13. Radio Frequency Exposure

13.1. Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)

13.2. EUT Specification

Frequency band (Operating)	☐ WLAN: 2412MHz ~ 2462MHz ☒ WLAN: 5150MHz ~ 5250MHz ☐ WLAN: 5250MHz ~ 5350MHz ☐ WLAN: 5470MHz ~ 5725MHz ☒ WLAN: 5725MHz ~ 5850MHz ☐ Bluetooth: 2402MHz ~ 2480MHz
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

Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A
Remark: *1. The maximum conducted output power is 28.60dBm (725.262mW) at 5745MHz (with 4.99 dBi 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.*	

13.3. Test Results

No non-compliance noted.

13.4. Calculation

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

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 / cm²

13.5.Maximum Permissible Exposure

Maximum Permissible Exposure (Non-Beamforming)

Channel Frequency (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
5180-5240	28.17	4.67	28	0.195	1
5745-5825	28.60	4.99	28	0.232	1

Maximum Permissible Exposure (Beamforming)

Channel Frequency (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
5180-5240	26.67	6.66	28	0.218	1
5745-5825	28.31	7.61	28	0.397	1

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Maximum Permissible Exposure(Co-location)

(Non Beamforming)

Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm2)	Limit (mW/cm2)	MPE Ratio
GFSK	2402-2480	9.81	2.69	28	0.002	1.000	0.002
11b	2412-2462	29.01	3.55	28	0.183	1.000	0.183
11a	5725-5850	28.6	4.99	28	0.232	1.000	0.232
Co-location Total							0.417
∑MPE ratios Limit							1

(Beamforming)

Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm2)	Limit (mW/cm2)	MPE Ratio
GFSK	2402-2480	9.81	2.69	28	0.002	1.000	0.002
VHT20	2412-2462	28.21	6.47	28	0.298	1.000	0.298
11ac VHT40	5725-5850	28.31	7.61	28	0.397	1.000	0.397
Co-location Total							0.697
∑MPE ratios Limit							1