

Product name: Wifi router  
Manufacturer: SAGEMCOM  
FCC Id: VW3FAST5260

### Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density  
P = power input to the antenna  
G = power gain of the antenna in the direction of interest relative to an isotropic radiator  
R = distance to the center of radiation of the antenna

#### Transmitter n°1

|                                                              |                                |
|--------------------------------------------------------------|--------------------------------|
| Maximum peak output power at the antenna terminal:           | 28.90 (dBm)                    |
| Maximum peak output power at the antenna terminal:           | 776.2471166 (mW)               |
| Antenna gain(typical):                                       | 6.4 (dBi)                      |
| Maximum antenna gain:                                        | 4.365158322 (numeric)          |
| Prediction distance:                                         | 20 (cm)                        |
| Prediction frequency:                                        | 2400 (MHz)                     |
| MPE limit for uncontrolled exposure at prediction frequency: | 1 (mW/cm <sup>2</sup> )        |
| Power density at prediction frequency:                       | 0.674109 (mW/cm <sup>2</sup> ) |
| Maximum allowable antenna gain:                              | 8.112698554 (dBi)              |

Note: Transmitter n°1 includes the 3 antennas for 2.4GHz

Equivalent maximum gain for these 3 combined antenna has been measured and found equal to 6.4dBi

28.9 dBm is the maximum power delivered to the 3 combined antennas

#### Transmitter n°2

|                                                              |                                |
|--------------------------------------------------------------|--------------------------------|
| Maximum peak output power at the antenna terminal:           | 22.20 (dBm)                    |
| Maximum peak output power at the antenna terminal:           | 165.9586907 (mW)               |
| Antenna gain(typical):                                       | 7 (dBi)                        |
| Maximum antenna gain:                                        | 5.011872336 (numeric)          |
| Prediction distance:                                         | 20 (cm)                        |
| Prediction frequency:                                        | 5200 (MHz)                     |
| MPE limit for uncontrolled exposure at prediction frequency: | 1 (mW/cm <sup>2</sup> )        |
| Power density at prediction frequency:                       | 0.165474 (mW/cm <sup>2</sup> ) |
| Maximum allowable antenna gain:                              | 14.81269855 (dBi)              |

Note: Transmitter n°2 includes the 3 antennas for 5GHz

Equivalent maximum gain for these 3 combined antenna has been measured and found equal to 7dBi

22.2 dBm is the maximum power delivered to the 3 combined antennas

#### Transmitter n°1 + Transmitter n°2:

$$[Pd(1)/LPd(1)] + [Pd(2)/LPd(2)] = 0.83958 < 1$$