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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
Test Result :	**PASS***

* In the configuration tested, the EUT complied with the standards specified above.

Robinson Lo
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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 in1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Average Time (Minutes)
(A) Limits for Occupational/ Controled Exposures				
300-1500	**--**	**--**	**F/300**	**6**
1500-100,000	**--**	**--**	**5**	**6**
(B) Limits for General Population/ Uncontroled Exposures				
300-1500	**--**	**--**	**F/1500**	**30**
1500-100,000	**--**	**--**	**1**	**30**

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*pi*r2)

Where
Pd = power density in mW/cm2

Pout = 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

Pd id the limit of MPE, 1 mW/cm2 . 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℃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/cm2)
		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.