

RF EXPOSURE REPORT

FOR



REPORT

Applicant	:	NINGBO HI YANKA IMP AND EXP CO.,LTD
Address	:	ROOM 710, MANSION B, LIYUAN SHANGDU, NO.203, LANTIAN ROAD, HAISHU DISTRICT, NINGBO, CHINA.
Equipment under Test	:	Speaker box
Model No.	:	LLH-2212AUS-BT, LLH-0215AUS-BT, LLH-0212AUS-BT, LLH-0210AUS-BT, LLH-0208AUS-BT, LLH-2112AUS BTR, LLH-2110AUS BTR, LLH-2108AUS BTR, LLH-2108AUS-BTR2, LLH2112AUS-BTR2, LLH-2415AUS BT, LLH-10215AUS-BT, LLH-20215AUS-BT, DW-15BT, DW-432BT; E-B1, E-B2, E-B3, E-B5, E-B6, E-B7, E-B8, E-B9, E-B10; S-21501, S-21502, S-21503, S-21505, S-1501, S-1502, S-1503, S-1505, S-1201, S-1202, S-1203, S-1205, S-1001, S-1002, S-1003, S-1005; SM-210, SM-211, SM-212, SM-213, SM-215, SM-216, SM-218, SBX-1528, SBX-1530, SBX-1531, SBX-1533, SBX-1535, SBX-1536; KPG-112B, KPG-113B, KPG-115B, KPG-116B, KPG-117B, KPG-118B, KPG-301, KPG-302, KPG-303, KPG-305, KPG-306, KVT-129, KVT-130, KVT-135, KVT-136, KPB-301, KPB-302, KPB-305, KPB-306; 17-P1526BH, 17-P1527BH, 18-P1526BH, 18-P1527BH, AA-1502H, PBS-7006, PBS-7007, PBS-7008, KR-910400, KR-9301R, KR-9301L, KR-9151R; HPS3415AM70, HPS 20215AM150, HPS2115DBM60, LA-212, HSR212A, HSR212P; HPS2115AM, HPS2115DM, HPS1110M250, HPS1110DM250DSP-bt, HPS1112M250, HPS1112DM300DSP-bt, HPS1115M350, HPS1115DM350DSP-bt, HPS2115DH series, HPS2115DM series, HPS2115AH series, HPS2115AM series, HPS3415DH series, HPS3415DM series, HPS3415AH series, HPS3415AM series; HPS3615DH series, HPS3615DM series, HPS3615AH series, HPS3615AM series; HPS4215DH series, HPS4215DM series, HPS4215AH series, HPS4215AM series; HPS5415DH series, HPS5415DM series, HPS5415AH series, HPS5415AM series; HPS5410DH series, HPS5410DM series, HPS5410AH series, HPS5410AM series; HPS10215DH series, HPS10215DM series, HPS10215 series; HPS10215 series; HPS50215DH series, HPS50215DM series, HPS50215 series, HPS50215 series

Trade Mark	:	/
FCC ID	:	2AWLTYANKA2020
Manufacturer	:	NINGBO HI YANKA IMP AND EXP CO.,LTD
Address	:	ROOM 710, MANSION B, LIYUAN SHANGDU, NO.203, LANTIAN ROAD, HAISHU DISTRICT, NINGBO, CHINA.

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

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Test Report Declare

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Manufacturer	:	NINGBO HI YANKA IMP AND EXP CO.,LTD
Address	:	ROOM 710, MANSION B, LIYUAN SHANGDU, NO.203, LANTIAN ROAD, HAISHU DISTRICT, NINGBO, CHINA.

Standard Used: KDB447498 D01 General RF Exposure Guidance v06

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co.,

Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-R20060118-1E2		
Date of Receipt:	Jun. 08, 2020	Date of Test:	Jun. 08, 2020 ~ Jul. 21, 2020

Prepared By:

Sam Li

Sam Li/Engineer

Approved By:



Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Jul. 21, 2020	

1. General Information

1.1. Description of equipment

EUT* Name	: Speaker box
Model Number	: LLH-2212AUS-BT, LLH-0215AUS-BT, LLH-0212AUS-BT, LLH-0210AUS-BT, LLH-0208AUS-BT, LLH-2112AUS BTR, LLH-2110AUS BTR, LLH-2108AUS BTR, LLH-2108AUS-BTR2, LLH2112AUS-BTR2, LLH-2415AUS BT, LLH-10215AUS-BT, LLH-20215AUS-BT, DW-15BT, DW-432BT; E-B1, E-B2, E-B3, E-B5, E-B6, E-B7, E-B8, E-B9, E-B10; S-21501, S-21502, S-21503, S-21505, S-1501, S-1502, S-1503, S-1505, S-1201, S-1202, S-1203, S-1205, S-1001, S-1002, S-1003, S-1005; SM-210, SM-211, SM-212, SM-213, SM-215, SM-216, SM-218, SBX-1528, SBX-1530, SBX-1531, SBX-1533, SBX-1535, SBX-1536; KPG-112B, KPG-113B, KPG-115B, KPG-116B, KPG-117B, KPG-118B, KPG-301, KPG-302, KPG-303, KPG-305, KPG-306, KVT-129, KVT-130, KVT-135, KVT-136, KPB-301, KPB-302, KPB-305, KPB-306; 17-P1526BH, 17-P1527BH, 18-P1526BH, 18-P1527BH, AA-1502H, PBS-7006, PBS-7007, PBS-7008, KR-910400, KR-9301R, KR-9301L, KR-9151R; HPS3415AM70, HPS 20215AM150, HPS2115DBM60, LA-212, HSR212A, HSR212P; HPS2115AM, HPS2115DM, HPS1110M250, HPS1110DM250DSP-bt, HPS1112M250, HPS1112DM300DSP-bt, HPS1115M350, HPS1115DM350DSP-bt, HPS2115DH series, HPS2115DM series, HPS2115AH series, HPS2115AM series, HPS3415DH series, HPS3415DM series, HPS3415AH series, HPS3415AM series; HPS3615DH series, HPS3615DM series, HPS3615AH series, HPS3615AM series; HPS4215DH series, HPS4215DM series, HPS4215AH series, HPS4215AM series; HPS5415DH series, HPS5415DM series, HPS5415AH series, HPS5415AM series; HPS5410DH series, HPS5410DM series, HPS5410AH series, HPS5410AM series; HPS10215DH series, HPS10215DM series, HPS10215 series; HPS10215 series; HPS50215DH series, HPS50215DM series, HPS50215 series, HPS50215 series
Model differences	: All models are identical except the color and model number, therefore the test performed on the model S-21501.
EUT Function Description	: Please reference user manual of this device
Power Supply	: AC 115V/60Hz or AC 230V/50Hz
Radio Specification	: Bluetooth V5.0
Operation Frequency	: 2402 MHz - 2480 MHz
Modulation	: GFSK, $\pi/4$ -DQPSK
Data Rate	: 1 Mbps, 2 Mbps
Antenna Type	: Integral PCB antenna, maximum PK gain: -0.58 dBi
Sample Type	: Series production

1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com

CNAS Registration No. CNAS L6451; A2LA Certificate Number: 3870.01;

FCC Designation Number: CN1182; FCC Test Firm Registration Number: 540522

Industry Canada Site Registration Number: 10288A-1

2. RF Exposure Evaluation

2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2. Calculation method

$$E(\text{V/m}) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(\text{mW/cm}^2) = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (mW)

G = EUT Antenna numeric gain (numeric)=

d = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, $d=0.2$ m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. Estimation result

Mode	PK Output power (dBm)	Output power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm ²)	MPE Limit (mW/cm ²)
Bluetooth Max power	7.84	6.08	-0.58	0.87	0.00105	1

Note: The estimation distance is 20 cm

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold

END OF REPORT