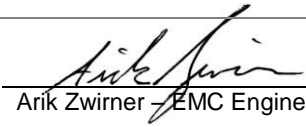
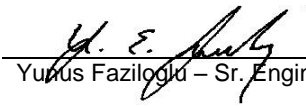




Test Report



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

Report No	ES2283-1
Client	Desktop Metal
Address	63 Third Avenue Burlington, MA 01803
Phone	978-224-1244
Items tested	Desktop Metal RFID Module (Model: BMD RFID1)
FCC ID	2AOIOBMDRFID1
IC	23444-BMDRFID1
FRN	0027059005
Equipment Code Emission Designator	DXX - Part 15 Low Power Communication Device Transmitter 79K6A1D
FCC/IC Rule Parts	CFR Title 47 FCC Part 15.225, ISED Canada RSS-210 Issue 9 Annex B.6
Test Dates	11/19/2018 to 11/27/2018
Results	As detailed within this report
Prepared by	 Arik Zwirner – EMC Engineer
Authorized by	 Yunus Faziloglu – Sr. Engineer
Issue Date	<u>12/19/2018</u>
Conditions of Issue	This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 16 of this report.

Curtis-Straus LLC 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.



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Contents

Contents.....2
Summary and Test Methodology3
Product Tested - Configuration Documentation4
Statement of Conformity5
Modifications Required for Compliance5
Test Results6
 Fundamental Reading.....6
 99% Occupied Bandwidth.....7
 Emission Mask.....8
 Radiated Spurious Emissions9
 Temperature Stability.....11
 AC Line Conducted Emissions – AC Side of DC Supply13
Measurement Uncertainty.....15
Conditions of Testing.....16

Form Final Report REV 12-07-15



Summary and Test Methodology

This test report supports an application for certification of a transmitter operating pursuant to: CFR Title 47 FCC Part 15.225, ISED Canada RSS-210 Issue 9 Annex B.6

Desktop Metal RFID Module (Model: BMD RFID1) operates at 13.56MHz and has an integral loop antenna and 24VDC input. It is powered by an external 100-240VAC to DC power supply.

All testing was performed in accordance with ANSI C63.10 2013. Radiated emissions were maximized by varying the test antenna's height and polarity. Three orthogonal axes were investigated. Worst case results were recorded.

AC line conducted emissions testing was performed at the AC side of the DC supply.

We found that the product met the above requirements without modification. Test sample was received in good condition.

The environmental conditions during testing are documented on the associated data tables. Following bandwidths were used during emissions testing.

Frequency	RBW	VBW
9kHz-150kHz	200Hz	1kHz
150kHz-30MHz	9kHz	30kHz
30MHz-1GHz	120kHz	1MHz

Product Tested - Configuration Documentation

EUT Configuration											
Work Order:	S2283										
Company:	Desktop Metal										
Company Address:	63 Third Avenue Burlington, MA, 01803										
Contact:	James Sirois										
	MN			PN				SN			
EUT:	Desktop Metal RFID Module							Sample 1			
EUT Description:	13.56MHz RFID tag reader										
EUT Max Frequency:	27 MHz										
EUT Min Frequency:	13.56 MHz										
	MN			SN							
Support Equipment	IMA-S600-24-ZYPLI			16DKCG5B				Sample 1			
Delta power supply								Sample 1			
Delta line filter								Sample 1			
Port Label	Port Type	# ports	# populated	cable type	shielded	ferrites	length (m)	in/out	under test	comment	
Power/Signal harness	other	1	1	other	No	No	0.1	in	yes		
Software Operating Mode Description:											
Device continuously reads RFID tag that is taped to it.											

Clock Frequencies	
frequencies (MHz)	27, 20, 13.56



Statement of Conformity

The Desktop Metal RFID Module complied with the following requirements:

RSS-GEN	RSP-100	RSS 210	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 has an integral loop 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	EUT meets the AC Line conducted emissions requirements of this section.
			15.225	The unit complies with the requirements of 15.225
		Annex B.6		The unit complies with the requirements of RSS-210 Annex B.6
6.7				Occupied Bandwidth measurements were made.

Modifications Required for Compliance

None

Test Results

Fundamental Reading

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

MEASUREMENTS / RESULTS

The fundamental reading was found to be below the FCC section 15.209 limits, thereby meeting the above requirement.

Radiated Emissions Table												
Date: 19-Nov-18			Company: Desktop Metal			Work Order: S2283						
Engineer: AKZ			Humidity: 20%			EUT Operating Voltage/Frequency: 120Vac/60Hz						
Temp: 24°C			Pressure: 1010mbar									
Frequency Range: Fundamental at 13.56MHz						Measurement Distance: 3 m						
Notes:												
Antenna Polarization (0° - 90°)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC 15.209		
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
X												
0	13.56	42.1	36.4	38.9	0.2	44.8	---	---	---	69.5	-24.7	---
90	13.56	40.9	36.4	38.9	0.2	43.6	---	---	---	69.5	-25.9	---
flat	13.56	27.3	36.4	38.9	0.2	30.0	---	---	---	69.5	-39.5	---
Y												
0	13.56	36.1	36.4	38.9	0.2	38.8	---	---	---	69.5	-30.7	---
90	13.56	37.1	36.4	38.9	0.2	39.8	---	---	---	69.5	-29.7	---
flat	13.56	29.9	36.4	38.9	0.2	32.6	---	---	---	69.5	-36.9	---
Z												
0	13.56	42.9	36.4	38.9	0.2	45.6	---	---	---	69.5	-23.9	---
90	13.56	41.5	36.4	38.9	0.2	44.2	---	---	---	69.5	-25.3	---
flat	13.56	29.3	36.4	38.9	0.2	32.0	---	---	---	69.5	-37.5	---
Test Site: EMI Chamber 1			Cable 1: Asset #2480			Cable 2: Asset #2459			Cable 3: Asset #2464			
Analyzer: ---			Preamp: Asset #2310			Antenna: Sm Loop (high)			Preselector: ---			
CSsoft Radiated Emissions Calculator v 1.017.211												
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor												
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Rev. 11/16/2018

Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Rental MXE EMI Receiver(1168255)	20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	8/23/2019	8/23/2018
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due	Calibrated on
EMI Chamber 1	719150	2762A-6	A-0015	30-1000MHz	1685	I	12/21/2018	12/21/2016
Preamps / Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2310 PA	1-1000MHz	PAM-103	COM-POWER	441175	2310	II	10/29/2019	10/29/2018
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Small Loop	10kHz-30MHz	PLA-130/A	ARA	1024	755	I	7/23/2020	7/23/2018
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2084		HTC-1	HDE		2084	II	3/23/2019	3/23/2018
Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #2459	9KHz-18GHz		MegaPhase			II	10/31/2019	10/31/2018
Asset #2464	9KHz-18GHz		MegaPhase			II	10/31/2019	10/31/2018
Asset #2480	9KHz-18GHz		MegaPhase			II	10/29/2019	10/29/2018

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

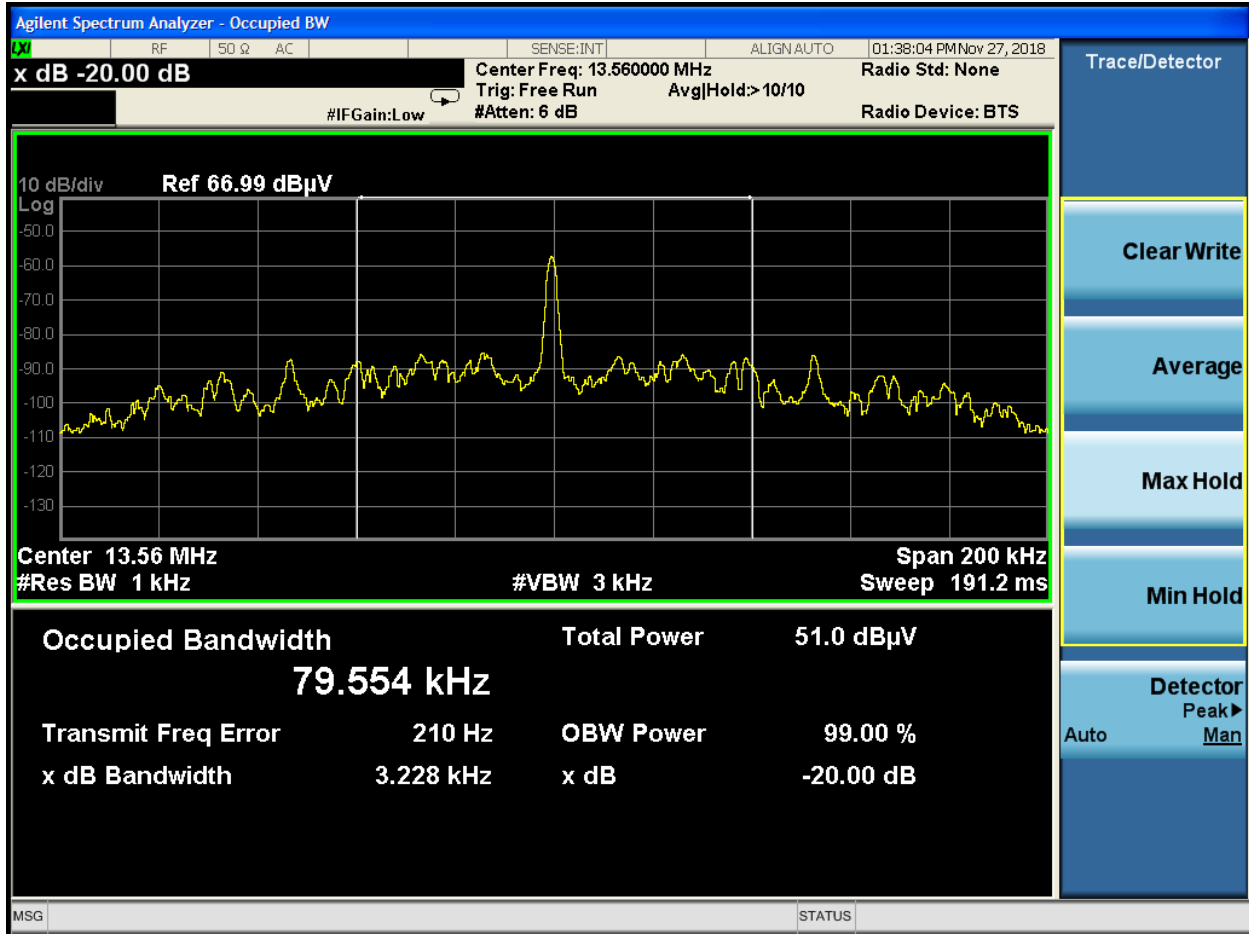


99% Occupied Bandwidth

REQUIREMENT

When an occupied bandwidth is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is its 99% emission bandwidth, as calculated or measured.

[RSS-GEN Issue 5 Section 6.7]



Emission Mask

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

MEASUREMENTS / RESULTS

The fundamental reading was found to be below the FCC section 15.209 limits, thereby meeting the emission mask requirements.

Radiated Spurious Emissions

The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209. [15.225(d)]

MEASUREMENTS / RESULTS

REMI 9kHz to 30MHz: No emissions above the measurement system noise floor were detected and noise floor was more than 20dB below the 15.209 limits.

Radiated Emissions Table												
Date: 19-Nov-18			Company: Desktop Metal				Work Order: S2283					
Engineer: AKZ			Temp: 24°C				Humidity: 20%					
Temp: 24°C			Humidity: 20%				Pressure: 1010mbar					
Frequency Range: 1-30MHz						Measurement Distance: 3 m						
Notes: Excluding Fundamental												
Antenna Polarization (0° - 90°)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC 15.209		
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
0	27.12	32.6	36.4	37.3	0.3	33.8	---	---	---	69.5	-35.7	Pass
90	27.12	40.7	36.4	37.3	0.3	41.9	---	---	---	69.5	-27.6	Pass
flat	27.12	34.0	36.4	37.3	0.3	35.2	---	---	---	69.5	-34.3	Pass
Test Site: EMI Chamber 1			Cable 1: Asset #2480				Cable 2: Asset #2459			Cable 3: Asset #2464		
Analyzer: ---			Preamp: Asset #2310				Antenna: 5m Loop (high)			Preselector: ---		
CSsoft Radiated Emissions Calculator v 1.017.211						Copyright Curtis-Straus LLC 2000						
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor												

Curtis Straus - a Bureau Veritas Company	Work Order - S2283 & S1685
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 120Vac/60Hz
30-1000MHz Vertical Data	Test Site - CH-1
Operator: AKZ	Conditions - 24°C;20 %RH; 1010mBar
Notes:	EUT Maximum Frequency - 27.12MHz

Data Taken at 03:18:47 PM, Tuesday, November 20, 2018

Frequency (MHz)	Raw QP Reading (dBµV)	Correction Factor (dB/m)	Adjusted QP Amplitude (dBµV/m)	Lim1: FCC_pt15_2_09 (dBµV/m)	Margin to Lim1 (dB)	Test Results Lim1 (Pass/Fail)	Worst Margin Lim1 (dB)	Lim2: FCC_pt15_1_09_Class_B (dBµV/m)	Margin to Lim2 (dB)	Test Results Lim2 (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
203.421	54.2	-16.5	37.7	43.5	-5.8	PASS	-5.8	43.5	-5.8	PASS	-5.8	107	205
420.487	45.4	-11.6	33.8	46	-12.2	PASS		46	-12.2	PASS		175	153
427.614	46.8	-11.4	35.4	46	-10.6	PASS		46	-10.6	PASS		225	160
431.257	45.6	-11.3	34.4	46	-11.6	PASS		46	-11.7	PASS		183	160
432.945	45.3	-11.2	34.1	46	-11.9	PASS		46	-12	PASS		192	124
435.166	45.7	-11.2	34.5	46	-11.5	PASS		46	-11.5	PASS		175	142



Curtis Straus - a Bureau Veritas Company
 Radiated Emissions Electric Field 3m Distance
 30-1000MHz Horizontal Data
 Operator: AKZ
 Notes:
 Work Order - S2283 & S1685
 EUT Power Input - 120Vac/60Hz
 Test Site - CH-1
 Conditions - 24°C;20 %RH; 1010mBar
 EUT Maximum Frequency - 27.12MHz

Data Taken at 03:18:47 PM, Tuesday, November 20, 2018

Frequency (MHz)	Raw QP Reading (dBµV)	Correction Factor (dB/m)	Adjusted QP Amplitude (dBµV/m)	Lim1: FCC_pt15_2 09 (dBµV/m)	Margin to Lim1 (dB)	Test Results Lim1 (Pass/Fail)	Worst Margin Lim1 (dB)	Lim2: FCC_pt15_1 09_Class_B (dBµV/m)	Margin to Lim2 (dB)	Test Results Lim2 (Pass/Fail)	Worst Margin Lim2 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
339.28	50.9	-14.1	36.7	46	-9.3	PASS		46	-9.3	PASS		101	281
342.848	51	-14	37	46	-9	PASS		46	-9	PASS		124	281
403.112	48.4	-12.3	36	46	-10	PASS		46	-10	PASS		100	47
409.342	47.8	-12.1	35.7	46	-10.3	PASS		46	-10.3	PASS		125	34
431.857	47.1	-11.3	35.8	46	-10.2	PASS		46	-10.2	PASS		248	0
437.249	48.4	-11.1	37.2	46	-8.8	PASS	-8.8	46	-8.8	PASS	-8.8	100	160

Rev. 11/16/2018

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Rental MXE EMI Receiver(1168255)	20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	8/23/2019	8/23/2018
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration Due	Calibrated on
EMI Chamber 1	719150	2762A-6	A-0015	30-1000MHz	1685	I	12/21/2018	12/21/2016
Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2310 PA	1-1000MHz	PAM-103	COM-POWER	441175	2310	II	10/29/2019	10/29/2018
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Red-Black Bilog	30-2000MHz	JB1	Sunol	A091604-2	1106	I	2/28/2019	2/28/2017
Small Loop	10kHz-30MHz	PLA-130/A	ARA	1024	755	I	7/23/2020	7/23/2018
Large Loop	20Hz-5MHz	6511	EMCO	9704-1154	67	I	7/20/2020	7/20/2018
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018
TH A#2084		HTC-1	HDE		2084	II	3/23/2019	3/23/2018
Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #2459	9KHz-18GHz		MegaPhase			II	10/31/2019	10/31/2018
Asset #2464	9KHz-18GHz		MegaPhase			II	10/31/2019	10/31/2018
Asset #2480	9KHz-18GHz		MegaPhase			II	10/29/2019	10/29/2018
2489(6dB)	9KHz-18GHz					II	11/27/2018	11/27/2017

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



Temperature Stability

Limit: The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+ 50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

[FCC 15.225]

MEASUREMENTS / RESULTS

Frequency Stability			
Date: 26-Nov-18		Company: Desktop Metal	
Engineer: AKZ		Work Order: S2283	
Notes: Nominal: 120Vac/60Hz		EUT Max Freq: 8MHz	
Temperature	Voltage	Frequency	Frequency Delta
°C	Vac	(Hz)	(Hz)
-20	138	13559632	-35
	120	13559631	-34
	102	13559632	-35
-10	138	13559657	-60
	120	13559657	-60
	102	13559657	-60
0	138	13559655	-58
	120	13559655	-58
	102	13559655	-58
10	138	13559632	-35
	120	13559632	-35
	102	13559632	-35
20	138	13559598	-1
	120	13559597	Reference
	102	13559597	0
30	138	13559557	40
	120	13559557	40
	102	13559557	40
40	138	13559519	78
	120	13559519	78
	102	13559519	78
50	138	13559491	106
	120	13559491	106
	102	13559491	106
Test Site: ENV-18		Analyzer: 1328	
		Antenna: Small Loop	

Limit = 13.56MHz * 0.01% = 1356Hz Allowable tolerance



Rev. 11/26/2018

Spectrum Analyzers / Receivers /Preselectors
SA EMI Chamber (1328)

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
9kHz-13.2 GHz	E4405B	Agilent	MY44210241	1328	I	11/10/2019	11/10/2018

Antennas
Small Loop

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
10kHz-30MHz	PLA-130/A	ARA	1024	755	I	7/23/2020	7/23/2018

Meteorological Meters/Chambers
Temp/Humidity Chamber #18

MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
EPX-2H	Espec	137664	1645	I	1/5/2019	1/5/2018

Cables
REMI-05

Range	Mfr	Cat	Calibration Due	Calibrated on
9kHz - 2GHz	C-S	II	1/29/2019	1/29/2018

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



AC Line Conducted Emissions – AC Side of DC Supply LIMITS

Frequency of emission (MHz)	Quasi-peak limit (dBµV)	Average limit (dBµV)
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.

[47 CFR 15.207(a)]

MEASUREMENTS / RESULTS

RFID is ON. EUT antenna is in place.

Curtis Straus - a Bureau Veritas Company Conducted Emissions per CISPR 16-2-1 Peak Detector Data Notes: EUT Line tested: 120VAC/60Hz; L1 Date: 21-NOV-2018	Work Order # - S2283 EUT Power Input - 120VAC/ 60Hz Test Site - CEMI-2 Conditions: - 20°C; 37%RH; 1002mBar Test Engineer - AKZ
---	--

Frequency (MHz)	Raw Pk Reading (dBµV)	Correction Factor (dB)	Adjusted Pk Amplitude (dBµV)	QP Lim: Mains_FCC&CISPR_QP_Class_B (dBµV)	Margin to the QP Limit (dB)	Pk to QP Limit Results (Pass/Fail)	Worst Margin (QP Limit) (dB)	Av Lim: Mains_FCC&CISPR_Avg_Class_B (dBµV)	Margin to Avg Limit (dB)	Pk to Avg Limit Results (Pass/Fail)	Worst Margin (Avg Limit) (dB)
22.007	26.1	19.1	45.2	60	-14.8	PASS		50	-4.8	PASS	
22.141	26.9	19.1	46	60	-14	PASS		50	-4	PASS	
22.222	27.1	19.1	46.2	60	-13.8	PASS	-13.8	50	-3.8	PASS	-3.8
22.249	26.3	19.1	45.4	60	-14.6	PASS		50	-4.6	PASS	
22.324	26.3	19.1	45.5	60	-14.5	PASS		50	-4.5	PASS	
22.432	26.7	19.1	45.8	60	-14.2	PASS		50	-4.2	PASS	

Curtis Straus - a Bureau Veritas Company Conducted Emissions per CISPR 16-2-1 Peak Detector Data Notes: EUT Line tested: 120VAC/60Hz; L2 Data Taken at 04:34:45 PM, Wednesday, November 21, 2018	Work Order # - S2283 EUT Power Input - 120VAC/ 60Hz Test Site - CEMI-2 Conditions: - 20°C; 37%RH; 1002mBar Test Engineer - AKZ
---	--

Frequency (MHz)	Raw Pk Reading (dBµV)	Correction Factor (dB)	Adjusted Pk Amplitude (dBµV)	QP Lim: Mains_FCC&CISPR_QP_Class_B (dBµV)	Margin to the QP Limit (dB)	Pk to QP Limit Results (Pass/Fail)	Worst Margin (QP Limit) (dB)	Av Lim: Mains_FCC&CISPR_Avg_Class_B (dBµV)	Margin to Avg Limit (dB)	Pk to Avg Limit Results (Pass/Fail)	Worst Margin (Avg Limit) (dB)
21.901	25.1	19.1	44.2	60	-15.8	PASS		50	-5.8	PASS	
22.197	25.7	19.1	44.8	60	-15.2	PASS	-15.2	50	-5.2	PASS	-5.2
22.253	25.3	19.1	44.4	60	-15.6	PASS		50	-5.6	PASS	
22.373	25.1	19.1	44.2	60	-15.8	PASS		50	-5.8	PASS	
22.433	24.9	19.1	44	60	-16	PASS		50	-6	PASS	
22.461	25	19.1	44.1	60	-15.9	PASS		50	-5.9	PASS	



Test Equipment Used

Rev. 11/28/2018

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Rental EXA Signal Analyzer(1118473)	9KHz-26.5GHz	N9010A-526;N	AT	MY51170076	1118473	I	6/19/2019	6/19/2018
LISNs/Measurement Probes	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
LISN Asset 2092	9KHz-30MHz	NNLK 8121	Schwarzbeck	NNLK 8121-66;	2092	I	7/31/2019	7/31/2018
Conducted Test Sites (Mains / Telco)	FCC Code	VCCI Code		Cat	Calibration Due	Calibrated on		
CEMI 2	719150	A-0015		III	NA	N/A		
Meteorological Meters/Chambers	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only)	BA928	Oregon Scientific	C3166-1	831	I	5/15/2020	5/15/2018	
TH A#2082	HTC-1	HDE		2082	II	3/23/2019	3/23/2018	
Cables	Range	Mfr	Cat	Calibration Due	Calibrated on			
CEMI-04	9kHz - 2GHz	C-S	II	4/2/2019	4/2/2018			
Attenuators	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
20dB Attenuator-60	9kHz-2GHz			N/A		II	9/29/2019	9/29/2018

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



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 (Ucisprr)
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 (Ucisprr)
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%
Adjacent channel power	0.3dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	1.9dB	3dB
Conducted emission of receivers	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 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 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.



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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 Curtis-Straus may use to delegate the performance of work can be provided upon request.
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