FCC RF EXPOSURE REPORT

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

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

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and
d (cm) = d(m) / 100

Yields

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

Where *d = Distance in cm*
P = Power in mW
G = Numeric antenna gain
S = Power density in mW / cm^2

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 = 30×177.83×2.0/ (3770×400) cm^2 =7.075 X 10^{-3}mW/cm^2

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