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Report Template Version: V03
Report Template Revision Date: Mar.1st, 2017

RF Exposure Evaluation Report

Report No. :	CQASZ20210400481E-02
Applicant:	Qingdao Hisense Intelligent Commercial System Co., Ltd.
Address of Applicant:	399 Songling Road, Laoshan, Qingdao, China
Equipment Under Test (EUT):	
Product:	POS COMPUTER
Model No.:	HK570F
Brand Name:	N/A
FCC ID:	GQK-HK570F
Standards:	47 CFR Part 1.1307
	47 CFR Part 1.1310
	KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2021-4-17 to 2021-5-28
Date of Issue:	2021-5-28
Test Result :	**PASS***

Tested By：

lewis zhou

(Lewis Zhou)

Reviewed By:

Jun Li

(Jun Li)

Approved By:

Sheek.Luo

(Sheek Luo)

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* In the configuration tested, the EUT complied with the standards specified above.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210400481E-02	Rev.01	Initial report	2021-5-28

2   Contents

3 General Information

3.1 Client Information

Applicant:	Qingdao Hisense Intelligent Commercial System Co., Ltd.
Address of Applicant:	399 Songling Road, Laoshan, Qingdao, China
Manufacturer:	Qingdao Hisense Intelligent Commercial System Co., Ltd.
Address of Manufacturer:	399 Songling Road, Laoshan, Qingdao, China
Factory:	Qingdao Hisense Intelligent Commercial System Co., Ltd.
Address of Factory:	399 Songling Road, Laoshan, Qingdao, China

3.2 General Description of EUT

Name:	POS COMPUTER
Model No.:	HK570F
Trade Mark :	N/A
Hardware Version:	HS-J4125DS
Software Version:	HS-J4125
Power Supply:	Adapter :Input:100-240V~, 50-60Hz, 1.8A Output: 24V⎓, 2.5A

3.3 General Description of NFC

Operation Frequency:	13.56MHz
Modulation Type:	ASK
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Antenna Type:	Integral antenna
Antenna Gain:	0dBi

4   RF Exposure Evaluation

4.1   RF Exposure Compliance Requirement

4.1.1 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.

4.1.2 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 $[1 + \log(100/f(MHz))]$

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 ½

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

4.2 EUT RF Exposure Evaluation

1) For NFC

eirp = pt x gt = $(E \times d)^2/30$

where:

pt = transmitter output power in watts,

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

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

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

So pt = $(E \times d)^2/30$ / gt

The worst case (refer to report CQASZ20210400481E-01) is below:

Frequency (MHz)	Level (dBuV/m)	Polarization
13.56	61.2	Peak

For 13.56MHz wireless:

Field strength = 61.2dBμV/m @3m

Ant. gain 0dBi; so Ant numeric gain=1.0

So pt={$[10^{(61.2/20)}/10^6$x3$]^2$/30 /1.0}x1000mW =0.0004mW

So (0.0004mW/5mm)x $\sqrt{0.01356GHz}$ = 0.000009,

0.000009<3.0 for 1-g SAR

So the SAR report is not required.