

Dates of Tests: January 06, 2025
Test Report S/N: LR500112501C
Test Site : LTA CO., LTD.

CERTIFICATION OF COMPLIANCE

FCC ID.

2BLL7AIDENCONTROLLER

APPLICANT

NearthLab

Equipment Class	:	Digital Transmission System (DTS)
Manufacturing Description	:	Remote Controller
Manufacturer	:	NearthLab
Model name	:	AiDEN Controller
Contains Modules FCC ID	:	NS918PMDDL2450
Test Device Serial No.:	:	Identical prototype
Rule Part(s)	:	FCC Part 15.247 Subpart C ; ANSI C63.10 - 2013
Frequency Range	:	2402 ~ 2477 MHz 2407 ~ 2477 MHz
Max. Output Power	:	1.0 W
Data of issue	:	January 07, 2025

This test report is issued under the authority of:



Ja-Beom Koo, Manager

The test was supervised by:



Eun-Hwan Jung, Test Engineer

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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
 Web site : <http://www.ltalab.com>
 E-mail : chahn@ltalab.com
 Telephone : +82-31-323-6008
 Facsimile : +82-31-323-6010

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	2025-03-29	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	2025-08-15	IC filing

2. Information about test item

2-1 Client & Manufacturer

Client Company name : NearthLab
Address : 3F, BLDG AJ, 9, Jeongui-ro 8-gil, Songpa-gu, Seoul, Republic of Korea
Tel / Fax : TEL No : +82-2-6935-1574 / FAX No : -
Manufacturer : NearthLab
Address : 3F, BLDG AJ, 9, Jeongui-ro 8-gil, Songpa-gu, Seoul, Republic of Korea
Tel / Fax : TEL No : +82-2-6935-1574 / FAX No : -

2-2 Equipment Under Test (EUT)

Model name : AiDEN Controller
Serial number : Identical prototype
Date of receipt : October 18, 2024
EUT condition : Pre-production, not damaged
Antenna type : Dipole Antenna (Max Gain : 5.296 dBi)
Frequency Range : 2402 ~ 2477 MHz
2407 ~ 2477 MHz
RF output power : 1.0 W
Type of Modulation : COFDM
Power Source : DC 7.4 V

2-3 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer
-	-	-	-

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

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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:

$S = PG/(4R^2 \pi)$ $S = (1000 * 1.82) / (4 * 20^2 * \pi)$ $S = 0.362 \text{ mW/cm}^2$	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 30 dBm $\pm$ 0.5dB)

3-1. 2.4 GHz Mode

Max Peak output Power at antenna input terminal	30	dBm
Max Peak output Power at antenna input terminal	1000	mW
Prediction distance	50	mm
Prediction frequency	2,437	MHz
Antenna Gain(typical)	5.296	dBi
Antenna Gain(numeric)	3.39	-
Power density at prediction frequency(S)	0.895	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	2.60	mW/cm ²

SAR Test exclusion thresholds for 1500MHz to 6GHz at test separation distance > 50 mm = **Used**

{[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and $\leq$ 6 GHz

= [78] + ([50-50]*10) = 78 $\leq$ 96, for 1g SAR

Thus, SAR for this device is not required.