



**FCC Part 1 Subpart I
FCC Part 2 Subpart J
INDUSTRY CANADA RSS 102 ISSUE 5**

RF EXPOSURE REPORT

FOR

Wireless Health Monitor

MODEL NUMBER: VitalPatch 1.5

REPORT NUMBER: 11613188-E5V1

ISSUE DATE: March 1, 2017

Prepared for
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NVLAP[®]

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Revision History

| Rev. | Issue Date | Revisions | Revised By |
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Vital Connect Inc.
900 E. Hamilton Ave., Suite 500
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EUT DESCRIPTION: Wireless Health Monitor

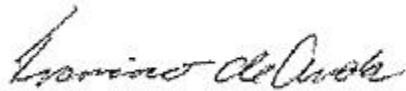
MODEL: VitalPatch 1.5

| APPLICABLE STANDARDS | |
|---|--------------|
| STANDARD | TEST RESULTS |
| FCC PART 1 SUBPART I & PART 2 SUBPART J | Pass |
| INDUSTRY CANADA RSS 102 ISSUE 5 | Pass |

UL Verification Services Inc. calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Approved & Released For
UL Verification Services Inc. By:



FRANCISCO DE ANDA
PROGRAM MANAGER
UL Verification Services Inc.

2. TEST METHODOLOGY

All calculations were made in accordance with FCC KDB 447498 and IC RSS-102 Issue 5.

3. REFERENCES

Output power, Duty cycle and Antenna gain data is provide by the manufacturer.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

5. IC EXEMPTION

INDUSTRY CANADA EXEMPTION

RSS-102 Clause 2.5.2 RF exposure evaluation is required if the separation distance between the user and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

6. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

6.1. FCC

SAR test exclusion in accordance with KDB 447498.

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:

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

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.

SAR Exclusion Calculations Table for Portable Devices (separation distance < 20 cm)

| Antenna | Tx | Frequency (MHz) | Avg Output power | | Separation distances (mm) | Calculated Threshold |
|---------|-----|-----------------|------------------|----|---------------------------|----------------------|
| | | | dBm | mW | | |
| Main | BLE | 2402 | 6.79 | 5 | 5 | 1.5 |

Conclusion:

The computed value is < 3 ; therefore, BLE qualifies for Standalone SAR test exclusion.

6.2. INDUSTRY CANADA

Industry Canada notice 2013 DRS0911 states that the SAR exclusion limits contained in RSS-102 issue 5 are accepted. The SAR exclusion table from RSS-102 issue 5 is reproduced below:

Table 1: SAR evaluation - exemption limits for routine evaluation based on frequency and separation distance.

| Frequency MHz | Exemption Limits (mW) | | | | |
|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | At separation distance of ≤5mm | At separation distance of 10mm | At separation distance of 15mm | At separation distance of 20mm | At separation distance of 25mm |
| ≤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 30mm | At separation distance of 35mm | At separation distance of 40mm | At separation distance of 45mm | At separation distance of ≥50mm |
| ≤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 |

The minimum antenna to user distance that will be encountered in normal use is <5mm. This results in an exemption limit of 4mW at 2450 MHz.

The worst case overall duty cycle is in connected mode. Time between two connection data transmission events is at least 7.5ms. Each packet that is 30 bytes of payload at most, will take at most 320us, so;

$$\text{duty_cycle} = \frac{3 * (320\mu\text{s})}{7.5\text{ms}} = 0.3$$

This corresponds to an average conducted power of;

$$\text{Average output power} = 5\text{mW} * \text{duty_cycle} = 5\text{mW} * 0.3 = \underline{1.5\text{mW}}$$

Antenna gain= 0.2dBi, therefore EIRP= 1.57mW

In worst case mode, average EIRP is 1.57mW which is well below the threshold of 4mW. the DUT is exempt from SAR testing.

END OF REPORT