

# RF Exposure Evaluation declaration

Product Name	WiFi AP
Model No.	FM1200V-HW
FCC ID	R5S-FV

Applicant	Fluidmesh Networks, LLC.
Address	1359 Barclay Blvd., Buffalo Grove, IL 60089 USA

Date of Receipt	Dec. 27, 2012
Date of Declaration	Jan. 21, 2013
Report No.	131029R-RFUSP32V01

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  $\text{mW/cm}^2$

$P_{out}$  = 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,  $1 \text{ mW/cm}^2$ . 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.

## 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 : WiFi AP  
Test Item : RF Exposure Evaluation  
Test Site : No.3 OATS

Operation Frequency	5180~5240MHz, 5745~5850MHz
Maximum Conducted output power	29.80dBm
Antenna gain	11.98dBi

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

Output Power to Antenna (mW)	Power Density at R = <b>40 cm</b> (mW/cm <sup>2</sup> )
954.9926	0.749326

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