

## RF Exposure Evaluation declaration

Product Name	Play-Fi Wireless Speaker
Model No.	W7
FCC ID	IPUW7SPEAKER

Applicant	DEI Sales Inc. dba Definitive Technology
Address	One Viper Way Vista California United States 92081

Date of Receipt	May 27, 2014
Date of Declaration	Aug. 08, 2014
Report No.	1460042R-RFUSP05V00

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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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 : Play-Fi Wireless Speaker  
Test Item : RF Exposure Evaluation  
Test Site : No.3 OATS

Operation Frequency	2412-2462MHz, 2422-2452MHz 5180-5240MHz,5260-5320MHz,5500-5700MHz, 5745-5825MHz 5190-5230MHz,5270-5310MHz,5510-5670MHz, 5755-5795MHz
Maximum Conducted output power	23.68 dBm
Antenna gain	2.28 dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
233.3458	0.010377

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