FCC PART 15.231

TEST AND MEASUREMENT REPORT

For

Purple Communications, Inc.

595 Menlo Drive,

Rocklin, CA 95765, USA

FCC ID: RC5SMARTVP01

Report Type:	Product Type:
Original Report	Add on Accessory to the TelyHD Unit

Prepared By:	Wei Sun
Report Number:	R1212214-231
Report Date:	2013-04-02
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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1212214-231	Original Report	2013-04-02

1 GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

This test and measurement report was prepared on behalf of *Purple Communications, Inc..,* and their product, FCC ID: RC5SMARTVP01, model: *SmartVP*, which will henceforth be referred to as the EUT "Equipment Under Test". The EUT is an add on accessory attachment to the TelyHD unit and operates at 315 MHz with ASK Modulation.

1.2 Mechanical Description of EUT

The EUT Approximate measurement is: 26.4 cm (L) x 3.8 cm (W) x 7.7 cm (H). Weight: 0.2 kg.

The test data gathered are from typical production sample, serial number: 1212214 assigned by BACL.

1.3 Objective

This type approval report is prepared on behalf of *Purple Communications, Inc..,* accordance with Part 15.231.

1.4 Related Submittal(s)/Grant(s)

No Related Submittals

1.5 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR16-4-2:2007, The Treatment of Uncertainty in EMC Measurements, the values ranging from $\pm$2.0 dB for Conducted Emissions tests and $\pm$4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL Corp.

1.7 Test Facility

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test site at BACL Corp. has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997, and Article 8 of the VCCI regulations on December 25, 1997. The test site also complies with the test methods and procedures set forth in CISPR 22:2008 §10.4 for measurements below 1 GHz and §10.6 for measurements above 1 GHz as well as ANSI C63.4-2003, ANSI C63.4-2009, TIA/EIA-603 & CISPR 24:2010.

The Federal Communications Commission and Voluntary Control Council for Interference have the reports on file and they are listed under FCC registration number: 90464 and VCCI Registration No.: R-3729, C-4176, G-469, and T-1206. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL Corp. is an American Association for Laboratory Accreditation (A2LA) accredited laboratory (Lab Code 3297-02). The current scope of accreditations can be found at

http://www.a2la.org/scopepdf/3297-02.pdf?CFID=1132286&CFTOKEN=e42a3240dac3f6ba-6DE17DCB-1851-9E57-477422F667031258&jsessionid=8430d44f1f47cf2996124343c704b367816b

2 SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was configured for testing according to TIA/EIA-603-C.

The EUT was tested in the normal (native) operating mode to represent *worst*-case results during the final qualification test.

2.2 EUT Exercise Software

The software used, Sonicflasher, was provided by client and verified by Wei Sun to comply with the standard requirements being tested against.

2.3 Equipment Modifications

No modification was made to the EUT

2.4 Special Equipment

No special equipment was used during testing

2.5 Local Support Equipment

Manufacturer	Description	Model	Serial Number
Gateway	Laptop	P5WS0	NXWZAGAA0012120756E1601

2.6 EUT Internal Configuration Details

Manufacturer	Description	Model	Serial Number
Purple Communications, Inc	PCB Board	HID-HOOD-V1.4R3-20120829	94V-0-GS-N-!
RHK Technologies, Inc	TX Module	RF-100-101	-
C&D	RX Module	RF101A-RXVer10	1246

2.7 External I/O Cabling List and Details

Cable Descriptions	Length (m)	From	To
USB cable x2	<1	EUT	External HD
RJ11	<2	EUT	Termination

3 SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.207(a)	AC Line Conduced Emissions	Compliant
§15.231(a)	Period Transmission	Compliant
§15.231(c)	20 dB Bandwidth	Compliant
§15.205,§15.209 §15.231(b)	Radiated Emissions	Compliant

4 FCC §15.207(a) – AC LINE CONDUCTED EMISSIONS

4.1 Applicable Standards

As per FCC §15.207 Conducted limits:

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 frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	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.

4.2 Test Setup

The measurement was performed at shield room, using the setup per ANSI C63.4-2003 measurement procedure. The specification used was FCC limits.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The AC/DC power adapter of the EUT was connected with LISN-1 which provided 120 V/60 Hz AC power.

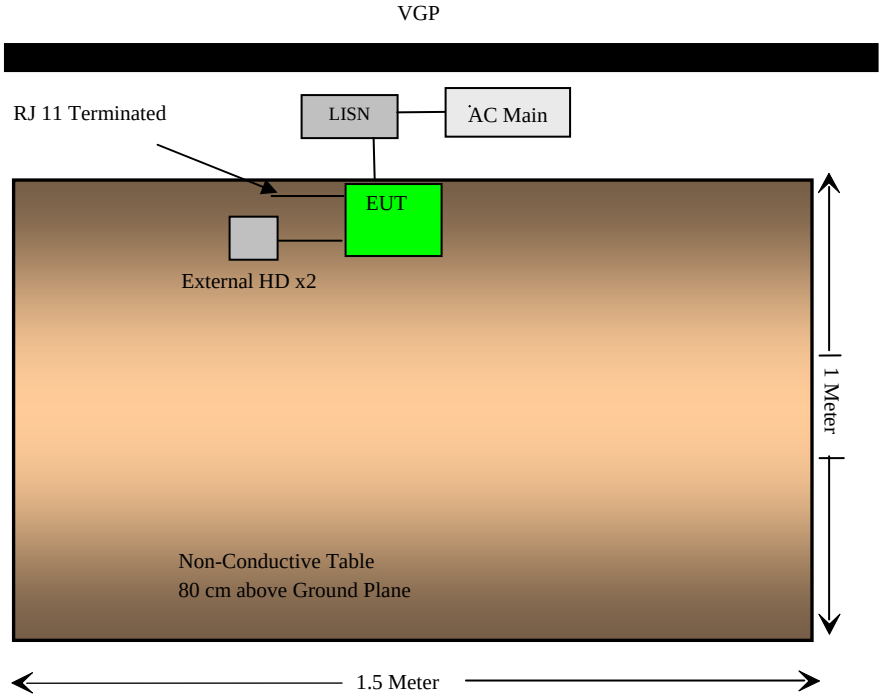
4.3 Test Procedure

During the conducted emissions test, the power cord of the EUT host system was connected to the mains outlet of the LISN-1

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the peak detection mode, quasi-peak and average. Quasi-Peak readings are distinguished with a “QP.” Average readings are distinguished with an “Ave”.

4.4 Test Setup Block Diagram



4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Cable Loss (CL), the Attenuator Factor (Atten) to indicated Amplitude (Ai) reading. The basic equation is as follows:

CA = Ai + CL + Atten

For example, a corrected amplitude of 46.2 dBuV = Indicated Reading (32.5 dBuV) + Cable Loss (3.7 dB) + Attenuator (10 dB)

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Corrected Amplitude - Limit

4.6 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100044	2012-04-14	1 Year
Solar Electronics	LISN	9252-R-24-BNC	511205	2012-06-25	1 Year
TTE	Filter, High Pass	H9962-150K-50-21378	K7133	2012-05-30	1 Year

Statement of Traceability: BACL Corp. attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

4.7 Test Environmental Conditions

Temperature:	19~23 °C
Relative Humidity:	37~45 %
ATM Pressure:	101-102 kPa

The testing was performed by Wei Sun on 12-28-2012 in 5 meters chamber 3.

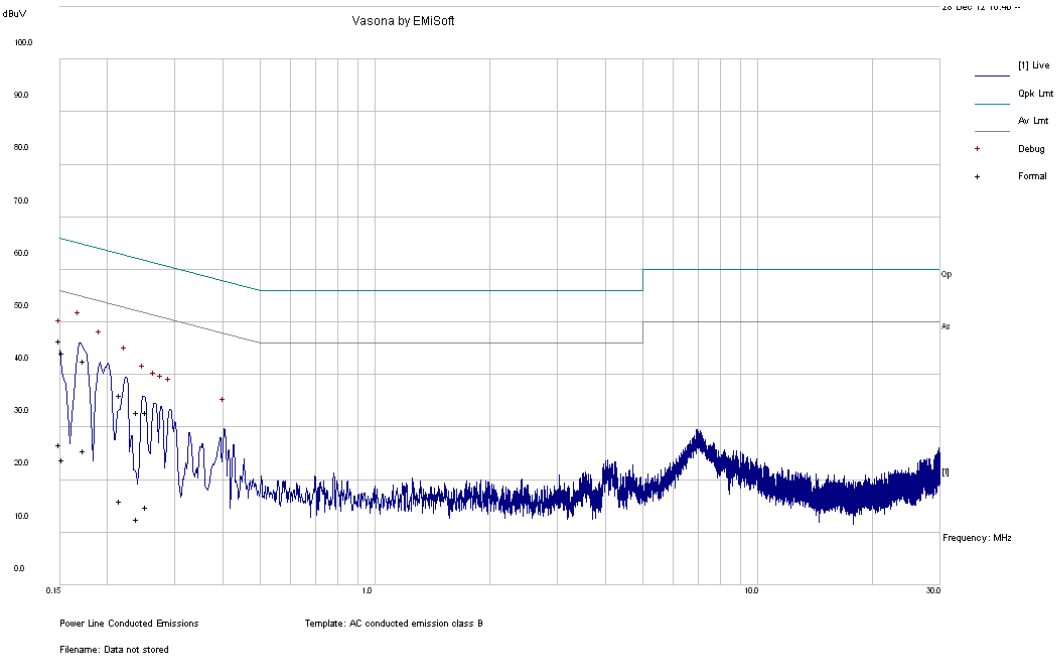
4.8 Summary of Test Results

According to the recorded data in following table, the EUT complied with the FCC Part 15.207 conducted emissions limits, with the margin reading of:

Connection: 120 V/60 Hz, AC			
Margin (dB)	**Frequency (MHz)**	**Conductor (Line/Neutral)**	**Range (MHz)**
-19.57	0.150217	Line	0.15 to 30

4.9 Conducted Emissions Test Plots and Data

120 V, 60 Hz – Line



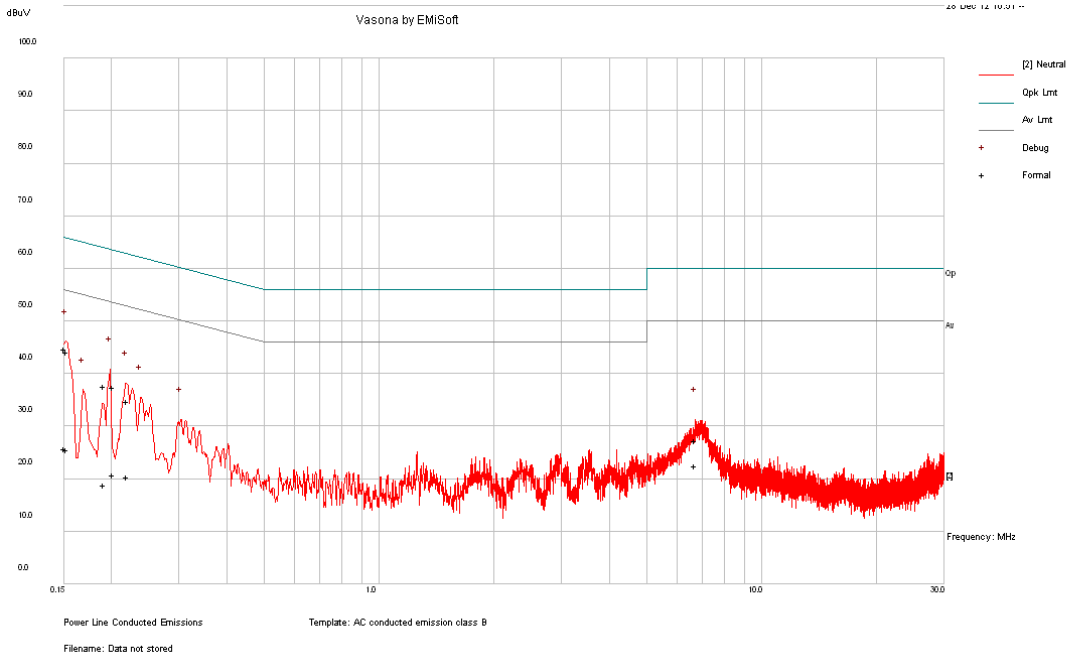
Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)
0.150217	46.42	Line	65.99	-19.57
0.153175	44.23	Line	65.83	-21.59
0.174193	42.6	Line	64.76	-22.16
0.215843	36.09	Line	62.98	-26.89
0.252395	32.81	Line	61.68	-28.87
0.239332	32.95	Line	62.12	-29.17

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)
0.174193	25.62	Line	54.76	-29.14
0.150217	26.77	Line	55.99	-29.22
0.153175	23.89	Line	55.83	-31.94
0.252395	14.77	Line	51.68	-36.91
0.215843	16.03	Line	52.98	-36.94
0.239332	12.53	Line	52.12	-39.59

120 V, 60 Hz – Neutral



Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)
0.151339	44.66	Neutral	65.93	-21.26
0.15291	44.25	Neutral	65.84	-21.59
0.201852	37.53	Neutral	63.53	-26.00
0.191411	37.65	Neutral	63.98	-26.33
0.220471	34.71	Neutral	62.8	-28.09
6.696062	27.32	Neutral	60	-32.68

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)
6.696062	22.43	Neutral	50	-27.57
0.151339	25.81	Neutral	55.93	-30.11
0.15291	25.51	Neutral	55.84	-30.33
0.220471	20.43	Neutral	52.8	-32.38
0.201852	20.73	Neutral	53.53	-32.80
0.191411	18.95	Neutral	53.98	-35.03

5 FCC §15.231(a) – PERIODIC TRANSMISSION

5.1 Applicable Standard

According to §15.231(a)

(a) The provisions of this section are restricted to periodic operation within the band 40.66-40.70 MHz and above 70 MHz. Except as shown in paragraph (e) of this section, the intentional radiator is restricted to the transmission of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal. The following conditions shall be met to comply with the provisions for this periodic operation:

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

(3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

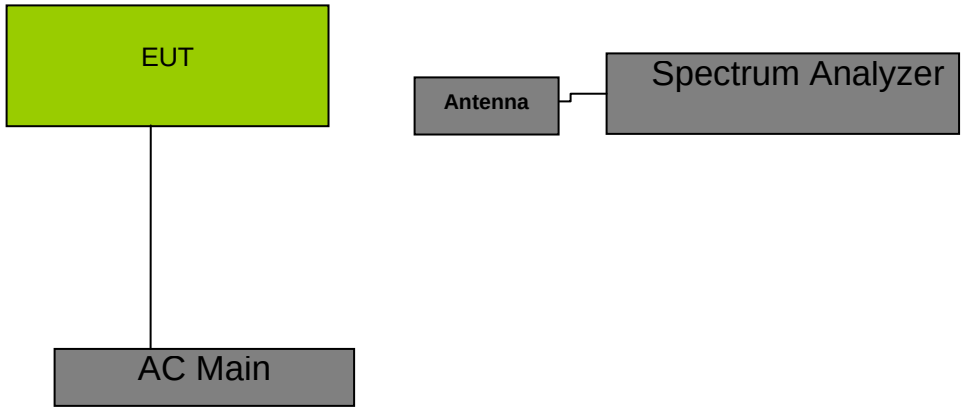
(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition

(5) Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmissions are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

5.2 Measurement Procedure

1 Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2 Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument via radiated horn antenna. Then set it to any one convenient frequency within its operating range.
3 Set span to zero and record.
4 Repeat above procedures until all frequencies measured were complete.

5.3 Test Setup Block Diagram



5.4 Test Equipment List and Details

Manufacturers	Descriptions	Models	Serial Numbers	Calibration Dates	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	MY44303352	2012-05-10	1 year
A.H. Systems	Horn antenna	SAS-200/571	261	2012-01-18	1 year

Statement of Traceability: BACL Corp. attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.

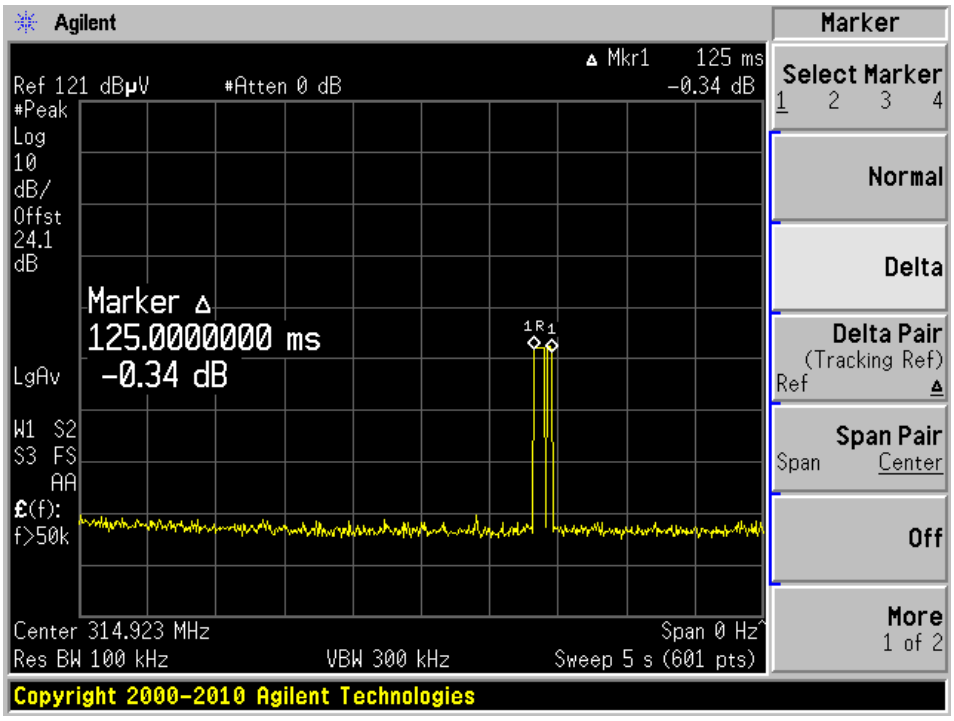
5.5 Test Environmental Conditions

Temperature:	22-24°C
Relative Humidity:	50-55 %
ATM Pressure:	101-102kPa

The testing was performed by Wei Sun on 2012-12-27 on RF Site.

5.6 Test Results

Please refer to the following plots:



6 FCC §15.231(c) - 20 dB EMISSION BANDWIDTH

6.1 Applicable Standard

According to FCC §15.231(c):

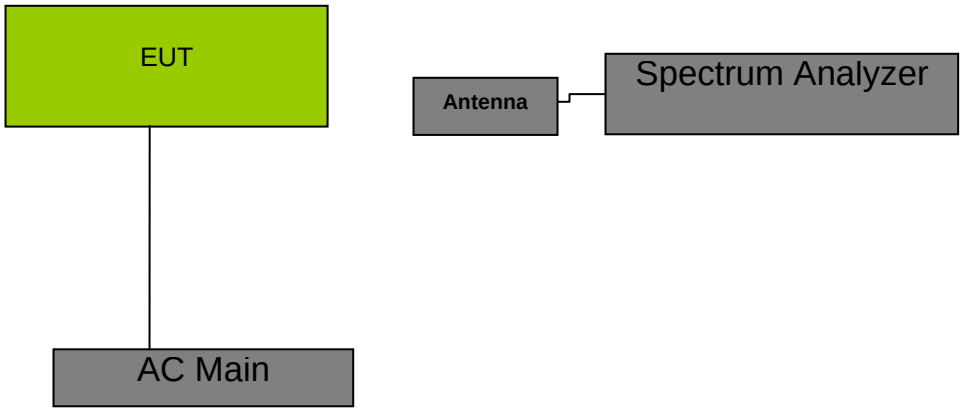
(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

6.2 Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

According to the FCC 2-11-04/EAB/RF, Input and output signals were compared to verify that there was no any degradation to the signal due to amplification and conversion from the repeater using an RBW of 300 Hz or 1% of the emission bandwidth. Then the 20 dB & 99% bandwidth was recorded.

6.3 Test Setup Block Diagram



6.4 Test Equipment List and Details

Manufacturers	Descriptions	Models	Serial Numbers	Calibration Dates	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	MY44303352	2012-05-10	1 year
A.H. Systems	Horn antenna	SAS-200/571	261	2012-01-18	1 year

Statement of Traceability: **BACL Corp.** attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.

6.5 Test Environmental Conditions

Temperature:	22-24°C
Relative Humidity:	50-55 %
ATM Pressure:	101-102kPa

The testing was performed by Wei Sun on 2012-12-28 on RF Site.

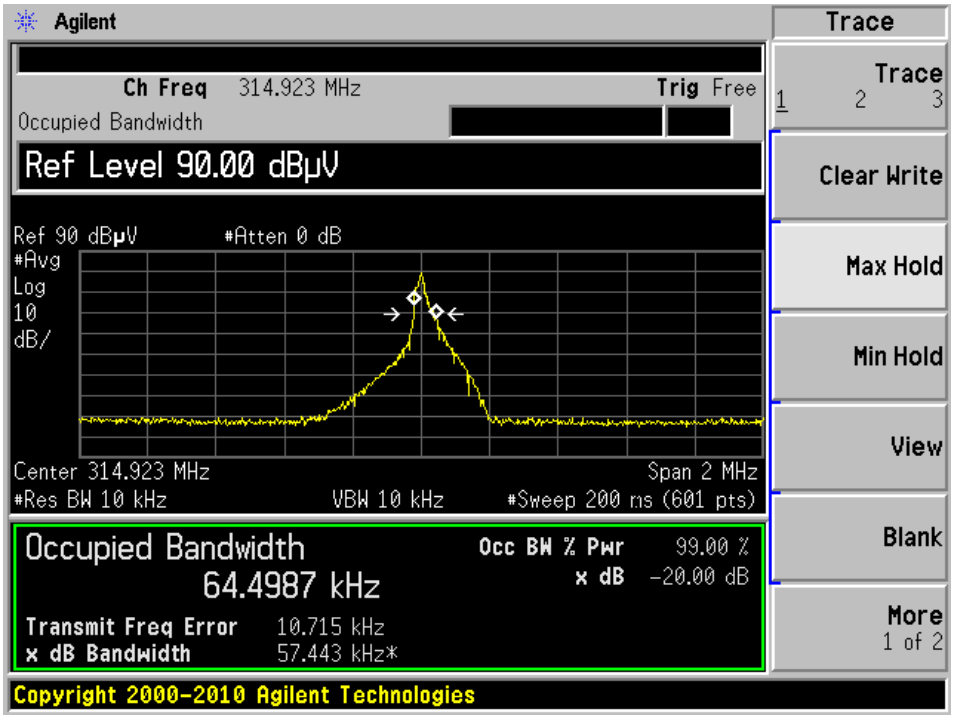
6.6 Test Results

Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)
314.923	0.05743	787.5

Note: Limit = 315 MHz x 0.25% = 787.5 kHz

Please refer to the plot hereinafter.

20 dB Emission Bandwidth



7 FCC §15.205, §15.209 & §15.231(b) – RADIATED EMISSIONS

7.1 Applicable Standard

As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz.

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	960 – 1240	4.5 – 5. 15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5.35 – 5. 46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 –167.17	3332 – 3339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3345.8 – 3358	23.6 – 24.0
12.29 – 12.293	240 – 285	3600 – 4400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As Per FCC §15.231(b), In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental Frequency	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70 MHz	2250	225
70-130 MHz	1250	125
130-174 MHz	1250 to 3750[1]	125-375[1]
174-260 MHz	3750	375
260-470 MHz	3750 to 12500[1]	375 to 1250[1]
Above 470 MHz	12500	1250

Note 1: Linear Interpolations.

(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.

(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in §15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of §15.205 shall be demonstrated using the measurement instrumentation specified in that section.

(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in §15.209, whichever limit permits a higher field strength.

7.2 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT is set 3 meters away from the testing antenna, which is varied from 1-4 meters, and the EUT is placed on a turntable, which is 0.8 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

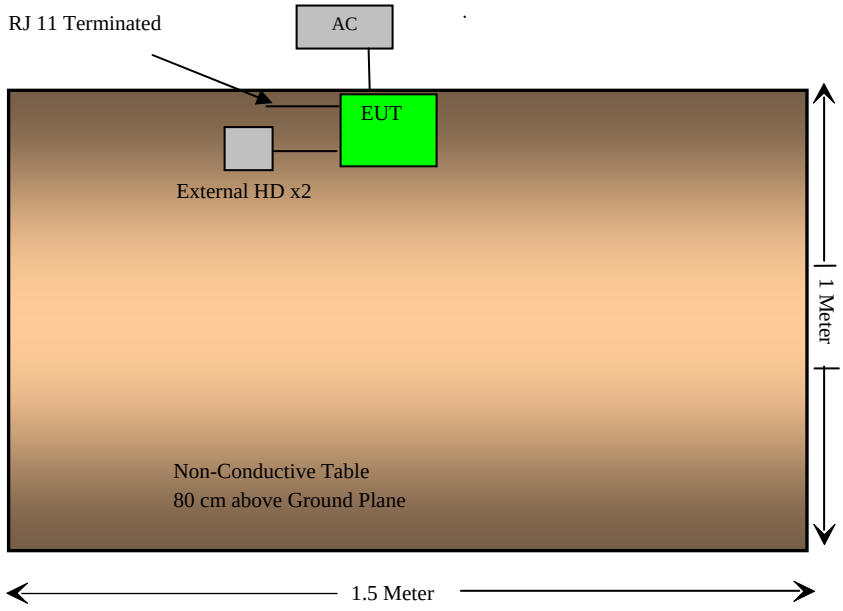
Below 1000 MHz:

RBW = 100 kHz, VBW = 300 kHz, Sweep = Auto

Above 1000 MHz:

(1) Peak: RBW = 1MHz, VBW = 1MHz, Sweep = Auto
(2) Average: RBW = 1MHz, VBW = 10Hz, Sweep = Auto

7.3 Test Setup Block Diagram



7.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Antenna Factor (AF), the Cable Loss (CL), the Attenuator Factor (Atten) and subtracting the Amplifier Gain (Ga) to the indicated Amplitude (Ai) reading. The basic equation is as follows:

CA = Ai + AF + CL + Atten – Ga

For example, the Corrected Amplitude (CA) of 40.3 dBuV/m = indicated Amplitude reading (Ai) 32.5 dBuV + Antenna Factor (AF) 23.5dB + Cable Loss (CL) 3.7 dB + Attenuator (Atten) 10 dB - Amplifier Gain (Ga) 29.4 dB

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

Margin (dB) = Corrected Amplitude (dBuV/m) - Limit (dBuV/m)

7.5 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	MY44303352	2012-05-10	1 year
Sunol Science Corp	System Controller	SC99V	122303-1	N/R	N/R
Sunol Science Corp	Combination Antenna	JB3	A020106-3	2012-06-18	1 year
Hewlett Packard	Pre-amplifier	8447D	2944A10187	2012-03-08	1 year
A.H. Systems	Horn antenna	SAS-200/571	261	2012-01-18	1 year
Mini-Circuits	Pre Amplifier	ZVA-183-S	667400960	2012-05-08	1 year

Statement of Traceability: **BACL Corp.** attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.

7.6 Test Environmental Conditions

Temperature:	22-24°C
Relative Humidity:	50-55 %
ATM Pressure:	101-102kPa

The testing was performed by Wei Sun on 2012-12-28 in 5 Meters Chamber #3.

7.7 Test Results

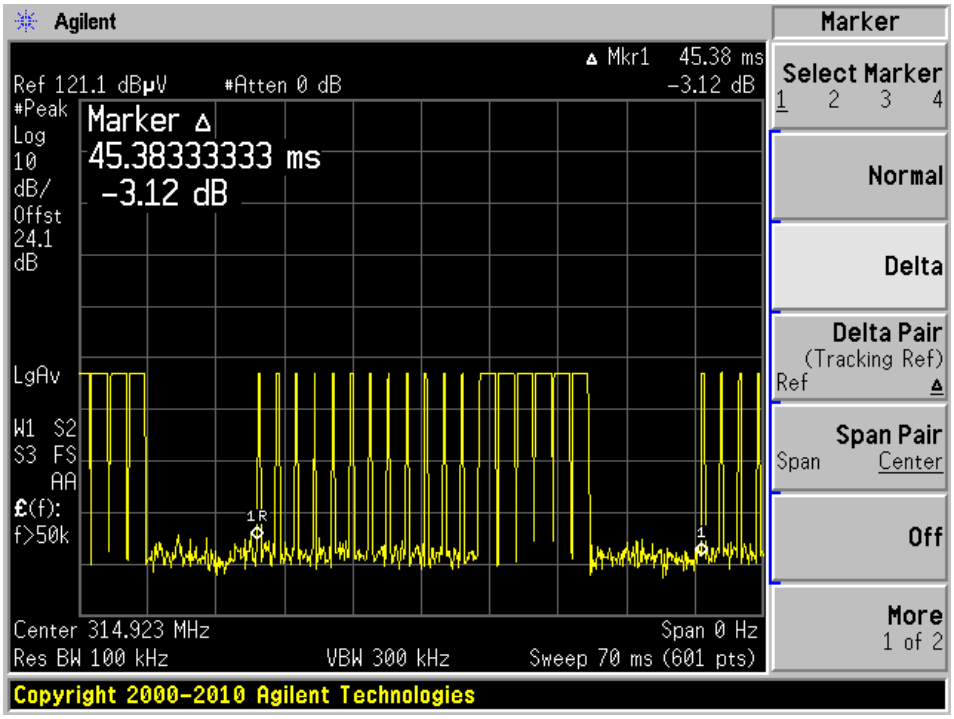
Radiated Emission at 3 meters, 30 MHz–4 GHz

Freq. (MHz)	S.A. Reading (dBuV)	Turntable Azimuth Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Duty Cycle (dB)	Cord. Amp. (dBµV/m)	FCC Part 15.231/209		
			Height (cm)	Polar. (H/V)	Factor (dB/m)					Limit (dBuV/m)	Margin (dB)	Comment
315	82.49	200	126	H	13.6	1.61	25.26	10.96	61.48	75.62	-14.14	Ave/Fund
315	82.49	200	126	H	13.6	1.61	25.26	0	72.44	95.62	-23.18	Peak/Fund
315	75.15	302	117	V	13.6	1.61	25.26	10.96	54.14	75.62	-21.48	Ave/Fund
315	75.15	302	117	V	13.6	1.61	25.26	0	65.1	95.62	-30.52	Peak/Fund
630	21	0	100	H	18.9	2.58	25.37	10.96	6.15	55.62	-49.47	Ave/Harm
630	21	0	100	H	18.9	2.58	25.37	0	17.11	75.62	-58.51	Peak/Harm
630	21	0	100	V	18.9	2.58	25.37	10.96	6.15	55.62	-49.47	Ave/Harm
630	21	0	100	V	18.9	2.58	25.37	0	17.11	75.62	-58.51	Peak/Harm
945	21	0	100	H	22.3	3.54	25.32	10.96	10.56	55.62	-45.06	Ave/Harm
945	21	0	100	H	22.3	3.54	25.32	0	21.52	75.62	-54.1	Peak/Harm
945	21	0	100	V	22.3	3.54	25.32	10.96	10.56	55.62	-45.06	Ave/Harm
945	21	0	100	V	22.3	3.54	25.32	0	21.52	75.62	-54.1	Peak/Harm
1260	30	0	100	H	24.95	2.18	27.25	10.96	18.92	55.62	-36.7	Ave/Harm
1260	30	0	100	H	24.95	2.18	27.25	0	29.88	75.62	-45.74	Peak/Harm
1260	30	0	100	V	24.95	2.18	27.25	10.96	18.92	55.62	-36.7	Ave/Harm
1260	30	0	100	V	24.95	2.18	27.25	0	29.88	75.62	-45.74	Peak/Harm
73.5	41.62	125	105	V	8.2	0.22	25.18	0	24.86	40	-15.14	QP/Spur
73.5	31.34	81	171	H	8.2	0.22	25.18	0	14.58	40	-25.42	QP/Spur
323.48	23.27	278	100	V	13.7	1.79	25.26	0	13.5	46	-32.5	QP/Spur
323.48	33.74	169	100	H	13.7	1.79	25.26	0	23.97	46	-22.03	QP/Spur
611.17	19.07	311	100	V	18.8	2.49	25.49	0	14.87	46	-31.13	QP/Spur
611.17	27.11	97	100	H	18.8	2.49	25.49	0	22.91	46	-23.09	QP/Spur

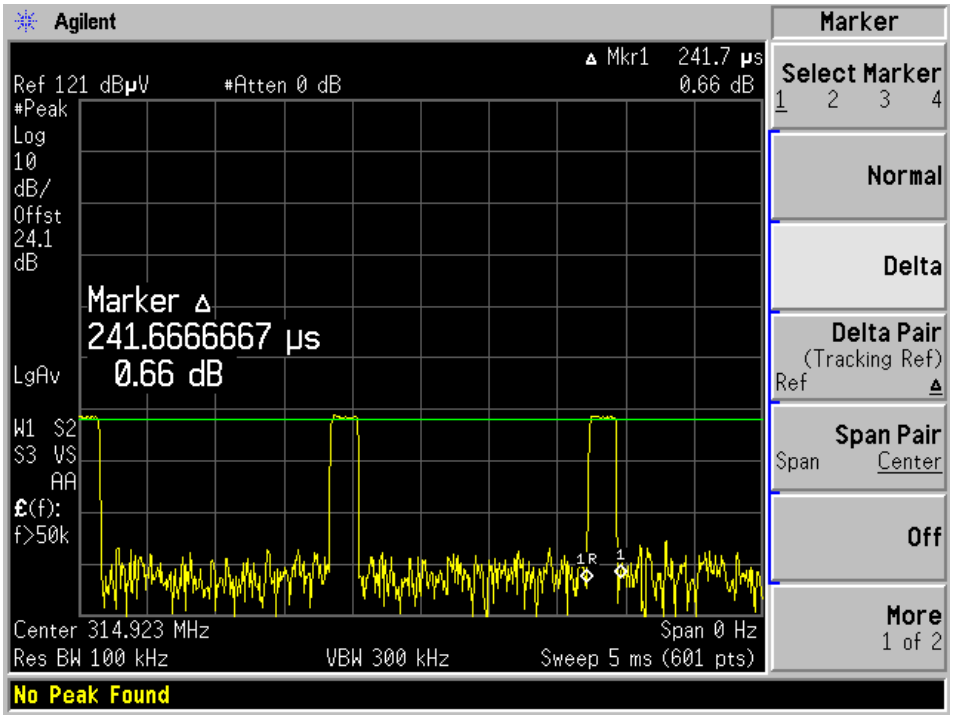
Duty Cycle=20Lg[(0.2417x12 + 1.658x6)/45.39]=20Lg(28.31%)=-10.96 dB

Please refer to the plot hereinafter.

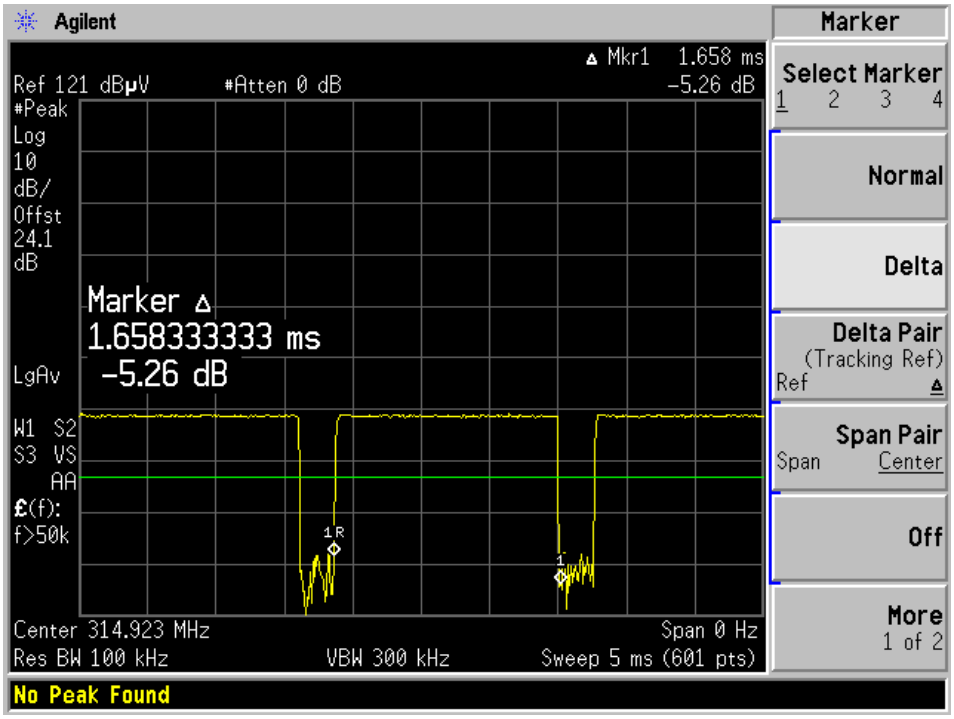
T_p=45.38ms



T_{on1}=241.7 µs



T_{on2}=1.658ms


Agilent
Marker
Mkr1 1.658 ms
Ref 121 dBµV
#Atten 0 dB
-5.26 dB
#Peak
Log
10
dB/
Offst
24.1
dB
Marker Δ
1.658333333 ms
-5.26 dB
LgAv
W1 S2
S3 VS
AA
£(f):
f>50k
Center 314.923 MHz
Span 0 Hz
Res BW 100 kHz
VBW 300 kHz
Sweep 5 ms (601 pts)
No Peak Found
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2