



## Radio Frequency Exposure Evaluation Report

**FOR:** Livongo Health Inc.

Model Name: BG300

**Product Description:** Read Blood Glucose (BG) and transmit to cloud based applications for storage and interpretation. Store and report BG readings to user.

**FCC ID:** 2AA92LV02062

Applied Rules and Standards:

CFR 47 Part 2.1093

FCC KDB 447498 D01 General RF Exposure Guidance v06

Test Report #: SAR\_EX\_KORET-017-18001\_FCC\_REV\_1

**DATE:** 06/26/2018



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IC recognized #  
3462B-2

**CETECOM Inc.**

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## 1. Assessment

The following device was evaluated against the limits for general population uncontrolled exposure specified in CFR 47 Part 2.1093 according to SAR evaluation exclusion requirements specified in FCC regulation as listed in KDB 447498.

The device meets the requirements for SAR exclusion as stipulated by the above given FCC/ISED rules and PAG number: 449002.

### Responsible for Testing Laboratory:

06/26/2018	Compliance	James Donnellan (Lab Manager)	
<b>Date</b>	<b>Section</b>	<b>Name</b>	<b>Signature</b>

### Responsible for the Report:

06/26/2018	Compliance	Issa Ghanma (EMC Engineer)	
<b>Date</b>	<b>Section</b>	<b>Name</b>	<b>Signature</b>

The test results of this test report relate exclusively to the test item specified in Section 3.

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## 2. Administrative Data

### 2.1. Identification of the Testing Laboratory Issuing the Test Report

<b>Company Name:</b>	CETECOM Inc.
<b>Department:</b>	Compliance
<b>Street Address:</b>	411 Dixon Landing Road
<b>City/Zip Code</b>	Milpitas, CA 95035
<b>Country</b>	USA
<b>Telephone:</b>	+1 (408) 586 6200
<b>Fax:</b>	+1 (408) 586 6299
<b>Compliance Manager:</b>	James Donnellan
<b>Responsible Project Manager:</b>	Cathy Palacios

### 2.2. Identification of the Client

<b>Applicant's Name:</b>	Livongo Health Inc.
<b>Street Address:</b>	15 W. Evelyn Ave, Suite 150
<b>City/Zip Code</b>	Mountain View, CA 94041
<b>Country</b>	USA

### 2.3. Identification of the Manufacturer

<b>Applicant's Name:</b>	Same as applicant
<b>Street Address:</b>	-----
<b>City/Zip Code</b>	-----
<b>Country</b>	-----

### 3. Equipment under Assessment

<b>Marketing name:</b>	Livongo Meter		
<b>S/N:</b>	BG3001816200078		
<b>Hardware Version:</b>	C		
<b>Software Version:</b>	2.4		
<b>Module Name:</b>	Telit 910C1-NA		
<b>Module Number:</b>	LE910C1N501T0A1		
<b>Module FCC ID:</b>	RI7LE910C1NA		
<b>Max. documented values from the modular grant:</b>	<b>Band</b>	<b>Frequency range (MHz)</b>	<b>Output Power (Watts)</b>
	GSM 850	824.0 – 849.0	2.228435
	GSM 1900	1850.0 – 1910.0	0.986279
	WCDMA II	1850.0 – 1910.0	0.238232
	WCDMA IV	1710.0 – 1755.0	0.285102
	WCDMA V	824.0 – 849.0	0.229615
	LTE 2	1850.0 – 1910.0	0.231
	LTE 4	1710.0 – 1755.0	0.273
	LTE 12	699.0 – 716.0	0.215
<b>Minimum distance of antenna or radiating parts to user</b>	5mm		
<b>Operating Voltage Range:</b>	Low 4.75 V / Nominal 5 V / High 5.25 V		
<b>Operating Temperature Range:</b>	Low 5 °C – High 45°C		
<b>Other Radios included in the device:</b>	-----		
<b>EUT Dimensions (cm) :</b>	9.6 (L) X 5.7 (W) X 1.77		
<b>Weight (grams) :</b>	~75		
<b>Co-located Transmitters/ Antennas:</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Exposure Category:</b>	<input type="checkbox"/> Occupational/ Controlled <input checked="" type="checkbox"/> General Population/ Uncontrolled		

<b>Device Category</b>	<input type="checkbox"/> Fixed Installation <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Mixed Mobile and Portable
<b>EUT Diameter</b>	<input checked="" type="checkbox"/> < 60 cm <input type="checkbox"/> Other _____
<b>Sample Revision</b>	<input type="checkbox"/> Prototype Unit; <input checked="" type="checkbox"/> Production Unit; <input type="checkbox"/> Pre-Production

#### 4. FCC Exemption Limits for Routine Evaluation

##### 4.1. FCC SAR test exclusions are set by KDB 447498 D01 General RF Exposure Guidance v06

KDB 447498 Section: 4.3.1. Standalone SAR test exclusion considerations

a) For 100 MHz to 6 GHz and test separation distances  $\leq 50$  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  $\leq 7.5$  for 10-g extremity SAR, 30 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 values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  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 according to 4.1 f) is applied to determine SAR test exclusion.

## 5. Stand-Alone SAR Evaluation Exclusion

- According to the client's SAR Test Exclusion Justification:  
The worst case Duty Factor can be calculated as:  
 $(20 \text{ second connection setup} + 0.453 \text{ second Tx}) / (2 \text{ hours} * 3600 \text{ seconds/hour}) = 0.0028$
- According to KDB 447498, SAR evaluation can be excluded if the following equation is satisfied:

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

FCC Standalone Transmission SAR Exclusion Calculations					
Frequency [GHz]	Max. Output Power [mW]	Distance [mm]	P/D*SQRT(F) at 5mm	Corrected duty factor	$\leq 3.0$
0.8488	2228.435	5	410.61	1.15	Yes
1.88	986.279	5	270.46	0.76	Yes
1.8524	238.232	5	64.85	0.18	Yes
1.7326	285.102	5	75.05	0.21	Yes
0.8264	229.615	5	41.75	0.12	Yes
1.8507	231	5	62.85	0.18	Yes
1.71	273	5	71.40	0.20	Yes
0.7145	215	5	36.35	0.10	Yes

- F: Frequency.
- P: Max. Output Power [mW].
- D: Distance.
- X: Min Distance to pass.
- SQRT(F): Square root(Frequency)

**6. Revision History**

Date	Report Name	Changes to report	Report prepared by
06/22/2018	SAR_EX_KORET-017-18001_FCC	Initial Version	Issa Ghanma
06/26/2018	SAR_EX_KORET-017-18001_FCC_REV_1	Correct FCC ID	Issa Ghanma