

TEST REPORT

Report Number: A-250-20-A

Date of Issue: 23 December 2020

FCC Rules and Regulations Part 15 Subpart C Intentional Radiators.

This test report is to certify that the device was tested according to the requirements of the above.
The results of this report should not be construed to imply compliance of devices other than the sample tested. Without the laboratory approval by the documents, this report should not be copied in part.

1. Applicant

Company Name : WHERE, Inc.
Address : 3-29 kioichou chiyoda, Tokyo, 102-0094 Japan

2. Identification of Tested Device

Type of Device : Transmitter
Certification Number : 2AV6HEYWHANAWZ
Device Name : BLE module
Model Number : EYWHANAWZ
Serial Number : Conducted test: C1, Radiated test: R1
Trade Name : WHERE
Type of Test : ☐ Production ☐ Pre-production ☒ Prototype
Test Plan : ☒ No ☐ Yes (Number:)

3. Test Items

AC Power Line Conducted Emission	☒ Pass	☐ Fail	☐ N/A
20dB Bandwidth and Carrier Frequency Separation (FHSS only)	☐ Pass	☐ Fail	☒ N/A (*1)
Time of Occupancy (Dwell Time) (FHSS only)	☐ Pass	☐ Fail	☒ N/A (*1)
Number of Hopping Frequency (FHSS only)	☐ Pass	☐ Fail	☒ N/A (*1)
6dB Bandwidth (DTS only)	☒ Pass	☐ Fail	☐ N/A
Peak Conducted Output Power	☒ Pass	☐ Fail	☐ N/A
Power Spectral Density (DTS only)	☒ Pass	☐ Fail	☐ N/A
Spurious Emission & Restricted Band Edges	☒ Pass	☐ Fail	☐ N/A

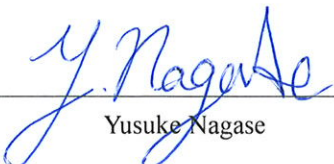
Refer the below reason(s) with respect to the decision and justification not to test.

(*1) EUT Specifications (*2) Request of Applicant (*3) According to Test Plan

KEC Electronic Industry Development Center Testing Division
3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 Japan

Test Engineer(s)


Naoki Norimoto


Yusuke Nagase



Approved by

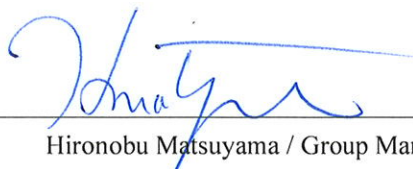

Hironobu Matsuyama / Group Manager

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1. REVISION HISTORY

Report Version	Page	Revised Content	Reason for Revision	Date of Issue	Status
A	-	Initial issue of report	-	15 December 2020	VOID
B	66-71	Deletion of the page	Applicant's request	23 December 2020	

Note: The previous version listed above as “VOID” is invalid

2. LABORATORY INFORMATION

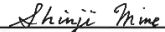
2.1. Laboratory Accreditation

The KEC has been accredited by the following organizations based on their criteria for testing laboratory (ISO/IEC 17025).

Voluntary EMC Laboratory Accreditation Center Inc. (VLAC) : Accreditation Number: VLAC-005

EMC standards accredited are following,

Keihanna Test Center

	
Certificate of Accreditation	Scope of Accreditation (Measurement Method)
VLAC has accredited	Accreditation Number : VLAC-005-1 Expiration Date : July 22, 2021
KEC Electronic Industry Development Center Testing Division Keihanna Test Center Testing Division Ikoma 1st Test Site Testing Division Ikoma 2nd Test Site 3-2-2 Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 JAPAN	[Name of Laboratory] KEC Electronic Industry Development Center
for technical competence in the field of	[Test site name] Testing Division Keihanna Test Center
EMC Testing and	[Test site Address] 3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 JAPAN
Telecommunication equipment performance testing 1	[Measurement Method] Emission test Radiated disturbance : Enclosure Port Disturbance electric field test [Test Condition] On the reference ground plane, Measurement distance : 3m/10m Measurement Frequency Range : 30 MHz ~ 1 GHz [Test Condition] Quasi Free Space: Measurement Frequency Range : 1 GHz ~ 18 GHz Disturbance magnetic field strength measurement [Test Condition] Loop Antenna, 3-axis loop antenna Disturbance electric power measurement [Test Condition] Absorption clamp (CMAD) Conducted disturbance measurement : AC mains port Disturbance voltage measurement [Test Condition] AMN, High impedance probe Conductive interference measurement : Telecommunication port Disturbance voltage measurement [Test Condition] AMN, AAN, Capacitive voltage probe Disturbance current measurement [Test Condition] Current probe Conductive interference measurement : DC power line port Disturbance voltage measurement [Test Condition] AMN, High impedance probe Antenna port, RF modulator output port, Tuner port Disturbance voltage measurement [Test Condition] AMN, High impedance probe Disturbance current measurement [Test Condition] Current probe Wanted signal and disturbance voltage test at the RF output [Test Condition] Selective voltmeter Local oscillator power at the input terminal of the outdoor unit
<i>For the type of tests and test standards to which this accreditation applies, please refer to the laboratory's Scope of Accreditation.</i>	
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration Laboratories".	
<i>This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system. (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).</i>	
Accreditation Number: VLAC-005	
Date of accreditation: December 1, 2000	
Date of renewal: July 23, 2019	
Date of expiration: July 22, 2021	
Voluntary EMC Laboratory Accreditation Center Inc.	
 Director: Shinji Mine	

**Immunity test**

Electro static discharge test
Radiated electromagnetic field strength
Electrical fast transient/burst (EFT/B)
Surge
RF conducted interference
Mains port measurement frequency range: 150 kHz – 230 MHz
Telecommunication port measurement frequency range: 150 kHz – 80 MHz
Signal port measurement frequency range: 150 kHz – 230 MHz
Common mode disturbances
Radiated magnetic field
Pulse magnetic immunity test
Interruptions and Voltage variations
Broadcasting receiver immunity
2 signals/3 signals characteristics test, Mains port RF conducted immunity test
Electric magnetic field immunity test (open strip line), Coaxial shield attenuation test
Power transmission equipment Immunity test
Damped oscillatory wave immunity test
Ring Wave immunity test
Harmonics and interharmonics including mains signaling at a.c. power port, low frequency immunity tests

Harmonic current
Harmonic current test
Voltage changes, Voltage fluctuations and Flicker test

Telecommunication equipment performance 1
Intentional Radiators (FCC Part 15 Subpart C)
U-NII without DFS International Radiators (FCC Part 15 Subpart E)
U-NII with DFS International Radiators (FCC Part 15 Subpart E)
Based on European standards
Based on Canadian standards

Voluntary EMC Laboratory Accreditation Center Inc.

Shinji Mine
Director: Shinji Mine

**Scope of Accreditation**

(Test standards)

Accreditation Number : VLAC-005-1**Expiration Date : July 22, 2021**

[Name of Laboratory]

KEC Electronic Industry Development Center

[Test site name]

Testing Division Keihanna Test Center

[Test site Address]

3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 JAPAN

[Test standards]

Enission test
Technical requirements under the Electrical Appliances and Materials safety Act appendix 10
Chapter 2/3/4/5
Enforcement rule of Radio Law : Article 46.7
Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use: Article 7 Chapter 1
VCCI Technical Requirements : V-3 / VCCI-CISPR 32

AS/NZS CISPR11, AS/NZS CISPR12, AS/NZS CISPR13, AS/NZS CISPR14-1, AS/NZS CISPR15
AS/NZS CISPR22, AS/NZS CISPR32, AS/NZS 61000.6.3, AS/NZS 61000.6.4

CISPR 11, CISPR 12, CISPR 13, CISPR 14-1, CISPR 15, CISPR 22, CISPR 32
CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-2-1, CISPR 16-2-2, CISPR 16-2-3

EN 12015
EN 50121-3-2, EN 50121-4, EN 50121-5, EN 55011, EN 55012, EN 55013, EN 55014-1, EN 55015
EN 55022, EN 55032, EN 55103-1
EN 61000-6-3, EN 61000-6-4, EN 61800-3
EN 60601-1-2(Particular requirement EN 60601-2 series), EN 60945
EN 61326-1(Particular requirement EN 61326-2 series), EN 61326-2-1, EN 61326-2-2, EN 61326-2-6
EN 61851-21-1, EN 61851-21-2, EN 62040-2

FCC 47CFR Part15 Subpart B : ANSI C63.4 -2014(up to 40 GHz)
FCC 47CFR Part15 Subpart B : FCC MP-2
FCC 47CFR Part18 : FCC MP-5(up to 40 GHz)

GOST 30805.22

IACS E10
ICES-001, ICES-002, ICES-003, ICES-005
IEC 60945, IEC 61000-6-3, IEC 61000-6-4, IEC 61800-3

IEC 60601-1-2(Particular requirements IEC 60601-2series)
IEC 61326-1(Particular requirements IEC 61326-2series)
EN 61326-2-1, IEC 61326-2-2, IEC 61326-2-6, IEC 61851-21-1, IEC 61851-21-2, IEC 62040-2
IEC 62236-3-2, IEC 62236-4, IEC 62236-5



J55001, J55011, J55013, J55014-1, J55015, J55022, J55032, CISPR13 32
JIS C 1806-1 (Particular requirement JIS C 1806-2 series)
JIS C 61326-1 (Particular requirement EN 61326-2 series)
JIS T 0601-1-2(Particular requirement JIS T 06012 series)

Immunity test

Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use: Article 7 Chapter 1
AS/NZS CISPR 14.2, AS/NZS CISPR 20, AS/NZS CISPR 24, AS/NZS 61000.6.1, AS/NZS 61000.6.2

CISPR 14-2, CISPR 20, CISPR 24, CISPR 35

EN 50121-3-2, EN 50121-4, EN 50130-4, EN 55103-2, EN 55014-2, EN 55020, EN 55024, EN 55035

EN 60945, EN 61000-6-1, EN 61000-6-2
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8
EN 61000-4-9, EN 61000-4-11, EN 61000-4-12, EN 61000-4-13, EN 61000-4-16, EN 61000-4-18
EN 61000-4-29, EN 61000-4-34, EN 61000-4-39(test frequency is 380MHz and above)
EN 61000-6-7, EN 61326-3-1, EN 61326-3-2
EN 61547, EN 61800-3, EN 61851-21-1, EN 61851-21-2
EN 60601-1-2(Particular requirement EN 60601-2 series)
EN 61326-1(Particular requirement EN 61326-2 series), EN 61326-2-6

IACS E10

IEC 60601-1-2(Particular requirement IEC 60601-2 series)
IEC 60945, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6
IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-11, IEC 61000-4-12, IEC 61000-4-13, IEC 61000-4-16
IEC 61000-4-18, IEC 61000-4-29, IEC 61000-4-34
EN 61000-4-39(test frequency is 380MHz and above)

IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-7
IEC 61326-1(Particular requirement IEC 61326-2 series)
IEC 61326-2-6, IEC 61326-3-1, IEC 61326-3-2, IEC 61547, IEC 61851-21-1, IEC 61851-21-2
IEC 61800-3, IEC 62040-2, IEC 62236-3-2, IEC 62236-4, IEC 62236-5

JIS C 1806-1(Particular requirement JIS C 1806-2 series), JIS C 4411-2
JIS C 61000-4-2, JIS C 61000-4-3, JIS C 61000-4-4, JIS C 61000-4-5, JIS C 61000-4-6
JIS C 61000-4-8, JIS C 61000-4-11, JIS C 61000-6-1, JIS C 61000-6-2
JIS C 61326-1(Particular requirement JIS C 61326-2 series)
JIS T 0601-1-2(Particular requirement JIS T 0601-2 series)

GOST CISPR 24

Harmonic Test in Public Low Voltage Systems

AS/NZS 61000.3.2, AS/NZS 61000.3.3, AS/NZS 61000.3.11, AS/NZS 61000.3.12
AS/NZS 61000.6.3, AS/NZS 61000.6.4

IEC 60601-1-2(Particular requirement IEC 60601-2 series)
IEC 61000-3-2, IEC 61000-3-3, IEC 61000-3-11, IEC 61000-3-12, IEC 61000-6-3, IEC 61000-6-4
IEC 61326-1(Particular requirement IEC 61326-2 series)

EN 60601-1-2(Particular requirement EN 60601-2 series)
EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, EN 61000-6-3, EN 61000-6-4
EN 61326-1(Particular requirement EN 61326-2 series)

JIS C 1806-1(Particular requirement JIS C 1806-2 series), JIS C 61000-3-2
JIS T 0601-1-2(Particular requirement JIS T 0601-2 series)

Telecommunication characteristic test 1

IC RSS-Gen, IC RSS-210, IC RSS-247

EN 300 328, EN 300 330, EN 300 440(up to 40 GHz)
EN 301 489-1, EN 301 489-3, EN 301 489-17, EN 301 489-19, EN 301 893
EN 303 413

ANST C63.10-2013(up to 40 GHz)
FCC KDB Publication 905462 D02 U-NII DFS Compliance Procedures New Rules v02 (April 8, 2016)
(up to 40 GHz)

Voluntary EMC Laboratory Accreditation Center Inc.

Shinji Mine
Director: Shinji Mine

Ikoma 1st Test Site

**VLAC****Certificate of Accreditation**

VLAC has accredited

KEC Electronic Industry Development Center
Testing Division Keihanna Test Center
Testing Division Ikoma 1st Test Site
Testing Division Ikoma 2nd Test Site

3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto 619-0237 JAPAN

for technical competence in the field of

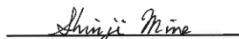
EMC Testing and**Telecommunication equipment performance testing 1**

*For the type of tests and test standards to which this accreditation applies,
please refer to the laboratory's Scope of Accreditation.*

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration Laboratories".

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system. (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Accreditation Number: VLAC-005**Date of accreditation: December 1, 2000****Date of renewal: August 23, 2019****Date of expiration: July 22, 2021****Voluntary EMC Laboratory Accreditation Center Inc.**


Director: Shinji Mine

**VLAC****Scope of Accreditation**

(Measurement Method)

Accreditation Number : VLAC-005-2**Expiration Date : July 22, 2021**

[Name of Laboratory]

KEC Electronic Industry Development Center

[Test site name]

Testing Division Ikoma 1st Test Site

[Test site Address]

12128 Takayama-cho Ikoma City Nara 630-0101 JAPAN

[Measurement Method]

Emission test

Radiated disturbance : Enclosure Port

Disturbance electric field test

[Test Condition] On the reference ground plane, Measurement distance : 3m/10m

Measurement Frequency Range : 30 MHz – 1 GHz

[Test Condition] Quasi Free Space: Measurement Frequency Range : 1 GHz – 18 GHz

Disturbance magnetic field strength measurement

[Test Condition] Loop Antenna, 3-axis loop antenna

Disturbance electric power measurement

[Test Condition] Absorption clamp (CMAD)

Conducted disturbance measurement : AC mains port

Disturbance voltage measurement

[Test Condition] AMN, High impedance probe

Conductive interference measurement : Telecommunication port

Disturbance voltage measurement

[Test Condition] AMN, AAN, Capacitive voltage probe

Disturbance current measurement

[Test Condition] Current probe

Conductive interference measurement : DC power line port

Disturbance voltage measurement

[Test Condition] AMN, High impedance probe

Antenna port, RF modulator output port, Tuner port

Disturbance voltage measurement

[Test Condition] AMN, High impedance probe

Disturbance current measurement

[Test Condition] Current probe

Wanted signal and disturbance voltage test at the RF output

[Test Condition] Selective voltmeter

Local oscillator power at the input terminal of the outdoor unit

**VLAC****Immunity test**

Electro static discharge test

Radiated electromagnetic field strength

Electrical fast transient/burst (EFT/B)

Surge

RF conducted interference

Mains port measurement frequency range: 150 kHz – 230 MHz

Telecommunication port measurement frequency range: 150 kHz – 80 MHz

Signal port measurement frequency range: 150 kHz – 230 MHz

Common mode disturbances

Radiated magnetic field

Pulse magnetic immunity test

Interruptions and Voltage variations

Broadcasting receiver immunity

2 signals/3 signals characteristics test, Mains port RF conducted immunity test

Electric magnetic field immunity test (open strip line), Coaxial shield attenuation test

Power transmission equipment immunity test

Damped oscillatory wave immunity test

Ring Wave immunity test

Harmonics and interharmonics including mains signaling at a.c. power port, low frequency

immunity tests

Harmonic current

Harmonic current test

Voltage changes, Voltage fluctuations and Flicker test

Telecommunication equipment performance 1

Intentional Radiators (FCC Part 15 Subpart C)

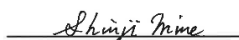
U-NII without DFS International Radiators (FCC Part 15 Subpart E)

U-NII with DFS International Radiators (FCC Part 15 Subpart F)

Based on European standards

Based on Canadian standards

Voluntary EMC Laboratory Accreditation Center Inc.


Director: Shinji Mine

**VLAC****Scope of Accreditation**

(Test standards)

Accreditation Number :VLAC-005-2**Expiration Date : July 22, 2021**

[Name of Laboratory]

KEC Electronic Industry Development Center

[Test site name]

Testing Division Ikoma 1st Test Site

[Test site Address]

12128 Takayama-cho Ikoma City Nara 630-0101 JAPAN

[Test standards]

Emission test

Technical requirements under the Electrical Appliances and Materials safety Act appendix 10

Chapter 2/3/4/5

Enforcement rule of Radio Law : Article 46.7

Nippon Kaiji Kyokai Technical rule of Materials and Equipment for Marine Use: Article 7 Chapter 1

VCCI Technical Requirements : V-3 / VCCI-CISPR 32

AS/NZS CISPR11, AS/NZS CISPR12, AS/NZS CISPR13, AS/NZS CISPR14-1, AS/NZS CISPR15

AS/NZS CISPR22, AS/NZS CISPR32, AS/NZS 61000.6.3, AS/NZS 61000.6.4

CISPR 11, CISPR 12, CISPR 13, CISPR 14-1, CISPR 15, CISPR 22, CISPR 32

CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-2-1, CISPR 16-2-2, CISPR 16-2-3

EN 12015

EN 50121-3-2, EN 50121-4, EN 50121-5, EN 55011, EN 55012, EN 55013, EN 55014-1, EN 55015

EN 55022, EN 55032, EN 55103-1

EN 61000-6-3, EN 61000-6-4, EN 61800-3

EN 60601-1-2(Particular requirement EN 60601-2 series), EN 60945

EN 61326-1(Particular requirement EN 61326-2 series), EN 61326-2-1, EN 61326-2-2, EN 61326-2-6

EN 61851-21-1, EN 61851-21-2, EN 62040-2

EN 12015

FCC 47CFR Part15 Subpart B : ANSI C63.4 -2014(up to 40 GHz)

FCC 47CFR Part15 Subpart B : FCC MP-2

FCC 47CFR Part18 : FCC MP-5(up to 40 GHz)

GOST 30805.22

IACS E10

ICES-001, ICES-002, ICES-003, ICES-005

IEC 60945, IEC 61000-6-3, IEC 61000-6-4, IEC 61800-3

IEC 60601-1-2(Particular requirements IEC 60601-2series)

IEC 61326-1(Particular requirements IEC 61326-2series)

IEC 61326-2-1, IEC 61326-2-2, IEC 61326-2-6, IEC 61851-21-1, IEC 61851-21-2, IEC 62040-2

IEC 62236-3-2, IEC 62236-4, IEC 62236-5