

Bureau Veritas Consumer Product Services, Inc.	Test Report Number:
One Distribution Center Circle #1, Littleton, MA 01460	EY0069-10 Issue 2



CFR Title 47 FCC Parts

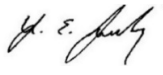
1.1307, 1.1310, 2.1091

Report Exhibit

Prepared for Hydration Labs, Inc.

This report presents the environmental impact of human exposure to radiofrequency radiation for

Gen 2 SBC

Prepared by Nisha Patel Wireless Engineer I	Approved by Yunus Faziloglu EMC Manager
	
Issue Date: Apr 15, 2025	Issue Number: 2



This test result relates only to the described test object.

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The test is traceable to national standard or related international standard

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1. Device Under Test Information

1.1 Product Information

Project Number:	EY0069
Applicant Information:	Hydration Labs, Inc.
	529 Main Street Suite 304, Boston, MA 02129
Test Item Description:	Bevi Single Board Computer, Gen 2
Model Number:	400-0029
FCC ID:	2AMTV-4000029
Separation Distance:	20cm
Exposure Category of DUT:	Mobile
Multiple Simultaneous RF Sources:	No
Type of Evaluation:	MPE Calculation
Evaluation Method:	447498 D01 General RF Exposure Guidance v06
Deviations from Standard:	None

1.2 Technical Information

Radio Function: LTE, 2.4Wi-Fi, 5GHz Wi-Fi	
Exposure Category of Transmitter:	Mobile
Wireless technology Frequency Range:	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 12: 699 MHz ~ 716 MHz WLAN 2.4GHz Band: 2412 MHz ~2462 MHz WLAN 5.2 GHz Band: 5180 MHz ~ 5240 MHz
Modes:	LTE: QPSK, 16QAM WLAN 2.4Wi-Fi: 802.11b/g/n HT20/HT40 WLAN 5.2GHz Wi-Fi: 802.11a/n, ac VHT20/40/80
Maximum Antenna Gain (dBi):	LTE Band 2: 5.93 dBi LTE Band 4: 5.93 dBi LTE Band 12: 2.6 dBi WLAN 2.4GHz Band: 1.25 dBi WLAN 5.2 GHz Band: 2.17 dBi
Antenna Type:	LTE: SMD Dielectric Antenna WLAN: Dual Band 2.4GHz/5.8GHz Wi-Fi Ceramics Substrate Loop
Maximum RF Avg Output power:	LTE Band 2: 25 dBm LTE Band 4: 25 dBm LTE Band 12: 25 dBm WLAN 2.4GHz Band: 19 dBm WLAN 5.2 GHz Band: 17 dBm

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2 Test Laboratory Information

Location of Test Lab:	One Distribution Center Circle #1 Littleton, MA 01460 (978) 486-8880
Key Contact:	Yunus Faziloglu Yunus.faziloglu@bureauveritas.com
Laboratory Accreditations:	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
ISO/IEC 17025:2017:	1627-01
FCC Test Site Number:	US1028

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3 RF Exposure limit:

According to CFR Title 47 FCC 1.1310, Below table mentions limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

TABLE 1 TO § 1.1310(E)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

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4 RF Exposure – MPE Evaluation

Power density can be calculated as follows

$$S = EIRP / 4\pi r^2$$

where,

S Power Density in mW/cm^2

EIRP Effective Isotropic Radiated Power in mW

r Separation Distance from Antenna in cm

Power densities and limit ratios for each radio can be calculated as follows

Radio	f(MHz)	Distance (cm)	AntGain (dBi)	Power (dBm)	EIRP (dBm)	EIRP (mW)	Power Density (mW/cm2)	Limit (mW/cm2)
2.4GHz WiFi	2437	20	1.25	19	20.25	105.9254	0.0210732	1
5GHz WiFi	5200	20	2.17	17	19.17	82.60379	0.0164335	1
2	1850	20	5.93	25	30.93	1238.797	0.2464508	1
4	1710	20	5.93	25	30.93	1238.797	0.2464508	1
12	699	20	2.6	25	27.6	575.4399	0.1144801	0.466

Applicant declares WiFi 2.4GHz, WiFi 5GHz or any of the LTE bands do not have simultaneous transmission capability in any combination.

5 Conclusion

Therefore device complies with 1.1307, 1.1310 and 2.1091 of the FCC rules for RF radiation exposure limits for general population as a mobile device ($d > 20cm$).

6 Document Revisions

Issue No.	Summary of Changes	Date Issued	Prepared by	Approved by
1	Original Release	Sep 3, 2024	YF	AA
2	Removed unused LTE bands from the evaluation	Apr 15, 2025	NP	YF

End of Report