Shenzhen Most Technology Service Co., Ltd.
East A, 1 floor of New Aolin Factory buiding, Langshan Erlu, North District,
Hi-tech Industry Park, Nanshan,Shenzhen,Guangdong,China

RF Exposure Evaluation Report

Report Reference No.:	**MTEB23080212-H**
FCC ID. :	**2A397-HS520U**
Compiled by (position+printed name+signature)..:	File administrators Alisa Luo
Supervised by (position+printed name+signature)..:	Test Engineer Sunny Deng
Approved by (position+printed name+signature)..:	Manager Yvette Zhou
Date of issue:	**Aug.17,2023**
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.

Test item description .....:	Self-Checkout Terminal
Trade Mark:	Histone
Manufacturer:	QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM CO., LTD.
Model/Type reference:	HS520U(The product appearance has different colors)
Listed Models:	N/A
Modulation Type:	ASK
Operation Frequency:	13.56MHz
Hardware Version:	GM-11
Software Version:	HSKBU206H
Rating:	100-120V~/200-240V~, 50/60Hz, 3A/1.7A
Result:	**PASS**

TEST REPORT

Equipment under Test	:	Self-Checkout Terminal
Model /Type	:	HS520U
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**

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	2023-08-17	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

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) 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
Friis Formula
Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2) Where
Pd = power density in mW/cm2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416

R = distance between observation point and center of the radiator in cm
Pd id the limit of MPE, 1 mW/cm2 . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 EUT RF Exposure

NFC:

The worst case (refer to report **MTEB23080212-R**) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
13.56	78.1	Peak

E=EIRP-20logd+104.8
E: is the electric field strength in dBuV/m
EIRP: is the equivalent isotropically radiated powerin dBm
d: is the specified measurement distance in m
d=3m
EIRP=78.1+20log3-104.8=-17.16dBm

13.56MHz< 30MHz, Add a 6DB maximum ground factor.
EIRP=-17.16dBm+6=-11.16dBm

The EIPR of the product is small enough, RF Exposure meets the requirements.

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