



Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



TEST REPORT

Applicant	Hydration Labs, Inc.
Address	529 Main Street Suite 304 Boston, MA 02129

FCC ID	2AMTV-103838B
ISED Canada IC	22810-103838B
Product Description	Bevi Standup 2.0
PMN Model HVIN FVIN HMN	Bevi V2 Standup 700-0012 700-0012B 4.0.3 (Door) N/A
Additional Models	None
Date of tests	April 23 to May 17, 2024
FCC Test Firm DN Canada CABID	US1028 US0106

The tests have been carried out according to the requirements of the following standard:

FCC Part 15, Subpart C, Section 15.225
 ISED Canada RSS-210 Issue 10 Annex B.6

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Nisha Patel Wireless Engineer I	Approved by Yunus Faziloglu Wireless Manager
Report Issue Date: July 16, 2025	Issue Number: 2

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RELEASE CONTROL RECORD

Issue no.	Reason for change	Date issued	Prepared by	Approved by
1	Original release	Sep 3, 2024	NP	YF
2	To address TCB comments - Added note for simultaneous transmission configurations in section 3.2. - AC input frequency corrected to 60Hz In the EUT block diagram. - 15.225 limit is added in the Fundamental field strength data table in section 4.2.7.	July 16,2025	NP	YF



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1 SUMMARY OF TEST RESULTS

EUT was tested against the following requirements:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.225), RSS-210				
STANDARD SECTION		TEST TYPE AND LIMIT	APPLICABLE	RESULT
47 CFR	RSS			
15.207	Gen 8.8	AC Power Line Conducted Emissions	Y	PASS
15.205	Gen 8.9	Radiated Spurious Emissions	Y	PASS
15.209	Gen 8.10			
15.225(a)	210 Annex B.6 (a)(i)	Fundamental Field Strength	Y	PASS
15.225(b)-(d)	210 Annex B.6 (a)(ii)-(iv)	Emission mask	N/A	Note 1
15.225(e)	210 Annex B.6 (b)	Frequency Tolerance	Y	PASS
--	Gen 6.7	99% Occupied Bandwidth	Y	PASS
15.203	Gen 6.8	Antenna Requirement	Y	PASS

Note 1: Fundamental and all spurious emissions were below the 15.209 limits.



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2 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. Values for measurement uncertainty are calculated per ETSI TR 100 028 (2001).

Measurement	Expanded Uncertainty k=2	Maximum allowable uncertainty
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% 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		

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

NOMINAL VOLTAGE	120VAC 60Hz
MODULATION TYPES	ASK
DATA RATES	106 kbps
OPERATING FREQUENCY	13.56MHz
EUT Power Setting	Maximum (default)
FUNDAMENTAL FIELD STRENGTH	67.2dB μ V/m at 3m
ANTENNA TYPE	PCB Trace loop Antenna

Port Label	Port Type	No. of ports	No. Populated	Cable Type	Shielded	Ferrites	Length	Max Length
Power	C13	1	1	Copper Wire	No	No	3m	3m
Ethernet	RJ45	1	1	Ethernet	No	No	6m	100m

Highest clock used/generated in the device (excluding certified WiFi/LTE module): 27.12MHz

NOTES:

1. For a more detailed description of the EUT, please refer to the manufacturer's specifications or the user's manual.
2. For photos of the EUT, please refer to External and Internal Photos exhibits.



3.2 DESCRIPTION OF TEST MODES

EUT configuration modes:

TEST MODE	DESCRIPTION
A	Continuous Transmit at 106kbps (Duty-cycle: 100%)

EUT operates at a single channel at 13.56MHz. Two samples were provided for testing, one with production antenna for all testing and another with production antenna replaced with a non-radiating load equal in impedance to the production antenna for AC line conducted emissions testing. EUT was powered by 120VAC/60Hz. A representative RFID tag was taped in front of the reader during all testing. 13.56MHz RFID is always active in the device as soon as the device is turned on.

A certified 2.4GHz/5GHz WiFi & LTE module (FCC ID: 2AMTV-4000029, IC: 2AMTV-4000029) was installed in the Bevi V2 Standup system during testing. Customer declared that RFID and WiFi or RFID and LTE radios can simultaneously transmit. Customers also declared that transmitters were enabled using publicly available drivers and were turned on during testing.

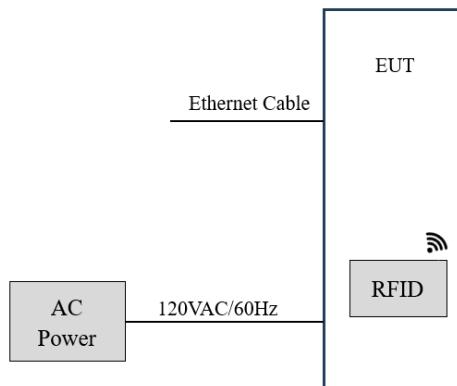
Note: Following simultaneous operation configurations were assessed during the applicable EMC radiated emissions tests and no additional emissions were found.

Simultaneous operation configurations:

The simultaneous test mode configurations are as below:

Configuration 1	RFID ON, LTE connected to a callbox
Configuration 2	RFID ON, Ethernet pinging and Wi-Fi probing

EUT SETUP BLOCK DIAGRAMS



EUT is floor-standing equipment.



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Following channels/modes were selected for the applicable tests below.

TEST	TEST MODE	AVAILABLE CHANNELS	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)	Notes
FFS	A	1	1	ASK	106	1
FT	A	1	1	ASK	106	1
OBW	A	1	1	ASK	106	1
RSE<1G	A	1	1	ASK	106	1
PLCE	A	1	1	ASK	106	2

Note 1: Worst-case (X, Y or Z) orientation is not applicable. EUT is a floor-standing equipment. RFID antenna is internal to the EUT, and it cannot be maximized separately.

Note 2: Tested with both production antenna and non-radiating load that represents the antenna impedance.

FFS: Fundamental Field Strength

FT: Frequency Tolerance

OBW: 99% Occupied Bandwidth

RSE<1G: Radiated Spurious Emissions Below 1GHz

PLCE: Power Line Conducted Emissions

TEST CONDITIONS:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TESTED BY	DATE OF TEST
FFS	21.4°C, 43.3 % RH, 996mbar	Bryan Valcourt	May 8, 2024
RSE	19.6°C, 45.8% RH, 1007mbar	Bryan Valcourt	May 6, 2024
OBW	21.4°C, 43.3% RH, 996mbar	Bryan Valcourt	May 8, 2024
FT	21.4°C, 43.3% RH, 996mbar	Bryan Valcourt	May 8, 2024
PLCE	21.2°C, 41.1% RH, 1005mbar 20.8°C, 50.3% RH, 1008mbar	Bryan Valcourt Muhammad Usama	May 2, 2024 May 17, 2024



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3.3 MEASUREMENT PROCEDURES USED

All tests were performed in accordance with the following measurement procedures:

ANSI C63.10-2013

RSS-Gen Issue 5

3.4 DESCRIPTION OF SUPPORT EQUIPMENT

Support Equipment	Model #	Serial #
None		



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4 TEST RESULTS

4.1 AC LINE CONDUCTED EMISSIONS

4.1.1 LIMITS

FREQUENCY OF EMISSION (MHz)		CONDUCTED LIMIT (dB μ V)						
0.15 ~ 0.5	Quasi-peak			Average				
	66 to 56			56 to 46				
	56			46				
	60			50				

NOTE: 1. Lower limit applies at the transition frequencies.

2. Limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.1.2 TEST EQUIPMENT USED

Test Date: 5/2/2024

Rev. 4/22/2024	Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
	Rental MXE EMI Receiver(A#1168255)	20Hz-8.4GHz	N9038A	Agilent	MY53290009	1168255	I	8/23/2024	8/23/2023
LISNs/Measurement Probes	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
LISN Asset 1726	150kHz-30MHz	LI-150A	Com-Power	201092	1726	I	1/17/2025	1/17/2024	
LISN Asset 1727	150kHz-30MHz	LI-150A	Com-Power	201093	1727	I	1/17/2025	1/17/2024	
Conducted Test Sites (Mains / Telco)	FCC Code		VCCI Code			Cat	Calibration Due	Calibrated on	
CEMI 1	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	12/15/2025	12/15/2022		
Asset #2657	1235C97	Control Company	200435369	2657	I	8/18/2025	8/18/2022		
Cables	Range	Mfr			Cat	Calibration Due	Calibrated on		
CEMI-02	9kHz - 2GHz	C-S			II	1/26/2025	1/26/2024		
Attenuators	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
20dB ATT(A#2507)	9kHz-2GHz	PE7014-20	Pasternack	2030	2507	II	10/18/2024	10/18/2023	

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

Test Date: 5/17/2024

Rev. 4/22/2024	Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
	2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	4/5/2025	4/5/2024
LISNs/Measurement Probes	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
LISN Asset 2845	9KHz-30MHz	LI-220C	Com-Power	20070054	2708	I	3/15/2025	3/15/2024	
Conducted Test Sites (Mains / Telco)	FCC Code		VCCI Code			Cat	Calibration Due	Calibrated on	
CEMI 5	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	12/15/2025	12/15/2022		
Asset #2657	1235C97	Control Company	200435369	2657	I	8/18/2025	8/18/2022		
Cables	Range	Mfr			Cat	Calibration Due	Calibrated on		
CEMI-04	9kHz - 2GHz	C-S			II	2/14/2025	2/14/2024		
Attenuators	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
20dB20W Attenuator(A#2499)	9KHz-4GHz	766-20	Narda	8710	2499	II	12/5/2024	12/5/2023	

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



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4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded. RBW of 9kHz and VBW of 30kHz were used during measurement.

4.1.4 DEVIATIONS

No deviations from the standard.

4.1.5 TEST SETUP

EUT is a floor-standing device. Please refer to Test Setup Photos exhibit for details.

4.1.6 EUT OPERATING CONDITIONS

EUT was operated according to manufacturer's specifications.



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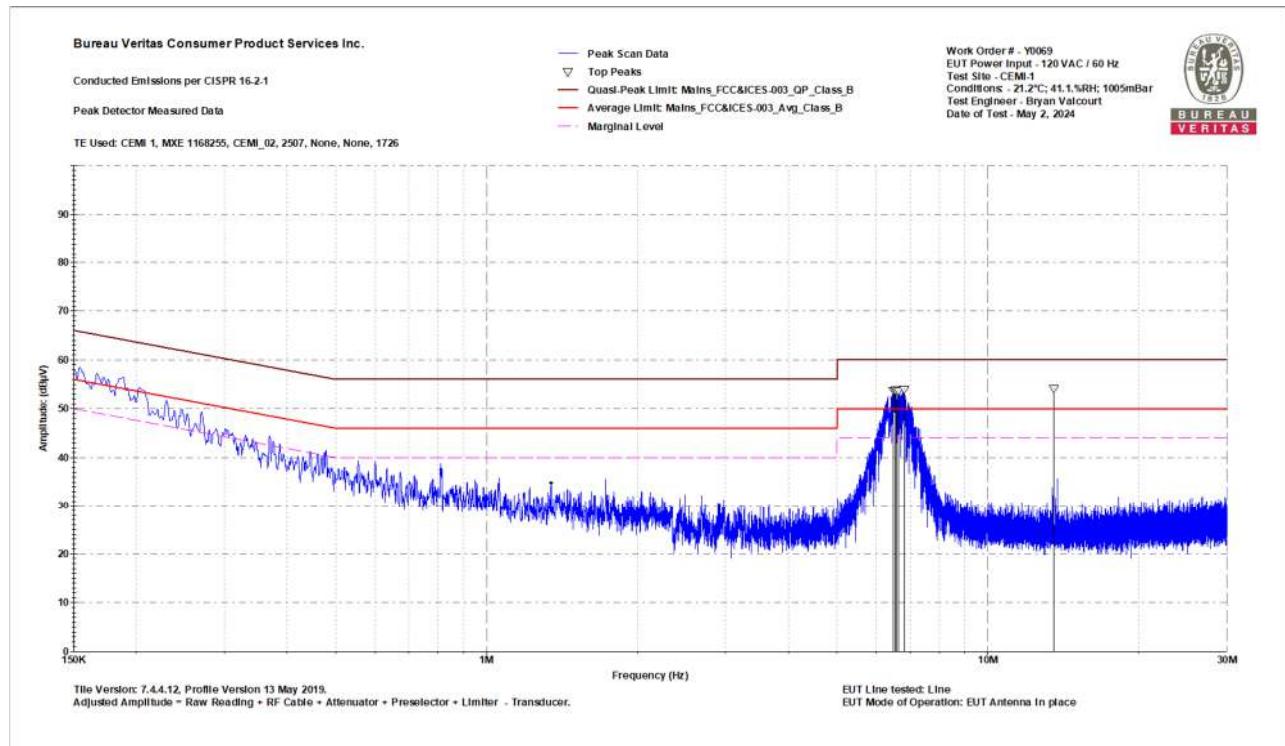


4.1.7 TEST RESULTS

EUT antenna in place

Bureau Veritas Consumer Product Services Inc.				Work Order # - Y0069			
Conducted Emissions per CISPR 16-2-1				EUT Power Input - 120 VAC / 60 Hz			
Peak Detector Data				Test Site - CEMI-1			
Notes:				Conditions: -21.2°C; 41.1.%RH; 1005mBar			
EUT Line tested: Line				Test Engineer - Bryan Valcourt			
EUT Mode of Operation: EUT Antenna in place				Date of Test - May 2, 2024			
Frequency (MHz)	Raw Pk Reading (dB μ V)	Correction Factor (dB)	Adjusted Pk Amplitude (dB μ V)	QP Lim: Mains_FCC&ICES-003_QP_Class_B (dB μ V)	Margin to the QP Limit (dB)	Pk to QP Limit Results (Pass/Fail)	Worst Margin (QP Limit) (dB)
6.48193125	33.3	20.3	53.6	60	-6.4	PASS	
6.5393925	33.4	20.3	53.7	60	-6.3	PASS	
6.570735	33.5	20.3	53.9	60	-6.1	PASS	
6.62670375	33.4	20.3	53.8	60	-6.2	PASS	
6.82222125	33.6	20.3	54	60	-6	PASS	-6

Note: 13.56MHz is a known transmitting frequency



120V 60 Hz RFID Line Peak Data-table and Graph

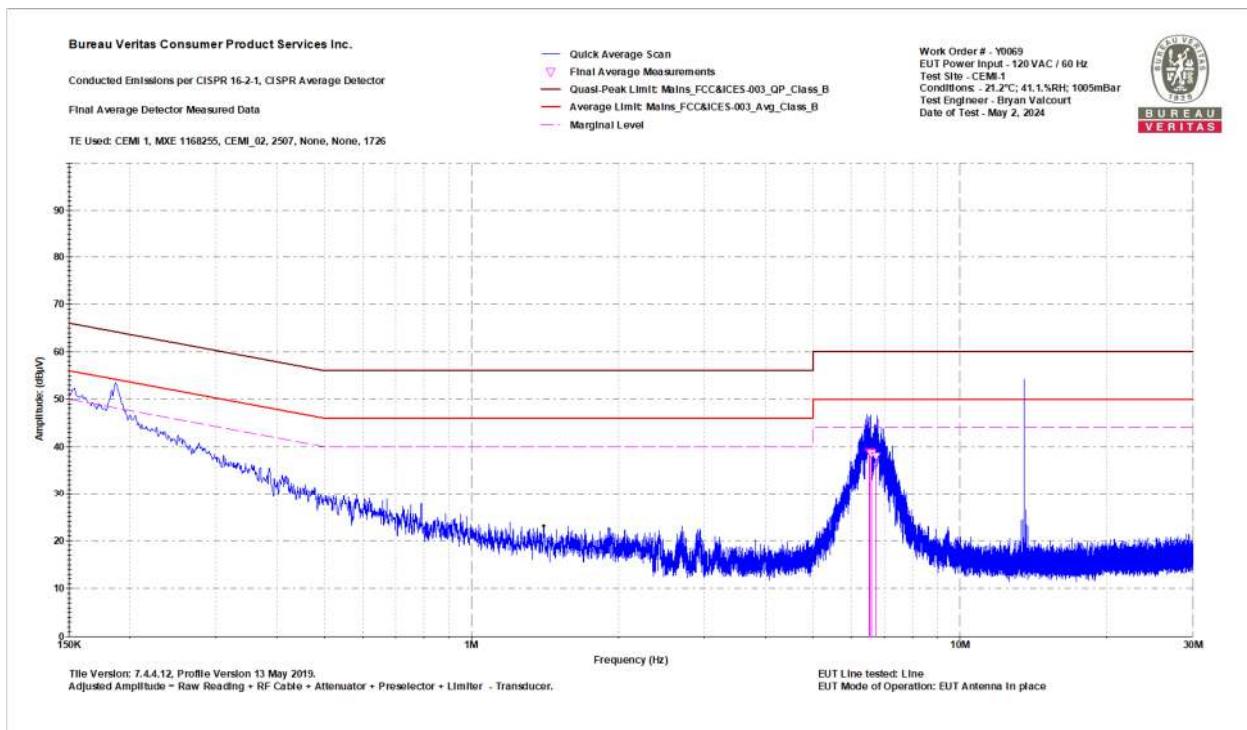


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Bureau Veritas Consumer Product Services Inc.	Work Order # - Y0069
Conducted Emissions per CISPR 16-2-1, CISPR Average Detector	EUT Power Input - 120 VAC / 60 Hz
Final Average Detector Data	Test Site - CEMI-1
Notes:	Conditions: -21.2°C; 41.1%RH; 1005mBar
EUT Line tested: Line	Test Engineer - Bryan Valcourt
EUT Mode of Operation: EUT Antenna in place	Date of Test - May 2, 2024

Frequency (MHz)	Raw Avg Reading (dB μ V)	Correction Factor (dB)	Adjusted Avg Amplitude (dB μ V)	Av Lim: Mains_FCC&ICES-003_Avg_Class_B (dB μ V)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
6.524	18.7	20.3	39	50	-11	PASS	
6.541	18.7	20.3	39	50	-11	PASS	
6.545	18.8	20.3	39.1	50	-10.9	PASS	-10.9
6.558	18.6	20.3	39	50	-11	PASS	
6.585	18.3	20.3	38.6	50	-11.4	PASS	
6.728	17.8	20.3	38.2	50	-11.8	PASS	



120V 60Hz RFID Line Final Average Data-table and Graph



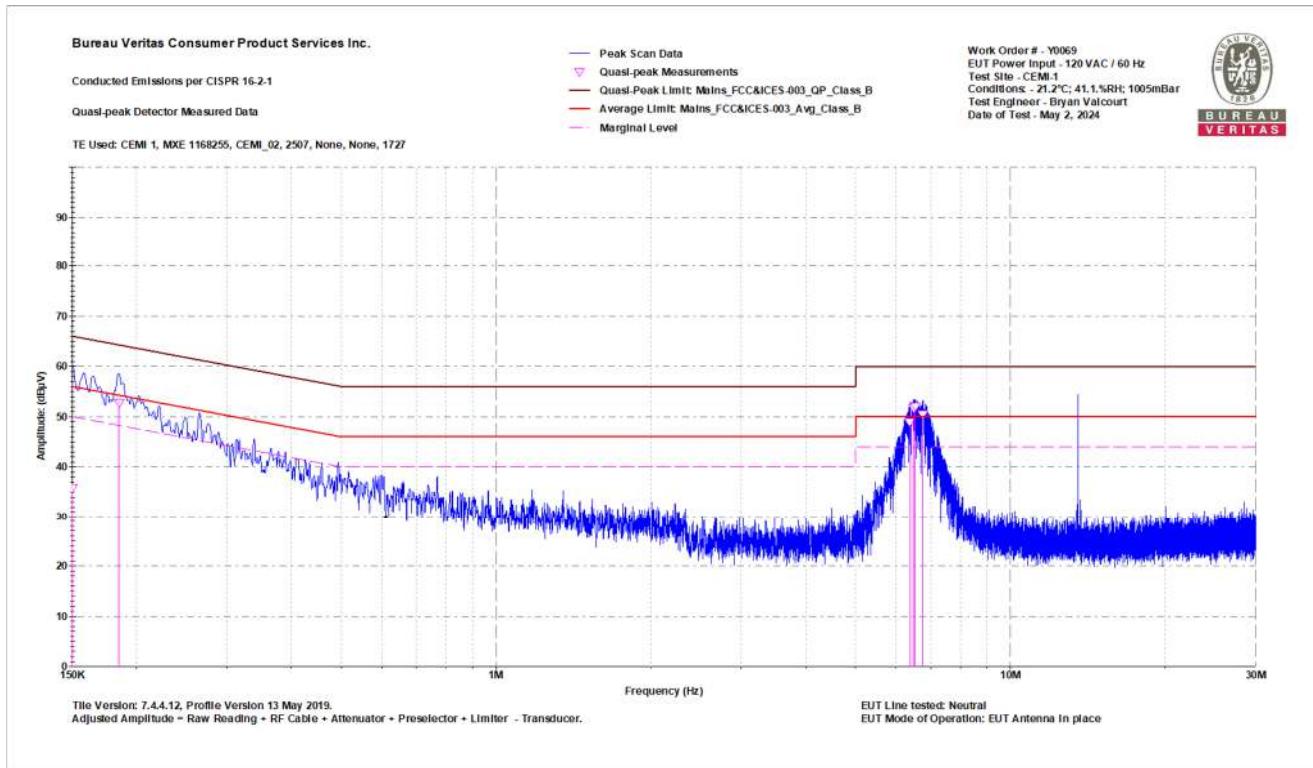
**Test Report for Hydration Labs, Inc.
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Bureau Veritas Consumer Product Services Inc.
Conducted Emissions per CISPR 16-2-1
Quasi-peak Detector Data
Notes:
EUT Line tested: Neutral
EUT Mode of Operation: EUT Antenna in place

Work Order # - Y0069
EUT Power Input - 120 VAC / 60 Hz
Test Site - CEMI-1
Conditions: - 21.2°C; 41.1%RH; 1005mBar
Test Engineer - Bryan Valcourt
Date of Test - May 2, 2024

Frequency (MHz)	Raw QP Reading (dB μ V)	Correction Factor (dB)	Adjusted QP Amplitude (dB μ V)	QP Lim: Mains_FCC&ICES-003_QP_Class_B (dB μ V)	Margin to QP Limit (dB)	QP Limit Results (Pass/Fail)	Worst Margin (QP Limit) (dB)
0.15	15.656	20.2	35.8	66	-30.2	PASS	
0.185	32.679	20.2	52.8	64.3	-11.4	PASS	
6.382	28.574	20.3	48.9	60	-11.1	PASS	
6.49	31.29	20.3	51.6	60	-8.4	PASS	
6.534	31.575	20.3	51.9	60	-8.1	PASS	-8.1
6.757	30.16	20.3	50.5	60	-9.5	PASS	



120V 60 Hz RFID Neutral Quasi Peak Data-table Graph

Bureau Veritas Consumer Product Services Inc.

**One Distribution Center Circle, #1
Littleton, MA**

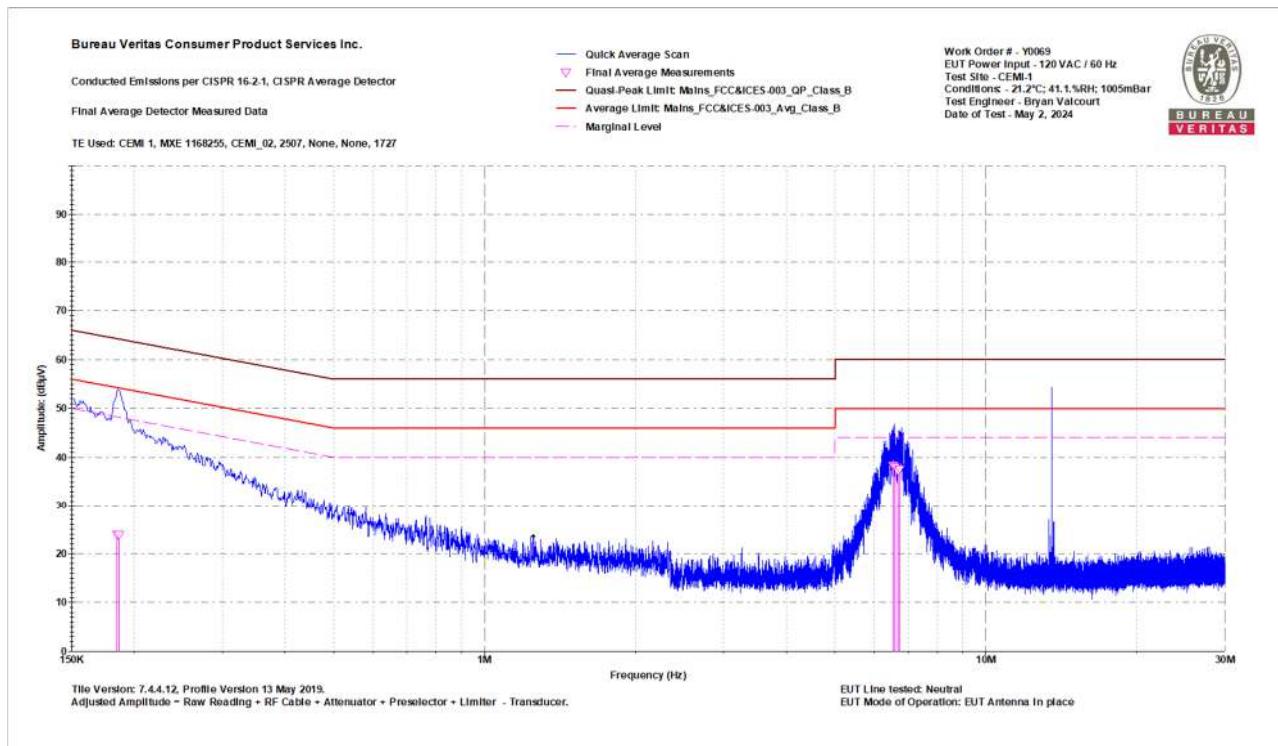
Tel.: (978) 486-8880
Fax: (978) 486-8828



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Bureau Veritas Consumer Product Services Inc. Conducted Emissions per CISPR 16-2-1, CISPR Average Detector Final Average Detector Data Notes: EUT Line tested: Neutral EUT Mode of Operation: EUT Antenna in place				Work Order # - Y0069 EUT Power Input - 120 VAC / 60 Hz Test Site - CEMI-1 Conditions: - 21.2°C; 41.1.%RH; 1005mBar Test Engineer - Bryan Valcourt Date of Test - May 2, 2024			
Frequency (MHz)	Raw Avg Reading (dB μ V)	Correction Factor (dB)	Adjusted Avg Amplitude (dB μ V)	Av Lim: Mains_FCC&ICES-003_Avg_Class_B (dB μ V)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
0.185	3.6	20.2	23.8	54.3	-30.5	PASS	
0.186	3.7	20.2	23.9	54.2	-30.3	PASS	
6.553	18	20.3	38.3	50	-11.7	PASS	-11.7
6.595	17.7	20.3	38.1	50	-11.9	PASS	
6.687	16.9	20.3	37.2	50	-12.8	PASS	
6.735	17.4	20.3	37.7	50	-12.3	PASS	



120V 60 Hz RFID Neutral Final Average Data-Table and Graph



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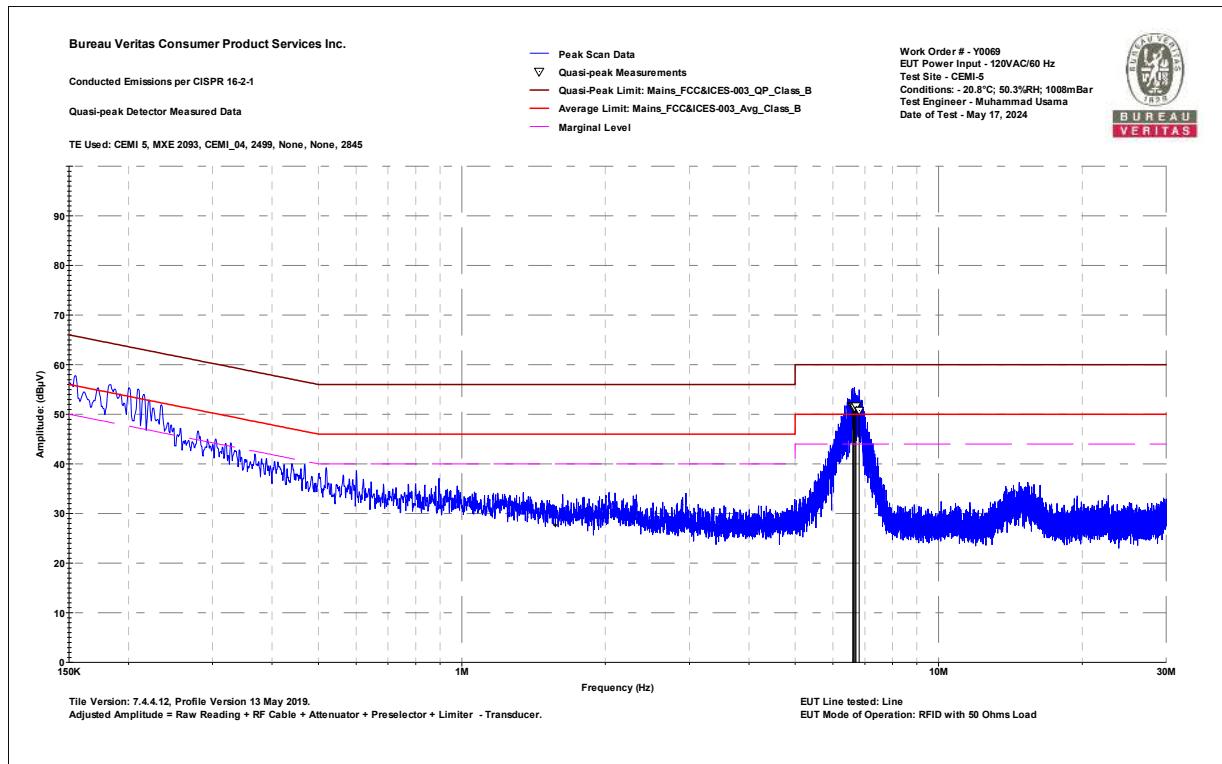


EUT antenna replaced with non-radiating load

Bureau Veritas Consumer Product Services Inc.
Conducted Emissions per CISPR 16-2-1
Quasi-peak Detector Data
Notes:
EUT Line tested: Line
EUT Mode of Operation: RFID with 50 Ohms Load

Work Order # - Y0069
EUT Power Input - 120VAC/60 Hz
Test Site - CEMI-5
Conditions: - 20.8°C; 50.3%RH; 1008mBar
Test Engineer - Muhammad Usama
Date of Test - May 17, 2024

Frequency (MHz)	Raw QP Reading (dB μ V)	Correction Factor (dB)	Adjusted QP Amplitude (dB μ V)	QP Lim: Mains_FCC&ICES-003_QP_Class_B (dB μ V)	Margin to QP Limit (dB)	QP Limit Results (Pass/Fail)	Worst Margin (QP Limit) (dB)
6.599	31.707	20	51.7	60	-8.3	PASS	
6.626	31.72	20	51.7	60	-8.3	PASS	
6.672	31.19	20	51.2	60	-8.8	PASS	
6.673	31.369	20	51.3	60	-8.7	PASS	
6.711	31.741	20	51.7	60	-8.3	PASS	-8.3
6.808	30.792	20	50.8	60	-9.2	PASS	



120V 60Hz RFID with 50Ohms Load Line Quasi Peak Data-table and Graph

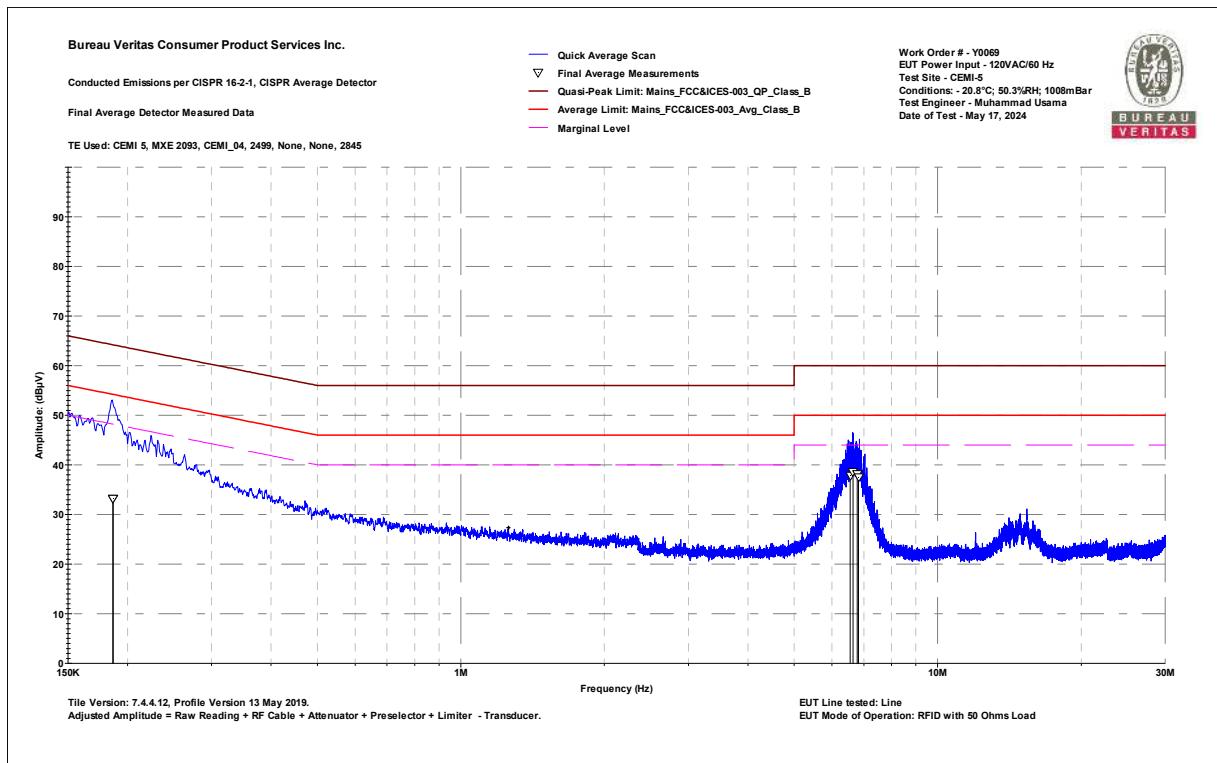


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Bureau Veritas Consumer Product Services Inc.	Work Order # - Y0069
Conducted Emissions per CISPR 16-2-1, CISPR Average Detector	EUT Power Input - 120VAC/60 Hz
Final Average Detector Data	Test Site - CEMI-5
Notes:	Conditions: - 20.8°C; 50.3%RH; 1008mBar
EUT Line tested: Line	Test Engineer - Muhammad Usama
EUT Mode of Operation: RFID with 50 Ohms Load	Date of Test - May 17, 2024

Frequency (MHz)	Raw Avg Reading (dBµV)	Correction Factor (dB)	Adjusted Avg Amplitude (dBµV)	Av Lim: Mains_FCC&ICES-003_Avg_Class_B (dBµV)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
0.186	13.5	19.8	33.3	54.2	-20.9	PASS	
0.186	13.4	19.8	33.2	54.2	-21	PASS	
6.556	17.9	20	37.9	50	-12.1	PASS	
6.643	18.7	20	38.6	50	-11.4	PASS	-11.4
6.781	18.2	20	38.2	50	-11.8	PASS	
6.824	17.6	20	37.6	50	-12.4	PASS	



120V 60Hz RFID with 50Ohms Load Line Final Average Data-table and Graph

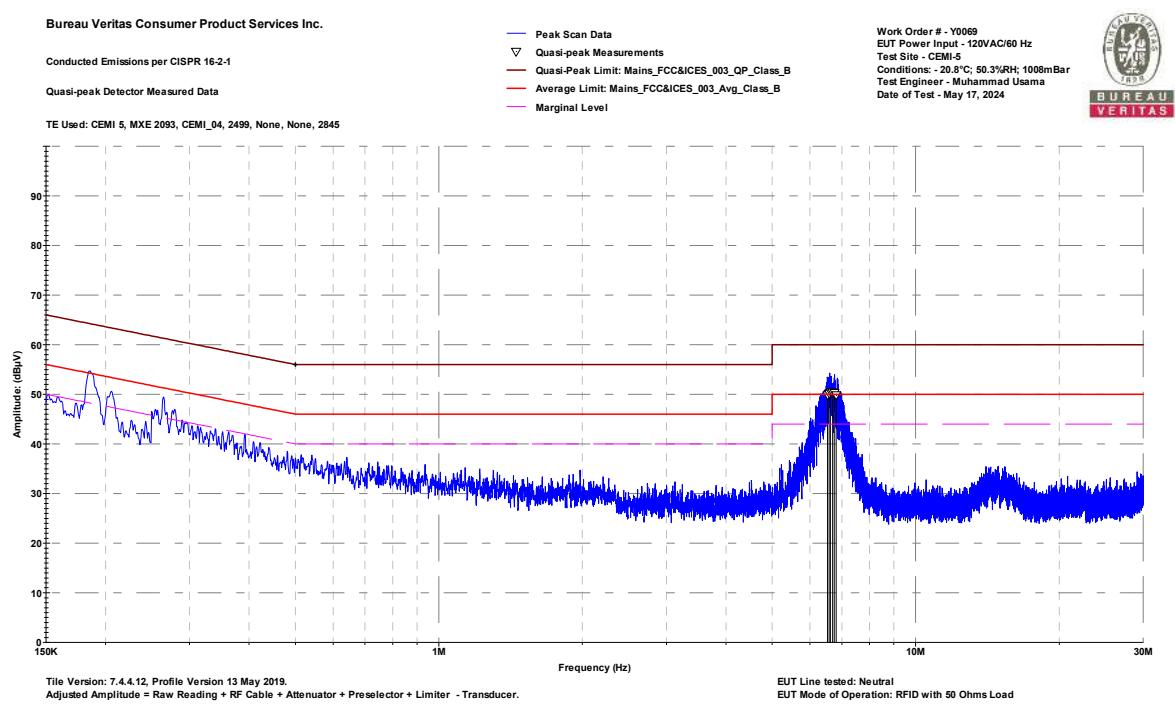


**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



Bureau Veritas Consumer Product Services Inc.	Work Order # - Y0069
Conducted Emissions per CISPR 16-2-1	EUT Power Input - 120VAC/60 Hz
Quasi-peak Detector Data	Test Site - CEMI-5
Notes:	Conditions: - 20.8°C; 50.3%RH; 1008mBar
EUT Line tested: Neutral	Test Engineer - Muhammad Usama
EUT Mode of Operation: RFID with 50 Ohms Load	Date of Test - May 17, 2024

Frequency (MHz)	Raw QP Reading (dB μ V)	Correction Factor (dB)	Adjusted QP Amplitude (dB μ V)	QP Lim: Mains_FCC&ICES_003_QP_Class_B (dB μ V)	Margin to QP Limit (dB)	QP Limit Results (Pass/Fail)	Worst Margin (QP Limit) (dB)
6.539	29.951	19.9	49.9	60	-10.1	PASS	
6.583	30.187	19.9	50.1	60	-9.9	PASS	
6.628	30.507	19.9	50.4	60	-9.6	PASS	-9.6
6.694	30.493	19.9	50.4	60	-9.6	PASS	
6.75	30.449	19.9	50.4	60	-9.6	PASS	
6.811	29.844	19.9	49.8	60	-10.2	PASS	



120V 60Hz RFID with 50Ohms Load Neutral Quasi Peak Data-table and Graph

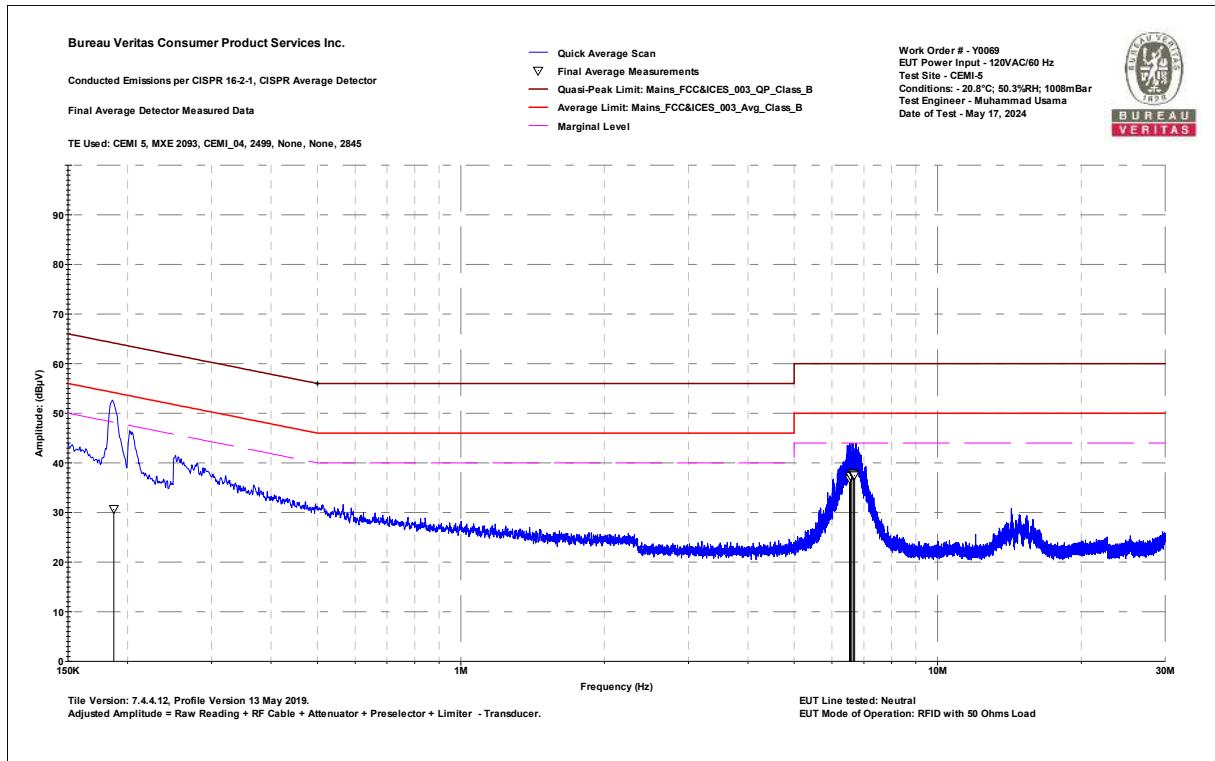


**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



Bureau Veritas Consumer Product Services Inc.	Work Order # - Y0069
Conducted Emissions per CISPR 16-2-1, CISPR Average Detector	EUT Power Input - 120VAC/60 Hz
Final Average Detector Data	Test Site - CEMI-5
Notes:	Conditions: - 20.8°C; 50.3%RH; 1008mBar
EUT Line tested: Neutral	Test Engineer - Muhammad Usama
EUT Mode of Operation: RFID with 50 Ohms Load	Date of Test - May 17, 2024

Frequency (MHz)	Raw Avg Reading (dB μ V)	Correction Factor (dB)	Adjusted Avg Amplitude (dB μ V)	Av Lim: Mains_FCC&ICES_003_Avg_Class_B (dB μ V)	Avg Margin (dB)	Avg Results (Pass/Fail)	Worst Avg Margin (dB)
0.187	10.9	19.8	30.7	54.2	-23.5	PASS	
6.537	16.9	19.9	36.8	50	-13.2	PASS	
6.569	17.5	19.9	37.4	50	-12.6	PASS	
6.602	18.1	19.9	38	50	-12	PASS	-12
6.65	17.8	19.9	37.7	50	-12.3	PASS	
6.694	17.5	19.9	37.5	50	-12.5	PASS	



120V 60Hz RFID with 50Ohms Load Neutral Final Average Data-table and Graph



**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



4.2 FUNDAMENTAL FIELD STRENGTH AND EMISSION MASK

4.2.1 LIMITS

Fundamental Field Strength:

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

Emission Mask:

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.

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.

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 FCC 15.209 and RSS-Gen.

Limit conversion below 30MHz is done by using the square of an inverse linear distance extrapolation factor (40 dB/decade) as allowed in FCC 15.31(f)(2).

$$\text{Limit (3m)} = \text{Limit (30m)} + 40 * \log(30/3) = \text{Limit (30m)} + 40$$

$$\text{Limit (3m)} = \text{Limit (300m)} + 40 * \log(300/3) = \text{Limit (300m)} + 80$$

4.2.2 TEST SETUP

Same as radiated spurious emissions setup below 30MHz (Section 4.3.5).

4.2.3 TEST EQUIPMENT USED

Rev. 4/22/2024										
Spectrum Analyzers / Receivers /Preselectors Rental MXE EMI Receiver (1274541)	Range 20Hz-26.5GHz	MN N9038A	Mfr Keysight	SN MY53220101	Asset ####	Cat 1	Calibration Due 6/19/2024	Calibrated on 6/19/2023		
Radiated Emissions Sites EMI Chamber 2	FCC Code 719150	IC Code 2762A-7	VCCI Code A-0015	Range 30-1000MHz	Asset 1686	Cat I	Calibration Due 12/28/2024	Calibrated on 12/28/2022		
Antennas 2615 Active Loop Antenna	Range 9KHz-30MHz	MN 6502	Mfr EMCO	SN 2049	Asset 2615	Cat I	Calibration Due 1/18/2025	Calibrated on 1/18/2023		
Meteorological Meters/Chambers Weather Clock (Pressure Only) Asset #2654	MN BA928	Mfr Oregon Scientific	SN C3166-1	Asset 831	Cat I	Calibration Due 12/15/2025	Calibrated on 12/15/2022			
Cables Asset #2054	Range 9kHz - 18GHz	Mfr Florida RF			Cat II	Calibration Due 11/2/2024	Calibrated on 11/2/2023			
Asset #3011	9KHz-18GHz	Pasternack								
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.										



**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



4.2.4 TEST PROCEDURES

Same as Section 4.3.3.

4.2.5 DEVIATIONS

No deviations from the standard.

4.2.6 EUT OPERATING CONDITIONS

EUT was operated according to manufacturer's specifications.



Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



4.2.7 TEST RESULTS

Test Date: 5/8/2024

Measurement Distance		3m											
Orientation	Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dB μ V/m)	Lim1: FCC_pt15_209 _dB μ V/m (dB μ V/m)	Peak Margin (dB)	Worst Margin (dB)	Lim2: FCC_pt15_225 _dB μ V/m (dB μ V/m)	Peak Margin (dB)	Worst Margin (dB)	Peak Test Results (Pass/Fail)	EUT Azimuth (degrees)	
Parallel	13.56	50.714	10.9	61.6	69.5	-7.9		124	-62.4		Pass	0	
Perpendicular	13.56	56.341	10.9	67.2	69.5	-2.3	-2.3	124	-56.8	-56.8	Pass	0	
Parallel to Floor	13.56	40.697	10.9	51.6	69.5	-17.9		124	-72.4		Pass	0	

Emission mask defined in 15.225 (a)-(d) was not necessary since the maximum 13.56MHz fundamental of 67.2dB μ V/m at 3m is below the 15.209 limit of 69.5dB μ V/m at 3m. In addition, all radiated spurious emissions were below the 15.209 limits.



4.3 RADIATED SPURIOUS EMISSIONS

4.3.1 LIMITS

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/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

NOTE:

1. Lower limit applies at the transition frequencies.
2. As specified in 15.35(b), for frequencies above 1000MHz, field strength limits are based on the use of measurement instrumentation employing an average detector function. However, there is also a limit on the peak level of the emissions that is 20 dB above the maximum permitted average emission limit.
3. Measurements above 6GHz or 18GHz can be performed at distances less than 3m from the EUT due to increased noise floor of the measurement system. Since such measurements produce higher amplitudes than what they would be if they were measured at 3 meters, this would be considered worst-case and no compensation back to 3 meters is needed. Limit conversion above 30MHz is done by using inverse linear distance extrapolation factor (20dB/decade) as allowed in FCC 15.31(f)(1).

$$\text{Limit}(1m) = \text{Limit}(3m) + 20 * \log(3/1) = \text{Limit}(3m) + 9.5$$

4. Limit conversion below 30MHz is done by using the square of an inverse linear distance extrapolation factor (40 dB/decade) as allowed in FCC 15.31(f)(2).

$$\text{Limit}(3m) = \text{Limit}(30m) + 40 * \log(30/3) = \text{Limit}(30m) + 40$$

$$\text{Limit}(3m) = \text{Limit}(300m) + 40 * \log(300/3) = \text{Limit}(300m) + 80$$

5. Adjusted Reading (dB_{UV}/m) = Raw Reading (dB_{UV}) + Transducer(Correction) Factor (dB/m)

$$\text{Transducer Factor (dB/m)} = \text{Antenna Factor (dB/m)} - \text{PreAmp Gain (dB)} + \text{Cable Loss (dB)} + \text{Filter Loss (dB)}$$

Note: Filter loss only applies if a notch filter is used during testing.

6. RSS-GEN Table 6 H-field limits are 51.5dB lower than FCC 15.209(a) E-field limits. Measurements are performed in terms of magnetic field and converted to electric field using the free space impedance of 377Ω ($E\text{-field} = H\text{-field} + 51.5$). Therefore resulting pass/fail margin would be the same if an E-field reading is compared to an H-field limit or an H-field reading is compared to an E-field limit.



Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



4.3.2 TEST EQUIPMENT USED

May-06-2024

Rev. 4/22/2024									
Spectrum Analyzers / Receivers /Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Rental MXE EMI Receiver (1274541)		20Hz-26.5GHz	N9038A	Keysight	MY53220101	1274541	1	6/19/2024	6/19/2023
Radiated Emissions Sites									
EMI Chamber 2		FCC Code 719150	IC Code 2762A-7	VCCI Code A-0015	Range 30-1000MHz	Asset 1686	I	12/28/2024	12/28/2022
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2311 PA		1-1000MHz	PAM-103	COM-POWER	441174	2311	II	10/18/2024	10/18/2023
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Red-Black BiLog		30-2000MHz	JB1	Sunol	A091604-2	1106	I	10/2/2025	10/2/2023
2615 Active Loop Antenna		9KHz-30MHz	6502	EMCO	2049	2615	I	1/18/2025	1/18/2023
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on	
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	12/15/2025	12/15/2022	
Asset #2654		1235C97	Control Company	200477432	2654	I	8/18/2025	8/18/2022	
Cables		Range	Mfr	Calibration Due					
Asset #2054		9kHz - 18GHz	Florida RF			II	11/2/2024	11/2/2023	
Asset #2474		9KHz-18GHz	MegaPhase			II	11/2/2024	11/2/2023	
Asset #3011		9KHz-18GHz	Pasternack			II	11/2/2024	11/2/2023	

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

Test Equipment Used



**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



4.3.3 TEST PROCEDURES

- a. The EUT was tested as a floor-standing equipment in a 3 meters semi-anechoic chamber.
- b. For below 30MHz, a loop antenna with its lowest point 1m above the ground was placed 3m away from the EUT and it was rotated 0 and 90 degrees around its vertical axis.
- c. In 30MHz-1GHz range, a BiConiLog antenna was mounted on a variable-height antenna tower and placed 3m away from the EUT. Antenna height was varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were investigated. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. Following bandwidths were used during emissions testing:

Freq. (MHz)	RBW	VBW	Pre-scan	Final
0.009-0.15	200Hz	1kHz	Peak	Not required based on peak pre-scan data
0.15-30	9kHz	30kHz	Peak	Not required based on peak pre-scan data
30-1000	120kHz	300kHz	Peak	Quasi Peak

Per FCC §15.209(d), limits §15.209(a) are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz and 110–490 kHz. Radiated emission limits in these bands are based on measurements employing an average detector. If peak measurements in these frequency bands were below the applicable limits, QPk and RMS measurements were not performed.



**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



4.3.4 DEVIATIONS

No deviations from the standard.

4.3.5 TEST SETUP

EUT is a floor-standing device. Please refer to the test setup exhibits for details.

4.3.6 EUT OPERATING CONDITIONS

EUT was operated according to the manufacturer's specifications.



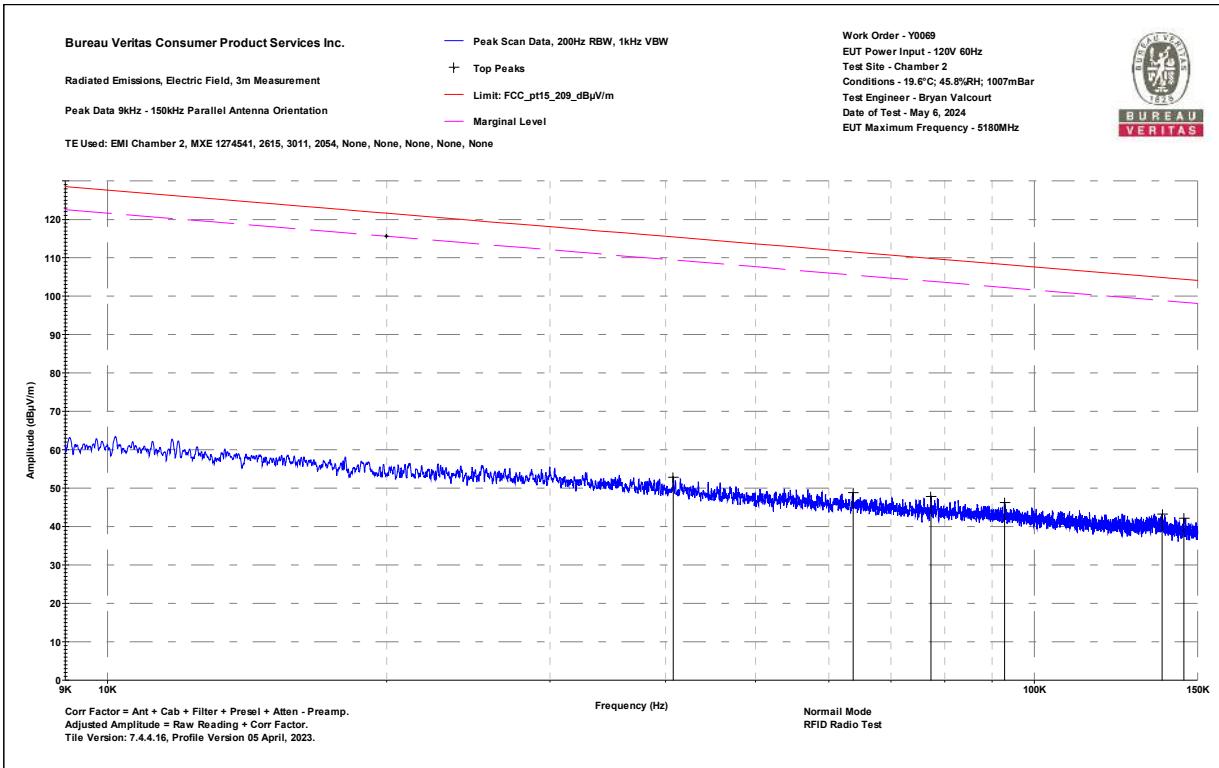
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



4.3.7 TEST RESULTS

Bureau Veritas Consumer Product Services Inc. Radiated Emissions, Electric Field, 3m Measurement Top Peaks Parallel 9-150kHz Notes: Normal Mode RFID Radio Test				Work Order - Y0069 EUT Power Input - 120V 60Hz Test Site - Chamber 2 Conditions - 19.6°C; 45.8%RH; 1007mBar Test Engineer - Bryan Valcourt Date of Test - May 6, 2024				
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Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dB μ V/m)	Lim: FCC_pt15_209_dB μ V/m (dB μ V/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Margin (dB)	EUT Azimuth (degrees)
0.040771	40.9	11.9	52.9	115.4	-62.5	PASS		165
0.06374	38.2	10.7	48.9	111.5	-62.7	PASS		15
0.077357	37.4	10.5	47.9	109.8	-62	PASS		45
0.092817	35.8	10.4	46.2	108.3	-62	PASS		330
0.137338	33.2	10.1	43.2	104.9	-61.6	PASS	-61.6	330
0.144931	32.1	10.1	42.1	104.4	-62.3	PASS		180



0.009-0.15MHz Parallel Data-table and Graph

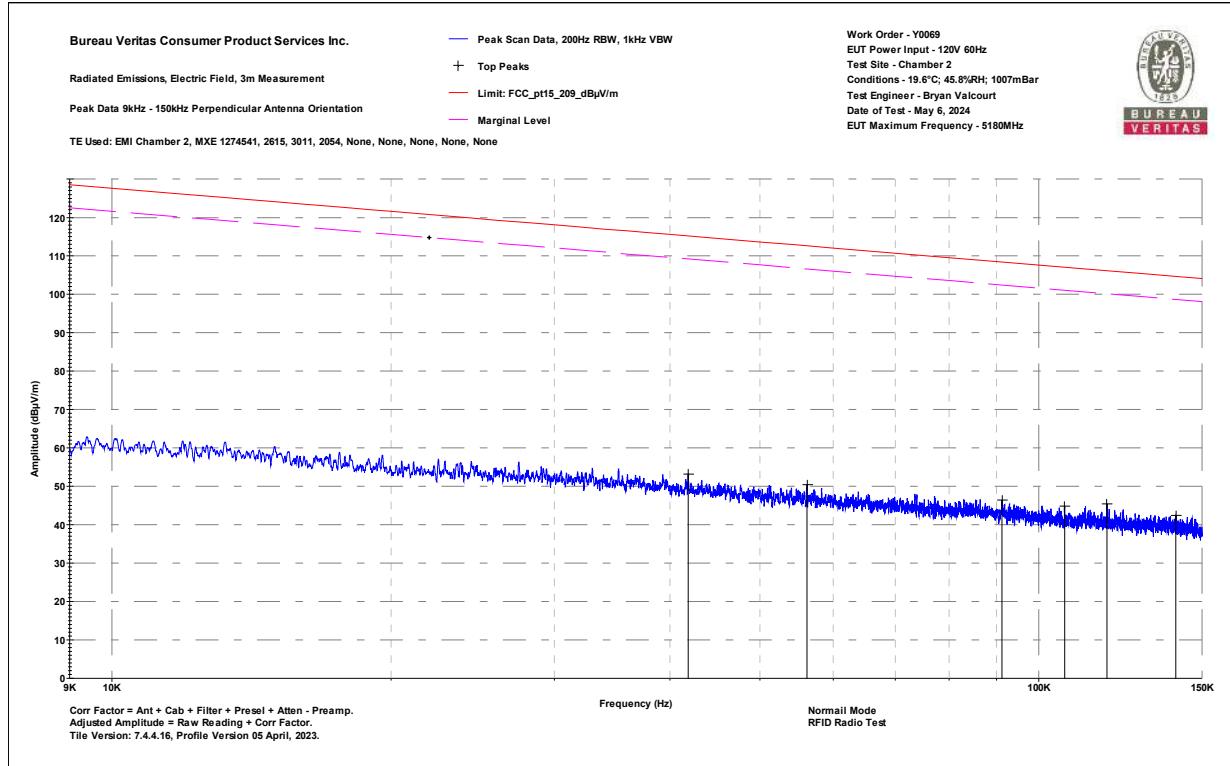


Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.	Work Order - Y0069
Radiated Emissions, Electric Field, 3m Measurement	EUT Power Input - 120V 60Hz
Top Peaks Perpendicular 9-150kHz	Test Site - Chamber 2
Notes:	Conditions - 19.6°C; 45.8%RH; 1007mBar
Normal Mode	Test Engineer - Bryan Valcourt
RFID Radio Test	Date of Test - May 6, 2024

Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dB μ V/m)	Lim: FCC_pt15_209_dB μ V/m (dB μ V/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Margin (dB)	EUT Azimuth (degrees)
0.041857	41.4	11.8	53.2	115.2	-62	PASS		60
0.056221	39.5	10.9	50.4	112.6	-62.2	PASS		150
0.091221	35.8	10.5	46.3	108.4	-62.1	PASS		330
0.106618	34.7	10.1	44.8	107.1	-62.3	PASS		315
0.118441	35.3	10.1	45.4	106.1	-60.7	PASS	-60.7	180
0.14056	32.3	10.1	42.3	104.6	-62.3	PASS		180



0.009-0.15MHz Perpendicular Data-table and Graph



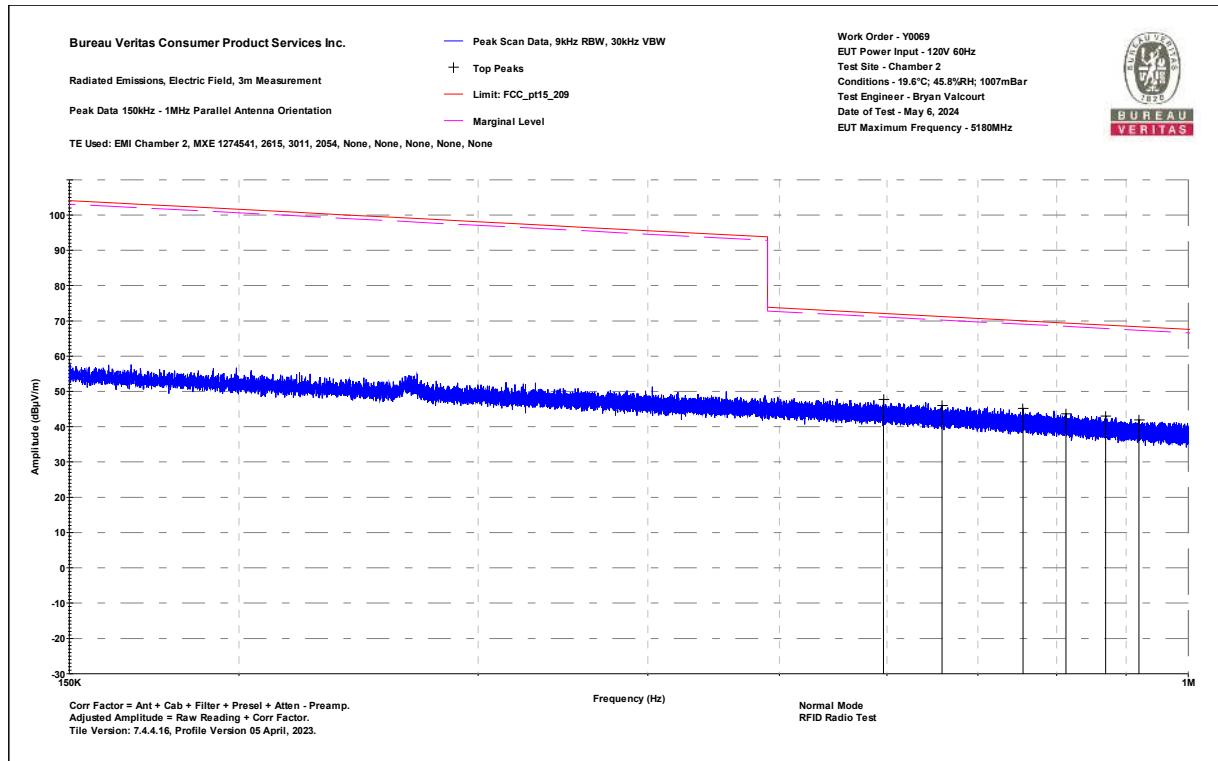
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
Top Peaks Parallel 150-1000kHz
Notes:
Normal Mode
RFID Radio Test

Work Order - Y0069
EUT Power Input - 120V 60Hz
Test Site - Chamber 2
Conditions - 19.6°C; 45.8%RH; 1007mBar
Test Engineer - Bryan Valcourt
Date of Test - May 6, 2024

Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/s)	Adjusted Peak Amplitude (dB μ V/m)	Lim: FCC_pt15_209 (dB μ V/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Margin (dB)	EUT Azimuth (degrees)
0.596	37.5	10.3	47.8	72.1	-24.3	PASS	-24.3	165
0.659	35.7	10.3	46	71.3	-25.2	PASS		150
0.756	34.8	10.4	45.2	70.1	-24.8	PASS		165
0.813	33.3	10.4	43.7	69.4	-25.7	PASS		75
0.869	32.5	10.4	43	68.8	-25.9	PASS		330
0.919	31.5	10.5	42	68.3	-26.4	PASS		240



0.15-1MHz Parallel Data-table and Graph



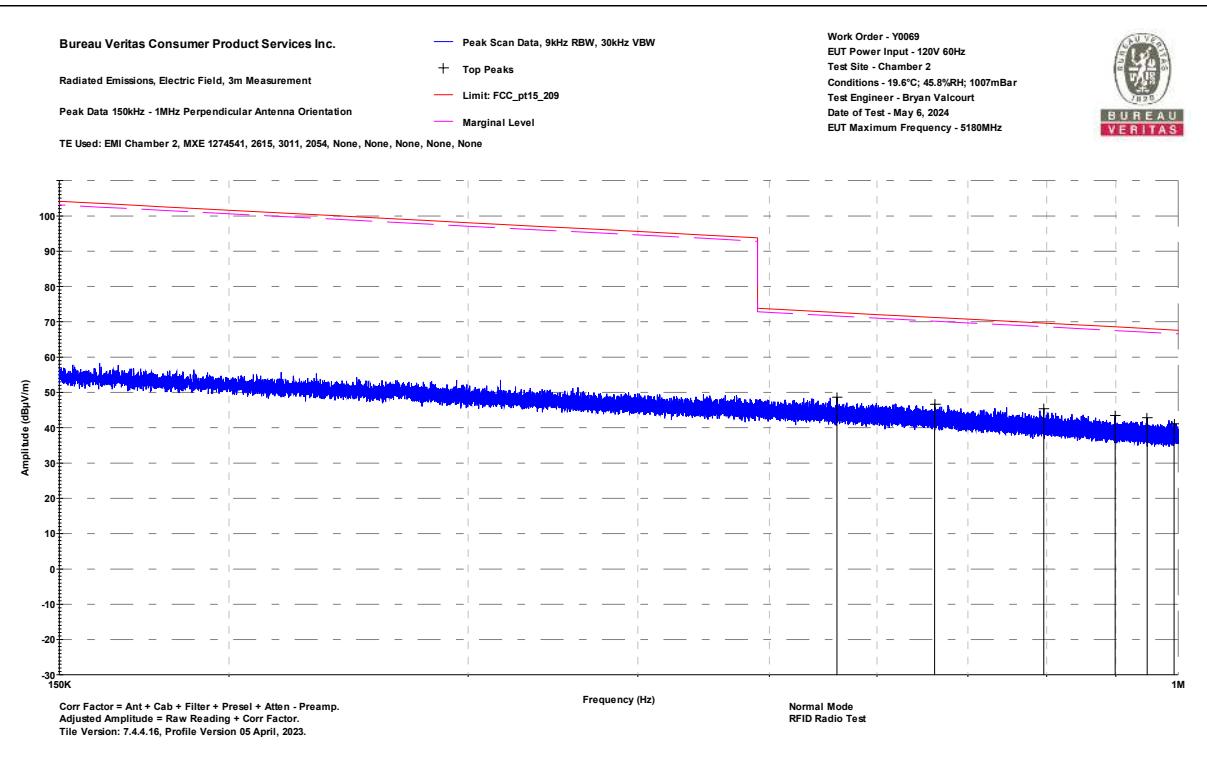
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
Top Peaks Perpendicular 150-1000kHz
Notes:
Normal Mode
RFID Radio Test

Work Order - Y0069
EUT Power Input - 120V 60Hz
Test Site - Chamber 2
Conditions - 19.6°C; 45.8%RH; 1007mBar
Test Engineer - Bryan Valcourt
Date of Test - May 6, 2024

Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/s)	Adjusted Peak Amplitude (dB μ V/m)	Lim: FCC_pt15_209 (dB μ V/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Margin (dB)	EUT Azimuth (degrees)
0.561	38.4	10.2	48.6	72.7	-24	PASS	-24	240
0.662	36.3	10.3	46.7	71.2	-24.5	PASS		150
0.796	35	10.4	45.4	69.6	-24.2	PASS		315
0.899	33	10.4	43.4	68.5	-25.1	PASS		75
0.949	32.2	10.6	42.7	68.1	-25.3	PASS		45
0.993	30.5	10.7	41.2	67.7	-26.5	PASS		195



0.15-1MHz Perpendicular Data-table and Graph



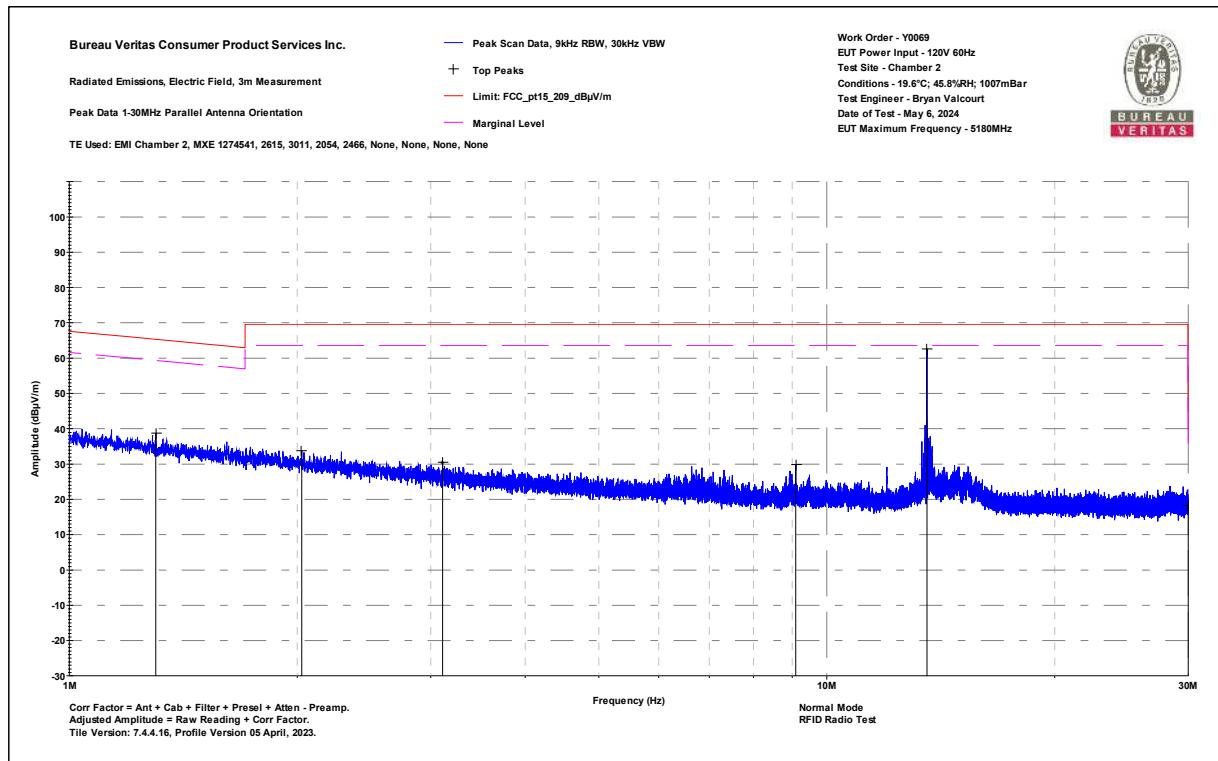
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
Top Peaks Parallel 1-30MHz
Notes:
Normal Mode
RFID Radio Test

Work Order - Y0069
EUT Power Input - 120V 60Hz
Test Site - Chamber 2
Conditions - 19.6°C; 45.8%RH; 1007mBar
Test Engineer - Bryan Valcourt
Date of Test - May 6, 2024

Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/s)	Adjusted Peak Amplitude (dB μ V/m)	Lim: FCC_pt15_209_dB μ V/m (dB μ V/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Margin (dB)	EUT Azimuth (degrees)
1.301	27.9	10.7	38.6	65.3	-26.7	PASS		240
2.026	23.2	10.6	33.8	69.5	-35.8	PASS		285
3.109	20	10.5	30.4	69.5	-39.1	PASS		0
9.1	19.2	10.7	29.9	69.5	-39.7	PASS		270
13.561	51.7	10.9	62.6	69.5	-6.9	PASS	-6.9	315
30	10.2	8	18.2	40	-21.8	PASS		150



1-30MHz Parallel Data-table and Graph



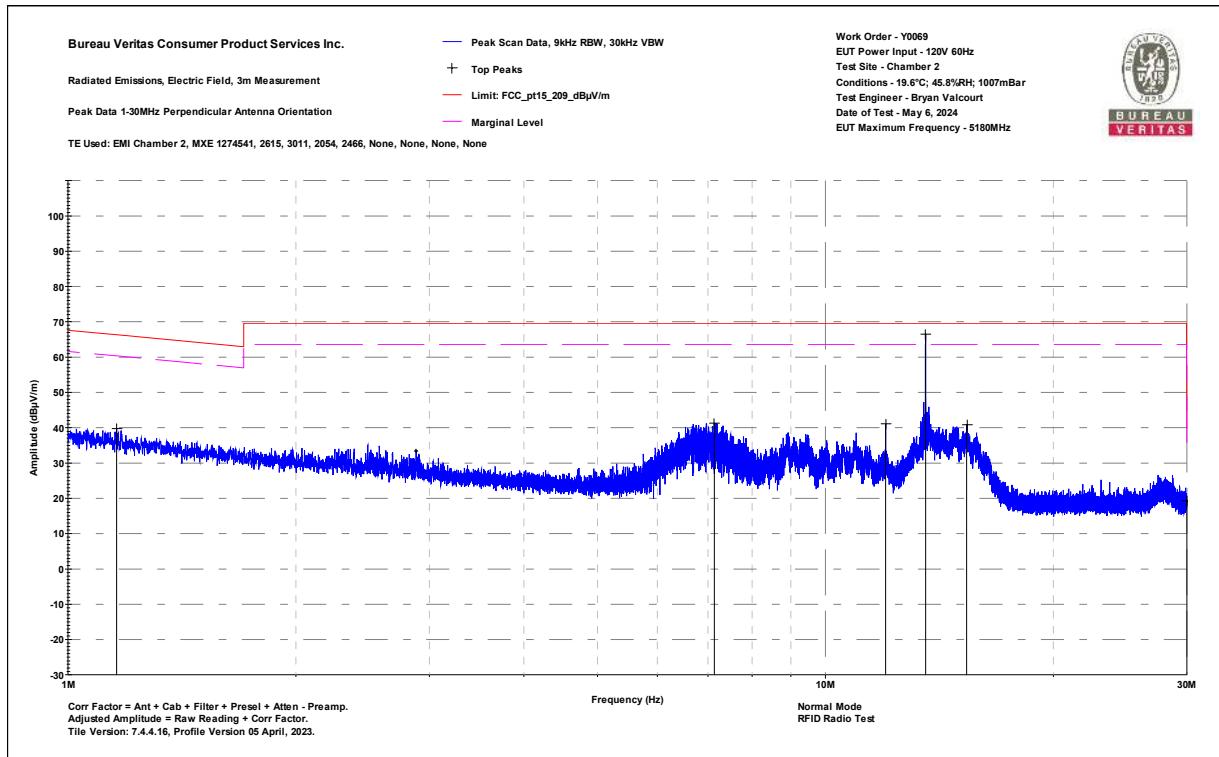
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
Top Peaks Perpendicular 1-30MHz
Notes:
Normal Mode
RFID Radio Test

Work Order - Y0069
EUT Power Input - 120V 60Hz
Test Site - Chamber 2
Conditions - 19.6°C; 45.8%RH; 1007mBar
Test Engineer - Bryan Valcourt
Date of Test - May 6, 2024

Frequency (MHz)	Raw Peak Reading (dB μ V)	Correction Factor (dB/s)	Adjusted Peak Amplitude (dB μ V/m)	Lim: FCC_pt15_209_dB μ V/m (dB μ V/m)	Peak Margin (dB)	Peak Test Results (Pass/Fail)	Worst Margin (dB)	EUT Azimuth (degrees)
1.159	29	10.7	39.7	66.3	-26.6	PASS		60
7.133	30.6	10.7	41.3	69.5	-28.2	PASS		225
12.008	30.1	10.9	41	69.5	-28.5	PASS		150
13.561	55.6	10.9	66.5	69.5	-3	PASS	-3	240
15.372	30.1	10.8	40.9	69.5	-28.7	PASS		255
30	11.3	8	19.2	40	-20.8	PASS		75



1-30MHz Perpendicular Data-table and Graph



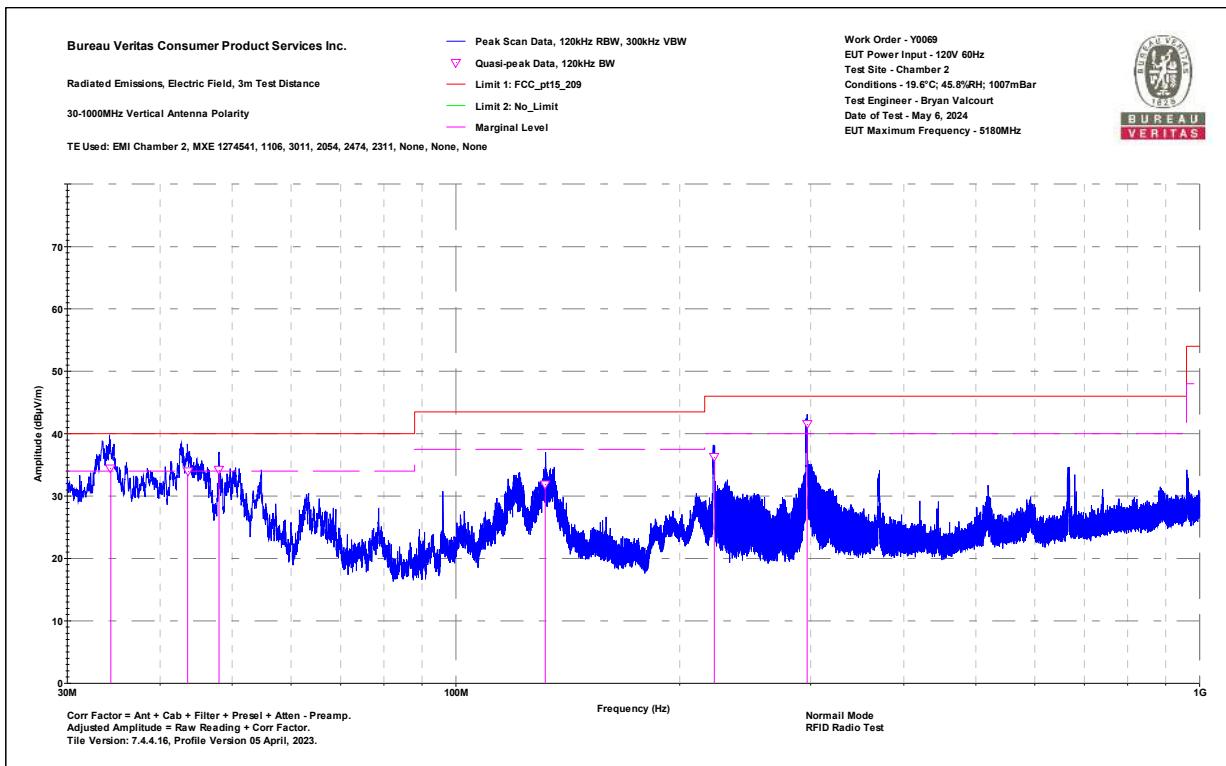
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
30-1000MHz Vertical Data
Notes:
Normal Mode
RFID Radio Test

Work Order - Y0069
EUT Power Input - 120V 60Hz
Test Site - Chamber 2
Conditions - 19.6°C; 45.8%RH; 1007mBar
Test Engineer - Bryan Valcourt
Date of Test - May 6, 2024

Frequency (MHz)	Raw QP Reading (dB μ V)	Correction Factor (dB/m)	Adjusted QP Amplitude (dB μ V/m)	Lim1: FCC_pt15_209 (dB μ V/m)	Margin to Lim1 (dB)	Test Results Lim1 (Pass/Fail)	Worst Margin Lim1 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
34.328	43.9	-9.5	34.5	40	-5.5	PASS		114	13
43.576	50.2	-16.2	33.9	40	-6.1	PASS		125	340
47.986	52.9	-18.8	34.2	40	-5.8	PASS		125	188
131.824	45.4	-13.5	31.9	43.5	-11.6	PASS		100	307
222.434	51.9	-15.6	36.2	46	-9.8	PASS		147	331
296.692	54.8	-13.2	41.6	46	-4.4	PASS	-4.4	167	25



30-1000MHz Vertical Data-table and Graph



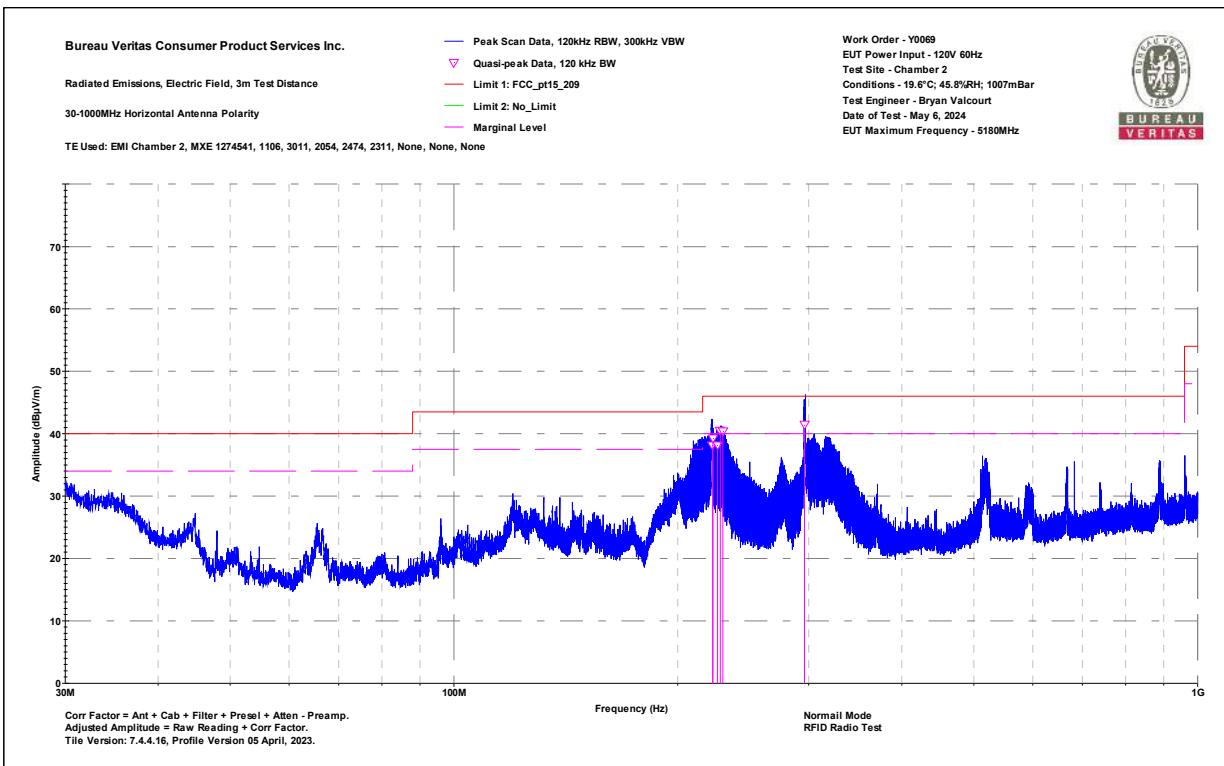
Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
30-1000MHz Horizontal Data
Notes:
Normal Mode
RFID Radio Test

Work Order - Y0069
EUT Power Input - 120V 60Hz
Test Site - Chamber 2
Conditions - 19.6°C; 45.8%RH; 1007mBar
Test Engineer - Bryan Valcourt
Date of Test - May 6, 2024

Frequency (MHz)	Raw QP Reading (dB μ V)	Correction Factor (dB/m)	Adjusted QP Amplitude (dB μ V/m)	Lim1: FCC_pt15_209 (dB μ V/m)	Margin to Lim1 (dB)	Test Results Lim1 (Pass/Fail)	Worst Margin Lim1 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
222.656	53.7	-15.6	38.1	46	-7.9	PASS		253	25
223.022	54.9	-15.6	39.3	46	-6.7	PASS		103	15
226.114	53.7	-15.5	38.1	46	-7.9	PASS		125	2
228.038	55.9	-15.5	40.4	46	-5.6	PASS		100	3
229.931	55.8	-15.4	40.4	46	-5.6	PASS		103	6
296.17	54.6	-13.2	41.4	46	-4.6	PASS	-4.6	175	82



30-1000MHz Horizontal Data-table and Graph



**Test Report for Hydration Labs, Inc.
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4.4 99% OCCUPIED BANDWIDTH

4.4.1 LIMITS

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].

4.4.2 TEST SETUP

Same as radiated spurious emissions setup below 30MHz (Section 4.3.5).

4.4.3 TEST EQUIPMENT USED

Test date: May 8, 2024

Rev. 4/22/2024								
Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration	Due Calibrated on
Rental MXE EMI Receiver (1274541)	20Hz-26.5GHz	N9038A	Keysight	MY53220101	1274541	1	6/19/2024	6/19/2023
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range	Asset	Cat	Calibration	Due Calibrated on
EMI Chamber 2	719150	2762A-7	A-0015	30-1000MHz	1686	I	12/28/2024	12/28/2022
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration	Due Calibrated on
2615 Active Loop Antenna	9KHz-30MHz	6502	EMCO	2049	2615	I	1/18/2025	1/18/2023
Meteorological Meters/Chambers	MN	Mfr	SN	Asset	Cat	Calibration	Due Calibrated on	
Weather Clock (Pressure Only)	BA928	Oregon Scientific	C3166-1	831	I	12/15/2025	12/15/2022	
Asset #2654	1235C97	Control Company	200477432	2654	I	8/18/2025	8/18/2022	
Cables	Range	Mfr			Cat	Calibration	Due Calibrated on	
Asset #2054	9kHz - 18GHz	Florida RF			II	11/2/2024	11/2/2023	
Asset #3011	9KHz-18GHz	Pasternack			II	11/2/2024	11/2/2023	

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

4.4.4 TEST PROCEDURES

Per RSS-Gen Issue 5 Section 6.7.

4.4.5 DEVIATIONS

No deviations from the standard.

4.4.6 EUT OPERATING CONDITIONS

EUT was operated according to manufacturer's specifications.

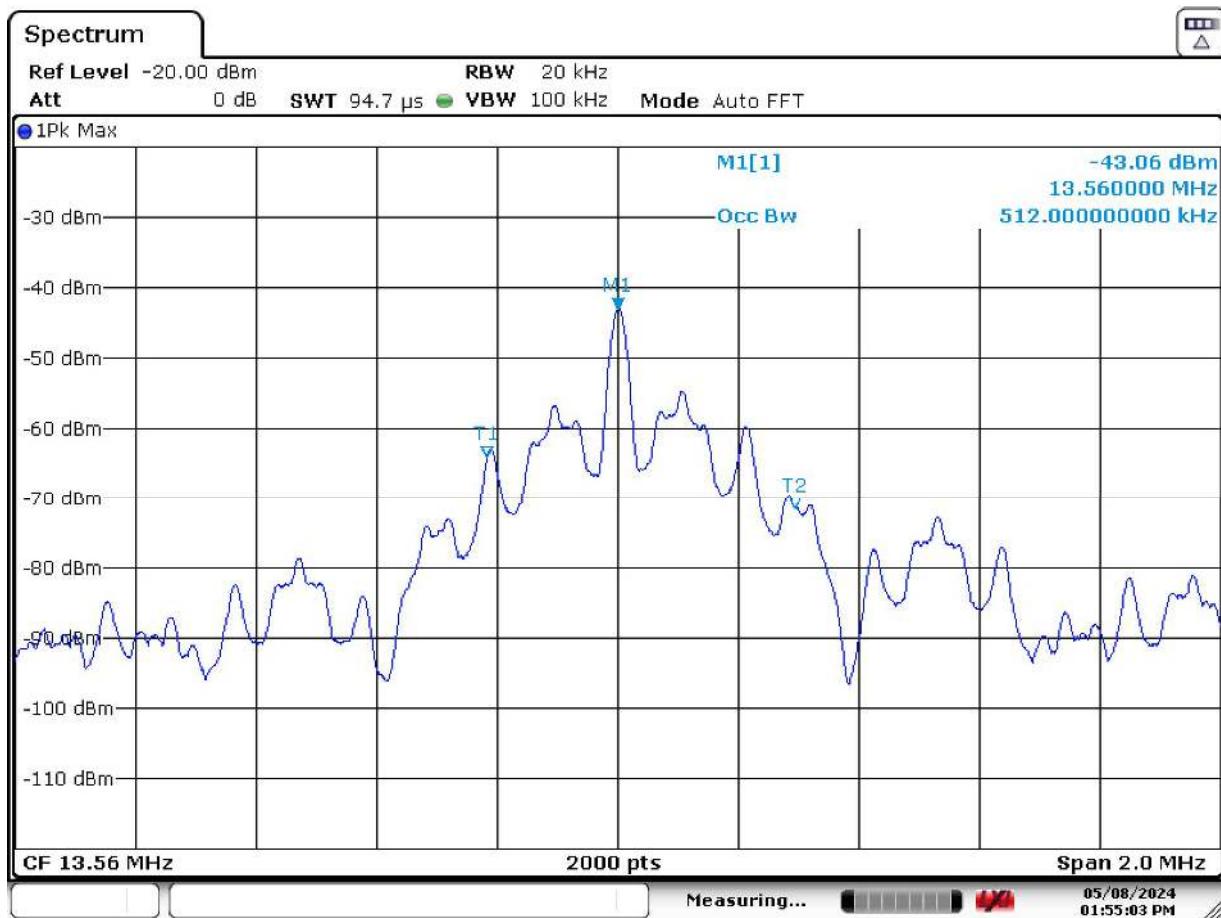


Test Report for Hydration Labs, Inc.
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4.4.7 TEST RESULTS

Measured 99% OBW: 512kHz



Date: 8.MAY.2024 13:55:04



**Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2**



4.5 FREQUENCY TOLERANCE

4.5.1 LIMITS

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of $-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ 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 $20\text{ }^{\circ}\text{C}$. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.5.2 TEST SETUP

EUT placed in the climatic chamber. Measurement loop placed inside the chamber close to the EUT and connected to the spectrum analyzer outside the chamber.

4.5.3 TEST EQUIPMENT USED

Test date: May 8, 2024

Rev. 8/30/2023								
Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
FSV40 Spectrum Analyzer	10Hz-40GHz	FSV40	ROHDE & SCHWARZ	101551	2200	I	10/9/2025	10/9/2025
Meteorological Meters/Chambers		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Temp/Humidity Chamber		Chamber #	Curtis-Strauss	3	1433	I	2/9/2025	2/9/2024
Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset#2903	9Kh-26.5GHz		Mini-Circuits			II	4/22/25	4/22/2024
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Magnetic Loop Prob	DC-3GHz	100C	Beehive Electronics	3038	2347	I	5/22/2024	2/23/2022

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

4.5.4 TEST PROCEDURES

Per ANSI C63.10 - 2013 Section 6.8.

4.5.5 DEVIATIONS

No deviations from the standard.

4.5.6 EUT OPERATING CONDITIONS

EUT was operated according to manufacturer's specifications



Test Report for Hydration Labs, Inc.
Report No. EY0069-2 Issue 2



4.5.7 TEST RESULTS

Measurements were recorded at startup, 2 minutes, 5 minutes, and 10 minutes after the EUT was energized. Worst-case measurements are shown in the data table below.

Frequency Stability Under Extreme Conditions							
				Work Order: Y0069			
Nominal Voltage: 120V 60Hz		Min Voltage: 102V 60Hz	Max Voltage: 138V 60Hz				
Temperature	Voltage	Amplitude	Amplitude Delta	Frequency	Frequency Delta	Limit	Result
°C	V	(dBm)	(dB)	(MHz)	(MHz)	(MHz)	
-20C	Nominal	-45.15	-2.19	13.560500	0.000000	0.001356	Pass
-10C	Nominal	-43.65	-0.69	13.560500	0.000000	0.001356	Pass
0C	Nominal	-44.18	-1.22	13.560500	0.000000	0.001356	Pass
10C	Nominal	-43.12	-0.16	13.560500	0.000000	0.001356	Pass
Nominal (20C)	Minimum	-42.93	0.03	13.560500	0.000000	0.001356	Pass
	Nominal	-42.96	Reference	13.560500	Reference	--	--
	Maximum	-42.93	0.03	13.560500	0.000000	0.001356	Pass
30C	Nominal	-43.00	-0.04	13.560500	0.000000	0.001356	Pass
40C	Nominal	-42.97	-0.01	13.560500	0.000000	0.001356	Pass
50C	Nominal	-43.16	-0.20	13.560500	0.000000	0.001356	Pass

Test Site: 1433 **Antenna: 2347** **Analyzer: FSV40**
Cable 1: 2903 **AC Supply: 2145**

Maximum Frequency Deviation: $\pm 0.00\text{MHz}$

Limit: $\pm 0.001356\text{MHz}$

Result: PASS



5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the Test Setup Photos exhibit.

6 APPENDIX A – MODIFICATIONS

- 1) During EMC Radiated Emission testing, inside the standup system, the ethernet cable shield was taken off and two ferrites (28AO593-OA2 and 28AO807-AO2) were added on the USB cable at the J5 port.
- 2) During EMC Conducted Emissions testing, changes were made to the Power Distribution Board (PDB) as below,
 - Changed original power supply to EPP-400-24
 - Changed original X rated capacitor to R46KN31500001M
 - Changed original Y rated capacitor to C927U332MYVDBA7317
 - Changed the original Common Mode Choke to CMT1-6-15L on PDB EMI filter.

Please refer to EMC EY0069-1 FCC Final Report.

Besides the modifications listed above, no further modifications were made to the system during the 13.56 MHz RFID testing.

---END OF REPORT---