

FCC RF EXPOSURE REPORT

FCC ID: RWO-RC30030702

Project No. : 1907C135
Equipment : Mechanical Keyboard
Brand Name : RAZER
Test Model : RC30-030702
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 : Jul. 25, 2019
Date of Test : Jul. 29, 2019 ~ Sep. 29, 2019
Issued Date : Apr. 17, 2020
Report Version : R01
Test Sample : Engineering Sample No.: DG190726119
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	Oct. 12, 2019
R01	Changed the product name, the address of applicant.	Apr. 17, 2020

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

Equipment	Mechanical Keyboard	
Brand Name	RAZER	
Test Model	RC30-030702	
Series Model	N/A	
Model Difference(s)	The system's model name is RZ03-0307XXXX-XXXX (X: Can be 0-9, A-Z), and the system is contain a Mechanical Keyboard (Model name: RC30-030702) and USB Dongle (Model name: DGRFG6).	
Hardware Version	Ver:1.6	
Software Version	Ver:1.0.0.2	
Power Source	1# Supplied from USB port. 2# Supplied from battery.	
Power Rating	1# DC 5V, 1200mA 2# DC 3.7V, 1100mAh	
Product Description for LE	Operation Frequency	2402 MHz ~ 2480 MHz
	Modulation Technology	GFSK
	Bit Rate of Transmitter	1Mbps / 2Mbps
	Max. Output Power	1Mbps: 1.36 dBm (0.0014 W) 2Mbps: 1.36 dBm (0.0014 W)
Product Description for 2.4G SRD	Operation Frequency	2403 MHz ~ 2479 MHz
	Modulation Technology	GFSK
	Bit Rate of Transmitter	2 Mbps
	Max. Output Power	1.77 dBm (0.0015 W)

Note:

1. 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)
01	2403	27	2429	53	2455
02	2404	28	2430	54	2456
03	2405	29	2431	55	2457
04	2406	30	2432	56	2458
05	2407	31	2433	57	2459
06	2408	32	2434	58	2460
07	2409	33	2435	59	2461
08	2410	34	2436	60	2462
09	2411	35	2437	61	2463
10	2412	36	2438	62	2464
11	2413	37	2439	63	2465
12	2414	38	2440	64	2466
13	2415	39	2441	65	2467
14	2416	40	2442	66	2468
15	2417	41	2443	67	2469
16	2418	42	2444	68	2470
17	2419	43	2445	69	2471
18	2420	44	2446	70	2472
19	2421	45	2447	71	2473
20	2422	46	2448	72	2474
21	2423	47	2449	73	2475
22	2424	48	2450	74	2476
23	2425	49	2451	75	2477
24	2426	50	2452	76	2478
25	2427	51	2453	77	2479
26	2428	52	2454		

3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	3.24

2. GENERAL CONCLUSION:

According to FCC KDB447498 D01, Appendix A, SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 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 ≤ 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 and ≤ 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 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	

Maximum measured transmitter power:

For LE:

Max. Output Power (dBm)	Max. Output Power (mW)	Limit (mW)
1.36	1.368	10

For 2.4G SRD:

Max. Output Power (dBm)	Max. Output Power (mW)	Limit (mW)
1.77	1.503	10

The maximum measured output peak power of this EUT is 1.503mW, less than 10mW at 5mm distance.

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold.

End of Test Report