



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

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Report No.: SHEM111100153205
Page 1 of 9

MPE REPORT

According to
FCC Rules 47 CFR §2.1091 & FCC OET Bulletin 65 supplement C
For

Hansong(Nanjing) Technology Ltd.

Application No.: SHEM111100153205
Address of Applicant: Hansong(Nanjing) Technology Ltd.
Equipment Under Test (EUT):

NOTE: The following sample(s) submitted was/were identified on behalf of the client as

EUT Name: Wireless volume master
Brand Name: SONAB
Model No.: Cloud9 CVM
Standards: FCC OET Bulletin 65 supplement C: 2001
Date of Receipt: Nov. 23, 2011
Date of Test: Nov. 24, 2011 to Feb 29, 2011
Date of Issue: Mar 06, 2011

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

E&E Section Head
SGS-CSTC(Shanghai) Co., Ltd.

E&E EMC Engineer
SGS-CSTC(Shanghai) Co., Ltd.

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Member of the SGS Group (Société Générale de Surveillance)



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Report No.: SHEM111100153205
Page 2 of 9

2 Contents

	Page
1 COVER PAGE	1
2 CONTENTS.....	2
3 GENERAL INFORMATION	3
3.1 CLIENT INFORMATION	3
3.2 DETAILS OF E.U.T.	3
3.3 TEST LOCATION	3
3.4 TEST CONFIDENT LEVEL	4
4 TEST STANDARDS AND LIMITS	5
5 SUMMARY OF RESULTS.....	6
6 MEASUREMENT AND CALCULATION.....	6
6.1 MAXIMUM TRANSMIT POWER.....	6
6.2 SAR CALCULATION.....	7
7 EUT CONSTRUCTIONAL PHOTOS.....	8



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Report No.: SHEM111100153205
Page 3 of 9

3 General Information									
3.1 Client Information									
Applicant :	Hansong(Nanjing) Technology Ltd.								
Applicant Address:	8 th Kangping Road, Jiangning Economy and Technology Development Zone,Nanjing,201106,China								
Manufacturer:	Hansong(Nanjing) Technology Ltd.								
Manufacturer Address:	8 th Kangping Road, Jiangning Economy and Technology Development Zone,Nanjing,201106,China								
3.2 Details of E.U.T.									
EUT Name:	Wireless volume master								
Brand Name:	SONAB								
Model No:	Cloud9 CVM								
Power Supply:	9.0VDC								
AC adaptor:	Manufacturer:CLICK Model: CPS012A090100* INPUT: 100-240V~50/60Hz 0.4A OUTPUT: 9VDC,1.0A								
Frequency Band Channels :	2412-2464 MHz Channel Description: <table><thead><tr><th>Channel of Tranmitter</th><th>Frequency(MHz)</th></tr></thead><tbody><tr><td>1</td><td>2412</td></tr><tr><td>2</td><td>2438</td></tr><tr><td>3</td><td>2464</td></tr></tbody></table>	Channel of Tranmitter	Frequency(MHz)	1	2412	2	2438	3	2464
Channel of Tranmitter	Frequency(MHz)								
1	2412								
2	2438								
3	2464								
Modulation Type:	QPSK								
Antenna:	A & B Remark: A and B do not work at same time.								

3.3 Test Location

All tests were performed at SGS E&E EMC lab

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3.4 Test Confident level

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

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: 2012-03-17.

- **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-3172 and C-3514 respectively. Date of Registration: 2009-11-30. Date of Expiry: 2012-03-17.



4 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



5 Summary of Results

For antenna A

Frequency Band	Limit (mW/cm ²)	Result (mW/cm ²)	Verdict
2412-2464MHz	1.0	0.0047	Pass

For antenna B

Frequency Band	Limit (mW/cm ²)	Result (mW/cm ²)	Verdict
2412-2464MHz	1.0	0.0028	Pass

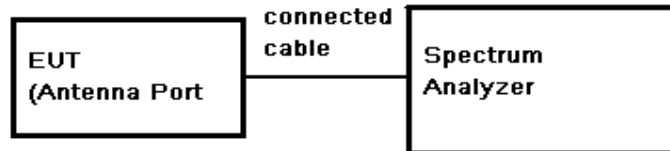
6 Measurement and Calculation

6.1 Maximum transmit power

Test Date: Dec 05, 2011

EUT Operation:: Test in fixing frequency operating mode at lowest, middle and highest frequency.

Test Configuration:



Test Results

For Antenna A

CH	Frequency (MHz)	Reading Power(dBm)	Cable Loss (dB)	Correction Factor (dB)	Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
LOW	2412	2.87	0.9	10.00	13.77	23.82	30	PASS
MID	2438	1.60	0.9	10.04	12.50	17.78	30	PASS
HIGH	2464	1.61	0.9	10.00	12.51	17.82	30	PASS

For Antenna B

CH	Frequency (MHz)	Reading Power(dBm)	Cable Loss (dB)	Correction Factor (dB)	Output Power (dBm)	Output Power (mW)	Limit (dBm)	Result
LOW	2412	0.65	0.9	10.00	11.55	14.29	30	PASS
MID	2438	0.31	0.9	10.00	11.21	13.21	30	PASS
HIGH	2464	0.40	0.9	9.96	11.26	13.37	30	PASS

Note: the BW correction factor is $10 \log [(6 \text{ dB BW of emission}) / (\text{analyzer RBW})]$.



6.2 SAR Calculation

For Antenna A:

Test Results: MPE Limit Calculation: the EUT's operating frequencies 2412MHz to 2464MHz; the highest power is High channel(2412MHz). The Measured maximum radiated power is 13.77 dBm(23.82mW).with maximum peak gain is 0.0dBi. Duty factor is 100%

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

$$S = PG * \text{Duty factor} / 4\pi R^2$$

P =Power Input to antenna (23.82mWatts)

G =Antenna Gain (1numeric)

R = distance to the center of radiation of antenna (in meter) = 20cm

$$S = (23.82 * 1 * 1) / (4\pi * 20^2) = 0.0047 \text{mW/cm}^2$$

For Antenna B:

Test Results: MPE Limit Calculation: the EUT's operating frequencies 2412MHz to 2464MHz; the highest power is High channel(2412MHz). The Measured maximum radiated power is 11.55 dBm(14.29mW).with maximum peak gain is 0dBi. Duty factor is 100%

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

$$S = PG * \text{Duty factor} / 4\pi R^2$$

P =Power Input to antenna (14.29mWatts)

G =Antenna Gain (1numeric)

R = distance to the center of radiation of antenna (in meter) = 20cm

$$S = (14.29 * 1 * 1) / (4\pi * 20^2) = 0.0028 \text{mW/cm}^2$$

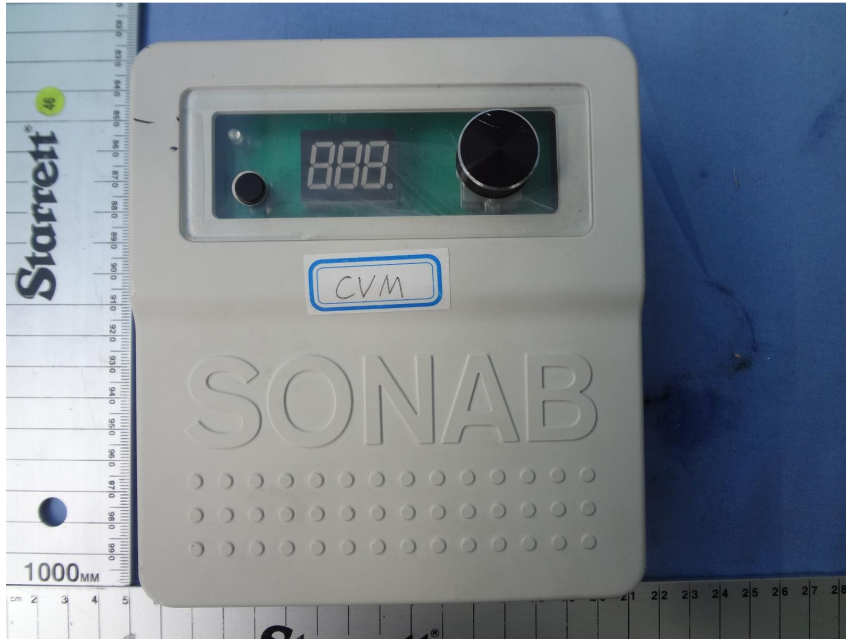
$$\text{MPE limit} = 1.0 \text{mW/cm}^2$$

Note:

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

$$2) G (\text{Antenna gain in numeric}) = 10^{\text{(Antenna gain in dBi)} / 10}$$

7 EUT Constructional Photos



Front View



Back View

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Page 9 of 9



Top View



Rear View

THE END OF REPORT

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