



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



TEST REPORT

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

FCC ID	2AMTV-4000029
ISED Canada IC	22810-4000029
Product Description	Bevi Single Board Computer, Gen 2
PMN Model/HVIN FVIN HMN	Bevi SBC Gen 2 400-0029 Bevi OS 2 N/A
Additional Models	None
Date of tests	May 20 to June 03, 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 15.247**
- ☒ **ISED Canada RSS-247 Issue 3**

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

Prepared by Nisha Patel Wireless Engineer I	Approved by Ahmed Ait Ahmed EMC Manager
	
Report Issue Date: May 2, 2025	Issue Number: 2

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	PREPARED BY	APPROVED BY	DATE ISSUED
1	Original release	NP	AA	Sep 3, 2024
2	To address TCB review findings: FVIN updated to Bevi OS 2	NP	YF	May 2, 2025



1 SUMMARY OF TEST RESULTS

EUT was tested against the following requirements:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247), RSS-247				
STANDARD SECTION		TEST TYPE AND LIMIT	APPLICABLE	RESULT
47CFR15	RSS			
15.205	247 3.3	Radiated Spurious Emissions	Y	PASS
15.209	247 5.5			
	Gen 8.9			
	Gen 8.10			

Note: Radiated spurious emissions testing for Class 2 Permissive Change to add a new antenna to a certified radio module.

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	12 VDC
RADIO TECHNOLOGY	WLAN (802.11b/g/n(HT20)/n(HT40))
OPERATING FREQUENCY	802.11b/g/n(HT20): 2412 - 2462MHz 802.11n(HT40): 2422 - 2452MHz
EUT Power Settings (Default max setting)	802.11b 1Mbps - 16dBm 802.11b 11Mbps - 16dBm 802.11g 6Mbps - 16dBm 802.11g 54Mbps - 14dBm 802.11n HT20 MCS0 - 15dBm 802.11n HT20 MCS7 - 13dBm 802.11n HT40 MCS0 - 14dBm 802.11n HT40 MCS7 - 13dBm
ANTENNA TYPE (Customer Supplied Information)	Dual-Band 2.4GHz/5.8GHz Wi-Fi Ceramic Substrate Loop Manufacturer: TAOGLAS, Model: WLA.10 Gain: 1.25dBi Peak in 2.4GHz band

EUT Ports Information:

Port Label	Port Type	No. of ports	No. Populated	Cable Type	Shielded	Ferrites (No. of Ferrites)	Length	Max Length	Reason if unpopulated
J9	Display	1	1	Power/Data	N	Y (1)	38cm	38cm	--
J12	Touch	1	1	Power/Data	N	N	38cm	38cm	--
J10	Back-light	1	1	Power	N	N	46cm	46cm	
J11	uUSB	1	0	USB	--	--	NA	NA	Setup/ diagnostic only
J5	USB	1	1	USB	Y	Y (2)	115cm	115cm	
J6	USB	1	0	USB	--	--	NA	NA	Setup/ diagnostic only
J7	RJ45	1	1	Ethernet	N	N	108cm	108cm	
J1	Power	1	1	Power	N	N	94cm	94cm	
J3	Debug	1	0	Data	--	--	NA	NA	Setup/ diagnostic only

3.2 DESCRIPTION OF TEST MODES:

TEST MODE	DESCRIPTION
A	Transmit on 802.11b at 11Mbps (Duty-cycle: 97.7%)
B	Transmit on 802.11g at 6Mbps (Duty-cycle: >98%)
C	Transmit on 802.11n HT20 at MCS0 (Duty-cycle: >98%)
D	Transmit on 802.11n HT40 at MCS0 (Duty-cycle: 95.0%)

Duty-Cycle Correction Factors:

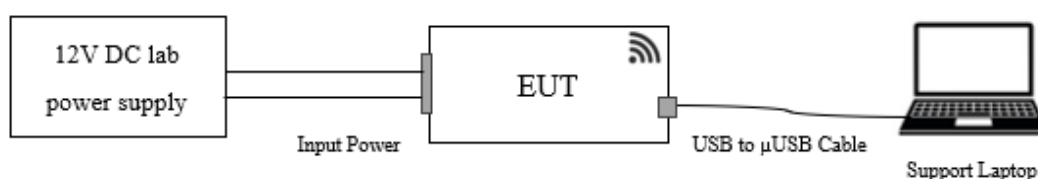
When RMS Power Averaging with Trace Averaging is used for radiated band-edges, a duty-cycle correction factor (DCCF) of $10 \cdot \log(1/DC)$ as shown below is added to the measurement. If the duty-cycle is >98%, DCCF is considered as 0.

Mode	Duty-Cycle (%)	DCCF
802.11b	97.7	0.10
802.11g	>98	0
802.11n HT20	>98	0
802.11n HT40	95	0.22

Two samples (#01 and #11) were provided for emissions testing. Both samples are identical. EUT was powered by an external 12VDC Power supply. Customer provided the support laptop for necessary test mode setup.

EUT SETUP BLOCK DIAGRAMS

Radiated Emissions EUT Setup



Note: Support laptop is disconnected after the test mode setup.

The following channels/modes were selected for the applicable tests below.

TEST	TEST MODE	AVAILABLE CHANNELS	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)	Notes
RSE<1G	A	1 to 11	1,6 & 11	802.11b	11Mbps	1,2,3
RSE≥1G	A	1 to 11	1,6 & 11	802.11b	11Mbps	1,2
RBE	A	1 to 11	1 & 11	802.11b	11 Mbps	2,4
	B	1 to 11	1 & 11	802.11g	6 Mbps	
	C	1 to 11	1 & 11	802.11n HT20	MCS0	
	D	3 to 9	3 & 9	802.11n HT40	MCS0	

Note 1: All Radio Spurious emission tests were performed on mode A only, since mode A was determined as worst test mode based on pre-scans (on each mode at low and high data rates).

Note 2: For radiated emissions, EUT was maximized in three orthogonal positions (X, Y, Z) to find the worst orientation. Worst-case orientation was found when the EUT was positioned on X-axis as shown in the Test setup photos.

Note 3: Testing below 30MHz was limited to 1 channel only, since no emissions were detected in this range.

Note 4: Band-edge testing was performed at worst data rate on each mode.

RSE<1G: Radiated Spurious Emissions Below 1GHz

RSE≥1G: Radiated Spurious Emissions Above 1GHz

RBE: Radiated Band-edge

TEST CONDITIONS:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY	DATE OF TEST
RE<1G	23.3°C, 54.2%, 1002mbar 21.4°C, 50.2%, 1011mbar	12VDC	Yunus Faziloglu Nisha Patel	May-24-2024 May-31-2024
RE≥1G	20.2°C, 52.1%, 1010mbar 24.7°C, 57.6%, 1001mbar 23.6°C, 45.3%, 1005mbar	12VDC	Yunus Faziloglu Nisha Patel	May-20-2024 May-23-2024 June-3-2024
Radiated Band Edges	21.6°C, 55.1%, 1007mbar 22.9°C, 56.8%, 1005mbar	12VDC	Yunus Faziloglu Nisha Patel	May-21-2024 May-22-2024



3.3 MEASUREMENT PROCEDURES USED

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

ANSI C63.10-2013

3.4 DESCRIPTION OF SUPPORT EQUIPMENT

Support Equipment	Model #	Serial #
Lab supplied DC power supply	Test Inst 61	00480
Customer supplied laptop	Dell Precision 7770	JGQB2T3

4 TEST RESULTS

4.1 RADIATED SPURIOUS EMISSIONS

4.1.1 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:

- Lower limit applies at the transition frequencies.
- 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.
- 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).

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

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

$$\text{Limit}(3\text{m}) = \text{Limit}(300\text{m}) + 40 \cdot \log(300/3) = \text{Limit}(300\text{m}) + 80$$
- Adjusted Reading (dBuV/m) = Raw Reading (dBuV) + 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.
- 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-field = H-field + 51.5). Therefore resulting pass/fail margin would be the same if an E-field reading is compared to an E-field limit or an H-field reading is compared to an H-field limit.



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4.1.2 TEST EQUIPMENT USED

Rev. 5/21/2024

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	11/29/2024	11/29/2022
EMI Chamber 1	719150	2762A-6	A-0015	1-18GHz	1685	I	12/29/2024	12/29/2022
EMI Chamber 2	719150	2762A-7	A-0015	1-18GHz	1686	I	12/28/2024	12/28/2022
Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Rental MXE EMI Receiver(1170725)	20Hz-26.5GHz	N9038A	Agilent	MY51210151	1170725	I	2/15/2025	2/15/2024
Gauss TDEMI Ultra 40	9kHz-40GHz	TDEMI Ultra 40	Gauss	2305001	2712	1	7/9/2024	7/9/2023
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Red-White Bilog	30-2000MHz	JB1	Sunol	A091604-1	1105	I	11/2/2025	11/2/2023
Blue Horn	1-18GHz	3117	ETS	157647	1861	I	3/27/2025	3/27/2023
3116C Horn / PA	18-40GHz	3116C	ETS	258845	2852	I	3/21/2026	3/21/2024
2615 Active Loop Antenna	9KHz-30MHz	6502	EMCO	2049	2615	I	1/18/2025	1/18/2023
Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #2054	9kHz - 18GHz		Florida RF			II	11/2/2024	11/2/2023
Asset #2466	9KHz-18GHz		MegaPhase			II	11/2/2024	11/2/2023
Asset #2608	9KHz-18GHz		Pasternack			II	11/2/2024	11/2/2023
Asset #2594	9KHz-40GHz		Carlisle			II	2/17/2025	2/17/2024
Asset #2595	9KHz-40GHz		Carlisle			II	2/17/2025	2/17/2024
Asset #2681	9KHz-18GHz		Pasternack			II	12/7/2024	12/7/2023
Asset #3011	9KHz-18GHz		Pasternack			II	11/2/2024	11/2/2023
Preamps / Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
8447F Rental PA	9KHz-1.3GHz	84477F	HP	3113A05395		II	10/18/2024	10/18/2023
2116 BRF	0.009-18000MHz	BRM50702	Micro-Tronics	G226	2116	II	12/5/2024	12/5/2023
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 #2847		1235C97	Control Company	200435382	2847	I	8/18/2025	8/18/2022
Asset #2654		1235C97	Control Company	200477432	2654	I	8/18/2025	8/18/2022

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

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at 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. In the 1GHz-18GHz range, a horn 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.
- e. In 18-25GHz a smaller horn antenna was used to make measurements at 1m away from the EUT.
- f. 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
>1000	1MHz	3MHz	Peak	Peak Max Hold and RMS Power Avg (Max Hold/Trace Avg)

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, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three 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.

RMS power averaging default mode in measurement software is trace max-hold.

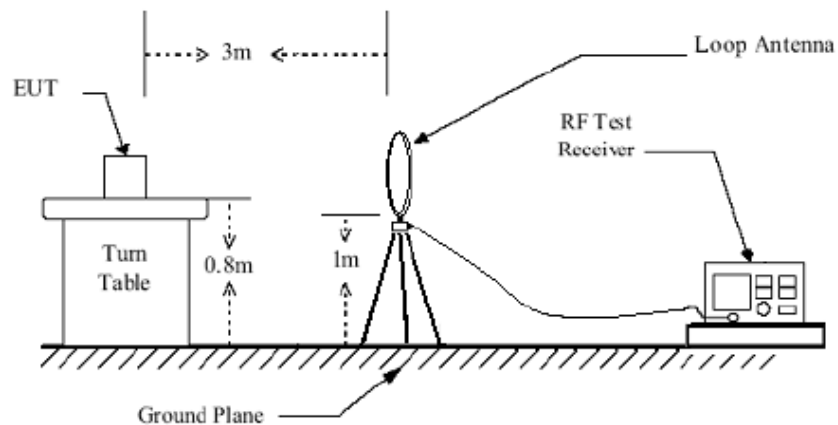
When RMS power averaging with trace averaging is used, it is performed in a manual measurement mode of the test instrument. Therefore, final RMS cursor is not shown on the plots generated by the measurement software. Adjusted magnitudes for those measurements include the duty-cycle correction factor if applicable to the mode of operation under test.

4.1.4 DEVIATIONS

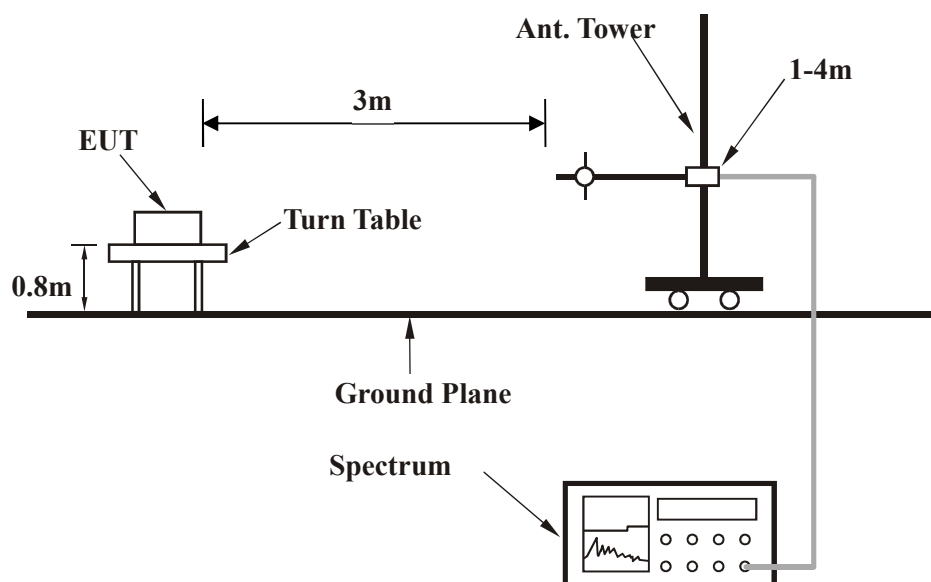
No deviations from the standard.

4.1.5 TEST SETUP

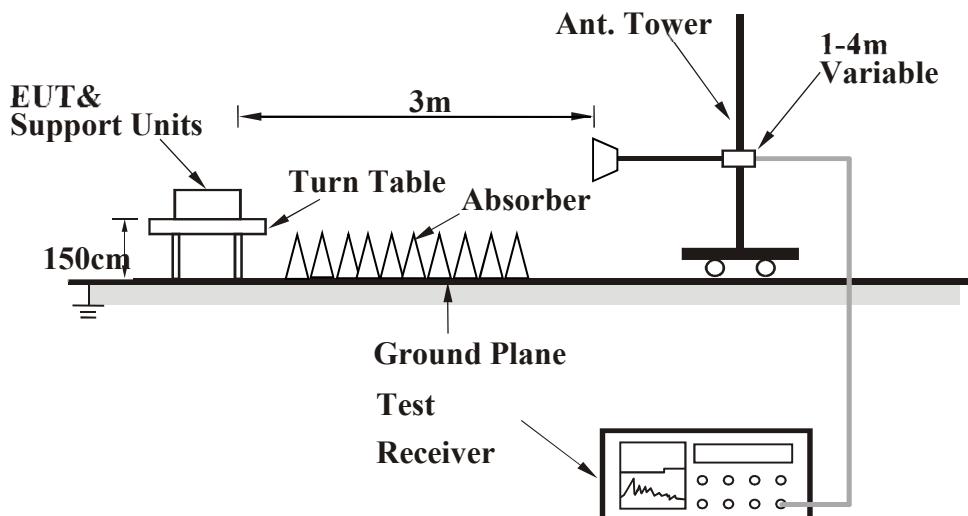
Below 30MHz Test Setup



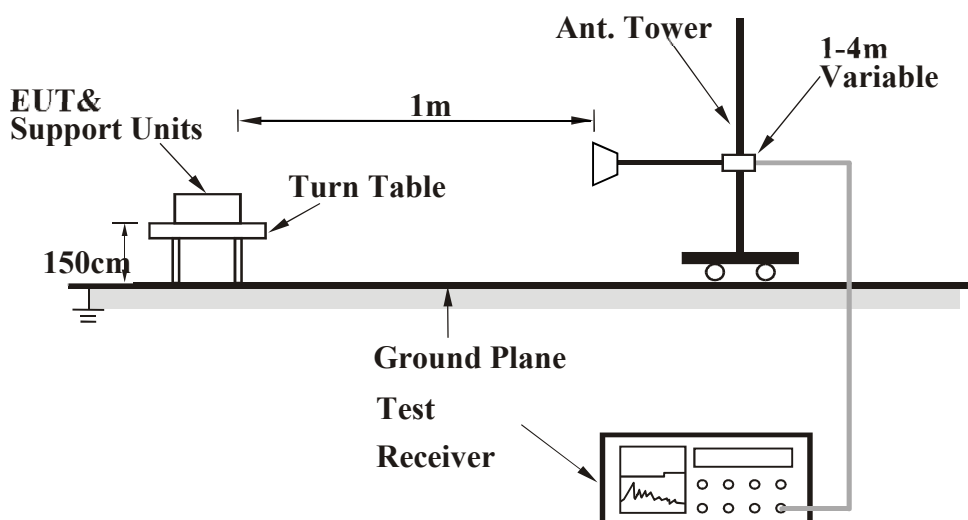
30MHz - 1GHz Test Setup



1GHz – 18GHz Test Setup



18GHz – 25GHz Test Setup



Note: For the actual test configuration, please refer to the Test Setup Photos exhibit.

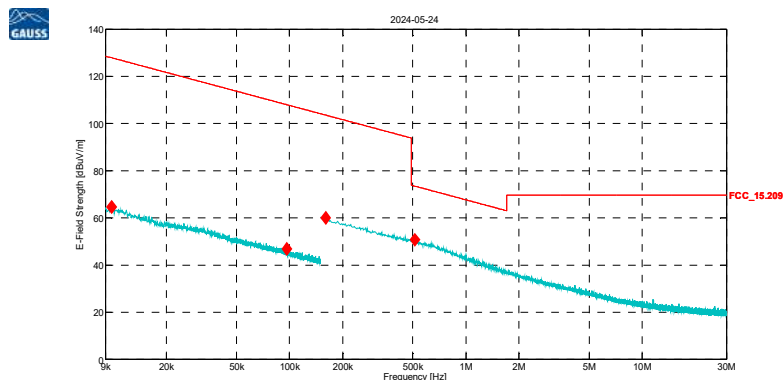
4.1.6 EUT OPERATING CONDITIONS

EUT was operated according to the manufacturer's specifications.

4.1.7 TEST RESULTS

Emissions below 30MHz

EUT Mode: Mid-Ch, 802.11b-11Mbps



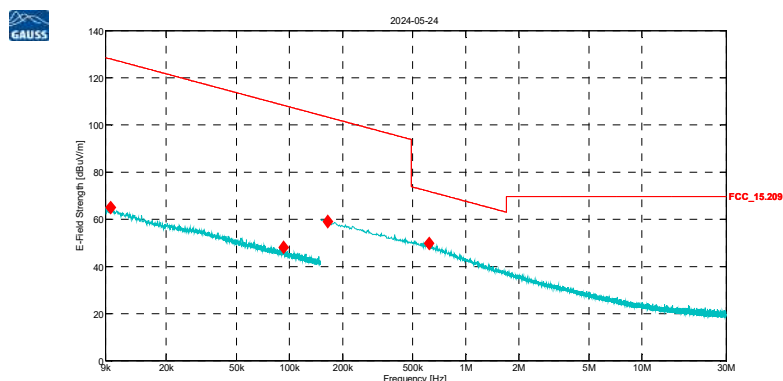
Scan1: 9.0 kHz, 100.0 Hz, 150.0 kHz; IF:200Hz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Height [cm]	Angle [°]	Trans	Name
9.75 kHz	64.55	127.81	63.27	Parallel	100	206.828	18.79	FCC_15.209
96.35 kHz	46.73	107.92	61.19	Parallel	100	287.228	10.21	FCC_15.209

Scan2: 150.0 kHz, 5.0 kHz, 30.0 MHz; IF:9kHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Height [cm]	Angle [°]	Trans	Name
160 kHz	60.00	103.52	43.52	Parallel	100	39.7	10.00	FCC_15.209
515 kHz	50.57	73.37	22.80	Parallel	100	305.388	10.12	FCC_15.209

9k-30MHz Parallel Data Table and Plot



Scan1: 9.0 kHz, 100.0 Hz, 150.0 kHz; IF:200Hz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Height [cm]	Angle [°]	Trans	Name
9.65 kHz	64.99	127.90	62.92	Perpendicular	100	222.079	18.85	FCC_15.209
92.6 kHz	48.14	108.27	60.13	Perpendicular	100	77.809	10.43	FCC_15.209

Scan2: 150.0 kHz, 5.0 kHz, 30.0 MHz; IF:9kHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Height [cm]	Angle [°]	Trans	Name
165 kHz	58.97	103.25	44.29	Perpendicular	100	178.49	10.00	FCC_15.209
620 kHz	49.81	71.75	21.94	Perpendicular	100	45.717	10.29	FCC_15.209

9k-30MHz Perpendicular Data Table and Plot



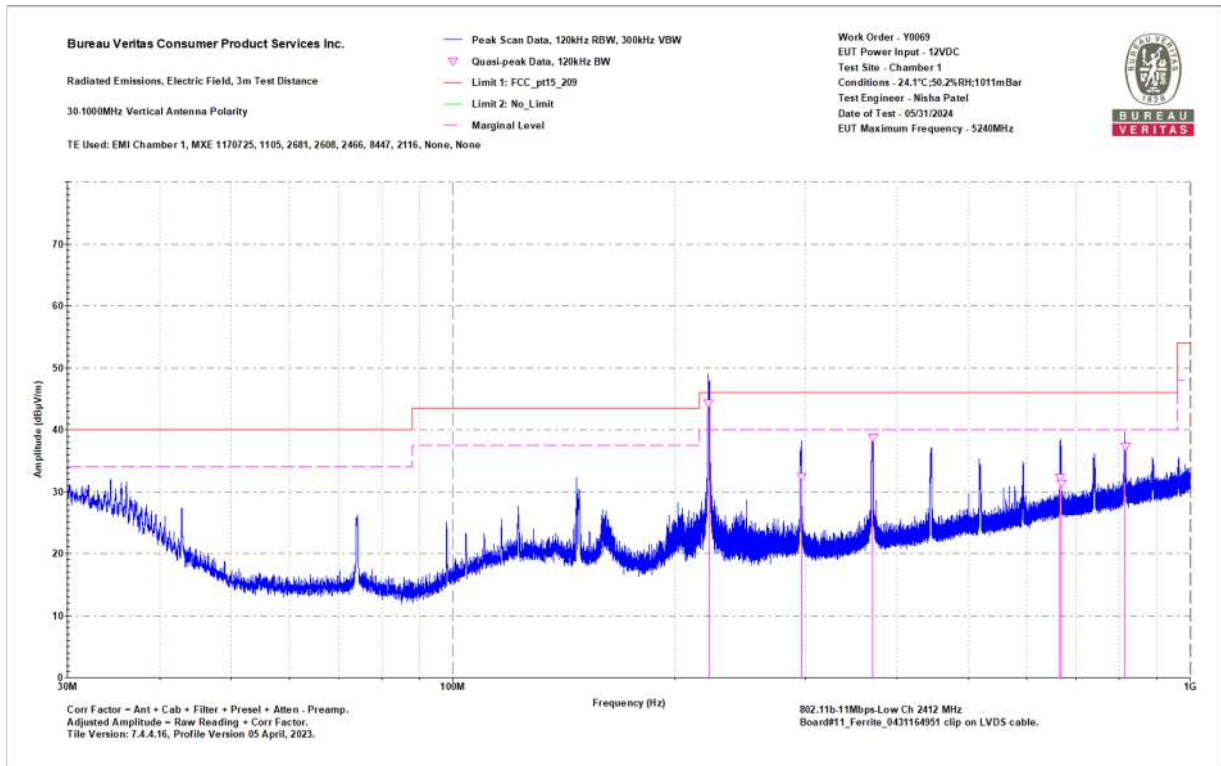
BUREAU
VERITAS

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30MHz-1000MHz

EUT Mode: Low-Ch, 802.11b-11Mbps



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
30-1000MHz Vertical Data
Notes:
802.11b-11Mbps-Low Ch 2412 MHz
Board#11_Ferrite_0431164951 clip on LVDS cable.

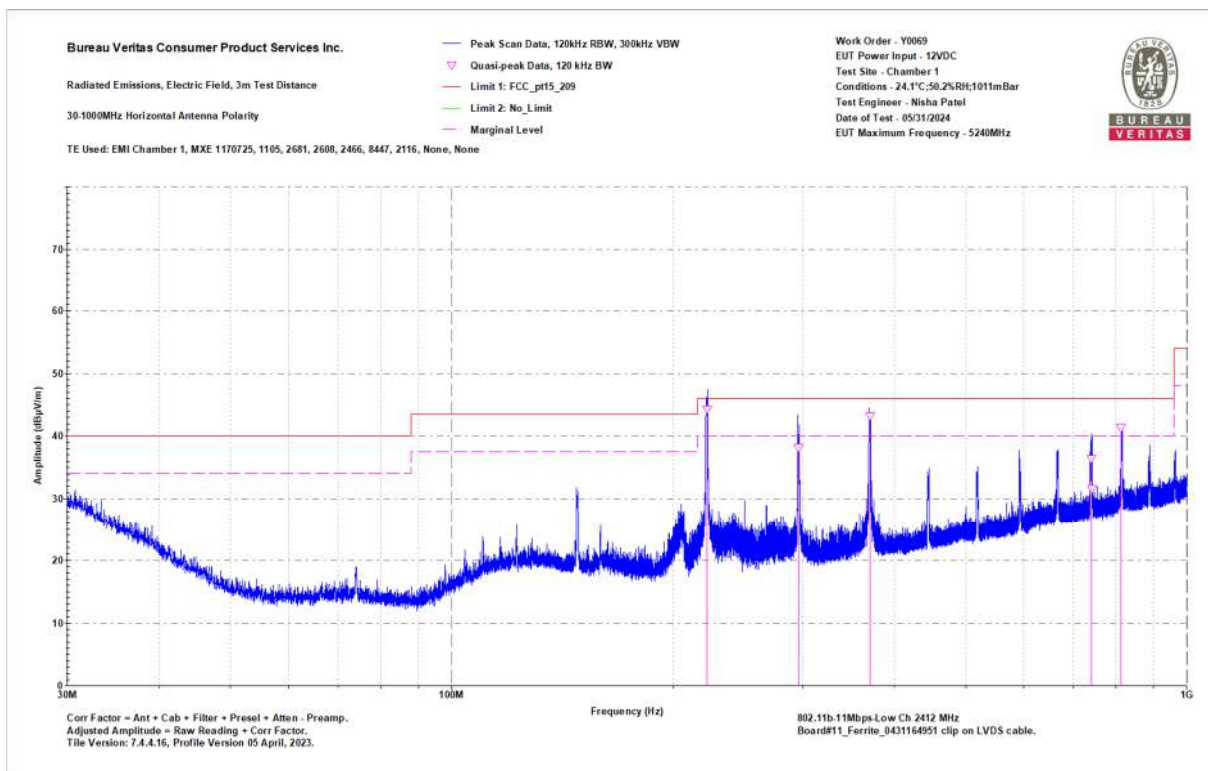
Work Order - Y0069
EUT Power Input - 12VDC
Test Site - Chamber 1
Conditions - 24.1°C;50.2%RH;1011mBar
Test Engineer - Nisha Patel
Date of Test - 05/31/2024

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)	Antenna Height (cm)	EUT Azimuth (degrees)
222.119	52.9	-8.6	44.3	46	-1.7	PASS	-1.7	125	17
296.593	38.4	-5.9	32.5	46	-13.5	PASS		125	303
370.865	43.2	-4.4	38.8	46	-7.2	PASS		192	9
665.008	32	0.3	32.3	46	-13.7	PASS		125	237
668.16	31	0.4	31.3	46	-14.7	PASS		125	266
816.023	34.2	3.1	37.3	46	-8.7	PASS		100	9

30-1000MHz Vertical Data table and Plot



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Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
30-1000MHz Horizontal Data
Notes:
802.11b-11Mbps-Low Ch 2412 MHz
Board#11_Ferrite_0431164951 clip on LVDS cable.

Work Order - Y0069
EUT Power Input - 12VDC
Test Site - Chamber 1
Conditions - 24.1°C;50.2%RH;1011mBar
Test Engineer - Nisha Patel
Date of Test - 05/31/2024

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)	Antenna Height (cm)	EUT Azimuth (degrees)
222.291	52.9	-8.6	44.3	46	-1.7	PASS	-1.7	142	246
296.305	44.1	-5.9	38.2	46	-7.8	PASS		109	281
370.621	47.6	-4.4	43.2	46	-2.8	PASS		100	260
741.368	34.9	1.5	36.4	46	-9.6	PASS		114	245
742.078	30	1.6	31.6	46	-14.4	PASS		115	200
813.17	38.4	2.9	41.3	46	-4.7	PASS		100	245

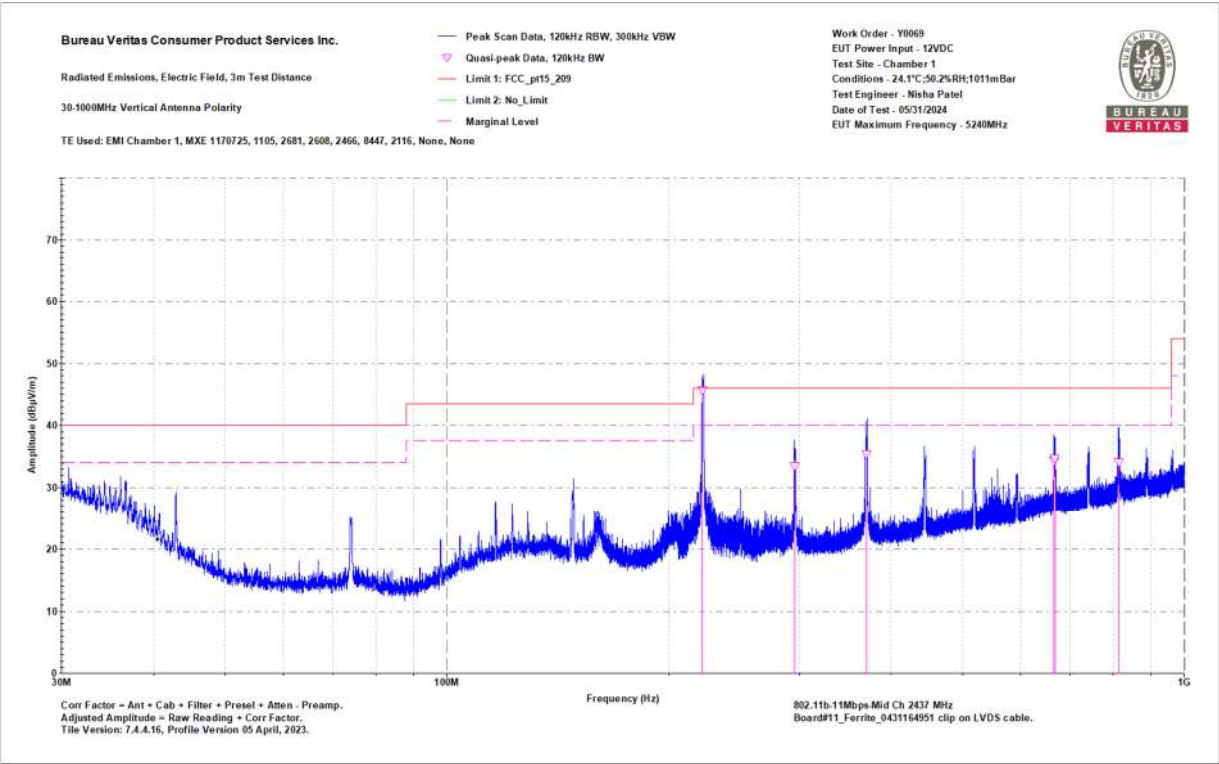
30-1000MHz Horizontal Data Table and Plot



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



EUT Mode: Mid-Ch, 802.11b-11Mbps



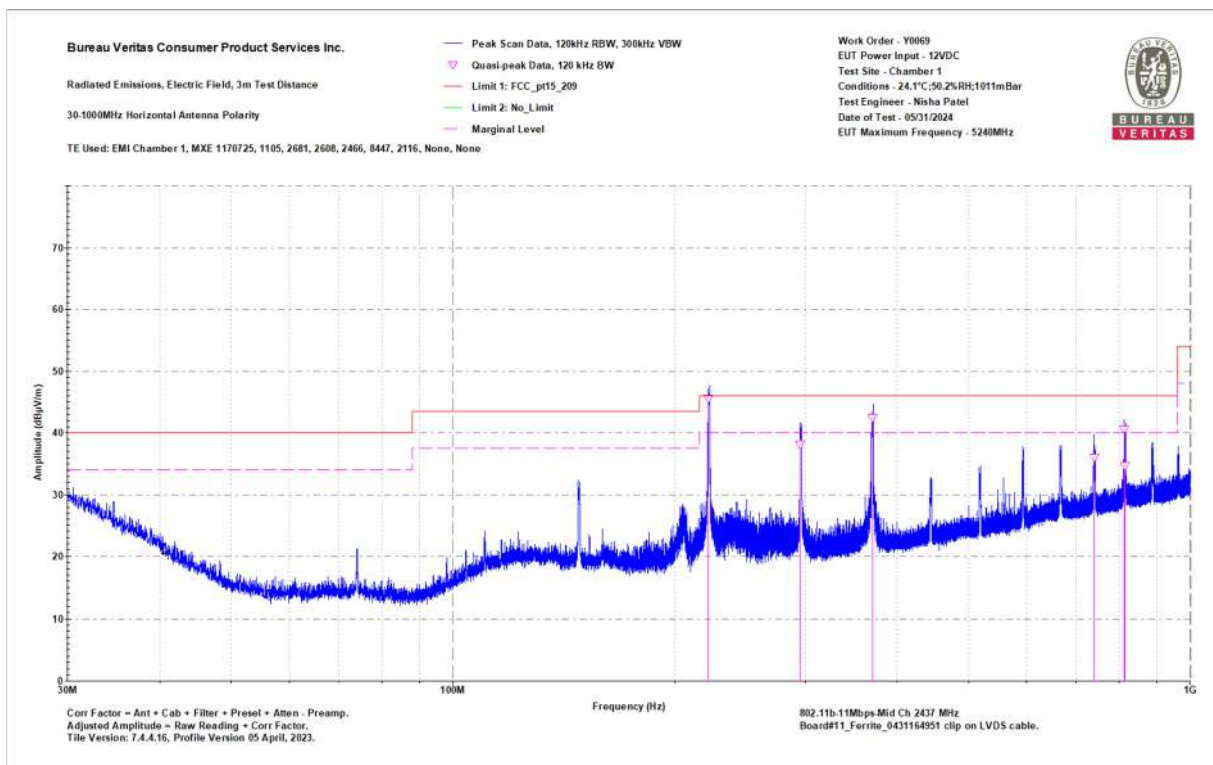
Bureau Veritas Consumer Product Services Inc.	Work Order - Y0069
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 12VDC
30-1000MHz Vertical Data	Test Site - Chamber 1
Notes:	Conditions - 24.1°C;50.2%RH;1011mBar
802.11b-11Mbps-Mid Ch 2437 MHz	Test Engineer - Nisha Patel
Board#11_Ferrite_0431164951 clip on LVDS cable.	Date of Test - 05/31/2024

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)	Antenna Height (cm)	EUT Azimuth (degrees)
221.902	54.3	-8.6	45.7	46	-0.3	PASS	-0.3	125	25
296.286	39.4	-5.9	33.5	46	-12.5	PASS		100	331
370.553	39.8	-4.4	35.4	46	-10.6	PASS		175	326
664.976	34	0.3	34.3	46	-11.7	PASS		115	245
667.535	34.3	0.4	34.7	46	-11.3	PASS		100	245
815.352	31.1	3	34.1	46	-11.9	PASS		115	25

30-1000MHz Vertical Data table and Plot



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
30-1000MHz Horizontal Data
Notes:
802.11b-11Mbps-Mid Ch 2437 MHz
Board#11_Ferrite_0431164951 clip on LVDS cable.

Work Order - Y0069
EUT Power Input - 12VDC
Test Site - Chamber 1
Conditions - 24.1°C;50.2%RH;1011mBar
Test Engineer - Nisha Patel
Date of Test - 05/31/2024

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)	Antenna Height (cm)	EUT Azimuth (degrees)
221.922	54.2	-8.6	45.6	46	-0.4	PASS	-0.4	125	250
295.676	44	-5.9	38.2	46	-7.8	PASS		125	252
370.465	46.8	-4.4	42.4	46	-3.6	PASS		115	259
740.563	34.6	1.5	36.1	46	-9.9	PASS		113	240
813.119	37.7	2.9	40.6	46	-5.4	PASS		100	243
815.569	31.6	3	34.7	46	-11.3	PASS		100	216

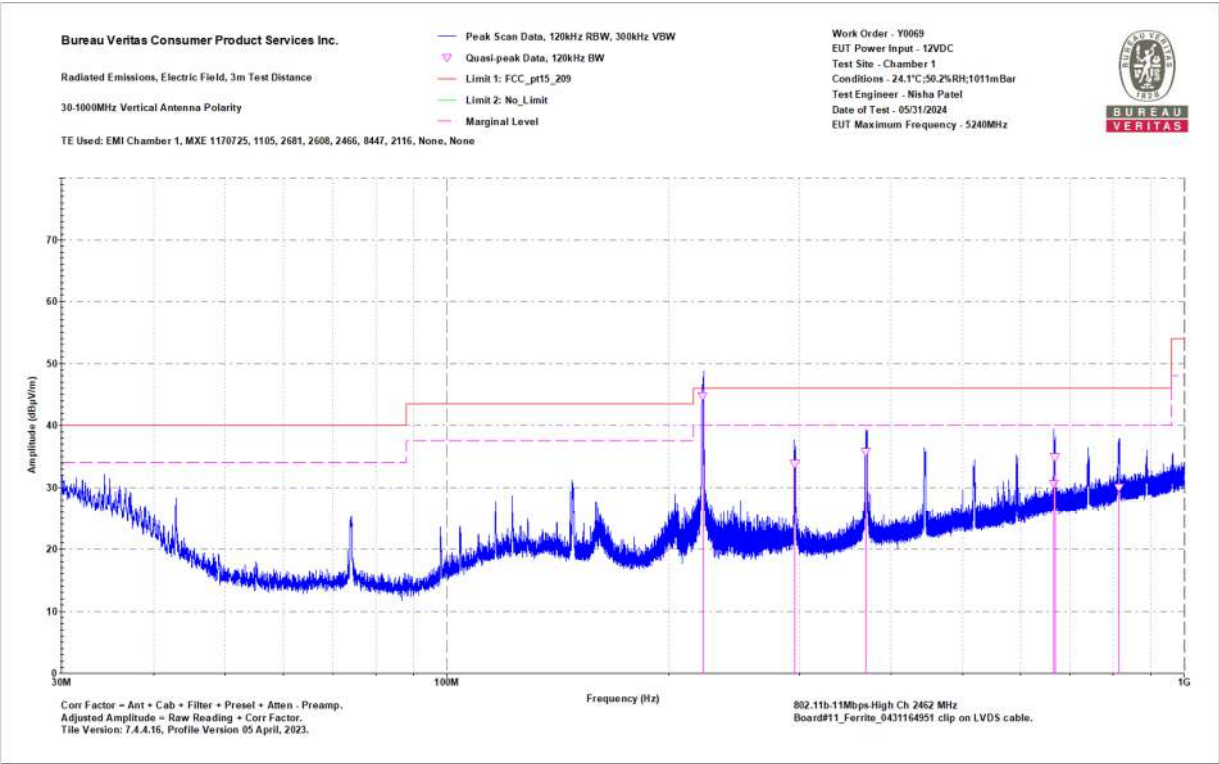
30-1000MHz Horizontal Data Table and Plot



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



EUT Mode: High-Ch, 802.11b-11Mbps



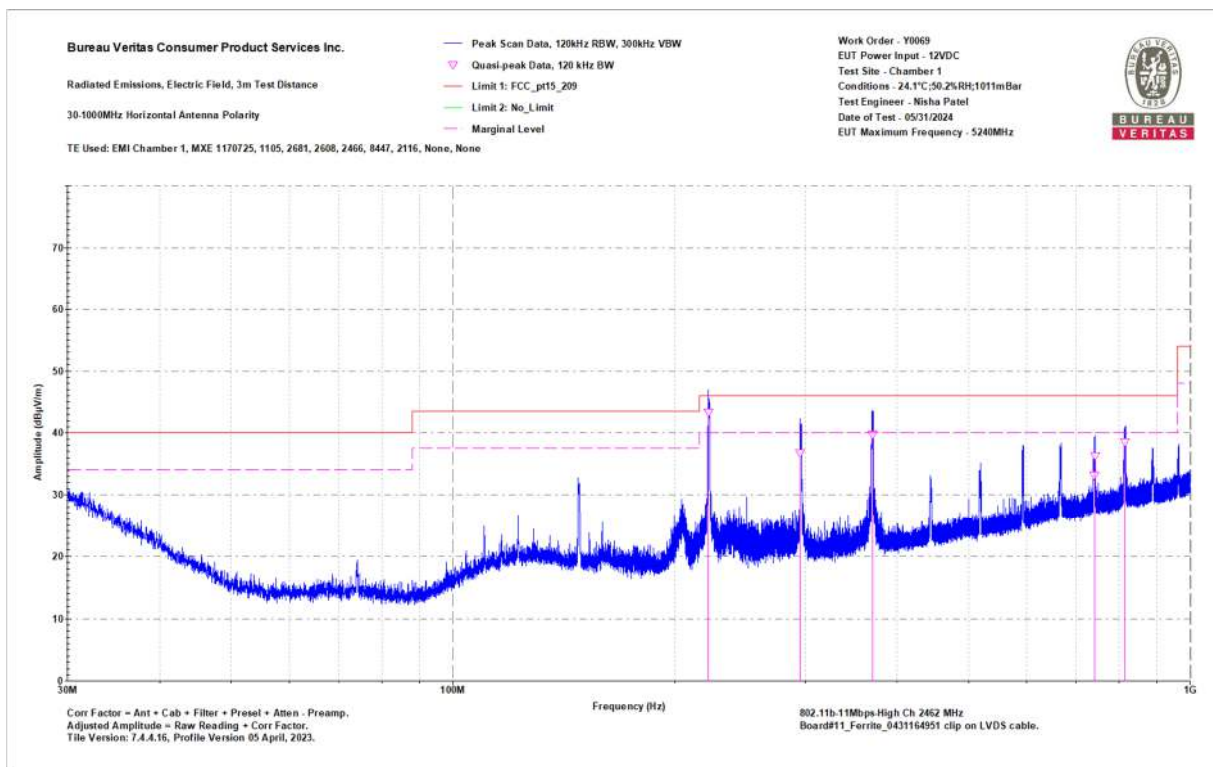
Bureau Veritas Consumer Product Services Inc.	Work Order - Y0069
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 12VDC
30-1000MHz Vertical Data	Test Site - Chamber 1
Notes:	Conditions - 24.1°C;50.2%RH;1011mBar
802.11b-11Mbps-High Ch 2462 MHz	Test Engineer - Nisha Patel
Board#11_Ferrite_0431164951 clip on LVDS cable.	Date of Test - 05/31/2024

Frequency (MHz)	Raw QP Reading (dBµV)	Correction Factor (dB/m)	Adjusted QP Amplitude (dBµV/m)	Lim1: FCC_pt15_209 (dBµV/m)	Margin to Lim1 (dB)	Test Results Lim1 (Pass/Fail)	Worst Margin Lim1 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
222.19	53.4	-8.6	44.8	46	-1.2	PASS	-1.2	100	25
296.235	39.7	-5.9	33.8	46	-12.2	PASS		108	305
369.484	40.2	-4.4	35.8	46	-10.2	PASS		144	290
665.215	30.3	0.3	30.6	46	-15.4	PASS		125	293
667.671	34.6	0.4	35	46	-11	PASS		101	239
815.448	27	3	30	46	-16	PASS		216	200

30-1000MHz Vertical Data table and Plot



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



Bureau Veritas Consumer Product Services Inc.
Radiated Emissions Electric Field 3m Distance
30-1000MHz Horizontal Data
Notes:
802.11b-11Mbps-High Ch 2462 MHz
Board#11_Ferrite_0431164951 clip on LVDS cable.

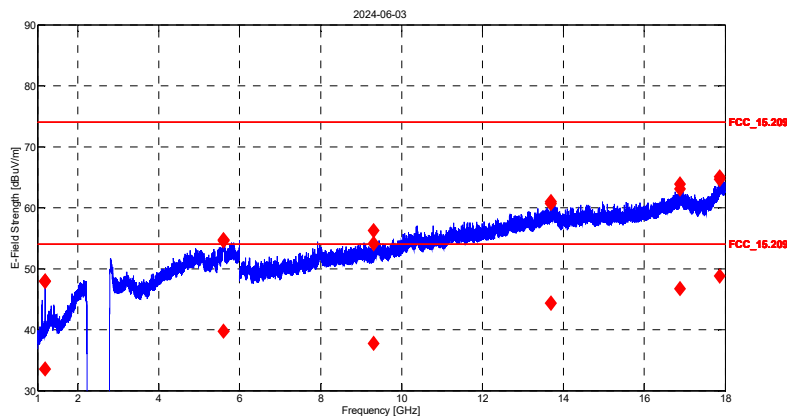
Work Order - Y0069
EUT Power Input - 12VDC
Test Site - Chamber 1
Conditions - 24.1°C;50.2%RH;1011mBar
Test Engineer - Nisha Patel
Date of Test - 05/31/2024

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)	Antenna Height (cm)	EUT Azimuth (degrees)
221.99	51.9	-8.6	43.3	46	-2.7	PASS	-2.7	137	264
295.635	42.7	-5.9	36.8	46	-9.2	PASS		125	200
370.36	44.2	-4.4	39.8	46	-6.2	PASS		100	286
741.247	31.6	1.5	33.1	46	-12.9	PASS		115	212
741.98	34.7	1.6	36.3	46	-9.7	PASS		108	250
815.792	35.5	3.1	38.5	46	-7.5	PASS		100	243

30-1000MHz Horizontal Data Table and Plot

1GHz-18GHz

EUT Mode: Low-Ch, 802.11b-11Mbps



Final 1: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.18175 GHz	47.91	74.00	26.09	V	15.04	100	30.43	FCC_15.209
5.60425 GHz	54.58	74.00	19.42	V	58.97	159.346	41.70	FCC_15.209
9.306 GHz	54.10	74.00	19.90	V	85.189	147.462	43.70	FCC_15.209
13.6885 GHz	60.67	74.00	13.33	V	17.518	215.825	49.31	FCC_15.209
16.879 GHz	63.06	74.00	10.94	V	111.345	139.059	52.29	FCC_15.209
17.86425 GHz	64.64	74.00	9.36	V	36.47	399.9	54.08	FCC_15.209

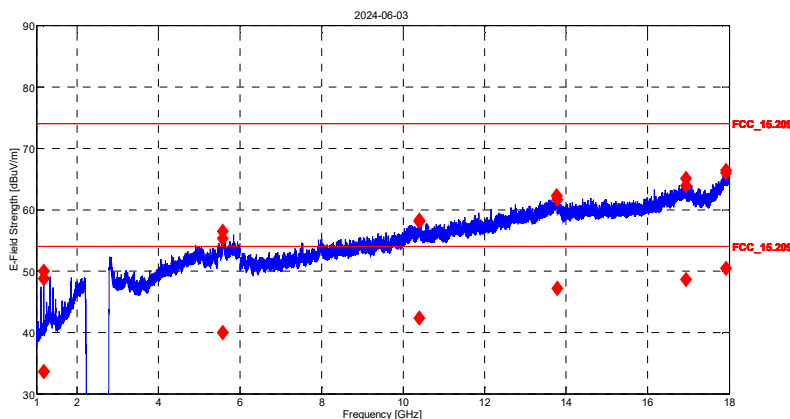
Final 2: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms RMS, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.18325 GHz	33.53	54.00	20.47	V	15.04	100	30.43	FCC_15.209
5.60225 GHz	39.74	54.00	14.26	V	58.97	100	41.70	FCC_15.209
9.3035 GHz	37.70	54.00	16.30	V	85.189	191.535	43.70	FCC_15.209
13.6905 GHz	44.35	54.00	9.65	V	17.518	208.659	49.31	FCC_15.209
16.87775 GHz	46.70	54.00	7.30	V	111.345	191.778	52.29	FCC_15.209
17.86575 GHz	48.79	54.00	5.21	V	36.47	300	54.08	FCC_15.209

1-18GHz Vertical Data Table and Plot



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



Final 1: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 0dB

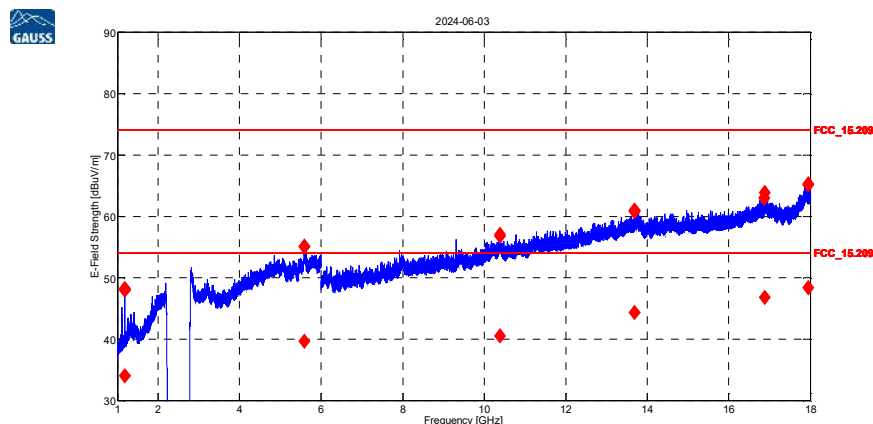
f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.18225 GHz	48.77	74.00	25.23	H	245.312	100	30.43	FCC_15.209
5.57775 GHz	55.31	74.00	18.69	H	303.035	137.815	41.60	FCC_15.209
10.39875 GHz	58.03	74.00	15.97	H	85	190.203	45.99	FCC_15.209
13.77725 GHz	61.60	74.00	12.40	H	0	148.544	49.33	FCC_15.209
16.941 GHz	63.92	74.00	10.08	H	44.633	100	52.20	FCC_15.209
17.92425 GHz	66.01	74.00	7.99	H	147.767	122.523	54.41	FCC_15.209

Final 2: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms RMS, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.18325 GHz	33.60	54.00	20.40	H	245.312	100	30.43	FCC_15.209
5.579 GHz	39.99	54.00	14.01	H	303.035	116.746	41.60	FCC_15.209
10.40025 GHz	42.38	54.00	11.62	H	85	200	45.99	FCC_15.209
13.77775 GHz	47.17	54.00	6.83	H	0	100	49.33	FCC_15.209
16.93825 GHz	48.58	54.00	5.42	H	44.633	190.616	52.20	FCC_15.209
17.92425 GHz	50.46	54.00	3.54	H	147.767	109.231	54.41	FCC_15.209

1-18GHz Horizontal Data Table and Plot

EUT Mode: Mid-Ch, 802.11b-11Mbps



Final 1: 1.2 GHz, 50.0 kHz, 18.0 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.18225 GHz	48.25	74.00	25.75	V	356.136	100	30.42	FCC_15.209
5.587 GHz	55.06	74.00	18.94	V	88.451	186.133	41.67	FCC_15.209
10.38825 GHz	56.75	74.00	17.25	V	204.178	175.538	45.97	FCC_15.209
13.6905 GHz	60.79	74.00	13.21	V	17.518	370.321	49.31	FCC_15.209
16.875 GHz	62.99	74.00	11.01	V	111.345	200	52.29	FCC_15.209
17.9505 GHz	65.08	74.00	8.92	V	10.709	194.037	54.50	FCC_15.209

Final 2: 1.2 GHz, 50.0 kHz, 18.0 GHz; IF:1MHz, 100.0 ms RMS, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.1835 GHz	34.00	54.00	20.00	V	356.136	100	30.42	FCC_15.209
5.591 GHz	39.66	54.00	14.34	V	88.451	122.098	41.67	FCC_15.209
10.387 GHz	40.54	54.00	13.46	V	204.178	200	45.97	FCC_15.209
13.68975 GHz	44.31	54.00	9.69	V	17.518	200	49.31	FCC_15.209
16.879 GHz	46.79	54.00	7.21	V	111.345	170.119	52.29	FCC_15.209
17.9485 GHz	48.37	54.00	5.63	V	10.709	100	54.50	FCC_15.209

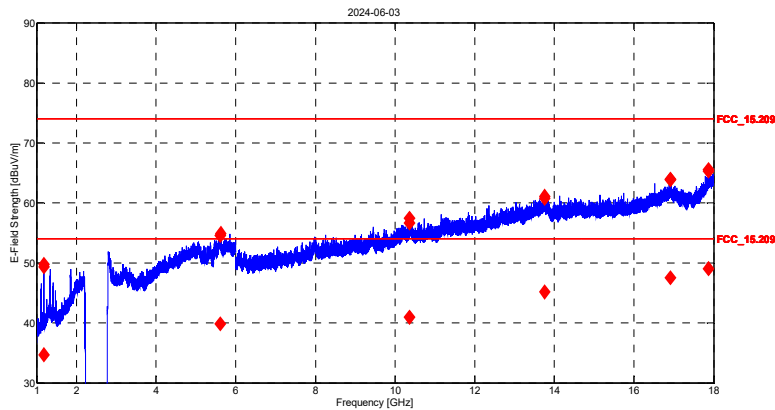
1-18GHz Vertical Data Table and Plot



BUREAU
VERITAS



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



Final 1: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 0dB

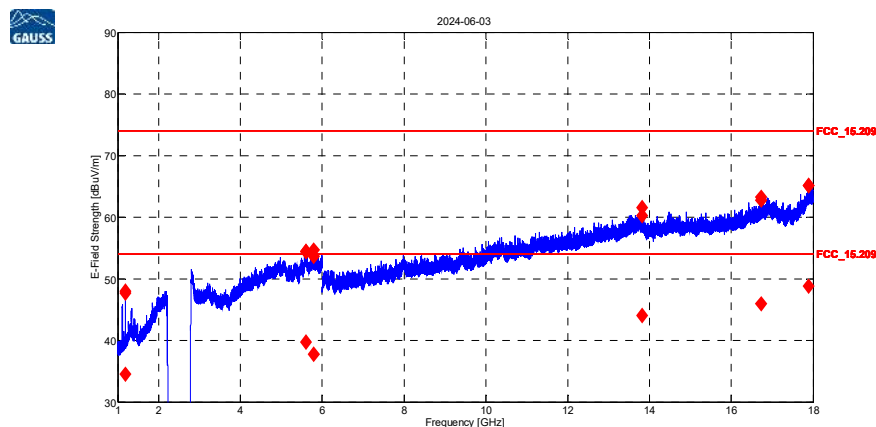
f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.18225 GHz	49.72	74.00	24.28	H	175.325	100.165	30.43	FCC_15.209
5.61775 GHz	54.59	74.00	19.41	H	359	389.538	41.64	FCC_15.209
10.36425 GHz	56.62	74.00	17.38	H	116.145	168.949	45.80	FCC_15.209
13.75825 GHz	60.72	74.00	13.28	H	285.434	182.554	49.24	FCC_15.209
16.9205 GHz	63.86	74.00	10.14	H	340.567	365.977	52.33	FCC_15.209
17.87625 GHz	65.48	74.00	8.52	H	109.211	310.874	54.16	FCC_15.209

Final 2: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms RMS, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.183 GHz	34.65	54.00	19.35	H	175.325	100.503	30.43	FCC_15.209
5.61775 GHz	39.80	54.00	14.20	H	359	300	41.64	FCC_15.209
10.36275 GHz	40.88	54.00	13.12	H	116.145	200	45.80	FCC_15.209
13.759 GHz	45.14	54.00	8.86	H	285.434	100	49.24	FCC_15.209
16.9215 GHz	47.52	54.00	6.48	H	340.567	313.523	52.33	FCC_15.209
17.87825 GHz	49.04	54.00	4.96	H	109.211	316.7	54.16	FCC_15.209

1-18GHz Horizontal Data Table and Plot

EUT Mode: High-Ch, 802.11b-11Mbps



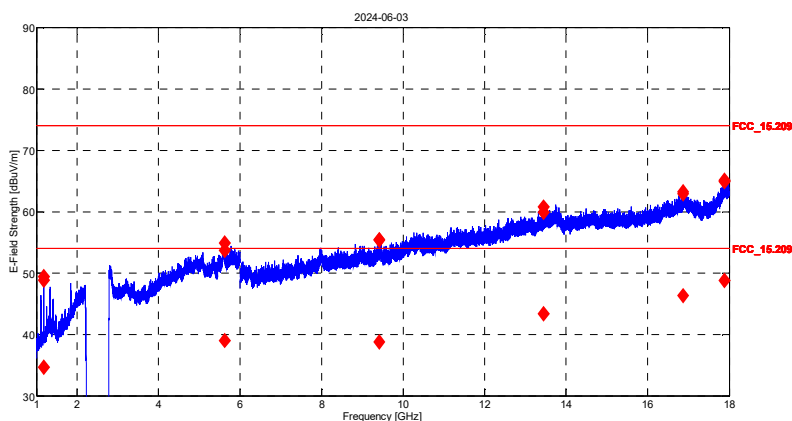
Final 1: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.1835 GHz	47.96	74.00	26.04	V	251.75	100	30.43	FCC 15.209
5.605 GHz	54.40	74.00	19.60	V	261.906	202.504	41.70	FCC 15.209
5.79075 GHz	53.61	74.00	20.39	V	316.157	331.038	41.24	FCC 15.209
13.81375 GHz	60.16	74.00	13.84	V	125.1	200	49.38	FCC 15.209
16.72475 GHz	62.75	74.00	11.25	V	45.6	194.574	51.97	FCC 15.209
17.88625 GHz	65.09	74.00	8.91	V	58.867	123.908	54.23	FCC 15.209

Final 2: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms RMS, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.1835 GHz	34.51	54.00	19.49	V	251.75	100	30.43	FCC 15.209
5.6025 GHz	39.74	54.00	14.26	V	261.906	100	41.70	FCC 15.209
5.7915 GHz	37.76	54.00	16.24	V	316.157	262.597	41.24	FCC 15.209
13.814 GHz	44.01	54.00	9.99	V	125.1	200	49.38	FCC 15.209
16.722 GHz	45.93	54.00	8.07	V	45.6	100	51.97	FCC 15.209
17.8895 GHz	48.75	54.00	5.25	V	58.867	180.782	54.23	FCC 15.209

1-18GHz Vertical Data Table and Plot



Final 1: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.1835 GHz	49.43	74.00	24.57	H	239.808	185.684	30.43	FCC_15.209
5.6205 GHz	53.72	74.00	20.28	H	126.085	143.733	41.63	FCC_15.209
9.41425 GHz	55.37	74.00	18.63	H	106.511	100.895	43.98	FCC_15.209
13.44925 GHz	59.87	74.00	14.13	H	335.041	311.087	48.93	FCC_15.209
16.86425 GHz	62.89	74.00	11.11	H	71.511	249.713	52.19	FCC_15.209
17.89225 GHz	65.15	74.00	8.85	H	64.7	223.903	54.25	FCC_15.209

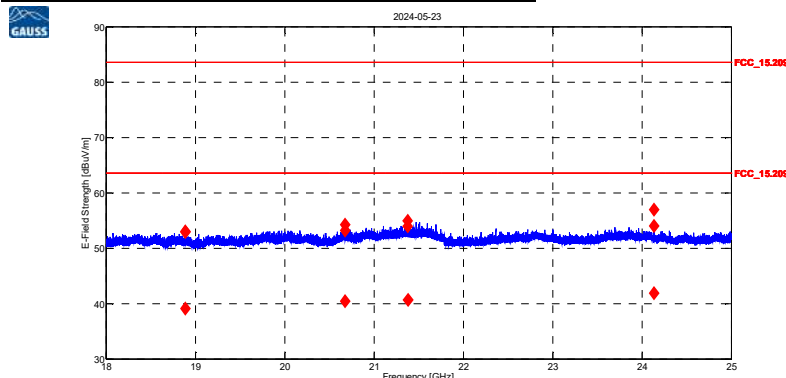
Final 2: 1.2 GHz, 50.0 kHz, 17.9 GHz; IF:1MHz, 100.0 ms RMS, Att 0dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
1.1835 GHz	34.64	54.00	19.36	H	239.808	178.851	30.43	FCC_15.209
5.6185 GHz	38.97	54.00	15.03	H	126.085	100	41.63	FCC_15.209
9.41825 GHz	38.80	54.00	15.20	H	106.511	179.214	43.98	FCC_15.209
13.448 GHz	43.41	54.00	10.59	H	335.041	200	48.93	FCC_15.209
16.86375 GHz	46.31	54.00	7.69	H	71.511	300	52.19	FCC_15.209
17.8895 GHz	48.75	54.00	5.25	H	64.7	100	54.25	FCC_15.209

1-18GHz Horizontal Data Table and Plot

18GHz-25GHz

EUT Mode: Low-Ch, 802.11b-11Mbps



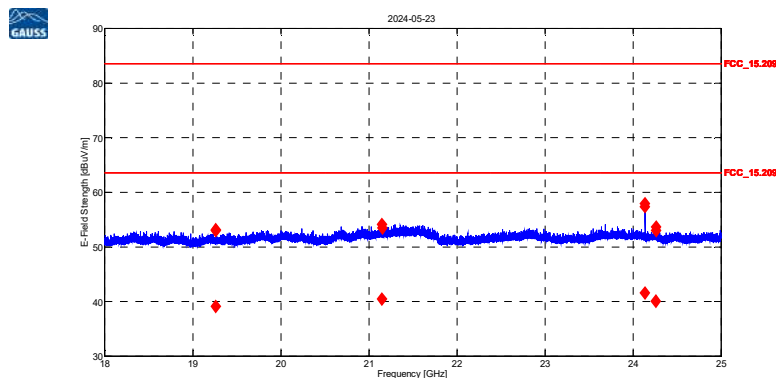
Final 1: 18.9 GHz, 50.0 kHz, 24.1 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
18.88925 GHz	52.86	83.50	30.64	V	323.327	155.643	11.87	FCC_15.209
20.67725 GHz	53.18	83.50	30.32	V	305.142	169.287	12.89	FCC_15.209
21.3775 GHz	53.97	83.50	29.53	V	149.265	106.4	13.15	FCC_15.209
24.1365 GHz	56.92	83.50	26.58	V	232.519	107.7	13.27	FCC_15.209

Final 2: 18.9 GHz, 50.0 kHz, 24.1 GHz; IF:1MHz, 100.0 ms RMS, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
18.88975 GHz	39.09	63.50	24.41	V	323.327	166.304	11.87	FCC_15.209
20.67675 GHz	40.43	63.50	23.07	V	305.142	125	12.89	FCC_15.209
21.38025 GHz	40.67	63.50	22.83	V	149.265	125	13.15	FCC_15.209
24.137 GHz	41.89	63.50	21.61	V	232.519	100	13.27	FCC_15.209

18-25GHz Vertical Data table and Plot



Final 1: 19.3 GHz, 50.0 kHz, 24.3 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 20dB

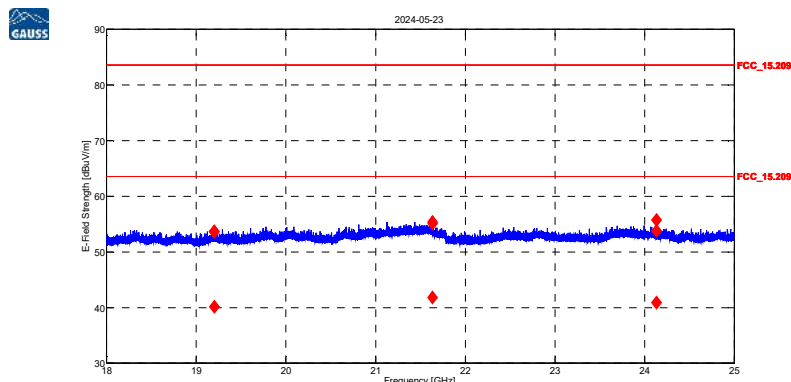
f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.26225 GHz	53.11	83.50	30.39	H	9.005	175	12.00	FCC_15.209
21.154 GHz	53.43	83.50	30.07	H	72.574	109.4	13.06	FCC_15.209
24.137 GHz	57.34	83.50	26.16	H	314.8	124.967	13.27	FCC_15.209
24.26175 GHz	53.02	83.50	30.48	H	211.505	108.5	13.05	FCC_15.209

Final 2: 19.3 GHz, 50.0 kHz, 24.3 GHz; IF:1MHz, 100.0 ms RMS, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.263 GHz	39.12	63.50	24.38	H	9.005	183.204	12.00	FCC_15.209
21.15125 GHz	40.41	63.50	23.09	H	72.574	125	13.06	FCC_15.209
24.137 GHz	41.55	63.50	21.95	H	314.8	124.967	13.27	FCC_15.209
24.25925 GHz	40.05	63.50	23.45	H	211.505	125	13.05	FCC_15.209

18-25GHz Horizontal Data Table and Plot

EUT Mode: Mid-Ch, 802.11b-11Mbps



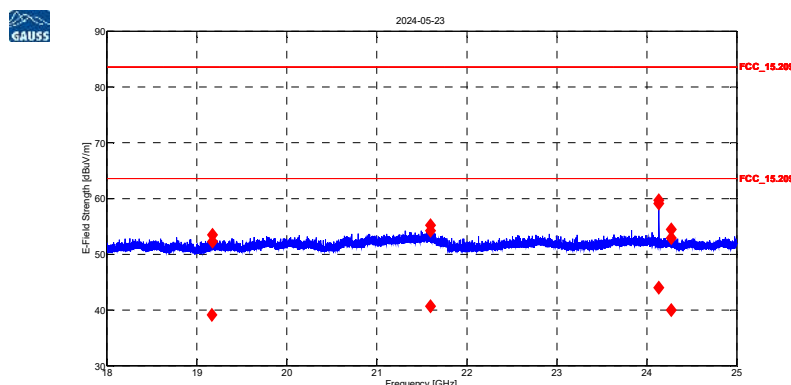
Final 1: 19.2 GHz, 50.0 kHz, 24.1 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.2015 GHz	53.65	83.50	29.85	V	314.392	199.739	11.86	FCC_15.209
21.6385 GHz	55.03	83.50	28.47	V	42.841	100	12.89	FCC_15.209
24.137 GHz	53.78	83.50	29.72	V	254.258	116.24	13.27	FCC_15.209

Final 2: 19.2 GHz, 50.0 kHz, 24.1 GHz; IF:1MHz, 100.0 ms RMS, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.204 GHz	40.09	63.50	23.41	V	314.392	175	11.86	FCC_15.209
21.638 GHz	41.81	63.50	21.69	V	42.841	116.733	12.89	FCC_15.209
24.137 GHz	40.87	63.50	22.63	V	254.258	123.28	13.27	FCC_15.209

18-25GHz Vertical Data table and Plot



Final 1: 19.2 GHz, 50.0 kHz, 24.3 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.1755 GHz	52.27	83.50	31.23	H	191.946	100.933	11.77	FCC_15.209
21.59775 GHz	55.23	83.50	28.27	H	145.269	125.067	13.02	FCC_15.209
24.137 GHz	59.65	83.50	23.85	H	303.677	100	13.27	FCC_15.209
24.27175 GHz	52.87	83.50	30.63	H	0	163.63	13.01	FCC_15.209

Final 2: 19.2 GHz, 50.0 kHz, 24.3 GHz; IF:1MHz, 100.0 ms RMS, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.1715 GHz	39.10	63.50	24.40	H	191.946	111.533	11.77	FCC_15.209
21.599 GHz	40.68	63.50	22.82	H	145.269	100	13.02	FCC_15.209
24.137 GHz	43.97	63.50	19.53	H	303.677	100	13.27	FCC_15.209
24.273 GHz	39.99	63.50	23.51	H	0	158.944	13.01	FCC_15.209

18-25GHz Horizontal Data Table and Plot

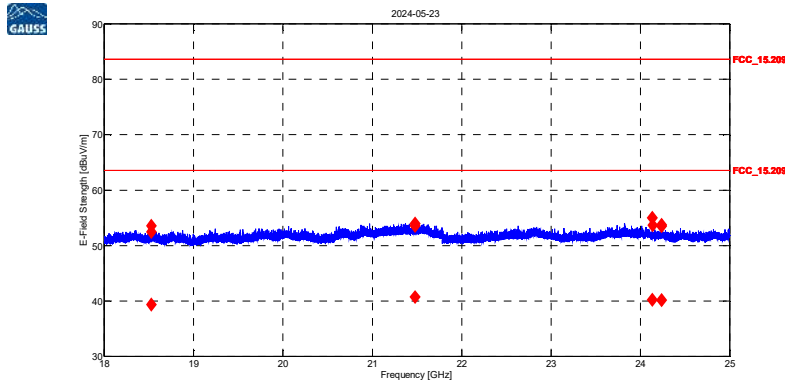


**BUREAU
VERITAS**

Test Report for Hydration Labs, Inc. Report No. EY0069-5 Issue 2



EUT Mode: High-Ch, 802.11b-11Mbps



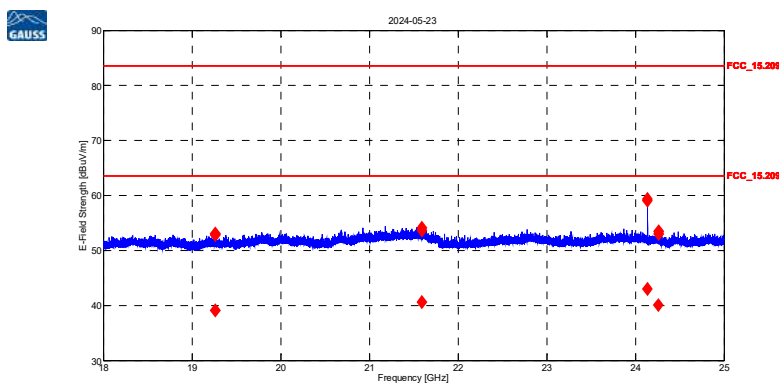
Final 1: 18.5 GHz, 50.0 kHz, 24.2 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
18.53 GHz	52.39	83.50	31.11	V	295.915	115.324	12.21	FCC_15.209
21.48125 GHz	53.51	83.50	29.99	V	84.834	100	13.20	FCC_15.209
24.139 GHz	53.63	83.50	29.87	V	224.935	112.933	13.27	FCC_15.209
24.2385 GHz	53.47	83.50	30.03	V	345.236	100.2	13.11	FCC_15.209

Final 2: 18.5 GHz, 50.0 kHz, 24.2 GHz; IF:1MHz, 100.0 ms RMS, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
18.532 GHz	39.32	63.50	24.18	V	295.915	100	12.21	FCC_15.209
21.479 GHz	40.65	63.50	22.85	V	84.834	125	13.20	FCC_15.209
24.137 GHz	40.22	63.50	23.28	V	224.935	115	13.27	FCC_15.209
24.24125 GHz	40.13	63.50	23.37	V	345.236	125	13.11	FCC_15.209

18-25GHz Vertical Data table and Plot



Final 1: 19.3 GHz, 50.0 kHz, 24.3 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.2635 GHz	53.03	83.50	30.47	H	285.885	103.867	12.00	FCC_15.209
21.5945 GHz	53.57	83.50	29.93	H	0.159	125	13.04	FCC_15.209
24.137 GHz	58.98	83.50	24.52	H	230.719	100.033	13.27	FCC_15.209
24.26125 GHz	52.96	83.50	30.54	H	328.015	115.2	13.05	FCC_15.209

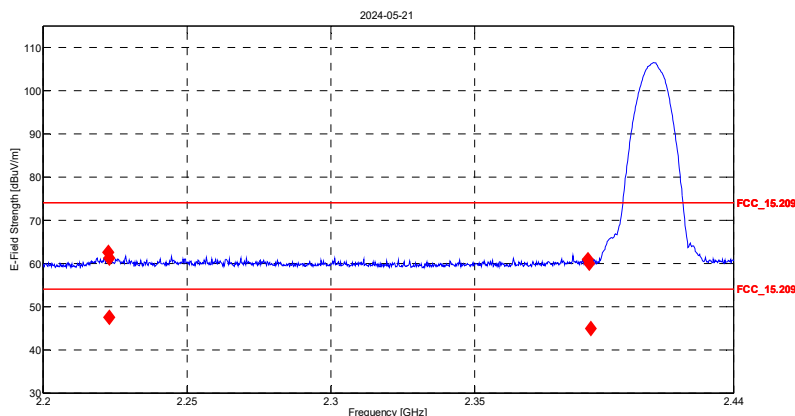
Final 2: 19.3 GHz, 50.0 kHz, 24.3 GHz; IF:1MHz, 100.0 ms RMS, Att 20dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
19.2615 GHz	39.10	63.50	24.40	H	285.885	125	12.00	FCC_15.209
21.593 GHz	40.60	63.50	22.90	H	0.159	100	13.04	FCC_15.209
24.137 GHz	42.95	63.50	20.55	H	230.719	100.033	13.27	FCC_15.209
24.26 GHz	40.04	63.50	23.46	H	328.015	100	13.05	FCC_15.209

18-25GHz Horizontal Data Table and Plot

Radiated Band-edge:

EUT Mode: 802.11b-11Mbps



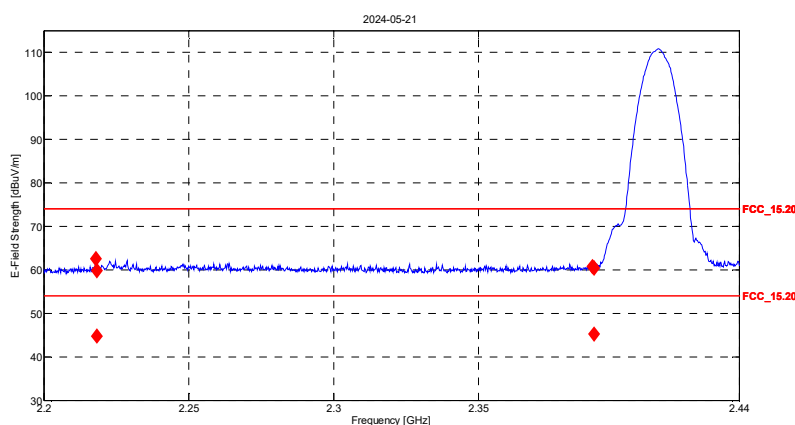
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.223 GHz	61.21	74.00	12.79	V	233.414	137.662	36.04	FCC_15.209
2.3895 GHz	60.92	74.00	13.08	V	227.171	165.704	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.223 GHz	47.52	54.00	6.48	V	233.414	100	36.04	FCC_15.209	RMS Maxhold
2.3905 GHz	44.93	54.00	9.07	V	227.171	300	36.08	FCC_15.209	RMS Maxhold

Low-Ch Vertical Data table and Plot



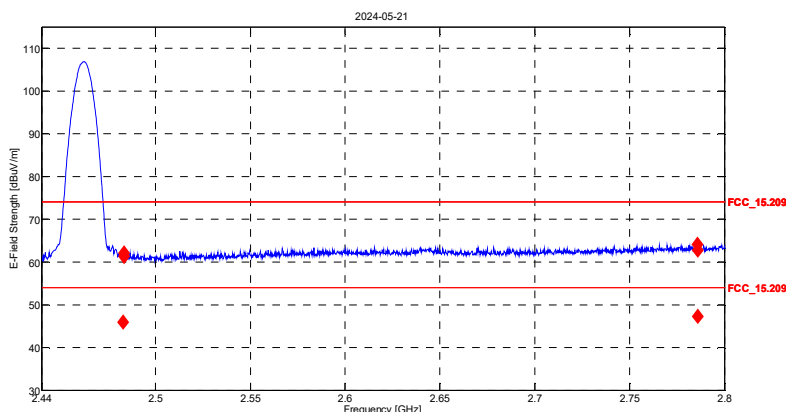
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.21825 GHz	59.88	74.00	14.12	H	152.756	200	36.02	FCC_15.209
2.3895 GHz	60.71	74.00	13.29	H	301.805	181.962	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.21825 GHz	44.84	54.00	9.16	H	152.756	146.124	36.02	FCC_15.209	RMS Maxhold
2.39 GHz	45.28	54.00	8.72	H	301.805	175.024	36.08	FCC_15.209	RMS Maxhold

Low-Ch Horizontal Data table and Plot



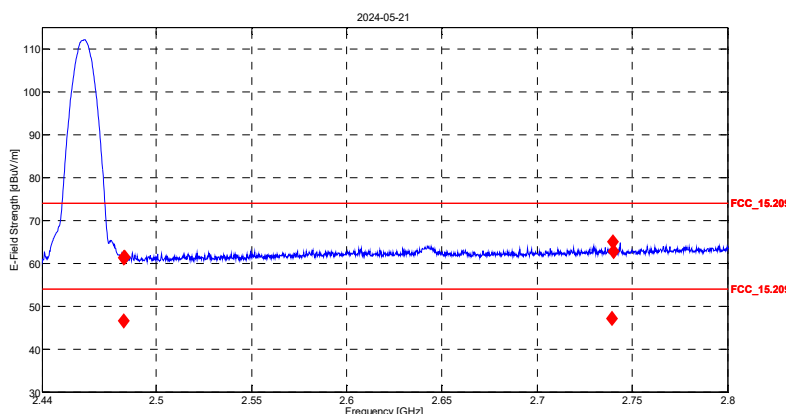
Final 1: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.4835 GHz	61.33	74.00	12.67	V	332.29	321.061	36.67	FCC_15.209
2.786 GHz	62.74	74.00	11.26	V	255.388	155.9	37.89	FCC_15.209

Final 2: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.483 GHz	45.95	54.00	8.05	V	332.29	250.048	36.67	FCC_15.209	RMS Maxhold
2.786 GHz	47.29	54.00	6.71	V	255.388	100	37.89	FCC_15.209	RMS Maxhold

High-Ch Vertical Data table and Plot



Final 1: 2.5 GHz, 50.0 kHz, 2.7 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

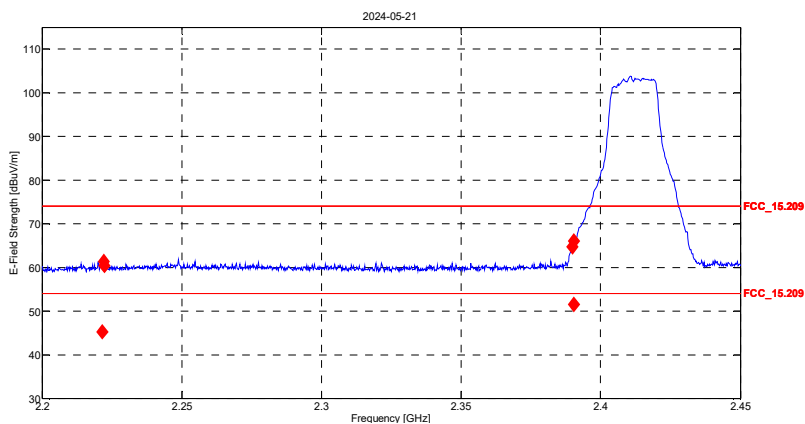
f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.483 GHz	61.32	74.00	12.68	H	39.703	359.177	36.67	FCC_15.209
2.74 GHz	62.78	74.00	11.22	H	154.884	200	37.91	FCC_15.209

Final 2: 2.5 GHz, 50.0 kHz, 2.7 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.483 GHz	46.55	54.00	7.45	H	39.703	204.245	36.67	FCC_15.209	RMS Maxhold
2.73925 GHz	47.14	54.00	6.86	H	154.884	100	37.91	FCC_15.209	RMS Maxhold

High-Ch Horizontal Data table and Plot

EUT Mode: 802.11g-6Mbps



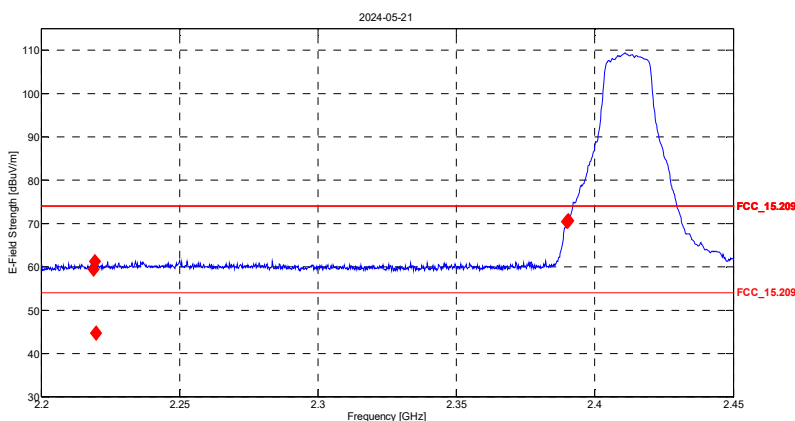
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.2225 GHz	60.44	74.00	13.56	V	118.82	110.638	36.04	FCC_15.209
2.3905 GHz	66.01	74.00	7.99	V	336.961	100	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.2215 GHz	45.23	54.00	8.77	V	118.82	168.749	36.04	FCC_15.209	RMS Maxhold
2.3905 GHz	51.49	54.00	2.51	V	336.961	100	36.08	FCC_15.209	RMS Maxhold

Low-Ch Vertical Data table and Plot



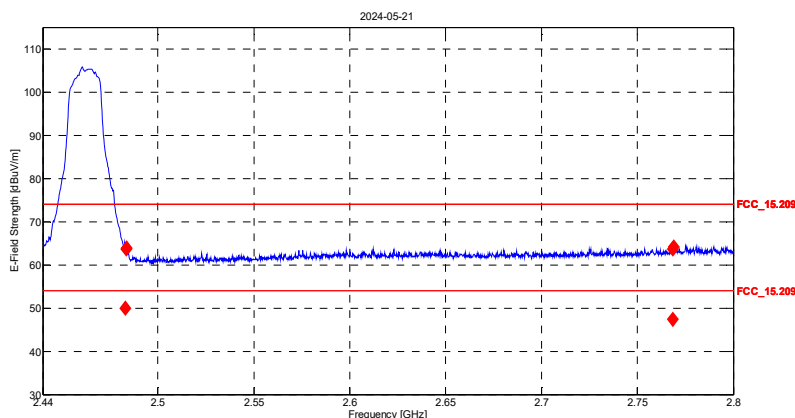
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.219 GHz	59.40	74.00	14.60	H	173.971	165.018	36.03	FCC_15.209
2.3905 GHz	70.66	74.00	3.34	H	0	129.319	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.21975 GHz	44.63	54.00	9.37	H	173.971	100.135	36.03	FCC_15.209	RMS Maxhold
2.3900 GHz	51.45	54.00	2.55	H	0	129.319	36.08	FCC_15.209	RMS 300 Trace Average

Low-Ch Horizontal Data table and Plot



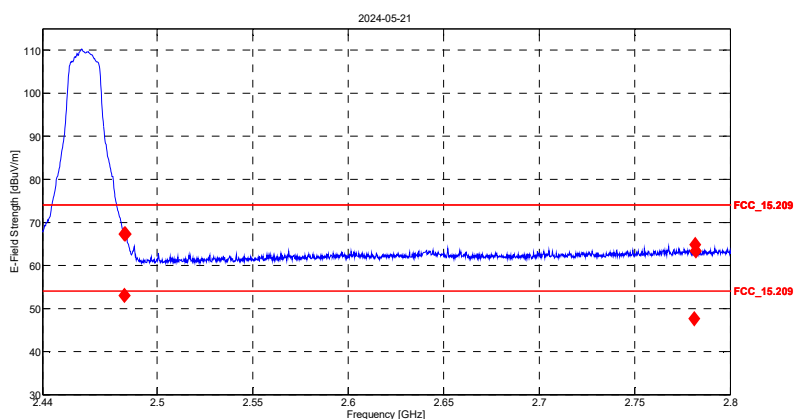
Final 1: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.48375 GHz	63.86	74.00	10.14	V	359	279.688	36.67	FCC_15.209
2.7685 GHz	63.68	74.00	10.32	V	251.709	188.133	37.94	FCC_15.209

Final 2: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.483 GHz	49.96	54.00	4.04	V	359	193.412	36.67	FCC_15.209	RMS Maxhold
2.7685 GHz	47.42	54.00	6.58	V	251.709	199.989	37.94	FCC_15.209	RMS Maxhold

High-Ch Vertical Data table and Plot



Final 1: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

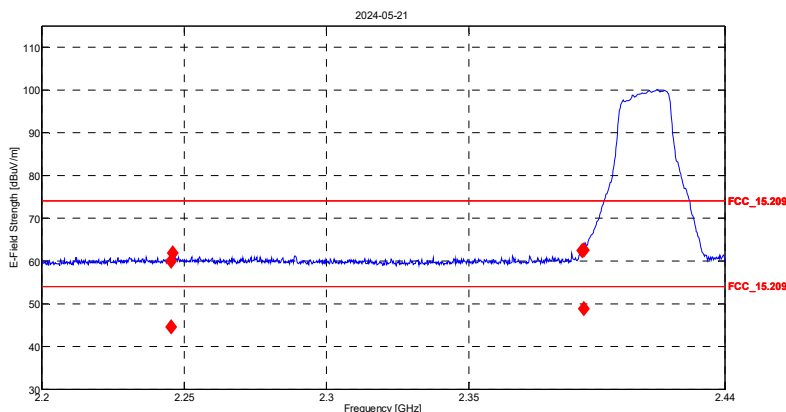
f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.483 GHz	67.31	74.00	6.69	H	65.534	173.9	36.67	FCC_15.209
2.782 GHz	63.29	74.00	10.71	H	358.522	194.497	37.92	FCC_15.209

Final 2: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.483 GHz	52.96	54.00	1.04	H	65.534	176.725	36.67	FCC_15.209	RMS Maxhold
2.78125 GHz	47.61	54.00	6.39	H	358.522	116.705	37.92	FCC_15.209	RMS Maxhold

High-Ch Horizontal Data table and Plot

EUT Mode: 802.11n HT20-MCS0



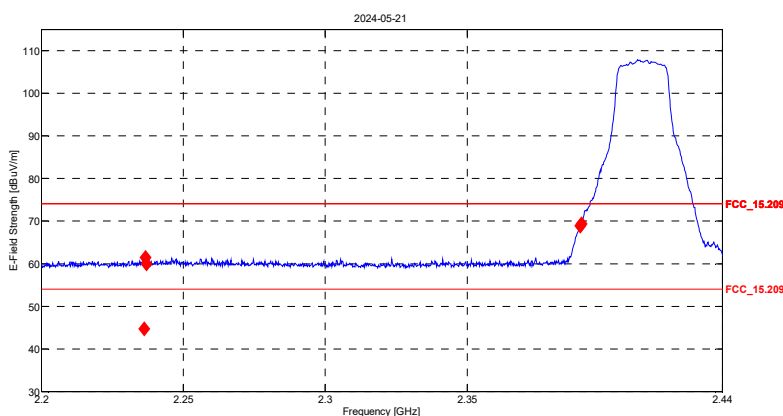
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.2455 GHz	59.91	74.00	14.09	V	132.214	200	36.14	FCC_15.209
2.3905 GHz	62.52	74.00	11.48	V	342.787	154.778	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.2455 GHz	44.52	54.00	9.48	V	132.214	137.269	36.14	FCC_15.209	RMS Maxhold
2.3905 GHz	48.85	54.00	5.15	V	342.787	157.433	36.08	FCC_15.209	RMS Maxhold

Low-Ch Vertical Data table and Plot



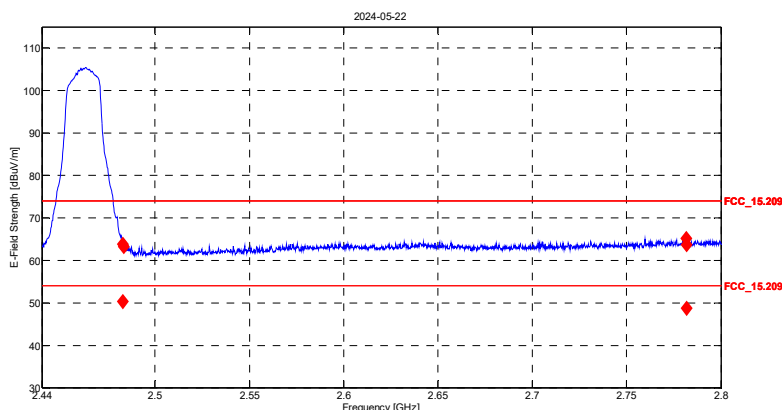
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.237 GHz	59.97	74.00	14.03	H	175.831	173.15	36.13	FCC_15.209
2.3905 GHz	69.34	74.00	4.66	H	66.615	168.4	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.2 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.23625 GHz	44.73	54.00	9.27	H	175.831	100	36.13	FCC_15.209	RMS Maxhold
2.3900 GHz	52.29	54.00	1.71	H	66.615	168.4	36.08	FCC_15.209	RMS 300 Trace Average

Low-Ch Horizontal Data table and Plot



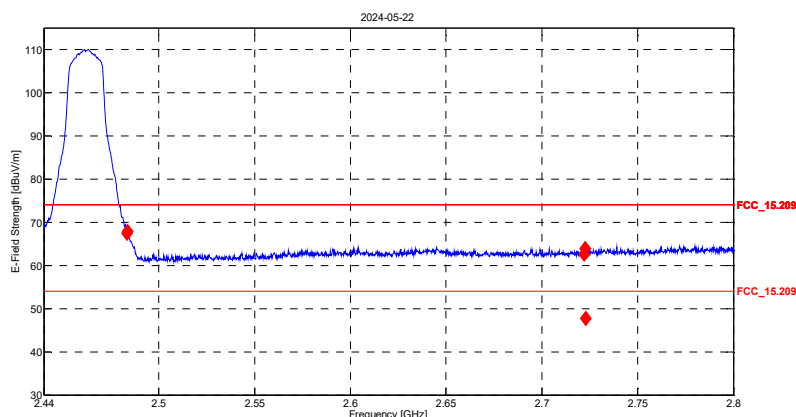
Final 1: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.483 GHz	63.82	74.00	10.18	V	337.067	236.063	36.67	FCC_15.209
2.782 GHz	63.66	74.00	10.34	V	276.813	157.182	37.92	FCC_15.209

Final 2: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.483 GHz	50.27	54.00	3.73	V	337.067	246.422	36.67	FCC_15.209	RMS Maxhold
2.782 GHz	48.72	54.00	5.28	V	276.813	150.246	37.92	FCC_15.209	RMS Maxhold

High-Ch Vertical Data table and Plot



Final 1: 2.5 GHz, 50.0 kHz, 2.7 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

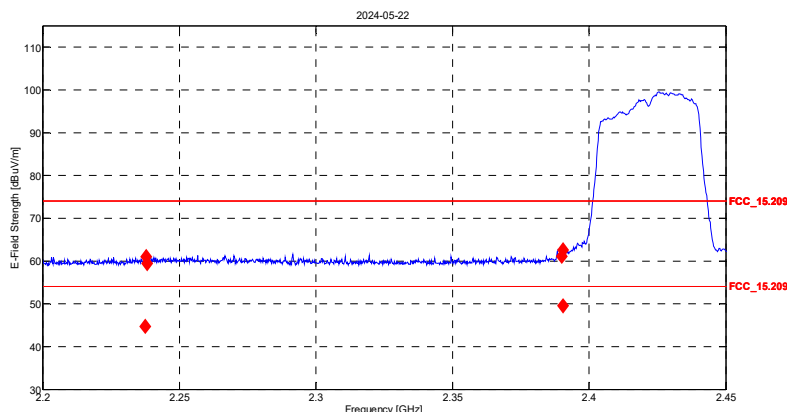
f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.48375 GHz	67.88	74.00	6.12	H	55.183	185.735	36.67	FCC_15.209
2.722 GHz	62.51	74.00	11.49	H	140.813	185.6	37.88	FCC_15.209

Final 4: 2.7 GHz, 50.0 kHz, 2.7 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.4835 GHz	53.14	54.00	0.86	H	55.183	185.735	36.67	FCC_15.209	RMS 300 Trace Average
2.72275 GHz	47.66	54.00	6.34	H	140.813	138.2	37.88	FCC_15.209	RMS Maxhold

High-Ch Horizontal Data table and Plot

EUT Mode: 802.11n HT40-MCS0



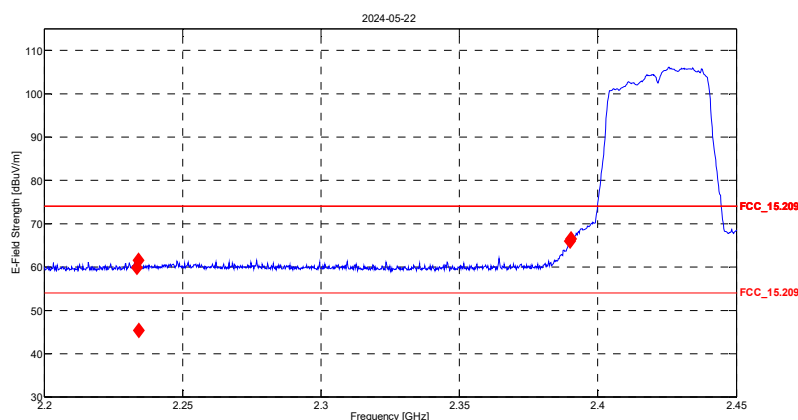
Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.23825 GHz	59.46	74.00	14.54	V	199.558	191.754	36.14	FCC_15.209
2.3905 GHz	62.56	74.00	11.44	V	336.948	175.781	36.08	FCC_15.209

Final 2: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.2375 GHz	44.69	54.00	9.31	V	199.558	100	36.14	FCC_15.209	RMS Maxhold
2.3905 GHz	49.51	54.00	4.49	V	336.948	175.781	36.08	FCC_15.209	RMS Maxhold

Low-Ch Vertical Data table and Plot



Final 1: 2.2 GHz, 50.0 kHz, 2.4 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.2335 GHz	59.82	74.00	14.18	H	279.12	150.141	36.12	FCC_15.209
2.39025 GHz	66.53	74.00	7.47	H	22.018	200.1	36.08	FCC_15.209

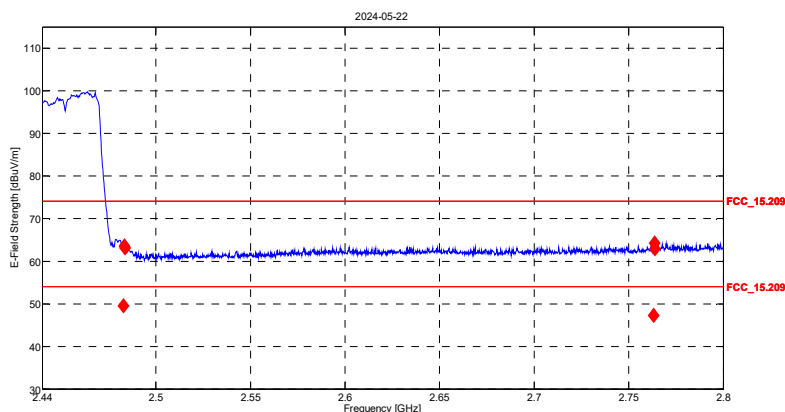
Final 2: 2.2 GHz, 50.0 kHz, 2.2 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.23425 GHz	45.30	54.00	8.70	H	279.12	152.843	36.12	FCC_15.209	RMS Maxhold
2.390 GHz	53.08	54.00	0.92	H	22.018	200.1	36.08	FCC_15.209	RMS 300 Trace Average

Low-Ch Horizontal Data table and Plot



Test Report for Hydration Labs, Inc.
Report No. EY0069-5 Issue 2



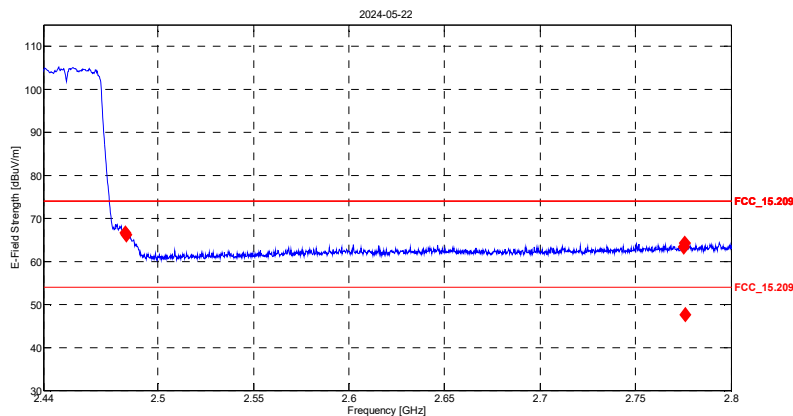
Final 1: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.48375 GHz	63.13	74.00	10.87	V	328.04	209.909	36.67	FCC_15.209
2.764 GHz	62.89	74.00	11.11	V	99.713	117.876	37.91	FCC_15.209

Final 2: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.483 GHz	49.52	54.00	4.48	V	328.04	206.83	36.67	FCC_15.209	RMS Maxhold
2.76325 GHz	47.31	54.00	6.69	V	99.713	150.341	37.91	FCC_15.209	RMS Maxhold

High-Ch Vertical Data table and Plot



Final 1: 2.5 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms MaxPeak, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name
2.483 GHz	66.63	74.00	7.37	H	70.141	100	36.67	FCC_15.209
2.77525 GHz	63.33	74.00	10.67	H	348.242	174.37	37.94	FCC_15.209

Final 4: 2.8 GHz, 50.0 kHz, 2.8 GHz; IF:1MHz, 100.0 ms RMS, Att 10dB

f	Mag [dBuV/m]	Limit	Diff	Polarization	Angle [°]	Height [cm]	Trans	Name	Comment
2.4835 GHz	53.62	54.0	0.38	H	70.141	100	36.67	FCC_15.209	RMS 300 Trace Average
2.776 GHz	47.59	54.00	6.41	H	348.242	100	37.94	FCC_15.209	RMS Maxhold

High-Ch Horizontal Data table and Plot

Bureau Veritas Consumer Product
Services Inc.

One Distribution Center Circle, #1
Littleton, MA

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



5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the Test Setup Photos exhibits



5 MODIFICATIONS DURING TESTING

- 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. Please refer to **EMC EY0069-1 FCC Final Report**.
- 2) Started Radio spurious emission testing on sample board 01. Pre-scans, Band-edges, 9k-30MHz and 18G-25GHz frequency range testing was performed on board sample 01.
- 3) During 30M-1000MHz Radio emission testing a Ferrite (0431164951) was added on LVDS cable at J9 port. 30M-18GHz Radio emission testing was performed on board sample 11.

Please refer to the test setup photos exhibit for EUT modification configuration.

---END OF REPORT---