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

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

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

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.

Keny Xu
EMC Laboratory Manager

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

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, π/4DQPSK, 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
π/4DQPSK	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
π/4DQPSK	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= $\frac{PG}{4R^2\pi}$ = $\frac{2.47\times1.58}{4\times400\times3.14}$ =0.001 mW/cm²

For IC:

E.I.R.P.= P*G= 0.00247×1.58=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--