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Dates of Tests: Aug 01, 2025 ~ Aug 21, 2025
Test Report S/N: LR500112509B
Test Site : LTA CO., LTD.

CERTIFICATION OF COMPLIANCE

FCC ID.

2BRG5RF-ST-FL-001

APPLICANT

RECYCLEFARM KOREA Inc.

Equipment Class	:	Digital Transmission System (DTS)
Manufacturing Description	:	A smart tumbler for water intake measurement.
Manufacturer	:	I-Synapse CO., Ltd.
Model name	:	RF-ST-FL-001
Variant Model name	:	RF-ST-CP-001
Test Device Serial No.:	:	Identical prototype
Rule Part(s)	:	FCC Part 15.247 Subpart C ; ANSI C63.10 - 2020
Frequency Range	:	2402 ~ 2480 MHz BLE
Max. Output Power	:	Max -1.51 dBm - Conducted
Data of issue	:	Sep 02 ,2025

This test report is issued under the authority of:

Eun-Hwan Jung, Manager

The test was supervised by:

In-Sun Lee, Test Engineer

Revision history

Revision	Date of issue	Description	Revised by
--	Sep 02 ,2025	Initial	-

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1. General information

1-1 Test Performed

Company name : LTA Co., Ltd.
 Address : 243, Jubug-ri, Yangji-Myeon, Youngin-Si, Kyunggi-Do, Korea. 449-822
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Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
RRA	KOREA	KR0049	-	EMC accredited Lab.
FCC	U.S.A	649054	2027-03-29	FCC CAB
VCCI	JAPAN	C-4948,	2026-09-10	VCCI registration
VCCI	JAPAN	T-2416,	2026-09-10	VCCI registration
VCCI	JAPAN	R-4483(10 m),	2026-10-15	VCCI registration
VCCI	JAPAN	G-847	2025-12-13	VCCI registration
IC	CANADA	5799A-1	2026-08-15	IC filing

2. Information about test item

2-1 Client & Manufacturer

Client Company name : RECYCLEFARM KOREA Inc.
 Address : 47, Gangnam-daero 112-gil, Gangnam-gu, Seoul, South Korea
 Tel / Fax : +82-70-4334-0019 / +82-31-8017-9066
 Manufacturer : I-Synapse CO., Ltd.
 Address : 1005-ho,, 26, Seongsuil-ro 10-gil, Seongdong-gu, Seoul, 04793,
 Republic of Korea
 Tel / Fax : +82-70-4110-7531 / +82-508-931-6044

2-2 Equipment Under Test (EUT)

Model name : RF-ST-FL-001
 Serial number : Identical prototype
 Date of receipt : Aug 01, 2025
 EUT condition : Pre-production, not damaged
 Antenna type : Pattern Antenna (Gain : 2.0 dBi)
 Frequency Range : 2402 ~ 2480 MHz
 RF output power : Max -1.51 dBm – Conducted
 Type of Modulation : GFSK
 Power Source : DC 3.7 V

2-3 Tested frequency

Bluetooth	LOW	MID	HIGH
Frequency (MHz)	2402	2440	2480

2-4 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer
Notebook	-	MS-1736	MSI

3. Test Report

3.1 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
§1.1310 and §2.1091	RF EXPOSURE EVULATION	-	-	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

3.2 RF EXPOSURE EVULATION

1.1 Limit

According to §1.1310 and §2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength	Magnetic field Strength	Power density (mW/cm ²)	Averaging time
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

1.2 MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (0.71 * 1.58) / (4 * 5^2 * \pi)$ $S = 0.0002 \text{ mW/cm}^2$	Where, S = Maximum power density (mW/cm²) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20 cm = limit for MPE)
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1.3 MAXIMUM PERMISSIBLE EXPOSURE Prediction

- Calculated under the worst-case conditions of each mode.

(Measured power 3 dBm $\pm$ 0.5dB)

2.4GHz Mode

Max Peak output Power at antenna input terminal	-1.51	dBm
Max Peak output Power at antenna input terminal	0.71	mW
Prediction distance	5	mm
Prediction frequency	2402	MHz
Antenna Gain(typical)	2.00	dBi
Antenna Gain(numeric)	1.58	-

SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance $\leq$ 5 mm = **Used**

$[(\text{max.power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] * [\sqrt{f}(\text{GHz})]$

$= [0.71 / 5] * [\sqrt{2.402}] = 0.22 \leq 3.0$, for 1g SAR

Thus, SAR for this device is not required.