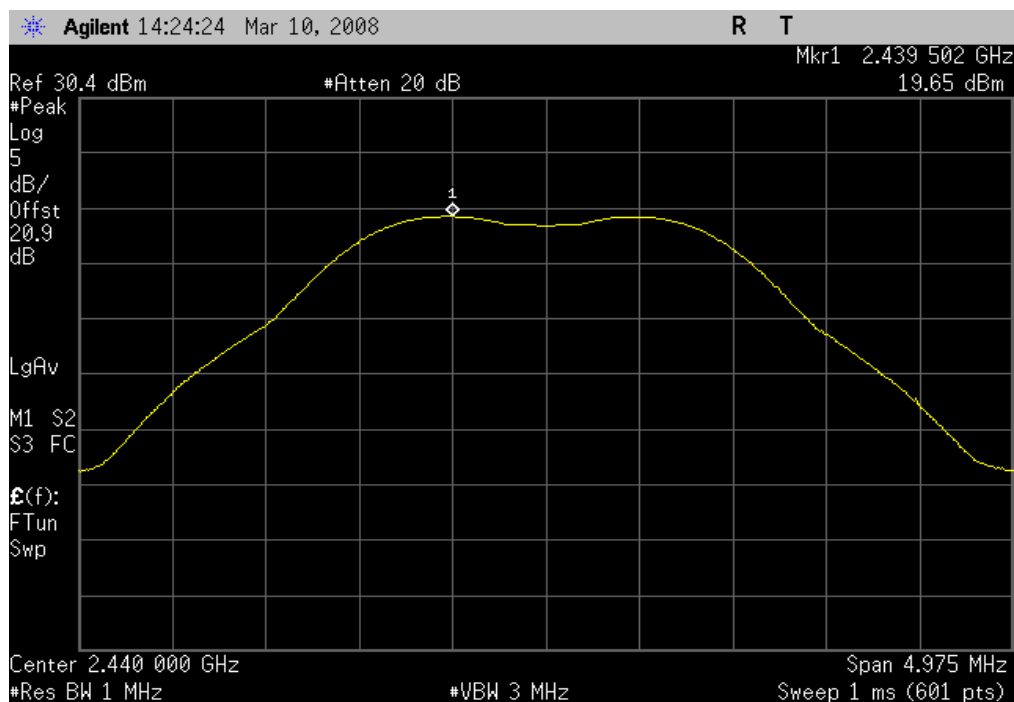


DSSS Output Power, Power Level 255, Mid Channel

Result: Pass

Value: 19.56 dBm

Limit: 30 dBm

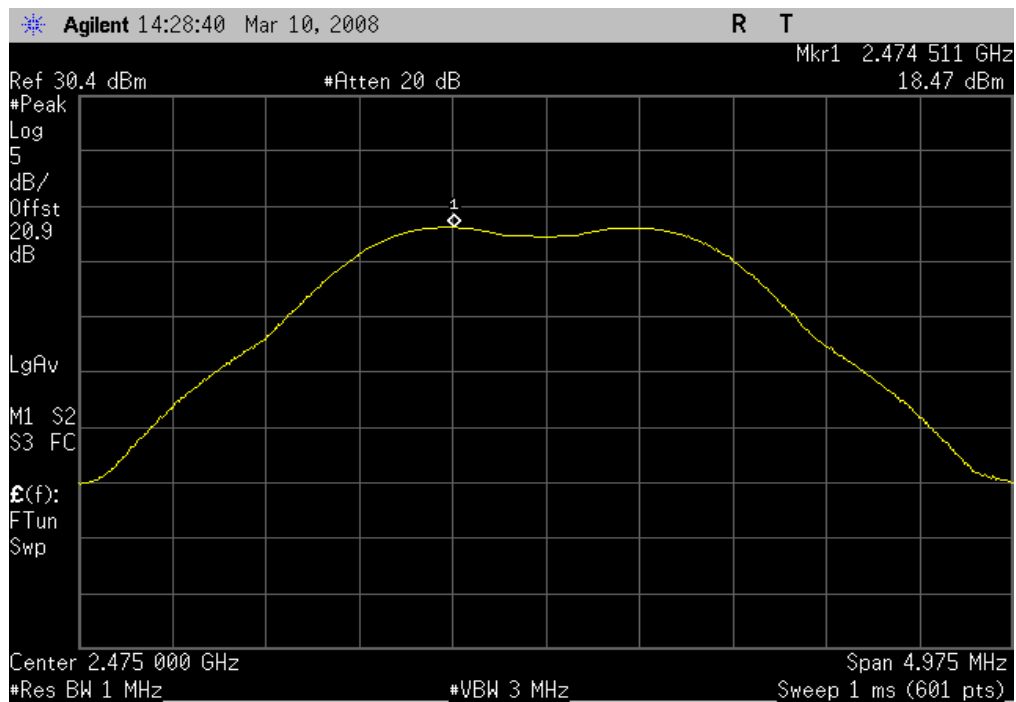


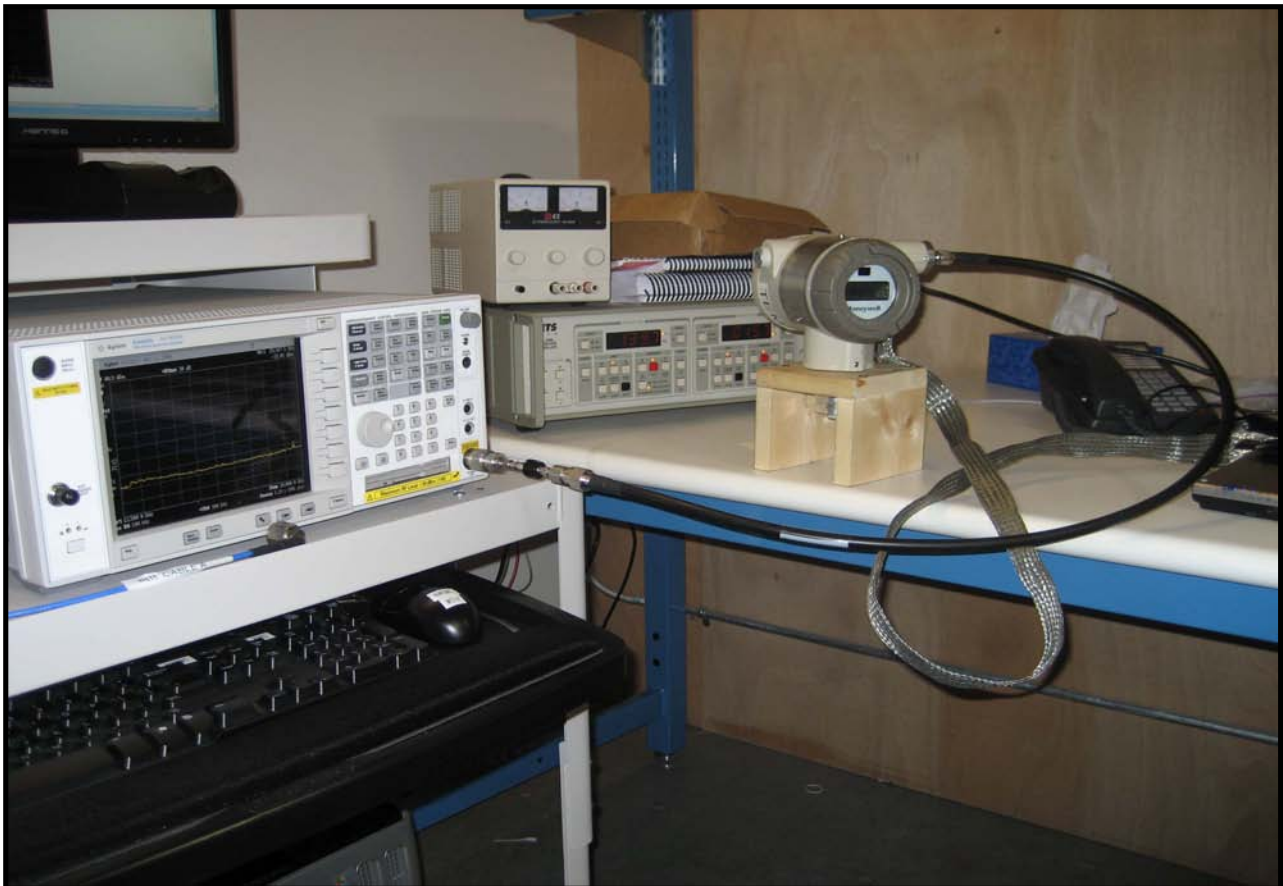
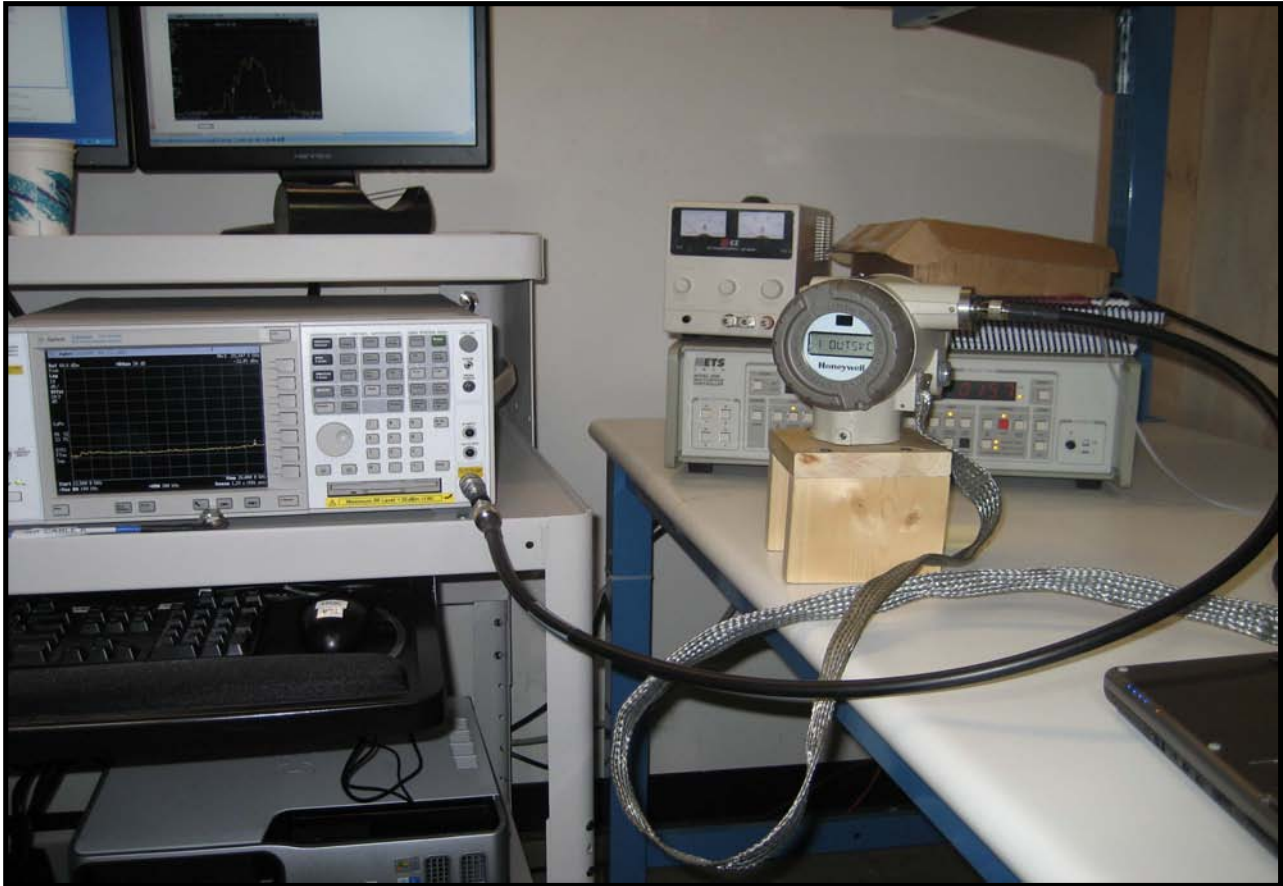
DSSS Output Power, Power Level 255, High Channel

Result: Pass

Value: 18.47 dBm

Limit: 30 dBm





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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.

EMC

BAND EDGE COMPLIANCE

EUT: XYR6000 15.4 Radio with LPF modified.		Work Order: HONE0023
Serial Number: None		Date: 03/10/08
Customer: Honeywell		Temperature: 22°C
Attendees: David Shipley		Humidity: 40%
Project: None		Barometric Pres.: 1019 mb
Tested by: Jaemi Suh	Power: Battery	Job Site: OC11

TEST SPECIFICATIONS		Test Method
FCC 15.247 (DTS):2007		ANSI C63.4:2003 KDB No. 558074

COMMENTS

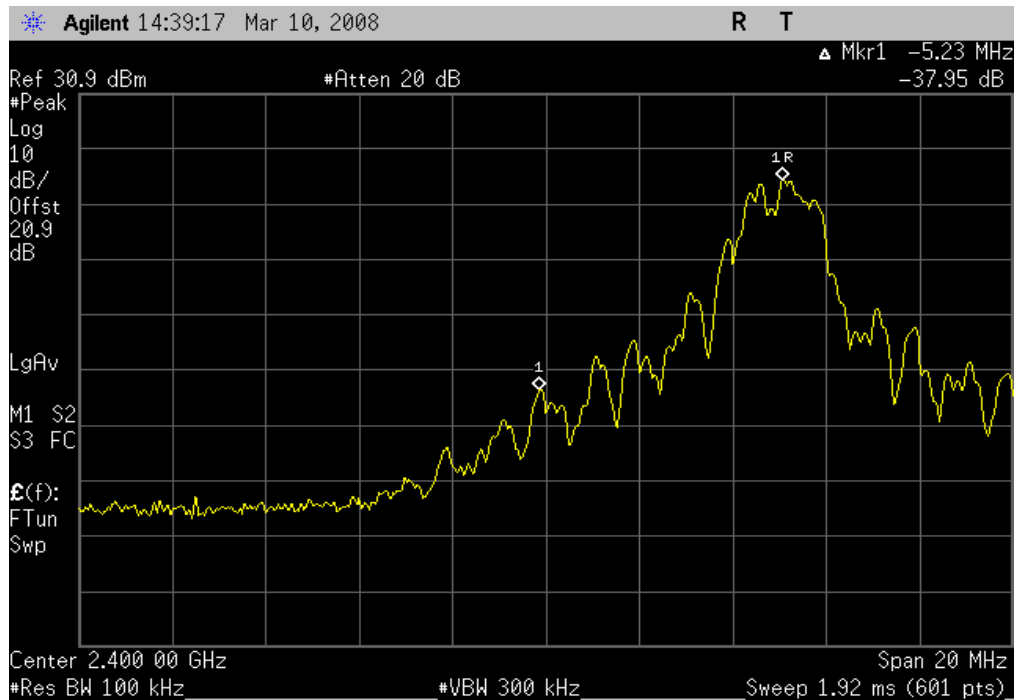
PC Power Level: 255. CHIP PA level = 0 dBm. Cable Loss = 0.9 dBm

DEVIATIONS FROM TEST STANDARD

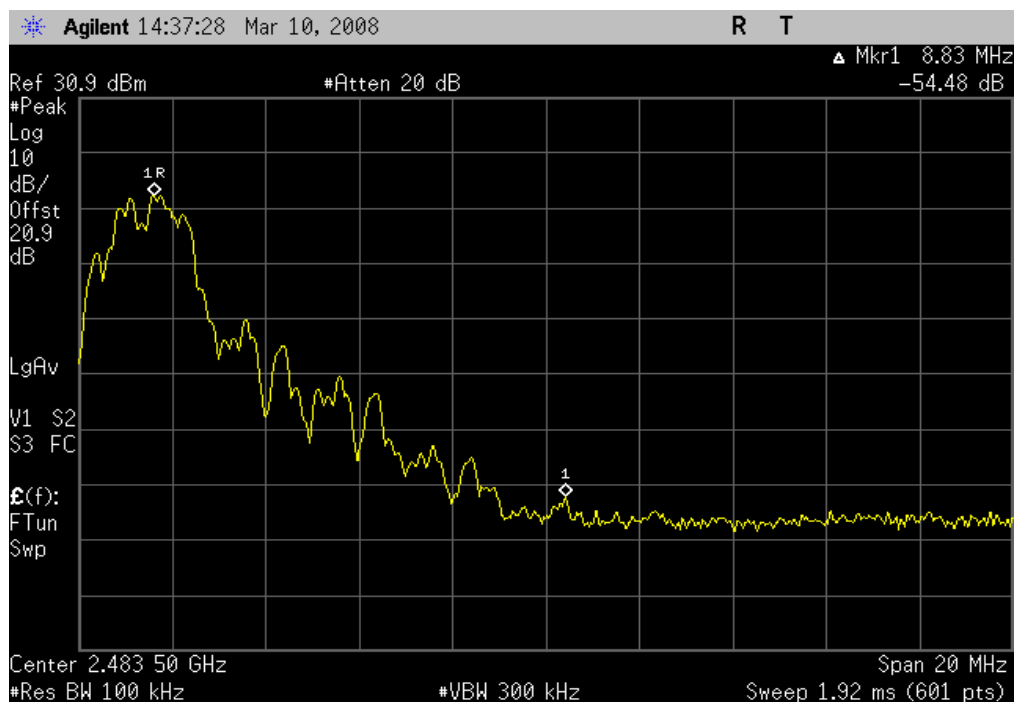
Configuration #	1	Signature 
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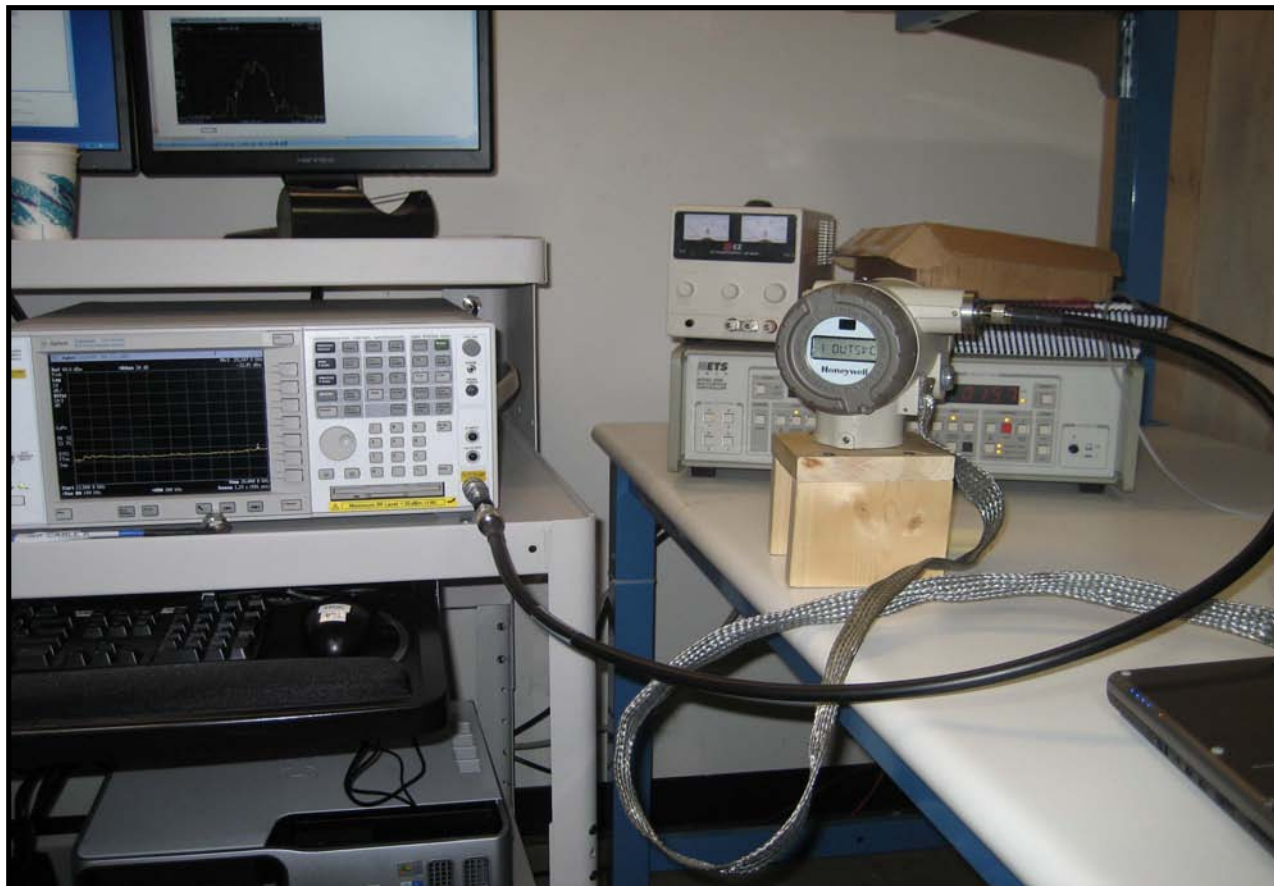
		Value	Limit	Results
Band Edge	Low Channel	-37.95 dBc	≤ - 20 dBc	Pass
	High Channel	-54.48 dBc	≤ - 20 dBc	Pass

Band Edge , Low Channel		
Result: Pass	Value: -37.95 dBc	Limit: ≤ -20 dBc



Band Edge , High Channel		
Result: Pass	Value: -54.48 dBc	Limit: ≤ -20 dBc





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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.

EMC

SPURIOUS CONDUCTED EMISSIONS

EUT: XYR6000 15.4 Radio with LPF modified.		Work Order: HONE0023
Serial Number: None		Date: 03/10/08
Customer: Honeywell		Temperature: 22°C
Attendees: David Shipley		Humidity: 40%
Project: None		Barometric Pres.: 1019 mb
Tested by: Jaemi Suh	Power: Battery	Job Site: OC11

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2007	ANSI C63.4:2003 KDB No. 558074

COMMENTS

PC Power Level: 255. CHIP PA level = 0 dBm. Cable Loss = 0.9 dBm

DEVIATIONS FROM TEST STANDARD

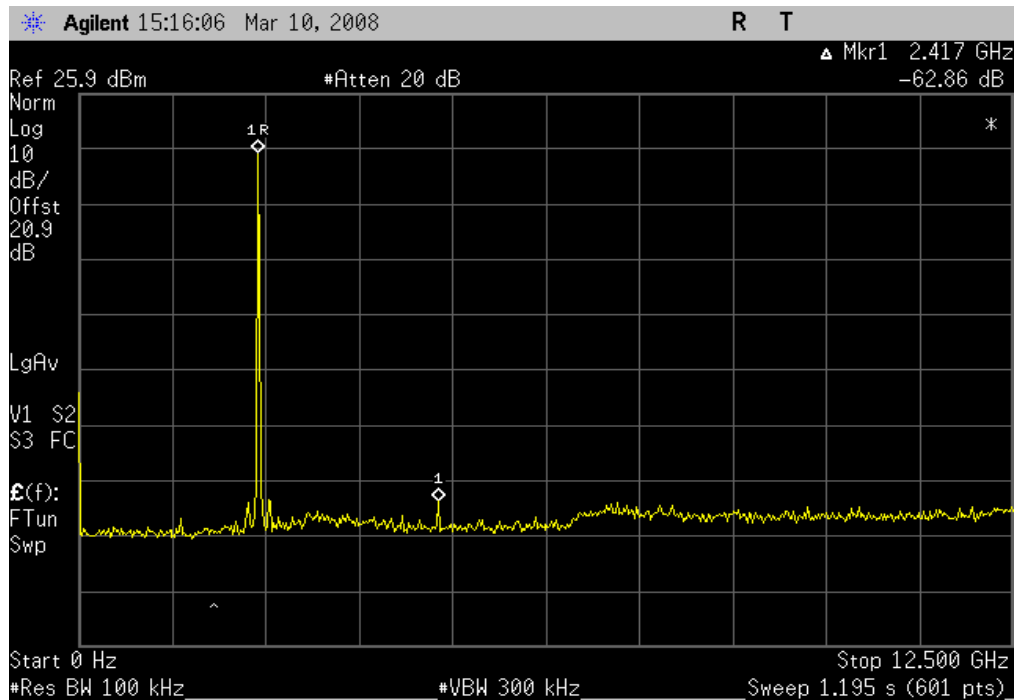
Configuration #	1	Signature 
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	Value	Limit	Results
Highest Output Power			
Low Channel			
0 Mhz - 12.5 GHz	-62.86 dBc	≤ - 20 dBc	Pass
12.5 GHz -26 GHz	≤ -40 dBc	≤ - 20 dBc	Pass
Mid Channel			
0 Mhz - 12.5 GHz	-62.60 dBc	≤ - 20 dBc	Pass
12.5 GHz -26 GHz	≤ -40 dBc	≤ - 20 dBc	Pass
High Channel			
0 Mhz - 12.5 GHz	-60.73 dBc	≤ - 20 dBc	Pass
12.5 GHz -26 GHz	≤ -40 dBc	≤ - 20 dBc	Pass

Highest Output Power, Low Channel, 0 MHz - 12.5 GHz

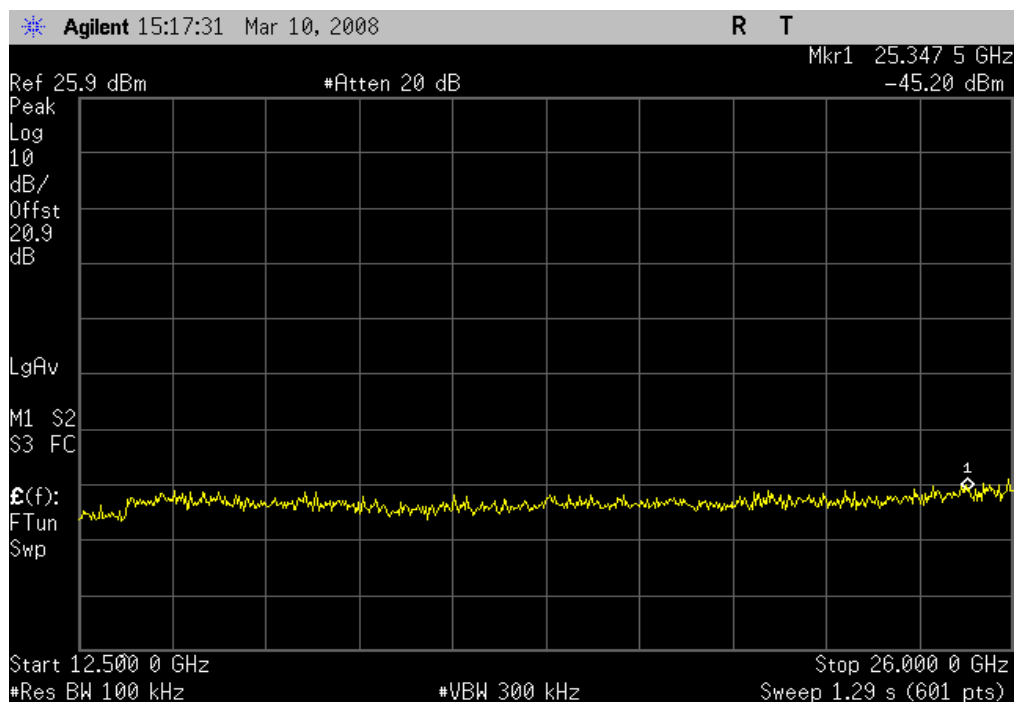
Result: Pass

Value: -62.86 dBc

Limit: ≤ -20 dBc

Highest Output Power, Low Channel, 12.5 GHz -26 GHz

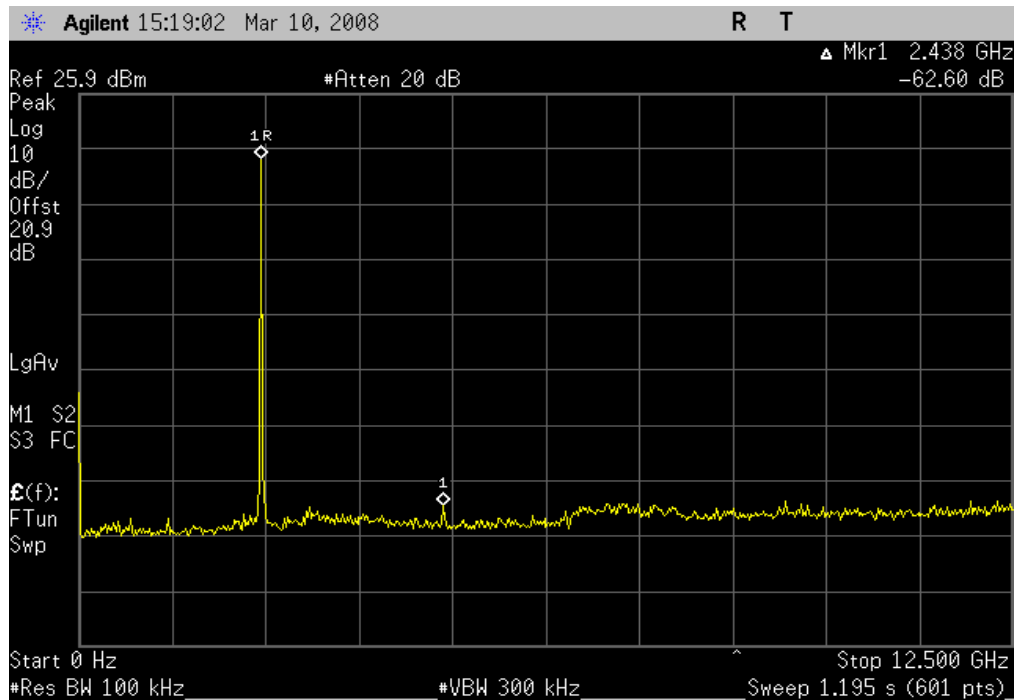
Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

Highest Output Power, Mid Channel, 0 MHz - 12.5 GHz

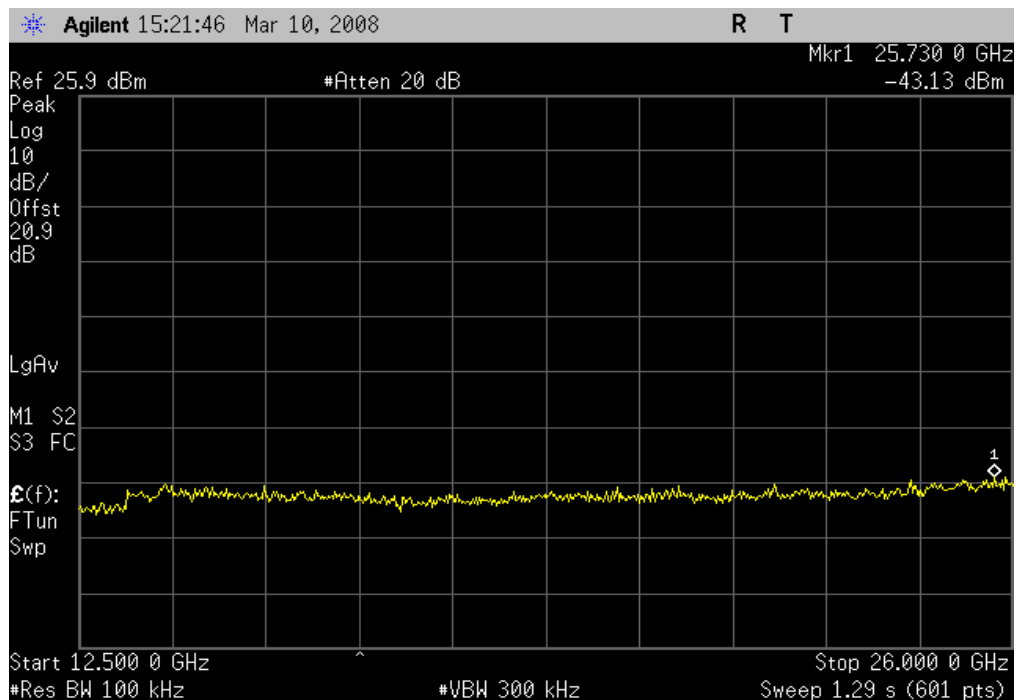
Result: Pass

Value: -62.60 dBc

Limit: ≤ -20 dBc

Highest Output Power, Mid Channel, 12.5 GHz -26 GHz

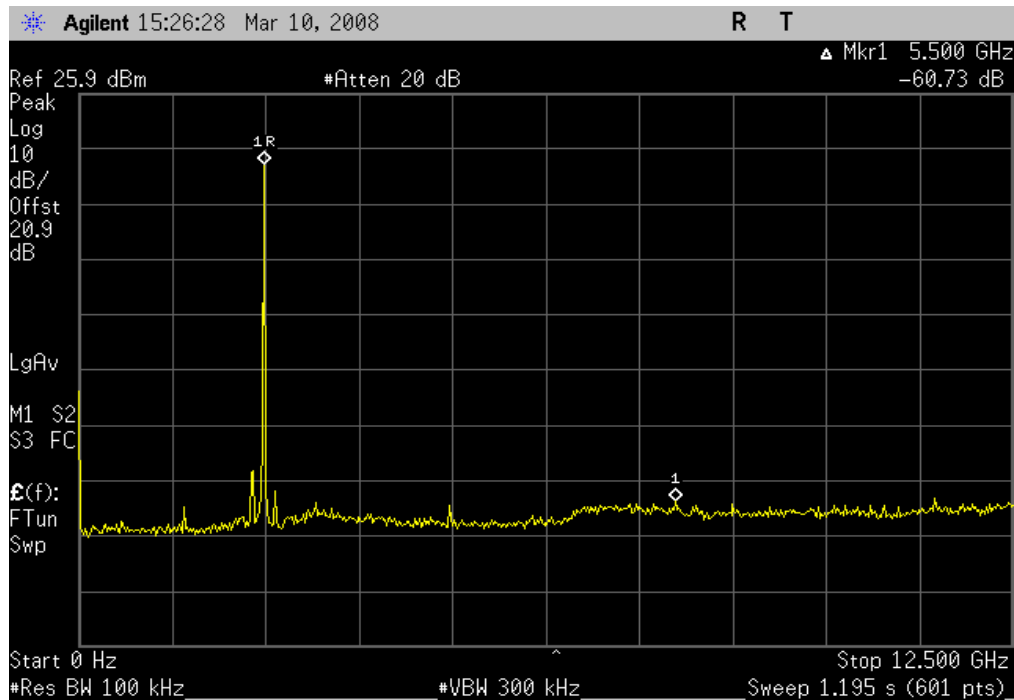
Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

Highest Output Power, High Channel, 0 MHz - 12.5 GHz

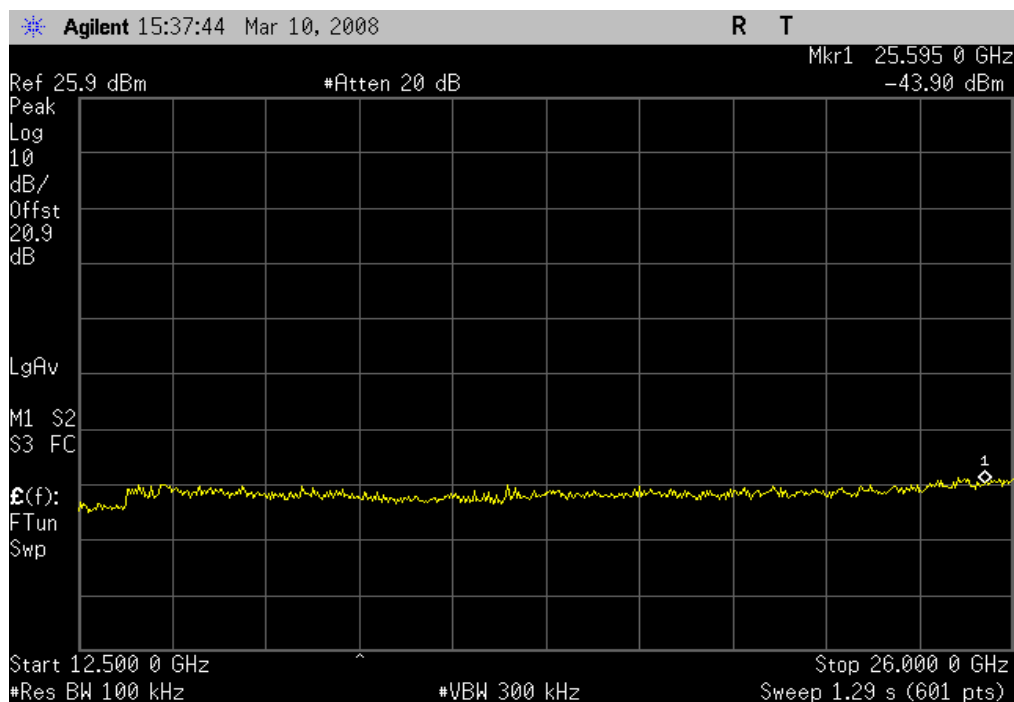
Result: Pass

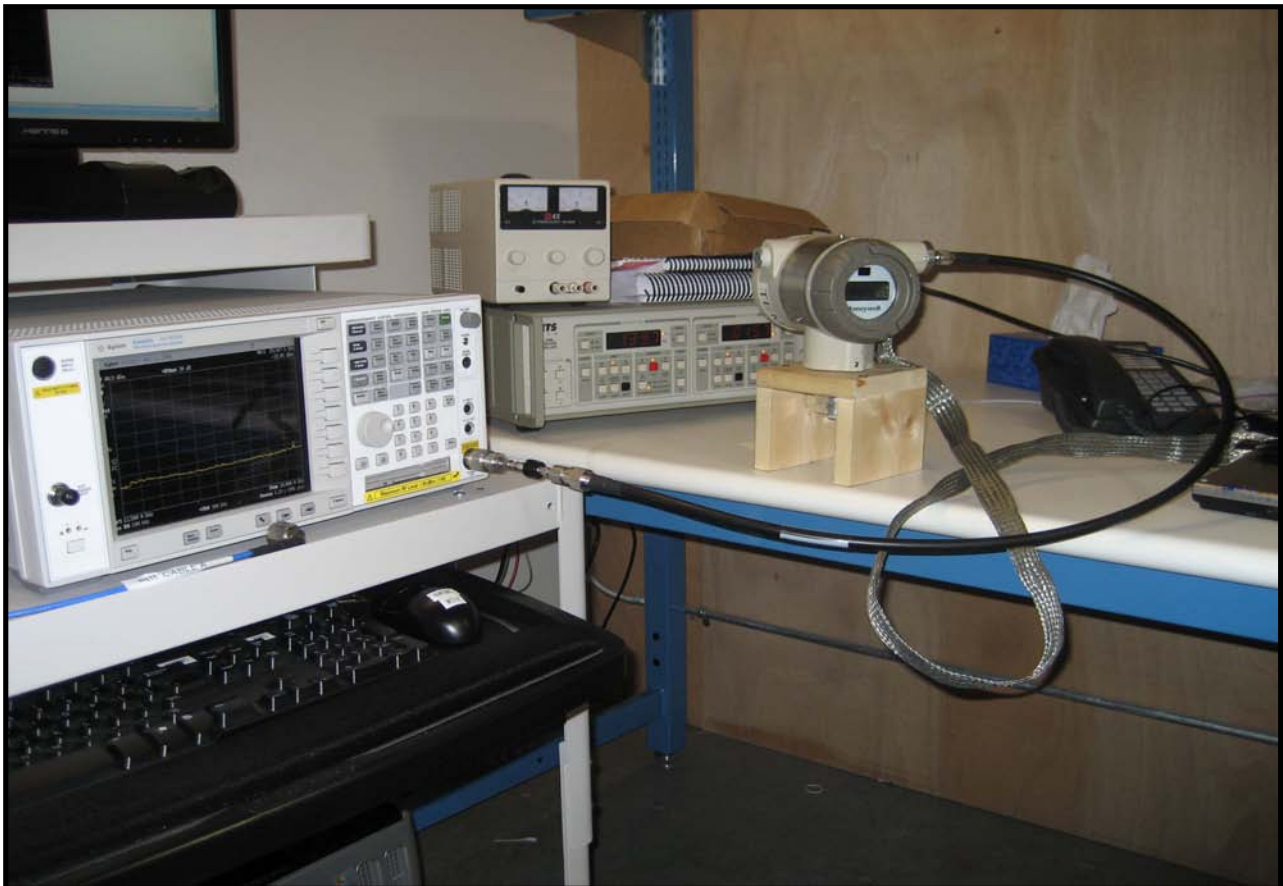
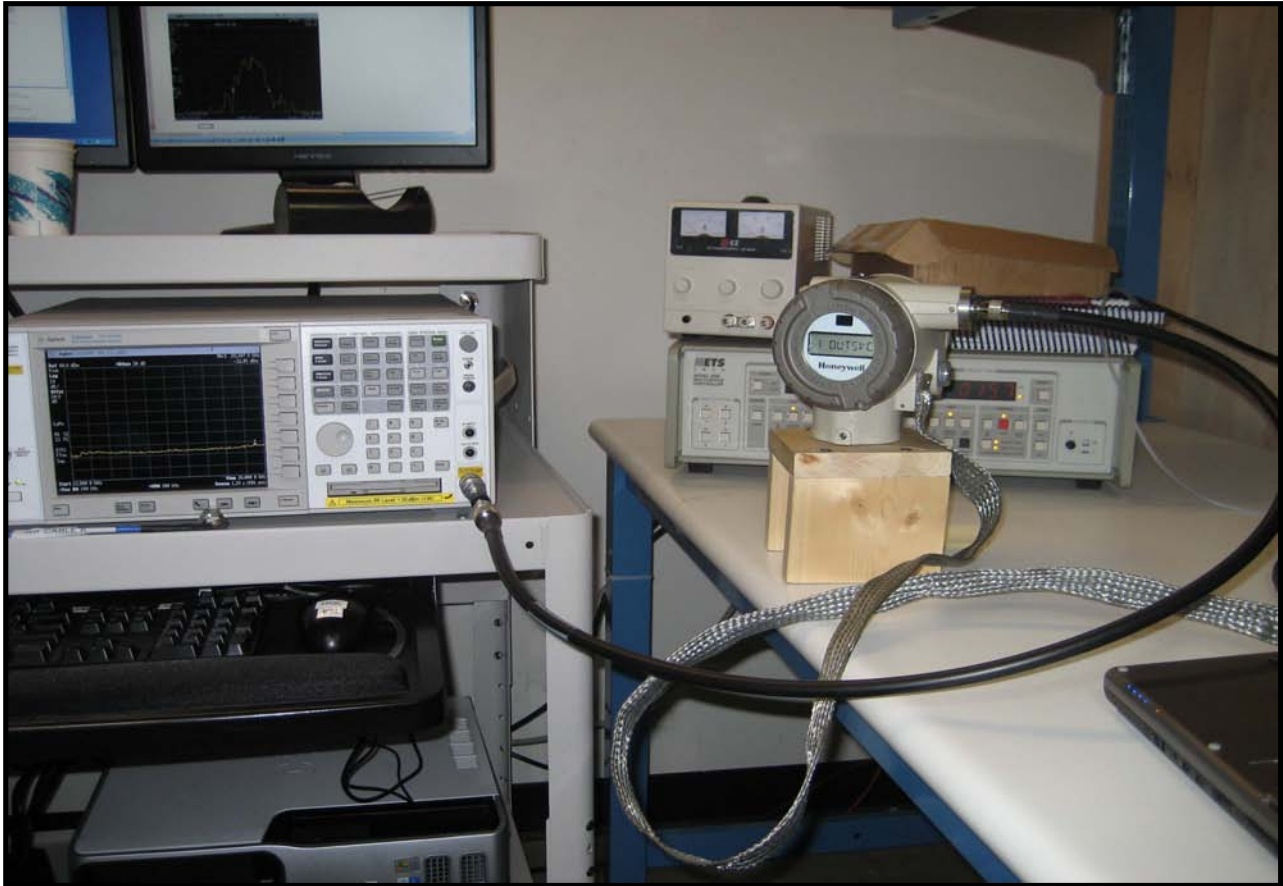
Value: -60.73 dBc

Limit: ≤ -20 dBc

Highest Output Power, High Channel, 12.5 GHz -26 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4440A	AAX	10/1/2007	12

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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 35 dB for correction to 3 kHz."

EMC

POWER SPECTRAL DENSITY

EUT: XYR6000 15.4 Radio with LPF modified.		Work Order: HONE0023
Serial Number: None		Date: 03/10/08
Customer: Honeywell		Temperature: 22c°C
Attendees: David Shipley		Humidity: 40%
Project: None		Barometric Pres.: 1019 mb
Tested by: Jaemi Suh	Power: Battery	Job Site: OC11

TEST SPECIFICATIONS		Test Method
FCC 15.247 (DTS):2007		ANSI C63.4:2003 KDB No. 558074

COMMENTS	
PC Power Level: 255. CHIP PA level = 0 dB. Cable Loss= 0.9 dBm	

DEVIATIONS FROM TEST STANDARD

Configuration #	1	Signature 
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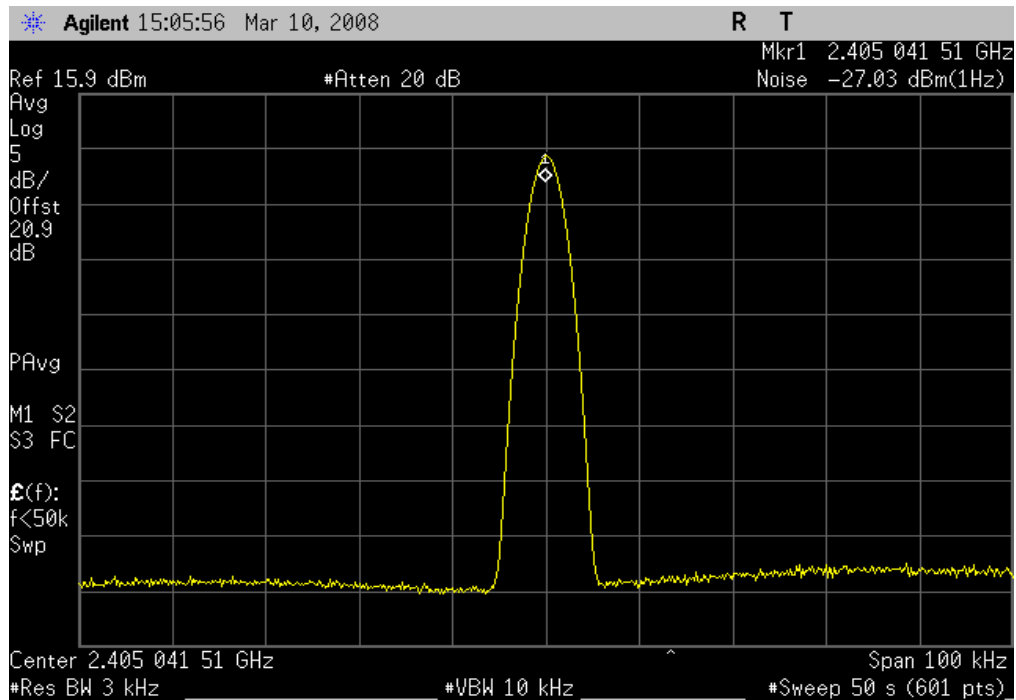
	Value	Limit	Results
Power Spectral Density			
Low Channel	7.97 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel	7.25 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel	6.15 dBm / 3 kHz	8 dBm / 3 kHz	Pass

Power Spectral Density, Low Channel

Result: Pass

Value: 7.97 dBm / 3 kHz

Limit: 8 dBm / 3 kHz

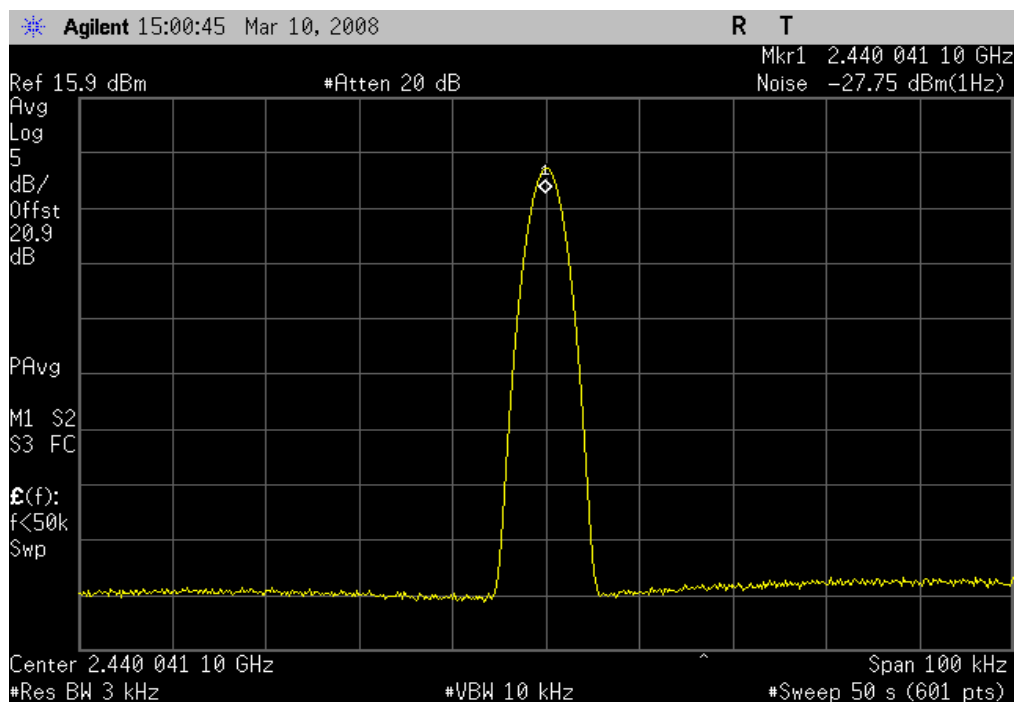


Power Spectral Density, Mid Channel

Result: Pass

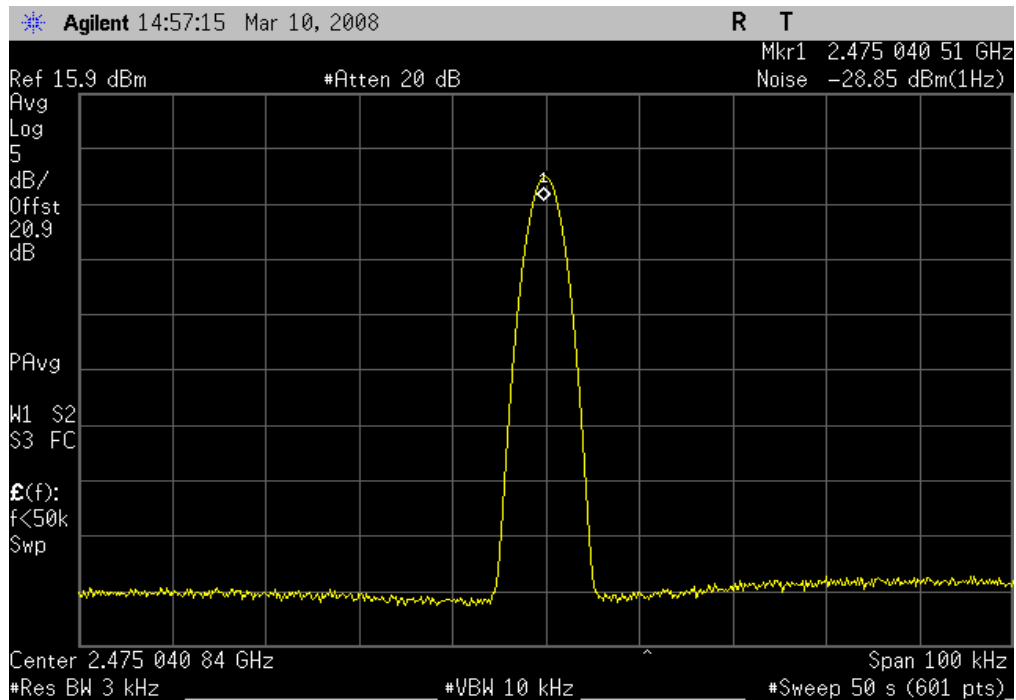
Value: 7.25 dBm / 3 kHz

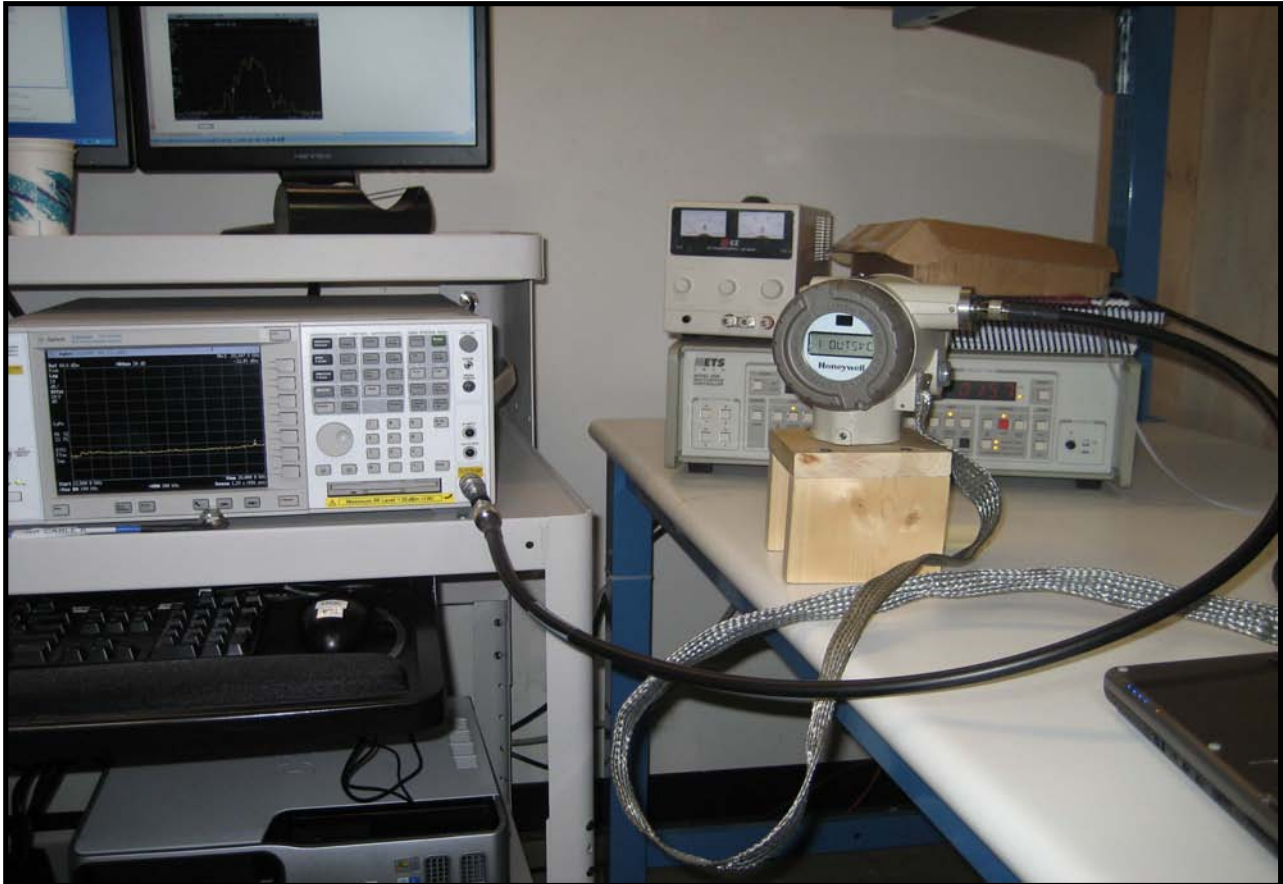
Limit: 8 dBm / 3 kHz



POWER SPECTRAL DENSITY

Power Spectral Density, High Channel

Result: Pass**Value:** 6.15 dBm / 3 kHz**Limit:** 8 dBm / 3 kHz



SPURIOUS RADIATED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Channel 1. Transmitting at 2405. FHSS Mode.

Channel 40. Transmitting at 2440. FHSS Mode.

Channel 75. Transmitting at 2475. FHSS Mode.

ANTENNA TYPE

-2 dB Omni (Dipole) Antenna. Honeywell Part #50016185-001, MFR Part #MAF94152

8 dB Omni (Dipole) Antenna. Honeywell Part #50018414-001, MFR Part #HGV-2409U

14 dB Directional (Dish) Antenna. Honeywell Part #50018415-001, MFR Part #HG2414D

MODE USED FOR FINAL DATA

Channel 1. Transmitting at 2405. FHSS Mode.

Channel 40. Transmitting at 2440. FHSS Mode.

Channel 75. Transmitting at 2475. FHSS Mode.

POWER SETTINGS INVESTIGATED

12 VDC

POWER SETTINGS USED FOR FINAL DATA

12 VDC

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26 GHz
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CLOCKS AND OSCILLATORS

2405 MHz, 2440 MHz, 2475 MHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Horn	EMCO	3160-09	AHN	NCR	0
OC10 SMA cable for 18026 GHz			OCK	3/3/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AOF	10/13/2006	24
Antenna, Horn	ETS	3160-08	AHT	NCR	0
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	10/13/2006	24
Antenna, Horn	ETS	3160-07	AHR	NCR	0
OC 10 Cables a, b, c, I Cables			OCO	2/2/2008	13
Pre-Amplifier	Miteq	AMF-4D-010120-30-10P-1	AOP	2/2/2008	13
Antenna, Horn	EMCO	3115	AHB	8/31/2007	24
OC10 cables a,b,c,e,f Horn Cables			OCJ	2/2/2008	13
Antenna, Biconilog	EMCO	3142	AXJ	2/25/2008	24
OC10 cables a,b,c,d Bilog			OCH	1/7/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AOM	1/7/2008	13
Spectrum Analyzer	Agilent	E4446A	AAQ	12/14/2007	13

MEASUREMENT BANDWIDTHS

	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(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.				

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

SPURIOUS RADIATED EMISSIONS DATA SHEET

EUT:	XYR6000 15.4 Radio with LPF modified FHSS Mode.			Work Order:	HONE0027
Serial Number:	None			Date:	03/06/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

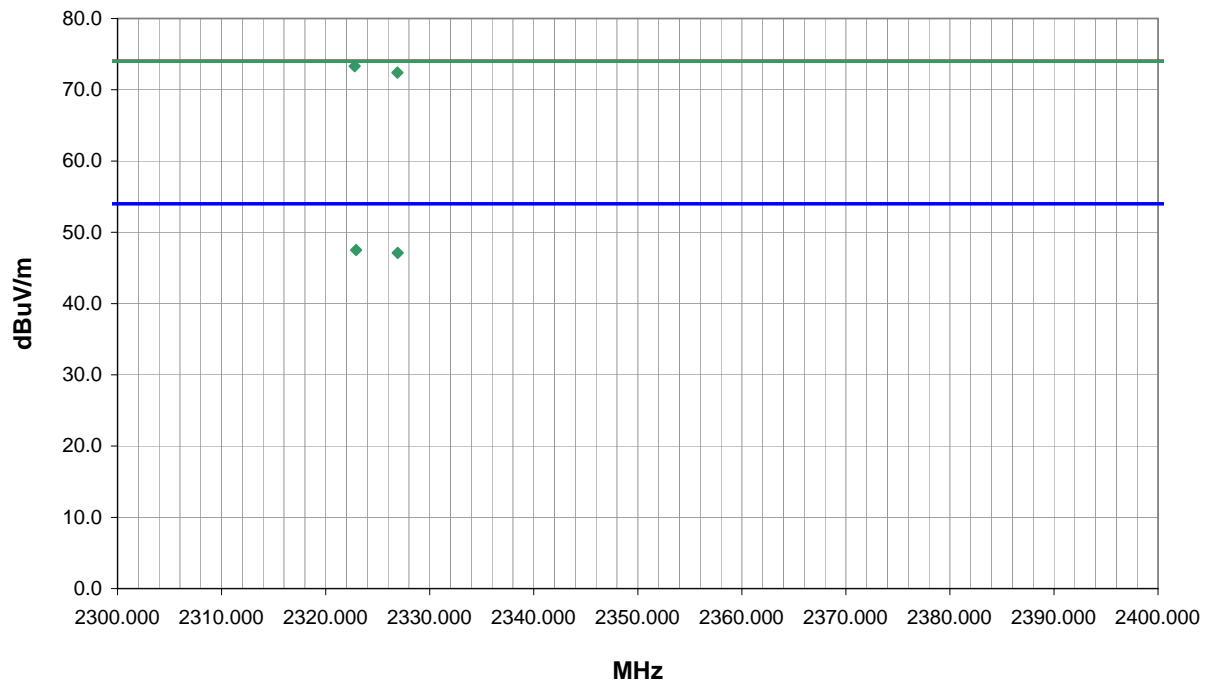
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	75	Signature 
Configuration #	1	
Results	Pass	



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)
2322.786	47.9	5.4	0.0	1.7	0.0	20.0	H-Horn	PK	0.0	73.3	74.0	-0.7
2326.897	47.0	5.4	5.0	1.7	0.0	20.0	H-Horn	PK	0.0	72.4	74.0	-1.6
2322.926	42.1	5.4	0.0	1.7	20.0	20.0	H-Horn	AV	0.0	47.5	54.0	-6.5
2326.932	41.7	5.4	5.0	1.7	20.0	20.0	H-Horn	AV	0.0	47.1	54.0	-6.9

EUT: XYR6000 15.4 Radio with LPF modified FHSS Mode				Work Order:	HONE0027
Serial Number:	None			Date:	03/06/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

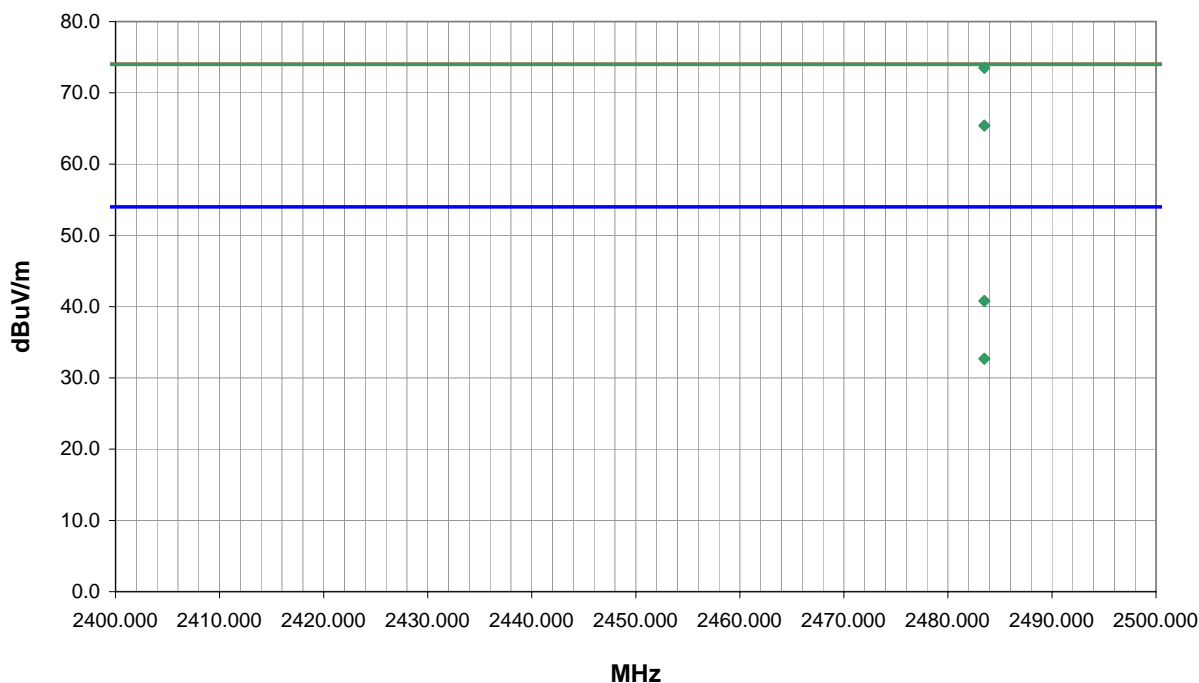
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	76	Signature 
Configuration #	1	
Results	Pass	



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)
2483.500	48.1	5.4	359.0	1.5	0.0	20.0	H-Horn	PK	0.0	73.5	74.0	-0.5
2483.500	40.0	5.4	36.0	2.8	0.0	20.0	V-Horn	PK	0.0	65.4	74.0	-8.6
2483.499	35.4	5.4	359.0	1.5	20.0	20.0	H-Horn	AV	0.0	40.8	54.0	-13.2
2483.499	27.3	5.4	36.0	2.8	20.0	20.0	V-Horn	AV	0.0	32.7	54.0	-21.3

EUT:	XYR6000 15.4 Radio with LPF modified FHSS Mode	Work Order:	HONE0027
Serial Number:	None	Date:	03/06/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

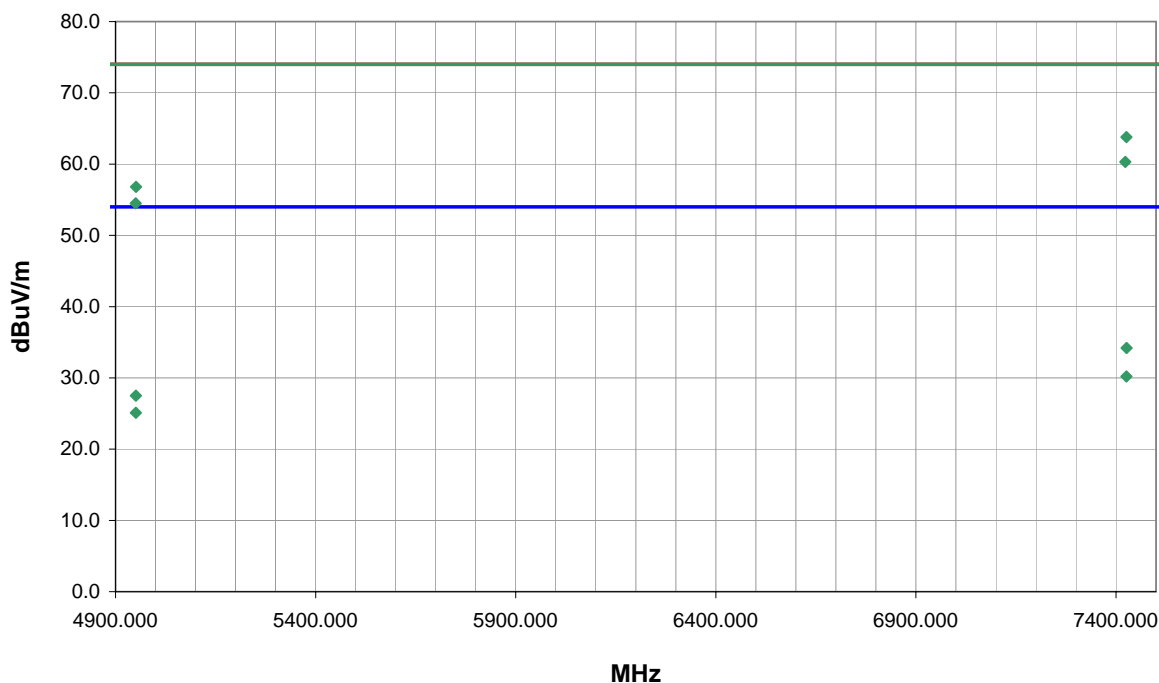
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	77	Signature 
Configuration #	1	
Results	Pass	



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)
7426.119	47.3	16.5	182.0	1.1	0.0	0.0	H-Horn	PK	0.0	63.8	74.0	-10.2
7423.089	43.8	16.5	133.0	1.6	0.0	0.0	V-Horn	PK	0.0	60.3	74.0	-13.7
4951.078	44.0	12.8	0.0	1.6	0.0	0.0	H-Horn	PK	0.0	56.8	74.0	-17.2
4950.361	41.7	12.8	174.0	1.2	0.0	0.0	V-Horn	PK	0.0	54.5	74.0	-19.5
7426.285	37.7	16.5	182.0	1.1	20.0	0.0	H-Horn	AV	0.0	34.2	54.0	-19.8
7425.973	33.7	16.5	133.0	1.6	20.0	0.0	V-Horn	AV	0.0	30.2	54.0	-23.8
4950.949	34.7	12.8	0.0	1.6	20.0	0.0	H-Horn	AV	0.0	27.5	54.0	-26.5
4950.949	32.3	12.8	174.0	1.2	20.0	0.0	V-Horn	AV	0.0	25.1	54.0	-28.9

EUT: XYR6000 15.4 Radio with LPF modified				Work Order: HONE0027	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

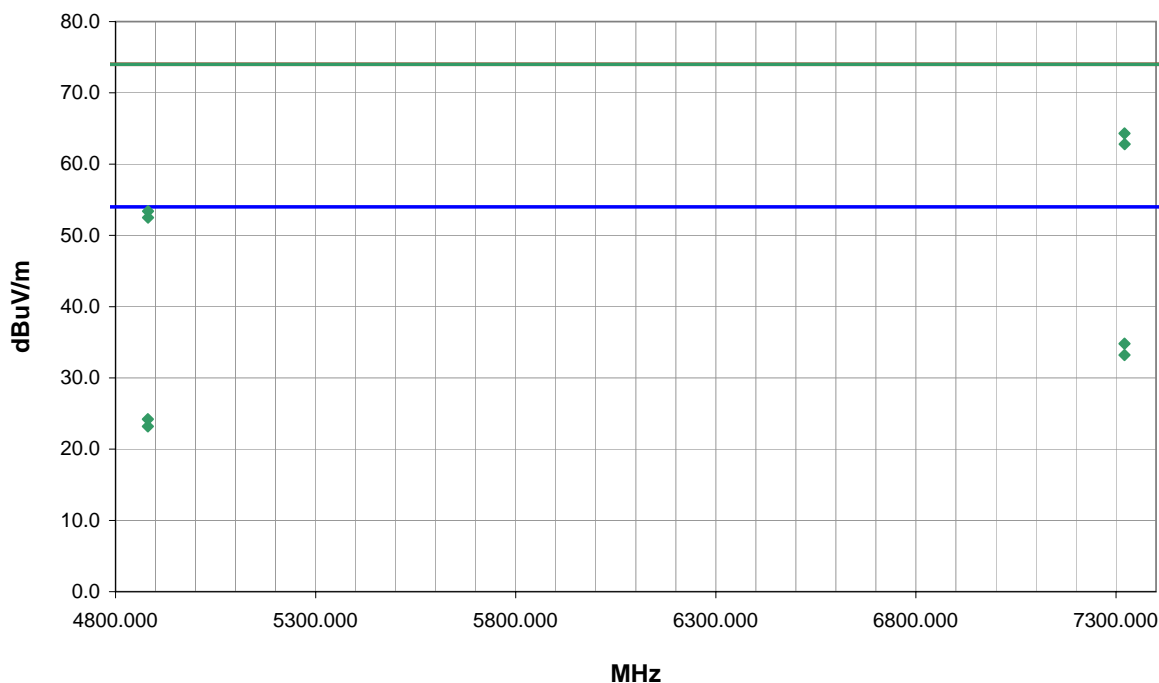
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	79	Signature 
Configuration #	1	
Results	Pass	



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)
7321.040	47.9	16.4	103.0	1.2	0.0	0.0	H-Horn	PK	0.0	64.3	74.0	-9.7
7321.614	46.4	16.4	202.0	1.5	0.0	0.0	V-Horn	PK	0.0	62.8	74.0	-11.2
7321.308	38.4	16.4	103.0	1.2	20.0	0.0	H-Horn	AV	0.0	34.8	54.0	-19.2
4881.187	40.8	12.6	34.0	1.3	0.0	0.0	H-Horn	PK	0.0	53.4	74.0	-20.6
7321.362	36.8	16.4	202.0	1.5	20.0	0.0	V-Horn	AV	0.0	33.2	54.0	-20.8
4881.086	39.9	12.6	147.0	1.1	0.0	0.0	V-Horn	PK	0.0	52.5	74.0	-21.5
4880.910	31.6	12.6	34.0	1.3	20.0	0.0	H-Horn	AV	0.0	24.2	54.0	-29.8
4880.928	30.6	12.6	147.0	1.1	20.0	0.0	V-Horn	AV	0.0	23.2	54.0	-30.8

EUT:	XYR6000 15.4 Radio with LPF modified	Work Order:	HONE0027
Serial Number:	None	Date:	03/06/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

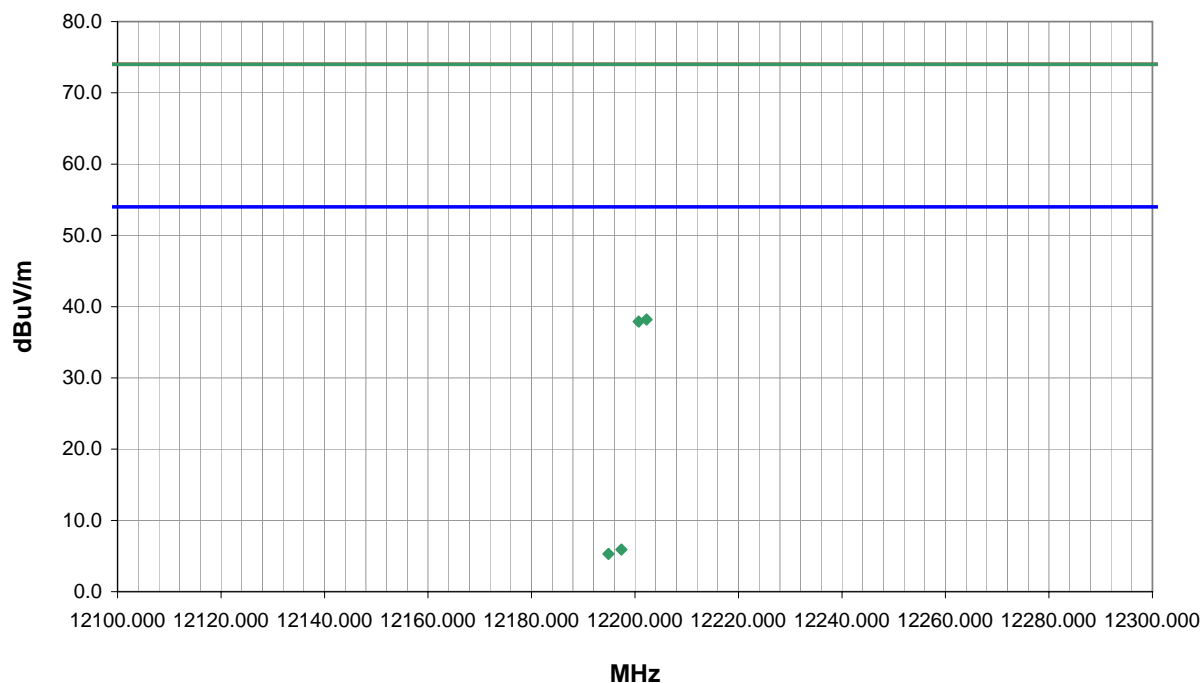
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	80	Signature 
Configuration #	1	
Results	Pass	



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)
12202.240	46.6	-8.4	213.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.2	74.0	-35.8
12200.720	46.3	-8.4	69.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.9	74.0	-36.1
12197.370	34.3	-8.4	213.0	1.0	20.0	0.0	V-Horn	AV	0.0	5.9	54.0	-48.1
12194.880	33.7	-8.4	69.0	1.0	20.0	0.0	H-Horn	AV	0.0	5.3	54.0	-48.7

EUT: XYR6000 15.4 Radio with LPF modified				Work Order: HONE0027	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

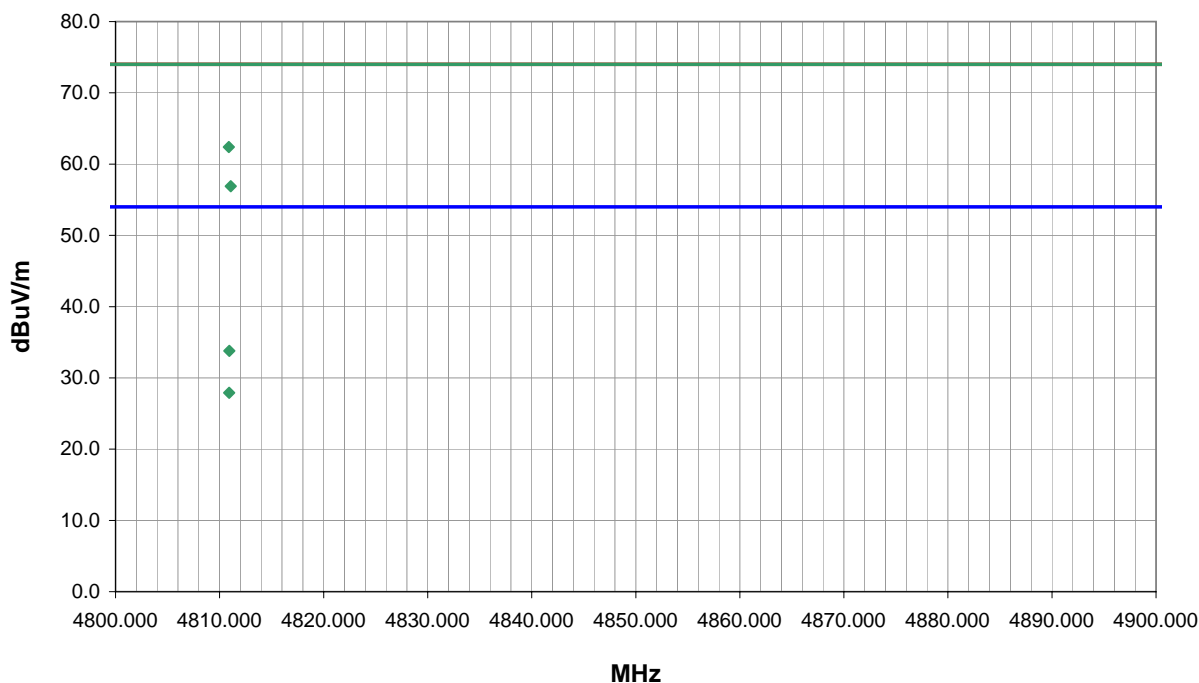
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	81	Signature 
Configuration #	1	
Results	Pass	



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)
4810.882	49.9	12.5	1.0	1.7	0.0	0.0	H-Horn	PK	0.0	62.4	74.0	-11.6
4811.073	44.4	12.5	5.0	1.5	0.0	0.0	V-Horn	PK	0.0	56.9	74.0	-17.1
4810.932	41.3	12.5	1.0	1.7	20.0	0.0	H-Horn	AV	0.0	33.8	54.0	-20.2
4810.921	35.4	12.5	5.0	1.5	20.0	0.0	V-Horn	AV	0.0	27.9	54.0	-26.1

EUT:	XYR6000 15.4 Radio with LPF modified	Work Order:	HONE0027
Serial Number:	None	Date:	03/06/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

High Gain Antenna 14dBi. PC Power Level: 255 (18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

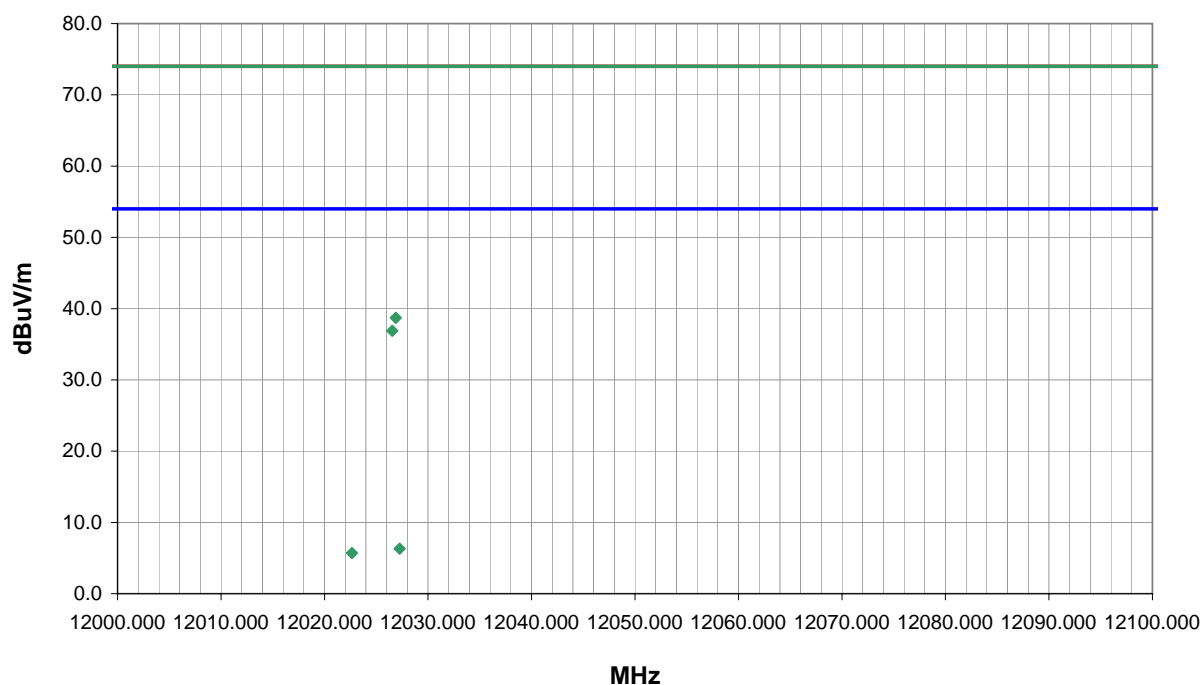
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	82	Signature 
Configuration #	1	
Results	Pass	



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)
12026.880	47.7	-9.0	150.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.7	74.0	-35.3
12026.540	45.9	-9.0	253.0	1.0	0.0	0.0	H-Horn	PK	0.0	36.9	74.0	-37.1
12027.260	35.3	-9.0	150.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.3	54.0	-47.7
12022.650	34.7	-9.0	253.0	1.0	20.0	0.0	H-Horn	AV	0.0	5.7	54.0	-48.3

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/10/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

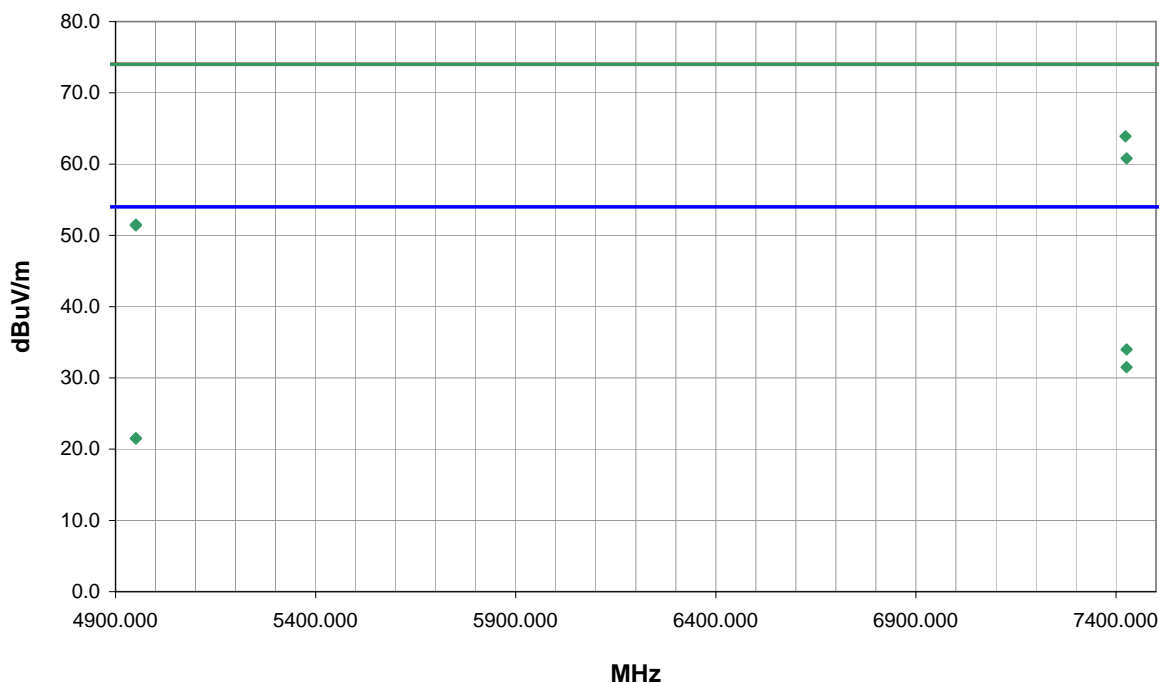
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	85	Signature 
Configuration #	1	
Results	Pass	



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)
7423.714	47.4	16.5	355.0	1.0	0.0	0.0	H-Horn	PK	0.0	63.9	74.0	-10.1
7426.507	44.3	16.5	301.0	1.3	0.0	0.0	V-Horn	PK	0.0	60.8	74.0	-13.2
7426.318	37.5	16.5	355.0	1.0	20.0	0.0	H-Horn	AV	0.0	34.0	54.0	-20.0
7426.340	35.0	16.5	301.0	1.3	20.0	0.0	V-Horn	AV	0.0	31.5	54.0	-22.5
4950.900	38.7	12.8	58.0	1.2	0.0	0.0	V-Horn	PK	0.0	51.5	74.0	-22.5
4950.753	38.6	12.8	56.0	1.1	0.0	0.0	H-Horn	PK	0.0	51.4	74.0	-22.6
4950.844	28.7	12.8	56.0	1.1	20.0	0.0	H-Horn	AV	0.0	21.5	54.0	-32.5
4950.904	28.7	12.8	58.0	1.2	20.0	0.0	V-Horn	AV	0.0	21.5	54.0	-32.5

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/10/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

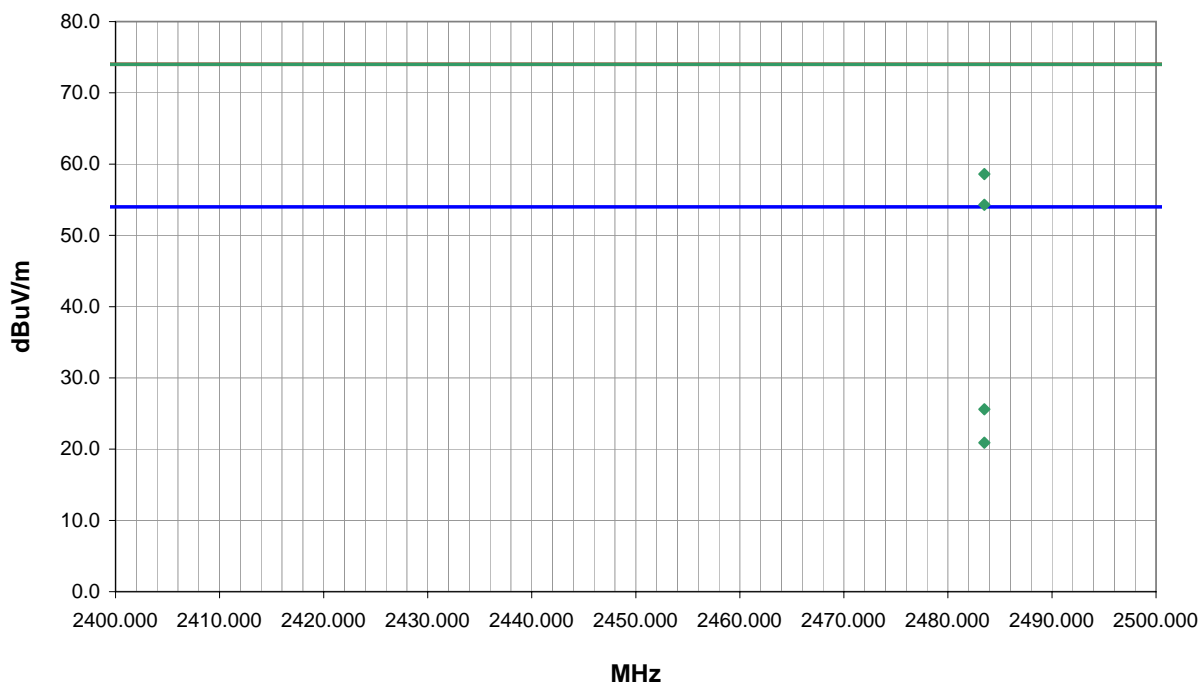
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	86	Signature 
Configuration #	1	
Results	Pass	



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)
2483.500	33.2	5.4	118.0	1.0	0.0	20.0	V-Horn	PK	0.0	58.6	74.0	-15.4
2483.500	28.9	5.4	45.0	1.0	0.0	20.0	H-Horn	PK	0.0	54.3	74.0	-19.7
2483.500	20.2	5.4	118.0	1.0	20.0	20.0	V-Horn	AV	0.0	25.6	54.0	-28.4
2483.500	15.5	5.4	45.0	1.0	20.0	20.0	H-Horn	AV	0.0	20.9	54.0	-33.1

EUT: XYR6000 15.4 Radio with LPF modified				Work Order: HONE0027	
Serial Number: None				Date: 03/10/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

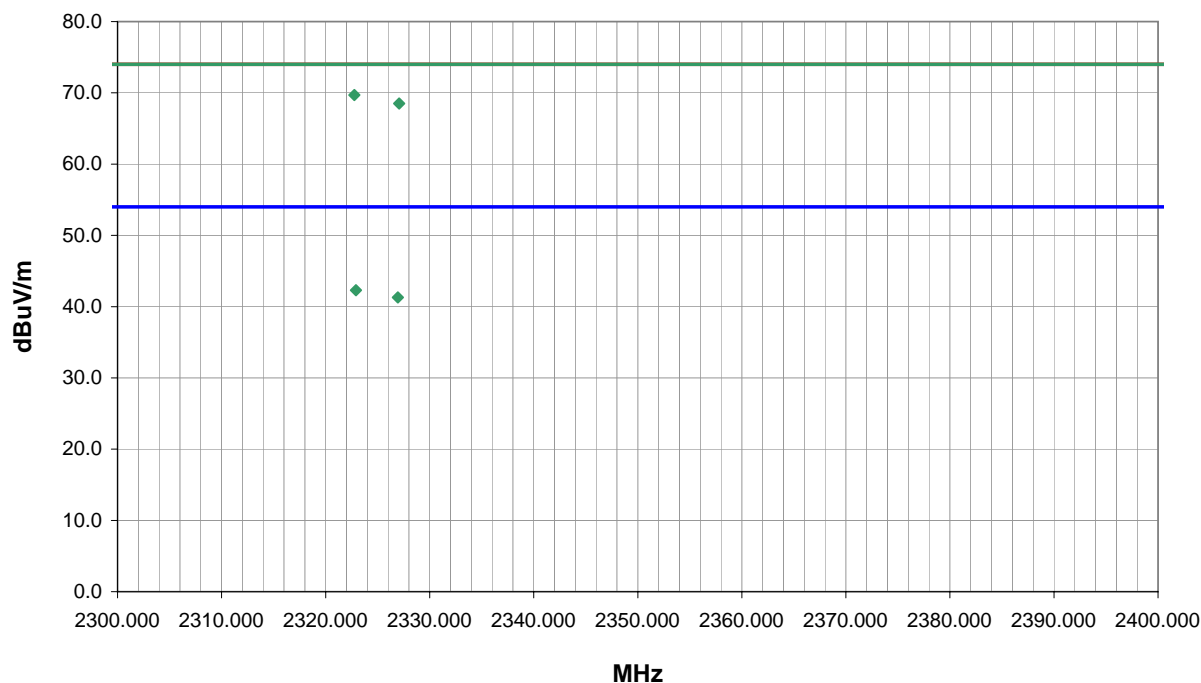
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	89	Signature 
Configuration #	1	
Results	Pass	



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)
2322.759	44.3	5.4	28.0	1.0	0.0	20.0	V-Horn	PK	0.0	69.7	74.0	-4.3
2327.070	43.1	5.4	360.0	1.0	0.0	20.0	V-Horn	PK	0.0	68.5	74.0	-5.5
2322.911	36.9	5.4	28.0	1.0	20.0	20.0	V-Horn	AV	0.0	42.3	54.0	-11.7
2326.942	35.9	5.4	360.0	1.0	20.0	20.0	V-Horn	AV	0.0	41.3	54.0	-12.7

EUT:	XYR6000 15.4 Radio with LPF modified	Work Order:	HONE0027
Serial Number:	None	Date:	03/10/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

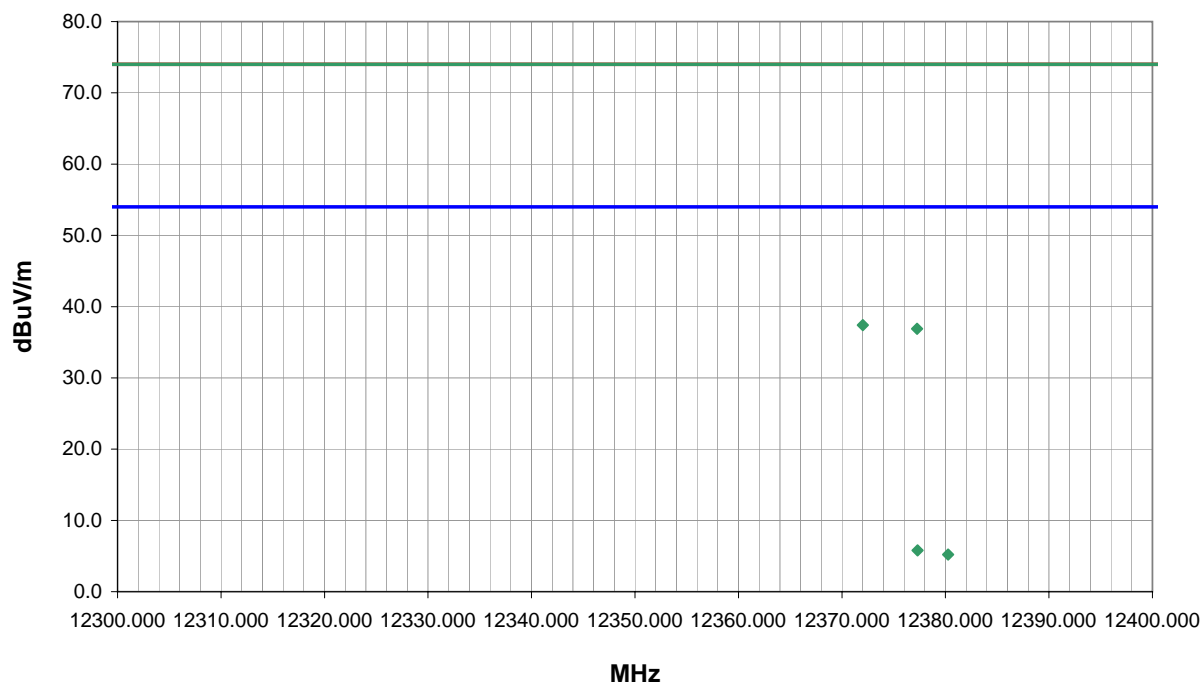
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	88	Signature 
Configuration #	1	
Results	Pass	



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)
12372.010	45.1	-7.7	284.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.4	74.0	-36.6
12377.250	44.6	-7.7	300.0	1.0	0.0	0.0	V-Horn	PK	0.0	36.9	74.0	-37.1
12377.310	33.5	-7.7	300.0	1.0	20.0	0.0	V-Horn	AV	0.0	5.8	54.0	-48.2
12380.260	33.0	-7.8	284.0	1.0	20.0	0.0	H-Horn	AV	0.0	5.2	54.0	-48.8

SPURIOUS RADIATED EMISSIONS DATA SHEET

EUT: XYR6000 15.4 Radio with LPF modified				Work Order: HONE0027	
Serial Number: None				Date: 03/10/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

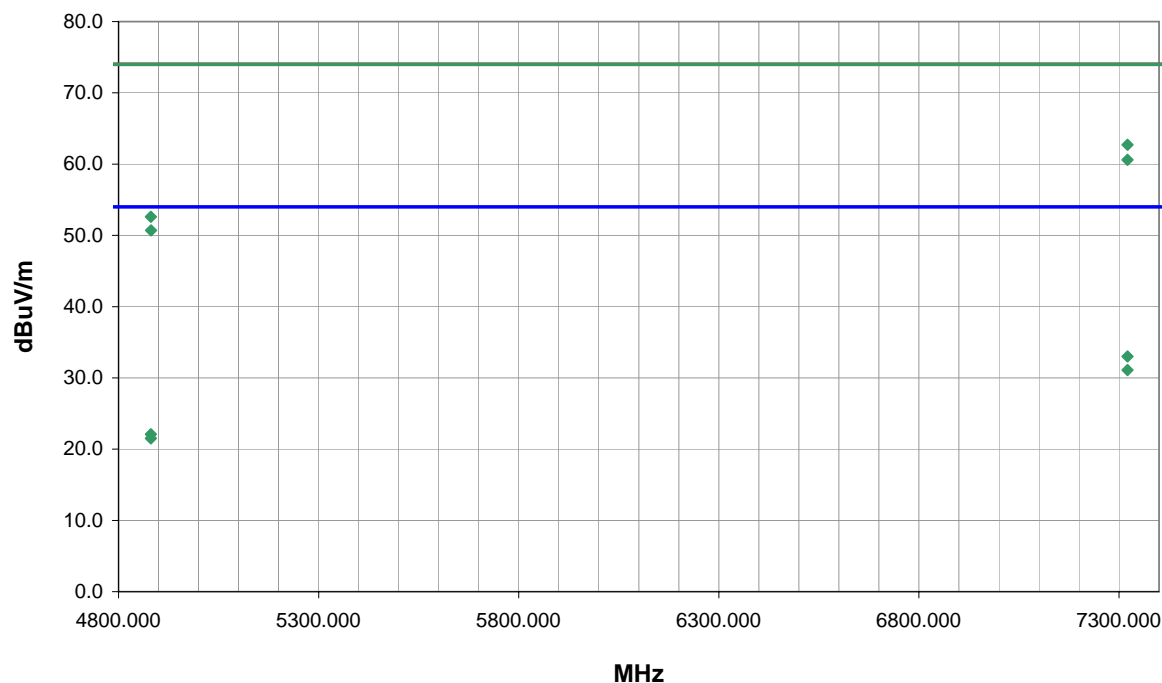
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	90	Signature 
Configuration #	1	
Results	Evaluation	



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)
7321.340	46.3	16.4	29.0	1.7	0.0	0.0	V-Horn	PK	0.0	62.7	74.0	-11.3
7321.249	44.2	16.4	0.0	1.3	0.0	0.0	H-Horn	PK	0.0	60.6	74.0	-13.4
7321.324	36.6	16.4	29.0	1.7	20.0	0.0	V-Horn	AV	0.0	33.0	54.0	-21.0
4880.937	40.0	12.6	283.0	1.1	0.0	0.0	H-Horn	PK	0.0	52.6	74.0	-21.4
7321.331	34.7	16.4	0.0	1.3	20.0	0.0	H-Horn	AV	0.0	31.1	54.0	-22.9
4881.100	38.1	12.6	347.0	1.7	0.0	0.0	V-Horn	PK	0.0	50.7	74.0	-23.3
4880.927	29.5	12.6	283.0	1.1	20.0	0.0	H-Horn	AV	0.0	22.1	54.0	-31.9
4880.931	28.9	12.6	347.0	1.7	20.0	0.0	V-Horn	AV	0.0	21.5	54.0	-32.5

EUT:	XYR6000 15.4 Radio with LPF modified	Work Order:	HONE0027
Serial Number:	None	Date:	03/10/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

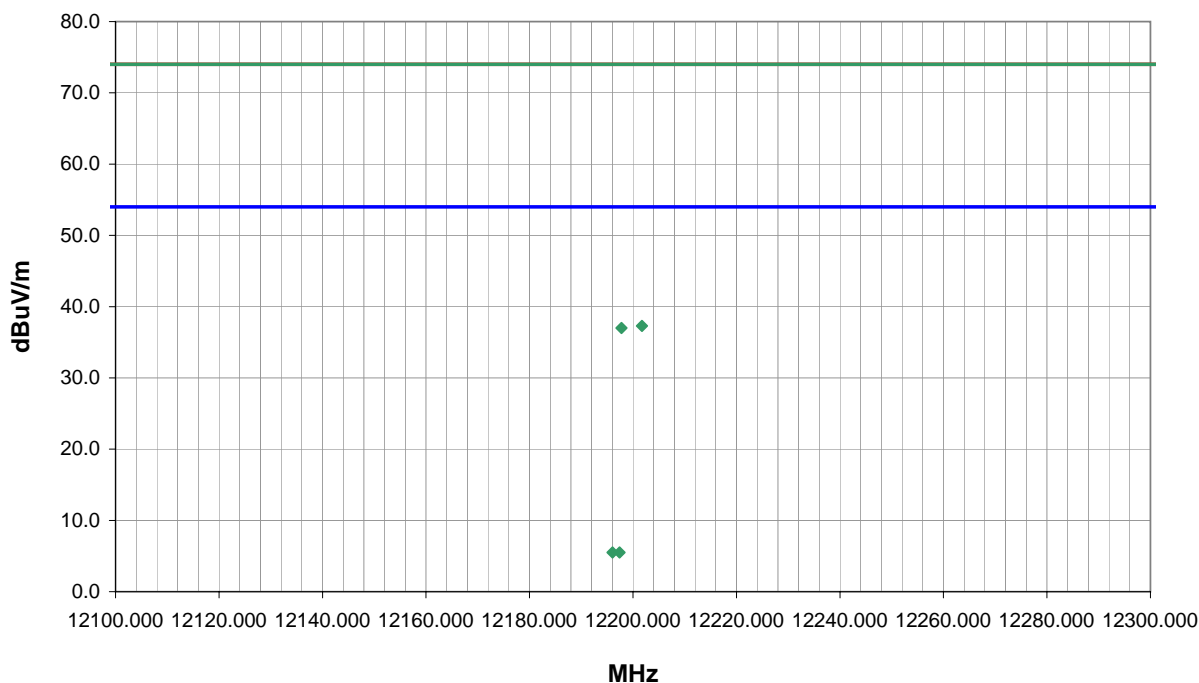
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	91	Signature 
Configuration #	1	
Results	Pass	



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)
12201.720	45.7	-8.4	298.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.3	74.0	-36.7
12197.760	45.4	-8.4	272.0	1.0	0.0	0.0	V-Horn	PK	0.0	37.0	74.0	-37.0
12196.050	33.9	-8.4	272.0	1.0	20.0	0.0	V-Horn	AV	0.0	5.5	54.0	-48.5
12197.410	33.9	-8.4	298.0	1.0	20.0	0.0	H-Horn	AV	0.0	5.5	54.0	-48.5

EUT:	XYR6000 15.4 Radio with LPF modified	Work Order:	HONE0027
Serial Number:	None	Date:	03/10/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

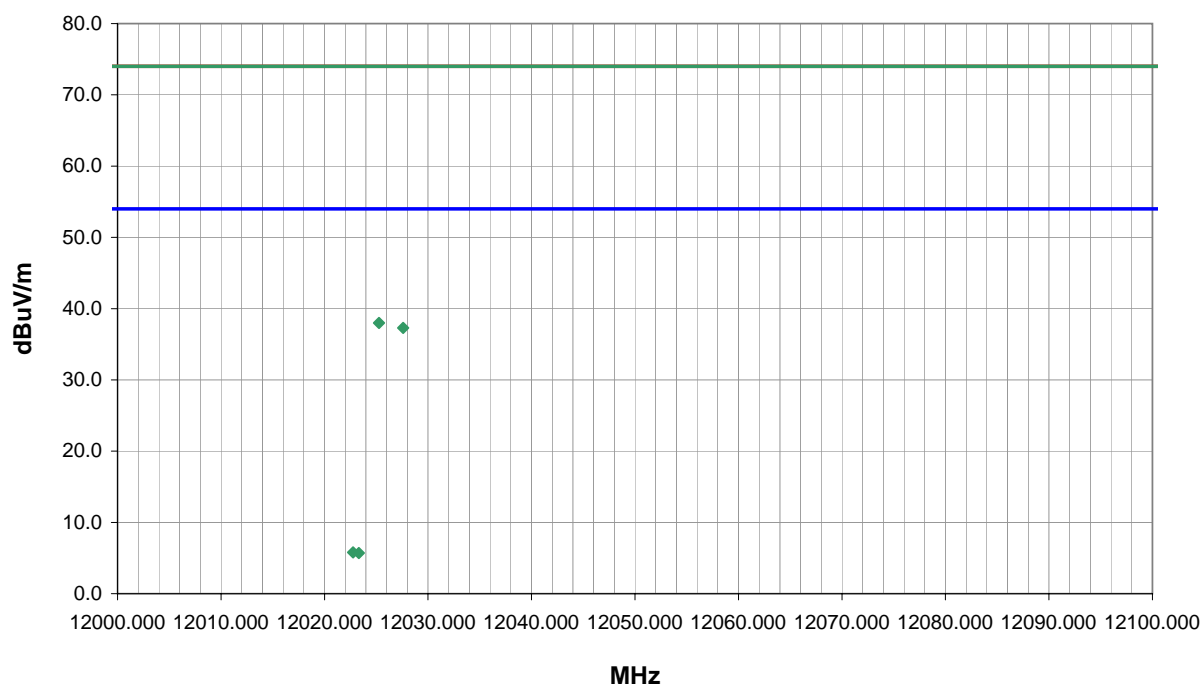
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	92	Signature 
Configuration #	1	
Results	Pass	



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)
12025.270	47.0	-9.0	240.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.0	74.0	-36.0
12027.600	46.3	-9.0	234.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.3	74.0	-36.7
12022.760	34.8	-9.0	234.0	1.0	20.0	0.0	H-Horn	AV	0.0	5.8	54.0	-48.2
12023.320	34.7	-9.0	240.0	1.0	20.0	0.0	V-Horn	AV	0.0	5.7	54.0	-48.3

EUT: XYR6000 15.4 Radio with LPF modified				Work Order: HONE0027	
Serial Number: None				Date: 03/10/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 255(18.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

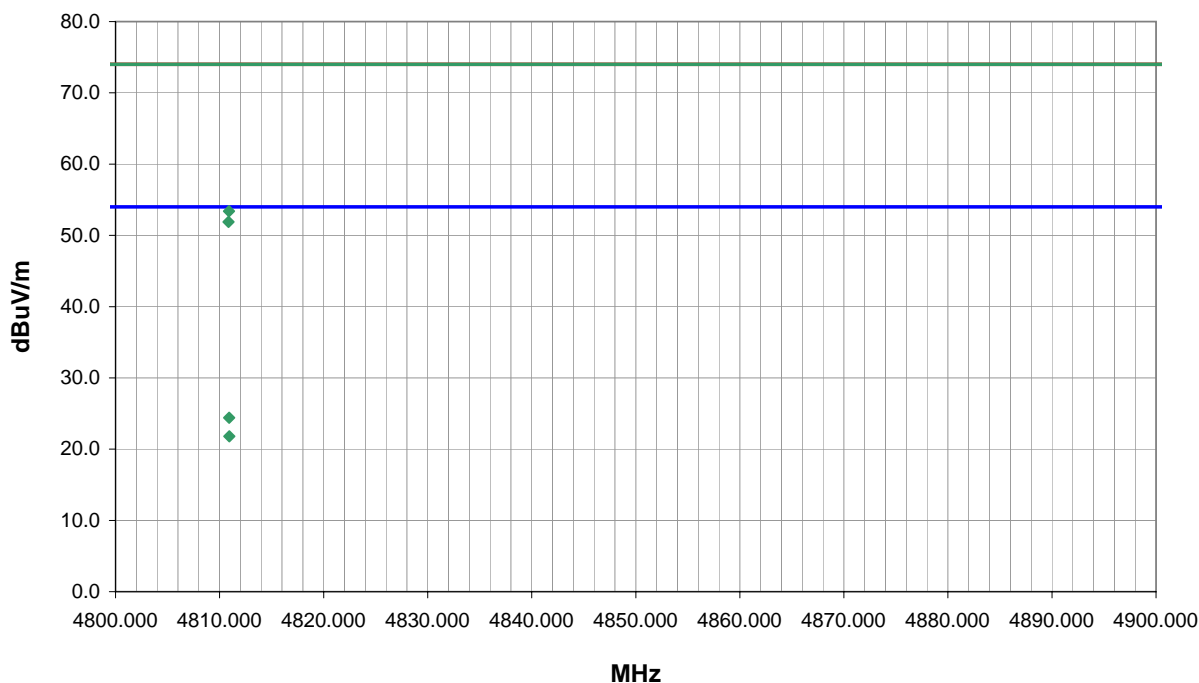
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	93	Signature 
Configuration #	1	
Results	Pass	



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)
4810.899	40.9	12.5	289.0	1.7	0.0	0.0	V-Horn	PK	0.0	53.4	74.0	-20.6
4810.853	39.4	12.5	280.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.9	74.0	-22.1
4810.916	31.9	12.5	289.0	1.7	20.0	0.0	V-Horn	AV	0.0	24.4	54.0	-29.6
4810.929	29.3	12.5	280.0	1.0	20.0	0.0	H-Horn	AV	0.0	21.8	54.0	-32.2

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: none				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

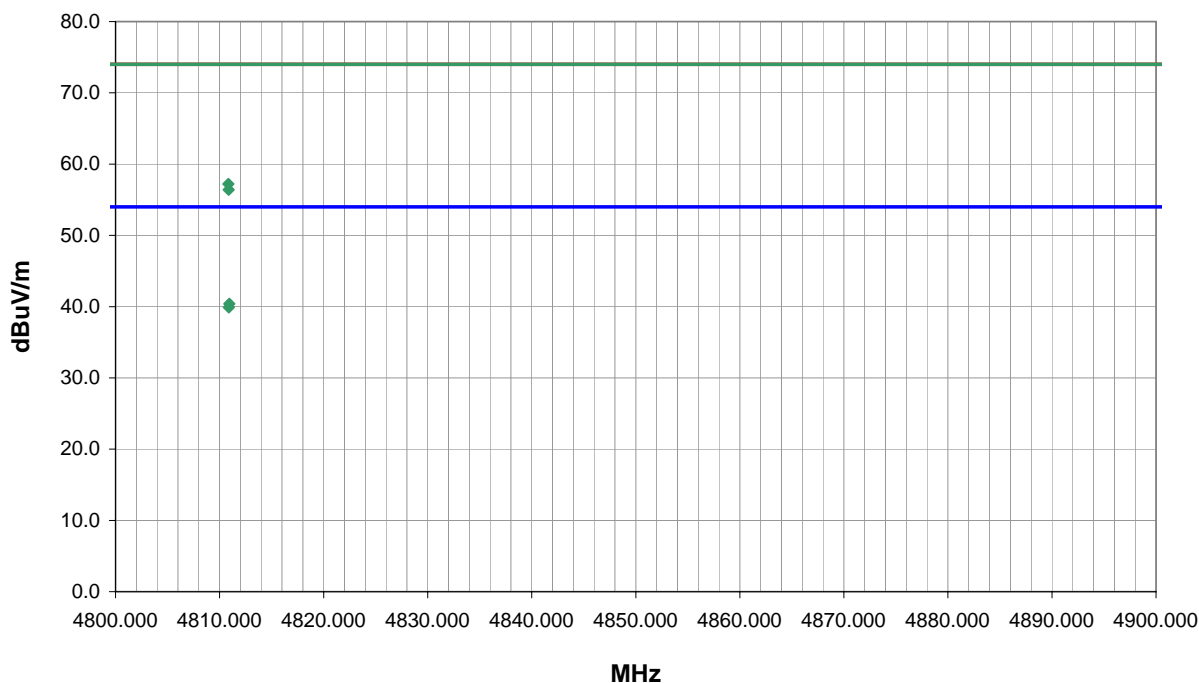
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	52	Signature 
Configuration #	1	
Results	Pass	



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)
4810.938	35.6	12.5	10.0	1.0	7.7	0.0	H-Horn	AV	0.0	40.4	54.0	-13.6
4810.887	35.1	12.5	29.0	1.0	7.7	0.0	V-Horn	AV	0.0	39.9	54.0	-14.1
4810.841	44.7	12.5	10.0	1.0	0.0	0.0	H-Horn	PK	0.0	57.2	74.0	-16.8
4810.874	43.9	12.5	29.0	1.0	0.0	0.0	V-Horn	PK	0.0	56.4	74.0	-17.6

SPURIOUS RADIATED EMISSIONS DATA SHEET

EUT:	XYR6000 15.4 Radio with LPF modified.	Work Order:	HONE0027
Serial Number:	None	Date:	03/05/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

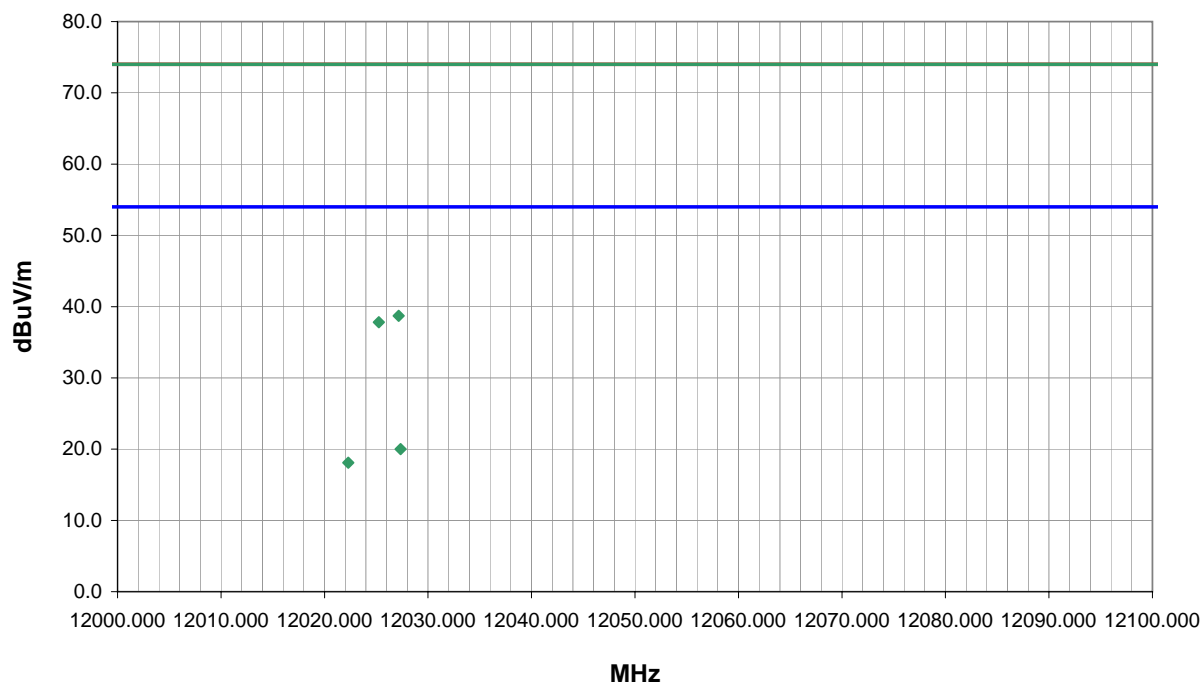
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	53	Signature 
Configuration #	1	
Results	Pass	



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)
12027.350	36.7	-9.0	55.0	1.0	7.7	0.0	V-Horn	AV	0.0	20.0	54.0	-34.0
12027.160	47.7	-9.0	55.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.7	74.0	-35.3
12022.290	34.8	-9.0	36.0	1.0	7.7	0.0	H-Horn	AV	0.0	18.1	54.0	-35.9
12025.240	46.8	-9.0	36.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.8	74.0	-36.2

EUT:	XYR6000 15.4 Radio with LPF modified.	Work Order:	HONE0027
Serial Number:	None	Date:	03/05/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

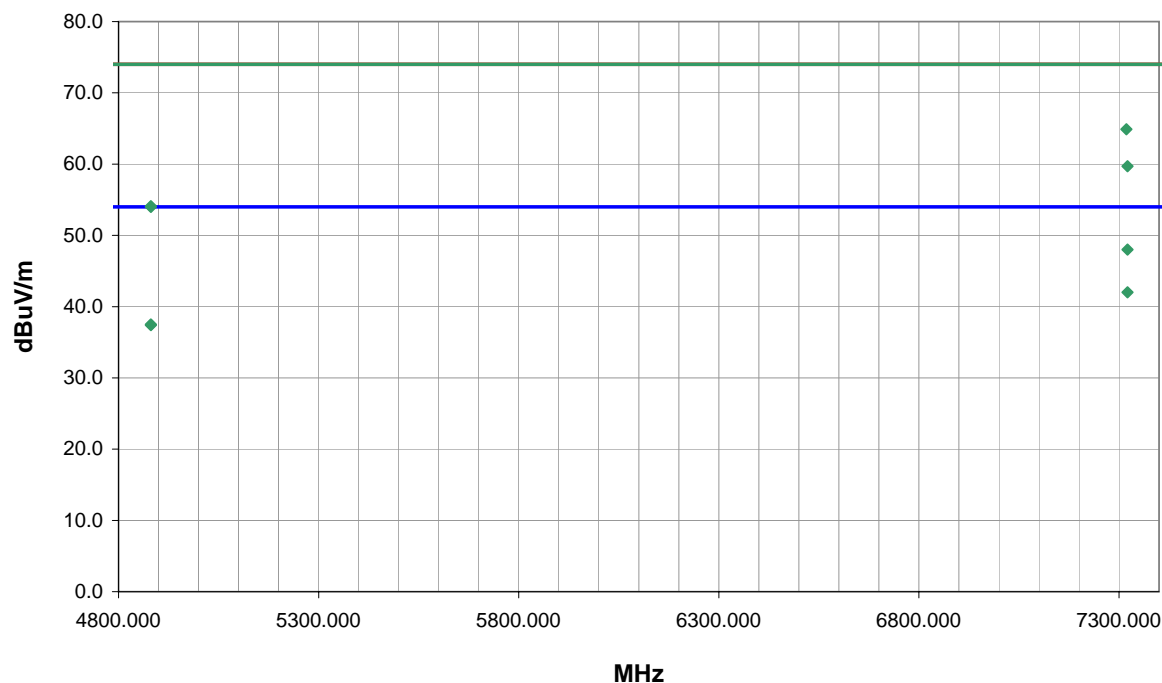
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	54	Signature 
Configuration #	1	
Results	Pass	



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)
7321.333	39.3	16.4	148.0	1.3	7.7	0.0	H-Horn	AV	0.0	48.0	54.0	-6.0
7318.303	48.5	16.4	148.0	1.3	0.0	0.0	H-Horn	PK	0.0	64.9	74.0	-9.1
7321.338	33.3	16.4	11.0	1.0	7.7	0.0	V-Horn	AV	0.0	42.0	54.0	-12.0
7321.406	43.3	16.4	11.0	1.0	0.0	0.0	V-Horn	PK	0.0	59.7	74.0	-14.3
4880.926	32.6	12.6	31.0	1.0	7.7	0.0	V-Horn	AV	0.0	37.5	54.0	-16.5
4880.922	32.5	12.6	316.0	1.2	7.7	0.0	H-Horn	AV	0.0	37.4	54.0	-16.6
4880.771	41.5	12.6	31.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.1	74.0	-19.9
4880.799	41.4	12.6	316.0	1.2	0.0	0.0	H-Horn	PK	0.0	54.0	74.0	-20.0

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

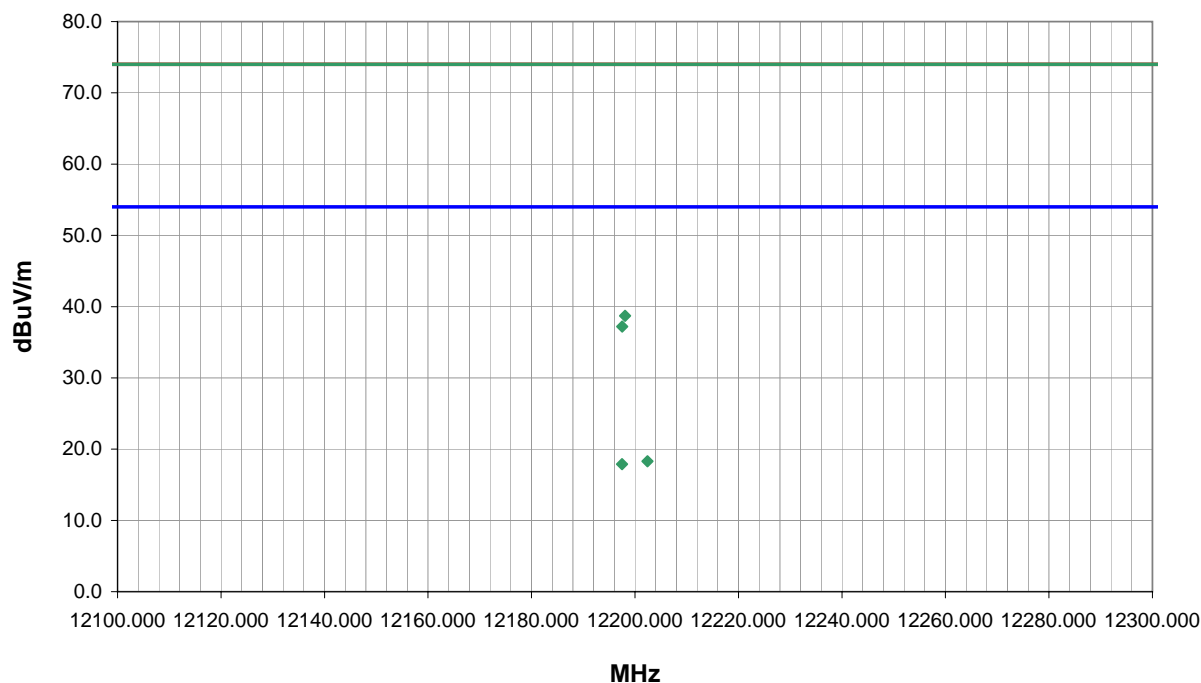
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	58	Signature 
Configuration #	1	
Results	Pass	



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)
12198.070	47.1	-8.4	108.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.7	74.0	-35.3
12202.420	34.4	-8.4	108.0	1.0	7.7	0.0	V-Horn	AV	0.0	18.3	54.0	-35.7
12197.510	34.0	-8.4	166.0	1.0	7.7	0.0	H-Horn	AV	0.0	17.9	54.0	-36.1
12197.540	45.6	-8.4	166.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.2	74.0	-36.8

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

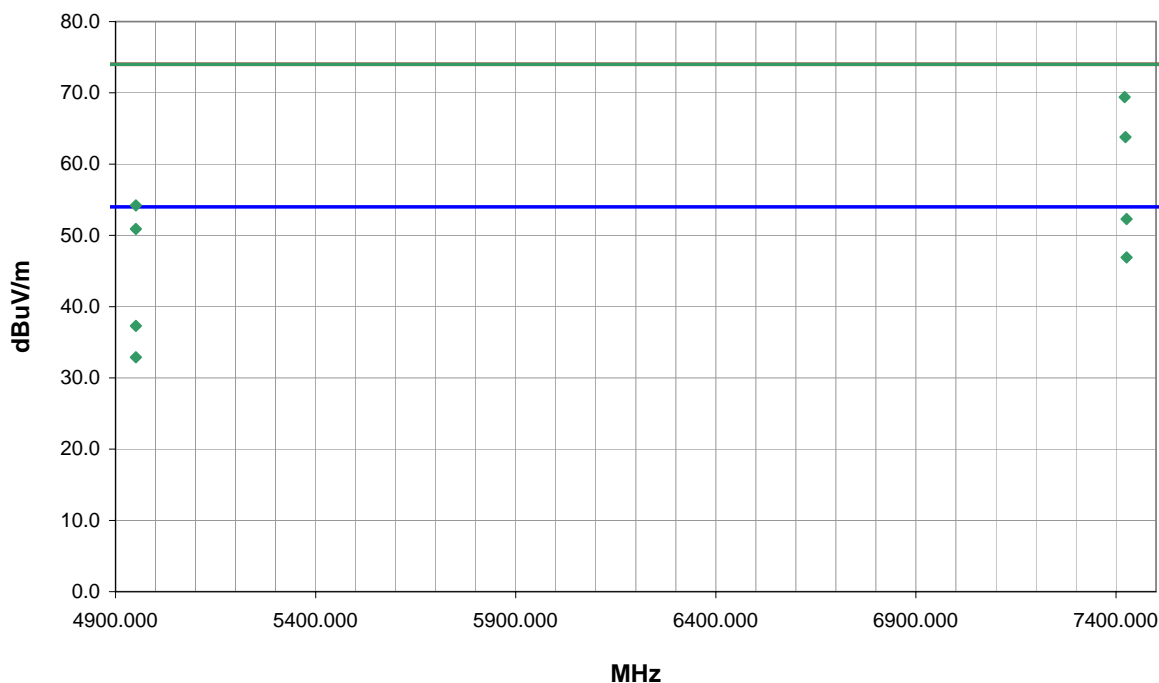
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	55	Signature 
Configuration #	1	
Results	Pass	



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)
7426.274	43.6	16.4	85.0	1.2	7.7	0.0	H-Horn	AV	0.0	52.3	54.0	-1.7
7421.740	52.9	16.5	85.0	1.2	0.0	0.0	H-Horn	PK	0.0	69.4	74.0	-4.6
7426.269	38.1	16.5	15.0	1.3	7.7	0.0	V-Horn	AV	0.0	46.9	54.0	-7.1
7423.643	47.3	16.5	15.0	1.3	0.0	0.0	V-Horn	PK	0.0	63.8	74.0	-10.2
4950.954	32.2	12.8	345.0	1.6	7.7	0.0	H-Horn	AV	0.0	37.3	54.0	-16.7
4950.756	41.4	12.8	345.0	1.6	0.0	0.0	H-Horn	PK	0.0	54.2	74.0	-19.8
4950.922	27.8	12.8	101.0	1.2	7.7	0.0	V-Horn	AV	0.0	32.9	54.0	-21.1
4950.802	38.1	12.8	101.0	1.2	0.0	0.0	V-Horn	PK	0.0	50.9	74.0	-23.1

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

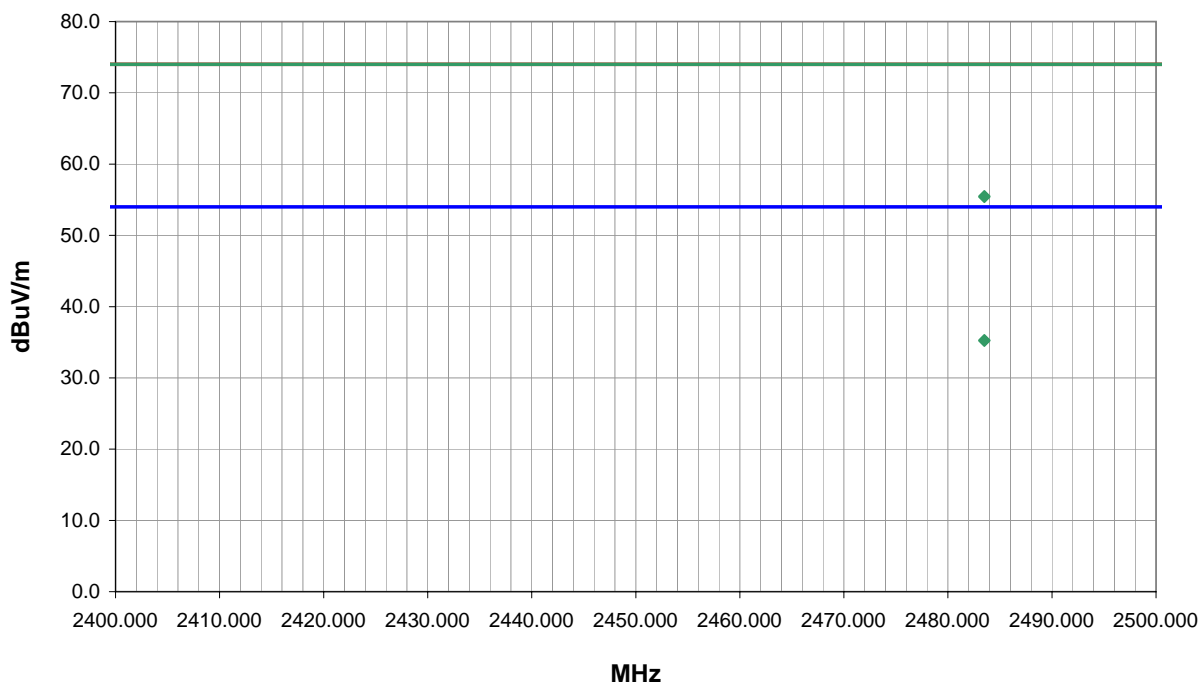
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	56	Signature 
Configuration #	1	
Results	Pass	



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)
2483.500	30.1	5.4	186.0	1.0	0.0	20.0	H-Horn	PK	0.0	55.5	74.0	-18.5
2483.500	30.0	5.4	64.0	1.0	0.0	20.0	V-Horn	PK	0.0	55.4	74.0	-18.6
2483.499	17.6	5.4	186.0	1.0	7.7	20.0	H-Horn	AV	0.0	35.3	54.0	-18.7
2483.500	17.5	5.4	64.0	1.0	7.7	20.0	V-Horn	AV	0.0	35.2	54.0	-18.8

EUT: XYR6000 15.4 Radio with LPF modified.				Work Order: HONE0027	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 0.61msec dwell time.

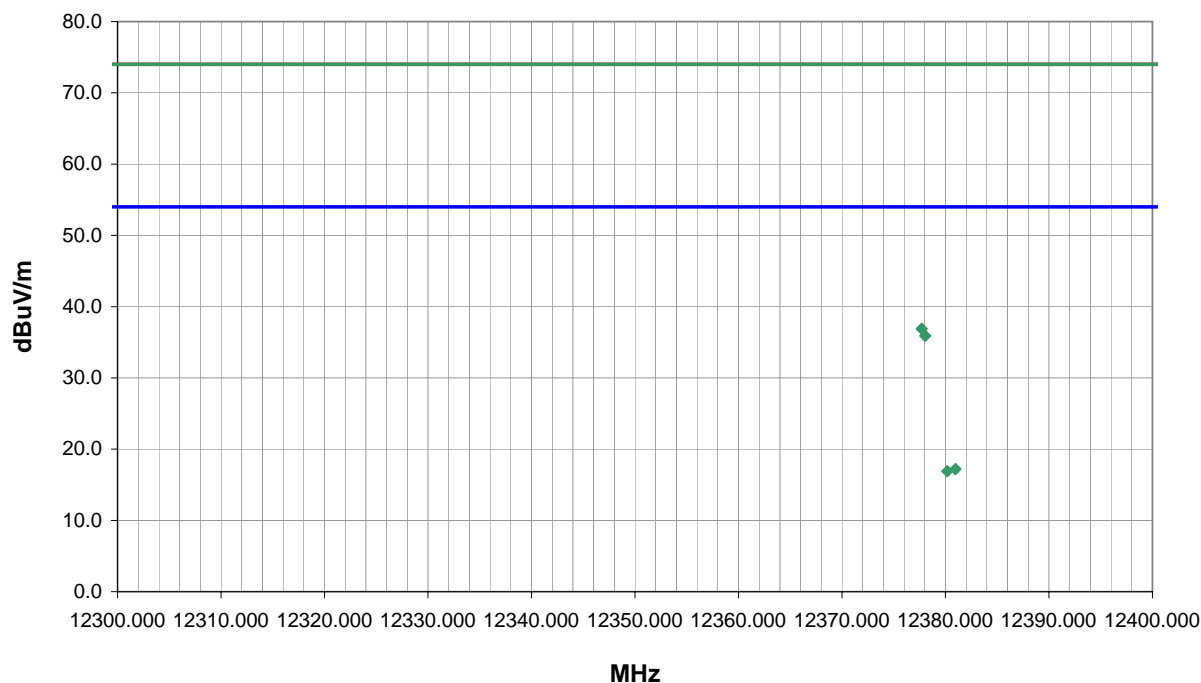
EUT OPERATING MODES

Transmitting at 2475.

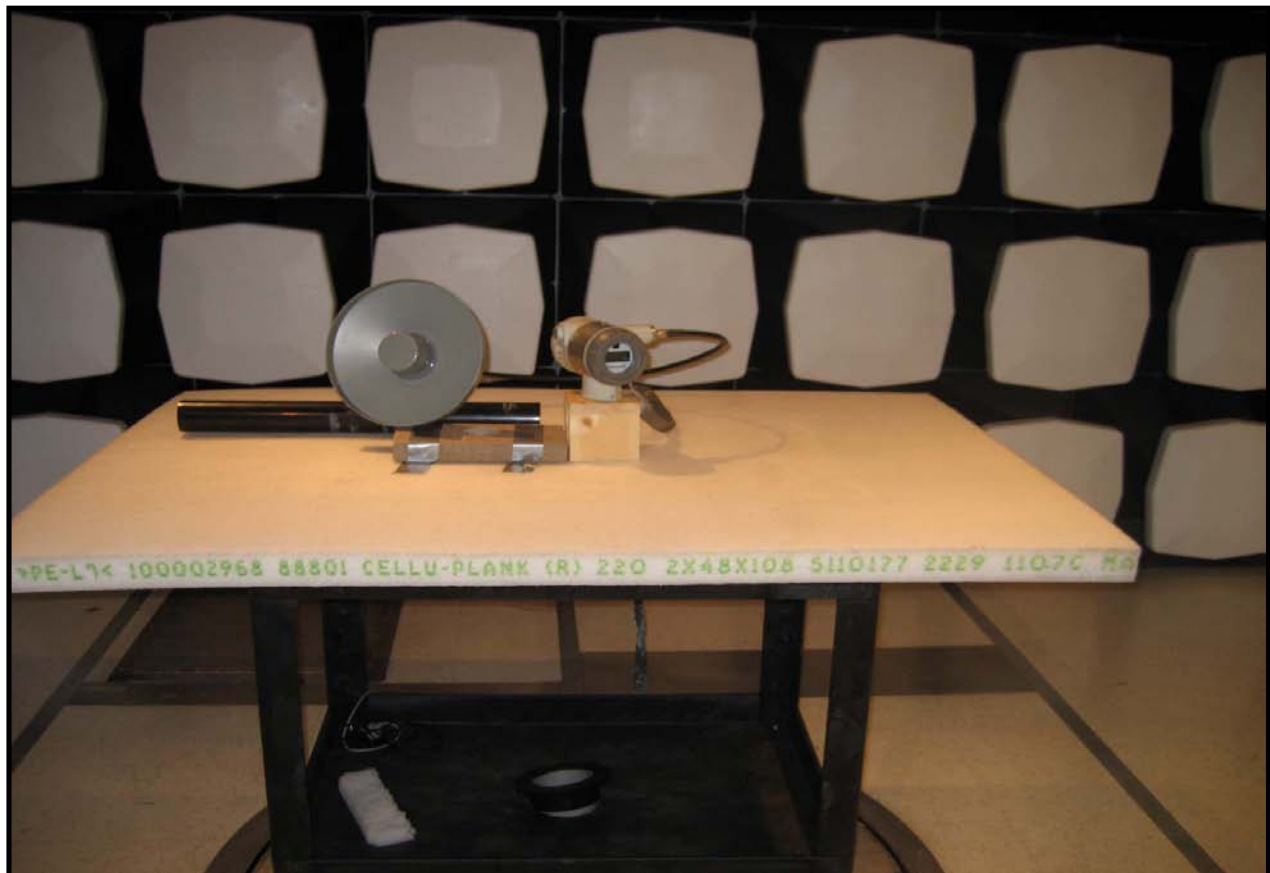
DEVIATIONS FROM TEST STANDARD

No deviations.

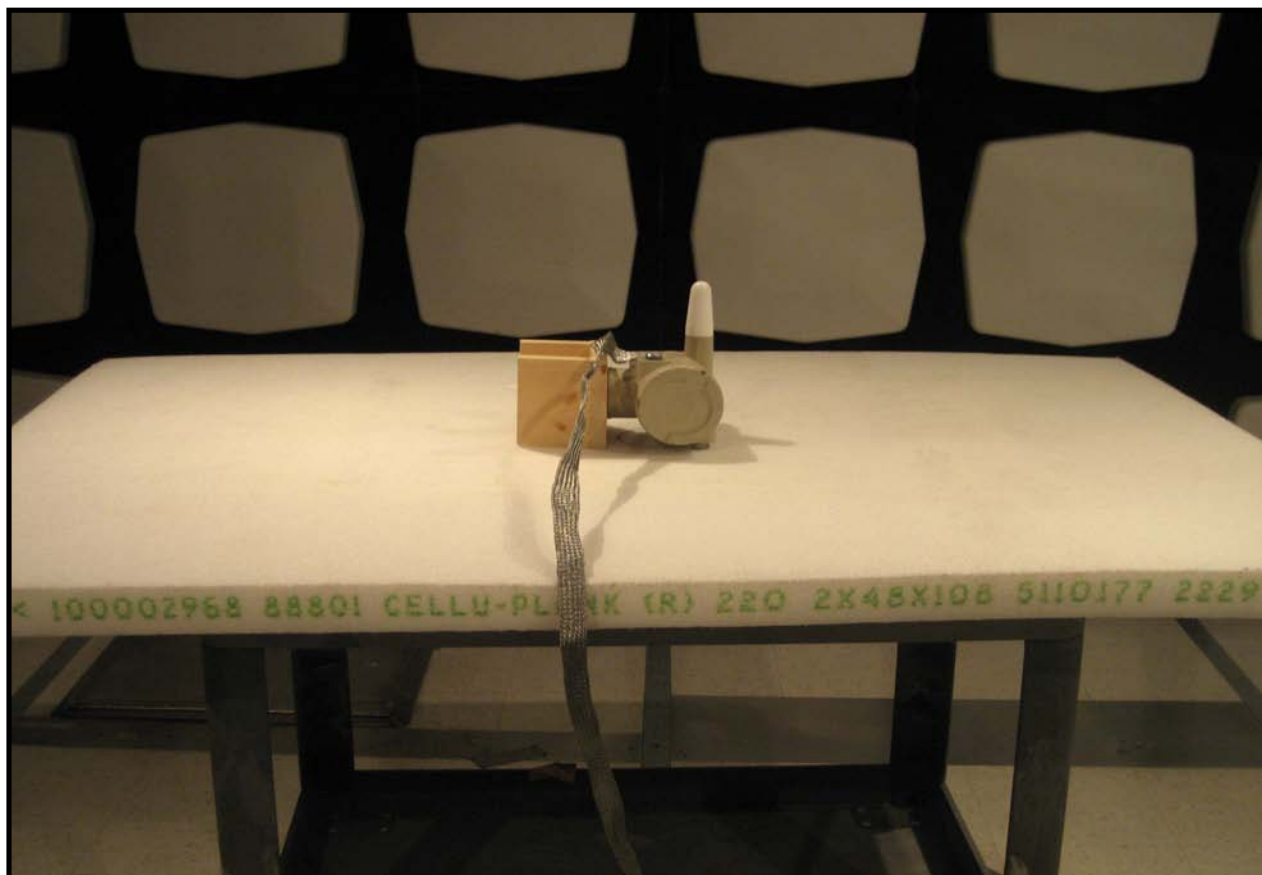
Run #	57	Signature 
Configuration #	1	
Results	Pass	



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)
12380.970	32.6	-7.7	267.0	1.0	7.7	0.0	V-Horn	AV	0.0	17.2	54.0	-36.8
12380.180	32.3	-7.7	343.0	1.0	7.7	0.0	H-Horn	AV	0.0	16.9	54.0	-37.1
12377.710	44.6	-7.7	267.0	1.0	0.0	0.0	V-Horn	PK	0.0	36.9	74.0	-37.1
12378.040	43.6	-7.7	343.0	1.0	0.0	0.0	H-Horn	PK	0.0	35.9	74.0	-38.1









Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Channel 1. Transmitting at 2405. DSSS Mode.

Channel 40. Transmitting at 2440. DSSS Mode.

Channel 75. Transmitting at 2475. DSSS Mode.

ANTENNA TYPE

-2 dB Omni (Dipole) Antenna. Honeywell Part #50016185-001, MFR Part #MAF94152

8 dB Omni (Dipole) Antenna. Honeywell Part #50018414-001, MFR Part #HGV-2409U

14 dB Directional (Dish) Antenna. Honeywell Part #50018415-001, MFR Part #HG2414D

MODE USED FOR FINAL DATA

Channel 1. Transmitting at 2405. DSSS Mode.

Channel 40. Transmitting at 2440. DSSS Mode.

Channel 75. Transmitting at 2475. DSSS Mode.

POWER SETTINGS INVESTIGATED

12 VDC

POWER SETTINGS USED FOR FINAL DATA

12 VDC

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz Stop Frequency 26 GHz

CLOCKS AND OSCILLATORS

2405 MHz, 2440 MHz, 2475 MHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Horn	EMCO	3160-09	AHN	NCR	0
OC10 SMA cable for 18026 GHz			OCK	3/3/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AOF	10/13/2006	24
Antenna, Horn	ETS	3160-08	AHT	NCR	0
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	10/13/2006	24
Antenna, Horn	ETS	3160-07	AHR	NCR	0
OC 10 Cables a, b, c, I Cables			OCO	2/2/2008	13
Pre-Amplifier	Miteq	AMF-4D-010120-30-10P-1	AOP	2/2/2008	13
Antenna, Horn	EMCO	3115	AHB	8/31/2007	24
OC10 cables a,b,c,e,f Horn Cables			OCJ	2/2/2008	13
Antenna, Biconilog	EMCO	3142	AXJ	2/25/2008	24
OC10 cables a,b,c,d Bilog			OCH	1/7/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AOM	1/7/2008	13
Spectrum Analyzer	Agilent	E4446A	AAQ	12/14/2007	13

MEASUREMENT BANDWIDTHS

	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.

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

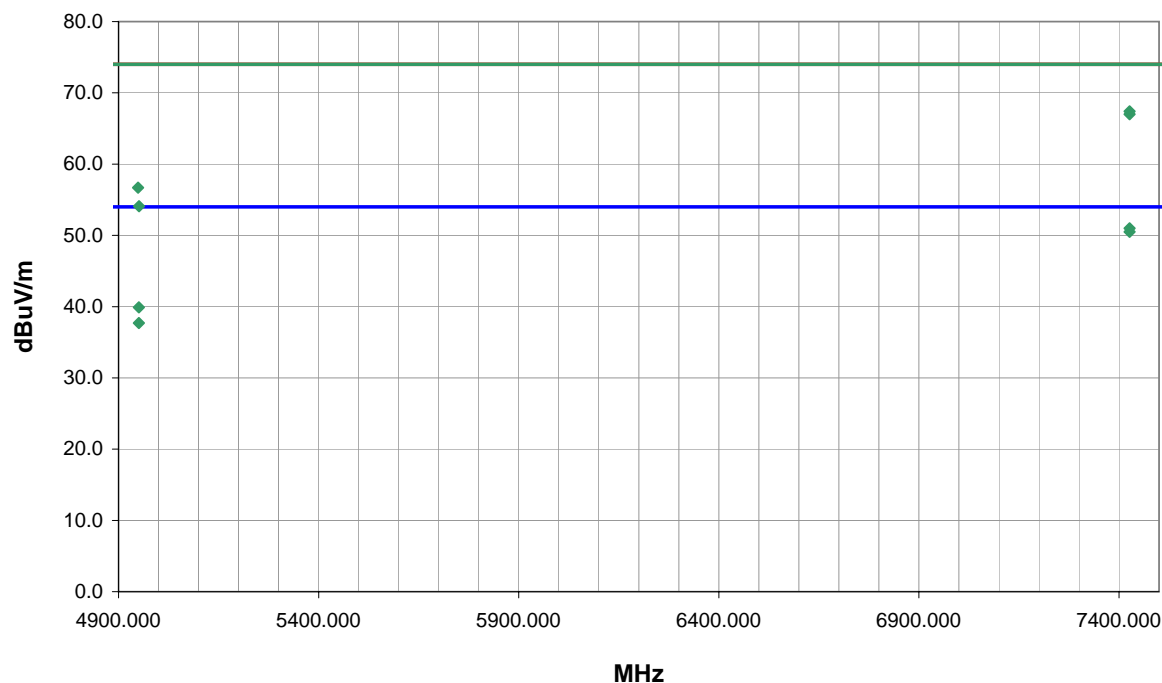
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	68	Signature 
Configuration #	1	
Results	Pass	



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)
7426.303	42.2	16.5	322.0	1.5	7.7	0.0	V-Horn	AV	0.0	51.0	54.0	-3.0
7426.303	41.7	16.5	301.0	1.3	7.7	0.0	H-Horn	AV	0.0	50.5	54.0	-3.5
7426.485	50.9	16.5	322.0	1.5	0.0	0.0	V-Horn	PK	0.0	67.4	74.0	-6.6
7426.365	50.5	16.5	301.0	1.3	0.0	0.0	H-Horn	PK	0.0	67.0	74.0	-7.0
4950.907	34.8	12.8	6.0	1.1	7.7	0.0	V-Horn	AV	0.0	39.9	54.0	-14.1
4950.916	32.6	12.8	316.0	1.2	7.7	0.0	H-Horn	AV	0.0	37.7	54.0	-16.3
4948.664	43.9	12.8	6.0	1.1	0.0	0.0	V-Horn	PK	0.0	56.7	74.0	-17.3
4951.104	41.3	12.8	316.0	1.2	0.0	0.0	H-Horn	PK	0.0	54.1	74.0	-19.9

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.			Work Order:	HONE0023
Serial Number:	None			Date:	03/06/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

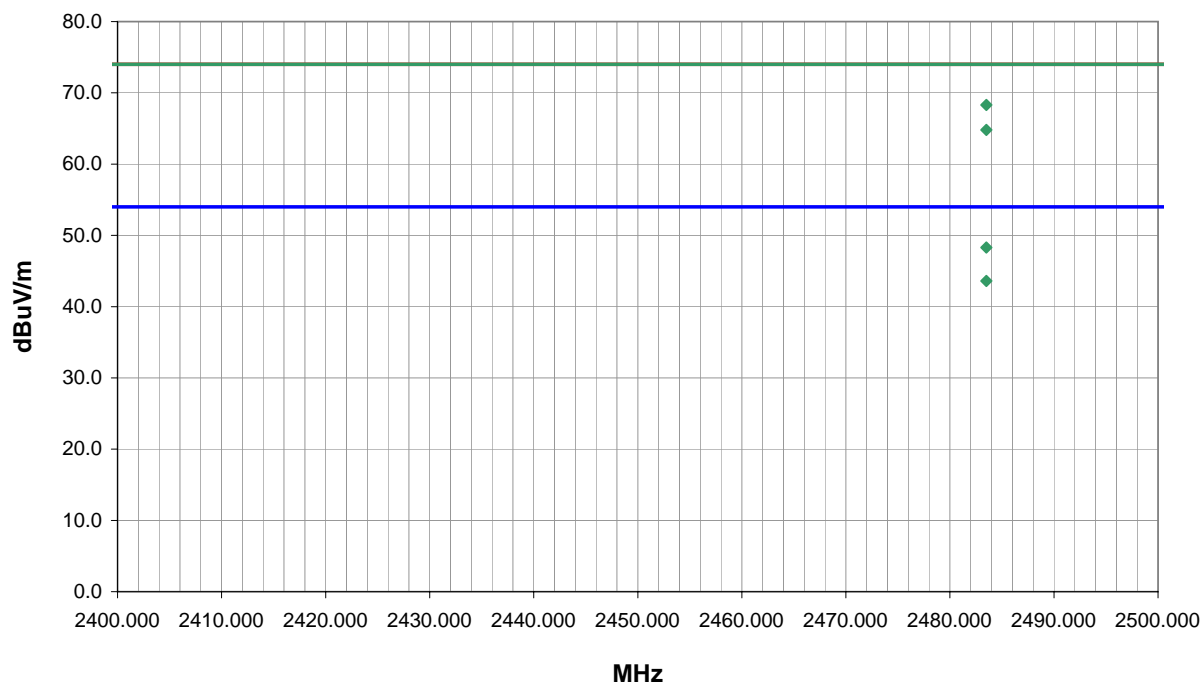
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	69	Signature 
Configuration #	1	
Results	Pass	



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)
2483.500	42.9	5.4	1.0	1.6	0.0	20.0	H-Horn	PK	0.0	68.3	74.0	-5.7
2483.500	30.6	5.4	1.0	1.6	7.7	20.0	H-Horn	AV	0.0	48.3	54.0	-5.7
2483.500	39.4	5.4	5.0	1.0	0.0	20.0	V-Horn	PK	0.0	64.8	74.0	-9.2
2483.500	25.9	5.4	5.0	1.0	7.7	20.0	V-Horn	AV	0.0	43.6	54.0	-10.4

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.			Work Order:	HONE0023
Serial Number:	None			Date:	03/06/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

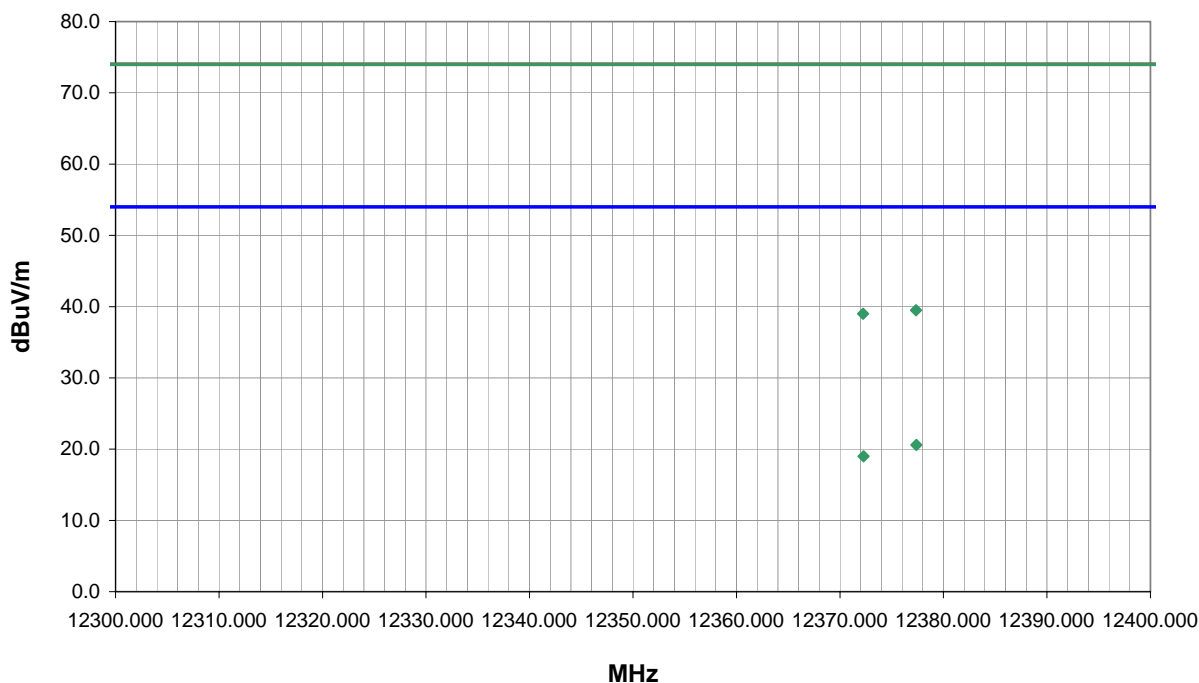
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	70	Signature 
Configuration #	1	
Results	Pass	



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)
12377.380	36.0	-7.7	303.0	1.0	7.7	0.0	V-Horn	AV	0.0	20.6	54.0	-33.4
12377.350	47.2	-7.7	303.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.5	74.0	-34.5
12372.280	34.5	-7.8	239.0	1.0	7.7	0.0	H-Horn	AV	0.0	19.0	54.0	-35.0
12372.230	46.7	-7.7	239.0	1.0	0.0	0.0	H-Horn	PK	0.0	39.0	74.0	-35.0

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

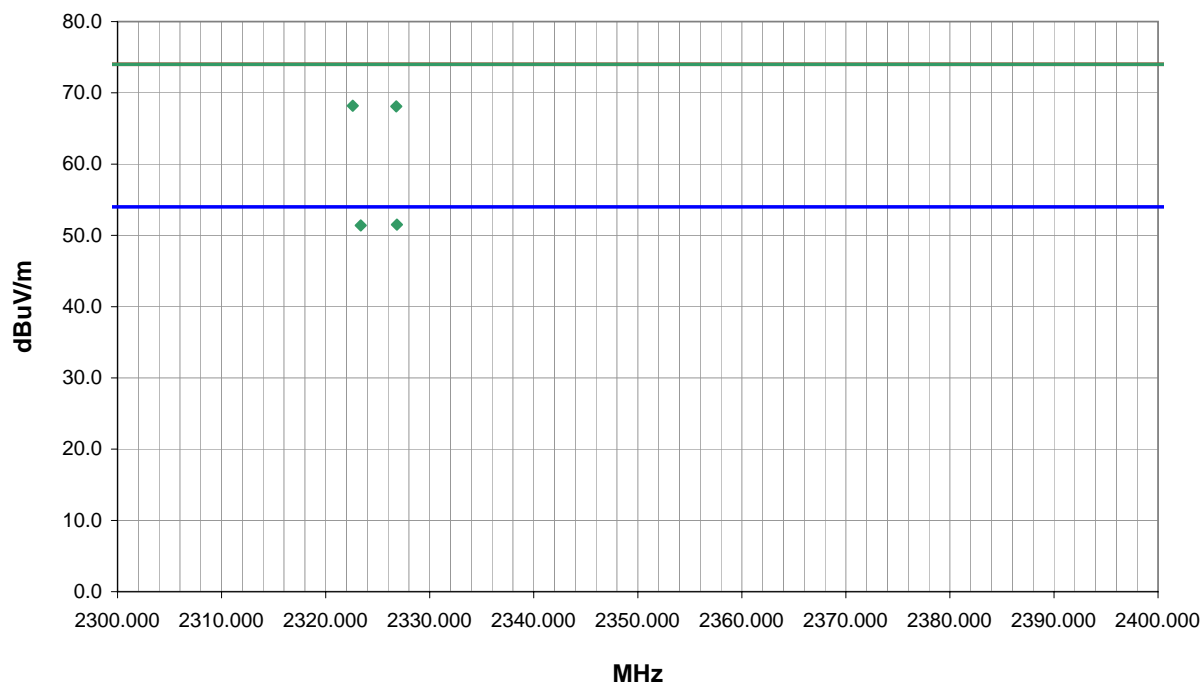
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	71	Signature 
Configuration #	1	
Results	Pass	



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)
2326.845	33.8	5.4	184.0	1.7	7.7	20.0	H-Horn	AV	0.0	51.5	54.0	-2.5
2326.9	42.7	5.4	184.0	1.7	0.0	20.0	H-Horn	PK	0.0	68.1	74.0	-5.8
2327.0	51.5	5.4	184.0	1.7	7.7	20.0	H-Horn	AV	0.0	51.4	54.0	-2.6
2327.1	51.4	5.4	184.0	1.7	0.0	20.0	H-Horn	PK	0.0	68.2	74.0	-5.8

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

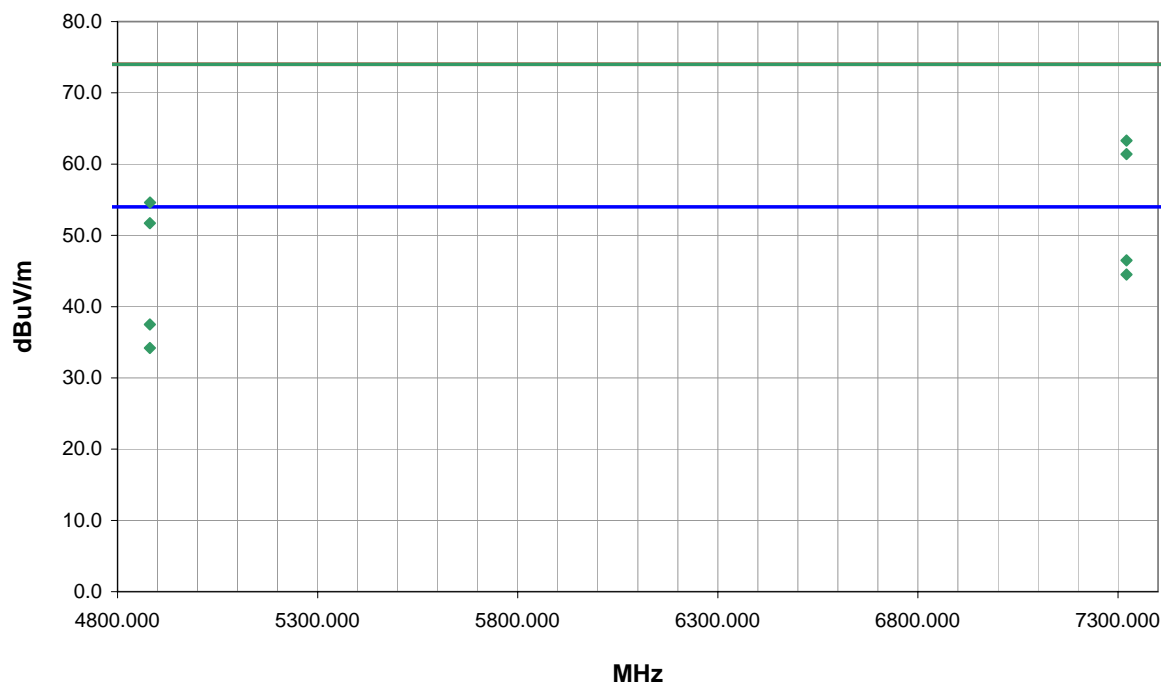
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	72	Signature 
Configuration #	1	
Results	Pass	



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)
7321.285	37.8	16.4	129.0	1.4	7.7	0.0	V-Horn	AV	0.0	46.5	54.0	-7.5
7321.361	35.8	16.4	107.0	1.3	7.7	0.0	H-Horn	AV	0.0	44.5	54.0	-9.5
7321.304	46.9	16.4	129.0	1.4	0.0	0.0	V-Horn	PK	0.0	63.3	74.0	-10.7
7321.080	45.0	16.4	107.0	1.3	0.0	0.0	H-Horn	PK	0.0	61.4	74.0	-12.6
4880.935	32.6	12.6	171.0	1.1	7.7	0.0	V-Horn	AV	0.0	37.5	54.0	-16.5
4881.048	42.0	12.6	171.0	1.1	0.0	0.0	V-Horn	PK	0.0	54.6	74.0	-19.4
4880.931	29.3	12.6	108.0	1.3	7.7	0.0	H-Horn	AV	0.0	34.2	54.0	-19.8
4880.939	39.1	12.6	108.0	1.3	0.0	0.0	H-Horn	PK	0.0	51.7	74.0	-22.3

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

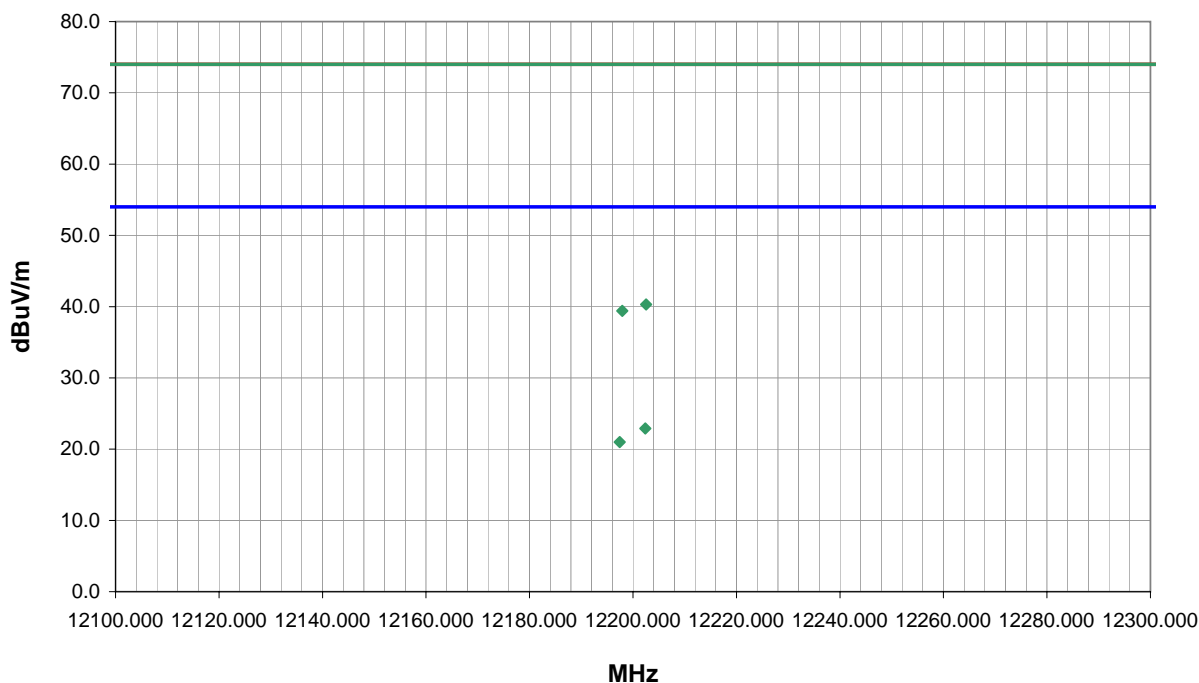
EUT OPERATING MODES

Transmitting at 2440

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	53	Signature 
Configuration #	1	
Results	Pass	



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)
12202.370	39.0	-8.4	200.0	1.0	7.7	0.0	H-Horn	AV	0.0	22.9	54.0	-31.1
12197.430	37.1	-8.4	223.0	1.0	7.7	0.0	V-Horn	AV	0.0	21.0	54.0	-33.0
12202.540	48.7	-8.4	200.0	1.0	0.0	0.0	H-Horn	PK	0.0	40.3	74.0	-33.7
12197.940	47.8	-8.4	223.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.4	74.0	-34.6

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order:	HONE0023
Serial Number:	None			Date:	03/06/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

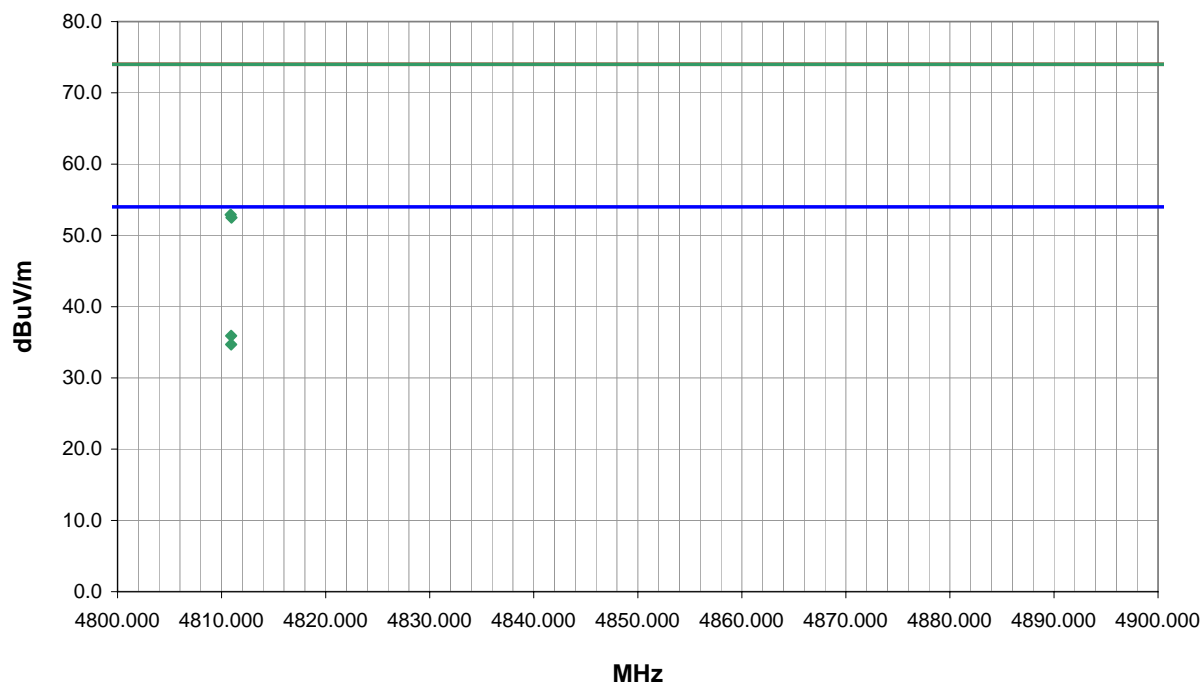
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	73	Signature 
Configuration #	1	
Results	Pass	



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)
4810.923	31.1	12.5	169.0	1.1	7.7	0.0	H-Horn	AV	0.0	35.9	54.0	-18.1
4810.923	29.9	12.5	148.0	1.0	7.7	0.0	V-Horn	AV	0.0	34.7	54.0	-19.3
4810.879	40.4	12.5	169.0	1.1	0.0	0.0	H-Horn	PK	0.0	52.9	74.0	-21.1
4810.945	40.0	12.5	148.0	1.0	0.0	0.0	V-Horn	PK	0.0	52.5	74.0	-21.5

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Highest Gain Antenna 14dBi. PC Power Level: 168 (12.4 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

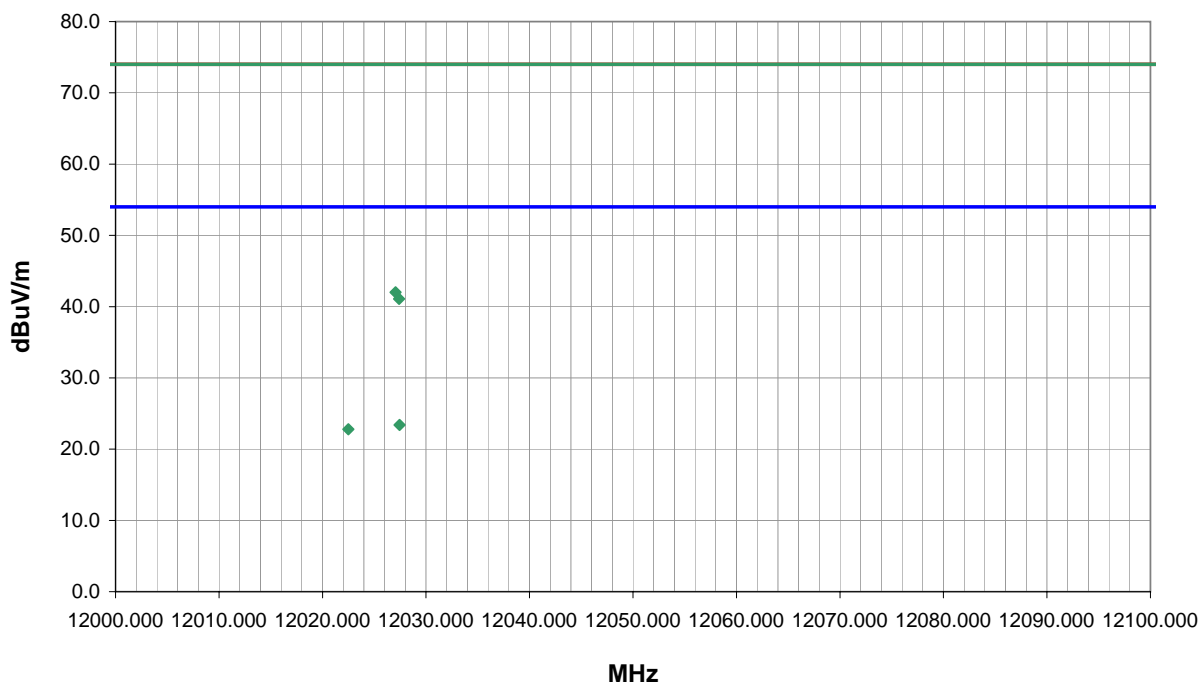
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	74	Signature 
Configuration #	1	
Results	Pass	



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)
12027.450	40.1	-9.0	197.0	1.0	7.7	0.0	V-Horn	AV	0.0	23.4	54.0	-30.6
12022.500	39.5	-9.0	228.0	1.0	7.7	0.0	H-Horn	AV	0.0	22.8	54.0	-31.2
12027.060	51.0	-9.0	197.0	1.0	0.0	0.0	V-Horn	PK	0.0	42.0	74.0	-32.0
12027.400	50.1	-9.0	228.0	1.0	0.0	0.0	H-Horn	PK	0.0	41.1	74.0	-32.9

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

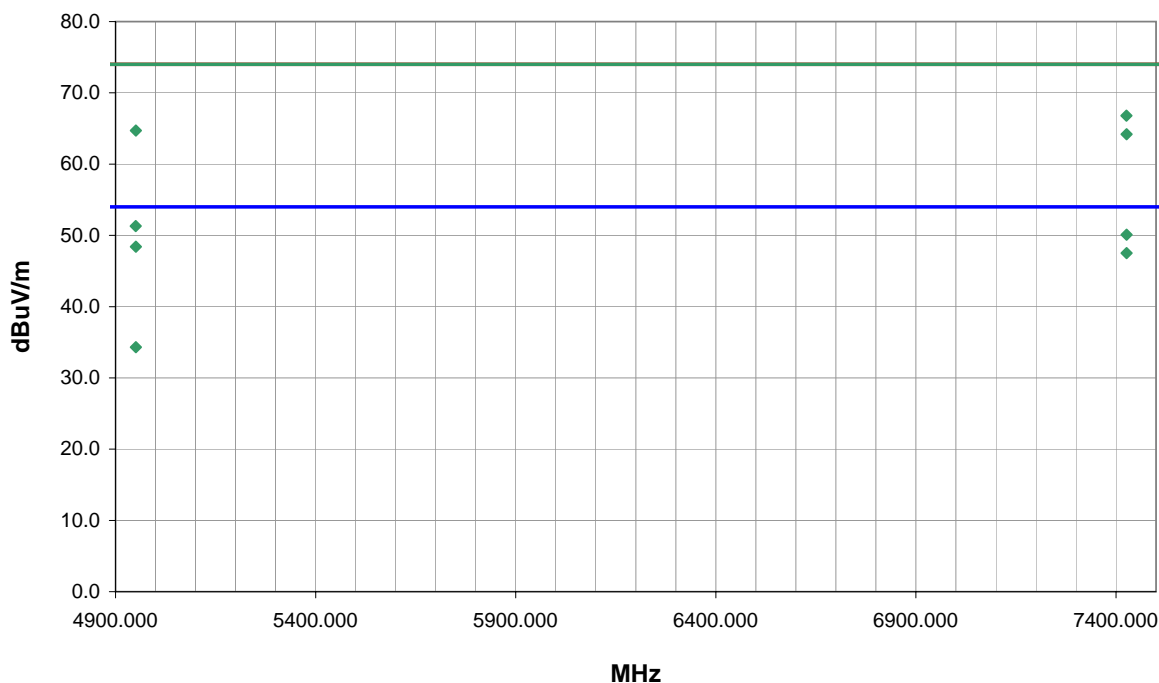
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	59	Signature 
Configuration #	1	
Results	Pass	



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)
7426.280	41.3	16.5	165.0	1.1	7.7	0.0	V-Horn	AV	0.0	50.1	54.0	-3.9
4950.852	43.3	12.8	167.0	1.3	7.7	0.0	V-Horn	AV	0.0	48.4	54.0	-5.6
7426.291	38.7	16.5	49.0	1.1	7.7	0.0	H-Horn	AV	0.0	47.5	54.0	-6.5
7426.194	50.3	16.5	165.0	1.1	0.0	0.0	V-Horn	PK	0.0	66.8	74.0	-7.2
4950.925	51.9	12.8	167.0	1.3	0.0	0.0	V-Horn	PK	0.0	64.7	74.0	-9.3
7426.351	47.7	16.5	49.0	1.1	0.0	0.0	H-Horn	PK	0.0	64.2	74.0	-9.8
4950.878	29.2	12.8	311.0	1.0	7.7	0.0	H-Horn	AV	0.0	34.3	54.0	-19.7
4950.426	38.5	12.8	311.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.3	74.0	-22.7

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.			Work Order:	HONE0023
Serial Number:	None			Date:	03/05/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

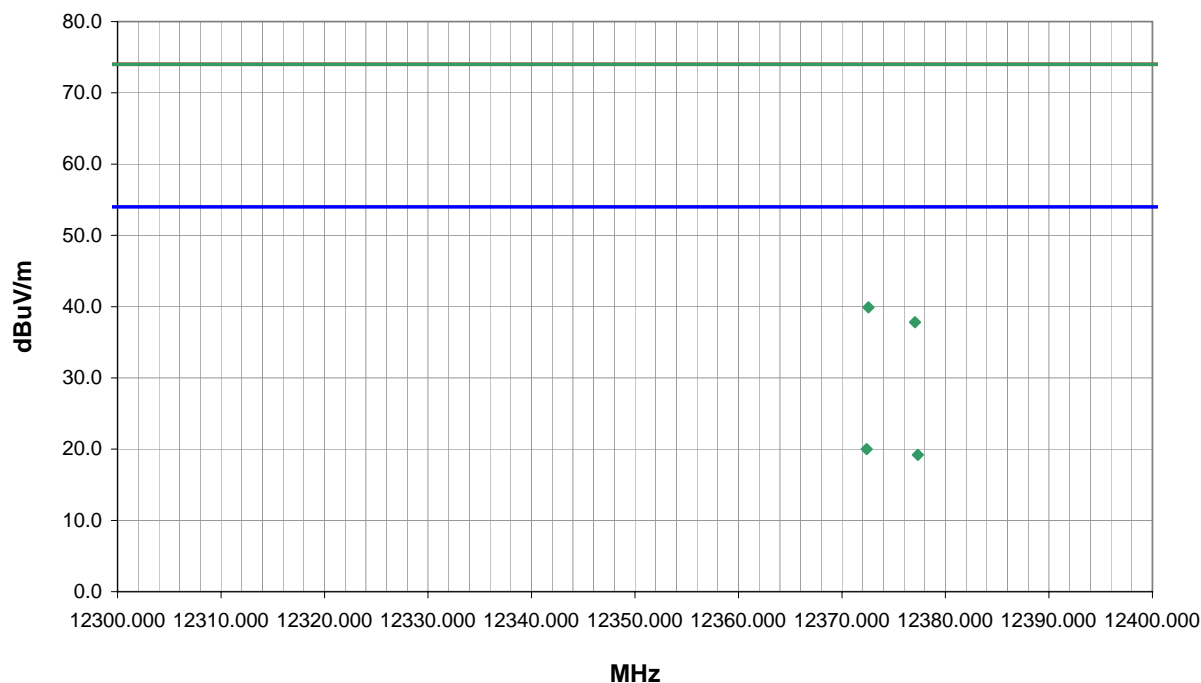
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	60	Signature 
Configuration #	1	
Results	Pass	



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)
12372.380	35.5	-7.8	319.0	1.0	7.7	0.0	V-Horn	AV	0.0	20.0	54.0	-34.0
12372.550	47.6	-7.7	319.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.9	74.0	-34.1
12377.340	34.6	-7.7	314.0	1.0	7.7	0.0	H-Horn	AV	0.0	19.2	54.0	-34.8
12377.060	45.5	-7.7	314.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.8	74.0	-36.2

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.			Work Order:	HONE0023
Serial Number:	None			Date:	03/05/08
Customer:	Honeywell			Temperature:	22c
Attendees:	David Shipley			Humidity:	40%
Project:	None			Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery	Job Site:	OC10

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

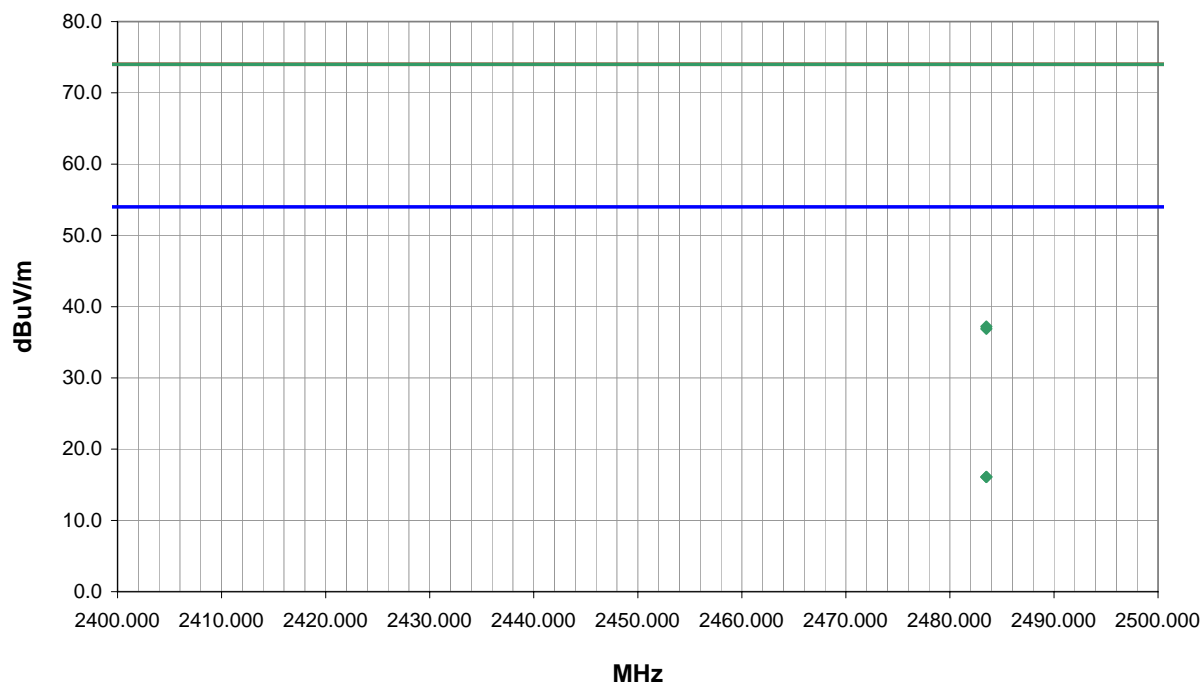
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	61	Signature 
Configuration #	1	
Results	Pass	



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)
2483.500	31.8	5.4	41.0	1.0	0.0	0.0	V-Horn	PK	0.0	37.2	74.0	-36.8
2483.500	31.5	5.4	101.0	1.0	0.0	0.0	H-Horn	PK	0.0	36.9	74.0	-37.1
2483.500	18.4	5.4	41.0	1.0	7.7	0.0	V-Horn	AV	0.0	16.1	54.0	-37.9
2483.500	18.4	5.4	101.0	1.0	7.7	0.0	H-Horn	AV	0.0	16.1	54.0	-37.9

SPURIOUS RADIATED EMISSIONS DATA SHEET

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

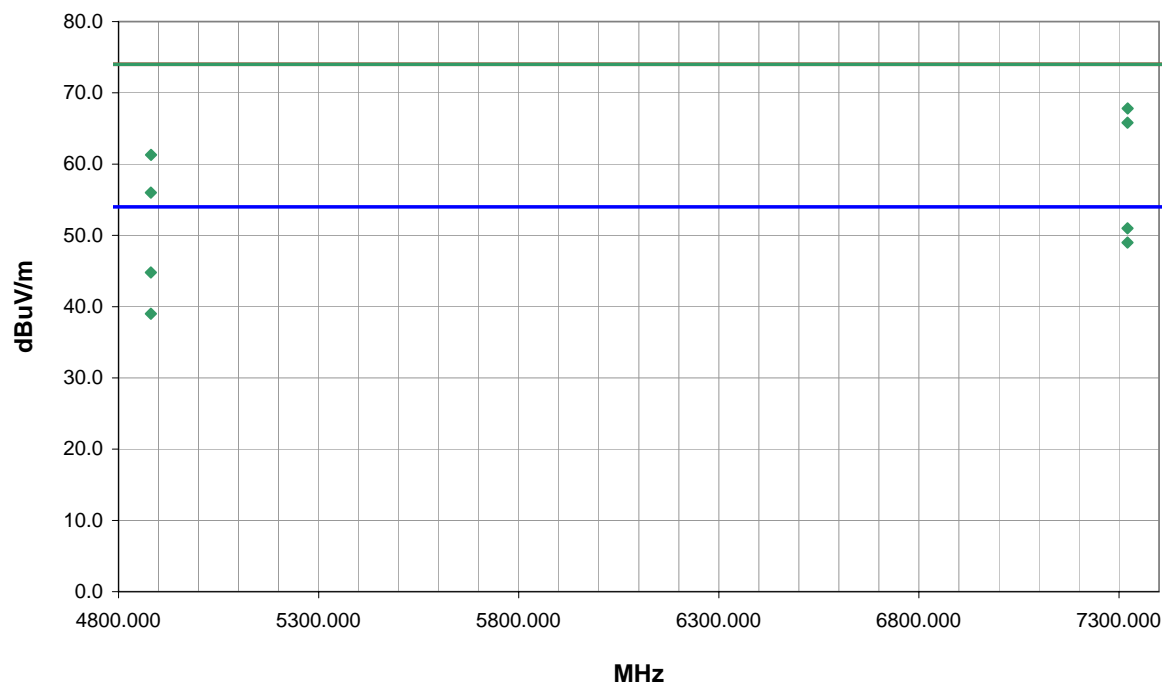
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	62	Signature 
Configuration #	1	
Results	Pass	



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)
7321.283	42.3	16.4	245.0	1.2	7.7	0.0	H-Horn	AV	0.0	51.0	54.0	-3.0
7321.299	40.3	16.4	323.0	1.9	7.7	0.0	V-Horn	AV	0.0	49.0	54.0	-5.0
7321.641	51.4	16.4	245.0	1.2	0.0	0.0	H-Horn	PK	0.0	67.8	74.0	-6.2
7321.361	49.4	16.4	323.0	1.9	0.0	0.0	V-Horn	PK	0.0	65.8	74.0	-8.2
4880.908	39.9	12.6	5.0	1.1	7.7	0.0	V-Horn	AV	0.0	44.8	54.0	-9.2
4881.117	48.7	12.6	5.0	1.1	0.0	0.0	V-Horn	PK	0.0	61.3	74.0	-12.7
4880.960	34.1	12.6	307.0	1.3	7.7	0.0	H-Horn	AV	0.0	39.0	54.0	-15.0
4880.897	43.4	12.6	307.0	1.3	0.0	0.0	H-Horn	PK	0.0	56.0	74.0	-18.0

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

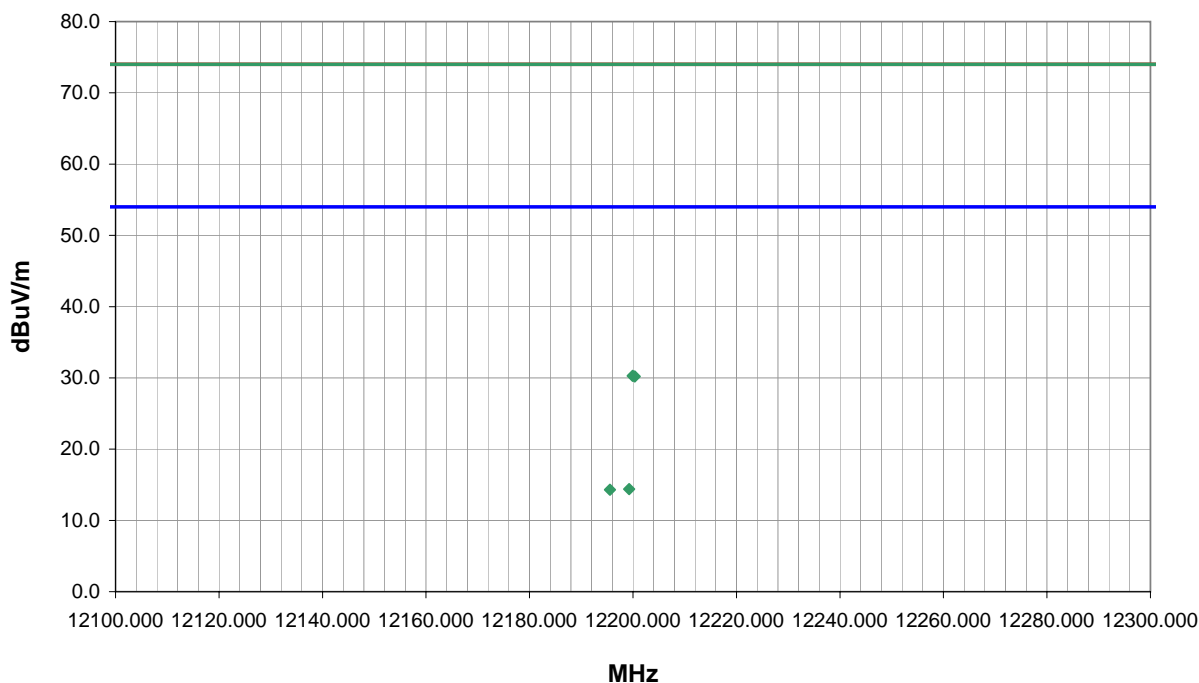
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	63	Signature 
Configuration #	1	
Results	Pass	



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)
12199.270	30.5	-8.4	152.0	1.0	7.7	0.0	H-Horn	AV	0.0	14.4	54.0	-39.6
12195.560	30.4	-8.4	257.0	1.0	7.7	0.0	V-Horn	AV	0.0	14.3	54.0	-39.7
12199.940	38.7	-8.4	257.0	1.0	0.0	0.0	V-Horn	PK	0.0	30.3	74.0	-43.7
12200.350	38.6	-8.4	152.0	1.0	0.0	0.0	H-Horn	PK	0.0	30.2	74.0	-43.8

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

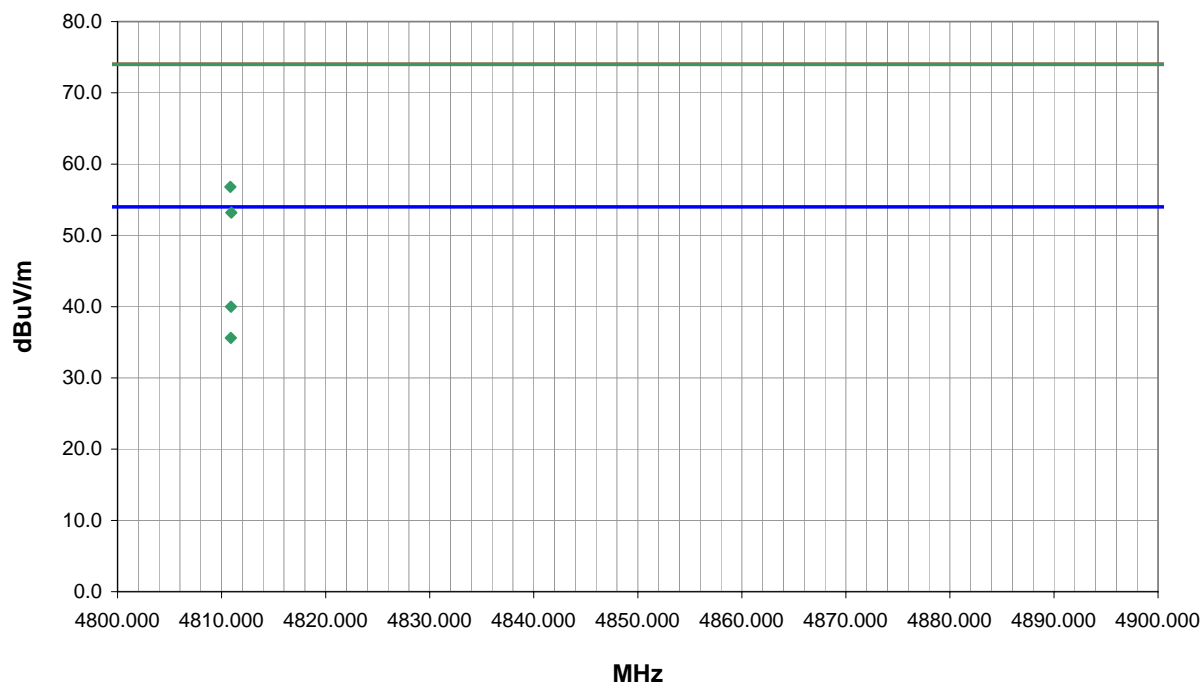
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	65	Signature 
Configuration #	1	
Results	Pass	



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)
4810.903	35.2	12.5	1.0	1.0	7.7	0.0	V-Horn	AV	0.0	40.0	54.0	-14.0
4810.842	44.3	12.5	1.0	1.0	0.0	0.0	V-Horn	PK	0.0	56.8	74.0	-17.2
4810.885	30.8	12.5	356.0	1.1	7.7	0.0	H-Horn	AV	0.0	35.6	54.0	-18.4
4810.927	40.7	12.5	356.0	1.1	0.0	0.0	H-Horn	PK	0.0	53.2	74.0	-20.8

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/06/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Middle Gain Antenna 8dBi. PC Power Level: 195 (15.8 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

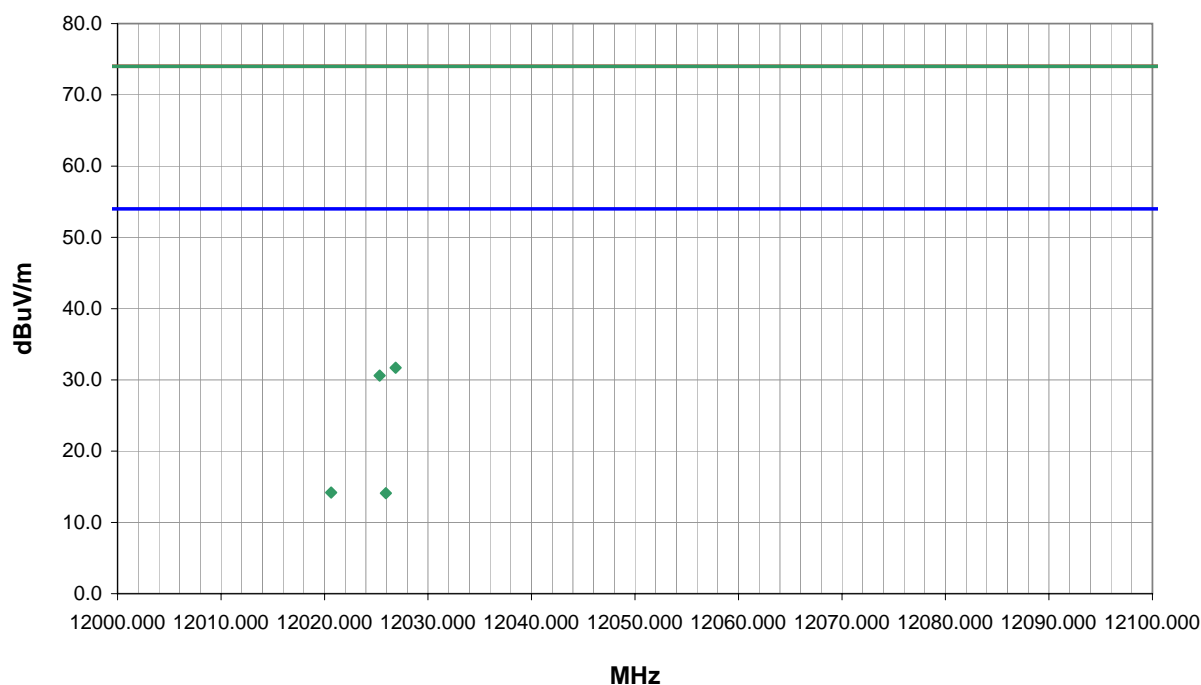
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	66	Signature 
Configuration #	1	
Results	Pass	



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)
12020.640	30.9	-9.0	257.0	3.0	7.7	0.0	V-Horn	AV	0.0	14.2	54.0	-39.8
12025.920	30.8	-9.0	68.0	1.0	7.7	0.0	H-Horn	AV	0.0	14.1	54.0	-39.9
12026.870	40.7	-9.0	257.0	3.0	0.0	0.0	V-Horn	PK	0.0	31.7	74.0	-42.3
12025.330	39.6	-9.0	68.0	1.0	0.0	0.0	H-Horn	PK	0.0	30.6	74.0	-43.4

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.	Work Order:	HONE0023
Serial Number:	None	Date:	03/05/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

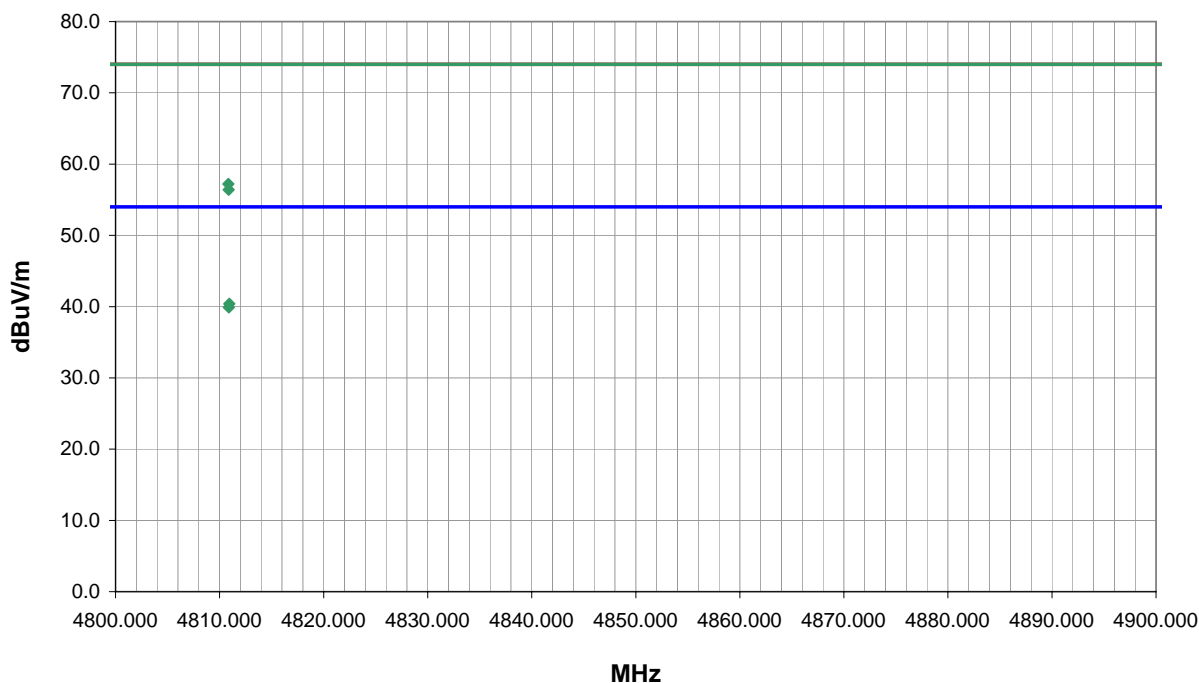
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	52	Signature 
Configuration #	1	
Results	Pass	



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)
4810.938	35.6	12.5	10.0	1.0	7.7	0.0	H-Horn	AV	0.0	40.4	54.0	-13.6
4810.887	35.1	12.5	29.0	1.0	7.7	0.0	V-Horn	AV	0.0	39.9	54.0	-14.1
4810.841	44.7	12.5	10.0	1.0	0.0	0.0	H-Horn	PK	0.0	57.2	74.0	-16.8
4810.874	43.9	12.5	29.0	1.0	0.0	0.0	V-Horn	PK	0.0	56.4	74.0	-17.6

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

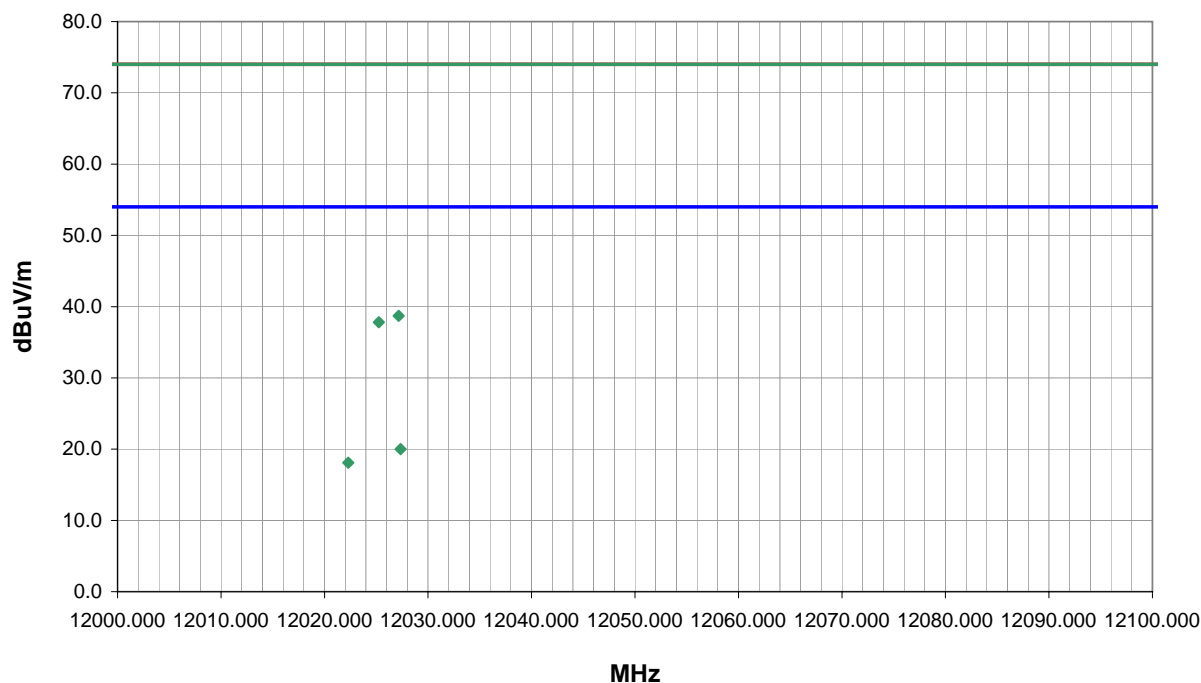
EUT OPERATING MODES

Transmitting at 2405.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	53	Signature 
Configuration #	1	
Results	Pass	



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)
12027.350	36.7	-9.0	55.0	1.0	7.7	0.0	V-Horn	AV	0.0	20.0	54.0	-34.0
12027.160	47.7	-9.0	55.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.7	74.0	-35.3
12022.290	34.8	-9.0	36.0	1.0	7.7	0.0	H-Horn	AV	0.0	18.1	54.0	-35.9
12025.240	46.8	-9.0	36.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.8	74.0	-36.2

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

Test Method

FCC 15.247(d) Spurious Radiated Emissions

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

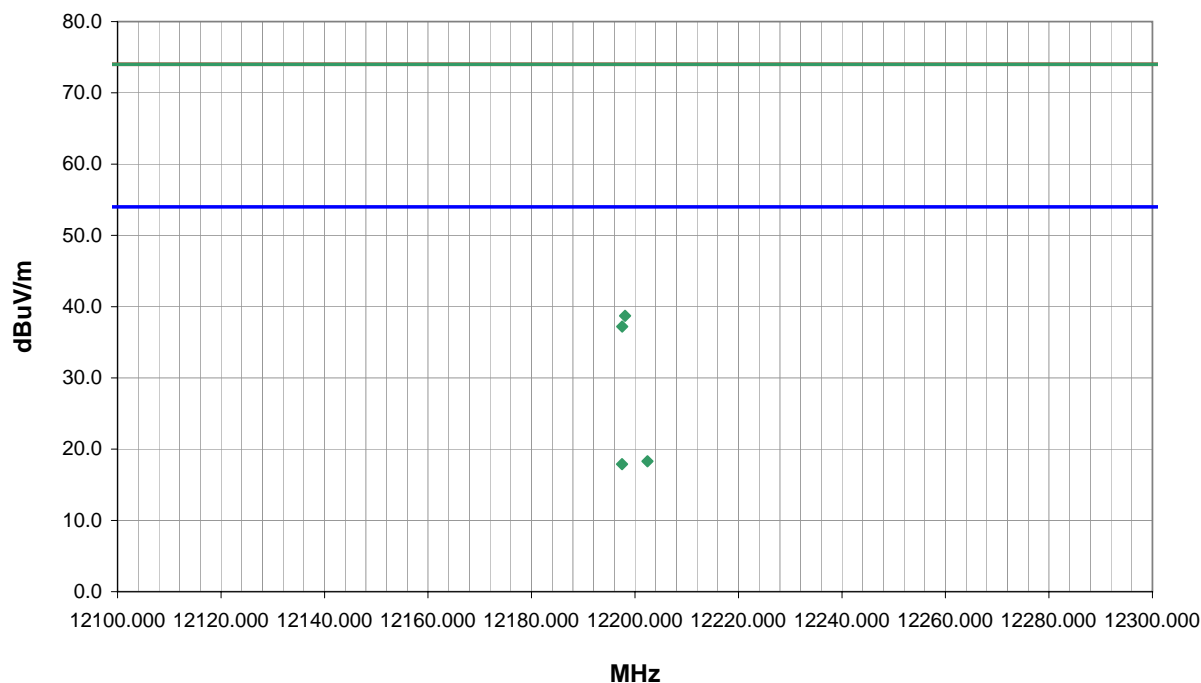
EUT OPERATING MODES

Transmitting at 2440.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	58	Signature 
Configuration #	1	
Results	Pass	



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)
12198.070	47.1	-8.4	108.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.7	74.0	-35.3
12202.420	34.4	-8.4	108.0	1.0	7.7	0.0	V-Horn	AV	0.0	18.3	54.0	-35.7
12197.510	34.0	-8.4	166.0	1.0	7.7	0.0	H-Horn	AV	0.0	17.9	54.0	-36.1
12197.540	45.6	-8.4	166.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.2	74.0	-36.8

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS


Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

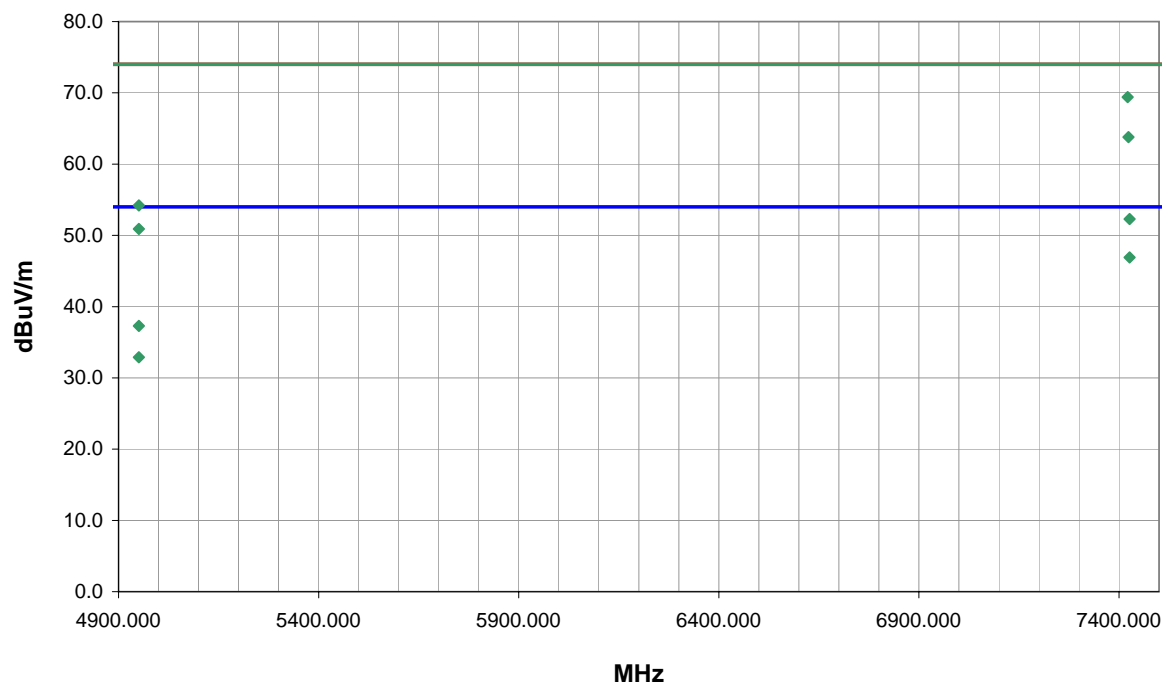
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	55	Signature 
Configuration #	1	
Results	Pass	



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)
7426.274	43.6	16.4	85.0	1.2	7.7	0.0	H-Horn	AV	0.0	52.3	54.0	-1.7
7421.740	52.9	16.5	85.0	1.2	0.0	0.0	H-Horn	PK	0.0	69.4	74.0	-4.6
7426.269	38.1	16.5	15.0	1.3	7.7	0.0	V-Horn	AV	0.0	46.9	54.0	-7.1
7423.643	47.3	16.5	15.0	1.3	0.0	0.0	V-Horn	PK	0.0	63.8	74.0	-10.2
4950.954	32.2	12.8	345.0	1.6	7.7	0.0	H-Horn	AV	0.0	37.3	54.0	-16.7
4950.756	41.4	12.8	345.0	1.6	0.0	0.0	H-Horn	PK	0.0	54.2	74.0	-19.8
4950.922	27.8	12.8	101.0	1.2	7.7	0.0	V-Horn	AV	0.0	32.9	54.0	-21.1
4950.802	38.1	12.8	101.0	1.2	0.0	0.0	V-Horn	PK	0.0	50.9	74.0	-23.1

EUT:	XYR6000 15.4 Radio with LPF modified DSSS Mode.	Work Order:	HONE0023
Serial Number:	None	Date:	03/05/08
Customer:	Honeywell	Temperature:	22c
Attendees:	David Shipley	Humidity:	40%
Project:	None	Barometric Pres.:	1019 mb
Tested by:	Jaemi Suh	Power:	Battery
		Job Site:	OC10

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

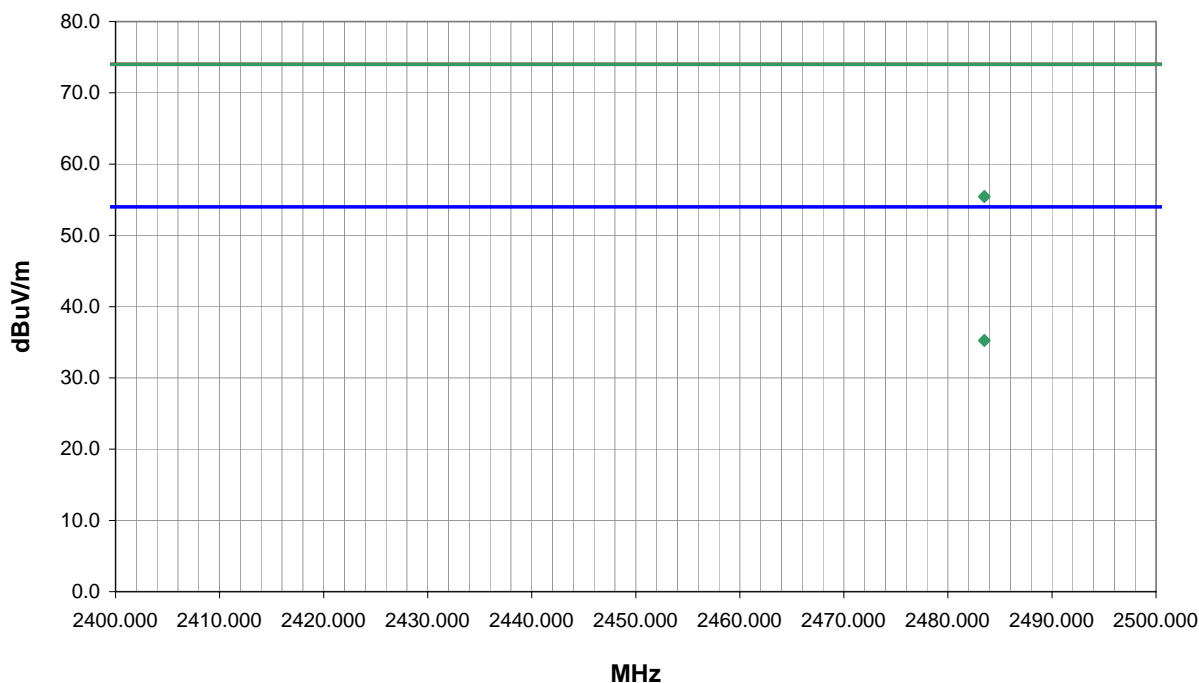
EUT OPERATING MODES

Transmitting at 2475

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	56	Signature 
Configuration #	1	
Results	Pass	



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)
2483.500	30.1	5.4	186.0	1.0	0.0	20.0	H-Horn	PK	0.0	55.5	74.0	-18.5
2483.500	30.0	5.4	64.0	1.0	0.0	20.0	V-Horn	PK	0.0	55.4	74.0	-18.6
2483.499	17.6	5.4	186.0	1.0	7.7	20.0	H-Horn	AV	0.0	35.3	54.0	-18.7
2483.500	17.5	5.4	64.0	1.0	7.7	20.0	V-Horn	AV	0.0	35.2	54.0	-18.8

EUT: XYR6000 15.4 Radio with LPF modified DSSS Mode.				Work Order: HONE0023	
Serial Number: None				Date: 03/05/08	
Customer: Honeywell				Temperature: 22c	
Attendees: David Shipley				Humidity: 40%	
Project: None				Barometric Pres.: 1019 mb	
Tested by: Jaemi Suh		Power: Battery		Job Site: OC10	

TEST SPECIFICATIONS

FCC 15.247(d) Spurious Radiated Emissions

Test Method

ANSI C63.4

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3
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COMMENTS

Lowest Gain Antenna -2dBi. PC Power Level: 255 (20.6 dBm). CHIP PA level = 0 dBm. Duty cycle correction factor is based on a 41msec dwell time. Duty cycle corr. = $20 \log(41/100) = 7.7\text{dB}$.

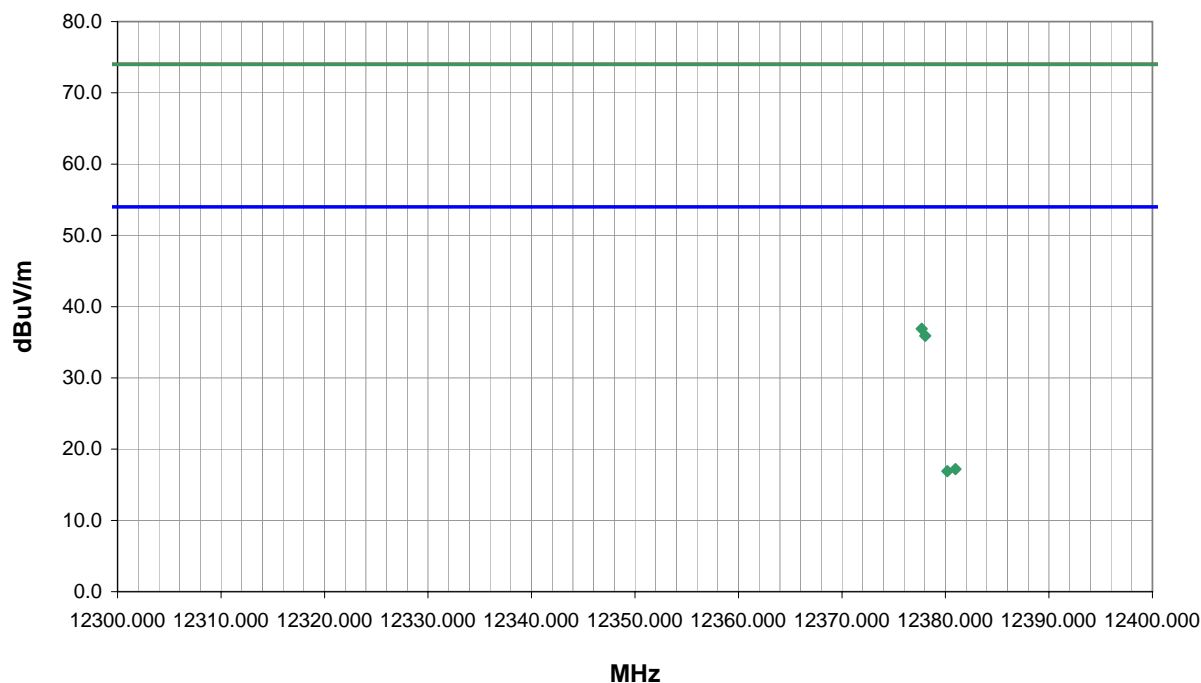
EUT OPERATING MODES

Transmitting at 2475.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	57	Signature 
Configuration #	1	
Results	Pass	



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)
12380.970	32.6	-7.7	267.0	1.0	7.7	0.0	V-Horn	AV	0.0	17.2	54.0	-36.8
12380.180	32.3	-7.7	343.0	1.0	7.7	0.0	H-Horn	AV	0.0	16.9	54.0	-37.1
12377.710	44.6	-7.7	267.0	1.0	0.0	0.0	V-Horn	PK	0.0	36.9	74.0	-37.1
12378.040	43.6	-7.7	343.0	1.0	0.0	0.0	H-Horn	PK	0.0	35.9	74.0	-38.1

