

1 Cover Page

FCC MPE REPORT

Application No.:	SHEM1509003083CR
Applicant:	Hansong (Nanjing) Technology Ltd.
FCC ID:	XCO-XEO2

Equipment Under Test (EUT):

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

Product Name:	Wireless Speaker
Model No.(EUT):	RXM
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v05r02
Date of Receipt:	September 02, 2015
Date of Test:	September 09, 2015 to September 15, 2015
Date of Issue:	October 13, 2015
Test Result:	Pass*

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



Parlam Zhan
E&E Section Manager
SGS-CSTC (Shanghai) Co., Ltd.

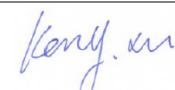
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant 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	Date	Modifier	Remark
00	/	October 13, 2015	/	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:	Dynaudio A/S
Address of Manufacturer:	Sverigesvej 15, 8660 Skanderborg, DENMARK
Factory:	Dynaudio A/S
Address of Factory:	Sverigesvej 15, 8660 Skanderborg, DENMARK

4.2 General Description of E.U.T.

Product Description:	Fixed product with BT function and DTS function
Brand Name:	Dynaudio
Power Supply:	AC 100-240V 50/60Hz 100W
Test Voltage:	AC 120V 60Hz

4.3 Details of E.U.T.

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	3.0+HS
Modulation Technique:	FHSS(GFSK, π/4DQPSK, 8DPSK)
Number of Channel:	79
Antenna Type	Integral
Antenna Gain	2 dBi

4.4 Test Location

All tests were performed at:

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: 2017-07-14.

- 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: 2017-09-16.

- 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-1. Expiry Date: 2017-06-18.

- 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, C-4336, T-2221, G-830 respectively. Date of Expiry: 2017-11-16.

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

The BT Power Data is based on the RF Test Report SHEM150900308302

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
GFSK	2402	-0.39	0.91
	2441	1.35	1.36
	2480	0.58	1.14
$\pi/4$ DQPSK	2402	1.03	1.27
	2441	1.36	1.37
	2480	0.59	1.15
8DPSK	2402	1.03	1.27
	2441	0.84	1.2
	2480	1.04	1.27

6.2 MPE Calculation

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

Note:

- 1) P (Watts) = Power Input to antenna = $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) = $10^{\frac{Antenna gain in dBi}{10}}$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm²

For BT:

The Max Conducted Peak Output Power is 1.37mW in middle channel of π/4DQPSK;

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

$$S = \frac{PG}{4R^2\pi} = \frac{1.37 \times 1.58}{4 \times 400 \times 3.14} = 0.0004 \text{ mW/cm}^2$$

For DTS:

The DTS modules which has been applied full module approved with FCC ID: HSDWAM83. The Max Conducted Peak Output Power is 89mW in 2.4G band;

The best case gain of the antenna is 1.5dBi. 1.5dB logarithmic terms convert to numeric result is nearly 1.41

$$S = \frac{PG}{4R^2\pi} = \frac{89 \times 1.41}{4 \times 400 \times 3.14} = 0.0250 \text{ mW/cm}^2$$

The BT and the DTS modules can simultaneous transmitting at frequency 2.4GHz band. But the maximum rate of MPE is $\frac{0.0004}{1.0} + \frac{0.025}{1.0} = 0.0254 \leq 1.0$. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

7 EUT Constructional Details

Refer to the < RXM_External Photos > & < RXM_Internal Photos>.

--End of the Report--