



Radio Frequency Exposure Evaluation Report

FOR:

KORE Wireless Inc.

Model Name:

iGlucose GM291-v2

Product Description:

Cellular Blood Glucose Meter

FCC ID: 2AHYZGM291CAT-M1

Applied Rules and Standards:

CFR 47 Part 2.1093

FCC KDB 447498 D01 General RF Exposure Guidance v06

Test Report #: EMC_KORET-019-19001_FCC_SAR_EX_Rev2

DATE: 2020-02-07



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IC recognized #
3462B-1

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1. Assessment

The following device meets the limits of 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, as it has been evaluated against the standards mentioned above under this section.

Responsible for the Report:

2020-02-07	Compliance	Kris Lazarov (Sr. EMC Engineer)	
Date	Section	Name	Signature

The test results of this test report relate exclusively to the test item specified in Section 3. CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM Inc. USA.

2. Administrative Data

2.1. Identification of the Testing Laboratory Issuing the Test Report

Company Name:	CETECOM Inc.
Department:	Compliance
Street Address:	411 Dixon Landing Road
City/Zip Code	Milpitas, CA 95035
Country	USA
Telephone:	+1 (408) 586 6200
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Compliance Manager:	Cindy Li
Responsible Project Manager:	Rami Saman

2.2. Identification of the Client / Manufacturer

Client's Name:	KORE Wireless Inc.
Street Address:	161 Protage Avenue, Suite 300
City/Zip Code	Winnipeg, MB / R3B 2L6
Country	Canada

3. Equipment under Assessment

Model No:	iGlucose GM291-v2
HW Version :	17006-1-REV-C1
SW Version :	V1.5.0
FCC-ID:	FCC ID: 2AHYZGM291CAT-M1
Minimum distance of antenna or radiating parts to user	5mm
Operating Temperature Range:	10°C ~ 40°C
Modes of Operation:	LTE Cat-M
Radios included in the device:	❖ <u>LTE</u> <ul style="list-style-type: none"> • Module name: u-blox, SARA-R410-02B CAT-M Antenna: <6dBi(based on OTA measurement)
EUT Dimensions [mm]:	<ul style="list-style-type: none"> • 104 × 49.8 × 16.5
Co-located Transmitters/ Antennas:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Exposure Category:	<input type="checkbox"/> Occupational/ Controlled <input checked="" type="checkbox"/> General Population/ Uncontrolled
Device Category:	<input type="checkbox"/> Fixed Installation <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Mixed Mobile and Portable
EUT Diameter:	<input checked="" type="checkbox"/> < 60 cm <input type="checkbox"/> Other _____
Sample Revision	<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 ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

$$\leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- $f(\text{GHz})$ 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 ≤ 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

5.1. Justification for using the 5 mm Distance

The conservative distance of 5 mm is an estimate of how close a human body can be to the device in its typical application.

5.2. SAR Exclusion Calculation Table

According to KDB 447498, SAR evaluation can be excluded if the following equation is satisfied:

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

FCC Standalone Transmission SAR Exclusion Calculations									
Band	Frequency [GHz]	Max Output Power [mW]	Source Based Duty Cycle	Load based duty cycle based on Maximum payload	Distance [mm]	Safe distance only source based DC [mm]	Effective Time Average Max Power [mW]	P/D*SQRT(F) at ≤ 5mm	1-g ≤ 3.0
LTE Band 2	1.85	302.00	1.00	0.036	5	136.92	10.87	2.96	Pass
LTE Band 4	1.71	245.00	1.00	0.036	5	106.79	8.82	2.31	Pass
LTE Band 12	0.699	269.00	1.00	0.036	5	74.97	9.68	1.62	Pass

- F: Frequency [GHz]
- P1: Max. Measured Output Power [mW]
- D: Distance [mm]
- SQRT(F): Square root(Frequency[GHz])
- Based on customer's declaration, "The resulting maximum duty cycle originating from our device is DC = 0.036"



6. Revision History

Date	Report Name	Changes to report	Report prepared by
2019-11-26	EMC_KORET-019-19001_FCC_ISED_SAR_EX	Initial Version	Kevin Wang
2020-01-09	EMC_KORET-019-19001_FCC_SAR_EX_Rev1	Update relevant data based on the load based duty cycle 0.036 declared by customer; Remove evaluation of ISED standard	Kevin Wang
2020-02-07	EMC_KORET-019-19001_FCC_SAR_EX_Rev2	Change to Smart Meters own FCC ID as the certification strategy has changed from C2PC to module to new grant under Smart Meter	Kris Lazarov