

RF Exposure Report

Test Report Number	HME-23071962-LCG-FCC-IC-RFEXP
FCC ID	BYM1414
ISED ID	1860A-1414
Applicant	HM Electronics Inc
Applicant Address	2848 Whiptail Loop, Carlsbad, CA 92010 USA
Product Name	Wireless Beltpack
Model Number	1414
Date of Receipt	10/21/2024 – 12/13/2024
Date of Test	12/13/2024
Report Issue Date	12/13/2024
Test Standards	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 6 Dec 2023
Test Result	PASS
	<p>Issued by:</p> <p>Vista Compliance Laboratories 1261 Puerta Del Sol, San Clemente, CA 92673 USA www.vista-compliance.com</p>
<p>Lining</p> <hr/> <p>Lining Li (Test Engineer)</p>	<hr/> <p></p> <hr/> <p>David Zhang (Technical Manager)</p>

This report is for the exclusive use of the applicant. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Note that the results contained in this report pertain only to the test samples identified herein, and the results relate only to the items tested and the results that were obtained in the period between the date of initial receipt of samples and the date of issue of the report. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested and the results thereof based upon the information provided to us. The applicant has 60 days from date of issuance of this report to notify us of any material error or omission. Failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies. This report is not to be reproduced by any means except in full and in any case not without the written approval of Vista Laboratories.

Report# HME-23071962-LCG-FCC-IC-RFEXP

REVISION HISTORY

Report Number	Version	Description	Issued Date
HME-23071962-LCG-FCC-IC-RFEXP	01	Initial report	12/13/2024

Report#

HME-23071962-LCG-FCC-IC-RFEXP

TABLE OF CONTENTS

1	GENERAL INFORMATION	4
1.1	Applicant	4
1.2	Product information	4
1.3	Test standard and method	5
2	TEST SITE INFORMATION	5
3	FCC SAR EVALUATION	6
3.1	FCC SAR Test Exemption	6
3.2	FCC SAR Test Exclusion Threshold Results	6
4	ISED SAR EVALUATION	7
4.1	ISED Exemption Limits for Routine Evaluation – SAR Evaluation	7
4.2	ISED SAR Test Exclusion Threshold Results	8

Report#

HME-23071962-LCG-FCC-IC-RFEXP

1 General Information

1.1 Applicant

Applicant	HM Electronics Inc
Applicant Address	2848 Whiptail Loop, Carlsbad, CA 92010 USA
Manufacturer	HM Electronics Inc
Manufacturer Address	2848 Whiptail Loop, Carlsbad, CA 92010 USA

1.2 Product information

Product Name	Wireless Beltpack
Model Number	1414
Family Models	N/A
Serial Number	067DD41F
Frequency Band	Bluetooth BDR/EDR/BLE: 2402-2480MHz DECT radio: 1920-1930MHz
Type of modulation	Bluetooth BDR/EDR: GFSK, $\pi/4$ DQPSK, 8DPSK Bluetooth BLE: GFSK DECT: GFSK
Equipment Class	DTS, PUT
Antenna Information	Bluetooth: Integral PCB/Printed Inverted-F quarter wave antenna, 1.5 dBi peak gain DECT radio: two Integral antennas, - PCB/Printed Inverted-F quarter wave antenna, 2.2 dBi peak gain Plated Inverted-F, soldered onto PCB, 2.35 dBi peak gain
Clock Frequencies	N/A
Input Power	Detachable/Rechargeable Li-ion battery, 3.6VDC
Power Adapter Manufacturer/Model	N/A
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Simultaneous Transmission	BLE and DECT can transmit simultaneously which has been evaluated in current report
Additional Info	EUT has two antenna ports for TX diversity.

Report#

HME-23071962-LCG-FCC-IC-RFEXP

1.3 Test standard and method

Test standard	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 6 Dec 2023
Test method	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 6 Dec 2023 447498 D01 General RF Exposure Guidance v06

2 Test Site Information

Lab performing tests	Vista Laboratories, Inc.
Lab Address	1261 Puerta Del Sol, San Clemente, CA 92673 USA
Phone Number	+1 (949) 393-1123
Website	www.vista-compliance.com

3 FCC SAR Evaluation

3.1 FCC SAR Test Exemption

According to the procedure in KDB447498 (v05r02) section 4.3,

1g-SAR testing is excluded if the following criteria is met.

$$(P/d) * \sqrt{f} \leq 3.0 \text{ for 1-g SAR}$$

10g-SAR testing is excluded if the following criteria is met.

$$(P/d) * \sqrt{f} \leq 7.5 \text{ for 10-g SAR}$$

Where

P is the time averaged maximum conducted power in mW

d minimum separation distance in mm

f is the frequency in GHz

3.2 FCC SAR Test Exclusion Threshold Results

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Max E.I.R.P (dBm)	Maximum Source-based Duty Cycle (%)	Max source-based average output power (mW)	Measurement distance (mm)	Test Exclusion Threshold Result
Bluetooth	2402-2480	6.156	7.656	100%	5.135	5	1.836
DECT	1920-1930	20.51	22.86	4.2 %	8.114	5	2.254

Note:

1. DECT uses TDMA access with 24 timeslots in a 10 mS windows. The duty cycle is calculated as $4.2\% = (1/24 \times 100\%)$.
2. EUT is a beltpack device is a wearable device that will be clipped onto the belt using the built-in belt clip. The shortest distance between the antenna to wearer's body is 26.743 mm. A conservative separation distance of 5 mm is used for calculation in this report.

Conclusion: EUT is exempted for FCC SAR test.

4 ISED SAR Evaluation

4.1 ISED Exemption Limits for Routine Evaluation – SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance

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 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	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 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

Report#

HME-23071962-LCG-FCC-IC-RFEXP

4.2 ISED SAR Test Exclusion Threshold Results

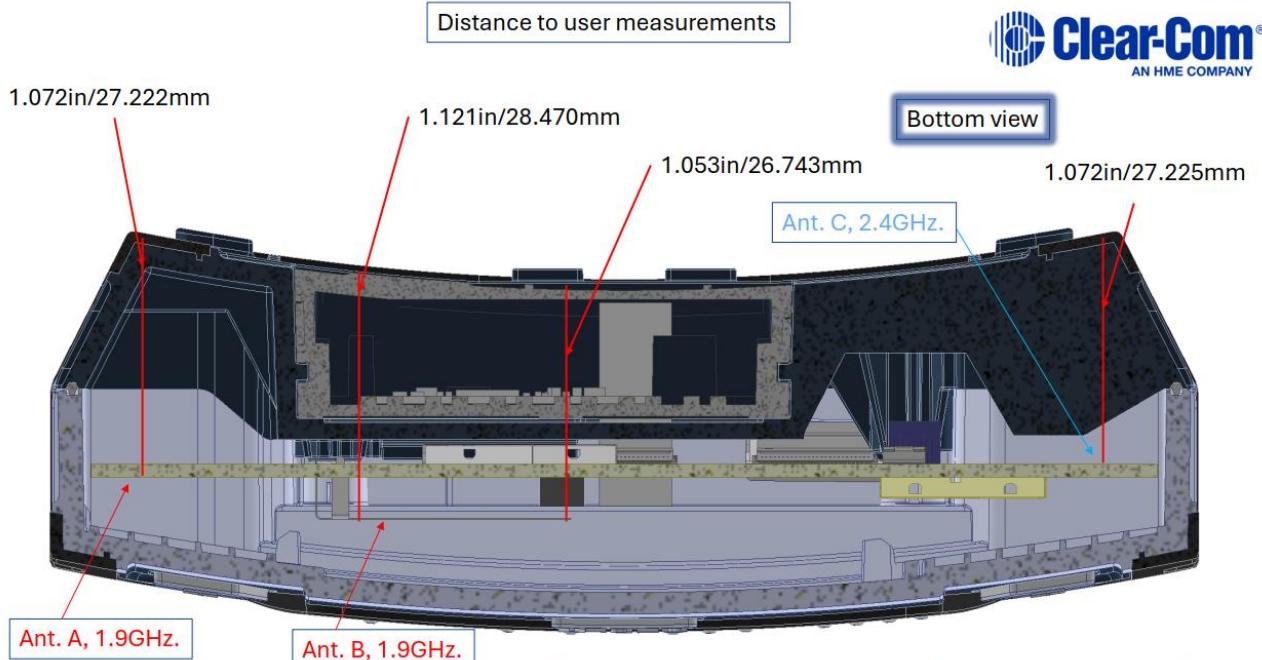
Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Max E.I.R.P (dBm)	Maximum Source-based Duty Cycle (%)	Time averaged source-based average output power (mW)	Separation distance (mm)
Bluetooth	2402-2480	6.156	7.656	100%	5.135	10
DECT	1920-1930	20.51	22.86	4.2 %	8.114	10

Note:

1. DECT uses TDMA access with 24 timeslots in a 10 mS windows. The duty cycle is calculated as $4.2\% = (1/24 \times 100\%)$.
2. EUT is a beltpack device is a wearable device that will be clipped onto the belt using the built-in belt clip. The shortest distance between the antenna to wearer's body is 26.743 mm. A conservative separation distance of 10 mm is used for ISED calculation in this report.

Conclusion: EUT's time averaged output power is less than the exemption limit at 10 mm. EUT is exempted for ISED SAR test.

Annex – 1414 - Phoenix_Antenna Measurements and Info



The above information is evaluated against the applicable FCC regulations and is submitted for consideration.

---END---