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# **EN 50371 MPE REPORT**

**For**

Acrox Technologies Co.,Ltd

2.4G Optical Mouse

Model Number: G3O

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## Maximum Permissible Exposure

### 1, Applicable Standard

According to its specifications, the EUT must comply with the requirements of the following standards:

EN 50371 – Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10MHz – 300GHz) – General public

### 2,LIMIT

#### For frequency range 10 MHz to 10 GHz

The basic restriction at frequencies between 10 MHz and 100 GHz is on localized SAR in the head. Any device with output power below 20 mW cannot produce an exposure exceeding this restriction under the most pessimistic exposure conditions. The basic restriction is 2 W/kg so any unit which supplies less than 20 mW ( $=2/100W$ ) from its antenna port, averaged over 6 minutes, will meet the basic restriction.

#### 3,For frequency range 10 GHz to 300 GHz

The most conservative assumption is that all the transmitted power is absorbed within the specified area, therefore any device which supplies less than 20 mW will meet the basic restriction. The average time is equal to  $68/f^{-1.05}$  minutes (where f is in GHz) In the frequency range 10 GHz to 300 GHz, the basic restriction is 10 Wm<sup>-2</sup> averaged over any 20 cm<sup>2</sup> of exposed area with a spatial maximum of 200 Wm<sup>-2</sup> averaged over 1 cm<sup>2</sup>

### 4, MPE Calculation Method

$$E (V/m) = (30 \cdot P \cdot G)^{0.5} / d$$

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)

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.

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## 5, Calculated Result and Limit

### 5.1 Tx Mode

Channel	Frequency (MHz)	Peak output power (dBm)	Peak output power (W)	Antenna gain (Linear)
Low	2403	1.3	0.00134	0.2612
Mid	2440	1.5	0.00141	0.2612
High	2480	1.4	0.00138	0.2612

Channel	Frequency (MHz)	Electric Field (V/m)	Limit of Electric Field(V/m)	Result
Low	2403	0.02625	61	Compiles
Mid	2440	0.02762	61	Compiles
High	2480	0.02703	61	Compiles