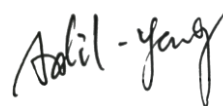


RF Exposure Report

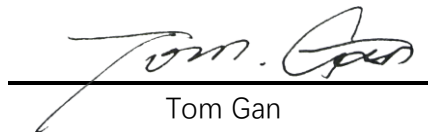
Product name : Remote Controller
Trademark : /
Model no...... : HS-7AB
Series Model(s)..... : HS-7AB, HS-7A21, HS-7A21-00, HS-7A2X
FCC ID : 2ANM3HS7AB
IC..... : 23165-HS7AB
HVIN..... : HS-7AB
Report No..... : C240111042-RF02
Test Standards..... : CFR47 FCC Part 2: Section 2.1093
CFR47 FCC Part 1: Section 1.1310
RSS-102 Issue 5 February 2021
Applicant..... : Shenzhen Chuangwei-RGB Electronics Co., Ltd.
Address of applicant : 13F-16F, Unit A, Skyworth Building, Shennan Road,Nanshan
District, Shenzhen, China
Manufacturer..... : Shenzhen Chuangwei-RGB Electronics Co., Ltd.
Manufacturer Address..... : 13F-16F, Unit A, Skyworth Building, Shennan Road,Nanshan
District, Shenzhen, China
Date of Test Date..... : N/A
Date of issue..... : Mar 09,2024
Test result..... : Compliance

Reviewed By :



Adil Yang

Approved Signatory :



Tom Gan

The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CSIC within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

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1 TEST SUMMARY

1.1 Test Facility

Shenzhen Central Standard International Center Co., Ltd. (CSIC)

Room 201, Building 1, Mogen Fashion Industrial Park, No. 10, Shilongzai Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen.

The test facility is recognized, certified or accredited by the following organizations:

| | | |
|------|------------------------------|----------------------------|
| CNAS | Registration No.: L11671 | |
| FCC | Registration No.: 0031378433 | Designation Number: CN1317 |
| IC | CAB identifier: CN0051 | |
| A2LA | Lab Cert. No.: 6426.01 | |

2 GENERAL INFORMATION

2.1 General Description of EUT

| Product information | |
|---|--------------------------------------|
| Product Name: | Remote Controller |
| Trademark: | / |
| Model No: | HS-7AB |
| Series Model: | HS-7AB, HS-7A21, HS-7A21-00, HS-7A2X |
| Power supply: | DC 3V for 2*AAA Battery |
| Hardware version: | HOF-44Q-CW44TLS V1.0 |
| Software version: | 220055030601002303152555240103 |
| Technical Specification of Bluetooth LE | |
| Frequency Range: | 2402 MHz to 2480 MHz |
| Type of Modulation: | GFSK |
| Channel Number: | 40 channels |
| Data Rate: | 1 Mbps, 2 Mbps |
| Channel Separation: | 2 MHz |
| Antenna type: | PCB antenna |
| Antenna gain: | 1.5dBi |
| Remark: | |

Remark: The above information and materials are provided by the Manufacturer. and full tests were applied to the sample(C240111042-Y01/01) only in this document.

3 Maximum Permissible Exposure (MPE)

3.1 RF Exposure

3.1.1 Limit

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 and RSS-102 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached. Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

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

According to RSS-102: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio frequency (RF) radiation as specified in 2.5.2

For FCC:

| Frequency Range [MHz] | Electric Field Strength [V/m] | Magnetic Field Strength [A/m] | Power Density [mW/cm ²] |
|---|----------------------------------|----------------------------------|--|
| Limits for Occupational / controlled Exposures | | | |
| 300 - 1500 | -- | -- | f/300 |
| 1500 - 100000 | -- | -- | 5.0 |
| Limits for General population / Uncontrolled Exposure | | | |
| 300 - 1500 | -- | -- | f/1500 |
| 1500 - 100000 | -- | -- | 1.0 |

NOTE: f = Frequency in MHz

For IC:

| Frequency [MHz] | Exemption Limits [mW] | | | | |
|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | At separation distance of ≤5 mm | At separation distance of ≤10 mm | At separation distance of ≤15 mm | At separation distance of ≤20 mm | At separation distance of ≤25 mm |
| ≤300 | 71 | 101 | 132 | 162 | 193 |
| 450 | 52 | 70 | 88 | 106 | 123 |
| 835 | 17 | 30 | 42 | 55 | 67 |
| 1900 | 7 | 10 | 18 | 34 | 60 |
| 2450 | 4 | 7 | 15 | 30 | 52 |
| 3500 | 2 | 6 | 16 | 32 | 55 |
| 5800 | 1 | 6 | 15 | 27 | 41 |
| Frequency [MHz] | At separation distance of ≤30 mm | At separation distance of ≤35 mm | At separation distance of ≤40 mm | At separation distance of ≤45 mm | At separation distance of ≥50 mm |
| ≤300 | 223 | 254 | 284 | 315 | 345 |
| 450 | 141 | 159 | 177 | 195 | 213 |
| 835 | 80 | 92 | 105 | 117 | 130 |
| 1900 | 99 | 153 | 225 | 316 | 431 |
| 2450 | 83 | 123 | 173 | 235 | 309 |
| 3500 | 86 | 124 | 170 | 225 | 290 |
| 5800 | 56 | 71 | 85 | 97 | 106 |

3.1.2 Friss Formula

According to KDB447498 D01 General RF Exposure Guidance V06.

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where $f(\text{GHz})$ is the RF channel transmit frequency in GHz;

Power and distance are rounded to the nearest mW and mm before calculation;

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.

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 5mm.

3.1.3 Classification

The antenna of this product, under normal use condition, is at least 5mm away from the body of the user. Warning statement to the user for keeping at least 5mm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

3.1.4 EUT Operating Conditions

EUT was enabled to transmit and receive at lowest, middle and highest channels.

3.1.5 Evaluation Result

1) stand-alone transmission MPE

For FCC

| Mode | Frequency (GHz) | *Measured RF Output Power (dBm) | Distance (mm) | Result calculation | Limit (1-g) |
|-----------|-----------------|---------------------------------|---------------|--------------------|-------------|
| Bluetooth | 2.48 | 2.14 | 5 | 0.516 | 3.0 |

Note:

1. Bluetooth RF Output Power: Refer to test report C240111042-RF01

For IC

The maximum EIRP is 2.3mW and the limit is 4mW at 5mm, thus meeting RF exposure requirements.

Note:

1. Bluetooth RF Output Power: Refer to test report C240111042-RF01

3.1.6 Conclusion

Therefore, the maximum calculations result of above are meet the requirement of Radio Frequency Exposure (MPE) limit.

*****THE END*****