

TEST REPORT

Product Name : AL HydraBoom 2.0
IMW1402, IMW1402-XXXXXXXXXX
Model Number : (XXXXXXXXXX stands for color code. X=A-Z, or blank)
FCC ID : SP9-00011HV2

Prepared for : Kysho Multimedia Ltd.
Address : Flat F, 5/F Valiant Industrial Centre, 2-12 Au Pui Wan Street,
Fo Tan, Shatin, N.T. Hong Kong

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

Report Number : EDG2403060171E01405R
Date(s) of Tests : Mar 06, 2024 to Apr 15, 2024
Date of issue : Apr 16, 2024

Table of Contents

1. TEST RESULT CERTIFICATION	3
2. EUT SPECIFICATION	5
3. TEST REQUIREMENT	6
4. MEASUREMENT RESULT	6



1. TEST RESULT CERTIFICATION

Applicant : Kyscho Multimedia Ltd.
Address : Flat F, 5/F Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fo Tan, Shatin, N.T. Hong Kong
Manufacturer : Kyscho Multimedia Ltd.
Address : Flat F, 5/F Valiant Industrial Centre, 2-12 Au Pui Wan Street, Fo Tan, Shatin, N.T. Hong Kong
Factory : Huizhou Shenke Xinfei Technology Co. Ltd.
Address : Building C, Tangxia Chanjing industrial Park, Huiyang District, Huizhou City
EUT : AL HydraBoom 2.0
Model Name : IMW1402, IMW1402-XXXXXXXXXX
(XXXXXXXXXX stands for color code. X=A-Z, or blank)
Trademark : ALTEC LANSING

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093	PASS

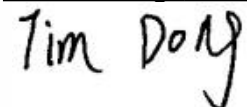
The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1093.

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

Date of Test : Mar 06, 2024 to Apr 15, 2024

Prepared by : 

Warren Deng /Editor

Reviewer : 

Tim Dong /Supervisor

Approve & Authorized Signer :

 
Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2403060171E01405R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	AL HydraBoom 2.0
Model Number:	IMW1402, IMW1402-XXXXXXXXXX (XXXXXXXXXX stands for color code. X=A-Z, or blank) (Note: These models are the same, except for the model names and color;IMW1402 was selected for full test.)
Sample:	1#
Data Rate:	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation 1Mbps for GFSK modulation 2Mbps for GFSK modulation
Modulation:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	BT: 79 channels BLE:40 channels
Transmit Power Max:	BT: 0.5 dBm(0.001122 W) BLE: -0.37 dBm(0.000918 W)
Antenna Gain:	-0.58 dBi
Power supply:	DC 5V from USB DC 7.4V from battery
Evaluation applied:	☐ MPE Evaluation ☒ SAR Evaluation

3. Test Requirement

SAR Evaluation

According to 447498 D01 V06, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

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

$[\sqrt{f_{\text{(GHz)}}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,²⁴ where

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁵
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval. One antenna is available for the EUT. The minimum separation distance is 5mm.

4. Measurement Result

Antenna gain: -0.58 dBi

Transmit Frequency(MHz)	Mode	Measured Power (dBm)	Tune upPower (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
2402	GFSK	-1.49	-1±1	0	0.3100	3
2441	GFSK	-0.53	0±1	1	0.3934	3
2480	GFSK	-0.49	0±1	1	0.3965	3
2402	Π/4-DQPSK	-0.76	0±1	1	0.3902	3
2441	Π/4-DQPSK	0.13	0±1	1	0.3934	3
2480	Π/4-DQPSK	0.23	0±1	1	0.3965	3
2402	8DPSK	-0.46	0±1	1	0.3902	3
2441	8DPSK	0.47	0±1	1	0.3934	3
2480	8DPSK	0.50	0±1	1	0.3965	3

Transmit Frequency (MHz)	Mode	Measured Power (dBm)	Tune upPower (dBm)	Max tune up power (dBm)	Calculation Result	1-g SAR
2402	GFSK (1M)	-1.75	-1±1	0	0.3100	3
2440	GFSK (1M)	-0.46	0±1	1	0.3933	3
2480	GFSK (1M)	-0.61	0±1	1	0.3965	3
2402	GFSK (2M)	-1.72	-1±1	0	0.3100	3
2440	GFSK (2M)	-0.37	0±1	1	0.3933	3
2480	GFSK (2M)	-0.59	0±1	1	0.3965	3

According to KDB 447498 D01 V06, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

*** End of Report ***