



### FCC RF EXPOSURE REPORT

<b>EUT</b>	Firewall Appliance
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input checked="" type="checkbox"/> WLAN: 2.422GHz ~ 2.452GHz <input checked="" type="checkbox"/> WLAN: 5.180GHz ~ 5.240GHz <input checked="" type="checkbox"/> WLAN: 5.190GHz ~ 5.230GHz
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna diversity</b>	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input checked="" type="checkbox"/> Tx/Rx diversity
<b>Max. output power</b>	22.50dBm (177.83mW)
<b>Antenna gain (Max)</b>	3.0dBi(Numeric gain:2.0)
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

**Note:**

1. The maximum output power is 22.50dBm (177.83mW) at 2462MHz (with numeric 2.0 antenna gain.)
2. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance.
3. For mobile or fixed location transmitters, no SAR consideration applied. The maximum power density is 1.0 mW/cm<sup>2</sup> even if the calculation indicates that the power density would be larger.



## TEST RESULTS

No non-compliance noted.

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{3770}$

Where  $E =$  Field strength in Volts / meter  
 $P =$  Power in Watts  
 $G =$  Numeric antenna gain  
 $d =$  Distance in meters  
 $S =$  Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$
$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d =$  Distance in cm  
 $P =$  Power in mW  
 $G =$  Numeric antenna gain  
 $S =$  Power density in mW / cm<sup>2</sup>



**Maximum Permissible Exposure**

EUT Output Power=177.83mW

Numeric antenna gain=2.0

Substituting the MPE safe distance using  $d=20$  cm into *Equation 1* :

Yields

The power density  $S = 30 \times 177.83 \times 2.0 / (3770 \times 400) \text{ cm}^2 = 7.075 \times 10^{-3} \text{ mW/cm}^2$

(For mobile or fixed location transmitters, the maximum power density is  $1.0 \text{ mW/cm}^2$  even if the calculation indicates that the power density would be larger.)