



CTK Co., Ltd.  
The Prime Leader of Global Regulatory Compliance

## CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea

Tel: +82-31-339-9970 Fax: +82-31-624-9501

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# RF EXPOSURE REPORT

**According to : FCC 47CFR part 1 subpart I and part 2 subpart J**

**KDB Inquiry : Tracking Number 620340**

Test Report No. : CTK-2015-00505  
Date of Issue : May 06, 2015  
FCC ID : N/A  
Equipment Under Test : B100L  
Kind of Product : Bluetooth Lighting  
Applicant : Hansol Technics Co., Ltd.  
Applicant Address : 55, Hansam-ro, Deoksan-myeon, Jincheon-gun,  
Chungcheongbuk-do 365-843, Korea  
Manufacturer : Hansol Technics Co., Ltd.  
Manufacturer Address : 55, Hansam-ro, Deoksan-myeon, Jincheon-gun,  
Chungcheongbuk-do 365-843, Korea  
Contact Person : Weon-Seo Lee / Senior Engineer  
Telephone : +82-42-530-8554  
Received Date : April 03, 2015  
Test period : Start : April 20, 2015 End : April 24, 2015  
Test Results : ☒ In Compliance ☐ Not in Compliance

The test results presented in this report relate only to the object tested.

*Tested by*

*Y. T. Lee*

Young-taek Lee  
Test Engineer  
Date: May 06, 2015

*Reviewed by*

*Y. J. Park*

Young-Joon, Park  
Technical Manager  
Date: May 06, 2015



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### REPORT REVISION HISTORY

Date	Revision	Page No
May 06, 2015	Issued (CTK-2015-00505)	All

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### 1.0 General Product Description

Type of equipment	Bluetooth Lighting
Equipment model name	B100L
Frequency Range	110 kHz – 205 kHz
Antenna type	Coil antenna
Coil Specification	Outer diameter : 30.8 mm Inner diameter : 21.7 mm Number of turns : 20
Power Source	Input : DC 3.7 V Test Voltage and Frequency : DC 3.7 V, -

### 1.1 Model Differences

Not applicable

### 1.2 Device Modifications

The following modifications were necessary for compliance:

Not applicable

### 1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.	FCC ID or DoC
Dual Wireless Charging Pad	Hansol Technics Co., Ltd.	B100T	B100THF080011AA	2AAJPB100T
SWITCHING POWER SUPPLY	PERFECT POWER CO., LTD.	PA-19085LS	-	-



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### 1.4 EUT Operating Modes

Equipment under test was operated during the measurement under the following conditions:

☒ Charging mode (Receive mode)

### 1.5 Test Modes

This device has been tested below conditions:

#### [Test Mode #1]

This device has been tested with the package product. (Dual Wireless Charging Pad)




### 1.6 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

### 1.7 Test Facility

The measurement facility is located at (Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea.

### 1.8 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Registration Number	Logo
USA	FCC	FCC Part 15 & 18 EMI (Electromagnetic Interference / Emission)	805871	
JAPAN	VCCI	VCCI V-3 EMI (Electromagnetic Interference / Emission)	C-986 T-1843 R-3627 G-387	
KOREA	MSIP	EMI (Electromagnetic Interference / Emission) EMS (Electromagnetic Susceptibility / Immunity)	KR0025	



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## 2.0 Summary of tests

FCC Part Section(s)	Parameter	Status (note 1)
1.1307(b), 1.1310	Radio frequency radiation exposure limits	Complies

## 2.1 Test Setup

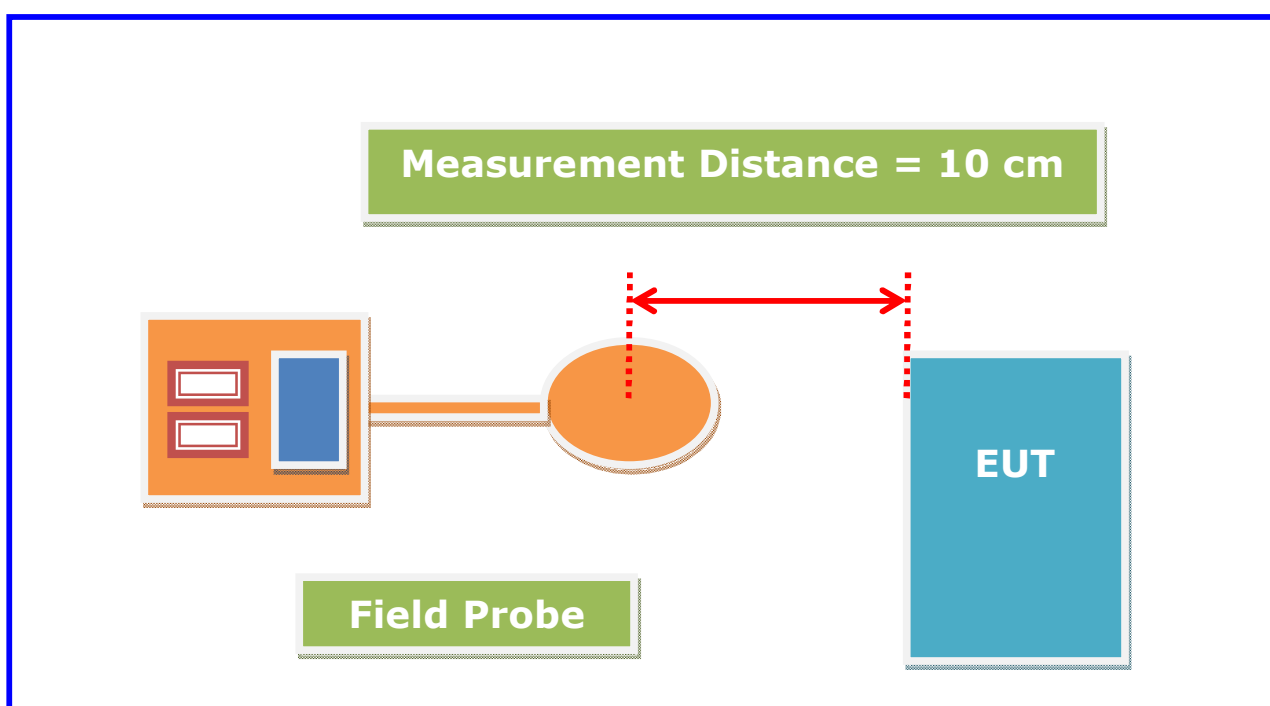
### Test Location

Anechoic Chamber

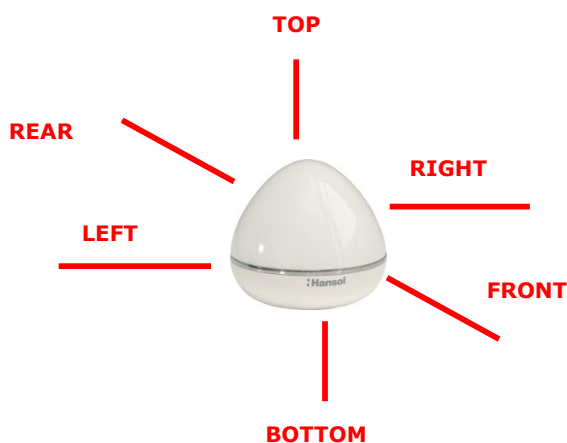
### Measurement distance information

Measurement distance = 10 cm

From EUT edge to the center of probe.



Measurements should be made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device.





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## 2.2 Radio frequency radiation exposure limits

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300 .....	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

f = frequency in MHz

\* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.





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### 2.3 Test Results

EUT	Bluetooth Lighting	Model	B100L
Frequency Range	110 kHz – 205 kHz	Test mode	RX

The requirements are:

☒ Complies

#### Test Data (E-Field)

[Test Mode #1]

Frequency (kHz)	Separation Distance (m)	E-Field (V/m)	E-Field Limit (V/m)
167.4	0.1	2.92	614

#### Test Data (H-Field)

[Test Mode #1]

Frequency (kHz)	Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
167.4	0.1	0.90	1.63

Measurements was made from all sides and the top of the primary/client pair, with the 10 cm measured from the center of the probe(s) to the edge of the device.

The highest emission level was recorded.



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### APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
1	E-Field Probe	Schaffner	2244/90.20	R-0029	2015-10-24
2	EM Radiation Meter	Schaffner	EMC-20	R-0029	2015-10-24
3	B-Field Probe	Narda	2300/90.10	M-0626	2015-12-03
4	Exposure Level Meter	Narda	ELT-400	N-0181	2015-12-03
5	Radio Communication Tester	Rohde & Schwarz	CMU200	106765	2016-02-06