

RF Exposure Evaluation Report

Report Reference No.....: MTEB22120067-H

FCC ID.....: 2A397-HS520M

Compiled by

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Date of issue.....: February 10, 2023

Representative Laboratory Name ..: Shenzhen Most Technology Service Co., Ltd.

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Applicant's name.....: QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM
CO., LTD.

Address: Wisdom Valley, No.8 Shengshui Road, Laoshan District, Qingdao
City, China

Test specification/ Standard 47 CFR Part 1.1307

47 CFR Part 1.1310

KDB447498D01 General RF Exposure Guidance v06

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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Test item description Self-Checkout Terminal

Trade Mark: Histone

Manufacturer: QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM CO.,
LTD.

Model/Type reference.....: HS520M

Listed Models: N/A

Modulation Type.....: ASK

Operation Frequency.....: 13.56MHz

Hardware Version.....: HS-KBLU

Software Version: HSKBU

Rating: 100-120V~/200-240V~, 50/60Hz, 3A/1.7A

Result.....: PASS

TEST REPORT

Equipment under Test : Self-Checkout Terminal

Model /Type : HS520M

Listed Models : N/A

Remark : N/A

Applicant : QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM CO., LTD.

Address : Wisdom Valley, No.8 Shengshui Road, Laoshan District, Qingdao City, China

Manufacturer : QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM CO., LTD.

Address : Wisdom Valley, No.8 Shengshui Road, Laoshan District, Qingdao City, China

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2023-02-10	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C): 33

- 1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$
- 2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$
- 3) SAR measurement procedures are not established below 100 MHz.

When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any SAR test results below 100 MHz to be acceptable.³⁴

2.1.3 EUT RF Exposure

$$\text{EIRP} = \text{PT} * \text{GT} = (\text{E} \times \text{D})^2 / 30$$

where:

PT = transmitter output power in watts,

GT = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10^{(\text{dB}\mu\text{V/m})/20} / 10^6$,

D = measurement distance in meters (m)---3m,

$$\text{So PT} = (\text{E} \times \text{D})^2 / 30 / \text{GT}$$

The worst case (refer to report **MTEB22120067**) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
13.56	78.2	Peak

For 13.56MHz wireless:

Field strength=78.2 dBuV/m

Ant gain:3dBi;so Ant numeric gain=2

$$\text{EIRP} = \text{PT} * \text{GT} = (\text{E} \times \text{D})^2 / 30 = (10(\text{dB}\mu\text{V/m})/20) / 106^3)^2 / 30 = 0.0000198$$

$$\text{So PT} = \text{EIRP} / \text{GT} = 0.0000096\text{W} = 0.0099\text{mW}$$

$$\text{So } (0.0099\text{mW}/5\text{mm}) * \sqrt{0.01356\text{GHz}} = 0.00022968$$

exclusion=0.00022968<3.0 for 1-g SAR

So the SAR report is not required.

.....THE END OF REPORT.....