

# MPE Test Report

**On Model Name : 2.4G RF Wireless Digital Audio  
Transmitter and Receiver**

**Model Numbers : ELPWA01T,ELPWA02R**

**Trade Marks : Original**

**FCC ID : UN9ETNRJPELPWA**

**Prepared for**

**Shenzhen Ether Electronics Ltd**

**According to FCC Part 2 subpart J ,Section 2.1091**

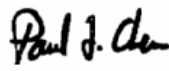
**Test Report #: FCC06-8072-MPE**

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**Test Report Released by:**

  
\_\_\_\_\_  
Paul Chen

2007, Feb , 02

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Date

## Maximum Permissible Exposure

### 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 with 47 CFR FCC Part 2 Subpart J, Section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m 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/cm <sup>2</sup> )	Averaging Times (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
1500-100000			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/cm <sup>2</sup> )	Averaging Times (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
1500-100000			1	30

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

## 2. MPE Calculation Method

$$E(V/m) = 30 \cdot P \cdot G^{1/2} / D$$

$$\text{Power density : } Pd (W/m^2) = E^2 / 377$$

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

$$Pd = (30 \cdot P \cdot G) / (377 \cdot D^2)$$

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

## 3. Calculated Result and Limit

Low Ch---2402MHz

Antenna Gain (Numeric)	Peak output power (dBm)	Peak output power (mW)	Power density (S) (Mw/cm2)	Limit of power density	Test Result
1.5	0.30	1.073	0.0003	1	Complies

Mid CH---2441MHz

Antenna Gain (Numeric)	Peak output power (dBm)	Peak output power (mW)	Power density (S) (Mw/cm2)	Limit of power density	Test Result
1.5	0.33	1.079	0.0003	1	Complies

High CH---2480MHz

Antenna Gain (Numeric)	Peak output power (dBm)	Peak output power (mW)	Power density (S) (Mw/cm2)	Limit of power density	Test Result
1.5	-1.80	0.660	0.0002	1	Complies