RADIO PERFORMANCE TEST REPORT

Test Report No.	**: OT-238-RWD-006**
Reception No.	**: 2307002275**
Applicant	**: UNION COMMUNITY**
Address	**: 12F, Munjeong Daemyeong Valeon bldg, 127 Beobwon-ro Songpa-gu, Seoul, South Korea**
Manufacturer	**: UNION COMMUNITY**
Address	**: 12F, Munjeong Daemyeong Valeon bldg, 127 Beobwon-ro Songpa-gu, Seoul, South Korea**
Type of Equipment	**: Access controller**
FCC ID	**: XX2-UBIO-XFACEPRO**
Model Name	**: UBio-X Face Pro**
Multiple Model Name	**: N/A**
Serial number	**: N/A**
Total page of Report	**: 6 pages (including this page)**
Date of Incoming	**: July 21, 2023**
Date of Issuing	**: August 03, 2023**

SUMMARY

The equipment complies with the regulation; ***FCC CFR 47 § 1.1307***

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

This report is not correlated with the "KS Q ISO/IEC 17025 and KOLAS accreditation" of Korean Laboratory Accreditation Scheme.

Tested by	Reviewed by	Approved by
Soon-Ki, Choi / Prj. Engineer	Tae-Ho, Kim / Chief Engineer	Jae-Ho, Lee / Chief Engineer
ONETECH Corp.	ONETECH Corp.	ONETECH Corp.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

CONTENTS

Page

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-238-RWD-006	August 03, 2023	Initial Release	All

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1. VERIFICATION OF COMPLIANCE

-. APPLICANT : UNION COMMUNITY

-. ADDRESS : 12F, Munjeong Daemyeong Valeon bldg, 127 Beobwon-ro Songpa-gu, Seoul, South Korea

-. CONTACT PERSON : Dong Ho, Lee

-. TELEPHONE NO : +82-2-6488-3054

-. FCC ID : XX2-UBIO-XFACEPRO

-. MODEL NO/NAME : UBio-X Face Pro

-. SERIAL NUMBER : N/A

-. DATE : August 03, 2023

E.U.T. DESCRIPTION	Access controller
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	KDB 447498 D04 Interim General RF Exposure Guidance v01 KDB 789033 D02 GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	None

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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2. GENERAL INFORMATION

2.1 Product Description

The UNION COMMUNITY, Model UBio-X Face Pro (referred to as the EUT in this report) is an Access controller,

Product specification information described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	Access controller
TRANSMITTING FREQUENCY	124.755 kHz, 13.56 MHz 2 412 MHz ~ 2 462 MHz, 2 402 MHz ~ 2 480 MHz
MODULATION	ASK
ANTENNA TYPE	Coil Antenna, PCB Antenna
LIST OF EACH OSC. or CRY. FREQ.(FREQ. >= 1 MHz)	124.755 kHz, 13.560 0 MHz
USED AC/DC ADAPTER	Output : DC 15 V, 4.0 A Model No : KPL-060H-VI Manufacturer : Channel Well Technology (Guangzhow)Co., LTd.

2.2 Model Differences

-. None

3. EUT MODIFICATIONS

-. None

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4. RADIO FREQUENCY EXPOSURE

4.1 Environmental evaluation and exposure limit

In accordance with KDB 447498 D04 Interim General RF Exposure Guidance v01.

1 mW Test Exemption according paragraph 2.1.2

- 124.755 kHz Maximum measured power = 79.62 dBμV/m = 1.68 x 10^{-2} mW at 124.755 kHz
  with P = (E×d)2 / (30×Gp) with d = 3 m and Gp = 1

- 13.56 MHz Maximum measured power = 63.22 dBμV/m = 3.84 x 10^{-4} mW at 13.56 MHz
  with P = (E×d)2 / (30×Gp) with d = 3 m and Gp = 1

Calculated MPE Safe Distance(WLAN 2.4G & LE 1M)

Operating Freq. Band (MHz)	Operating Mode	Target Power W/tolerance (dBm)	Max tune up power		Antenna Gain		Safe Distance (cm)	Power Density (mW/cm²) @ 20 cm Separation	Limit (mW/cm²)
			(dBm)	(mW)	Log	Linear			
WLAN_ 2 400 ~ 2 483.5	802.11b	17.28 ± 1.0	18.29	67.30	1.57	1.44	2.77	0.019 2	1.00
	802.11g	14.88 ± 1.0	15.88	38.73			2.10	0.011 1	1.00
	802.11n_HT20	14.90 ± 1.0	15.90	38.90			2.11	0.011 1	1.00
	802.11n_HT40	15.13 ± 1.0	16.13	41.02			2.16	0.011 7	1.00
	Bluetooth LE 1M	5.71 ± 1.0	6.71	4.69			0.73	0.001 3	1.00

DATA for Intermodulation Transmit

According to above equation, the following result was obtained.

Simultaneous Transmission	Operating Mode	Power Density (mW/cm²)	Sum Power Density	Limit
WLAN 2.4G + 13.56 MHz (RFID) + 124.755 kHz (RFID)	802.11b	0.019 2	0.019 4	1
	13.56 MHz (RFID)	0.000 1		
	124.755 kHz (RFID)	0.000 1		