RF Exposure Evaluation Report

APPLICANT	: PAX Technology Limited
EQUIPMENT	: Contactless Reader
BRAND NAME	: PAX
MODEL NAME	: IM700
MARKETING NAME	: IM700
FCC ID	: V5PIM700
STANDARD	: FCC 47 CFR 2.1091

We, Sporton International (Shenzhen) Inc., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Mark Qu

Approved by: Mark Qu / Manager

NVLAP®
TESTING
NVLAP LAB CODE 600156-0

Sporton International (Shenzhen) Inc.
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City
Guangdong Province 518055 China

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA7O1403	Rev. 01	Initial issue of report	Nov. 28, 2017

1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	Sporton International (Shenzhen) Inc.
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595

Applicant	
Company Name	PAX Technology Limited
Address	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

Manufacturer	
Company Name	PAX Computer Technology (Shenzhen) Co., Ltd.
Address	4/F, No.3 Building, Software Park, Second Central Science-Tech Road, High-Tech industrial Park, Shenzhen, Guangdong, P.R.C.

2. General Information

2.1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Contactless Reader
Brand Name	PAX
Model Name	IM700
Marketing Name	IM700
FCC ID	V5PIM700
Wireless Technology and Frequency Range	NFC : 13.56 MHz
Mode	NFC:ASK
HW Version	IM700-XXX-XXX
SW Version	PED4.0
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This device has 13.56MHz NFC operations, and the NFC antenna is integrated into the device for this model. We chose NFC field level from NFC test report (Sporton test No: FR7O1403) to do MPE evaluation.

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

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/f2)	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/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

4. RF Exposure Evaluation

4.1. Radio Frequency Radiation Exposure Evaluation

Band	Frequency (MHz)	Electric field (dBuV/m)@3m	Maximum EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
NFC	13.56	71.59	0.00432514	0.0000008614	0.9789

Note: NFC maximum EIRP power calculate from NFC E-Field level from RF test report which Sproton No: FR7O1403 This device maximum E-Field level is 71.59dBuV/m at 3m, so the EIRP power is -23.64dBm (0.00432514mW).

P_{out} EIRP (dBm) = Field Strength of Fundamental (dBuV/m) - 95.23 (dB)

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.