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Report No.: SZEMO09120714102

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## RF Exposure Evaluation declaration

**Application No.:** SZEMO091207141RF  
**Applicant:** Shinsei Industries Co., Ltd.  
**Address of Applicant:** 4-12-15 Horifune, Kita-ku, Tokyo 114-0004, Japan  
**Manufacturer:** Shinsei Industries Co., Ltd.  
**Factory:** Shinsei Industries Co., Ltd.  
**Address of Manufacturer/ Factory:** 4-12-15 Horifune, Kita-ku, Tokyo 114-0004, Japan  
**FCC ID:** U6PBP000002  
**Fundamental Carrier Frequency :** 2402MHz~2480MHz

**Equipment Under Test (EUT):**

**Name:** Mobile Printer  
**Model No.:** DP-2E  
**Trade Mark:** N/A  
**Date of Receipt:** 22 December 2009  
**Date of Test:** 22 December 2009 to 08 January 2010  
**Date of Issue:** 11 January 2010

<b>Test Result :</b>	<b>PASS*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Robinson Lo  
Laboratory Manager

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## 2 RF Exposure Evaluation

### 2.1 Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### 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)
<b>(A) Limits for Occupational/ Controlled Exposures</b>				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
<b>(B) Limits for General Population/ Uncontrolled Exposures</b>				
300-1500	--	--	F/1500	30
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



## 2.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

## 2.3 Test Result of RF Exposure Evaluation

Antenna Gain: 2dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.585 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Output Power to Antenna		Power Density at R = 20 cm (mW/cm <sup>2</sup> )
		dBm	mW	
Lowest	2402	3.17	2.075	0.000654
Middle	2441	3.47	2.223	0.000701
Highest	2480	3.11	2.046	0.000645

Remark:

The distance r (4th column) calculated from the Fries transmission formula is far shorter than 20 cm separation requirement.