FCC 47 CFR PART 15 SUBPART B (ICES-003) TEST REPORT

Test Report No.	**: OT-225-RED-008**
Reception No.	**: 2204001338**
Applicant	**: 3i Inc**
Address	**: 3-321 523, Dongdaegu-ro, Dong-gu, Daegu, Republic of Korea**
Manufacturer	**: Nteklogic**
Address	**: 42, Maehwa-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea**
Use of Report	**: FCC Supplier's Declaration of Conformity**
Type of Equipment	**: Pivo Max**
Model Name	**: PV-PM**
Multiple Model Name	**: N/A**
FCC ID	**: N/A**
Serial number	**: N/A**
Total page of Report	**: 41 pages (including this page)**
Date of Incoming	**: March 31, 2022**
Test Period	**: April 25, 2022 ~ April 25, 2022**
Date of Issuing	**: May 2, 2022**

SUMMARY

The equipment complies with the requirement of
ANSI C63.4a: 2017 / FCC Part 15 Subpart B (CLASS B Digital devices &peripherals)
ICES-003 Issue 7 / CAN/CSA-CISPR 32:17
This test report contains only the results of a single test of the sample supplied for the examination.
It is not a general valid assessment of the features of the respective products of the mass-production.

Reviewed by: 장지환

jihwan.jang / Manager
ONETECH Corp.

Approved by: 박승현

Seung-Hyun, Park / Senior Manager
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

1. VERIFICATION OF COMPLIANCE	**4**
2. TEST FACILITY	**6**
3. PRODUCT INFORMATION	**7**
3.1 Identification of the EUT	**7**
3.2 Additional information about the EUT	**7**
3.3 Peripheral equipment	**7**
3.4 System Configuration	**8**
3.5 Cable Description for the EUT	**8**
3.6 Equipment Modifications	**9**
4. TEST SUMMARY	**10**
5. FINAL RESULT OF MEASUREMENT	**11**
5.1 Conducted Disturbance	**11**
5.1.1 Operating Environment	**11**
5.1.2 Test Setup	**11**
5.1.3 Measurement uncertainty	**11**
5.1.4 Limit	**11**
5.1.5 Test Equipment used	**11**
5.1.6 Test data	**12**
5.2 Radiated Disturbance	**15**
5.2.1 Operating environment	**15**
5.2.2 Test set-up	**15**
5.2.3 Measurement uncertainty	**15**
5.2.4 Limit	**15**
5.2.5 Test equipment used	**16**
5.2.6 Test data	**17**
6. SAMPLE CALCULATIONS	**24**
APPENDIX A – TEST SET-UP PHOTOGRAPHS	**25**
APPENDIX B – PHOTOGRAPHS OF EUT	**29**
APPENDIX C – INTERNAL PHOTOGRAPHS	**32**
APPENDIX D – DECLARATION OF CONFORMITY	**35**
APPENDIX E – LABELLING REQUIREMENTS / INFORMATION TO THE USER IN USER'S MANUAL	**37**

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

Revision History

Rev. No.	Issued Report No.	Issued Date	Revisions	Section Effected
0	OT-225-RED-008	May 2, 2022	Initial Release	All
--				

* Please contact us (e-mail: info@onetech.co.kr) for verification of this test report.

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

1. APPLICANT AND MANUFACTURER INFORMATION

-. Applicant	3i Inc
-. Address	3-321 523, Dongdaegu-ro, Dong-gu, Daegu, Republic of Korea
-. Manufacturer	Nteklogic
-. Address	42, Maehwa-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
-. Factory	Radiant
-. Address	Chooneui-dong, Chooneui Technopark) #102-610 36, Bucheon-ro 198beon-gil, Bucheon-si, Gyeonggi-do, Republic of Korea

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

EQUIPMENT CLASS	CLASS B Digital devices &peripherals
E.U.T. DESCRIPTION	Pivo Max
MEASUREMENT PROCEDURES	ANSI C63.4a: 2017
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Supplier's Declaration of Conformity (SDoC)
STANDARDS	FCC Part 15, Section 15.101 (Class B) Canadian Standard ICES-003 Issue 7
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	None
FINAL TEST WAS CONDUCTED ON	10 m Semi anechoic chamber

ONETECH Corp. tested the above equipment in accordance with the requirements set forth in the above standard. The test results show that equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

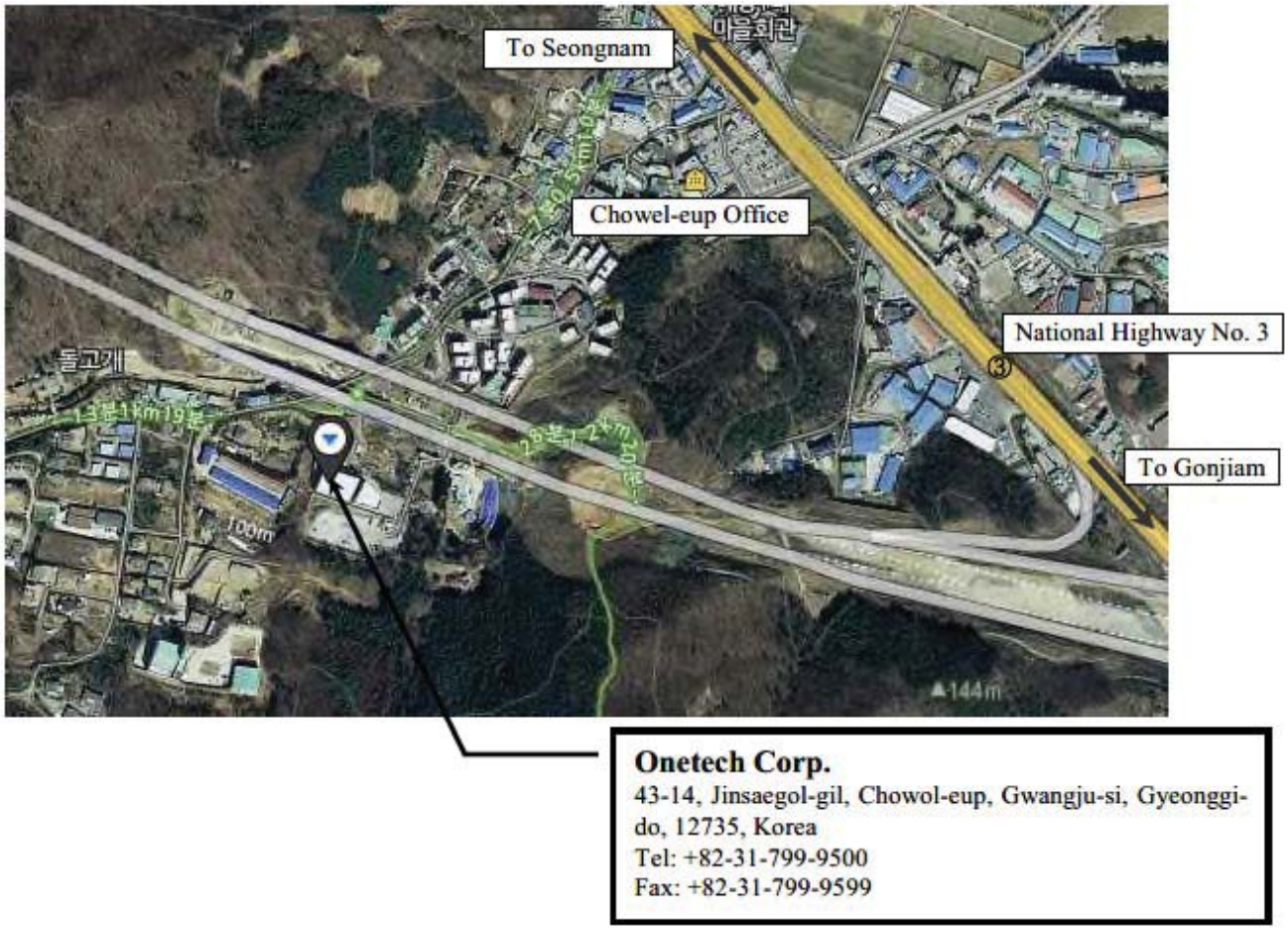
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

2 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025 by Radio Research Agency as accreditation body. The Onetech Corp. is accredited for measuring devices subject to Declaration of Conformity (DOC) under Parts 15 &18 as a Conformity Assessment Body (CAB) with designation number KR0013.

These measurement tests were conducted at Onetech Corp.
The 10 m semi anechoic chamber and conducted measurement facilities are located at

1) 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea
2) 12-5, Jinsaegol-gil 75 beon-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea



3. PRODUCT INFORMATION

3.1 Description of EUT

The 3i Inc, Model PV-PM (referred to as the EUT in this report) is a Pivo Max.
Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
LIST OF EACH OSC. or CRY. RREQ. (FREQ. >= 1 MHz)	38.4 MHz
RF Frequency	2 402 MHz ~ 2 480 MHz
NUMBER OF PCB LAYERS	4 Layers
P.C.BOARD NAME	Pivo Pod Max
ELECTRICAL RATING	Input: 5.0 V(typ), under 2 A Output: 5.0V (typ), under 0.5A
EXTERNAL CONNECTOR	USB Type-C : 2ea

3.2 Model Differences

-. None

3.3 Support Equipment

The model numbers for all the equipments that were used in the tested system is:

Description	Model	Manufacturer	Connected to
Pivo Max	PV-PM	Nteklogic	AC Adaptor
AC Adaptor	A1357 W010A051	Fugang Electronic (Dongguan) Co., Ltd	EUT
Smartphone	SM-G955N	SAMSUNG	EUT

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

3.4 System Configuration

DEVICE TYPE	MODEL/PART NUMBER	MANUFACTURER
Pivo Max	PV-PM	Nteklogic

3.5 Cable Description for the EUT

Cable	Shielded	Ferrite Bead	Metal Shell	Length (m)	Connected to
Micro USB 1 (C-Type)	Y	N	N	0.3	AC Adaptor
Micro USB 2 (C-Type)	Y	N	N	0.2	Smartphone

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

3.6 Equipment Modifications

-. None

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

4. TEST SUMMARY

4.1 Test standards and results

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4a: 2017 CAN/CSA-CISPR 32:17	C
Radiated Disturbance	ANSI C63.4a: 2017 CAN/CSA-CISPR 32:17	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

4.2 Test Condition

The test conditions of the noted test mode(s) in this test report are;
-. Test Voltage / Frequency: AC 120 V / 60 Hz
-. The Micro USB port on the EUT was connected to the adapter and then the EUT was charging operate.
-. The EUT was tested in charging and operating mode.

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

5. FINAL RESULT OF MEASUREMENT

Exploratory measurement was done in normal operation mode. And the final measurement was selected for the maximized emission level.

5.1 Conducted Disturbance

5.1.1 Operating environment

Ambient temperature	: 22.4 ℃
Relative humidity	: 43.7 % R.H.

5.1.2 Test set-up

The EUT and other support equipment were placed on a non-conductive table, 0.8 m height above the reference ground plane. The power of EUT was fed through a 50 Ω/ 50 μH + 5 Ω LISN. The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

5.1.3 Measurement uncertainty

Conducted emission, quasi-peak detection	: 1.9 dB
Conducted emission, CISPR-average detection	: 1.9 dB

Measurement uncertainty is calculated in accordance with CISPR 16-4-2. The measurement uncertainty is given with a confidence of 95 % with the coverage factor, k = 2.

5.1.4 Limit

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	CISPR Average
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50
* Decreases with the logarithm of the frequency		

5.1.5 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.	Interval
■	LT32C/10	Afj Instruments	LISN	32032039322	March 21, 2022	1Y
■	11947A	Hewlett Packard	TRANSIENT LIMITER	3107A02762	March 8, 2022	1Y
■	ESCI	Rohde & Schwarz	EMI Test Receiver	101420	March 8, 2022	1Y
□	3825/2	EMCO	AMN	9109-1867	March 8, 2022	1Y

* S/W used in the test : Noise Terminal Voltage Measurement software / 2.00.0178
All test equipment used is calibrated on a regular basis.

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

5.1.6 Test data

-. Test Date	: April 25, 2022
-. Resolution bandwidth	: 9 kHz
-. Frequency range	: 0.15 MHz ~ 30 MHz
-. Test Result	: PASS
-. Remarks	: Margin (dB) = Limit – Level (Result) The Result level in below table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

이 정 석

Tested by : jeongseok.lee / Assistant Manager

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

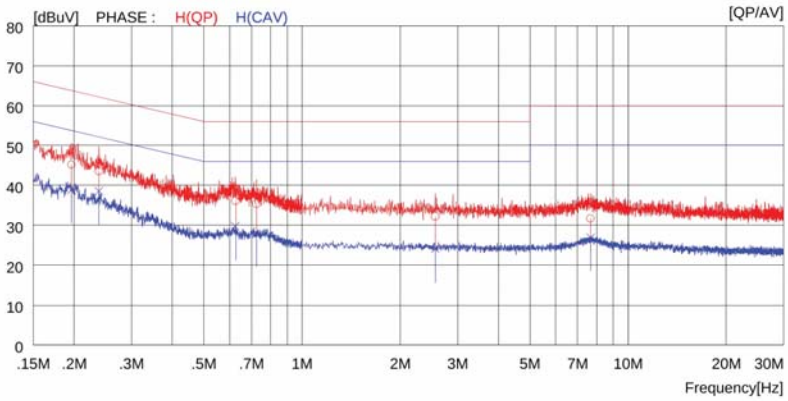
Test Line (HOT)

Conducted Emission

2022. 04. 25

Applicant	:	3i Inc.	AGR No.	:	A224A-286
Model No.	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp/Humi	:	22.4 'C, 43.7 % R.H.
Test Condition	:	HOT LINE	Operator	:	LEE JEONGSEOK
Memo	:	CHARGE + OPERATE			

LIMIT : EN.KN.FCC.VCCI_CISPR Pub.32 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.32 Class B, Average Limits (Mains Ports)



NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.19600	23.8	----	21.4	45.2	----	63.8	----	18.6	----	H(QP)
2	0.23800	22.2	----	21.4	43.6	----	62.2	----	18.6	----	H(QP)
3	0.62500	14.7	----	21.4	36.1	----	56.0	----	19.9	----	H(QP)
4	0.72400	14.0	----	21.4	35.4	----	56.0	----	20.6	----	H(QP)
5	2.56000	10.7	----	21.5	32.2	----	56.0	----	23.8	----	H(QP)
6	7.66500	10.4	----	21.4	31.8	----	60.0	----	28.2	----	H(QP)
7	0.19600	----	17.5	21.4	----	38.9	----	53.8	----	14.9	H(CAV)
8	0.23800	----	17.1	21.4	----	38.5	----	52.2	----	13.7	H(CAV)
9	0.62500	----	8.4	21.4	----	29.8	----	46.0	----	16.2	H(CAV)
10	0.72400	----	6.6	21.4	----	28.0	----	46.0	----	18.0	H(CAV)
11	2.56000	----	2.6	21.5	----	24.1	----	46.0	----	21.9	H(CAV)
12	7.66500	----	5.6	21.4	----	27.0	----	50.0	----	23.0	H(CAV)

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

Test Line (NEUTRAL)

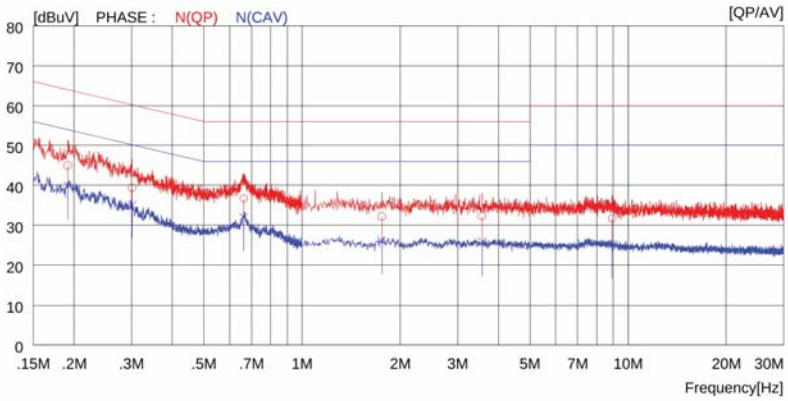
Conducted Emission

2022. 04. 25

Applicant	:	3i Inc.	AGR No.	:	A224A-286
Model No.	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp/Humi	:	22.4 'C, 43.7 % R.H.
Test Condition	:	NEUTRAL LINE	Operator	:	LEE JEONGSEOK

Memo : CHARGE + OPERATE

LIMIT : EN.KN.FCC.VCCI_CISPR Pub.32 Class B, Quasi-Peak Limits (Mains Ports)
EN.KN.FCC.VCCI_CISPR Pub.32 Class B, Average Limits (Mains Ports)



NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.19100	23.6	----	21.4	45.0	----	64.0	----	19.0	----	N(QP)
2	0.30100	18.0	----	21.4	39.4	----	60.2	----	20.8	----	N(QP)
3	0.66300	15.3	----	21.4	36.7	----	56.0	----	19.3	----	N(QP)
4	1.75600	10.7	----	21.5	32.2	----	56.0	----	23.8	----	N(QP)
5	3.56400	10.8	----	21.5	32.3	----	56.0	----	23.7	----	N(QP)
6	8.92000	10.3	----	21.4	31.7	----	60.0	----	28.3	----	N(QP)
7	0.19100	----	18.5	21.4	----	39.9	----	54.0	----	14.1	N(CAV)
8	0.30100	----	13.7	21.4	----	35.1	----	50.2	----	15.1	N(CAV)
9	0.66300	----	10.6	21.4	----	32.0	----	46.0	----	14.0	N(CAV)
10	1.75600	----	4.7	21.5	----	26.2	----	46.0	----	19.8	N(CAV)
11	3.56400	----	4.3	21.5	----	25.8	----	46.0	----	20.2	N(CAV)
12	8.92000	----	3.8	21.4	----	25.2	----	50.0	----	24.8	N(CAV)

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

5.2 Radiated Disturbance

5.2.1 Operating environment

Ambient temperature : 21.2 ℃

Relative humidity : 48.7 % R.H.

5.2.2 Test set-up

The radiated emissions measurements were on the 10 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive table, 0.8 m height above the reference ground plane.

The frequency spectrum from 30 MHz to 40 000 MHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

5.2.3 Measurement uncertainty

Radiated emission electric field intensity, 30 MHz ~ 1 000 MHz : ±4.5 dB
Radiated emission electric field intensity, 1 000 MHz ~ 40 000 MHz : ±6.0 dB

Measurement uncertainty is calculated in accordance with CISPR 16-4-2. The measurement uncertainty is given with a confidence of 95 % with the coverage factor, k = 2.

5.2.4 Limit

-. FCC Part 15 Subpart B

Frequency of Emission (MHz)	Resolution bandwidth	Field strength @ 3 m (dBμV/m)	
		Quasi-peak	
30 ~ 88	120 kHz	40.0	
88 ~ 216		43.5	
216 ~ 960		46.0	
Above 960		54.0	
		Peak Limit	CISPR Average Limit
>1 000	1 MHz	74.0	54.0

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

-. ICES-003

Frequency of Emission (MHz)	Resolution bandwidth	Field strength @ 3 m (dBµV/m)	Field strength @ 10 m (dBµV/m)
		Quasi-peak	Quasi-peak
30 ~ 88	120 kHz	40.0	30.0
88 ~ 216		43.5	33.1
216 ~ 230		46.0	35.6
230 ~ 960		47.0	37.0
960 ~ 1 000		54.0	43.5
Frequency of Emission (MHz)	Resolution bandwidth	Field strength @ 3 m (dBµV/m)	
		Peak Limit	CISPR Average Limit
>1 000	1 MHz	74.0	54.0

5.2.5 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.	Interval
■	ESW 44	Rohde & Schwarz	EMI Test Receiver	101851	March 8, 2022	1Y
■	8447D	Hewlett Packard	Amplifier	2944A07777	March 8, 2022	1Y
■	VULB9163	Schwarzbeck	Trilog Broadband Antenna	9163-225	September 14, 2020	2Y
■	3115	ETS-LINDGREN	Horn Antenna	34823	August 18, 2022	1Y
■	SAS-574	A.H. System	Horn Antenna	676	October 21, 2021	1Y
■	PAM-118A	Com-Power	Amplifier	18040081	October 12, 2021	1Y
■	PAM-840A	Com-Power	Amplifier	461339	October 18, 2021	1Y
■	CO3000	Innco Systems GmbH	Controller	N/A	N/A	N/A
■	DT2000-2t	Innco Systems GmbH	Turn Table	N/A	N/A	N/A
■	MA4000-EP	Innco Systems GmbH	Antenna Master	N/A	N/A	N/A
■	MA4640-XPET	Innco Systems GmbH	Antenna Master	N/A	N/A	N/A

* S/W used in the test : Radiated Emission Measurement software / Version 2.00.0202
All test equipment used is calibrated on a regular basis.

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

5.2.6 Test data

-. Test Date	: April 25, 2022
-. Resolution bandwidth	: 120 kHz (30 MHz - 1 000 MHz), 1 MHz (1 GHz - 40 GHz)
-. Frequency range	: 30 MHz ~ 40 000 MHz
-. Measurement distance	: 3 m
-. Test Result	: PASS
-. Remarks	: Margin (dB) = Limit – Result Result = Reading value + Antenna Factor + Loss – Gain Loss and Gain in below table means Cable Loss and Pre-amplifier gain.

* Radiated emissions (Tx/Rx frequencies) from the transceiver shall be ignored.
Bluetooth: 2 402 ~ 2 480 MHz
* ◆ - Exclusion band Carrier Frequency, ◆ - Exclusion band Harmonic Frequency

이 정 석

Tested by : jeongseok.lee / Assistant Manager

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

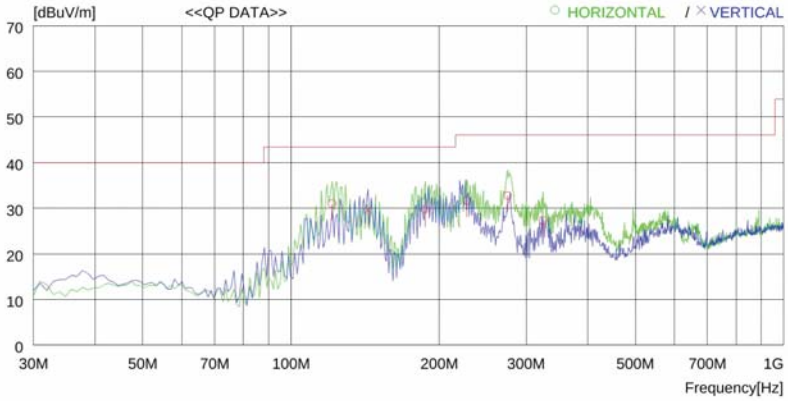
30 MHz ~ 1 000 MHz (Detector Mode_Quasi-Peak)_FCC Part 15 Subpart B

RADIATED EMISSION

2022. 04. 25

Trade Name	:	3i Inc.	AGR No.	:	A224A-286
Model Name	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp / Humi	:	21.2 'C 48.7 % R.H.
Mode	:	CHARGE + OPERATE	Operator	:	LEE JEONGSEOK
	:				

LIMIT : FCC Part15 Subpart.B Class B (3m)



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	121.180	45.9	9.4	3.9	28.2	31.0	43.5	12.5	200	1
2	187.140	43.1	9.8	5.0	28.2	29.7	43.5	13.8	200	359
3	227.880	42.7	11.8	5.1	27.9	31.7	46.0	14.3	200	212
4	275.410	42.0	13.0	5.2	27.4	32.8	46.0	13.2	100	171
5	324.880	35.2	13.9	5.5	27.3	27.3	46.0	18.7	100	0
----- Vertical ------										
6	143.490	45.4	8.2	4.3	28.2	29.7	43.5	13.8	100	359

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

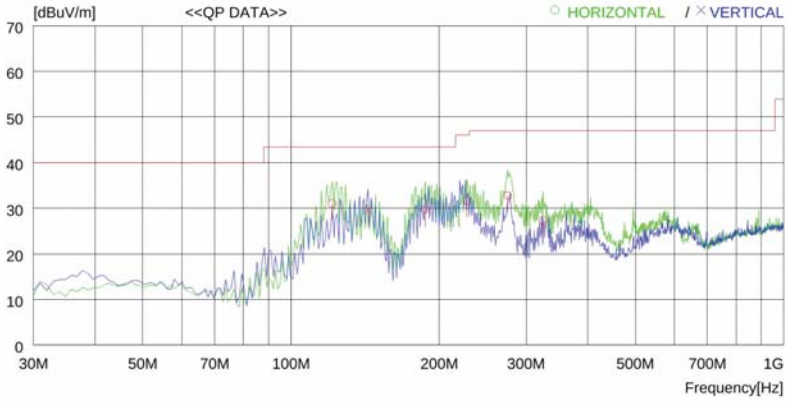
30 MHz ~ 1 000 MHz (Detector Mode_Quasi-Peak)_ICES-003 Issue 7

RADIATED EMISSION

2022. 04. 25

Trade Name	:	3i Inc.	AGR No.	:	A224A-286
Model Name	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp / Humi	:	21.2 'C 48.7 % R.H.
Mode	:	CHARGE + OPERATE	Operator	:	LEE JEONGSEOK
	:				

LIMIT : 5.IC_CLASS B_3m



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	121.180	45.9	9.4	3.9	28.2	31.0	43.5	12.5	200	1
2	187.140	43.1	9.8	5.0	28.2	29.7	43.5	13.8	200	359
3	227.880	42.7	11.8	5.1	27.9	31.7	46.0	14.3	200	212
4	275.410	42.0	13.0	5.2	27.4	32.8	47.0	14.2	100	171
5	324.880	35.2	13.9	5.5	27.3	27.3	47.0	19.7	100	0
----- Vertical ------										
6	143.490	45.4	8.2	4.3	28.2	29.7	43.5	13.8	100	359

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

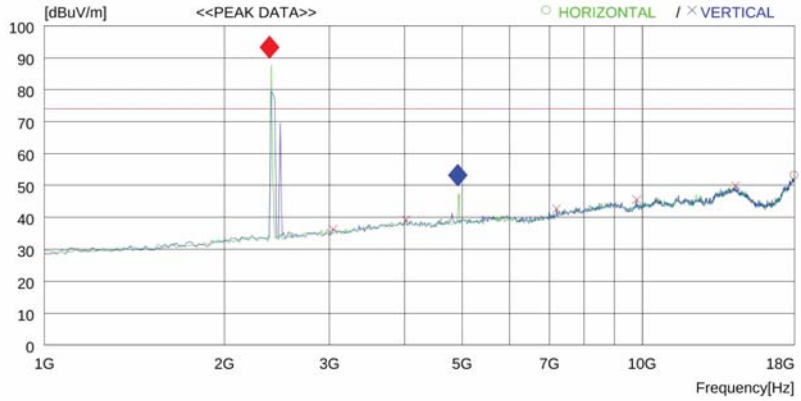
1 GHz ~ 18 GHz (Detector Mode_Peak)

RADIATED EMISSION

2022. 04. 25

Trade Name	:	3i Inc.	AGR No.	:	A224A-286
Model Name	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp / Humi	:	21.2 'C 48.7 % R.H.
Mode	:	CHARGE + OPERATE	Operator	:	LEE JEONGSEOK
	:				

LIMIT : FCC CLASS B 1GHz ~ 40 GHz_PEAK



No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	17966.000	39.4	47.2	9.9	43.3	53.2	74.0	20.8	100	0
----- Vertical ------										
2	3040.000	46.1	29.8	3.5	43.1	36.3	74.0	37.7	300	358
3	4026.000	45.9	32.4	4.5	43.6	39.2	74.0	34.8	100	359
4	7188.000	43.7	35.5	6.0	42.6	42.6	74.0	31.4	100	0
5	9789.000	43.5	37.9	7.1	43.0	45.5	74.0	28.5	200	359
6	14328.000	41.7	41.7	8.7	42.2	49.9	74.0	24.1	100	12

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

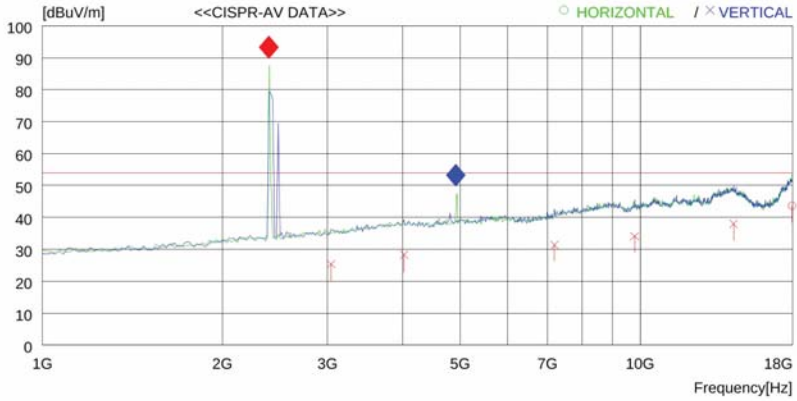
1 GHz ~ 18 GHz (Detector Mode_CISPR-Average)

RADIATED EMISSION

2022. 04. 25

Trade Name	:	3i Inc.	AGR No.	:	A224A-286
Model Name	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp / Humi	:	21.2 'C 48.7 % R.H.
Mode	:	CHARGE + OPERATE	Operator	:	LEE JEONGSEOK
	:				

LIMIT : FCC CLASS B 1GHz ~ 40 GHz_AV



No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	17966.850	29.9	47.2	9.9	43.3	43.7	54.0	10.3	100	0
----- Vertical ------										
2	3040.237	35.2	29.8	3.5	43.1	25.4	54.0	28.6	300	358
3	4026.926	34.9	32.4	4.5	43.6	28.2	54.0	25.8	100	359
4	7188.558	32.5	35.5	6.0	42.6	31.4	54.0	22.6	100	0
5	9789.026	32.1	37.9	7.1	43.0	34.1	54.0	19.9	200	359
6	14328.770	29.8	41.7	8.7	42.2	38.0	54.0	16.0	100	12

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

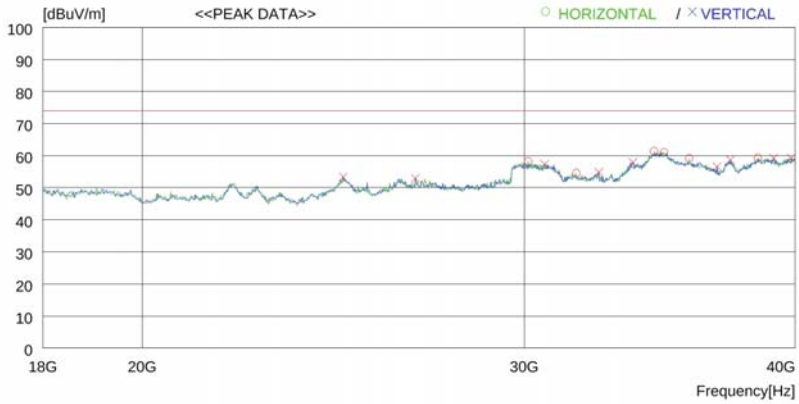
18 GHz ~ 40 GHz (Detector Mode_Peak)

RADIATED EMISSION

2022. 04. 25

Trade Name	:	3i Inc.	AGR No.	:	A224A-286
Model Name	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp / Humi	:	21.2 'C 48.7 % R.H.
Mode	:	CHARGE + OPERATE	Operator	:	LEE JEONGSEOK
	:				

LIMIT : FCC CLASS B 1GHz ~ 40 GHz_PEAK



No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	30122.000	44.1	40.8	13.2	39.9	58.2	74.0	15.8	200	199
2	31706.000	40.5	41.0	13.3	40.3	54.5	74.0	19.5	300	352
3	34434.000	48.5	40.9	13.8	41.9	61.3	74.0	12.7	100	359
4	34808.000	48.2	40.9	13.9	41.9	61.1	74.0	12.9	100	359
5	35732.000	46.6	40.8	14.3	42.6	59.1	74.0	14.9	200	359
6	38438.000	43.5	41.0	14.7	40.0	59.2	74.0	14.8	200	359
----- Vertical ------										
7	24754.000	44.0	40.2	11.7	42.6	53.3	74.0	20.7	200	283
8	26734.000	43.2	40.6	12.0	42.9	52.9	74.0	21.1	100	230
9	30650.000	43.1	40.8	13.1	39.6	57.4	74.0	16.6	100	0
10	32476.000	40.8	41.2	13.5	40.6	54.9	74.0	19.1	300	116
11	33664.000	44.4	41.1	13.7	41.3	57.9	74.0	16.1	100	0
12	36810.000	43.9	40.9	14.3	42.5	56.6	74.0	17.4	100	44
13	37338.000	44.3	41.1	14.4	41.2	58.6	74.0	15.4	300	328
14	39098.000	43.8	41.1	14.6	40.4	59.1	74.0	14.9	300	2
15	39846.000	44.2	41.1	15.0	41.1	59.2	74.0	14.8	100	0

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

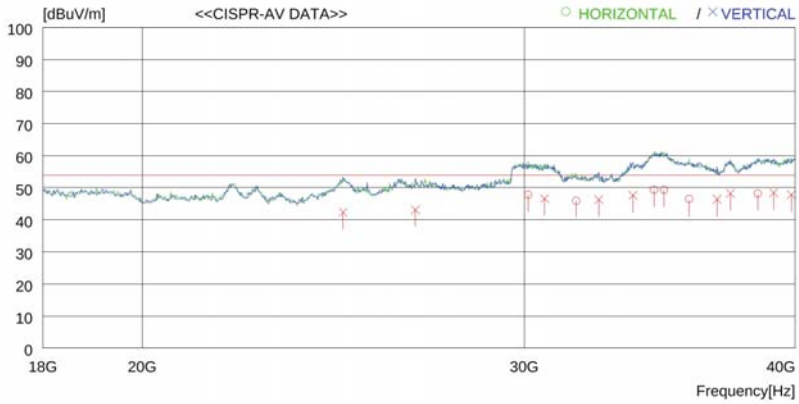
18 GHz ~ 40 GHz (Detector Mode_CISPR-Average)

RADIATED EMISSION

2022. 04. 25

Trade Name	:	3i Inc.	AGR No.	:	A224A-286
Model Name	:	PV-PM	Power Supply	:	120 V~, 60 Hz
Serial No.	:		Temp / Humi	:	21.2 'C 48.7 % R.H.
Mode	:	CHARGE + OPERATE	Operator	:	LEE JEONGSEOK

LIMIT : FCC CLASS B 1GHz ~ 40 GHz_AV



No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	30122.190	33.7	40.8	13.2	39.9	47.8	54.0	6.2	200	199
2	31706.440	32.0	41.0	13.3	40.3	46.0	54.0	8.0	300	352
3	34434.170	36.6	40.9	13.8	41.9	49.4	54.0	4.6	100	359
4	34808.780	36.5	40.9	13.9	41.9	49.4	54.0	4.6	100	359
5	35732.340	33.9	40.8	14.3	42.6	46.4	54.0	7.6	200	359
6	38438.260	32.4	41.0	14.7	40.0	48.1	54.0	5.9	200	359
----- Vertical ------										
7	24754.960	33.0	40.2	11.7	42.6	42.3	54.0	11.7	200	283
8	26734.640	33.5	40.6	12.0	42.9	43.2	54.0	10.8	100	230
9	30650.800	32.3	40.8	13.1	39.6	46.6	54.0	7.4	100	0
10	32476.630	32.2	41.2	13.5	40.6	46.3	54.0	7.7	300	116
11	33664.520	34.1	41.1	13.7	41.3	47.6	54.0	6.4	100	0
12	36810.110	33.7	40.9	14.3	42.5	46.4	54.0	7.6	100	44
13	37338.830	33.9	41.1	14.4	41.2	48.2	54.0	5.8	300	328
14	39098.090	33.1	41.1	14.6	40.4	48.4	54.0	5.6	300	2
15	39846.360	32.8	41.1	15.0	41.1	47.8	54.0	6.2	100	0

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

6. SAMPLE CALCULATIONS

dBµV = 20 Log10 (µV)

Margin = Limit - Result

- Example 1: 0.23800 MHz

Class B Limit	= 52.2 dBµV (CISPR-Average)
Reading	= 17.1 dBµV
Correction Factor	= Cable Loss + Pulse Limiter
	= 21.4 dB
Total	= 38.5 dBµV
Margin	= 52.2 dBµV – 38.5 dBµV
	= 13.7 dB

- Example 2: 34434.170 MHz

Class B Limit	= 54.0 dBµV/m (CISPR-Average)
Reading	= 36.6 dBµV
Correction Factor	= Antenna Factor (40.9 dB/m) + Cable Loss (13.8 dB) – Amp. Gain (41.9 dB)
	= 12.8 dB
Total	= 49.4 dBµV/m
Margin	= 54.0 dBµV/m – 49.4 dBµV/m
	= 4.6 dB

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

APPENDIX A

[TEST SET UP PHOTOGRAPHS]

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

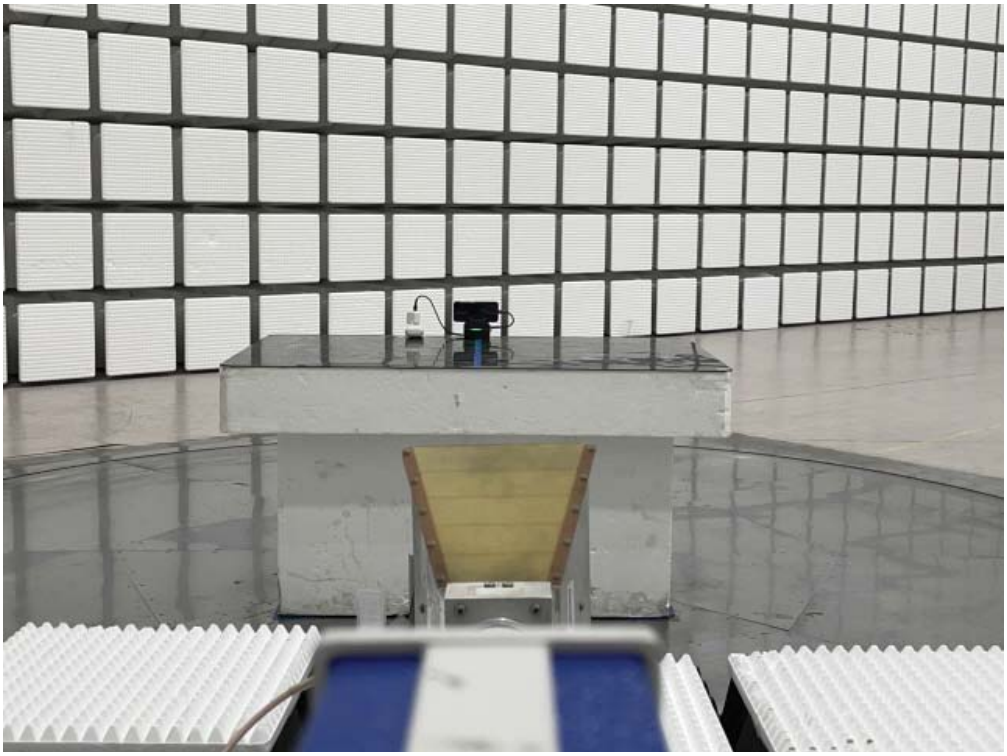
Conducted Disturbance Test Set Up

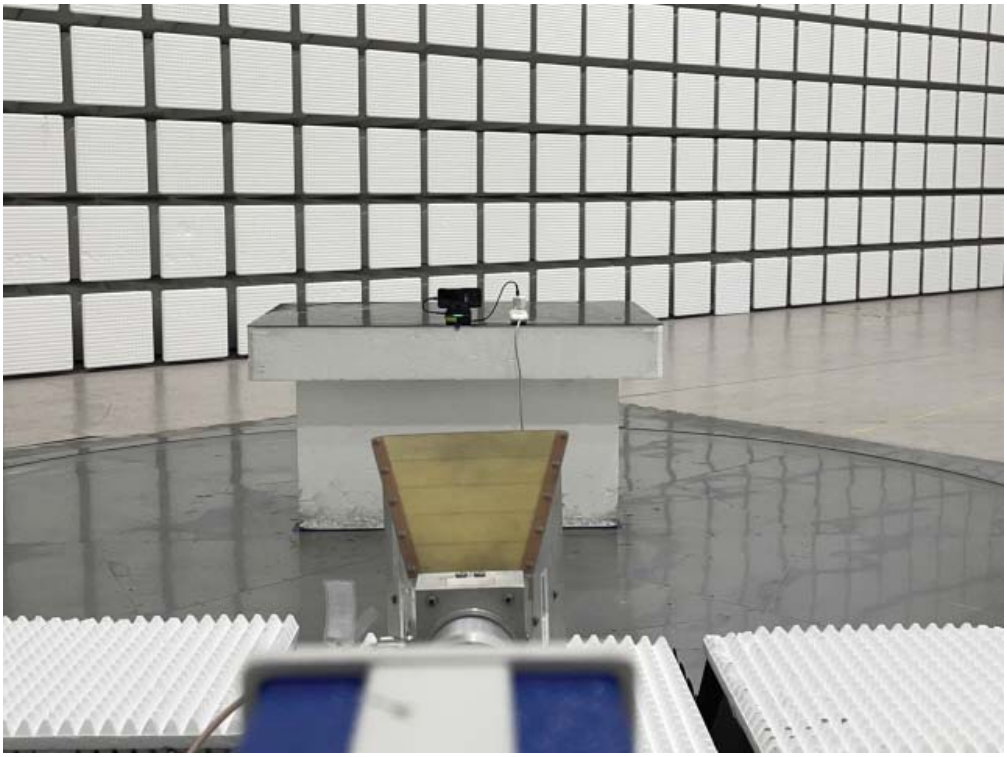
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

Radiated Disturbance Test Set Up (Below 1 GHz)

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

Radiated Disturbance Test Set Up (Above 1 GHz)





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

APPENDIX B

[PHOTOGRAPHS OF EUT]

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

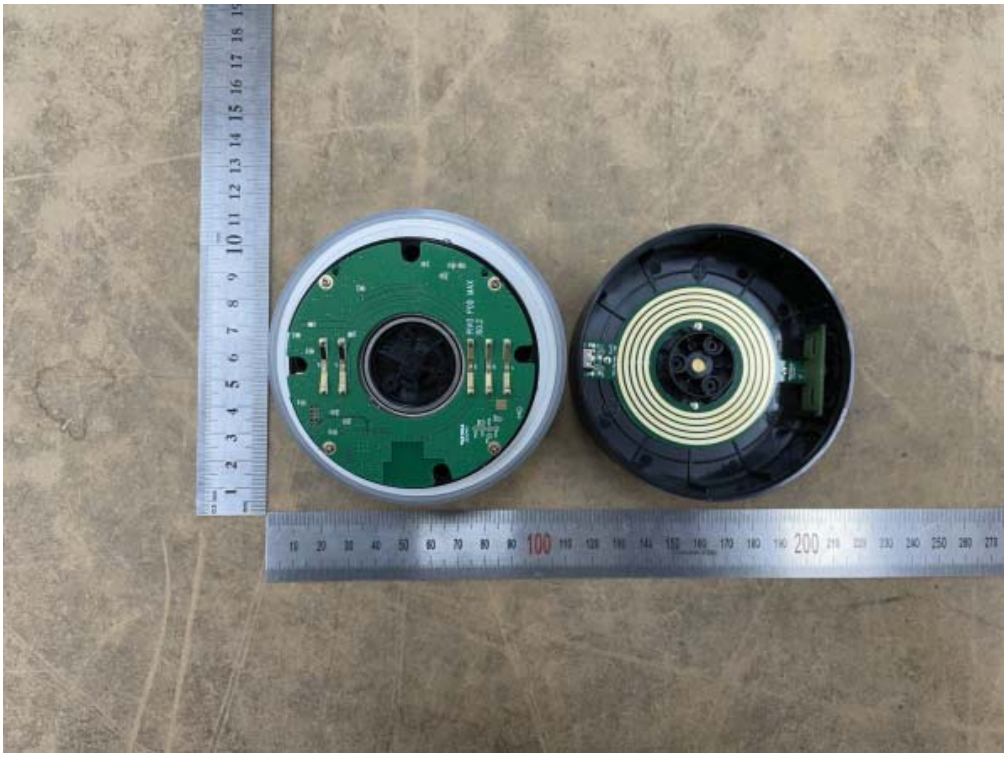
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

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

APPENDIX C

[INTERNAL PHOTOGRAPHS]

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



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

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

APPENDIX D

[DECLARATION OF CONFORMITY]

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

SUPPLIER's DECLARATION OF CONFORMITY

Per FCC §2.1077 Compliance information.

Trade Name: 3i Inc

Model Number: PV-PM

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful Interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party: 3i Inc

Address: 3-321 523, Dongdaegu-ro, Dong-gu, Daegu, Republic of Korea

E-mail: -

We hereby declare that the equipment bearing the trade and model number specified above was tested conforming to the applicable FCC rules under the most accurate measurement standards possible, and that the necessary steps have been taken and are in force to assure that production units equipment will continue to comply with the Commission's requirements.

3i Inc

Signature

May 2, 2022

Date

APPENDIX E

[LABELLING REQUIREMENTS]

[INFORMATION TO THE USER IN USER'S MANUAL]

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

LABELLING REQUIREMENTS

FCC Part 15 SUBPART B § 15.19 Labeling requirements

(a) In addition to the requirements in part 2 of this chapter, a device subject to certification, or Supplier's Declaration of Conformity shall be labeled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under part 73 of this chapter, land mobile operation under part 90 of this chapter, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is impracticable to label it with the statement specified under paragraph (a) of this section in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the information required by this paragraph shall be placed in the user manual and must also either be placed on the device packaging or on a removable label attached to the device.

For FCC Certification

If the device is subject to Certification: (1) Section 2.925 contains information on identification of the equipment; (2) include a label bearing an FCC Identifier (FCC ID) (Section 2.926) and (3) include the appropriate compliance statement in Section 15.19(a). If the labelling area is considered too small and therefore it is impractical (smaller than the palm of the hand) to display the compliance statement, then the statement may be placed in the user manual or product packaging. However, the device must still be labelled with the FCC ID. If the device is unquestionably too small for the FCC ID to be readable (smaller than 4-6 points), the FCC ID may be placed in the user manual. However, it must be determined that the device itself is too small – the label area allocated to the FCC ID may not be reduced because of over crowded identification of other product and regulatory information. Justification for placing the FCC ID in the manual must be submitted with the initial application for certification for review and approval.

For FCC Supplier's Declaration of Conformity (SDOC)

(a) If a product must be tested and authorized under Supplier's Declaration of Conformity, a compliance information statement shall be supplied with the product at the time of marketing or importation, containing the following information:

(1) Identification of the product, e.g., name and model number;

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A compliance statement as applicable, e.g., for devices subject to part 15 of this chapter as specified in §15.19(a)(3) of this chapter, that the product complies with the rules; and

(3) The identification, by name, address and telephone number or Internet contact information, of the responsible party, as defined in §2.909. The responsible party for Supplier's Declaration of Conformity must be located within the United States.

(b) If a product is assembled from modular components (e.g., enclosures, power supplies and CPU boards) that, by themselves, are authorized under a Supplier's Declaration of Conformity and/or a grant of certification, and the assembled product is also subject to authorization under Supplier's Declaration of Conformity but, in accordance with the applicable regulations, does not require additional testing, the product shall be supplied, at the time of marketing or importation, with a compliance information statement containing the following information:

(1) Identification of the assembled product, e.g., name and model number.

(2) Identification of the modular components used in the assembly. A modular component authorized under Supplier's Declaration of Conformity shall be identified as specified in paragraph (a)(1) of this section. A modular component authorized under a grant of certification shall be identified by name and model number (if applicable) along with the FCC Identifier number.

(3) A statement that the product complies with part 15 of this chapter.

(4) The identification, by name, address and telephone number or Internet contact information, of the responsible party who assembled the product from modular components, as defined in §2.909. The responsible party for Supplier's Declaration of Conformity must be located within the United States.

(5) Copies of the compliance information statements for each modular component used in the system that is authorized under Supplier's Declaration of Conformity.

(c) The compliance information statement shall be included in the user's manual or as a separate sheet. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form. The information may be provided electronically as permitted in §2.935.

For ICES-003

The manufacturer, importer or supplier shall meet the labelling requirements set out in this section and in Notice 2014 DRS1003 for electronic labelling for every unit:

i. prior to marketing in Canada, for ITE manufactured in Canada and

ii. prior to importation into Canada, for imported ITE.

Each unit of an ITE model shall bear a label (see below) that represents the manufacturer's or the importer's SDoC with Innovation, Science and Economic Development Canada's ICES 003. This label shall be permanently affixed to the ITE or displayed electronically and its text must be clearly legible. If the dimensions of the device are too small or if it is not practical to place the label on the ITE and electronic labelling has not been implemented, the label shall be, upon agreement with Innovation, Science and Economic Development Canada, placed in a prominent location in the user manual supplied with the ITE. The user manual may be in an electronic format and must be readily available.

Innovation, Science and Economic Development Canada ICES 003 Compliance Label:

CAN ICES-3 (*)/NMB-3(*)

* Insert either "A" or "B" but not both to identify the applicable Class of ITE.

PROPOSED LABEL

The label included following statement will be attached on product or the compliance statement can be observed in a prominent location in the instruction manual.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INFORMATION TO THE USER IN USER'S MANUAL

For FCC: The instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

For a **Class A** digital device or peripheral

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For a **Class B** digital device or peripheral

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

-. Reorient or relocate the receiving antenna.

-. Increase the separation between the equipment and receiver.

-. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-. Consult the dealer or an experienced radio/TV technician for help.

WARNING

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.