



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)

13.2 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 <u>5.51 dBm (3.556313186mW)</u> at <u>8DPSK</u> (with <u>numeric 0.62 antenna gain.</u>) 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/cm ² 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:

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

Max. output power	GFSK: 4.47 dBm (2.79898132mW) $\pi/4$ -DQPSK: 5.39 dBm (3.459393778mW) 8DPSK: 5.51 dBm (3.556313186mW)
Antenna gain (Max)	0.62dBi

Modulation Mode	Frequency band (MHz)	Max. Conducted output power(dBm)	Max. Conducted output power(mW)	Distance (mm)	SAR test exclusion thresholds (mW)
GFSK	2402-2480	4.47	2.79898132	10	19.0000
$\pi/4$ -DQPSK	2402-2480	5.39	3.459393778	10	19.0000
8DPSK	2402-2480	5.51	3.556313186	10	19.0000