



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)	<input checked="" type="checkbox"/> WLAN: 2412MHz ~ 2462MHz <input checked="" type="checkbox"/> WLAN: 5150MHz ~ 5250MHz <input type="checkbox"/> WLAN: 5250MHz ~ 5350MHz <input type="checkbox"/> WLAN: 5470MHz ~ 5725MHz <input checked="" type="checkbox"/> WLAN: 5725MHz ~ 5850MHz <input type="checkbox"/> Bluetooth: 2402MHz ~ 2480MHz
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input checked="" type="checkbox"/> Tx/Rx diversity
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

Remark:

1. The maximum output power is 21.95dBm at 5795MHz (with 3.7 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 0.073 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:

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

Changing to units of mW and cm, using:

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

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

**14.5.Maximum Permissible Exposure****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	21.88	3.7	20	0.072	1
5745-5825	21.95	3.7	20	0.073	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	18.87	6.32	20	0.066	1
5745-5825	18.94	6.71	20	0.073	1

**Maximum Permissible Exposure (Co-location)****(2.4G Non-Beamforming + 5G Non-Beamforming)**

Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
802.11g	2412-2462	29.97	1.9	20	0.306
802.11ac VHT40	5725-5850	21.95	3.7	20	0.073
Co-location Total					0.379
Maximum Permissible Exposure Limit					1

(2.4G Non-Beamforming + 5G Beamforming)

Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
802.11g	2412-2462	29.97	1.9	20	0.306
802.11ac VHT40	5725-5850	18.94	6.71	20	0.073
Co-location Total					0.379
Maximum Permissible Exposure Limit					1