

## SGS-CSTC Standards Technical Services Co., Ltd.

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Report No.: SZEM110700257002

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# RF Exposure Evaluation declaration

Application No.: SZEM1107002570RF

Applicant: Shenzhen SKY DRAGON Audio-video Technology Co. LTD

Address of Applicant: B16, Laneway 3, Liuxian 2RD, District 71, Baoan, shenzhen

Manufacturer: Shenzhen SKY DRAGON Audio-video Technology Co. LTD

Address of Manufacturer: B16, Laneway 3, Liuxian 2RD, District 71, Baoan, shenzhen

Shenzhen SKY DRAGON Audio-video Technology Co. LTD

Address of Factory: B16, Laneway 3, Liuxian 2RD, District 71, Baoan, shenzhen

B16, Laneway 3, Liuxian 2RD, District 71, Baoan, shenzhen

FCC ID: ZJPBC06ISB311B

**Fundamental Carrier** 

Frequency: 2402MHz~2480MHz

**Equipment Under Test (EUT):** 

Name: Music Speaker
Model: BC06, ISB311B

**Date of Receipt:** 2011-07-29

**Date of Test:** 2011-08-01 to 2011-08-10

**Date of Issue:** 2011-08-26

Test Result : PASS\*

Authorized Signature:

Jack Zhang

**EMC Laboratory Manager** 

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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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# 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 in1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Average Time (Minutes)		
(A) Limits for Occupational/ Control Exposures						
300-1500			F/300	6		
1500-100,000			5	6		
300-1500			F/1500	6		
1500-100,000			1	300		

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $Pd = (Pout*G)/(4*Pi*R^2)$ 

Where

Pd = power density in mW/cm<sup>2</sup>

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 id the limit of MPE, 1 mW/cm2. 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.

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#### 2.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃ and 78% RH.

### 2.3 Test Result of RF Exposure Evaluation

Product: Bluetooth hands-free system

Test Item: RF Exposure Evaluation

Test Site: No.3 OATS

Antenna Gain: 2.12dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.629 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
Highest	2480	6.40	4.365	0.001415

The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.