

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

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# RF Exposure Evaluation declaration

Application No: SZEM1106001684RF

Applicant: Philips Consumer Lifestyle

Address of Applicant: 3029 East Governor John Sevier Hwy. Knoxville, Tennessee, United States

Manufacturer: Philips Consumer Lifestyle

Address of Manufacturer: 3029 East Governor John Sevier Hwy. Knoxville, Tennessee, United States

Factory: Yusan Technology (Shenzhen) Limited

Address of Factory: Haoyi Technology Park, Nan Huan Road, Shajing West, Baoan Shenzhen,

Guang Dong P.R. China

FCC ID: BOUPHAS140

**Fundamental Carrier** 

Frequency:

2.402GHz-2.480GHz

**Equipment Under Test (EUT):** 

Product Name: DOCKING SYSTEM FOR ANDROID

Model No.: AS140/37
Trade mark: PHILIPS

Date of Receipt: 2011-06-27

**Date of Test:** 2011-06-30 to 2011-07-08

**Date of Issue:** 2011-07-14

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 °C 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: 0dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1 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> )
Lowest	2402	7.74	5.943	0.00118

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