

# EMF Exposure Report

For

**HK ELECHOUSE LIMITED**

**Test Standards:** EN 50663: 2017  
EN 62479: 2010

**Product Description:** 13.56 MHz NFC/HF RFID Reader Module

**Tested Model:** ST25R3916B NFC Module

**Brand Name:** ELECHOUSE

**Report No.:** EBSZ2605060005H01-R1

**Tested Date:** 2026.05.06 ~ 2026.05.09

**Issued Date:** 2026.06.10

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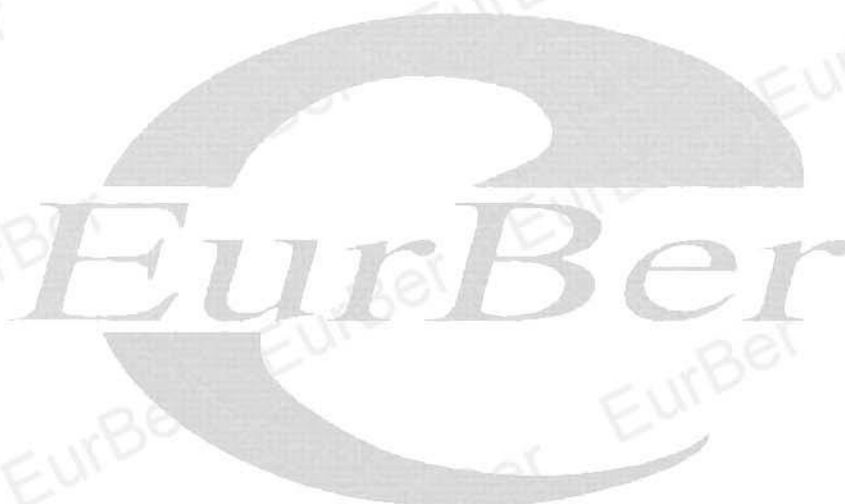
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## Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	2026.06.10	Valid	Original Report



## TABLE of CONTENTS

<b>REPORT REVISE RECORD .....</b>	<b>2</b>
<b>SUMMARY OF TEST RESULT .....</b>	<b>4</b>
<b>1 GENERAL INFORMATION .....</b>	<b>4</b>
1.1 Applicant.....	4
1.2 Manufacturer.....	4
1.3 General Description of EUT .....	4
1.4 Support equipment List.....	5
1.5 Modification of EUT.....	5
1.6 Applied Standards .....	5
<b>2 CONFORMITY ASSESSMENT METHODS .....</b>	<b>6</b>
2.1 General Considerations .....	6
2.2 Low-power exclusion level (Pmax) based on considerations of SAR .....	6
<b>3 RF / EMF ASSESSMENT EQUIPMENT.....</b>	<b>8</b>
3.1 Address of the test laboratory .....	8
<b>4 MEASUREMENT UNCERTAINTY .....</b>	<b>9</b>
<b>5 TEST RESULTS SUMMARY.....</b>	<b>10</b>
5.1 Transmit Power .....	10
5.2. Client Information .....	10

## 1 General Information

### 1.1 Applicant

HK ELECHOUSE LIMITED  
Room A516, 5/F, Yik Lee Industrial Building 35 Tai Yau Street, San Po Kong, Kowloon  
Hong Kong

### 1.2 Manufacturer

HK ELECHOUSE LIMITED  
Room A516, 5/F, Yik Lee Industrial Building 35 Tai Yau Street, San Po Kong, Kowloon  
Hong Kong

### 1.3 General Description of EUT

<b>Product</b>	13.56 MHz NFC/HF RFID Reader Module
<b>Model NO.</b>	ST25R3916B NFC Module
<b>Additional NO.</b>	ST25R3916 NFC Module
<b>Difference Description</b>	The ST25R3916B NFC Module and ST25R3916 NFC Module use the same PCB layout, antenna design, matching network design, power architecture, connector, software family, host interface, mechanical structure, operating frequency and intended NFC/HF RFID function. The only hardware difference is the NFC reader IC. The ST25R3916B NFC Module uses the ST25R3916B NFC reader IC, and the ST25R3916 NFC Module uses the ST25R3916 NFC reader IC. The previous ST25R3916 PCB appearance/version is not covered by this report and will be phased out.
<b>Nominal Voltage</b>	5 V DC via 7-pin connector, max. 500 mA, 2.5 W
<b>Frequency Range</b>	13.56 Mhz
<b>Geo-location capability</b>	Not Supported
<b>Antenna Type</b>	Internal Antenna
<b>Antenna Gain</b>	0 dBi maximum
<b>Modulation Type</b>	ASK
<b>Software Version:</b>	N/A
<b>Hardware Version:</b>	N/A

**NOTE:**

1. The above EUT information is declared by manufacturer. The laboratory is not responsible for the information provided by the manufacturer. For more detailed feature description, please refer to the manufacturer's specifications or user's manual.
2. The ST25R3916B NFC Module was selected as the representative test model. Since the two listed models use the same PCB layout, antenna design, matching network design, power architecture, connector, software family, host interface, mechanical structure, operating frequency and intended NFC/HF RFID function, and differ only in the NFC reader IC, the EMF assessment of the representative model is considered applicable to both listed models.

## 1.4 Support equipment List

Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	TP0083A	PF-0P4YX1
NA	Monitor	FT121M	XK-FT121M-2018011 0-016
N/A	N/A	N/A	N/A

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.6 Applied Standards

According to the manufacturer's specifications, the EUT shall comply with the requirements of EN 50663:2017 and EN 62479:2010.

EN50663:Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields(10MHz-300GHz)



## 2 Conformity Assessment Methods

### 2.1 General Considerations

The EMF assessment was performed according to EN 50663:2017 and EN 62479:2010. The EUT is a 13.56 MHz NFC/HF RFID reader module. The measured output power is 0.3 mW.

Compliance of electromagnetic emissions from electronic and electrical equipment with the basic restrictions usually is determined by measurements and, in some cases, calculation of the exposure level. If the electrical power used by or radiated by the equipment is sufficiently low, the electromagnetic fields emitted will be incapable of producing exposures that exceed the basic restrictions. This standard provides simple EMF assessment procedures for this low power equipment.

For transmitter intended for use with more than one antenna configuration option, the combination of transmitter and antenna(s) which generates the highest available antenna power and/or average total radiated power shall be assessed.

### 2.2 Low-power exclusion level ( $P_{max}$ ) based on considerations of SAR

According to EN 50663:2017 Annex A, the low-power exclusion level is 20 mW. Since the measured output power of the EUT is 0.3 mW, which is below 20 mW, the equipment complies with the applicable EMF exposure requirements.

Low-power electronic and electrical equipment is deemed to comply with the provisions of this standard if it can be demonstrated using routes B, C or D that the available antenna power and/or the average total radiated power is less than or equal to the applicable low-power exclusion level  $P_{max}$ .

When SAR is the basic restriction, a conservative minimum value for  $P_{max}$  can be derived, equal to the localized SAR limit ( $SAR_{max}$ ) multiplied by the average mass (m):

$$P_{max} = SAR_{max}m$$

Example values of  $P_{max}$  according to Equation are provided in follows for cases described by the ICNIRP Guidelines, IEEE Std C95.1-1999 and IEEE Std C95.1-2005 where SAR limits are defined. Other exposure guidelines or standards may be applicable depending on national regulations.

Note: Unless otherwise mentioned in other applicable regulations or standards, the most recent edition IEEE C95.1-2005 takes precedence over the previous edition IEEE C95.1-1999.

### Example values of SAR-based $P_{max}$

Guideline/ Standard	SAR limit, $SAR_{max}$ W/kg	Averaging mass, m g	$P_{max}$ mW	Exposure tier	Region of body
ICNIRP	2	10	20	General public	Head and trunk
	4	10	40	General public	Limbs
	10	10	100	Occupational	Head and trunk
	20	10	200	Occupational	Limbs
IEEE Std C95.1-1999	1.6	1	1.6	Uncontrolled environment	Head, trunk, arms, legs
	4	10	40	Uncontrolled environment	Hands, wrists, feet and ankles
	8	1	8	Controlled environment	Head, trunk, arms, legs
	20	10	200	Controlled environment	Hands, wrists, feet and ankles

IEEE Std C95.1-2005	2	10	20	Action level	Body except extremities and pinnae
	4	10	40	Action level	Exremities and pinnae
	10	10	100	Controlled environment	Body except extremities and pinnae
	20	10	200	Controlled environment	Exremities and pinnae

When power density is the basic restriction, a conservative minimum value for  $P_{max}$  can be derived, equal to the power density limit (s) multiplied by the averaging area (a);

$$P_{max} = S_a$$

Therefore, equation yields conservative values for  $P_{max}$  of 20 mW and 100 mW for general public and occupational exposures, respectively.

### 3 RF / EMF Assessment Equipment

Name	Model No:	Manufacturer	Cal Date	Due Date
Spectrum Analyzer	N9020A	Agilent	Jul,05,2025	Jul,04,2026
Signal Generator	N5082A	Agilent	Jul,05,2025	Jul,04,2026
Signal Generator	E4421B	Agilent	Jul,05,2025	Jul,04,2026

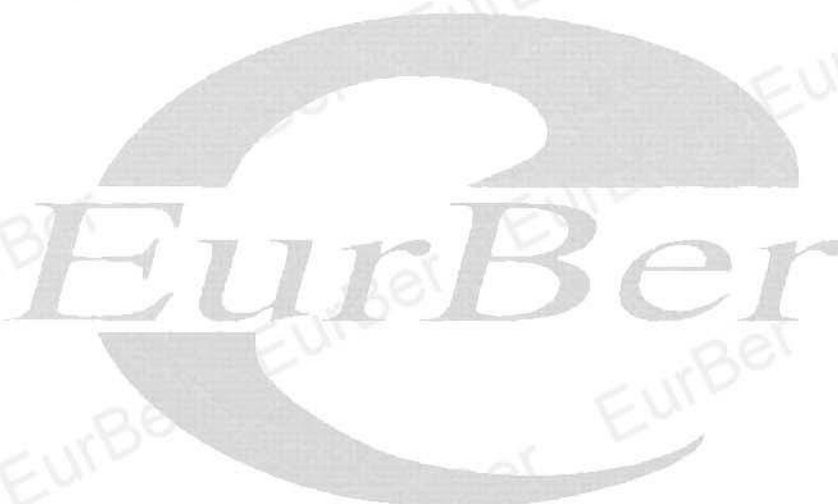
#### 3.1 Address of the test laboratory

Guangdong Eurber Testing Co., Ltd.  
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## 4 Measurement Uncertainty

Measurement uncertainty		
No	Item	Measurement uncertainty
1	Temperature	$\pm 0.2^{\circ}\text{C}$
2	Humidity	$\pm 1.0\%$



## 5 Test Results Summary

### 5.1 Transmit Power

Modulation Type	EIRP(dBm)	Out Power (mW)	Limit(mW)	Result
ASK	-5.31	0.3	20	Pass

Note: The ST25R3916B NFC Module was selected as the representative test model. Since the two listed models use the same PCB layout, antenna design, matching network design, power architecture, connector, software family, host interface, mechanical structure, operating frequency and intended NFC/HF RFID function, and differ only in the NFC reader IC, the EMF assessment of the representative model is considered applicable to both listed models.

### 5.2. Client Information

The result: PASS

Based on the ETSI EN 300 330 V2.1.1 radio test report for the 13.56 MHz NFC/HF RFID Reader Module, the measured output power is 0.3 mW, which is below the 20 mW low-power exclusion level. Therefore, the equipment complies with the EMF exposure requirements of RED Article 3.1(a) according to EN 50663:2017 and EN 62479:2010.

EN 50663:2017 Annex A: Derivation of low-power exclusion level from ICNIRP and IEEE exposure limits

The ICNIRP guidelines provide SAR limits of 2 W/kg averaged over 10 g tissue in the 10 MHz to 300 GHz frequency range. EN 50663:2017 Annex A derives a conservative low-power exclusion level of  $P_{max} = 20$  mW. Since the measured output power of the EUT is 0.3 mW, which is below 20 mW, the equipment complies with the applicable EMF basic restrictions.

Note: This section meets the requirements of RED 3.1(a) (Human Health/Electromagnetic Field Exposure).

-----End of the report-----