14. Radio Frequency Exposure

14.1. Applicable Standards

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

KDB 447498

14.2. 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 output power is 28.28dBm (673.052197.26mW) at 5745MHz (with numeric 5 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.*	

14.3. Test Results

No non-compliance noted.

14.4.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 / cm²

14.5.Maximum Permissible Exposure

Max. output power	Band: 5150MHz ~ 5250MHz 802.11a: 20.30 dBm (107.512mW) 802.11an HT20: 20.36 dBm (108.724mW) 802.11an HT40: 22.00 dBm (158.476mW) Band: 5725MHz ~ 5850MHz 802.11a: 25.13 dBm (325.837mW) 802.11an HT20: 28.28 dBm (673.052mW) 802.11an HT40: 27.75 dBm (596.211mW)
Antenna gain (Max)	2.4GHz: 802.11b/g: ANT B: 4 dBi 802.11n: ANT A: 4 dBi; ANT B: 4 dBi 5GHz: 802.11a: ANT A: 5 dBi; 802.11 n: ANT A: 5 dBi; ANT B: 5 dBi

Maximum Permissible Exposure

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
802.11a	5150-5250	20.30	5	20	0.0674	1
802.11a	5725-5850	25.13	5	20	0.2050	1
802.11an HT20	5150-5250	20.36	5	20	0.0684	1
802.11an HT20	5725-5850	28.28	5	20	0.4234	1
802.11an HT40	5150-5250	22.00	5	20	0.0997	1
802.11an HT40	5725-5850	27.75	5	20	0.3751	1