



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 29.82dBm (959.97mW) at 2437MHz (with numeric 3 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/cm² even if the calculation indicates that the power density would be larger.

14.3.Test Results

No non-compliance noted.



14.4.Calculation

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

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:

$P \text{ (mW)} = P \text{ (W)} / 1000$ 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 / cm²

**14.5.Maximum Permissible Exposure**

Max. output power	Non-Beamforming Band: 5150MHz ~ 5250MHz 802.11a: 21.57dBm (143.57mW) 802.11ac VHT20: 20.17dBm (104.04mW) 802.11ac VHT40: 21.26dBm (133.60mW) 802.11ac VHT80: 13.09dBm (20.39mW)
	Band: 5725MHz ~ 5850MHz 802.11a: 23.80dBm (239.80mW) 802.11ac VHT20: 23.34dBm (215.90mW) 802.11ac VHT40: 23.97dBm (249.28mW) 802.11ac VHT80: 18.96dBm (78.67mW)
	Beamforming Band: 5150MHz ~ 5250MHz 802.11ac VHT20: 14.15dBm (26.01mW) 802.11ac VHT40: 15.24dBm (33.40mW) 802.11ac VHT80: 7.07dBm (5.10mW)
	Band: 5725MHz ~ 5850MHz 802.11ac VHT20: 17.32dBm (53.98mW) 802.11ac VHT40: 17.95dBm (62.33mW) 802.11ac VHT80: 12.94dBm (19.67mW)
Antenna gain (Max)	5dBi

Maximum Permissible Exposure (Non-Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
802.11a	5150-5250	21.57	5	20	0.0903	1
802.11a	5725-5850	23.80	5	20	0.1509	1
802.11ac VHT20	5150-5250	20.17	5	20	0.0655	1
802.11ac VHT20	5725-5850	23.34	5	20	0.1358	1
802.11ac VHT40	5150-5250	21.26	5	20	0.0840	1
802.11ac VHT40	5725-5850	23.97	5	20	0.1568	1
802.11ac VHT80	5150-5250	13.09	5	20	0.0128	1
802.11ac VHT80	5725-5850	18.96	5	20	0.0495	1

**Maximum Permissible Exposure (Beamforming)**

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
802.11ac VHT20	5150-5250	14.15	11.02	20	0.0655	1
802.11ac VHT20	5725-5850	17.32	11.02	20	0.1358	1
802.11ac VHT40	5150-5250	15.24	11.02	20	0.0840	1
802.11ac VHT40	5725-5850	17.95	11.02	20	0.1568	1
802.11ac VHT80	5150-5250	7.07	11.02	20	0.0128	1
802.11ac VHT80	5725-5850	12.94	11.02	20	0.0495	1

Maximum Permissible Exposure(Co-location)**(Non Beamforming)**

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
2.4G 11ac VHT20	2412-2462	29.82	3	20	0.3811
5G 11ac VHT40	5725-5850	23.97	5	20	0.1568
Co-location Total					0.5379
Maximum Permissible Exposure Limit					1

(Beamforming)

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
2.4G 11ac VHT20	2412-2462	23.80	9.02	20	0.3811
5G 11ac VHT40	5725-5850	17.95	11.02	20	0.1568
Co-location Total					0.6988
Maximum Permissible Exposure Limit					1