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RF Exposure Evaluation Report

Report No. : CQASZ20181000054E-02
Applicant: Dogness Group LLC.
Address of Applicant: 4116 W Spring Creek Parkway, Plano, TX75024, Dallas, TEXAS, USA
Manufacturer: DONGGUAN JIASHENG ENTERPRISE CO.,LTD.
Address of Manufacturer: TONGSHA NEW INDUSTRIAL ZONE, TONGSHA COMMUNITY, DONGCHENG STREET OF DONGGUAN CITY, GUANGDONG PROVINCE, 523127 CHINA
Factory: Dogness Smart Technology (Donguan) Co., LTD.
Address of Factory: 3F, No.1, Tongsha Industrial zone, East district of Dongguan city
Equipment Under Test (EUT):
Product: smart retractable leash
All Model No.: JS04, JS04-WG, JS04-BO, JS04-BR, JS04-BP
Test Model No.: JS04
Brand Name: N/A
FCC ID: 2AQ6Q-JS04
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Test: 2018-11-01 to 2018-11-29
Date of Issue: 2018-11-29
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 |
|----------------------|---------|----------------|------------|
| CQASZ20181000054E-02 | Rev.01 | Initial report | 2018-11-29 |

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3 General Information

3.1 Client Information

| | |
|--------------------------|---|
| Applicant: | Dogness Group LLC. |
| Address of Applicant: | 4116 W Spring Creek Parkway, Plano, TX75024, Dallas, TEXAS, USA |
| Manufacturer: | DONGGUAN JIASHENG ENTERPRISE CO.,LTD. |
| Address of Manufacturer: | TONGSHA NEW INDUSTRIAL ZONE, TONGSHA COMMUNITY, DONGCHENG STREET OF DONGGUAN CITY, GUANGDONG PROVINCE, 523127 CHINA |
| Factory: | Dogness Smart Technology (Donguan) Co., LTD. |
| Address of Factory: | 3F, No.1, Tongsha Industrial zone, East district of Dongguan city |

3.2 General Description of EUT

| | |
|-----------------------|--|
| Product Name: | smart retractable leash |
| Model No.: | JS04, JS04-WG, JS04-BO, JS04-BR, JS04-BP |
| Trade Mark: | JS04 |
| Hardware Version: | N/A |
| Software Version: | V1.0 |
| Software Version: | V1.0 |
| Operation Frequency: | 2402MHz~2480MHz |
| Bluetooth Version: | V4.0 |
| Modulation Technique: | Frequency Hopping Spread Spectrum(FHSS) |
| Modulation Type: | GFSK, $\pi/4$ DQPSK, 8DPSK |
| Number of Channel: | 79 |
| Transfer Rate: | 1Mbps/2Mbps/3Mbps |
| Hopping Channel Type: | Adaptive Frequency Hopping systems |
| Sample Type: | <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location |
| Test Software of EUT: | RDA Toolkit 8.03.03 (manufacturer declare) |
| Antenna Type: | PCB antenna |
| Antenna Gain: | 0dBi |
| Power Supply: | lithium battery: DC3.7V, 500mAh, Charge by DC5.0V |

Note:

All model: JS04, JS04-WG, JS04-BO, JS04-BR, JS04-BP

Only the model JS04 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:

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

- f(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

Measurement Data

| GFSK mode | | | | |
|------------------|----------------------------|----------------------------|-----------------------|-------|
| Test channel | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | |
| | | | (dBm) | (mW) |
| Lowest(2402MHz) | 0.180 | 0±1 | 1.0 | 1.259 |
| Middle(2441MHz) | 0.310 | 0±1 | 1.0 | 1.259 |
| Highest(2480MHz) | 0.570 | 0±1 | 1.0 | 1.259 |
| π/4DQPSK mode | | | | |
| Test channel | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | |
| | | | (dBm) | (mW) |
| Lowest(2402MHz) | -0.960 | -1±1 | 0 | 1.000 |
| Middle(2441MHz) | -0.770 | -1±1 | 0 | 1.000 |
| Highest(2480MHz) | -0.610 | -1±1 | 0 | 1.000 |
| 8DPSK mode | | | | |
| Test channel | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | |
| | | | (dBm) | (mW) |
| Lowest(2402MHz) | -0.910 | -1±1 | 0 | 1.000 |
| Middle(2441MHz) | -0.840 | -1±1 | 0 | 1.000 |
| Highest(2480MHz) | -0.620 | -1±1 | 0 | 1.000 |

| Worst case: 8DPSK | | | | | | |
|---|---|-------------------------|-----------------------|-------|------------------|---------------------|
| Channel | Maximum Peak Conducted Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | | Calculated value | Exclusion threshold |
| | | | (dBm) | (mW) | | |
| Lowest (2402MHz) | 0.180 | 0±1 | 1.0 | 1.259 | 0.39 | 3.0 |
| Middle (2440MHz) | 0.310 | 0±1 | 1.0 | 1.259 | 0.39 | |
| Highest (2480MHz) | 0.570 | 0±1 | 1.0 | 1.259 | 0.40 | |
| Conclusion: the calculated value ≤3.0, SAR is exempted. | | | | | | |

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20181000054E-01