



Nemko Test Report: 2014_255192_FCC_15249

Applicant: DexCom, Inc.
6340 Sequence Drive
San Diego, CA 92121
USA

**Equipment Under Test:
(E.U.T.)** G4 PLATINUM Receiver with Share

FCC Identifier: PH29495

In Accordance With: **FCC Part 15, Subpart C, 15.249 and
Industry Canada RSS-210, Issue 8**
Operation within the bands 902-928 MHz,
2400-2483.5 MHz, 5725-5875 MHz, and
24.0-24.25 GHz.

Tested By: Nemko USA Inc.
2210 Faraday Ave.
Suite 150
Carlsbad, CA 92008

TESTED BY:




David Light, Wireless Engineer

DATE:

25 April 2014

APPROVED BY:



Bruce Ketterling, EMC Manager

DATE:

03 June 2014

Total Number of Pages: 15

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EQUIPMENT: G4 PLATINUM Receiver
with Share

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Section 1. Summary Of Test Results

Manufacturer: DexCom, Inc.

Model No.: G4 PLATINUM Receiver with Share

Serial No.: SM41283243BLK (Conducted)
SM41283245 (Radiated)

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with CFR 47 Part 15.249 and Industry Canada RSS-210 Issue 8. All tests were conducted using measurement procedure ANSI C63.4-2003. Radiated Emissions were made on an open area test site.

- | | | | |
|-------------------------------------|----------------------------|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | New Submission | <input checked="" type="checkbox"/> | Production Unit |
| <input type="checkbox"/> | Class II Permissive Change | <input type="checkbox"/> | Pre-Production Unit |

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".



NVLAP Lab Code 200116-0

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Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Conducted Emissions	15.207 / RSS-Gen 7.2.4	NA
Radiated Emissions	15.249(a) / RSS-210 A2.9	Complies
Receiver Spurious Emissions	RSS-Gen 7.2.2	NA
Occupied Bandwidth	15.215(c) / RSS-Gen 4.6.3	Complies

Footnotes For N/A's:

The transmitter is battery powered.

The EUT operates above 960 MHz.

Nemko USA, Inc.

CFR 47, PART 15, SUBPART C, Paragraph 15.249
and RSS-210 Issue 8

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and 24.0-24.25 GHz.

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Section 2. General Equipment Specification

Frequency Band (MHz):	902-928	2400-2483.5	5725-5850
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Operating Frequency of Test Sample: 2402 to 2480 MHz

User Frequency Adjustment: Software controlled

Description of EUT

The Gen4 Global Receiver is non-Life-Supporting Bluetooth LE Glucose Meter.

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Section 3. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: FCC 15.249(a) RSS-210 A2.9
TESTED BY: David Light	DATE: 24 April 2014

Minimum Standard:

(a) The field strengths shall not exceed the following:

Carrier (MHz)	Field Strength (mV/m)	Field Strength (dB μ V)	Harmonic (μ V/m)	Harmonic (dB μ V)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54
24000-24250	250	108	2500	68

(b) Field strength limits are specified at a distance of 3 meters.

(c) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limits of 15.209 whichever is the less attenuation.

(d) ...for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Test Results: Complies. The worst case emission was 97.8 dB μ V/m at 2402 MHz. This is 16.2 dB below the peak specification limit.

Measurement Data: See attached table(s).

This device was tested with a fresh battery.

This device was tested from 30 MHz to the tenth harmonic of the carrier.

RBW=VBW=100 kHz < 1000 MHz Peak Detector
 RBW= 1 MHz / VBW=3 MHz > 1000 MHz Peak Detector

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Test Data - Radiated Emissions

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Duty Cycle (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
2480.0	V	0	91.1	28.8	9.4	31.8	97.5	114.0	-16.5	Pass	Peak
2480.0	V	-20	91.1	28.8	9.4	31.8	77.5	94.0	-16.5	Pass	Average
2440.0	V	0	87.0	28.8	9.4	31.8	93.4	114.0	-20.6	Pass	Peak
2440.0	V	-20	87.0	28.8	9.4	31.8	73.4	94.0	-20.6	Pass	Average
2402.0	V	0	87.4	28.8	9.4	31.8	93.8	114.0	-20.2	Pass	Peak
2402.0	V	-20	87.4	28.8	9.4	31.8	73.8	94.0	-20.2	Pass	Average
2480.0	H	0	91.4	28.8	9.4	31.8	97.8	114.0	-16.2	Pass	Peak
2480.0	H	-20	91.4	28.8	9.4	31.8	77.8	94.0	-16.2	Pass	Average
2440.0	H	0	89.7	28.8	9.4	31.8	96.1	114.0	-17.9	Pass	Peak
2440.0	H	-20	89.7	28.8	9.4	31.8	76.1	94.0	-17.9	Pass	Average
2402.0	H	0	87.8	28.8	9.4	31.8	94.2	114.0	-19.8	Pass	Peak
2402.0	H	-20	87.8	28.8	9.4	31.8	74.2	94.0	-19.8	Pass	Average

The duty cycle correction is calculated based on manufacturer's declaration that the EUT will not transmit for greater than 2 ms in 100 ms.

$$20 \log (2/100) = -33.98 \text{ dB}$$

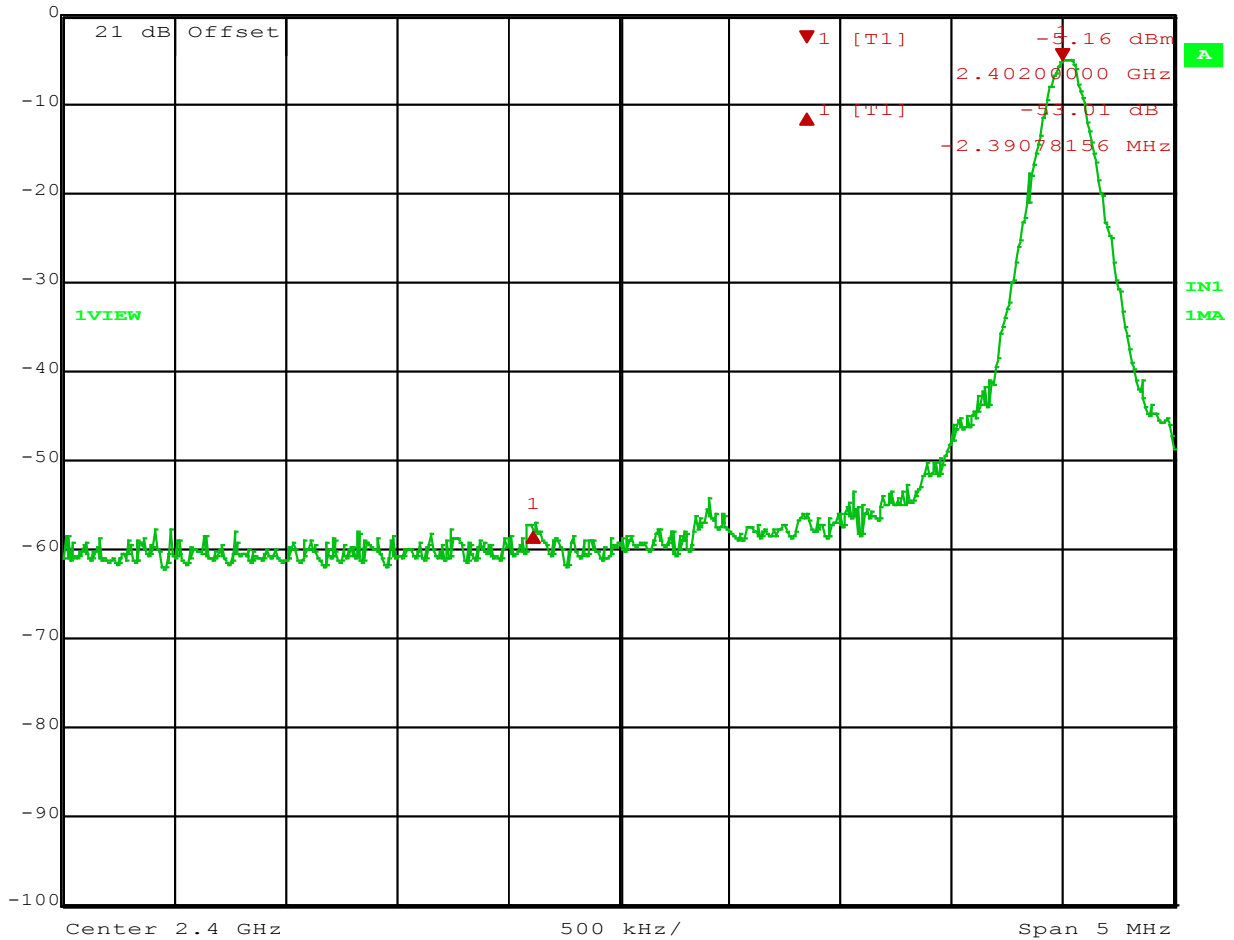
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Test Data – Band Edges



	Delta 1 [T1]	RBW	100 kHz	RF Att	10 dB
Ref Lvl	-53.01 dB	VBW	100 kHz		
0 dBm	-2.39078156 MHz	SWT	5 ms	Unit	dBm



Date: 25.APR.2014 15:46:18

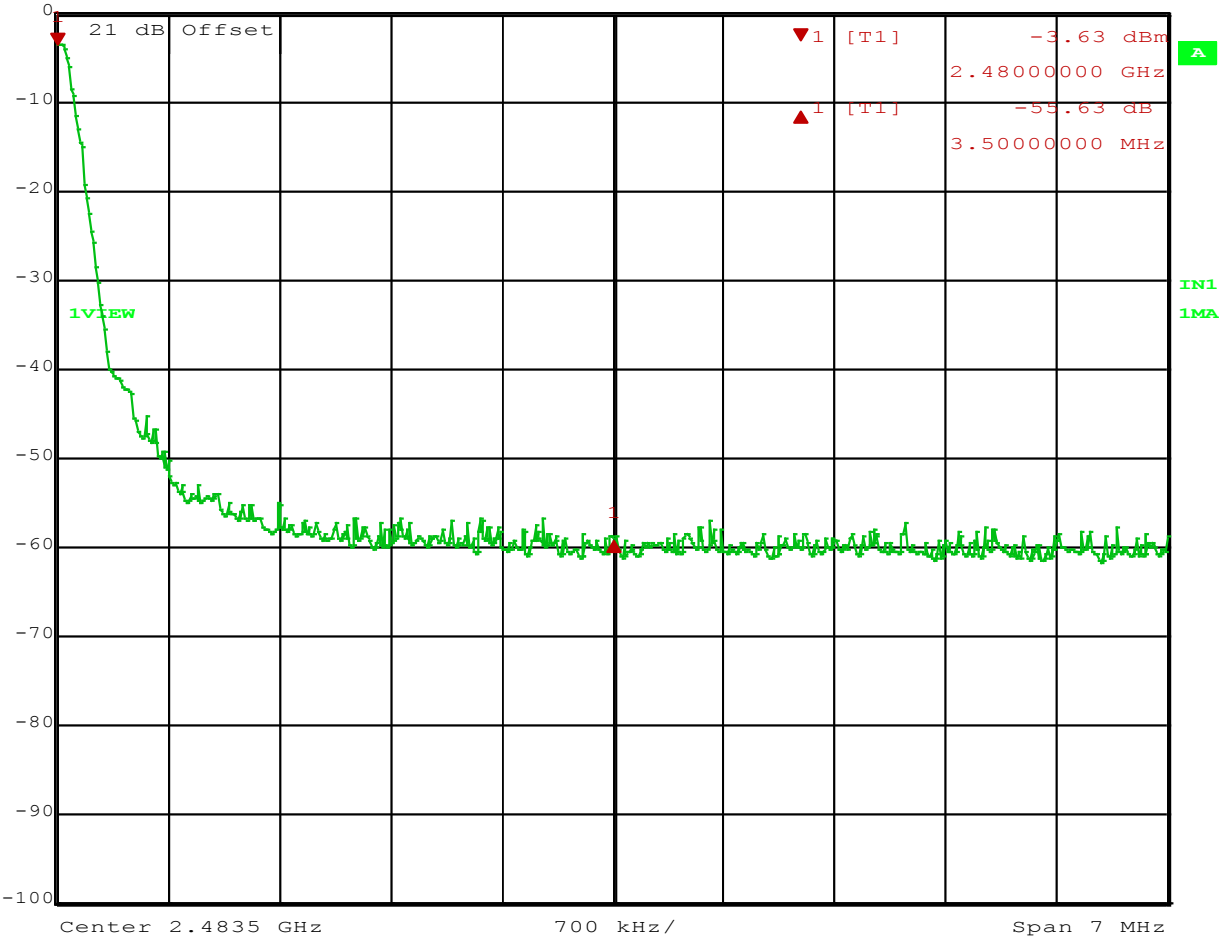
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Test Data – Band Edges



	Delta 1 [T1]	RBW	100 kHz	RF Att	10 dB
Ref Lvl	-55.63 dB	VBW	100 kHz		
0 dBm	3.50000000 MHz	SWT	5 ms	Unit	dBm



Date: 25.APR.2014 15:48:08

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Section 4. Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: FCC 15.215(c) RSS-Gen 4.6.3
TESTED BY: David Light	DATE: 25 April 2014

Minimum Standard:

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

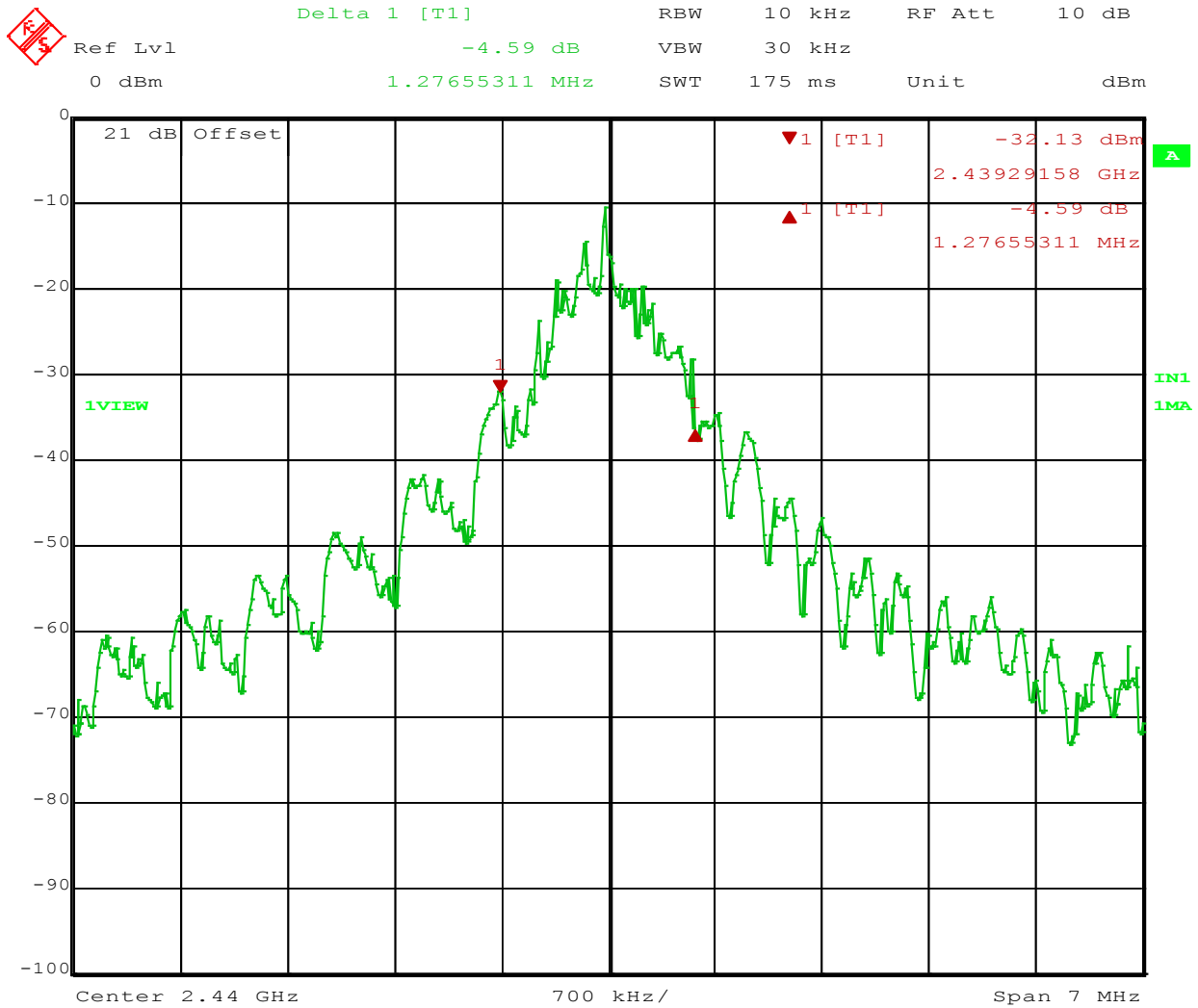
Test Results: Complies.

Measurement Data: See attached Graph(s)

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Test Data – Occupied Bandwidth



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Section 5. Test Equipment List

Asset Tag	Description	Manufacturer	Model	Serial #	Last Cal	Next Cal
529	Antenna, DRWG	EMCO	3115	2505	31-Oct-2012	31-Oct-2014
902	pre amp	Sonoma	310 N	185803	29-Jul-2013	29-Jul-2014
911	Spectrum Analyzer	Agilent	E4440A	US41421266	21-Jan-2014	21-Jan-2015
1016	Preamplifier	Hewlett Packard	8449A	2749A00159	20-Aug-2013	20-Aug-2014
1480	Antenna, Bilog	Schaffner- Chase	CBL6111C	2572	02-Apr-2014	02-Apr-2015
1036	Spectrum Analyzer	Rohde & Schwarz	FSEK30	830844/006	15-July-2013	15-July-2015

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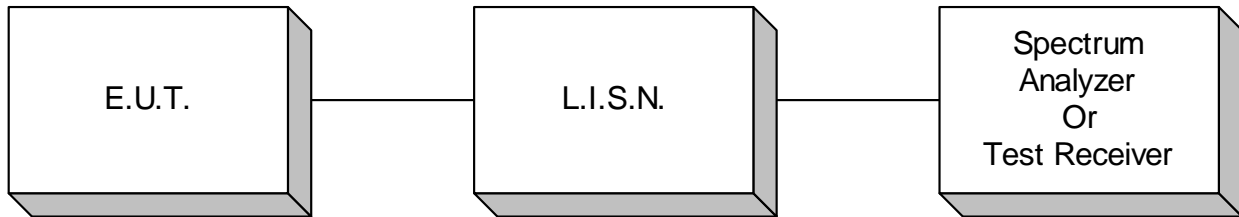
ANNEX A

TEST DIAGRAMS

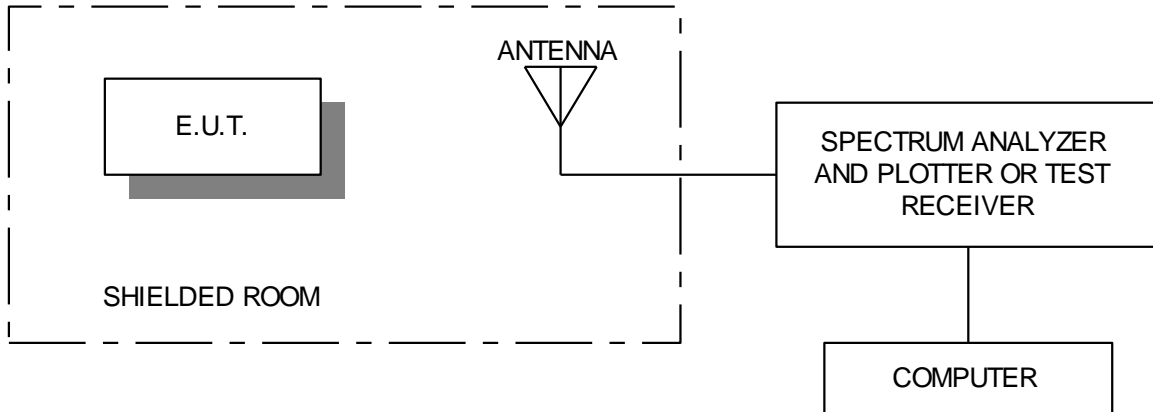
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Conducted Emissions



Radiated Prescan



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Test Site For Radiated Emissions

