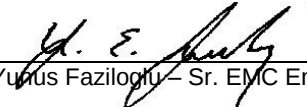




Test Report

Bureau Veritas Consumer Product Services Inc.

Report No	ET0537-7
Client	Harman International Industries, Inc.
Address	30001 Cabot Drive Novi, MI 48377
Phone	248-254-7751
Items tested	G31+ HIGH
FCC ID	2AHPN-BE2834
IC	6434C-BE2834
FRN	0026894154
Equipment Type	Unlicensed National Information Infrastructure Device
Equipment Code	NII
FCC/IC Rule Parts	CFR Title 47 FCC Part 15.407, ISED Canada RSS-247 Issue 2
Test Dates	April 23 to May 2, 2019
Results	As detailed within this report
Prepared by	 Christopher Hamel – EMC Engineer
Authorized by	 Yunus Faziloglu – Sr. EMC Engineer
Issue Date	5/23/2019
Conditions of Issue	This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page16 of this report.

Bureau Veritas Consumer Products Services Inc. is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.



Bureau Veritas Consumer Products Services Inc.
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Report REV Sep-08-2017 - YF



Summary

This test report supports an application for a permissive change filing for a transmitter operating pursuant to:

CFR Title 47 FCC Part 15.407, ISSED Canada RSS-247 Issue 2

The product is the G31+ HIGH. It is a transmitter that operates in the following bands:

5.15GHz – 5.25GHz

5.725GHz – 5.85GHz

In G31+ HIGH, an IC component to the Main Board to support Phase Diversity for the FM radio portion of the unit has been added. The rest of the hardware is identical to G31 HIGH.

This report is a supplement to Bureau Veritas Consumer Products Services Inc. Test Report ER2499-9.

Only radiated emissions in the 30MHz-1GHz frequency range were measured for G31+ HIGH due to the change described above.

Antenna Type: Switching PCB trace antenna

Gain: Maximum 3.2dBi in 5GHz-6GHz frequency band

We found that the product met the above requirements without modification.

Test samples were received in good condition.

Test Methodology

All testing was performed according to the following rules/procedures/documents;
CFR Title 47 FCC Part 15.407, FCC KDB 789033 D02 v02r01, ISED Canada RSS-247 Issue 2,
ISED Canada RSS-Gen Issue 5 and ANSI C63.10-2013.

Radiated emissions were maximized by rotating the device around 3 orthogonal planes (X, Y and Z) as well as varying the test antenna's height and polarity.

EUT operating voltage is 13.6V DC

The following bandwidths were used during radiated spurious emissions testing.

Frequency	RBW	VBW
30-1000MHz	120kHz	1MHz

Product Tested - Configuration Documentation

EUT Configuration										
Work Order:	T0537									
Company:	Harman International Industries, Inc.									
Company Address:	30001 Cabot Drive									
	Novi, MI, 48377									
Contact:	Mark Bowman									
	MN			PN			SN			
EUT:	G31+ HIGH									
EUT Description:	Vehicle infotainment system with BT and WLAN									
EUT Components	MN			SN						
EUT	G31+ HIGH									
Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under test	comment
Back up cammera	other	1	1	other	No	No	0.1	in	yes	
FM/AM	other	1	1	other	No	No	0.1	in	yes	
Power	other	1	1	other	No	No	2.9	in	yes	
USB	USB	1	1	USB	Yes	No	0.1	in	no	
Vehicle harness	other	1	1	other	No	No	2.9	in	yes	
Software Operating Mode Description:										
Bluetooth: CMW communication tester used to set required test modes for continuous transmission.										
WLAN: Client supplied test mode for continuous transmission.										

Statement of Conformity

RSS-GEN	RSP-100	RSS 247	Part 15	Comments
6.4			15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.
	3.1		15.19	The label is shown in the label exhibit.
	3.2		15.21	Information to the user is shown in the instruction manual exhibit.
			15.27	No special accessories are required for compliance.
3.2			15.31	The EUT was tested in accordance with the measurement standards in this section.
6.13.2			15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
6.13.1			15.35	The EUT emissions were measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.
6.8			15.203	EUT employs PCB trace antenna.
8.10			15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-Gen as applicable
8.8			15.207	N/A. Unit is powered by a vehicle battery only

Test Results

Radiated Spurious Emissions

LIMITS

[15.407(b)(6)]: *Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.*

[15.407(b)(7)]: *The provisions of §15.205 apply to intentional radiators operating under this section.*

[15.407(b)(1)]: For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz

[15.407(b)(4)(i)]: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge

RSS-247 Issue 2 Section 6.2.1.2: For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p

RSS-247 Issue 2 Section 6.2.4.2: Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 Bm/MHz at 5 MHz above or below the band edges;

15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

-27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Radiated emissions were maximized by rotating the device around 3 orthogonal planes (X, Y and Z) and worst case emissions observed in installed orientation. All the results below are for the worst case orientation only.

MEASUREMENTS / RESULTS

Worst Case: 802.11ac MCS0 20MHz BW

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Vertical 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz Low 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.509	28.7	-4.8	23.9	40	-16.1	PASS	-16.1
585.616	32.8	-5.8	27	46	-19	PASS	
595.17	33	-5.9	27.1	46	-18.9	PASS	
623.955	34.5	-5.2	29.3	46	-16.7	PASS	
646.362	32.4	-4.2	28.2	46	-17.8	PASS	
952.3	30.2	-0.6	29.7	46	-16.3	PASS	

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Horizontal 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz Low 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30	28.1	-4.4	23.7	40	-16.3	PASS	-16.3
494.678	34.3	-6.6	27.7	46	-18.3	PASS	
500.911	33.5	-6.3	27.1	46	-18.9	PASS	
503.239	35.8	-6.2	29.6	46	-16.4	PASS	
575.989	32.9	-5.8	27.1	46	-18.9	PASS	
880.447	31	-2.3	28.7	46	-17.3	PASS	

30-1000MHz Low Channel UNII-1

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Vertical 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz Mid 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.752	28.6	-4.9	23.7	40	-16.3	PASS	
624.028	35.9	-5.2	30.7	46	-15.3	PASS	-15.3
643.21	33.2	-4.1	29.1	46	-16.9	PASS	
648.642	33.8	-4.3	29.5	46	-16.5	PASS	
655.456	32.7	-4.4	28.3	46	-17.7	PASS	
949.584	29.5	-0.6	28.9	46	-17.1	PASS	

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Horizontal 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz Mid 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.024	29.8	-4.4	25.3	40	-14.7	PASS	-14.7
493.951	33.9	-6.6	27.3	46	-18.7	PASS	
503.19	34.9	-6.2	28.7	46	-17.3	PASS	
508.816	33.3	-6.4	26.9	46	-19.1	PASS	
785.533	34.1	-2.8	31.2	46	-14.8	PASS	
957.15	29.9	-0.5	29.4	46	-16.6	PASS	

30-1000MHz Middle Channel UNII-1

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Vertical 30-1000MHz Test Site - CH1
 Operator: CCH Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz High 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.17	28.5	-4.5	24	40	-16	PASS	-16
604.749	33.4	-5.9	27.5	46	-18.5	PASS	
624.004	33.7	-5.2	28.5	46	-17.5	PASS	
647.526	32.5	-4.2	28.3	46	-17.7	PASS	
690.521	32.7	-4.5	28.2	46	-17.8	PASS	
957.902	30.1	-0.5	29.7	46	-16.3	PASS	

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Horizontal 30-1000MHz Test Site - CH1
 Operator: CCH Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz High 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.218	27.9	-4.6	23.3	40	-16.7	PASS	
85.532	40.2	-18.2	22	40	-18	PASS	
495.018	34	-6.6	27.4	46	-18.6	PASS	
501.396	34.1	-6.3	27.9	46	-18.1	PASS	
508.841	32.8	-6.4	26.4	46	-19.6	PASS	
954.361	29.8	-0.5	29.3	46	-16.7	PASS	-16.7

30-1000MHz High Channel UNII-1

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Vertical 30-1000MHz Test Site - CH1
 Operator: CCH Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz MCS0 Low 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30	28.8	-4.4	24.4	40	-15.6	PASS	
623.98	34.8	-5.2	29.7	46	-16.3	PASS	
643.234	33.8	-4.1	29.7	46	-16.3	PASS	
782.914	36.3	-2.8	33.4	46	-12.6	PASS	-12.6
785.412	36	-2.8	33.2	46	-12.8	PASS	
956.01	29.9	-0.5	29.4	46	-16.6	PASS	

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Horizontal 30-1000MHz Test Site - CH1
 Operator: CCH Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz MCS0 Low 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
31.14	28.7	-5.2	23.5	40	-16.5	PASS	-16.5
85.993	40.2	-18.2	22	40	-18	PASS	
494.072	33.3	-6.6	26.7	46	-19.3	PASS	
500.038	33.4	-6.3	27.1	46	-18.9	PASS	
508.816	33.6	-6.4	27.2	46	-18.8	PASS	
929.821	30.4	-1.2	29.3	46	-16.7	PASS	

30-1000MHz Low Channel UNII-3

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Vertical 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz MCS0 Mid 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30	28.6	-4.4	24.2	40	-15.8	PASS	-15.8
624.028	34.6	-5.2	29.4	46	-16.6	PASS	
638.626	33.4	-4.2	29.3	46	-16.7	PASS	
643.234	33.6	-4.1	29.5	46	-16.5	PASS	
671.121	32.9	-4.8	28.2	46	-17.8	PASS	
954.822	29.8	-0.5	29.3	46	-16.7	PASS	

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Horizontal 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz MCS0 MID 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.073	27.7	-4.5	23.2	40	-16.8	PASS	
504.791	33.8	-6.2	27.6	46	-18.4	PASS	
508.792	34.4	-6.4	27.9	46	-18.1	PASS	
781.459	33	-2.8	30.2	46	-15.8	PASS	
783.181	35.3	-2.8	32.4	46	-13.6	PASS	
784.951	37	-2.8	34.2	46	-11.8	PASS	-11.8

30-1000MHz Middle Channel UNII-3

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Vertical 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz MCS0 High 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30.267	28.1	-4.6	23.6	40	-16.4	PASS	-16.4
624.004	34.7	-5.2	29.5	46	-16.5	PASS	
655.553	33.5	-4.4	29.1	46	-16.9	PASS	
656.741	33.8	-4.4	29.3	46	-16.7	PASS	
667.605	33	-4.7	28.3	46	-17.7	PASS	
915.004	30.3	-1.7	28.7	46	-17.3	PASS	

Bureau Veritas Consumer Product Services Inc. Work Order - T0537
 Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.6V DC
 Top Peaks Horizontal 30-1000MHz Test Site - CH1
 Operator: CCH² Conditions - 25.1°C; 38%RH; 1010mBar
 Notes: 0
 802.11ac 20MHz MCS0 High 0

Data Taken at April 30, 2019

Frequency (MHz)	Peak Reading (dBμV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBμV/m)	Lim1: FCC_pt15_2 09 (dBμV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)
30	28	-4.4	23.6	40	-16.4	PASS	
85.654	40.7	-18.2	22.5	40	-17.5	PASS	
493.902	35.2	-6.6	28.6	46	-17.4	PASS	
495.115	33.7	-6.6	27.1	46	-18.9	PASS	
781.483	35.1	-2.8	32.3	46	-13.7	PASS	-13.7
958.508	29.9	-0.5	29.4	46	-16.6	PASS	

30-1000MHz High Channel UNII-3

Rev. 5/1/2019

Spectrum Analyzers / Receivers /Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
2093 MXE EMI Receiver		20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	11/21/2019
Radiated Emissions Sites		FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due
EMI Chamber 1		719150	2762A-6	A-0015	30-1000MHz	1685	I	12/7/2020
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
185710 Rental PA		9KHz-1GHz	310	SONOMA INSTRUMENT	185710		II	4/16/2020
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Red-White Bilog		30-2000MHz	JB1	Sunol	A091604-1	1105	I	8/21/2019
Meteorological Meters/Chambers			MN	Mfr	SN	Asset	Cat	Calibration Due
Weather Clock (Pressure Only)			BA928	Oregon Scientific	C3166-1	831	I	5/15/2020
Asset #2658			1235C97	Control Company	181683808	2658	I	4/3/2020
Cables		Range		Mfr			Cat	Calibration Due
Asset #2456		9KHz-18GHz		MegaPhase			II	10/31/2019
Asset #2467		9KHz-18GHz		MegaPhase			II	10/31/2019
Asset #2606		9KHz-18GHz		MegaPhase			II	4/2/2020

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

TEU



Measurement Uncertainty

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Expanded Uncertainty k=2	Maximum allowable uncertainty
Radiated Emissions (30-1000MHz)	5.6dB	N/A
NIST	4.6dB	5.2dB (Ucisp)
CISPR		
Radiated Emissions (1-26.5GHz)	4.6dB	N/A
Radiated Emissions (above 26.5GHz)	4.9dB	N/A
Magnetic Radiated Emissions	5.6dB	N/A
Conducted Emissions		
NIST	3.9dB	N/A
CISPR	3.6dB	3.6dB (Ucisp)
Telco Conducted Emissions (Current)	2.9dB	N/A
Telco Conducted Emissions (Voltage)	4.4dB	N/A
Electrostatic Discharge	11.5%	N/A
Radiated RF Immunity (Uniform Field)	1.6dB	N/A
Electrical Fast Transients	23.1%	N/A
Surge	23.1%	N/A
Conducted RF Immunity	3dB	N/A
Magnetic Immunity	12.8%	N/A
Dips and Interrupts	2.3V	N/A
Harmonics	3.5%	N/A
Flicker	3.5%	N/A
Radio frequency (@ 2.4GHz)	3.23×10^{-8}	1×10^{-7}
RF power, conducted	0.40dB	0.75dB
Maximum frequency deviation:		
• Within 300Hz and 6kHz of audio frequency / Within 6kHz and 25kHz of audio frequency	3.4%	5%
	0.3dB	3dB
Adjacent channel power	1.9dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	2.39dB	3dB
Conducted emission of receivers	1.3dB	3dB
Radiated emission of transmitter, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of transmitter, valid up to 80GHz	3.3dB	6dB
Radiated emission of receiver, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of receiver, valid up to 80GHz	3.3dB	6dB
Humidity	2.37%	5%
Temperature	0.7°C	1.0°C
Time	4.1%	10%
RF Power Density, Conducted	0.4dB	3dB
DC and low frequency voltages	1.3%	3%
Voltage (AC, <10kHz)	1.3%	2%
Voltage (DC)	0.62%	1%
The above reflects a 95% confidence level		

Conditions Of Testing

[Bureau Veritas Consumer Products Services, Inc., a Massachusetts corporation], and/or its affiliates (collectively, the "Company") will conduct, at the request of the Submitter ("Client"), the tests specified on the submitted Test Request Form or equivalent in accordance with, and subject to, the following terms and conditions (collectively, "Conditions"):

1. All orders for tests are subject to acceptance by the Company, and no order will constitute a binding commitment of the Company unless and until such order is accepted by it, as evidenced by the issuance of a written report ("Test Report") by the Company. The Test Report is issued solely by the Company, is intended for the exclusive use of Client and shall not be published, used for advertising purposes, copied or replicated for distribution to any other person or entity or otherwise publicly disclosed without the prior written consent of the Company. By submitting a request for services to the Company, Client consents to the disclosure to accreditation bodies of those records of Client relevant to the accreditation body's assessment of the Company's competence and compliance with relevant accreditation criteria. The Company shall not be liable for any loss or damage whatsoever resulting from the failure of the Company to provide its services within any time period for completion estimated by the Company. If Client anticipates using the Test Report in any legal proceeding, arbitration, dispute resolution forum or other proceeding, it shall so notify the Company prior to submitting the Test Report in such proceeding. The Company has no obligation to provide a fact or expert witness at such proceeding unless the Company agrees in advance to do so for a separate and additional fee.
2. The Test Report will set forth the findings of the Company solely with respect to the test samples identified therein. Unless specifically and expressly indicated in the Test Report, the results set forth in such Test Report are not intended to be indicative or representative of the quality or characteristics of the lot from which a test sample is taken, and Client shall not rely upon the Test Report as being so indicative or representative of the lot or of the tested product in general. The Test Report will reflect the findings of the Company at the time of testing only, and the Company shall have no obligation to update the Test Report after its issuance. The Test Report will set forth the results of the tests performed by the Company based upon the written information provided to the Company. The Test Report will be based solely on the samples and written information submitted to the Company by Client, and the Company shall not be obligated to conduct any independent investigation or inquiry with respect thereto.
3. The Company may, in its sole discretion, destroy samples which have been furnished to the Company for testing and which have not been destroyed in the course of testing. The Company may delegate the performance of all or a portion of the services contemplated hereunder to an affiliate, agent or subcontractor of the Company, and Client consents to such delegation.
4. These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof and of the Test Report, and no modification, variance or extrapolation with respect thereto shall be permitted without the prior written consent of the Company.
5. The names, service marks, trademarks and copyrights of the Company and its affiliates, including the names "BUREAU VERITAS," "BUREAU VERITAS CONSUMER PRODUCTS SERVICES," "BVCPS," "MTL," "ACTS," "MTL-ACTS" and BUREAU VERITAS CONSUMER PRODUCTS SERVICES INC. (collectively, the "Marks") are and shall remain the sole property of the Company or its affiliates and shall not be used by Client except solely to the extent that Client obtains the prior written approval of the Company and then only in the manner prescribed by the Company. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of the Company or its affiliates.
6. Payment in full shall be due 30 days after the date of invoice. Interest shall be due on overdue amounts from the due date until paid at an interest rate of 1.5% per month or, if less, the maximum rate permitted by law. The Company reserves the right, at any time and from time to time, to revoke any credit extended to Client. Client shall reimburse the Company for any costs it incurs in collecting past due amounts, including court costs and fees and expenses of attorneys and collection agencies. The Test Report may not be used or relied upon by Client if and for so long as Client fails to pay when due any invoice issued by the Company or any affiliate of it to Client or any affiliate or subsidiary of Client together with interest and penalties, if any, accrued thereon.
7. The Company disclaims any and all responsibility or liability arising out of or in connection with e-mail transmissions of such information.
8. Client understands and agrees that the Company is neither an insurer nor a guarantor, that the Company does not take the place of Client or any designer, manufacturer, agent, buyer, distributor or transportation or shipping company, and that the Company disclaims all liability in such capacities. Client further understands that if it seeks assurance against loss or damage, it should obtain appropriate insurance.
9. Client agrees that the Company, by providing the services, does not take the place of Client nor any third party, nor does the Company release them from any of their obligations, nor does the Company otherwise assume, abridge, abrogate or undertake to discharge any duty of any third party to Client or any duty of Client or any third party to any other third party, and Client will not release any third party from its obligations and duties with respect to the tested goods.
10. Client shall, on a timely basis, (a) provide adequate instructions to the Company in order to enable the Company to perform properly its services, (b) provide, or cause Client's suppliers and contractors to provide, the Company with all documents necessary to enable the Company to perform its services, (c) furnish the Company with all relevant information regarding Client's intended use and purposes of the tested goods, (d) advise the Company of essential dates and deadlines relevant to the tested goods and (e) fully exercise all rights and remedies available to Client against third parties in respect of the tested goods.
11. The Company shall undertake due care and ordinary skill in the performance of its services to Client, and the Company shall accept responsibility only where such skill has not been exercised and, even in such event, only to the extent of the limitation of liability set forth herein.
12. If Client desires to assert a claim arising from or relating to (i) the performance, purported performance or non-performance of any services by the Company or (ii) the sale, resale, manufacture, distribution or use of any tested goods, it must submit that claim to the Company in a writing that sets forth with particularity the basis for such claim within 60 days from discovery of the potential claim and not more than six months after the date of issuance of the Test Report to Client. Client waives any and all such claims including, without limitation, claims that the Test Report is inaccurate, incomplete or misleading or that additional or different testing is required, unless and then only to the extent that Client submits a written claim to the Company within both such time periods.
13. CLIENT SHALL, EXCEPT TO THE EXTENT OF COMPANY'S LIABILITY TO CLIENT HEREUNDER (WHICH IN NO EVENT SHALL EXCEED THE LIMITATION OF LIABILITY HEREIN), HOLD HARMLESS AND INDEMNIFY THE COMPANY, ITS AFFILIATES AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL ACTUAL OR ALLEGED THIRD PARTY CLAIMS FOR LOSS, DAMAGE OR EXPENSE OF WHATSOEVER NATURE AND HOWSOEVER ARISING FROM OR RELATING TO (i) THE PERFORMANCE, PURPORTED PERFORMANCE OR NON-PERFORMANCE OF ANY SERVICES BY THE COMPANY OR (ii) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY TESTED GOODS.
14. EXCEPT AS MAY OTHERWISE BE EXPRESSLY AGREED TO IN WRITING BY THE COMPANY AND NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN OR IN ANY TEST REPORT, NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, IS MADE.



15. (A) IN NO EVENT WHATSOEVER SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, EXEMPLARY OR PUNITIVE DAMAGES IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE TEST REPORT OR THE SERVICES PROVIDED BY THE COMPANY HEREUNDER, INCLUDING WITHOUT LIMITATION LOSS OF OR DAMAGE TO PROPERTY; LOSS OF INCOME, PROFIT OR USE; OR ANY CLAIMS OR DEMANDS MADE AGAINST CLIENT OR ANY OTHER PERSON BY ANY THIRD PARTY IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE SERVICES PROVIDED BY THE COMPANY HEREUNDER.

(B) NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN, AND IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS TO CLIENT AND THE COMPANY ASSOCIATED WITH THE TESTING SERVICES CONTEMPLATED HEREBY, THE RISKS HAVE BEEN ALLOCATED SUCH THAT UNDER NO CIRCUMSTANCES WHATSOEVER SHALL THE LIABILITY OF THE COMPANY TO CLIENT OR ANY THIRD PARTY IN RESPECT OF ANY CLAIM FOR LOSS, DAMAGE OR EXPENSE, OF WHATSOEVER NATURE OR MAGNITUDE, AND HOWSOEVER ARISING, EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF THE FEES PAID TO THE COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM OR U.S.\$10,000, WHICHEVER IS THE LESSER AMOUNT.

16. The Company shall not be liable for any loss or damage resulting from any delay or failure in performance of its obligations hereunder resulting directly or indirectly from any event of force majeure or any event outside the control of the Company. If any such event occurs, the Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

17. Company's services, including these Conditions, shall be governed by, and construed in accordance with, the local laws of the country where the Company performs the tests or, in the case of tests performed in the United States of America, the laws of Massachusetts without regard to conflicts of laws principles. If any aspect(s) of these Conditions is found to be illegal or unenforceable, the validity, legality and enforceability of all remaining aspects of these Conditions shall not in any way be affected or impaired thereby. Any proceeding related to the subject matter hereof shall be brought, if at all, in the courts of the country where the Company performs the tests or, in the case of tests performed in the United States of America, in the courts of Massachusetts. Client waives the right to interpose any counterclaim or setoffs of any nature in any litigation arising hereunder.

The complete list of the Approved Subcontractors Bureau Veritas Consumer Products Services Inc. may use to delegate the performance of work can be provided upon request.

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