



## RF EXPOSURE REPORT

**Equipment under test** Wireless Charger  
**Model name** KWS-211  
**FCC ID** 2ACCCKWS-211  
**Applicant** KOMATECH Co.,Ltd.  
**Manufacturer** KOMATECH Co.,Ltd.  
**Date of test(s)** 2015.06.03  
**Date of issue** 2015.06.11

**Issued to**

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**Revision history**

<b>Revision</b>	<b>Date of issue</b>	<b>Test report No.</b>	<b>Description</b>
-	2015.06.11	KES-RF-15T0046	Initial

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## 1.0 General information description

Equipment under test    Wireless Charger  
Frequency range        112 kHz ~205 kHz  
Modulation type        ASK  
Model:                    KWS-211  
Antenna specification   Internal type(Coil antenna)  
Power source            AC 120 V Adapter

### 1.1 Test frequency

	Frequency Range
Frequency (kHz)	112 kHz ~205 kHz

### 1.2 Information about variant model

N/A

### 1.3 Device modifications

N/A

### 1.4 Device information

KWH-210 can be used Pad type only.

## 2. 0 Enviromental evaluation and exposure limit according to FCC CFR 47 Part 1.1307(b), 1.1310

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> )	Average Time (minutes)
(A) Limits for Occupational / Control Exposures				
0.3-3.0	614	1.63	*(100)	6
(B) Limits for General Population/Uncontrolled Exposure				
<b>0.3-1.34</b>	<b>614</b>	<b>1.63</b>	*(100)	30

1. “\*” means Plane-wave equivalent power density

### 2. 1 Test mode

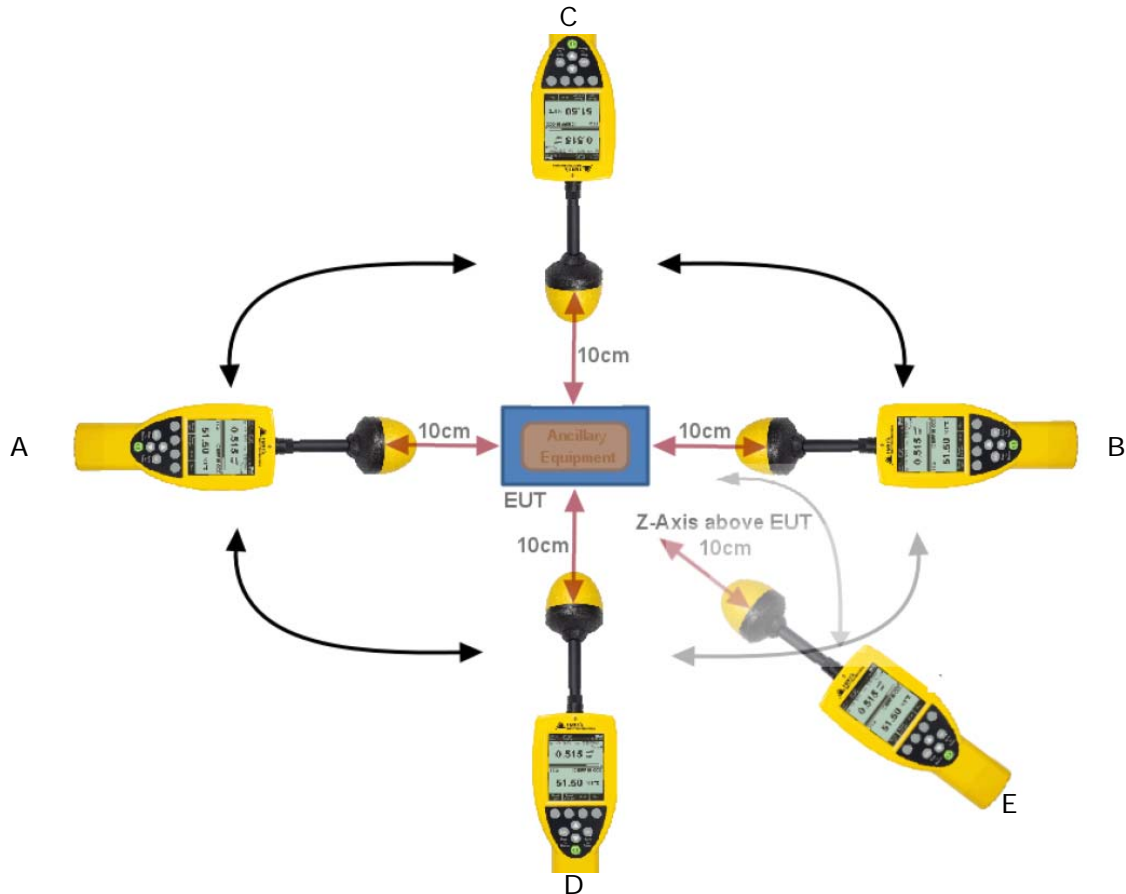
Mode	Description
Charging mode With load	Using Max load
	Using Mid load
	Using Min load
Charging mode With Mobile Phone for connecting with Call tester	< 1% of Battery status
	50% of Battery status

-The level of call connecting of WCDMA mode was more than airplane mode, charging with Mobile Phone in standby mode and charging with Mobile Phone turned off mode. So WCDMA mode was selected.

### 2. 2 Battery status during charging

< 1% of Battery, 50 % of Battery

## 2.3 Test Setup



1. The test was performed on 360° turn table in anechoic chamber.
2. The probe was placed at distance 10 cm which is between the edge of the charger and the geometric center of the probe.
3. The highest emission level was recorded and compared with limit as soon as measurement of each point ; A, B, C, D, E were completed.
4. The EUT was measured according to the KDB 680106 D01v02.

### 3.0 Test results

#### 3.1. E-Field Strength at 10 cm from each edges the EUT (Pad type)

Test Mode	Frequency Range(kHz)	Position A (V/m)	Position B (V/m)	Position C (V/m)	Position D (V/m)	Position E (V/m)	Limits (V/m)
Charging mode With load (Max)	112 kHz ~205 kHz	0.34	0.29	0.24	0.20	0.89	614
Charging mode With load (Mid)	112 kHz ~205 kHz	0.40	0.42	0.38	0.36	1.00	614
Charging mode With load (Min)	112 kHz ~205 kHz	0.54	0.41	0.49	0.38	1.01	614
Charging mode With Mobile Phone (< 1 % of Battery)	112 kHz ~205 kHz	0.60	0.49	0.45	0.58	1.17	614
Charging mode With Mobile Phone (50 % of Battery)	112 kHz ~205 kHz	0.57	0.59	0.55	0.57	1.15	614
Standby mode (Not charging)	112 kHz ~205 kHz	0.23	0.18	0.22	0.21	0.91	614

#### 3.2. H-Field Strength at 10 cm from each edges the EUT (Pad type)

Test Mode	Frequency Range(kHz)	Position A (A/m)	Position B (A/m)	Position C (A/m)	Position D (A/m)	Position E (A/m)	Limits (A/m)
Charging mode With load (Max)	112 kHz ~205 kHz	0.222	0.227	0.222	0.223	0.365	1.63
Charging mode With load (Mid)	112 kHz ~205 kHz	0.222	0.231	0.224	0.235	0.381	1.63
Charging mode With load (Min)	112 kHz ~205 kHz	0.229	0.240	0.230	0.227	0.368	1.63
Charging mode With Mobile Phone (< 1 % of Battery)	112 kHz ~205 kHz	0.218	0.220	0.216	0.218	0.362	1.63
Charging mode With Mobile Phone (50 % of Battery)	112 kHz ~205 kHz	0.221	0.218	0.219	0.221	0.366	1.63
Standby mode (Not charging)	112 kHz ~205 kHz	0.211	0.213	0.213	0.212	0.357	1.63

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### Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial number	Cal Interval	Calibration due.
Isotropic Electric Field Probe	ETS-Lindgren	HI-6105	00151770	1 year	2016.01.20
B-Field Probe	Narda	2300/90.10	J-0025	1 year	2016.01.23
Exposure Level Meter	Narda	ELT-400	J-0015	1 year	2016.01.23
Radio Communication Tester	R&S	CMU200	107627	1 year	2015.07.24

### Peripheral device

Device	Manufacturer	Model No.	Note
Wireless Charging Cover(with load)	KOMATECH Co.,Ltd.	N/A	-
Mobile Phone	SAMSUNG ELECTRONICS CO., LTD.	SHV-E210S (FCC ID : A3LSHVE210S)	-

-The above devices were supported by manufacturer.



## Appendix B. Test setup photo

**Standby Mode (E-Field), Pad type**



**Charging Mode with load (E-Field), Pad type**

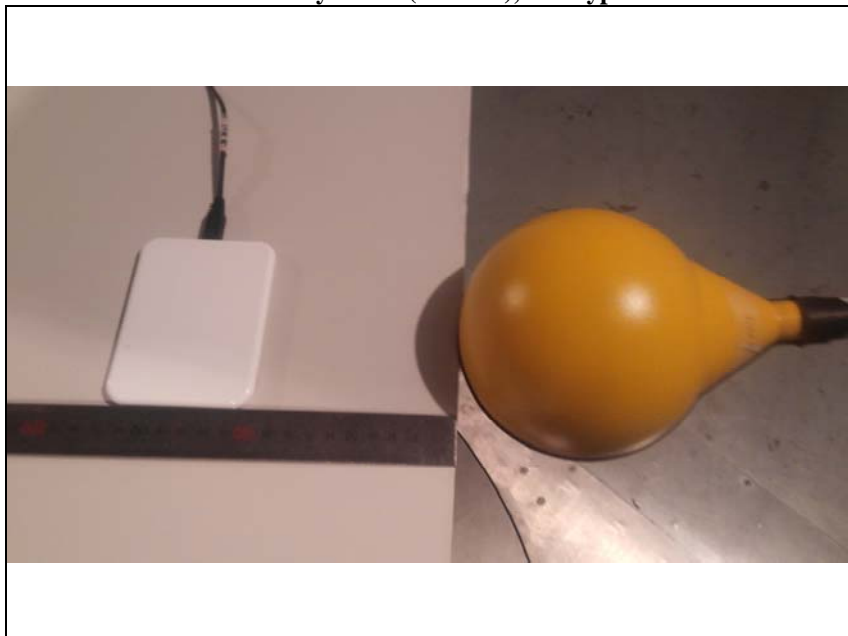


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**Charging Mode with Mobile Phone (E-Field), Pad type**



**Standby Mode (H-Field), Pad type**

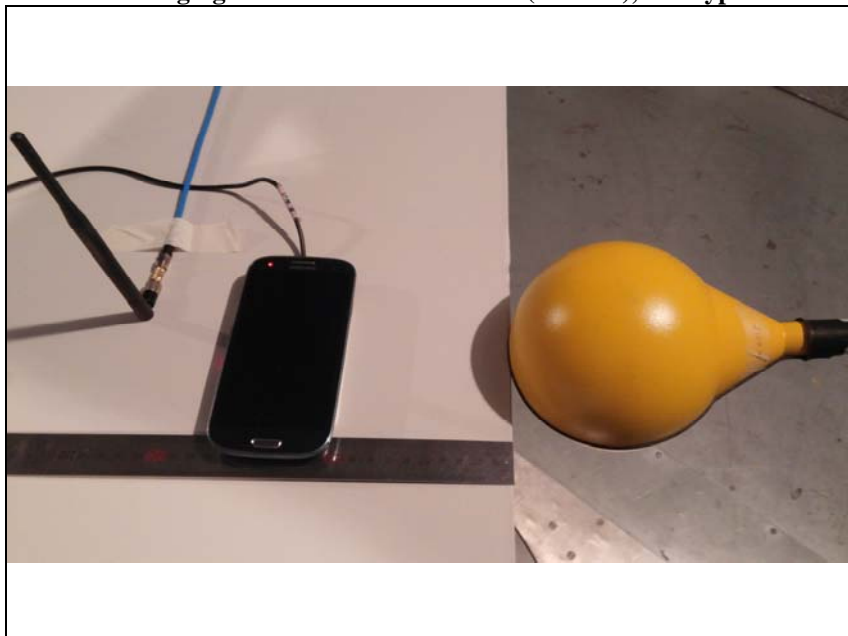


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**Charging Mode with load (H-Field), Pad type**



**Charging Mode with Mobile Phone (H-Field), Pad type**



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