

SZ ZUVI TECHNOLOGY CO., LTD.

SAR COMPLIANCE REPORT

Report Type:
FCC SAR assessment report

Model:
HS200

REPORT NUMBER:
2311A1300SHA-004

ISSUE DATE:
December 7, 2023

DOCUMENT CONTROL NUMBER:
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FCC ID: 2BCUI-HS200

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

447498 D04 Interim General RF Exposure Guidance v01
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:

Project Engineer
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REVIEWED BY:

Reviewer
Eric Li

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Revision History

Report No.	Version	Description	Issued Date
2311A1300SHA-004	Rev. 01	Initial issue of report	December 7, 2023

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	AirLight Pro
Model:	HS200
Description of EUT:	EUT is an AirLight Pro . EUT supports RF ID and Bluetooth function.
Rating:	120Vac/60Hz, 1800W
Category of EUT:	Class B
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	2023.11.14
Date of test:	2023.11.14-2023.12.7

1.2 Technical Specification

Frequency Band:	2402MHz to 2480MHz
Support Standards:	Bluetooth Low Energy
Type of Modulation:	GFSK
Channel Number:	40
Date Rate	1Mbps
Channel Separation:	2MHz
Antenna Information:	2.39dBi, PCB antenna

Frequency Range:	121kHz~128kHz
Modulation:	/
Antenna:	Coil antenna

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No.: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252)
	A2LA Accreditation Lab Certificate Number: 3309.02

2 SAR Assessment

Test result: Pass

2.1 SAR Test Exclusion Limit

This method shall only be used at separation distances up to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula below:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

f is in GHz, d is the separation distance (cm), and ERP_{20cm} is per Formula above.

The example values shown in below are for illustration only.

	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
Frequency (MHz)	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

2.2 Assessment Results

As we can see from the BLE test report 2311A1300SHA-001:

The highest EIRP adjusted with tune-up tolerance is: 3.81dBm=2.404mW
2.404mW < 3mW (Test Exclusion Thresholds of 2450MHz at 5mm).

TEST REPORT

As we can see from the RF ID test report 2311A1300SHA-002:

➤ Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
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
300-1500	f/1500	30
1500-100,000	1.0	30

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

The highest test data with is: 85.46dBuV/m = 0.0187 V/m < 614 V/m

BLE and RF ID can transmit simultaneously

$2.404\text{mW} / 3\text{mW} + 0.0187 \text{ V/m} / 614 \text{ V/m} = 0.801 < 1$

Therefore, the SAR requirement is deemed to be satisfied without test.

***** END *****