RF EXPOSURE REPORT

For

Fujian Newland Payment Technology Co., Ltd.

No. B602, Building #1, Haixia Jingmao Plaza, Fuzhou Bonded Area 350015, Fujian, China

FCC ID: 2AM6U-P180

Report Type:	**Product Name:**
Original Report	P180

Report Number:	2406T76996E-RF-02
Report Date:	2024-07-04
Reviewed By:	Stein Peng
Approved By:	Miles Chen
Prepared By:	Bay Area Compliance Laboratories Corp. (Xiamen) Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen Tel: +86-592-3200111 www.baclcorp.com.cn

TABLE OF CONTENTS

REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2406T76996E-RF-02	R1V1	2024-07-04	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:		Fujian Newland Payment Technology Co., Ltd.
Product Name:		P180
Tested Model:		PLG-HB86W0A126
Trade Name:		Newland NewlandNPT
Power Supply:		DC 5V, 2A
Adapter (1#)	Model:	ADS-12EA-05 05010E
	Input:	AC 100-240V, 50/60Hz, 0.3A
	Output:	DC 5.0V, 2.0A
RF Function:		NFC
Operating Band/Frequency:		13.56 MHz
Antenna Type:		Loop-antenna
Note: *1. All measurement and test data in this report was gathered from production sample serial number: 2LN9-2. (Assigned by the BACL(Xiamen). The EUT supplied by the applicant was received on 2024-05-20)*		

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN1384.

Applicable Standard

According to subpart §1.1310& §2.1091, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
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; * = Plane-wave equivalent power density;
According to §1.1310 & §2.1091 RF exposure is calculated.

Calculated Formulary:

Predication of MPE limit at a given distance
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

EUT Information

Operation Modes	Operation Frequency (MHz)	Max Conducted output power including Tune-up Tolerance (dBm)	Maximum Antenna Gain (dBi)
WLAN 2.4G	2412-2462	18	1.03
WLAN 5.2G	5150-5250	18	0.34
WLAN 5.3G	5250-5350	18	0.31
WLAN 5.5G	5470-5725	18	1.93
WLAN 5.8G	5725-5850	18	0.29
Bluetooth	2402-2480	10	1.03
NFC	13.56	-34.78	/
Note: The above parameters were provided bythe manufacturer. Please refer to the FCC ID: 2AM6U-FCS950U for power about the certified WiFi & Bluetooth module.			

Calculated Data

Mode	Frequency (MHz)	Antenna Gain		Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limt (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
WLAN 2.4G	2412-2462	1.03	1.27	18	63.10	20	0.0159	1
WLAN 5.2G	5150-5250	0.34	1.08	18	63.10	20	0.0136	1
WLAN 5.3G	5250-5350	0.31	1.07	18	63.10	20	0.0135	1
WLAN 5.5G	5470-5725	1.93	1.56	18	63.10	20	0.0196	1
WLAN 5.8G	5725-5850	0.29	1.07	18	63.10	20	0.0134	1
Bluetooth	2402-2480	1.03	1.27	10	10	20	0.0025	1
NFC	13.56	/	/	-34.78	0.0003	20	＜＜0.0001	0.979

Note: 1. The Tune-up output power was declared by the Manufacturer.
2. The device contains a certificated WiFi & Bluetooth module, FCC ID: 2AM6U-FCS950U
3. NFC field strength is 60.42dBμV/m @ 3m = -34.78dBm EIRP.And use the EIRP value as conducted power.

Simulatneous transmission:

$$\sum_{i} \frac{S_i}{S_{Limit,i}} \leq 1$$

1) 5G Wifi and NFC can transmissions simultaneously:

$=S_{5G\ Wifi}/S_{limit\text{-}5G\ Wifi}+S_{NFC}/S_{limit\text{-}NFC}$

=0.0196/1+0.0001/0.979

=0.0197

＜1.0

2) 2.4G Wifi and NFC can transmissions simultaneously:

$=S_{2.4G\ Wifi}/S_{limit\text{-}2.4G\ Wifi}+S_{NFC}/S_{limit\text{-}NFC}$

=0.0159/1+0.0001/0.979

=0.0160

＜1.0

3) Bluetooth and NFC can transmissions simultaneously:

$=S_{Bluetooth}/S_{limit\text{-}Bluetooth}+S_{NFC}/S_{limit\text{-}NFC}$

=0.0025/1+0.0001/0.979

=0.0026

＜1.0

Result: The device meets MPE at distance 20cm.

EUT PHOTOGRAPHS

Please refer to the attachment 2406T76996E-RF-EXP_EUT EXTERNAL PHOTOGRAPHS and 2406T76996E-RF-INP _EUT INTERNAL PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk "★".

2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.

3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.

4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95% confidence interval.

5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).

6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

******* END OF REPORT *******