

FCC RF Exposure Test Report

Report No. : SAR260413B001
Applicant : ASTRONOMY DATA PROCESSING CORPORATION
Address : 2228 COTNER AVE LOS ANGELES, CA 90064
Product : EDGE CONTROLLER 01
FCC ID : 2BM4513EA
Model No. : EC-01
Standards : FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06

Sample Received Date : Dec. 22, 2025
Date of Testing : Dec. 22, 2025 - Feb. 05, 2026
Test Lab : The FCC Site Registration No. is 434559; The Designation No. is CN1325.
Issued By : Huarui 7layers High Technology (Suzhou) Co., Ltd.
Address : Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province, China

CERTIFICATION: The above equipment have been tested by **BOOMWAVE TEST (SHENZHEN) CO., LTD.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by A2LA or any government agencies.

Prepared By : Jiawei Tu
(Jiawei Tu / Engineer)

Approved By : Simon Wang
(Simon Wang / Manager)

BOOMWAVE TEST (SHENZHEN) CO., LTD. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of BOOMWAVE TEST (SHENZHEN) CO., LTD., the test report shall not be reproduced except in full.



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Release Control Record

Report No.	Reason for Change	Date Issued
SAR260413B001	Original release	Feb. 05, 2026

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1. Description of Equipment Under Test

PRODUCT*	Edge Controller 01	
MODEL NAME*	EC-01	
NOMINAL VOLTAGE*	19Vdc	
MODULATION TYPE*	WLAN	DSSS, OFDM, OFDMA
	LTE	QPSK/16QAM/64QAM
	5G NR	DFT-s-OFDM($\pi/2$ BPSK,QPSK,16QAM,64QAM,256QAM); CP-OFDM(QPSK,16QAM,64QAM,256QAM);
OPERATING FREQUENCY*	LTE	1850.7MHz ~ 1909.3MHz (FOR LTE Band2) 1710.7MHz ~ 1754.3MHz (FOR LTE Band4) 824.7MHz ~ 848.3MHz (FOR LTE Band5) 2502.5MHz ~ 2567.5MHz (FOR LTE Band7) 699.7MHz ~ 715.3MHz (FOR LTE Band12) 779.5MHz ~ 784.5MHz (FOR LTE Band13) 790.5MHz ~ 795.5MHz (FOR LTE Band14) 706.5MHz ~ 713.5MHz (FOR LTE Band17) 1850.7MHz ~ 1914.3MHz (FOR LTE Band25) 814.7MHz ~ 848.3MHz (FOR LTE Band26) 2307.5MHz ~ 2312.5MHz (FOR LTE Band30) 2572.5MHz ~ 2617.5MHz (FOR LTE Band38) 3452.5MHz ~3597.5MHz (FOR LTE Band42) 3702.5MHz ~3797.5MHz (FOR LTE Band43) 3552.5MHz ~3697.5MHz (FOR LTE Band48) CA_ 1A-3A-7A
	5G NR	SA/NSA: n2 (1852.5MHz ~1907.5MHz) n5(826.5MHz ~ 846.5MHz) n7(2502.5MHz ~ 2567.5MHz) n12(701.5MHz ~ 713.5MHz) n25(1852.5MHz ~ 1912.5MHz) n26(814.7MHz ~ 848.3MHz) n38(2575MHz ~ 2615MHz) n41(2501.01 ~ 2685MHz) n48(3555 ~ 3694.98MHz) n77(Part27Q)(3455.01 ~ 3544.98MHz) n77(Part27O)(3705 ~ 3974.97MHz) n78(Part27Q)(3455.01 ~ 3544.98MHz) n78(Part 27O) (3705 ~ 3794.97MHz)



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		NSA: DC_ B7-N77 DC_ B40-N41 DC_ B2-N77 DC_ B7-N77 DC_ N2-N77 DC_ B40+N41
	WLAN	2412 ~ 2462MHz for 11b/ac(HT20/40)/ax(20/40)(RU FULL) 5180 ~ 5240MHz, 5260 ~ 5320 MHz, 5500 ~ 5720MHz, 5745 ~ 5825 MHz for 11a/ ac(VHT20)/ ac(VHT40) / ac(VHT80)/ ax(20/40/80)(RU FULL) 5955 ~ 6415MHz/6435 ~ 6525MHz/6525 ~ 6875MHz/6875 ~ 7115MHz for 802.11ax (HE20/40/80)(RU FULL)
HW VERSION*	1.0	
SW VERSION*	V1	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	N/A	
ACCESSORY DEVICES*	Refer to note as below	

Note:

- *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
- The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

2. MPE(Maximum Permissible Exposure) Assessment

2.1 Introduction

According to 47 CFR §2.1091, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitting antenna and the body of the user or nearby persons. In this context, the term “fixed location” means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 cm separation requirement. The limits to be used for MPE evaluation are specified in §1.1310. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.

2.2 RF Radiation Exposure Limits

According to 47 CFR §1.1310, the criteria listed in below table shall be used to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093.

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (min)
(A) Limits for Occupational / Controlled Exposures				
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 – 1500	-	-	f/300	6
1500 – 100000	-	-	5	6
(B) Limits for General Population / Uncontrolled Exposures				
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 – 1500	-	-	f/1500	30
1500 – 100000	-	-	1.0	30

Limits for maximum permissible exposure (MPE)

Notes:

1. f = frequency in MHz
2. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided they are made aware of the potential for exposure.
3. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.



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2.3 MPE Assessment Method

Calculations can be made to predict RF field strength and power density levels around typical RF sources. For example, in the case of a single radiating antenna, a prediction for power density in the far-field of the antenna can be made by use of the general Equations below. This equation is generally accurate in the far-field of an antenna but will over-predict power density in the near field, where they could be used for making a "worst case" or conservative prediction.

$$\text{Power Density (S)} = \frac{PG}{4\pi R^2} = \frac{\text{EIRP}}{4\pi R^2}$$

Where

S = Power Density, unit in mW/cm²

P = Power input to the antenna, unit in mW

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna, unit in cm

EIRP = Effective isotropically radiated power

2.4 MPE Calculation for Standalone Operations

The manufacturer expects that the radiated component of this device will not close to the human body during normal usage and the warning statement was also stated in the user instruction. Since the transmitting antenna will be kept at least 20 cm away from the human body, the MPE level is calculated based on this condition and the result is listed in below table.



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CALCULATION FOR MAXIMUM E.I.R.P

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Output Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit	Result (PASS / FAIL)
LTE Band 2	1850.7	2.5	25	27.50	562.341	0.112	1.000	0.112	PASS
LTE Band 4	1710.7	2.5	25	27.50	562.341	0.112	1.000	0.112	PASS
LTE Band 5	824.7	0.1	25	25.10	323.594	0.064	0.550	0.117	PASS
LTE Band 7	2502.5	3.5	25	28.50	707.946	0.141	1.000	0.141	PASS
LTE Band 12	699.7	0.5	25	25.50	354.813	0.071	0.466	0.151	PASS
LTE Band 13	779.5	0.5	25	25.50	354.813	0.071	0.520	0.136	PASS
LTE Band 14	790.5	0.5	25	25.50	354.813	0.071	0.527	0.134	PASS
LTE Band 17	706.5	0.5	25	25.50	354.813	0.071	0.471	0.150	PASS
LTE Band 25	1850.7	2.5	25	27.50	562.341	0.112	1.000	0.112	PASS
LTE Band 26	814.7	0.1	25	25.10	323.594	0.064	0.543	0.119	PASS
LTE Band 30	2307.5	1.6	23	24.60	288.403	0.057	1.000	0.057	PASS
LTE Band 38	2572.5	3.5	27	30.50	1122.018	0.223	1.000	0.223	PASS
LTE Band 42	3452.5	5	25	30.00	1000.000	0.199	1.000	0.199	PASS
LTE Band 43	3702.5	5	18	23.00	199.526	0.040	1.000	0.040	PASS
LTE Band 48	3552.5	5	18	23.00	199.526	0.040	1.000	0.040	PASS
NR Band n2	1852.5	2.5	25	27.50	562.341	0.112	1.000	0.112	PASS
NR Band n5	826.5	0.1	25	25.10	323.594	0.064	0.551	0.117	PASS
NR Band n7	2502.5	3.5	25	28.50	707.946	0.141	1.000	0.141	PASS
NR Band n12	701.5	0.5	25	25.50	354.813	0.071	0.468	0.151	PASS
NR Band n25	1852.5	2.5	25	27.50	562.341	0.112	1.000	0.112	PASS
NR Band n26	816.5	0.1	25	25.10	323.594	0.064	0.544	0.118	PASS
NR Band n30	2307.5	1.6	23	24.60	288.403	0.057	1.000	0.057	PASS
NR Band n38	2575	3.5	26	31.50	1412.538	0.281	1.000	0.281	PASS
NR Band n41	2506.02	3.5	27	31.50	1412.538	0.281	1.000	0.281	PASS
NR Band n77 (Part27Q)	3455.01	5	24	29.00	794.328	0.158	1.000	0.158	PASS
NR Band n77 (Part27Q)	3705	5	24	29.00	794.328	0.158	1.000	0.158	PASS
NR Band n78 (Part27Q)	3455.01	5	24	29.00	794.328	0.158	1.000	0.158	PASS
2.4GHz WLAN	2412	2.9	26	28.90	776.247	0.155	1.000	0.155	PASS
5GHz WLAN(B1)	5180	4.1	24	28.10	645.654	0.129	1.000	0.129	PASS
5GHz WLAN(B2)	5260	4.1	24	28.10	645.654	0.129	1.000	0.129	PASS
5GHz WLAN(B3)	5500	4.1	24	28.10	645.654	0.129	1.000	0.129	PASS
5GHz WLAN(B4)	5745	4.1	25	29.10	812.831	0.162	1.000	0.162	PASS
6GHz WLAN(B5)	5920	4.3	25	29.30	851.138	0.169	1.000	0.169	PASS
6GHz WLAN(B6)	6425	4.3	14	18.30	67.608	0.013	1.000	0.013	PASS
6GHz WLAN(B7)	6525	4.3	25	29.30	851.138	0.169	1.000	0.169	PASS
6GHz WLAN(B8)	6875	4.3	14	18.30	67.608	0.013	1.000	0.013	PASS

Note:

The Applicant declared: both WLAN and WWAN cannot transmit simultaneously.



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3. Information on the Testing Laboratories

We, Boomwave Test (Shenzhen) co., Ltd., were founded in 2025 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Boomwave Test (Shenzhen) Co., Ltd.

Lab Address:

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