

RF EXPOSURE EVALUATION REPORT

Application No.: GZCR2108020782HS
Applicant: Access Business Group
Address of Applicant: 7575 Fulton Street East, Ada, MI 49355, USA
Manufacturer: Access Business Group
Address of Manufacturer: 7575 Fulton Street East, Ada, MI 49355, USA
Factory: Amway (China) Co., Ltd.
Address of Factory: No. 1 Linjiang Road, Section 1, Beiwei Industrial District, Guangzhou Economic and Technological, Development Zone, Guangzhou, Guangdong, China

Equipment Under Test (EUT):

EUT Name: Atmosphere Mini
Model No.: 124746
Standard(s) : 47 CFR Part 2.1091
 47 CFR Part 1.1310
 KDB447498 D01 General RF Exposure Guidance DR04-44307
Date of Receipt: 2021-08-19
Date of Evaluation: 2021-09-06
Date of Issue: 2021-09-07

Evaluation Result:	Pass*
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* In the configuration evaluated, the EUT complied with the standards specified above.


Kobe Jian
EMC Laboratory Manager



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<i>Revision Record</i>				
Version	Chapter	Date	Modifier	Remark
01		2021-09-07		Original

Authorized for issue by:			
			

		Curry Wu/Project Engineer	
			

		Ricky Liu/Reviewer	



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2 Evaluation Summary

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.



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4 General Information

4.1 Details of E.U.T.

Power supply: AC 100-240V 50-60Hz 38W
Cable(s): about 1.5m x 2 wires unshielded AC mains cable
Operation Frequency: 13.56MHz
Modulation Type: ASK
Other wireless function: Bluetooth low energy and 2.4GHz WiFi (FCC ID:2ADHKWINC3400)

4.2 Evaluating Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



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4.3 Facility

The facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.4 Deviation from Standards

None

4.5 Abnormalities from Standard Conditions

None



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5 Technical Requirements Specification

5.1 RF Exposure Evaluation

5.1.1 Limit & Test Method

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1307(b)

TABLE 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)
(A) 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
(B) 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				

Note: Limit for 13.56MHz is 60.77 V/m

According to §2.1091, the limit for Radiofrequency radiation exposure evaluation: mobile devices.

$$P_{th}(\text{mW}) = ERP_{20\text{cm}}(\text{mW}) = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$



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5.1.2 Conclusion

Refer to report No. GZCR210802078201 & FCC ID:2ADHKWINC3400 for EUT test max EIRP value

Normal use condition for Distance between antenna and body: 20 cm

Test Mode	EIRP/ E-field strength	P/E-field strength	Pth/E-field strength
BT	/	5.18 mW	3060 mW
WIFI	/	232.27 mW	3060 mW
NFC	40.10 dBuV/m@10m	0.25 V/m@0.2m*	60.77 V/m

*: E-field (dBuV/m @0.20m) = E-field (dBuV/m @10m) + 40log(10/0.20)=108.06 dBuV/m @0.2m

E-field (V/m)= 10[^][E-field (dBuV/m) /20] × 10⁻⁶=0.25 V/m@0.2m*

According to the formula C.1, we can calculate MPE.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1 \quad (C.1)$$

NFC 13.56MHz and BT/WIFI modules can transmit simultaneously and BT/WIFI function can not transit simultaneously, so the maximum rate of MPE is

0.25/60.77+232.27/3060 =0.004+0.076 = 0.080 <1.0.

According to the KDB447498 D01 section 2.2 determine the device is exclusion from SAR test.



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6 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for GZCR2108020782HS

- End of the Report -



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