

## RF Exposure Evaluation declaration

|              |                         |
|--------------|-------------------------|
| Product Name | Plug-in AirPlay speaker |
| Model No.    | JBL SoundFly Air        |
| FCC ID       | APISNDFAIRLO            |

|           |   |
|-----------|---|
| Applicant | Harman International Industries, Incorporated         |
| Address   | 8500 Balboa Blvd, Northridge, CA 91329, UNITED STATES |

|                     |                    |
|---------------------|--------------------|
| Date of Receipt     | May 14, 2012       |
| Date of Declaration | May 28, 2012       |
| Report No.          | 125269R-RFUSP42V01 |

The declaration results relate only to the samples calculated.

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## 1. RF Exposure Evaluation

### 1.1. 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 <sup>2</sup> ) | 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

Friis Formula

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. 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.

### 1.2. 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.

### 1.3. Test Result of RF Exposure Evaluation

Product : Plug-in AirPlay speaker  
Test Item : RF Exposure Evaluation  
Test Site : No.3 OATS

#### 802.11b (1Mbps) Output Power Into Antenna & RF Exposure Evaluation Distance (3.81dBi):

| Channel | Frequency (MHz) | Output Power to Antenna<br>(mW) | Power Density at R = 20 cm<br>(mW/cm <sup>2</sup> ) |
|---------|-----------------|---------------------------------|---|
| 1       | 2412.00         | 86.2979                         | 0.041279  |
| 6       | 2437.00         | 89.5365                         | 0.042828  |
| 11      | 2462.00         | 87.7001                         | 0.041950  |

Power density in column 4 is much lower than the limit (1 mW/cm<sup>2</sup>).

#### 802.11g (6Mbps) Output Power Into Antenna & RF Exposure Evaluation Distance (3.81dBi):

| Channel | Frequency (MHz) | Output Power to Antenna<br>(mW) | Power Density at R = 20 cm<br>(mW/cm <sup>2</sup> ) |
|---------|-----------------|---------------------------------|---|
| 1       | 2412.00         | 265.4606                        | 0.126979  |
| 6       | 2437.00         | 252.9298                        | 0.120985  |
| 11      | 2462.00         | 261.8183                        | 0.125236  |

Power density in column 4 is much lower than the limit (1 mW/cm<sup>2</sup>).