

RF Exposure Evaluation Report

APPLICANT : PAX Technology Limited
EQUIPMENT : POS Terminal
BRAND NAME : PAX
MODEL NAME : A35
FCC ID : V5PA35DBW
STANDARD : 47 CFR Part 2.1091
FCC KDB 447498 D01 v06

We, Sporton International (ShenZhen) Inc., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International (ShenZhen) Inc., the test report shall not be reproduced except in full.

Hank Huang

Reviewed by: Hank Huang / Supervisor

Johnny Chen

Approved by: Johnny Chen / Manager



Sporton International (ShenZhen) Inc.

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1. Administration Data

1.1. Testing Laboratory

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory		
Test Firm	Sporton International (Shenzhen) Inc.	
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1256	421272

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. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	POS Terminal
Brand Name	PAX
Model Name	A35
FCC ID	V5PA35DBW
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.6GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	WLAN 2.4GHz : 802.11b/g/n/ HT20/HT40 WLAN 5GHz 802.11a/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
Antenna Gain	Bluetooth : 1.0 dBi WLAN 2.4GHz: 1.0 dBi WLAN 5GHz: 0.0 dBi
Antenna Type	Bluetooth : FPC Antenna WLAN 2.4GHz: FPC Antenna NFC: PCB Antenna
HW Version	N/A
SW Version	N/A
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.	

Comments and Explanations:

1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.



3. Maximum RF average output power among production units

<Bluetooth>

Mode	Maximum Average Power (dBm)
Bluetooth BR/EDR	10.0
Bluetooth LE	9.0

<WLAN 2.4GHz>

Mode	Maximum Average Power (dBm)
802.11b	18.00
802.11g	17.00
802.11n-HT20	17.00
802.11n-HT40	17.00

<WLAN 5GHz>

Mode	Maximum Average Power (dBm)	
5.2GHz	802.11a	17.00
	802.11n-HT20	17.00
	802.11n-HT40	17.00
	802.11ac-VHT20	17.00
	802.11ac-VHT40	17.00
	802.11ac-VHT80	17.00
5.3GHz	802.11a	17.00
	802.11n-HT20	17.00
	802.11n-HT40	17.00
	802.11ac-VHT20	17.00
	802.11ac-VHT40	17.00
	802.11ac-VHT80	17.00
5.5GHz	802.11a	18.00
	802.11n-HT20	18.00
	802.11n-HT40	18.00
	802.11ac-VHT20	18.00
	802.11ac-VHT40	18.00
	802.11ac-VHT80	17.00
5.8GHz	802.11a	18.00
	802.11n-HT20	18.00
	802.11n-HT40	18.00
	802.11ac-VHT20	18.00
	802.11ac-VHT40	18.00
	802.11ac-VHT80	18.00

4. 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/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

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



5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Table with 10 columns: Band, Frequency (MHz), Antenna Gain (dBi), Maximum Power (dBm), Maximum EIRP (dBm), Maximum EIRP (W), Average EIRP (mW), Power Density at 20cm (mW/cm^2), Limit (mW/cm^2), Power Density / Limit. Rows include 2.4GHz WLAN, WLAN 5.2GHz, WLAN 5.3GHz, WLAN 5.5GHz, WLAN 5.8GHz, and Bluetooth.

Note:

- 1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.

5.2. Collocated Power Density Calculation

Table with 3 columns: WLAN2.4GHz Power Density / Limit, Bluetooth Power Density / Limit, and the summation of Power Density / Limit for WLAN2.4GHz+BT and WLAN5GHz+BT.

Note:

- 1. Sigma(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN2.4GHz + Bluetooth or WLAN5GHz + Bluetooth.
2. Considering the WWAN module collocation with the WLAN and Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

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

-----THE END-----