

CIXI ZHONGBANG ELECTRIC APPLIANCE CO., LTD.

MPE ASSESSMENT REPORT

Report Type:

FCC Part §2.1091, §2.1093 and §1.1307(b) assessment report

Model:

AT1677

REPORT NUMBER:

220301798SHA-003

ISSUE DATE:

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FCC ID: 2A63W-AT1677

SUMMARY:

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

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:**REVIEWED BY:**

Project Engineer
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Reviewer
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Revision History

Report No.	Version	Description	Issued Date
220301798SHA-003	Rev. 01	Initial issue of report	July 28, 2022

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Fan Heater (Smart Heater)
Type/Model:	AT1677
Add. Model No.: (See Note 1)	AT1635, AT1679, AT1632, AT1676, AT1678, AT1366, AT1513, AT1514, AT1520, AT1521, AT1323, AT1481, AT1482, AT1520, AT1521
Trade Mark:	atomi smart,  , 
Description of EUT:	The EUT is fan heater, it supports Wi-Fi function, there are series models. We test AT1677 and list the worst results in this report.
Rating:	120V~,60Hz, 1500W
EUT type:	☒ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	2022.05.06
Date of test:	2022.05.14-2022.06.01
Note 1: The additional models are identical with the test model AT1677 except the model number for marketing purpose.	

1.2 Technical Specification

Wifi	
Frequency Band:	2412MHz ~ 2462MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20)
Operating Frequency:	2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20)
Type of Modulation:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20)
Channel Separation:	5 MHz
Antenna Information:	PCB Antenna, 2.5dBi

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: CN1175
	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	-
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	-
0,8-3 kHz	$250/f$	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	$0,73/f$	$0,92/f$	-
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

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2.2 Assessment Results

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 211202897SHA-001&211202897SHA-002:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Mode	Frequency band	Max Power	Antenna Gain	R	S	Limits
	(MHz)	dBm	dBi	(cm)	(mW/cm ²)	(mW/cm ²)
WIFI	2412-2462	23.97	2.5	20	0.0883	1

Note: 1 mW/cm² from 1.310 Table 1

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06,

Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

***** END *****