



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS

Report No ES0621-5

Client Harman International Industries, Incorporated

Address 30001 Cabot Drive Novi MI 48377

Phone 1-248-785-2513

Items tested PV602

FCC ID 2AHPN-BE2841 6434C-BE2841

Testing For Collocated Spurious Emissions

FCC/IC Rule Parts | CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2

Test Dates 03/30/2018 to 05/03/2018

Results As detailed within this report

Prepared by

Christopher Hamel – EMC Engineer

Authorized by

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Issue Date

5/16/2018

Conditions of Issue

This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 12 of this report.

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Report REV Sep-08-2017 - YF





## Summary

This test report supports an application for certification of a transmitter operating pursuant to: CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 2

The product is the "PV602" automotive infotainment unit with Bluetooth and WLAN This report is for collocated spurious emissions measurements when 2.4GHz WLAN and Bluetooth radios are transmitting simultaneously.

There is no other simultaneous transmission configuration possible in the device.

There are two variants to the product with the same model number:

HVIN	FVIN	Remarks
(Model)		
PV602	SOC: BR_RC1_R12.0.0_R18102A	Tested variant
PV602	SOC: NA_18.1.1	No hardware differences from the tested variant above.
		Only non-RF related software differences as follows:
		<ul> <li>Updated AM/FM tuner range and step size for</li> </ul>
		North American markets
		<ul> <li>Removal of backup camera from software</li> </ul>
		(external camera will not be connected), rear
		view mirror will have RVC display instead (not
		connected to the head unit)
		HMI tweaks to follow NHTSA guidelines

Test samples were received in good condition.

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





## Test Methodology

All testing was performed according to the following rules/procedures/documents; CFR 47 Part 15.247, RSS-247 Issue 2, RSS-Gen Issue 4, FCC KDB 558074 D01 DTS Measurement Guidance v04 and ANSI C63.10-2013.

Radiated emissions were tested in the installation orientation of the device in a vehicle. Emissions were maximized by rotating the device and varying the test antenna's height and polarity.

EUT operating voltage is 13.8V DC from a vehicle battery, therefore AC line conducted emissions requirements are not applicable.

Following bandwidths were used during radiated spurious emissions testing.

Frequency	RBW	VBW
30-1000MHz	120kHz	1MHz
1-25GHz	1MHz	3MHz



**Product Tested - Configuration Documentation** 

					EUI	Γ Cor	ıfiguration							
Work Or	der: S	S0621												
Compa	any: I	Harman	Internation	al Industries, Inc	corporated									
Company Addr	ess: 3	30001 C	Cabot Drive											
	1	Novi, MI, 48377												
			019 144 10077											
Cont	act: S	Sarah R	arah Rowland											
		MN PN SN												
E	UT:		I	PV602										
EUT Descript	ion: (	Car Ste	reo Head Un	it										
EUT Max Frequer		5825 M												
EUT Min Frequen	ncy: 5	5825 M	Hz											
EUT Components				M						SN				
PV602				FC										
PV602				FCC Cor	nducted									
Support Equipment				M	N					SN				
CS Supplied laptop														
USB to Ethernet convert	er													
											_			
Port Label	Port T	ype	# ports	# populated	cable type	e	shielded	ferrites	length (n	n) in/out	under	comment		

Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under	comment
									test	
Power	other	2	2	other	No	No	1	in	yes	
FM/AM	other	1	1	Coaxial	Yes	No	0.1	in	yes	
Back up camera	other	1	1	other	No	No	1	in	yes	
USB	USB	1	1	USB	Yes	No	1	in	yes	
Vehicle port	other	1	1	other	No	No	1	in	yes	

#### **Software Operating Mode Description:**

EUT will operate in constant TX mode for WiFi spurious emissions via client supplied test mode where channels and data rates are selectable.

EUT will operate in constant TX mode for BT spurious emissions with a link to CMW communication tester where channels and packet types are selectable.



Statement of Conformity

RSS-GEN	RSP-100	RSS 247	Part 15	Comments
6.3			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.
	4		15.21	Information to the user is shown in the instruction manual exhibit.
			15.27	No special accessories are required for compliance.
3, 6.1			15.31	The EUT was tested in accordance with the measurement standards in this section.
6.13			15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
8.1			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.
8.3			15.203	EUT employs PCB trace antennas.
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. Vehicle battery powered only.



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### Test Results

# **Radiated Spurious Emissions**

### **LIMITS**

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). [15.247(d)]

### **MEASUREMENTS / RESULTS**

Curtis Straus - a Bureau Veritas Company Work Order - S0621
Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC

Top Peaks Horizontal 30-1000MHz Test Site - CH 2

Operator: CCH Conditions - 24.7°C; 21%RH; 1010mBar

Notes: Witnessed by - N/A

2.4g 802.11b CH 6 1Mbps with Bluetooth CH 78 DH1 EUT Maximum Frequency - 5825MHz

Data Taken at .Thurday May 03, 2018

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)	Lim2: FCC_pt15_2 09 (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)
30.897	31.1	-2.1	29	40	-11	PASS	-11	40	-11	PASS	-11
70.716	32	-14.3	17.6	40	-22.4	PASS		40	-22.4	PASS	
122.732	29	-8.6	20.4	43.5	-23.1	PASS		43.5	-23.1	PASS	
466.354	31.1	-4.2	26.9	46	-19.1	PASS		46	-19.1	PASS	
927.274	27.8	3.1	30.8	46	-15.2	PASS		46	-15.2	PASS	

Curtis Straus - a Bureau Veritas Company Work Order - S0621
Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC

Top Peaks Vertical 30-1000MHz Test Site - CH 2

Operator: CCH Conditions - 24.7°C; 21%RH; 1010mBar

Notes: Witnessed by - N/A

2.4g 802.11b CH 6 1Mbps with Bluetooth CH 78 DH1 EUT Maximum Frequency - 5825MHz

Data Taken at .Thurday May 03, 2018

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)	Lim2: FCC_pt15_2 09 (dBµV/m)	Lim2 Margin (dB)	Lim2 Test Results (Pass/Fail)	Worst Margin Lim2 (dB)
30.34	31.2	-1.6	29.6	40	-10.4	PASS	-10.4	40	-10.4	PASS	-10.4
50.249	35.2	-14.8	20.4	40	-19.6	PASS		40	-19.6	PASS	
70.498	34.3	-14.3	19.9	40	-20.1	PASS		40	-20.1	PASS	
74.572	31.7	-14.2	17.6	40	-22.4	PASS		40	-22.4	PASS	
104.496	32.2	-10.7	21.5	43.5	-22	PASS		43.5	-22	PASS	
916.337	28.1	3	31.1	46	-14.9	PASS		46	-14.9	PASS	·

30-1000MHz





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Curtis Straus - a Bureau Veritas Company Work Order - S0621
Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC

1-6GHz Horizontal Data Test Site - CH 2

Operator: CCH Conditions - 24.7°C; 21%RH; 1010mBar

Notes: Witnessed by - N/A

2.4g 802.11b CH 6 1Mbps with Bluetooth CH 78 DH1 EUT Maximum Frequency - 5825MHz

Data Taken at .Thurday May 03, 2018

Frequency (MHz)	Raw Peak Reading	Raw Avg Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_2 09_Peak (dBµV/m)	Peak Margin (dB)	Peak Results (Pass/Fail)	Worst Peak Margin (dB)	· ·	Av Lim: FCC_pt15_2 09_Average (dBμV/m)		Avg Results (Pass/Fail)	Worst Average Margin (dB)
1438.9	(dBμV) 37.5	27.3	4.9	42.4	( <b>а</b> Бµ <b>v</b> /m)	-31.6	PASS	(ub)	32.3	( <b>а</b> Бµ <b>v</b> /m)	-21.7	PASS	(ub)
										_			
1865.4	37.2	27.9	8.2	45.4	74	-28.6	PASS		36.1	54	-17.9	PASS	
2153.1	35.8	25.4	11.4	47.2	74	-26.8	PASS		36.8	54	-17.2	PASS	
3181.3	36.3	26	12.4	48.7	74	-25.3	PASS		38.4	54	-15.6	PASS	
5896.9	34.4	24.9	14.4	48.8	74	-25.2	PASS	-25.2	39.3	54	-14.7	PASS	-14.7

Curtis Straus - a Bureau Veritas Company Work Order - S0621
Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC

1-6GHz Vertical Data Test Site - CH 2

Operator: CCH Conditions - 24.7°C; 21%RH; 1010mBar

Notes: Witnessed by - N/A

2.4g 802.11b CH 6 1Mbps with Bluetooth CH 78 DH1 EUT Maximum Frequency - 5825MHz

Data Taken at .Thurday May 03, 2018

Frequency	Raw Peak Reading	Raw Avg Reading	Correction Factor	Adjusted Peak Amplitude	Pk Lim: FCC_pt15_2 09_Peak	Peak Margin	Peak Results	Worst Peak Margin	•	Av Lim: FCC_pt15_2 09 Average		Avg Results	Worst Avg Margin
(MHz)	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
1437.1	35	25.2	4.9	39.9	74	-34.1	PASS		30.1	54	-23.9	PASS	
1864.9	35.9	29.4	8.2	44.1	74	-29.9	PASS		37.6	54	-16.4	PASS	
2179.9	35.7	25.5	11.6	47.3	74	-26.7	PASS		37.1	54	-16.9	PASS	
2866	33.9	25	12.8	46.6	74	-27.4	PASS		37.8	54	-16.2	PASS	·
5760.1	34.4	25.2	14.4	48.8	74	-25.2	PASS	-25.2	39.5	54	-14.5	PASS	-14.5

1-6GHz





Curtis Straus - a Bureau Veritas Company Work Order - S0621
Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC

6-18GHz Horizontal Data Test Site - CH 2

Operator: CCH Conditions - 24.7°C; 21%RH; 1010mBar

Notes: Witnessed by - N/A

2.4g 802.11b CH 6 1Mbps with Bluetooth CH 78 DH1 EUT Maximum Frequency - 5825MHz

Data Taken at .Thurday May 03, 2018

				Adjusted	Pk Lim:				Adjusted	Av Lim:			Worst
	Raw Peak	Raw Avg	Correction	Peak	FCC_pt15_2	Peak	Peak	Worst Peak	Avg	FCC_pt15_2			Average
Frequency	Reading	Reading	Factor	Amplitude	09_Peak	Margin	Results	Margin	Amplitude	09_Average	Avg Margin	Avg Results	Margin
(MHz)	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
17946.3	39.5	30.7	19	58.6	83.5	-24.9	PASS	-24.9	49.7	63.5	-13.8	PASS	-13.8

Curtis Straus - a Bureau Veritas Company Work Order - S0621

Radiated Emissions Electric Field 3m Distance EUT Power Input - 13.8V DC

6-18GHz Vertical Data Test Site - CH 2

Operator: CCH Conditions - 24.7°C; 21%RH; 1010mBar

Notes: Witnessed by - N/A

2.4g 802.11b CH 6 1Mbps with Bluetooth CH 78 DH1 EUT Maximum Frequency - 5825MHz

Data Taken at .Thurday May 03, 2018

				Adjusted	Pk Lim:				Adjusted	Av Lim:			Worst
	Raw Peak	Raw Avg	Correction	Peak	FCC_pt15_2	Peak	Peak	Worst Peak	Avg	FCC_pt15_2			Average
Frequency	Reading	Reading	Factor	Amplitude	09_Peak	Margin	Results	Margin	Amplitude	09_Average	Avg Margin	Avg Results	Margin
(MHz)	(dBµV)	(dBµV)	(dB/m)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	(dB)
17978.5	42	31.2	19.2	61.2	83.5	-22.3	PASS	-22.3	50.4	63.5	-13.1	PASS	-13.1

### 6-18GHz

Date: 03-May-18 Company: Harman International					al					1	Nork Order:	S0621			
Engineer: Chris Hamel Temp: 24.7°C				EUT Desc: PV602							EUT Operating Voltage/Frequency: 13.8V DC				
			Humidity: 21%					Pressure: 1010mBar							
		Freque	ncy Range:	18-25GHz							Measureme	nt Distance:	0.1 m		
	No Emissions 2.4g 802.11b		with bluetoot	h DH1 CH3	9						EU <sup>-</sup>	Γ Max Freq:	5825MHz		
Antenna		Peak	Average	Preamp	Antenna	Cable	Adjusted	Adjusted	FCC Class B High Frequency - Peak		FCC Class B High Frequency - Average				
Polarization (H/V)	Frequency (MHz)	Reading (dBµV)	Reading (dBµV)	Factor (dB)	Factor (dB/m)	Factor (dB)	Peak Reading (dBµV/m)	Avg Reading (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail	
Table	e Result:		Pass	by	N/A	dB					We	orst Freq:	N/A	MHz	
Test Site: EMI Chamber 2 Analyzer: 1170725 Ssoft Radiated Emissions Calculator			v 1.017.203	Cable 1: Asset #2323 Preamp: 18-26.5GHz						Cable 2: Antenna: 18-26.5GHz Hom			Cable 3: Preselector: Copyright Curtis-Straus LLC 2:		

18-25GHz





Rev	5/2/2018								
	Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
	Rental M XE E M I Receiver(1170725)	20Hz-26.5GHz	N9038A	Agilent	MY51210151	1170725	- 1	4/10/2019	4/10/2018
	Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due	Calibrated on
	E MI Chamber 2	719150	2762A-7	A-0015	30-1000M Hz	1686	1	12/21/2018	12/21/2016
	E MI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	-1	12/21/2018	12/21/2016
	Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
	2444 PA	9KHz-6GHz	BBV9744	SCWARZBE CK	67	2444	1	2/5/2019	2/5/2018
	2111 HF Preamp	0.5-18GHz	P.A.M118A	COM-POWER	551063	2111	II	11/19/2018	11/19/2017
	HF (Yellow)	18-26.5GHz	AFS4-18002650-60-8P-4	CS	467559	1266	II	10/16/2018	10/16/2017
	Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
	Red-Black Bilog	30-2000MHz	JB1	Sunol	A091604-2	1106	1	2/28/2019	2/28/2017
	HF (White) Horn	18-26.5GHz	801-WLM	Waveline	758	758	III	Verify before Use	date of test
	Blue Horn	1-18G hz	3117	ETS	157647	1861	1	2/14/2019	2/14/2017
	Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
	TH A#2084		HTC-1	HDE		2084	II	3/22/2019	3/22/2018
	Barometric A#2160		5396-0321	Monarch Instruments	4000060	2160	ï	4/13/2019	4/13/2017
	Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
	Asset #2458	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
	Asset #2459	9KHz-18GHz		MegaPhase			II	10/29/2018	10/29/2017
	Asset #2465	9KH z-18G Hz		M egaP hase			ii.	10/29/2018	10/29/2017
	Asset #2323	1-26.5GHz	TM26-S1S1-120	ME GAP HASE	17139101 002	2323	ii.	8/19/2018	8/19/2017
	2489(6dB)	9KH z-18G Hz					ii.	11/27/2018	11/27/2017

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

Test Equipment Used





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) NIST	5.6dB	N/A
CISPR	4.6dB	5.2dB (Ucispr)
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 (Ucispr)
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 x 10 <sup>-8</sup>	1 x 10 <sup>-7</sup>
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% 0.3dB	5% 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

- 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.
- 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.
   These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof
- 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 CURTIS-STRAUS
  (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 were 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 HEREI INDER

(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 Curtis-Straus may use to delegate the performance of work can be provided upon request. Rev.160009121(2)\_#684340 v14CS



