

# FCC RF EXPOSURE REPORT

## FCC ID: RWO-RC30035302

**Project No.** : 2005C131  
**Equipment** : WModule  
**Brand Name** : RAZER  
**Test Model** : RC30-035302  
**Series Model** : N/A  
**Applicant** : Razer Inc.  
**Address** : 9 Pasteur, Suite 100, Irvine, CA92618, USA.  
**Manufacturer** : Razer (Asia-Pacific) Pte.,Ltd.  
**Address** : 514 Chai Chee Lane, #07-01-06,Singapore 469029  
**Factory** : RAZER TECHNOLOGY AND DEVELOPMENT (SHENZHEN) CO., LTD.  
**Address** : East Wing, 3rd Floor, Block 2, Phase 1 of Vision Shenzhen Business Park Keji South Road, Hi-Tech Industrial Park, Shenzhen 518057, China.  
**Date of Receipt** : May 25, 2020  
**Date of Test** : Jun. 01, 2020 ~ Jun. 22, 2020  
**Issued Date** : Aug. 28, 2020  
**Report Version** : R00  
**Test Sample** : Sample No.: DG20200526139  
**Standard(s)** : FCC Guidelines for Human Exposure IEEE C95.1 & KDB447498 D01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



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**REPORT ISSUED HISTORY**

| Report Version | Description     | Issued Date   |
|----------------|-----------------|---------------|
| R00            | Original Issue. | Aug. 28, 2020 |

## 1. GENERAL INFORMATION

### 1.1 GENERAL DESCRIPTION OF EUT

|                                  |                                                 |                                                                |  |
|----------------------------------|-------------------------------------------------|----------------------------------------------------------------|--|
| Equipment                        | WModule                                         |                                                                |  |
| Brand Name                       | RAZER                                           |                                                                |  |
| Test Model                       | RC30-035302                                     |                                                                |  |
| Series Model                     | N/A                                             |                                                                |  |
| Model Difference(s)              | N/A                                             |                                                                |  |
| Power Source                     | DC voltage supplied from external power supply. |                                                                |  |
| Power Rating                     | DC 5V                                           |                                                                |  |
| Product Description for LE       | Operation Frequency                             | 2402 MHz ~ 2480 MHz                                            |  |
|                                  | Modulation Technology                           | GFSK                                                           |  |
|                                  | Bit Rate of Transmitter                         | 1Mbps, 2Mbps                                                   |  |
|                                  | Max. Output Power                               | 3.84 dBm (0.0024 W) For 1Mbps<br>3.81 dBm (0.0024 W) For 2Mbps |  |
| Product Description for 2.4G SRD | Operation Frequency                             | 2402 MHz ~ 2480 MHz                                            |  |
|                                  | Modulation Technology                           | GFSK                                                           |  |
|                                  | Bit Rate of Transmitter                         | 2 Mbps                                                         |  |
|                                  | Max. Output Power                               | 3.85 dBm (0.0024 W)                                            |  |

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

#### 2. Channel List:

For LE:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 00      | 2402            | 20      | 2442            |
| 01      | 2404            | 21      | 2444            |
| 02      | 2406            | 22      | 2446            |
| 03      | 2408            | 23      | 2448            |
| 04      | 2410            | 24      | 2450            |
| 05      | 2412            | 25      | 2452            |
| 06      | 2414            | 26      | 2454            |
| 07      | 2416            | 27      | 2456            |
| 08      | 2418            | 28      | 2458            |
| 09      | 2420            | 29      | 2460            |
| 10      | 2422            | 30      | 2462            |
| 11      | 2424            | 31      | 2464            |
| 12      | 2426            | 32      | 2466            |
| 13      | 2428            | 33      | 2468            |
| 14      | 2430            | 34      | 2470            |
| 15      | 2432            | 35      | 2472            |
| 16      | 2434            | 36      | 2474            |
| 17      | 2436            | 37      | 2476            |
| 18      | 2438            | 38      | 2478            |
| 19      | 2440            | 39      | 2480            |

For 2.4G SRD:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 00      | 2402            | 27      | 2429            | 54      | 2456            |
| 01      | 2403            | 28      | 2430            | 55      | 2457            |
| 02      | 2404            | 29      | 2431            | 56      | 2458            |
| 03      | 2405            | 30      | 2432            | 57      | 2459            |
| 04      | 2406            | 31      | 2433            | 58      | 2460            |
| 05      | 2407            | 32      | 2434            | 59      | 2461            |
| 06      | 2408            | 33      | 2435            | 60      | 2462            |
| 07      | 2409            | 34      | 2436            | 61      | 2463            |
| 08      | 2410            | 35      | 2437            | 62      | 2464            |
| 09      | 2411            | 36      | 2438            | 63      | 2465            |
| 10      | 2412            | 37      | 2439            | 64      | 2466            |
| 11      | 2413            | 38      | 2440            | 65      | 2467            |
| 12      | 2414            | 39      | 2441            | 66      | 2468            |
| 13      | 2415            | 40      | 2442            | 67      | 2469            |
| 14      | 2416            | 41      | 2443            | 68      | 2470            |
| 15      | 2417            | 42      | 2444            | 69      | 2471            |
| 16      | 2418            | 43      | 2445            | 70      | 2472            |
| 17      | 2419            | 44      | 2446            | 71      | 2473            |
| 18      | 2420            | 45      | 2447            | 72      | 2474            |
| 19      | 2421            | 46      | 2448            | 73      | 2475            |
| 20      | 2422            | 47      | 2449            | 74      | 2476            |
| 21      | 2423            | 48      | 2450            | 75      | 2477            |
| 22      | 2424            | 49      | 2451            | 76      | 2478            |
| 23      | 2425            | 50      | 2452            | 77      | 2479            |
| 24      | 2426            | 51      | 2453            | 78      | 2480            |
| 25      | 2427            | 52      | 2454            |         |                 |
| 26      | 2428            | 53      | 2455            |         |                 |

### 3. Table for Filed Antenna:

LE / 2.4G SRD:

| Ant. | Brand | P/N                | Antenna Type | Connector | Gain (dBi) |
|------|-------|--------------------|--------------|-----------|------------|
| 1    | PSA   | RFPCA371112IMAB301 | PCB          | IPEX      | 4.75       |

## 2. GENERAL CONCLUSION

According to FCC KDB447498 D01, Appendix A, SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

| Appendix A - SAR Test Exclusion Thresholds for 100 MHz - 6 GHz<br>and $\leq 50$ mm |    |    |     |     |     |     |     |     |     |     |                                       |
|------------------------------------------------------------------------------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------------------|
| MHz                                                                                | 5  | 10 | 15  | 20  | 25  | 30  | 35  | 40  | 45  | 50  | mm                                    |
| 150                                                                                | 39 | 77 | 116 | 155 | 194 | 232 | 271 | 310 | 349 | 387 | SAR Test Exclusion<br>Thresholds (mW) |
| 300                                                                                | 27 | 55 | 82  | 110 | 137 | 164 | 192 | 219 | 246 | 274 |                                       |
| 450                                                                                | 22 | 45 | 67  | 89  | 112 | 134 | 157 | 179 | 201 | 224 |                                       |
| 835                                                                                | 16 | 33 | 49  | 66  | 82  | 98  | 115 | 131 | 148 | 164 |                                       |
| 900                                                                                | 16 | 32 | 47  | 63  | 79  | 95  | 111 | 126 | 142 | 158 |                                       |
| 1500                                                                               | 12 | 24 | 37  | 49  | 61  | 73  | 86  | 98  | 110 | 122 |                                       |
| 1900                                                                               | 11 | 22 | 33  | 44  | 54  | 65  | 76  | 87  | 98  | 109 |                                       |
| 2450                                                                               | 10 | 19 | 29  | 38  | 48  | 57  | 67  | 77  | 86  | 96  |                                       |
| 3600                                                                               | 8  | 16 | 24  | 32  | 40  | 47  | 55  | 63  | 71  | 79  |                                       |
| 5200                                                                               | 7  | 13 | 20  | 26  | 33  | 39  | 46  | 53  | 59  | 66  |                                       |
| 5400                                                                               | 6  | 13 | 19  | 26  | 32  | 39  | 45  | 52  | 58  | 65  |                                       |
| 5800                                                                               | 6  | 12 | 19  | 25  | 31  | 37  | 44  | 50  | 56  | 62  |                                       |

**3. TEST RESULTS**

| Tune up tolerance (dBm) |          |
|-------------------------|----------|
| LE                      | 2.4G SRD |
| ±1                      | ±1       |

For LE:

| Max. Output Power<br>(dBm) | Max. Output Power<br>(mW) | Limit<br>(mW) |
|----------------------------|---------------------------|---------------|
| 4.84                       | 3.05                      | 10            |

For 2.4G SRD:

| Max. Output Power<br>(dBm) | Max. Output Power<br>(mW) | Limit<br>(mW) |
|----------------------------|---------------------------|---------------|
| 4.85                       | 3.05                      | 10            |

Note:

- (1) Output power including tune up tolerance.
  - (2) The maximum measured output peak power of this EUT is 3.05 mW, less than 10mW at 5mm distance.
- Conclusion: No SAR evaluation required since transmitter power is below FCC threshold.

**End of Test Report**