FCC RF EXPOSURE REPORT

EUT	Building Automation System
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	26.98dBm (498.884mW)
Antenna gain (Max)	2dBi(Numeric gain:1.58)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

Note:

1. *The maximum output power is 26.98dBm (498.884mW) at 2422MHz (with numeric 1.58 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

Modulation Mode	Frequency band (MHz)	Peak output power(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (*Numeric*)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
802.11b	2412-2462	**19.66**	**92.4698174**	**2**	**1.58489319**	**20**	**0.0291644**	**1**
802.11g	2412-2462	**25.55**	**358.921935**	**2**	**1.58489319**	**20**	**0.11320173**	**1**
802.11n HT20	2412-2462	**26.47**	**443.608644**	**2**	**1.58489319**	**20**	**0.13991139**	**1**
802.11n HT40	2422-2452	**26.98**	**498.884487**	**2**	**1.58489319**	**20**	**0.15734505**	**1**