TEST REPORT

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1. Report No : DRTFCC2210-0161(1)
2. Customer
   - Name (FCC) : SD Biosensor, Inc.
   - Address (FCC) : C-4th&5th, 16, Deogyeong-daero, 1556beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do South Korea 443-813
3. Use of Report : FCC Original Grant
4. Product Name / Model Name : Blood Glucose Meter Cradle / 01GMC100-1
   FCC ID : RPJ01GMC100-1
5. FCC Regulation(s) : Part 1.1310
   Test Method Used : KDB 680106 D01 v03 r01
6. Date of Test : 2022.01.20 ~ 2022.02.03
7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing
8. Testing Environment : See appended test report.
9. Test Result : Refer to the attached test result.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by Name : SeungMin Gil (Signature)	Technical Manager Name : JaeJin Lee (Signature)

2023 . 08 . 01 .

DT&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description	Tested by	Reviewed by
DRTFCC2210-0161	Oct. 17, 2022	Initial issue	SeungMin Gil	JaeJin Lee
DRTFCC2210-0161(1)	Aug. 01, 2023	Added the Appendix II	SeungMin Gil	JaeJin Lee

CONTENTS

1. Equipment information

1.1 Equipment description

FCC Equipment Class	Part 15 Low Power Transmitter Below 1705kHz (DCD)
Product Name	Blood Glucose Meter Cradle
Model Name	01GMC100-1
Add Model Name	-
Firmware Version Identification Number	V1.0.1
EUT Serial Number	No Specified
Declared Frequency Range	110 kHz ~ 205 kHz
Wireless charging output	10 W
Power Supply	DC 5 V
Antenna type	Coil Antenna

1.2 Support equipment

Support Equipment	Model Name	Manufacturer	Note
Portable Device (Client device)	01GM100-1	SD Biosensor, Inc.	FCC ID: RPJ01GM100-1
AC Adapter	2ABE010B	Channel Well Technology	-

Note: The above equipment was supported by manufacturer.

2. Information about test items

2.1 Test Configuration and Mode

▪Test configuration

The field strength of both E-field and H-field were measured at 15 cm using RF exposure survey meter with E-field and H-field probes for determining compliance with the MPE requirements of FCC Part 1.1310
These testing were performed at test configuration as test setup diagram on clause 3 of this test report.
During measurements, the EUT has been tested with client device.
Ant the EUT was loaded with the client device as described below summary table for test conditions.

Client device	Model Name	Wireless Charging Output	Note
Portable Device (FCC ID: RPJ01GM100-1)	01GM100-1	10 W	-

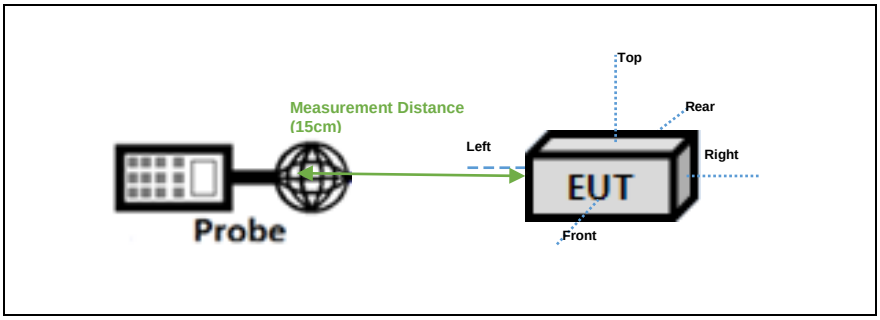
2.2 Testing environment

Temperature	:	20 ℃ ~ 24 ℃
Relative humidity content	:	42 % ~ 46 %
Details of power supply	:	DC 5 V

3. E and H field strength

For RF exposure purposes, the E and H field strengths are measured separately with E and H probes and meters at different locations surrounding the test setup.

▪ **Test setup diagram**



▪ **Measurement procedure: KDB 680106**

These testing were performed at test configuration as above diagram.
EUT was placed on a turntable, and the measurement distance of 15 cm from the center of the probe to the edge of the device. And test was performed all sides of the EUT(except bottom side).

▪ **Limit**

This device uses a wireless charging circuit for power transfer operating at the frequency of 110 kHz ~ 205 kHz. Thus, the 300 kHz RF exposure limits were used as below table.

	Frequency	E-Field limit	H-Field limit
FCC Part 1.1310	300 kHz ~ 3 MHz	614 V/m	1.63 A/m

▪**Measurement data:**

Measurements were performed on the lowest, middle and highest frequency within the frequency range of operation, and worst case data was reported

Test Frequency	E-field(V/m)					Limit(V/m)
	Front	Rear	Right	Left	Top	FCC
110 kHz	1.03	2.66	1.17	1.12	0.99	614
-	-	-	-	-	-	
-	-	-	-	-	-	

Test Frequency	H-field(A/m)					Limit(A/m)
	Front	Rear	Right	Left	Top	FCC
110 kHz	0.05	0.07	0.05	0.05	0.06	1.63
-	-	-	-	-	-	
-	-	-	-	-	-	

▪**Test equipment list**

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next. Cal.Date (yy/mm/dd)	S/N
Broadband Field Meter	NARDA	NBM-550	21/12/16	22/12/16	E-1275
E-Field Probe	NARDA	EF-0391	21/12/16	22/12/16	D-0894
Magnetic Field Meter	WaveControl	SMP2	21/06/24	22/06/24	20SN1409
E&H Field Probe	WaveControl	WP400	21/06/24	22/06/24	20WP100706
Thermohygrometer	BODYCOM	BJ5478	21/12/16	22/12/16	120612-2

Appendix I

EQUIPMENT APPROVAL CONSIDERATIONS

(1) Power transfer frequency is less than 1 MHz.
- The operation frequency is 0.11~0.205MHz

(2) Output power from each primary coil is less than or equal to 15 watts.
- 15W.

(3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
- The transfer systems including a charging system with one primary coils is detect and allow only between individual pairs of coils.

(4) Client device is placed directly in contact with the transmitter.
- Client device is placed directly in contact with the transmitter.

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- Yes, Mobile exposure conditions only.

(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.
- The H-field strengths less than 50% of the applicable MPE limit.

Appendix II

Simultaneous Transmission Analysis

This device includes Bluetooth certified module. And wires charger and Bluetooth can transmit simultaneously.
The following Bluetooth values are taken from FCC ID: 2AC7Z-ESP32WROOM32E.

Mode	Frequency Range(MHz)	Antenna Gain(dBi)	Target Output Power		Evaluation Distance(cm)	Maximum Power Density(mW/cm^2)	MPE Limit (mW/cm^2)
			(dBm)	(mW)			
BLE	2 402 ~ 2 480	3.4	8.0	6.31	20	0.0027	1.0
BT	2 402 ~ 2 480	3.4	10.0	10.00	20	0.0044	1.0

▪ $S = EIRP / (4\pi R^2)$
Where,
S= Maximum power density(mW/cm^2)
EIRP= Equivalent Isotropic Radiated Power(mW)
R= Distance to the center of the radiation of the antenna

FCC Part 1.1310(e) Table 1—Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure				
Frequency range (MHz)	**Electric Field strength (V/m)**	**Magnetic field strength (A/m)**	**Power Density (mW/cm2)**	**Averageing time (minutes)**
0.3 ~ 3.0	614	1.63	*100	6
3.0 ~ 30	1842/f	4.89/ f	*900/f2	6
30 ~ 300	61.4	0.163	1.0	6
300 ~ 1,500	-	-	f/300	6
1,500 ~ 100,000	-	-	5.0	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 ~ 1.34	614	1.63	*100	30
1.34 ~ 30	824/f	2.19/f	*180/f2	30
30 ~ 300	27.5	0.073	0.2	30
300 ~ 1,500	-	-	f/1500	30
1,500 ~ 100,000	-	-	**1.0**	30

f = frequency in MHz * = Plane-wave equivalent power density

Simultaneous operations: Bluetooth(or Bluetooth LE) + Wireless Charger
Result (Σ of MPE ratios):
Bluetooth + Wireless Charger = (0.0044 / 1.0) + (0.07 / 1.63) = 0.004 4 + 0.042 9 = 0.047 3
The Σ of MPE ratios for simultaneously transmitting is less than 1.

Requirement:
Σ of MPE ratios $\leq$ 1