

CERTIFICATION TEST REPORT

Report Number:	2010 05149324 FCC
Report Number:	2010 05149324 FC

Project Number: 43699

Nex Number: 149324

Applicant:CLARITY DESIGN13029 DANIELSON STREET SUITE 100Poway, CA 92064

- Equipment Under Test (EUT): WIFI SD CARD
- **Model:** 5006

FCC ID: YC7-5006

8962A-5006

In Accordance With:

Tested By:

IC:

Nemko USA Inc. 11696 Sorrento Valley Road, Suite F San Diego, CA 92121

FCC Part 15 Subpart C, 15.247 IC RSS-210 Issue 7 June 2007 IC RSS-Gen Issue 2 June 2007

Can Fandam

Authorized By:

Date:

Alan Laudani, EMC/RF Test Engineer

May 7, 2010

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Total Number of Pages:

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

Section1: Summary of Test Results

General

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:	5006
Specification:	FCC Part 15 Subpart C, 15.247 IC RSS-210 Issue 7 June 2007
Date Received in Laboratory:	April 30, 2010
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None

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1.1 Report Release History

REVISION	DATE	COMMENTS		
-	May 7, 2010	Prepared By:	Ferdinand Custodio	
-	May 7, 2010	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:

Ferdinand Custodio, EMC Test Engineer

Date: May 7, 2010

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Section 2: Equipment Under Test

2.1 Product Identification

The Equipment Under Test was indentified as follows:

Clarity Design 5006 WiFi SD Card



2.2 Samples Submitted for Assessment

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

Sample No.	Description	Serial No.
149324-1	5006 WIFI SD CARD	N/A

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2.3 Theory of Operation

The 5006 WiFi SD Card is an 801.11b/g module designed for wireless communication between a host system and an access point or other 802.11b/g compatible device.

2.4 Technical Specifications of the EUT

Manufacturer:	Clarity Design
Operating Frequency:	2412.0 MHz to 2462.0 MHz in the 2400-2483.5 MHz Band
Number of Operating Frequencies:	11
Rated Power:	77.0 mW ("b" mode) 86.0 mW ("g" mode)
Modulation:	802.11 b/g
Reference Designator:	17M6W7D (802.11g) 15M6G1D (802.11b)
Antenna Type:	2.4 GHz SMD Antenna. Max. peak gain of 4.4dBi.
Antenna Connector:	Integral
Power Source:	3.3VDC from standard SD card slot

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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 7 June 2007

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 2 June 2007

General Requirements and Information for the Certification of Radiocommunication 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 range16-24 °CHumidity range38-82%Pressure range102.0 – 102.3 kPaPower supply range3.3VDC as per SDIO standard

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3.4 Test Equipment

Nemko				Serial	[Cal Due	1
ID	Device	Manufacturer	Model	Number	Cal Date	Date	
E1009	Multimeter	Fluke	287	11610042	12/18/2009	12/18/2010	
911	Spectrum Analyzer	Agilent	E4440A	US41421266	12/17/2009	12/17/2010	W.11
E1019	Two Line V-Network	Rohde & Schwarz	ENV216	101045	3/12/2010	3/12/2011	
E1018	9kHz to 7GHz Spectrum Analyzer	Rohde & Schwarz	FSP7	835363/0003	1/22/2010	1/22/2011	
946	Peak Power Sensor	Hewlett Packard	84815A 0.05- 18GHz (-40 to 20dBm)	3318A01726	9/16/2009	9/16/2010	
947	Peak Power Analyzer	Hewlett Packard	8991A	3621A00906	9/16/2009	9/16/2010	
114	Antenna, Bicon	EMCO	3104	2997	3/5/2010	3/5/2012	
110	Antenna, LPA	Electrometrics	LPA-25	1217	1/10/2009	2/10/2011	
877	Antenna, DRG Horn, .7-18GHz	AH Systems	SAS-571	688	7/28/2008	7/28/2010	
919	Preamplifier	Spacek Labs MM-Wave Technology	100MHz to 40GHz	3M12 (SLK- 35-3) and 3M13 (SLKa- 35-4)	11/30/2009	11/30/2010	
898	EMI Receiver & filter set	HP	8546A	3625A00348	5/31/2009	5/31/2010	
899	Filter Section	HP	85460A	3448A00288	5/31/2009	5/31/2010	

Registration of the OATS are on file with the Federal Communications Commission, under Registration Number 90579, the VCCI under registration number R-3027, and are also registered with Industry Canada under Site Numbers 2040B-1 and 2040B-2.

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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.

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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		Test Description	Required	Result
15.207 (a)	RSS-Gen 7.2.2	Conducted Emission Limit	Y	Pass
15.215(c)	RSS-Gen 4.6.1	20 dB Bandwidth	Y	Pass
15.247(a)(2)	RSS-210 A8.2 (a)	Minimum 6dB RF Bandwidth	Y	Pass
15.247(b)(3)	RSS-Gen 4.8	Peak Output Power	Y	Pass
15.247(d)		Band-edge Compliance of RF Conducted Emissions	Y	Pass
15.247 (d)	RSS-210 A8.5	Spurious RF Conducted Emissions	Y	Pass
15.247 (d)	RSS-Gen 4.9	Spurious Radiated Emissions	Y	Pass
15.247(e)	RSS-210 A8.2 (b)	Power Spectral Density for Digitally Modulated Devices	Y	Pass
	RSS-Gen 4.10	Receiver Spurious Emissions	Y	Pass

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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.

Erequency of omission (MHz)	Conducte	Conducted limit (dBµV)			
Frequency of emission (MHZ)	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:

Sample Number:	5006	Temperature:	21°C
Date:	May 3, 2010	Humidity:	43 %
Modification State:	Low ,Mid and High Channel (b and g mode)	Tester:	FSCustodio
		Laboratory:	Nemko

Test Results:

See attached plots

Additional Observations:

- EUT was pretested using the following modes: Low channel, Mid channel and High channel. Only the worst case presented (Low Channel for "b" mode and Mid channel for "g" mode).
- Test parameters are internal to the automated test software used (R&S®ES-SCAN Version 2.3) for conducted emission test.
- Red limit line is Quasi Peak limit while pink limit line is Average limit.
- ∇ represents final quasi peak measurements while ∇ represent final average measurements.
- Six sub ranges were created in order to have at least six measurements in each range.

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EMI Measurement Test Report

Device Under Test Operator Name Test Specification Comment Whitney WiFi SD Card FSCustodio FCC Class B Conducted Emissions Line 1 Low Channel "b" mode

Sweep Settings (1 Range)

Frequencies				Α	nalyzer So	ettings		
Start	Stop	Sweep	Res BW	Sweep	Atten	Preamp	Pre-	Ref
		Points		Time			selector	Level
150 kHz	30 MHz	8001	9 kHz (6dB)	1 s	Auto	Off	Off	80 dBµV

Final Measurement

Detectors:	QP, AV	Meas Time:	1 s
Peaks:	6	Acc. Margin:	40 dB

Pre-measurement Graph



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Final Measurement Results

Trace	Frequency	Level	Limit	Delta Limit
	(MHz)	(dBµV)	(dBµV)	(dB)
1 QP	0.351488	20.68	58.93	-38.25
2 AV	0.351488	20.94	48.93	-27.99
2 AV	0.463425	19.81	46.63	-26.82
1 QP	0.747	20.86	56.00	-35.14
1 QP	1.123856	20.81	56.00	-35.19
2 AV	1.123856	18.82	46.00	-27.18
1 QP	2.123831	15.73	56.00	-40.27
2 AV	2.123831	14.81	46.00	-31.19
2 AV	10.451981	9.28	50.00	-40.72
1 QP	19.500263	41.25	60.00	-18.75
2 AV	19.500263	41.51	50.00	-8.49

* = limit exceeded

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Nemko USA Inc.

EMI Measurement Test Report

Device Under Test Operator Name Test Specification Comment Whitney WiFi SD Card FSCustodio FCC Class B Conducted Emissions Line 2 Low Channel "b" mode

Sweep Settings (1 Range)

Frequencies			Analyzer Settings					
Start	Stop	Sweep	Res BW	Sweep	Atten	Preamp	Pre-	Ref
		Points		Time			selector	Level
150 kHz	30 MHz	8001	9 kHz (6dB)	1 s	Auto	Off	Off	80 dBµV

Final Measurement

Detectors:	QP,	AV	Meas Time:	1 s
Peaks:	6		Acc. Margin:	40 dB

Pre-measurement Graph



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Final Measurement Results

Trace	Frequency	Level	Limit	Delta Limit
	(MHz)	(dBµV)	(dBµV)	(dB)
1 QP	0.310444	21.13	59.96	-38.83
2 AV	0.310444	20.36	49.96	-29.60
1 QP	0.504469	19.76	56.00	-36.24
2 AV	0.504469	20.04	46.00	-25.96
1 QP	1.041769	20.93	56.00	-35.07
2 AV	1.291763	18.29	46.00	-27.71
1 QP	3.392456	12.85	56.00	-43.15
2 AV	3.392456	13.19	46.00	-32.81
2 AV	11.325094	10.01	50.00	-39.99
1 QP	19.500263	41.40	60.00	-18.60
2 AV	19.500263	41.69	50.00	-8.31

* = limit exceeded

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Nemko USA Inc.

EMI Measurement Test Report

Device Under Test
Operator Name
Test Specification
Comment

Whitney WiFi SD Card FSCustodio FCC Class B Conducted Emissions Line 1 Mid Channel "g" mode

Sweep Settings (1 Range)

Frequencies				Α	nalyzer So	ettings		
Start	Stop	Sweep Points	Res BW	Sweep Time	Atten	Preamp	Pre-	Ref Level
		T OINto					30100101	
150 kHz	30 MHz	8001	9 kHz (6dB)	1 s	Auto	Off	Off	80 dBµV

Final Measurement

Detectors:	QP, AV	Meas Time:	1 s
Peaks:	6	Acc. Margin:	40 dB

Pre-measurement Graph



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Final Measurement Results

Trace	Frequency	Level	Limit	Delta Limit
	(MHz)	(dBµV)	(dBµV)	(dB)
1 QP	0.336563	20.64	59.29	-38.65
2 AV	0.336563	20.44	49.29	-28.85
2 AV	0.541781	20.76	46.00	-25.24
1 QP	0.556706	19.66	56.00	-36.34
1 QP	1.228331	20.55	56.00	-35.45
2 AV	1.228331	18.83	46.00	-27.17
2 AV	2.205919	15.06	46.00	-30.94
1 QP	2.840231	13.65	56.00	-42.35
2 AV	6.108806	10.20	50.00	-39.80
1 QP	19.500263	41.31	60.00	-18.69
2 AV	19.500263	41.64	50.00	-8.36

* = limit exceeded

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Nemko USA Inc.

EMI Measurement Test Report

Device Under Test Operator Name Test Specification Comment Whitney WiFi SD Card FSCustodio FCC Class B Conducted Emissions Line 2 Mid Channel "g" mode

Sweep Settings (1 Range)

Frequencies			Analyzer Settings					
Start	Stop	Sweep	Res BW	Sweep	Atten	Preamp	Pre-	Ref
		Points		Time			selector	Level
150 kHz	30 MHz	8001	9 kHz (6dB)	1 s	Auto	Off	Off	80 dBµV

Final Measurement

Detectors:	QP, AV	Meas Time:	1 s
Peaks:	6	Acc. Margin:	40 dB

Pre-measurement Graph



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Final Measurement Results

Trace	Frequency	Level	Limit	Delta Limit
	(MHz)	(dBµV)	(dBµV)	(dB)
1 QP	0.3291	20.73	59.47	-38.74
2 AV	0.336563	20.87	49.29	-28.42
1 QP	0.452231	19.71	56.83	-37.12
2 AV	0.452231	20.22	46.83	-26.61
1 QP	1.026844	20.83	56.00	-35.17
2 AV	1.026844	18.64	46.00	-27.36
1 QP	2.373825	14.73	56.00	-41.27
2 AV	2.459644	14.09	46.00	-31.91
2 AV	5.6424	10.36	50.00	-39.64
1 QP	19.500263	41.30	60.00	-18.70
2 AV	19.500263	41.60	50.00	-8.40

* = limit exceeded

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Section 15.215(c) – 20 dB Bandwidth

(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.

4.6.1 – Occupied Bandwidth

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 since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are 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:	5006	Temperature:	24°C
Date:	April 30, 2010	Humidity:	38 %
Modification State:	Low ,Mid and High Channel (b and g mode)	Tester:	FSCustodio
		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

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- Sweep is auto
- Detector is Peak
- Trace is Max Hold
- 99% OBW will be 10log(1%) = -20dB
- 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 17.63 MHz ("g" mode high channel).
- 2412 MHz 8.815 MHz = 2403.185 MHz (within the frequency band)
- 2462 MHz + 8.815 MHz = 2470.815 MHz (within the frequency band)

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("b" mode Low Channel) Observed 20 dB Bandwidth is 15.57 MHz

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("g" mode Low Channel) Observed 20 dB Bandwidth is 17.6 MHz

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("b" mode Mid Channel) Observed 20 dB Bandwidth is 15.6 MHz

FCC ID: YC7-5006 IC: 8962A-5006



("g" mode Mid Channel) Observed 20 dB Bandwidth is 17.57 MHz

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("b" mode High Channel) Observed 20 dB Bandwidth is 15.53 MHz

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("g" mode High Channel) Observed 20 dB Bandwidth is 17.63 MHz

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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.

Test Conditions:

Sample Number:	5006	Temperature:	24°C	
Date:	April 30, 2010	Humidity:	38 %	KO.
Modification State:	Low ,Mid and High Channel (B and G mode)	Tester:	FSCustodio	
		Laboratory:	Nemko	

Test Results:

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	"b" mode 6 dB	"g" mode 6 dB
-	bandwidth	bandwidth
Low (2412 MHz)	9.73 MHz	15.07 MHz
Mid (2437 MHz)	10.13 MHz	16.3 MHz
High (2462 MHz)	10.7 MHz	14.97 MHz

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("b" mode Low Channel) Observed 6 dB Bandwidth is 9.73 MHz

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("g" mode Low Channel) Observed 6 dB Bandwidth is 15.07 MHz

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("b" mode Mid Channel) Observed 6 dB Bandwidth is 10.13 MHz

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("g" mode Mid Channel) Observed 6 dB Bandwidth is 16.3 MHz

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("b" mode High Channel) Observed 6 dB Bandwidth is 10.70 MHz

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("g" mode High Channel) Observed 6 dB Bandwidth is 14.97 MHz

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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.

Test Conditions:

Sample Number:	5006	Temperature:	21°C
Date:	April 30, 2010	Humidity:	43 %
Modification State:	Low ,Mid and High Channel (b and g mode)	Tester:	FSCustodio
		Laboratory:	Nemko

Test Results:

Peak Power Analyzer used on this test

Additional Observations:

- This is a conducted test. A 10dB attenuator was placed between the sensor and the antenna port. Additional 0.8 dB was added for the cable assembly used.. Total offset used is 10.8 dB.
- The EUT was configured to transmit modulated during investigation.
- Input voltage to the EUT is defined by Part E1 SDIO specifications V2.00 (SD card specs). The EUT is designed to operate optimally at a standard voltage of 3.3VDC. Voltage to the module is supplied by a host SD card slot which follows the above referenced specification and can't be modified on the host embedded processor.

Channel Range	Peak Power Output (dBm) Peak Power Outpu	
	"b" mode	"g" mode
Low (2412 MHz)	18.87	18.42
Mid (2437 MHz)	17.73	19.35
High (2462 MHz)	17.97	17.74

Peak Output Power = 18.87 dBm or **77.0 mW ("b" mode)** Peak Output Power = 19.35 dBm or **86.0 mW ("g" mode)**

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

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)).

Test Conditions:

Sample Number:	5006	Temperature:	24°C
Date:	April 30, 2010	Humidity:	38 %
Modification State:	Low and High Channel (b and g mode)	Tester:	FSCustodio
		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 20 dBc below this level which will be the limit for this test.
FCC ID: YC7-5006 IC: 8962A-5006



Low Channel "b" mode centered at 2400 MHz

FCC ID: YC7-5006 IC: 8962A-5006



Low Channel "g" mode centered at 2400 MHz

FCC ID: YC7-5006 IC: 8962A-5006



High Channel "b" mode centered at 2483.5 MHz

FCC ID: YC7-5006 IC: 8962A-5006



High Channel "g" mode centered at 2483.5 MHz

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

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:	5006	Temperature:	24°C
Date:	April 30, 2010	Humidity:	38 %
Modification State:	Low and High Channel (b and g mode)	Tester:	FSCustodio
		Laboratory:	Nemko

Test Results:

See attached plots.

Additional Observations:

- This is a conducted test. The 10.8dB 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 20 dBc below this level which will be the limit for this test.
- VBW is 3X RBW
- Sweep is auto.
- Detector is Peak
- Trace is Max Hold
- EUT complies.
- High Channel data presented (both "b" and "g" mode), Low and Mid Channel data located in Appendix B.

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FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



High Channel ("b" mode) - Plots from 2 GHz to 3 GHz, Display Line is –16.53 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

dBm		At	ten 10 di	В				-70	.00 dBm
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	dBm 115.0 -70.0	dBm Marker 115.000000 -70.00 dBm	dBm At Marker 115.000000 MHz −70.00 dBm	dBm Atten 10 dl Marker 115.000000 MHz −70.00 dBm	dBm Atten 10 dB Marker 115.000000 MHz −70.00 dBm 4 1000000 MHz 1000000000000000000000000000000000000	dBm Atten 10 dB Marker 115.000000 MHz −70.00 dBm 4 1000000 MHz 1000000000000000000000000000000000000	dBm Atten 10 dB Marker 115.000000 MHz -70.00 dBm -70.00 dBm -	dBm Atten 10 dB Marker 115.000000 MHz -70.00 dBm - -70.00 dBm - -	dBm Atten 10 dB Marker 115.000000 MHz −70.00 dBm ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

High Channel ("b" mode) - Plots from 30 MHz to 2 GHz, Display Line is –16.53 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

	dBm		At	ten 10 d	В				-52	.37 dBm
Peak g } }/	Marker 4.9230 -52.37	100000 ' dBm	GHz							
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High Channel ("b" mode) - Plots from 3 GHz to 5 GHz , Display Line is –16.53 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

ef 10	dBm		At	ten 10 d	₿				-66	i.39 dBm
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0.8 0										
D 16.5 Bm										
;Av										
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FC AA										
(†): Fun				ليحسطن بالمع						
γp	Mphinest	Marinand	winth with	and when the	whet the start way	NY-MANANA	MANNAM	Whindow	4-4xx/14/14/4/14/18	entry the called
(†): Tun wp	Mapana Ma	h Martin Martin	www.	- And word		-	MANT	White Angler	hanna an	ent la provident a

High Channel ("b" mode) - Plots from 5 GHz to 10 GHz, Display Line is –16.53 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



High Channel ("b" mode) - Plots from 10 GHz to 17 GHz, Display Line is –16.53 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

ef 10	dBm		At	ten 10 d	В			-61	.334 0H2 .87 dBm
Peak)g) 3/ 3/	Marke 25.53 -61.8	r 40000 7 dBm	00 GH	 z					
11st 9.8									
3									
6.5									
ßm									
IHV									
M2									
FC 00	, 11								
(f): un	Manager 1	Autoix		abemata		NO-COPATR	Max Mark	COMMANY	
р	A CONTRACTOR								

High Channel ("b" mode) - Plots from 17 GHz to 26.5 GHz , Display Line is –16.53 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



High Channel ("g" mode) - Plots from 2 GHz to 3 GHz, Display Line is –20.50 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

	At	ten 10 di	3				-70).18 dBm
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High Channel ("g" mode) - Plots from 30 MHz to 2 GHz, Display Line is –20.50 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

f 10	dBm		At	ten 10 d	В				-63	8.74 dBm
eak g ; ;/ ;/	Marke 4.930 -63.7	r 00000 4 dBm	0 GHz							
.8										
<u>а г</u>										
0.5 m										
Ρv										
M2 EC										
AA										1
f): un	Mahau		larfa sala ka susa							Ŷ
þ	MMM MANNA MA	nhhadhaan	a white and	Mythe Milly	WWW.WWW	e-haphellipelika,	MARINA	Work Willing the	American	han an a

High Channel ("g" mode) - Plots from 3 GHz to 5 GHz , Display Line is –20.50 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

1 I U	dBm		Ĥt	ten 10 d	В				-66	.55 dBm
eak g l 3/	Marke 6.992 -66.5	r 00000 5 dBm	0 GHz							
1.8										
ог										
0.5 m										
Αv										
M2										
FC AA										
f):					1					
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p				1						

High Channel ("g" mode) - Plots from 5 GHz to 10 GHz, Display Line is –20.50 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



High Channel ("g" mode) - Plots from 10 GHz to 17 GHz, Display Line is –20.50 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



High Channel ("g" mode) - Plots from 17 GHz to 26.5 GHz, Display Line is –20.50 dBm which is 20dB below the highest in band emission.

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

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)).

Test Conditions:

Sample Number:	5006	Temperature:	16°C
Date:	May 4, 2010	Humidity:	82 %
Modification State:	Low, Mid and High Channel (b and g mode)	Tester:	FSCustodio
		Laboratory:	SOATS

Test Results:

See attached plots.

Additional Observations:

• The Spectrum was searched from 30MHz to 26500 MHz.

There are no emissions found that do not comply to the restricted bands defined in

FCC Part 15 Subpart C, 15.205 or Part 15.247(d).

- The EUT was measured on three orthogonal axes.
- Voltage is set as per SD card standard (3.3VDC).
- All emissions investigated were verified coming from the host embedded computer.

Sample Computation (following page data):

Correction factor @ 156.0MHz	= -15.7
-	= Antenna factor + Cable loss – Preamp
	gain
	= 13.7 + 2.0 – 0
Corrected reading	= Max. reading + Correction factor
-	= 7.4 + (15.7)
	= 23.1 dBµV/m

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FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

	USA, Inc	N	Ðľ	ĩ	(•			S a 1 ⁻	an Dieg 1696 Sc San Di Tel: (i Fax: (i	jo Hea orrento ^v ego, C/ 858) 75 858) 45	dquarters: Valley Rd. A 92121 55-5525 52-1810
				R	adiate	d Emiss	ions Da	ta			
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Client N EUT Na EUT Mo EUT Se EUT Co	ame : me : del # : rial # : nfig. :	Clarity De WiFi SD 0 5006 N/A "b" mode	esign Card @ low c	hannel			- - - -	EUT Vol EUT Fre Phase: NOATS SOATS Distance	tage : quency	: 0 MHz:	3.3VDC
Specific ₋oop Ar 3icon A ₋og Ant ⊃RG Ar	ation : t. #: nt.#: #: t. #	CFR47 Pa NA 114_3m 110_3m NA	art 15, S	ubpart B Tem Humid spec Ana	8, Class p. (°C) : ity (%) : alyzer #:	B 16 82 898/899	-	Distance	e > 1000	0 MHz: Quasi-F Peak	3 m Peak RBW: 120 kHz Video Bandw idth 300 kHz RBW: 1 MHz Video Bandw idth 3 MHz
Cable Ll Cable H Preamp Preamp	⁼ #: F#: LF#: HF#	SOATS NA NA NA	Ana Quasi-F	alyzer Di Peak Det Prese	splay #: tector #: lector #:	N/A 898/899 N/A Measurem Measur	- - nents below ements abo	1 GHz are ve 1 GHz a	Quasi-Pe ire Avera	Averag eak value	RBW: 1 MHz Video Bandw idth 10 Hz es, unless otherw ise stated. es, unless otherw ise 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
156.0 760.6 936.0	7.4 10.0 16.6	6.8 8.0 11.1	Q Q Q		1.0 1.0 1.0	7.4 10.0 16.6	23.1 36.1 45.3	43.5 46.0 46.0	-20.4 -10.0 -0.8	Pass Pass Pass	

Below 1GHz Emissions Data ("b" mode)

FCC ID: YC7-5006 IC: 8962A-5006 Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

NEMKO USA,	nc.	e ľ	m	(•			Sa 11	In Dieg 1696 Sc San Di Tel: (i Fax: (i	o Head prrento ^v ego, C/ 858) 75 858) 45	dquarters: Valley Rd. A 92121 i5-5525 i2-1810	W
			R	Radiate	d Emiss	ions Da	ita				w.nem
Job # : NEX #:	4 3699 149324	-		Date : Time :	5/4/2010 12:30PM	-	Page	1	of	1	IKO.COM
Client Name : EUT Name : EUT Model # : EUT Serial # : EUT Config. :	Clarity Do WiFi SD 5006 N/A "b" mode	esign Card			<u></u>	- - - - -	EUT Vol EUT Fre Phase: NOATS SOATS Distance	tage : quency e < 1000	: D MHz:	3.3VDC	
Specification : Loop Ant. #: Bicon Ant.#: Log Ant.#: DRG Ant. # Cable LF#: Cable HF#: Preamp LF#: Preamp LF#:	CFR47 P NA NA NA 877 NA SOATS NA 010	art 15, S - - - - - - - - - - - - - - - - - - -	Tem Tem Humid Spec Ana alyzer Di Peak De Prese	3, Class np. (°C) : lity (%) : alyzer #: isplay #: tector #: lector #:	B 72 911 N/A 911 N/A 20	-	Distance	e > 1000) MHz: Peak Averag Averag		
Meas. Mete Freq. Readi (MHz) Verti	m Meter ng Reading cal Horizonta	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	
2400.0 61.0 2400.0 41.0) 61.5) 41.5	P A		1.0 1.0	61.5 41.5	63.2 43.2	74.0 54.0	-10.8 -10.8	Pass Pass		
2483.5 57.0 2483.5 37.0	58.1 38.1	P A		1.0 1.0	58.1 38.1	59.8 39.8	74.0 54.0	-14.2 -14.2	Pass Pass		
4824.0 51.3 4824.0 39.3 7236.0 40.3 7236.0 28	51.9 39.3 40.1	P A P		1.0 1.0 1.0	51.9 39.3 40.3 28.5	64.1 51.5 61.2	74.0 54.0 74.0	-9.9 -2.5 -12.8	Pass Pass Pass Pass	Noise Floor Noise Floor Noise Floor	
4874.0 51.2 4874.0 39.2 7311.0 38.5	20.3 2 52.6 2 38.8 3 38.4	P A P		1.0 1.0 1.0	52.6 39.2 38.5	64.8 51.4 59.4	74.0 54.0 74.0	-9.2 -2.6 -14.6	Pass Pass Pass	Noise Floor Noise Floor Noise Floor	
7311.0 27.3 4924.0 50.4 4924.0 38.4 7386.0 28.4	5 28.1 51.3 39.6	A P A		1.0 1.0 1.0	28.1 51.3 39.6	49.0 63.6 51.9 60.2	54.0 74.0 54.0	-5.0 -10.4 -2.1	Pass Pass Pass	Noise Floor Noise Floor Noise Floor	
7386.0 29.	29.3	A		1.0	29.3	50.2	54.0	-3.8	Pass	Noise Floor	

Above 1GHz Emissions Data ("b" mode)

FCC ID: YC7-5006

IC: 8962A-5006

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11696 Sorrento Valley Road, Suite F, San Diego, CA 92121 Phone (858) 755-5525 Fax (858) 452-1810

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

NEMKO USA, Inc.						San Diego Headquarters: 11696 Sorrento Valley Rd. San Diego, CA 92121 Tel: (858) 755-5525 Fax: (858) 452-1810					
				R	adiate	d Emiss	ions Da	ta			
Job # : NEX #:		4 3699 149324			Date : Time : Staff	5/4/2010 8AM	-	Page	1	of	
Client Name EUT Name : EUT Model # EUT Serial # EUT Config.	: #: :	Clarity De WiFi SD (5006 N/A "g" mode	sign Card @ mid o	channel			- - - -	EUT Vol EUT Fre Phase: NOATS SOATS	tage : quency	:	3.3VDC
Specification Loop Ant. #: Bicon Ant.#: Log Ant.#: DRG Ant. #	1:	CFR47 Pa NA 114_3m 110_3m NA	art 15, S	ubpart E Tem Humid Spec Ana	8, Class p. (°C) : ity (%) : alyzer #:	B 16 82 898/899	- - -	Distance	e > 1000	Quasi-F	Peak RBW: <u>120 kHz</u> Video Bandwidth <u>300 kHz</u> RBW: <u>1 MHz</u> Video Bandwidth <u>3 MHz</u>
Cable LF#: Cable HF#: Preamp LF# Preamp HF#	:	SOATS NA NA NA	Ana Quasi-I	alyzer Di Peak De Prese	splay #: tector #: lector #:	N/A 898/899 N/A Measuren Measur	- - nents below ements abov	1 GHz are ve 1 GHz a	Quasi-Pe Ire Avera	Averag eak value	e RBW: <u>1 MHz</u> Video Bandwidth <u>10 Hz</u> es, unless otherwise stated.
Meas. M Freq. Rea (MHz) Ve	leter ading rtical	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
110.8 1 156.0 1 760.6 7	2.3 0.5 7.9	8.2 13.3 9.9	0 0 0		1.0 1.0 1.0	12.3 13.3 9.9	27.2 29.0 36.0	43.5 43.5 46.0	-16.3 -14.5 -10.1	Pass Pass Pass	

Below 1GHz Emissions Data ("g" mode)

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

NEMKO USA, Inc.							San Diego Headquarters: 11696 Sorrento Valley Rd. San Diego, CA 92121 Tel: (858) 755-5525 Fax: (858) 452-1810					
				R	adiate	d Emiss	ions Da	ta				
lob # :		43699			Date :	5/4/2010		Page	1	of	1	
NEX#:		149324			Time :	10AM	-			-		
Client N		Clarity Da	aian		Staff :	FSC	-		Itogo i		2 21/00	
JIIENU IN FLIT Na	ane. me	WiFi SD (Sign				EUT Voltage : 3.3VDC					
	nie. del # ·	5006	Jaiu				EUT Frequency :					
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able LF#. INA Allalyzer Display #. IN/A able HF#: SOATS Ouasi-Peak Detector #: 911				-			Average	e - Peak- DOOF				
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			•				-					
Meas.	Meter	Meter	Det.	EUT	Ant.	Max.	Corrected	Spec.	CR/SL	Pass		
Freq.	Reading	Reading		Side	Height	Reading	Reading	limit	Diff.	Fail		
	Vertical	Horizontal		F/L/R/B	m	(dBµV)	(dBµV/m)	(dBµV/m)	(dB)		Comment	
(MHz)					1.0	61.8	63.5	74 0	-10 5	Pass		
(MHz)	61 1	61.8	Р					14.0	10.0	1 400		
(MHz) 2400.0 2400.0	61.1 41 1	61.8 41.8	P A		1.0	41.8	43.5	54 0	-10 5	Pass		
(MHz) 2400.0 2400.0	61.1 41.1	61.8 41.8	P A		1.0	41.8	43.5	54.0	-10.5	Pass		
(MHz) 2400.0 2400.0 2483.5	61.1 41.1 58.0	61.8 41.8 58.3	P A P		1.0 1.0 1.0	41.8 58.3	43.5 60.0	54.0 74.0	-10.5 -14.0	Pass Pass		
(MHz) 2400.0 2400.0 2483.5 2483.5	61.1 41.1 58.0 38.0	61.8 41.8 58.3 38.3	P A P A		1.0 1.0 1.0 1.0	41.8 58.3 38.3	43.5 60.0 40.0	54.0 74.0 54.0	-10.5 -14.0 -14.0	Pass Pass Pass		
(MHz) 2400.0 2400.0 2483.5 2483.5	61.1 41.1 58.0 38.0	61.8 41.8 58.3 38.3	P A P A		1.0 1.0 1.0 1.0	41.8 58.3 38.3	43.5 60.0 40.0	54.0 74.0 54.0	-10.5 -14.0 -14.0	Pass Pass Pass		
(MHz) 2400.0 2400.0 2483.5 2483.5 4824.0	61.1 41.1 58.0 38.0 51.2	61.8 41.8 58.3 38.3 52.4	P A P A P		1.0 1.0 1.0 1.0 1.0	41.8 58.3 38.3 52.4	43.5 60.0 40.0 64.6	54.0 74.0 54.0 74.0	-10.5 -14.0 -14.0 -9.4	Pass Pass Pass Pass	Noise Floor	
(MHz) 2400.0 2483.5 2483.5 4824.0 4824.0	61.1 41.1 58.0 38.0 51.2 39.4	61.8 41.8 58.3 38.3 52.4 39.5	P A P A P A		1.0 1.0 1.0 1.0 1.0 1.0 1.0	41.8 58.3 38.3 52.4 39.5	43.5 60.0 40.0 64.6 51.7	54.0 74.0 54.0 74.0 54.0	-10.5 -14.0 -14.0 -9.4 -2.3	Pass Pass Pass Pass Pass	Noise Floor Noise Floor	
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Above 1GHz Emissions Data ("g" mode)

FCC ID: YC7-5006 IC: 8962A-5006

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

Duty Cycle Correction Factor Computation ("b" mode) 🔆 Agilent 11:02:16 May 3, 2010 www.nemko.com Ref 10 dBm Atten 10 dB Peak Sweep Time Log 100.0 ms 10 dB/ Offst 10.8 dB LgAv W1 M2 S3 FS AA £(f): f>50k aan ah waa taa waa ah waa ah waa ah waa dhaha waa dhaha waa dhaha waa ah waa waa dhaha waa waa waa waa waa dhah Center 2.412 000 GHz Span 0 Hz Res BW 100 kHz #VBW 300 kHz Sweep 100 ms (601 pts)

Two (2) Transmissions per 100 ms

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



- Duty Cycle = 0.35 ms + 0.25 ms = 0.6 ms/100 ms = 0.6%
- DCCF = 20 log (0.040668) = -44.44; limited to -20

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Two (2) Transmissions per 100 ms

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Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



- Duty Cycle = 0.10 ms + 0.2667 ms = 0.3667 ms/100 ms = 0.4%
- DCCF = 20 log (0.040668) = -48.71; limited to -20

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

(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.

Test Conditions:

method of determining the	e conducted output power shall be used to determine	ne the power spectral de	ensity.	WWV
Test Conditions:				v.nemk
Sample Number:	5006	Temperature:	21°C	
Date:	April 30, 2010	Humidity:	43 %	Ξĭ
Modification State:	Low and High Channel (b and g mode)	Tester:	FSCustodio	
		Laboratory:	Nemko	

Test Results:

See attached plots.

Additional Observations:

- This is a conducted test. The 10.8dB offset is from the attenuator and cable assembly used.
- Span is wide enough to capture the peak level of the emission. Each start of a measurement, a preliminary scan using a span capturing the 20dB bandwidth is performed to verify that the peak emissions is captured on the final span used during the actual measurement.
- 4 MHz was verified the absolute minimum span that would contain the peak emissions for both "b" and "g" mode.
- RBW is 3kHz
- VBW is > RBW
- Sweep is Span/RBW (4MHz/3kHz = 1333.3 seconds).
- **Detector is Peak**
- Trace is Max Hold

FCC ID: YC7-5006 IC: 8962A-5006



Low Channel ("b" mode) - Peak level is -7.91 dBm

FCC ID: YC7-5006 IC: 8962A-5006



Mid Channel ("b" mode) – Peak level is -9.44 dBm

FCC ID: YC7-5006 IC: 8962A-5006



High Channel ("b" mode) - Peak level is -9.63 dBm

FCC ID: YC7-5006 IC: 8962A-5006



Low Channel ("g" mode) – Peak level is -7.07 dBm

FCC ID: YC7-5006 IC: 8962A-5006



Mid Channel ("g" mode) – Peak level is -8.53 dBm

FCC ID: YC7-5006 IC: 8962A-5006



High Channel ("g" mode) – Peak level is -12.14 dBm

FCC ID: YC7-5006 IC: 8962A-5006 Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

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:	5006	Temperature:	16°C
Date:	May 4, 2010	Humidity:	82 %
Modification State:	Low and High Channel (b and g mode)	Tester:	FSCustodio
		Laboratory:	SOATS

Test Results:

There are no emissions found when the EUT is on "stand-by" mode (not pinging).

Additional Observations:

• The Spectrum was searched from 30MHz to 26500 MHz.

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FCC ID: YC7-5006 IC: 8962A-5006 Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

Appendix B: Section 15.247(d) – Spurious Emissions (RF Antenna Conducted Test) data for Low and Mid Channels



Low Channel ('b' mode)

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Agilent 14:57:53 Apr 30, 2010 ** Mkr1 8.525 GHz Ref 10 dBm ^{#Peak} **Nic**i -67.82 dBm Atten 10 dB Display Line -14.84 dBm Log 10 dB/ Offst 10.8 dB DI -14.8 dBm .gAv W1 M2 S3 FC AA **£**(f): Tun ō A Martin Amil Swp North W Center 7.500 GHz #Res BW 100 kHz Span 5 GHz #VBW 300 kHz Sweep 477.9 ms (601 pts)
FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



Agilent 14:59:42 Apr 30, 2010 244 Mkr1 25.550 GHz Ref 10 dBm Atten 10 dB -62.29 dBm #Peak Marker .og 25.550000000 GHz 10 dB/ -62.29 dBm Offst 10.8 dB DI –14.8 dBm .gAv W1 M2 S3 FC AA **£**(f): ۵ Watany 2 Same and the second second -Tun Markent www.wande Charles and the second Swp Start 17.000 GHz Stop 26.500 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 907.9 ms (601 pts)

FCC ID: YC7-5006

IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



Low Channel ("g" mode)



FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



🔆 🔺 А	gilent 15:	13 : 44 Ap	or 30,200	10						
Ref 10	dBm		At	ten 10 dl	В				Mkr1 7 –66	.208 GHz .68 dBm
#Peak Log	Marke	r aaaaa	0 CH-							
10 dB/ Offet	-66.6	8 dBm								
10.8 dB										
DI -17.5										
dBm LgAv										
W1 M2										
53 FU AA										
E(f): FTun	nt est chet als a s			Marine	a marine	AND BOUND	hower	and the standard	hander halt han set	ortu on hourth
З₩р	Muyiniy Mini	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	r _p araansi in	San the second		yd-manafan	antr-na-pantr-na/va	www	Yayaandaa yaana	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Start 5	0000 GHz ⊔ 100 L⊔	2		+	URU วณด	147		Sween A	Stop 10. 77 9 mc (1	.000 GHz
Start 5 #Res B	5.000 GHz W 100 kH	z		#	VBW 300	kHz		Sweep 47	Stop 10. 7.9 ms (0	.000 GHz 301 pts)_

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

Ref 10	glienτ 15: dBm	14:43 H¢	or 30,20 At	10 ten 10 di	В				Mkr1 13 -64	.500 GHz 1.35 dBm
⊧Peak .og .0 !B/)ffst	Marke 13.50 -64.3	r 00000 5 dBm	00 GH	Z						
.0.8 JB) -17.5										
¦Bm .gAv ↓1 M2										
53 FC AA C(f): Tun			******		water been		(A)>mahaat		Annac ser	
, i p		γγ~ μ ~~~							0	888 CH-
Res B	.0.000 GH W 100 kH	IZ Z		#	VBW 300	kHz		Sweep	Stop 17. 669 ms (6	.000 GHz 301 pts)

Ref 10 dBm At				ten 10 di	Mkr1 25.867 GHz -61.34 dBm					
#Peak Log 10	Marke 25 86	r 70000	aa ch	,						
dB/	-61.3	4 dBm	00 011							
Uffst 10.8 JP										
-17.5 dBm										
LgAv										
W1 M2 S3 FC										
AA £(f)										
FTun Swn	a state	y water the	to contestas	a de la compañía de l	page software	Angewood .	yacaturiti	estra Maria	Hara Ind	
Start 1 "Dee Bl	.7.000 GH	z			UDU DAA	LU-		Suc. 01	Stop 26.	500 GHz

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FCC ID: YC7-5006

IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

🔆 Agilent 15:43:07 Apr 30, 2010 Mkr1 2.440 0 GHz Atten 10 dB 4.03 dBm Ref 10 dBm Peak Display Line -15.97 dBm Log 10 dB/ Offst 10.8 dB DI —16.0 dBm LgAv W1 S3 M2 FC **£**(f): WA MUMMAN Tun ЛЛ nature march de òwр Myhan Million an Anna Anna Anna Anna Anna Anna A Start 2.000 0 GHz Stop 3.000 0 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 95.6 ms (601 pts)

Mid Channel ("b" mode)



FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247



Agilent 15:50:18 Apr 30, 2010 * Mkr1 7.267 GHz Ref 10 dBm ^{#Peak} Mar -66.45 dBm Atten 10 dB Marker Log 10 7.267000000 GHz dB/ Offst 10.8 dB -66.45 dBm DI –16.0 dBm .gAv W1 M2 S3 FC AA **£**(f): 1 FTun Ŝwр while NV JU Start 5.000 GHz Stop 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (601 pts)

AA £(f): FTun

Swp

Start 17.000 GHz #Res BW 100 kHz

FCC ID: YC7-5006 IC: 8962A-5006

Report Number: 2010 05149324 FCC Specification: FCC Part 15 Subpart C, 15.247

rightine rotorite	np. 00, 2010				Mkr1_1	3.220
.0 dBm	Atten	n 10 dB			-6	64.33 dE
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13220000	10'00 GH'z-					
-6133 dB	m					
-04.JJ UD						
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ial I						
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WWW WWW WWWWWWW	Well and the second	el service a considerada			1.00.	
10.000 GHz					Stop 1	 7.000 G
10.000 GHz BW 100 kHz		#VBW 30)0 kHz	Sw	Stop 1 Stop 1	 7.000 G (601 pt
10.000 GHz BW 100 kHz		#VBW 30)0 kHz	Sw	Stop 1 eep 669 ms	 7.000 G (601 pt
10.000 GHz BW 100 kHz		#VBW 30	 00 kHz	Sw	Stop 1 eep 669 ms	7.000 G (601 pt
10.000 GHz BW 100 kHz Agilent 15:52:07	Apr 30, 2010	#VBW 3€	00 kHz	Sw	Stop 1 Stop 669 ms	7.000 G (601 pt
10.000 GHz BW 100 KHz Agilent 15:52:07	Apr 30, 2010	#VBW 30	00 kHz	Sw	Stop 1 beep 669 ms Mkr1 2	7.000 G (601 pt
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm	Apr 30, 2010 Atter	#VBW 30	00 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 —-6	7.000 G (601 pt 25.281 (31.20 df
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm Marker	Apr 30, 2010 Atter	#VBW 30)0 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 —6	7.000 G (601 pt 25.281 (51.20 df
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm Marker 25.281000	Apr 30, 2010 Atten 0000 GHz	#VBW 30)0 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 —-6	7.000 G (601 pt 25.281 (21.20 df
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm -25.281000 -61.20 dB	Apr 30, 2010 Atter 0000 GHz- m	#VBW 30)0 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 —6	7.000 G (601 pt 25.281 (51.20 dE
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm 5 Marker 25.281000 -61.20 dB	Apr 30, 2010 Atter 0000 GHz- m	#VBW 30	00 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 6	7.000 G (601 pt 5.281 (51.20 df
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm 5 Marker 25.281000 -61.20 dB	Apr 30, 2010 Atter 0000 GHz- m	#VBW 30	00 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 6	25.281 (1.20 dE
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm 5 Marker -25.281000 -61.20 dB	Apr 30, 2010 Atten 0000 GHz- m	#VBW 30	00 kHz	Sw	Stop 1 eep 669 ms 4 Mkr1 2 6	5.281 ()1.20 dE
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm • Marker • 25.281000 -61.20 dB	Apr 30, 2010 Atten 0000 GHz- m	#VBW 30	00 kHz	Sм	Stop 1 eep 669 ms Mkr1 2 	7.000 G (601 pt 5.281 (51.20 dE
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm ^ Marker -25.281000 -61.20 dB	Apr 30, 2010 Atten 0000 GHz- m	#VBW 30	00 kHz	Sw	Stop 1 eep 669 ms 0 Mkr1 2 6	25.281 (61 pt 25.281 (1.20 dE
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm ^ Marker -25.281000 -61.20 dB	Apr 30, 2010 Atten 0000 GHz- m	#VBW 30	00 kHz	Sw	Stop 1 eep 669 ms Mkr1 2 	25.281 (61 pt 25.281 (1.20 dE
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm -25.281000 -61.20 dB	Apr 30, 2010 Atter 0000 GHz- m	#VBW 30)0 kHz	Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw S	Stop 1 eep 669 ms Mkr1 2 6	25.281 (601 pt 25.281 (1.20 df
10.000 GHz BW 100 kHz Agilent 15:52:07 0 dBm -25.281000 -61.20 dB	Apr 30, 2010 Atter 0000 GHz- m	#VBW 30)0 kHz	Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw Sw S	Stop 1 eep 669 ms Mkr1 2 6	25.281 61.20 d

#VBW 300 kHz

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Stop 26.500 GHz Sweep 907.9 ms (601 pts)

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🔆 Agilent 15:31:42 Apr 30, 2010 Mkr1 2.438 3 GHz Atten 10 dB -1.85 dBm Ref 10 dBm Peak Display Line -21.85 dBm Log 10 dB/ 0ffst 10.8 B DI -21.9 dBm .gAv ₩1 S3 M2 FC AA Maryla **£**(f): ł.Mr Tun òwр MM monthly we do and the down Start 2.000 0 GHz #Res BW 100 kHz Stop 3.000 0 GHz #VBW 300 kHz Sweep 95.6 ms (601 pts)

Mid Channel ("g" mode)

ж А	gilent 15:	32 : 14 Ap	or 30,200	10								
Ref 10	dBm	dBm Atten 10 dB										
#Peak Log 10 dB/	^{ak} Marker 1.662000000 G / -70.88 dBm		0 GHz									
dHst 10.8 dB												
DI -21.9												
dBm LgAv												
W1 M2												
SS FC AA												
FTun Swp									1 \$			
Jwh	n when which when the	happen happen	MUMANY	ANNY MARK	monit	M LINN Y MY	MANNA	Nypy Wery with W	www.	Any Mary		
Start 3 #Res B	30 MHz W 100 kH	z		#	VBW 300	kHz		Sweep 18	Stop 2. 38.3 ms (1	.000 GHz 601 pts)		

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dBm		At	ten 10 d:	В				Mkr1 14 -64	.188 G 1.67 dB
Markei 14.188 -64.6	r 30000 7 dBm	00 GH	 z						
		and a start of the	CANA MA	an the second		hata y	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
.000 GH	Z			UBN 200	∟ LU⇒		Sucor	Stop 17	000 Gl 601 pt
	1arke 14.18 -64.6	1arker 14.1880000 -64.67 dBm	1arker L4.18800000 GH -64.67 dBm	1arker L4.188000000 GHz -64.67 dBm	1arker 14.188000000 GHz -64.67 dBm	1arker L4.188000000 GHz -64.67 dBm	1arker L4.188000000 GHz -64.67 dBm	1arker L4.188000000 GHz -64.67 dBm	1arker

Ref 10	dBm		At	ten 10 df	3				Mkr1 25 –60	.233 GHz .53 dBm
#Peak Log 1й	Marke 25.23	r 30000	00 GH:	7						
dB/	-60.5	3 dBm								
Uffst 10.8 dB										
DI -21.9										
dBm La Q u										
LAUA										
W1 M2 S3 FC										
AA CO:										
ECT): FTun	m	Anna Anna	Cocordianont			Mar work		COMPANY	AN AN	WARKA
Swp	N - WILL NO.	1.4		,, y						
Start 1	7.000 GH	z				1	1	1	Stop 26.	.500 GHz
#Res B	W 100 kH:	Z		#	VBW 300	kHz		Sweep 90)7.9 ms (6	601 pts)

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