

Electromagnetic Emission Compliance Report for FCC Certification

Test Report No. : E12DR-021

AGR No. : A12DA-010

Applicant : SD Biosensor, Inc
Address : C-4th&5th Floor Digital Empire Building 980-3, Yeongtong-dong, Yeongtong-gu, Suwon-si, Kyonggi-do, Korea

Manufacturer : SD Biosensor, Inc
Address : C-4th&5th Floor Digital Empire Building 980-3, Yeongtong-dong, Yeongtong-gu, Suwon-si, Kyonggi-do, Korea

Type of Equipment : SD GlucoNavii® NFC Blood Glucose Meter
(Part 15 Class B Computing Device Peripheral)

Model Name : 01GM40

FCC ID. : RPJ01GM40

Serial number : N/A

Total page of Report : 11 pages (including this page)

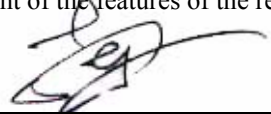
Date of Incoming : November 27, 2012

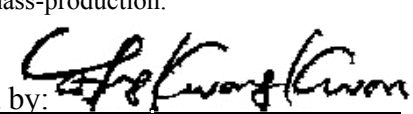
Date of Issuing : December 13, 2012

SUMMARY

The equipment complies with the requirement of *FCC CFR 47 PART 15 SUBPART B, Section 15.101*.

This test report contains only the results of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
E12DR-021	December 13, 2012	Initial Issue	All

1. VERIFICATION OF COMPLIANCE

APPLICANT : SD Biosensor, Inc
ADDRESS : C-4th&5th Floor Digital Empire Building 980-3, Yeongtong-dong, Yeongtong-gu, Suwon-si, Kyonggi-do, Korea
CONTACT PERSON : Kim Jae Young / Instrument Development team manager
TELEPHONE NO : +82-31-300-0499
FCC ID : RPJ01GM40
MODEL NO/NAME : 01GM40
SERIAL NUMBER : N/A
DATE : December 13, 2012

EQUIPMENT CLASS	JBP - Part 15 Class B Computing Device Peripheral
E.U.T. DESCRIPTION	SD GlucoNavii® NFC Blood Glucose Meter - Unintentional Radiator
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4: 2009
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15, SECTION 15.101
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	10m Semi anechoic chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The SD Biosensor, Inc, Model 01GM40 (referred to as the EUT in this report) is a SD GlucoNavii® NFC Blood Glucose Meter has NFC function and USB port. This report covers for PC peripheral device only and NFC function will be covered by another test report. Product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1 MHz)	8 MHz
Electrical Rating	Max 3 Vdc, 10 mA
EXTERNAL CONNECTOR	3.5 Pi 3 pole stereo jack, Customized sensor connector

2.2 Model Differences

-. None

2.3 Related Submittal(s) / Grant(s)

-. Original submittal only

2.4 Test System Details

The model numbers for all the equipments that were used in the tested system is:

Model	Manufacturer	FCC ID	Description	Connected to
01GM40	SD Biosensor, Inc	RPJ01GM40	SD GlucoNavii® NFC Blood Glucose Meter (EUT)	Notebook PC
PP21L	DELL	DoC	Notebook PC	EUT
ADP-65HB AD	DELTA Electronics. Inc.	N/A	Notebook PC adaptor	Notebook PC
U2312HMT	DELL	DoC	Monitor	Notebook PC
1366	Microsoft	DoC	USB Keyboard	Desktop PC
MOC5U0	DELL	DoC	USB Mouse	Desktop PC

2.5 Cable Description for the Test System

Cable	Shielded	Ferrite Bead	Metal Shell	Length (m)	Connected to
Stereo jack	Y	Y	Y	0.5	NOTEBOOK PC
Video	Y	N	Y	1.2	NOTEBOOK PC
Keyboard	Y	N	Y	1.5	NOTEBOOK PC
Mouse	Y	N	Y	1.5	NOTEBOOK PC
Adapter	N	N	N	1.2	NOTEBOOK PC

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2009. Radiated testing was performed at a distance of 10 m from EUT to the antenna up to 1 GHz.

2.6 Test Facility

The Electromagnetic compatibility measurement facilities are located on at 301-14, Daessangryung-ri, Chowol-eup, Gwangju-si, Gyeonggi-do, 464-862, Korea. The Onetech Corp. has been accredited as a Conformity Assessment Body (CAB) with designation Number, KR0013.

3. SYSTEM TEST CONFIGURATION

3.1 Mode of operation during the test

-. The EUT was connected to the Stereo jack port of notebook PC and transmit the data to notebook PC continuously through the USB port during the test.

3.2 Equipment Modifications

-. None

3.3 Configuration of Test System

Line Conducted Test : The EUT was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.4: 2009 7.3.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary radiated emission test was conducted using the procedure in ANSI C63.4: 2009 8.3.1.1 to determine the worse operating conditions. Final radiated emission test was conducted at 10 m semi anechoic chamber.

4. PRELIMINARY TEST

4.1 AC Power line Conducted Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
Data Transmission Mode	X

4.2 Radiated Emission Test

During Preliminary Test, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
Data Transmission Mode	X

5. FINAL RESULT OF MEASUREMENT

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level.

5.1 Conducted Emission Test

Humidity Level : 41 % R.H. Temperature: 21 °C
 Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.107(a)
 Type of Test : CLASS B
 Result : PASSED BY 8.57 dB at 0.21 MHz under peak detector mode

EUT : SD GlucoNavii® NFC Blood Glucose Meter Date: November 30, 2012
 Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

Frequency (MHz)	Line	Peak (dBµV)		Margin (dB)
		Emission level	Q.P Limits	
0.20	N	55.13	63.82	8.69
0.21	N	54.84	63.41	8.57
0.26	N	45.55	61.43	15.88
0.27	H	44.08	61.27	17.19
0.42	H	37.53	57.45	19.92
0.90	H	33.71	56.00	22.29
Frequency (MHz)	Line	Average (dBµV)		Margin (dB)
		Emission level	Limits	
0.20	N	38.55	53.82	15.27
0.21	N	40.84	53.41	12.57
0.27	H	29.61	51.27	21.66
0.42	H	25.00	47.45	22.45

Line Conducted Emissions Tabulated Data

Remark: “H”: Hot Line, “N”: Neutral Line.

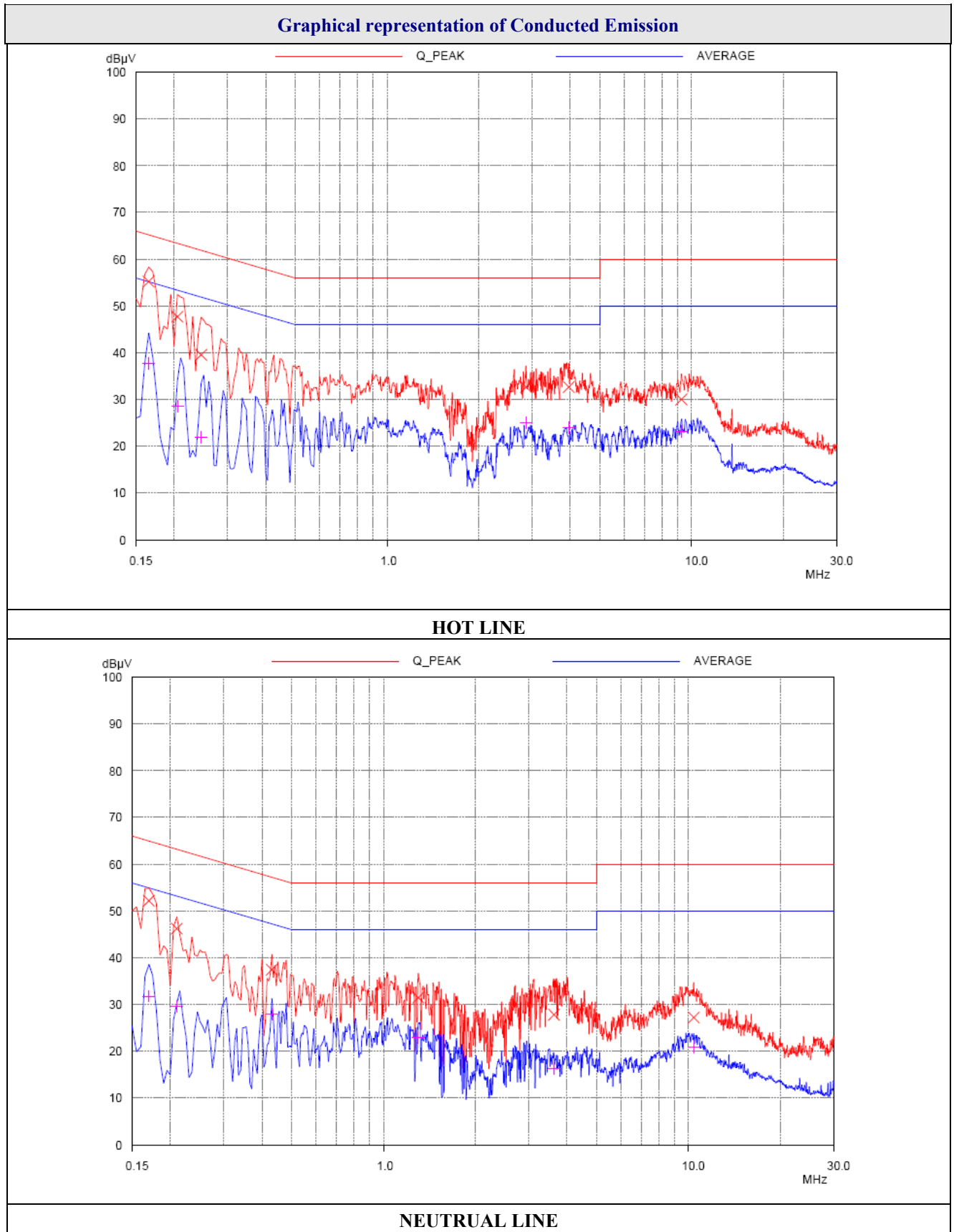
$$\text{Margin (dB)} = \text{Limit} - \text{Emission Level}$$

$$\text{Emission Level (dBuV)} = \text{Reading value (dBµV)} + \text{Insertion Loss of LISN (dB)} + \text{Cable loss (dB)}$$

See next page for an overview sweep performed with peak and average detector.



Tested by: Sung-Woo, Park / Project Engineer

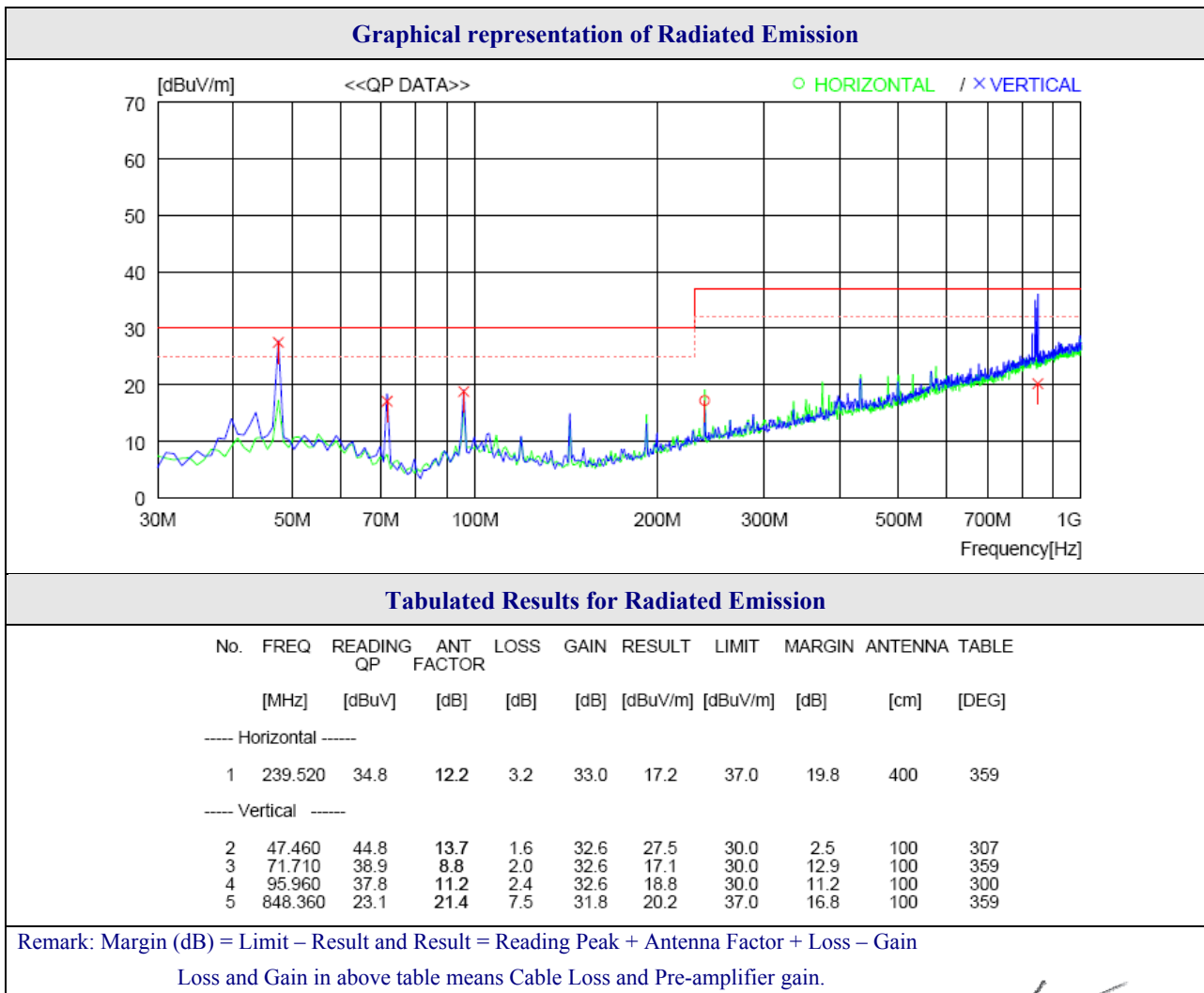



5.2 Radiated Emission Tests

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 40 % Temperature: 21 °C
 Limits apply to : FCC CFR 47, PART 15, SUBPART B, SECTION 15.109 (g)
 Type of Test : CLASS B
 Result : PASSED BY 2.50 dB at 47.460 MHz under quasi-peak detector mode

 EUT : SD GlucoNavii® NFC Blood Glucose Meter Date: November 30, 2012
 Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)
 Distance : 10 Meter




Tested by: Sung-Woo, Park / Project Engineer

6. LIST OF TEST EQUIPMENT

No.	Equipment	Manufacturer	Model Name	Serial No.	Last Cal.	Interval Cal.	Used
1.	Test receiver	Rohde & Schwarz	ESCI	101013	Oct. 14, 2012	One Year	■
2.			ESU	100261	Sep. 24, 2012	One Year	■
3.			ESiB26	100296	Apr. 13, 2012	One Year	
4.			ESHS 10	834467/007	Jun. 21, 2012	One Year	■
5.	Pre-Amplifier	Sonoma Instrument	310N	312544	May 30, 2012	One Year	■
6.			310N	312545	May 30, 2012	One Year	■
7.		Rohde & Schwarz	SCU 18	10041	Jan. 25, 2012	One Year	
8.	TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-255	Apr. 24, 2012	Two years	■
9.			VULB9163	9163-420	Mar. 27, 2012	Two years	■
10.	Horn Antenna	Schwarzbeck	BBHA9120D	BBHA9120D295	Aug. 23, 2011	Two years	
11.	LISN	EMCO	3825/2	9109-1867	May 30, 2012	One Year	■
12.				9109-1869	May 30, 2012	One Year	
13.		Schwarzbeck	NSLK 8126	8126-404	Jun. 11, 2012	One Year	■
14.			NSLK 8128	8128-216	Jun. 11, 2012	One Year	
15.	Controller	Innco System	CO2000	619/27030611/L	N/A	N/A	■
16.	Turn Table	Innco System	DT3000	930611	N/A	N/A	■
17.	Antenna Master	Innco System	MA4000-EP	3320611	N/A	N/A	■
18.			MA4000-EP	3350611	N/A	N/A	■
19.	Tripod	EMCO	N/A	N/A	N/A	N/A	■

Remark: Mark ■ mean used equipment.