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RF Exposure Evaluation Report

Report No. : CQASZ20190500015EX-02
Applicant: Fusion Fnc Co., Ltd
Address of Applicant: F324 Misatesta Tower, Misagangbyeonso-ro 25, Hanam-si, Gyeonggi-do, South Korea
Manufacturer: Dongguan Lingjie Electronics & Technology Co., Ltd
Address of Manufacturer: 1-5/F B Building, 1-4/F A Building, No.16, Zhenxing Northern Road, Taiyuan Community, Xiegang Town, Dongguan City, Guangdong Province, P.R. China
Equipment Under Test (EUT):
Product: wireless mouse
All Model No.: Wireless mouse_RYAN, Wireless mouse_Apeach, FS-7300M, FS-330M, FS-7300KM
Test Model No.: Wireless mouse_RYAN
Brand Name: KAKAO FRIENDS / INOTE
FCC ID: 2ATCF-WMRYAN
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Test: 2019-04-28 to 2019-05-14
Date of Issue: 2019-05-14
Test Result : PASS*

Tested By:

Daisy Qin

(Daisy Qin)

Reviewed By:

Aaron Ma

(Aaron Ma)

Approved By:

Jack Ai

(Jack Ai)



* In the configuration tested, the EUT complied with the standards specified above.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190500015EX-02	Rev.01	Initial report	2019-05-14

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3 General Information

3.1 Client Information

Applicant:	Fusion Fnc Co., Ltd
Address of Applicant:	F324 Misatesta Tower, Misagangbyeonse-ro 25, Hanam-si, Gyeonggi-do, South Korea
Manufacturer:	Dongguan Lingjie Electronics & Technology Co., Ltd
Address of Manufacturer:	1-5/F B Building, 1-4/F A Building, No.16, Zhenxing Northern Road, Taiyuan Community, Xiegang Town, Dongguan City, Guangdong Province, P.R. China

3.2 General Description of EUT

Product Name:	wireless mouse
All Model No.:	Wireless mouse RYAN, Wireless mouse_Apeach, FS-7300M, FS-330M, FS-7300KM
Test Model No.:	Wireless mouse_RYAN
Trade Mark:	 / INOTE
Hardware Version:	V3.0
Software Version:	V1.0
Operation Frequency:	2403.85 MHz~2479.85MHz
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	16
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	2.34dBi
EUT Power Supply:	battery: DC1.5V

Note:

There are many products, Only the model Wireless mouse RYAN was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

4.1.2 Limits

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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right.$$

☐ $f(\text{GHz})$ is the RF channel transmit frequency in GHz

☐ Power and distance are rounded to the nearest mW and mm before calculation¹⁷

☐ The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

4.1.3 EUT RF Exposure

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2403.85MHz)	-5.662	-5.5	-5.5	0.282	2.764	3.0
Middle (2441.85MHz)	-6.243	-6.0	-5.5	0.282	2.785	
Highest (2479.85MHz)	-6.716	-6.5	-5.5	0.282	2.807	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190500015EX-01