



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)

KDB 447498

IEEE C95.1:2005

13.2.EUT Specification

Frequency band (Operating)	<input type="checkbox"/> WLAN: 2412MHz ~ 2462MHz <input checked="" type="checkbox"/> WLAN: 5150MHz ~ 5250MHz <input checked="" type="checkbox"/> WLAN: 5250MHz ~ 5350MHz <input checked="" 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 <input checked="" type="checkbox"/> General Population/Uncontrolled exposure
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 conducted output power is 16.93dBm (49.354mW) at 5755MHz (with 1.59 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/cm² even if the calculation indicates that the power density would be larger.

13.3.Test Results

No non-compliance noted.



13.4.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:

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

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

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

**13.5. Maximum Permissible Exposure**

Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
5180-5240	15.65	2.52	20	0.013	1
5260-5320	15.95	2.52	20	0.014	1
5500-5700	16.45	2.02	20	0.014	1
5745-5825	16.93	1.59	20	0.014	1

Maximum Permissible Exposure (Co-location)**BT+Wifi 2.4G**

Modulation Type	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	MPE Ratio
11n HT20	2412-2462	23.64	3.53	20	0.104	1.000	0.104
GFSK	2402-2480	4.94	3.53	20	0.001	1.000	0.001
Co-location Total							0.105
Σ MPE ratios Limit							1

BT+Wifi 5G

Modulation Type	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	MPE Ratio
11ac VHT40	5745-5825	16.93	1.59	20	0.014	1.000	0.014
GFSK	2402-2480	4.94	3.53	20	0.001	1.000	0.001
Co-location Total							0.015
Σ MPE ratios Limit							1