

TEST REPORT

Product Name : ELO/ELO PRO
Model Number : ELO10001/ELOPR10001
FCC ID : 2A9WI-ELOPR10001

Prepared for : DYNA INNOVATIONS INC.
Address : 369 Pine Street, Suite 420 San Francisco, CA 94104
UNITED STATES

Prepared by : EMTEK (DONGGUAN) CO., LTD.
Address : -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology
Research and Development Base, No.9, Xincheng Avenue,
Songshanhu High-technology Industrial Development Zone,
Dongguan, Guangdong, China

TEL: +86-0769-22807078
FAX: +86-0769-22807079

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1. TEST RESULT CERTIFICATION

Applicant : DYNA INNOVATIONS INC.
 Address : 369 Pine Street, Suite 420 San Francisco, CA 94104 UNITED STATES
 Manufacturer : DYNA INNOVATIONS INC.
 Address : 369 Pine Street, Suite 420 San Francisco, CA 94104 UNITED STATES
 EUT : ELO/ELO PRO
 Model Name : ELO10001/ELOPR10001
 Trademark : N/A

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 1.1310: §1.1307(b)	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC 1.1310: §1.1307(b).

The test results of this report relate only to the tested sample identified in this report

Date of Test : December 20, 2022 to January 4, 2023

Prepared by : Warren Deng

Warren Deng /Editor

Reviewer : Tim Dong

Tim Dong /Supervisor




Approve & Authorized Signer : Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2212200025E00102R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	ELO/ELO PRO these models are identical, and all models have the same RF module and antenna, PCB layout , schematics and component. Only different on product name, Model name and colour. ELO10001 is white, while ELOPR10001 is black. The white product name is ELO, and the corresponding model: ELO10001. The black product name is ELO PRO , and the corresponding model: ELOPR10001. Here select ELO for test.
Model Number:	ELO10001/ELOPR10001 these models are identical, and all models have the same RF module and antenna, PCB layout , schematics and component. Only different on product name, Model name and colour. ELO10001 is white, while ELOPR10001 is black. The white product name is ELO, and the corresponding model: ELO10001. The black product name is ELO PRO Professional Edition, and the corresponding model: ELOPR10001. Here select ELO10001 for test.
Sample:	1#
Device Type:	Bluetooth V5.0
Data Rate:	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation
Modulation:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	79 channels
Transmit Power Max:	2.5 dBm(0.00178)
Antenna Gain:	3 dBi
Power supply:	DC 24V 5.0A from adapter
Evaluation applied:	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

3. Test Requirement:

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} =output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

π =3.1416

R= distance between observation point and center of the radiator in cm

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4. Measurement Result

Antenna gain:3 dBi

Mode	Frequency (MHz)	Output Power (dBm)	Target Power W/tolerance (dBm)	Max tune up power tolerance (dBm)	Max tune up power tolerance (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/c m ²)	Verdict
GFSK	2402	1.66	1±1	2	1.58	0.000315	1	PASS
	2441	1.58	1±1	2	1.58	0.000315	1	PASS
	2480	0.5	0±1	1	1.26	0.000250	1	PASS
pi/4-DQPSK	2402	2.24	2±1	3	2.00	0.000397	1	PASS
	2441	2.18	3±1	3	2.00	0.000397	1	PASS
	2480	1	1±1	2	1.58	0.000315	1	PASS
8-DPSK	2402	2.5	2±1	3	2.00	0.000397	1	PASS
	2441	2.47	2±1	3	2.00	0.000397	1	PASS
	2480	1.3	1±1	2	1.58	0.000315	1	PASS

*** End of Report ***