Nemko USA, Inc.
11696 Sorrento Valley Rd., Suite F
San Diego, CA 92121-1024
Phone (858) 755-5525 Fax (858) 452-1810

CERTIFICATION TEST REPORT

Report Number:	2011 02167485 FCC
Project Number:	1024415
Nex Number:	167485
Applicant:	CLARITY DESIGN 13029 DANIELSON STREET SUITE 100 Poway, CA 92064
Equipment Under Test (EUT): Model:	WIFI SD CARD 0125A
FCC ID: IC:	YC7-0125A 8962A-0125A
In Accordance With:	FCC Part 15 Subpart C, 15.247 IC RSS-210 Issue 8 December 2010 IC RSS-Gen Issue 3 December 2010
Tested By:	Nemko USA Inc. 11696 Sorrento Valley Road, Suite F San Diego, CA 92121
Authorized By:	 Alan Laudani, EMC/RF Test Engineer
Date:	APRIL 5, 2011
Total Number of Pages:	42

Section1: Summary of Test Results

All measurements are traceable to national standards. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15; Subpart C and IC RSS-210. Radiated tests were conducted is accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC and IC.

The assessment summary is as follows:

Apparatus Assessed:	WiFi SD Card
Model:	0125A
Specification:	FCC Part 15 Subpart C, 15.247 IC RSS-210 Issue 8 December 2010
Date Received in Laboratory:	February 23, 2011
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None

1.1 Report Release History

REVISION	DATE	COMMENTS
-	April 5, 2011	Prepared By: Alan Laudani
-	April 5, 2011	Initial Release: Alan Laudani

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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TESTED BY:  Date: April 5, 2011
Alan Laudani, EMC Test Engineer

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Section 2: Equipment Under Test

2.1 Product Identification

The Equipment Under Test was indentified as follows:

Clarity Design 0125A WiFi SD Card

2.2 Samples Submitted for Assessment

The following sample of the apparatus and antenna have been submitted for type assessment:

Description	Serial No.
0125AA WIFI SD CARD	**102, 101**

2.3 Theory of Operation

The 0125A WiFi SD Card is an 802.11b/g module designed for wireless communication between a host system and an access point or other 802.11b/g compatible device. The test setup consists of a standard PC, a Wireless Access Point and a Host Controller for the EUT. The Wireless Access Point is connected to the PC through a standard Ethernet cable. The Host Controller is connected to the PC through a standard serial port. The Unit Under Test is connected to the Host Controller via a standard SDIO bus. The PC configures the Wireless Access Point to 802.11b or 802.11g mode, as well as selecting a channel ranging from 1-11. The Host Controller configures the Unit Under Test through the SDIO bus, and receives commands through the PC serial port connection to initiate communication between the UUT and the wireless access point.

2.4 Technical Specifications of the EUT

Manufacturer:	Clarity Design
Operating Frequency:	2412.0 to –2462.0 MHz in the 2400-2483.5 MHz Band
Rated Power:	111.7 mW
Modulation:	OFDM
Reference Designator:	17M1G1D 16M2W7D
Antenna Connector:	REVERSE SMA
Power Source:	TEST FIXTURE

Section 3: Test Conditions

3.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.247
Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5850 MHz and 24.0-24.25 GHz bands.

IC RSS-210 Issue 8 December 2010
Low-power Licence-exempt Radio-communication Devices (All Frequency Bands): Category I Equipment. Annex 8 - Frequency Hopping and Digital Modulation Systems Operating in the Bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

IC RSS-Gen Issue 3 December 2010
General Requirements and Information for the Certification of Radio-communication Equipment

3.2 Deviations From Laboratory Test *Procedures*

No deviations from Laboratory Test Procedure

3.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	16-22ºC
Humidity range	39-45%
Pressure range	102.0 – 102.3 kPa
Power supply range	48VDC nominal

3.4 Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
110	Antenna, Bicon	EMCO	LPA-25	1217	2/10/2009	3/10/2011
114	Antenna, LPA	EMCO	3104	2997	3/5/2010	3/5/2012
317	Preamplifier	HP	8449A	2749A00167	5/7/2010	5/7/2011
529	Antenna, DRWG	EMCO	3115	2505	10/18/2010	10/18/2012
813	Multimeter	Fluke	111	78130060	9/16/2009	9/16/2011
835	Spectrum Analyzer	Rohde & Schwarz	RHDFSEK	829058/005	7/12/2010	7/12/2011
898	EMI Receiver & filter set	HP	8546A	3625A00348	6/22/2010	6/22/2011
899	Filter Section	HP	85460A	3448A00288	6/22/2010	6/22/2011
NA	Regulating Transformer	TDGC	0-250 Vac	NA	NCR	NCR
813	Multimeter	Fluke	111	78130060	9/16/2009	9/16/2011
946	Peak Power Sensor	Hewlett Packard	84815A 0.05-18GHz (-40 to 20dBm)	3318A01726	9/28/2010	9/28/2011
947	Peak Power Analyzer	Hewlett Packard	8991A	3621A00906	9/28/2010	9/28/2011

Section 4: Observations

4.1 Modifications Performed During Assessment

No modifications were performed during assessment.

4.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

4.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

4.4 Test Deleted

No Tests were deleted from this assessment.

4.5 Additional Observations

There were no additional observations made during this assessment.

Section 5: Results Summary

This section contains the following:

FCC Part 15 Subpart C:
IC RSS-210 Issue 7 June 2007 Annex 8
IC RSS-Gen Issue 2 June 2007

The column headed “Required” indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

N No: not applicable / not relevant
Y Yes: Mandatory i.e. the apparatus shall conform to these tests.
N/T Not Tested, mandatory but not assessed. (See section 4.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

5.1 Test Results

Part 15C	RSS-210	Test Description	Required	Result
15.215(c)	RSS Gen 4.6	20% & 99% Bandwidth	Y	Pass
15.257(a)(2)	A8.4(4)	Maximum peak output power	Y	Pass
15.247(d) 15.205	RSS-210 2.2(b)	Radiated Emissions within Restricted Bands	Y	Pass
15.247(d)	A8.5	Out-of-band Emissions	Y	Pass
15.247(a)(2)	A8.2(a)	Minimum 6dB RF Bandwidth	Y	Pass
15.247(e)	A8.2 (b)	Power Spectral Density	Y	Pass
15.207(a)	RSS-GEN 7.2.2	Transmitter and Receiver AC Power Lines Conducted Emission Limit	Y	Pass
	RSS-GEN 4.8	Receiver Spurious Emissions	Y	Pass

Appendix A: Test Results

Section 15.207(a) – Power Line Conducted Emissions

15.207(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

Test Conditions:

Client	Clarity Design	Temperature	22	°C
PAN #	1024415	Relative Humidity	33	%
EUT Name	WiFi SD Card	Barometric Pressure	102.0	kPa
EUT Model	0125AA	Test Location	Enclosure 1	
Governing Doc	FCC, Part 15B Sect. 207	Test Engineer	Alan Laudani	
Basic Standard	ANSI C63.4	Date	February 23, 2011	
Test Parameters	Peak RBW: 100kHz VBW: 100kHz Quasi-Peak: RBW 9kHz, VBW 30 kHz Average: RBW 9kHz, VBW 30 kHz Quasi-Peak Limit Blue Line, Average Limit Green Line			

Test Results: EUT complies

See attached plots

Additional Observations:

- EUT was tested using the following modes: Low channel, Mid channel, High channel and Receive Test Mode.
- No differences in receive mode emissions due to receive channel selected. Plot shown is worst case.
- Green limit line is Average limit and blue limit line is Quasi-peak limit.
- o represents final quasi peak measurements while x represent final average measurements.
- Instrumentation settings are 9kHz RBW/30kHz VBW for Average measurements and 100kHz RBW/100kHz VBW for Peak measurements.

11696 Sorrento Valley Road, Suite F, San Diego, CA 92121
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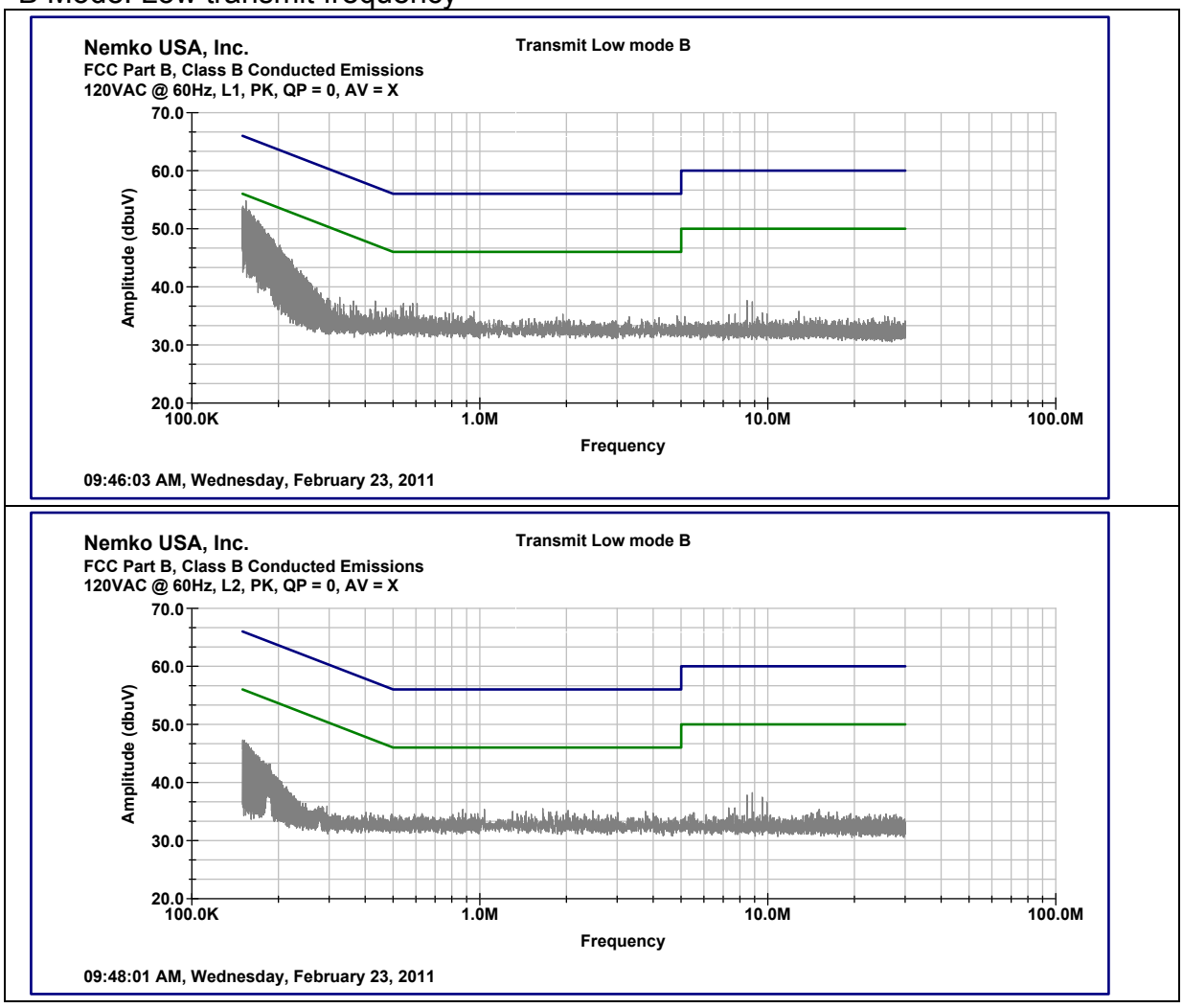
B Mode: Low transmit frequency

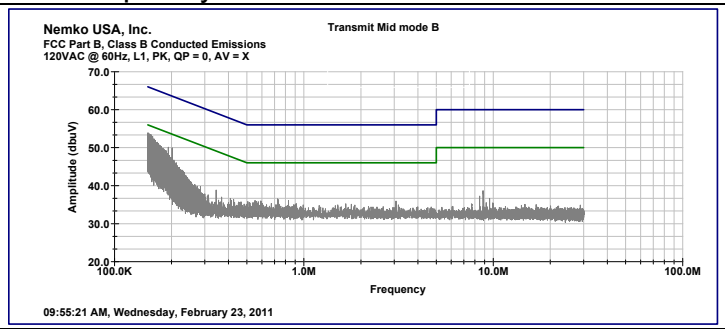
Client	Clarity Design	Temperature	22	°C
PAN #	1024415	Relative Humidity	33	%
EUT Name	WiFi SD Card	Barometric Pressure	102.0	kPa
EUT Model	0125AA	Test Location	Enclosure 1	
Governing Doc	FCC, Part 15B Sect. 207	Test Engineer	Alan Laudani	
Basic Standard	ANSI C63.4	Date	February 23, 2011	
Test Parameters	Peak RBW: 100kHz VBW: 100kHz Quasi-Peak: RBW 9kHz, VBW 30 kHz Average: RBW 9kHz, VBW 30 kHz Quasi-Peak Limit Blue Line, Average Limit Green Line			

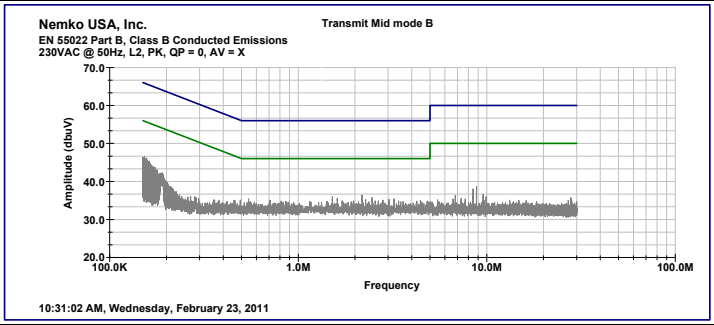
Peak met average limits, therefore quasi-peak and average “post processing” was not required.

B Mode: Low transmit frequency

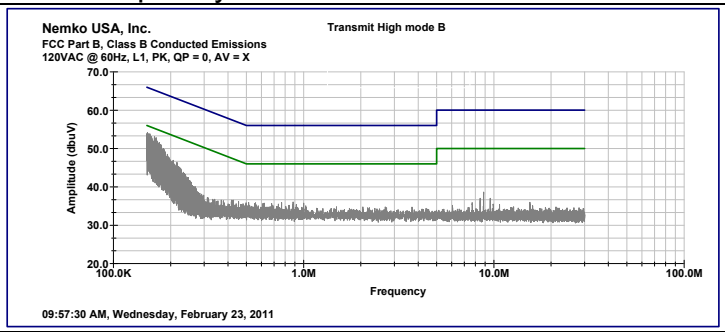


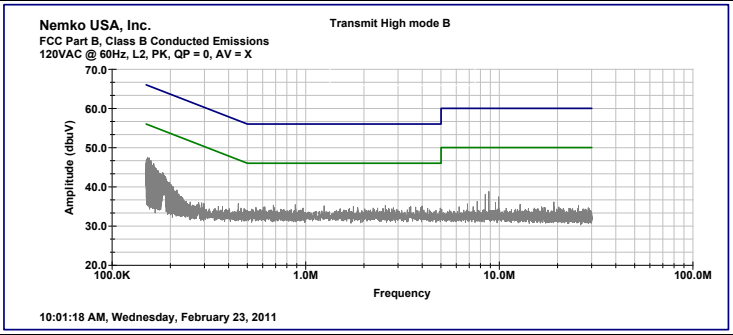
B Mode: Mid transmit frequency



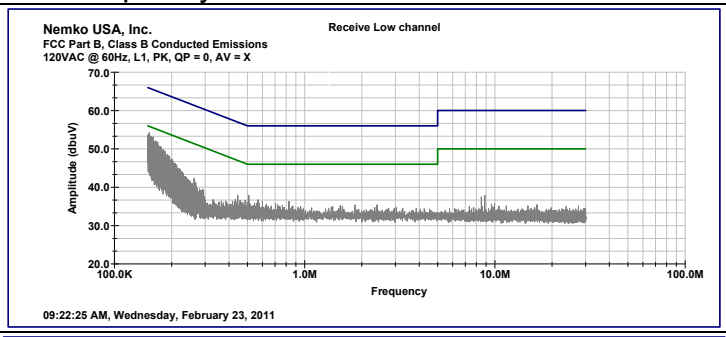


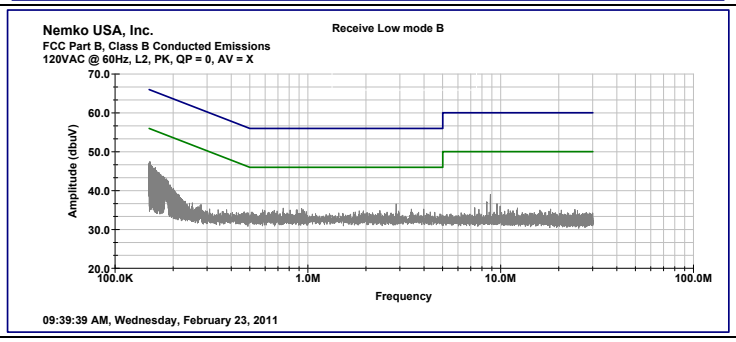
B Mode: High transmit frequency



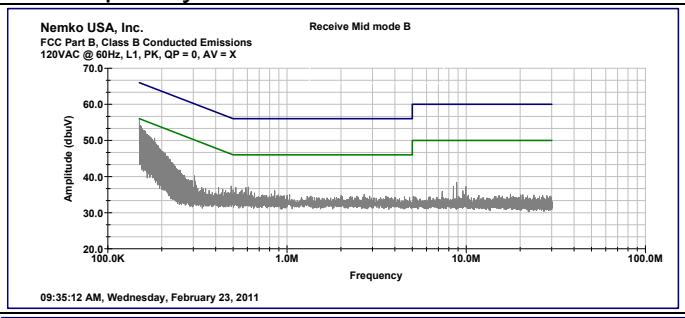


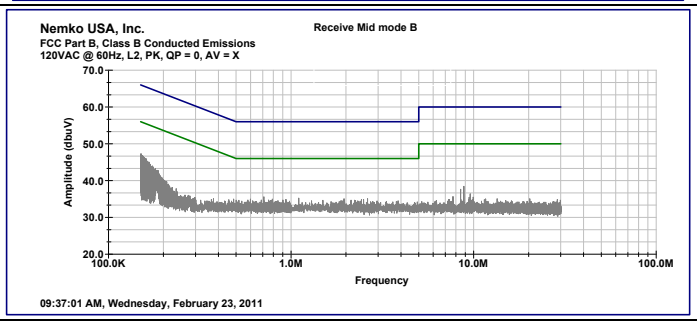
B Mode: Receive low frequency



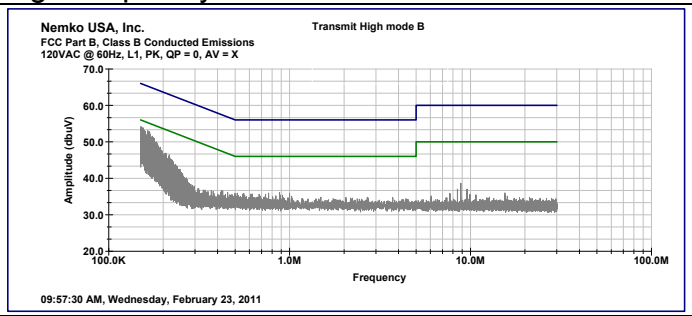


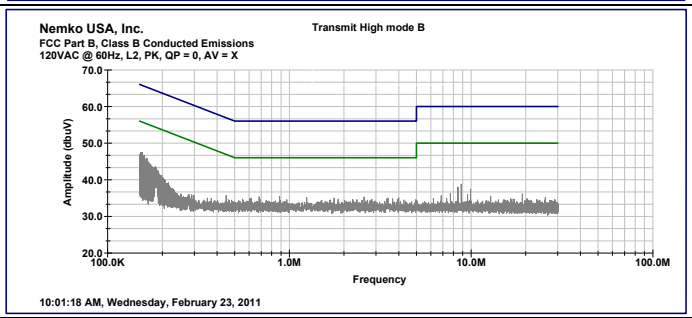
B Mode: Receive Mid frequency



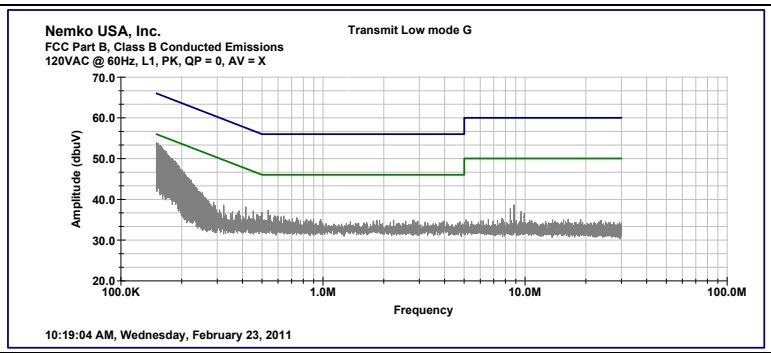


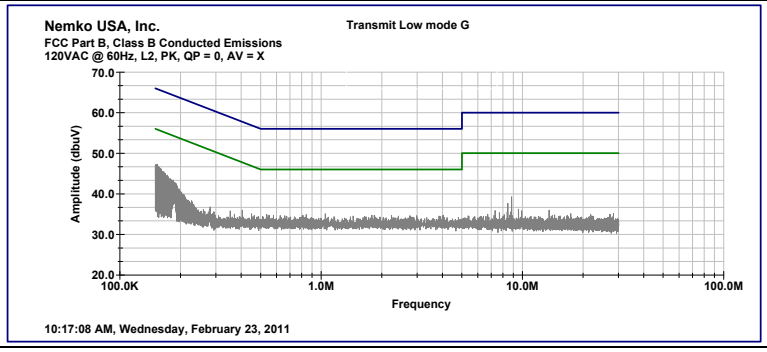
B Mode: Receive High frequency



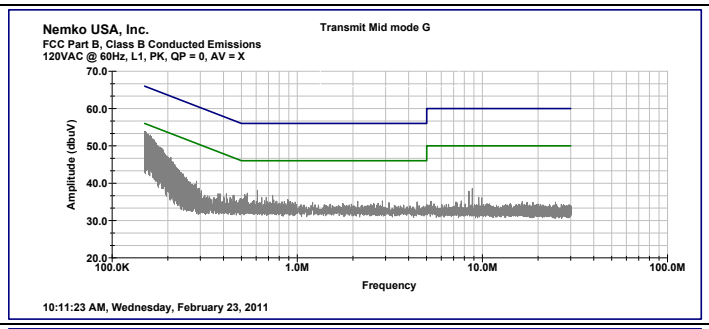


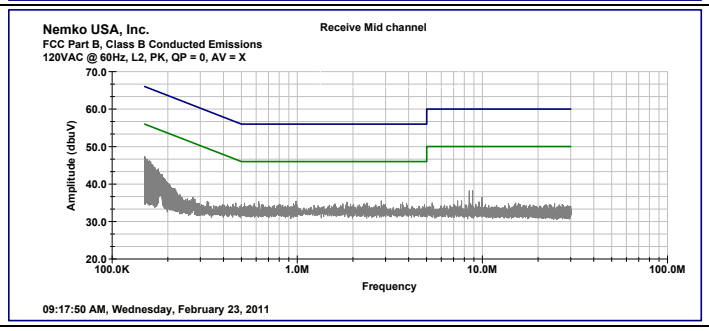
G Mode: Low transmit frequency



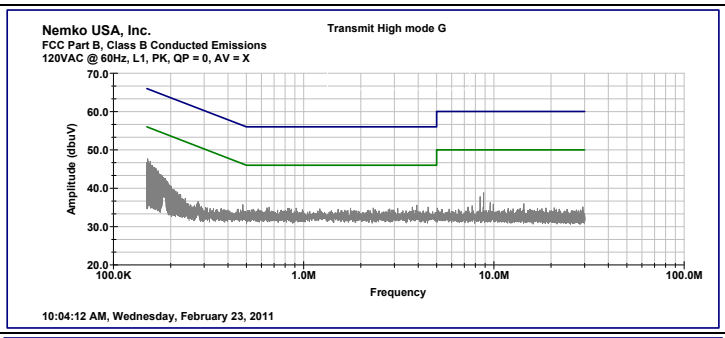


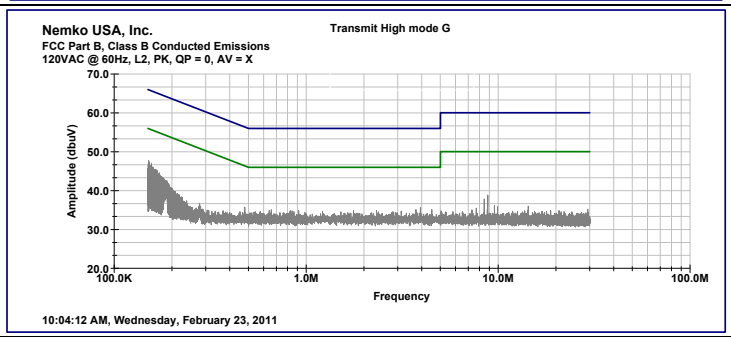
G Mode: Mid transmit frequency



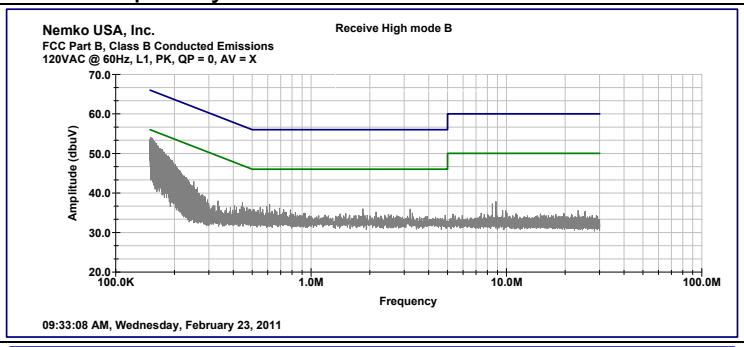


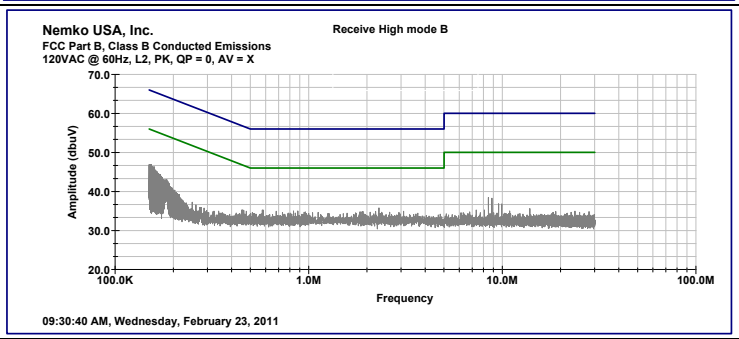
G Mode: High transmit frequency



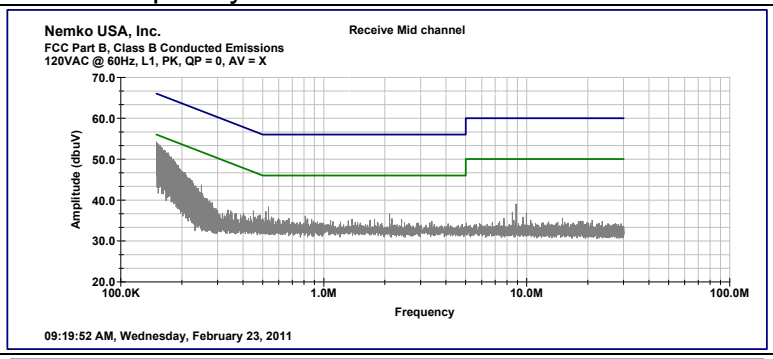


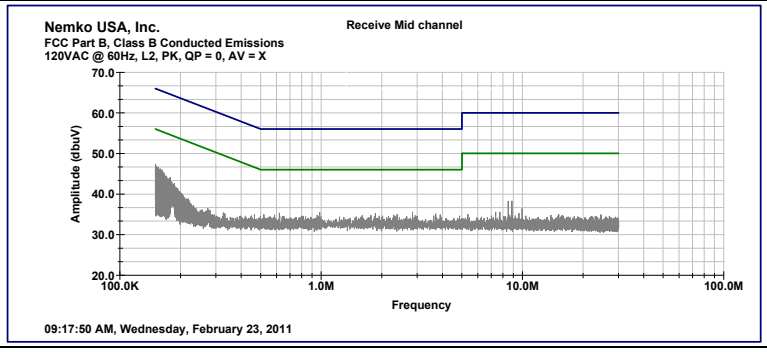
G Mode: Receive low frequency



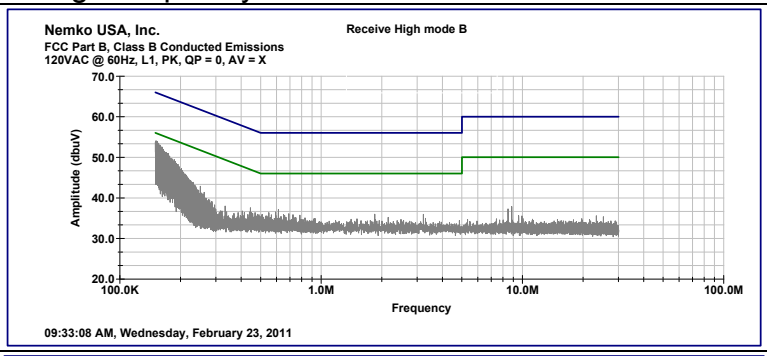


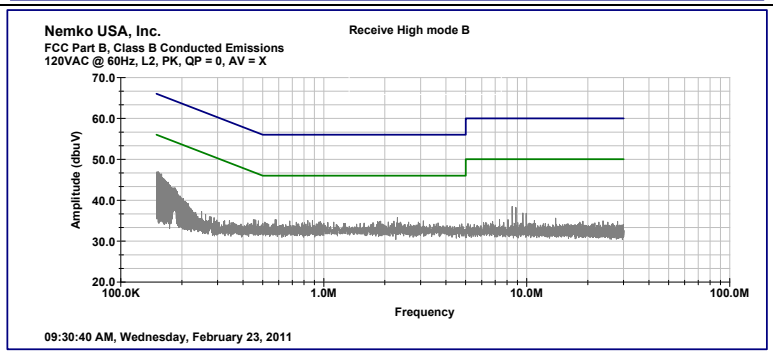
G Mode: Receive Mid frequency





G Mode: Receive High frequency





Section 15.215(c) – 20 dB / 99% Bandwidth

15.215(c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

RSS Gen 4.6 When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99% emission bandwidth, as calculated or measured. The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used given that a peak or peak hold may produce a wider bandwidth than actual. The trace data points are recovered and directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	22°C
Date:	February 25, 2011	**Humidity:**	33%
Modification State:	Low, Mid and High Channel	**Tester:**	Alan Laudani
		Laboratory:	Nemko

Test Results: See attached plots.

Additional Observations:

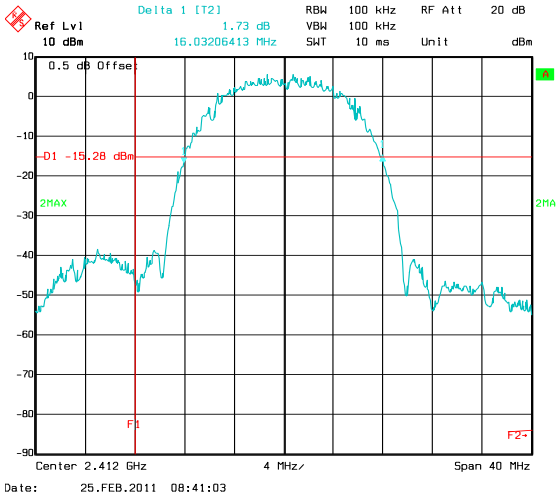
- Span is wide enough to capture the channel transmission
- RBW is 1% of the span
- VBW is 3X RBW
- Sweep is auto
- Detector is Peak
- Trace is Max Hold
- Used 99% bandwidth of Spectrum Analyzer's programmed functions.
- A peak output max hold reading was taken, a display line was drawn 20
- dB lower than peak level. The 20 dB bandwidth was determined from where the channel output spectrum intersected the display line.
- Observed maximum 20 dB BW is 17.07 MHz (Low channel).
- Observed maximum 20 dB BW is 16.95 MHz (High channel).
- 2412.00 MHz – 17.07/2 MHz = 2403.46 MHz (within the frequency band)
- 2462.00 MHz + 16.95/2 MHz = 2470.48 MHz (within the frequency band)

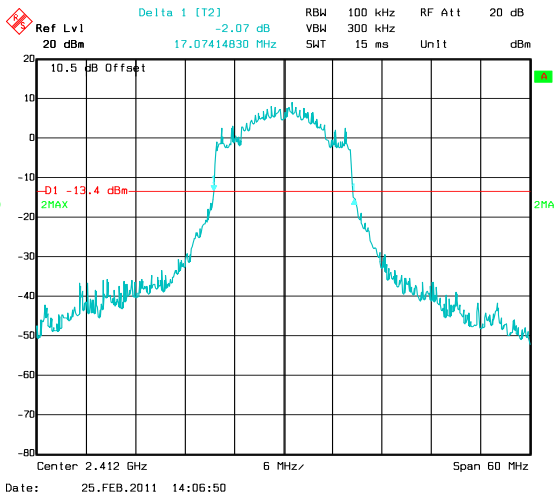
Channel	20 dB BW Mode B	20 dB BW Mode G	99% BW Mode B	99% BW Mode B
2412	16.0 MHz	17.1 MHz	15.7	16.1
2437	15.8 MHz	17.0 MHz	13.7	16.1
2462	15.7 MHz	17.0 MHz	13.6	16.2

20 dB Band Width

(Low Channel)

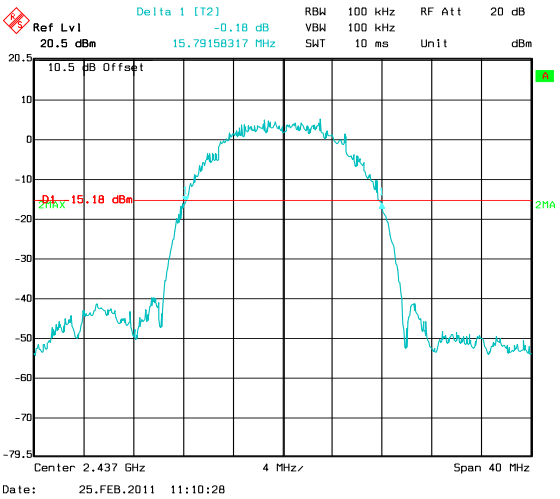
Mode B **Mode G**

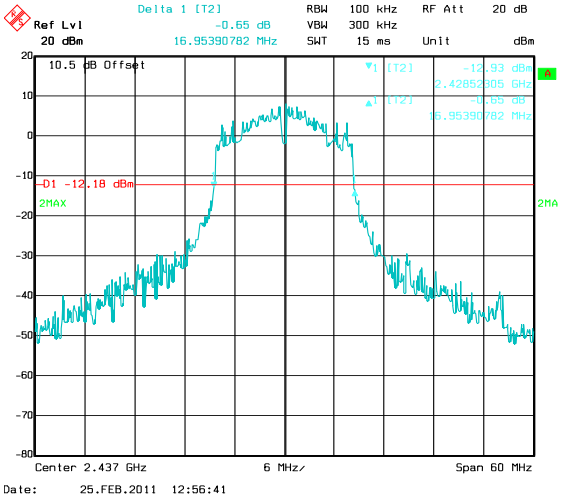




(Mid Channel)

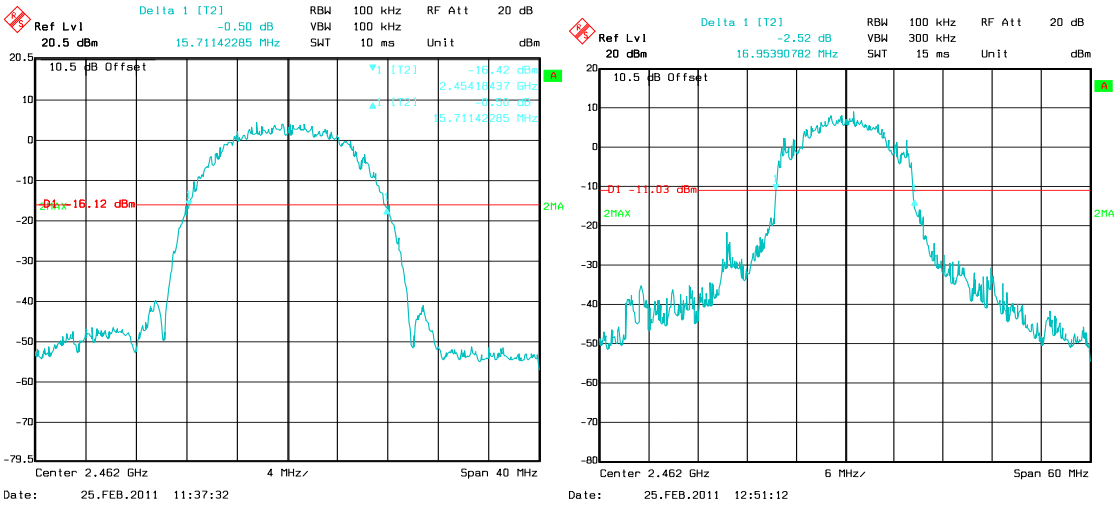
Mode B **Mode G**





(High Channel)

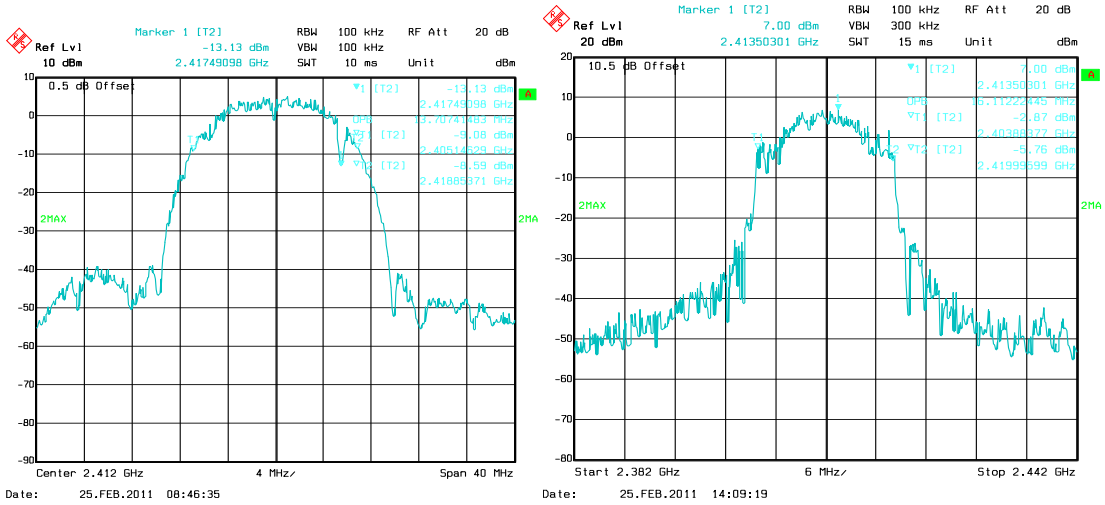
Mode B **Mode G**



99 dB Band Width

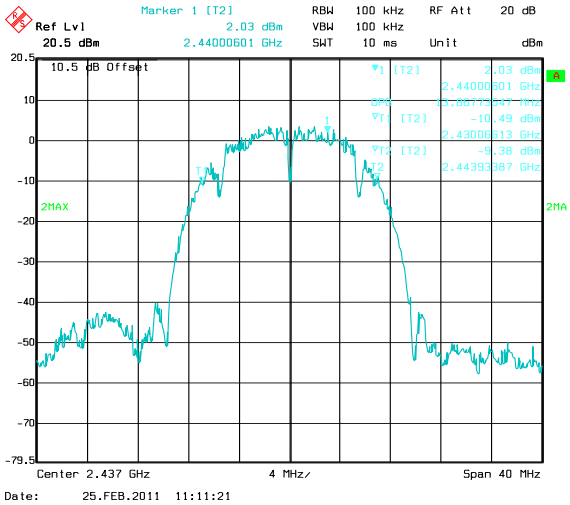
(Low Channel)

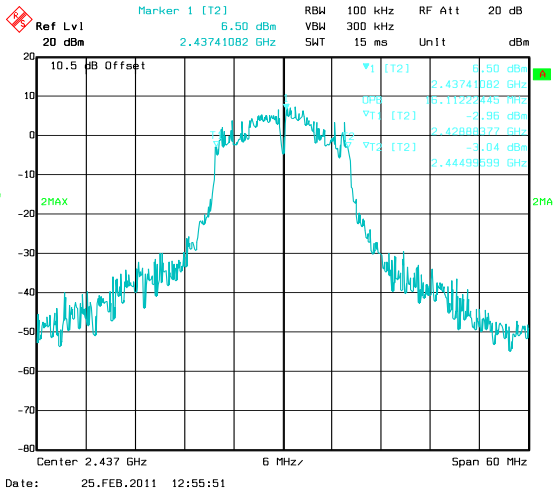
Mode B **Mode G**



(Mid Channel)

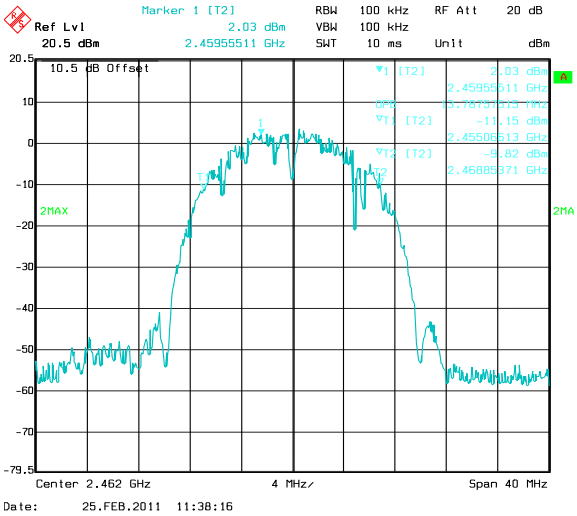
Mode B **Mode G**

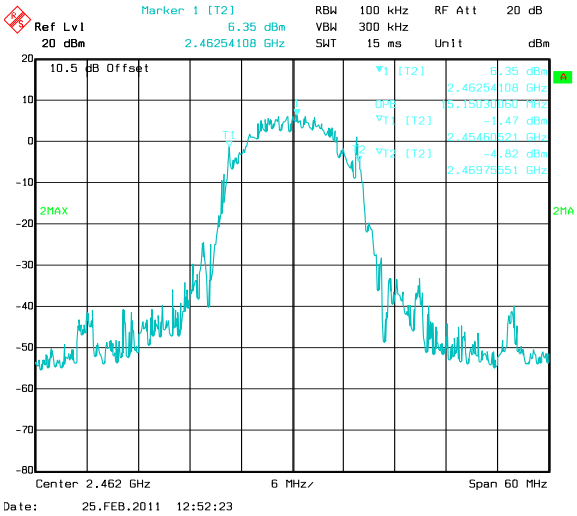




(High Channel)

Mode B **Mode G**





Section 15.247(a)(2) – Minimum 6dB RF Bandwidth

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

RSS 210 8.2(a) The minimum -6 dB bandwidth shall be at least 500 kHz.

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	24°C
Date:	February 25, 2011	**Humidity:**	35 %
Modification State:	Low, Mid and High Channel	**Tester:**	Alan Laudani
		Laboratory:	Nemko

Test Results: EUT complies, See attached plots.

Additional Observations:

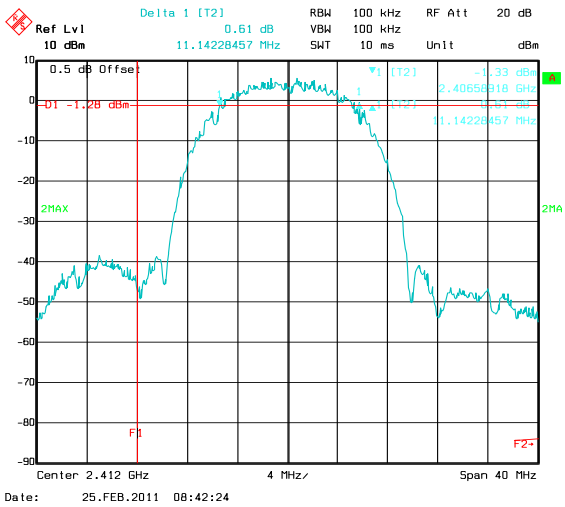
- This is a conducted test
- RBW is set to 100kHz
- VBW is 3X RBW
- Sweep is auto
- Detector is Peak
- Trace is Max Hold
- For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was plotted; a DISPLAY line was drawn 6 dB lower than PEAK level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

Channel Range MHz	Observed 6 dB bandwidth B Mode	Observed 6 dB bandwidth G mode
Low 2412	11.14	15.27
Mid 2437	10.26	15.15
High 2462	10.42	9.62

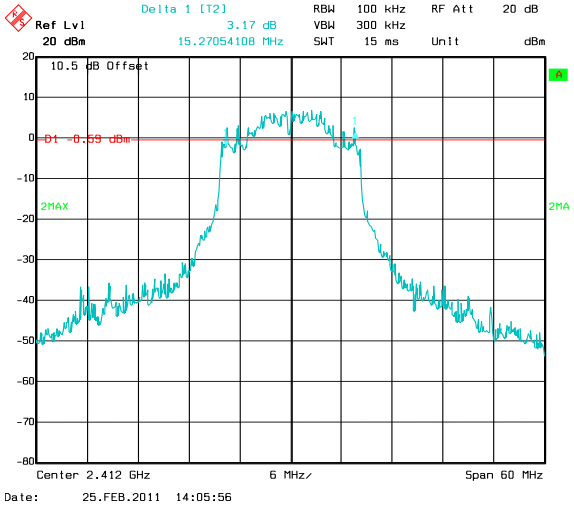
6 dB Band Width

(Low Channel)

Mode B

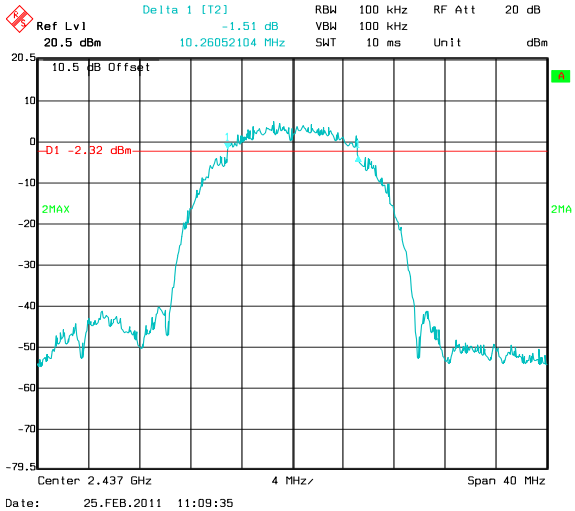


Mode G

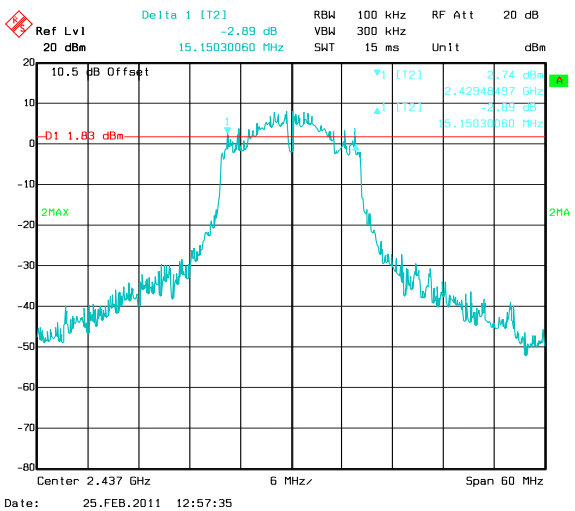


(Mid Channel)

Mode B

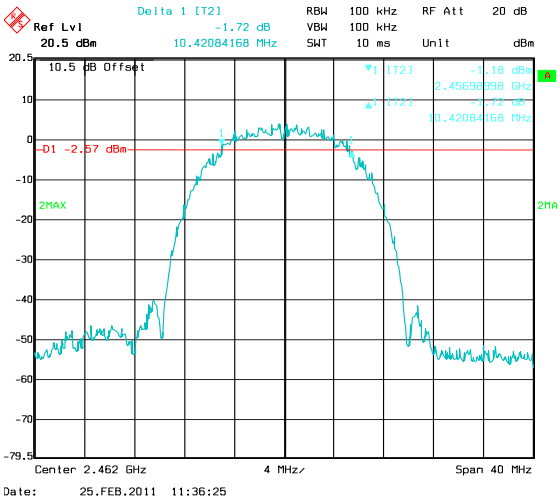


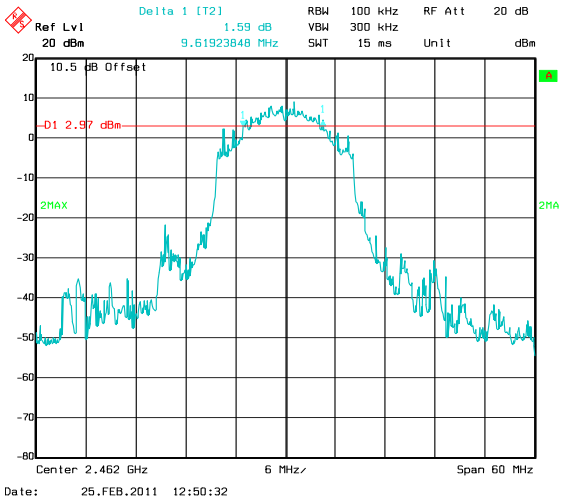
Mode G



(High Channel)

Mode B **Mode G**





Section 15.247(b)(1) – Peak Output Power

(3) For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the *maximum conducted output power* is the highest total transmit power occurring in any mode.

RSS 210 8.4(4) For systems employing digital modulation techniques operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz, the maximum peak conducted output power shall not exceed 1 W.

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	21°C
Date:	February 25, 2011	**Humidity:**	33 %
Modification State:	Low, Mid and High Channel	**Tester:**	Alan Laudani
		Laboratory:	Nemko

Test Results:

Channel Range MHz	Power Supply	Peak Power Output (dBm) "B" mode	Peak Power Output (dBm) "G" mode
Low 2412	102 VAC	18.74	20.48
	120 VAC	18.74	20.27
	138 VAC	18.74	20.48
Mid 2437	102 VAC	18.02	20.48
	120 VAC	18.18	20.48
	138 VAC	18.10	20.11
High 2462	102 VAC	17.55	20.48
	120 VAC	17.55	20.40
	138 VAC	17.55	20.48

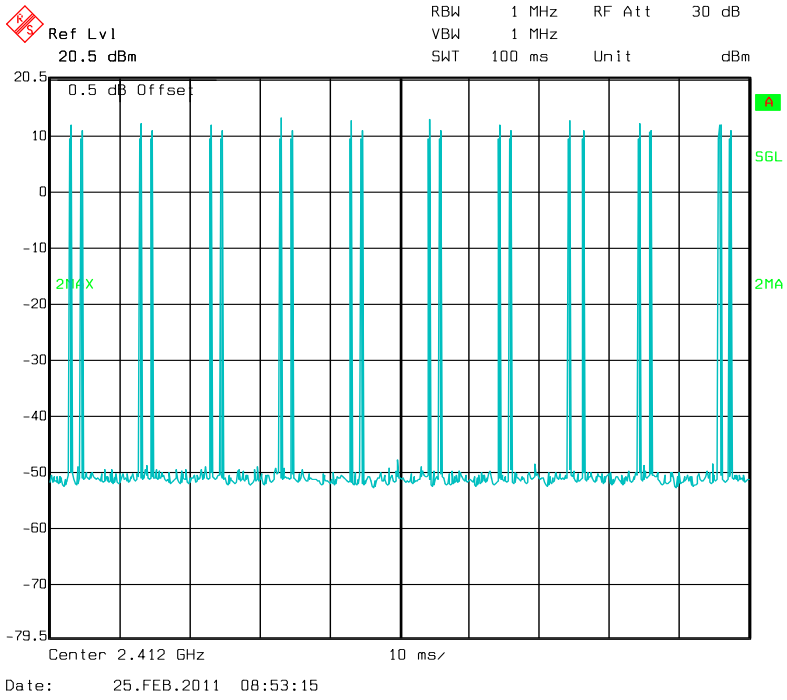
Peak Output Power = 20.48 dBm or 111.7 mW

Additional Observations:

- This is a conducted test. A 10 dB attenuator was placed between the sensor and the antenna port. Additional 0.5 dB was added for the cable assembly used. Total offset used is 10.5 dB.
- Peak Power Analyzer used on this test
- Variac and multimeter was used to vary the supplied AC power by +/- 15%.

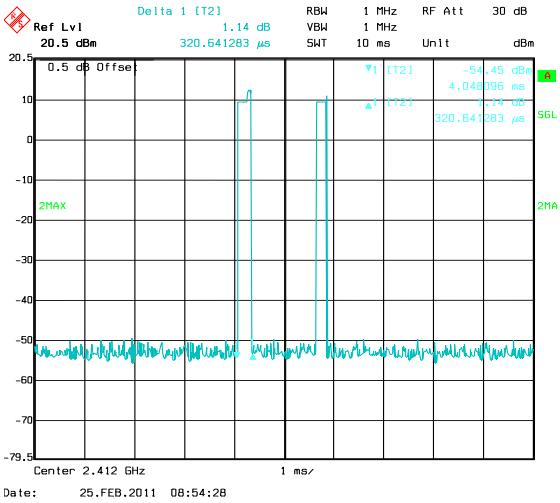
Mode B
Duty Cycle Factor plots:
10 x (0.32 + 0.24) ms = 5.6 ms in 100 ms
20 x log (0.056) < -20dB, limit for FCC

10 double emission bursts:

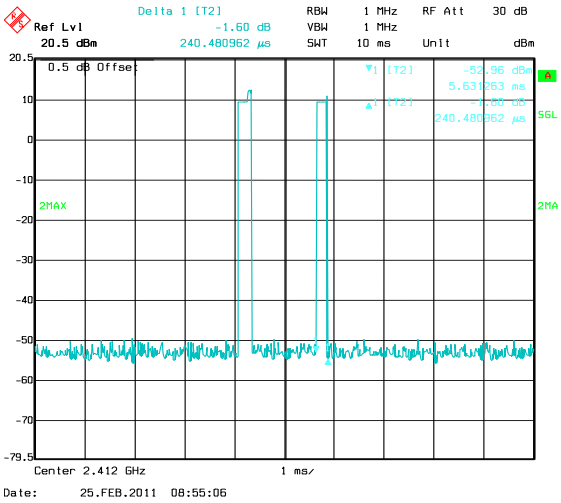


Emission Widths:

320 micro seconds:



240 micro seconds:

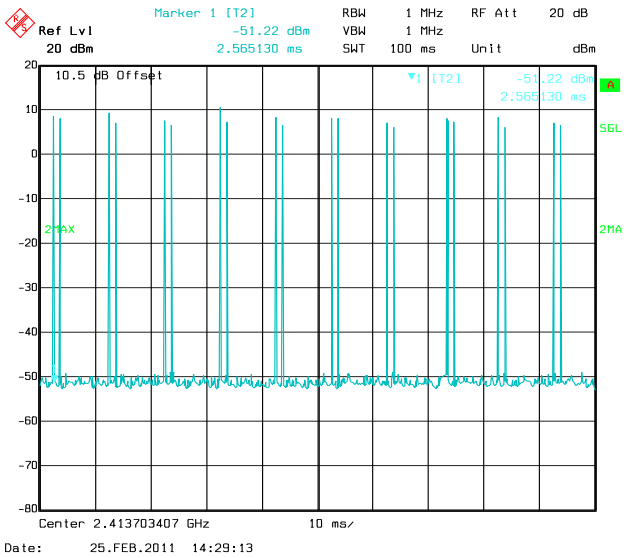


Mode G

Duty Cycle Factor plots:

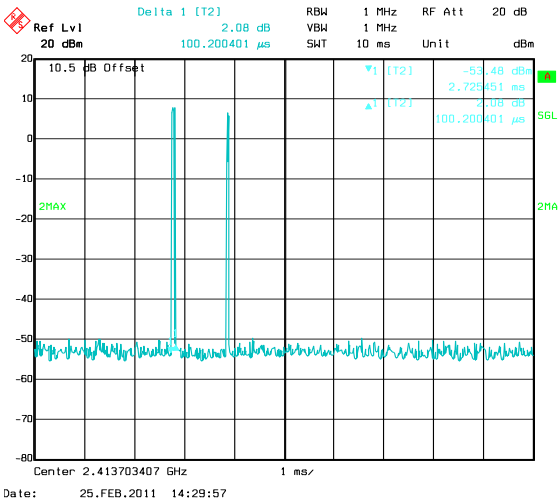
10 x (0.1 + 0.08) ms = 1.8ms in 100 ms
20 x log (0.018) < -20dB, limit for FCC

10 double emission bursts:

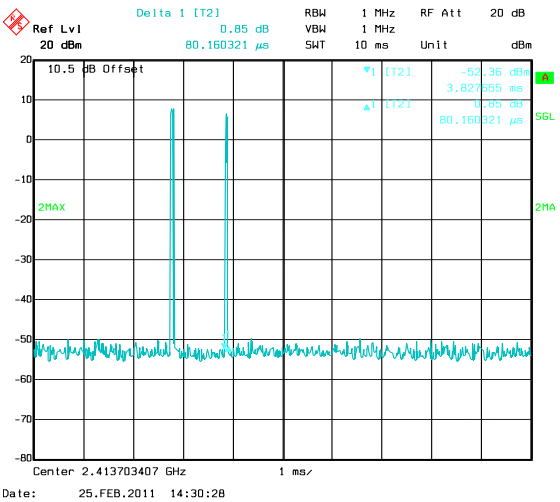


Emission Widths:

100 micro seconds:



80 micro seconds:



Section 15.247(d) – Band-edge Compliance of RF Conducted Emissions

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

RSS-210 2.2 Category I license-exempt equipment is required to comply with the provisions in RSS-Gen with respect to emissions falling within restricted frequency bands. These restricted frequency bands are listed in RSS-Gen. (RSS Gen 7.2.2, 2 table 3)

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	23°C
Date:	February 28, 2011	**Humidity:**	43 %
Modification State:	Low and High Channel	**Tester:**	Alan Laudani
		Laboratory:	Nemko

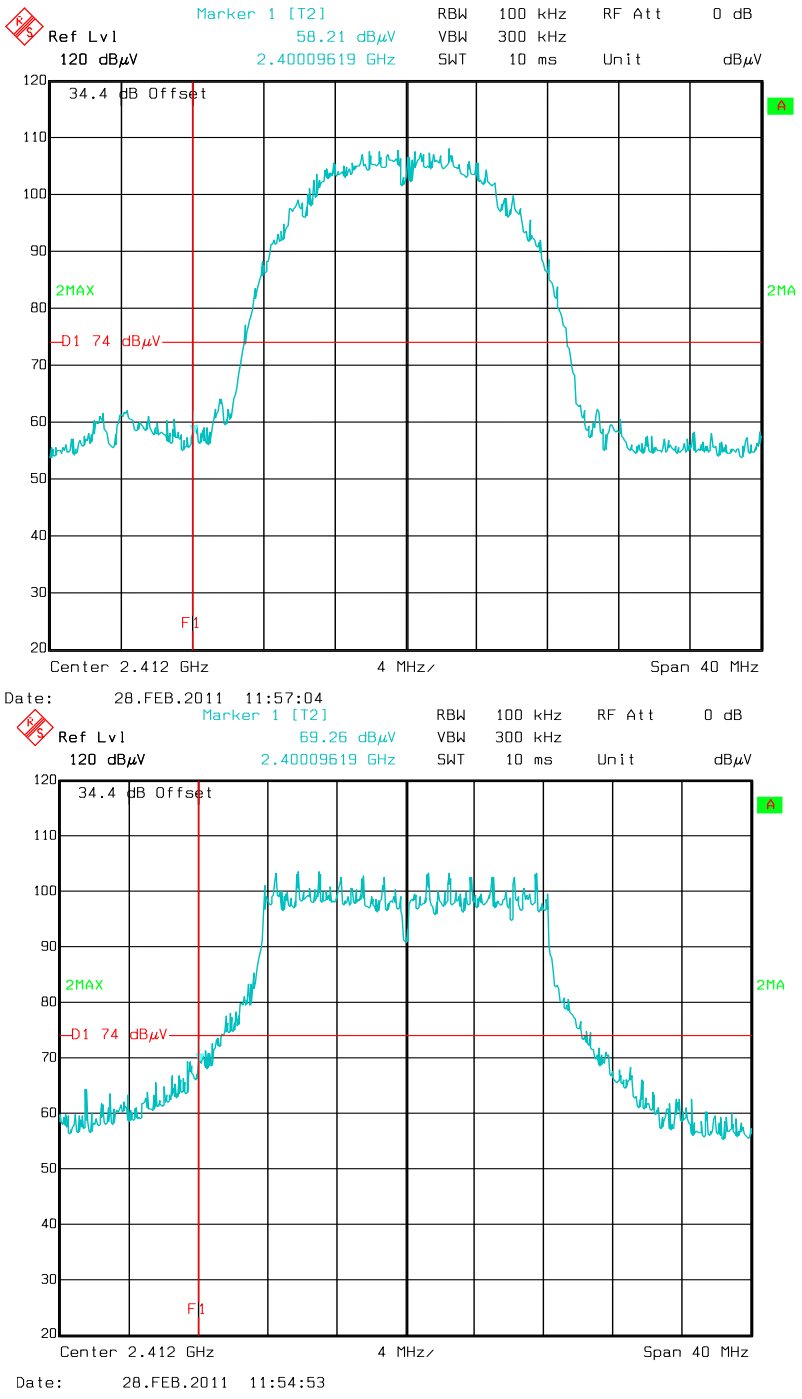
Test Results:

See attached plots.

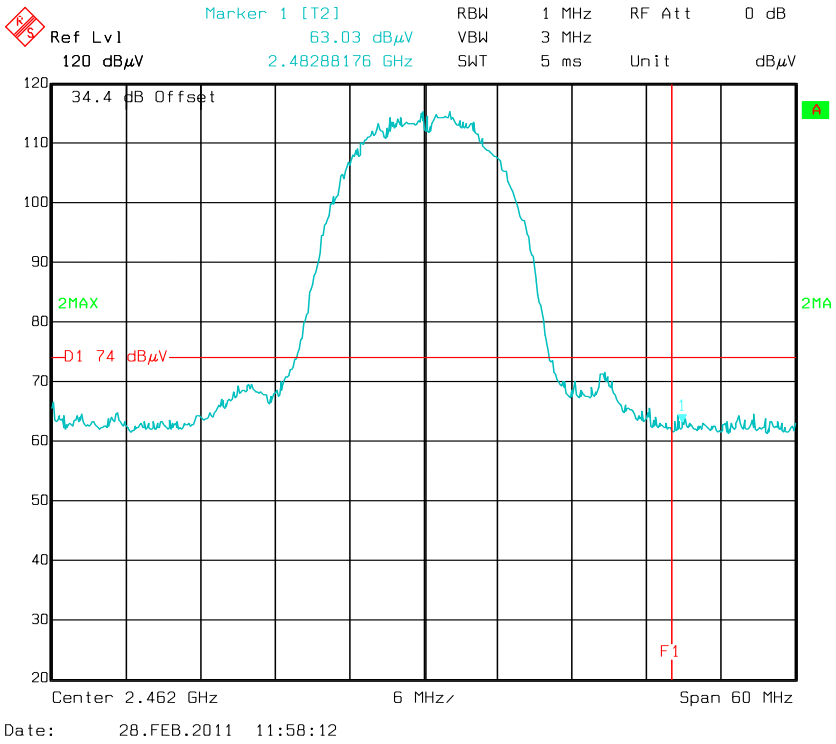
Additional Observations:

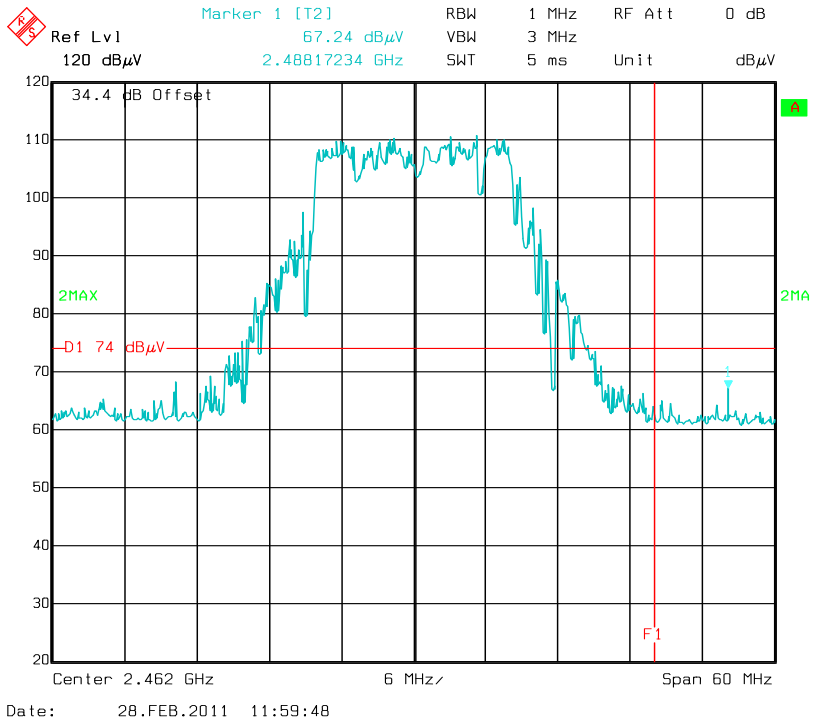
- This is a conducted test.
- Span is wide enough to capture the peak level of the emission operating on the channel closest to the band edges (Lower and Upper).
- RBW is 100kHz
- VBW is 3X RBW
- Sweep is auto.
- Detector is Peak
- Trace is Max Hold
- For each investigation, the peak level reading was taken and a display line was drawn 30 dBc below this level which will be the limit for this test.

Low Channel centered at 2400 MHz



High Channel Peak





Section 15.247(d) – Spurious RF Conducted Emissions

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	23°C
Date:	February 26, 2011	**Humidity:**	43 %
Modification State:	Low, Mid and High Channel	**Tester:**	A. Laudani
		Laboratory:	Nemko

Test Results:

See attached plots.

Additional Observations:

- This is a conducted test. The 10.9 dB offset is from the attenuator and cable assembly used.
- The peak level reading was taken at the carrier frequency then a display line was drawn 30 dBc below this level which will be the limit for this test.
- RBW = 100 kHz
- VBW is 3X RBW
- Sweep is auto.
- Detector is Peak
- Trace is Max Hold
- Individual sweeps were < 1 GHz above 1 GHz Data is collected via computer controlling a Spectrum Analyzer.
- EUT complies.

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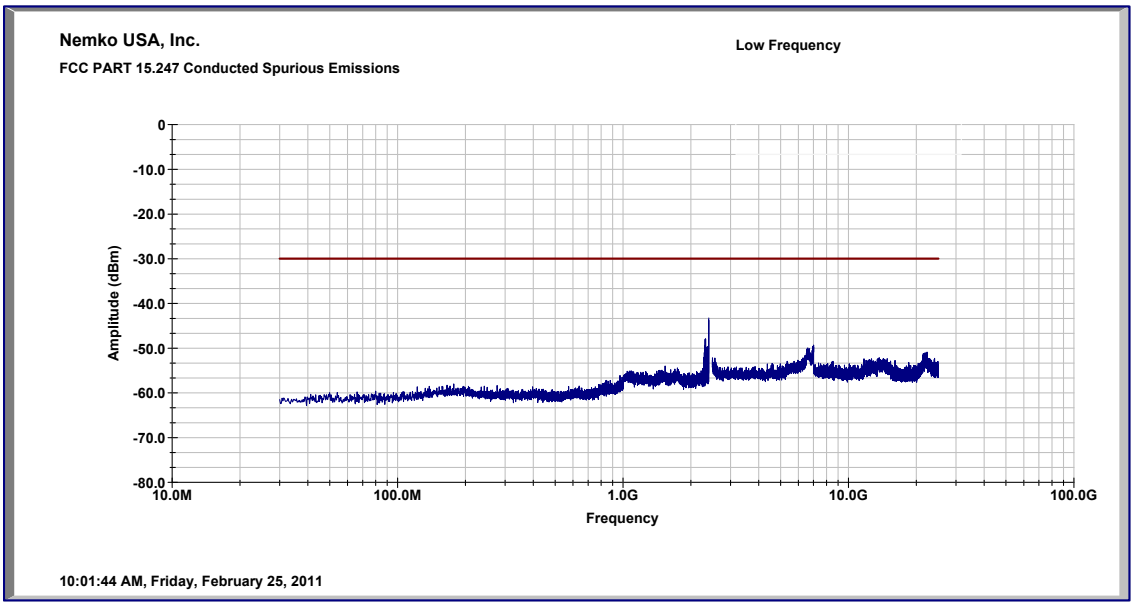
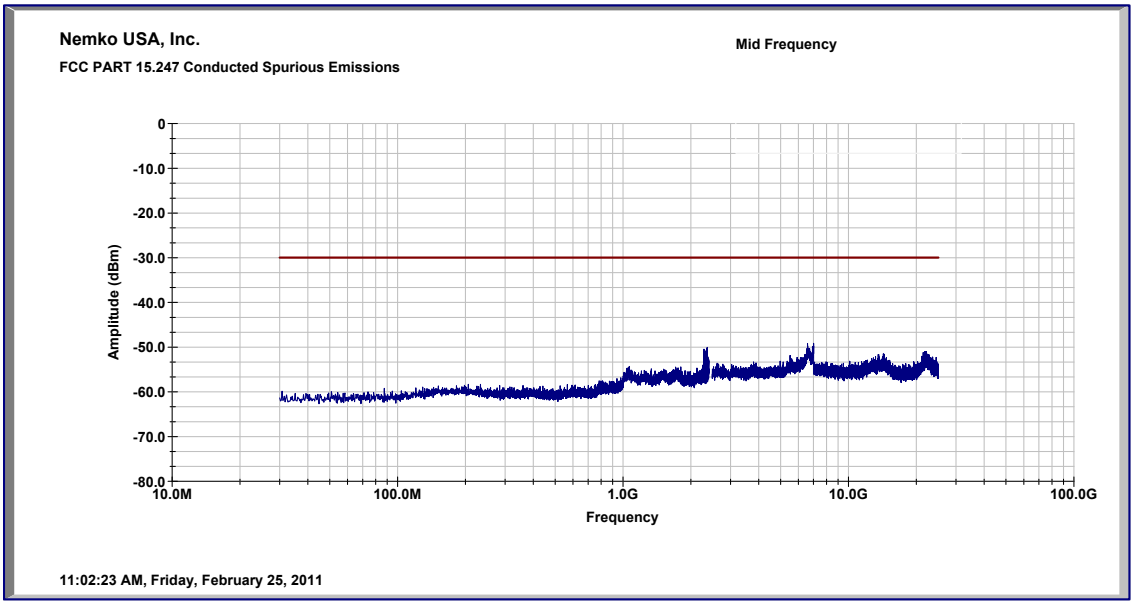
B mode: Out of Band

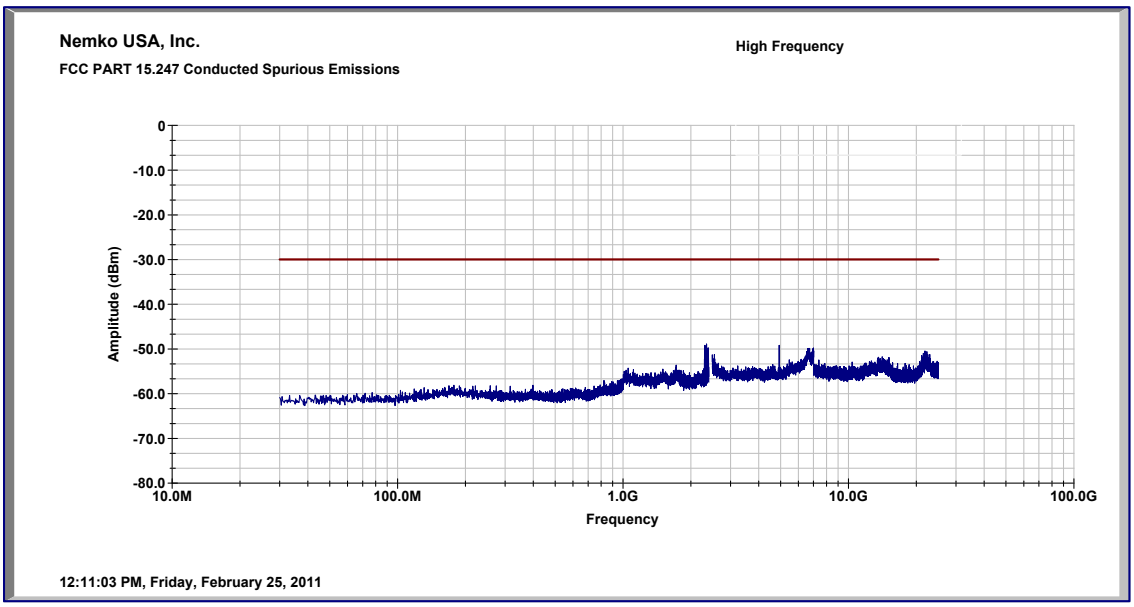
2412 MHz



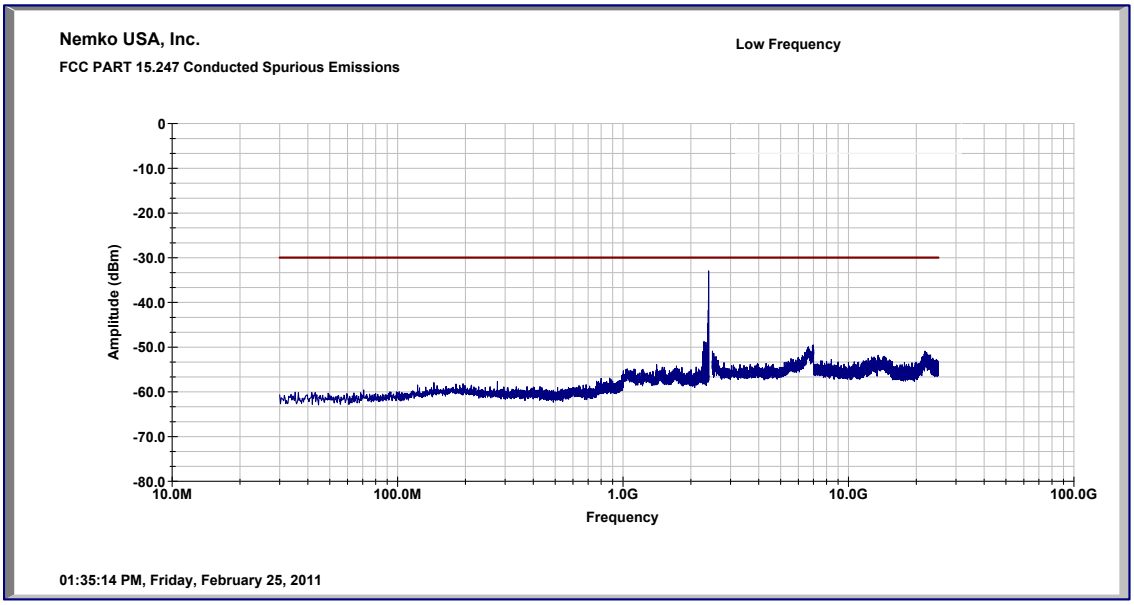
2437 MHz



2462 MHz



G mode: Out of Band
2412 MHz



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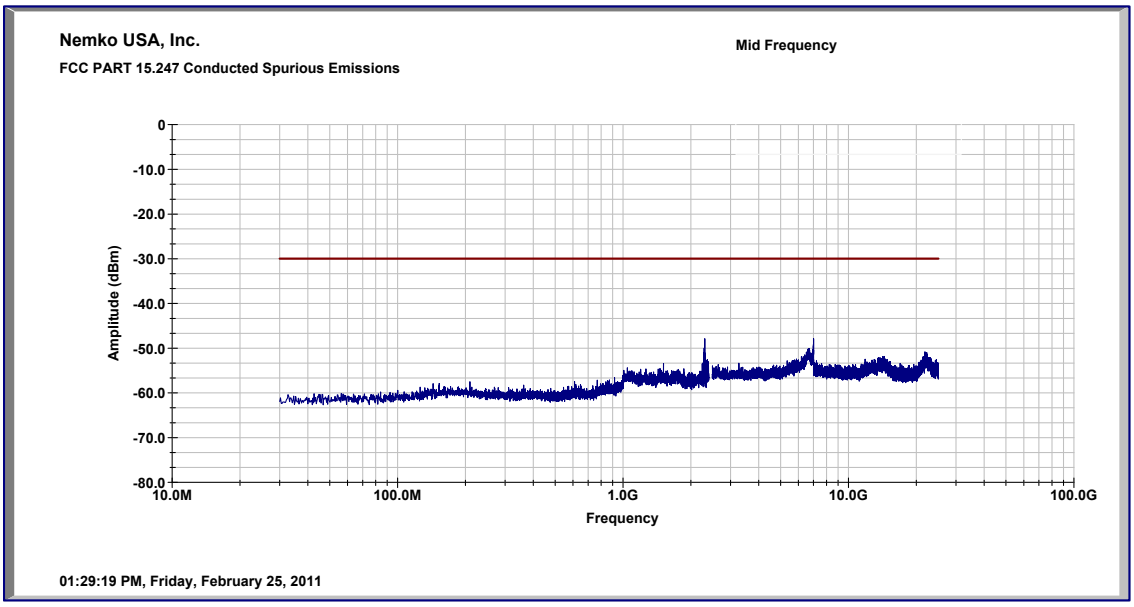
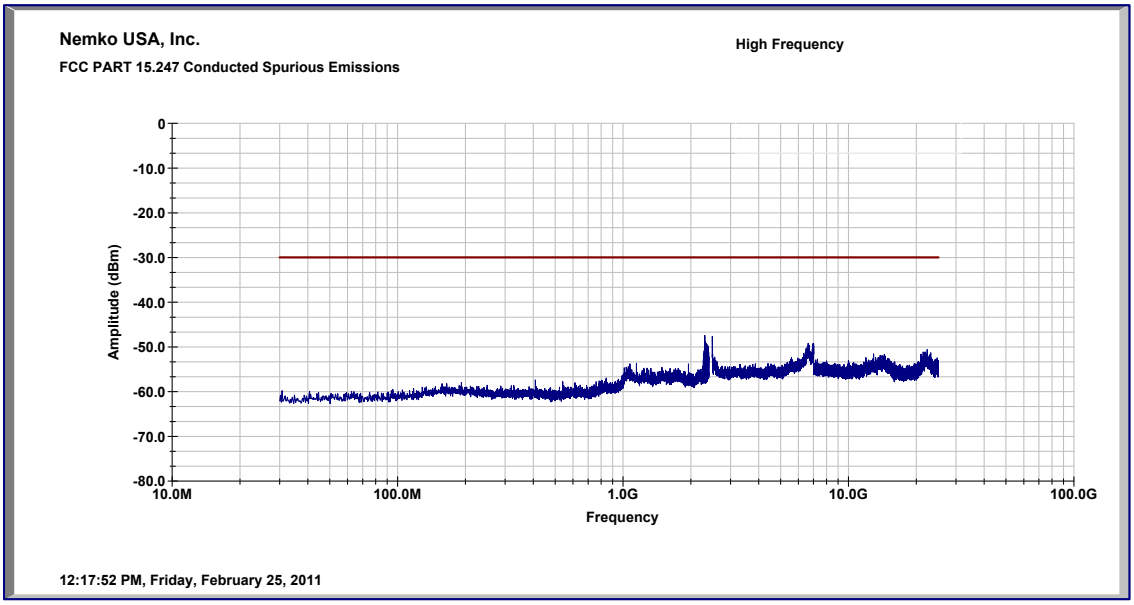
2437 MHz



2462 MHz



Section 15.247(d) – Spurious Radiated Emissions

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

A8.5 Out-of-band Emissions--In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section A8.4 (4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	18°c
Date:	February 28, 2011	**Humidity:**	36%
Modification State:	Low, Mid and High Channel	**Tester:**	A. Laudani
		Laboratory:	Nemko SOATS

Test Results: EUT complies.

Emissions were searched from 30 MHz to 25000 MHz, no other emissions within 20 dB of the limit were detected.

Band edge compliance noted in table below.

Radiated Emissions Data

Job # :	1024415	Date :	4-5-2011	Page 1 of 1	
NEX #:	167485	Time :	11:00		
		Staff :	AAL		
Client Name :	Carity Design			EUT Voltage :	120
EUT Name :	WiFi SD Card			EUT Frequency :	60
EUT Model # :	0125A			Phase:	1
EUT Serial # :	102			NOATS	X
EUT Config. :	transmit			SOATS	
				Distance < 1000 MHz:	3 m
				Distance > 1000 MHz:	3 m
Specification :	CFR47 Part 15, Subpart B, Class B				
Loop Ant. #:	NA				
Bicon Ant.#:	NA	Temp. (°C) :	17.0		
Log Ant.#:	NA	Humidity (%) :	64		
DRG Ant. #	529	Spec Analyzer #:	835		
Cable LF#:	NOATS	Analyzer Display #:	835		
Cable HF#:	40fT	Quasi-Peak Detector #:	NA		
Preamp LF#:	na	Preselector #:	NA		
Preamp HF#	NA				

Peak	RBW: 1 MHz
	Video Bandwidth 3 MHz
Ave = Peak + DCF	

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Meter Reading **Vertical**	Meter Reading **Horizontal**	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBµV)	Corrected Reading dBm	Spec. limit dBm	CR/SL Diff. (dB)	Pass Fail	Comment
2400.0	34.9	34.2	P	-	1.0	34.9	69.3	74.0	-4.7	Pass	G
2400.0	14.9	14.2	A	-	1.0	14.9	49.3	54.0	-4.7	Pass	
2483.5	28.6	26.8	P	-	1.0	28.6	63.0	74.0	-11.0	Pass	
2483.5	8.6	6.8	A	-	1.0	8.6	43.0	54.0	-11.0	Pass	
2400.0	23.8	23.7	P	-	1.0	23.8	58.2	74.0	-15.8	Pass	B
2400.0	3.8	3.7	A	-	1.0	3.8	38.2	54.0	-15.8	Pass	
2483.5	28.6	27.3	P	-	1.0	28.6	63.0	74.0	-11.0	Pass	
2483.5	8.6	7.3	A	-	1.0	8.6	43.0	54.0	-11.0	Pass	

Section 15.247(e) – Power Spectral Density for Digitally Modulated Devices

15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

RSS 210(b) The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of Section A8.4 (4), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	24°C
Date:	February 25, 2011	**Humidity:**	35 %
Modification State:	Low ,Mid and High Channel	**Tester:**	A. Laudani
		Laboratory:	Nemko

Test Results:

See attached plots.

Additional Observations:

- This is a conducted test. The 10.5 dB offset is from the attenuator and cable assembly used.
- RBW is 3kHz
- VBW is ≥ 9kHz
- Sweep is set to auto.
- Trigger is set to “free run” (EUT set to transmit continuously).
- Trace average 100 traces in power averaging mode.
- Detector is Sampling Detector--based on Span = 500 kHz (highest level of emission) divided by 500 pixel screen which is less than 0.5 x 3 kHz RBW

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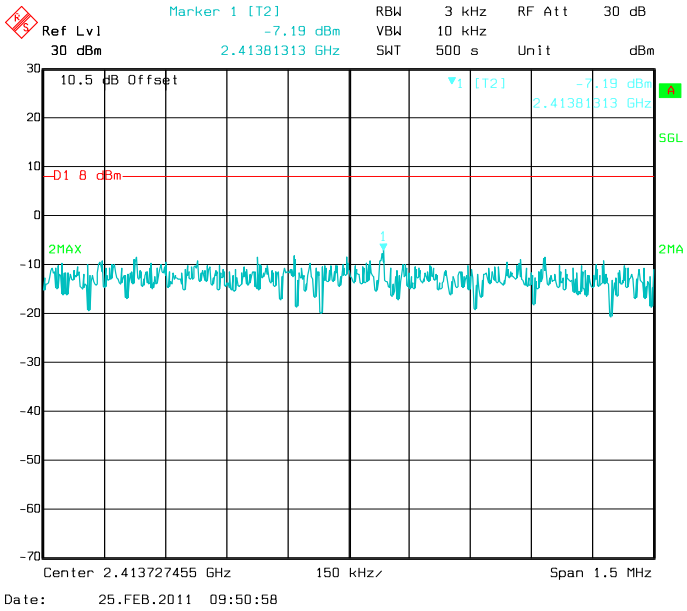
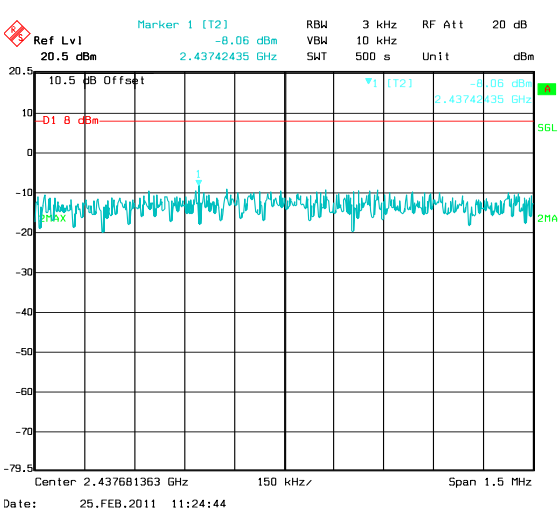
B Mode

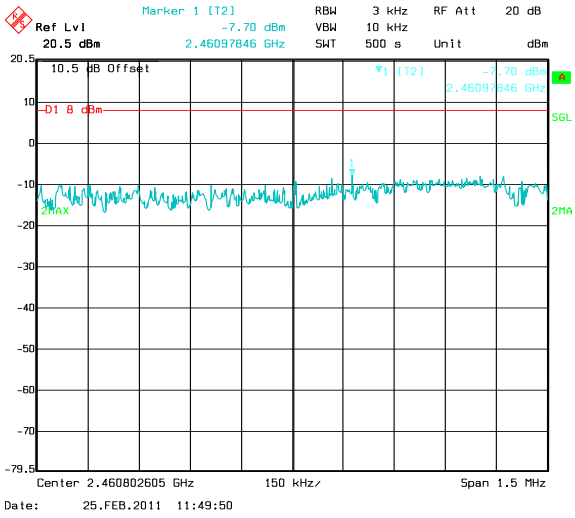
Low Channel – Max level is –7.2 dBm



Mid Channel – Max level is -8.0 dBm

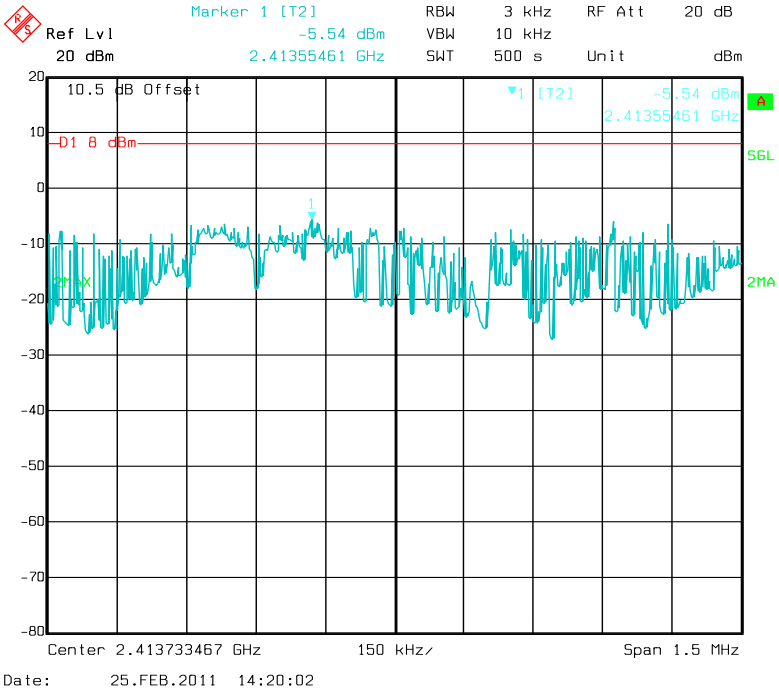


High Channel – Max level is –7.7 dBm

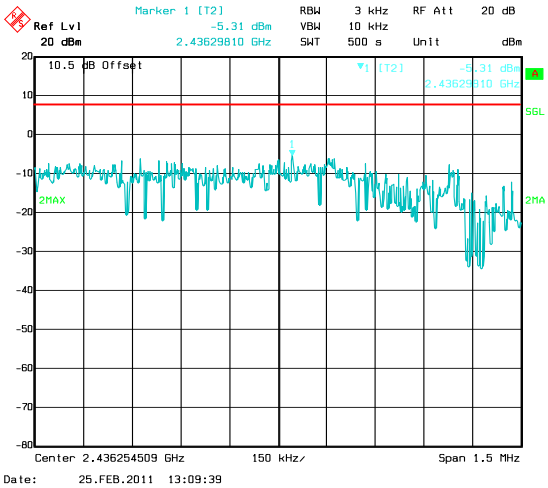


G Mode

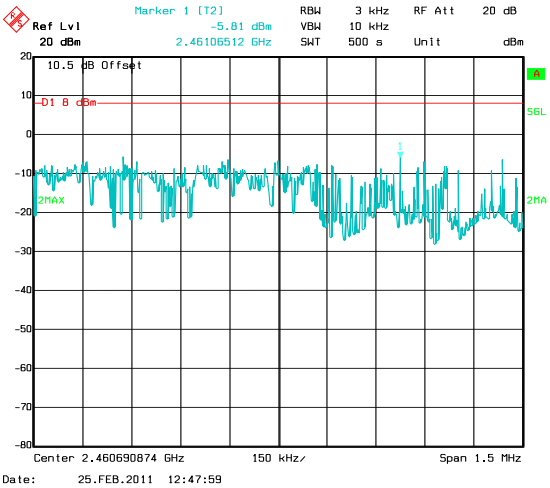
Low Channel – Max level is –5.5 dBm



Mid Channel – Max level is –5.3 dBm



High Channel – Max level is –5.8 dBm



Section 4.10 – Receiver Spurious Radiated Emissions

The following receiver spurious emission limits shall be complied with:
(a) If a radiated measurement is made, all spurious emissions shall comply with the limits of Table 1.
Table 1 - Spurious Emission Limits for Receivers

Spurious Frequency (MHz)	Field Strength (microvolt/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

Test Conditions:

Sample Number:	**0125A**	**Temperature:**	15°C
Date:	February 24, 2011	**Humidity:**	51 %
Modification State:	Receive	**Tester:**	A. Laudani
		Laboratory:	SOATS

Test Results:

See attached test result.

Additional Observations:

- The Spectrum was searched from 30 MHz to 7500 MHz.
- EUT operated on “test receive mode”.
- Emissions found were due to support equipment and test fixture.
- Below 1GHz measurements are measured using CISPR quasi-peak detector while above 1GHz are measured using average detector with 1MHz RBW. No other emissions within 20 dB of the limit was detected.

Radiated Emissions Data

Job # :	1024415	Date :	4-5-2011	Page	1 of 1
NEX #:	167485	Time :	09:40		
		Staff :	AAL		

Client Name :	Carity Design	EUT Voltage :	120
EUT Name :	WiFi SD Card	EUT Frequency :	60
EUT Model # :	0125A	Phase:	1
EUT Serial # :	102	NOATS	X
EUT Config. :	Receive	SOATS	
		Distance < 1000 MHz:	3 m
		Distance > 1000 MHz:	3 m

Specification :	CFR47 Part 15, Subpart B, Class B		
Loop Ant. #:	NA		
Bicon Ant.#:	114_3m	Temp. (°C) :	15
Log Ant.#:	110_3m	Humidity (%) :	67
DRG Ant. #	NA	Spec Analyzer #:	898
Cable LF#:	NOATS	Analyzer Display #:	898
Cable HF#:	NA	Quasi-Peak Detector #:	898
Preamp LF#:	NA	Preselector #:	899
Preamp HF#	NA		

Quasi-Peak	RBW:	120 kHz
	Video Bandwidth	300 kHz
Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Average	RBW:	1 MHz
	Video Bandwidth	10 Hz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.
Measurements above 1 GHz are Average values, unless otherwise stated.

Meas. Freq. (MHz)	Meter Reading **Vertical**	Meter Reading **Horizontal**	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBµV)	Corrected Reading (dBµV/m)	Spec. limit (dBµV/m)	CR/SL Diff. (dB)	Pass Fail	Comment
72.1	29.2	19.7	Q	-	1.0	29.2	37.2	40.0	-2.8	Pass	B
136.5	13.8	14.1	Q	-	1.0	14.1	27.2	43.5	-16.3	Pass	
147.1	12.5	7.0	Q	-	1.0	12.5	26.5	43.5	-17.0	Pass	
312.0	4.4	4.6	Q	-	1.0	4.6	22.5	46.0	-23.5	Pass	
546.0	5.4	13.0	Q	-	1.0	13.0	35.5	46.0	-10.5	Pass	
682.50	6.0	2.2	Q	L	2.5	6.0	31.4	46.0	-14.6	Pass	
740.9	5.0	2.7	Q	-	1.0	5.0	30.9	46.0	-15.2	Pass	
58.5	9.4	12.6	Q	-	1.0	12.6	25.4	40.0	-14.6	Pass	G
136.5	13.9	14.0	Q	-	1.0	14.0	27.1	43.5	-16.4	Pass	
260.0	5.9	2.0	Q	-	1.0	5.9	20.7	46.0	-25.3	Pass	
312.0	4.4	4.6	Q	-	1.0	4.6	22.5	46.0	-23.5	Pass	
546.0	5.4	13.0	Q	-	1.0	13.0	35.5	46.0	-10.5	Pass	
682.50	6.0	2.2	Q	L	2.5	6.0	31.4	46.0	-14.6	Pass	
740.9	5.0	2.7	Q	-	1.0	5.0	30.9	46.0	-15.2	Pass	