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Atlas Compliance & Engineering, Inc.

FCC & Industry Canada Modular Test Report

FCC CFR 47 Part 15.207, 15.209, and 15.249, & RSS-210 Issue 7 COMPLIANCE

Unigen Corporation
45388 Warm Springs Blvd.
Fremont, CA 94539

Product:
Apollo WIFI 802.11b/g Radio Module
Model:
UGWAS82BSM33A

FCC ID:	R8KUGWAS82
IC ID:	5125A-UGWAS82
Test Report Number:	0940UGCapol-mod_subc
Date of Report:	October 8, 2009

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General Information

Test Report Number:	0940UGCapol-mod_subc
Date Product Tested:	October 6 - 8, 2009
Date of Report:	October 8, 2009
Applicant:	Unigen Corporation 45388 Warm Springs Blvd. Fremont, CA 94539
Contact Person	Mark Morrissey
Equipment Tested:	Apollo WIFI 802.11b/g Radio Module
Trade Name:	UGWAS82BSM33A
Model:	UGWAS82BSM33A
Purpose Of Test:	To demonstrate the compliance of the Apollo WIFI 802.11b/g Radio Module, UGWAS82BSM33A, with the requirements of FCC CFR 47 Part 15 Rules and Regulations to the limits of Subpart C 15.207, 15.209, and 15.249 using the procedure stated in ANSI C63.4-2003. Also including the requirements for Industry Canada RSS 210, Issue 7.
Frequency Range Investigated:	150 kHz to 24,000 MHz
FCC ID: IC ID:	R8KUGWAS82 5125A-UGWAS82
Test Site Locations:	Field Strength Measurement Facility: Atlas Compliance & Engineering, Inc. 726 Hidden Valley Road Royal Oaks, California 95076 Conducted Interference and Immunity Measurement Facility: Atlas Compliance & Engineering, Inc. 1792 Little Orchard St. San Jose, California 95125
FCC Site Registration Number: Industry Canada File Number:	90452 IC 4929
Test Personnel:	Mario E. Baraona Sr. EMC Engineer

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Test Equipment

The following list contains the test equipment that was utilized in making the measurements in this report.

Description _ Model	Serial	Manufacturer	Calibrated	Calibration Due
BiLog Antenna _ CBL6141	4034	Chase Electronics Ltd.	1/3/08	1/3/10
Active Loop Antenna _ 6502	9108-2669	EMCO	8/18/08	8/18/10
Double Ridge Guide Horn Antenna _ 3115	9003-3340	EMCO	8/18/08	8/18/10
Standard Gain Horn Antenna _ 3160-09	00057143	EMCO	11/22/07	11/22/09
LISN _ 3825/2	9007-1683	EMCO	11/20/07	11/20/09
LISN _ 8012-50-R-24-BNC	8379587	Solar Electronic	10/29/07	10/29/09
Pre amp 9kHz-2GHz _ CPA9231A	3259	Schaffner	11/19/07	11/19/09
Pre amp 9kHz-2GHz _ CPA9231A	3323	Schaffner	10/18/07	10/18/09
RF Preselector 20Hz-2GHz _ 85685A	2926A00965	HP	8/30/08	8/30/10
Pre amp 1Ghz-26.5GHz _ 8449B	3008A00910	HP	8/29/08	8/29/10
Spectrum Analyzer 100Hz-22GHz _ 8566B	2542A13058 (IF) 2637A03426 (RF)	HP	8/29/08	8/29/10
Quasi-Peak Adapter _ 85650A	2521A00716	HP	8/30/08	8/30/10
Spectrum Analyzer 9kHz – 50 GHz 8565E	3517A00320	HP	10/23/08	10/23/09
EMI Test Receiver 9 kHz - 2500 MHz _ ESPC	DE15934 845296/0024	Rohde & Schwarz	12/11/07	12/11/09
EMI Test Receiver 9 kHz - 2500 MHz _ ESPC (bat)	DE14459 843820/0015	Rohde & Schwarz	2/21/08	2/21/10
Chamber – HPI160SCable 50 ft.	0002	Semflex	7/31/08	7/31/10
OATS – LA290Cable 75 ft.	0001	Semflex	1/27/08	1/27/10
Temperature and humidity probe _ RH-20F	200-97-082591	Omega Engineering	1/12/08	1/12/10
Muttimeter_75	47410575	Fluke	12/2/07	12/2/09
Variable Transformer_PowerSat	8P124201	Superior Electric Co.	N/A	N/A

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EUT Technical Description

The UGWAS82BMS33 USB module features the Realtek RTL8711 which integrates IEEE 802.11 b/g RF transceiver, baseband and MAC layer. The USB module is a single 3.3V powered USB device. A host controller is required to support the full 802.11 protocol and driver.

The Realtek RTL 8711 chipset family is a highly integrated and cost-effective wireless LAN network interface controller that integrates an IEEE 802.11b/g Wireless LAN transceiver, PA, MAC and direct sequence spread spectrum baseband processor into one chip. RTL8711 family is fully compliant with IEEE 802.11b/g specifications.

The RTL8711 family implements a direct sequence spread spectrum (DSSS), complementary code keying (CCK) and orthogonal frequency division multiplexing (OFDM) baseband processing to support all IEEE 802.11b and 802.11b data rates. Differential phase shift keying modulation schemes, DBPSK and DQPSK with data scrambling capability, are available along with complementary code keying to provide the data rates of 1, 2, 5.5, and 11Mbps with long or short preamble using DSSS. A high speed FFT/IFFT, combined with BPSK, QPSK, 16QAM, and 64QAM modulation of the individual subcarriers using OFDM provides the data rate of 6, 9, 12, 18, 24, 36, 48 and 54Mbps with rate compatible punctured convolutional coding with a coding rate of 1/2, 2/3, and 3/4.

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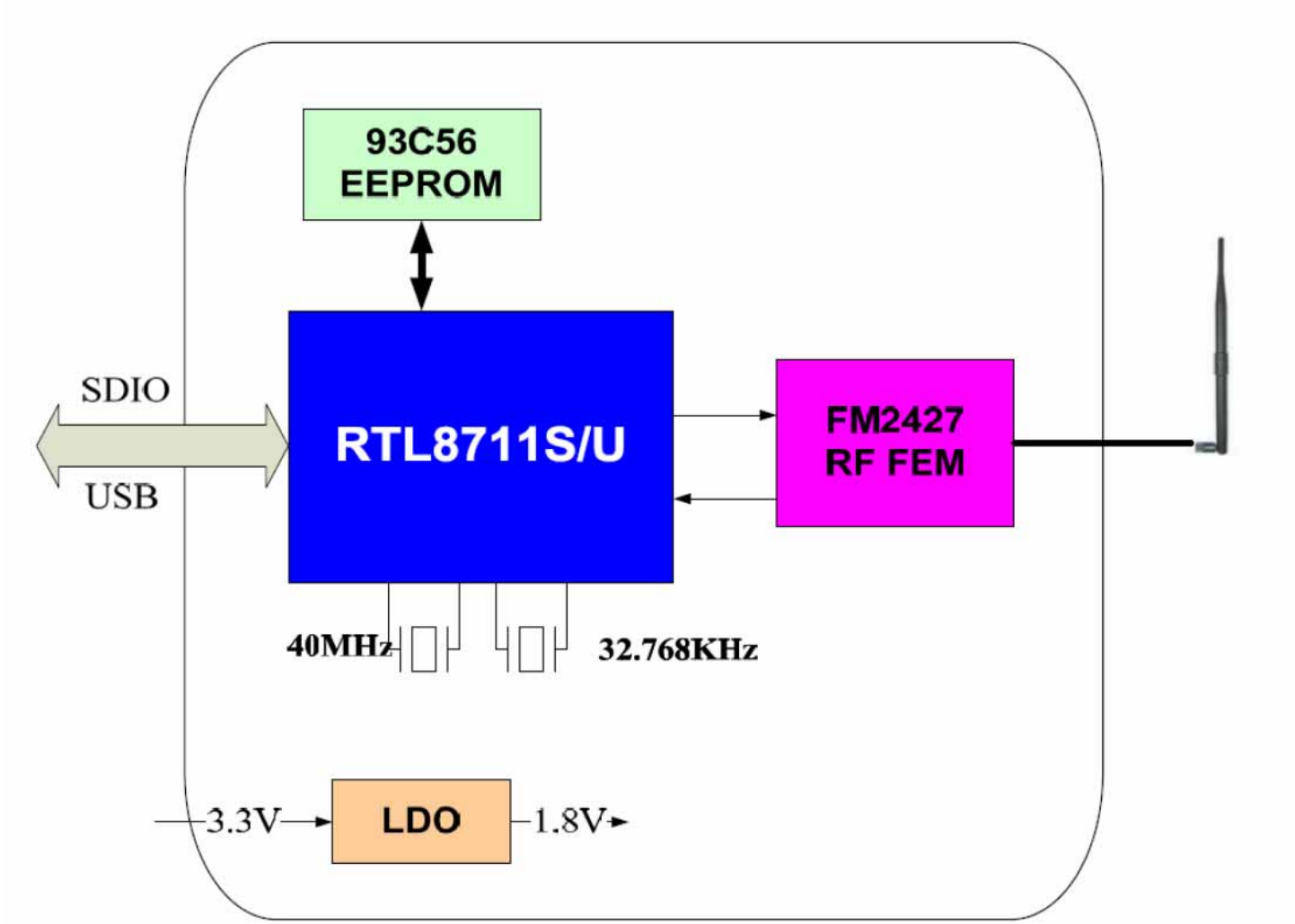
Block Diagram



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Test Configuration

Customer:	Unigen Corporation
Test Date:	October 6 - 8, 2009
Specification:	FCC CRF 47 Part 15.207, 15.209, and 15.249 Limits, ANSI C63.4-2003 Methods Industry Canada RSS 210, Issue 7

EUT Description / Note:

The EUT, UGWAS82BSM33A, an Apollo WIFI 802.11b/g Radio Module, USB dongle. The USB dongle is a self powered USB device utilizing the 3.3V power source supplied by VBUS. A host controller is required to support the full 802.11 protocol and driver. There was no change in the DC voltage of the EUT while the AC voltage was varied +/- 15% from the nominal voltage of 117 VAC. Conducted emissions testing was performed on the host unit with the EUT operating continuously. EUT frequencies of operation are 2412 MHz to 2462 MHz. The stopped frequencies are 20 MHz wide.

EUT Support Program

The EUT was tested while using the Realtek MP8711S diagnostic program. Transmit power was set to the Maximum value of 1. Data rate is 54 Mbps. 13 channels are available using the DSSS mode. The EUT was tested, stopped at 2412 MHz, 2441 MHz, and at 2462 MHz. 2412 MHz was where the maximum emission level was observed. Band edge measurements were taken with the EUT operating throughout and stopped at 2412 MHz and 2462 MHz.

EUT Modifications for Compliance

There were no modifications performed on the EUT. The test results state the emission levels of the EUT in the condition as it was received on October 6, 2009.

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EUT Support Devices

Table 1 - Support Equipment Used For Test

Model:	Description:	S/N	FCC ID#
GX270	Dell OptiPlex computer	H7LC851	DoC
VS10049	ViewSonic LCD VGA Monitor	P1S0508A0767	DoC
RT7D20	Dell PS2 Keyboard	TH-04N454-37171	DoC
M/NM-SAW34	Dell/Logictech PS2 Mouse	LZB243543371	DoC

I/O Ports and Cables

Table 2 - EUT Port Termination's

I/O Port	Cable Type	Length	Connector	Termination
USB 2.0	N/A	Direct	4 pin Type-A	Host Computer

Table 3 - Host Port Termination's

I/O Port	Cable Type	Length	Connector	Termination
USB 2.0	N/A	Direct	4 pin Type A	Host Computer
Video	Shielded, Braid, 2 ferrite cores	6 FT	15 P 'HD'	Monitor
Keyboard	Shielded, Braid	6 FT	6 P Mini Din	Keyboard
Mouse	Non-Shielded	6 FT	4 P Mini Din	Mouse
Power	Non-Shielded	7 FT	IEC	Power Mains

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Equipment Under Test

The photographs below show the condition of the EUT for test.

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The antenna is an embedded PCB antenna, Type is Omni 2 dBi Antenna

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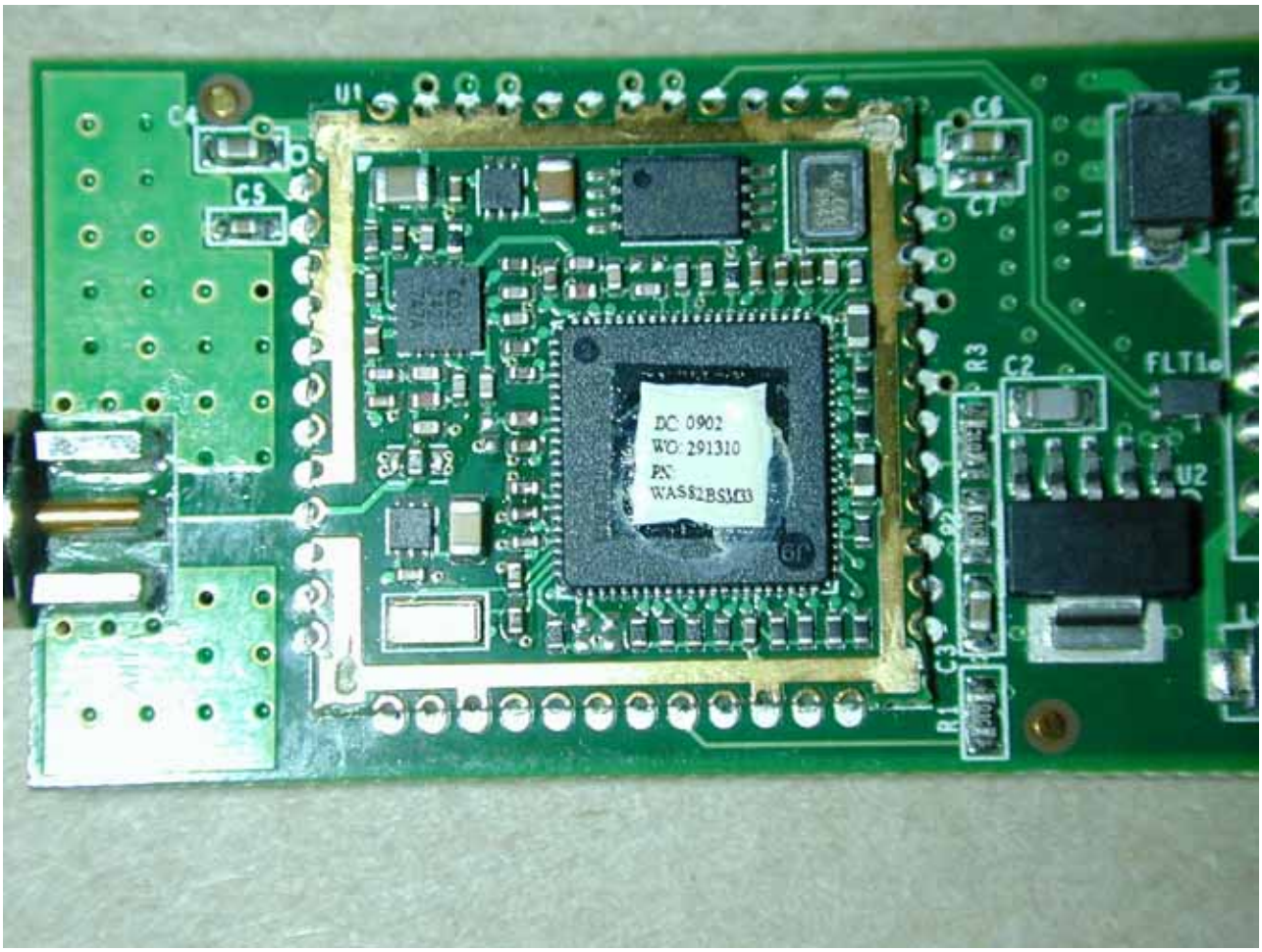
The module shows the shield removed.



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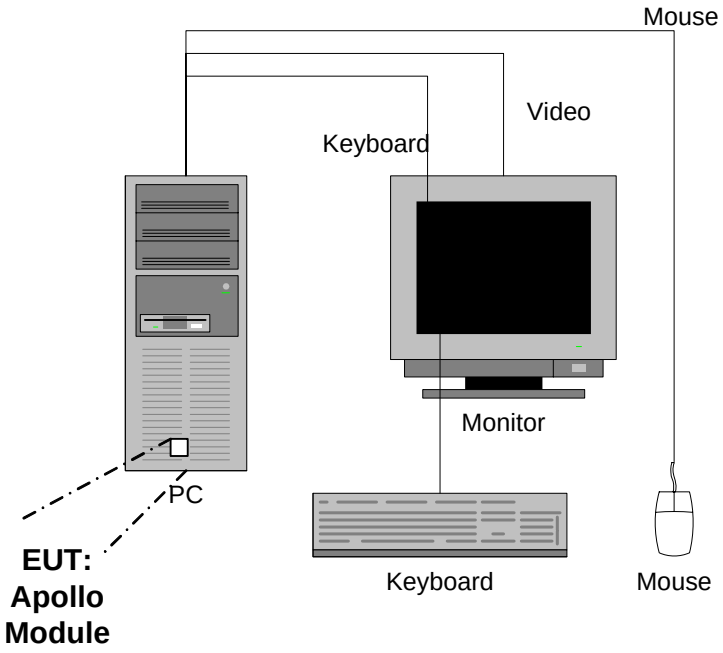
Equipment Block Diagram

Following is the block diagram of the test setup. Refer to TEST CONFIGURATION pages for port connections and information.

Figure 1 - Test Setup Diagram



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Test Setup (Radiated Emissions)

The photographs below show worst case setup for radiated emission testing at 10 Meters with Bicon Antenna.

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The photographs below show worst case setup for radiated emission testing at 3 Meters with Horn Antenna.

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The photographs below show worst case setup for direct conducted emission testing.

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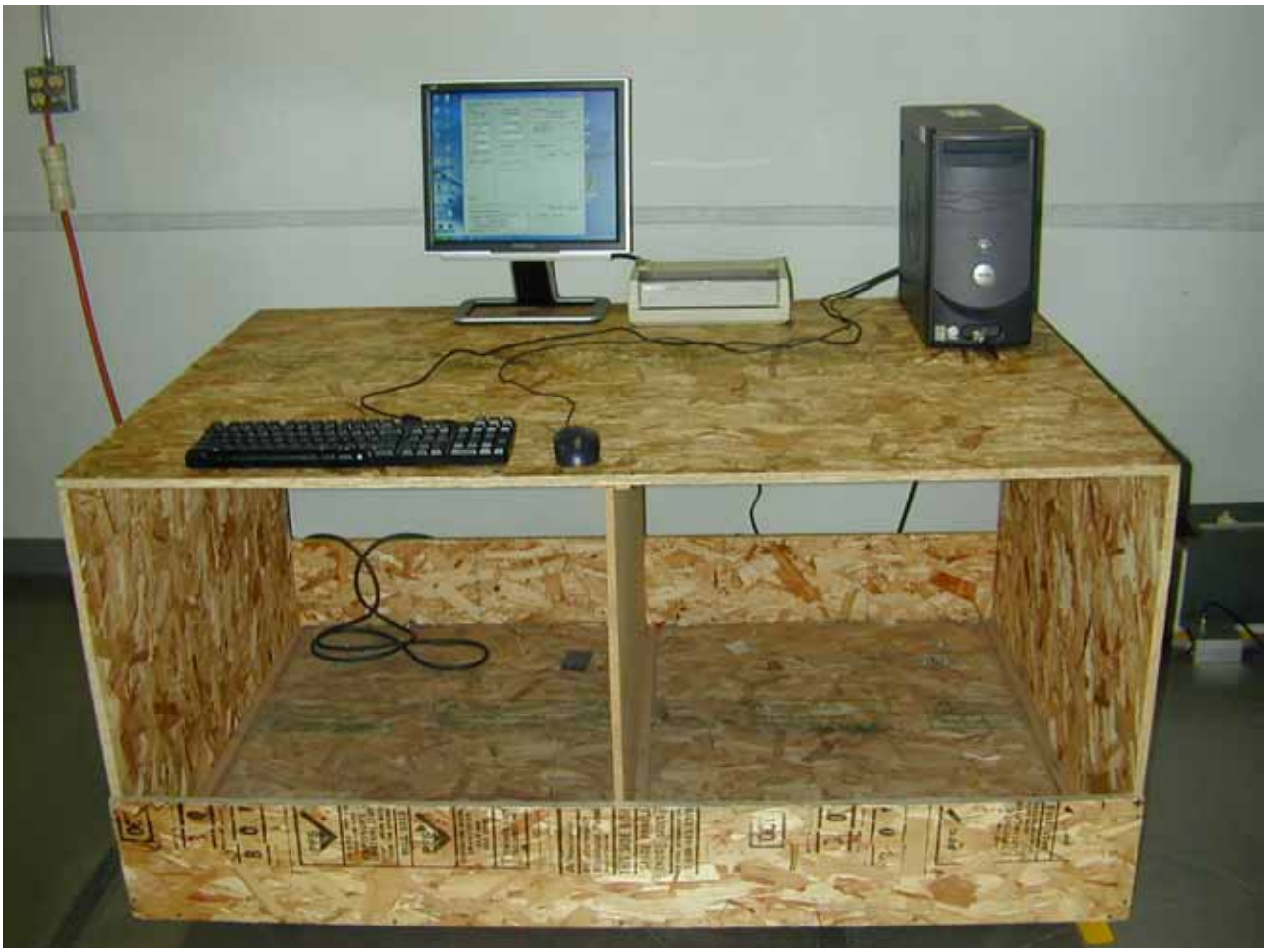
Test Setup (Conducted Emissions)

The photograph below shows worst case setup for line conducted testing.



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Test Methods for Emissions

The test procedure stated in ANSI C63.4-2003 was used to collect the test data. The radiated emission data of the EUT was taken with the Rohde & Schwarz EMI Test Receiver or HP 8566B. Incorporating the application of correction factors programmed into the Test Receiver and verified for distance, antenna, cable loss, and amplifier gain, the data was reduced as shown in the Sample Calculations. These correction factors are available upon request. The corrected data was then compared to the emission limits to determine compliance.

During radiated emission testing, the EUT was placed on a nonconductive rotating table 0.8 meter above the conductive grid. The nonconductive table dimensions were 1 meter deep by 1.5 meters wide at 0.8 meter high. The EUT is centered on the tabletop and the measurement antenna was placed 3 meters from the EUT as noted in the test data.

For radiated emissions testing, scans in the frequency range of 6 MHz to 24000 MHz were made. Each frequency between 9 kHz and 150 kHz was measured at a bandwidth of 200 Hz, between 150 kHz and 30 MHz was measured at a bandwidth of 10 kHz, between 30 MHz and 1000 MHz was measured at a bandwidth of 120 kHz and between 1000 MHz and above was measured at a bandwidth of 1 MHz. Measurements were made employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz, and above 1GHz which employed an average detector. All readings within 10 dB of the limits were recorded, and those emissions were then measured using the appropriate detector and bandwidth for a 2-second measurement time.

RF Measurements were made at a distance of 3 meters.

Conducted RF Measurements were made on the HP 8565E.

Conducted Emission Testing

For the conducted emissions testing, the EMCO LISN, Model No. 3825/2, was used for the EUT and the EMCO LISN, Model No. 4825/2, was used for the support equipment. During conducted emission testing the EUT was located on a wooden test bench measuring 0.8 meter high, 1 meter deep, and 1.5 meters in width. The vertical conducting surface was 0.4 meter from the back of the test bench. The LISNs were placed on the ground plane of the test area in accordance with ANSI C63.4-2003.

The metal plane used for conducted emission testing was grounded to the earth by a heavy gage braided wire attached to the plane. All other objects were kept a minimum of 1 meter away from the EUT during the conducted test.

For conducted emissions testing a scan of the frequency band 150 kHz to 30 MHz was made stepping every 5 kHz. Each frequency was measured at a bandwidth of 10 kHz for 20 msec. Due to the narrow specification of a 6 dB drop, the 10 kHz bandwidth meets the requirements of CISPR 16, band B (150 kHz to 30 MHz) and VDE 0876 as well as of various military standards that require tolerances of 10% for a 10 kHz

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measurement bandwidth. All readings within 25 dB of the limits were recorded, and those emissions were then measured using the CISPR quasi-peak detector at a bandwidth of 10 kHz for a 2 second measurement time. All emissions within 6 dB of the limit were examined with additional measurements to ensure compliance with the FCC 15.207 limits. The results of the conducted emissions test are shown in Tables 8 and 9 and Figures 3 and 4.

Temperature and Humidity

The ambient temperature of the actual EUT was within the range of 10° to 40° C (50° to 104° F) unless the particular equipment requirements specify testing over a different temperature range. The humidity levels were within the range of 10% to 90% relative humidity unless the EUT operating requirements call for a different level.

Sample Calculations

An example of how the EMI Test Receiver reading is converted using correction factors is given for the emissions recorded in Table 6. These correction factors are programmed into the EMI Test Receiver and verified. For radiated emissions in dBµV/m, the EMI Test Receiver reading in dBµV is corrected by using the following formula:

Meter Reading (dBµV/m)
- Pre amp Gain (dB)
+ Cable Loss (dB)
+ Antenna Factor (dB)
= Corrected Reading (dBµV/m)

This reading is then compared to the applicable specification limits and the difference will determine compliance. For conducted emissions, no correction factors are needed when a 50 µH LISN is used.

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FCC Part 15 Subpart C 15.207 and 15.209 Limits

Table 4 - Radiated Emission Limits, General Requirements

Frequency MHz	Field Strength µV/m	Measurement Distance Meters
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system.
3. The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission.
4. The emission limits shown are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

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Table 5 - Radiated Emission Limits, Part 15.249
Operation within the bands 902 – 928 MHz, 2400 – 2483.5 MHz, 5725 – 5875 MHz, and 24.0 – 24.25 GHz.

Frequency MHz	Field Strength of fundamental millivolts/meter	Field Strength of harmonics microvolts/meter
902 – 928	50	500
2400 – 2483.5	50	500
5725 – 5875	50	500
24000 – 24250	250	2500

NOTE:

5. Field strength limits are specified at a distance of 3 meters..
6. Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation.
7. As shown in 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Table 6 - Conducted Limits

Frequency MHz	Limit Quasi-Peak dBµV	Limit Average dBµV
0.15-0.50	66-56	56-46
0.50-5	56	46
5-30	60	50

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Both Quasi-Peak and Average limits for power line conducted testing must be met.
3. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

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Report of Measurements 15.249 Radiated Data

The following tables report the results of the radiated measurements for the Apollo WIFI 802.11b/g Radio Module, UGWAS82BSM33A.

Table 7 - Radiated Emission Level

15.249 Limit dBμV/m	Fundamental Frequency MHz	Level dBμV/m	Detector	Azimuth, Height	Antenna	Polarity	Margin dB
114 @ 3 meters	2412	111.62	PK	10, 2.3M	Horn	H	-2.38
		94.29	PK	0, 1.6M	Horn	V	-19.71
94 @ 3 meters	2412	46.81	AV	10, 2.3M	Horn	H	-47.19
		40.24	AV	0, 1.6M	Horn	V	-53.76
114 @ 3 meters	2441	107.84	PK	15, 2.2M	Horn	H	-6.16
		91.77	PK	350, 1.5M	Horn	V	-22.23
94 @ 3 meters	2441	44.29	AV	15, 2.2M	Horn	H	-49.80
		43.18	AV	350, 1.5M	Horn	V	-50.82
114 @ 3 meters	2461	97.27	PK	5, 2.3M	Horn	H	-16.73
		90.14	PK	0, 1.5M	Horn	V	-23.86
94 @ 3 meters	2461	43.88	AV	5, 2.3M	Horn	H	-50.12
		41.90	AV	0, 1.5M	Horn	V	-52.10

15.249 Limit dBμV/m	Harmonic Frequency MHz	Level dBμV	Detector	Test Distance	Antenna	Polarity	Margin dB
74 @ 3 meters	4824	69.61	PK	10, 1.4M	Horn	H	-4.39
		63.97	PK	20, 1M	Horn	V	-10.03
54 @ 3 meters	4824	32.82	AV	70, 1.2M	Horn	H	-21.18
		30.44	AV	25, 1M	Horn	V	-23.56
54 @ 3 meters	7236	38.69	PK	90, 1M	Horn	H	-15.31
		35.31	PK	0, 1M	Horn	V	-18.69
54 @ 3 meters	9648	32.45	PK	0, 1M	Horn	H	-21.55
		30.77	PK	0, 1M	Horn	V	-23.23
54 @ 3 meters	12060	26<					
		26<					
54 @ 3 meters	14472	26<					
		26<					
54 @ 3 meters	16884	26<					
		26<					
54 @ 3 meters	19296	26<					
		26<					
54 @ 3 meters	21708	26<					
		26<					
54 @ 3 meters	24120	26<					
		26<					

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74 @ 3 meters	Bandedge 2400	87.44	PK	130, 1.2M	Horn	H	**13.44**
54 @ 3 meters	Bandedge 2400	35.30	AV	130, 1.2M	Horn	H	-18.70
74 @ 3 meters	Bandedge 2483.8	64.80	PK	120, 1.2M	Horn	H	**-9.20**
54 @ 3 meters	Bandedge 2483.8	29.80	AV	120, 1.2M	Horn	H	-24.20

Test Method: ANSI C63.4-2003
Spec Limit: FCC 15.249
No other emissions were observed.

PK = Peak,
AV = Average
V = Vertical, H = Horizontal

COMMENTS: System continuously running. Emission stop at the program default power setting. 2404 MHz was observed as the worst case emissions. Ambient temperature 67°F and relative humidity of 48%. Test distance of 3 meters. Average detector were not used since the peak readings were under the limits (unless noted otherwise). **No emissions observed after the fourth harmonic**, measurements taken are baseline measurements after the forth harmonic.

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Report of Measurements 15.209 Radiated Data

Table 8 - Radiated Emission Level Below 30 MHz

15.209 Limit dBµV/M	Unwanted Frequency MHz	Level dBµV	Detector	Test Distance in Meters	Margin dB	Antenna
49.5 @ 10 meters	8.04	10.56	QP	10	-38.94	Loop
49.5 @ 10 meters	16.025	9.45	QP	10	-40.05	Loop

Exploratory radiated emissions measurements were performed from 30 kHz to 30 MHz at 10 Meter and 3 Meter distances. The loop antenna was placed at 1 Meter height and was rotated about its vertical axis. The EUT was also rotated 360 degrees in front of the antenna.

Limit was extrapolated at 40 db/decade for measurement at 10 Meters. Emissions were at the noise floor. No other emissions were observed.

Table 9 - Radiated Emission Level Below 2000 MHz

Frequency MHz	QP Level dBµV	QP Limit dBµV	Margin dB	Azimuth, Height	Antenna, Polarization
69.2	22.32	30.00	-7.68	135, 3.8M	Bilog, H
72.23	20.65	30.00	-9.35	135, 3.8M	Bilog, H
73.295	16.15	30.00	-13.85	135, 3.8M	Bilog, H
159.995	18.79	30.00	-11.21	290, 3.6M	Bilog, H
233.175	26.65	37.00	-10.35	45, 3M	Bilog, H
240.035	23.81	37.00	-13.19	135, 3.2M	Bilog, H
299.835	25.33	37.00	-11.67	200, 2.7M	Bilog, H
1200.155	28.69	44.00	-15.31	335, 1.5M	Bilog, H
68.97	18.12	30.00	-11.88	85, 1.7M	Bilog, V
160.02	14.09	30.00	-15.91	10, 1.4M	Bilog, V
233.12	24.66	37.00	-12.34	30, 1.7M	Bilog, V
299.92	27.72	37.00	-9.28	315, 1.5M	Bilog, V
1200.125	38.43	44.00	-5.57	350, 2.5M	Bilog, V

Start Freq.	Stop Freq.	Step	IF BW	Detector	Scan-Time	Atten.
30MHz	2000MHz	25kHz	120kHz	PK	10msec	0dB

Test Method: ANSI C63.4-2003
Spec Limit: FCC 15.209

Note: AV = Average
QP = Quasi Peak

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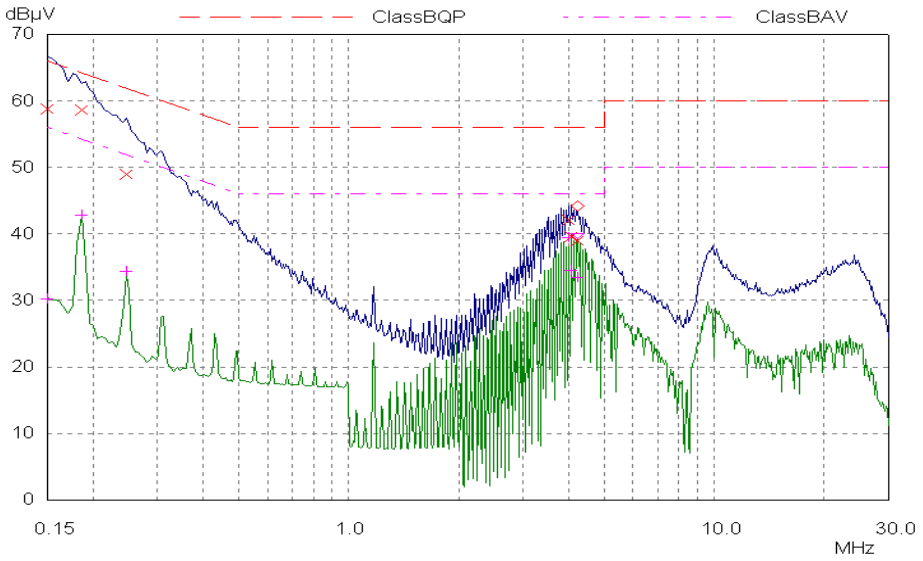
Conducted Data for FCC Class B Line

Figure 2 - Line Scan



Start Freq.	Stop Freq.	Step	IF BW	Detector	Scan-Time	Atten.
0.15MHz	30MHz	5kHz	9kHz	PK/AV	20msec	0dB

Blue Trace: Peak Measurement Green Trace: Average Measurement
Final Measurement: x = QP / + = AV at 2 second measurement time.

Table 10 - Line Scan Data

Freq. MHz	Level dBµV	Detector	Limit dBµV	Margin dB	Phase	PE
0.15	58.82	QP	66.00	-7.18	L1	gnd
0.185	58.70	QP	64.26	-5.56	L1	gnd
0.245	48.92	QP	61.92	-13.00	L1	gnd
4.0	42.07	QP	56.00	-13.93	L1	gnd
4.065	39.62	QP	56.00	-16.38	L1	gnd
4.25	38.90	QP	56.00	-17.10	L1	gnd
0.15	30.25	AV	56.00	-25.75	L1	gnd
0.185	42.85	AV	54.26	-11.41	L1	gnd
0.245	34.37	AV	51.92	-17.55	L1	gnd
4.0	39.39	AV	46.00	-6.61	L1	gnd
4.065	34.48	AV	46.00	-11.52	L1	gnd
4.25	33.46	AV	46.00	-12.54	L1	gnd

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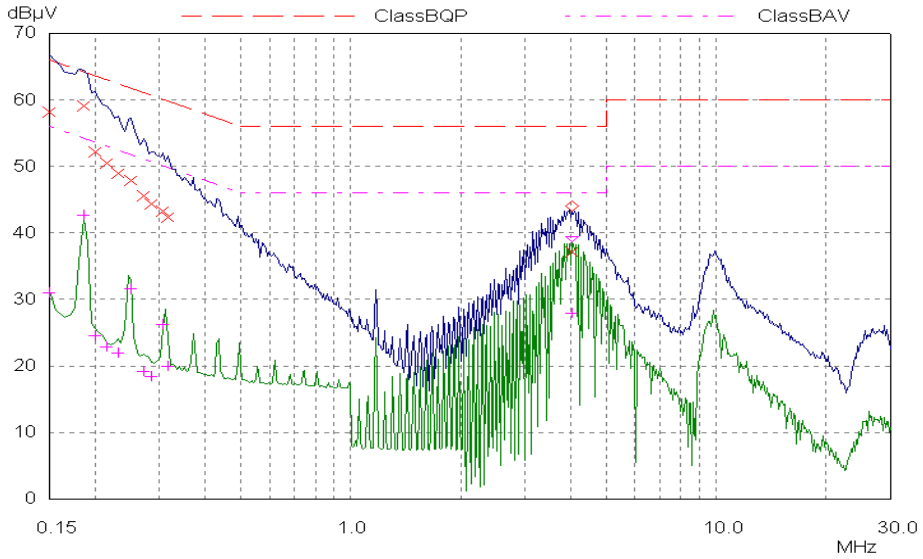
Conducted Data for FCC Class B Neutral

Figure 3 - Neutral Scan



Start Freq.	Stop Freq.	Step	IF BW	Detector	Scan-Time	Atten.
0.15MHz	30MHz	5kHz	9kHz	PK/AV	20msec	0dB

Blue Trace: Peak Measurement Green Trace: Average Measurement
Final Measurement: x = QP / + = AV at 2 second measurement time.

Table 11 - Neutral Scan Data

Freq. MHz	Level dBµV	Detector	Limit dBµV	Margin dB	Phase	PE
0.15	58.15	QP	66.00	-7.85	N	gnd
0.185	59.06	QP	64.26	-5.20	N	gnd
0.2	52.13	QP	63.61	-11.48	N	gnd
0.215	50.50	QP	63.01	-12.51	N	gnd
0.23	49.01	QP	62.45	-13.44	N	gnd
0.25	47.82	QP	61.76	-13.94	N	gnd
4.02	37.12	QP	56.00	-18.88	N	gnd
0.15	31.05	AV	56.00	-24.95	N	gnd
0.185	42.70	AV	54.26	-11.56	N	gnd
0.2	24.51	AV	53.61	-29.10	N	gnd
0.215	22.90	AV	53.01	-30.11	N	gnd
0.23	21.88	AV	52.45	-30.57	N	gnd
0.25	31.62	AV	51.76	-20.14	N	gnd
4.02	27.87	AV	46.00	-18.13	N	gnd

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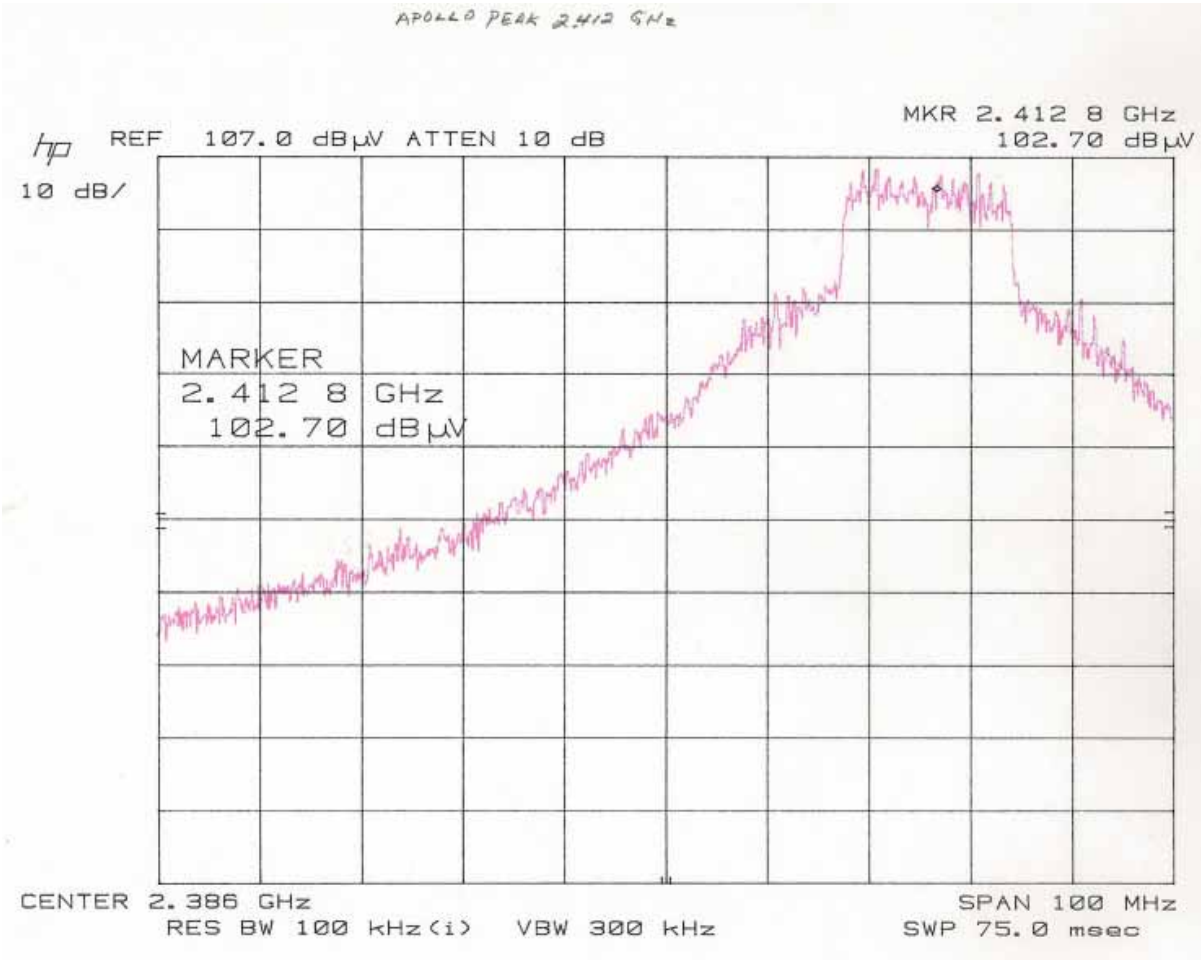
Direct RF Conducted Plots

The following are the 20 MHz Peak measurement plots



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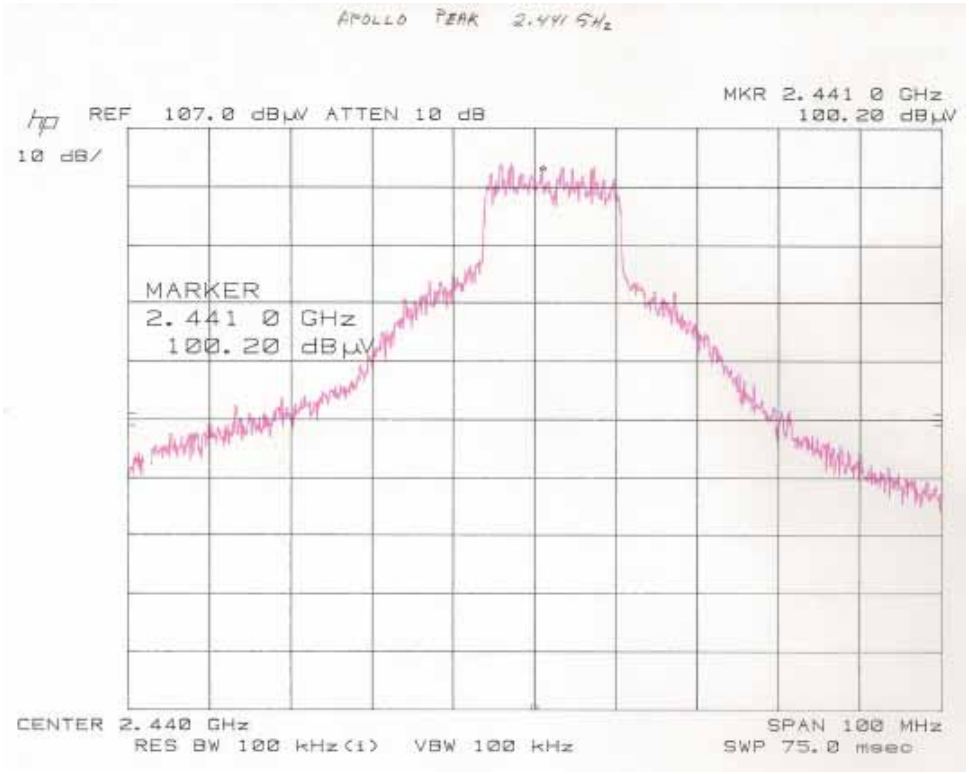

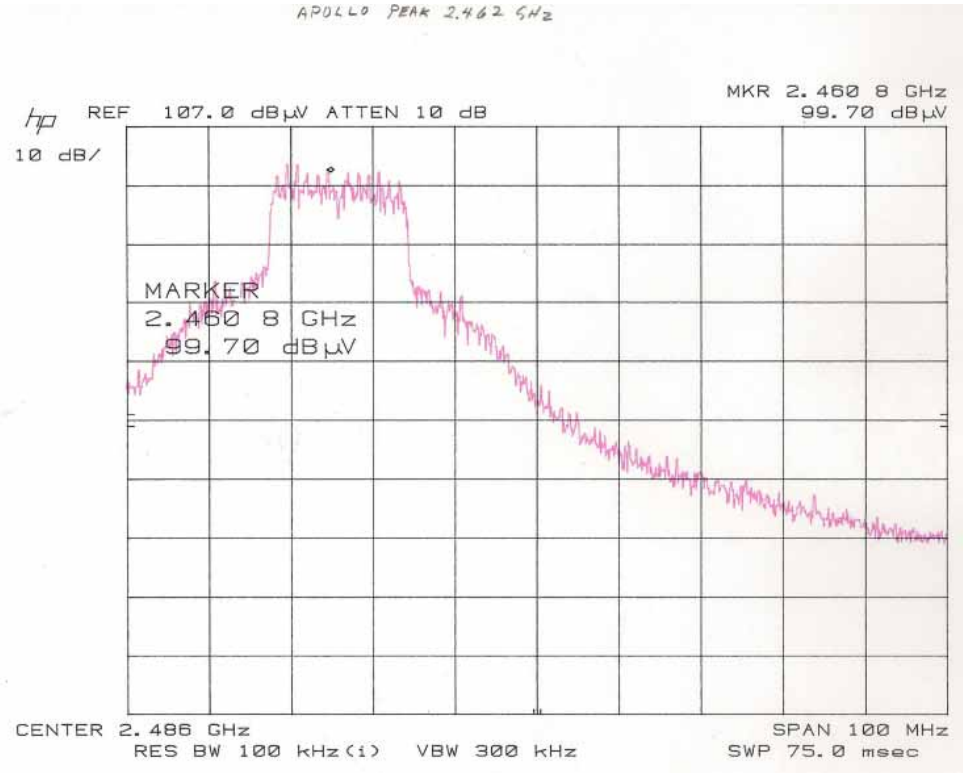

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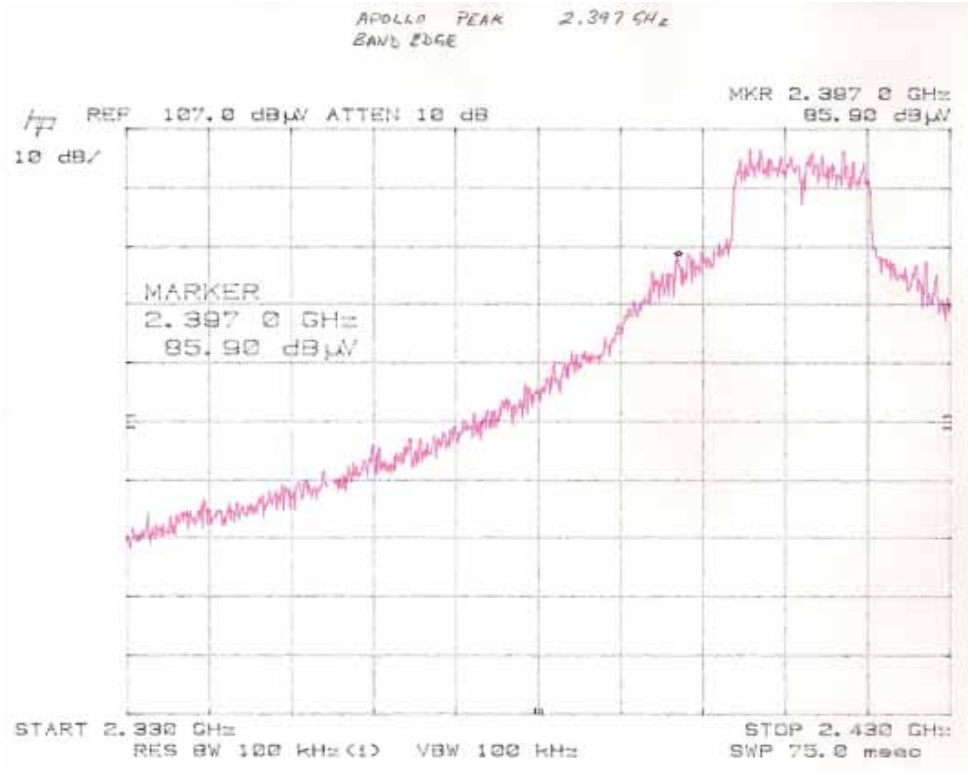
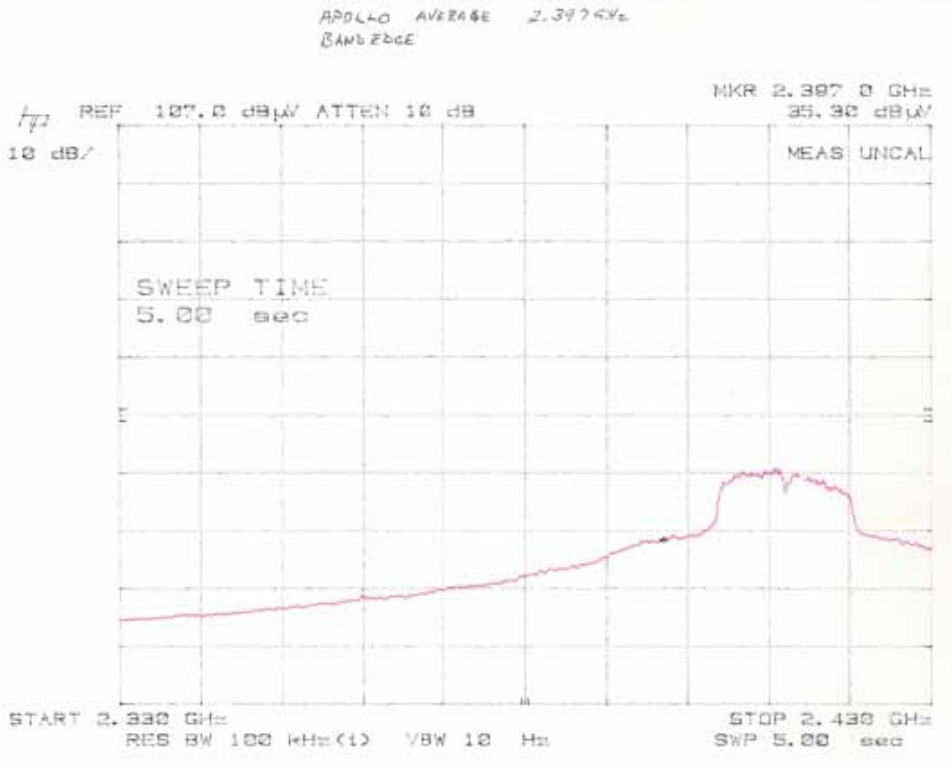
The following are the Band Edge plots





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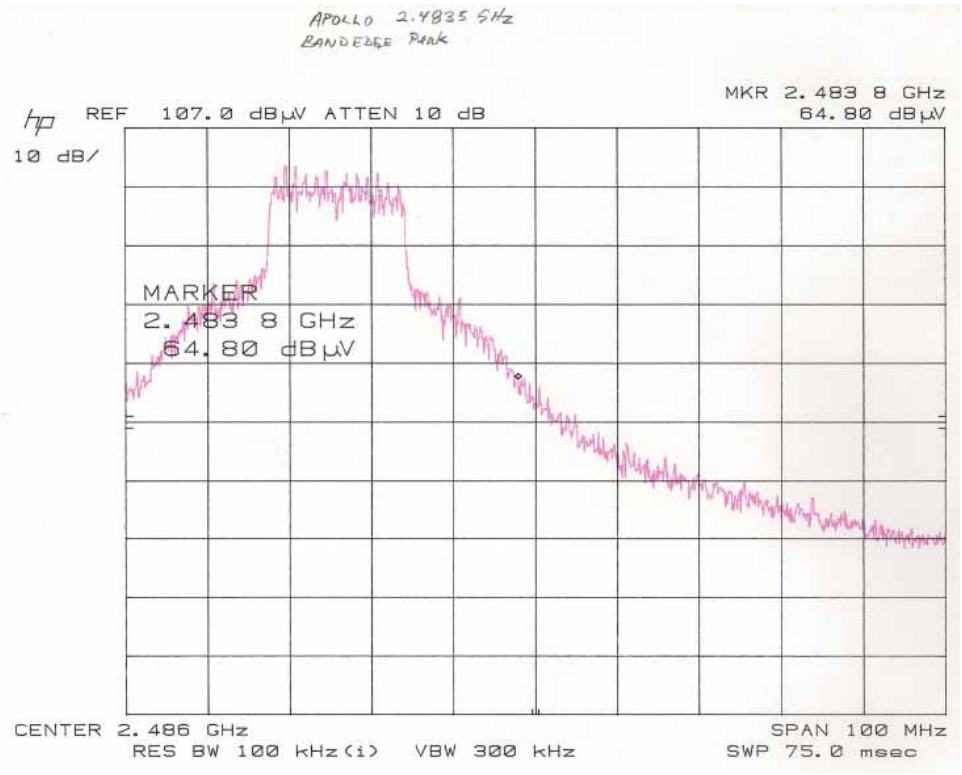

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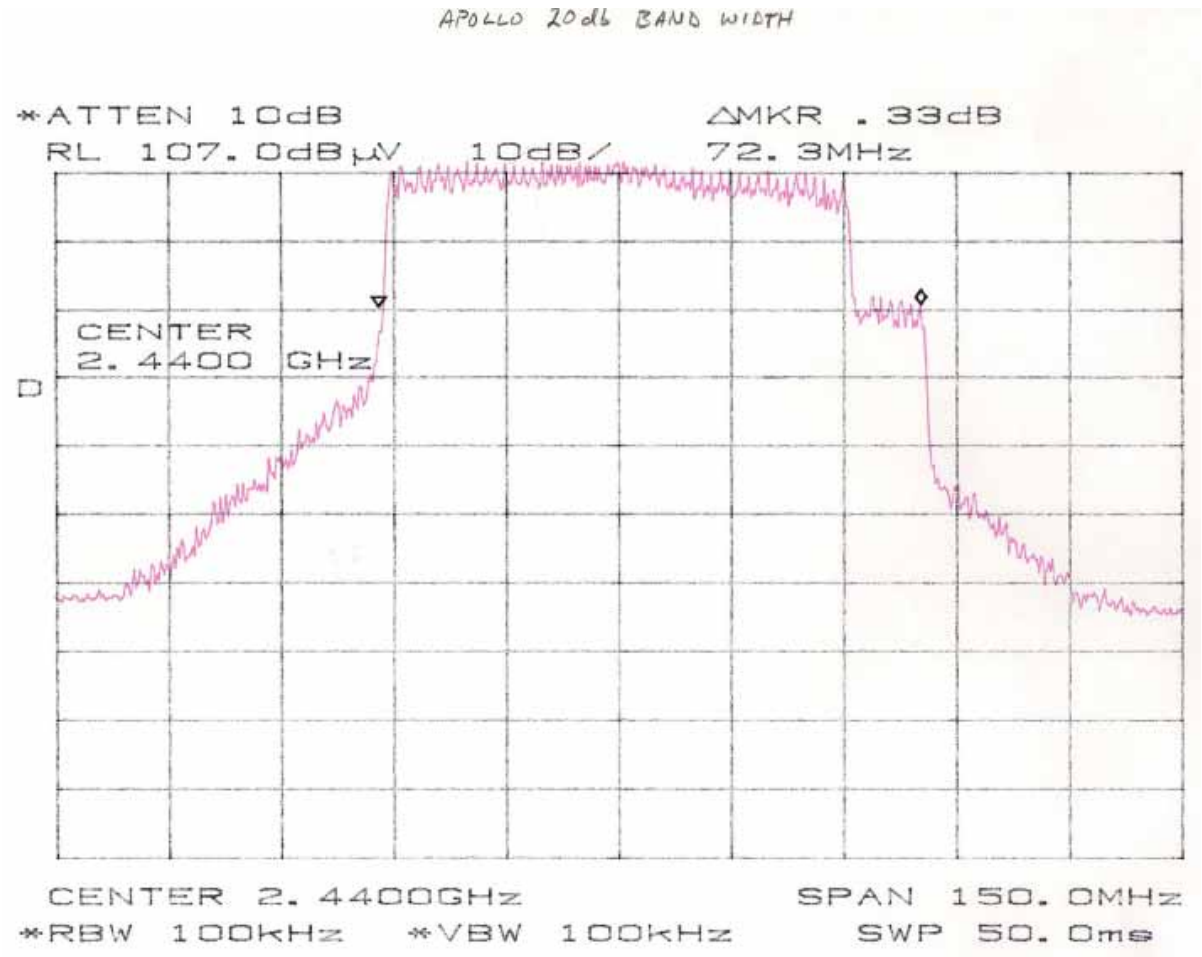
The following is the Band Width conducted measurements



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COMPLIANCE VERIFICATION REPORT

TEST CERTIFICATE

APPLICANT:	Unigen Corporation 45388 Warm Springs Blvd. Fremont, CA 94539
Trade Name:	Apollo WIFI 802.11b/g Radio Module
Model:	UGWAS82BSM33A

I HEREBY CERTIFY THAT:

The measurements shown in this report were made in accordance with the procedures indicated and that the energy emitted by this equipment, as received, was found to be within the FCC CFR 47 Part 15 Subpart C section 15.249 and 15.209 for Radiated emissions and FCC CFR 47 Part 15 Subpart C section 15.207 for Conducted emissions. Additionally, it should be noted that the results in this report apply only to the items tested, as identified herein.

I FURTHER CERTIFY THAT:

On the basis of the measurements taken at the test site, the equipment tested is capable of operation in compliance with the requirements set forth in FCC CFR 47 Part 15.207, 15.209, and 15.249 Rules and Regulations and Industry Canada RSS 210, Issue7.

FCC measurement facility registration number 90452,
Industry Canada test site file number IC 4929

On this Date: October 8, 2009

Mario E. Baraona Sr.
Atlas Compliance & Engineering, Inc.

_____
Printed Name

_____
Signature
Unigen Corporation Representative