EMF TEST REPORT

Test Report No.   : OT-235-RWD-023

Reception No.   : 2304001248

Applicant   : Fitogether

Address   : #302, 95 Hangang-daero, Yongsan-gu, Seoul, 04378, South Korea

Manufacturer   : Fitogether

Address   : #302, 95 Hangang-daero, Yongsan-gu, Seoul, 04378, South Korea

Type of Equipment   : Real Time Tracking System

FCC ID.   : 2BAGE-FITOLIVEHUBP2

Model Name   : OHCOACH Live Hub

Multiple Model Name : LHP2-1A

Serial number   : N/A

Total page of Report : 7 pages (including this page)

Date of Incoming   : May 16, 2023

Date of issue   : May 26, 2023

SUMMARY

The equipment complies with the regulation; *FCC CFR 47 PART 2.1091*

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
Myeong-Hwa, Jang / Sr. Engineer	Tae-Ho, Kim / Chief Engineer	Jae-Ho, Lee / Chief Engineer
ONETECH Corp.	ONETECH Corp.	ONETECH Corp.

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

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-235-RWD-023	May 26, 2023	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant   : Fitogether

Address   : #302, 95 Hangang-daero, Yongsan-gu, Seoul, 04378, South Korea

Contact Person   : Bobby, Shin / Senior Engineer

Telephone No.   : +82-10-6263-8930

FCC ID   : 2BAGE-FITOLIVEHUBP2

Model Name   : OHCOACH Live Hub

Brand Name   : -

Serial Number   : N/A

Date   : May 26, 2023

E.U.T. DESCRIPTION	Real Time Tracking System
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	KDB 447498 D01 General RF Exposure Guidance v06
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 Fitogether, Model OHCOACH Live Hub (referred to as the EUT in this report) is a Real Time Tracking System. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	Real Time Tracking System
OPERATING FREQUENCY	2 412 MHz ~ 2 462 MHz (802.11g)
MODULATION TYPE	802.11g: OFDM Modulation (BPSK/QPSK/16QAM/64QAM)
RF OUTPUT POWER	Antenna 0: 6.33 dBm Antenna 1: 5.76 dBm Antenna 2: 5.78 dBm Multiple Antenna: 10.66 dBm
ANTENNA TYPE	Antenna 0: PCB Antenna Antenna 1: Patch Antenna Antenna 2: Patch Antenna
ANTENNA GAIN	Antenna 0: 3.72 dBi Antenna 1: 9.13 dBi Antenna 2: 9.13 dBi Multiple Antenna: 12.72 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	25 MHz, 40 MHz
RATED SUPPLY VOLTAGE	DC 7.40 V

2.2 Alternative type(s)/model(s); also covered by this test report.

-. The following lists consist of the added model and their differences.

Model Name	Differences	Tested
OHCOACH Live Hub	Basic Model	☑
LHP2-1A	The model is identical to basic model except for the model name only.	☐

Note: 1. Applicant consigns only basic model to test. Therefore this test report just guarantees the units, which have been tested.

2. The Applicant/manufacturer is responsible for the compliance of all variants.

3. EUT MODIFICATIONS

-. None

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4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 RF Exposure Calculation

According to the FCC rule 1.1310 table 1B, the limit for the maximum permissible RF exposure for an uncontrolled environment are f/1500 mW/cm² for the frequency range between 300 MHz and 1 500 MHz and 1.0 mW/cm² for the frequency range between 1 500 MHz and 100 000 MHz.

The electric field generated for a 1 mW/cm² exposure is calculated as follows:

$$E = \sqrt{(30 * P * G)} / d, \text{ and } S = E^2 / Z = E^2 / 377, \text{ because } 1 \text{ mW/cm}^2 = 10 \text{ W/m}^2$$

Where

S = Power density in mW/cm², Z = Impedance of free space, 377 Ω

E = Electric filed strength in V/m, G = Numeric antenna gain, and d = distance in meter

Combing equations and rearranging the terms to express the distance as a function of the remaining variable

$$d = \sqrt{(30 * P * G) / (377 * 10 S)}$$

Changing to units of mW and cm, using P (mW) = P (W) / 1 000, d (cm) = 0.01 * d (m)

$$d = 0.282 * \sqrt{(P * G) / S}$$

Where

d = distance in cm, P = Power in mW, G = Numeric antenna gain, and S = Power density in mW/cm²

4.2 EUT Description

Kind of EUT	Real Time Tracking System
Device Category	☐ Portable (< 20 cm separation) ■ Mobile (> 20 cm separation) ☐ Others
Exposure Evaluation Applied	■ MPE ☐ SAR ☐ N/A

4.3 Calculated MPE Safe Distance

According to above equation, the following result was obtained.

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			
2 400 ~ 2 483.5	802.11g [Antenna 0]	6.33 ± 1.0	7.33	5.41	3.72	2.36	1.01	0.002 5	1
	802.11g [Antenna 1]	5.76 ± 1.0	6.76	4.74	9.13	8.18	1.76	0.007 7	1
	802.11g [Antenna 2]	5.78 ± 1.0	6.78	4.76	9.13	8.18	1.76	0.007 7	1
	802.11g [Multiple Antenna]	10.66 ± 1.0	11.66	14.66	12.72	18.71	4.67	0.054 6	1

According to above table, for 2 400 ~ 2483.5 MHz Band(802.11 g [Antenna 0]), safe distance,

D = 0.282 * √ (5.41 * 2.36)/1.00 = 1.01 cm.

For getting power density at 20 cm separation in above table, following formula was used.

$$S = P * G / (4\pi * R^2) = 5.41 * 2.36 / (4 * \pi * 20^2) = 0.002\ 5$$

Where:
S = Power Density,
P = Power input to the external antenna (Output power from the EUT antenna port (dBm) – cable loss (dB)),
G = Gain of Transmit Antenna (linear gain), R = Distance from Transmitting Antenna