



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600227604

Page: 1 of 9

RF EXPOSURE EVALUATION REPORT

Application No.: SZCR2406002276AT
Applicant: Avantronics Limited
Address of Applicant: The 4th Floor, Yuepeng Building, No.1019 Jiabin Rd, Luohu District, Shenzhen, 518002, China
Manufacturer: Avantronics Limited
Address of Manufacturer: The 4th Floor, Yuepeng Building, No.1019 Jiabin Rd, Luohu District, Shenzhen, 518002, China
Equipment Under Test (EUT):
EUT Name: Aria 3
Model No.: ATBH-AS92, ATBH-AS92-T, BTHS-AS92, BTHS-AS92-TA, ATBH-AS92-P, ATBH-AS92-R, ATBH-AS90P ♣
♣ Please refer to section 3.2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: Avantalk, Avantree
FCC ID: WJ5-ATBH-AS92
Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2024-06-13
Date of Evaluation: 2024-06-24 to 2024-07-08
Date of Issue: 2024-07-09

Evaluation Result:

Pass*

* In the configuration evaluated, the EUT complied with the standards specified above.

Kenx. Xu

Kenx Xu

EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch EMC Laboratory

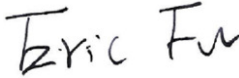
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-07-09		Original

Authorized for issue by:				
				
		Bill Chen/Project Engineer		
				
		Eric Fu/Reviewer		



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2 Contents

	Page
1 Cover Page	1
2 Contents	3
3 General Information.....	4
3.1 General Description of E.U.T.....	4
3.2 Details of E.U.T.....	4
3.3 Separation Distance	6
3.4 Test Location	7
3.5 Test Facility.....	7
3.6 Deviation from Standards.....	7
3.7 Abnormalities from Standard Conditions.....	7
4 Technical Requirements Specification.....	8
4.1 RF Exposure Evaluation.....	8
4.1.1 Limit & Test Method	8
4.1.2 Conclusion	8
5 EUT Constructional Details (EUT Photos).....	9



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3 General Information

3.1 General Description of E.U.T.

Product Type:	☒ Portable device
	☐ Mobile device
	☐ Fixed device

3.2 Details of E.U.T.

Power supply:	DC 5V from adapter input AC 230V/50Hz Lithium Ion Battery: DC 3.7V 650mAh 2.405Wh rechargeable battery
Cable(s):	AUX in cable:115cm unshielded USB cable:45cm unshielded
Cable Loss (for RF conducted test):	0.4dB
For BT:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.2 Dual mode
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	Chip Antenna
Antenna Gain:	1.75dBi
For BLE:	
Bluetooth Version:	V5.2 Dual mode
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Rata date:	1Mbps and 2Mbps
Number of Channels:	40
Antenna Type:	Chip antenna
Antenna Gain:	1.75dBi

Remark:The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600227604

Page: 5 of 9

Declaration of EUT Family Grouping:

Model No.: ATBH-AS92, ATBH-AS92-T, BTHS-AS92, BTHS-AS92-TA, ATBH-AS92-P, ATBH-AS92-R, ATBH-AS90P

Only the model ATBH-AS92 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used, internal wiring and functions were identical for all the above models, with only difference on brands and software, with or without boom mic.



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Shenzhen Branch Testing Center EEC Laboratory.

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3.3 Separation Distance

Minimum test separation distance:	5mm
Remark: This minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.	

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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600227604

Page: 7 of 9

3.4 Test Location

All tests were performed at:

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No tests were sub-contracted.

3.5 Test Facility

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

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

3.6 Deviation from Standards

None

3.7 Abnormalities from Standard Conditions

None



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4 Technical Requirements Specification

4.1 RF Exposure Evaluation

4.1.1 Limit & Test Method

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4.1.2 Conclusion

BT

The Max. power (including tune-up tolerance) is 7.95 dBm on the highest channel 2.441 GHz (*)
7.95 dBm logarithmic terms convert to numeric result is nearly 6.24 mW

According to the formula, calculate the test exclusion thresholds:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f(\text{GHz})}]$$

General RF Exposure = $(6.24 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.441 \text{ GHz}} = 1.95$ (1)

SAR requirement:

$S = 3.0$ (2)

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR240600227602

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240600227604

Page: 9 of 9

BLE

The Max. power (including tune-up tolerance) is 7.88 dBm on the highest channel 2.44 GHz (*)
7.88 dBm logarithmic terms convert to numeric result is nearly 6.14 mW

According to the formula, calculate the test exclusion thresholds:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm})} \cdot \sqrt{f(\text{GHz})} \right]$$

$$\text{General RF Exposure} = (6.14 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.44 \text{ GHz}} = 1.92 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR240600227603

5 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for SZCR2406002276AT

-End of the Report-



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