

Honeywell

Field Device Access Point (FDAP)

Report No. HONE0056.2

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

Last Date of Test: September 3, 2010

Honeywell

Model: Field Device Access Point (FDAP)

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Occupied Bandwidth	FCC 15.247:2010	ANSI C63.10:2009	Pass
Peak Output Power	FCC 15.247:2010	ANSI C63.10:2009	Pass
Band Edge Compliance	FCC 15.247:2010	ANSI C63.10:2009	Pass
Spurious Conducted Emissions	FCC 15.247:2010	ANSI C63.10:2009	Pass
Power Spectral Density	FCC 15.247:2010	ANSI C63.10:2009	Pass
Spurious Radiated Emissions	FCC 15.247:2010	ANSI C63.10:2009	Pass
AC Powerline Conducted Emissions	FCC 15.207:2010	ANSI C63.10:2009	Pass

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 Ave.
Irvine, CA 92618

Phone: (503) 844-4066

Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site filing #2834B-2).

Approved By:

Don Facteau, IS 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		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



Accreditations and Authorizations

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
NVLAP LAB CODE 200881-0

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-Gen, Issue 2 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. (*Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1, 2834B-2, Brooklyn Park: 2834E-1*)



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.



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, G-84, C-2687, T-1658, and R-2318, Irvine: R-1943, G-85, C-2766, and T-1659, Sultan: R-871, G-83, C-1784, and T-1511, Brooklyn Park: R-3125, G-86, G-141, C-3464, and T-1634).



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 (US0017). 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



KCC

Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157)



VIETNAM

Vietnam MIC has approved Northwest EMC as an accredited test lab. Per Decision No. 194/QD-QLCL (dated December 15, 2009), Northwest EMC test reports can be used for Vietnam approval submissions.



SCOPE

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

<http://www.nwemc.com/accreditations/>



Northwest EMC Locations



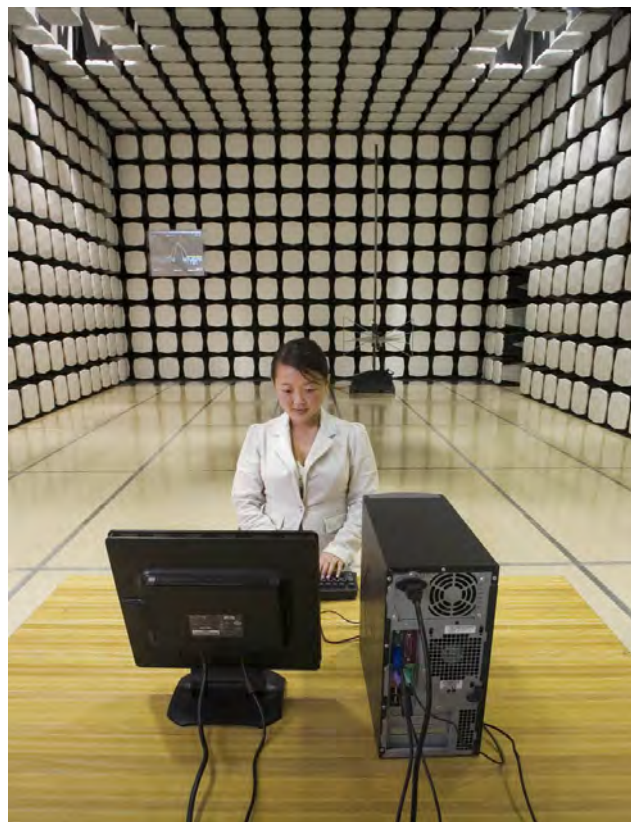
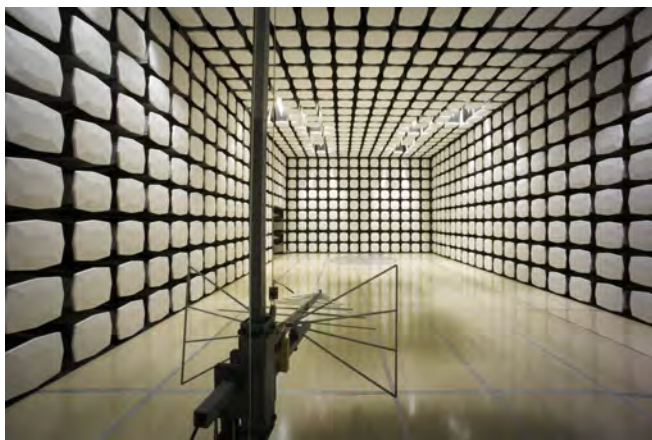
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

Minnesota
Labs MN01-MN08
9349 W Broadway Ave.
Brooklyn Park,
MN 55445
(763) 425-2281

Washington
Labs SU01-SU07
14128 339th Ave. SE
Sultan, WA 98294
(360) 793-8675

New York
Labs WA01-WA04
4939 Jordan Rd.
Elbridge, NY 13060
(315) 685-0796



Northwest EMC	Product Description	Rev 11/17/06
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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:	Field Device Access Point (FDAP)
First Date of Test:	August 26, 2010
Last Date of Test:	September 3, 2010
Receipt Date of Samples:	August 26, 2010
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):
Field Device Access Point (FDAP) Models: FDAP1 & FDAP2, Radio Board Assembly # 51306533

Testing Objective:
These tests were selected to satisfy the EMC requirements requested by the client.

CONFIGURATION *

Field Device Access Point (FDAP)**Support Equipment**

Laptop running Simple IR
Radio Test Software
Version 5.5.2 (05-19-2010)

Equipment Under Test**Applicable Standards:**

1. EN 300328 V1.7.1:2006
2. FCC 15.247:2010
3. RSS-210:2007
4. AS/NZS 4268:2008

10 METERS

SERIAL
DEBUG

SERIAL

FDAP
MotherboardLINEAR AC
WALL SUPPLY
(115 VAC)

5 VDC

RF
MOD.RF
MOD.1 meter
cable50 OHM
TERM.

NOTE: Limited Modular Approval:
FDAP Radio Motherboard and Radio boards
mounted inside of FDAP enclosure. Serial and
5VDC cables routed through metal conduit into the
FDAP enclosure. FDAP enclosure connected to
GRP through 10 AWG wire.

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	8/26/2010	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.
2	9/1/2010	AC Powerline 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.
3	9/3/2010	Peak 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.
4	9/3/2010	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.
5	9/3/2010	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.
6	9/3/2010	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.
7	9/3/2010	Spurious Conducted Emissions	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	AFA	2/9/2010	12

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are 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 with the typical modulation.

EMC

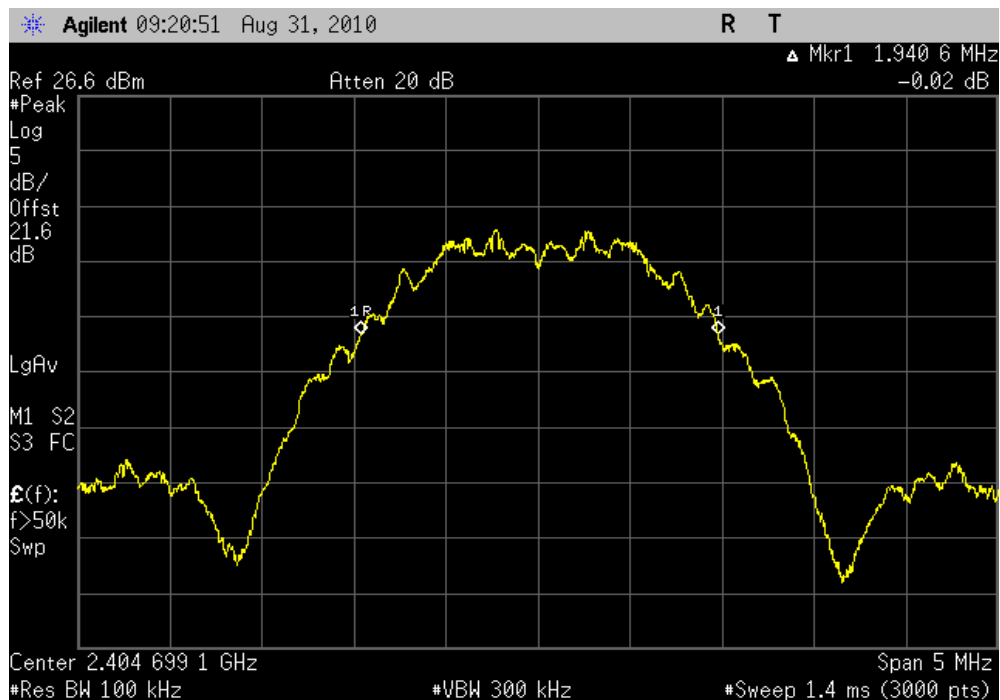
Occupied Bandwidth

EUT: Field Device Access Point (FDAP)		Work Order: HONE0056	
Serial Number: See Comments		Date: 09/03/10	
Customer: Honeywell		Temperature: 23.17 °C	
Attendees: David Shipley		Humidity: 46%	
Project: None		Barometric Pres.: 1010.2	
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2010		ANSI C63.10:2009	
COMMENTS			
Radio Module #51306533-175, Rev. AT2., Power Setting = 18 dBm			
DEVIATIONS FROM TEST STANDARD			
No Deviations			
Configuration #	1	Signature 	
		Value	Limit
Occupied Bandwidth			Results
Low Channel		1.940 MHz	≥ 500 kHz Pass
Mid Channel		1.607 MHz	≥ 500 kHz Pass
High Channel		1.912 MHz	≥ 500 kHz Pass

Occupied Bandwidth, Low Channel

Result: Pass

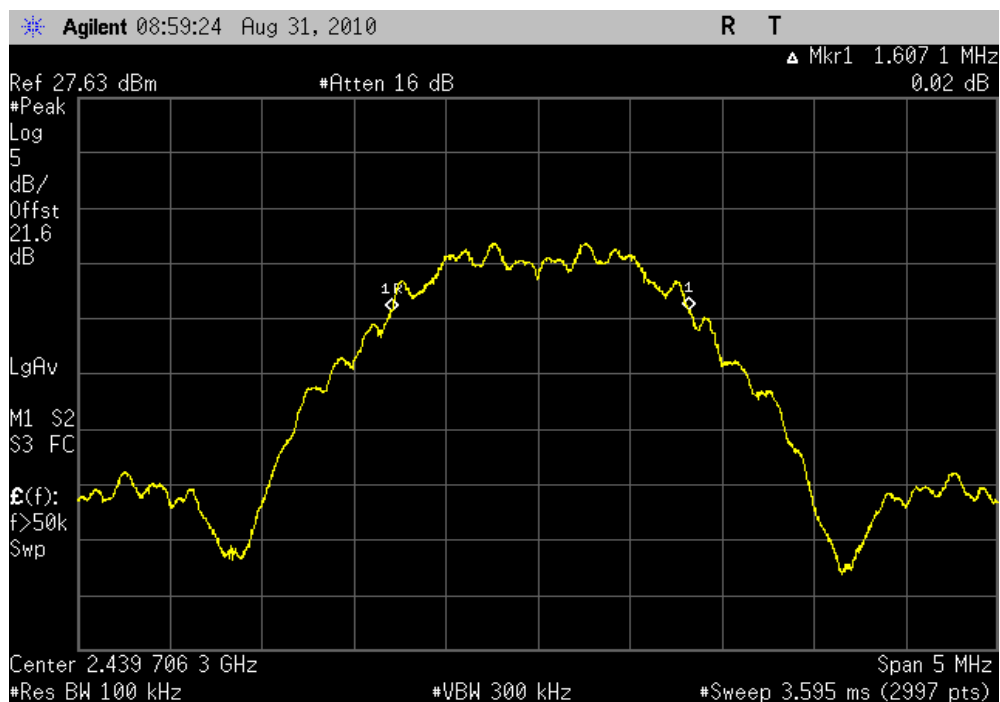
Value: 1.940 MHz

Limit: ≥ 500 kHz

Occupied Bandwidth, Mid Channel

Result: Pass

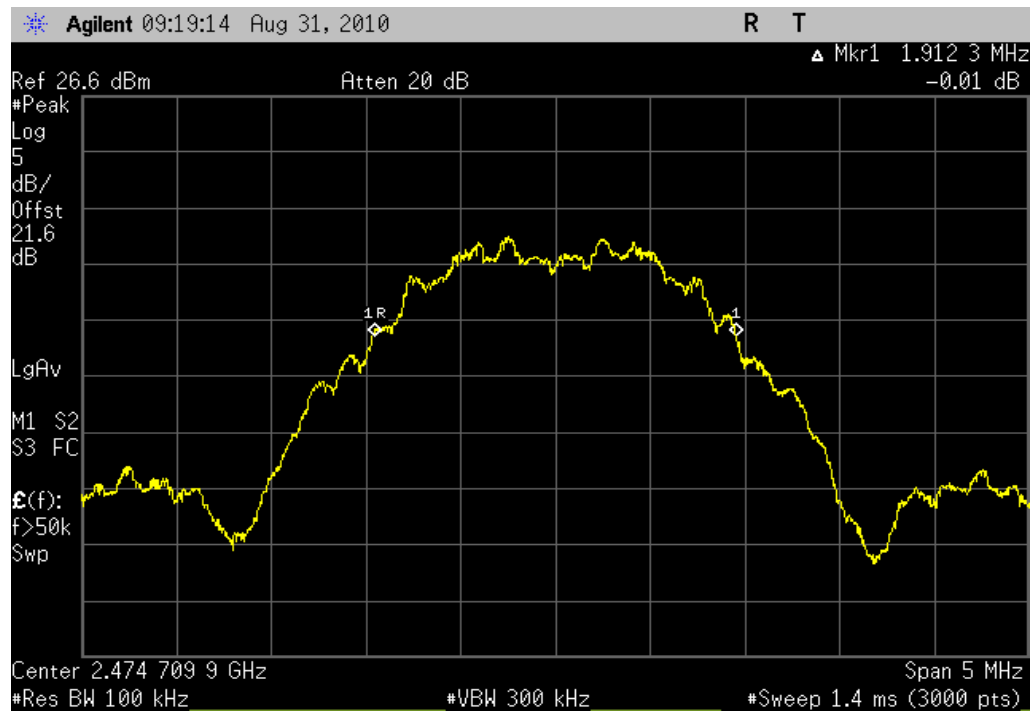
Value: 1.607 MHz

Limit: ≥ 500 kHz

Occupied Bandwidth, High Channel

Result: Pass

Value: 1.912 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
Power Meter	Hewlett Packard	E4418A	SPA	4/21/2010	13
Spectrum Analyzer	Agilent	E4440A	AFA	2/9/2010	12
Signal Generator	Agilent	E8257D	TGU	12/20/2008	24

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band, at each of the required data rates. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak transmit power; the emission bandwidth (B) was measured.

Power was integrated across "B", by using the channel power function of the spectrum analyzer and its default bandwidths.

EMC

Peak Output Power

EUT: Field Device Access Point (FDAP)		Work Order: HONE0056	
Serial Number: See Comments		Date: 09/03/10	
Customer: Honeywell		Temperature: 23.17 °C	
Attendees: David Shipley		Humidity: 46%	
Project: None		Barometric Pres.: 1010.2	
Tested by: Jaemi Suh		Power: 230VAC/50Hz	Job Site: OC11
TEST SPECIFICATIONS			
FCC 15.247:2010		Test Method ANSI C63.10:2009	
COMMENTS			
Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm.			
DEVIATIONS FROM TEST STANDARD			
No Deviations			
Configuration #	1	Signature 	
		Value	Limit
Low Channel, 2405 MHz		58.7 mW	1000 mW
Low Channel, 2440 MHz		58.05 mW	1000 mW
Low Channel, 2475 MHz		53.00 mW	1000 mW
			Results
			Pass
			Pass
			Pass

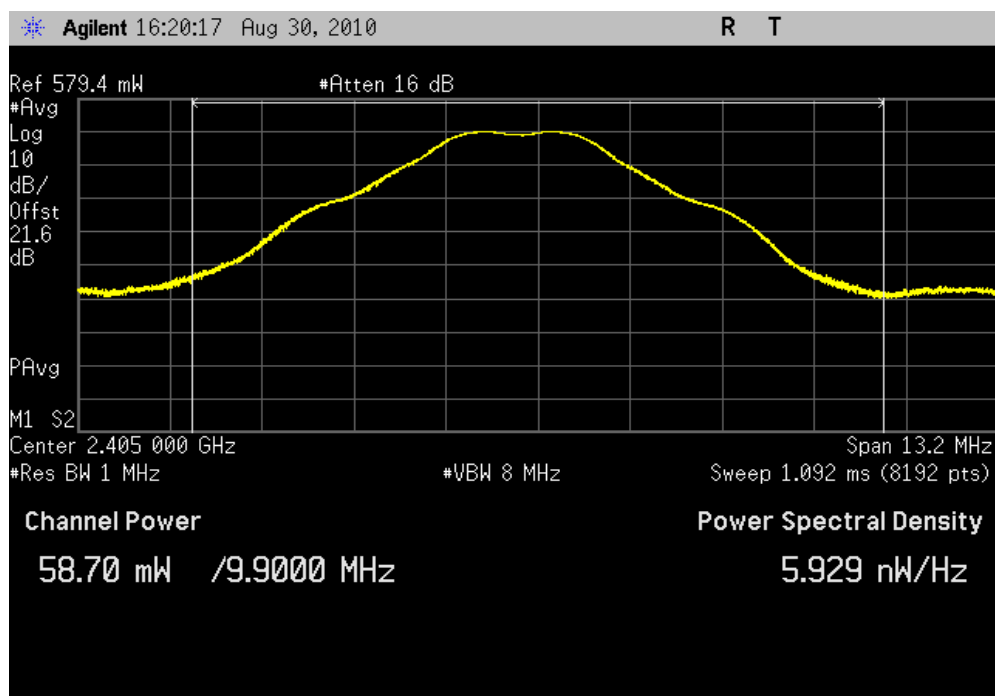
Peak Output Power

Low Channel, 2405 MHz

Result: Pass

Value: 58.7 mW

Limit: 1000 mW

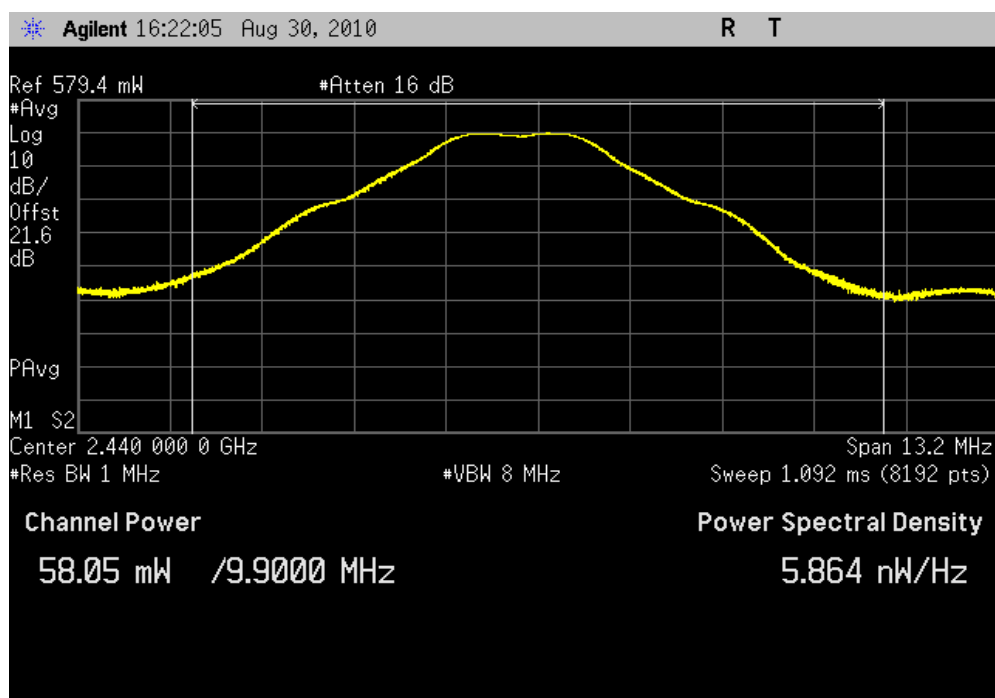


Low Channel, 2440 MHz

Result: Pass

Value: 58.05 mW

Limit: 1000 mW



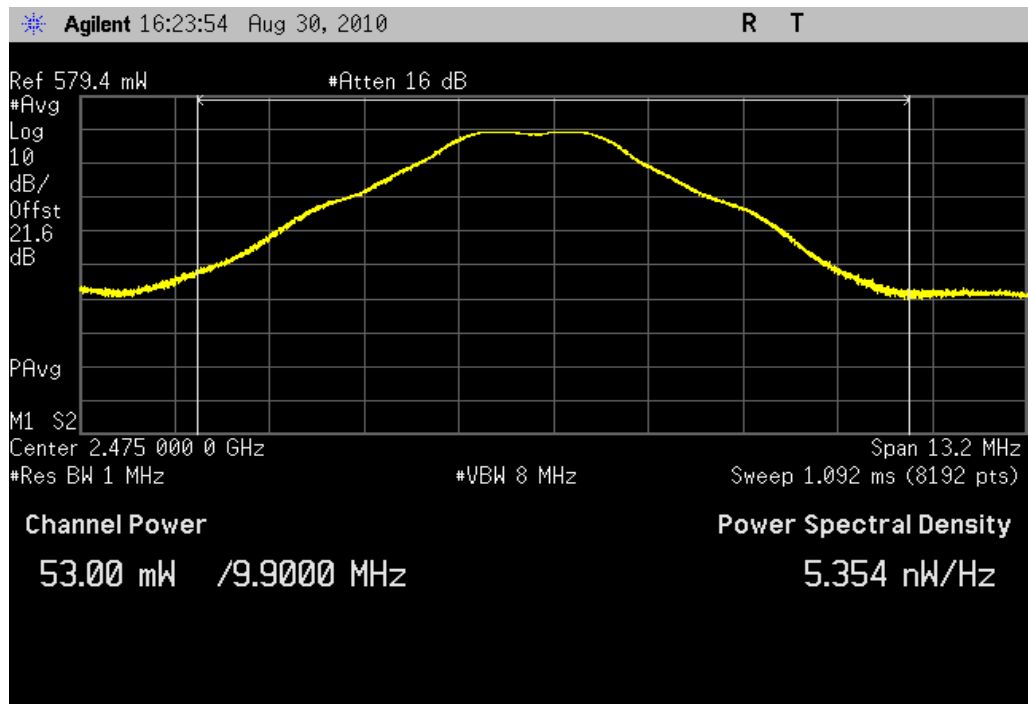
Peak Output Power

Low Channel, 2475 MHz

Result: Pass

Value: 53.00 mW

Limit: 1000 mW



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	AFA	2/9/2010	12

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. 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 lowest, middle, and maximum data rate available.

The spectrum was scanned across each band edge from at least 25 MHz below the band edge to 25 MHz above the band edge.

EMC

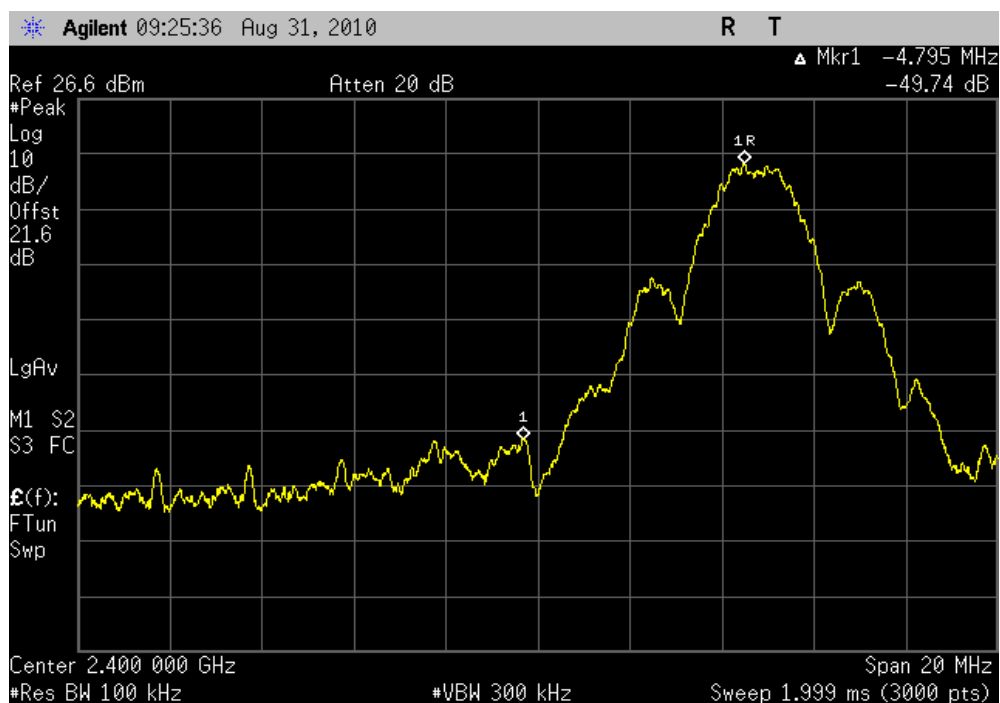
Band Edge Compliance

EUT: Field Device Access Point (FDAP)		Work Order: HONE0056	
Serial Number: See Comments		Date: 09/03/10	
Customer: Honeywell		Temperature: 23.17 °C	
Attendees: David Shipley		Humidity: 46%	
Project: None		Barometric Pres.: 1010.2	
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2010		ANSI C63.10:2009	
COMMENTS			
Radio Module #51306533-175, Rev. AT2., Power Setting = 18 dBm			
DEVIATIONS FROM TEST STANDARD			
No Deviations			
Configuration #	1	Signature 	
		Value	Limit
Low Channel		-49.74 dBc	≤ -20 dBc
High Channel		-54.91 dBc	≤ -20 dBc
			Results
			Pass
			Pass

Low Channel

Result: Pass

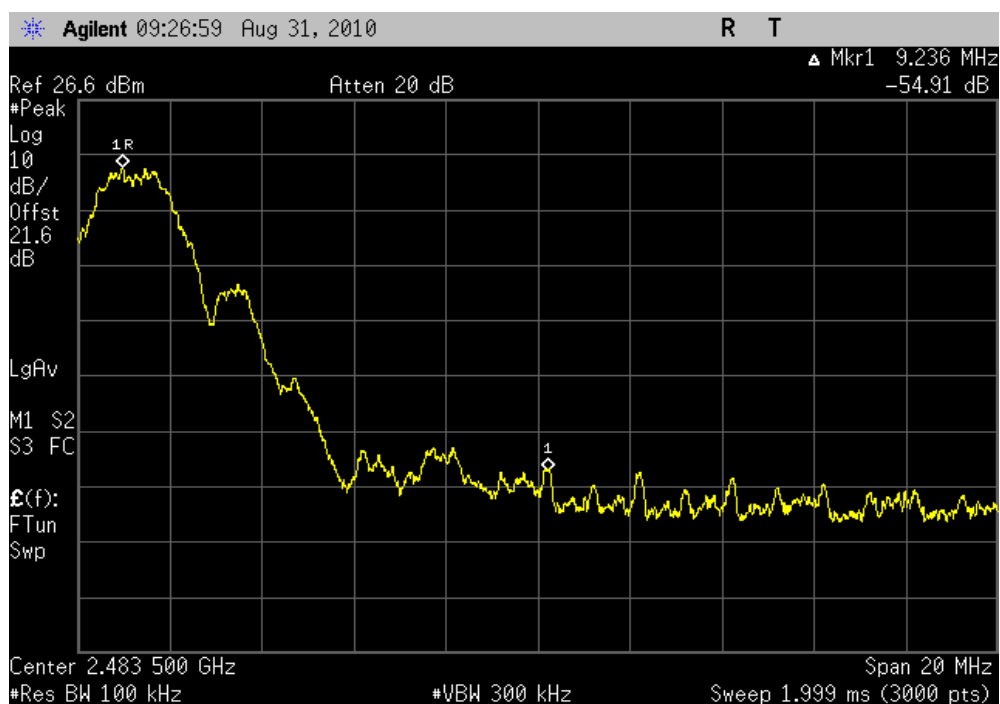
Value: -49.74 dBc

Limit: ≤ -20 dBc

High Channel

Result: Pass

Value: -54.91 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	AFA	2/9/2010	12

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are 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 using direct sequence modulation. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

EMC

Spurious Conducted Emissions

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	09/03/10
Customer:	Honeywell	Temperature:	23.17 °C
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS	Test Method
FCC 15.247:2010	ANSI C63.10:2009

COMMENTS

Radio Module #51306533-175, Rev. AT2., Power Setting = 18 dBm

DEVIATIONS FROM TEST STANDARD

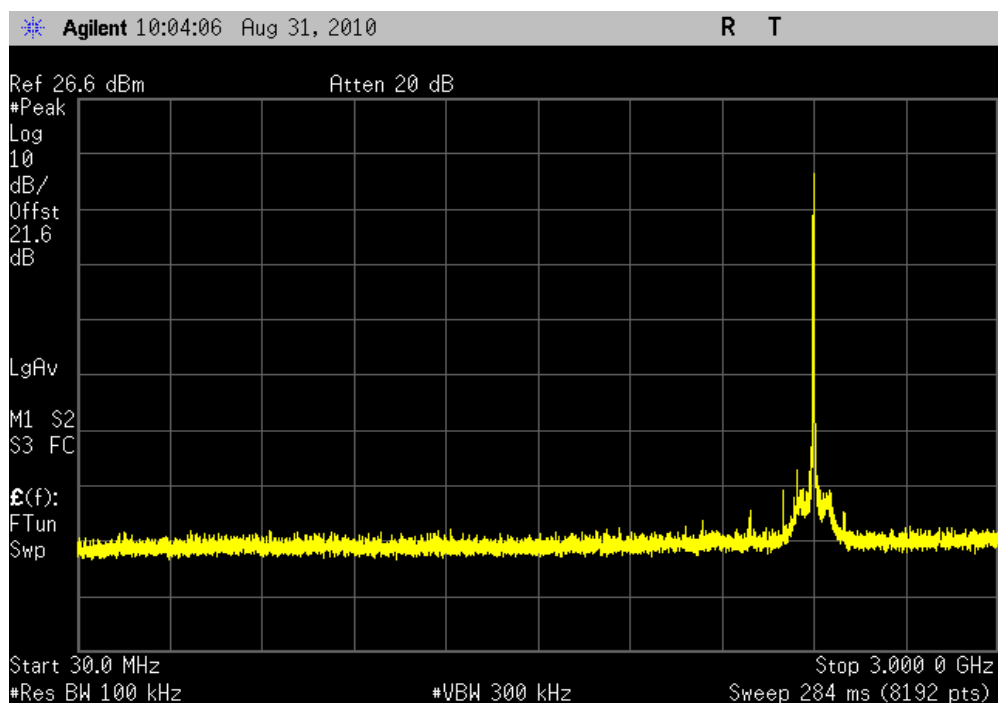
No Deviations

Configuration #	1	Signature 
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	Value	Limit	Results
Spurious Conducted Emissions			
Low Channel			
30 MHz - 3 GHz	≤ -40 dBc	≤ -20 dBc	Pass
3 GHz - 12.75 GHz	≤ -40 dBc	≤ -20 dBc	Pass
12.75 GHz - 26 GHz	≤ -40 dBc	≤ -20 dBc	Pass
Mid Channel			
30 MHz - 3 GHz	≤ -40 dBc	≤ -20 dBc	Pass
3 GHz - 12.75 GHz	≤ -40 dBc	≤ -20 dBc	Pass
12.75 GHz - 26 GHz	≤ -40 dBc	≤ -20 dBc	Pass
High Channel			
30 MHz - 3 GHz	≤ -40 dBc	≤ -20 dBc	Pass
3 GHz - 12.75 GHz	≤ -40 dBc	≤ -20 dBc	Pass
12.75 GHz - 26 GHz	≤ -40 dBc	≤ -20 dBc	Pass

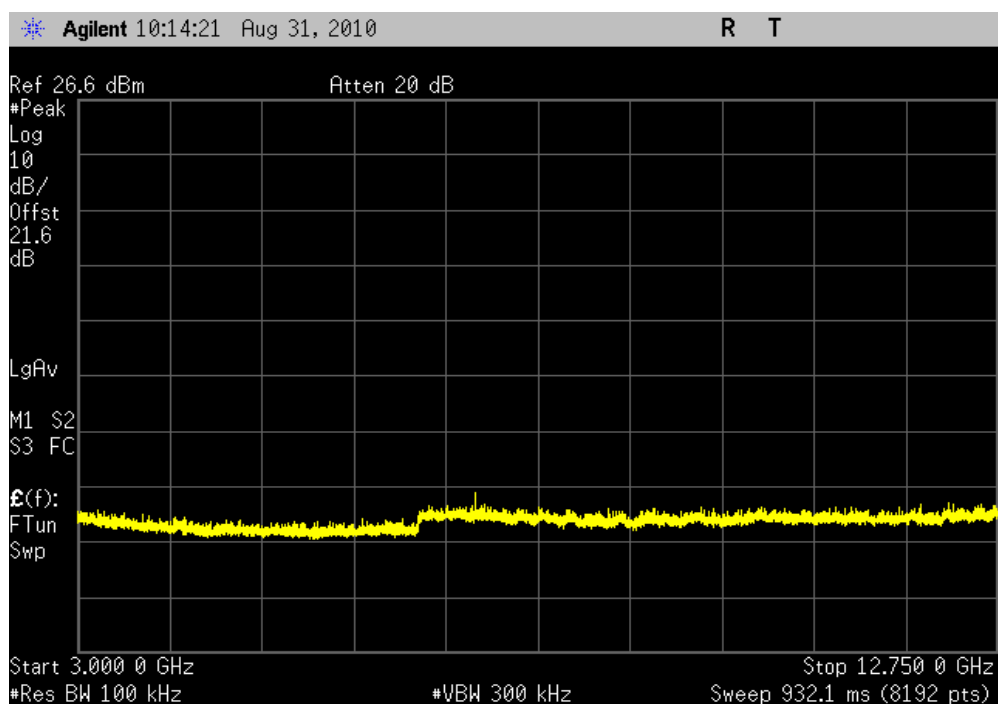
Spurious Conducted Emissions, Low Channel, 30 MHz - 3 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

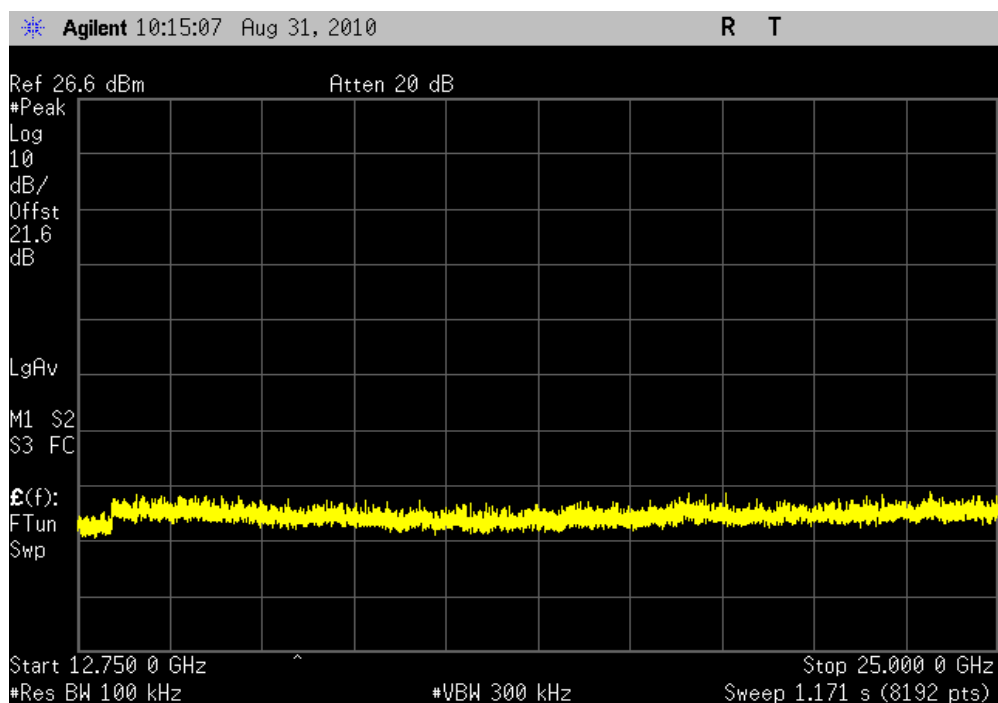
Spurious Conducted Emissions, Low Channel, 3 GHz - 12.75 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

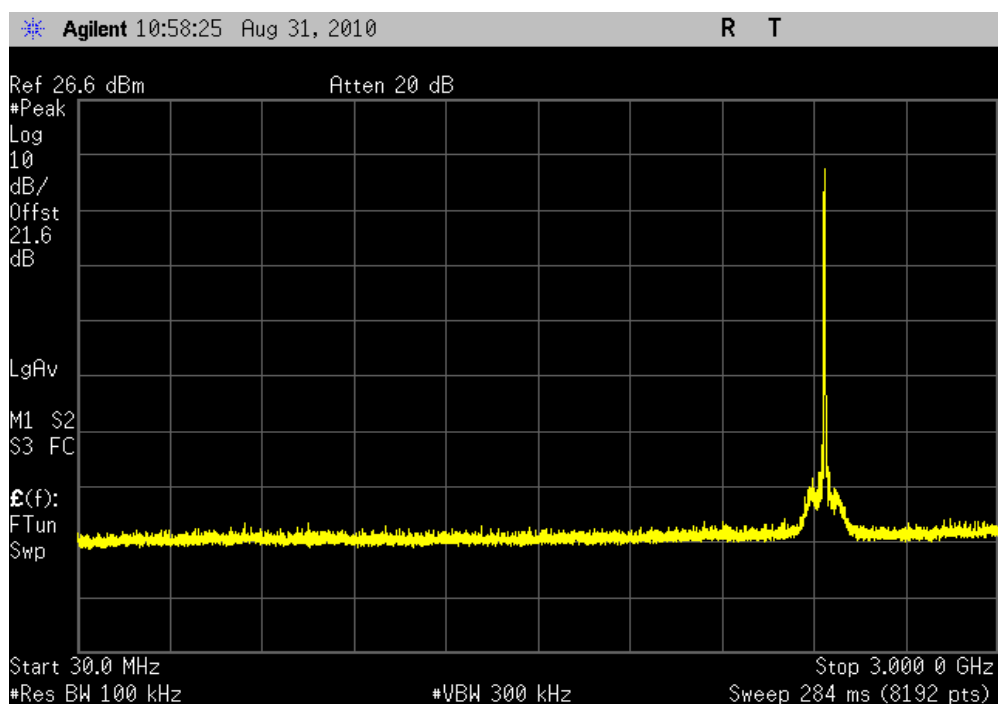
Spurious Conducted Emissions, Low Channel, 12.75 GHz - 26 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

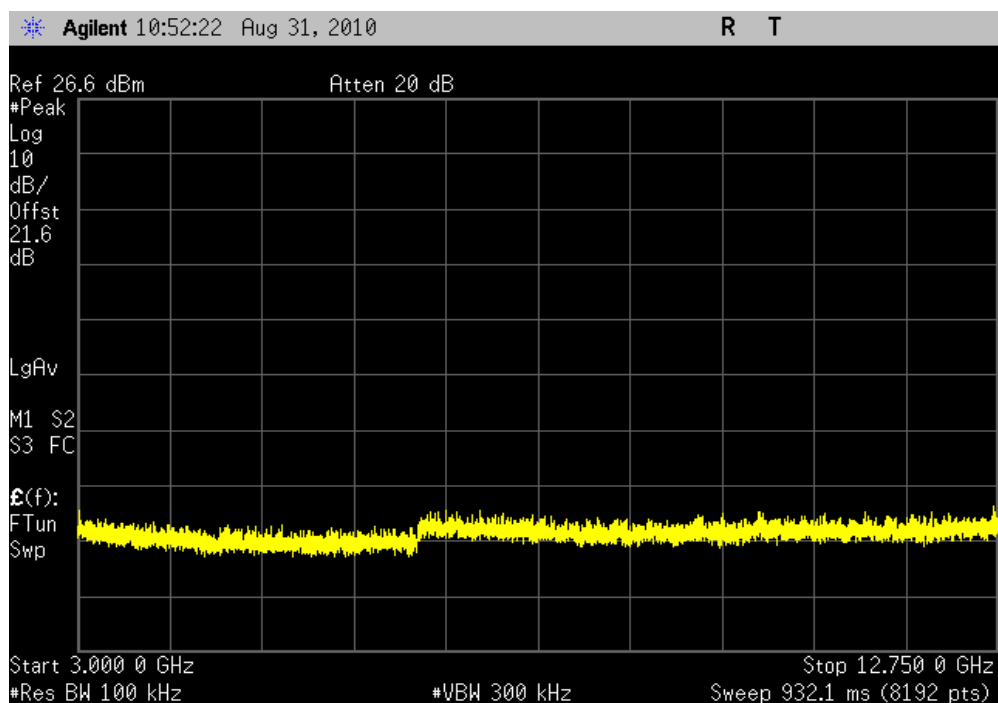
Spurious Conducted Emissions, Mid Channel, 30 MHz - 3 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

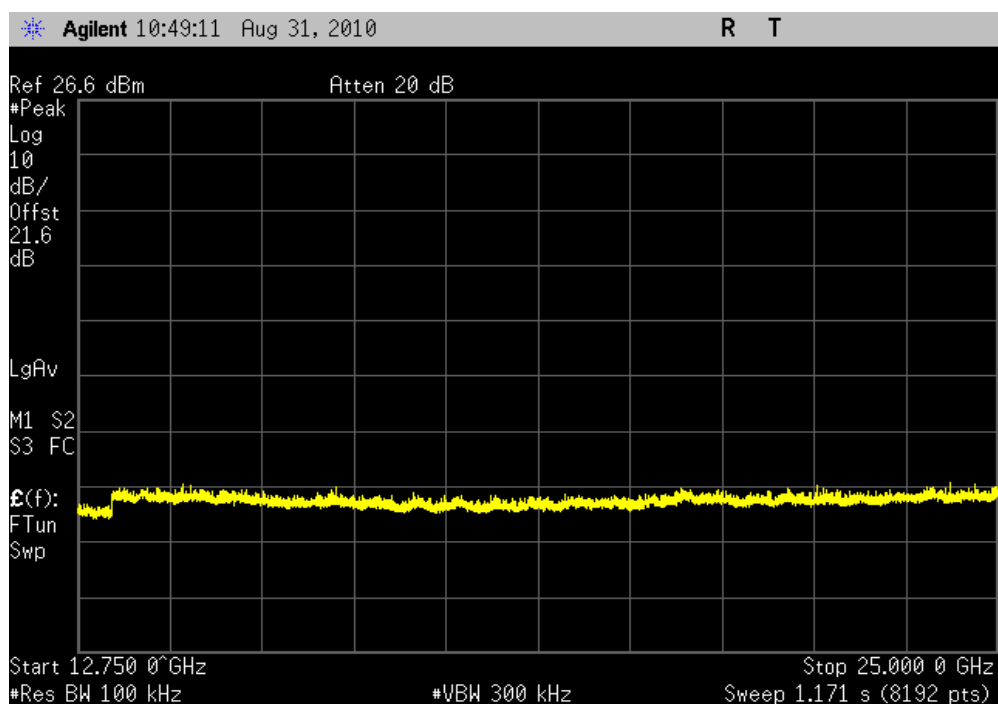
Spurious Conducted Emissions, Mid Channel, 3 GHz - 12.75 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

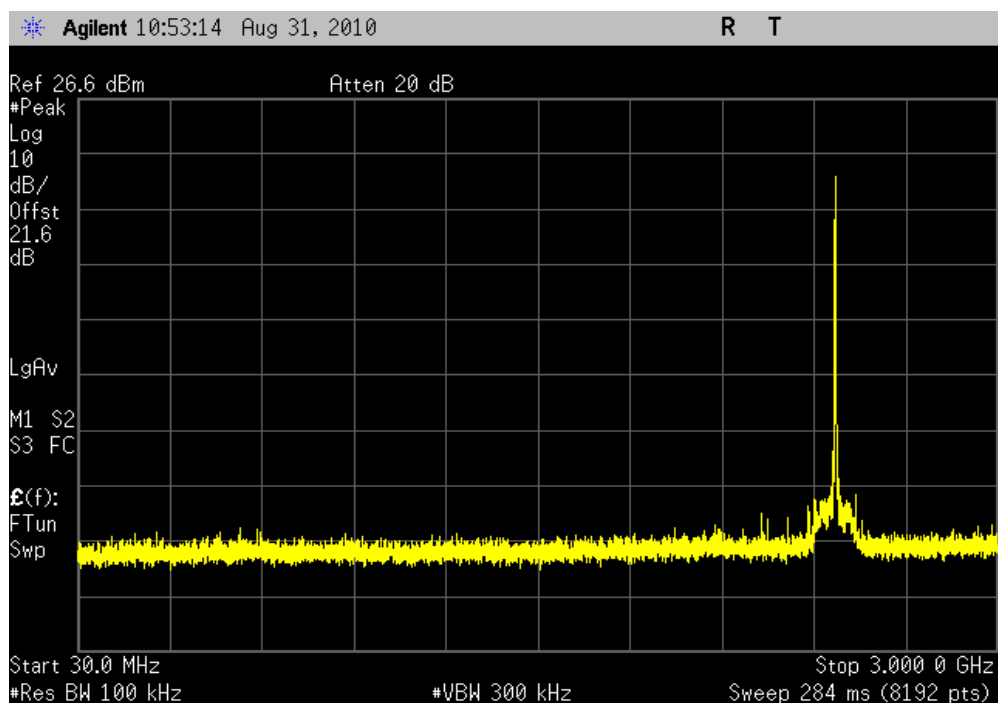
Spurious Conducted Emissions, Mid Channel, 12.75 GHz - 26 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

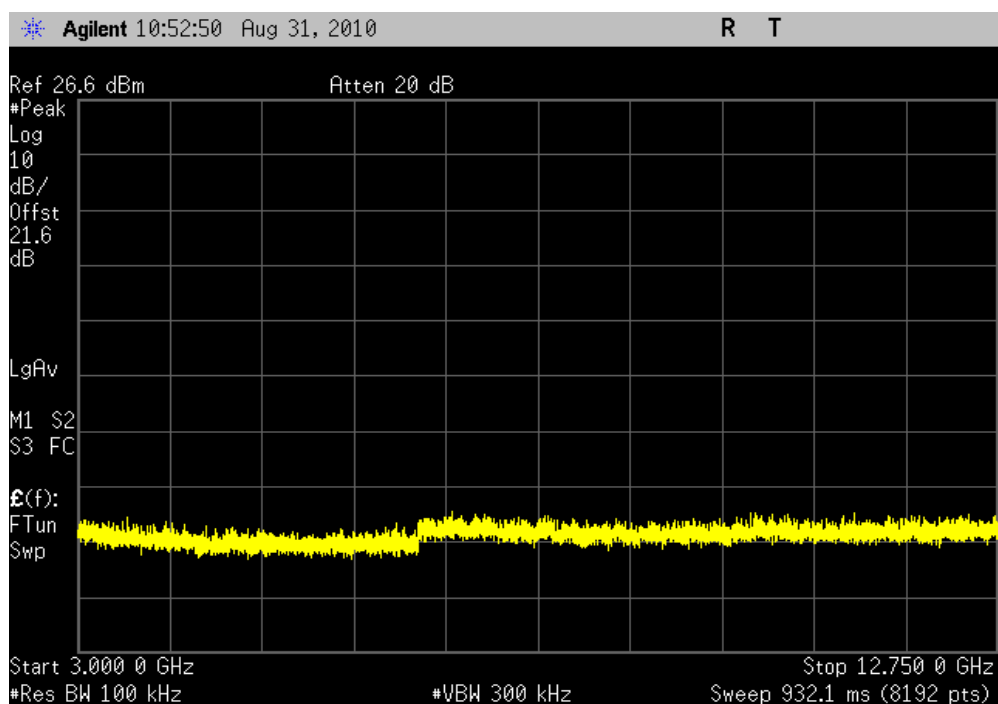
Spurious Conducted Emissions, High Channel, 30 MHz - 3 GHz

Result: Pass

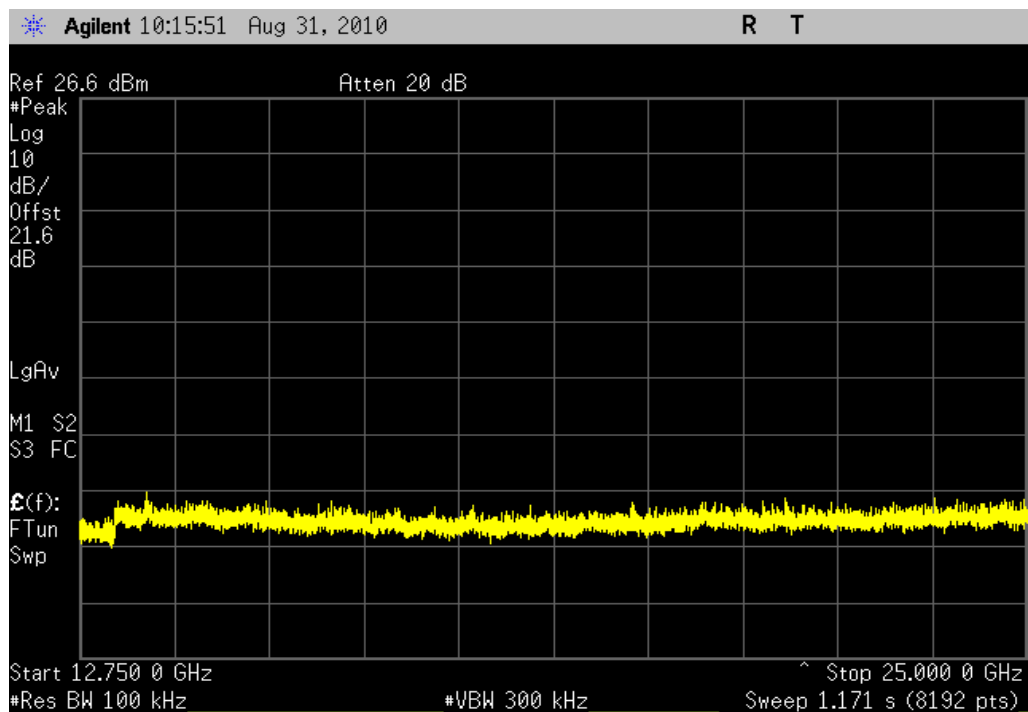
Value: ≤ -40 dBcLimit: ≤ -20 dBc

Spurious Conducted Emissions, High Channel, 3 GHz - 12.75 GHz

Result: Pass

Value: ≤ -40 dBcLimit: ≤ -20 dBc

Spurious Conducted Emissions, High Channel, 12.75 GHz - 26 GHz

Result: Pass**Value:** ≤ -40 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
Signal Generator	Agilent	E8257D	TGU	12/20/2008	24
Power Meter	Hewlett Packard	E4418A	SPA	4/21/2010	13
Spectrum Analyzer	Agilent	E4440A	AFA	2/9/2010	12

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are 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 for each modulation type available. Per the procedure outlined in FCC KDB 558074, March 23, 2005, 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:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	09/03/10
Customer:	Honeywell	Temperature:	23.17 °C
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC02

TEST SPECIFICATIONS		Test Method	
EN 301 893 V1.5.1:2008		EN 301 893 V1.5.1:2008	

COMMENTS

Radio Module #51306533-175, Rev. AT2., Power Setting = 18 dBm

DEVIATIONS FROM TEST STANDARD

No Deviations

Configuration #	1	Signature 
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	Value	Limit	Results
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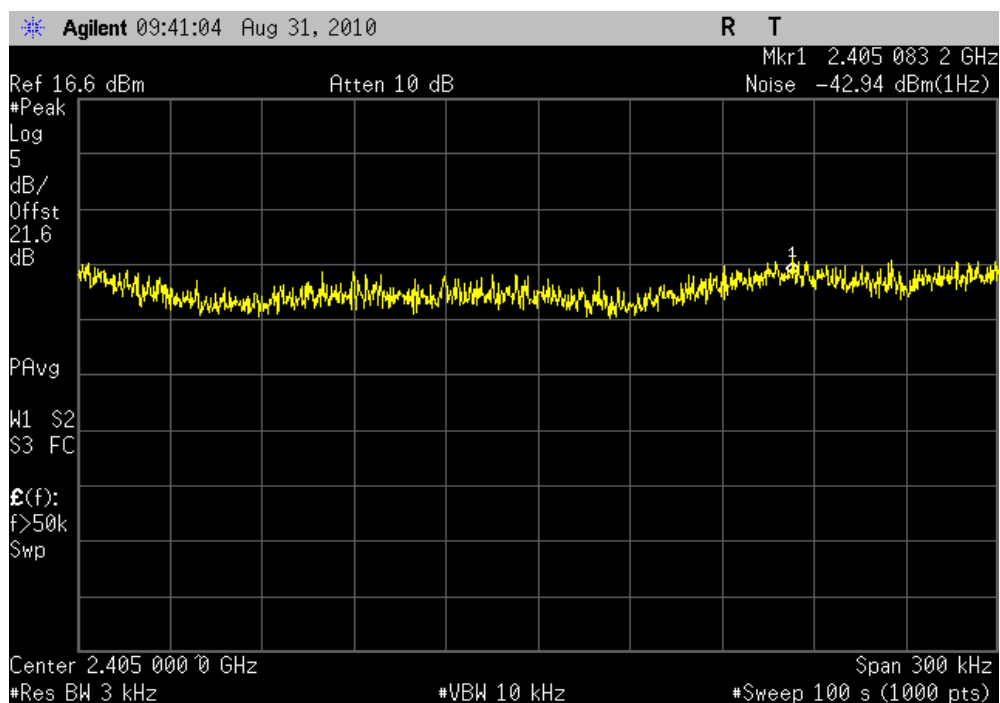
Power Spectral Density			
Low Channel	-8.14 dBm / 3 kHz	8 dBm / 3 kHz	Pass
Mid Channel	-7.76 dBm / 3 kHz	8 dBm / 3 kHz	Pass
High Channel	-7.79 dBm / 3 kHz	8 dBm / 3 kHz	Pass

Power Spectral Density, Low Channel

Result: Pass

Value: -8.14 dBm / 3 kHz

Limit: 8 dBm / 3 kHz

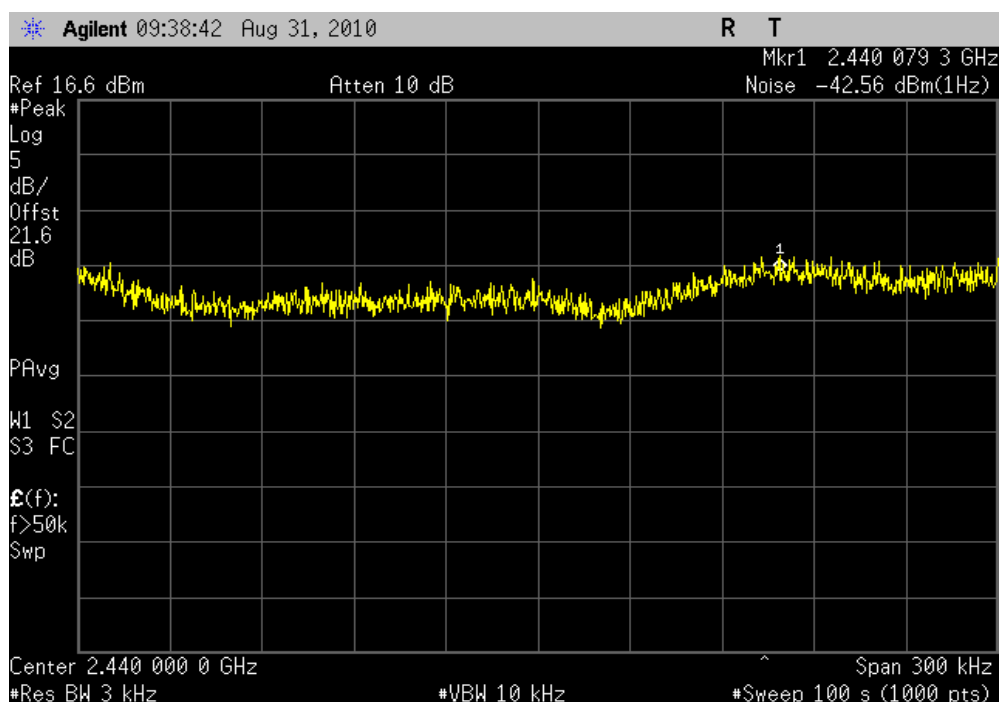


Power Spectral Density, Mid Channel

Result: Pass

Value: -7.76 dBm / 3 kHz

Limit: 8 dBm / 3 kHz

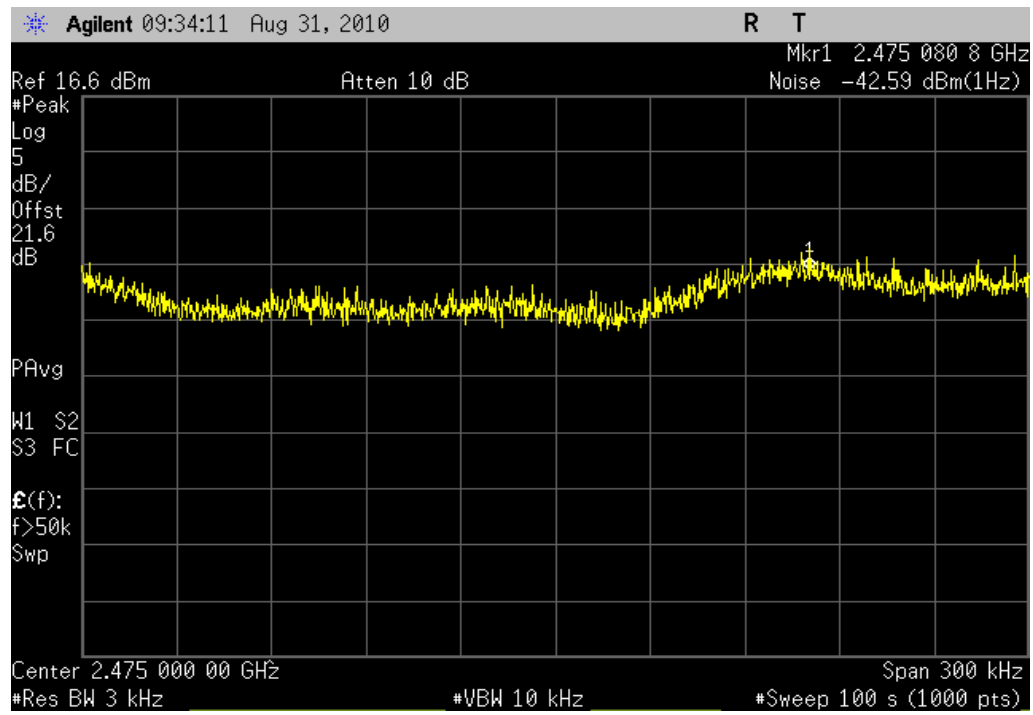


Power Spectral Density, High Channel

Result: Pass

Value: -7.79 dBm / 3 kHz

Limit: 8 dBm / 3 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.

MODES OF OPERATION

Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.

Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	1 GHz	Stop Frequency	26 GHz
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ANTENNA'S TESTED

Description	Manufacturer	Model
14 dBi Sector Antenna	Hyperlink Technologies	HG2414SP-120
8 dBi Patch Antenna	L-Com	HG2409PCL-NF
8 dBi Omni Antenna	L-Com	HGV-2409U
5 dBi Omni Antenna	PacWireless	ODM24M-5

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
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	5/3/2010	13
Antenna, Horn	EMCO	3160-09	AHN	NCR	0
OC floating Cable	N/A	18-26GHz RE Cables	OCK	5/3/2010	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	12/21/2009	13
Antenna, Horn	EMCO	3160-08	AHK	NCR	0
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	4/11/2010	13
Antenna, Horn	ETS	3160-07	AHX	NCR	0
OC11 Cables	N/A	12-18GHz RE Cables	OCS	4/11/2010	13
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	9/10/2009	13
Antenna, Horn	EMCO	3115	AHB	9/11/2009	24
OC11 Cables	N/A	1-8GHz RE Cables	OCR	3/19/2010	13
Pre-Amplifier	Miteq	AM-1551	AOU	2/11/2009	24
Spectrum Analyzer	Agilent	E4440A	AAX	5/14/2010	12

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

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation 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 EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10:2009). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 5dB Omni Antenna. Antenna Model: PacWireless OD24M-5. Duty Cycle Correction = 20log (41msec/100msec) = 7.7 dB

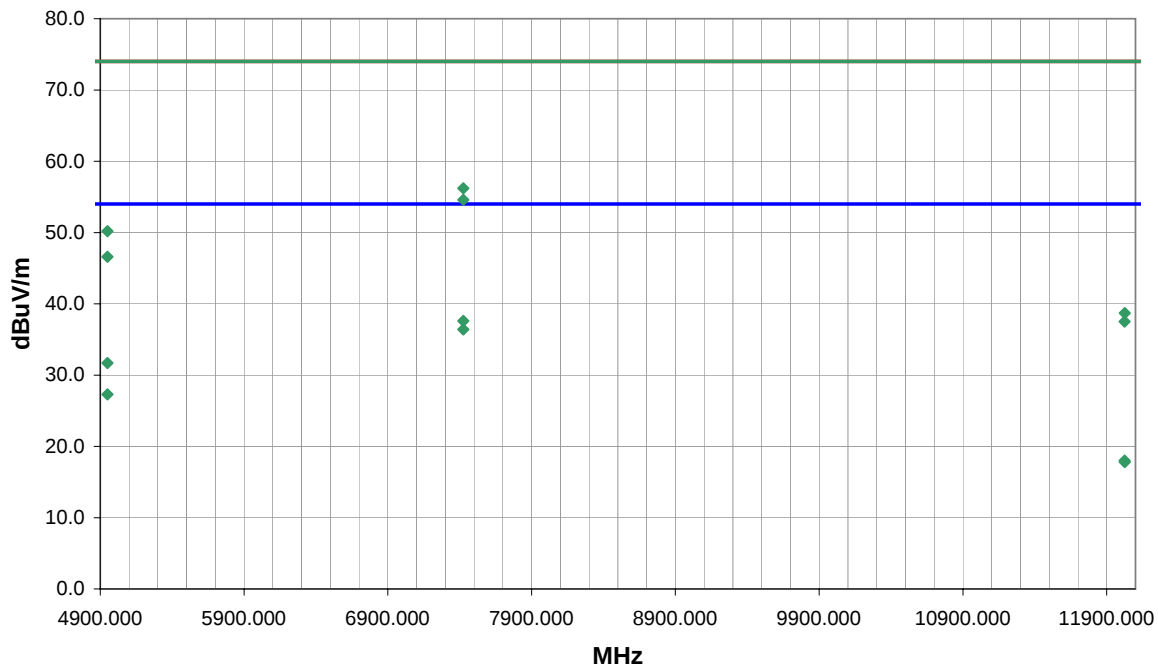
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	2	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)
7425.473	35.1	10.2	159.0	1.4	7.7	0.0	H-Horn	AV	0.0	37.6	54.0	-16.4
7425.339	33.9	10.2	206.0	1.0	7.7	0.0	V-Horn	AV	0.0	36.4	54.0	-17.6
7425.222	46.0	10.2	159.0	1.4	0.0	0.0	H-Horn	PK	0.0	56.2	74.0	-17.8
7425.068	44.4	10.2	206.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.6	74.0	-19.4
4950.108	34.9	4.5	198.0	1.0	7.7	0.0	H-Horn	AV	0.0	31.7	54.0	-22.3
4950.094	45.7	4.5	198.0	1.0	0.0	0.0	H-Horn	PK	0.0	50.2	74.0	-23.8
4950.223	30.5	4.5	217.0	1.0	7.7	0.0	V-Horn	AV	0.0	27.3	54.0	-26.7
4950.167	42.1	4.5	217.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.6	74.0	-27.4
12024.890	47.6	-8.9	64.0	2.7	0.0	0.0	H-Horn	PK	0.0	38.7	74.0	-35.3
12024.860	34.6	-8.9	64.0	2.7	7.7	0.0	H-Horn	AV	0.0	18.0	54.0	-36.0
12025.100	34.4	-8.9	358.0	2.9	7.7	0.0	V-Horn	AV	0.0	17.8	54.0	-36.2
12024.830	46.4	-8.9	358.0	2.9	0.0	0.0	V-Horn	PK	0.0	37.5	74.0	-36.5

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 5dB Omni Antenna. Antenna Model: PacWireless OD24M-5. Duty Cycle Correction = 20log (41msec/100msec) = 7.7 dB

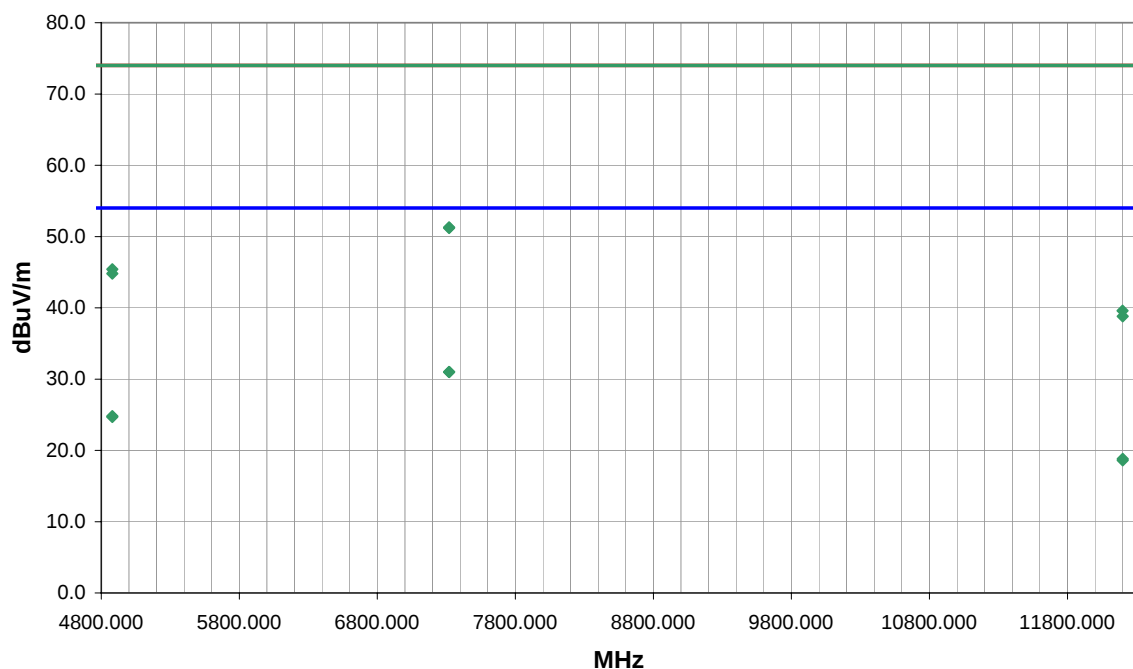
EUT OPERATING MODES

Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	4	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)
7320.234	41.3	10.0	318.0	1.0	0.0	0.0	V-Horn	PK	0.0	51.3	74.0	-22.7
7319.821	41.2	10.0	164.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.2	74.0	-22.8
7319.902	28.7	10.0	318.0	1.0	7.7	0.0	V-Horn	AV	0.0	31.0	54.0	-23.0
7319.998	28.7	10.0	164.0	1.0	7.7	0.0	H-Horn	AV	0.0	31.0	54.0	-23.0
4879.958	41.1	4.3	306.0	1.0	0.0	0.0	V-Horn	PK	0.0	45.4	74.0	-28.6
4880.226	28.2	4.3	16.0	1.0	7.7	0.0	H-Horn	AV	0.0	24.8	54.0	-29.2
4879.933	40.5	4.3	16.0	1.0	0.0	0.0	H-Horn	PK	0.0	44.8	74.0	-29.2
4879.593	28.1	4.3	306.0	1.0	7.7	0.0	V-Horn	AV	0.0	24.7	54.0	-29.3
12199.590	48.0	-8.4	193.0	2.9	0.0	0.0	H-Horn	PK	0.0	39.6	74.0	-34.4
12200.390	34.9	-8.4	193.0	2.9	7.7	0.0	H-Horn	AV	0.0	18.8	54.0	-35.2
12199.990	47.2	-8.4	258.0	2.8	0.0	0.0	V-Horn	PK	0.0	38.8	74.0	-35.2
12200.850	34.7	-8.4	258.0	2.8	7.7	0.0	V-Horn	AV	0.0	18.6	54.0	-35.4

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	0
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COMMENTS

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 5dB Omni Antenna. Antenna Model: PacWireless OD24M-5. Duty Cycle Correction = $20\log(41\text{msec}/100\text{msec}) = 7.7\text{ dB}$

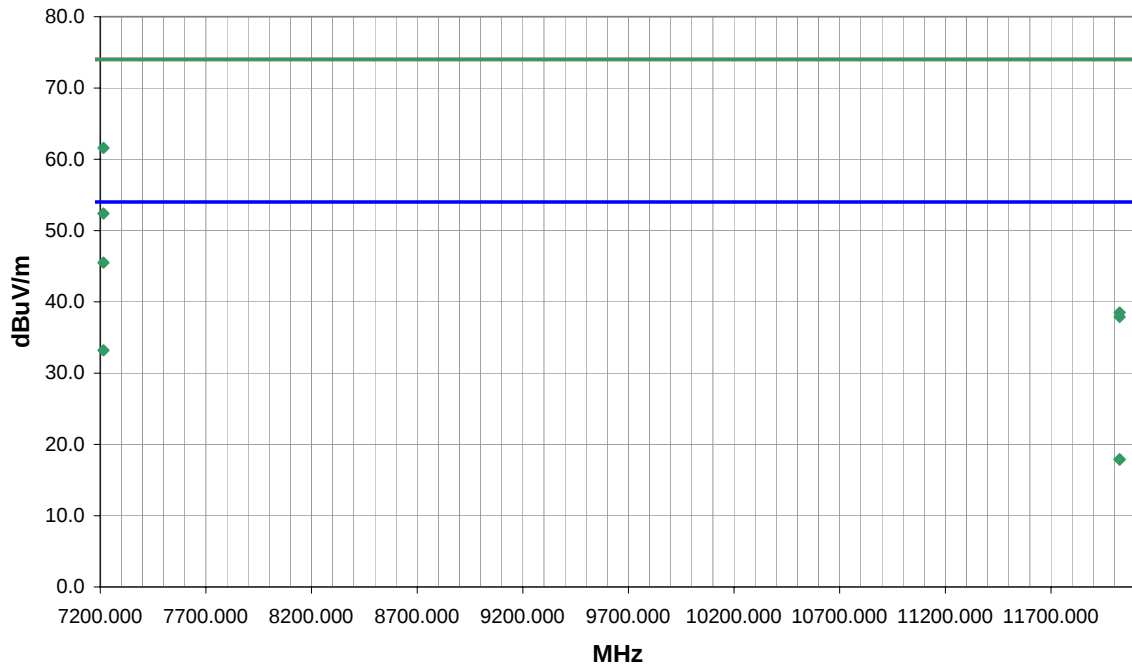
EUT OPERATING MODES

Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	7	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)
7215.146	43.5	9.7	162.0	1.0	7.7	0.0	V-Horn	AV	0.0	45.5	54.0	-8.5
7215.230	51.9	9.7	162.0	1.0	0.0	0.0	V-Horn	PK	0.0	61.6	74.0	-12.4
7215.243	31.2	9.7	221.0	1.5	7.7	0.0	H-Horn	AV	0.0	33.2	54.0	-20.8
7215.057	42.7	9.7	221.0	1.5	0.0	0.0	H-Horn	PK	0.0	52.4	74.0	-21.6
12024.970	47.4	-8.9	20.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.5	74.0	-35.5
12025.180	34.5	-8.9	222.0	1.0	7.7	0.0	H-Horn	AV	0.0	17.9	54.0	-36.1
12025.180	34.5	-8.9	20.0	1.0	7.7	0.0	V-Horn	AV	0.0	17.9	54.0	-36.1
12025.080	46.8	-8.9	222.0	1.0	0.0	0.0	H-Horn	PK	0.0	37.9	74.0	-36.1

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 5dB Omni Antenna. Antenna Model: PacWireless OD24M-5. Duty Cycle Correction = 20log (41msec/100msec) = 7.7 dB

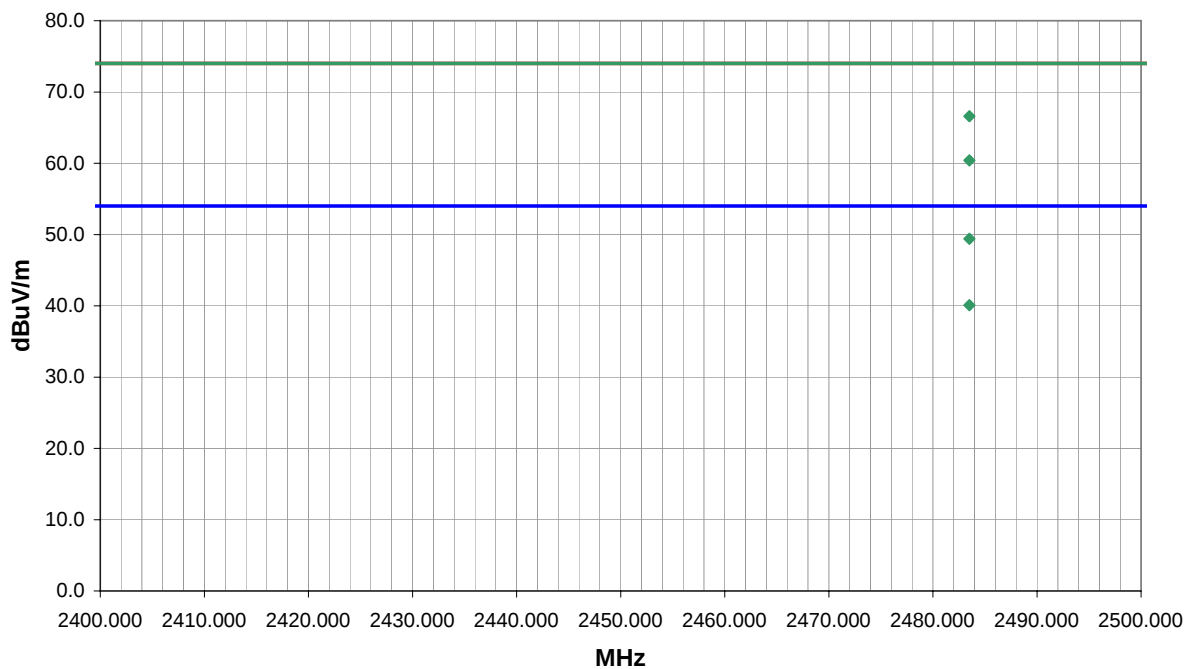
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	8	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)
2483.499	41.2	-4.1	89.0	1.0	7.7	20.0	H-Horn	AV	0.0	49.4	54.0	-4.6
2483.500	50.7	-4.1	89.0	1.0	0.0	20.0	H-Horn	PK	0.0	66.6	74.0	-7.4
2483.500	44.5	-4.1	209.0	1.0	0.0	20.0	V-Horn	PK	0.0	60.4	74.0	-13.6
2483.500	31.9	-4.1	209.0	1.0	7.7	20.0	V-Horn	AV	0.0	40.1	54.0	-13.9

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dB Patch Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409PCL-NF. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB

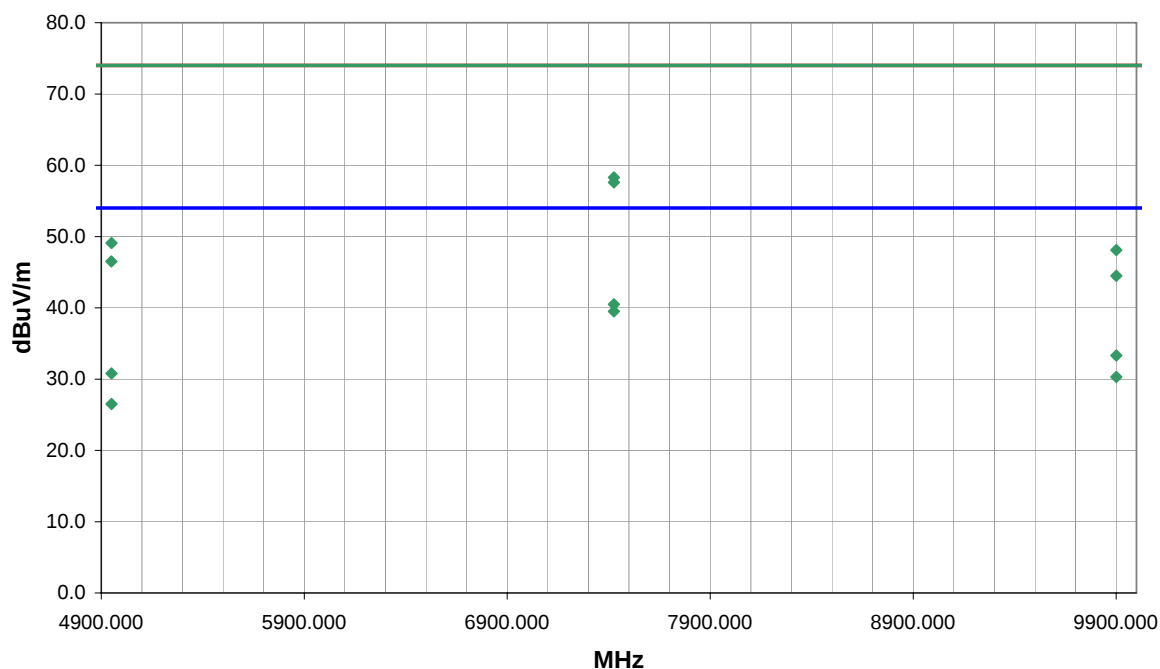
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	10	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)
7425.333	38.0	10.2	197.0	1.0	7.7	0.0	H-Horn	AV	0.0	40.5	54.0	-13.5
7425.368	37.0	10.2	176.0	1.0	7.7	0.0	V-Horn	AV	0.0	39.5	54.0	-14.5
7425.337	48.1	10.2	197.0	1.0	0.0	0.0	H-Horn	PK	0.0	58.3	74.0	-15.7
7425.354	47.4	10.2	176.0	1.0	0.0	0.0	V-Horn	PK	0.0	57.6	74.0	-16.4
9900.800	53.2	-12.2	174.0	1.0	7.7	0.0	H-Horn	AV	0.0	33.3	54.0	-20.7
4950.338	34.0	4.5	197.0	1.0	7.7	0.0	H-Horn	AV	0.0	30.8	54.0	-23.2
9900.867	50.2	-12.2	360.0	1.0	7.7	0.0	V-Horn	AV	0.0	30.3	54.0	-23.7
4950.205	44.6	4.5	197.0	1.0	0.0	0.0	H-Horn	PK	0.0	49.1	74.0	-24.9
9901.025	60.3	-12.2	174.0	1.0	0.0	0.0	H-Horn	PK	0.0	48.1	74.0	-25.9
4950.396	29.7	4.5	296.0	1.0	7.7	0.0	V-Horn	AV	0.0	26.5	54.0	-27.5
4949.638	42.0	4.5	296.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.5	74.0	-27.5
9900.992	56.7	-12.2	360.0	1.0	0.0	0.0	V-Horn	PK	0.0	44.5	74.0	-29.5

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dB Patch Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409PCL-NF. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB

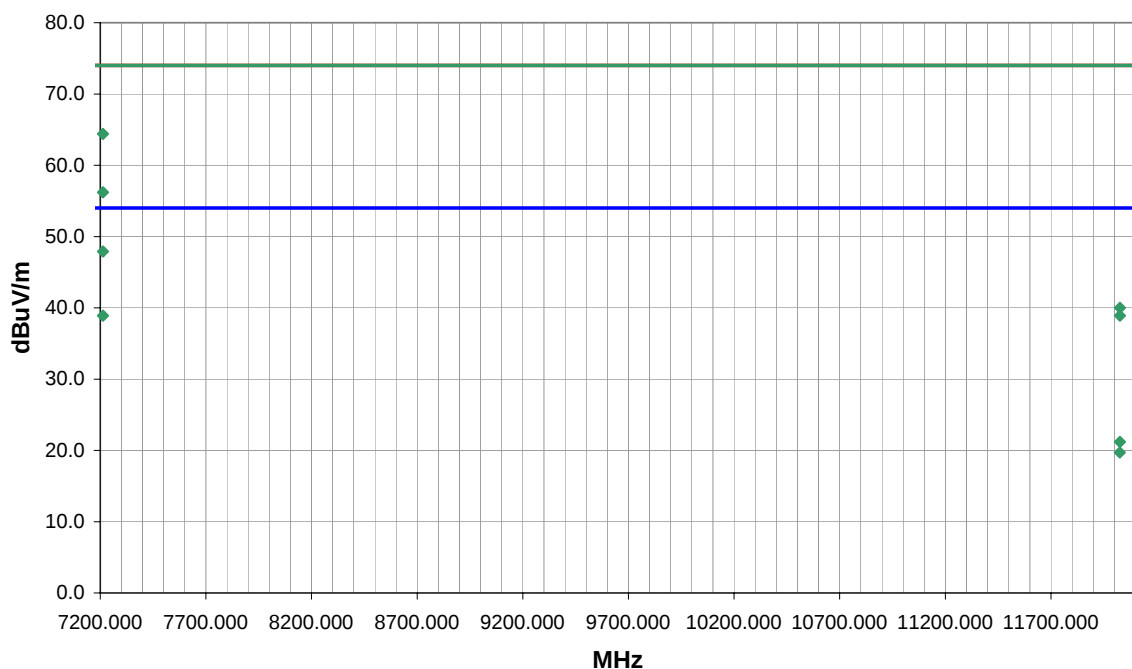
EUT OPERATING MODES

Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	14	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)
7213.160	45.9	9.7	10.0	1.0	7.7	0.0	V-Horn	AV	0.0	47.9	54.0	-6.1
7212.840	54.7	9.7	10.0	1.0	0.0	0.0	V-Horn	PK	0.0	64.4	74.0	-9.6
7212.970	36.9	9.7	45.0	1.0	7.7	0.0	H-Horn	AV	0.0	38.9	54.0	-15.1
7212.840	46.5	9.7	45.0	1.0	0.0	0.0	H-Horn	PK	0.0	56.2	74.0	-17.8
12026.180	37.8	-8.9	158.0	1.0	7.7	0.0	H-Horn	AV	0.0	21.2	54.0	-32.8
12026.580	48.9	-8.9	158.0	1.0	0.0	0.0	H-Horn	PK	0.0	40.0	74.0	-34.0
12026.000	36.3	-8.9	179.0	1.0	7.7	0.0	V-Horn	AV	0.0	19.7	54.0	-34.3
12026.230	47.8	-8.9	179.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.9	74.0	-35.1

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dB Patch Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409PCL-NF. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB

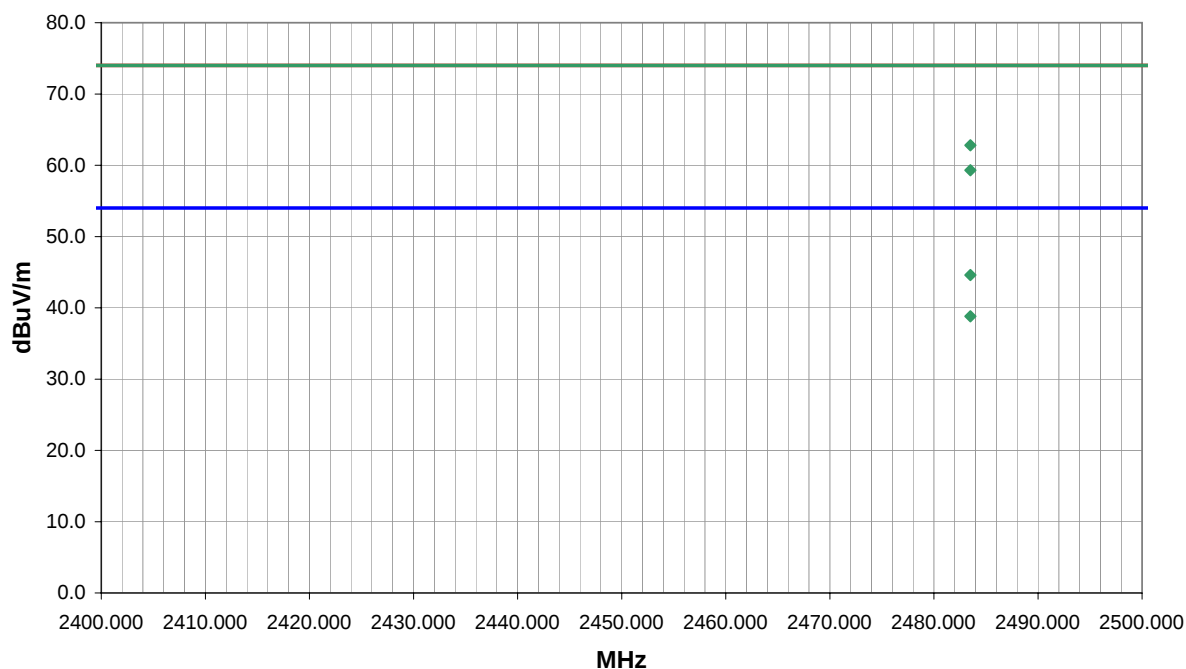
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	15	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)
2483.501	36.4	-4.1	83.0	1.0	7.7	20.0	V-Horn	AV	0.0	44.6	54.0	-9.4
2483.500	46.9	-4.1	83.0	1.0	0.0	20.0	V-Horn	PK	0.0	62.8	74.0	-11.2
2483.500	43.4	-4.1	106.0	1.5	0.0	20.0	H-Horn	PK	0.0	59.3	74.0	-14.7
2483.500	30.6	-4.1	106.0	1.5	7.7	20.0	H-Horn	AV	0.0	38.8	54.0	-15.2

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dBi Omni Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409U. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB'

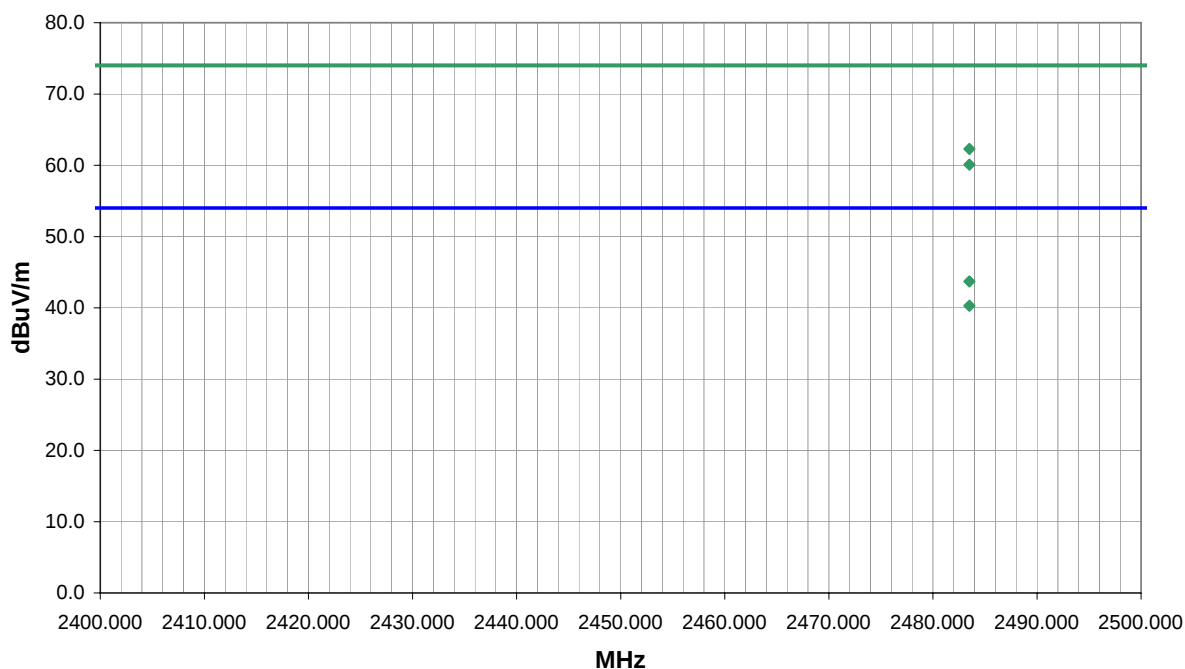
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	16	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	35.5	-4.1	18.0	1.0	7.7	20.0	V-Horn	AV	0.0	43.7	54.0	-10.3
2483.500	46.4	-4.1	18.0	1.0	0.0	20.0	V-Horn	PK	0.0	62.3	74.0	-11.7
2483.500	32.1	-4.1	171.0	1.2	7.7	20.0	H-Horn	AV	0.0	40.3	54.0	-13.7
2483.500	44.2	-4.1	171.0	1.2	0.0	20.0	H-Horn	PK	0.0	60.1	74.0	-13.9

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dBi Omni Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409U. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB'

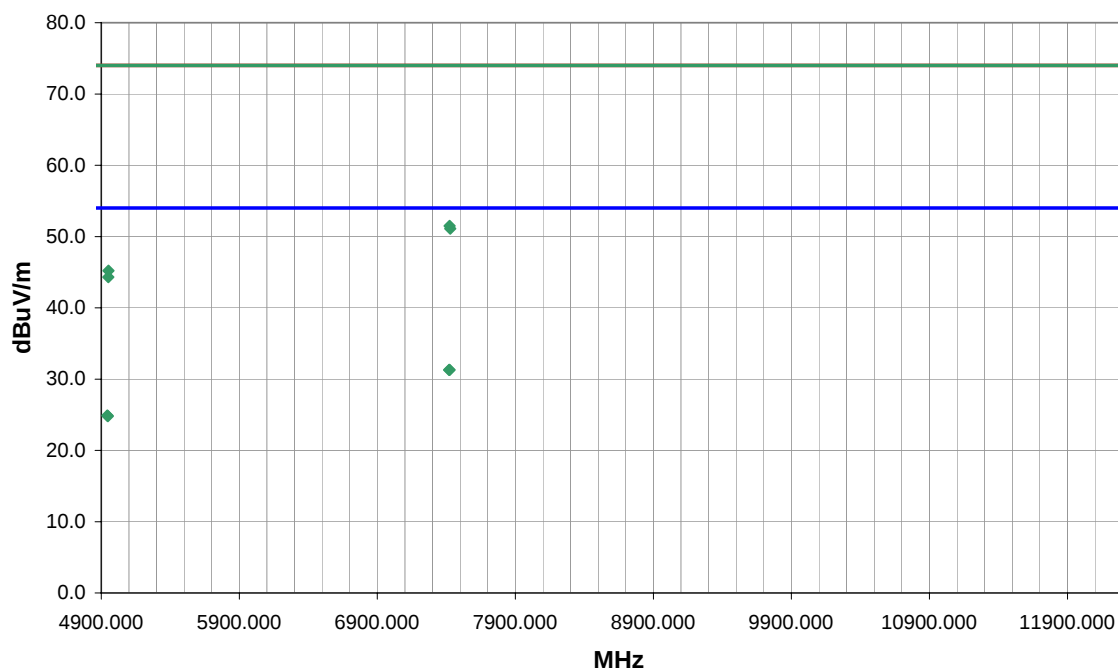
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	20	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)
7423.920	41.3	10.2	207.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.5	74.0	-22.5
7420.630	28.8	10.2	145.0	1.0	7.7	0.0	V-Horn	AV	0.0	31.3	54.0	-22.7
7423.060	28.8	10.2	207.0	1.0	7.7	0.0	H-Horn	AV	0.0	31.3	54.0	-22.7
7427.720	40.9	10.2	145.0	1.0	0.0	0.0	V-Horn	PK	0.0	51.1	74.0	-22.9
4952.500	40.7	4.5	343.0	1.0	0.0	0.0	H-Horn	PK	0.0	45.2	74.0	-28.8
4944.350	28.1	4.5	157.0	1.0	7.7	0.0	V-Horn	AV	0.0	24.9	54.0	-29.1
4947.840	28.0	4.5	343.0	1.0	7.7	0.0	H-Horn	AV	0.0	24.8	54.0	-29.2
4951.560	39.8	4.5	157.0	1.0	0.0	0.0	V-Horn	PK	0.0	44.3	74.0	-29.7
12375.500	46.2	-7.9	297.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.3	74.0	-35.7
12375.330	33.7	-7.9	297.0	1.0	7.7	0.0	H-Horn	AV	0.0	18.1	54.0	-35.9
12375.470	33.5	-7.9	196.0	1.0	7.7	0.0	V-Horn	AV	0.0	17.9	54.0	-36.1
12374.540	45.8	-7.9	196.0	1.0	0.0	0.0	V-Horn	PK	0.0	37.9	74.0	-36.1

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dBi Omni Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409U. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB'

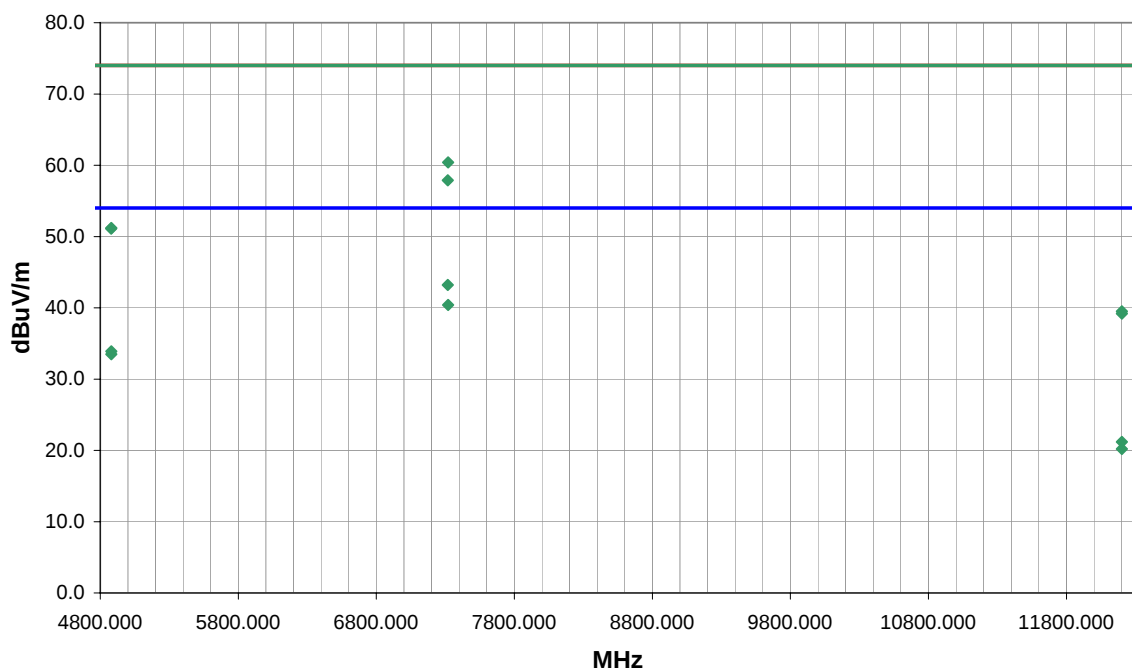
EUT OPERATING MODES

Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	22	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)
7318.120	40.9	10.0	224.0	1.3	7.7	0.0	H-Horn	AV	0.0	43.2	54.0	-10.8
7320.650	50.4	10.0	224.0	1.3	0.0	0.0	H-Horn	PK	0.0	60.4	74.0	-13.6
7320.370	38.1	10.0	196.0	1.0	7.7	0.0	V-Horn	AV	0.0	40.4	54.0	-13.6
7317.570	47.9	10.0	196.0	1.0	0.0	0.0	V-Horn	PK	0.0	57.9	74.0	-16.1
4880.350	37.3	4.3	156.0	1.0	7.7	0.0	V-Horn	AV	0.0	33.9	54.0	-20.1
4880.280	36.9	4.3	163.0	1.0	7.7	0.0	H-Horn	AV	0.0	33.5	54.0	-20.5
4880.280	46.9	4.3	156.0	1.0	0.0	0.0	V-Horn	PK	0.0	51.2	74.0	-22.8
4878.540	46.8	4.3	163.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.1	74.0	-22.9
12201.050	37.3	-8.4	149.0	1.0	7.7	0.0	H-Horn	AV	0.0	21.2	54.0	-32.8
12201.200	36.3	-8.4	159.0	1.0	7.7	0.0	V-Horn	AV	0.0	20.2	54.0	-33.8
12201.320	47.9	-8.4	149.0	1.0	0.0	0.0	H-Horn	PK	0.0	39.5	74.0	-34.5
12201.040	47.6	-8.4	159.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.2	74.0	-34.8

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/26/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 8dBi Omni Antenna. 1 meter remote antenna cable, Antenna model: L-Com HG2409U. Duty Cycle Correction: 20log (41msec/100msec)=7.7dB'

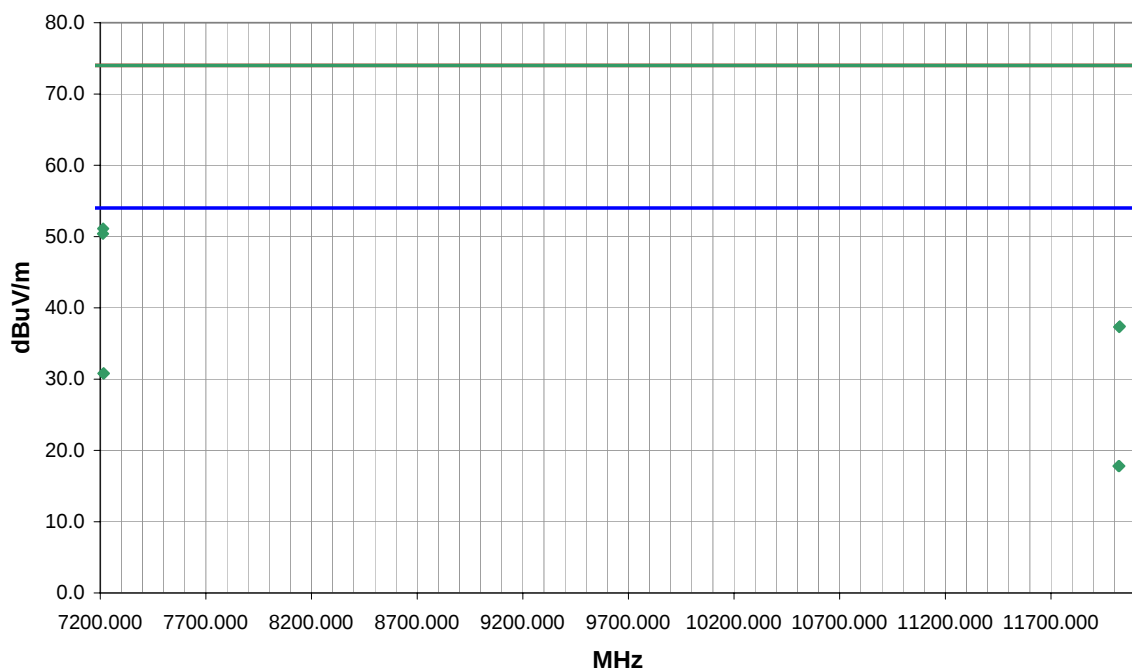
EUT OPERATING MODES

Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	24	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)
7213.950	41.4	9.7	229.0	1.8	0.0	0.0	H-Horn	PK	0.0	51.1	74.0	-22.9
7215.410	28.8	9.7	229.0	1.8	7.7	0.0	H-Horn	AV	0.0	30.8	54.0	-23.2
7216.760	28.8	9.7	233.0	1.0	7.7	0.0	V-Horn	AV	0.0	30.8	54.0	-23.2
7212.670	40.7	9.7	233.0	1.0	0.0	0.0	V-Horn	PK	0.0	50.4	74.0	-23.6
12019.910	34.4	-8.9	141.0	1.0	7.7	0.0	V-Horn	AV	0.0	17.8	54.0	-36.2
12023.570	34.4	-8.9	173.0	2.1	7.7	0.0	H-Horn	AV	0.0	17.8	54.0	-36.2
12025.960	46.3	-8.9	141.0	1.0	0.0	0.0	V-Horn	PK	0.0	37.4	74.0	-36.6
12022.910	46.2	-8.9	173.0	2.1	0.0	0.0	H-Horn	PK	0.0	37.3	74.0	-36.7

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/27/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

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

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 14 dBi Sector Antenna (Model#: HG2414SP-120). 1 meter remote antenna cable, Antenna model: L-Com HG2414P-120.A19 Duty Cycle Correction: 20log (41msec/100msec)=7.7dB

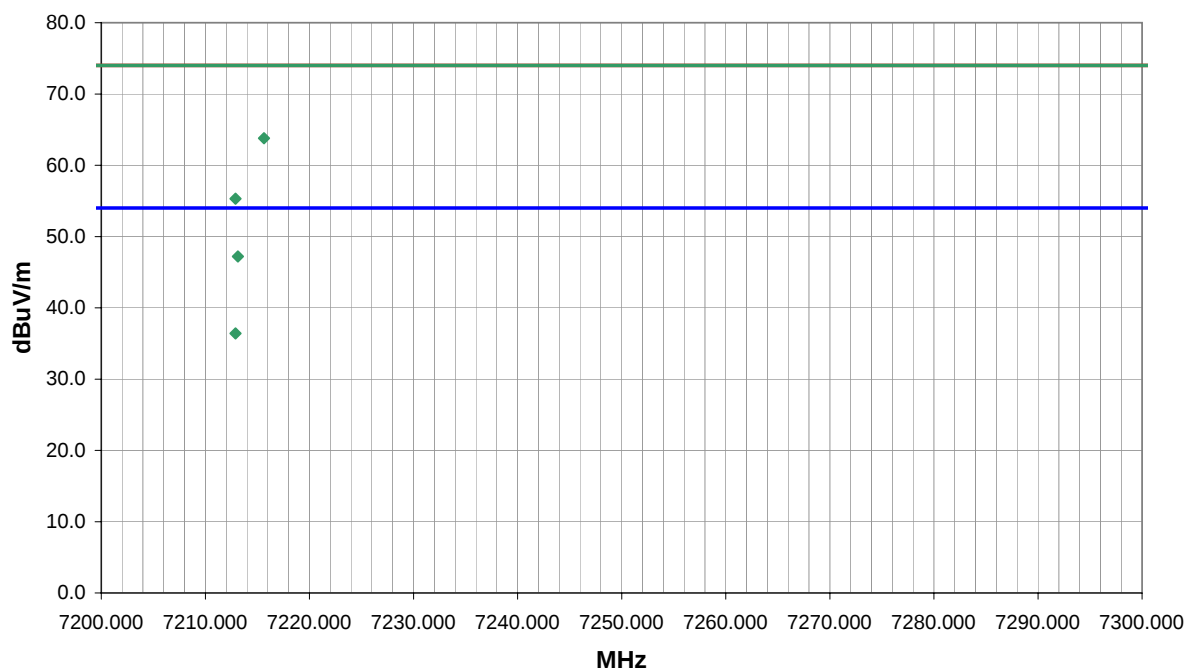
EUT OPERATING MODES

Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	25	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)
7212.130	45.2	9.7	225.0	1.0	7.7	0.0	H-Horn	AV	0.0	47.2	54.0	-6.8
7212.630	54.1	9.7	225.0	1.0	0.0	0.0	H-Horn	PK	0.0	63.8	74.0	-10.2
7212.900	34.4	9.7	96.0	1.9	7.7	0.0	V-Horn	AV	0.0	36.4	54.0	-17.6
7212.900	45.6	9.7	96.0	1.9	0.0	0.0	V-Horn	PK	0.0	55.3	74.0	-18.7

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/27/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	0
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COMMENTS

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 14 dBi Sector Antenna (Model#: HG2414SP-120). 1 meter remote antenna cable, Antenna model: L-Com HG2414P-120.A19 Duty Cycle Correction: 20log (41msec/100msec)=7.7dB

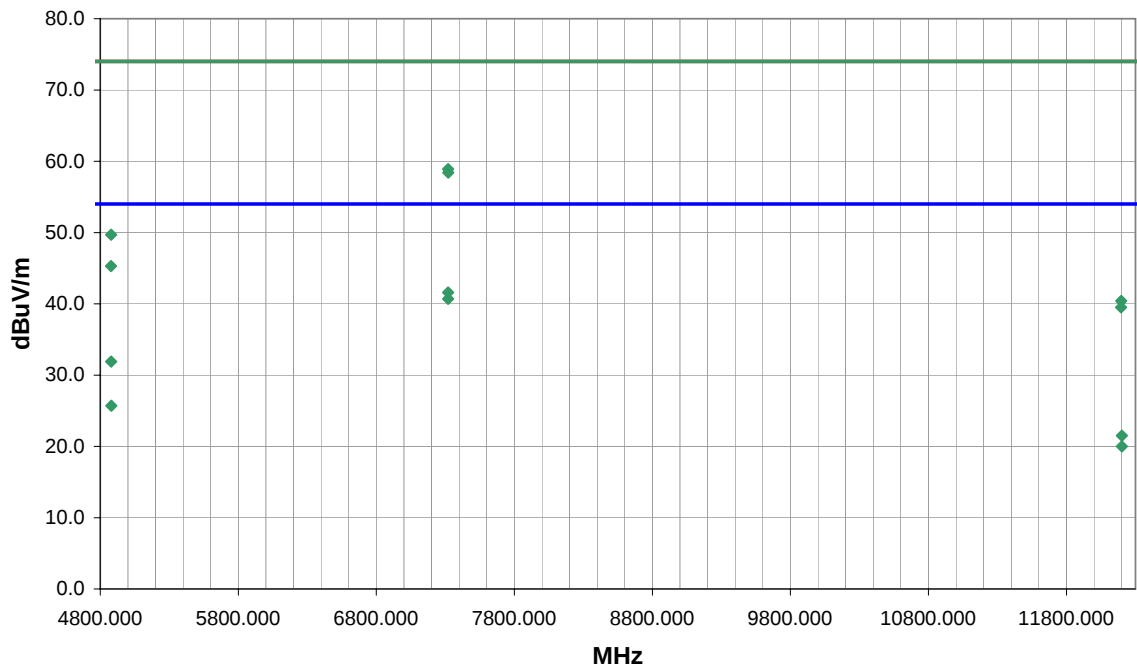
EUT OPERATING MODES

Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	28	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)
7320.315	39.3	10.0	152.0	1.0	7.7	0.0	V-Horn	AV	0.0	41.6	54.0	-12.4
7320.420	38.4	10.0	2.0	1.0	7.7	0.0	H-Horn	AV	0.0	40.7	54.0	-13.3
7320.630	48.9	10.0	152.0	1.0	0.0	0.0	V-Horn	PK	0.0	58.9	74.0	-15.1
7320.828	48.4	10.0	2.0	1.0	0.0	0.0	H-Horn	PK	0.0	58.4	74.0	-15.6
4878.495	35.3	4.3	181.0	1.0	7.7	0.0	H-Horn	AV	0.0	31.9	54.0	-22.1
4878.588	45.4	4.3	181.0	1.0	0.0	0.0	H-Horn	PK	0.0	49.7	74.0	-24.3
4880.373	29.1	4.3	6.0	1.9	7.7	0.0	V-Horn	AV	0.0	25.7	54.0	-28.3
4877.200	41.0	4.3	6.0	1.9	0.0	0.0	V-Horn	PK	0.0	45.3	74.0	-28.7
12201.010	37.6	-8.4	46.0	1.0	7.7	0.0	H-Horn	AV	0.0	21.5	54.0	-32.5
12196.640	48.8	-8.4	46.0	1.0	0.0	0.0	H-Horn	PK	0.0	40.4	74.0	-33.6
12201.070	36.1	-8.4	24.0	1.0	7.7	0.0	V-Horn	AV	0.0	20.0	54.0	-34.0
12196.200	47.9	-8.4	24.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.5	74.0	-34.5

EUT:	Field Device Access Point (FDAP)	Work Order:	HONE0056
Serial Number:	See Comments	Date:	08/27/10
Customer:	Honeywell	Temperature:	23.17
Attendees:	David Shipley	Humidity:	46%
Project:	None	Barometric Pres.:	1010.2
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

FCC 15.247:2010

Test Method

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	0
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COMMENTS

Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2, 14 dBi Sector Antenna (Model#: HG2414SP-120). 1 meter remote antenna cable, Antenna model: L-Com HG2414P-120.A19 Duty Cycle Correction: 20log (41msec/100msec)=7.7dB

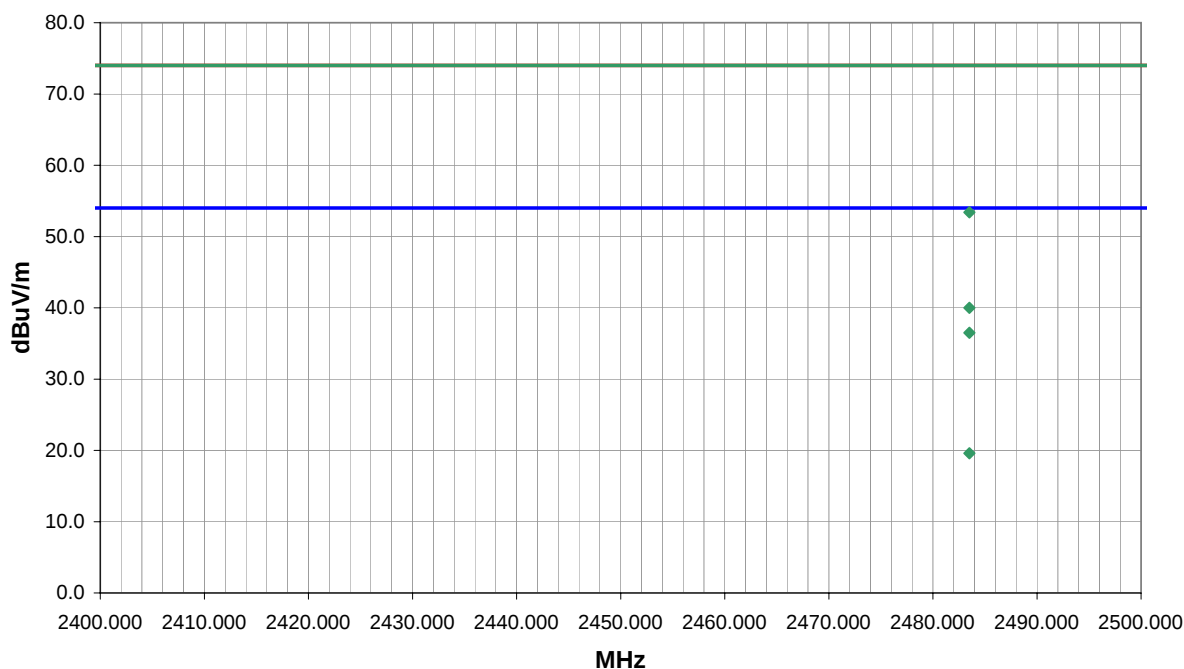
EUT OPERATING MODES

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	31	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	48.3	-4.1	12.0	1.0	7.7	0.0	H-Horn	AV	0.0	36.5	54.0	-17.5
2483.500	57.5	-4.1	12.0	1.0	0.0	0.0	H-Horn	PK	0.0	53.4	74.0	-20.6
2483.500	44.1	-4.1	308.0	1.0	0.0	0.0	V-Horn	PK	0.0	40.0	74.0	-34.0
2483.500	31.4	-4.1	308.0	1.0	7.7	0.0	V-Horn	AV	0.0	19.6	54.0	-34.4

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

High Channel Random Data. 100% Duty Cycle, Continuous Transmission.

Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.

Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.

POWER SETTINGS INVESTIGATED

120V/60Hz

CONFIGURATIONS INVESTIGATED

HONE0056 - 1

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar	9252-50-24-BNC	LIB	5/5/2010	12 mo
Attenuator	Pasternack	6N10W-20	AWC	1/27/2010	13 mo
High Pass Filter	TTE	H97-100K-50-720B	HFP	3/8/2010	13 mo
OC06 Cables	N/A	CE Cables	OCM	3/8/2010	13 mo
Receiver	Rohde & Schwarz	ESCI	ARF	3/30/2010	12 mo

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

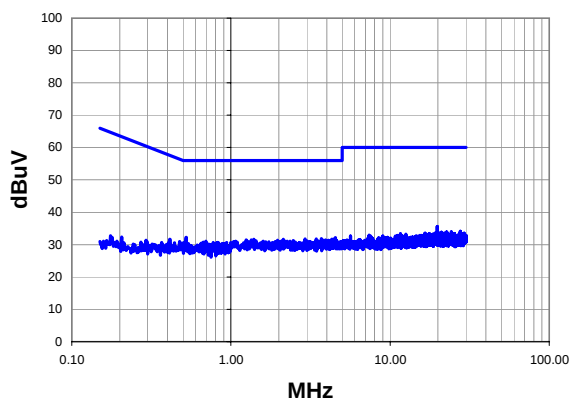
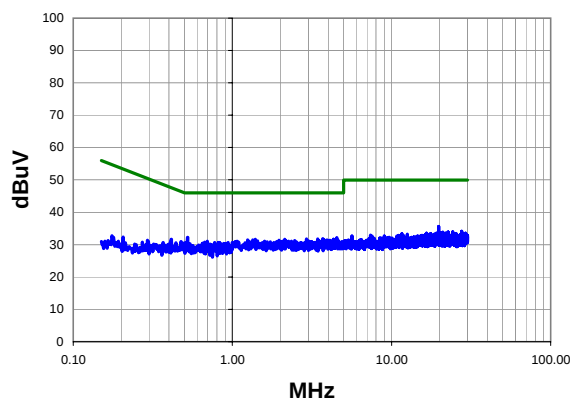
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm.

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0056	Date:	09/01/10		
Project:	None	Temperature:	23.17		
Job Site:	OC06	Humidity:	45.67		
Serial Number:	See Comments	Barometric Pres.:	1010.2		
EUT:		Field Device Access Point (FDAP)			
Configuration:	1				
Customer:	Honeywell				
Attendees:	David Shipley				
EUT Power:	120V/60Hz				
Operating Mode:	Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.				
Deviations:	No deviations.				
Comments:	Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2				
Test Specifications FCC 15.207:2010			Test Method ANSI C63.10:2009		
Run #	3	Line:	Neutral	Ext. Attenuation:	20
Results				Pass	

Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

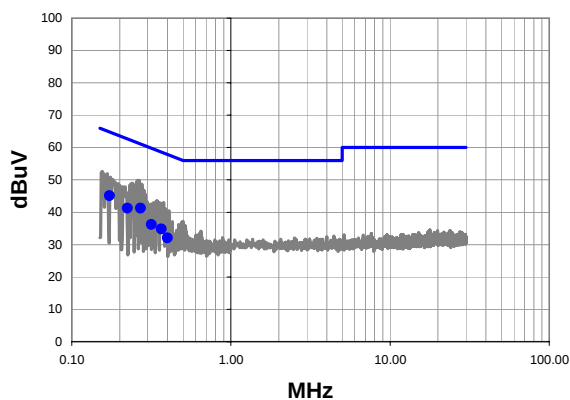
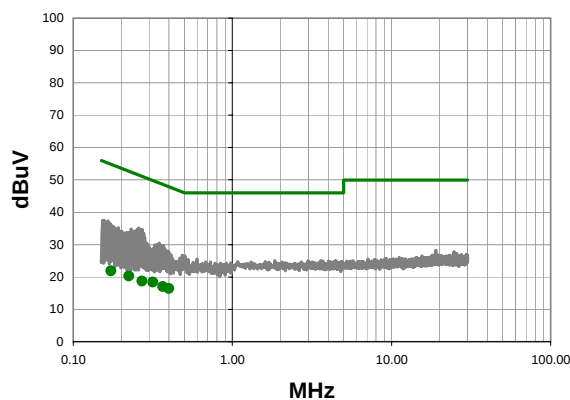
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.522	12.1	20.1	32.2	56.0	-23.8
4.528	11.8	20.3	32.1	56.0	-23.9
3.704	11.6	20.2	31.8	56.0	-24.2
2.920	11.6	20.2	31.8	56.0	-24.2
3.432	11.6	20.2	31.8	56.0	-24.2
1.392	11.6	20.1	31.7	56.0	-24.3
2.136	11.6	20.1	31.7	56.0	-24.3
19.760	14.0	21.6	35.6	60.0	-24.4
1.248	11.4	20.1	31.5	56.0	-24.5
1.960	11.3	20.1	31.4	56.0	-24.6
0.697	11.0	20.1	31.1	56.0	-24.9
0.672	10.7	20.1	30.8	56.0	-25.2
0.776	10.6	20.1	30.7	56.0	-25.3
0.818	10.6	20.1	30.7	56.0	-25.3
0.828	10.6	20.1	30.7	56.0	-25.3
0.939	10.6	20.1	30.7	56.0	-25.3
0.652	10.4	20.1	30.5	56.0	-25.5
0.883	10.3	20.1	30.4	56.0	-25.6
0.723	10.1	20.1	30.2	56.0	-25.8
27.620	12.5	21.7	34.2	60.0	-25.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.522	12.1	20.1	32.2	46.0	-13.8
4.528	11.8	20.3	32.1	46.0	-13.9
3.704	11.6	20.2	31.8	46.0	-14.2
2.920	11.6	20.2	31.8	46.0	-14.2
3.432	11.6	20.2	31.8	46.0	-14.2
1.392	11.6	20.1	31.7	46.0	-14.3
2.136	11.6	20.1	31.7	46.0	-14.3
19.760	14.0	21.6	35.6	50.0	-14.4
1.248	11.4	20.1	31.5	46.0	-14.5
1.960	11.3	20.1	31.4	46.0	-14.6
0.697	11.0	20.1	31.1	46.0	-14.9
0.672	10.7	20.1	30.8	46.0	-15.2
0.776	10.6	20.1	30.7	46.0	-15.3
0.818	10.6	20.1	30.7	46.0	-15.3
0.828	10.6	20.1	30.7	46.0	-15.3
0.939	10.6	20.1	30.7	46.0	-15.3
0.652	10.4	20.1	30.5	46.0	-15.5
0.883	10.3	20.1	30.4	46.0	-15.6
0.723	10.1	20.1	30.2	46.0	-15.8
27.620	12.5	21.7	34.2	50.0	-15.8

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0056	Date:	09/01/10		
Project:	None	Temperature:	23.17		
Job Site:	OC06	Humidity:	45.67		
Serial Number:	See Comments	Barometric Pres.:	1010.2		
EUT:	Field Device Access Point (FDAP)				
Configuration:	1				
Customer:	Honeywell				
Attendees:	David Shipley				
EUT Power:	120V/60Hz				
Operating Mode:	Low Channel Random Data. 100% Duty Cycle, Continuous Transmission.				
Deviations:	No deviations.				
Comments:	Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2,				
Test Specifications FCC 15.207:2010			Test Method ANSI C63.10:2009		
Run #	4	Line:	High Line	Ext. Attenuation:	20
				Results	Pass

Quasi Peak Data - vs - Quasi Peak Limit**Average Data - vs - Average Limit****Quasi Peak Data - vs - Quasi Peak Limit**

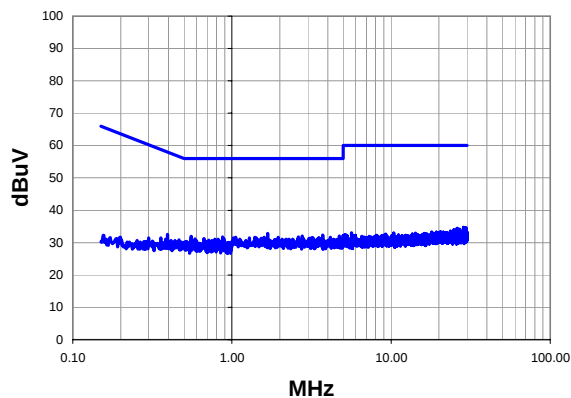
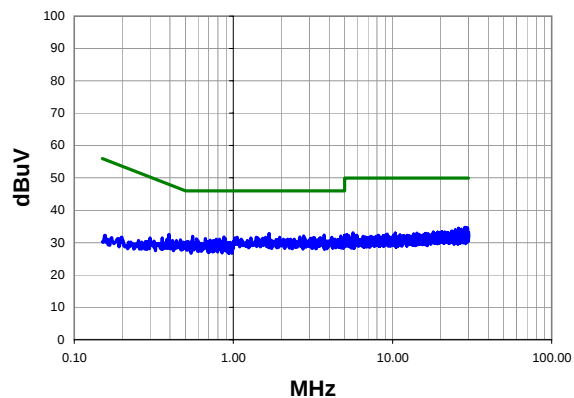
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.173	25.0	20.1	45.1	64.8	-19.7
0.271	21.1	20.1	41.2	61.1	-19.9
0.224	21.1	20.1	41.2	62.7	-21.5
0.317	16.1	20.1	36.2	59.8	-23.6
0.366	14.7	20.1	34.8	58.6	-23.8
0.400	11.9	20.1	32.0	57.9	-25.9

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.317	-1.7	20.1	18.4	49.8	-31.4
0.400	-3.7	20.1	16.4	47.9	-31.5
0.366	-3.1	20.1	17.0	48.6	-31.6
0.224	0.2	20.1	20.3	52.7	-32.4
0.271	-1.4	20.1	18.7	51.1	-32.4
0.173	1.8	20.1	21.9	54.8	-32.9

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0056	Date:	09/01/10				
Project:	None	Temperature:	23.17				
Job Site:	OC06	Humidity:	45.67				
Serial Number:	See Comments	Barometric Pres.:	1010.2	Tested by: Jaemi Suh			
EUT:	Field Device Access Point (FDAP)						
Configuration:	1						
Customer:	Honeywell						
Attendees:	David Shipley						
EUT Power:	120V/60Hz						
Operating Mode:	Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.						
Deviations:	No deviations.						
Comments:	Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2						
Test Specifications FCC 15.207:2010			Test Method ANSI C63.10:2009				
Run #	5	Line:	High Line	Ext. Attenuation:	20	Results	Pass

Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

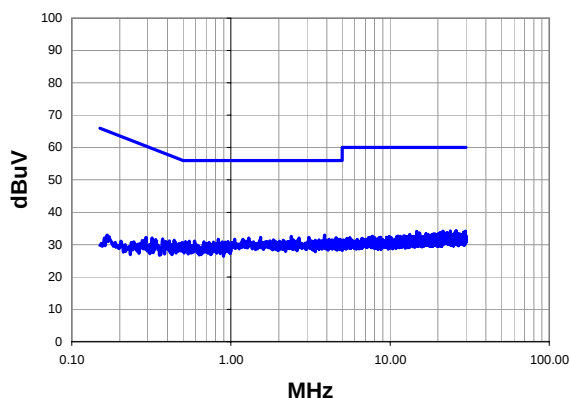
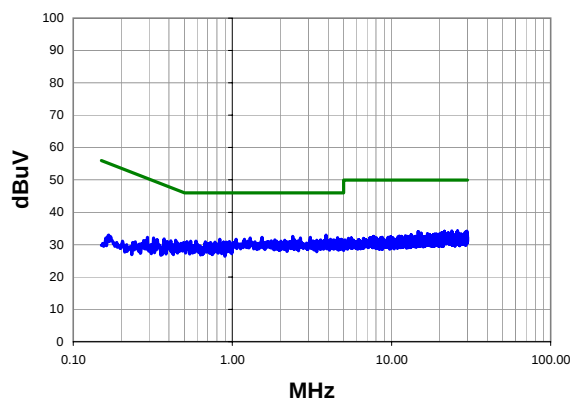
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.680	12.7	20.1	32.8	56.0	-23.2
3.720	12.1	20.2	32.3	56.0	-23.7
5.000	11.9	20.3	32.2	56.0	-23.8
2.768	11.8	20.2	32.0	56.0	-24.0
4.736	11.7	20.3	32.0	56.0	-24.0
0.555	11.8	20.1	31.9	56.0	-24.1
0.874	11.7	20.1	31.8	56.0	-24.2
2.616	11.6	20.2	31.8	56.0	-24.2
1.056	11.6	20.1	31.7	56.0	-24.3
1.392	11.6	20.1	31.7	56.0	-24.3
1.952	11.6	20.1	31.7	56.0	-24.3
4.152	11.4	20.3	31.7	56.0	-24.3
3.216	11.4	20.2	31.6	56.0	-24.4
3.512	11.4	20.2	31.6	56.0	-24.4
3.160	11.3	20.2	31.5	56.0	-24.5
0.667	11.2	20.1	31.3	56.0	-24.7
0.587	11.1	20.1	31.2	56.0	-24.8
0.889	11.1	20.1	31.2	56.0	-24.8
0.782	11.0	20.1	31.1	56.0	-24.9
0.816	11.0	20.1	31.1	56.0	-24.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
1.680	12.7	20.1	32.8	46.0	-13.2
3.720	12.1	20.2	32.3	46.0	-13.7
5.000	11.9	20.3	32.2	46.0	-13.8
2.768	11.8	20.2	32.0	46.0	-14.0
4.736	11.7	20.3	32.0	46.0	-14.0
0.555	11.8	20.1	31.9	46.0	-14.1
0.874	11.7	20.1	31.8	46.0	-14.2
2.616	11.6	20.2	31.8	46.0	-14.2
1.056	11.6	20.1	31.7	46.0	-14.3
1.392	11.6	20.1	31.7	46.0	-14.3
1.952	11.6	20.1	31.7	46.0	-14.3
4.152	11.4	20.3	31.7	46.0	-14.3
3.216	11.4	20.2	31.6	46.0	-14.4
3.512	11.4	20.2	31.6	46.0	-14.4
3.160	11.3	20.2	31.5	46.0	-14.5
0.667	11.2	20.1	31.3	46.0	-14.7
0.587	11.1	20.1	31.2	46.0	-14.8
0.889	11.1	20.1	31.2	46.0	-14.8
0.782	11.0	20.1	31.1	46.0	-14.9
0.816	11.0	20.1	31.1	46.0	-14.9

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0056	Date:	09/01/10				
Project:	None	Temperature:	23.17				
Job Site:	OC06	Humidity:	45.67				
Serial Number:	See Comments	Barometric Pres.:	1010.2	Tested by: Jaemi Suh			
EUT:	Field Device Access Point (FDAP)						
Configuration:	1						
Customer:	Honeywell						
Attendees:	David Shipley						
EUT Power:	120V/60Hz						
Operating Mode:	Mid Channel Random Data. 100% Duty Cycle, Continuous Transmission.						
Deviations:	No deviations.						
Comments:	Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2						
Test Specifications FCC 15.207:2010			Test Method ANSI C63.10:2009				
Run #	6	Line:	Neutral	Ext. Attenuation:	20	Results	Evaluation

Peak Data - vs - Quasi Peak Limit**Peak Data - vs - Average Limit****Peak Data - vs - Quasi Peak Limit**

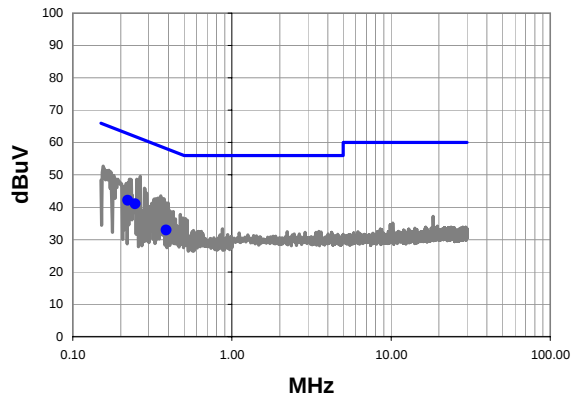
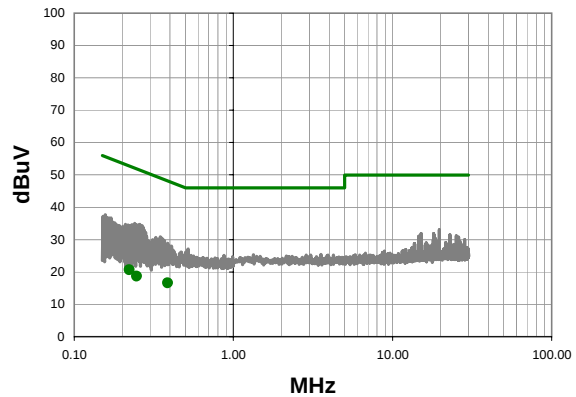
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
3.872	12.7	20.3	33.0	56.0	-23.0
2.400	12.4	20.1	32.5	56.0	-23.5
1.536	12.1	20.1	32.2	56.0	-23.8
3.088	12.0	20.2	32.2	56.0	-23.8
4.576	11.8	20.3	32.1	56.0	-23.9
1.296	11.9	20.1	32.0	56.0	-24.0
2.680	11.8	20.2	32.0	56.0	-24.0
0.832	11.6	20.1	31.7	56.0	-24.3
4.144	11.4	20.3	31.7	56.0	-24.3
4.848	11.4	20.3	31.7	56.0	-24.3
2.448	11.4	20.1	31.5	56.0	-24.5
1.848	11.4	20.1	31.5	56.0	-24.5
2.136	11.3	20.1	31.4	56.0	-24.6
0.548	11.0	20.1	31.1	56.0	-24.9
0.590	11.0	20.1	31.1	56.0	-24.9
0.956	10.9	20.1	31.0	56.0	-25.0
0.521	10.8	20.1	30.9	56.0	-25.1
0.675	10.8	20.1	30.9	56.0	-25.1
0.779	10.7	20.1	30.8	56.0	-25.2
0.881	10.7	20.1	30.8	56.0	-25.2

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
3.872	12.7	20.3	33.0	46.0	-13.0
2.400	12.4	20.1	32.5	46.0	-13.5
1.536	12.1	20.1	32.2	46.0	-13.8
3.088	12.0	20.2	32.2	46.0	-13.8
4.576	11.8	20.3	32.1	46.0	-13.9
1.296	11.9	20.1	32.0	46.0	-14.0
2.680	11.8	20.2	32.0	46.0	-14.0
0.832	11.6	20.1	31.7	46.0	-14.3
4.144	11.4	20.3	31.7	46.0	-14.3
4.848	11.4	20.3	31.7	46.0	-14.3
2.448	11.4	20.1	31.5	46.0	-14.5
1.848	11.4	20.1	31.5	46.0	-14.5
2.136	11.3	20.1	31.4	46.0	-14.6
0.548	11.0	20.1	31.1	46.0	-14.9
0.590	11.0	20.1	31.1	46.0	-14.9
0.956	10.9	20.1	31.0	46.0	-15.0
0.521	10.8	20.1	30.9	46.0	-15.1
0.675	10.8	20.1	30.9	46.0	-15.1
0.779	10.7	20.1	30.8	46.0	-15.2
0.881	10.7	20.1	30.8	46.0	-15.2

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0056	Date:	09/01/10				
Project:	None	Temperature:	23.17				
Job Site:	OC06	Humidity:	45.67				
Serial Number:	See Comments	Barometric Pres.:	1010.2				
Tested by: Jaemi Suh							
EUT:	Field Device Access Point (FDAP)						
Configuration:	1						
Customer:	Honeywell						
Attendees:	David Shipley						
EUT Power:	120V/60Hz						
Operating Mode:	High Channel Random Data. 100% Duty Cycle, Continuous Transmission.						
Deviations:	No deviations.						
Comments:	Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2						
Test Specifications FCC 15.207:2010			Test Method ANSI C63.10:2009				
Run #	7	Line:	High Line	Ext. Attenuation:	20	Results	Pass

Quasi Peak Data - vs - Quasi Peak Limit**Average Data - vs - Average Limit****Quasi Peak Data - vs - Quasi Peak Limit**

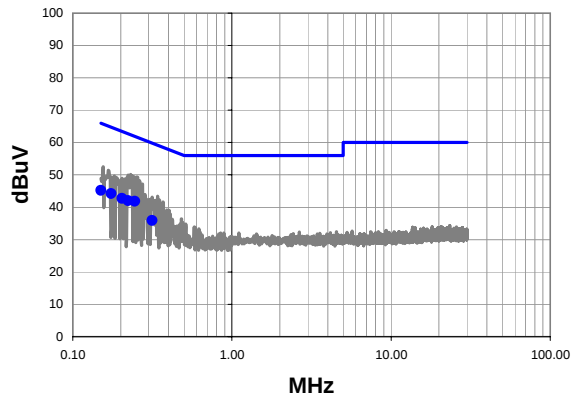
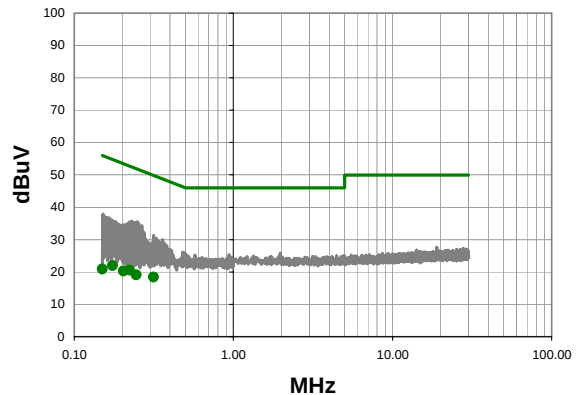
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.222	22.0	20.1	42.1	62.7	-20.6
0.247	20.9	20.1	41.0	61.9	-20.9
0.386	12.8	20.1	32.9	58.1	-25.2

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.386	-3.5	20.1	16.6	48.1	-31.5
0.222	0.6	20.1	20.7	52.7	-32.0
0.247	-1.4	20.1	18.7	51.9	-33.2

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0056	Date:	09/01/10		
Project:	None	Temperature:	23.17		
Job Site:	OC06	Humidity:	45.67		
Serial Number:	See Comments	Barometric Pres.:	1010.2		
EUT:		Field Device Access Point (FDAP)			
Configuration:	1				
Customer:	Honeywell				
Attendees:	David Shipley				
EUT Power:	120V/60Hz				
Operating Mode:	High Channel Random Data. 100% Duty Cycle, Continuous Transmission.				
Deviations:	No deviations.				
Comments:	Radio Module #51306533-175, Rev. AT2. Power Setting = 18 dBm. Radio #2				
Test Specifications FCC 15.207:2010			Test Method ANSI C63.10:2009		
Run #	8	Line:	Neutral	Ext. Attenuation:	20
Results				Pass	

Quasi Peak Data - vs - Quasi Peak Limit**Average Data - vs - Average Limit****Quasi Peak Data - vs - Quasi Peak Limit**

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.245	21.7	20.1	41.8	61.9	-20.1
0.174	24.1	20.1	44.2	64.8	-20.6
0.223	21.9	20.1	42.0	62.7	-20.7
0.204	22.6	20.1	42.7	63.4	-20.7
0.150	25.1	20.1	45.2	66.0	-20.8
0.315	15.8	20.1	35.9	59.8	-23.9

Average Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.315	-1.7	20.1	18.4	49.8	-31.4
0.223	0.5	20.1	20.6	52.7	-32.1
0.174	1.9	20.1	22.0	54.8	-32.8
0.245	-1.0	20.1	19.1	51.9	-32.8
0.204	0.2	20.1	20.3	53.4	-33.1
0.150	0.8	20.1	20.9	56.0	-35.1