Spectrum Technology, Inc.

GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth

Report No. SPTE0102.2 Rev 02

EMC Test Report

Report Prepared By

NORTHWEST EMC

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

NORTHWEST EMC

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Last Date of Test: November 25, 2008
Spectrum Technology, Inc.
Model: GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth

Emissions			
Test Description	**Specification**	**Test Method**	**Pass/Fail**
Spurious Radiated Emissions	FCC 15.209:2008	ANSI C63.4:2003	**Pass**
Spurious Radiated Emissions	FCC 15.407:2008	ANSI C63.4:2003 DA 02.2138:2002	**Pass**

Modifications made to the product
See the Modifications section of this report

Test Facility

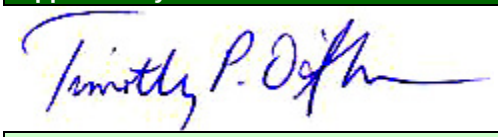
The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

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 #2834D-1).

Approved By:



Tim O'Shea, Minnesota Lab Manager

NVLAP Lab Code: 200630-0

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
01	Corrected model name of WLAN radio and changed WiFi to WLAN	2/17/09	1-2,7,11-20
01	Added WLAN radio model number	2/17/09	8
02	Corrected model name of BT radio	3/5/09	1-2,7,11-20

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).*

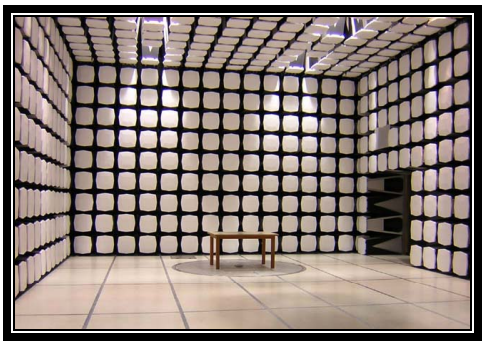
BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017). License No.SL2-IN-E-1017.

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)*

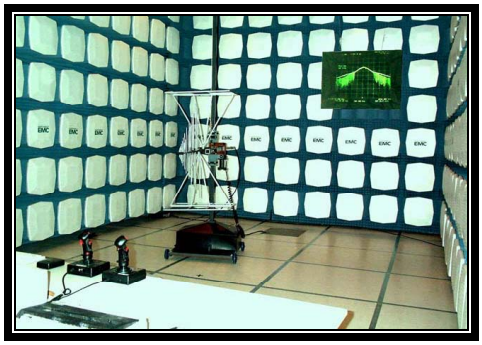
SCOPE

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:	Spectrum Technology, Inc.
Address:	4801 166th Place SE
City, State, Zip:	Bothell, WA 98012
Test Requested By:	Rod Munro
Model:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth
First Date of Test:	November 24, 2008
Last Date of Test:	November 25, 2008
Receipt Date of Samples:	November 20, 2008
Equipment Design Stage:	Preproduction
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT (Equipment Under Test):

The Itronix Model GD8000 is a fully ruggedized PC that can be used in either a notebook or vehicle - mount configuration. The GD8000 has an 802.11(b/g/a/n) WLAN, and Bluetooth 2.0 EDR radio modules.

Testing Objective:

To demonstrate compliance of the 802.11(b/g/a/n) radio to FCC 15.407 requirements. The radio has a new external antenna.

CONFIGURATION 3 SPTE0102

Software/Firmware Running during test	
Description	**Version**
Windows XP	SP3
Intel WLAN CTRU	1.0

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
802.11(a)/(b)/(g)/(n) radio	Intel Corporation	IX-512AN	None
Notebook PC	General Dynamics Itronix, Corp.	GD8000	SY8350000052

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Vehicle Dock	General Dynamics Itronix, Corp.	GD8000 VEH DCK RF	ZZCWA8177AE0010
External WLAN Antenna	Maxrad	None	None
USB Keyboard	Logitech	Y-UT76	SC7250Z
USB Card Reader	GE	24-in-1 Card Reader	WK3807
Headset	Sony	MDR-013	None
Microphone	Gateway	7000981	C19808008
12V Car Battery	None	None	None
USB Mouse	Dell	M-UK DEL3	HC8090COCNK
PS2 Mouse	Logitech	M-886	HCA12126846

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC	No	1.6m	No	Vehicle Dock	12V Car Battery
Serial	Yes	1.0m	No	Vehicle Dock	Unterminated
Serial	Yes	1.0m	No	Vehicle Dock	Unterminated
Ethernet	No	1.2m	No	Vehicle Dock	Unterminated
Antenna	Yes	3.0m	No	Vehicle Dock	External WLAN Antenna
Video	Yes	1.0m	Yes	Vehicle Dock	Unterminated
PS2	No	1.3m	PA	Vehicle Dock	PS2 Mouse
Audio	No	1.0m	No	Vehicle Dock	Microphone
Audio	No	1.0m	No	Vehicle Dock	Headset
USB	Yes	1.3m	No	Vehicle Dock	Unterminated
USB	Yes	1.0m	No	Vehicle Dock	USB Card Reader
USB	No	1.6m	No	Vehicle Dock	USB Keyboard
USB	PA	1.9m	No	Vehicle Dock	USB Mouse
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	11/25/2008	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was complete.

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
Continuous Tx 802.11(n) 40MHz (wide), HT0
Continuous Tx 802.11(n)
Continuous Tx 802.11(a)

CHANNELS USED FOR FINAL DATA
Channel 52 - 5260MHz
Channel 64 - 5320MHz
Channel 100 - 5500MHz
Channel 116 - 5580MHz
Channel 140 - 5700MHz
Channel 54 - 5270MHz
Channnel 62 - 5310MHz
Channel 102 - 5520MHz
Channel 110 - 5550MHz
Channel 134 - 5670MHz

DATA RATES USED FOR FINAL DATA
6Mbps
36Mbps
54Mbps
HT0
HT8

POWER SETTINGS INVESTIGATED
12VDC Battery

POWER SETTINGS USED FOR FINAL DATA
12VDC Battery

FREQUENCY RANGE INVESTIGATED			
Start Frequency	30MHz	Stop Frequency	40GHz

CLOCKS AND OSCILLATORS
See Channels used above

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
Spectrum Analyzer	Agilent	E4446A	AAT	12/12/2008	13
EV01 Cables		Bilog Cables	EVA	5/19/2008	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	5/19/2008	13
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Double Ridge Horn Cables	EVB	5/19/2008	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	5/19/2008	13
Antenna, Horn	EMCO	3115	AHC	8/12/2008	24
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	6/30/2008	13
Antenna, Horn	ETS	3160-07	AHU	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	11/13/2008	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	6/30/2008	13
Antenna, Horn	ETS	3160-08	AHV	NCR	0
EV01 Cables		18-26GHz Standard Gain Horn Cable	EVD	12/2/2008	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	12/2/2008	13
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
26-40GHz Cable		TTBJ141-KMKM-72	EVX	7/30/2008	13
Antenna, Horn	ETS	3160-10	AIC	NCR	0
Pre-Amplifier	Miteq	JSW45-26004000-40-5P	AVN	7/30/2008	13

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to each of the highest spurious emissions. A signal generator was connected to the dipole (horn antenna for frequencies above 1GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna (or horn) and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	**Work Order:**	SPTE0102
Serial Number:	None	**Date:**	11/24/08
Customer:	Spectrum Technology, Inc.	**Temperature:**	20.7° C
Attendees:	None	**Humidity:**	33%
Project:	None	**Barometric Pres.:**	1020.5mb
Tested by:	David Divergigelis	**Power:** 12VDC Battery	**Job Site:** EV01

TEST SPECIFICATIONS	Test Method
FCC 15.209:2008	ANSI C63.4:2003

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	**Test Distance (m)**	3

COMMENTS

See comments below for channel and data rate.

EUT OPERATING MODES

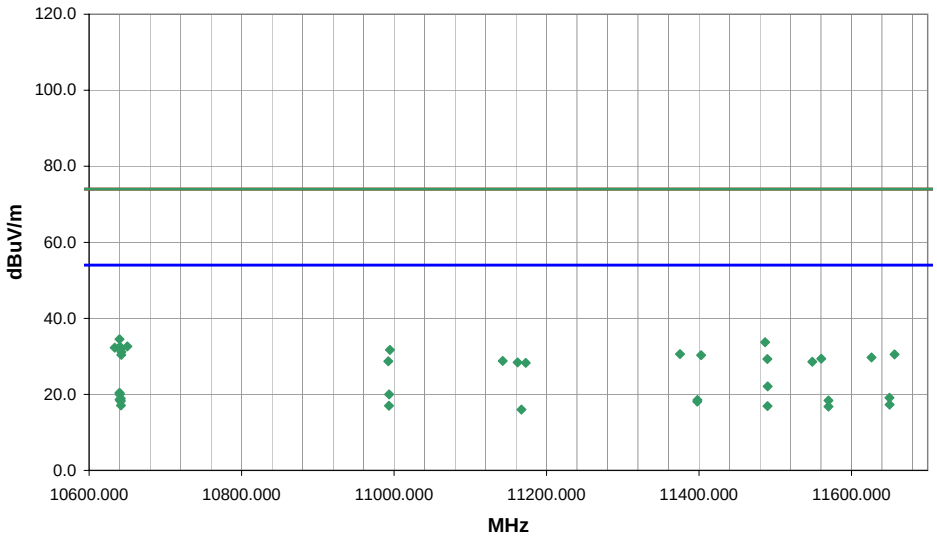
Continuous Tx 802.11(a)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	7
Configuration #	3
Results	Pass

Signature



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)	Comments
11490.080	28.6	-6.5	44.0	1.4	3.0	0.0	V-Horn	AV	0.0	22.1	54.0	-31.9	Vertical 6Mbps Channel 149
10639.920	31.2	-10.8	329.0	1.4	3.0	0.0	V-Horn	AV	0.0	20.4	54.0	-33.6	Horizontal 6Mbps Channel 64
10640.000	30.9	-10.7	331.0	1.4	3.0	0.0	V-Horn	AV	0.0	20.2	54.0	-33.8	Vertical 6Mbps Channel 64
10640.000	30.7	-10.7	303.0	1.2	3.0	0.0	H-Horn	AV	0.0	20.0	54.0	-34.0	Horizontal 6Mbps Channel 64
10993.580	28.3	-8.3	19.0	1.0	3.0	0.0	V-Horn	AV	0.0	20.0	54.0	-34.0	Vertical 6Mbps Channel 100
11649.830	24.8	-5.7	299.0	1.0	3.0	0.0	V-Horn	AV	0.0	19.1	54.0	-34.9	Vertical 6Mbps Channel 165
10641.500	29.6	-10.7	331.0	1.4	3.0	0.0	V-Horn	AV	0.0	18.9	54.0	-35.1	Vertical 36Mbps Channel 64
10639.830	29.3	-10.7	298.0	1.2	3.0	0.0	H-Horn	AV	0.0	18.6	54.0	-35.4	Vertical 6Mbps Channel 64
11398.080	25.3	-6.8	169.0	1.0	3.0	0.0	H-Horn	AV	0.0	18.5	54.0	-35.5	Vertical 6Mbps Channel 140
11569.830	24.6	-6.2	198.0	1.0	3.0	0.0	V-Horn	AV	0.0	18.4	54.0	-35.6	Vertical 6Mbps Channel 157
10641.420	29.1	-10.7	332.0	1.2	3.0	0.0	H-Horn	AV	0.0	18.4	54.0	-35.6	Vertical 36Mbps Channel 64
10641.330	28.9	-10.7	303.0	1.2	3.0	0.0	H-Horn	AV	0.0	18.2	54.0	-35.8	Vertical 54Mbps Channel 64
11397.670	25.0	-6.9	315.0	1.5	3.0	0.0	V-Horn	AV	0.0	18.1	54.0	-35.9	Vertical 6Mbps Channel 140
11650.080	23.1	-5.8	234.0	1.7	3.0	0.0	H-Horn	AV	0.0	17.3	54.0	-36.7	Vertical 6Mbps Channel 165
10641.750	27.8	-10.7	9.0	1.4	3.0	0.0	V-Horn	AV	0.0	17.1	54.0	-36.9	Vertical 54Mbps Channel 64
10993.250	25.3	-8.3	326.0	1.0	3.0	0.0	H-Horn	AV	0.0	17.0	54.0	-37.0	Vertical 6Mbps Channel 100
11489.830	23.4	-6.5	344.0	1.0	3.0	0.0	H-Horn	AV	0.0	16.9	54.0	-37.1	Vertical 6Mbps Channel 149
11569.830	23.0	-6.2	326.0	1.0	3.0	0.0	H-Horn	AV	0.0	16.8	54.0	-37.2	Vertical 6Mbps Channel 157
11167.080	23.7	-7.7	120.0	1.0	3.0	0.0	H-Horn	AV	0.0	16.0	54.0	-38.0	Vertical 6Mbps Channel 116
10639.830	45.2	-10.7	331.0	1.4	3.0	0.0	V-Horn	PK	0.0	34.5	74.0	-39.5	Vertical 36Mbps Channel 64
11486.750	40.2	-6.5	44.0	1.4	3.0	0.0	V-Horn	PK	0.0	33.7	74.0	-40.3	Vertical 6Mbps Channel 149
10650.250	43.3	-10.7	303.0	1.2	3.0	0.0	H-Horn	PK	0.0	32.6	74.0	-41.4	Horizontal 6Mbps Channel 64
10633.580	43.0	-10.7	329.0	1.4	3.0	0.0	V-Horn	PK	0.0	32.3	74.0	-41.7	Horizontal 6Mbps Channel 64
10641.750	43.0	-10.7	9.0	1.4	3.0	0.0	V-Horn	PK	0.0	32.3	74.0	-41.7	Vertical 54Mbps Channel 64
10638.830	42.9	-10.7	331.0	1.4	3.0	0.0	V-Horn	PK	0.0	32.2	74.0	-41.8	Vertical 6Mbps Low channel
10641.830	42.8	-10.7	332.0	1.2	3.0	0.0	H-Horn	PK	0.0	32.1	74.0	-41.9	Vertical 36Mbps Channel 64
10994.580	40.0	-8.3	19.0	1.0	3.0	0.0	V-Horn	PK	0.0	31.7	74.0	-42.3	Vertical 6Mbps Channel 100
10642.420	41.9	-10.7	303.0	1.2	3.0	0.0	H-Horn	PK	0.0	31.2	74.0	-42.8	Vertical 54Mbps Channel 64
11375.170	37.4	-6.8	315.0	1.5	3.0	0.0	V-Horn	PK	0.0	30.6	74.0	-43.4	Vertical 6Mbps Channel 140
11656.500	36.2	-5.7	299.0	1.0	3.0	0.0	V-Horn	PK	0.0	30.5	74.0	-43.5	Vertical 6Mbps Channel 165
10642.170	41.1	-10.7	298.0	1.2	3.0	0.0	H-Horn	PK	0.0	30.4	74.0	-43.6	Vertical 6Mbps Channel 64
11402.750	37.1	-6.8	169.0	1.0	3.0	0.0	H-Horn	PK	0.0	30.3	74.0	-43.7	Vertical 6Mbps Channel 140
11626.420	35.4	-5.7	234.0	1.7	3.0	0.0	H-Horn	PK	0.0	29.7	74.0	-44.3	Vertical 6Mbps Channel 165
11560.500	35.5	-6.1	198.0	1.0	3.0	0.0	V-Horn	PK	0.0	29.4	74.0	-44.6	Vertical 6Mbps Channel 157
11489.670	35.8	-6.5	344.0	1.0	3.0	0.0	H-Horn	PK	0.0	29.3	74.0	-44.7	Vertical 6Mbps Channel 149
11142.580	36.5	-7.7	259.0	1.6	3.0	0.0	V-Horn	PK	0.0	28.8	74.0	-45.2	Vertical 6Mbps Channel 116
10992.420	37.0	-8.3	326.0	1.0	3.0	0.0	H-Horn	PK	0.0	28.7	74.0	-45.3	Vertical 6Mbps Channel 100
11548.750	34.7	-6.1	326.0	1.0	3.0	0.0	H-Horn	PK	0.0	28.6	74.0	-45.4	Vertical 6Mbps Channel 157
11162.170	36.1	-7.7	120.0	1.0	3.0	0.0	H-Horn	PK	0.0	28.4	74.0	-45.6	Vertical 6Mbps Channel 116
11172.670	36.0	-7.7	-1.0	1.6	3.0	0.0	V-Horn	PK	0.0	28.3	74.0	-45.7	Vertical 6Mbps Channel 116

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	Work Order:	SPTE0102
Serial Number:	None	Date:	11/24/08
Customer:	Spectrum Technology, Inc.	Temperature:	20.7° C
Attendees:	None	Humidity:	33%
Project:	None	Barometric Pres.:	1020.5mb
Tested by:	David Divergigelis	Power: 12VDC Battery	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.209:2008	ANSI C63.4:2003

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

COMMENTS

See comments below for channel and data rate.

EUT OPERATING MODES

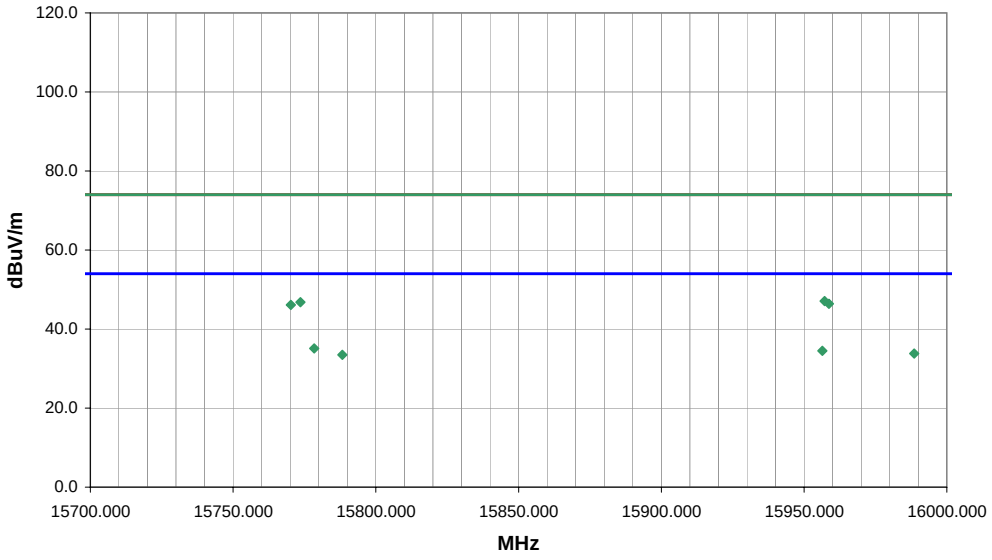
Continuous Tx 802.11(a)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	8
Configuration #	3
Results	Pass

Signature



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)	Comments
15778.420	27.2	7.9	165.0	1.0	3.0	0.0	H-Horn	AV	0.0	35.1	54.0	-18.9	Vertical 6Mbps Channel 52
15956.420	26.2	8.3	248.0	1.3	3.0	0.0	H-Horn	AV	0.0	34.5	54.0	-19.5	Vertical 6Mbps Channel 64
15988.580	25.5	8.3	173.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.8	54.0	-20.2	Vertical 6Mbps Channel 64
15788.250	25.6	7.9	313.0	2.6	3.0	0.0	V-Horn	AV	0.0	33.5	54.0	-20.5	Vertical 6Mbps Channel 52
15957.170	38.8	8.3	248.0	1.3	3.0	0.0	H-Horn	PK	0.0	47.1	74.0	-26.9	Vertical 6Mbps Channel 64
15773.580	38.8	8.0	165.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.8	74.0	-27.2	Vertical 6Mbps Channel 52
15958.670	38.1	8.3	173.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.4	74.0	-27.6	Vertical 6Mbps Channel 64
15770.250	38.1	8.0	313.0	2.6	3.0	0.0	V-Horn	PK	0.0	46.1	74.0	-27.9	Vertical 6Mbps Channel 52

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	**Work Order:**	SPTE0102
Serial Number:	None	**Date:**	11/25/08
Customer:	Spectrum Technology, Inc.	**Temperature:**	21.5° C
Attendees:	Rod Munro	**Humidity:**	30%
Project:	None	**Barometric Pres.:**	1021.1mb
Tested by:	Dan Haas	**Power:** 12VDC Battery	**Job Site:** EV01

TEST SPECIFICATIONS	Test Method
FCC 15.209:2008	ANSI C63.4:2003

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	**Test Distance (m)**	0

COMMENTS

See notes for channel and antenna polarity.

EUT OPERATING MODES

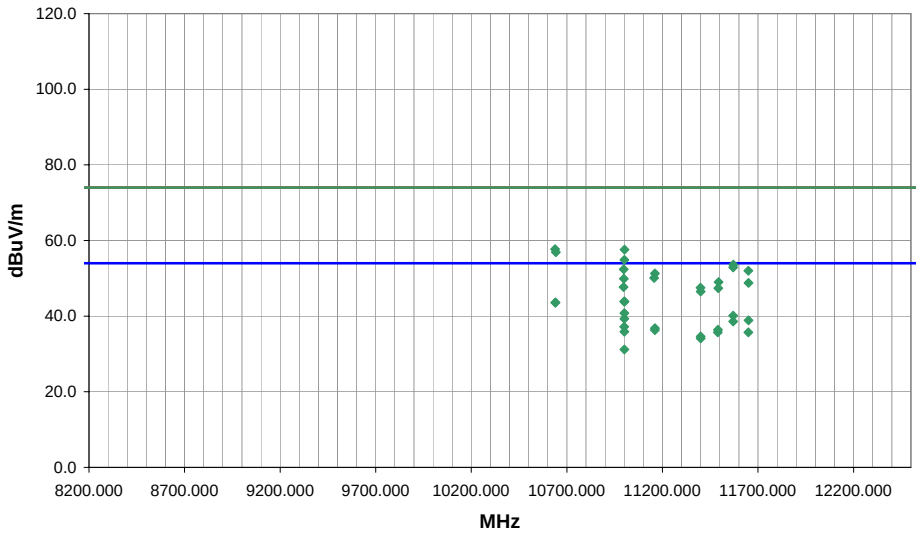
Continuous Tx 802.11(n)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	10
Configuration #	3
Results	Pass

Signature



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)	Comments
11000.670	52.2	-8.3	334.0	1.0	0.0	0.0	V-Horn	AV	0.0	43.9	54.0	-10.1	Ch. 100, HT0, Vertical antenna.
10640.000	54.3	-10.7	360.0	1.5	0.0	0.0	V-Horn	AV	0.0	43.6	54.0	-10.4	Ch. 64, HT0, Vertical antenna.
10640.250	54.3	-10.7	292.0	1.0	0.0	0.0	H-Horn	AV	0.0	43.6	54.0	-10.4	Ch. 64, HT0, Vertical antenna.
11000.580	49.1	-8.3	337.0	1.0	0.0	0.0	V-Horn	AV	0.0	40.8	54.0	-13.2	Ch. 100, HT0, Horizontal antenna.
11570.170	46.2	-6.1	232.0	1.0	0.0	0.0	V-Horn	AV	0.0	40.1	54.0	-13.9	Ch. 157, HT0, Vertical antenna.
11000.750	47.6	-8.3	318.0	1.0	0.0	0.0	H-Horn	AV	0.0	39.3	54.0	-14.7	Ch. 100, HT0, Horizontal antenna.
11650.170	44.6	-5.7	234.0	1.0	0.0	0.0	V-Horn	AV	0.0	38.9	54.0	-15.1	Ch. 165, HT0, Vertical antenna.
11569.920	44.7	-6.1	194.0	1.0	0.0	0.0	H-Horn	AV	0.0	38.6	54.0	-15.4	Ch. 157, HT0, Vertical antenna.
10638.330	68.4	-10.7	292.0	1.0	0.0	0.0	H-Horn	PK	0.0	57.7	74.0	-16.3	Ch. 64, HT0, Vertical antenna.
11001.420	65.9	-8.3	334.0	1.0	0.0	0.0	V-Horn	PK	0.0	57.6	74.0	-16.4	Ch. 100, HT0, Vertical antenna.
11000.330	45.5	-8.3	314.0	1.0	0.0	0.0	H-Horn	AV	0.0	37.2	54.0	-16.8	Ch. 100, HT0, Vertical antenna.
10642.920	67.6	-10.7	360.0	1.5	0.0	0.0	V-Horn	PK	0.0	56.9	74.0	-17.1	Ch. 64, HT0, Vertical antenna.
11160.580	44.5	-7.7	335.0	1.0	0.0	0.0	V-Horn	AV	0.0	36.8	54.0	-17.2	Ch. 116, HT0, Vertical antenna.
11490.420	42.8	-6.4	188.0	1.0	0.0	0.0	H-Horn	AV	0.0	36.4	54.0	-17.6	Ch. 149, HT0, Vertical antenna.
11160.330	44.0	-7.7	333.0	1.0	0.0	0.0	H-Horn	AV	0.0	36.3	54.0	-17.7	Ch. 116, HT0, Vertical antenna.
11001.170	44.2	-8.3	332.0	1.0	0.0	0.0	V-Horn	AV	0.0	35.9	54.0	-18.1	Ch. 100, HT7, Vertical antenna.
11649.920	41.4	-5.7	231.0	1.0	0.0	0.0	H-Horn	AV	0.0	35.7	54.0	-18.3	Ch. 165, HT0, Vertical antenna.
11490.000	42.1	-6.4	335.0	1.0	0.0	0.0	V-Horn	AV	0.0	35.7	54.0	-18.3	Ch. 149, HT0, Vertical antenna.
11000.420	63.2	-8.3	337.0	1.0	0.0	0.0	V-Horn	PK	0.0	54.9	74.0	-19.1	Ch. 100, HT0, Horizontal antenna.
11400.330	41.4	-6.8	317.0	1.0	0.0	0.0	H-Horn	AV	0.0	34.6	54.0	-19.4	Ch. 140, HT0, Vertical antenna.
11400.500	40.9	-6.8	338.0	1.0	0.0	0.0	V-Horn	AV	0.0	34.1	54.0	-19.9	Ch. 140, HT0, Vertical antenna.
11570.580	59.7	-6.1	232.0	1.0	0.0	0.0	V-Horn	PK	0.0	53.6	74.0	-20.4	Ch. 157, HT0, Vertical antenna.
11570.000	59.0	-6.1	194.0	1.0	0.0	0.0	H-Horn	PK	0.0	52.9	74.0	-21.1	Ch. 157, HT0, Vertical antenna.
10997.500	60.7	-8.3	318.0	1.0	0.0	0.0	H-Horn	PK	0.0	52.4	74.0	-21.6	Ch. 100, HT0, Horizontal antenna.
11649.500	57.7	-5.7	234.0	1.0	0.0	0.0	V-Horn	PK	0.0	52.0	74.0	-22.0	Ch. 165, HT0, Vertical antenna.
11160.420	59.0	-7.7	333.0	1.0	0.0	0.0	H-Horn	PK	0.0	51.3	74.0	-22.7	Ch. 116, HT0, Vertical antenna.
11001.170	39.5	-8.3	17.0	1.0	0.0	0.0	H-Horn	AV	0.0	31.2	54.0	-22.8	Ch. 100, HT7, Vertical antenna.
11156.420	57.8	-7.7	335.0	1.0	0.0	0.0	V-Horn	PK	0.0	50.1	74.0	-23.9	Ch. 116, HT0, Vertical antenna.
10997.920	58.2	-8.3	314.0	1.0	0.0	0.0	H-Horn	PK	0.0	49.9	74.0	-24.1	Ch. 100, HT0, Vertical antenna.
11493.920	55.5	-6.5	188.0	1.0	0.0	0.0	H-Horn	PK	0.0	49.0	74.0	-25.0	Ch. 149, HT0, Vertical antenna.
11650.580	54.5	-5.7	231.0	1.0	0.0	0.0	H-Horn	PK	0.0	48.8	74.0	-25.2	Ch. 165, HT0, Vertical antenna.
10996.330	56.0	-8.3	332.0	1.0	0.0	0.0	V-Horn	PK	0.0	47.7	74.0	-26.3	Ch. 100, HT7, Vertical antenna.
11399.670	54.3	-6.8	317.0	1.0	0.0	0.0	H-Horn	PK	0.0	47.5	74.0	-26.5	Ch. 140, HT0, Vertical antenna.
11492.080	53.9	-6.5	335.0	1.0	0.0	0.0	V-Horn	PK	0.0	47.4	74.0	-26.6	Ch. 149, HT0, Vertical antenna.
11400.170	53.3	-6.8	338.0	1.0	0.0	0.0	V-Horn	PK	0.0	46.5	74.0	-27.5	Ch. 140, HT0, Vertical antenna.
11000.670	52.1	-8.3	17.0	1.0	0.0	0.0	H-Horn	PK	0.0	43.8	74.0	-30.2	Ch. 100, HT7, Vertical antenna.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	**Work Order:**	SPTE0102
Serial Number:	None	**Date:**	11/25/08
Customer:	Spectrum Technology, Inc.	**Temperature:**	21.5° C
Attendees:	Rod Munro	**Humidity:**	30%
Project:	None	**Barometric Pres.:**	1021.1mb
Tested by:	Dan Haas	**Power:** 12VDC Battery	**Job Site:** EV01

TEST SPECIFICATIONS	Test Method
FCC 15.209:2008	ANSI C63.4:2003

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	**Test Distance (m)**	3

COMMENTS

See notes for channel.

EUT OPERATING MODES

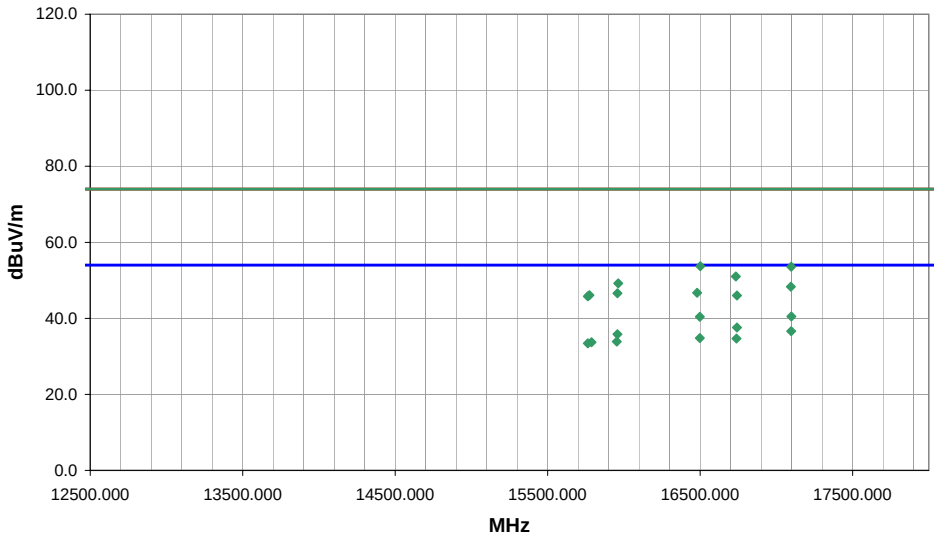
Continuous Tx 802.11(n)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	11
Configuration #	3
Results	Pass

Signature



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)	Comments
17098.420	31.3	9.2	281.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.5	54.0	-13.5	Ch. 140, HT0, Vertical antenna.
16498.580	31.8	8.6	285.0	1.0	3.0	0.0	V-Horn	AV	0.0	40.4	54.0	-13.6	Ch. 100, HT0, Vertical antenna.
16741.420	28.8	8.8	255.0	1.0	3.0	0.0	V-Horn	AV	0.0	37.6	54.0	-16.4	Ch. 116, HT0, Vertical antenna.
17097.500	27.4	9.2	25.0	1.0	3.0	0.0	H-Horn	AV	0.0	36.6	54.0	-17.4	Ch. 140, HT0, Vertical antenna.
15958.000	27.5	8.3	313.0	1.0	3.0	0.0	H-Horn	AV	0.0	35.8	54.0	-18.2	Ch. 64, HT0, Vertical antenna.
16497.830	26.3	8.5	285.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.8	54.0	-19.2	Ch. 100, HT0, Vertical antenna.
16739.000	25.9	8.8	310.0	1.0	3.0	0.0	H-Horn	AV	0.0	34.7	54.0	-19.3	Ch. 116, HT0, Vertical antenna.
15953.830	25.6	8.3	60.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.9	54.0	-20.1	Ch. 64, HT0, Vertical antenna.
16501.830	45.2	8.5	285.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.7	74.0	-20.3	Ch. 100, HT0, Vertical antenna.
15787.920	25.8	7.9	240.0	1.0	3.0	0.0	H-Horn	AV	0.0	33.7	54.0	-20.3	Ch. 52, HT0, Vertical antenna.
17097.330	44.4	9.2	281.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.6	74.0	-20.4	Ch. 140, HT0, Vertical antenna.
15763.420	25.5	7.9	354.0	1.0	3.0	0.0	V-Horn	AV	0.0	33.4	54.0	-20.6	Ch. 52, HT0, Vertical antenna.
16734.580	42.2	8.8	255.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.0	74.0	-23.0	Ch. 116, HT0, Vertical antenna.
15963.170	40.9	8.3	313.0	1.0	3.0	0.0	H-Horn	PK	0.0	49.2	74.0	-24.8	Ch. 64, HT0, Vertical antenna.
17095.000	39.1	9.2	25.0	1.0	3.0	0.0	H-Horn	PK	0.0	48.3	74.0	-25.7	Ch. 140, HT0, Vertical antenna.
16480.500	38.2	8.5	285.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.7	74.0	-27.3	Ch. 100, HT0, Vertical antenna.
15957.830	38.3	8.3	60.0	1.0	3.0	0.0	V-Horn	PK	0.0	46.6	74.0	-27.4	Ch. 64, HT0, Vertical antenna.
15774.080	38.1	8.0	240.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.1	74.0	-27.9	Ch. 52, HT0, Vertical antenna.
16741.500	37.2	8.8	310.0	1.0	3.0	0.0	H-Horn	PK	0.0	46.0	74.0	-28.0	Ch. 116, HT0, Vertical antenna.
15764.000	37.8	8.0	354.0	1.0	3.0	0.0	V-Horn	PK	0.0	45.8	74.0	-28.2	Ch. 52, HT0, Vertical antenna.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	Work Order:	SPTE0102
Serial Number:	None	Date:	11/25/08
Customer:	Spectrum Technology, Inc.	Temperature:	21.5° C
Attendees:	Rod Munro	Humidity:	30%
Project:	None	Barometric Pres.:	1021.1mb
Tested by:	David Divergigelis	Power: 12VDC Battery	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.209:2008	ANSI C63.4:2003

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

COMMENTS

See comments below for channel

EUT OPERATING MODES

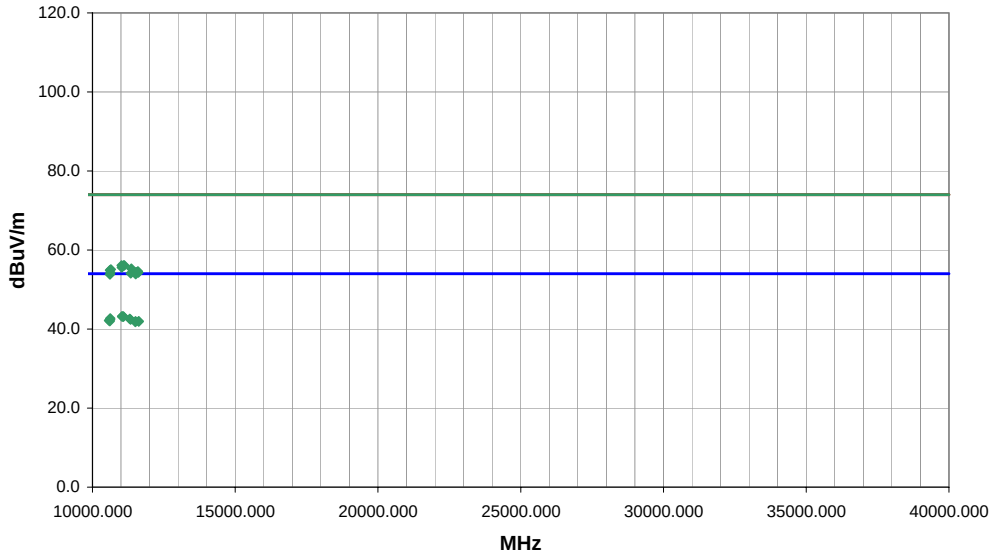
Continuous Tx 802.11(n) 40MHz (wide), HT0

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	13
Configuration #	3
Results	Pass

Signature



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)	Comments
11038.750	23.5	19.7	42.0	2.8	3.0	0.0	V-Horn	AV	0.0	43.2	54.0	-10.8	EUT Ant. Vert, Channel 102
11039.580	23.5	19.7	284.0	2.5	3.0	0.0	H-Horn	AV	0.0	43.2	54.0	-10.8	EUT Ant. Vert, Channel 102
11084.170	23.6	19.6	26.0	2.9	3.0	0.0	H-Horn	AV	0.0	43.2	54.0	-10.8	EUT Ant. Vert, Channel 110
11083.080	23.6	19.5	120.0	1.0	3.0	0.0	V-Horn	AV	0.0	43.1	54.0	-10.9	EUT Ant. Vert, Channel 110
10619.830	23.6	19.1	323.0	1.0	3.0	0.0	V-Horn	AV	0.0	42.7	54.0	-11.3	EUT Ant. Vert, Channel 62
11306.000	23.4	19.2	330.0	1.0	3.0	0.0	V-Horn	AV	0.0	42.6	54.0	-11.4	EUT Ant. Vert, Channel 134
11335.670	23.3	19.1	134.0	1.0	3.0	0.0	H-Horn	AV	0.0	42.4	54.0	-11.6	EUT Ant. Vert, Channel 134
10620.000	23.3	19.1	2.0	1.0	3.0	0.0	V-Horn	AV	0.0	42.4	54.0	-11.6	EUT Ant. Horz, Channel 62
10577.580	23.1	19.1	157.0	1.9	3.0	0.0	H-Horn	AV	0.0	42.2	54.0	-11.8	EUT Ant. Vert, Channel 62
11506.170	23.1	18.9	46.0	1.0	3.0	0.0	V-Horn	AV	0.0	42.0	54.0	-12.0	EUT Ant. Vert, Channel 151
11618.670	23.0	19.0	205.0	1.0	3.0	0.0	H-Horn	AV	0.0	42.0	54.0	-12.0	EUT Ant. Vert, Channel 159
10605.250	22.9	19.1	119.0	3.2	3.0	0.0	H-Horn	AV	0.0	42.0	54.0	-12.0	EUT Ant. Horz, Channel 62
11620.420	22.9	19.0	96.0	1.0	3.0	0.0	V-Horn	AV	0.0	41.9	54.0	-12.1	EUT Ant. Vert, Channel 159
11504.170	22.9	18.9	72.0	1.0	3.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	EUT Ant. Vert, Channel 151
11022.170	36.5	19.6	42.0	2.8	3.0	0.0	V-Horn	PK	0.0	56.1	74.0	-17.9	EUT Ant. Vert, Channel 102
11090.670	36.5	19.6	26.0	2.9	3.0	0.0	H-Horn	PK	0.0	56.1	74.0	-17.9	EUT Ant. Vert, Channel 110
11117.920	36.5	19.6	120.0	1.0	3.0	0.0	V-Horn	PK	0.0	56.1	74.0	-17.9	EUT Ant. Vert, Channel 110
11027.670	36.0	19.6	284.0	2.5	3.0	0.0	H-Horn	PK	0.0	55.6	74.0	-18.4	EUT Ant. Vert, Channel 102
11364.170	36.1	19.2	134.0	1.0	3.0	0.0	H-Horn	PK	0.0	55.3	74.0	-18.7	EUT Ant. Vert, Channel 134
10644.830	36.0	19.1	2.0	1.0	3.0	0.0	V-Horn	PK	0.0	55.1	74.0	-18.9	EUT Ant. Horz, Channel 62
10612.330	35.8	19.1	119.0	3.2	3.0	0.0	H-Horn	PK	0.0	54.9	74.0	-19.1	EUT Ant. Horz, Channel 62
11591.830	35.6	19.0	96.0	1.0	3.0	0.0	V-Horn	PK	0.0	54.6	74.0	-19.4	EUT Ant. Vert, Channel 159
11528.420	35.5	18.9	72.0	1.0	3.0	0.0	H-Horn	PK	0.0	54.4	74.0	-19.6	EUT Ant. Vert, Channel 151
10629.080	35.2	19.1	323.0	1.0	3.0	0.0	V-Horn	PK	0.0	54.3	74.0	-19.7	EUT Ant. Vert, Channel 62
11610.170	35.3	19.0	205.0	1.0	3.0	0.0	H-Horn	PK	0.0	54.3	74.0	-19.7	EUT Ant. Vert, Channel 159
11340.250	34.9	19.2	330.0	1.0	3.0	0.0	V-Horn	PK	0.0	54.1	74.0	-19.9	EUT Ant. Vert, Channel 134
11515.830	35.0	18.9	46.0	1.0	3.0	0.0	V-Horn	PK	0.0	53.9	74.0	-20.1	EUT Ant. Vert, Channel 151
10608.250	34.7	19.1	157.0	1.9	3.0	0.0	H-Horn	PK	0.0	53.8	74.0	-20.2	EUT Ant. Vert, Channel 62

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth			Work Order:	SPTE0102
Serial Number:	None			Date:	11/24/08
Customer:	Spectrum Technology, Inc.			Temperature:	20.7° C
Attendees:	None			Humidity:	33%
Project:	None			Barometric Pres.:	1020.5mb
Tested by:	David Divergigelis	Power:	12VDC Battery	Job Site:	EV01

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

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

COMMENTS

See comments below for channel and data rate.

EUT OPERATING MODES

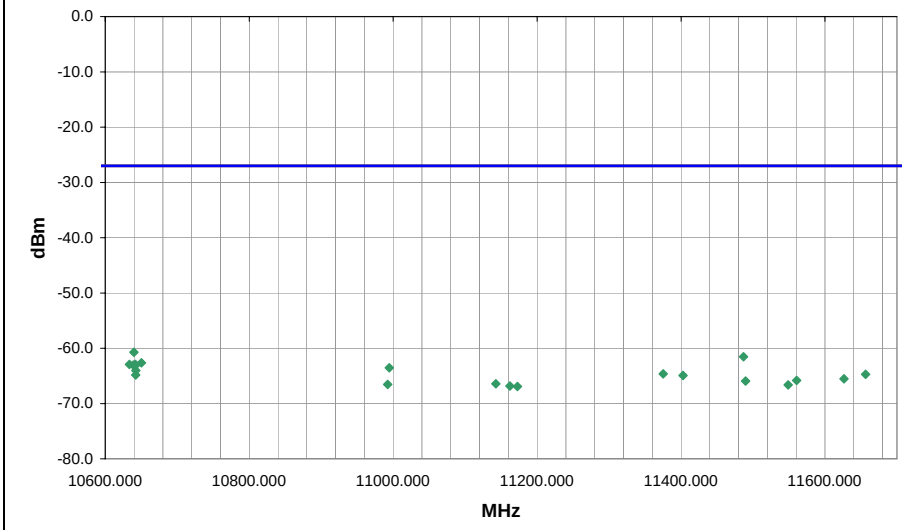
Continuous Tx 802.11(a)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	7
Configuration #	3
Results	Pass

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10639.830			331.0	1.4			V-Horn	PK	8.46E-10	-60.7	-27.0	-33.7	Antenna Vert, 36Mbps, Channel 64
11486.750			44.0	1.4			V-Horn	PK	7.03E-10	-61.5	-27.0	-34.5	Antenna Vert, 6Mbps, Channel 149
10650.250			303.0	1.2			H-Horn	PK	5.46E-10	-62.6	-27.0	-35.6	Antenna Horz, 6Mbps, Channel 64
10633.580			329.0	1.4			V-Horn	PK	5.09E-10	-62.9	-27.0	-35.9	Antenna Horz, 6Mbps, Channel 64
10641.750			9.0	1.4			V-Horn	PK	5.09E-10	-62.9	-27.0	-35.9	Antenna Vert, 54Mbps, Channel 64
10638.830			331.0	1.4			V-Horn	PK	4.98E-10	-63.0	-27.0	-36.0	Antenna Vert, 6Mbps, Low channel
10641.830			332.0	1.2			H-Horn	PK	4.87E-10	-63.1	-27.0	-36.1	Antenna Vert, 36Mbps, Channel 64
10994.580			19.0	1.0			V-Horn	PK	4.44E-10	-63.5	-27.0	-36.5	Antenna Vert, 6Mbps, Channel 100
10642.420			303.0	1.2			H-Horn	PK	3.95E-10	-64.0	-27.0	-37.0	Antenna Vert, 54Mbps, Channel 64
11375.170			315.0	1.5			V-Horn	PK	3.44E-10	-64.6	-27.0	-37.6	Antenna Vert, 6Mbps, Channel 140
11656.500			299.0	1.0			V-Horn	PK	3.37E-10	-64.7	-27.0	-37.7	Antenna Vert, 6Mbps, Channel 165
10642.170			298.0	1.2			H-Horn	PK	3.29E-10	-64.8	-27.0	-37.8	Antenna Vert, 6Mbps, Channel 64
11402.750			169.0	1.0			H-Horn	PK	3.21E-10	-64.9	-27.0	-37.9	Antenna Vert, 6Mbps, Channel 140
11626.420			234.0	1.7			H-Horn	PK	2.80E-10	-65.5	-27.0	-38.5	Antenna Vert, 6Mbps, Channel 165
11560.500			198.0	1.0			V-Horn	PK	2.61E-10	-65.8	-27.0	-38.8	Antenna Vert, 6Mbps, Channel 157
11489.670			344.0	1.0			H-Horn	PK	2.55E-10	-65.9	-27.0	-38.9	Antenna Vert, 6Mbps, Channel 149
11142.580			259.0	1.6			V-Horn	PK	2.28E-10	-66.4	-27.0	-39.4	Antenna Vert, 6Mbps, Channel 116
10992.420			326.0	1.0			H-Horn	PK	2.22E-10	-66.5	-27.0	-39.5	Antenna Vert, 6Mbps, Channel 100
11548.750			326.0	1.0			H-Horn	PK	2.17E-10	-66.6	-27.0	-39.6	Antenna Vert, 6Mbps, Channel 157
11162.170			120.0	1.0			H-Horn	PK	2.08E-10	-66.8	-27.0	-39.8	Antenna Vert, 6Mbps, Channel 116
11172.670			-1.0	1.6			V-Horn	PK	2.03E-10	-66.9	-27.0	-39.9	Antenna Vert, 6Mbps, Channel 116

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	Work Order:	SPTE0102
Serial Number:	None	Date:	11/24/08
Customer:	Spectrum Technology, Inc.	Temperature:	20.7° C
Attendees:	None	Humidity:	33%
Project:	None	Barometric Pres.:	1020.5mb
Tested by:	David Divergigelis	Power: 12VDC Battery	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

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

COMMENTS

See comments below for channel and data rate.

EUT OPERATING MODES

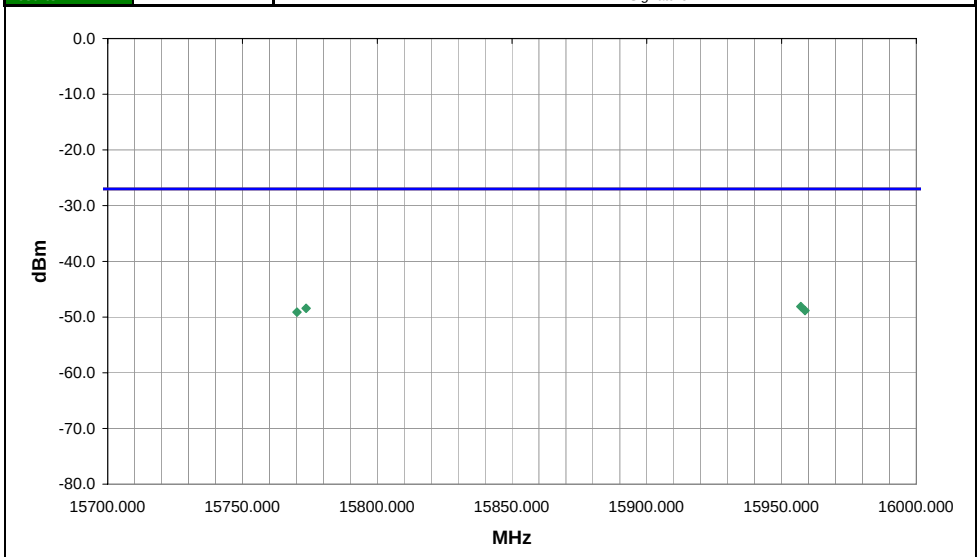
Continuous Tx 802.11(a)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	8
Configuration #	3
Results	Pass

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
15957.170			248.0	1.3			H-Horn	PK	1.54E-08	-48.1	-27.0	-21.1	Antenna Vert, 6Mbps, Channel 64
15773.580			165.0	1.0			H-Horn	PK	1.44E-08	-48.4	-27.0	-21.4	Antenna Vert, 6Mbps, Channel 52
15958.670			173.0	1.0			V-Horn	PK	1.31E-08	-48.8	-27.0	-21.8	Antenna Vert, 6Mbps, Channel 64
15770.250			313.0	2.6			V-Horn	PK	1.22E-08	-49.1	-27.0	-22.1	Antenna Vert, 6Mbps, Channel 52

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth			**Work Order:**	SPTE0102
Serial Number:	None			**Date:**	11/25/08
Customer:	Spectrum Technology, Inc.			**Temperature:**	21.5° C
Attendees:	Rod Munro			**Humidity:**	30%
Project:	None			**Barometric Pres.:**	1021.1mb
Tested by:	Dan Haas	**Power:**	12VDC Battery	**Job Site:**	EV01

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	**Test Distance (m)**	0

COMMENTS

See notes for channel and antenna polarity.

EUT OPERATING MODES

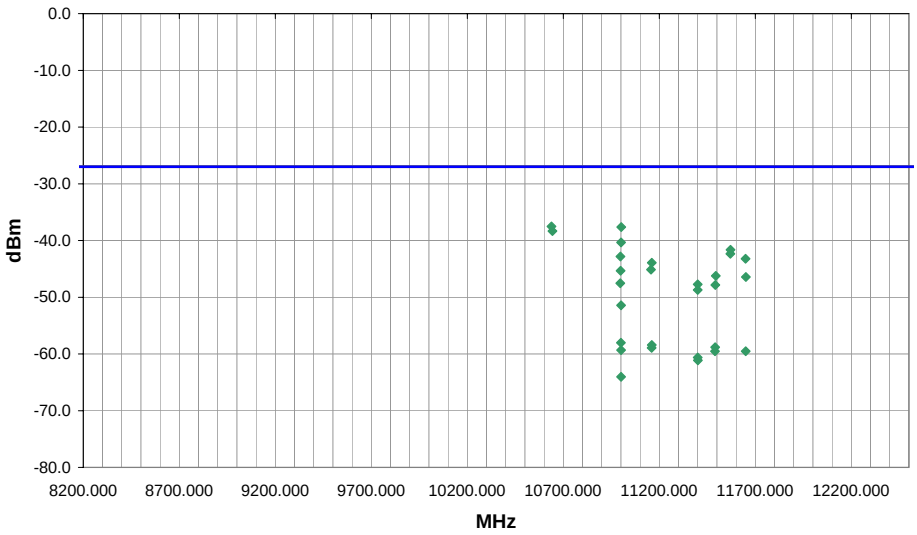
Continuous Tx 802.11(n)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	10
Configuration #	3
Results	Pass

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
10638.330			292.0	1.0			H-Horn	PK	1.77E-07	-37.5	-27.0	-10.5	Ch. 64, HT0, Vertical antenna.
11001.420			334.0	1.0			V-Horn	PK	1.73E-07	-37.6	-27.0	-10.6	Ch. 100, HT0, Vertical antenna.
10642.920			360.0	1.5			V-Horn	PK	1.47E-07	-38.3	-27.0	-11.3	Ch. 64, HT0, Vertical antenna.
11000.420			337.0	1.0			V-Horn	PK	9.27E-08	-40.3	-27.0	-13.3	Ch. 100, HT0, Horizontal antenna.
11570.580			232.0	1.0			V-Horn	PK	6.87E-08	-41.6	-27.0	-14.6	Ch. 157, HT0, Vertical antenna.
11570.000			194.0	1.0			H-Horn	PK	5.85E-08	-42.3	-27.0	-15.3	Ch. 157, HT0, Vertical antenna.
10997.500			318.0	1.0			H-Horn	PK	5.21E-08	-42.8	-27.0	-15.8	Ch. 100, HT0, Horizontal antenna.
11649.500			234.0	1.0			V-Horn	PK	4.75E-08	-43.2	-27.0	-16.2	Ch. 165, HT0, Vertical antenna.
11160.420			333.0	1.0			H-Horn	PK	4.05E-08	-43.9	-27.0	-16.9	Ch. 116, HT0, Vertical antenna.
11156.420			335.0	1.0			V-Horn	PK	3.07E-08	-45.1	-27.0	-18.1	Ch. 116, HT0, Vertical antenna.
10997.920			314.0	1.0			H-Horn	PK	2.93E-08	-45.3	-27.0	-18.3	Ch. 100, HT0, Vertical antenna.
11493.920			188.0	1.0			H-Horn	PK	2.38E-08	-46.2	-27.0	-19.2	Ch. 149, HT0, Vertical antenna.
11650.580			231.0	1.0			H-Horn	PK	2.28E-08	-46.4	-27.0	-19.4	Ch. 165, HT0, Vertical antenna.
10996.330			332.0	1.0			V-Horn	PK	1.77E-08	-47.5	-27.0	-20.5	Ch. 100, HT7, Vertical antenna.
11399.670			317.0	1.0			H-Horn	PK	1.69E-08	-47.7	-27.0	-20.7	Ch. 140, HT0, Vertical antenna.
11492.080			335.0	1.0			V-Horn	PK	1.65E-08	-47.8	-27.0	-20.8	Ch. 149, HT0, Vertical antenna.
11400.170			338.0	1.0			V-Horn	PK	1.34E-08	-48.7	-27.0	-21.7	Ch. 140, HT0, Vertical antenna.
11000.670			17.0	1.0			H-Horn	PK	7.20E-09	-51.4	-27.0	-24.4	Ch. 100, HT7, Vertical antenna.
11000.330			314.0	1.0			H-Horn	AV	1.57E-09	-58.0	-27.0	-31.0	Ch. 100, HT0, Vertical antenna.
11160.580			335.0	1.0			V-Horn	AV	1.44E-09	-58.4	-27.0	-31.4	Ch. 116, HT0, Vertical antenna.
11490.420			188.0	1.0			H-Horn	AV	1.31E-09	-58.8	-27.0	-31.8	Ch. 149, HT0, Vertical antenna.
11160.330			333.0	1.0			H-Horn	AV	1.28E-09	-58.9	-27.0	-31.9	Ch. 116, HT0, Vertical antenna.
11001.170			332.0	1.0			V-Horn	AV	1.17E-09	-59.3	-27.0	-32.3	Ch. 100, HT7, Vertical antenna.
11649.920			231.0	1.0			H-Horn	AV	1.11E-09	-59.5	-27.0	-32.5	Ch. 165, HT0, Vertical antenna.
11490.000			335.0	1.0			V-Horn	AV	1.11E-09	-59.5	-27.0	-32.5	Ch. 149, HT0, Vertical antenna.
11400.330			317.0	1.0			H-Horn	AV	8.65E-10	-60.6	-27.0	-33.6	Ch. 140, HT0, Vertical antenna.
11400.500			338.0	1.0			V-Horn	AV	7.71E-10	-61.1	-27.0	-34.1	Ch. 140, HT0, Vertical antenna.
11001.170			17.0	1.0			H-Horn	AV	3.95E-10	-64.0	-27.0	-37.0	Ch. 100, HT7, Vertical antenna.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth	Work Order:	SPTE0102
Serial Number:	None	Date:	11/25/08
Customer:	Spectrum Technology, Inc.	Temperature:	21.5° C
Attendees:	Rod Munro	Humidity:	30%
Project:	None	Barometric Pres.:	1021.1mb
Tested by:	Dan Haas	Power: 12VDC Battery	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

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

COMMENTS

See notes for channel.

EUT OPERATING MODES

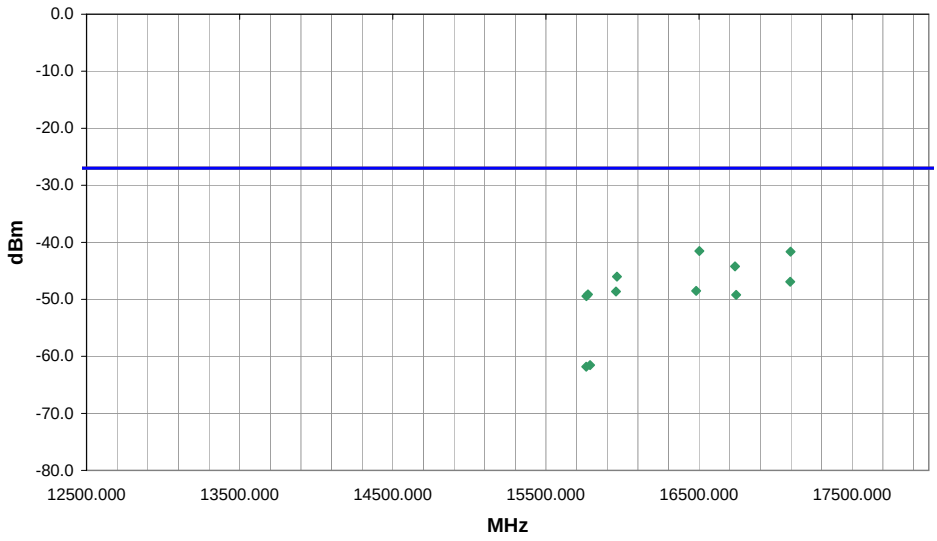
Continuous Tx 802.11(n)

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	11
Configuration #	3
Results	Pass

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
16501.830			285.0	1.0			V-Horn	PK	7.03E-08	-41.5	-27.0	-14.5	Ch. 100, HT0, Vertical antenna.
17097.330			281.0	1.0			V-Horn	PK	6.87E-08	-41.6	-27.0	-14.6	Ch. 140, HT0, Vertical antenna.
16734.580			255.0	1.0			V-Horn	PK	3.78E-08	-44.2	-27.0	-17.2	Ch. 116, HT0, Vertical antenna.
15963.170			313.0	1.0			H-Horn	PK	2.50E-08	-46.0	-27.0	-19.0	Ch. 64, HT0, Vertical antenna.
17095.000			25.0	1.0			H-Horn	PK	2.03E-08	-46.9	-27.0	-19.9	Ch. 140, HT0, Vertical antenna.
16480.500			285.0	1.0			H-Horn	PK	1.40E-08	-48.5	-27.0	-21.5	Ch. 100, HT0, Vertical antenna.
15957.830			60.0	1.0			V-Horn	PK	1.37E-08	-48.6	-27.0	-21.6	Ch. 64, HT0, Vertical antenna.
15774.080			240.0	1.0			H-Horn	PK	1.22E-08	-49.1	-27.0	-22.1	Ch. 52, HT0, Vertical antenna.
16741.500			310.0	1.0			H-Horn	PK	1.19E-08	-49.2	-27.0	-22.2	Ch. 116, HT0, Vertical antenna.
15764.000			354.0	1.0			V-Horn	PK	1.14E-08	-49.4	-27.0	-22.4	Ch. 52, HT0, Vertical antenna.
15787.920			240.0	1.0			H-Horn	AV	7.03E-10	-61.5	-27.0	-34.5	Ch. 52, HT0, Vertical antenna.
15763.420			354.0	1.0			V-Horn	AV	6.56E-10	-61.8	-27.0	-34.8	Ch. 52, HT0, Vertical antenna.

NORTHWEST EMC

SPURIOUS RADIATED EMISSIONS DATA SHEET

PSA 2007.07.21
EMI 2008.7.3

EUT:	GD8000 PC with IX-512AN WLAN, and IX-WT11 Bluetooth			Work Order:	SPTE0102
Serial Number:	None			Date:	11/25/08
Customer:	Spectrum Technology, Inc.			Temperature:	21.5° C
Attendees:	Rod Munro			Humidity:	30%
Project:	None			Barometric Pres.:	1021.1mb
Tested by:	David Divergigelis	Power:	12VDC Battery	Job Site:	EV01

TEST SPECIFICATIONS	Test Method
FCC 15.407:2008	ANSI C63.4:2003 DA 02-2138:2002

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

COMMENTS

See comments below for channel

EUT OPERATING MODES

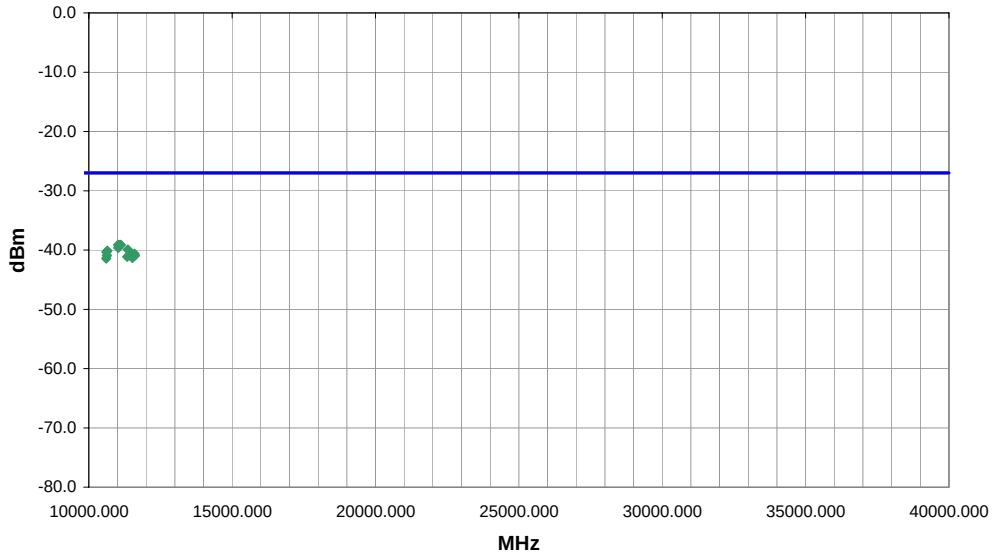
Continuous Tx 802.11(n) 40MHz (wide), HT0

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	13
Configuration #	3
Results	Pass

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
11022.170			42.0	2.8			V-Horn	PK	1.22E-07	-39.1	-27.0	-12.1	EUT Ant. Vert, Channel 102
11090.670			26.0	2.9			H-Horn	PK	1.22E-07	-39.1	-27.0	-12.1	EUT Ant. Vert, Channel 110
11117.920			120.0	1.0			V-Horn	PK	1.22E-07	-39.1	-27.0	-12.1	EUT Ant. Vert, Channel 110
11027.670			284.0	2.5			H-Horn	PK	1.09E-07	-39.6	-27.0	-12.6	EUT Ant. Vert, Channel 102
11364.170			134.0	1.0			H-Horn	PK	1.02E-07	-39.9	-27.0	-12.9	EUT Ant. Vert, Channel 134
10644.830			2.0	1.0			V-Horn	PK	9.71E-08	-40.1	-27.0	-13.1	EUT Ant. Horz, Channel 62
10612.330			119.0	3.2			H-Horn	PK	9.27E-08	-40.3	-27.0	-13.3	EUT Ant. Horz, Channel 62
11591.830			96.0	1.0			V-Horn	PK	8.65E-08	-40.6	-27.0	-13.6	EUT Ant. Vert, Channel 159
11528.420			72.0	1.0			H-Horn	PK	8.26E-08	-40.8	-27.0	-13.8	EUT Ant. Vert, Channel 151
10629.080			323.0	1.0			V-Horn	PK	8.07E-08	-40.9	-27.0	-13.9	EUT Ant. Vert, Channel 62
11610.170			205.0	1.0			H-Horn	PK	8.07E-08	-40.9	-27.0	-13.9	EUT Ant. Vert, Channel 159
11340.250			330.0	1.0			V-Horn	PK	7.71E-08	-41.1	-27.0	-14.1	EUT Ant. Vert, Channel 134
11515.830			46.0	1.0			V-Horn	PK	7.36E-08	-41.3	-27.0	-14.3	EUT Ant. Vert, Channel 151
10608.250			157.0	1.9			H-Horn	PK	7.20E-08	-41.4	-27.0	-14.4	EUT Ant. Vert, Channel 62