

WUHAN HAHHA CONVENIENCE TECHNOLOGY CO., LTD

MPE ASSESSMENT REPORT

Report Type:

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

Model:

Max 620S, Cooler 620S, Max 620, Cooler 620, Max 660,
Cooler 660, Max 660S, Cooler 660S, Plus 440, Cooler 440,
Freezer 550, Cooler 550

REPORT NUMBER:

2601B0310SHA-004

ISSUE DATE:

May 26, 2026

DOCUMENT CONTROL NUMBER:

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TEST REPORT

Applicant: WUHAN HAHA CONVENIENCE TECHNOLOGY CO., LTD
Room 301, Building A, Wanjili Science and Innovation Center No. 8,
East Lake High-Tech Development Zone, Wuhan City, Hubei Province,
China

Manufacturer: WUHAN HAHA CONVENIENCE TECHNOLOGY CO., LTD
Room 301, Building A, Wanjili Science and Innovation Center No. 8,
East Lake High-Tech Development Zone, Wuhan City, Hubei Province,
China

Product Name (PMN): AI Vending Machine
Type/Model (HVIN): Max 620S, Cooler 620S, Max 620, Cooler 620, Max 660,
Cooler 660, Max 660S, Cooler 660S, Plus 440, Cooler 440,
Freezer 550, Cooler 550

FCC ID: 2BUXP-HH-US-001
IC: 35194-HHUS001

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 Part1.1307(b)

PREPARED BY:

REVIEWED BY:

Alexander Li



Project Engineer
Alexander Li

Reviewer
Wakeyou Wang

Revision History

Report No.	Version	Description	Issued Date
2601B0310SHA-004	Rev. 01	Initial issue of report	May 26, 2026

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	AI Vending Machine
Model name:	Max 620S, Cooler 620S, Max 620, Cooler 620, Max 660, Cooler 660, Max 660S, Cooler 660S, Plus 440, Cooler 440, Freezer 550, Cooler 550
Description of EUT:	The EUT is the AI Vending Machine, it supports 2.4GHz and 5GHz WIFI function, it also contains LTE module, FCC ID: XMR201706SC20A, IC: 10224A-201707SC20A. All models share the same wireless module. Plus 440 and Cooler 440 are identical except model name. Freezer 550 and Cooler 550 are identical except model name. Max 620S, Cooler 620S, Max 620, Cooler 620, Max 660, Cooler 660, Max 660S and Cooler 660S are identical except model name. After review, model Cooler 440 was selected to perform all tests.
Rating:	Plus 440, Cooler 440: 110-120V/60Hz, 2.9A Freezer 550, Cooler 550: 110-120V/60Hz, 6A Max 620S, Cooler 620S, Max 620, Cooler 620, Max 660, Cooler 660, Max 660S, Cooler 660S: 110-120V/60Hz, 2.85A
Brand Name:	/
EUT type:	☐ Table top ☒ Floor standing
Software Version:	/
Hardware Version:	/
Sample Identification No.:	A251209-55-001
Sample received date:	December 9, 2025
Date of test:	December 9, 2025 to May 26, 2026

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1.2 Technical Specification

Frequency Band:	2400MHz ~ 2483.5MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20, IEEE 802.11n-HT40
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) IEEE 802.11n-HT40: OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20) 7 Channels for 802.11n(HT40)
Channel Separation:	5 MHz
Antenna:	Monopole antenna 1, 5dBi, Monopole antenna 2, 5dBi

Frequency Range:	5150 ~ 5250MHz 5250 ~ 5350MHz 5470 ~ 5725MHz 5725 ~ 5850MHz
Support Standards:	802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80)
Type of Modulation:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Number:	For 5180 ~ 5240MHz band: Channel 36 - 48 For 5260 ~ 5320MHz Band: Channel 52 - 64 For 5500 ~ 5700MHz Band: Channel 100 - 140 For 5745 ~ 5825MHz band: Channel 149 - 165
Antenna:	Monopole antenna 1, 5dBi, Monopole antenna 2, 5dBi

1.3 Description of Test Facility

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
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 L21189
	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 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 2601B0310SHA-001, 2601B0310SHA-002 and LTE module reports:

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	Average Power	Average Power	Antenna Gain	Antenna Gain	R	S	Limits
	dBm	mW	dBi	Numeric	(cm)	(mW/cm ²)	(mW/cm ²)
2.4GHz Wi-Fi 2412-2462MHz	19.20	83.18	5	3.16	20	0.0523	1
5GHz Wi-Fi 5180-5825MHz	17.96	62.52	5	3.16	20	0.0412	1
GPRS850 (3 Tx slots) (824-849)	27.24	529.66	2	1.58	20	0.1666	0.412
GPRS1900 (4 Tx slots) (1850-1910)	27.49	561.05	2	1.58	20	0.1764	0.925
WCDMA Band II (1850-1910)	24.0	251.19	2	1.58	20	0.0790	0.925
WCDMA Band IV (1710-1755)	24.0	251.19	2	1.58	20	0.0790	0.855
WCDMA Band V (824-849)	24.0	251.19	2	1.58	20	0.0790	0.412
LTE Band 2 (1850-1910)	24.0	251.19	2	1.58	20	0.0790	0.925
LTE Band 4 (1710-1755)	24.5	281.84	2	1.58	20	0.0886	0.855
LTE Band 5 (824-849)	24.5	281.84	2	1.58	20	0.0886	0.412
LTE Band 7 (2500-2570)	24.5	281.84	3	2.00	20	0.1122	1
LTE Band 12 (699-716)	24.0	251.19	3	2.00	20	0.1000	0.3495
LTE Band 13 (777-787)	24.0	251.19	4	2.51	20	0.1255	0.3885
LTE Band 25 (1850-1915)	24.0	251.19	2	1.58	20	0.0790	0.925
LTE Band 26 (824-849)	24.0	251.19	2	1.58	20	0.0790	0.412

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Note: 1 mW/cm² from 1.310 Table 1

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Considering the worst case: 2.4GHz Wi-Fi, 5GHz Wi-Fi and GPRS850 (3 Tx slots) transmit simultaneously:

$$0.0523/1+0.0412/1+0.1666/0.412=0.0935+0.4044=0.4979 < 1.$$

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

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 closer than this distance are not recommended.

***** END *****