

Honeywell

**SmartRadar FlexLine,
Radio Board
Part # 50025034,
FCC ID: S5750025034,
FCC ID: LOM990SRFL**

Report No. HONE0046.1

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: June 22, 2009

Honeywell

Model: SmartRadar Flexline Radio Board Part# 50025034

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Spurious Radiated Emissions	FCC 15.247 (DTS):2009	ANSI C63.4:2003 KDB No. 558074	Pass
Output Power	FCC 15.247 (DTS):2009	ANSI C63.4:2003 KDB No. 558074	Pass
AC Powerline Conducted Emissions	FCC 15.107:2009 Class A	ANSI C63.4:2003	Pass
Radiated Emissions	FCC 15.109:2009 Class A	ANSI C63.4:2003	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:

Dean Ghizzone, President



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.

FCC: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.



NVLAP: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



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

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS-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*)



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



BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (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



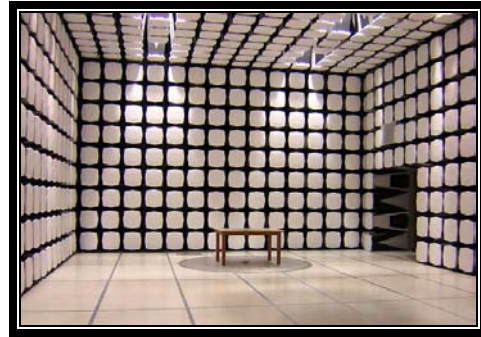
KCC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157)



SCOPE

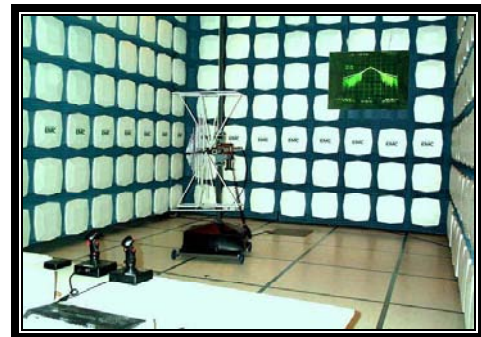
For details on the Scopes of our Accreditations, please visit:

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



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

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



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

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



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

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

Party Requesting the Test

Company Name:	Honeywell
Address:	2500 W. Union Hills Road
City, State, Zip:	Phoenix, AZ 85027
Test Requested By:	David Shipley
Model:	SmartRadar Flexline Radio Board Part# 50025034
First Date of Test:	June 16, 2009
Last Date of Test:	June 22, 2009
Receipt Date of Samples:	June 15, 2009
Equipment Design Stage:	Production
Equipment Condition:	No Damage

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

The ENRAF Radar Tank Gauge uses a radio board that is in the XYR6000 product. The XYR6000 has already obtained the above approvals, through Northwest EMC:

- o XYR6000 FCC limited modular approval (FCC ID: S5750025034)
- o XYR6000 IC limited modular approval (IC: 573I-50025034)
- o XYR6000 also has R&TTE Notified Body Opinion/Approval
 - The ENRAF Radar Tank Gauge will use a different/alternate housing and different output power levels (EIRP) from the XYR6000 product; however, the antennas and antenna cables are the same as the XYR6000.
 - Antennas to be qualified are:
 - o HGV-2404U (4dBi omni)
 - o HGV-2409U (8dbi omni)
 - o HG2414D (14dBi dish)
 - The ENRAF Radar Tank Gauge is AC powered (120/240VAC)

Testing Objective:

S5750025034 has been previously certified under 15.247 with a limited modular approval (LMA). It is seeking a Class II Permissive Change authorization for use in a new host device.

EUT Photo



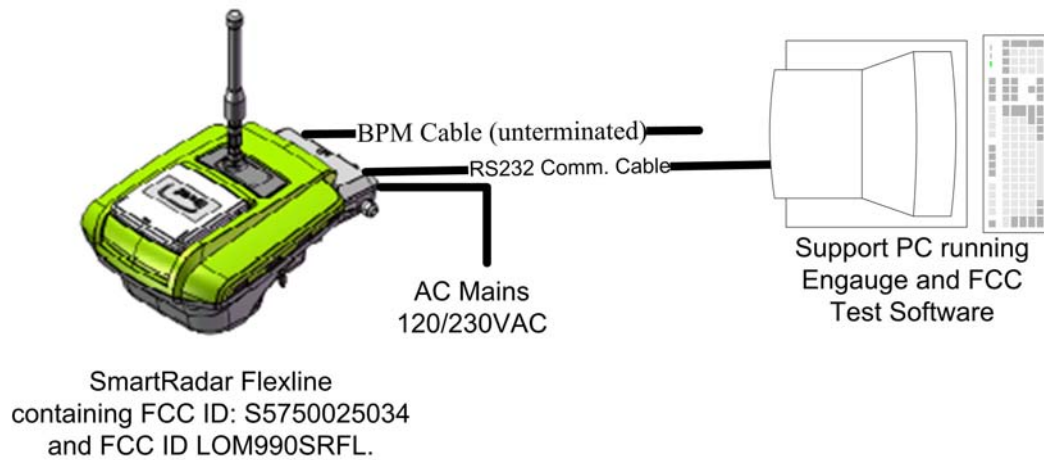




CONFIGURATION 1 HONE0046**EUT**

Description

Refer to the configuration document provided by the client below.



Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	6/16/2009	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	6/16/2009	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.
3	6/22/2009	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.
4	6/22/2009	AC Powerline 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
Power Meter	Hewlett Packard	E4418A	SQD	3/23/2009	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4-2. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

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

De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36dBm.

EMC

Output Power

EUT:	SmartRadar Flexline Radio Board Part# 50025034	Work Order:	HONE0046
Serial Number:	None	Date:	06/16/09
Customer:	Honeywell	Temperature:	22.1
Attendees:	David Shipley	Humidity:	51%
Project:	None	Barometric Pres.:	1019.4
Tested by:	Jaemi Suh	Power:	120V / 60 Hz
		Job Site:	OC11

TEST SPECIFICATIONS	Test Method
FCC 15.247 (DTS):2009	ANSI C63.4:2003 KDB No. 558074

COMMENTS

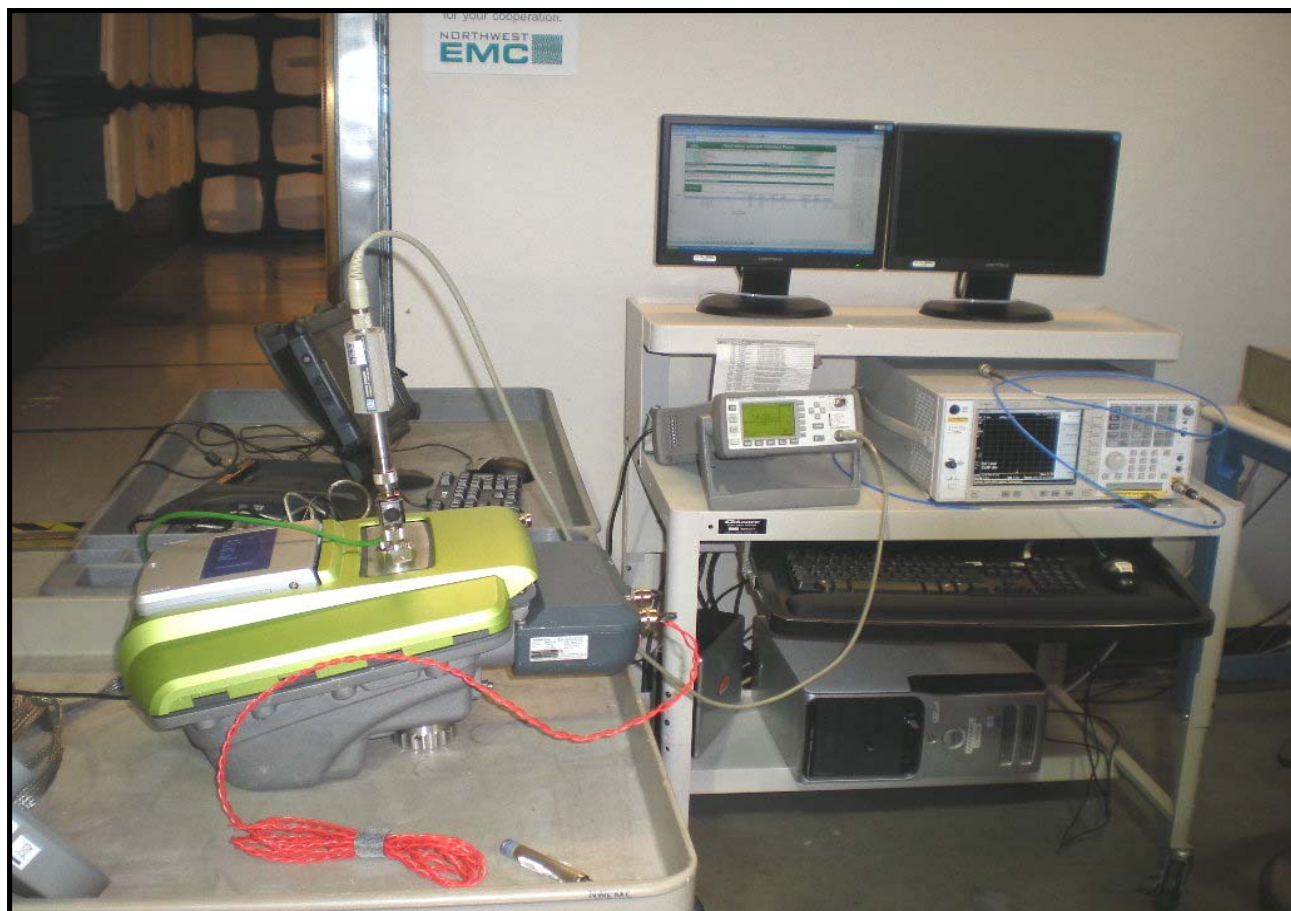
SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL.
Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss).
PC Power Setting = 255

DEVIATIONS FROM TEST STANDARD

No Deviations

Configuration #	1	Signature 
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	Value	Limit	Results
Lowest Gain Antenna			
Low Channel	17.51	30 dBm	Pass
Mid Channel	15.7	30 dBm	Pass
High Channel	16.08	30 dBm	Pass



SPURIOUS RADIATED EMISSIONS

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

MODES OF OPERATION

Low Channel 11, 2405 MHz.

Mid Channel 18, 2440 MHz.

High Channel 25, 2475 MHz.

ANTENNA'S INVESTIGATED

4 dBi Omni Antenna, Hyperlink Model HGV-2404U.

8 dBi Omni Antenna Hyperlink Model HGV-2409U

14 dBi Dish Antenna Hyperlink Model HG-2414D

AXIS INVESTIGATED

X-Axis

Y-Axis

Z-Axis

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26 GHz
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CLOCKS AND OSCILLATORS

2405 MHz, 2440 MHz, 2475 MHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
High Pass Filter	Micro-Tronics	HPM50111	HGC	10/24/2008	13
Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AOI	4/3/2009	13
Antenna, Horn	EMCO	3160-09	AHN	NCR	0
OC floating Cable	None	18-26GHz RE Cables	OCK	4/3/2009	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	11/6/2008	13
Antenna, Horn	EMCO	3160-08	AHK	NCR	0
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	3/12/2009	13
Antenna, Horn	ETS	3160-07	AHX	NCR	0
OC11 Cables	None	12-18GHz RE Cables	OCS	3/12/2009	13
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	4/25/2008	16
Antenna, Horn	EMCO	3115	AHB	8/31/2007	24
OC11 Cables	None	1-8GHz RE Cables	OCR	3/12/2009	13
Spectrum Analyzer	Agilent	E4440A	AAX	12/16/2008	13

MEASUREMENT BANDWIDTHS

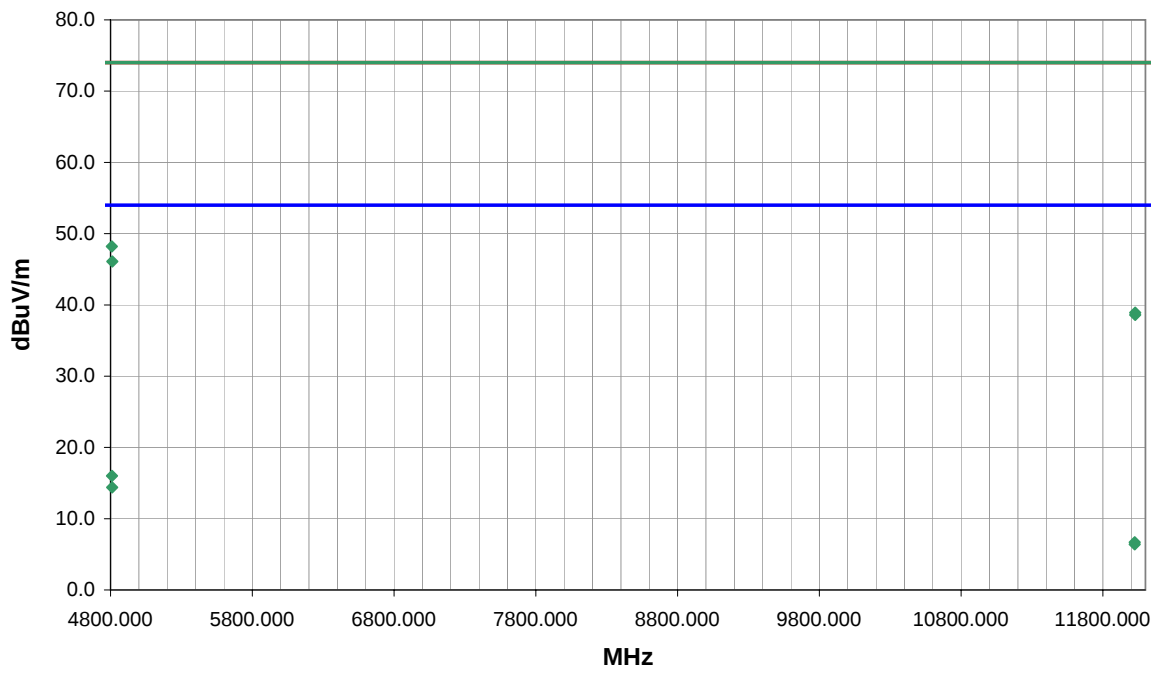
	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0
Measurements were made using the bandwidths and detectors specified. No video filter was used.				

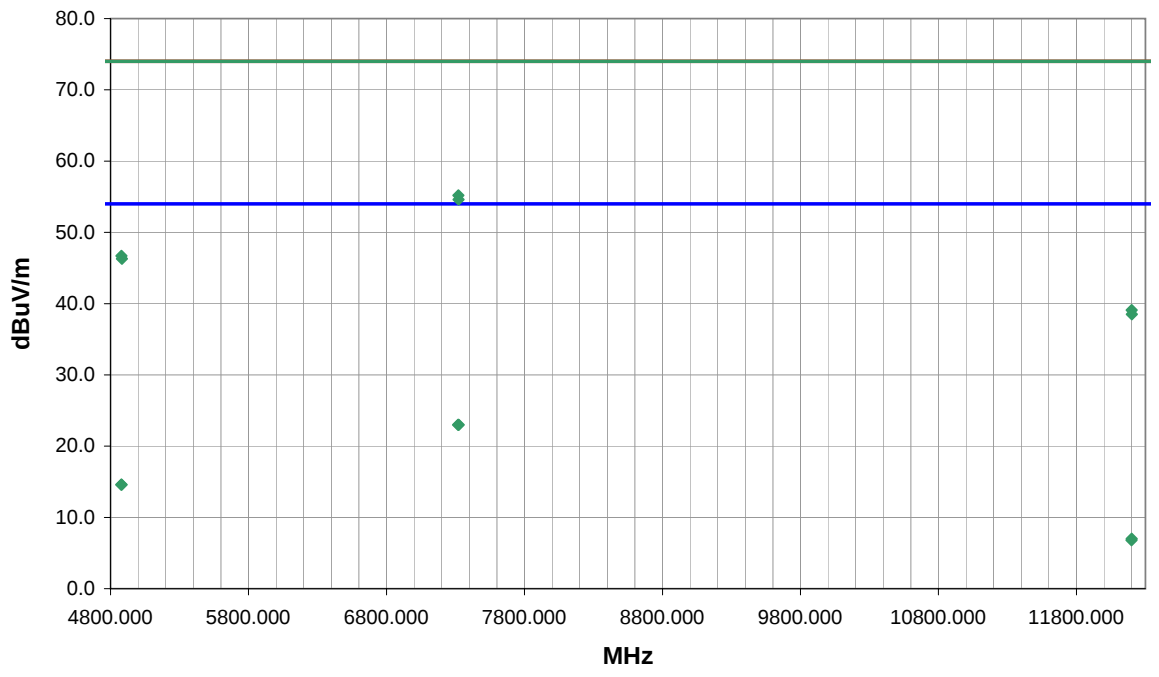
MEASUREMENT UNCERTAINTY

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

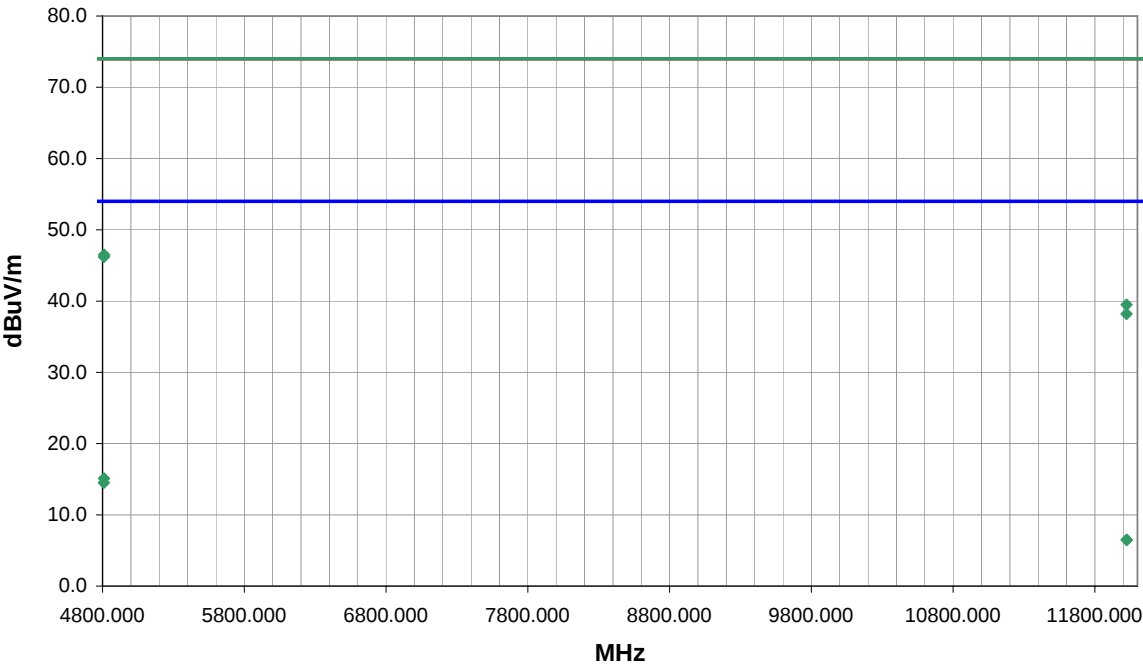
The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify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

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21								
EMC				EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/16/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11									
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF8 (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
Low Channel 2405 MHz. 4 dBi Omni Antenna, Hyperlink Model HGV-2404U.												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	7											
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)
4808.711	42.2	6.0	148.0	2.0	0.0	0.0	H-Horn	PK	0.0	48.2	74.0	-25.8
4811.872	40.1	6.0	151.0	2.0	0.0	0.0	V-Horn	PK	0.0	46.1	74.0	-27.9
12028.000	47.8	-8.9	336.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.9	74.0	-35.1
12027.430	47.5	-8.9	39.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.6	74.0	-35.4
4810.606	30.0	6.0	148.0	2.0	20.0	0.0	H-Horn	AV	0.0	16.0	54.0	-38.0
4810.751	28.4	6.0	151.0	2.0	20.0	0.0	V-Horn	AV	0.0	14.4	54.0	-39.6
12024.330	35.6	-8.9	39.0	1.0	20.0	0.0	H-Horn	AV	0.0	6.7	54.0	-47.3
12024.060	35.3	-8.9	336.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.4	54.0	-47.6

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21								
EMC				EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/16/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11									
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4	Test Distance (m)		3							
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
Mid Channel 2440 MHz. 4 dBi Omni Antenna, Hyperlink Model HGV-2404U.												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	5		 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)
7320.333	41.7	13.5	109.0	2.0	0.0	0.0	V-Horn	PK	0.0	55.2	74.0	-18.8
7322.193	41.1	13.5	301.0	1.0	0.0	0.0	H-Horn	PK	0.0	54.6	74.0	-19.4
4878.690	40.5	6.2	94.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.7	74.0	-27.3
4882.709	40.1	6.2	34.0	1.0	0.0	0.0	H-Horn	PK	0.0	46.3	74.0	-27.7
7318.167	29.5	13.5	109.0	2.0	20.0	0.0	V-Horn	AV	0.0	23.0	54.0	-31.0
7323.273	29.5	13.5	301.0	1.0	20.0	0.0	H-Horn	AV	0.0	23.0	54.0	-31.0
12200.710	47.5	-8.4	267.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.1	74.0	-34.9
12201.230	46.9	-8.4	117.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.5	74.0	-35.5
4878.096	28.4	6.2	94.0	1.0	20.0	0.0	V-Horn	AV	0.0	14.6	54.0	-39.4
4879.754	28.3	6.3	34.0	1.0	20.0	0.0	H-Horn	AV	0.0	14.6	54.0	-39.4
12200.300	35.4	-8.4	117.0	1.0	20.0	0.0	H-Horn	AV	0.0	7.0	54.0	-47.0
12199.450	35.2	-8.4	267.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.8	54.0	-47.2

NORTHWEST		PSA 2008.07.21 EMI 2006.4.26											
EMC		SPURIOUS RADIATED EMISSIONS											
EUT: SmartRadar Flexline Radio Board Part# 50025034		Work Order: HONE0046											
Serial Number: None		Date: 06/16/09											
Customer: Honeywell		Temperature: 22.1											
Attendees: David Shipley		Humidity: 51%											
Project: None		Barometric Pres.: 1019.4											
Tested by: Jaemi Suh		Power: 120VAC/60Hz											
		Job Site: OC11											
TEST SPECIFICATIONS		Test Method											
FCC 15.247 (DTS):2009		ANSI C63.4:2003 KDB No. 558074											
TEST PARAMETERS													
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3										
COMMENTS													
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting =255													
EUT OPERATING MODES													
High Channel 2475 MHz. 4 dBI Omni Antenna, Hyperlink Model HGV-2404U.													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #	2	<i>Signature</i>											
Configuration #	1												
Results	Pass												
MHz													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2483.500	48.6	-2.9	195.0	2.4	0.0	20.0	H-Horn	PK	0.0	65.7	74.0	-8.3	Y-Axis
2483.500	45.3	-2.9	0.0	2.4	0.0	20.0	H-Horn	PK	0.0	62.4	74.0	-11.6	Z-Axis
2483.500	45.2	-2.9	129.0	1.6	0.0	20.0	V-Horn	PK	0.0	62.3	74.0	-11.7	X-Axis
2483.500	43.8	-2.9	259.0	1.3	0.0	20.0	H-Horn	PK	0.0	60.9	74.0	-13.1	X-Axis
2483.500	43.0	-2.9	4.0	2.0	0.0	20.0	V-Horn	PK	0.0	60.1	74.0	-13.9	Z-Axis
2483.500	42.6	-2.9	359.0	1.9	0.0	20.0	V-Horn	PK	0.0	59.7	74.0	-14.3	Y-Axis
2483.500	35.5	-2.9	195.0	2.4	20.0	20.0	H-Horn	AV	0.0	32.6	54.0	-21.4	Y-Axis
2483.500	32.4	-2.9	0.0	2.4	20.0	20.0	H-Horn	AV	0.0	29.5	54.0	-24.5	Z-Axis
2483.500	32.0	-2.9	129.0	1.6	20.0	20.0	V-Horn	AV	0.0	29.1	54.0	-24.9	X-Axis
2483.500	31.0	-2.9	259.0	1.3	20.0	20.0	H-Horn	AV	0.0	28.1	54.0	-25.9	X-Axis
2483.500	30.5	-2.9	4.0	2.0	20.0	20.0	V-Horn	AV	0.0	27.6	54.0	-26.4	Z-Axis
2483.500	30.0	-2.9	359.0	1.9	20.0	20.0	V-Horn	AV	0.0	27.1	54.0	-26.9	Y-Axis

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21 EMI 2006.4.26									
EMC													
EUT: SmartRadar Flexline Radio Board Part# 50025034				Work Order: HONE0046									
Serial Number: None				Date: 06/16/09									
Customer: Honeywell				Temperature: 22.1									
Attendees: David Shipley				Humidity: 51%									
Project: None				Barometric Pres.: 1019.4									
Tested by: Jaemi Suh				Power: 120VAC/60Hz									
				Job Site: OC11									
TEST SPECIFICATIONS				Test Method									
FCC 15.247 (DTS):2009				ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255													
EUT OPERATING MODES													
High Channel 2475 MHz. 4 dBi Omni Antenna, Hyperlink Model HGV-2404U.													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		3		<i>Jaemi Suh</i> 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)	Comments
7423.568	43.1	13.8	360.0	1.2	0.0	0.0	V-Horn	PK	0.0	56.9	74.0	-17.1	Z-Axis
7422.886	42.8	13.8	49.0	1.0	0.0	0.0	V-Horn	PK	0.0	56.6	74.0	-17.4	X-Axis
7424.479	42.0	13.8	0.0	3.3	0.0	0.0	H-Horn	PK	0.0	55.8	74.0	-18.2	Z-Axis
7425.708	41.5	13.8	65.0	2.0	0.0	0.0	H-Horn	PK	0.0	55.3	74.0	-18.7	X-Axis
7426.733	41.2	13.8	64.0	3.0	0.0	0.0	H-Horn	PK	0.0	55.0	74.0	-19.0	Y-Axis
7426.941	41.1	13.8	307.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.9	74.0	-19.1	Y-Axis
4948.686	44.0	6.5	21.0	2.2	0.0	0.0	H-Horn	PK	0.0	50.5	74.0	-23.5	Y-Axis
4950.461	42.5	6.5	359.0	3.3	0.0	0.0	H-Horn	PK	0.0	49.0	74.0	-25.0	Z-Axis
4950.446	41.4	6.5	263.0	1.3	0.0	0.0	V-Horn	PK	0.0	47.9	74.0	-26.1	Z-Axis
4947.955	40.8	6.5	359.0	1.3	0.0	0.0	H-Horn	PK	0.0	47.3	74.0	-26.7	X-Axis
4949.039	40.5	6.5	6.0	1.8	0.0	0.0	V-Horn	PK	0.0	47.0	74.0	-27.0	X-Axis
4949.815	40.0	6.5	360.0	2.3	0.0	0.0	V-Horn	PK	0.0	46.5	74.0	-27.5	Y-Axis
7423.132	31.6	13.8	49.0	1.0	20.0	0.0	V-Horn	AV	0.0	25.4	54.0	-28.6	X-Axis
7426.035	29.9	13.8	65.0	2.0	20.0	0.0	H-Horn	AV	0.0	23.7	54.0	-30.3	X-Axis
7419.728	29.6	13.8	360.0	1.2	20.0	0.0	V-Horn	AV	0.0	23.4	54.0	-30.6	Z-Axis
7423.035	29.6	13.8	0.0	3.3	20.0	0.0	H-Horn	AV	0.0	23.4	54.0	-30.6	Z-Axis
7423.377	29.6	13.8	64.0	3.0	20.0	0.0	H-Horn	AV	0.0	23.4	54.0	-30.6	Y-Axis
7422.384	29.5	13.8	307.0	1.0	20.0	0.0	V-Horn	AV	0.0	23.3	54.0	-30.7	Y-Axis
4948.822	32.9	6.5	21.0	2.2	20.0	0.0	H-Horn	AV	0.0	19.4	54.0	-34.6	Y-Axis
12373.410	46.6	-7.9	113.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.7	74.0	-35.3	Z-Axis

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21								
EMC				EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/16/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz		Job Site: OC11								
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF8 (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
Low Channel 2405 MHz. 8 dBi Omni Antenna, Hyperlink Model HGV-2409U												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #		9										
Configuration #		1										
Results		Pass										
Signature 												
												
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)
4811.068	40.5	6.0	0.0	1.2	0.0	0.0	H-Horn	PK	0.0	46.5	74.0	-27.5
4810.611	40.2	6.0	154.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.2	74.0	-27.8
12023.120	48.4	-8.9	198.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.5	74.0	-34.5
12023.670	47.1	-8.9	194.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.2	74.0	-35.8
4810.531	29.1	6.0	0.0	1.2	20.0	0.0	H-Horn	AV	0.0	15.1	54.0	-38.9
4808.607	28.5	6.0	154.0	1.0	20.0	0.0	V-Horn	AV	0.0	14.5	54.0	-39.5
12023.950	35.4	-8.9	194.0	1.0	20.0	0.0	H-Horn	AV	0.0	6.5	54.0	-47.5
12024.230	35.4	-8.9	198.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.5	54.0	-47.5

EMC

SPURIOUS RADIATED EMISSIONS

EUT:	SmartRadar Flexline Radio Board Part# 50025034	Work Order:	HONE0046
Serial Number:	None	Date:	06/17/09
Customer:	Honeywell	Temperature:	22.1
Attendees:	David Shipley	Humidity:	51%
Project:	None	Barometric Pres.:	1019.4
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

Test Method

FCC 15.247 (DTS):2009

ANSI C63.4:2003 KDB No. 558074

TEST PARAMETERS

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

Dwell Time = 0.61 msec.

Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report).

SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL.

Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss).

PC Power Setting = 255

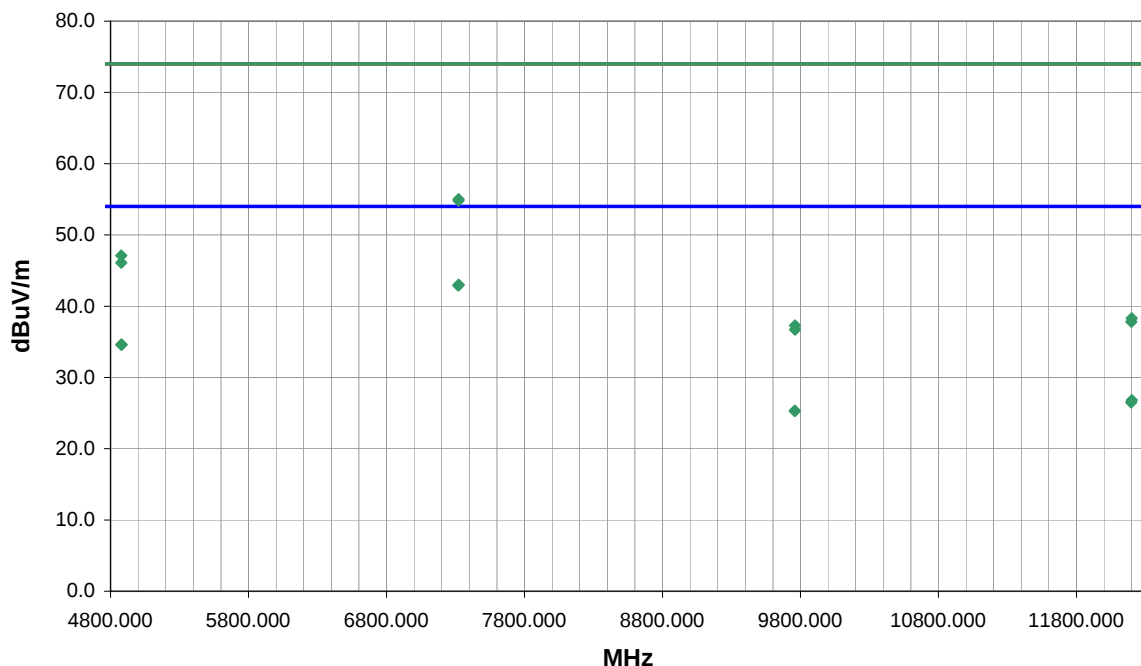
EUT OPERATING MODES

Mid Channel 2440 MHz. 8 dBI Omni Antenna Hyperlink Model HGV-2409U

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	25	Signature 
Configuration #	1	
Results	Pass	



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
7323.085	29.5	13.5	268.0	1.0	3.0	0.0	V-Horn	AV	0.0	43.0	54.0	-11.0
7319.910	29.4	13.5	240.0	1.0	3.0	0.0	H-Horn	AV	0.0	42.9	54.0	-11.1
7321.516	41.5	13.5	240.0	1.0	3.0	0.0	H-Horn	PK	0.0	55.0	74.0	-19.0
7322.013	41.3	13.5	268.0	1.0	3.0	0.0	V-Horn	PK	0.0	54.8	74.0	-19.2
4877.579	28.4	6.2	308.0	1.0	3.0	0.0	V-Horn	AV	0.0	34.6	54.0	-19.4
4879.962	28.4	6.2	128.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.6	54.0	-19.4
4877.252	40.9	6.2	308.0	1.0	3.0	0.0	V-Horn	PK	0.0	47.1	74.0	-26.9
12201.140	35.2	-8.4	21.0	3.8	3.0	0.0	H-Horn	AV	0.0	26.8	54.0	-27.2
12196.940	34.9	-8.4	334.0	1.0	3.0	0.0	V-Horn	AV	0.0	26.5	54.0	-27.5
4878.219	39.9	6.2	128.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.1	74.0	-27.9
9758.067	37.4	-12.1	124.0	1.0	3.0	0.0	H-Horn	AV	0.0	25.3	54.0	-28.7
9759.947	37.4	-12.1	127.0	1.0	3.0	0.0	V-Horn	AV	0.0	25.3	54.0	-28.7
12200.610	46.7	-8.4	21.0	3.8	3.0	0.0	H-Horn	PK	0.0	38.3	74.0	-35.7
12197.400	46.2	-8.4	334.0	1.0	3.0	0.0	V-Horn	PK	0.0	37.8	74.0	-36.2
9760.937	49.4	-12.1	124.0	1.0	3.0	0.0	H-Horn	PK	0.0	37.3	74.0	-36.7
9760.331	48.8	-12.1	127.0	1.0	3.0	0.0	V-Horn	PK	0.0	36.7	74.0	-37.3

EMC

SPURIOUS RADIATED EMISSIONS

EUT:	SmartRadar Flexline Radio Board Part# 50025034	Work Order:	HONE0046
Serial Number:	None	Date:	06/16/09
Customer:	Honeywell	Temperature:	22.1
Attendees:	David Shipley	Humidity:	51%
Project:	None	Barometric Pres.:	1019.4
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

Test Method

FCC 15.247 (DTS):2009

ANSI C63.4:2003 KDB No. 558074

TEST PARAMETERS

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

Dwell Time = 0.61 msec.

Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report).

SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL.

Hyperlink Lightning Surge Arrester Model # AC6-NMNF8 (0.5 dB Insertion Loss).

PC Power Setting = 255

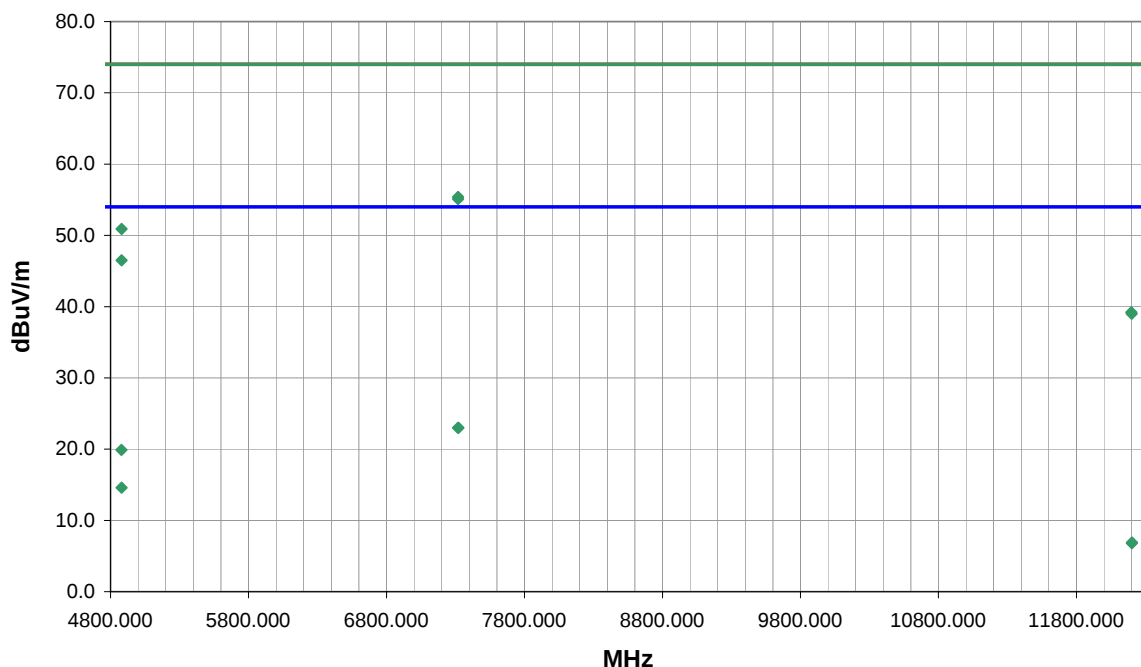
EUT OPERATING MODES

Mid Channel 2440 MHz. 8 dBI Omni Antenna Hyperlink Model HGV-2409U

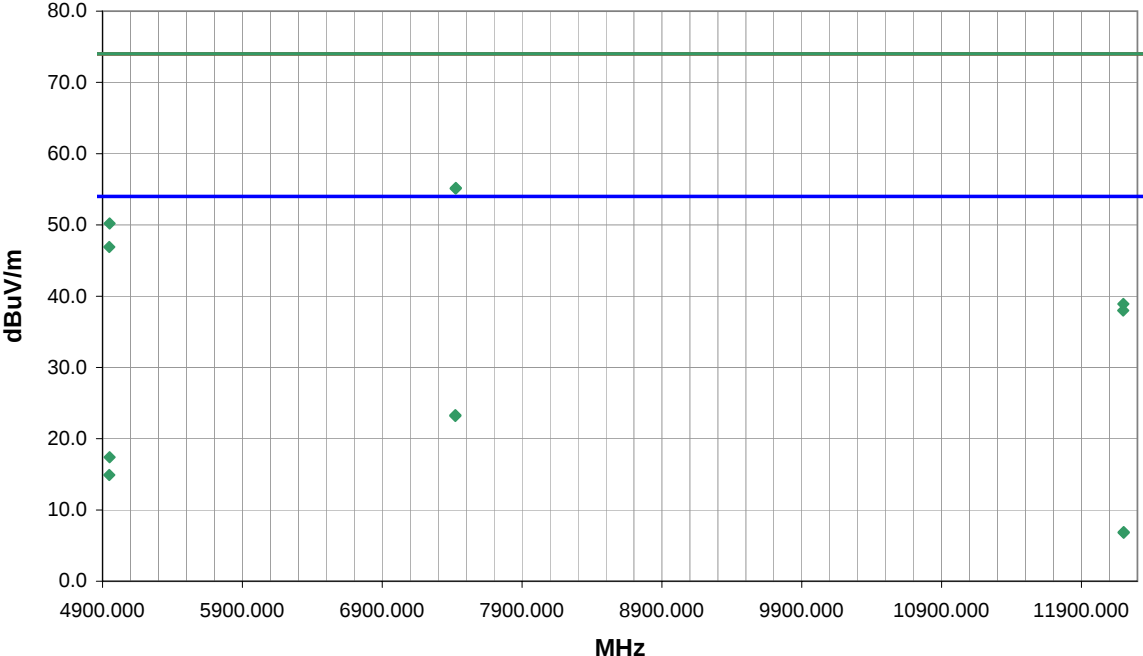
DEVIATIONS FROM TEST STANDARD

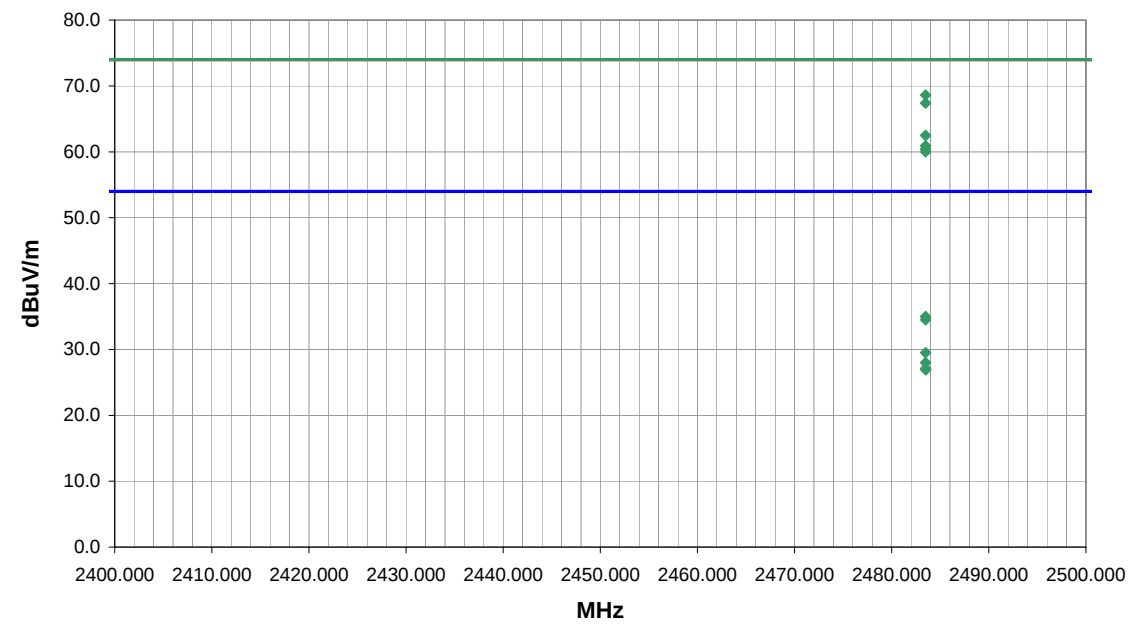
No deviations.

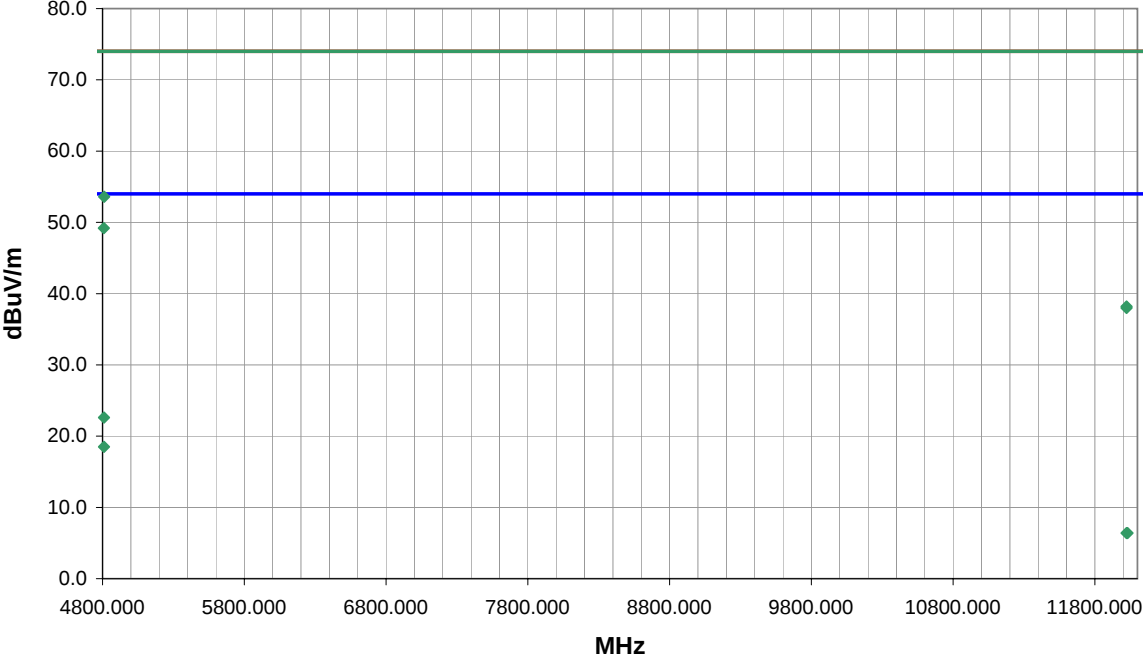
Run #	11	Signature 
Configuration #	1	
Results	Pass	



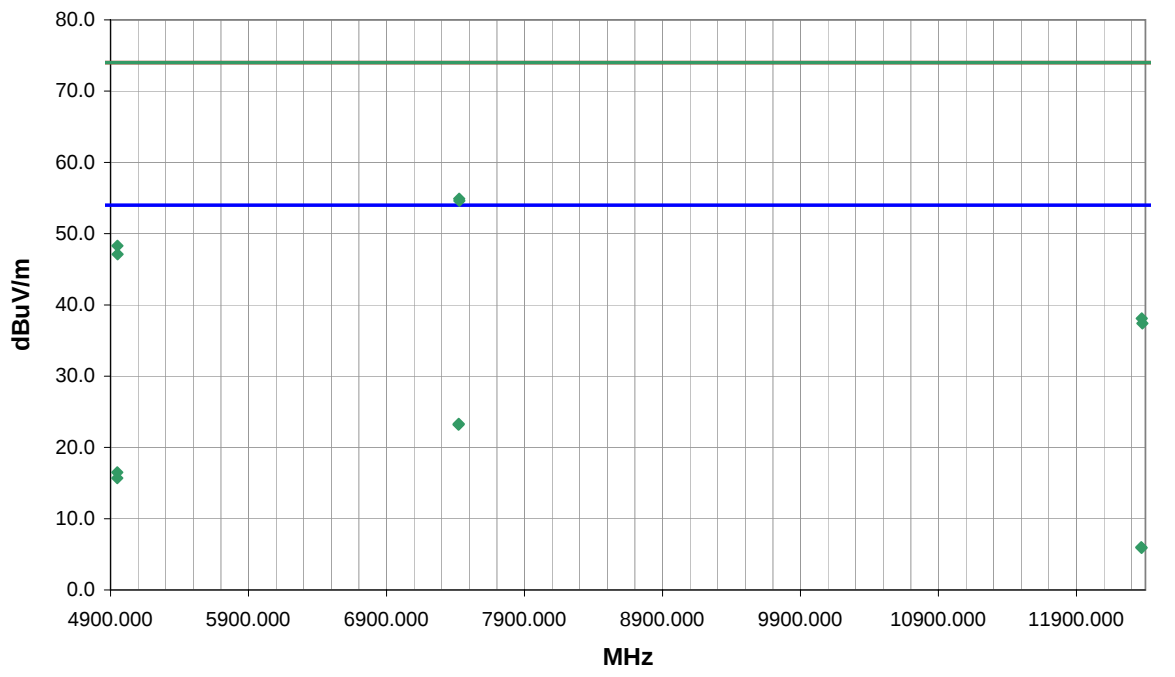
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
7318.262	41.9	13.5	62.0	1.0	0.0	0.0	V-Horn	PK	0.0	55.4	74.0	-18.6
7318.429	41.6	13.5	293.0	1.0	0.0	0.0	H-Horn	PK	0.0	55.1	74.0	-18.9
4880.512	44.7	6.2	115.0	1.5	0.0	0.0	H-Horn	PK	0.0	50.9	74.0	-23.1
4879.560	40.3	6.2	96.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.5	74.0	-27.5
7318.317	29.5	13.5	293.0	1.0	20.0	0.0	H-Horn	AV	0.0	23.0	54.0	-31.0
7321.377	29.5	13.5	62.0	1.0	20.0	0.0	V-Horn	AV	0.0	23.0	54.0	-31.0
4878.813	33.7	6.2	115.0	1.5	20.0	0.0	H-Horn	AV	0.0	19.9	54.0	-34.1
12197.450	47.6	-8.4	342.0	1.0	0.0	0.0	V-Horn	PK	0.0	39.2	74.0	-34.8
12200.240	47.4	-8.4	99.0	1.0	0.0	0.0	H-Horn	PK	0.0	39.0	74.0	-35.0
4879.571	28.4	6.2	96.0	1.0	20.0	0.0	V-Horn	AV	0.0	14.6	54.0	-39.4
12202.860	35.3	-8.4	99.0	1.0	20.0	0.0	H-Horn	AV	0.0	6.9	54.0	-47.1
12201.540	35.2	-8.4	342.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.8	54.0	-47.2

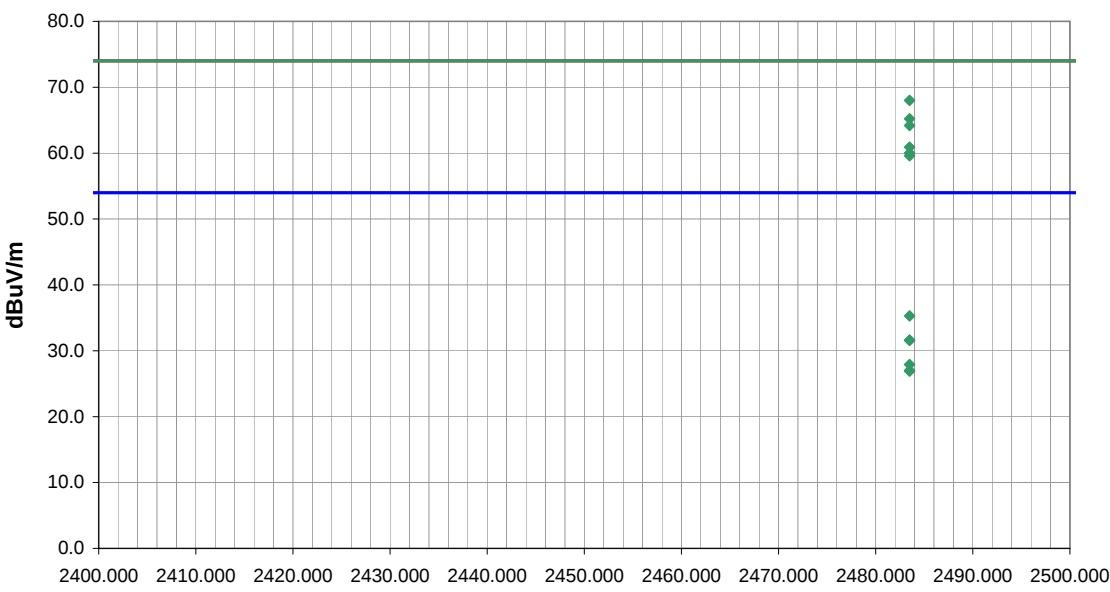
NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21								
EMC				EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/16/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11									
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4	Test Distance (m)		3							
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
High Channel 2475 MHz, 8 dBi Omni Antenna Hyperlink Model HGV-2409U												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	13		 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)
7425.849	41.4	13.8	99.0	1.0	0.0	0.0	H-Horn	PK	0.0	55.2	74.0	-18.8
7424.918	41.3	13.8	1.0	1.8	0.0	0.0	V-Horn	PK	0.0	55.1	74.0	-18.9
4950.304	43.7	6.5	184.0	1.6	0.0	0.0	H-Horn	PK	0.0	50.2	74.0	-23.8
4948.339	40.4	6.5	214.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.9	74.0	-27.1
7422.479	29.5	13.8	99.0	1.0	20.0	0.0	H-Horn	AV	0.0	23.3	54.0	-30.7
7423.296	29.4	13.8	1.0	1.8	20.0	0.0	V-Horn	AV	0.0	23.2	54.0	-30.8
12199.370	47.3	-8.4	231.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.9	74.0	-35.1
12198.280	46.4	-8.4	168.0	1.7	0.0	0.0	H-Horn	PK	0.0	38.0	74.0	-36.0
4950.625	30.9	6.5	184.0	1.6	20.0	0.0	H-Horn	AV	0.0	17.4	54.0	-36.6
4948.513	28.4	6.5	214.0	1.0	20.0	0.0	V-Horn	AV	0.0	14.9	54.0	-39.1
12201.690	35.3	-8.4	168.0	1.7	20.0	0.0	H-Horn	AV	0.0	6.9	54.0	-47.1
12201.870	35.2	-8.4	231.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.8	54.0	-47.2

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21 EMI 2006.4.26									
EMC													
EUT: SmartRadar Flexline Radio Board Part# 50025034				Work Order: HONE0046									
Serial Number: None				Date: 06/16/09									
Customer: Honeywell				Temperature: 22.1									
Attendees: David Shipley				Humidity: 51%									
Project: None				Barometric Pres.: 1019.4									
Tested by: Jaemi Suh				Power: 120VAC/60Hz									
				Job Site: OC11									
TEST SPECIFICATIONS				Test Method									
FCC 15.247 (DTS):2009				ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255													
EUT OPERATING MODES													
High Channel 2475 MHz. 8 dBi Omni Antenna Hyperlink Model HGV-2409U													
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)	Comments
2483.500	51.5	-2.9	64.0	1.6	0.0	20.0	H-Horn	PK	0.0	68.6	74.0	-5.4	Y-Axis
2483.500	50.3	-2.9	336.0	1.5	0.0	20.0	V-Horn	PK	0.0	67.4	74.0	-6.6	X-Axis
2483.500	45.4	-2.9	35.0	1.2	0.0	20.0	V-Horn	PK	0.0	62.5	74.0	-11.5	Z-Axis
2483.500	43.8	-2.9	186.0	1.5	0.0	20.0	H-Horn	PK	0.0	60.9	74.0	-13.1	Z-Axis
2483.500	43.3	-2.9	67.0	1.6	0.0	20.0	H-Horn	PK	0.0	60.4	74.0	-13.6	X-Axis
2483.500	42.9	-2.9	216.0	1.5	0.0	20.0	V-Horn	PK	0.0	60.0	74.0	-14.0	Y-Axis
2483.500	37.9	-2.9	64.0	1.6	20.0	20.0	H-Horn	AV	0.0	35.0	54.0	-19.0	Y-Axis
2483.500	37.4	-2.9	336.0	1.5	20.0	20.0	V-Horn	AV	0.0	34.5	54.0	-19.5	X-Axis
2483.500	32.4	-2.9	35.0	1.2	20.0	20.0	V-Horn	AV	0.0	29.5	54.0	-24.5	Z-Axis
2483.499	30.9	-2.9	186.0	1.5	20.0	20.0	H-Horn	AV	0.0	28.0	54.0	-26.0	Z-Axis
2483.500	30.0	-2.9	67.0	1.6	20.0	20.0	H-Horn	AV	0.0	27.1	54.0	-26.9	X-Axis
2483.501	29.8	-2.9	216.0	1.5	20.0	20.0	V-Horn	AV	0.0	26.9	54.0	-27.1	Y-Axis

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21								
EMC				EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/17/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11									
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3								
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF8 (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
Low Channel 2405 MHz. 14 dBI Dish Antenna Model HG2414D												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	23		 Signature									
Configuration #	1											
Results	Pass											
												
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
4810.847	47.6	6.0	1.0	1.3	0.0	0.0	H-Horn	PK	0.0	53.6	74.0	-20.4
4808.545	43.2	6.0	301.0	1.0	0.0	0.0	V-Horn	PK	0.0	49.2	74.0	-24.8
4810.657	36.6	6.0	1.0	1.3	20.0	0.0	H-Horn	AV	0.0	22.6	54.0	-31.4
4810.605	32.5	6.0	301.0	1.0	20.0	0.0	V-Horn	AV	0.0	18.5	54.0	-35.5
12023.560	47.1	-8.9	321.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.2	74.0	-35.8
12022.980	46.9	-8.9	148.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.0	74.0	-36.0
12023.090	35.3	-8.9	148.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.4	54.0	-47.6
12030.030	35.3	-8.9	321.0	1.0	20.0	0.0	H-Horn	AV	0.0	6.4	54.0	-47.6

NORTHWEST EMC		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21 EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/17/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11									
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4	Test Distance (m)		3							
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
Mid Channel 2440 MHz, 14 dBI Dish Antenna Model HG2414D												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
Run #	21		<i>Jaemi Suh</i> 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)
7320.563	41.7	13.5	304.0	1.0	0.0	0.0	V-Horn	PK	0.0	55.2	74.0	-18.8
7319.187	41.5	13.5	127.0	2.6	0.0	0.0	H-Horn	PK	0.0	55.0	74.0	-19.0
4880.684	43.9	6.2	1.0	1.3	0.0	0.0	H-Horn	PK	0.0	50.1	74.0	-23.9
4878.698	42.7	6.2	316.0	1.0	0.0	0.0	V-Horn	PK	0.0	48.9	74.0	-25.1
7319.478	29.5	13.5	304.0	1.0	20.0	0.0	V-Horn	AV	0.0	23.0	54.0	-31.0
7321.763	29.5	13.5	127.0	2.6	20.0	0.0	H-Horn	AV	0.0	23.0	54.0	-31.0
4878.722	33.2	6.2	1.0	1.3	20.0	0.0	H-Horn	AV	0.0	19.4	54.0	-34.6
12199.140	47.4	-8.4	344.0	1.0	0.0	0.0	H-Horn	PK	0.0	39.0	74.0	-35.0
12197.960	46.5	-8.4	1.0	1.0	0.0	0.0	V-Horn	PK	0.0	38.1	74.0	-35.9
4880.683	31.2	6.2	316.0	1.0	20.0	0.0	V-Horn	AV	0.0	17.4	54.0	-36.6
12203.760	35.3	-8.4	344.0	1.0	20.0	0.0	H-Horn	AV	0.0	6.9	54.0	-47.1
12203.090	35.1	-8.4	1.0	1.0	20.0	0.0	V-Horn	AV	0.0	6.7	54.0	-47.3

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21								
EMC				EMI 2006.4.26								
EUT: SmartRadar Flexline Radio Board Part# 50025034			Work Order: HONE0046									
Serial Number: None			Date: 06/16/09									
Customer: Honeywell			Temperature: 22.1									
Attendees: David Shipley			Humidity: 51%									
Project: None			Barometric Pres.: 1019.4									
Tested by: Jaemi Suh		Power: 120VAC/60Hz	Job Site: OC11									
TEST SPECIFICATIONS			Test Method									
FCC 15.247 (DTS):2009			ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS												
Antenna Height(s) (m)		1 - 4	Test Distance (m)		3							
COMMENTS												
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255												
EUT OPERATING MODES												
High Channel 2475 MHz. 14 dBi Dish Antenna Model HG2414D												
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)
7427.002	41.1	13.8	99.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.9	74.0	-19.1
7427.967	40.8	13.8	288.0	3.4	0.0	0.0	H-Horn	PK	0.0	54.6	74.0	-19.4
4950.118	41.8	6.5	19.0	1.0	0.0	0.0	V-Horn	PK	0.0	48.3	74.0	-25.7
4950.487	40.6	6.5	1.0	1.6	0.0	0.0	H-Horn	PK	0.0	47.1	74.0	-26.9
7423.592	29.5	13.8	288.0	3.4	20.0	0.0	H-Horn	AV	0.0	23.3	54.0	-30.7
7421.982	29.4	13.8	99.0	1.0	20.0	0.0	V-Horn	AV	0.0	23.2	54.0	-30.8
12373.070	46.0	-7.9	196.0	1.0	0.0	0.0	H-Horn	PK	0.0	38.1	74.0	-35.9
12377.630	45.3	-7.9	175.0	1.0	0.0	0.0	V-Horn	PK	0.0	37.4	74.0	-36.6
4948.720	30.0	6.5	19.0	1.0	20.0	0.0	V-Horn	AV	0.0	16.5	54.0	-37.5
4948.792	29.2	6.5	1.0	1.6	20.0	0.0	H-Horn	AV	0.0	15.7	54.0	-38.3
12370.000	33.9	-7.9	196.0	1.0	20.0	0.0	H-Horn	AV	0.0	6.0	54.0	-48.0
12372.250	33.8	-7.9	175.0	1.0	20.0	0.0	V-Horn	AV	0.0	5.9	54.0	-48.1

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2008.07.21									
EMC				EMI 2006.4.26									
EUT: SmartRadar Flexline Radio Board Part# 50025034		Work Order: HONE0046											
Serial Number: None		Date: 06/16/09											
Customer: Honeywell		Temperature: 22.1											
Attendees: David Shipley		Humidity: 51%											
Project: None		Barometric Pres.: 1019.4											
Tested by: Jaemi Suh		Power: 120VAC/60Hz		Job Site: OC11									
TEST SPECIFICATIONS		Test Method											
FCC 15.247 (DTS):2009		ANSI C63.4:2003 KDB No. 558074											
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
Dwell Time = 0.61 msec. Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report). SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss). PC Power Setting = 255													
EUT OPERATING MODES													
High Channel 2475 MHz. 14 dBI Dish Antenna Model HG2414D													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		18		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)	Comments
2483.500	50.9	-2.9	360.0	1.6	0.0	20.0	V-Horn	PK	0.0	68.0	74.0	-6.0	X-Axis
2483.500	48.1	-2.9	1.0	1.4	0.0	20.0	H-Horn	PK	0.0	65.2	74.0	-8.8	Z-Axis
2483.500	47.1	-2.9	360.0	1.3	0.0	20.0	H-Horn	PK	0.0	64.2	74.0	-9.8	X-Axis
2483.500	43.8	-2.9	315.0	2.4	0.0	20.0	V-Horn	PK	0.0	60.9	74.0	-13.1	Y-Axis
2483.500	42.9	-2.9	0.0	2.2	0.0	20.0	V-Horn	PK	0.0	60.0	74.0	-14.0	Z-Axis
2483.500	42.5	-2.9	139.0	1.3	0.0	20.0	H-Horn	PK	0.0	59.6	74.0	-14.4	Y-Axis
2483.500	38.2	-2.9	360.0	1.6	20.0	20.0	V-Horn	AV	0.0	35.3	54.0	-18.7	X-Axis
2483.500	34.5	-2.9	360.0	1.3	20.0	20.0	H-Horn	AV	0.0	31.6	54.0	-22.4	X-Axis
2483.500	34.5	-2.9	1.0	1.4	20.0	20.0	H-Horn	AV	0.0	31.6	54.0	-22.4	Z-Axis
2483.500	30.8	-2.9	315.0	2.4	20.0	20.0	V-Horn	AV	0.0	27.9	54.0	-26.1	Y-Axis
2483.500	29.9	-2.9	0.0	2.2	20.0	20.0	V-Horn	AV	0.0	27.0	54.0	-27.0	Z-Axis
2483.499	29.8	-2.9	139.0	1.3	20.0	20.0	H-Horn	AV	0.0	26.9	54.0	-27.1	Y-Axis

EMC

SPURIOUS RADIATED EMISSIONS

EUT:	SmartRadar Flexline Radio Board Part# 50025034	Work Order:	HONE0046
Serial Number:	None	Date:	06/17/09
Customer:	Honeywell	Temperature:	22.1
Attendees:	David Shipley	Humidity:	51%
Project:	None	Barometric Pres.:	1019.4
Tested by:	Jaemi Suh	Power:	120VAC/60Hz
		Job Site:	OC11

TEST SPECIFICATIONS

Test Method

FCC 15.247 (DTS):2009

ANSI C63.4:2003 KDB No. 558074

TEST PARAMETERS

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

Dwell Time = 0.61 msec.

Duty Cycle Correction Factor = -44 dBm (Using 20 dB correction factor as in previous XYR6000 test report).

SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL.

Hyperlink Lightning Surge Arrester Model # AC6-NMNFB (0.5 dB Insertion Loss).

PC Power Setting = 255

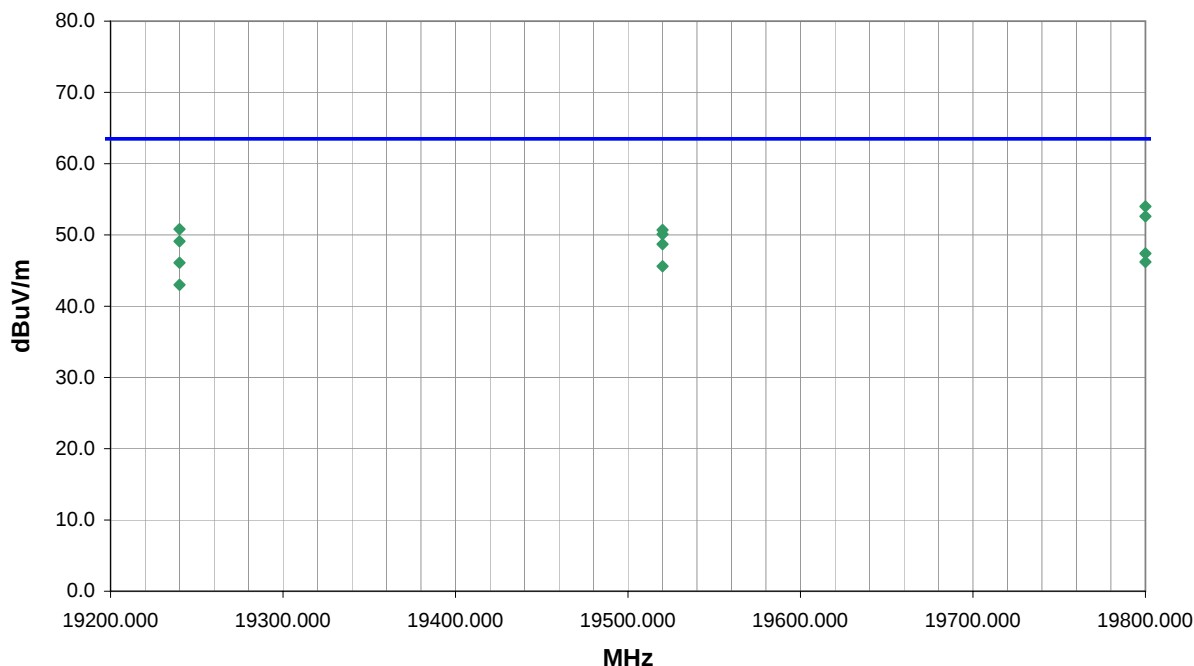
EUT OPERATING MODES

Low, Mid and High Channels

DEVIATIONS FROM TEST STANDARD

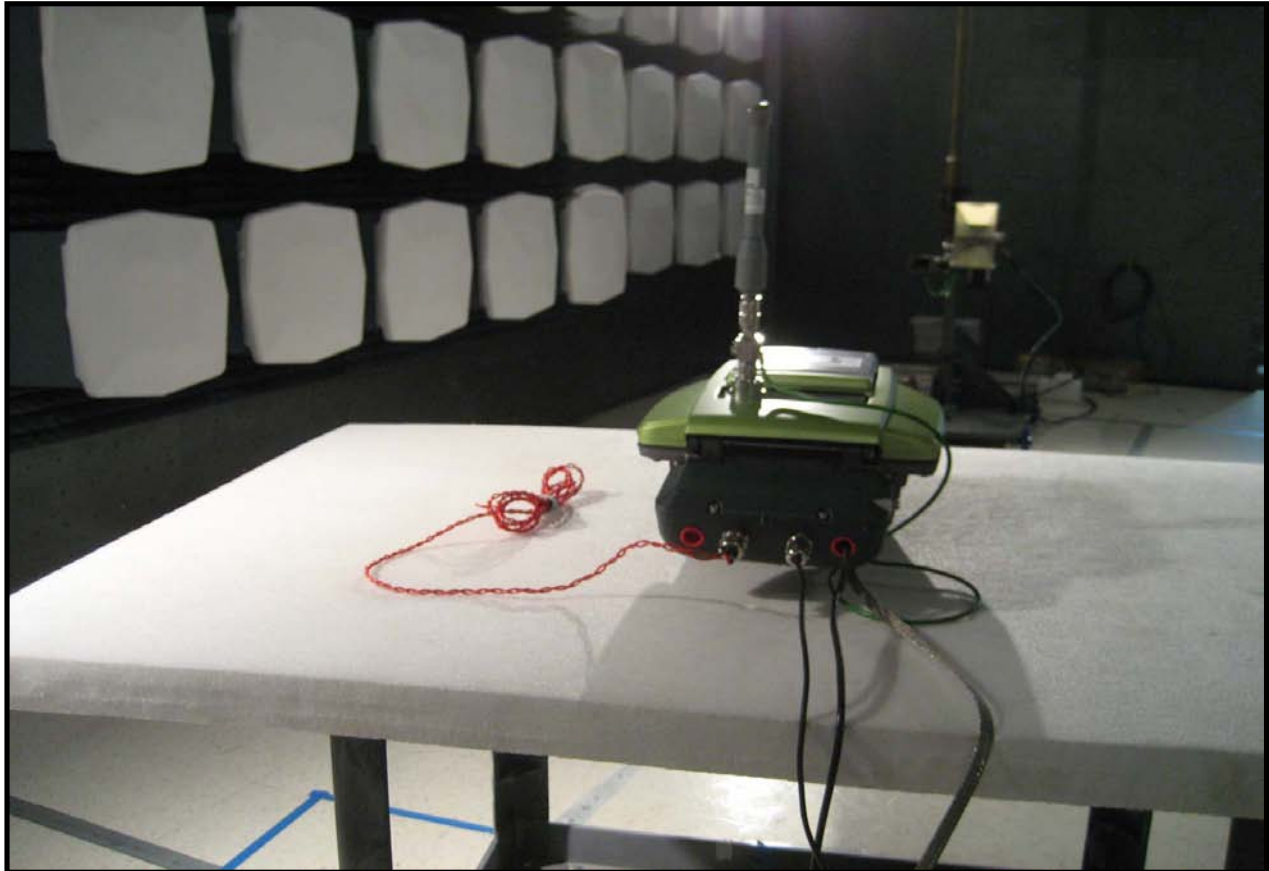
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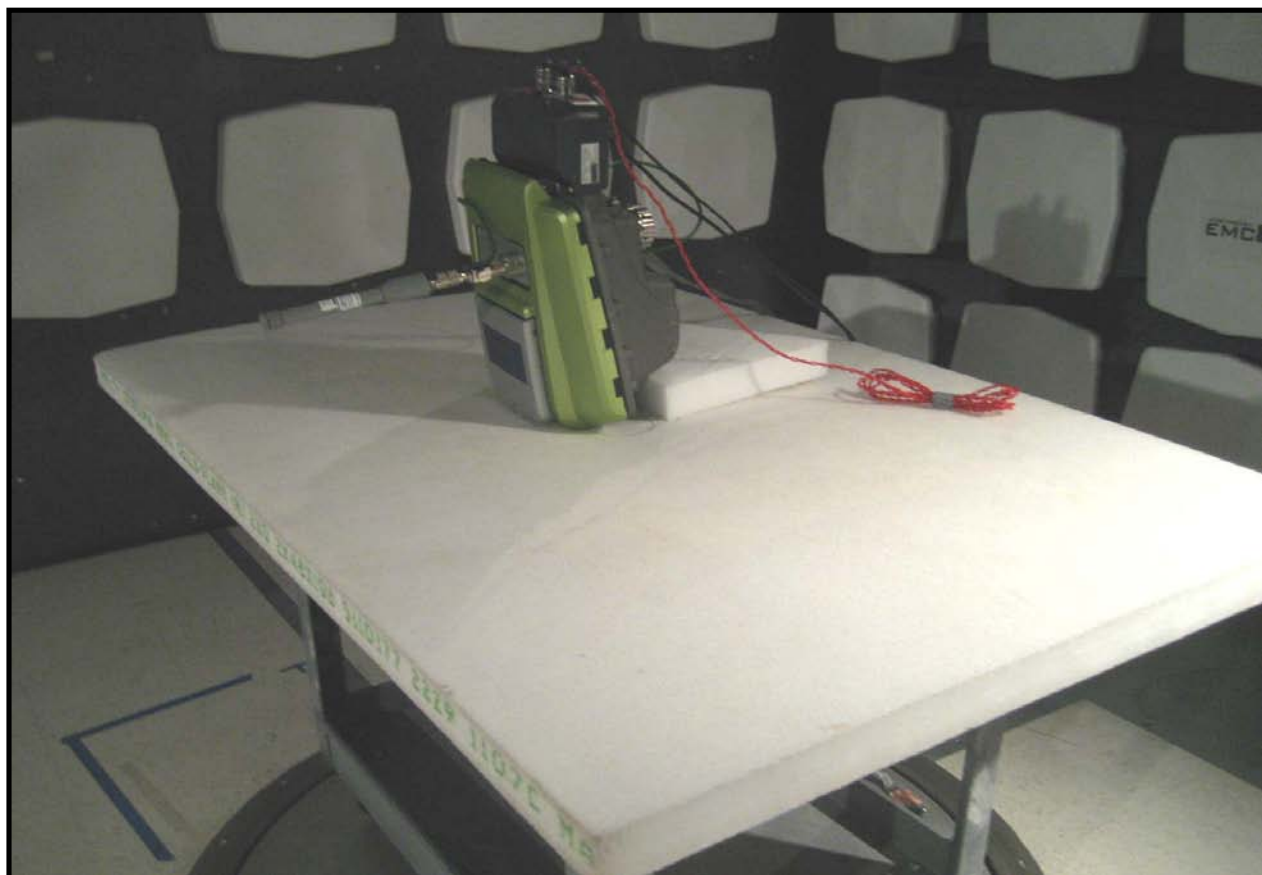
Run #	26	Signature 
Configuration #	1	
Results	Pass	

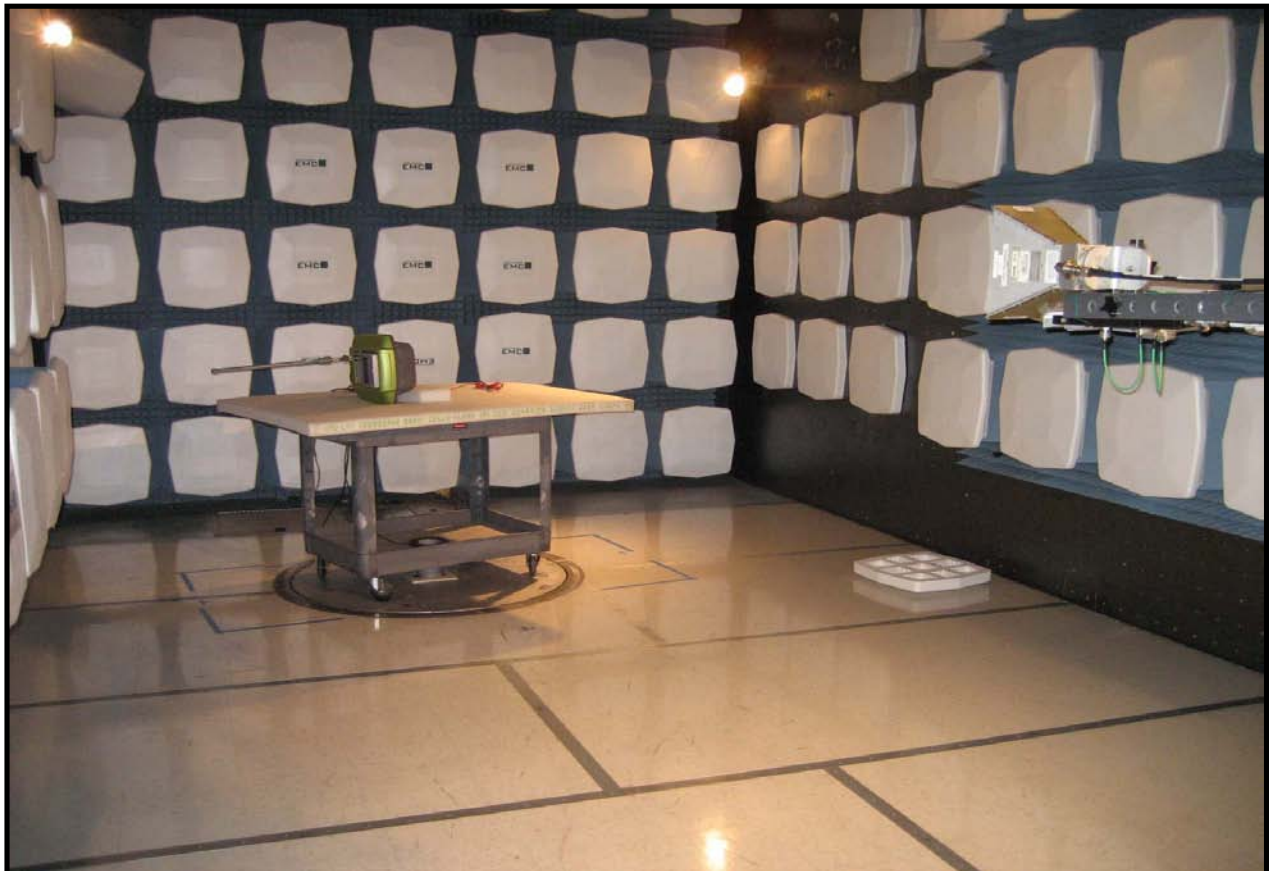


Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
19520.000	49.4	-0.7	120.0	1.4	3.0	0.0	H-Horn	AV	0.0	48.7	63.5	-14.8
19800.000	48.2	-0.8	56.0	1.4	3.0	0.0	H-Horn	AV	0.0	47.4	63.5	-16.1
19800.000	47.0	-0.8	56.0	1.4	3.0	0.0	V-Horn	AV	0.0	46.2	63.5	-17.3
19240.000	47.4	-1.3	24.0	1.0	3.0	0.0	H-Horn	AV	0.0	46.1	63.5	-17.4
19520.000	46.3	-0.7	56.0	1.4	3.0	0.0	V-Horn	AV	0.0	45.6	63.5	-17.9
19240.000	44.3	-1.3	76.0	1.0	3.0	0.0	V-Horn	AV	0.0	43.0	63.5	-20.5
19800.000	54.8	-0.8	56.0	1.4	3.0	0.0	H-Horn	PK	0.0	54.0	83.5	-29.5
19800.000	53.4	-0.8	56.0	1.4	3.0	0.0	V-Horn	PK	0.0	52.6	83.5	-30.9
19240.000	52.1	-1.3	24.0	1.0	3.0	0.0	H-Horn	PK	0.0	50.8	83.5	-32.7
19520.000	51.4	-0.7	120.0	1.4	3.0	0.0	H-Horn	PK	0.0	50.7	83.5	-32.8
19520.000	50.8	-0.7	56.0	1.4	3.0	0.0	V-Horn	PK	0.0	50.1	83.5	-33.4
19240.000	50.4	-1.3	76.0	1.0	3.0	0.0	V-Horn	PK	0.0	49.1	83.5	-34.4



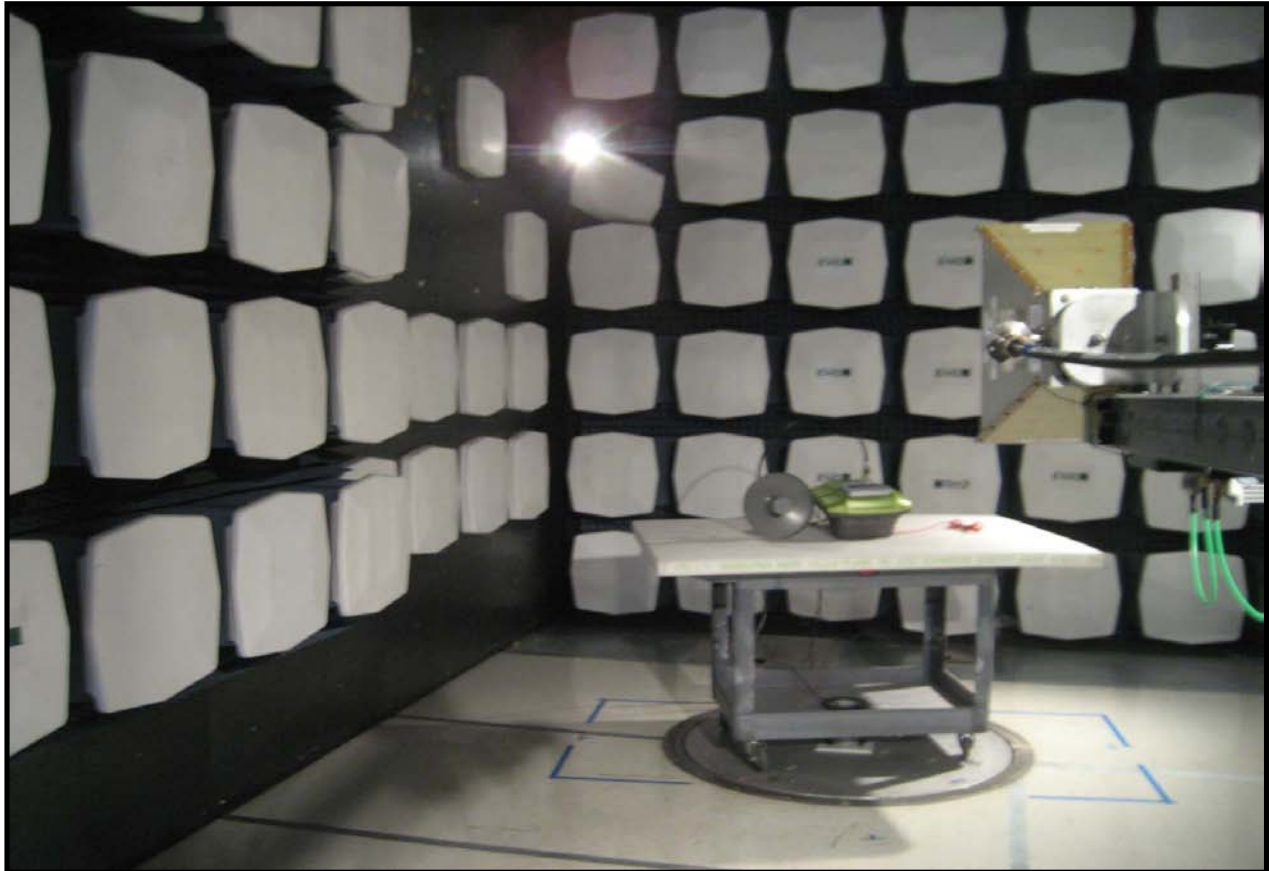












Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this 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 2475 MHz. 14 dBI Dish Antenna Model HG2414D

Mid Channel 2440 MHz. 14 dBI Dish Antenna Model HG2414D

Low Channel 2405 MHz. 14 dBI Dish Antenna Model HG2414D

POWER SETTINGS INVESTIGATED

120V/60Hz

CONFIGURATIONS INVESTIGATED

HONE0046 - 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-R-24-BNC	LIC	3/10/2009	13 mo
Attenuator	Pasternack	6N10W-20	AWC	2/10/2009	13 mo
High Pass Filter	TTE	H97-100K-50-720B	HFP	2/10/2009	13 mo
OC06 Cables	None	Telecom Cables	OCP	2/10/2009	13 mo
OC06 Cables	None	CE Cables	OCM	2/10/2009	13 mo
Receiver	Rohde & Schwarz	ESCI	ARF	3/2/2009	24 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

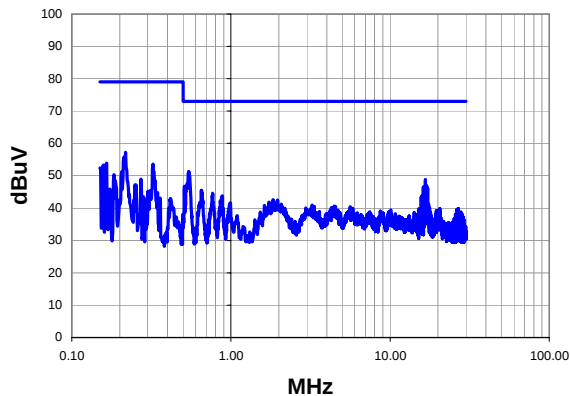
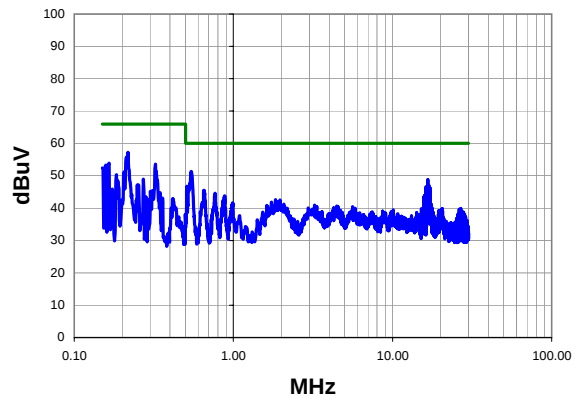
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is 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:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC06	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	Tested by: Jaemi Suh
EUT:	SmartRadar Flexline Radio Board Part# 50025034			
Configuration:	1			
Customer:	Honeywell			
Attendees:	David Shipley			
EUT Power:	120V/60Hz			
Operating Mode:	Low Channel 2405 MHz. 14 dBi Dish Antenna Model HG2414D			
Deviations:	No deviations.			
Comments:	SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF. PC Power Level Setting = 255			
Test Specifications FCC 15.107:2009		Class A		Test Method ANSI C63.4:2003
Run #	2	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**

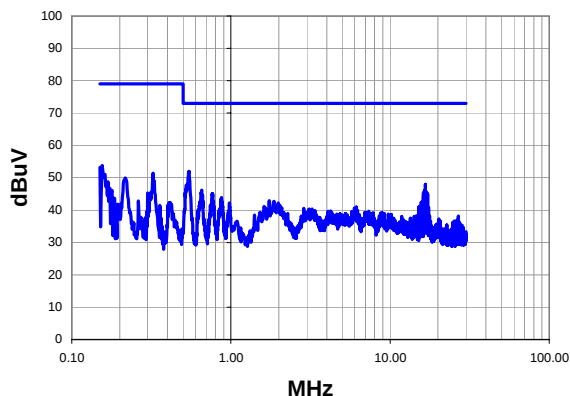
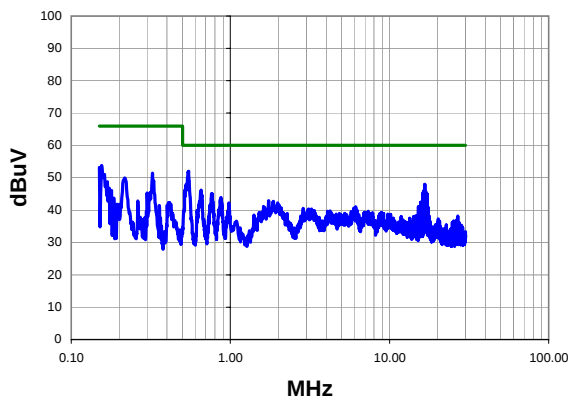
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.543	30.7	20.6	51.3	73.0	-21.7
0.218	36.2	21.1	57.3	79.0	-21.7
0.213	34.7	21.1	55.8	79.0	-23.2
16.680	27.9	20.9	48.8	73.0	-24.2
0.165	32.1	21.8	53.9	79.0	-25.1
0.323	32.7	20.9	53.6	79.0	-25.4
0.159	31.5	21.8	53.3	79.0	-25.7
16.940	26.1	20.9	47.0	73.0	-26.0
0.510	26.1	20.6	46.7	73.0	-26.3
16.430	25.7	20.9	46.6	73.0	-26.4
16.180	25.7	20.9	46.6	73.0	-26.4
0.150	30.5	21.9	52.4	79.0	-26.6
17.190	25.3	20.9	46.2	73.0	-26.8
0.652	25.0	20.5	45.5	73.0	-27.5
0.206	30.1	21.1	51.2	79.0	-27.8
0.767	24.1	20.5	44.6	73.0	-28.4
0.184	28.9	21.5	50.4	79.0	-28.6
15.920	23.1	20.9	44.0	73.0	-29.0
0.883	23.4	20.4	43.8	73.0	-29.2
15.670	22.6	20.9	43.5	73.0	-29.5

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.543	30.7	20.6	51.3	60.0	-8.7
0.218	36.2	21.1	57.3	66.0	-8.7
0.213	34.7	21.1	55.8	66.0	-10.2
16.680	27.9	20.9	48.8	60.0	-11.2
0.165	32.1	21.8	53.9	66.0	-12.1
0.323	32.7	20.9	53.6	66.0	-12.4
0.159	31.5	21.8	53.3	66.0	-12.7
16.940	26.1	20.9	47.0	60.0	-13.0
0.510	26.1	20.6	46.7	60.0	-13.3
16.430	25.7	20.9	46.6	60.0	-13.4
16.180	25.7	20.9	46.6	60.0	-13.4
0.150	30.5	21.9	52.4	66.0	-13.6
17.190	25.3	20.9	46.2	60.0	-13.8
0.652	25.0	20.5	45.5	60.0	-14.5
0.206	30.1	21.1	51.2	66.0	-14.8
0.767	24.1	20.5	44.6	60.0	-15.4
0.184	28.9	21.5	50.4	66.0	-15.6
15.920	23.1	20.9	44.0	60.0	-16.0
0.883	23.4	20.4	43.8	60.0	-16.2
15.670	22.6	20.9	43.5	60.0	-16.5

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC06	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	Tested by: Jaemi Suh
EUT:	SmartRadar Flexline Radio Board Part# 50025034			
Configuration:	1			
Customer:	Honeywell			
Attendees:	David Shipley			
EUT Power:	120V/60Hz			
Operating Mode:	Low Channel 2405 MHz. 14 dBi Dish Antenna Model HG2414D			
Deviations:	No deviations.			
Comments:	SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF. PC Power Level Setting = 255			
Test Specifications FCC 15.107:2009		Class A		Test Method ANSI C63.4:2003
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**

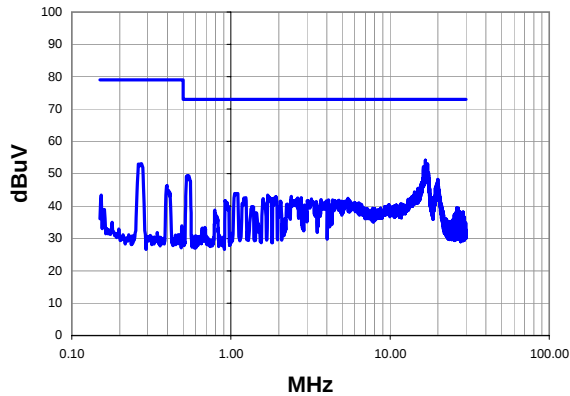
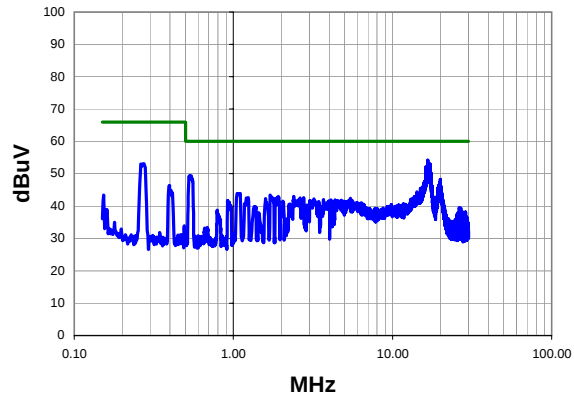
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.546	31.4	20.6	52.0	73.0	-21.0
16.680	27.1	20.9	48.0	73.0	-25.0
0.155	31.9	21.9	53.8	79.0	-25.2
0.150	31.3	21.9	53.2	79.0	-25.8
0.655	25.7	20.5	46.2	73.0	-26.8
16.430	25.1	20.9	46.0	73.0	-27.0
16.940	24.7	20.9	45.6	73.0	-27.4
0.323	30.5	20.9	51.4	79.0	-27.6
16.180	24.5	20.9	45.4	73.0	-27.6
0.762	24.6	20.5	45.1	73.0	-27.9
17.190	24.1	20.9	45.0	73.0	-28.0
0.216	28.9	21.1	50.0	79.0	-29.0
0.872	23.5	20.4	43.9	73.0	-29.1
1.744	22.5	20.4	42.9	73.0	-30.1
0.169	27.0	21.8	48.8	79.0	-30.2
1.864	22.3	20.4	42.7	73.0	-30.3
15.670	21.6	20.9	42.5	73.0	-30.5
15.920	21.4	20.9	42.3	73.0	-30.7
0.978	21.9	20.3	42.2	73.0	-30.8
15.160	20.3	20.9	41.2	73.0	-31.8

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
0.546	31.4	20.6	52.0	60.0	-8.0
16.680	27.1	20.9	48.0	60.0	-12.0
0.155	31.9	21.9	53.8	66.0	-12.2
0.150	31.3	21.9	53.2	66.0	-12.8
0.655	25.7	20.5	46.2	60.0	-13.8
16.430	25.1	20.9	46.0	60.0	-14.0
16.940	24.7	20.9	45.6	60.0	-14.4
0.323	30.5	20.9	51.4	66.0	-14.6
16.180	24.5	20.9	45.4	60.0	-14.6
0.762	24.6	20.5	45.1	60.0	-14.9
17.190	24.1	20.9	45.0	60.0	-15.0
0.216	28.9	21.1	50.0	66.0	-16.0
0.872	23.5	20.4	43.9	60.0	-16.1
1.744	22.5	20.4	42.9	60.0	-17.1
0.169	27.0	21.8	48.8	66.0	-17.2
1.864	22.3	20.4	42.7	60.0	-17.3
15.670	21.6	20.9	42.5	60.0	-17.5
15.920	21.4	20.9	42.3	60.0	-17.7
0.978	21.9	20.3	42.2	60.0	-17.8
15.160	20.3	20.9	41.2	60.0	-18.8

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC06	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	Tested by: Jaemi Suh
EUT:	SmartRadar Flexline Radio Board Part# 50025034			
Configuration:	1			
Customer:	Honeywell			
Attendees:	David Shipley			
EUT Power:	120V/60Hz			
Operating Mode:	Mid Channel 2440 MHz. 14 dBi Dish Antenna Model HG2414D			
Deviations:	No deviations.			
Comments:	SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF. PC Power Level Setting = 255			
Test Specifications FCC 15.107:2009		Class A		Test Method ANSI C63.4:2003
Run #	4	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**

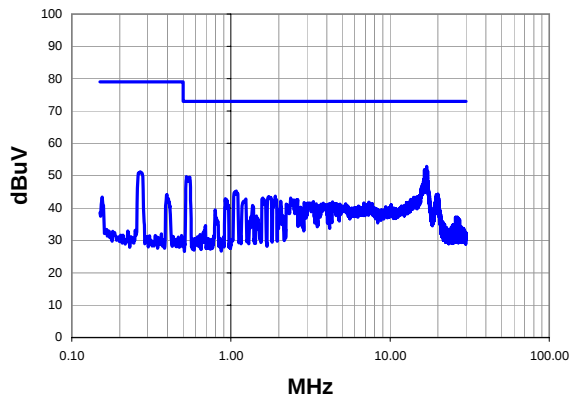
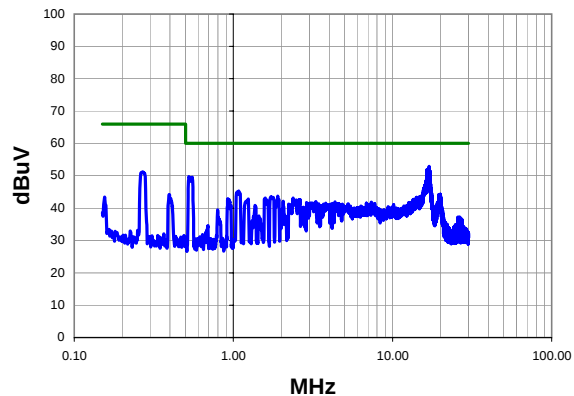
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
16.690	33.3	20.9	54.2	73.0	-18.8
17.190	32.1	20.9	53.0	73.0	-20.0
17.040	31.5	20.9	52.4	73.0	-20.6
16.180	31.4	20.9	52.3	73.0	-20.7
16.430	30.8	20.9	51.7	73.0	-21.3
17.440	29.3	20.9	50.2	73.0	-22.8
0.531	28.8	20.6	49.4	73.0	-23.6
19.940	27.3	21.0	48.3	73.0	-24.7
15.840	26.4	20.9	47.3	73.0	-25.7
0.272	32.2	20.9	53.1	79.0	-25.9
19.530	25.5	21.0	46.5	73.0	-26.5
19.250	24.6	21.0	45.6	73.0	-27.4
15.000	24.6	20.9	45.5	73.0	-27.5
15.340	24.2	20.9	45.1	73.0	-27.9
14.210	23.6	20.8	44.4	73.0	-28.6
14.900	23.4	20.9	44.3	73.0	-28.7
1.104	23.6	20.3	43.9	73.0	-29.1
1.704	23.0	20.4	43.4	73.0	-29.6
2.392	22.6	20.4	43.0	73.0	-30.0
1.912	22.5	20.4	42.9	73.0	-30.1

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
16.690	33.3	20.9	54.2	60.0	-5.8
17.190	32.1	20.9	53.0	60.0	-7.0
17.040	31.5	20.9	52.4	60.0	-7.6
16.180	31.4	20.9	52.3	60.0	-7.7
16.430	30.8	20.9	51.7	60.0	-8.3
17.440	29.3	20.9	50.2	60.0	-9.8
0.531	28.8	20.6	49.4	60.0	-10.6
19.940	27.3	21.0	48.3	60.0	-11.7
15.840	26.4	20.9	47.3	60.0	-12.7
0.272	32.2	20.9	53.1	66.0	-12.9
19.530	25.5	21.0	46.5	60.0	-13.5
19.250	24.6	21.0	45.6	60.0	-14.4
15.000	24.6	20.9	45.5	60.0	-14.5
15.340	24.2	20.9	45.1	60.0	-14.9
14.210	23.6	20.8	44.4	60.0	-15.6
14.900	23.4	20.9	44.3	60.0	-15.7
1.104	23.6	20.3	43.9	60.0	-16.1
1.704	23.0	20.4	43.4	60.0	-16.6
2.392	22.6	20.4	43.0	60.0	-17.0
1.912	22.5	20.4	42.9	60.0	-17.1

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC06	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	
EUT:		SmartRadar Flexline Radio Board Part# 50025034		
Configuration:		1		
Customer:		Honeywell		
Attendees:		David Shipley		
EUT Power:		120V/60Hz		
Operating Mode:		Mid Channel 2440 MHz. 14 dBi Dish Antenna Model HG2414D		
Deviations:		No deviations.		
Comments:		SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF. PC Power Level Setting = 255		
Test Specifications		Class A		Test Method
FCC 15.107:2009				ANSI C63.4:2003
Run #	5	Line:	Neutral	Ext. Attenuation: 20
Results				Pass

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

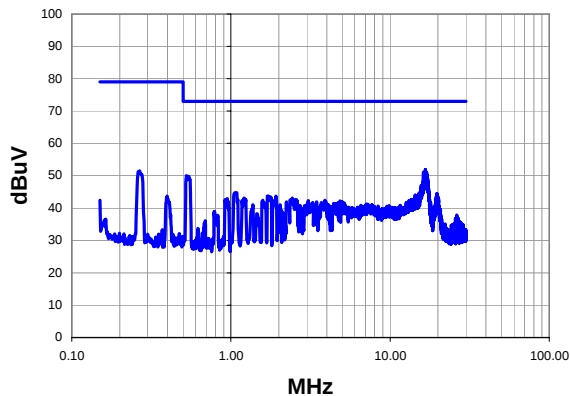
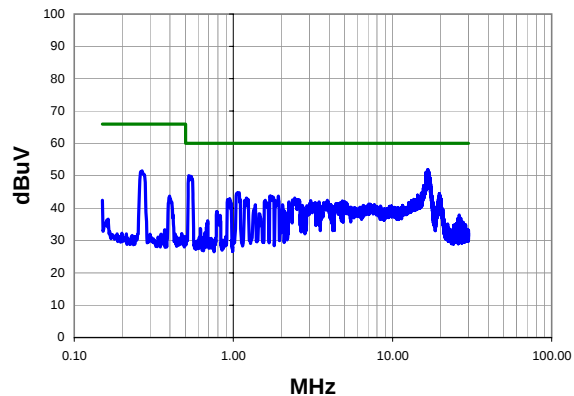
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
16.940	32.0	20.9	52.9	73.0	-20.1
16.430	30.9	20.9	51.8	73.0	-21.2
17.190	30.5	20.9	51.4	73.0	-21.6
16.680	30.1	20.9	51.0	73.0	-22.0
17.120	30.0	20.9	50.9	73.0	-22.1
0.526	29.1	20.6	49.7	73.0	-23.3
16.370	28.2	20.9	49.1	73.0	-23.9
1.080	25.0	20.3	45.3	73.0	-27.7
0.269	30.3	20.9	51.2	79.0	-27.8
17.600	23.6	21.0	44.6	73.0	-28.4
20.000	23.3	21.0	44.3	73.0	-28.7
19.520	23.1	21.0	44.1	73.0	-28.9
17.700	22.9	21.0	43.9	73.0	-29.1
19.940	22.8	21.0	43.8	73.0	-29.2
20.040	22.7	21.0	43.7	73.0	-29.3
1.896	23.3	20.4	43.7	73.0	-29.3
19.740	22.7	21.0	43.7	73.0	-29.3
1.728	23.1	20.4	43.5	73.0	-29.5
14.810	22.6	20.9	43.5	73.0	-29.5
14.670	22.6	20.9	43.5	73.0	-29.5

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
16.940	32.0	20.9	52.9	60.0	-7.1
16.430	30.9	20.9	51.8	60.0	-8.2
17.190	30.5	20.9	51.4	60.0	-8.6
16.680	30.1	20.9	51.0	60.0	-9.0
17.120	30.0	20.9	50.9	60.0	-9.1
0.526	29.1	20.6	49.7	60.0	-10.3
16.370	28.2	20.9	49.1	60.0	-10.9
1.080	25.0	20.3	45.3	60.0	-14.7
0.269	30.3	20.9	51.2	66.0	-14.8
17.600	23.6	21.0	44.6	60.0	-15.4
20.000	23.3	21.0	44.3	60.0	-15.7
19.520	23.1	21.0	44.1	60.0	-15.9
17.700	22.9	21.0	43.9	60.0	-16.1
19.940	22.8	21.0	43.8	60.0	-16.2
20.040	22.7	21.0	43.7	60.0	-16.3
1.896	23.3	20.4	43.7	60.0	-16.3
19.740	22.7	21.0	43.7	60.0	-16.3
1.728	23.1	20.4	43.5	60.0	-16.5
14.810	22.6	20.9	43.5	60.0	-16.5
14.670	22.6	20.9	43.5	60.0	-16.5

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC06	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	Tested by: Jaemi Suh
EUT:	SmartRadar Flexline Radio Board Part# 50025034			
Configuration:	1			
Customer:	Honeywell			
Attendees:	David Shipley			
EUT Power:	120V/60Hz			
Operating Mode:	High Channel 2475 MHz. 14 dBi Dish Antenna Model HG2414D			
Deviations:	No deviations.			
Comments:	SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF. PC Power Level Setting = 255			
Test Specifications FCC 15.107:2009		Class A		Test Method ANSI C63.4:2003
Run #	6	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**

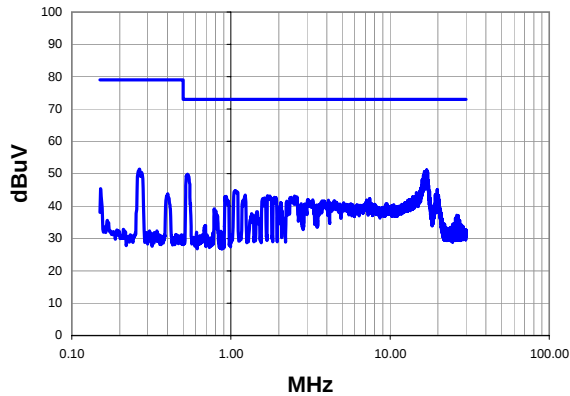
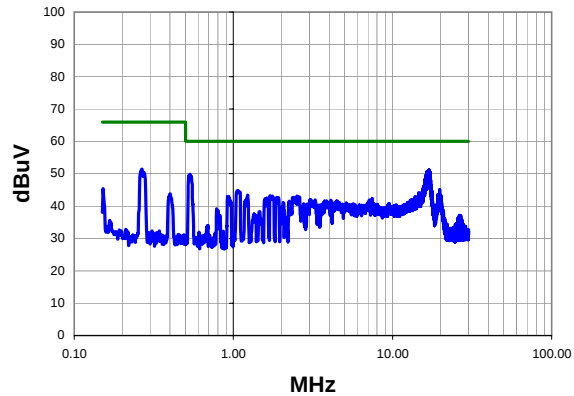
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
16.690	31.0	20.9	51.9	73.0	-21.1
16.180	30.3	20.9	51.2	73.0	-21.8
16.910	30.2	20.9	51.1	73.0	-21.9
16.430	29.4	20.9	50.3	73.0	-22.7
17.050	29.3	20.9	50.2	73.0	-22.8
0.526	29.4	20.6	50.0	73.0	-23.0
17.140	28.5	20.9	49.4	73.0	-23.6
16.320	28.1	20.9	49.0	73.0	-24.0
15.670	26.1	20.9	47.0	73.0	-26.0
0.267	30.6	21.0	51.6	79.0	-27.4
1.080	24.5	20.3	44.8	73.0	-28.2
15.160	23.9	20.9	44.8	73.0	-28.2
19.690	23.5	21.0	44.5	73.0	-28.5
19.780	23.1	21.0	44.1	73.0	-28.9
14.390	23.2	20.8	44.0	73.0	-29.0
14.950	22.9	20.9	43.8	73.0	-29.2
1.920	23.3	20.4	43.7	73.0	-29.3
1.696	23.3	20.4	43.7	73.0	-29.3
19.500	22.5	21.0	43.5	73.0	-29.5
2.432	22.7	20.4	43.1	73.0	-29.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
16.690	31.0	20.9	51.9	60.0	-8.1
16.180	30.3	20.9	51.2	60.0	-8.8
16.910	30.2	20.9	51.1	60.0	-8.9
16.430	29.4	20.9	50.3	60.0	-9.7
17.050	29.3	20.9	50.2	60.0	-9.8
0.526	29.4	20.6	50.0	60.0	-10.0
17.140	28.5	20.9	49.4	60.0	-10.6
16.320	28.1	20.9	49.0	60.0	-11.0
15.670	26.1	20.9	47.0	60.0	-13.0
0.267	30.6	21.0	51.6	66.0	-14.4
1.080	24.5	20.3	44.8	60.0	-15.2
15.160	23.9	20.9	44.8	60.0	-15.2
19.690	23.5	21.0	44.5	60.0	-15.5
19.780	23.1	21.0	44.1	60.0	-15.9
14.390	23.2	20.8	44.0	60.0	-16.0
14.950	22.9	20.9	43.8	60.0	-16.2
1.920	23.3	20.4	43.7	60.0	-16.3
1.696	23.3	20.4	43.7	60.0	-16.3
19.500	22.5	21.0	43.5	60.0	-16.5
2.432	22.7	20.4	43.1	60.0	-16.9

EMC**AC POWERLINE CONDUCTED EMISSIONS**

Work Order:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC06	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	Tested by: Jaemi Suh
EUT:	SmartRadar Flexline Radio Board Part# 50025034			
Configuration:	1			
Customer:	Honeywell			
Attendees:	David Shipley			
EUT Power:	120V/60Hz			
Operating Mode:	High Channel 2475 MHz. 14 dBi Dish Antenna Model HG2414D			
Deviations:	No deviations.			
Comments:	SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL. Hyperlink Lightning Surge Arrester Model # AC6-NMNF. PC Power Level Setting = 255			
Test Specifications FCC 15.107:2009		Class A		Test Method ANSI C63.4:2003
Line:	7	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)
17.000	30.2	20.9	51.1	73.0	-21.9
16.940	29.9	20.9	50.8	73.0	-22.2
16.440	29.8	20.9	50.7	73.0	-22.3
17.200	29.6	20.9	50.5	73.0	-22.5
0.533	29.2	20.6	49.8	73.0	-23.2
16.320	28.9	20.9	49.8	73.0	-23.2
16.180	28.7	20.9	49.6	73.0	-23.4
15.920	27.3	20.9	48.2	73.0	-24.8
0.266	30.5	21.0	51.5	79.0	-27.5
15.560	24.6	20.9	45.5	73.0	-27.5
19.810	24.1	21.0	45.1	73.0	-27.9
1.072	24.5	20.3	44.8	73.0	-28.2
15.420	23.9	20.9	44.8	73.0	-28.2
17.700	23.6	21.0	44.6	73.0	-28.4
14.670	23.4	20.9	44.3	73.0	-28.7
19.220	22.6	21.0	43.6	73.0	-29.4
1.232	23.1	20.3	43.4	73.0	-29.6
1.704	22.8	20.4	43.2	73.0	-29.8
2.512	22.7	20.5	43.2	73.0	-29.8
0.932	22.7	20.4	43.1	73.0	-29.9

Peak Data - vs - Average Limit

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Compared to Spec. (dB)
17.000	30.2	20.9	51.1	60.0	-8.9
16.940	29.9	20.9	50.8	60.0	-9.2
16.440	29.8	20.9	50.7	60.0	-9.3
17.200	29.6	20.9	50.5	60.0	-9.5
0.533	29.2	20.6	49.8	60.0	-10.2
16.320	28.9	20.9	49.8	60.0	-10.2
16.180	28.7	20.9	49.6	60.0	-10.4
15.920	27.3	20.9	48.2	60.0	-11.8
0.266	30.5	21.0	51.5	66.0	-14.5
15.560	24.6	20.9	45.5	60.0	-14.5
19.810	24.1	21.0	45.1	60.0	-14.9
1.072	24.5	20.3	44.8	60.0	-15.2
15.420	23.9	20.9	44.8	60.0	-15.2
17.700	23.6	21.0	44.6	60.0	-15.4
14.670	23.4	20.9	44.3	60.0	-15.7
19.220	22.6	21.0	43.6	60.0	-16.4
1.232	23.1	20.3	43.4	60.0	-16.6
1.704	22.8	20.4	43.2	60.0	-16.8
2.512	22.7	20.5	43.2	60.0	-16.8
0.932	22.7	20.4	43.1	60.0	-16.9



EMC**RADIATED EMISSIONS**

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

MODES OF OPERATION

Digital Only, Not Transmitting. 14 dBI Dish Antenna Model HG2414D

POWER SETTINGS INVESTIGATED

120V/60Hz

CONFIGURATIONS INVESTIGATED

HONE0046 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	1000 MHz
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CLOCKS AND OSCILLATORS

None Provided - Assume <108 MHz

SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Biconilog	EMCO	3142	AXK	2/25/2008	24 mo
OC08 Cables	None	30MHz-6GHz RE Cables	OCB	4/3/2009	13 mo
Pre-Amplifier	Miteq	AM-1551	AOX	2/27/2009	13 mo
Spectrum Analyzer	Agilent	E4443A	AAR	1/4/2009	24 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. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, a final radiated emissions test was performed. The frequency range investigated (scanned), is also noted in this report. Radiated emissions measurements were made at the EUT azimuth and antenna height such that the maximum radiated emissions level will be detected. This requires the use of a turntable and an antenna positioner. The preferred method of a continuous azimuth search is utilized for frequency scans of the EUT field strength with both polarities of the measuring antenna. A calibrated, linearly polarized antenna was positioned at the specified distance from the periphery of the EUT.

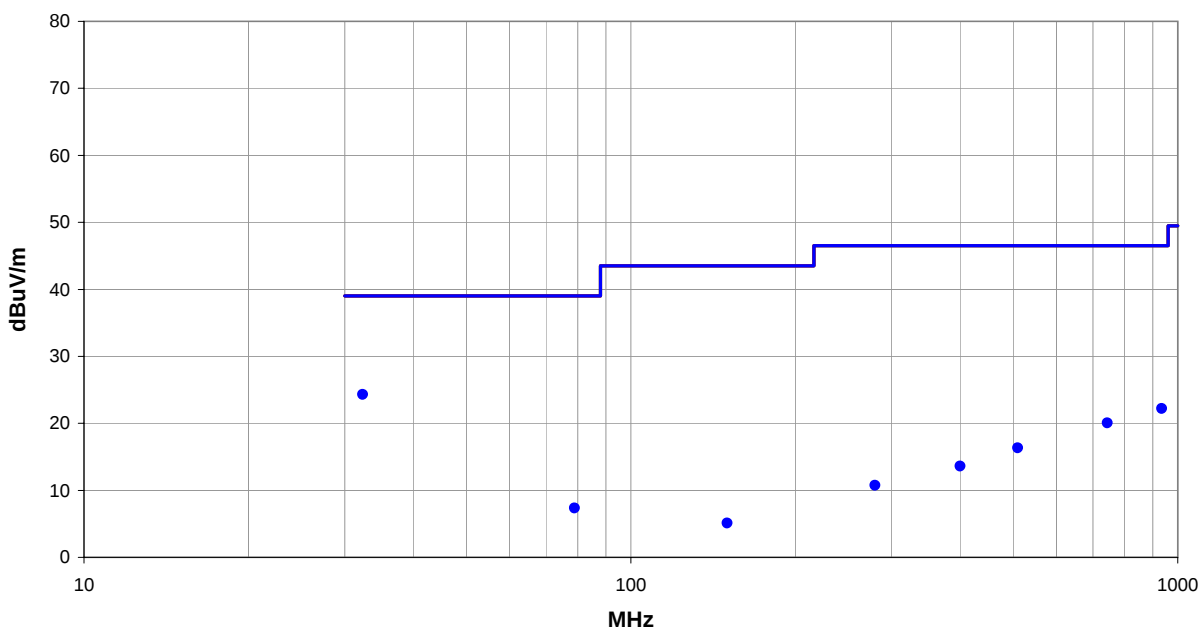
Tests were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. Though specified in the report, the measurement distance shall be 3 meters or 10 meters. At any measurement distance, the antenna height was varied from 1 meter to 4 meters. These height scans apply for both horizontal and vertical polarization, except that for vertical polarization the minimum height of the center of the antenna shall be increased so that the lowest point of the bottom of the antenna clears the ground surface by at least 25 cm.

EMC

RADIATED EMISSIONS

Work Order:	HONE0046	Date:	06/22/09	
Project:	None	Temperature:	22.1	
Job Site:	OC08	Humidity:	50.5	
Serial Number:	None	Barometric Pres.:	1019.4	
				Tested by: Jaemi Suh
EUT:	SmartRadar Flexline Radio Board Part# 50025034			
Configuration:	1			
Customer:	Honeywell			
Attendees:	David Shipley			
EUT Power:	120V/60Hz			
Operating Mode:	Digital Only, Not Transmitting. 14 dBi Dish Antenna Model HG2414D			
Deviations:	No deviations.			
Comments:	SmartRadar Flexline Radio Board Part# 50025034, FCC ID# S5750025034, FCC ID# LOM990SRFL.			

Test Specifications FCC 15.109:2009				Class A	Test Method ANSI C63.4:2003		
Run #	1	Test Distance (m)	10	Antenna Height(s)	1-4m	Results	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
32.348	43.1	-18.8	1.0	339.0	10.0	0.0	Vert	QP	0.0	24.3	39.0	-14.7
935.224	31.5	-9.3	3.0	27.0	10.0	0.0	Vert	QP	0.0	22.2	46.5	-24.3
743.239	31.4	-11.3	3.5	294.0	10.0	0.0	Horz	QP	0.0	20.1	46.5	-26.4
509.553	31.2	-14.8	2.5	267.0	10.0	0.0	Vert	QP	0.0	16.4	46.5	-30.1
78.895	35.7	-28.3	4.0	90.0	10.0	0.0	Horz	QP	0.0	7.4	39.0	-31.6
399.980	30.6	-17.0	1.0	273.0	10.0	0.0	Horz	QP	0.0	13.6	46.5	-32.9
279.701	31.5	-20.8	1.0	17.0	10.0	0.0	Vert	QP	0.0	10.7	46.5	-35.8
149.931	30.7	-25.6	1.0	209.0	10.0	0.0	Vert	QP	0.0	5.1	43.5	-38.4

