



12. Radio Frequency Exposure

12.1 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

12.2 EUT Specification

| | |
|-----------------------------------|---|
| Frequency band (Operating) | <input checked="" type="checkbox"/> WLAN: 2412MHz ~ 2462MHz <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 27.47dBm (558.799mW) at 2437MHz (with 2.38dBi 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.



12.3 Test Results

No non-compliance noted.

12.4 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

**12.5 Maximum Permissible Exposure**

| Modulation Type | Channel Frequency (MHz) | Max. Conducted output power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|-----------------|-------------------------|-----------------------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 11n HT20 | 2412-2462 | 27.47 | 2.38 | 20 | 0.192 | 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 |
|-------------------|-------------------------|-----------------------------------|--------------------|---------------|-------------------------------------|-----------------------------|-----------|
| GFSK | 2402-2480 | 9.98 | 2.3 | 20 | 0.003 | 1.00 | 0.003 |
| 11n HT20 | 2412-2462 | 27.47 | 2.38 | 20 | 0.192 | 1.00 | 0.192 |
| Co-location Total | | | | | | | 0.195 |
| ΣMPE 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 |
|-------------------|-------------------------|-----------------------------------|--------------------|---------------|-------------------------------------|-----------------------------|-----------|
| GFSK | 2402-2480 | 9.98 | 2.3 | 20 | 0.003 | 1.00 | 0.003 |
| 11ac VHT40 | 5500-5700 | 21.48 | 2 | 20 | 0.044 | 1.00 | 0.044 |
| Co-location Total | | | | | | | 0.047 |
| ΣMPE ratios Limit | | | | | | | 1 |