Honeywell, Automation and Control Solutions

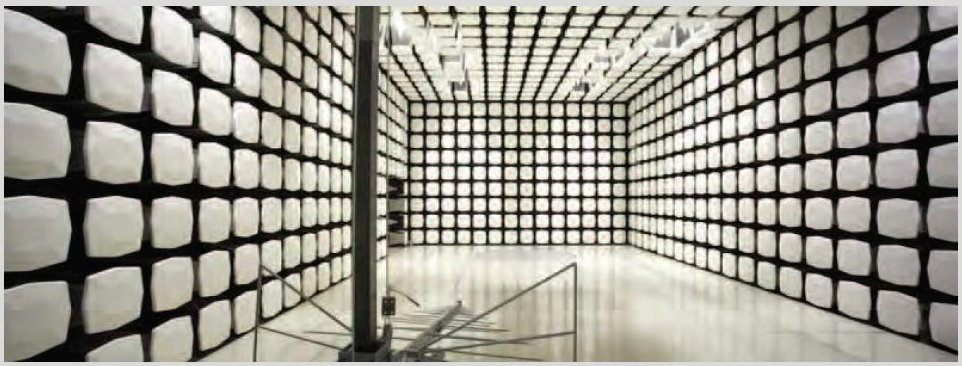
RTH9580WF01

FCC 15.207:2017

FCC 15.247:2017

802.11 bgn Radio

Report # HNYW0203.1



NVLAP Lab Code: 201049-0

CERTIFICATE OF TEST

2017-1-25

Last Date of Test: February 13, 2017
Honeywell, Automation and Control Solutions
Model: RTH9580WF01

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2017	ANSI C63.10:2013
FCC 15.247:2017	KDB 558074

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.1.1	Output Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Jeremiah Darden, Operations Manager

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. 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. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS

2017.1.25

United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Element to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Validated by the European Commission as a Notified Body under the R&TTE Directive.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

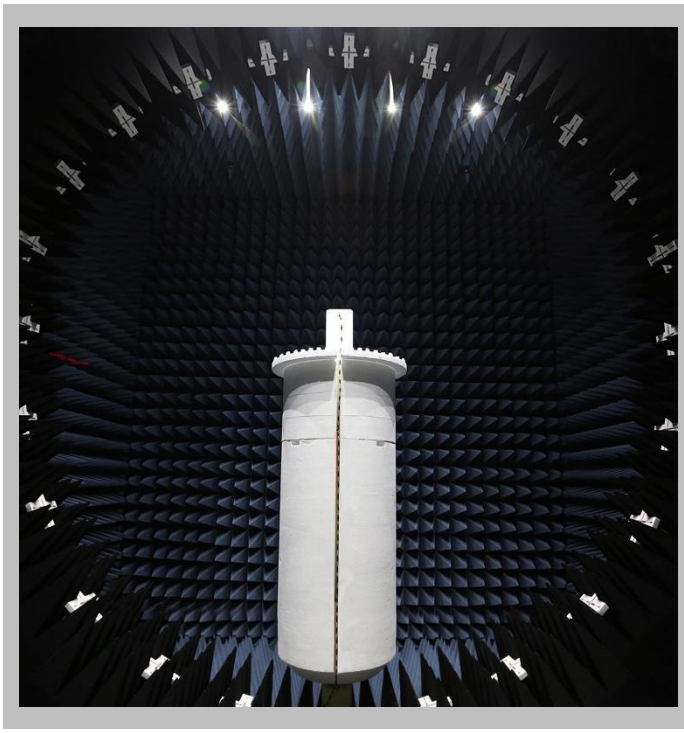
SCOPE

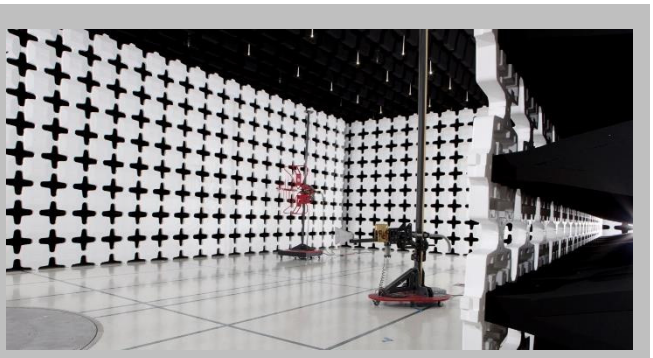
For details on the Scopes of our Accreditations, please visit:
http://portlandcustomer.element.com/ts/scope/scope.htm
http://gsi.nist.gov/global/docs/cabs/designations.html

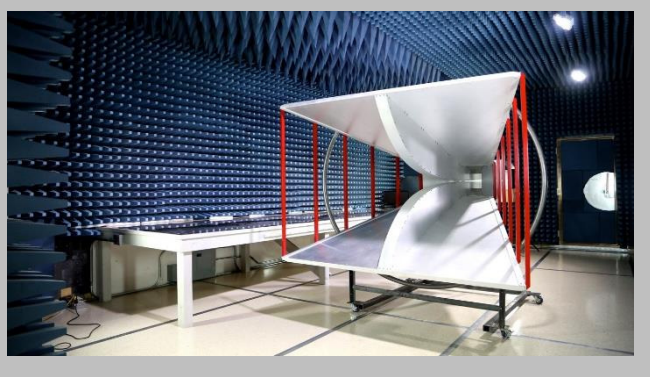
FACILITIES

2017.1.25

California	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Innovation, Science and Economic Development Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-*2*	2834G-1	2834F-1
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

TMU.2015.07.10

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

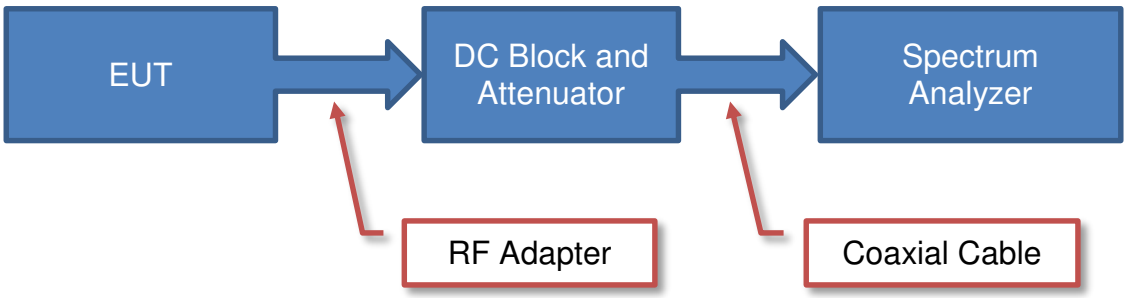
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

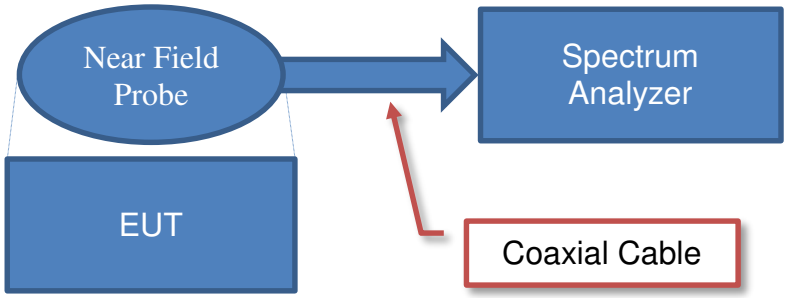
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	4.9 dB	-4.9 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

Test Setup Block Diagrams

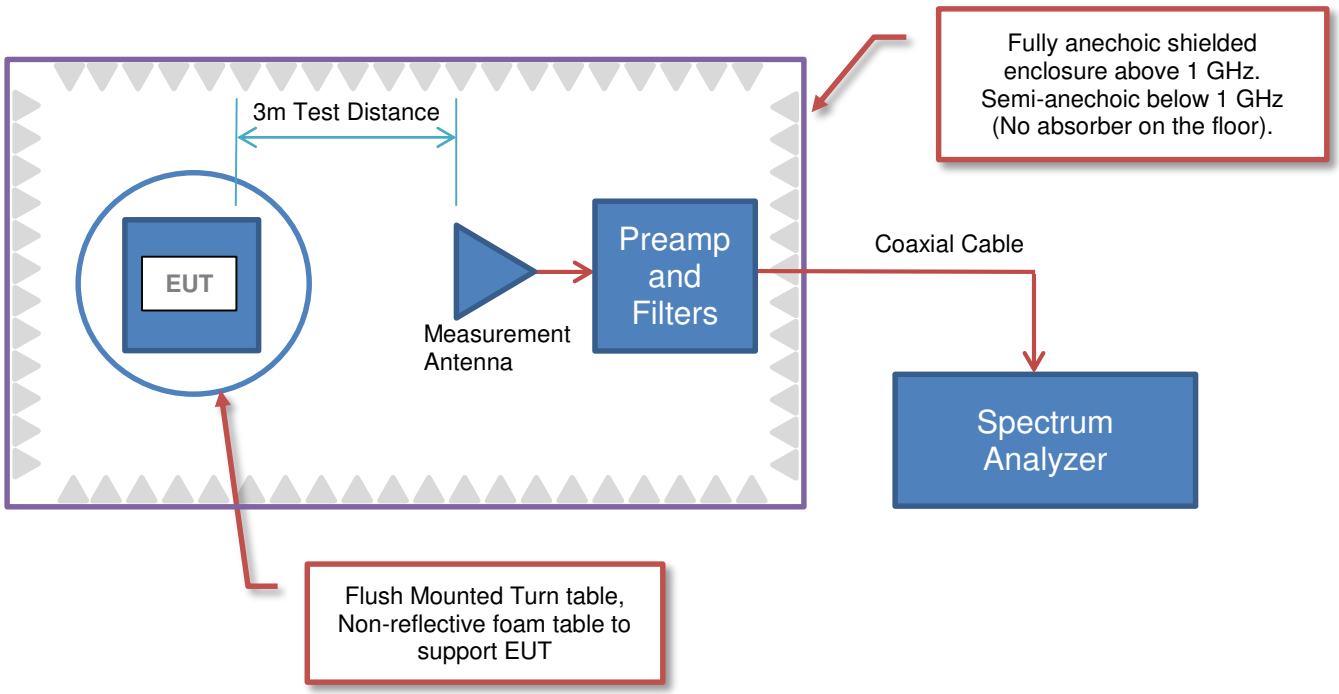
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Honeywell, Automation and Control Solutions
Address:	1985 Douglas Drive North
City, State, Zip:	Golden Valley, MN 55422-3992
Test Requested By:	Job Villafuerte
Model:	RTH9580WF01
First Date of Test:	February 8, 2017
Last Date of Test:	February 13, 2017
Receipt Date of Samples:	February 7, 2017
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

The RTH9580WF01 is a wifi enabled thermostat operating in the 2.4GHz ISM band. The product employs a USI system-in-package module WMNBM09 and is considered a single component from Honeywell's perspective. The WMNBM09 supports 802.11b/g/n protocols using OFDM 16QAM, 64QAM, DSSS, DBPSK, DQPSK, and CCK modulations. All data rates used within the 802.11b/g/n protocols are supported. This model is only intended to be operated in North America and the radio is locked via firmware to USA operation which excludes channels 12, 13, and 14.

The RTH9580WF01 contains two antennas which are managed by the SIP module which controls an rf switch. Both antennas are PCB antennas. There is only 1 rx/tx path out of the radio such that only one antenna is operated at a time (singlestream). The antenna which receives the strongest signal is used for the next transmission.

Testing Objective:

To demonstrate compliance of the 802.11 radio under FCC 15.247 for operation in the 2.4 GHz band.

CONFIGURATIONS

Configuration HNYW0203- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Radio Module (Direct Connect)	Honeywell, Automation and Control Solutions	RTH9580WF01	0027301

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC Adapter	CUI Inc	EPA240050-P5R-SZ	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power	No	1.8m	No	AC Adapter	Radio Module (Direct Connect)

Configuration HNYW0203- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Radio Module (Radiated)	Honeywell, Automation and Control Solutions	RTH9580WF01	0027324

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
AC Adapter	CUI Inc	EPA240050-P5R-SZ	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Power	No	1.8m	No	AC Adapter	Radio Module (Radiated)

MODIFICATIONS

2017-1-25

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2/8/2017	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2/8/2017	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2/8/2017	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2/8/2017	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2/8/2017	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2/8/2017	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2/9/2017	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2/13/2017	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

AC POWERLINE CONDUCTED EMISSIONS

WTD.2016.12.19

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. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. 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. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	9/21/2016	9/21/2017
Receiver	Rohde & Schwarz	ESCI	ARF	6/22/2016	6/22/2017
Cable - Conducted Cable Assembly	Northwest EMC	TXA, HHZ, TQR	TXAA	5/17/2016	5/17/2017

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

HNYW0203-2

MODES INVESTIGATED

Transmitting Antenna 0 at Mid Ch 2437 MHz, 1 Mbps
Transmitting Antenna 1 at Mid Ch 2437 MHz, 1 Mbps

AC POWERLINE CONDUCTED EMISSIONS

EUT:	RTH9580WF01	Work Order:	HNYW0203
Serial Number:	0027324	Date:	02/09/2017
Customer:	Honeywell, Automation and Control Solutions	Temperature:	23.2°C
Attendees:	Job Villafuerte	Relative Humidity:	26.7%
Customer Project:	None	Bar. Pressure:	1030 mb
Tested By:	Willie Love	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	HNYW0203-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2017	ANSI C63.10:2013

TEST PARAMETERS

Run #:	5	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

A0

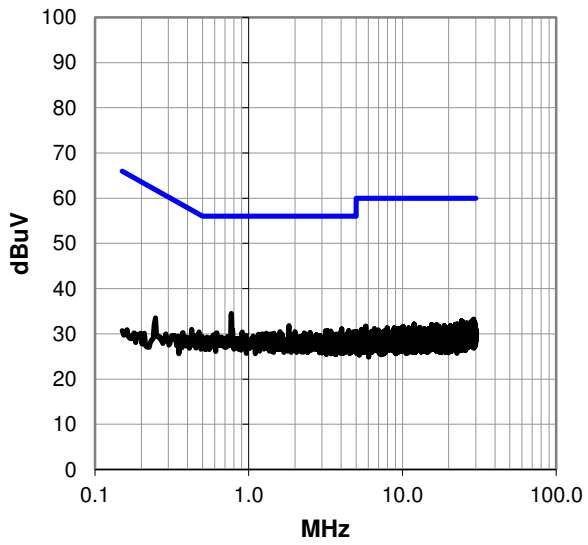
EUT OPERATING MODES

Transmitting Antenna 0 at Mid Ch 2437 MHz, 1 Mbps

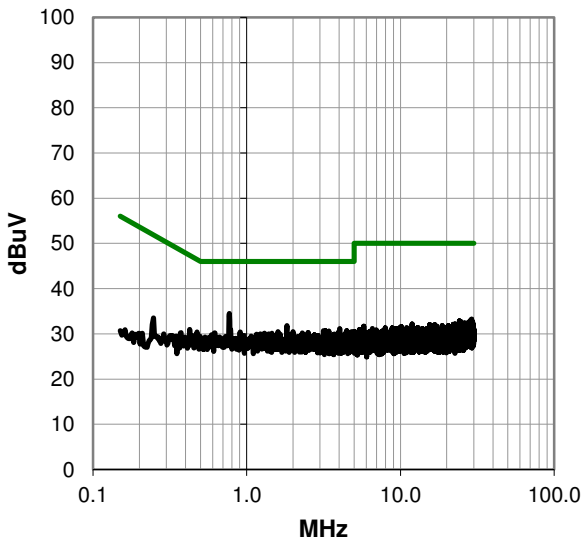
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



AC POWERLINE CONDUCTED EMISSIONS

WTD.2016.12.19

RESULTS - Run #5

Peak Data - vs - Quasi Peak Limit

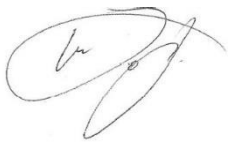
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	14.6	19.9	34.5	56.0	-21.5
1.825	12.1	19.7	31.8	56.0	-24.2
4.023	11.3	19.8	31.1	56.0	-24.9
0.781	11.1	19.9	31.0	56.0	-25.0
3.161	10.9	19.8	30.7	56.0	-25.3
3.247	10.9	19.8	30.7	56.0	-25.3
4.481	10.9	19.8	30.7	56.0	-25.3
3.418	10.8	19.8	30.6	56.0	-25.4
1.594	10.8	19.7	30.5	56.0	-25.5
1.997	10.7	19.8	30.5	56.0	-25.5
4.802	10.7	19.8	30.5	56.0	-25.5
4.940	10.7	19.8	30.5	56.0	-25.5
0.907	10.5	19.9	30.4	56.0	-25.6
2.508	10.5	19.8	30.3	56.0	-25.7
3.937	10.5	19.8	30.3	56.0	-25.7
0.616	10.3	19.9	30.2	56.0	-25.8
2.295	10.4	19.8	30.2	56.0	-25.8
1.303	10.4	19.7	30.1	56.0	-25.9
1.456	10.4	19.7	30.1	56.0	-25.9
0.475	10.6	19.8	30.4	56.4	-26.0
1.228	10.3	19.7	30.0	56.0	-26.0
1.389	10.3	19.7	30.0	56.0	-26.0
3.198	10.2	19.8	30.0	56.0	-26.0
4.351	10.2	19.8	30.0	56.0	-26.0
4.366	10.2	19.8	30.0	56.0	-26.0
1.157	10.1	19.8	29.9	56.0	-26.1

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	14.6	19.9	34.5	46.0	-11.5
1.825	12.1	19.7	31.8	46.0	-14.2
4.023	11.3	19.8	31.1	46.0	-14.9
0.781	11.1	19.9	31.0	46.0	-15.0
3.161	10.9	19.8	30.7	46.0	-15.3
3.247	10.9	19.8	30.7	46.0	-15.3
4.481	10.9	19.8	30.7	46.0	-15.3
3.418	10.8	19.8	30.6	46.0	-15.4
1.594	10.8	19.7	30.5	46.0	-15.5
1.997	10.7	19.8	30.5	46.0	-15.5
4.802	10.7	19.8	30.5	46.0	-15.5
4.940	10.7	19.8	30.5	46.0	-15.5
0.907	10.5	19.9	30.4	46.0	-15.6
2.508	10.5	19.8	30.3	46.0	-15.7
3.937	10.5	19.8	30.3	46.0	-15.7
0.616	10.3	19.9	30.2	46.0	-15.8
2.295	10.4	19.8	30.2	46.0	-15.8
1.303	10.4	19.7	30.1	46.0	-15.9
1.456	10.4	19.7	30.1	46.0	-15.9
0.475	10.6	19.8	30.4	46.4	-16.0
1.228	10.3	19.7	30.0	46.0	-16.0
1.389	10.3	19.7	30.0	46.0	-16.0
3.198	10.2	19.8	30.0	46.0	-16.0
4.351	10.2	19.8	30.0	46.0	-16.0
4.366	10.2	19.8	30.0	46.0	-16.0
1.157	10.1	19.8	29.9	46.0	-16.1

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	RTH9580WF01	Work Order:	HNYW0203
Serial Number:	0027324	Date:	02/09/2017
Customer:	Honeywell, Automation and Control Solutions	Temperature:	23.2°C
Attendees:	Job Villafuerte	Relative Humidity:	26.7%
Customer Project:	None	Bar. Pressure:	1030 mb
Tested By:	Willie Love	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	HNYW0203-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2017	ANSI C63.10:2013

TEST PARAMETERS

Run #:	6	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

A0

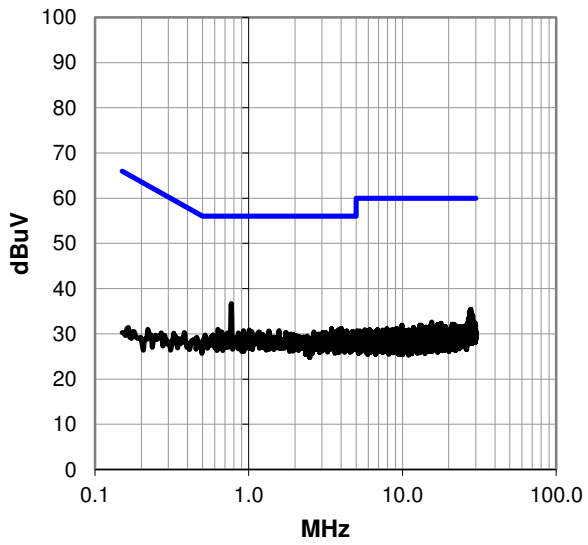
EUT OPERATING MODES

Transmitting Antenna 0 at Mid Ch 2437 MHz, 1 Mbps

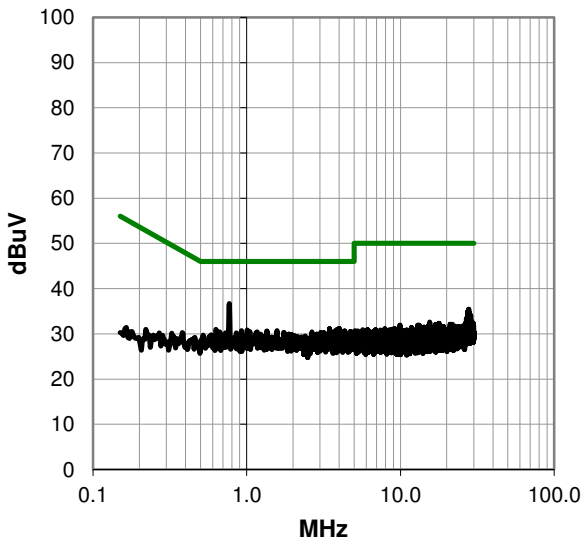
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



AC POWERLINE CONDUCTED EMISSIONS

WTD.2016.12.19

RESULTS - Run #6

Peak Data - vs - Quasi Peak Limit

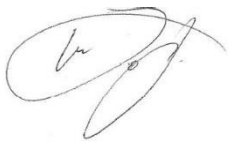
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	16.8	19.9	36.7	56.0	-19.3
27.829	14.2	21.2	35.4	60.0	-24.6
3.993	11.4	19.8	31.2	56.0	-24.8
3.455	11.3	19.8	31.1	56.0	-24.9
0.631	11.1	19.9	31.0	56.0	-25.0
3.862	11.2	19.7	30.9	56.0	-25.1
27.426	13.7	21.2	34.9	60.0	-25.1
1.008	11.1	19.7	30.8	56.0	-25.2
4.030	11.0	19.8	30.8	56.0	-25.2
0.926	10.8	19.9	30.7	56.0	-25.3
1.571	11.0	19.7	30.7	56.0	-25.3
1.351	10.9	19.7	30.6	56.0	-25.4
3.758	10.9	19.7	30.6	56.0	-25.4
4.336	10.8	19.8	30.6	56.0	-25.4
27.653	13.4	21.2	34.6	60.0	-25.4
28.116	13.4	21.2	34.6	60.0	-25.4
1.045	10.8	19.7	30.5	56.0	-25.5
4.728	10.7	19.8	30.5	56.0	-25.5
0.669	10.5	19.9	30.4	56.0	-25.6
1.165	10.6	19.8	30.4	56.0	-25.6
2.650	10.6	19.8	30.4	56.0	-25.6
3.567	10.6	19.8	30.4	56.0	-25.6
4.918	10.6	19.8	30.4	56.0	-25.6
28.015	13.2	21.2	34.4	60.0	-25.6
1.739	10.6	19.7	30.3	56.0	-25.7
3.038	10.5	19.8	30.3	56.0	-25.7

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	16.8	19.9	36.7	46.0	-9.3
27.829	14.2	21.2	35.4	50.0	-14.6
3.993	11.4	19.8	31.2	46.0	-14.8
3.455	11.3	19.8	31.1	46.0	-14.9
0.631	11.1	19.9	31.0	46.0	-15.0
3.862	11.2	19.7	30.9	46.0	-15.1
27.426	13.7	21.2	34.9	50.0	-15.1
1.008	11.1	19.7	30.8	46.0	-15.2
4.030	11.0	19.8	30.8	46.0	-15.2
0.926	10.8	19.9	30.7	46.0	-15.3
1.571	11.0	19.7	30.7	46.0	-15.3
1.351	10.9	19.7	30.6	46.0	-15.4
3.758	10.9	19.7	30.6	46.0	-15.4
4.336	10.8	19.8	30.6	46.0	-15.4
27.653	13.4	21.2	34.6	50.0	-15.4
28.116	13.4	21.2	34.6	50.0	-15.4
1.045	10.8	19.7	30.5	46.0	-15.5
4.728	10.7	19.8	30.5	46.0	-15.5
0.669	10.5	19.9	30.4	46.0	-15.6
1.165	10.6	19.8	30.4	46.0	-15.6
2.650	10.6	19.8	30.4	46.0	-15.6
3.567	10.6	19.8	30.4	46.0	-15.6
4.918	10.6	19.8	30.4	46.0	-15.6
28.015	13.2	21.2	34.4	50.0	-15.6
1.739	10.6	19.7	30.3	46.0	-15.7
3.038	10.5	19.8	30.3	46.0	-15.7

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	RTH9580WF01	Work Order:	HNYW0203
Serial Number:	0027324	Date:	02/09/2017
Customer:	Honeywell, Automation and Control Solutions	Temperature:	23.2°C
Attendees:	Job Villafuerte	Relative Humidity:	26.7%
Customer Project:	None	Bar. Pressure:	1030 mb
Tested By:	Willie Love	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	HNYW0203-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2017	ANSI C63.10:2013

TEST PARAMETERS

Run #:	7	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

A1

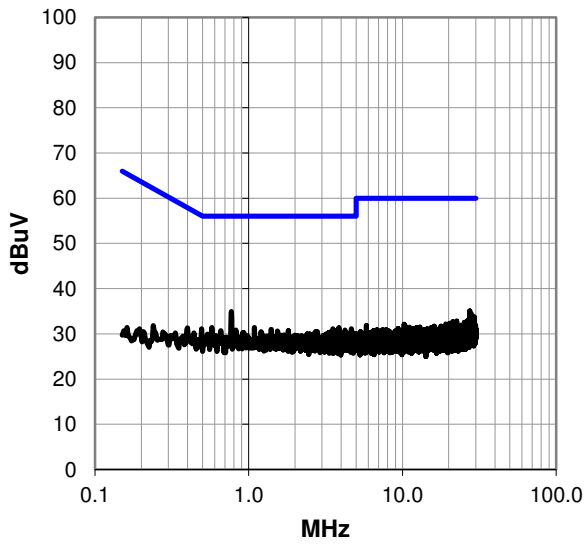
EUT OPERATING MODES

Transmitting Antenna 1 at Mid Ch 2437 MHz, 1 Mbps

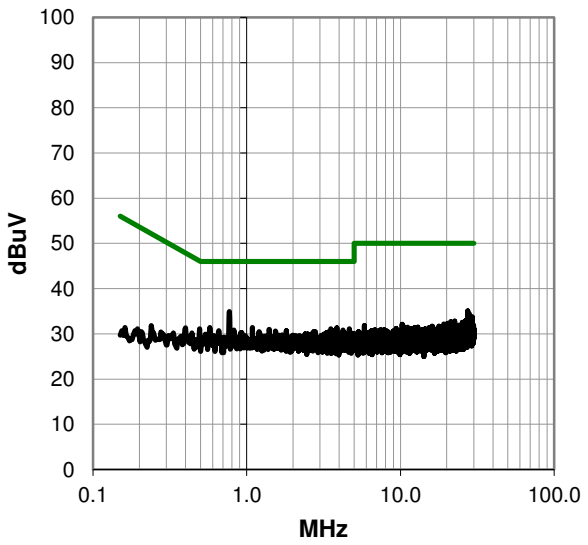
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



AC POWERLINE CONDUCTED EMISSIONS

WTD.2016.12.19

RESULTS - Run #7

Peak Data - vs - Quasi Peak Limit

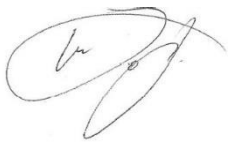
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	15.0	19.9	34.9	56.0	-21.1
0.575	11.5	19.9	31.4	56.0	-24.6
1.086	11.7	19.7	31.4	56.0	-24.6
3.858	11.6	19.7	31.3	56.0	-24.7
3.530	11.3	19.8	31.1	56.0	-24.9
4.664	11.3	19.8	31.1	56.0	-24.9
27.433	13.9	21.2	35.1	60.0	-24.9
0.493	11.3	19.8	31.1	56.1	-25.0
1.400	11.3	19.7	31.0	56.0	-25.0
0.825	10.9	19.9	30.8	56.0	-25.2
4.235	11.0	19.8	30.8	56.0	-25.2
0.657	10.8	19.9	30.7	56.0	-25.3
1.810	11.0	19.7	30.7	56.0	-25.3
3.646	10.9	19.8	30.7	56.0	-25.3
1.538	10.9	19.7	30.6	56.0	-25.4
1.202	10.8	19.7	30.5	56.0	-25.5
2.735	10.7	19.8	30.5	56.0	-25.5
2.795	10.7	19.8	30.5	56.0	-25.5
3.407	10.6	19.8	30.4	56.0	-25.6
28.015	13.2	21.2	34.4	60.0	-25.6
0.915	10.4	19.9	30.3	56.0	-25.7
3.310	10.5	19.8	30.3	56.0	-25.7
4.261	10.5	19.8	30.3	56.0	-25.7
4.534	10.4	19.8	30.2	56.0	-25.8
2.679	10.3	19.8	30.1	56.0	-25.9
4.828	10.3	19.8	30.1	56.0	-25.9

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	15.0	19.9	34.9	46.0	-11.1
0.575	11.5	19.9	31.4	46.0	-14.6
1.086	11.7	19.7	31.4	46.0	-14.6
3.858	11.6	19.7	31.3	46.0	-14.7
3.530	11.3	19.8	31.1	46.0	-14.9
4.664	11.3	19.8	31.1	46.0	-14.9
27.433	13.9	21.2	35.1	50.0	-14.9
0.493	11.3	19.8	31.1	46.1	-15.0
1.400	11.3	19.7	31.0	46.0	-15.0
0.825	10.9	19.9	30.8	46.0	-15.2
4.235	11.0	19.8	30.8	46.0	-15.2
0.657	10.8	19.9	30.7	46.0	-15.3
1.810	11.0	19.7	30.7	46.0	-15.3
3.646	10.9	19.8	30.7	46.0	-15.3
1.538	10.9	19.7	30.6	46.0	-15.4
1.202	10.8	19.7	30.5	46.0	-15.5
2.735	10.7	19.8	30.5	46.0	-15.5
2.795	10.7	19.8	30.5	46.0	-15.5
3.407	10.6	19.8	30.4	46.0	-15.6
28.015	13.2	21.2	34.4	50.0	-15.6
0.915	10.4	19.9	30.3	46.0	-15.7
3.310	10.5	19.8	30.3	46.0	-15.7
4.261	10.5	19.8	30.3	46.0	-15.7
4.534	10.4	19.8	30.2	46.0	-15.8
2.679	10.3	19.8	30.1	46.0	-15.9
4.828	10.3	19.8	30.1	46.0	-15.9

CONCLUSION

Pass



Tested By

AC POWERLINE CONDUCTED EMISSIONS

EUT:	RTH9580WF01	Work Order:	HNYW0203
Serial Number:	0027324	Date:	02/09/2017
Customer:	Honeywell, Automation and Control Solutions	Temperature:	23.2°C
Attendees:	Job Villafuerte	Relative Humidity:	26.7%
Customer Project:	None	Bar. Pressure:	1030 mb
Tested By:	Willie Love	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	HNYW0203-2

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2017	ANSI C63.10:2013

TEST PARAMETERS

Run #:	8	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

A1

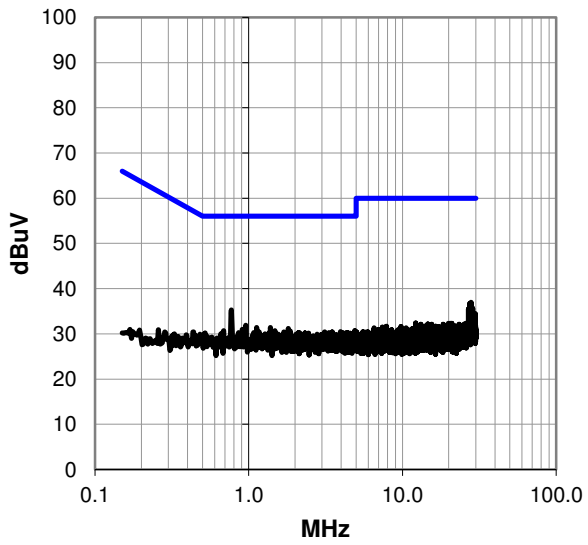
EUT OPERATING MODES

Transmitting Antenna 1 at Mid Ch 2437 MHz, 1 Mbps

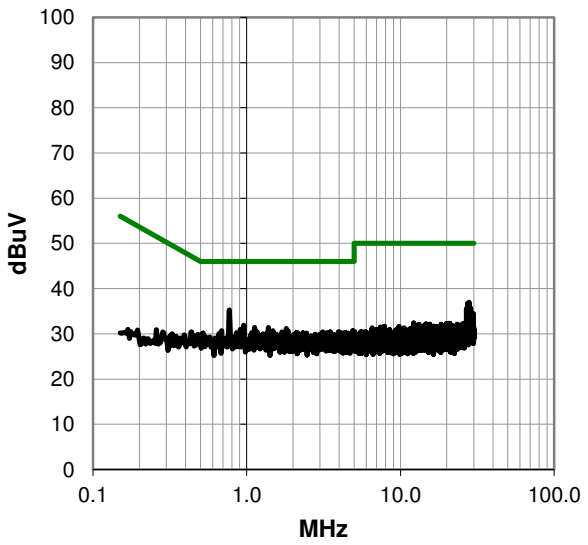
DEVIATIONS FROM TEST STANDARD

None

Peak Data - vs - Quasi Peak Limit



Peak Data - vs - Average Limit



AC POWERLINE CONDUCTED EMISSIONS

WTD.2016.12.19

RESULTS - Run #8

Peak Data - vs - Quasi Peak Limit

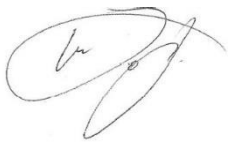
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	15.4	19.9	35.3	56.0	-20.7
28.015	15.8	21.2	37.0	60.0	-23.0
27.433	15.5	21.2	36.7	60.0	-23.3
0.956	12.0	19.9	31.9	56.0	-24.1
28.597	14.3	21.3	35.6	60.0	-24.4
26.847	14.4	21.1	35.5	60.0	-24.5
1.127	11.7	19.7	31.4	56.0	-24.6
1.385	11.7	19.7	31.4	56.0	-24.6
1.814	11.5	19.7	31.2	56.0	-24.8
0.907	11.1	19.9	31.0	56.0	-25.0
27.620	13.8	21.2	35.0	60.0	-25.0
0.687	10.8	19.9	30.7	56.0	-25.3
1.482	10.9	19.8	30.7	56.0	-25.3
4.899	10.9	19.8	30.7	56.0	-25.3
1.866	10.9	19.7	30.6	56.0	-25.4
3.959	10.7	19.8	30.5	56.0	-25.5
27.303	13.4	21.1	34.5	60.0	-25.5
28.474	13.2	21.3	34.5	60.0	-25.5
1.172	10.6	19.8	30.4	56.0	-25.6
1.691	10.7	19.7	30.4	56.0	-25.6
3.116	10.6	19.8	30.4	56.0	-25.6
3.489	10.6	19.8	30.4	56.0	-25.6
28.370	13.2	21.2	34.4	60.0	-25.6
29.690	13.0	21.4	34.4	60.0	-25.6
0.859	10.4	19.9	30.3	56.0	-25.7
1.079	10.6	19.7	30.3	56.0	-25.7

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.769	15.4	19.9	35.3	46.0	-10.7
28.015	15.8	21.2	37.0	50.0	-13.0
27.433	15.5	21.2	36.7	50.0	-13.3
0.956	12.0	19.9	31.9	46.0	-14.1
28.597	14.3	21.3	35.6	50.0	-14.4
26.847	14.4	21.1	35.5	50.0	-14.5
1.127	11.7	19.7	31.4	46.0	-14.6
1.385	11.7	19.7	31.4	46.0	-14.6
1.814	11.5	19.7	31.2	46.0	-14.8
0.907	11.1	19.9	31.0	46.0	-15.0
27.620	13.8	21.2	35.0	50.0	-15.0
0.687	10.8	19.9	30.7	46.0	-15.3
1.482	10.9	19.8	30.7	46.0	-15.3
4.899	10.9	19.8	30.7	46.0	-15.3
1.866	10.9	19.7	30.6	46.0	-15.4
3.959	10.7	19.8	30.5	46.0	-15.5
27.303	13.4	21.1	34.5	50.0	-15.5
28.474	13.2	21.3	34.5	50.0	-15.5
1.172	10.6	19.8	30.4	46.0	-15.6
1.691	10.7	19.7	30.4	46.0	-15.6
3.116	10.6	19.8	30.4	46.0	-15.6
3.489	10.6	19.8	30.4	46.0	-15.6
28.370	13.2	21.2	34.4	50.0	-15.6
29.690	13.0	21.4	34.4	50.0	-15.6
0.859	10.4	19.9	30.3	46.0	-15.7
1.079	10.6	19.7	30.3	46.0	-15.7

CONCLUSION

Pass



Tested By