

ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : OT-18O-RWD-065

AGR No. : A189A-026

Applicant : ELRETRON INC.

Address : 1206, 16, Digital-ro 32gil, Guro-gu, Seoul, Republic of Korea

Manufacturer : SUNNY-TECH ENTERPRISES CO., LIMITED

Address : 305-307, Jinmantang Bldg., liutang Road, Bao'an District, shenzhen, China. 518102

Type of Equipment : PENNA RF Mouse

FCC ID. : 2AQWK-PENNAMOUSE

Model Name : PENNA Mouse

Multiple Model Name : N/A

Serial number : N/A

Total page of Report : 6 pages (including this page)

Date of Incoming : August 31, 2018

Date of issue : October 26, 2018

SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

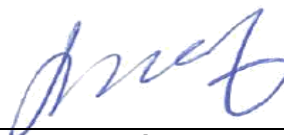
It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by:



Jae-Ho Lee / Chief Engineer
ONETECH Corp.

Approved by:



Keun-Young, Choi / Vice President
ONETECH Corp.

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-18O-RWD-065	October 26, 2018	Initial Issue	All

1. VERIFICATION OF COMPLIANCE

Applicant : ELRETRON INC.
Address : 1206, 16, Digital-ro 32gil, Guro-gu, Seoul, Republic of Korea
Contact Person : Da Geun Lee / CTO
Telephone No. : +82-10-4716-1720
FCC ID : 2AQWK-PENNAMOUSE
Model Name : PENNA Mouse
Serial Number : N/A
Date : October 26, 2018

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	PENNA RF Mouse
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. 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.

2. GENERAL INFORMATION

2.1 Product Description

The ELRETRON INC., Model PENNA Mouse (referred to as the EUT in this report) is a PENNA RF Mouse. Product specification information described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	PENNA RF Mouse
OPERATING FREQUENCY	2 402.85 MHz ~ 2 480.85 MHz
RF OUTPUT POWER	-21.35 dBm
NUMBER OF CHANNEL	3 Channels
MODULATION TYPE	GFSK
ANTENNA TYPE	PCB Antenna
ANTENNA GAIN	2.75 dBi
LIST OF EACH OSC. OR CRYSTAL. FREQ.(FREQ.>=1 MHz)	16 MHz
RATED SUPPLY VOLTAGE	DC 1.5 V (AA battery)

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

-. None

3. EUT MODIFICATIONS

-. None

4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 EUT Description

Kind of EUT	PENNA RF Mouse
Operating Frequency Band	☐ Wireless Microphone: 494.000 MHz ~ 501.000 MHz and 498.200 MHz ~ 505.200 MHz ☐ WLAN: 2 412 MHz ~ 2 462 MHz ☐ WLAN: 5 180 MHz ~ 5 240 MHz ☐ WLAN: 5 745 MHz ~ 5 825 MHz ☐ Bluetooth: 2 402 MHz ~ 2 480 MHz ☐ Bluetooth BLE: 2 402 MHz ~ 2 480 MHz
MAX. RF OUTPUT POWER	-21.35 dBm
Antenna Gain	2.75 dBi
Exposure Evaluation Applied	☐ MPE ☐ SAR ☒ N/A

4.2 Calculated MPE Safe Distance

According to the procedure, KDB 447498 D01, the standalone SAR test exclusion threshold is

$$[(\text{Max. Power of channel, including tune-up tolerance, mW})/(\text{Mim. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] < 3$$

$$= (0.01/5) \times \sqrt{2.441.85} = 0.005$$

Conclusion: The SAR test exclusion threshold is less than 3, so the device meets the RF Exposure Requirement and excluded SAR Test.

	Frequency (MHz)	Target Power W/tolerance (dBm)	Max tune up power (dBm)	Max tune up power (mW)	Separation distance (mm)	RF exposure
GFSK	2 441.85	-22.85 ± 0.5	-21.35	0.01	5	0.005



Tested by: Min-Gu, Ji / Assistant Manager