



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

588 West Jindu Road, Songjiang District, Shanghai, China
Telephone: +86 (0) 21 6191 5666
Fax: +86 (0) 21 6191 5678
ee.shanghai@sgs.com

Report No.: SHEM140300060503
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1 Cover Page

FCC MPE REPORT

Application No.:	SHEM1403000605RF
Applicant:	Hansong (Nanjing) Technology Ltd.
FCC ID:	XCO-OD14W
IC:	7756A-OD14W
Equipment Under Test (EUT): NOTE: The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Wi-Fi Speaker
Model No.(EUT):	ODIN
Standards:	FCC Rules 47 CFR §2.1093 KDB447498 D01 General RF Exposure Guidance
Date of Receipt:	March 21, 2014
Date of Test:	April 01, 2014 to April 02, 2014
Date of Issue:	April 15, 2014
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.




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.

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.

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2 Version

Revision Record			
Version	Chapter	Modifier	Remark
00			Original

Authorized for issue by:				
Engineer		Eddy Zong		
		Print Name		
Clerk		Susie Liu		
		Print Name		
Reviewer		Keny Xu		
		Print Name		

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4 General Information

4.1 Client Information

Applicant:	Hansong (Nanjing) Technology Ltd.
Address of Applicant:	8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China
Manufacturer:	Clint Digital ApS
Address of Manufacturer:	Tempovej 41, 2750 Ballerup, Denmark
Factory:	Hansong (Nanjing) Technology Ltd.
Address of Factory:	8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China

4.2 General Description of E.U.T.

Trade Mark:	
Product Description:	Fixed product

4.3 Details of E.U.T.

Modulation Technique:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK)
Data Rate:	802.11b: 1Mbps, 5.5Mbps, 11Mbps, 802.11g: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 36Mbps, 48Mbps, 54Mbps
Number of Channel:	11
Antenna Type:	Integral Remark: The two PIFA antennas are not working simultaneously.
Antenna Gain:	2 dBi
Power Supply:	Rated Input: AC 100-240V 50/60Hz 80W AC cable: 2 Wires 150cm
Rated peak power	80W

4.4 Test Location

All tests were performed at SGS E&E EMC lab

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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

According to §1.1310 Radiofrequency radiation exposure limits:

The limit for general population/uncontrolled exposures

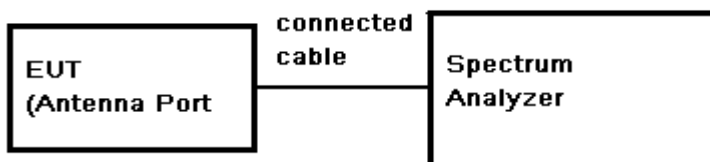
Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

6 Measurement and Calculation

6.1 Maximum transmit power

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

Test Configuration:



Test data:

Antenna A:

Test mode	Test Channel	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Output Power (mW)	Power Limit (dBm)	Result
802.11b	Lowest	17.36	0.5	19.86	96.83	30	PASS
	Middle	17.54	0.5	20.04	100.93	30	PASS
	Highest	17.88	0.5	20.38	109.14	30	PASS
802.11g	Lowest	18.34	0.5	20.84	121.34	30	PASS
	Middle	18.27	0.5	20.77	119.40	30	PASS
	Highest	18.66	0.5	21.16	130.62	30	PASS

Antenna B:

Test mode	Test Channel	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Output Power (mW)	Power Limit (dBm)	Result
802.11b	Lowest	17.09	0.5	19.59	90.99	30	PASS
	Middle	17.33	0.5	19.83	96.16	30	PASS
	Highest	17.44	0.5	19.94	98.63	30	PASS
802.11g	Lowest	18.46	0.5	20.96	124.74	30	PASS
	Middle	18.54	0.5	21.04	127.06	30	PASS
	Highest	18.27	0.5	20.77	119.40	30	PASS

6.2 MPE Calculation

According to the formula $S = \frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Note:

$$P \text{ (Watts)} = \text{Power Input to antenna} = 10^{\frac{dBm}{10}} / 1000$$

- 1) G (Antenna gain in numeric) = $10^{\text{(Antenna gain in dBi / 10)}}$
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm²

The Max Conducted Peak Output Power is 82.41mW in 802.11g highest channel of Antenna A;

The best case gain of the antenna is 2dBi. 2dB logarithmic terms convert to numeric result is nearly 1.58

$$\text{So, } S = \frac{PG}{4R^2\pi} = \frac{82.41 \times 1.58}{4 \times 400 \times 3.14} = 0.026 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

So the device is exclusion from SAR test.

7 EUT Constructional Details

Refer to the < ODIN _External Photos-FCC > & < ODIN _Internal Photos-FCC >.

--End of the Report--