

## RF Exposure information

Federal Communication Commission  
Equipment Authorization Division, Application Processing Branch  
7435 Oakland Mills Road  
Columbia, MD 21048

Feb 10, 2010

Attention: Reviewing Engineer

RE: RF exposure information for the equipment (*AUDIO DONGLE/FCC ID: WM5UD-3000TV*)

The device is Base Type and it is not be co-located or operating in conjunction with any other antenna or transmitter and also use of a permanently attached antenna that user a unique coupling to the intentional radiator comply with the FCC Rule

according to this product's antenna type is a Chip and it's gain is 1.10dBi

the table below is excerpted from Table 1B of 47 CFR 1.1310 titled Limits for Maximum Permissible Exposure (MPE), Limits for General Population /Uncontrolled Exposure

Frequency Range (MHz)	Powr Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
300 – 1 500	f/1500	30
1 500 – 10 000	1.0	30

The equipment is in the following frequency ranges

So that the applicable limits are:

Frequency range	Limit
2 402 – 2 480 MHz	1 mW/cm <sup>2</sup>

The equipment is a Bluetooth class 1, and it's duty cycle = 1

Under conditions stated above MPE limits can be guaranteed as the calculation below shows:

Maximum conducted output power: 4.14 mW (0.00414 W) measured by test Engineer

\*Please see the page 18/42 of Test report

Duty cycle: 1

Equivalent conducted output power = Maximum conducted output power x Duty cycle =

4.14 mW X 1 = 4.14 mW

Maximum antenna gain = 1.10 dBi (1.288: Numerical gain)

Under conditions stated above MPE limits can be guaranteed as the calculation below shows

MPE calculation formula is as a below ;

$$P.G/4.\pi.R^2 = 4.14 \text{ m W} \cdot 1.288/4 \cdot \pi \cdot (20\text{cm}^2) = 0.00106 \text{ mW/cm}^2$$

**∴ So, above calculated 0.00108 mW/cm<sup>2</sup> is less than 1.0 (mW/cm<sup>2</sup>)**

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Where,

S = power density in  $\text{mW}/\text{cm}^2$

P = power input to the antenna in mW

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna in cm (20 cm prediction distance)