



13. Radio Frequency Exposure

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

13.1 EUT Specification

| | |
|---|--|
| Frequency band (Operating) | <input type="checkbox"/> WLAN: 2412MHz ~ 2462MHz <input checked="" 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 checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity |
| Evaluation applied | <input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A |
| Remark: | |
| <ol style="list-style-type: none"> The maximum conducted output power is <u>11.83dBm (15.241mW)</u> at <u>2480MHz</u> (with <u>1.00dBi antenna gain</u>.) DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance. For mobile or fixed location transmitters, no SAR consideration applied. | |

13.2 Test Results

No non-compliance noted.



13.3 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 (mW) = P (W) / 1000 and

d (cm) = d (m) / 100

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

**13.4 Maximum Permissible Exposure**

| Modulation Mode | Channel Frequency (MHz) | Max. Conducted output power (dBm) | Max. Tune up power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|-----------------|-------------------------|-----------------------------------|--------------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| GFSK | 2402-2480 | 11.79 | 12.29 | 1.00 | 20 | 0.004 | 1 |
| $\pi/4$ -DQPSK | 2402-2480 | 11.49 | 11.99 | 1.00 | 20 | 0.004 | 1 |
| 8DPSK | 2402-2480 | 11.83 | 12.33 | 1.00 | 20 | 0.004 | 1 |

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

| Modulation Type | Channel Frequency (MHz) | Max. Conducted output power (dBm) | Max. Tune up power (dBm) | Antenna Gain(dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) | MPE Ratio |
|---------------------------|-------------------------|-----------------------------------|--------------------------|-------------------|---------------|-------------------------------------|-----------------------------|-----------|
| 8DPSK | 2402-2480 | 11.83 | 12.33 | 1.00 | 20 | 0.004 | 1.000 | 0.004 |
| 11n HT20 | 2412-2462 | 22.25 | 22.75 | 1.00 | 20 | 0.047 | 1.000 | 0.047 |
| Co-location Total | | | | | | | | 0.051 |
| Σ MPE ratios Limit | | | | | | | | 1 |

BT+5G

| Modulation Type | Channel Frequency (MHz) | Max. Conducted output power (dBm) | Max. Tune up power (dBm) | Antenna Gain(dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) | MPE Ratio |
|---------------------------|-------------------------|-----------------------------------|--------------------------|-------------------|---------------|-------------------------------------|-----------------------------|-----------|
| 8DPSK | 2402-2480 | 11.83 | 12.33 | 1.00 | 20 | 0.004 | 1.000 | 0.004 |
| 11ac VHT20 | 5500-5720 | 16.88 | 17.38 | 4.00 | 20 | 0.027 | 1.000 | 0.027 |
| Co-location Total | | | | | | | | 0.031 |
| Σ MPE ratios Limit | | | | | | | | 1 |

-----THE END OF REPORT-----