SGS-CSTC Standards Technical Services（Shanghai） Co., Ltd.

No. 588 West Jindu Road, Songjiang District, Shanghai, China

Telephone: +86 (0) 21 61915666
Fax: +86 (0) 21 61915678
ee.shanghai@sgs.com

FCC MPE REPORT

Application No.:	SHEM1212001872RF
Applicant:	Signeo International Limited
FCC ID:	N5J-SOULP910B
IC:	10303A-SOULP910B
Equipment Under Test (EUT): **NOTE:** The following sample(s) submitted was/were identified on behalf of the client as	
EUT Name:	Portable Wireless Entertainment System
Brand Name:	Not supplied by the client
Model No:	P910B
Fundamental Frequency :	2412-2464 MHz, 5736-5814MHz and 5180-5240MHz*
Standards:	FCC Rules 47 CFR §2.1091 FCC OET Bulletin 65 supplement C
Date of Receipt:	Dec.31, 2012
Date of Test:	Feb.26, 2013 to Apr.13, 2013
Date of Issue:	Apr.22, 2013
Test Result :	**PASS ***

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

Tony Wu

E&E Section Manager

SGS-CSTC (Shanghai) Co., Ltd.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00	/	Apr.22, 2013	/	Original

Authorized for issue by:				
Engineer		Zenger Zhang **Print Name**		Zenger Zhang
Clerk		Amy Wang **Print Name**		Amy Wang
Reviewer		Keny Xu **Print Name**		Keny.xu

3 Contents

Page

4 General Information

4.1 Client Information

Applicant :	Signeo International Limited
Applicant Address:	6/F, Enterprise Square Three, 39 Wang Chiu Road, Kownloon Bay, Hong Kong
Manufacturer:	Not supplied by the client
Manufacturer Address:	Not supplied by the client
Factory:	Not supplied by the client

4.2 Details of E.U.T.

EUT Name:	Portable Wireless Entertainment System
Brand Name:	Not supplied by the client
Model No:	P910B
Power Supply:	AC 100V-240V
Frequency Band	2.4GHz Wi-Fi Band: 2412MHz to 2464MHz
	5.8GHz Wi-Fi Band: 5736MHz to 5814MHz
	5.2GHz Wi-Fi Band: 5180MHz to 5240MHz
	2.4GHz Bluetooth(BT) Band: 2402MHz to 2480MHz
Antenna Type:	Integral antenna Note:Antenna Gain 2.0dBi for Wi-Fi and 0dBi for BT

4.3 Accessories of Product:

Adapter:	Manufacturer:	N/A	
	Model No.:	GM150-2400600	
	Rated Input:	AC 100V-240V 50-60Hz 2.5A	
	Rated Output:	DC24.0V 6A	
	Cable length:	AC port:	180cm (3 wires)
		DC port:	150 cm

4.4 Test Location

All tests were performed at SGS E&E EMC lab

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
No.588 West Jindu Road, Songjiang District, Shanghai, China. 201612.
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.

5 Test Standards and Limits

The Equipment under Test (EUT) has been tested at SGS's (own or subcontracted) laboratories.

The following table summarizes the specific reference documents such as harmonized standards or test specifications which were used for testing as SGS's (own or subcontracted) laboratories.

Identity	Document Title	Version
FCC OET Bulletin 65 supplement C	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields	2001

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

FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

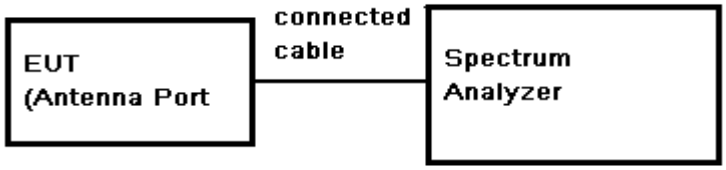
f = frequency in MHz *Plane-wave equivalent power density

6 Measurement and Calculation

6.1 Maximum transmit power

EUT Operation: Test in fixing frequency operating mode at lowest, middle and highest frequency of the every working band.

Test Configuration:



Test Results

For DTS Antenna A:

Test Mode	CH	Frequency (MHz)	Reading Peak Power (dBm)	Cable Loss (dB)	Output Peak Power (dBm)	Output Peak Power (mW)
2.4GHz Band	Low	2412	16.91	1.5	18.41	69.34
	Middle	2438	16.59	1.5	18.09	64.42
	High	2464	16.79	1.5	18.29	67.45
5.8GHz Band	Low	5736	11.80	1.9	13.70	23.44
	Middle	5762	11.47	1.9	13.37	21.73
	High	5814	10.33	1.9	12.23	16.71
5.2GHz Band	Low	5180	1.79	1.9	3.69	2.34
	Middle	5210	1.41	1.9	3.31	2.14
	High	5240	1.50	1.9	3.40	2.19

For DTS Antenna B:

Test Mode	CH	Frequency (MHz)	Reading Peak Power (dBm)	Cable Loss (dB)	Output Peak Power (dBm)	Output Peak Power (mW)
2.4GHz Band	Low	2412	17.17	1.5	18.67	73.62
	Middle	2438	17.00	1.5	18.50	70.79
	High	2464	16.81	1.5	18.31	67.76
5.8GHz Band	Low	5736	9.99	1.9	11.89	15.45
	Middle	5762	10.61	1.9	12.51	17.82
	High	5814	9.94	1.9	11.84	15.28
5.2GHz Band	Low	5180	4.70	1.9	6.60	4.57
	Middle	5210	4.13	1.9	6.03	4.01
	High	5240	4.26	1.9	6.16	4.13

BT maximum Power.

Test Channel	Modulation	Fundamental Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power	
					(dBm)	(mW)
Lowest	GFSK	2402	1.41	0.5	1.91	1.55
Middle	GFSK	2441	1.17	0.5	1.67	1.47
Highest	GFSK	2480	0.28	0.5	0.78	1.20
Lowest	π/4DQPSK	2402	0.35	0.5	0.85	1.22
Middle	π/4DQPSK	2441	-0.05	0.5	0.45	1.11
Highest	π/4DQPSK	2480	-1.00	0.5	-0.5	0.89
Lowest	8DPSK	2402	0.56	0.5	1.06	1.28
Middle	8DPSK	2441	0.28	0.5	0.78	1.20
Highest	8DPSK	2480	-0.72	0.5	-0.22	0.95

6.2 MPE Calculation

Equation from page 18 of OET 65, Edition 97-01

S = PG* Duty factor / 4πR²

P =Power Input to antenna
G =Antenna Gain
R = distance to the center of radiation of antenna (in meter) = 20cm

Note:

1) P (Watts)=$10^{\frac{dBm}{10}}$ / 1000

2) G (Antenna gain in numeric) = 10^ (Antenna gain in dBi /10)

3) MPE limit = 1mW/cm²

Test Mode		CH	Frequency (MHz)	Output Peak Power (mW)	Antenna Gain (dBi)	R (cm)	MPE (mW/cm²)	Results
Band	Antenna							
2.4GHz Band	Antenna A	Low	2412	69.34	2.0	20	0.022	Pass
		Middle	2438	64.42	2.0	20	0.020	Pass
		High	2464	67.45	2.0	20	0.021	Pass
	Antenna B	Low	2412	73.62	2.0	20	0.023	Pass
		Middle	2438	70.79	2.0	20	0.022	Pass
		High	2464	67.76	2.0	20	0.021	Pass
5.8GHz Band	Antenna A	Low	5736	23.44	2.0	20	0.007	Pass
		Middle	5762	21.73	2.0	20	0.007	Pass
		High	5814	16.71	2.0	20	0.005	Pass
	Antenna B	Low	5736	15.45	2.0	20	0.005	Pass
		Middle	5762	17.82	2.0	20	0.006	Pass
		High	5814	15.28	2.0	20	0.005	Pass
5.2GHz Band	Antenna A	Low	5180	2.34	2.0	20	0.001	Pass
		Middle	5210	2.14	2.0	20	0.001	Pass
		High	5240	2.19	2.0	20	0.001	Pass
	Antenna B	Low	5180	4.57	2.0	20	0.001	Pass
		Middle	5210	4.01	2.0	20	0.001	Pass
		High	5240	4.13	2.0	20	0.001	Pass

Test Mode		CH	Frequency (MHz)	Output Peak Power (mW)	Antenna Gain (dBi)	R (cm)	MPE	Results
Band	Modulation							
2.4GHz BT	GFSK	Low	2402	1.55	0	20	0.001	Pass
		Middle	2441	1.47	0	20	0.001	Pass
		High	2480	1.20	0	20	0.001	Pass
	π/4DQPSK	Low	2402	1.22	0	20	0.001	Pass
		Middle	2441	1.11	0	20	0.001	Pass
		High	2480	0.89	0	20	0.001	Pass
	8DPSK	Low	2402	1.28	0	20	0.001	Pass
		Middle	2441	1.20	0	20	0.001	Pass
		High	2480	0.95	0	20	0.001	Pass

The BT and the DTS modules can simultaneous transmitting at frequency 2.4GHz band. But the maximum rate of MPE is 0.023+0.001=0.024<=1.0. so the device is meet the requirements.

7 EUT Constructional Details

Refer to the < P910B _External Photos > & < P910B _Internal Photos >.

THE END OF REPORT