

## RF Exposure Evaluation Report

**Report Reference No.**.....: **MTEB23050074-H**

**FCC ID**.....: **2A397-HK578U**

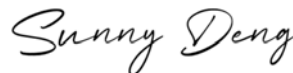
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Date of issue.....: **June 09, 2023**

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

Address .....: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,  
Nanshan, Shenzhen, Guangdong, China.

**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** .....: POS COMPUTER

Trade Mark .....: Histone

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

Model/Type reference.....: HK578U

Listed Models .....: HK5920

Modulation Type .....: ASK

Operation Frequency.....: 13.56MHz

Hardware Version.....: HS-TGL

Software Version .....: S724

	DC 24V by Adapter
	24V <sub>≒</sub> ,2.5A,60W
	(by Adapter 1: 100-240V~,50/60Hz,2.0A(GM60-240250-F))
Rating .....	24V <sub>≒</sub> ,2.5A,60W
	(by Adapter 2: 100-240V~,50-60Hz,1.8A(FSP060-DAAN3))
	24V <sub>≒</sub> ,5A,120W
	(by Adapter 3: 100-240V~, 50-60Hz,1.8A(FSP120-AAAN3))
Result.....	PASS

**TEST REPORT**

Equipment under Test : POS COMPUTER

Model /Type : HK578U

Listed Models : HK5920

Remark : All models are identical to each other, except model name.

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

<b>Test Result:</b>	<b>PASS</b>
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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	2023-05-09	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  $\leq 50$  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.<sup>34</sup>

**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 **MTEB23050074**) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
13.56	79.1	Peak

For 13.56MHz wireless:

Field strength=79.1 dBuV/m

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

$$\text{EIRP} = \text{PT} * \text{GT} = (\text{E} \times \text{D})^2 / 30 = (10(\text{dB}\mu\text{V/m})/20) / 106^3)^2 / 30 = 0.0000192$$

$$\text{So PT} = \text{EIRP} / \text{GT} = 0.0000096\text{W} = 0.0096\text{mW}$$

$$\text{So } (0.0096\text{mW}/5\text{mm}) * \sqrt{0.01356\text{GHz}} = 0.00022357$$

exclusion=0.00022357<3.0 for 1-g SAR

So the SAR report is not required.

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