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Report No.: SZEM171201261007
Page: 1 of 8

1 Cover Page

RF MPE REPORT

Application No.:	SZEM1712012610CR (SHEM1711007470CR)
Applicant:	Hansong (Nanjing) Technology Ltd.
FCC ID:	XCO-DYN
IC:	7756A-DYN
Equipment Under Test (EUT): NOTE: The following sample(s) was/were submitted and identified by the client as	
Product Name:	Wireless Speaker
Model No.(EUT):	Xeo 20 Master, Xeo 30 Master
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06 RSS-102 Issue 5 (March 2015)
Date of Receipt:	2017-11-03
Date of Test:	2017-12-28 to 2018-01-10
Date of Issue:	2018-01-15
Test Result:	Pass*

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.





Kenry Xu
EMC 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.

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Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	2018-01-15	/	Original

Authorized for issue by:				
				
		Foray Chen /Project Engineer		
				
		Eric Fu /Reviewer		



2 Contents

	Page
1 COVER PAGE.....	1
2 CONTENTS	3
3 GENERAL INFORMATION.....	4
3.1 CLIENT INFORMATION.....	4
3.1 GENERAL DESCRIPTION OF E.U.T.	4
3.2 TECHNICAL SPECIFICATIONS	4
3.3 TEST LOCATION	5
3.4 TEST FACILITY	5
4 TEST STANDARDS AND LIMITS.....	6
4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS:	6
4.2 IC RADIOFREQUENCY RADIATION EXPOSURE LIMITS:.....	6
5 MEASUREMENT AND CALCULATION	7
5.1 MAXIMUM TRANSMIT POWER	7
5.2 MPE CALCULATION.....	8
6 EUT CONSTRUCTIONAL DETAILS.....	8



3 General Information

3.1 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

3.1 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

3.2 Technical Specifications

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



3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053

Fax: +86 755 2671 0594

No tests were sub-contracted.

3.4 Test Facility

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC

Lab 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.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American
Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd.
have been registered in accordance with the Regulations for Voluntary Control Measures with Registration
No.: G-823, R-4188, T-1153 and C-2383 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an
accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical
Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau
of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.



4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, 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

4.2 IC Radiofrequency radiation exposure limits:

According to RSS-102 section 2.5.2, RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

For 2.4G device, the limit of worse case is 2.68 W



5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SZEM171201261006
Xeo 20 Master

Test Mode	Test Channel	Power[dBm]	Power (mW)
GFSK	2402	2.721	1.87
	2441	2.905	1.95
	2480	3.794	2.40
$\pi/4$ DQPSK	2402	-0.485	0.89
	2441	1.742	1.49
	2480	0.704	1.18
8DPSK	2402	1.56	1.43
	2441	3.423	2.20
	2480	2.442	1.75

Xeo 30 Master

Test Mode	Test Channel	Power[dBm]	Power (mW)
GFSK	2402	2.631	1.83
	2441	2.415	1.74
	2480	2.256	1.68
$\pi/4$ DQPSK	2402	-0.511	0.89
	2441	2.269	1.69
	2480	1.177	1.31
8DPSK	2402	1.565	1.43
	2441	3.923	2.47
	2480	2.886	1.94



5.2 MPE Calculation

The Max Conducted PeakOutput Power is 2.47mW;

The best case gain of the antenna is 2.0dBi. 2.0dB logarithmic terms convert to numeric result is nearly 1.58.

For FCC:

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) = $10^{(Antenna\ gain\ in\ dBi / 10)}$

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

4) MPE limit = 1mW/cm²

$$S = \frac{PG}{4R^2\pi} = \frac{2.47 \times 1.58}{4 \times 0.2^2 \times 3.14} = 0.001\text{ mW/cm}^2$$

For IC:

$$E.I.R.P. = P \times G = 0.00247 \times 1.58 = 0.004W < 2.68W$$

So the device is exclusion from SAR test.

6 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

--End of the Report--