



ITC Engineering Services

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April 1, 2014

To: TIMCO

Re: Submission for RondoMotion, Ref: TIMCO Job #414UC14

Please find attached the following responses to TIMCO response communication dated 03/21/2014:
SUBJECT: TIMCO-TCB/Request for additional info - DYSONICS, INC. –
FCC ID: 2AA7UDYSRM001 - JOB #: 414UC14:

- 1) This Transmittal Letter
- 2) **Question #1: CONFIDENTIALITY REQUEST:** The 731 form lists the filing to be Confidential; however a confidentiality request letter was not received. Please submit a request letter or a revised 731 form.

Response: Confidentiality requested has been removed from 731 Form. Revised 731 Form attached.

- 3) **Question #2: OPERATIONAL DESCRIPTION:** The Operational Description is a copy of the User Manual. Rule Part 2.1033(b)(4) states that an Operational Description should be: "A brief description of the circuit functions of the device along with a statement describing how the device operates. This statement should contain a description of the ground system and antenna, if any, used with the device." Please provide an updated Operational Description that is compliant with Rule Part 2.1033(b)(4).

Response: Operational Description exhibit is attached.

- 4) **Question #3: Item 14:** Please list the tested low and high frequencies of 2402 and 2480 MHz

Response: The tested low and high frequencies have been listed as advised to Item 14. Revised 731 Form attached as exhibit.

- 5) **Question #4a:** Pages 12, 15, 17, 20, 22, 23, 28, 31, 34, 36: Please list the calibration interval (1 year, 2 years, etc.).

Response: Calibration intervals have been listed as requested (please see item 8 below, for list of test report modifications). Revised test report attached as exhibit.

- 6) **Question #4b:** 15.33(a) The schematics show a 32 kHz crystal so you need to make emissions measurements starting at 9 kHz or 32 kHz. Please correct your test report.

Part 15.33(a) transmitters, if the transmitter has a crystal frequency below 30MHz the test report must show "Spurious Radiated Emissions" measurements starting at 9 kHz or at the crystal frequency. When you put this into your test report be sure to report that the measurements were made using a calibrated Loop Antenna and if the measurements greater than 20dB below the limit be sure to make this statement in the test report.

Response: Expanded frequency coverage has been added to test report Section 2 Radiated Emissions per FCC Part 15.209. Revised test report attached as exhibit.



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- 7) **Question #5: Part 2.1 and DA 00-705 for DSS:** Please describe how this device satisfies the definition of "Spread Spectrum Systems", in particular please revise test report or operational description exhibit to justify compliance with the following requirements:
- a. **Part 15.247(a)(1):** Please describe whether the system hops to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Provide an example of the hopping sequence channels per DA 00-705.
 - b. **Part 15.247(a)(1):** Please describe whether each frequency is used equally on the average by each transmitter (e.g., that each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event).
 - c. **Part 15.247(a)(1):** Please describe whether the system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and whether they shift frequencies in synchronization with the transmitted signals.

Response: The EUT utilizes a Texas Instruments CC2540 chipset operating with the Bluetooth v4.0 Low Energy protocol, as different from the Bluetooth (BR/EDR) protocol, and as such is not considered a frequency hopping or a spread spectrum system for purposes of compliance. Therefore the above questions do not apply.

- 8) Please see below list of test report modifications (N/C = No Change):

<u>Pg#</u>	<u>Change</u>
1	Title, total number of pages, test specification standard
2	TOC
3	TOC, List of Figures
4	List of Figures
5	1.2 Revision History
6	1.4 Condition of EUT, added 1.6 Operational Description of EUT
7	1.9 Summary of Tests
8	N/C
9	Figure 2
10	N/C
11	2.2 Test Equipment, 2.4 Limits/Requirements
12	2.5 Test Description and Procedure, 2.6 Test Data Plots, Figure 7
13	added A = ambient to figure
14	N/C
15	3.2 Test Equipment
16	N/C
17	4.2 Test Equipment, 4.4 Limits/Requirements, Figure 14
18	N/C
19	N/C
20	added 4.8 Carrier Frequency Separation Plot, Figure 18
21	5.2 Test Equipment, 5.4 Limits/Requirements, 5.6 Test Data Table
22	N/C
23	added 6 Gain of Transmission Antenna per FCC Part 15.247 (B)(4), 6.1 Limits/Requirements
24	7.2 Test Equipment
25	N/C
26	N/C



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Cont.

<u>Pg#</u>	<u>Change</u>
27	8.2 Test Equipment
28	N/C
29	9.2 Test Equipment
30	9.5 Test Description and Procedure
31-37	N/C
38	10.1 EUT Technical Specifications, 10.2 EUT Photos
39	N/C

N/C = No Change

We look forward to your response.

Sincerely,

ITC ENGINEERING SERVICES, INC.