TEST REPORT

FROM

SIEMIC, INC.
Accessing global markets

FOR

Applied Wireless ID Group, Inc.

RFID Reader Module

Model: MPR-1510AR2.6H

TO

47 CFR 15.247:2006 & RSS-210 Issue 6:2005

Test Report Serial No.:
SL06121301-PTN-010

This report supersedes None

Remarks: Equipment complied with the specification [X]
Equipment did not comply with the specification [ ]

This Test Report is Issued Under the Authority of:

.....
Tested by: Kerwinn Corpuz, Test Engineer

.....
Reviewed by: Leslie Bai, Lab Manager

Issue date: 16 January 2007
Manufacturer: Applied Wireless ID Group, Inc.

Registration No. 783147 | Registration No. 4842 | Lab Code: KR0032 | RTA No. D23/16V

NVLAP Lab Code: 200729-0

BSMI Code: SL2-IN-E-11308

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Executive Summary

The purpose of this test programme was to demonstrate compliance of the Applied Wireless ID Group, Inc., RFID Reader Module, model: MPR-1510AR2.6H against the current 47 CFR 15.247:2006 & RSS-210 Issue 6:2005. The MPR-1510AR2.6H demonstrated compliance with the 47 CFR 15.247:2006 & RSS-210 Issue 6:2005.

Applied Wireless ID Group, Inc. is the applicant and claimed manufacturer of this tested product. For the detailed description of this product, please refer to the MPR-1510AR2.6H User Manual.

The equipment under test is a frequency hopping system operating in the 902-928MHz band.

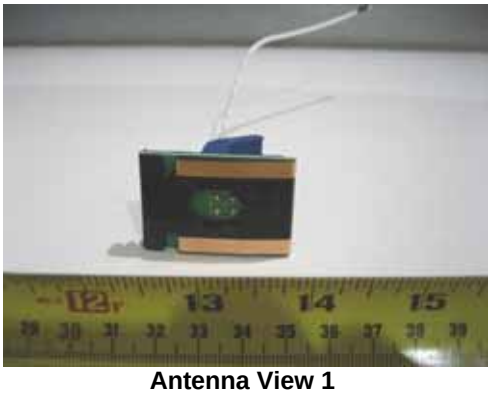
The equipment was tested with one protocol: GEN-2 = EPC Class1 Generation2

The equipment was tested with the following antenna: Printronix; -8 dBi RF Coupler antenna

Antenna Description: The RFID antenna is documented in Printronix drawings as an "RF Coupler." This RF coupler was designed and patented by Printronix. The RF coupler consists of a terminated 200 ohm balanced transmission line, 1.4 inches in length. The RF signal input to the RF Coupler balun (50 ohms unbalanced to 200 ohms balanced) is reduced by a 3 dB resistive attenuator. RF radiation test profiles of the RF Coupler, measured at a distance of 3 meters, show the RF Coupler has a maximum of -8 dBi antenna gain. The antenna is design to be installed inside a device.

The test has demonstrated that this unit complies with stipulated standards.

EUT Sample



Antenna View 1

Antenna View 2

1 Technical Details

Purpose	Compliance testing of MPR-1510AR2.6H with 47 CFR 15.247:2006 & RSS-210 Issue 6:2005
Applicant / Client	Applied Wireless ID Group, Inc. 18300 Sutter Blvd. Morgan Hill, CA 95037
Manufacturer	Applied Wireless ID Group, Inc. 18300 Sutter Blvd. Morgan Hill, CA 95037
Laboratory performing the tests	SIEMIC Labs 2206 Ringwood Avenue San Jose, CA 95131
Test location(s)	SIEMIC Labs 2206 Ringwood Avenue San Jose, CA 95131
Test report reference number	SL06121301-PTN-010
Date EUT received	8 January 2007
Standard applied	47 CFR 15.247:2006 & RSS-210 Issue 6:2005
Dates of test (from – to)	11 January 2007 to 15 January 2007
No of Units:	1
Equipment Category:	DSS
Trade/Product Name:	MPR-1510AR2.6H
Type/Model Name/No:	MPR-1510AR2.6H
Technical Variants:	None
FCC ID No.	OGSM26H
IC ID No.	6449A-M26H

2 Tests Required

The product was tested in accordance with the following specifications.
The test results recorded in this Test Report are exclusively referred to the tested sample(s).

Test Standard		Description	Pass / Fail
47 CFR Part 15.247: 2006	RSS 210 Issue6: 2005		
15.203		Antenna Requirement	Pass
15.205	RSS210(A8.5)	Restricted Band of Operation	Pass
15.207(a)	RSSGen(7.2.2)	Conducted Emissions Voltage	Pass
15.247(a)(1)	RSS210(A8.1)	Channel Separation	Pass
15.247(a)(1)	RSS210(A8.1)	Occupied Bandwidth	Pass
15.247(a)(1)	RSS210(A8.1)	Number of Hopping Channels	Pass
15.247(a)(1)	RSS210(A8.1)	Time of Occupancy	Pass
15.247(b)	RSS210(A8.4)	Output Power	Pass
15.247(c)	RSS210(A8.4)	Antenna Gain > 6 dBi	Pass
15.247(d)	RSS210(A8.5)	Conducted Spurious Emissions	Pass
15.209; 15.247(d)	RSS210(A8.5)	Radiated Spurious Emissions	Pass
15.247(e)	RSS210(A8.3)	Power Spectral Density	N/A*
15.247(f)	RSS210(A8.3)	Hybrid System Requirement	N/A*
15.247(g)	RSS210(A8.1)	Hopping Capability	Pass
15.247(h)	RSS210(A8.1)	Hopping Coordination Requirement	Pass
15.247(i)	RSSGen(5.5)	Maximum Permissible Exposure	Pass
	RSSGen(4.8)	Receiver Spurious Emissions	Pass
ANSI C63.4: 2003			

Notes: Deviations to above standards are outlined in specific test sections if applicable.
Cable loss and external attenuation are compensated for in the measurement system when applicable.
** Equipment is a Frequency Hopping System.*

3 Antenna Requirement

Requirement(s): 47 CFR §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna requirement must meet at least one of the following:

a) Antenna must be permanently attached to the device.

b) Antenna must use a unique type of connector to attach to the device.

c) Device must be professionally installed. Installer shall be responsible for ensuring that the correct antenna is employed with the device.

The antenna has its own unique type of connector which meets the requirement. The antenna coax uses MMCX connector.

4 Measurements, Examinations and Derived Results

4.1 General observations

Equipment serial number(s)		
Module:	Part number:	Serial number:
MPR-1510AR2.6H	MPR-1510AR2.6H	0606-08-0271

4.2 Test Results

4.2.1 Conducted Emissions Voltage

Requirement(s): 47 CFR §15.207 & RSS-Gen Issue 1(7.2.2)

Procedures:

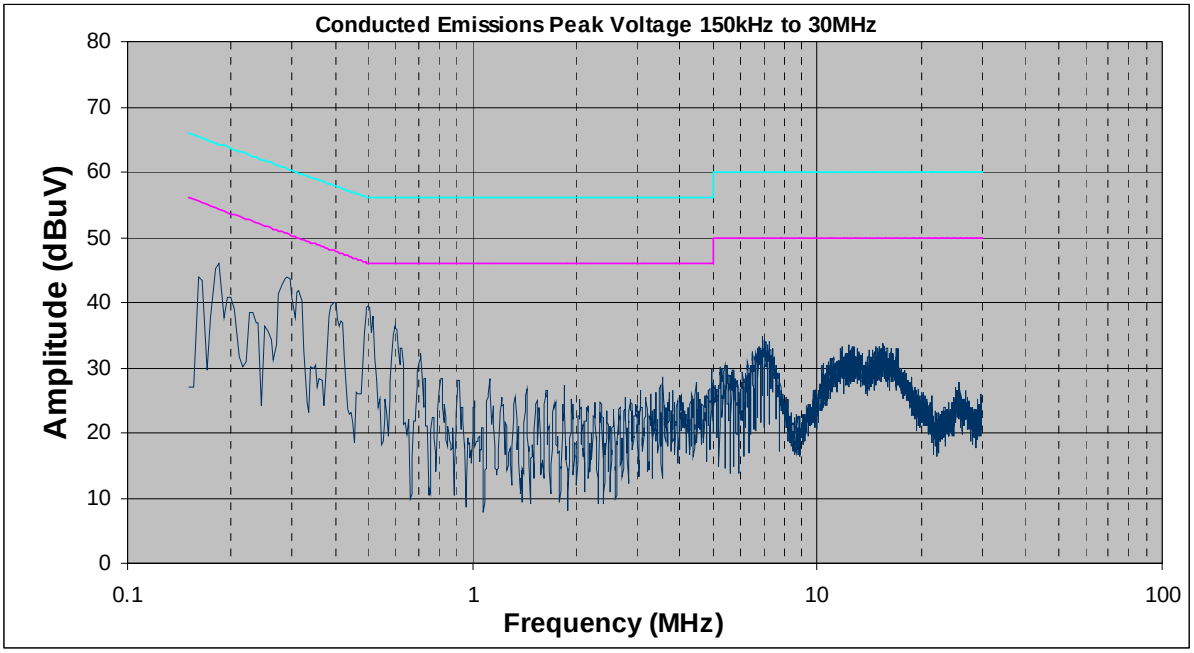
The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table. The power supply for the EUT was fed through a 50Ω/50μH EUT LISN, connected to filtered mains. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. All other supporting equipment were powered separately from another mains.

The EUT was switched on and allowed to warm up to its normal operating condition. The EUT was set to frequency hopping mode. A scan was made on the NEUTRAL line over the required frequency range using an EMI test receiver. High peaks, relative to the limit line, were then selected. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth set to 10 kHz. Quasi-peak and Average measurements were made when necessary with the receiver RES BW set to 100 kHz. The procedure was then repeated for the PHASE line.

Preliminary test were made to transmit and standby mode with the worse case (transmit mode) reported.

NOTE: The AC/DC Adaptor that was used to power the EUT will not be marketed. This power brick was used as peripheral device.

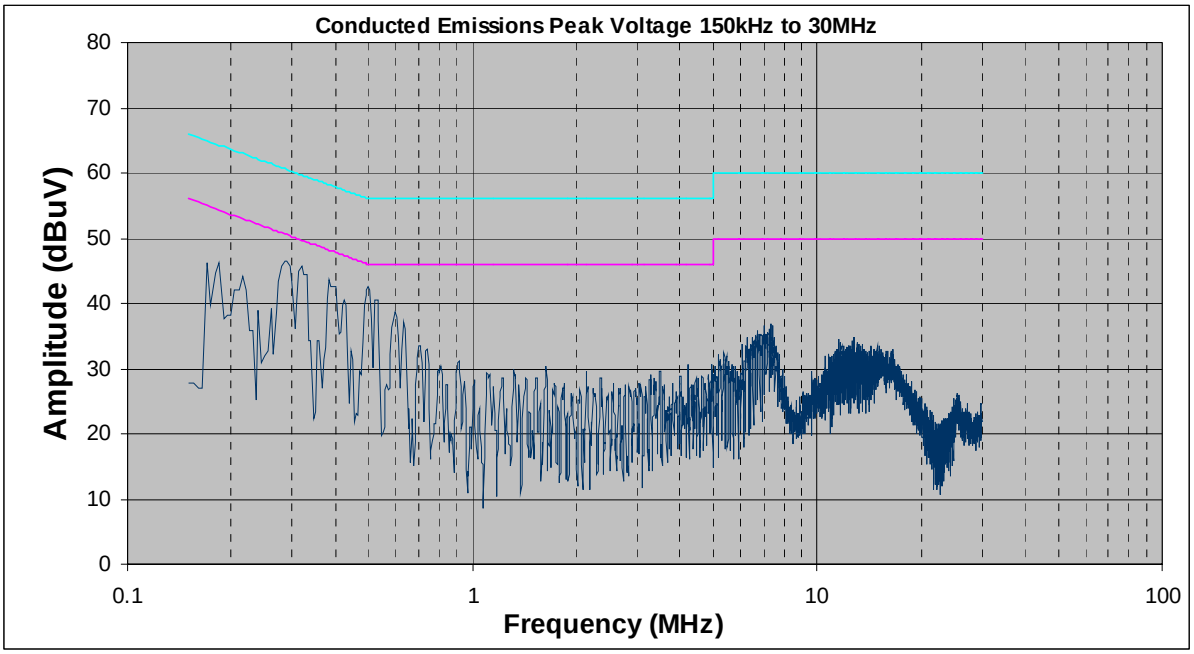
Results: **Note –** Average Limit Quasi-Peak Limit



Phase Line Plot at 120Vac, 60Hz

Freq. (MHz)	Corrected Amplitude (dBµV) PK	Limit (dBµV) QP	Margin (dB) QP	Corrected Amplitude (dBµV) PK	Limit (dBµV) AVG	Margin (dB) AVG
0.185	45.9	64.3	-18.4	45.9	54.3	-8.4
0.29	43.9	60.5	-16.6	43.9	50.5	-6.6
0.4	39.9	57.8	-17.9	39.9	47.8	-7.9
0.5	39.6	56	-16.4	39.6	46	-6.4
0.595	36.4	56	-19.6	36.4	46	-9.6

Phase Line Table



Neutral Line Plot at 120Vac, 60Hz

Freq. (MHz)	Corrected Amplitude (dBµV) PK	Limit (dBµV) QP	Margin (dB) QP	Corrected Amplitude (dBµV) PK	Limit (dBµV) AVG	Margin (dB) AVG
0.29	46.6	60.5	-13.9	46.6	50.5	-3.9
0.32	45.6	59.7	-14.1	45.6	49.7	-4.1
0.395	42.6	57.9	-15.3	42.6	47.9	-5.3
0.5	42.7	56	-13.3	42.7	46	-3.3
0.6	38.8	56	-7.2	38.8	46	-7.2

Neutral Line Table

Tested By: Kerwinn Corpuz

Date Tested: 15 January 2007

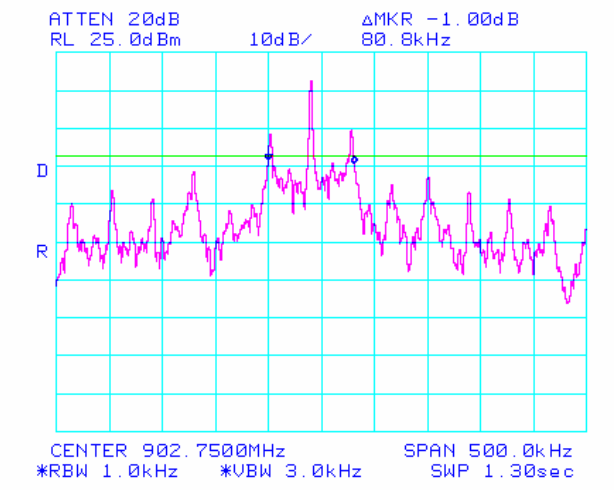
4.2.2 Occupied Bandwidth

Requirement(s): 47 CFR §15.247(a)(1) & RSS-210 Issue 6(A8.1)

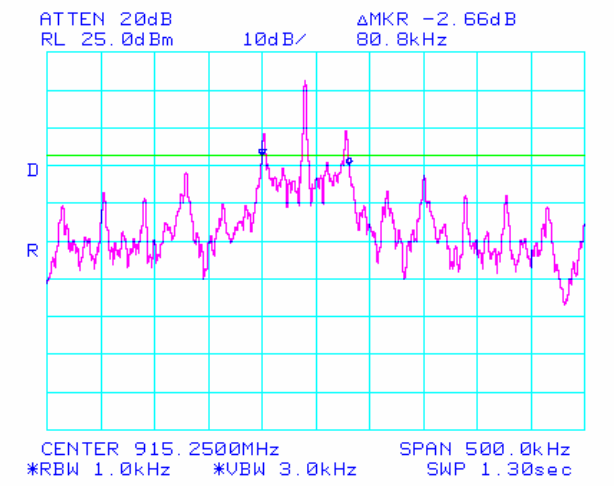
Procedures: The 20dB bandwidths were measured conducted using a spectrum analyzer at low, mid, and hi channels. 20 dB Bandwidth Limit: < 500 kHz.

Results:

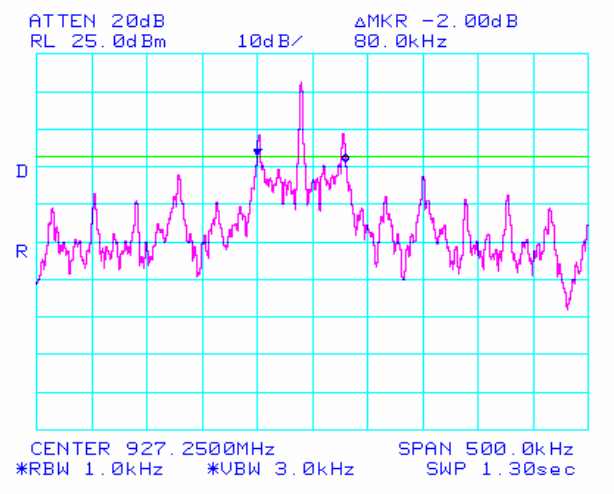
Plot #	Protocol	Channel	Channel Frequency (MHz)	Occupied Bandwidth	Channel Bandwidth (kHz)
1	GEN-2	Low	902.75	20 dB	80.8
2	GEN-2	Mid	915.25	20 dB	80.8
3	GEN-2	High	927.25	20 dB	80.0
A	GEN-2	Low	902.75	99%	299.2
B	GEN-2	Mid	915.25	99%	300.0
C	GEN-2	High	927.25	99%	300.0



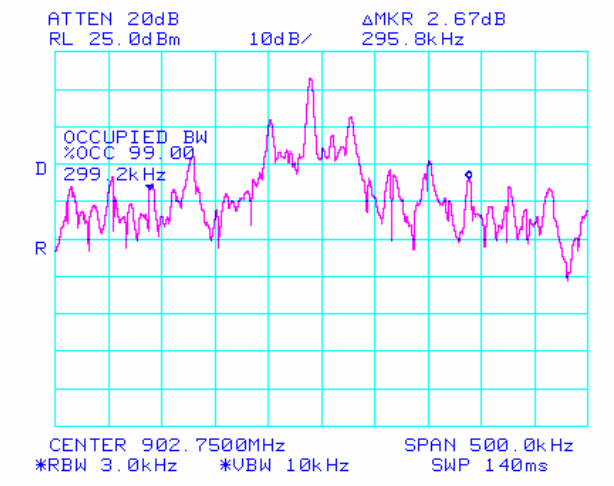
Plot 1: 20dB Bandwidth (Low) with GEN-2 protocol



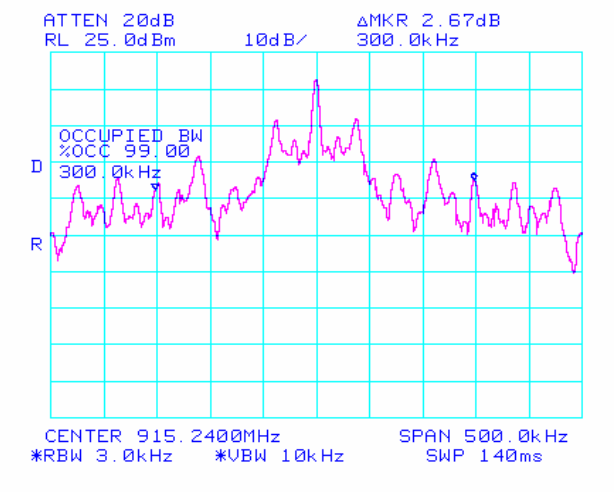
Plot 2: 20dB Bandwidth (Mid) with GEN-2 protocol



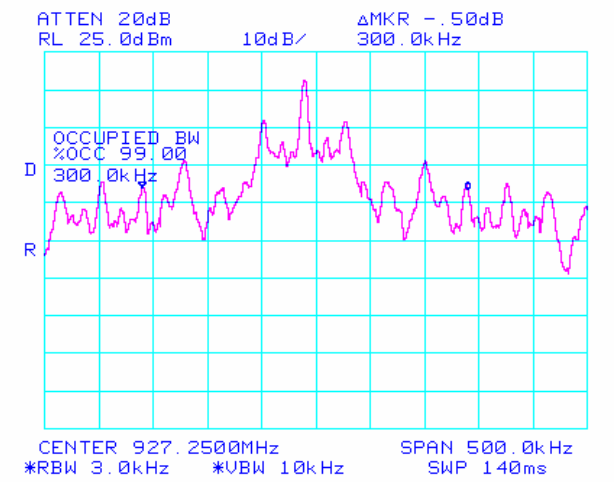
Plot 3: 20dB Bandwidth (High) with GEN-2 protocol



Plot A: 99% Bandwidth (Low) with GEN-2 protocol



Plot B: 99% Bandwidth (Mid) with GEN-2 protocol



Plot C: 99% Bandwidth (High) with GEN-2 protocol

Tested By: Kerwinn Corpuz

Date Tested: 10 – 11 January 2007

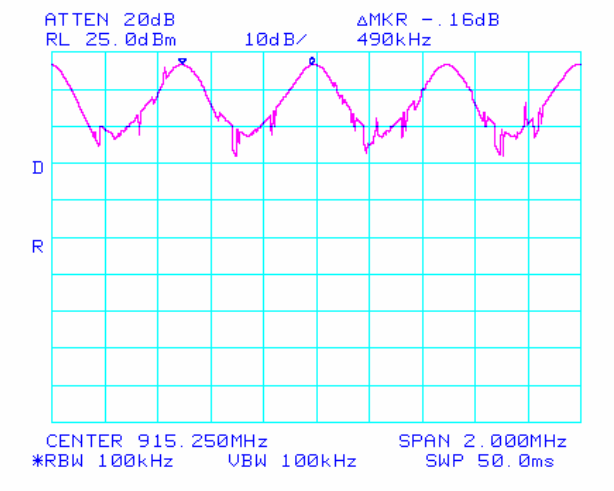
4.2.3 Carrier Frequency Separation

Requirement(s): 47 CFR §15.247(a)(1) & RSS-210 (A8.1)

Procedures: The carrier frequency separation measurement was taken conducted using a spectrum analyzer.

Results:

Plot #	Carrier Frequency Separation (MHz)
4	0.490



Plot 4: Carrier Frequency Separation

Tested By: Kerwinn Corpuz

Date Tested: 10 January 2007

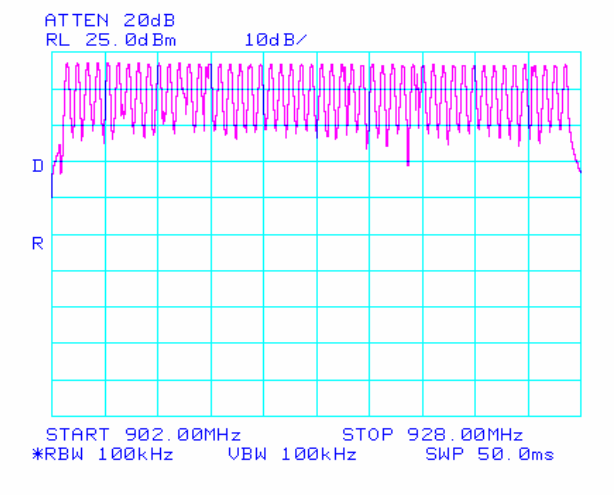
4.2.4 Number of Hopping Channels

Requirement(s): 47 CFR §15.247(a)(1) & RSS-210 (A8.1)

Procedures: The number of hopping channels was measured conducted with a spectrum analyzer.

Results:

Plot #	Number of Hopping Channels
5	50



Plot 5: Number of Hopping Channels

Tested By: Kerwinn Corpuz

Date Tested: 10 January 2007

4.2.5 Time of Occupancy

Requirement(s): 47 CFR §15.247(a)(1) & RSS-210 (A8.1)

The average time of occupancy shall not be greater than 0.4 second within a 20 second period.

Procedures: The time of occupancy was measured conducted with a spectrum analyzer.

Results:

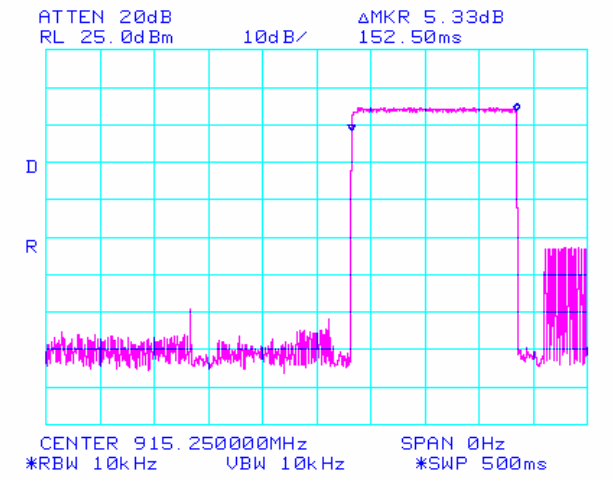
Plot #	Time of Occupancy (sec)
6 to 7	0.363

Dwell time = 0.1525 sec

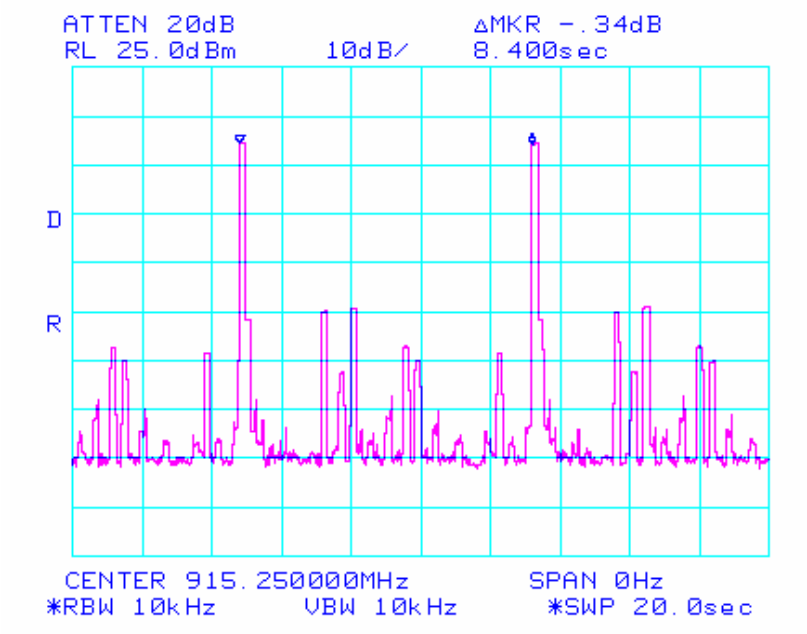
Time between occupancy = 8.4 sec

Time of occupancy = period / time between occupancy * dwell time

Therefore; 20 / 8.4 * 0.1525 = 0.363 second



Plot 6: Dwell Time (1 of 2)



Plot 7: Time between Occupancy (2 of 2)

Tested By: Kerwinn Corpuz

Date Tested: 11 January 2007

4.2.6 Peak Output Power

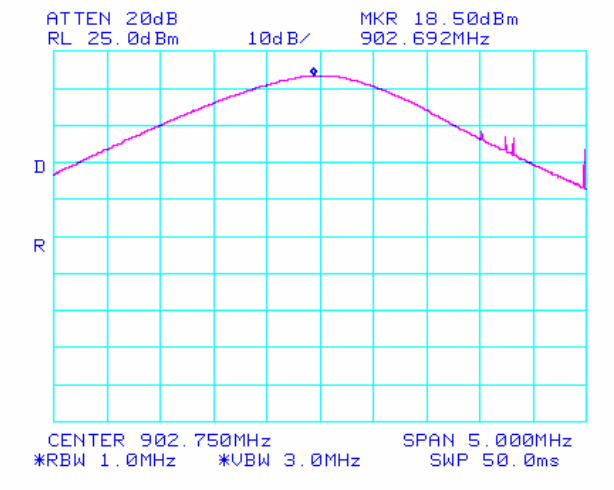
Requirement(s): 47 CFR §15.247(b) & RSS-210 (A8.4)

Procedures: The peak output power was measured conducted using a spectrum analyzer at low, mid, and hi channels. The highest antenna gain that will be used is -8 dBi.

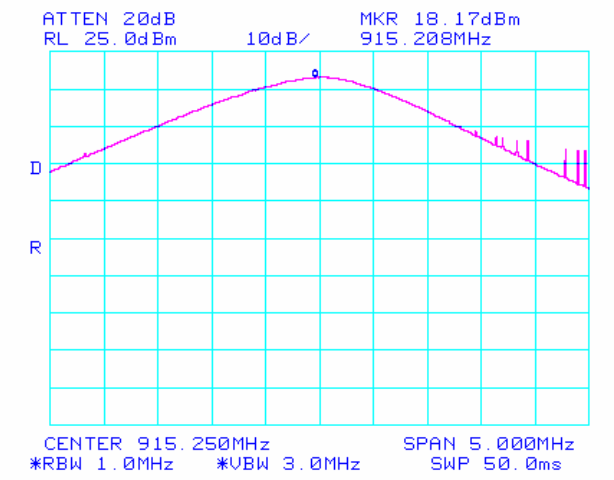
Reference level offset to spectrum analyzer: 20.1 dB (attenuator + cable loss)

Results:

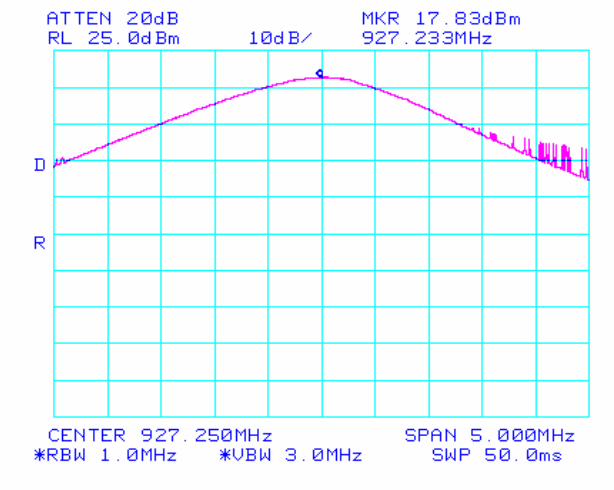
Plot #	Protocol	Channel	Channel Frequency (MHz)	Peak Power (dBm)	Peak Power (mW)	Limit (mW)
8	GEN-2	Low	902.75	18.50	70.79	1000
9	GEN-2	Mid	915.25	18.17	65.61	1000
10	GEN-2	High	927.25	17.83	60.67	1000



Plot 8: Peak Power (Low) with GEN-2 protocol



Plot 9: Peak Power (Mid) with GEN-2 protocol



Plot 10: Peak Power (High) with GEN-2 protocol

Tested By: Kerwinn Corpuz

Date Tested: 10 January 2007

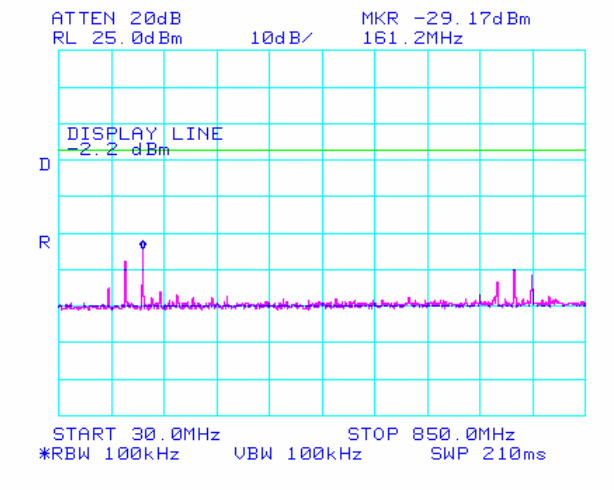
4.2.7 Spurious Emissions at Antenna Terminals

Requirement(s): 47 CFR §15.247(d) & RSS-210 (A8.5)

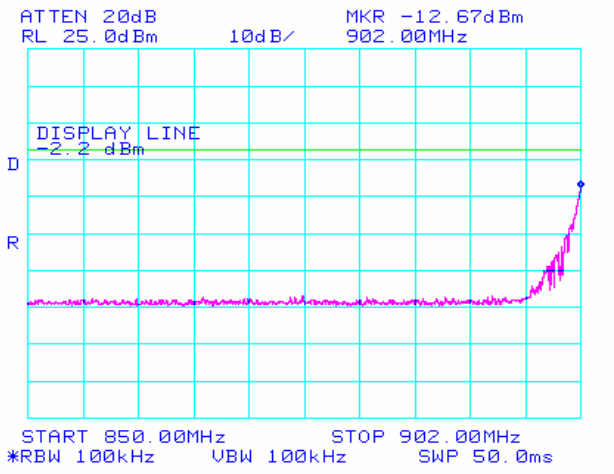
Procedures: The conducted spurious emissions were measured conducted using a spectrum analyzer at low, mid, and hi channels. The limit was determined by attenuating 20 dB of the RF peak power output. Therefore 17.8 dBm – 20 dB = – 2.2 dBm.

Results:

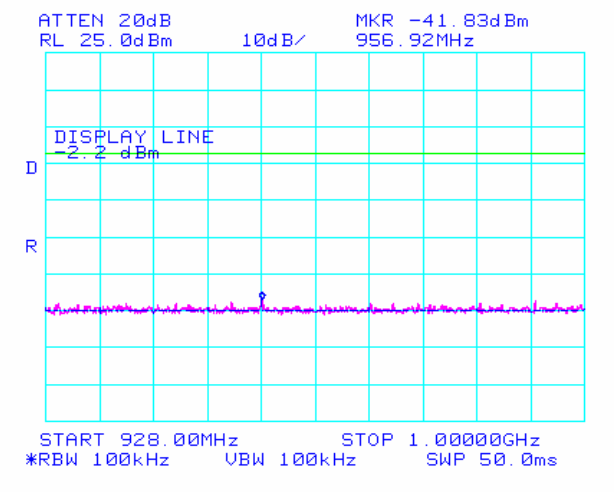
Plots #	Protocol	Channel	Remark
11	GEN-2	Low	Freq range: 30MHz – 850MHz
12	GEN-2	Low	Freq range: 850MHz – 902MHz
13	GEN-2	Low	Freq range: 928MHz – 1GHz
14	GEN-2	Low	Freq range: 1GHz – 9.5GHz
15	GEN-2	Mid	Freq range: 30MHz – 850MHz
16	GEN-2	Mid	Freq range: 850MHz – 902MHz
17	GEN-2	Mid	Freq range: 928MHz – 1GHz
18	GEN-2	Mid	Freq range: 1GHz – 9.5GHz
19	GEN-2	High	Freq range: 30MHz – 850MHz
20	GEN-2	High	Freq range: 850MHz – 902MHz
21	GEN-2	High	Freq range: 928MHz – 1GHz
22	GEN-2	High	Freq range: 1GHz – 9.5GHz



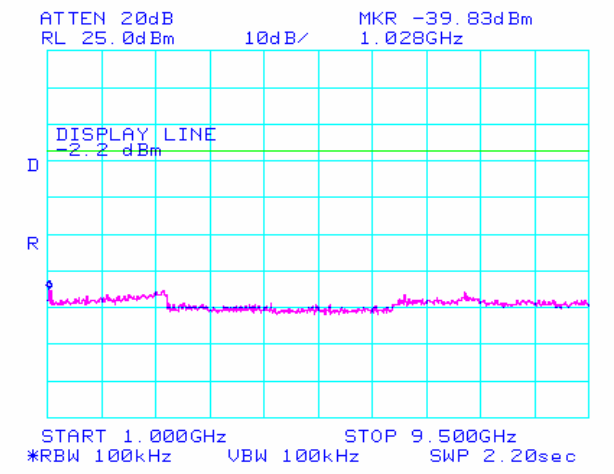
Plot 11: Low Channel Conducted Spurious Emissions (1 of 4)



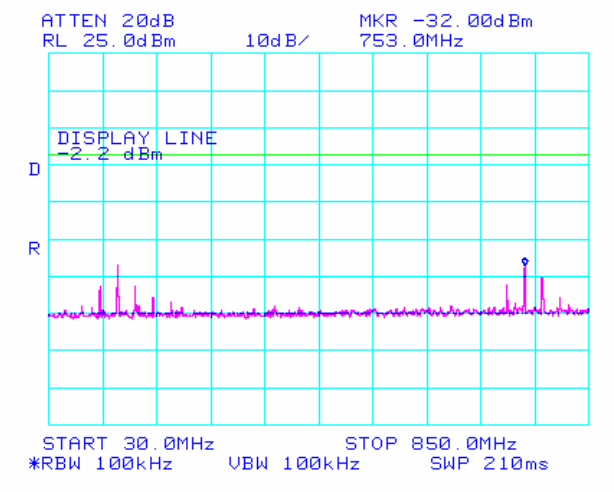
Plot 12: Low Channel Conducted Spurious Emissions (2 of 4)



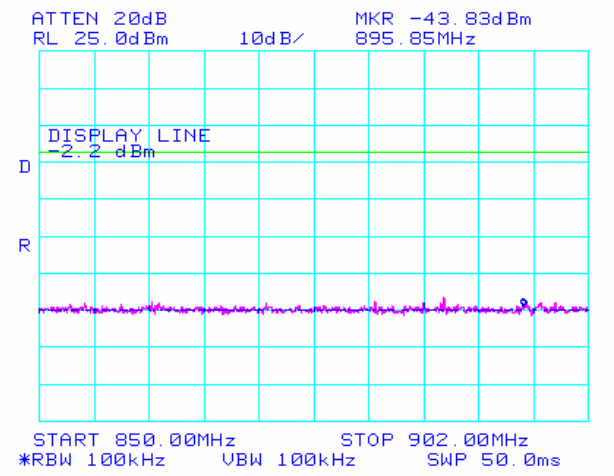
Plot 13: Low Channel Conducted Spurious Emissions (3 of 4)



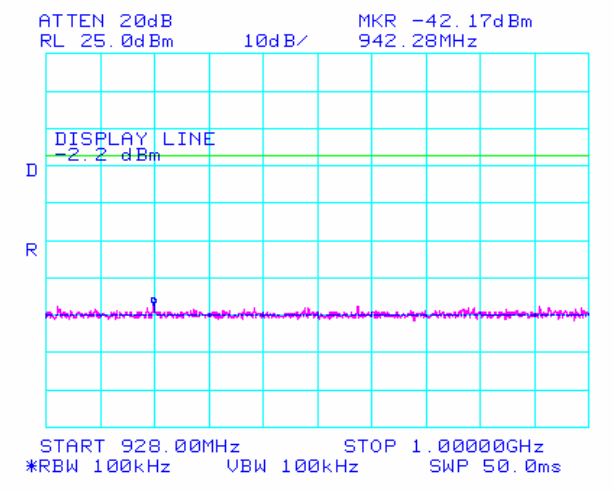
Plot 14: Low Channel Conducted Spurious Emissions (4 of 4)



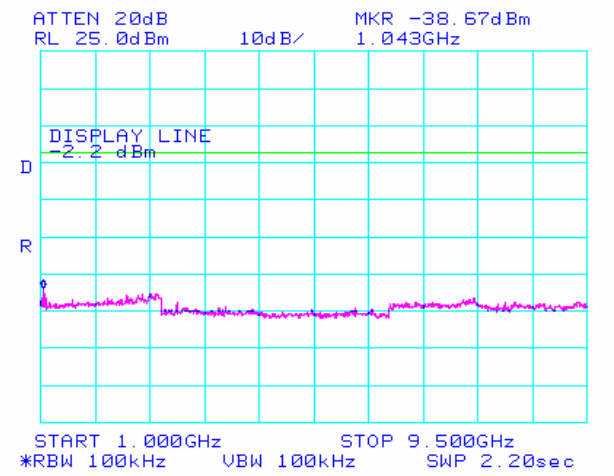
Plot 15: Mid Channel Conducted Spurious Emissions (1 of 4)



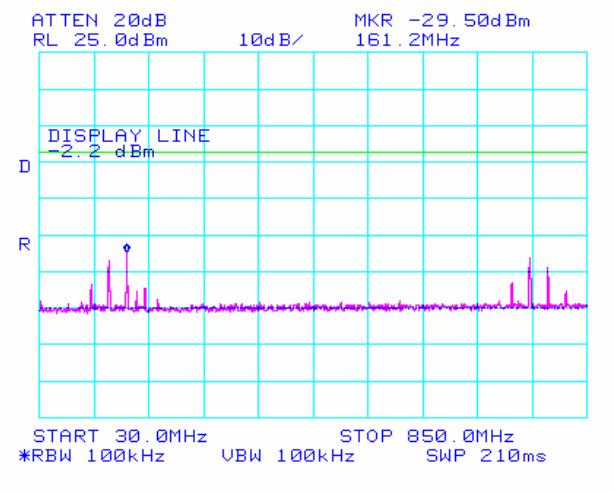
Plot 16: Mid Channel Conducted Spurious Emissions (2 of 4)



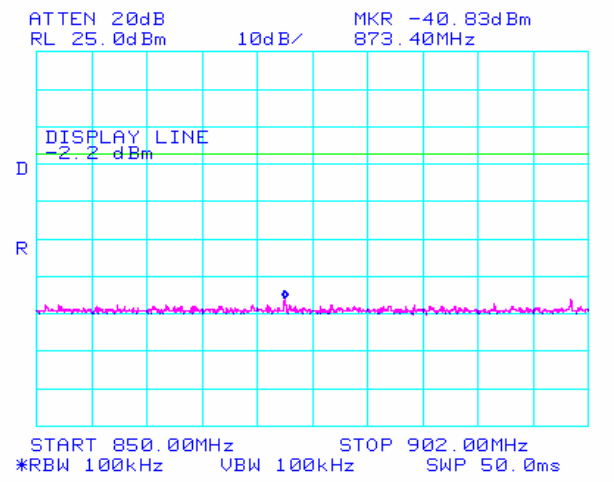
Plot 17: Mid Channel Conducted Spurious Emissions (3 of 4)



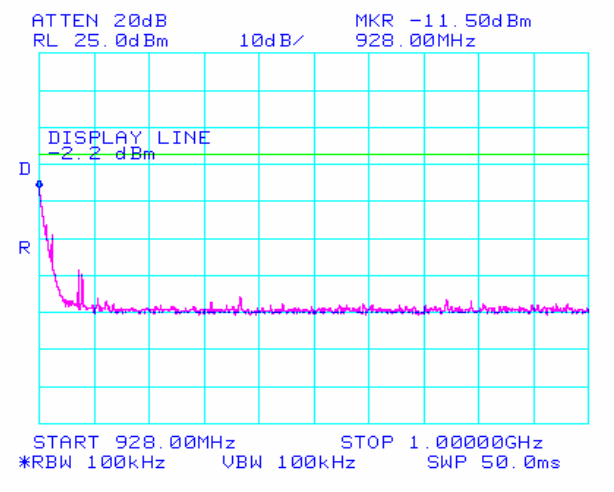
Plot 18: Mid Channel Conducted Spurious Emissions (4 of 4)



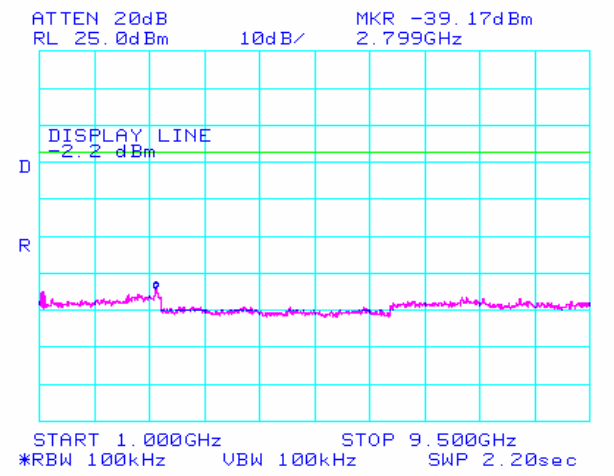
Plot 19: High Channel Conducted Spurious Emissions (1 of 4)



Plot 20: High Channel Conducted Spurious Emissions (2 of 4)



Plot 21: High Channel Conducted Spurious Emissions (3 of 4)



Plot 22: High Channel Conducted Spurious Emissions (4 of 4)

Tested By: Kerwinn Corpuz

Date Tested: 11 January 2006

4.2.8 Radiated Spurious Emissions < 1 GHz

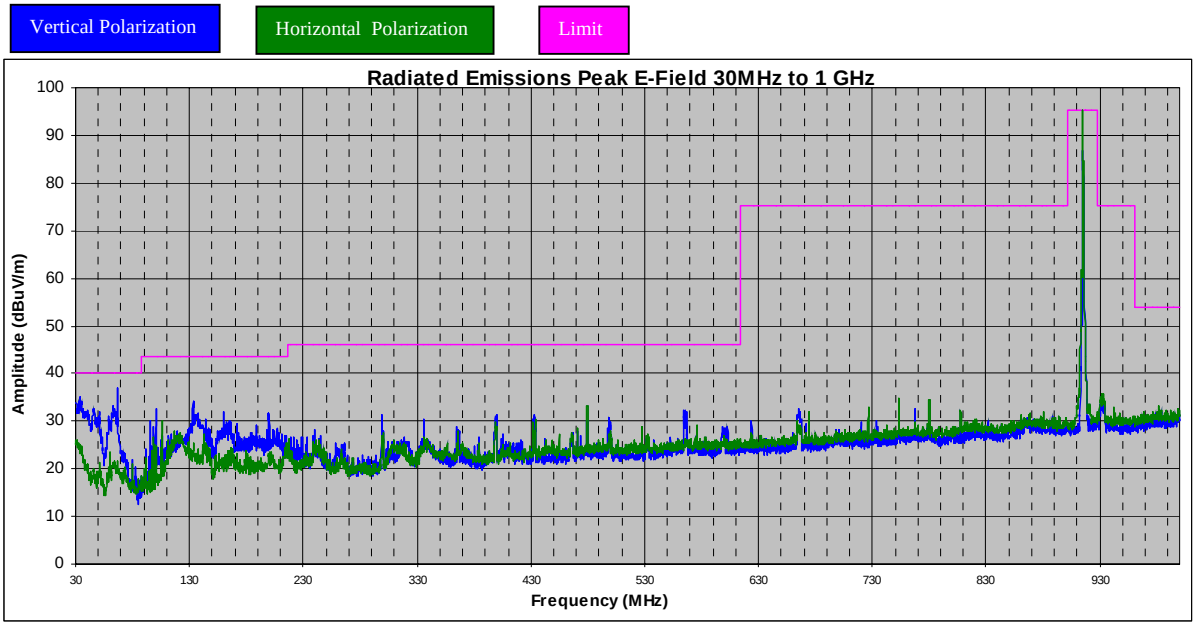
Requirement(s): 47 CFR §15.247(d) & RSS-210 (A8.5)

Procedures: Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set to transmit at mid channel. Note that setting the channel other than mid, the spurious emissions are the same.

The limit is converted from microvolts/meter to decibel microvolts/meter.

Sample Calculation: Corrected Amplitude = Raw Amplitude(dBµV/m) + ACF(dB) + Cable Loss(dB)

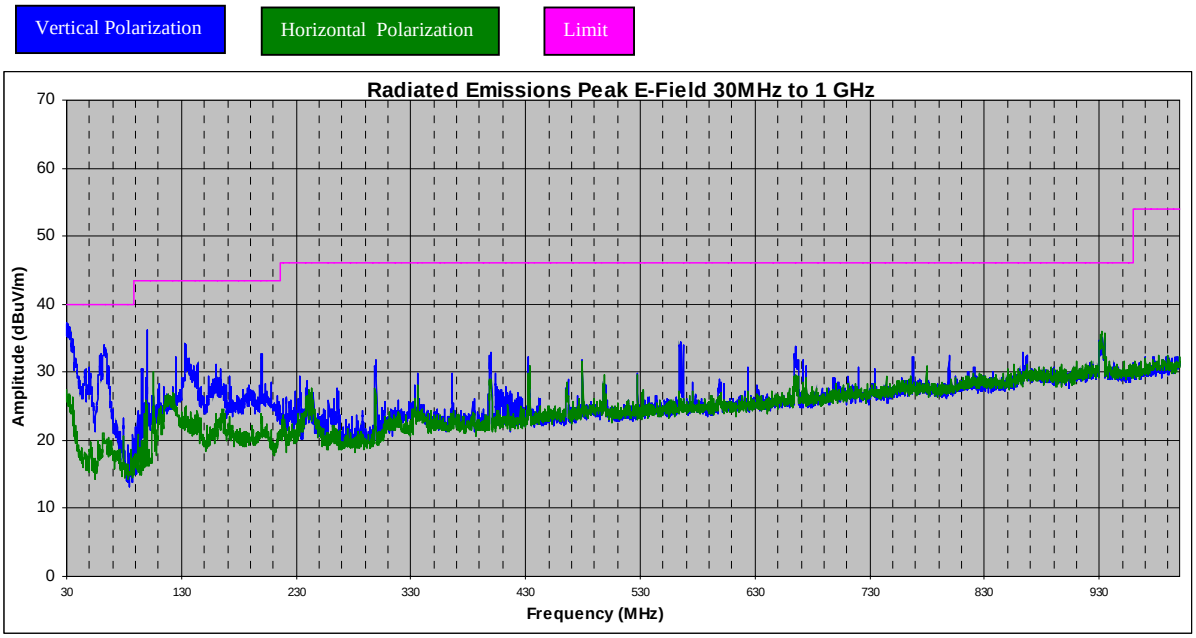
Results:



Radiated Emission Plot (Transmit Mode)

Freq (MHz)	Peak Corrected at 3m (dBµV/m)	Limit (dBµV/m)	Delta (dB)	Polarization (V/H)
33.49	35	40	-5.0	V
66.67	36.5	40	-3.5	V
100.32	32.6	43.5	-10.9	V
133.69	34.1	43.5	-9.4	V

Radiated Emissions Data (Transmit Mode)



Radiated Emissions Plot (Standby Mode)

Freq (MHz)	Peak Corrected at 3m (dBµV/m)	Limit (dBµV/m)	Delta (dB)	Polarization (V/H)
30	36.8	40	-3.2	V
62.3	34.1	40	-5.9	V
100.52	36.2	43.5	-7.3	V
133.5	34.2	43.5	-9.3	V

Radiated Emissions Data (Standby Mode)

Tested By: Kerwinn Corpuz

Date Tested: 12 January 2007

4.2.9 Radiated Spurious Emissions > 1 GHz

Requirement(s): 47 CFR §15.247(d) & RSS-210 (A8.5)

Procedures: Equipment was setup in a semi-anechoic chamber. For measurements above 1 GHz an average measurement was taken with a 10Hz video bandwidth. The EUT was tested at low, mid and high with the highest output power and GEN-2 modulation. Investigated up to 10th harmonic of the operating frequency.

Note: During Standby Mode investigation, there were no emissions found within 20 dB of the limit.

Sample Calculation:

EUT Field Strength = Raw Amplitude(dBµV/m) – Amplifier Gain(dB) + Antenna Factor(dB) + Cable Loss(dB) + Filter Attenuation(dB, if used)

Results:

f_o = 0.90275 GHz (Low Channel)

Frequency	Azimuth	Detector	Antenna Polarization	Antenna Height	Raw Amplitude @ 3m	Pre Amp	ACF	Cable Loss	Corrected Amplitude @ 3m	Limit @3m	Delta
(GHz)	(degrees)	(Pk/Avg)	(V/H)	(m)	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1.8055	-	-	V	-	-	-	-	-	-	-	-
1.8055	-	-	H	-	-	-	-	-	-	-	-
2.70825	345	Pk	V	1	49.5	32.18	30.06	2.51	49.89	74	-24.11
2.70825	345	Avg	V	1	44.3	32.18	30.06	2.51	44.69	54	-9.31
2.70825	315	Pk	H	1.4	54.6	32.18	30.55	2.51	55.47	74	-18.53
2.70825	315	Avg	H	1.4	51.4	32.18	30.55	2.51	52.27	54	**-1.73**
3.611	-	-	V	-	-	-	-	-	-	-	-
3.611	-	-	H	-	-	-	-	-	-	-	-
4.51375	-	-	V	-	-	-	-	-	-	-	-
4.51375	345	Pk	H	1.4	47.2	32.49	33.00	3.32	51.03	74	-22.97
4.51375	345	Avg	H	1.4	40.8	32.49	33.00	3.32	44.63	54	-9.37

Note: Emissions at 1.8055 GHz (V & H polarization), 3.611 GHz (V & H polarization), 4.51375 GHz (V polarization) and after 5th harmonic measured noise floor.

f_o = 0.91525 GHz (Mid Channel)

Frequency	Azimuth	Detector	Antenna Polarization	Antenna Height	Raw Amplitude @ 3m	Pre Amp	ACF	Cable Loss	Corrected Amplitude @ 3m	Limit @3m	Delta
(GHz)	(degrees)	(Pk/Avg)	(V/H)	(m)	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1.8305	-	-	V	-	-	-	-	-	-	-	-
1.8305	-	-	H	-	-	-	-	-	-	-	-
2.74575	340	Pk	V	1	51.8	32.21	30.26	2.53	52.39	74	-21.61
2.74575	340	Avg	V	1	47	32.21	30.26	2.53	47.59	54	-6.41
2.74575	310	Pk	H	1.4	54.4	32.21	30.70	2.53	55.42	74	-18.58
2.74575	310	Avg	H	1.4	51.4	32.21	30.70	2.53	52.42	54	**-1.58**
3.661	-	-	V	-	-	-	-	-	-	-	-
3.661	315	Pk	H	1.4	49.1	32.37	32.84	3.01	52.58	74	-21.42
3.661	315	Avg	H	1.4	43	32.37	32.84	3.01	46.48	54	-7.52
4.57625	-	-	V	-	-	-	-	-	-	-	-
4.57625	-	-	H	-	-	-	-	-	-	-	-

Note: Emissions at 1.8305 GHz (V & H polarization), 3.661 GHz (V polarization), 4.57625 GHz (V & H polarization) and after 5th harmonic measured noise floor.

f_o = 0.92725 GHz (High Channel)

Frequency	Azimuth	Detector	Antenna Polarization	Antenna Height	Raw Amplitude @ 3m	Pre Amp	ACF	Cable Loss	Corrected Amplitude @ 3m	Limit @3m	Delta
(GHz)	(degrees)	(Pk/Avg)	(V/H)	(m)	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1.8545	-	-	V	-	-	-	-	-	-	-	-
1.8545	-	-	H	-	-	-	-	-	-	-	-
2.78175	350	Pk	V	1	50.5	32.23	30.46	2.56	51.29	74	-22.71
2.78175	350	Avg	V	1	47	32.23	30.46	2.56	47.79	54	-6.21
2.78175	320	Pk	H	1.4	54.1	32.23	30.84	2.56	55.27	74	-18.73
2.78175	320	Avg	H	1.4	51.3	32.23	30.84	2.56	52.47	54	**-1.53**
3.709	350	Pk	V	1	48	32.37	32.16	3.04	50.82	74	-23.18
3.709	350	Avg	V	1	43	32.37	32.16	3.04	45.82	54	-8.18
3.709	330	Pk	H	1.4	51	32.37	32.94	3.04	54.61	74	-19.39
3.709	330	Avg	H	1.4	46.3	32.37	32.94	3.04	49.91	54	-4.09
4.63625	-	-	V	-	-	-	-	-	-	-	-
4.63625	-	-	H	-	-	-	-	-	-	-	-

Note: Emissions at 1.8545 GHz (V & H polarization), 4.63625 GHz (V & H polarization) and after 5th harmonic measured noise floor.

Tested By: Kerwinn Corpuz

Date Tested: 12 January 2007

4.2.10 Radiated Emissions – Band Edge

Requirement(s): 47 CFR §15.247(d) & RSS-210 (A8.5)

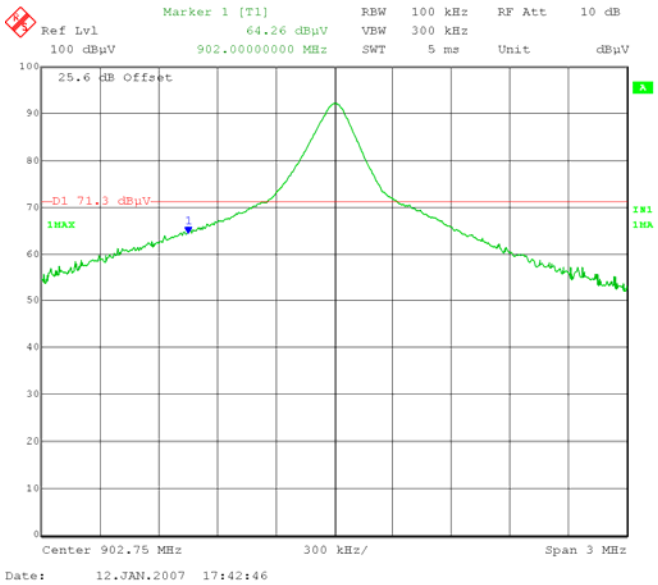
Procedures: Radiated emissions were measured according to ANSI C63.4. Equipment was tested with six protocols at low and high channel. An offset was set to spectrum analyzer with 25.6 dB. Limit = 20 dB attenuation from peak power.

Sample Calculation:

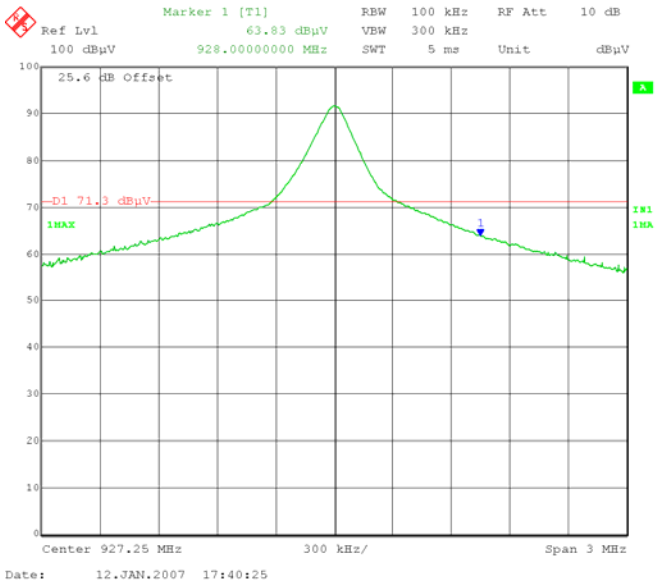
EUT Field Strength = Raw Amplitude(dBµV/m) + Antenna Factor(dB) + Cable Loss(dB)

Results:

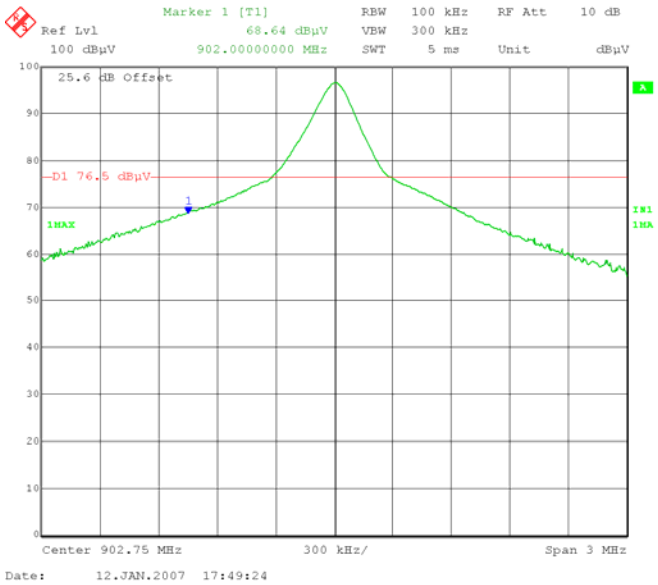
Plot #	Freq (MHz)	Peak Corrected at 3m (dBµV/m)	Limit (dBµV/m)	Delta (dB)	Polarization (V/H)	Protocol
23	902	64.26	71.3	-7.04	V	GEN-2
24	928	63.83	71.3	-7.47	V	GEN-2
25	902	68.64	76.5	-7.86	H	GEN-2
26	928	68.06	76.5	-8.44	H	GEN-2



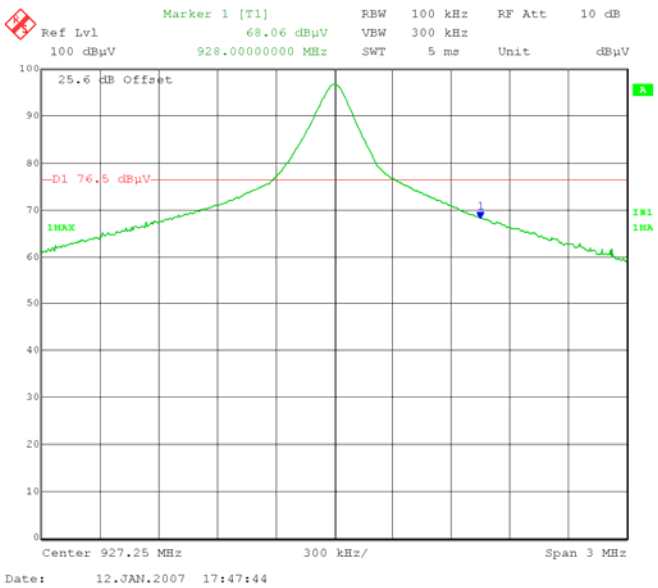
Plot 23: Lower Edge (Vertical)



Plot 24: Upper Edge (Vertical)



Plot 25: Lower Edge (Horizontal)



Plot 26: Upper Edge (Horizontal)

Tested By: Kerwinn Corpuz

Date Tested: 12 January 2007

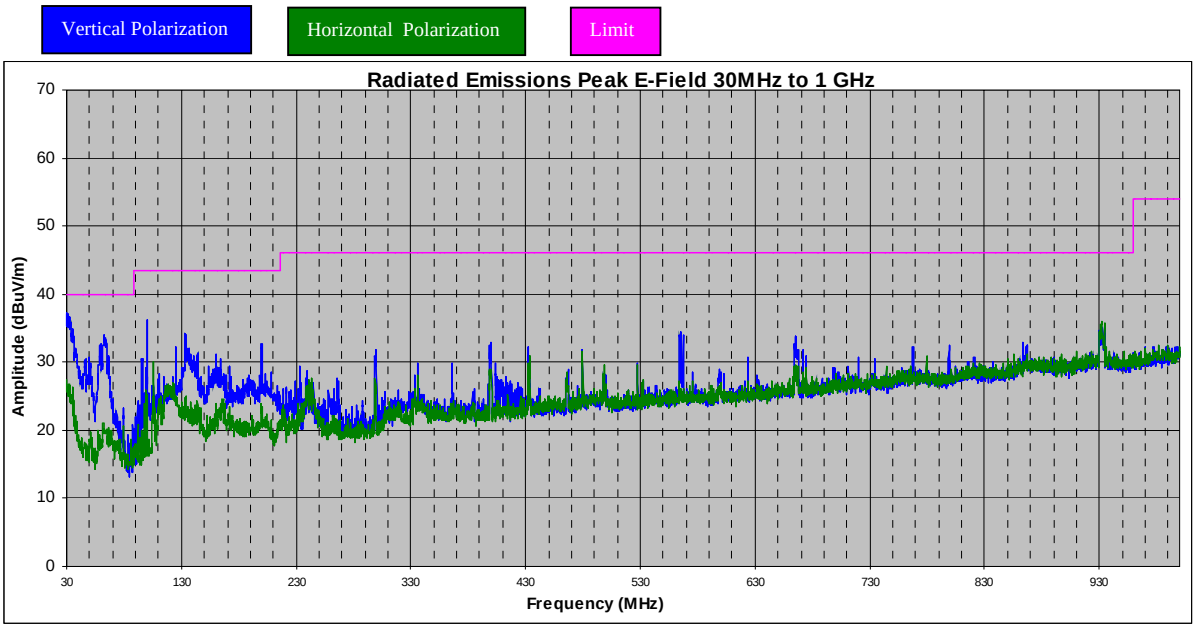
4.2.11 Receiver Spurious Emissions

Requirement(s): RSS-GEN (4.8)

Procedures: Radiated emissions were measured according to RSS-GEN. Measurement was taken with spectrum analyzer. The EUT was set to Standby mode.

Sample Calculation: Corrected Amplitude = Raw Amplitude(dBµV/m) + ACF(dB) + Cable Loss(dB)

Results:



Radiated Emissions Plot

Freq (MHz)	Peak Corrected at 3m (dBµV/m)	Limit (dBµV/m)	Delta (dB)	Polarization (V/H)
30	36.8	40	-3.2	V
62.3	34.1	40	-5.9	V
100.52	36.2	43.5	-7.3	V
133.5	34.2	43.5	-9.3	V

Radiated Emissions Data

Tested By: Kerwinn Corpuz

Date Tested: 12 January 2007

5 TEST INSTRUMENTATION

5.1 TEST INSTRUMENTATION

Instrument	Manufacturer	Model	CAL Due Date
Spectrum Analyzer	HP	8568B	04/26/2007
Quasi-Peak Adapter	HP	85650A	04/26/2007
RF Pre-Selector	HP	85685A	04/26/2007
Spectrum Analyzer	HP	8564E	05/01/2007
Power Meter	HP	437B	04/26/2007
Power Sensor	HP	8485A	04/26/2007
Antenna	Emco	3115	08/17/2007
Antenna	Emco	3115	See Note
Signal Generator	Wiltron	68169B	04/26/2007
Chamber	Lingren	3m	09/28/2007
Pre-Amplifier	HP	8449	05/01/2007
DMM	Fluke	73III	05/01/2007
Variac	KRM	AEEC-2090	See Note
DMM	Fluke	51II	See Note
900 MHz Notch Filter	AWID	N/A	See Note
4GHz High Pass Filter	LORCH Microwave	4HPD-X4000-3R	See Note

Note: Functional Verification

APPENDIX A: EUT TEST CONDITIONS

The following is the description of supporting equipment and details of cables used with the EUT.

Equipment Description (Including Brand Name)	Cable Description
AWID RFID module	1. Power cord 2. MMCX coax

EUT Description	:	RFID Reader Module
Model No	:	MPR-1510AR2.6H
Serial No	:	none

The following is the description of how the EUT is exercised during testing.

Test	Description Of Operation
	The EUT was controlled via PC to enter test modes necessary to complete the testing.

APPENDIX B: EXTERNAL PHOTOS

See Attachment

APPENDIX C: CIRCUIT/BLOCK DIAGRAMS

See Attachment

APPENDIX D: INTERNAL PHOTOS

See Attachment

APPENDIX E: PRODUCT DESCRIPTION

Detail description of this product is shown in the User's Guide.

APPENDIX F: FCC LABEL LOCATION

See Attachment

APPENDIX G: USER MANUAL

See Attachment

END OF REPORT