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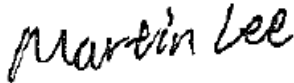
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RF Exposure Evaluation Report

Report No.: CQASZ20200600609E-02
Applicant: RNG International Inc
Address of Applicant: 17534 Von Karman Avenue, Irvine, CA 92614 -6208, USA
Equipment Under Test (EUT):
EUT Name: Renogy Bluetooth Module
Model No.: RCM-BT1, RCM-BT2
Test Model No. RCM-BT1
Brand Name: 
FCC ID: 2ANPBBT-1A1
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2020-07-13
Date of Test: 2020-07-13 to 2020-07-23
Date of Issue: 2020-07-23
Test Result: **PASS***

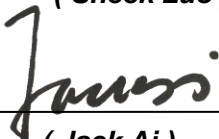
* In the configuration tested, the EUT complied with the standards specified above.

Tested By: 

(Martin Lee)

Reviewed By: 

(Sheek Luo)

Approved By: 

(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20200600609E-02	Rev.01	Initial report	2020-07-23

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3 General Information

3.1 Client Information

Applicant:	RNG International Inc
Address of Applicant:	17534 Von Karman Avenue, Irvine, CA 92614 -6208, USA
Manufacturer:	Renogy Suzhou Co., Ltd
Address of Manufacturer:	No.1 Peiyuan Rd., BLDG 5, 4th floor, New District, Suzhou, Jiangsu Province, 215000
Factory:	Renogy Suzhou Co., Ltd
Address of Factory:	No.1 Peiyuan Rd., BLDG 5, 4th floor, New District, Suzhou, Jiangsu Province, 215000

3.2 General Description of EUT

Product Name:	Renogy Bluetooth Module
Model No.:	RCM-BT1, RCM-BT2
Trade Mark:	
Hardware Version:	1.0
Software Version:	1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	40
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	SmartRF Studio 7 (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	1.5dBi
EUT Power Supply:	DC5V

Note:

Model No.: RCM-BT1, RCM-BT2

Only the model RCM-BT1 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being 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:

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

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

1) For BLE

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	2.81	2.0±1	3.0	1.995
Middle(2440MHz)	2.49	1.5±1	2.5	1.778
Highest(2480MHz)	2.38	1.5±1	2.5	1.778

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	2.81	2.0±1	3.0	1.995	0.618	3.0
Middle (2440MHz)	2.49	1.5±1	2.5	1.778	0.556	
Highest (2480MHz)	2.38	1.5±1	2.5	1.778	0.560	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200600609E-01.