

## **SPORTON International Inc.**

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Certificate No.: CB10302007

# Maximum Permissible Exposure

Applicant's company	SAGEMCOM SAS	
Applicant Address	250 Route de l'Empereur RUEIL MALMAISON CEDEX France 92848	
FCC ID	VW3FAST4350	

Product Name	WIRELESS XDSL ROUTER			
Brand Name	SAGEMCOM			
Model Name	FAST4350			
Ref. Standard(s)	47 CFR FCC Part 2 Subpart J, section 2.1091			
EUT Freq. Range	2400 ~ 2483.5MHz			
Received Date	Dec. 13, 2013			

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SPORTON INTERNATIONAL INC.

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### **Table of Contents**

1. MAXIMUM PERMISSIBLE EXPOSURE							
1.1.	Applicable Standard	1					
1.2.	MPE Calculation Method	1					
1.3	Calculated Result and Limit	2					



## History of This Assessment Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA3D1310	Rev. 01	Initial issue of report	Mar. 06, 2014

Report Format Version: 01 Page No. : ii of ii
FCC ID: VW3FAST4350 Issued Date : Mar. 06, 2014

#### 1. MAXIMUM PERMISSIBLE EXPOSURE

#### 1.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time  E ², H ² or S (minutes)	
0.3-3.0	614	1.63	(100)*	6	
3.0-30	1842 / f	4.89 / f	(900 / f)*	6	
30-300	61.4	0.163	1.0	6	
300-1500			F/300	6	
1500-100,000			5	6	

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)	
0.3-1.34	614	1.63	(100)*	30	
1.34-30	824/f	2.19/f	(180/f)*	30	
30-300	27.5	0.073	0.2	30	
300-1500			F/1500	30	
1500-100,000			1.0	30	

Note: f = frequency in MHz; \*Plane-wave equivalent power density

#### 1.2. MPE Calculation Method

E (V/m) = 
$$\frac{\sqrt{30 \times P \times G}}{d}$$
 Power Density:  $Pd$  (W/m²) =  $\frac{E^2}{377}$ 

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

 Report Format Version: 01
 Page No.
 : 1 of 2

 FCC ID: VW3FAST4350
 Issued Date
 : Mar. 06, 2014



### 1.3. Calculated Result and Limit

Antenna Type: PCB Antenna

Max Conducted Power for IEEE 802.11g: 28.64 dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
3.77	2.3823	28.6355	730.3759	0.346335	1	Complies

 Report Format Version: 01
 Page No. : 2 of 2

 FCC ID: VW3FAST4350
 Issued Date : Mar. 06, 2014