RF Exposure Evaluation Declaration

FCC ID:	2AFNB-WF-06C05R
APPLICANT:	Shanghai Wavebomb Electronic Science & Technology Co., Ltd

Product:	Whome Smart bulb speakers
Model No.:	WF-06W05W, WF-08C10C, WF-06C05R, WF-06C05S, WF-06W05B
Trademark:	Whome
FCC Classification:	Digital Transmission System (DTS)

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ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date
1506RSU02202	Rev. 01	Initial report	08-23-2015
1506RSU02202	Rev. 02	Added the FCC ID	08-25-2015

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Whome Smart bulb speakers
Model No.	WF-06W05W, WF-08C10C, WF-06C05R, WF-06C05S, WF-06W05B
Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462 MHz 802.11n-HT40: 2422 ~ 2452 MHz
Maximum Peak Output Power	802.11b: 12.67dBm; 802.11g: 21.71dBm; 802.11n-HT20: 20.91dBm; 802.11n-HT40: 18.03dBm
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM
Antenna Type	Internal
Antenna Gain	2.0dBi

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	Whome Smart bulb speakers
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2dBi for 2.4GHz in logarithm scale.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)
802.11b	2412 ~ 2462	9.46	0.0028	1
802.11g	2412 ~ 2462	14.64	0.0092	1
802.11n-HT20	2412 ~ 2462	13.67	0.0073	1
802.11n-HT40	2422 ~ 2452	10.68	0.0037	1

CONCULISON:

The WLAN 2.4GHz Band can transmit simultaneously. Therefore, the Max Power Density at R (20 cm) = 0.0092mW/cm^2 < 1mW/cm^2.

So the EUT complies with the requirement.

The End